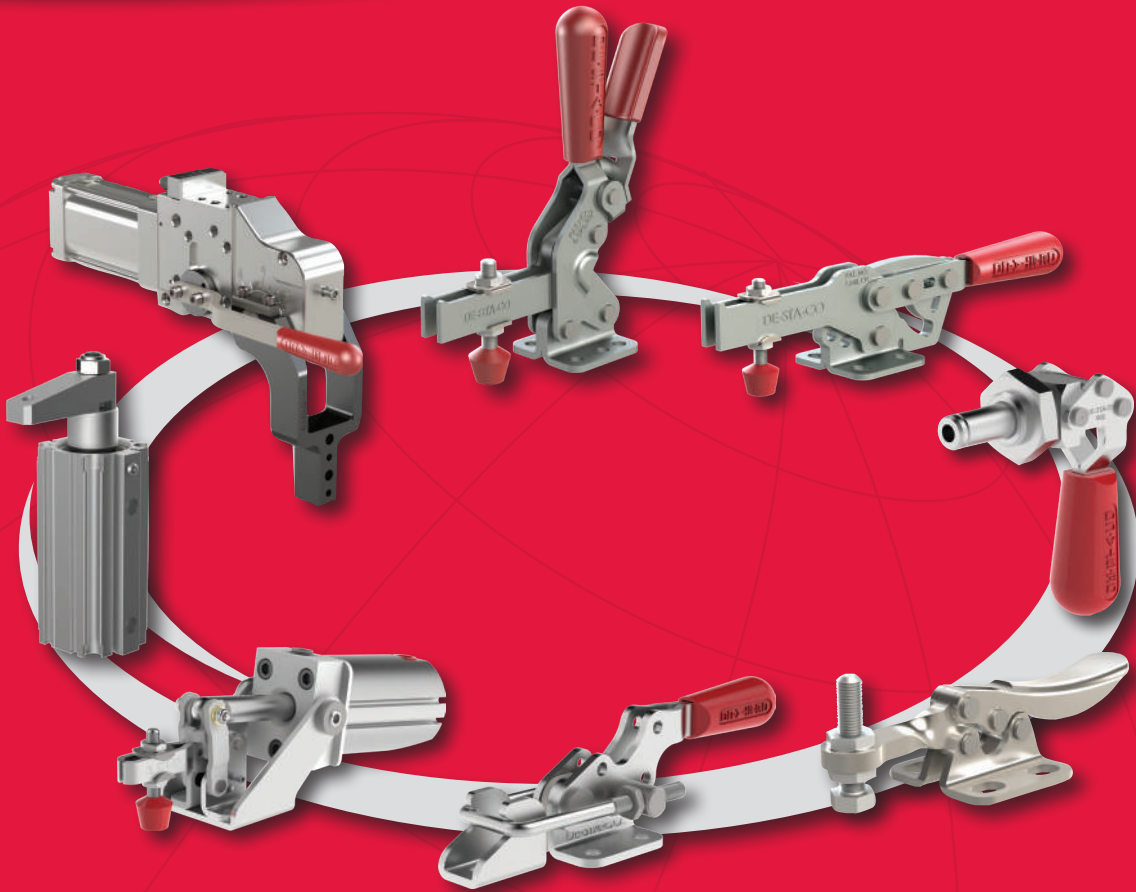


Clamping Technology

VOL. 1 | MANUAL | PNEUMATIC | HYDRAULIC



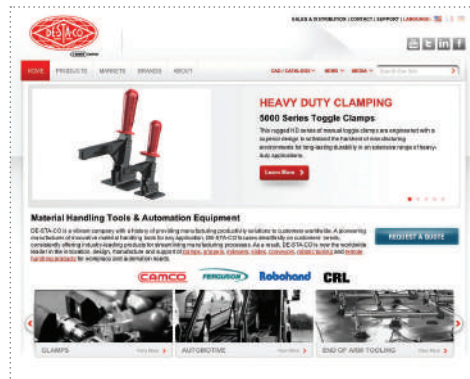


THE BEST PRODUCTS. UNMATCHED SERVICE. WORLDWIDE.

With a support network spanning the globe, DE-STA-CO offers consistent, comprehensive service to any location in the world. Whether your operations are localized or span multiple continents, you will always have access to the highest levels of customer service and technical support.

WWW.DESTACO.COM

Our global website is a one-stop engineering resource center available to customers worldwide. Users have total access to comprehensive product information, data sheets and CAD information.



OUR GLOBAL WEBSITE ALSO OFFERS:

- Access to local sales representatives and dealers
- Sizing software
- Customer service access
- Expert application advice
- Training information
- Downloadable literature

EXTENSIVE CAD CAPABILITIES

DE-STA-CO supports a wide variety of CAD programs, ranging from AutoCAD to SolidWorks. Our innovative online digital catalog features a 3D CAD library that allows engineers to configure individual 3D models from DE-STA-CO's extensive product lines.













Introduction

i-3 – i-14

Manual Clamping Technology

Section 1 – 8

- 
1 Vertical Hold Down Clamps
- 
2 Horizontal Hold Down Clamps
- 
3 Straight Line Action Clamps
- 
4 Variable Stroke Straight Line Action Clamps - System RAKO
- 
5 Pull Action Latch Clamps
- 
6 Squeeze Action Plier Clamps
- 
7 Accessories
- 
8 Carver Clamps

Pneumatic Clamping Technology

Section 9 – 13

- 
9 Pneumatic Clamps
- 
10 Pneumatic Swing Clamps
- 
11 Pneumatic Accessories
- 
12 Pneumatic Power Cylinders
- 
13 Pneumatic Power Clamps

Hydraulic Clamping Technology

Section 14

- Cylinders
- Thru-Hole Rams
- Swing/Pull Clamps
- Power Supplies
- Accessories

Technical Appendix

Section 15

- Manual Clamping Technology
- Pneumatic Clamping Technology

Index

Section 16

Workholding Solutions

DE-STA-CO offers the widest variety of manual, hydraulic and pneumatic products on the market. Availability of specials and custom components ensures a perfect solution to your specific applications.



Vertical Clamps



DE-STA-CO®
Toggle Lock Plus



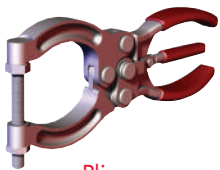
Horizontal Clamps



Straight Line Action
Clamps



Variable Stroke
Clamps



Plier
Clamps



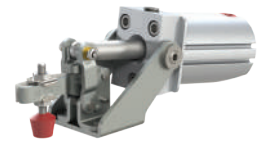
Latch
Clamps



Stainless Steel
Clamps



CARVER
Clamps



Pneumatic Toggle
Clamps



Pneumatic
Lever Clamp



Hydraulic & Pneumatic
Swing Clamps



Pneumatic Pin
Clamp



Enclosed Power
Clamp



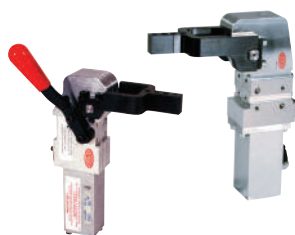
Electric Power
Clamps



Retractable Pin
Package



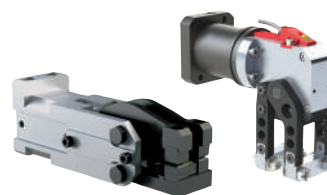
Pneumatic Power
Cylinders



Lightweight Power
Clamps



Mini-Design Power
Clamps

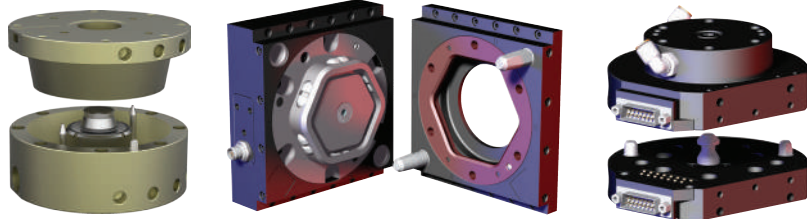


Cam Style Sheet Metal
Grippers

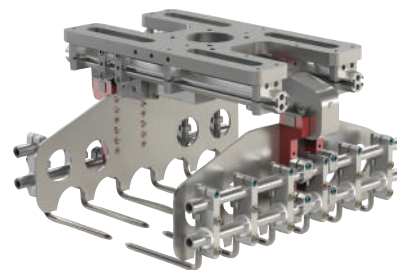


High Temperature
Grippers

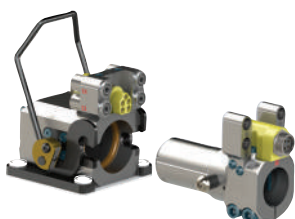
Part Handling Solutions



Robotic Automatic Tool Changers



Bag Gripping and Palettizing Solutions



Quick-Disconnect Manual Tool Changers



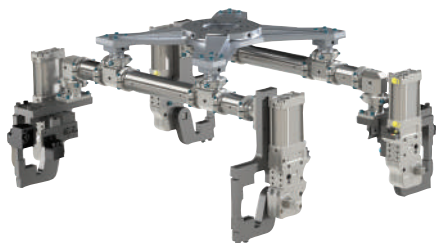
ARV - Auto Release Venturi Vacuum Generator/Cup Mount



Vacuum Products



EcoCup™ - World's First Electric Vacuum Cup



Geometric End Effector – SpiderGrip™



Modular End Effector – Bodybuilder™

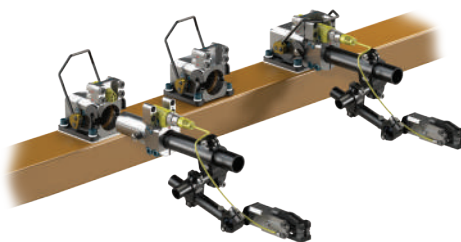


World Tool Lightweight Boom System

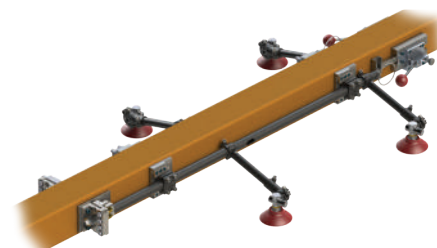
ACCELERATE COLLECTION



Saddle Cross Bar



Tri-Axis Crossbar



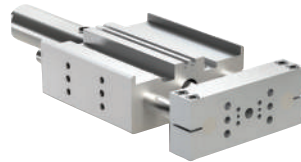
Interpress Crossbar

Automation Solutions

With an incredibly broad variety of standard-setting products, DE-STA-CO raises the bar for total automation solutions. Complementary engineered products can be tailored to meet your unique automation needs.



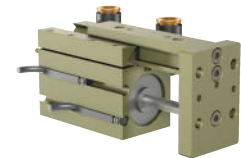
Base Slides



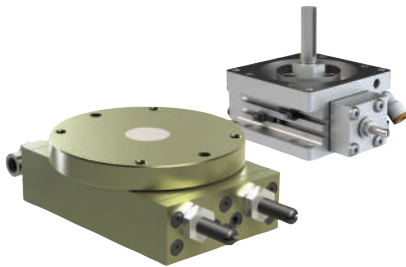
Linear Thrusters



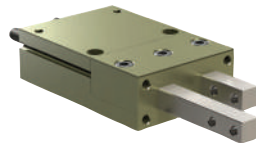
Rail Bearing Slides



Precision Mini Power Slides



Rotary Actuators



Feed Escapements



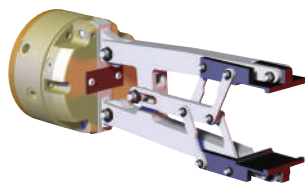
Cleanroom Grippers



Angular Grippers



Long Stroke Parallel Grippers



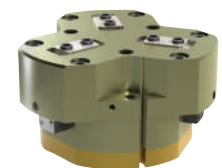
High Temperature Angular Grippers



Miniature Grippers



Lightweight Parallel Grippers



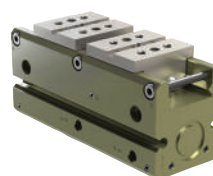
Three Jaw Parallel Grippers



Electric Parallel Grippers



Highly Configurable Parallel Grippers



Precision Parallel Grippers



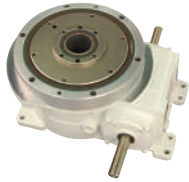
Food Grade Grippers



Indexing Solutions



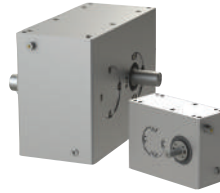
Index Drives



Med-Redi Index Drives



Linear Parts Handlers



Parallel Index Drives



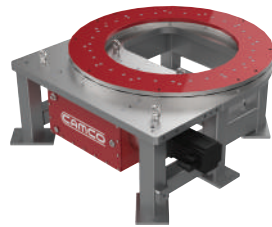
Overload Clutches



DX Servo Drive Actuator



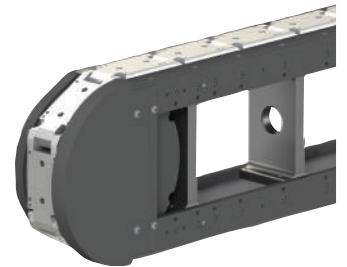
Medium Duty Indexer



Heavy Duty Indexer



Rite-Link Conveyor

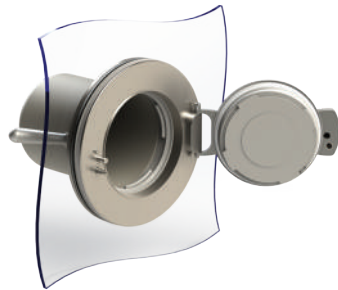


Precision Link Conveyor

CRL CENTRAL RESEARCH LABORATORIES



Sterile Liquid Transfer Port



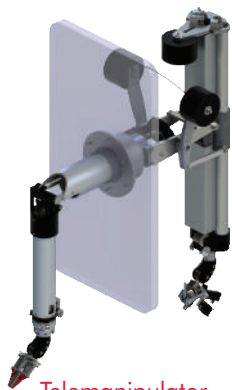
Rapid Transport Port



Gloveport System



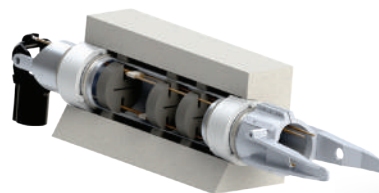
Tong Jaws



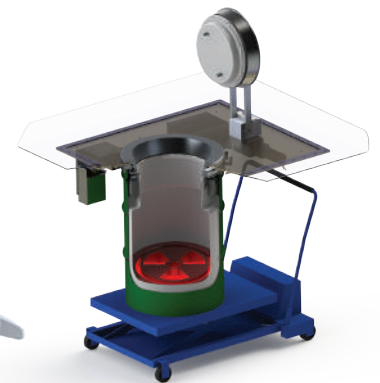
Telem manipulator



Telem manipulator Carts



Telem manipulator Radiation Shielding



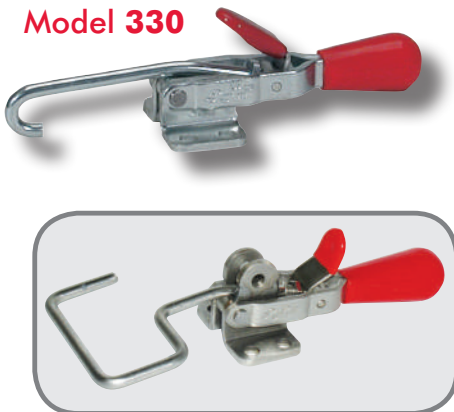
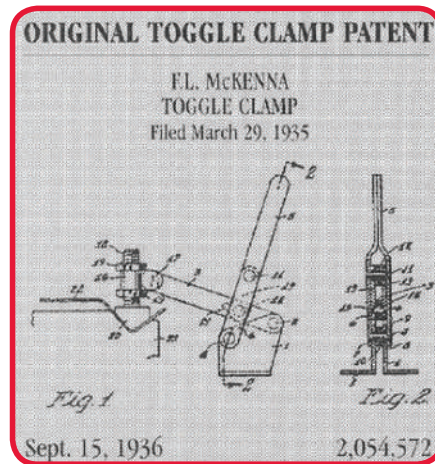
Waste Transfer System

Custom Clamping Solutions

When an off-the-shelf product can't handle it - **we can!**

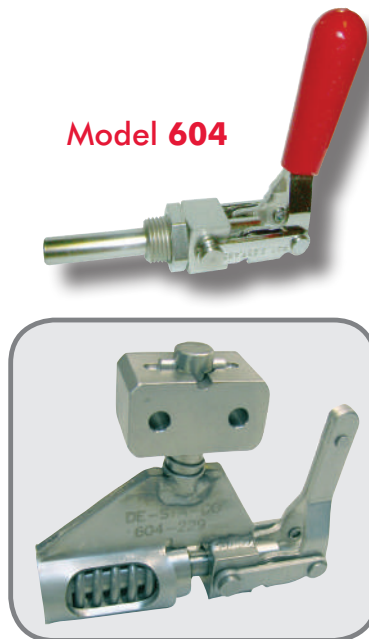
With years of experience using our expertise to develop custom solutions for unique applications, DE-STA-CO helps you save time and resources, allowing you to focus on your core business and gain a competitive advantage in the marketplace.

- **Proven quality** from the experts
- **Reduce risk** by using our experienced engineers
- **Easy reordering** with unique part numbers
- **Simplify** your supply chain
- **Three levels of customization** from simple alterations to complex custom products



330-201 Stainless steel clamp with special hook and locking tab

Model 604



604-229 Stainless steel straight line clamp used in chemical machining process

Model 2002-U



2002-200 with bar cut and bolt retainer welded on

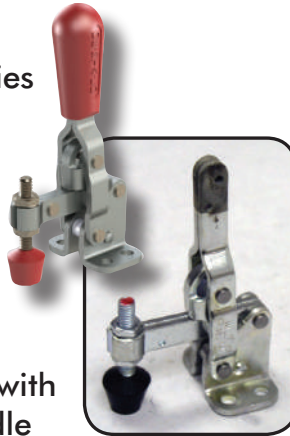
Making our products special for you

Level 1 Modifications:

- Alternate standard accessories
- Removal of grips
- Alternate plating/coating
- Alternate vinyl dipping
- Quotes within 1 day*

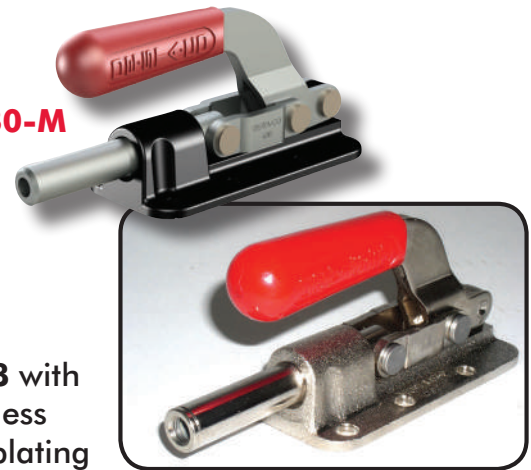
Model 202

202-200 without grip, with imperial threaded spindle



Model 630-M

630-38 with electroless nickel plating

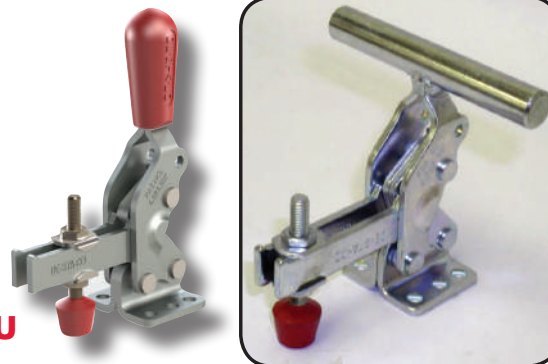


Level 2 Modifications:

- Handle and arm extensions
- Custom hooks for pull-action clamps
- Cut-off handles and arms
- Drilled & tapped arms
- Quotes within 3 days*

Model 2002-U

2002-201 with special T handle

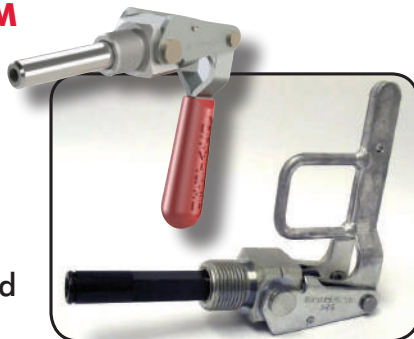


Level 3 Modifications:

- Engineered modifications
- Special plungers for straight line action clamps
- Quotes within 5 days*

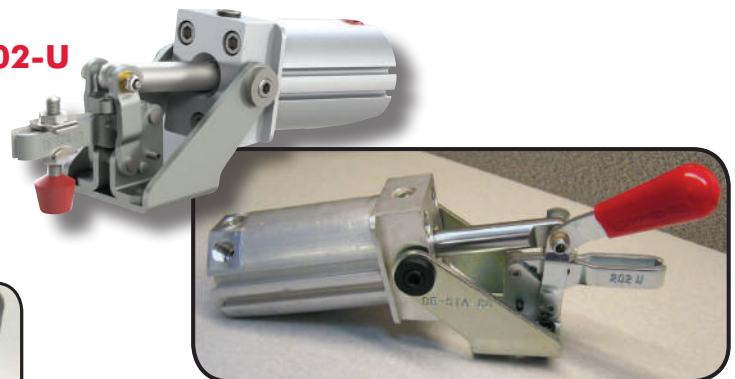
Model 624/624-MM

624-MM-872 with modified handle and square plunger



Model 802-U

802-U219 with handle for manual operation



Contact us today to get started on your custom application: clamps@destaco.com

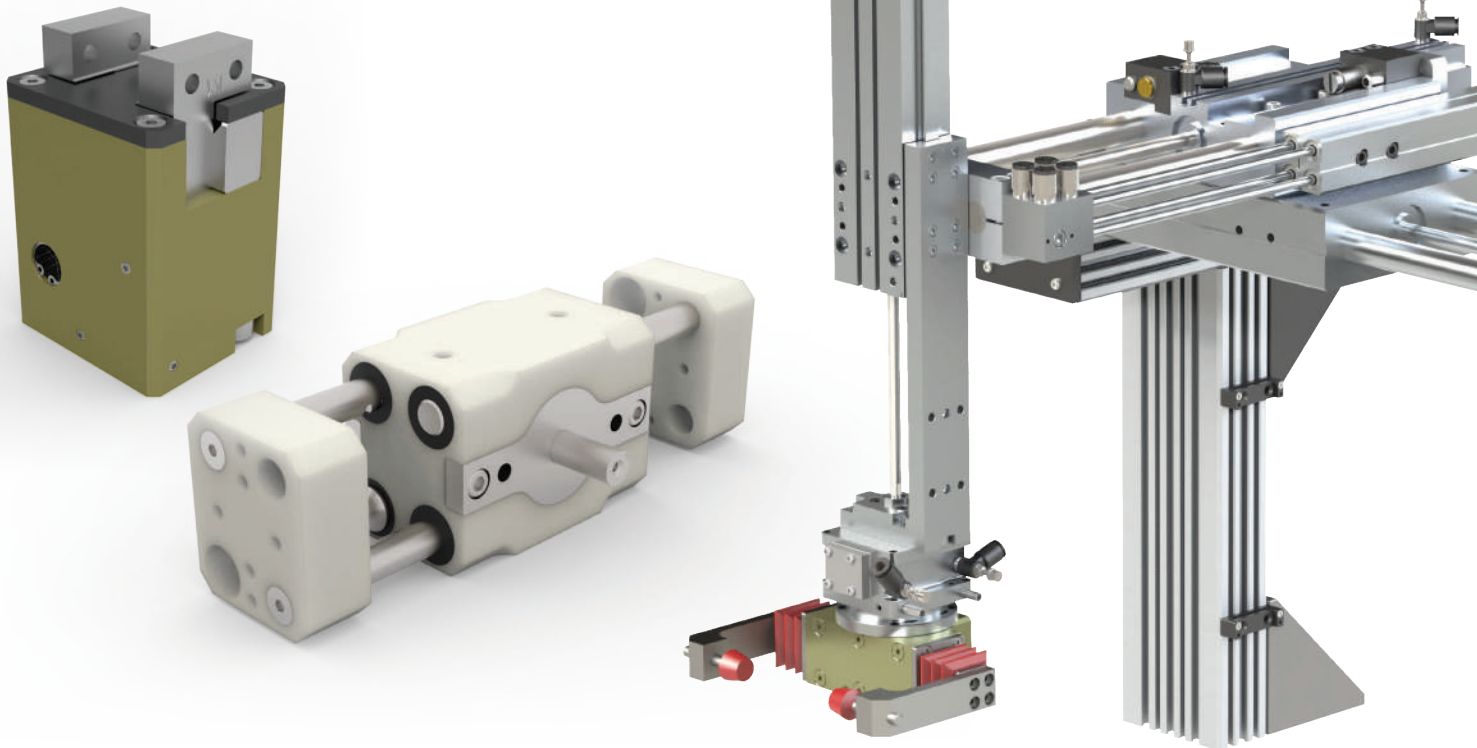
(*) All inquiries subject to minimum order

Custom Automation Solutions

When an off-the-shelf product can't handle it - **we can!**

With many years of experience working with OEM machine builders, we can make our product fit your unique application. We will partner with you to design the right product for your application – from altering an existing product to building a completely new product, we have the experience and expertise to help your project succeed.

- **Proven quality** from the experts
- **Reduce risk** by using our experienced engineers
- **Easy reordering** with unique part numbers
- **Simplify** your supply chain
- **Three levels of customization** from simple alterations to complex custom products



Robohand

Making our products special for you

We offer custom solutions at three levels:

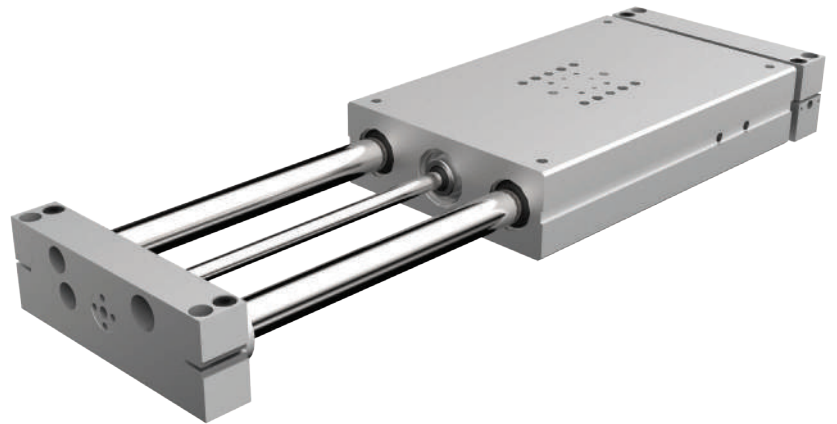
Level 1 Modifications:

- Labeling and bundled kits.
- Grease and seals.
- Features added or removed.
- Port and Manifold plugged or opened.
- Quotes within 1 day*



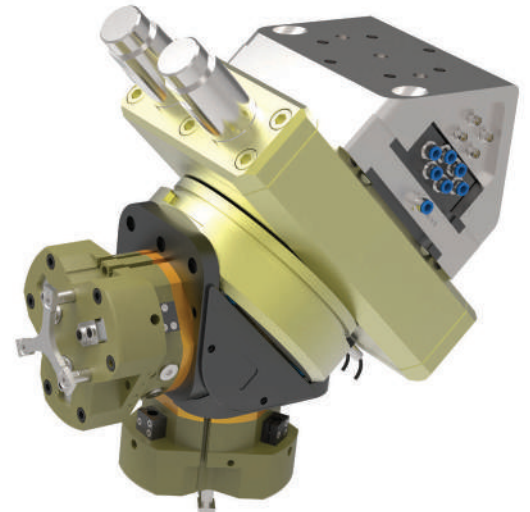
Level 2 Modifications:

- Mounting patterns and port changes.
- Finish and plating.
- Precision surface grind.
- Stroke adjustments.
- Special seals.
- Quotes within 3 days*



Level 3 Modifications:

- Functional operation and Force adjustments.
- Material changes and Weight Reduction.
- 100% Custom Design to your specifications.
- Manufacturer to your design.
- Quotes within 5 days*



Contact us today to get started on your custom application: solutions@destaco.com

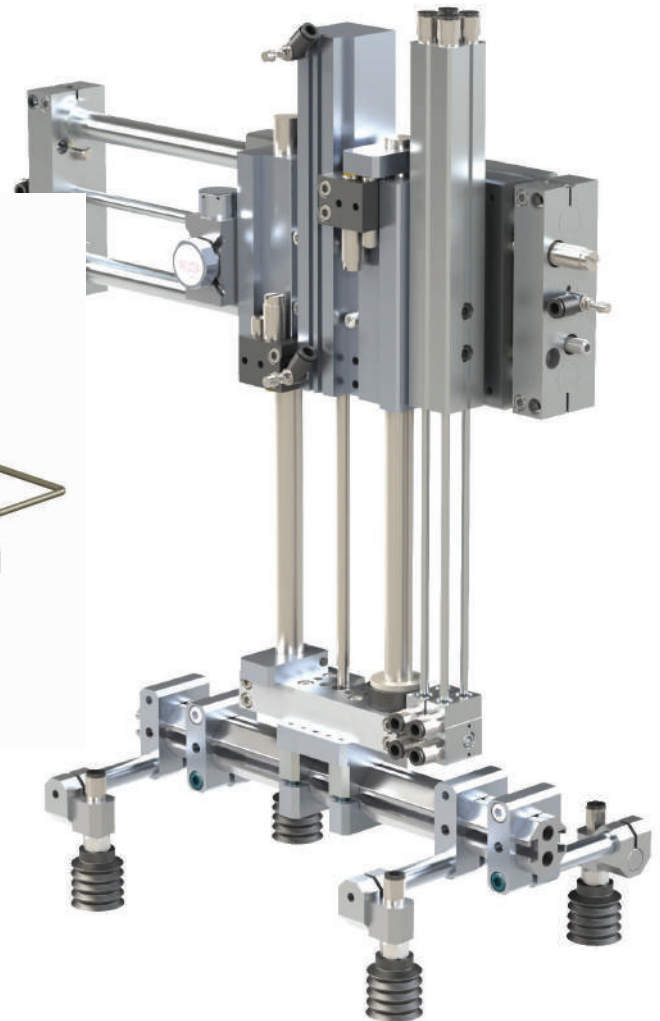
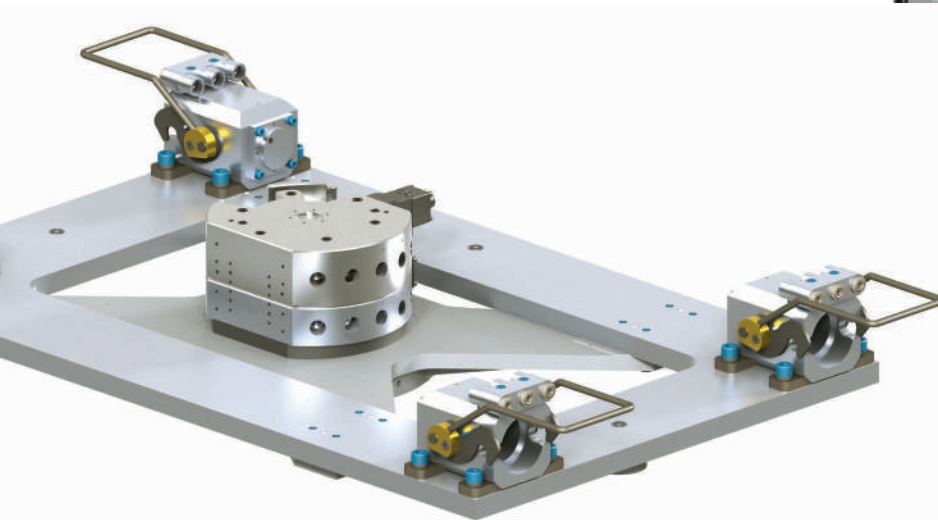
(*) All inquiries subject to minimum order

Custom Material Handling Solutions

When an off-the-shelf product can't handle it - **we can!**

With many years of experience working with OEM machine builders, we can make our product fit your unique application. We will partner with you to design the right product for your application – from altering an existing product to building a completely new product, we have the experience and expertise to help your project succeed.

- **Proven quality** from the experts
- **Reduce risk** by using our experienced engineers
- **Easy reordering** with unique part numbers
- **Simplify** your supply chain
- **Three levels of customization** from simple alterations to complex custom products

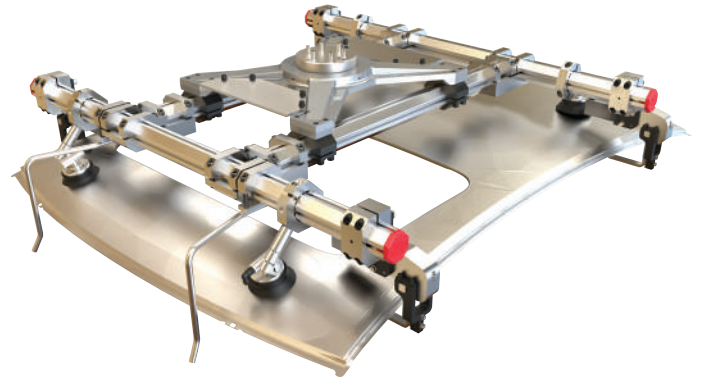


Making our products special for you

We offer custom solutions at three levels:

Level 1 Modifications: Standard product design with minimal modifications to existing catalog product.

- Custom mounting.
- Non-standard controls.
- Special coatings.
- Complete design and build.
- Quotes within 2 days*



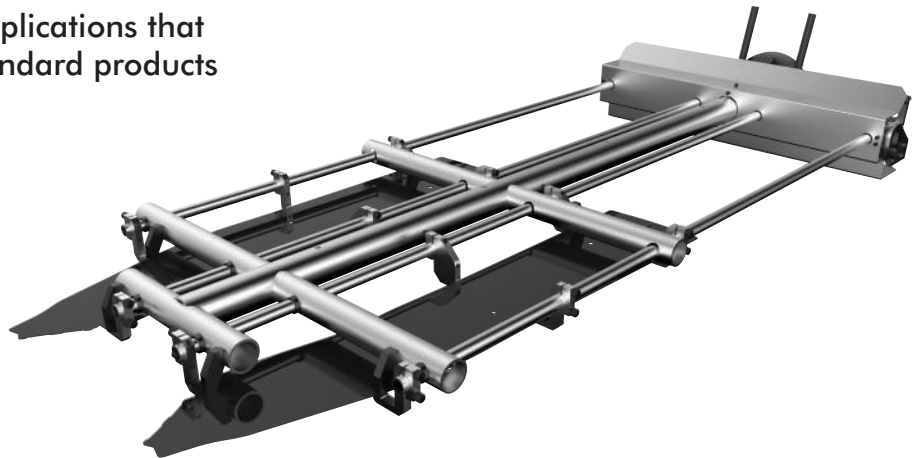
Level 2 Modifications: Application of standard components with the addition of custom designed or modifications to standard parts.

- Detailed concept or model required.
- Oversized or custom mounting.
- Non- standard tooling or brackets.
- Complete design and build.
- Quotes within 3 days*



Level 3 Modifications: Custom applications that may consist of a combination of standard products or a complete custom design.

- Turn-key application.
- Complete design and build.
- Quotes within 5 days*



Contact us today to get started on your custom application: solutions@destaco.com

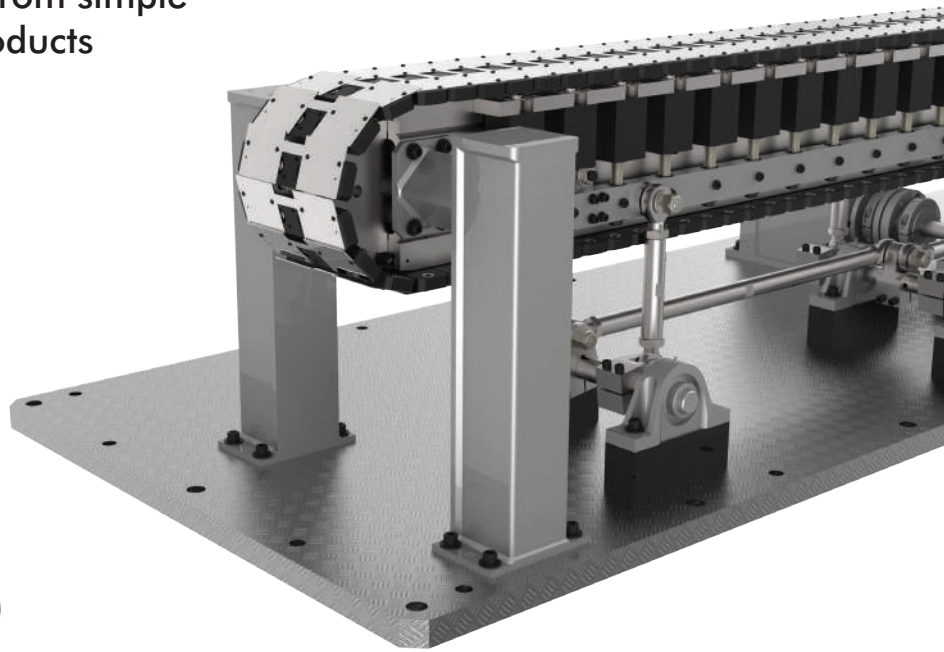
(*) Based on all customer supplied information ie. Part models, system layout (if required) robot or automation.

Custom Automation Solutions

When an off-the-shelf product can't handle it - **we can!**

With many years of experience working with OEM machine builders, we can make our product fit your unique application. We will partner with you to design the right product for your application – from altering an existing product to building a completely new product, we have the experience and expertise to help your project succeed.

- **Proven quality** from the experts
- **Reduce risk** by using our experienced engineers
- **Easy reordering** with unique part numbers
- **Simplify** your supply chain
- **Three levels of customization** from simple alterations to complex custom products



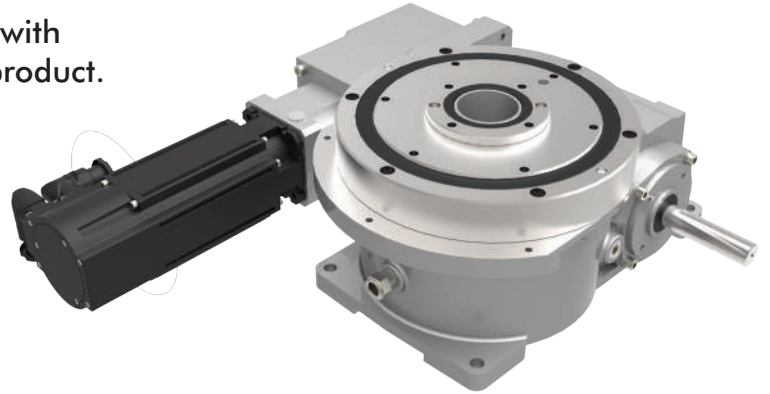
CAMCO®

Making our products special for you

We offer custom solutions at three levels:

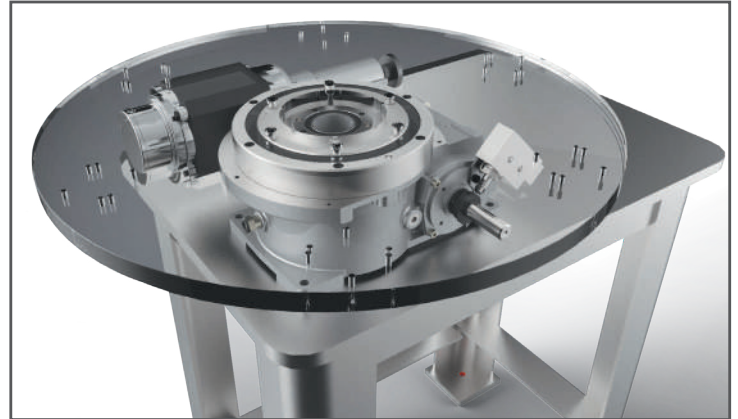
Level 1 Modifications: Basic product design with minimal modifications to an existing catalog product.

- Added Holes.
- Extra shaft length.
- Non-standard reducer mounting plate.
- Non-standard coupling.
- FDA or food-grade oil or grease.
- Quotes within 2 days*



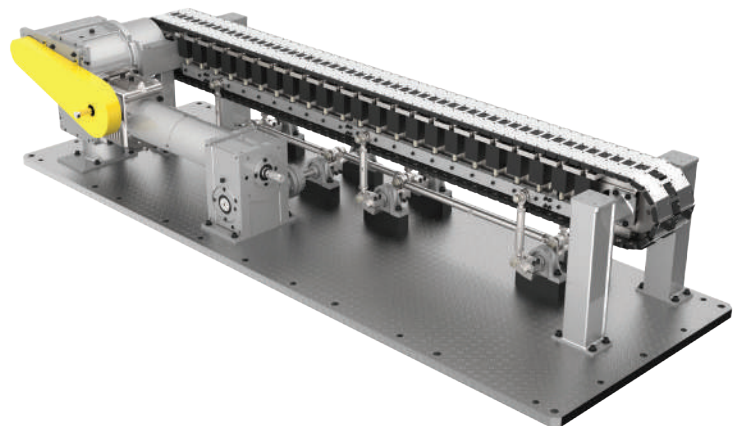
Level 2 Modifications: Basic product design as extended with additional components or significant added machining.

- Machine base added.
- Tooling plate added.
- Dial plate added.
- Revisions to housing or output shaft/wheel.
- Quotes within 3 days*



Level 3 Modifications: Appreciably different from the basic product design by providing a unique design, unique construction, or multiple products assembled together.

- Major materials change, such as stainless steel.
- Special weldment for the housing
- Custom base or frame on which our product is mounted.
- Multiple products connected together on a common base or frame.
- Quotes within 5 days*



Contact us today to get started on your custom application: camco@destaco.com

(*) All inquiries subject to minimum order



Overall Length mm [inch]											Overall Width mm [inch]						Suitable Application Area						Standard Material		Arm Style	Mounting Style			Service Environ- ment				
50 to 75 [1.97 to 2.95]	75 to 100 [2.95 to 3.94]	100 to 125 [3.94 to 4.92]	125 to 150 [4.92 to 5.91]	150 to 175 [5.91 to 6.89]	175 to 200 [6.89 to 7.87]	200 to 225 [7.87 to 8.86]	225 to 250 [8.86 to 9.84]	0 to 20 [0 to 0.78]	20 to 40 [0.78 to 1.57]	40 to 60 [1.57 to 2.36]	60 to 80 [2.36 to 3.15]	80 to 100 [3.15 to 3.94]	100+ [3.94+]	Welding	Assembly	Checking Fixtures	Machining	Woodworking	Closures	Food Processing	Duty Cycle	Steel	Stainless Steel	Toggle Lock Plus	Accom. Workpiece Variation	U-Bar Version	Solid Arm Version	Straight Base	Flanged Base	Welded	Normal	Harsh/Dirty	
														○	●	●	●	●	●	⊗	○	✓		✓		✓	✓	✓	✓		✓		
														○	●	●	●	●	●	⊗	○	✓		✓		✓	✓	✓	✓		✓		
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														●	●	●	⊗	●	●	●	○	●	✓	✓			✓	✓	✓	✓		✓	
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														○	●	●	●	○	●	⊗	○												

Series 2002 Product Overview

Features:

- Large hand clearance for improved safety
- Bolt pattern interchangeable with 202 Series
- Three times the holding capacity of 202 Series
- Hardened bushings at key pivot points
- Near vertical clamping contact
- BLK models feature a black, non-reflective finish

Applications:

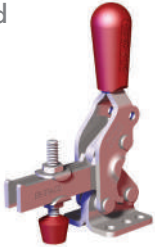
- Checking fixtures
- Assembly & test
- Light machining
- Woodworking

Also Available:

See page 7.1 for accessories
Accepts M6 or 1/4 spindle accessories

Covered under one or more U.S./International Patents

2002-U
Flanged
Base
U-Bar



2002-U-LS-BLK ⓘ
Blackout Series
Flanged Base
U-Bar



2002-S
Flanged Base
Solid Bar



2002-UB
Straight Base
U-Bar



2002-UB-LS-BLK ⓘ
Blackout Series
Straight Base
U-Bar



2002-SB
Straight Base
Solid Bar



2002-UR
Flanged Base
U-Bar
with
DE-STA-CO®
Toggle Lock
Plus



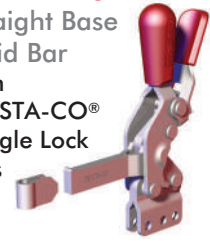
2002-SR ⓘ
Flanged Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



2002-UBR
Straight Base
U-Bar
with
DE-STA-CO®
Toggle Lock
Plus



2002-SBR ⓘ
Straight Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



2002-U207
Flanged Base
U-Bar
Interchangeable
with 207 Series



2002-UR207
Flanged Base
U-Bar
Interchangeable
with 207 Series,
DE-STA-CO®
Toggle
Lock Plus



Note: Clamps shown with included accessories.

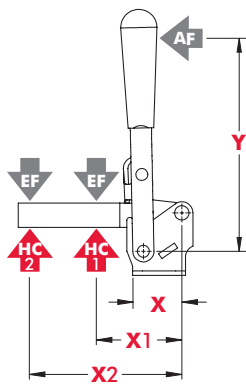
ⓘ This item is available upon request

Series 2002 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening(+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)				
					Bolt Retainer	Spindle Assembly	Flanged Washers		
2002-U	2700 N [600 lbf]	75°	66°	0,22kg [0.48lb]	--	215208-M	215105		
2002-U-LS-BLK ⓘ					--	--	215105-BLK		
2002-S					2002115-E	--	--		
2002-UB					--	215208-M	215105		
2002-UB-LS-BLK ⓘ					--	--	215105-BLK		
2002-SB					2002115-E	--	--		
2002-UR				--	215208-M	215105			
2002-SR ⓘ				2002115-E	--	--			
2002-UBR				--	215208-M	215105			
2002-SBR ⓘ				2002115-E	--	--			
2002-U207				90°	72°	0,26kg [0.57lb]	--	215208-M	215105
2002-UR207				75°	57°				

ⓘ This item is available upon request

Series 2002 Holding Capacities

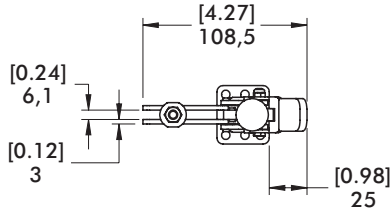
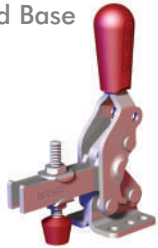


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
2002-()	[1.12] 28,5	[1.45] 37	[2.64] 67	[3.66] 93	[600 lbf] 2700N	[295 lbf] 1310N	11:1	5:1

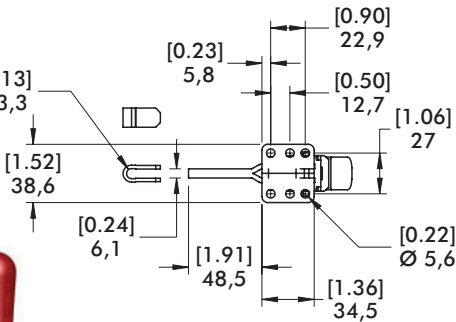
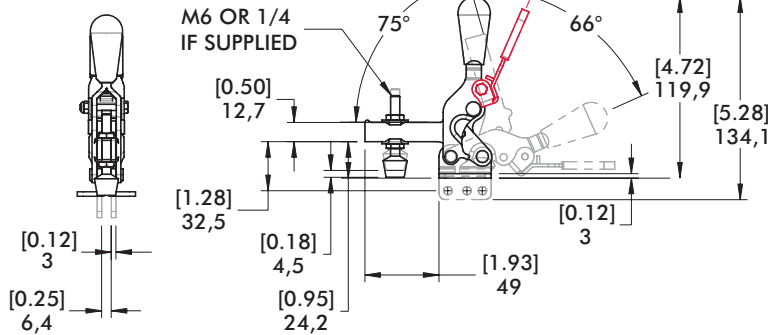
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 2002 Standard Clamp Dimensions
-U/-S/-UB/-SB/-UR/-SR/-UBR/-SBR

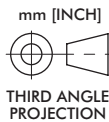
2002-U
Flanged Base
U-Bar



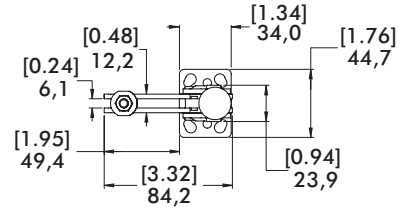
DE-STA-CO®
TOGGLE LOCK
PLUS OPTION



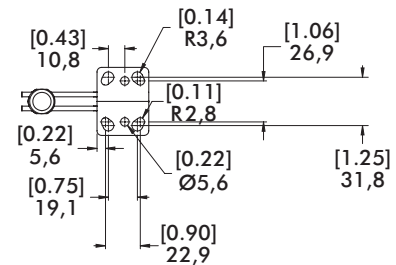
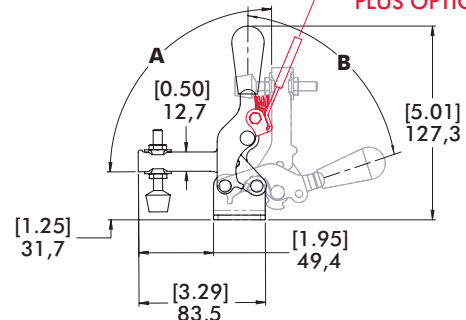
2002-SB
Straight Base
Solid Bar



2002-U207/2002-UR207
with interchangeable Series 207
Mounting Pattern



DE-STA-CO®
TOGGLE LOCK
PLUS OPTION



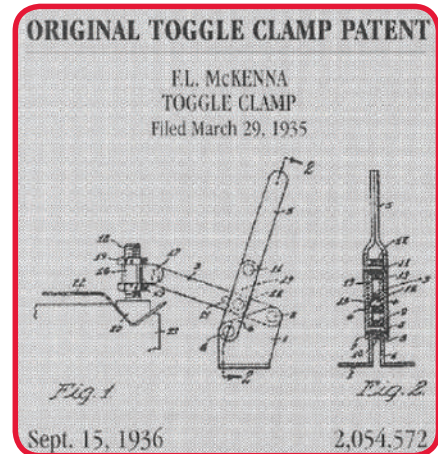
Model	A	B
2002-U-207	90°	72°
2002-UR207	75°	57°

DE-STA-CO offers custom clamping solutions

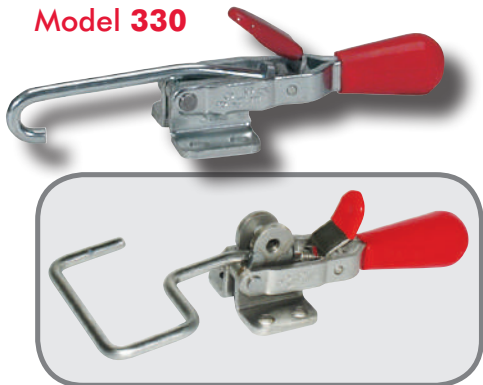
When an off-the-shelf product can't handle it - we can!

With years of experience using our expertise to develop custom solutions for unique applications, DE-STA-CO helps you save time and resources, allowing you to focus on your core business and gain a competitive advantage in the marketplace.

- **Proven quality** from the experts
- **Reduce risk** by using our experienced engineers
- **Easy reordering** with unique part numbers
- **Simplify** your supply chain
- **Three levels of customization** from simple alterations to complex custom products



Model 330

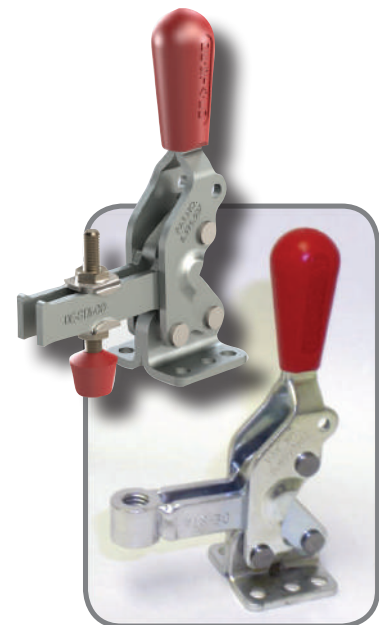


330-201 Stainless steel clamp with special hook and locking tab

Model 604



604-229 Stainless steel straight line clamp used in chemical machining process



2002-200 with bar cut and bolt retainer welded on

Contact us today to get started on your custom application: clamps@destaco.com

(*) All inquiries subject to minimum order

Series 2007 Product Overview

Features:

- Large hand clearance for improved safety
- Bolt pattern interchangeable with 207 Series
- Over two times the holding capacity of 207 Series
- Hardened bushings at key pivot points
- Near vertical clamping contact

Applications:

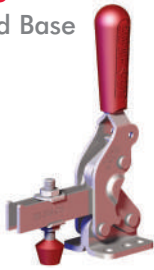
- Checking fixtures
- Assembly & test
- Light machining
- Woodworking

Also Available:

See page 7.1 for accessories
Accepts M8 or 5/16 spindle accessories

Covered under one or more U.S./International Patents

2007-U
Flanged Base
U-Bar



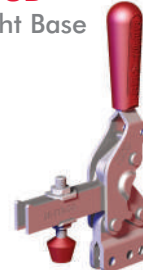
2007-U-LS-BLK ⓘ
Blackout Series
Flanged Base
U-Bar



2007-S
Flanged Base
Solid Bar



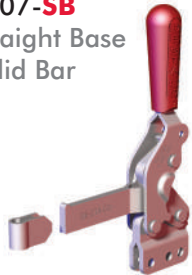
2007-UB
Straight Base
U-Bar



2007-UB-LS-BLK ⓘ
Blackout Series
Straight Base
U-Bar



2007-SB
Straight Base
Solid Bar



2007-UR
Flanged Base
U-Bar
with
DE-STA-CO®
Toggle Lock
Plus



2007-SR ⓘ
Flanged Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



2007-UBR
Straight Base
U-Bar
with
DE-STA-CO®
Toggle Lock
Plus



2007-SBR ⓘ
Straight Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



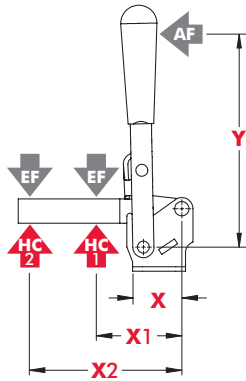
Note: Clamps shown with included accessories.

Series 2007 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Bolt Retainer	Spindle Assembly	Flanged Washers
2007-U	4450 N [1000 lbf]	76°	64°	0,54kg [1.20lbs]	--	2007208-M	507107
2007-U-LS-BLK ⓘ					--	--	507107-BLK
2007-S					2007115-E	--	--
2007-UB					--	2007208-M	507107
2007-UB-LS-BLK ⓘ					--	--	507107-BLK
2007-SB					2007115-E	--	--
2007-UR					--	2007208-M	507107
2007-SR ⓘ					2007115-E	--	--
2007-UBR					--	2007208-M	507107
2007-SBR ⓘ					2007115-E	--	--

ⓘ This item is available upon request

Series 2007 Holding Capacities

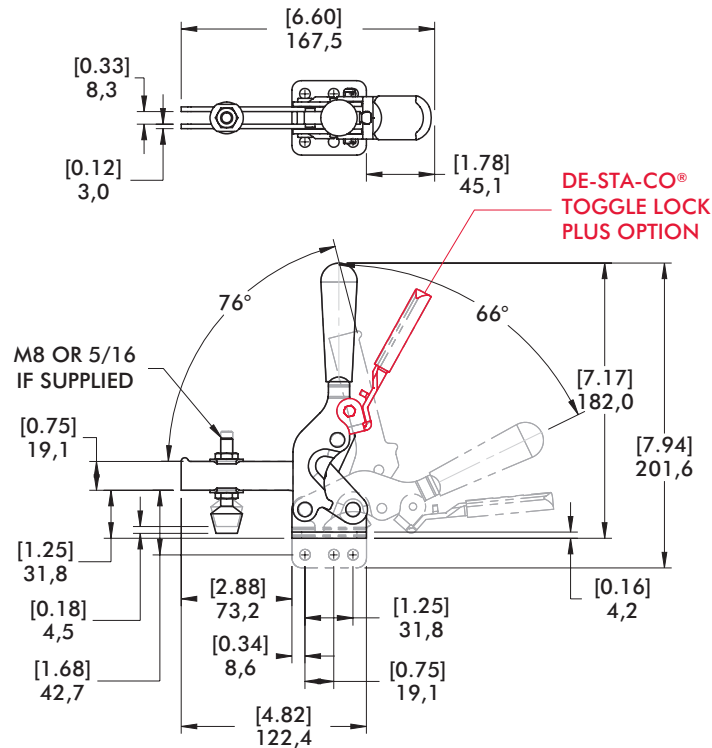
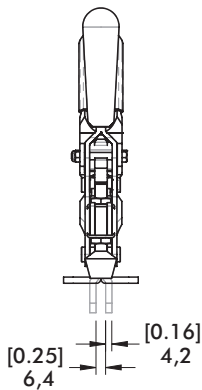
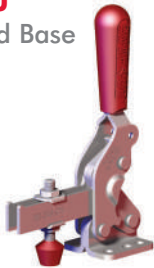


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
2007-()	[1.59] 40,5	[1.95] 49,5	[3.92] 99,5	[5.16] 131	[1000lbf.] 4450N	[470lbf.] 2090N	10:1	5.3:1

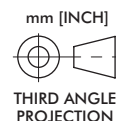
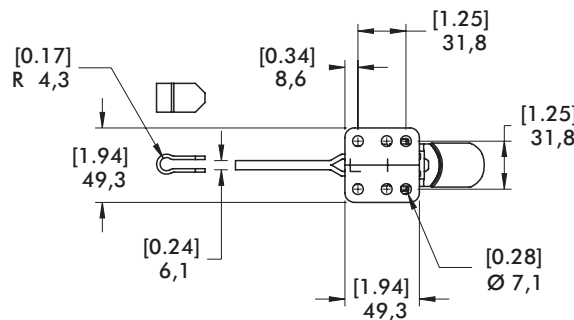
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 2007 Standard Clamp Dimensions -U/-S/-UB/-SB/-UR/-SR/-UBR/-SBR

2007-U
Flanged Base
U-Bar



2007-SB
Straight Base
Solid Bar



Series 2010 Product Overview

Features:

- Large hand clearance for improved safety
- Bolt pattern interchangeable with 210 Series
- Over two times the holding capacity of 210 Series
- Hardened bushings at key pivot points
- Near vertical clamping contact

Applications:

- Checking fixtures
- Assembly & test
- Light machining
- Woodworking

Also Available:

See page 7.1 for accessories

Accepts M10 or 3/8 spindle accessories

Covered under one or more U.S./International Patents

2010-U
Flanged Base
U-Bar



2010-S
Flanged Base
Solid Bar



2010-UB
Straight Base
U-Bar



2010-SB
Straight Base
Solid Bar



2010-UR
Flanged Base
U-Bar
with DE-STA-CO®
Toggle Lock Plus



2010-SR ⓘ
Flanged Base
Solid Bar
with DE-STA-CO®
Toggle Lock Plus



2010-UBR
Straight Base
U-Bar
with DE-STA-CO®
Toggle Lock Plus



2010-SBR ⓘ
Straight Base
Solid Bar
with DE-STA-CO®
Toggle Lock Plus



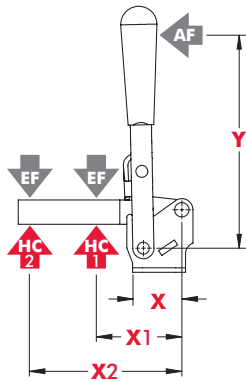
Note:
Clamps shown with included accessories.

Series 2010 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Bolt Retainer	Spindle Assembly	Flanged Washers
2010-U	6230 N [1400 lbf]	78°	66°	1,16kg [2.56lbs]	---	240208-M	235106
2010-S					2010115-E	---	
2010-UB					---	240208-M	235106
2010-SB					2010115-E	---	
2010-UR					---	240208-M	235106
2010-SR ⓘ					2010115-E	---	
2010-UBR					---	240208-M	235106
2010-SBR ⓘ					2010115-E	---	

ⓘ This item is available upon request

Series 2010 Holding Capacities

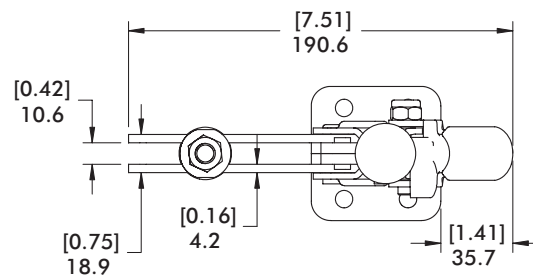
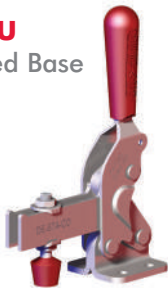


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
2010-()	[2.04] 51,8	[2.44] 62	[4.88] 124	[7.00] 178	[1400lbf.] 6230N	[720lbf.] 3200N	13:1	6:1

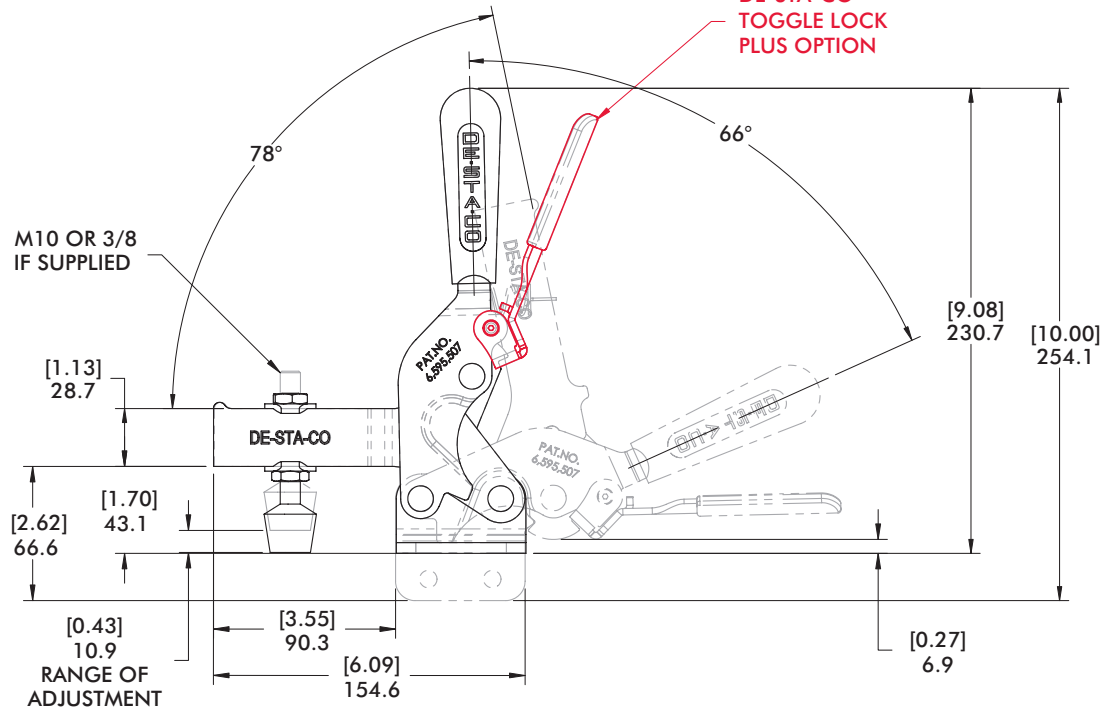
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 2010 Standard Clamp Dimensions -U/-S/-UB/-SB/-UR/-SR/-UBR/-SBR

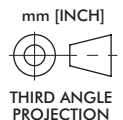
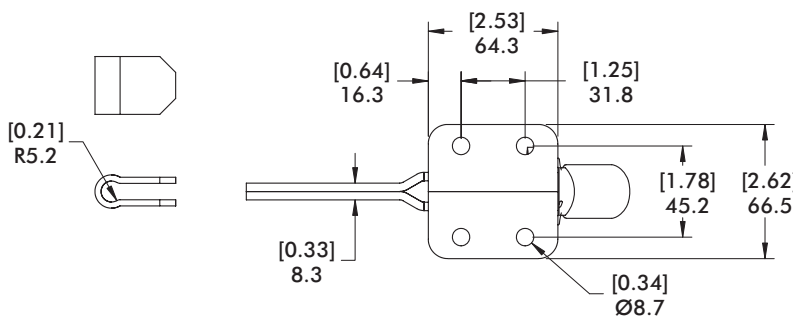
2010-U
Flanged Base
U-Bar



DE-STA-CO®
TOGGLE LOCK
PLUS OPTION



2010-SB
Straight Base
Solid Bar



Series 201 Product Overview

Features:

- Smallest series in the Vertical Handle series
- Stainless steel version available

Applications:

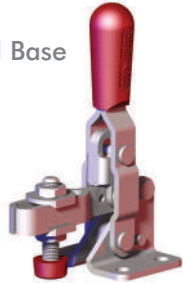
- Checking fixtures
- Assembly & test
- Woodworking

Also Available:

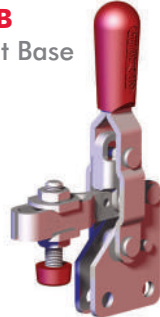
See page 7.1 for accessories

812-U Pneumatic Toggle Clamp
(See page 9.3)

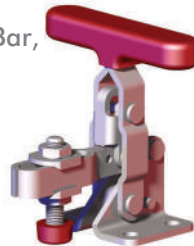
201-U
Flanged Base
U-Bar



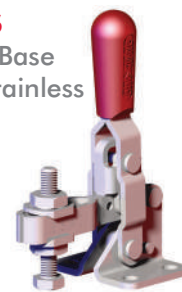
201-UB
Straight Base



201-TU
Straight
Base, U-Bar,
T-Handle



201-USS
Flanged Base
U-Bar, Stainless
Steel

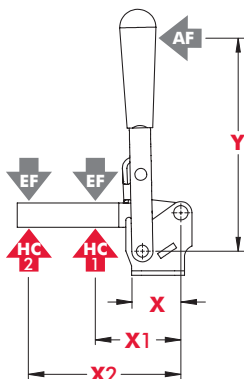


Note:
Clamps shown with included accessories.

Series 201 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
201-U	440 N [100 lbf]	100°	55°	0,70kg [0.15lbs]	305208-M	102111
201-UB						
201-TU	560 N [125 lbf]	100°	55°	0,70kg [0.15lbs]	201943-M	102911
201-USS						

Series 201 Holding Capacities

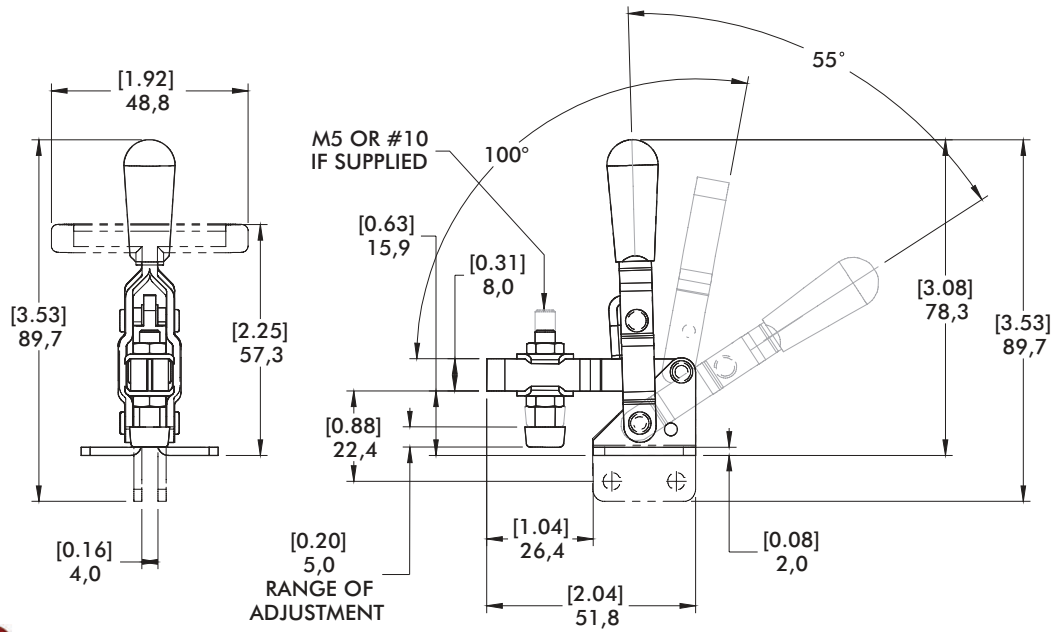
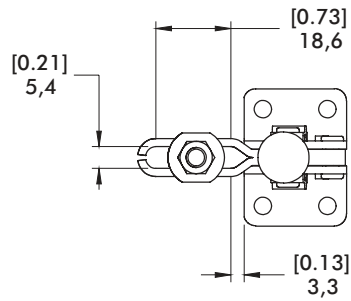
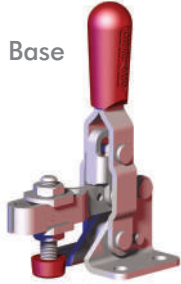


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U/UB				[2.25] 57	[100lbf.]	[55lbf.]	9:1	6:1
TU	[0.87] 22	[1.06] 27	[1.75] 44,5	[1.38] 35	440N	245N	8.4:1	4:4:1
USS				[2.25] 57	[125lbf.] 560N	[60lbf.] 270N	9:1	6:1

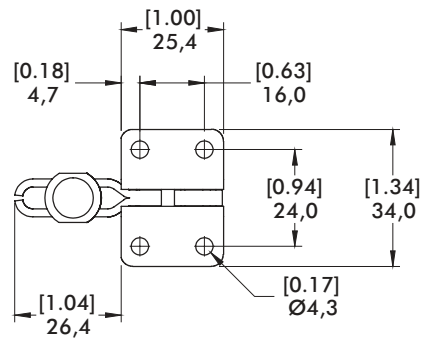
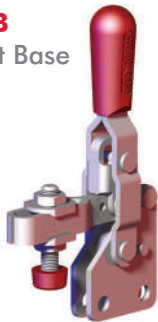
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 201 Standard Clamp Dimensions -U/-UB/-TU/-USS

201-U
Flanged Base
U-Bar



201-UB
Straight Base



mm [INCH]
THIRD ANGLE PROJECTION

Series 202 Product Overview

Features:

- Two bar styles available
- Low profile T-Handle version available
- Available in stainless steel
- Accommodates M6 or 1/4" spindle accessories
- BLK models feature a black, non-reflective finish

Applications:

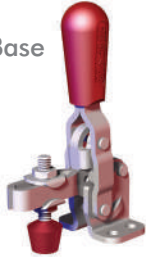
- Checking fixtures
- Assembly & test
- Light machining
- Woodworking

Also Available:

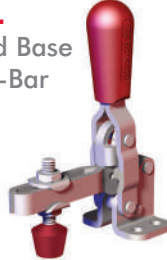
See page 7.1 for accessories

802-U Pneumatic Toggle Clamp
(See page 9.5)

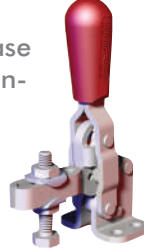
202-U
Flanged Base
U-Bar



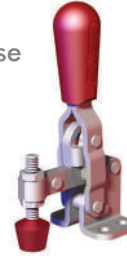
202-UL
Flanged Base
Long U-Bar



202-USS
Flanged Base
U-bar, Stain-
less Steel



202
Flange Base
Solid Bar



202-SS
Flanged Base
Solid Bar
Stainless Steel



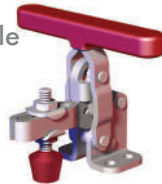
202-UB
Straight Base
U-bar



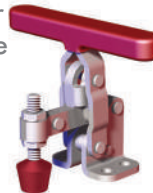
202-B
Straight Base
Solid Bar



202-TU
Flanged Base
U-bar,
T-Handle



202-T
Flanged Base
Solid Bar
T-Handle



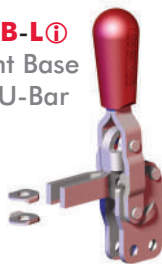
202-U-L ⓘ
Flanged Base
Open U-Bar



202-U-L-BLK ⓘ
Blackout Series
Flanged Base
Open U-Bar



202-UB-L ⓘ
Straight Base
Open U-Bar



202-UB-L-BLK ⓘ
Blackout Series
Straight Base
Open U-Bar



202305
Flanged Grip.
Provides added safety
and protection. Fits all
202 Series (except
T-Handle) clamps.
Order separately.



Note: Clamps shown with included accessories.

ⓘ This item is available upon request

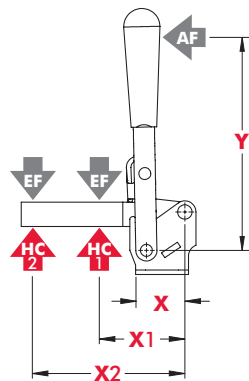


Series 202 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
202-U	890 N [200 lbf]	105°	65°	0,16kg [0.35lbs]	202208-M	215105
202-UL					202943-M	215905
202-USS	1110 N [250 lbf]			202208-M	---	
202	890 N [200 lbf]			205943-M	---	
202-SS	1110 N [250 lbf]			0,16kg [0.35lbs]	202208-M	215105
202-UB	890 N [200 lbf]			0,15kg [0.33lbs]	202208-M	215105
202-B				0,17kg [0.38lbs]	---	---
202-TU				---	---	---
202-T				---	---	---
202-U-L ⓘ						0,16kg [0.35lbs]
202-U-L-BLK ⓘ						
202-UB-L ⓘ						
202-UB-L-BLK ⓘ						

ⓘ This item is available upon request

Series 202 Holding Capacities



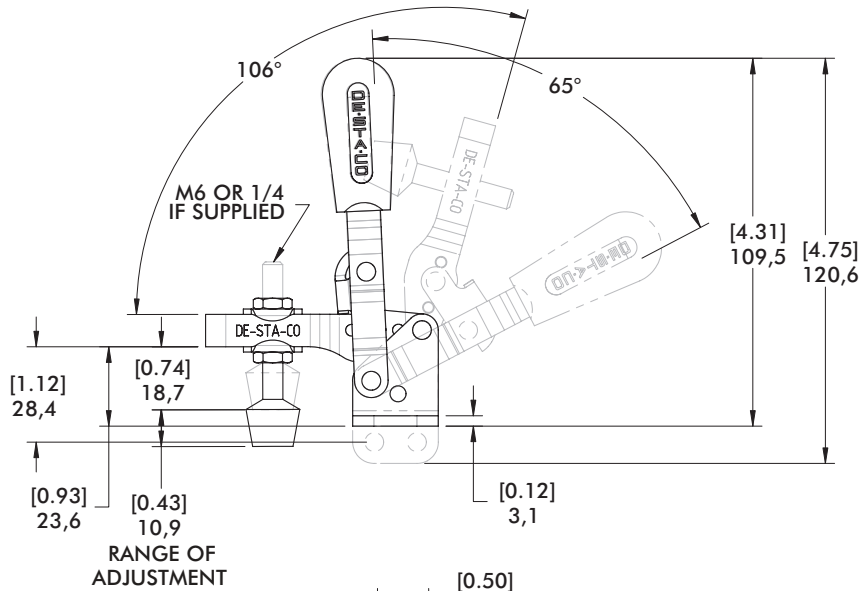
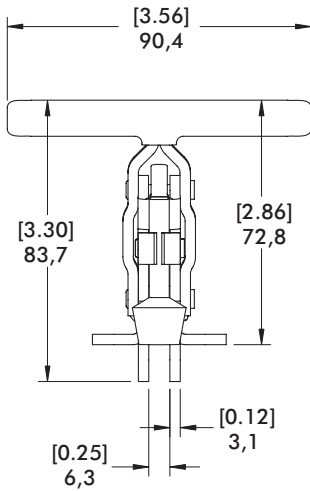
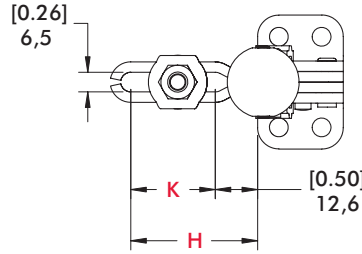
Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
202-U	[0.79] 20	[1.25] 32	[2.25] 57	[3.42]	[200 lbf] 890N	[140 lbf] 625N	10:1	5:1
202-UL			[2.88] 73	87	[250 lbf] 1110N	[150 lbf] 670N		4:1
202-USS			[2.25] 57	[3.00] 76	[200 lbf] 890N	[170 lbf] 760N		5:1
202		---	[1.88] 48	[3.42] 87	---	[200 lbf] 890N	---	8:1
202-SS		---		[3.00] 76	---	[250 lbf] 1110N	---	
202-UB		[1.25] 32	[2.25] 57	[3.42]	[200 lbf] 890N	[140 lbf] 625N	10:1	5:1
202-B		---	[1.88] 48	87	---	[200 lbf] 890N	---	8:1
202-TU		[1.25] 32	[2.25] 57	[2.13]	[200 lbf] 890N	[140 lbf] 625N	11:1	7:1
202-T		---	[1.88] 48	54	---	[200 lbf] 890N	---	6:1
202-U-L ⓘ								
202-U-L-BLK ⓘ								
202-UB-L ⓘ								
202-UB-L-BLK ⓘ								

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force

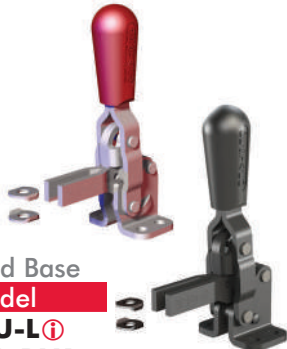
ⓘ This item is available upon request

Series 202 Standard Clamp Dimensions
202/-U/-UL/-USS/-SS/-UB/-B/-TU/-T

202-U
Flanged Base
U-Bar



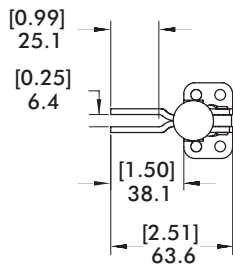
Series 202 Open Bar



Flanged Base
Model

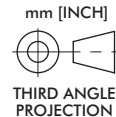
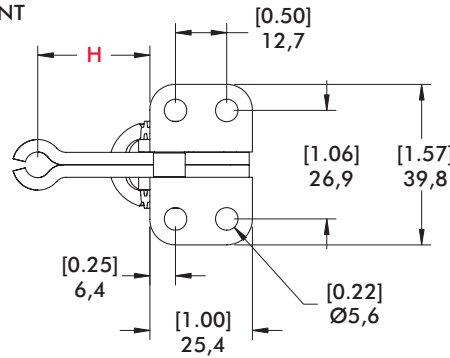
202-U-L ⓘ
202-U-L-BLK ⓘ

See page (7.7)
for complete
offering of open
bar accessories



Straight Base
Model

202-UB-L ⓘ
202-UB-L-BLK ⓘ



Bar Style	Clamp Models	H	K
	202-U/202-UB/ 202-USS/202-TU	[1.73] 44,1	[0.98] 25
	202-UL ⓘ	[2.29] 58,1	[1.51] 38,4
	202/202-B/ 202-T/202-SS	[1.08] 27,4	---
	202-U-L ⓘ/ 202-UB-L ⓘ	[1.50] 38,1	---

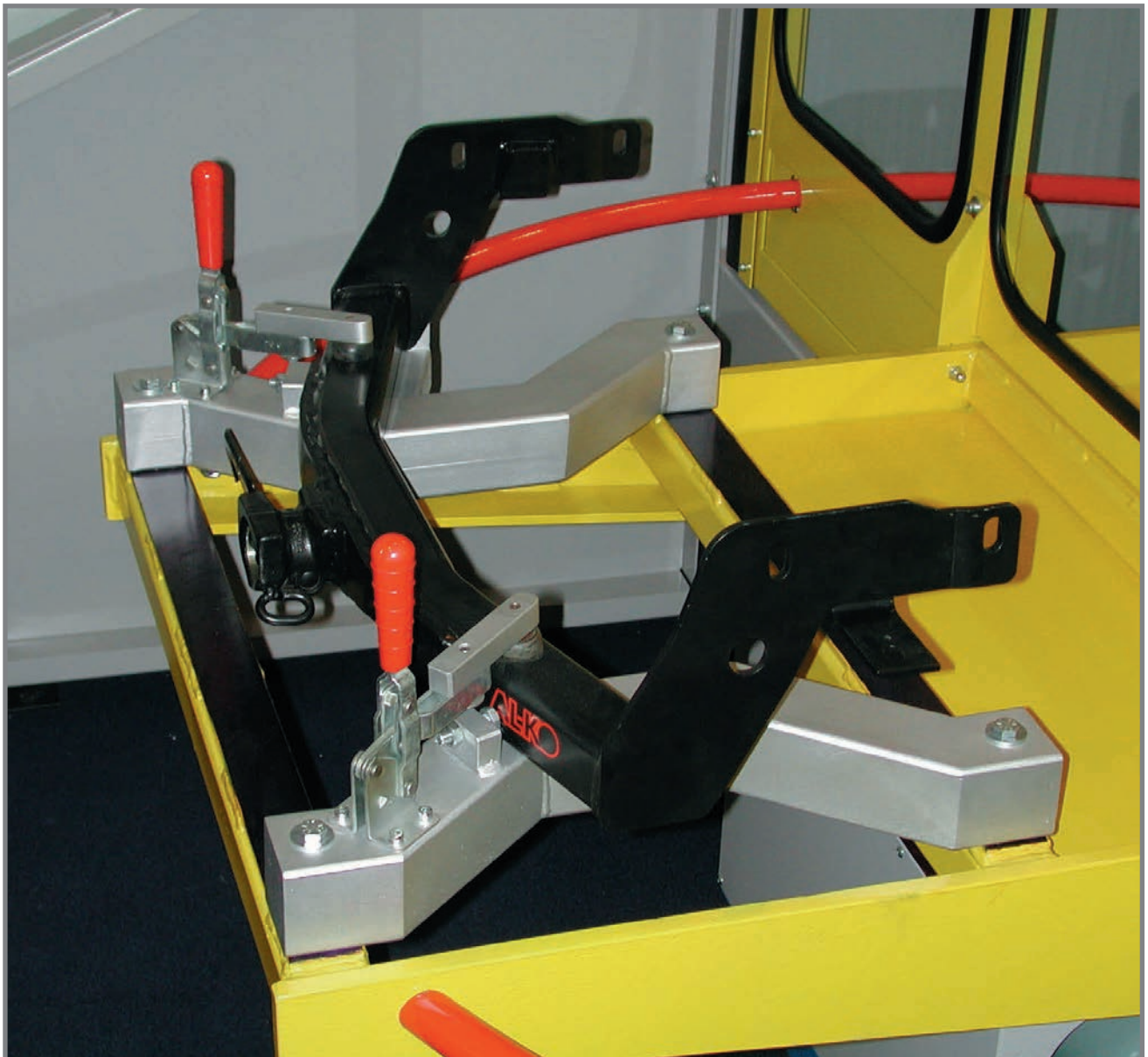
ⓘ This item is available upon request

Application Areas

Clamping during the assembling, drilling, testing, gluing, locking of covers and much more. The vertical clamp is the most frequently used product whenever clamping products are to be integrated with a manual fixture.

The essential product features

- In the clamping position, the handle is vertical
- Vertical clamps open at an angle between 75° and 215°
- Vertical clamps are offered with U-shaped or heavy-duty solid clamping bars
- Vertical clamps have a straight or flanged base.
The heavy-duty vertical clamps possess a base that can be welded on without a hole pattern



Series 207 Product Overview

Features:

- Largest selection of arm and mounting options
- Low profile T-Handle version available
- Available in stainless steel
- BLK models feature a black, non-reflective finish

Applications:

- Checking fixtures
- Assembly & test
- Light machining
- Woodworking

Also Available:

See page 7.1 for accessories

807-U Pneumatic toggle clamp
(See page 9.8)

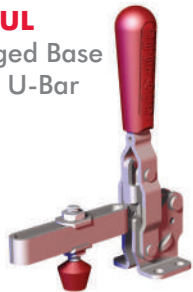
807-S Pneumatic toggle clamp
(See page 9.8)

Accepts M8 or 5/16 spindle accessories

207-U
Flanged Base
U-Bar



207-UL
Flanged Base
Long U-Bar



207-USS
Stainless
Flanged Base
U-Bar



207-S
Flanged Base
Solid Bar



207-L
Flanged Base
Long Solid Bar



207-TU
Flanged Base
T-Handle
U-Bar



207-TUL
Flanged Base
T-Handle
Long U-Bar



207-UR
Flanged Base
U-Bar
with
DE-STA-CO®
Toggle Lock
Plus



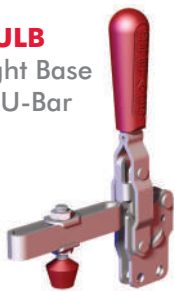
207-LR
Flanged Base
Long Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



207-UB
Straight Base
U-Bar



207-ULB
Straight Base
Long U-Bar



207-SB
Straight Base
Solid Bar



207-LB
Straight Base
Long Solid
Bar



207-LBR ⓘ
Straight Base
Long Solid
Bar with
DE-STA-CO®
Toggle Lock
Plus



207-UF ⓘ
U-Bar
Dual Mount



207-SF ⓘ
Solid Bar
Dual Mount



207-U-L ⓘ
Flange Base
Open Bar



207-U-L-BLK
Blackout Series
Flanged Base
Open U-Bar



207-UB-L ⓘ
Straight Base
Open Bar



207-UB-L-BLK
Blackout Series
Straight Base
Open U-Bar



207305

Flanged Grip. Provides added safety and protection. Fits all 207 Series (except T-Handle) clamps. Order separately.



Note: Clamps shown with included accessories.

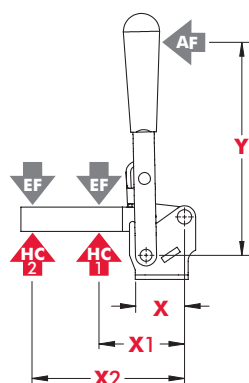
ⓘ This item is available upon request

Series 207 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)				
					Bolt Retainer	Spindle Assembly	Flanged Washers		
207-U	1670 N [375 lbf]	99°	57°	0,30kg [0.67lb]	---	225208-M	507107		
207-UR				0,45kg [1.00lb]					
207-UL				0,30kg [0.67lb]					
207-USS	2000 N [450 lbf]			0,32kg [0.70lb]	---	207943-M	507907		
207-S	2220 N [500 lbf]			96°	56°	0,31kg [0.69lb]	207105	---	---
207-L						0,34kg [0.74lb]			
207-LR						0,45kg [1.00lb]			
207-UB	1670 N [375 lbf]			99°	57°	0,33kg [0.72lb]	---	225208-M	507107
207-ULB						0,31kg [0.69lb]			
207-SB						0,34kg [0.75lb]			
207-LB	2220 N [500 lbf]			90°	57°	0,45kg [1.00lb]	207105	---	---
207-LBR ⓘ	1670 N [375 lbf]			96°		0,33kg [0.72lb]			
207-TU		---	---			507107			
207-TUL		---	---		---				
207-UF ⓘ	1670 N [375 lbf]	96°	56°	0,43kg [0.94lb]	---	225208-M	507107		
207-SF ⓘ	2220 N [500 lbf]	90°	57°	0,38kg [0.84lb]	207105	---	---		
207-U-L ⓘ	1670 N [375 lbf]	99°		57°	0,38kg [0.84lb]	---	---	---	
207-U-L-BLK ⓘ									
207-UB-L ⓘ									
207-UB-L-BLK ⓘ									

ⓘ This item is available upon request

Series 207 Holding Capacities



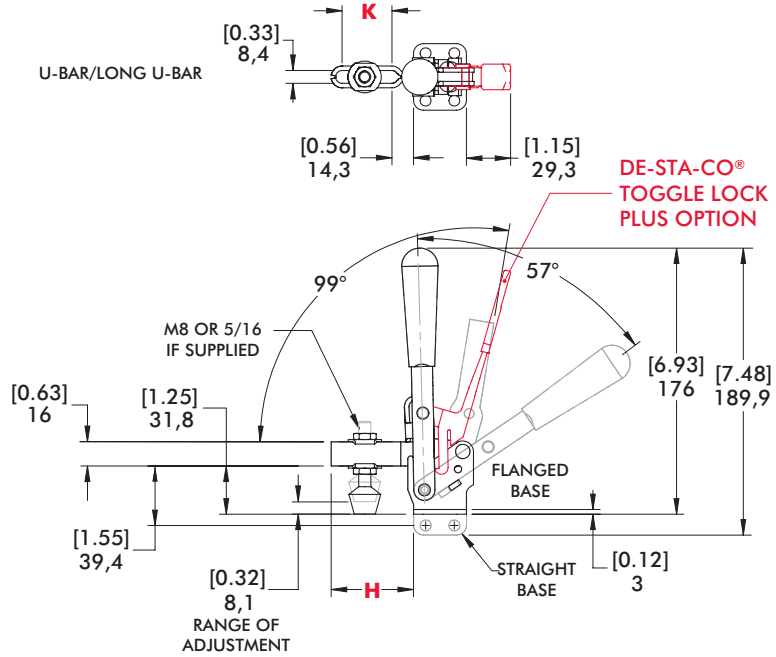
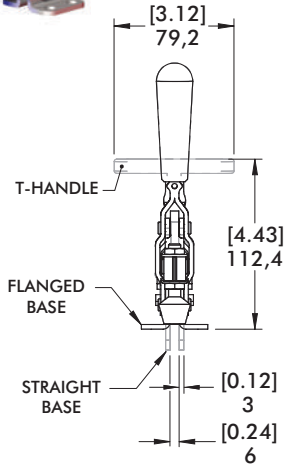
Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U/UB/UR	[1.28] 32,6	[2.00] 50,8	[3.75] 95,3	[4.90] 124,5	[375 lbf] 1670N	[225 lbf] 1000N	12:1	6:1
UL/ULB		[3.88] 98,5	[5.00] 127		[150 lbf] 670N	7:1	4:1	
USS		[2.00] 50,8	[3.75] 95,3		[450 lbf] 2000N	[240 lbf] 1070N	10:1	7:1
S/SB		[2.88] 73,0	[5.00] 127	[500 lbf] 2220N	[350 lbf] 1560N			
L/LR		[2.88] 73,0	[5.00] 127	[3.66] 9	[375 lbf] 1670N	[225 lbf] 1000N	6:1	4:1
LB/LBR		[3.88] 98,5	[5.00] 127		[150 lbf] 670N	4:1	3:1	
TU		[2.00] 50,8	[3.75] 95,3	[4.90] 124,5	[375 lbf] 1670N	[225 lbf] 1000N	12:1	6:1
TUL		[3.88] 98,5	[5.00] 127	[3.66] 9	[150 lbf] 670N	[2225 lbf] 1000N	6:1	4:1
U-L		[2.00] 50,8	[3.75] 95,3	[4.90] 124,5	[375 lbf] 1670N	[2225 lbf] 1000N	12:1	6:1
UB-L		[3.88] 98,5	[5.00] 127	[3.66] 9	[150 lbf] 670N	[2225 lbf] 1000N	4:1	3:1

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force

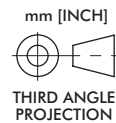
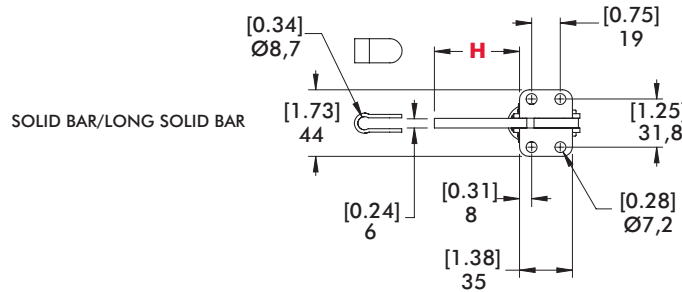
Series 207 Standard Clamp Dimensions

-U/-UL/-S/-L/-TU/-TUL/-UR/-LR/-UB/-ULB/-SB/-LB/-LBR

207-U
Flanged Base
U-Bar



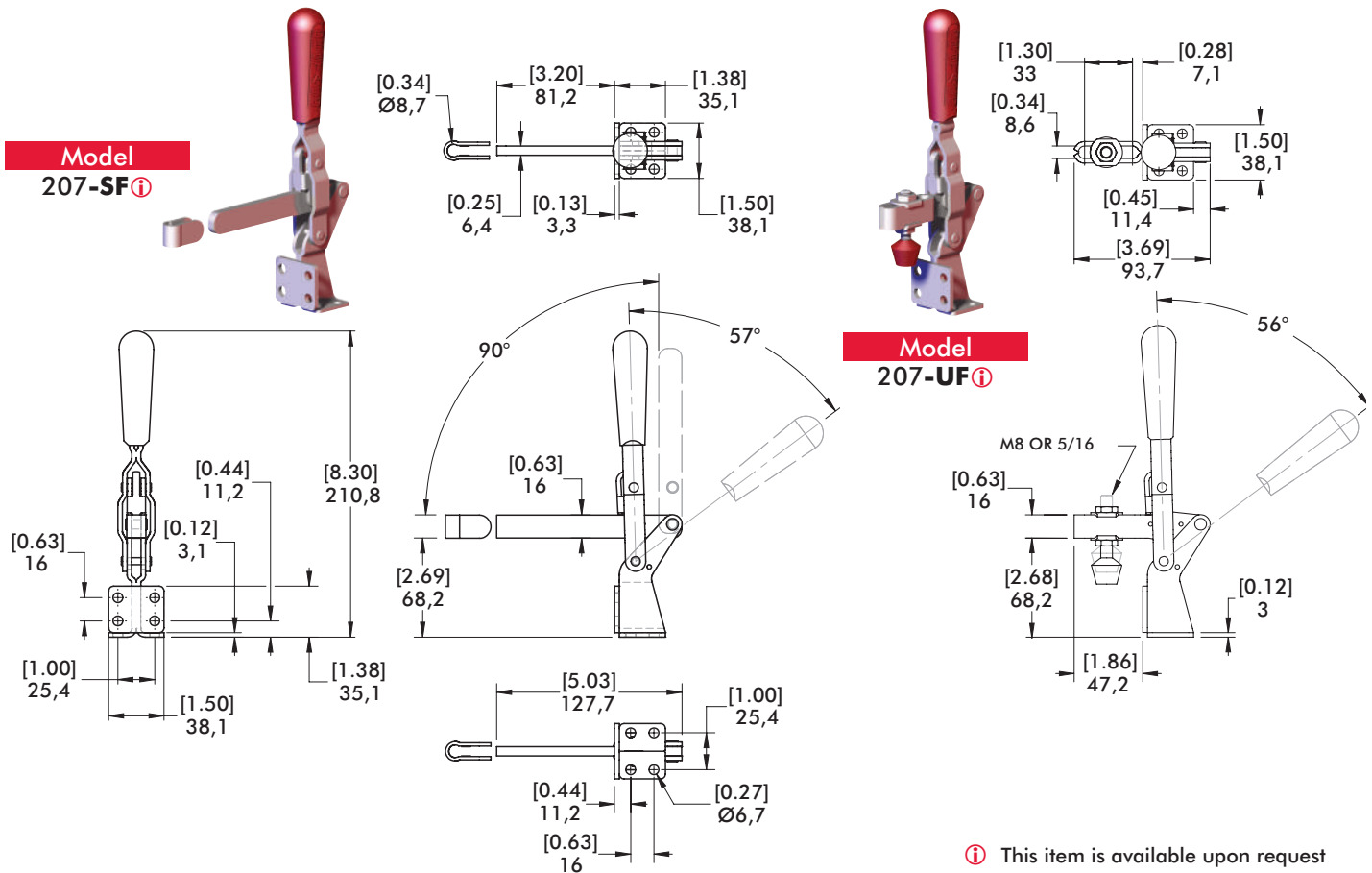
207-SB
Straight Base
Solid Bar



Bar Style	Clamp Models	H	K
	207-U/207-UR/207-TU/207-UB	[2.14] 54,4	[1.30] 33
	207-UL/207-ULB/207-TUL	[3.84] 97,6	[2.94] 74,6
	207-S/207-SB	[2.21] 56,2	---
	207-L/207-LR/207-LB/207-LBR ⓘ	[3.48] 88,4	---

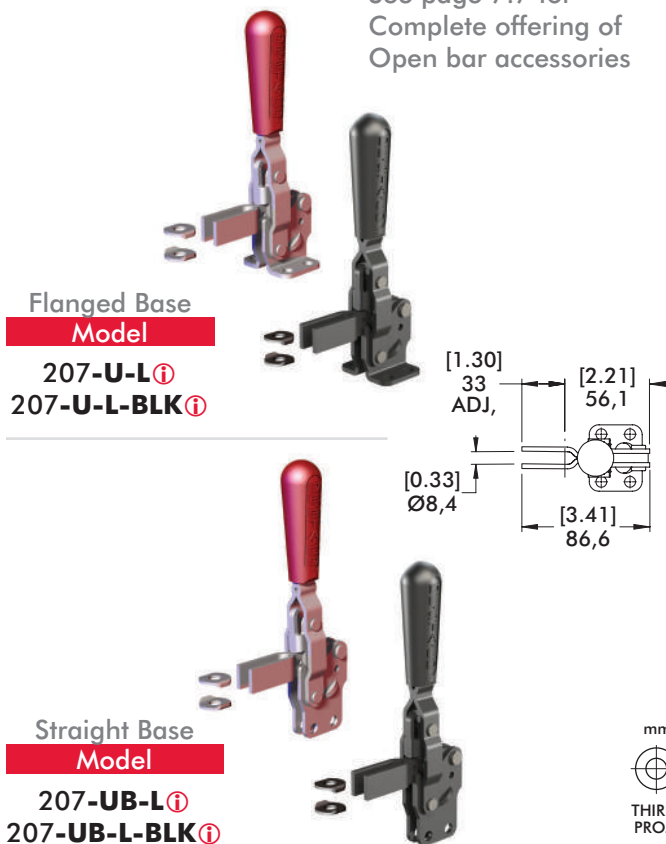
ⓘ This item is available upon request

Series 207 Standard Clamp Dimensions - Dual Mount

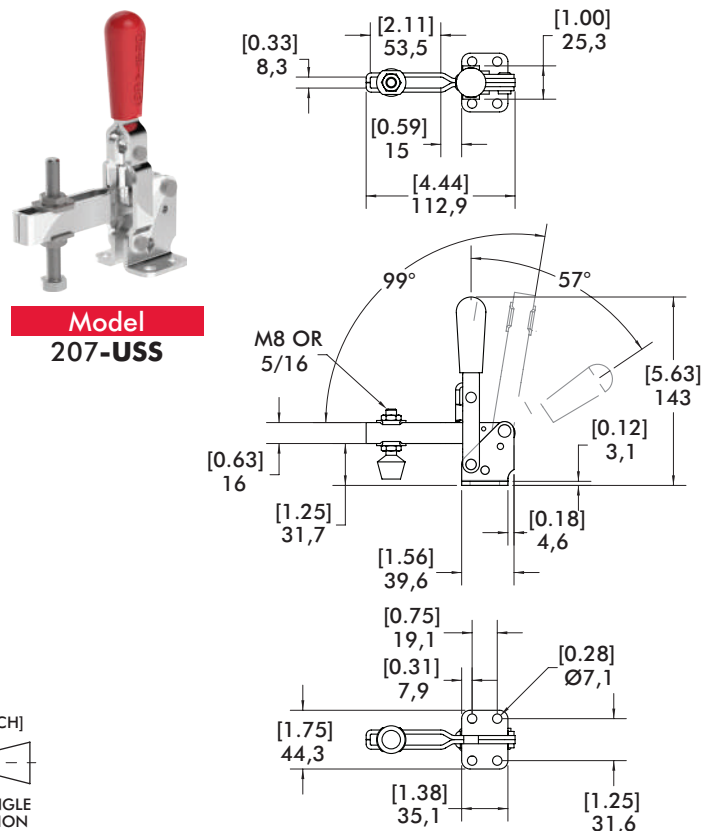


Series 207 Open Bar

See page 7.7 for Complete offering of Open bar accessories



207-USS Stainless Steel



Series 210 Product Overview

Features:

- DE-STA-CO® Toggle Lock Plus versions available
- Available in stainless steel
- Accomodates M10 or 3/8 spindle accessories

Applications:

- Assembly & test
- Light machining
- Light welding

Also Available:

See page 7.1 for accessories
 810-U Pneumatic Toggle Clamp
 (See page 9.9)
 810-S Pneumatic Toggle Clamp
 (See page 9.9)

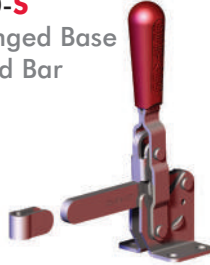
210-U
Flanged Base
U-Bar



210-USS
Flanged Base
U-bar, Stainless
Steel



210-S
Flanged Base
Solid Bar



210-UB
Straight Base
U-bar



210-SB
Straight Base,
Solid Bar



210-UR
Flanged Base
U Bar
with
DE-STA-CO®
Toggle Lock
Plus



210-SR
Flanged Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



210-TU
Flanged Base
U Bar,
T-Handle

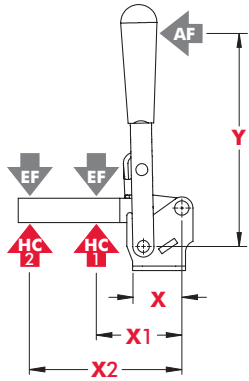


Note: Clamps shown with included accessories.

Series 210 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Bolt Retainer	Spindle Assembly	Flanged Washers
210-U	2670 N [600 lbf]	103°	58°	0,59kg [1.29lbs]	---	240208-M	235106
210-USS	3340 N [750 lbf]				---	237943-M	235906
210-S					210114	237943-M	---
210-UB	2670 N [600 lbf]				---	240208-M	235106
210-SB	3340 N [750 lbf]			210114	---	---	
210-UR	2670 N [600 lbf]			---	240208-M	235106	
210-SR	3340 N [750 lbf]			210114	---	---	
210-TU	2670 N [600 lbf]			---	---	235106	

Series 210 Holding Capacities

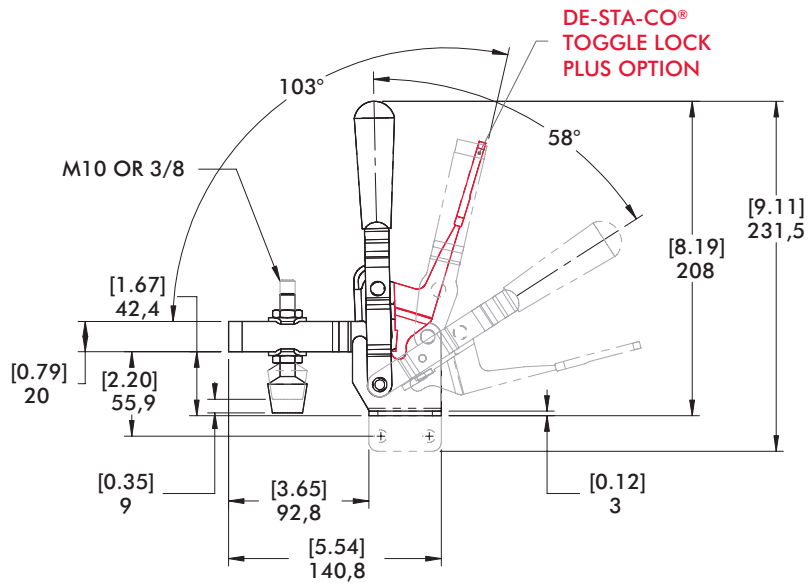
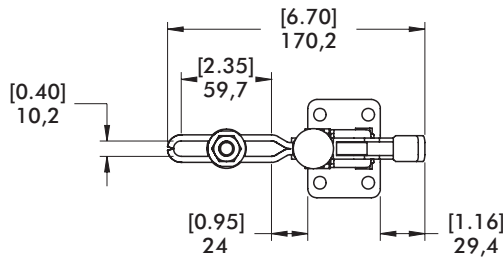
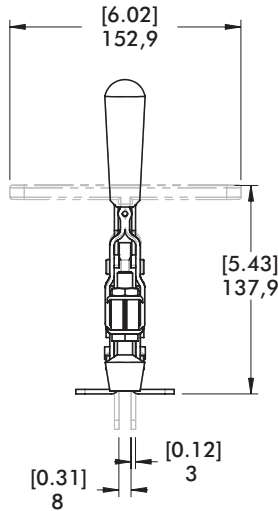
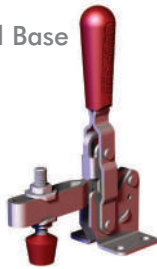


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	EF(X2):AF
U/UB/UR	[1.54] 39	[2.38] 60,5	[4.88] 124	[6.75] 171,5	[600lbf.] 2670N	[290lbf.] 1290N	14:1	7:1
USS		[3.62] 92,0	[5.25] 133	[4.50] 114,5	[750lbf.] 3340N	[360lbf.] 1600N		
S/SR/SB		[2.38] 60,5	[4.88] 124	[6.75] 171,5	[750lbf.] 3340N	[500lbf.] 2220N	11:1	9:1
TU		[2.38] 60,5	[4.88] 124	[6.75] 171,5	[600lbf.] 2670N	[290lbf.] 1290N		

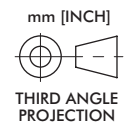
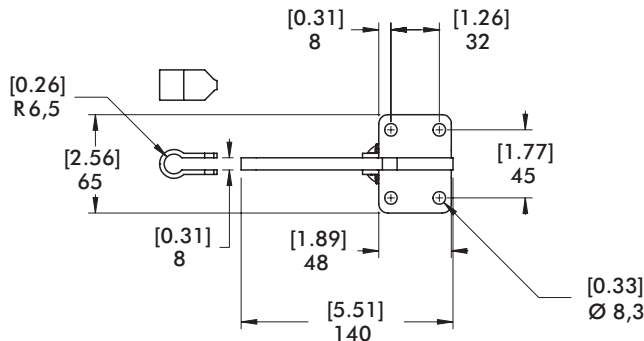
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 210 Standard Clamp Dimensions -U/-USS/-S/-UB/-SB/-UR/-SR/-TU

210-U
Flanged Base
U-Bar



210-SR
Flanged Base
Solid Bar
with
DE-STA-CO®
Toggle Lock
Plus



Series 247, 267 Product Overview

Features:

- Hardened steel bushings
- Large bar guides for greater lateral stability on Model 247
- Series 247 accomodates M12 or 1/2 spindle accessory
- Series 267 accomodates M16 or 5/8 spindle accessory

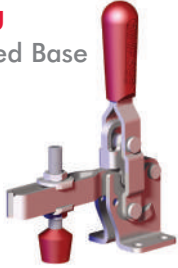
Applications:

- Assembly & test
- Light machining
- Welding

Also Available:

See page 7.1 for accessories
 847-U Pneumatic Toggle Clamp (See page 9.15)
 847-S Pneumatic Toggle Clamp (See page 9.15)

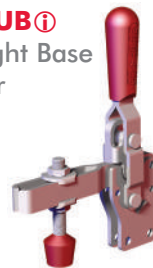
247-U
Flanged Base
U-Bar



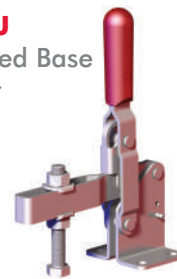
247-S
Flanged Base
Solid Bar



247-UB ⓘ
Straight Base
U-Bar



267-U
Flanged Base
U-Bar



267-S ⓘ
Flanged Base
Solid Bar



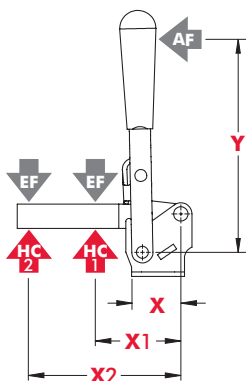
Note:
Clamps shown with included accessories.

Series 247, 267 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Bolt Retainer	Spindle Assembly	Flanged Washers
247-U	4400 N [1000 lbf]	120°	67°	1,07kg [2.36lbs]	---	247208-M	247109
247-S				1,08kg [2.36lbs]	247110	---	---
247-UB ⓘ				1,07kg [2.36lbs]	---	247208-M	247109
267-U	5340 N [1200 lbf]	140°	72°	2,18kg [4.80lbs]	---	267203-M	267102
267-S ⓘ				1,98kg [4.36lbs]	110122	---	---

ⓘ This item is available upon request

Series 247 Holding Capacities

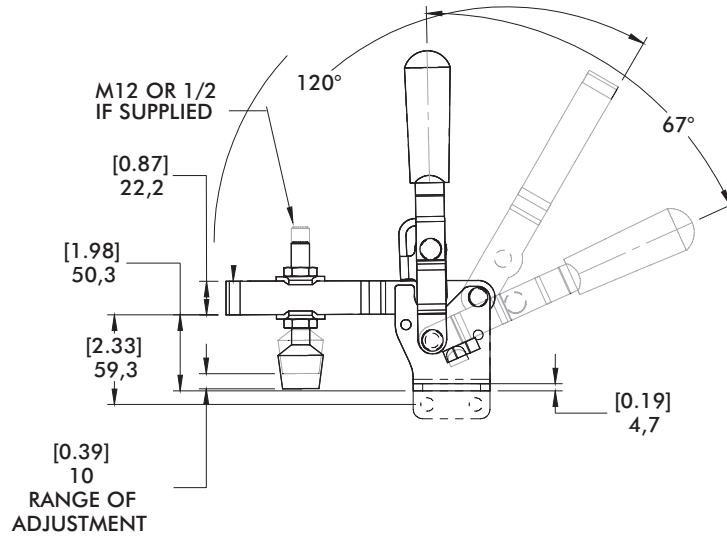
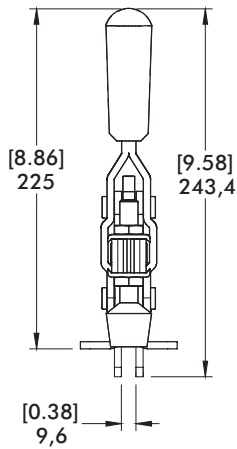
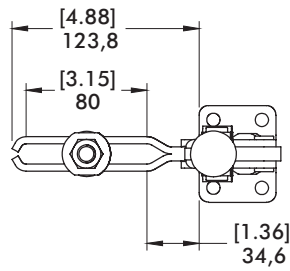
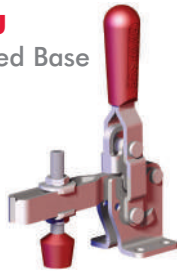


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
247-U/ 247-UB ⓘ	[1.69]	[3.00] 76,2	[6.13] 155,7	[6.71]	[1000lbf.] 4450N	[480lbf.] 2140N	12:1	6:1
247-S	43	[4.56] 115,8	[7.00] 177,8	170,5		[650lbf.] 2900N	10:1	5:1
267-U	[2.50]	[4.00] 101,6	[8.00] 203,2	[9.25]	[1200lbf.] 5340N	[600lbf.] 2670N	18:1	8:1
267-S ⓘ	63,5	[6.00] 152,4	[8.75] 222,3	235		[820lbf.] 3650N	12:1	

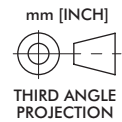
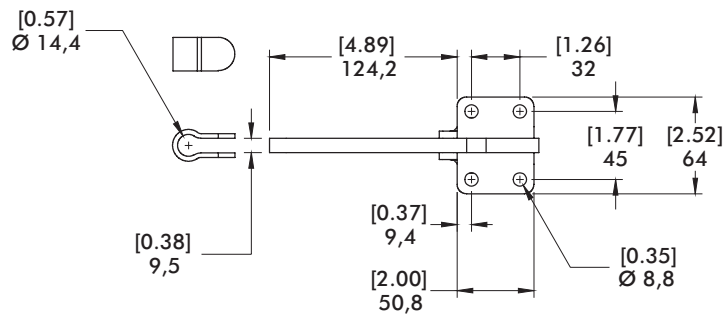
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
 Refer to page 15.4 for additional information. ⓘ This item is available upon request

Series 247 Standard Clamp Dimensions -U/-S/-UB

247-U
Flanged Base
U-Bar

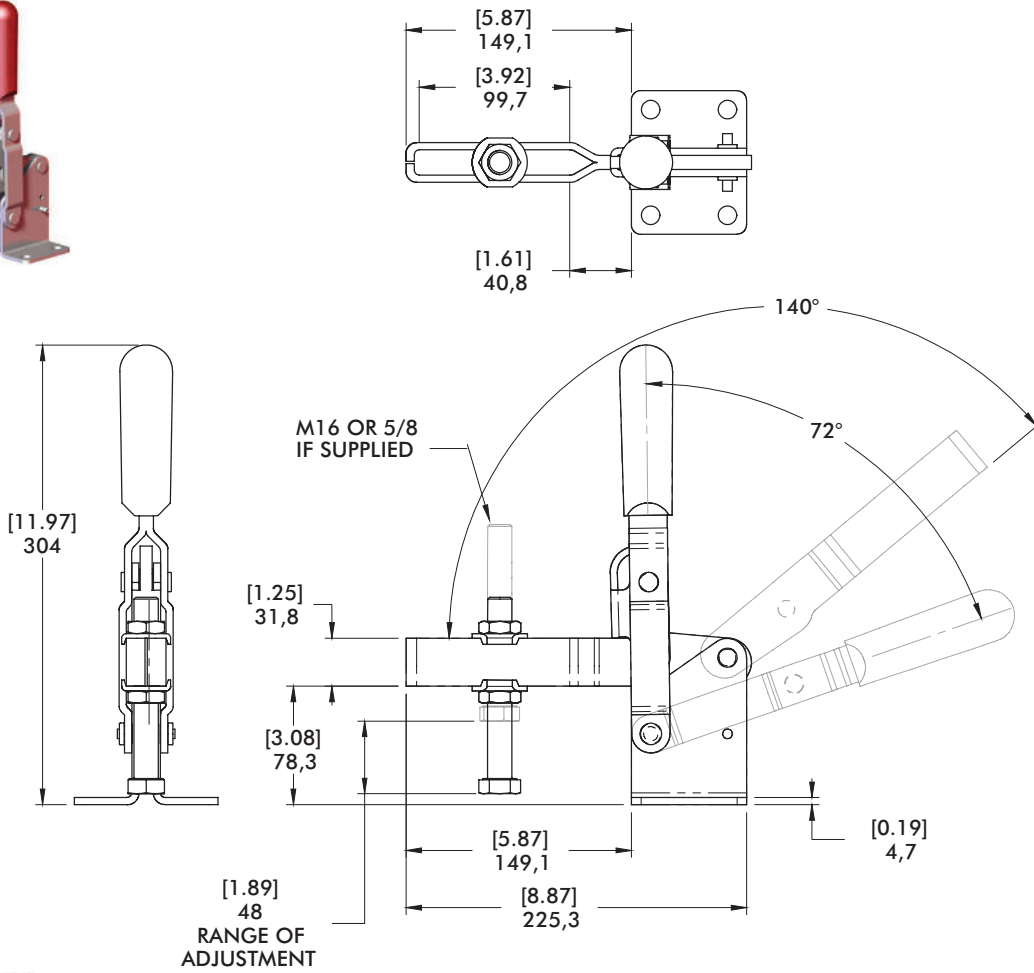
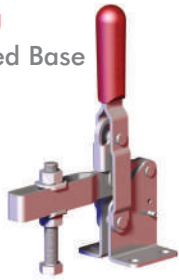


247-S
Flanged Base
Solid Bar

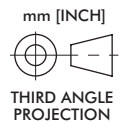
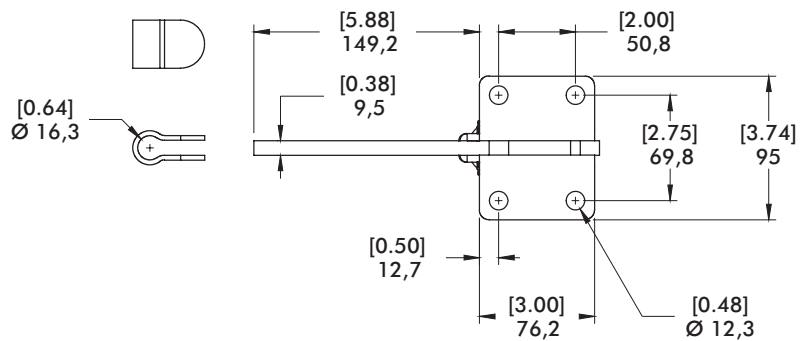


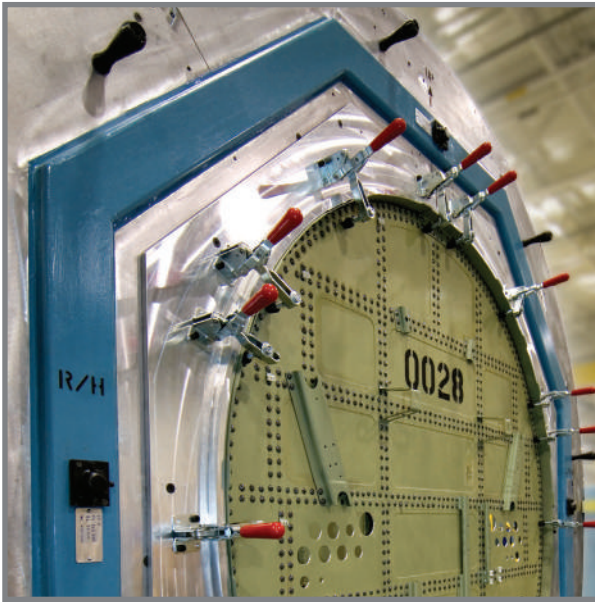
Series 267 Standard Clamp Dimensions
-U/-S

267-U
Flanged Base
U-Bar



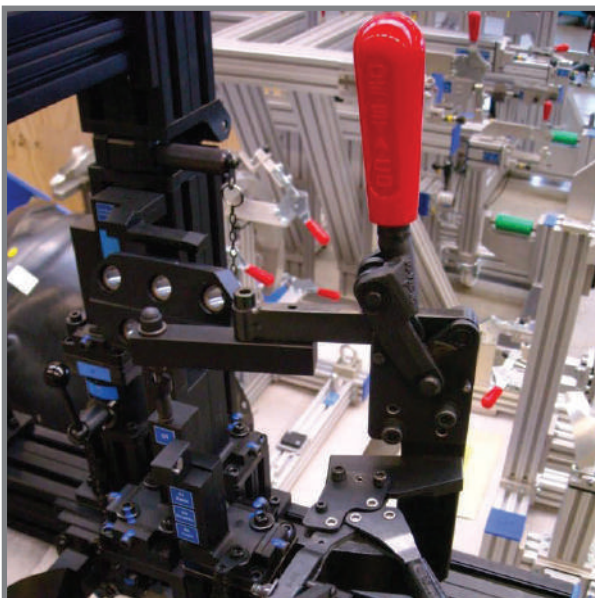
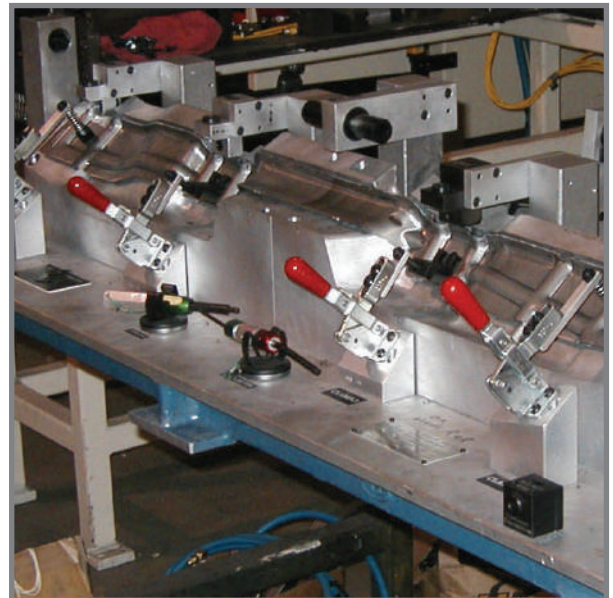
267-S
Flanged Base
Solid Bar





Model 210-U
used in an airframe
assembly fixture

Model 210-U
shown being used
in a checking fixture
application.



Model 533-LB
and **227-UB** shown
with black finish
in a fixture for used for
optical inspection.



Series 5905, 5910, 5915 Product Overview

Features:

- High strength forged clamping arm for heavy-duty service
- Hardened steel pivot pins and bushings provide long life
- Black oxide finish

Applications:

- Welding fixtures
- Assembly fixtures

5905/5910/5915
Flanged Base5905-B/5910-B
Solid Base

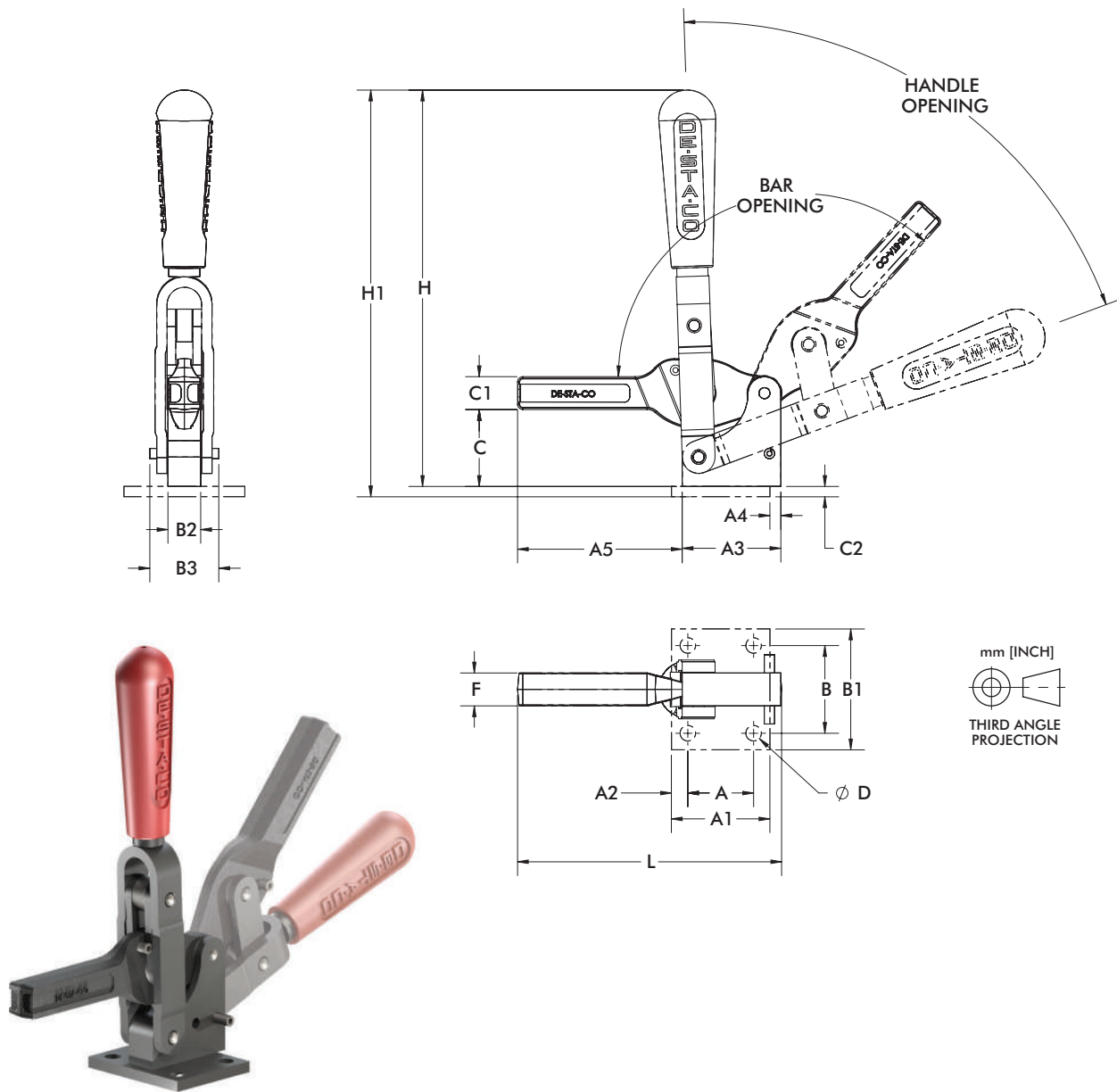
Series 5905, 5910, 5915 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
5905	[750lbf.] 3340N	135°	70°	[1.08lbs] 0,49kg
5905-B				[0.82lbs] 0,37kg
5910	[1600lbf.] 7120N	132°	71°	[2.84lbs] 1,29kg
5910-B				[2.24lbs] 1,02kg
5915	[2750lbf.] 12230N	147°	74°	[6.44lbs] 2,92kg



Removable handle stop can be repositioned to limit opening angle to 90°

Series 5905, 5910, 5915 Standard Clamp Dimensions



Model	A	A1	A2	A3	A4	A5	B	B1	B2	B3	C	C1	C2	D	F	H	H1	L
5905	[1.00] 25,4	[1.50] 38,1	[0.25] 6,4	[1.51] 38,4	[0.25] 6,4	[2.49] 63,2	[1.50] 38,1	[2.13] 54,1	[0.59] 15,0	[1.02] 25,9	[1.27] 32,3	[0.51] 12,9	[0.24] 6,1	[0.29] 7,3	[0.56] 14,2	[6.51] 165,4	[6.75] 171,4	[4.02] 102,10
5910	[1.50] 38,1	[2.24] 56,9	[0.37] 9,4	[2.25] 57,2	[0.25] 6,4	[3.76] 95,5	[2.00] 50,8	[2.76] 70,1	[0.75] 19,1	[1.57] 39,9	[1.75] 44,5	[0.75] 19,1	[0.24] 6,1	[0.41] 10,5	[0.75] 19,1	[9.04] 229,5	[9.27] 235,5	[6.02] 152,88
5915	[2.00] 50,8	[2.95] 74,9	[0.48] 12,2	[2.99] 75,9	[0.38] 9,7	[5.00] 127,0	[2.75] 69,9	[3.88] 98,6	[0.98] 24,9	[1.97] 50,0	[2.37] 60,2	[1.00] 25,4	[0.35] 8,9	[0.55] 14,0	[1.00] 25,4	[10.89] 276,7	[11.25] 285,7	[7.50] 190,50

Model	A3	A5	B2	B3	F	H
5905-B	[1.51] 38,4	[2.49] 63,2	[0.59] 15,0	[1.02] 25,9	[0.56] 12,2	[6.24] 158,5
5910-B	[2.25] 57,2	[3.76] 95,5	[0.75] 19,1	[1.57] 39,9	[0.75] 19,1	[8.72] 221,5

Series 5105, 5110 Product Overview

Features:

- High strength forged clamping arm for heavy-duty service
- Hardened steel pivot pins and bushings provide long life
- Black oxide finish
- Large clearance under the clamping bar
- DE-STA-CO® Toggle Lock Plus versions available†

Applications:

- Welding fixtures
- Assembly fixtures



Covered under one or more U.S./International Patents

5105/5110
Flanged Base



5105-B/5110-B
Solid Base



5105-R/5110-R
Flanged Base with DE-STA-CO® Toggle Lock Plus



5105-BR[†]/5110-BR[†]
Solid Base with DE-STA-CO® Toggle Lock Plus



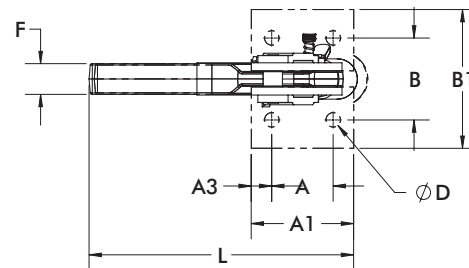
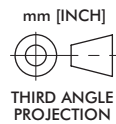
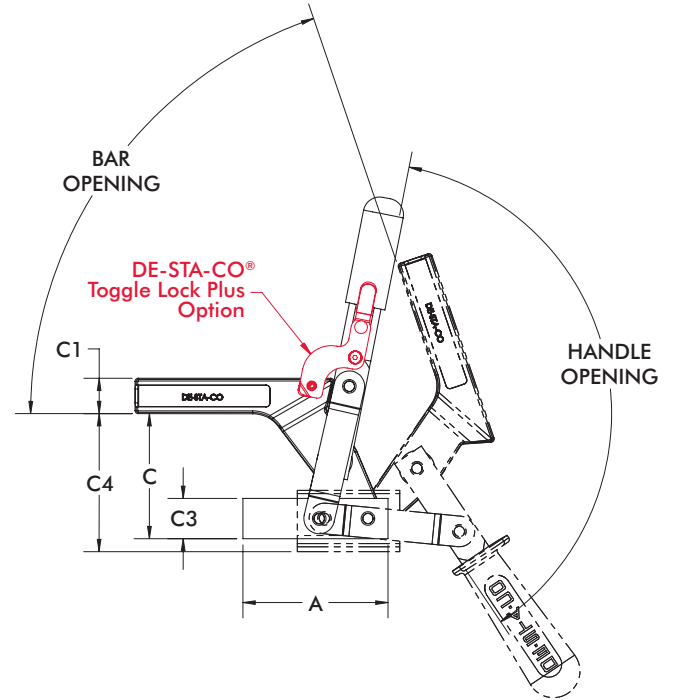
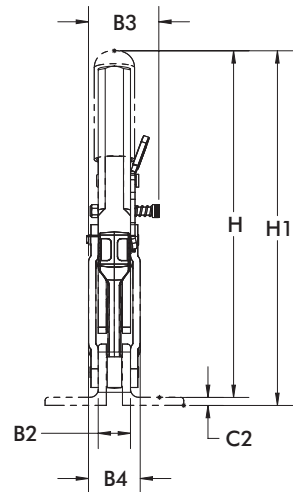
Series 5105, 5110 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
5105	[700lbf.] 3100N	89°	159°	[1.12lbs] 0,51kg
5105-B				[1.06lbs] 0,48kg
5105-R				[1.10lbs] 0,50kg
5105-BR [†]				[1.17lbs] 0,53kg
5110	[1150lbf.] 5100N	74°	138°	[2.98lbs] 1,35kg
5110-B				[2.95lbs] 1,34kg
5110-R				[3.00lbs] 1,36kg
5110-BR [†]				[3.02lbs] 1,37kg

[†] This item is available upon request.

† Toggle Lock Plus locks the handle in the closed position only.

Series 5105, 5110 Standard Clamp Dimensions



Model	A	A1	A2	B	B1	B2	B3	B4	C1	C2	C4	D	F	H1	L
5105	[1.00]	[1.62]	[0.31]	[1.46]	[2.24]	[0.59]	--	[0.98]	[0.51]	[0.16]	[2.54]	[0.26]	[0.56]	[6.54]	[4.13]
5105-R	25,4	41,2	7,9	37	57	15	[1.48] 37,5	25	13,0	4,0	64,6	6,6	14,3	166,1	104,9
5110	[1.50]	[2.50]	[0.50]	[2.00]	[2.76]	[0.79]	--	[1.26]	[0.87]	[0.20]	[3.37]	[0.35]	[0.75]	[8.70]	[6.33]
5110-R	38,1	63,5	12,7	50,8	70	20	[1.67] 42,5	32	22,0	5,0	85,6	9,0	19,1	221,1	160,9

Model	A3	B2	B3	B4	C	C1	C3	F	H
5105-B	[2.50]	[0.59]	--	[0.98]	[2.14]	[0.51]	[0.59]	[0.56]	[6.14]
5105-BR ⓘ	63,5	15	[1.48] 37,5	25	54,3	13,0	15,0	14,3	156,0
5110-B	[3.54]	[0.79]	--	[1.26]	[3.05]	[0.87]	[0.98]	[0.75]	[8.39]
5110-BR ⓘ	90	20	[1.67] 42,5	32	77,5	22,0	25,0	19,1	213,0

ⓘ This item is available upon request

Series 528 Product Overview

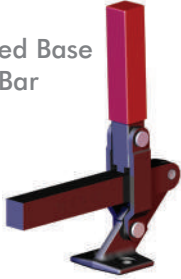
Features:

- Hardened steel bushings at pivot points for long life
- Solid bar may be modified to suit application requirements

Applications:

- Assembly & test
- Light machining
- Welding
- Medium to heavy duty clamping requirements

528
Flanged Base
Solid Bar



528-F ①
Front Mount
Base Solid Bar

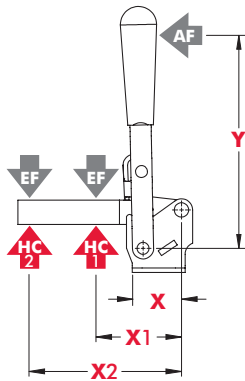


Series 528 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
528	4450 N [1000 lbf]	180°	177°	[2.50lbs] 1,13kg
528-F ①				

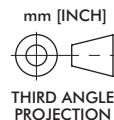
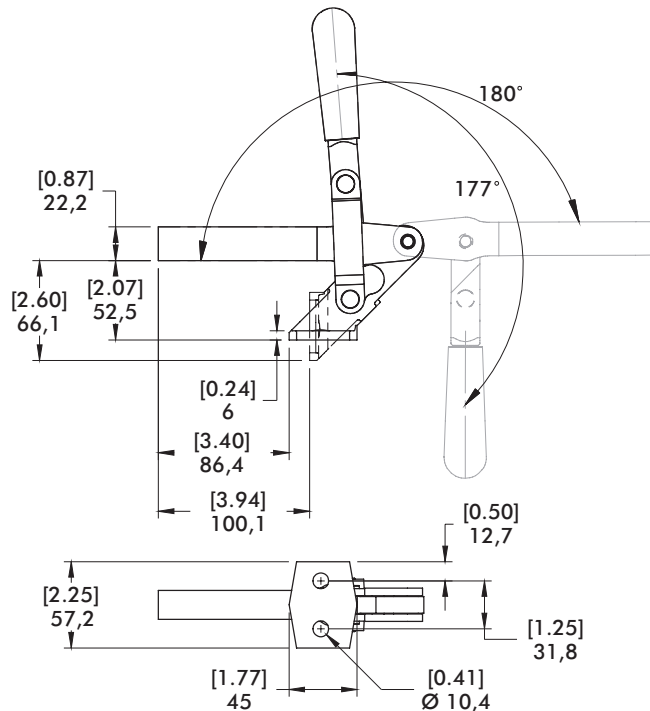
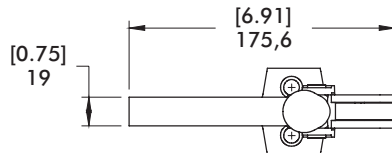
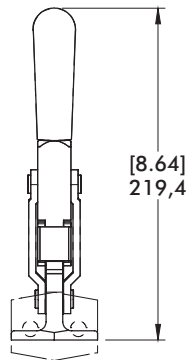
① This item is available upon request

Series 528 Holding Capacities, Standard Clamp Dimensions



Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
528	[1.38]	[3.50]	[6.00]	[5.50]	[1000lbf.]	[580lbf.]	23:1	12:1
528-F	35	89	152	140	4450N	2580N		

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.





Series 548, 578 Product Overview

Features:

- Large bar guides for lateral stability
- Hardened steel pins and bushings for long life
- Replaceable pins

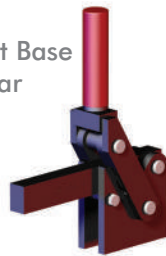
Applications:

- Assembly & test
- Light machining
- Welding
- Heavy duty clamping requirements

548
Straight Base
Solid Bar



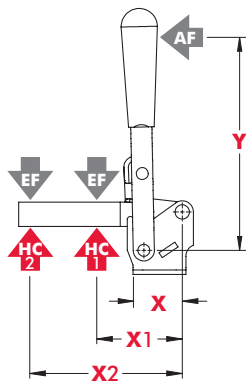
578
Straight Base
Solid Bar



Series 548, 578 Technical Information

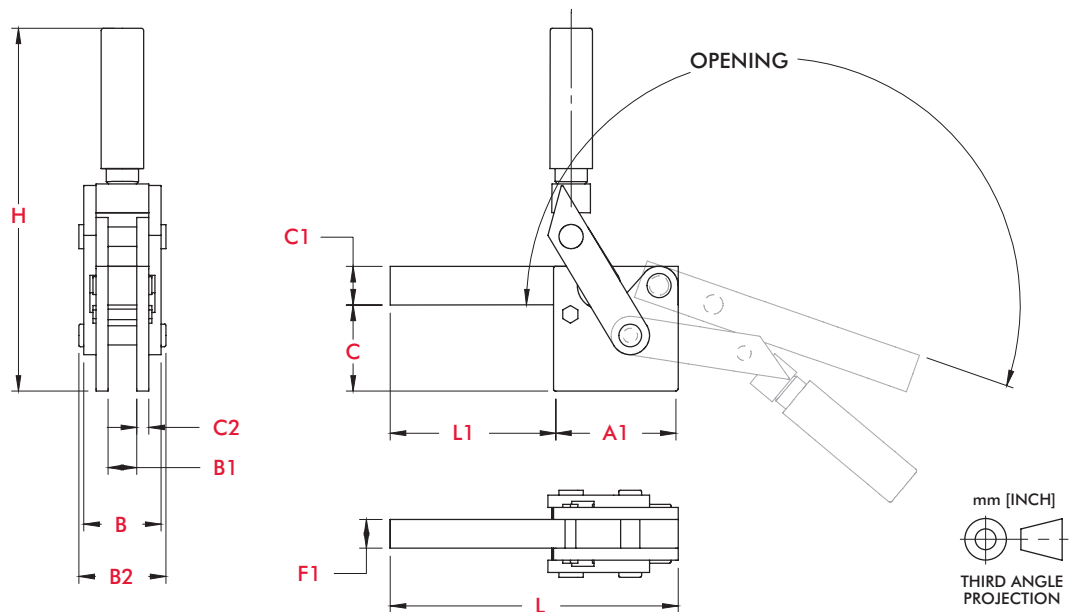
Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
548	11100N [2500lbf]	199°	129°	2,40kg [5.30lbs]
578	17800N [4000lbf]			4,14kg [9.12lbs]

Series 548, 578 Holding Capacities, Standard Clamp Dimensions



Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
548	[2.75] 70	[3.50] 89	[6.00] 152	[7.50] 190	[2500lbf] 11100N	[1500lbf.] 6680N	4.5:1	3.4:1
578	[4.25] 108	[4.50] 114	[7.00] 178	[10.31] 262	[4000lbf] 17800N	[2500lbf.] 11100N	7.6:1	4.2:1

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.



Model	A1	B	B1	B2	C	C1	C2	F1	H	L	L1
548	[3.25] 82,6	[2.01] 51	[0.75] 19,1	[2.26] 57,5	[2.24] 56,9	[1.00] 25,4	[0.31] 7,9	[0.75] 19,1	[9.45] 240	[7.50] 190,5	[4.25] 107,9
578	[4.02] 102,1	[2.38] 60,5	[0.87] 22,1	[2.70] 68,6	[2.79] 70,9	[1.26] 32	[0.37] 9,5	[0.87] 22,1	[11.04] 280,3	[8.62] 219	[4.61] 117,1

Series 533, 535 Product Overview

Features:

- Hardened steel bushings and pivot pins
- Large bar guides for greater lateral support
- Solid clamping bar may be modified to suit application requirements

Applications:

- Welding
- Heavy duty clamping applications

Also Available:

See page 7.1 for accessories

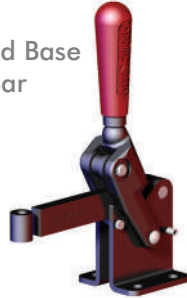
533-L
Flanged Base
Solid Bar



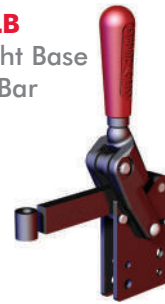
533-LB
Straight Base
Solid Bar



535-L
Flanged Base
Solid Bar



535-LB
Straight Base
Solid Bar



Series 533, 535 Technical Information

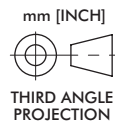
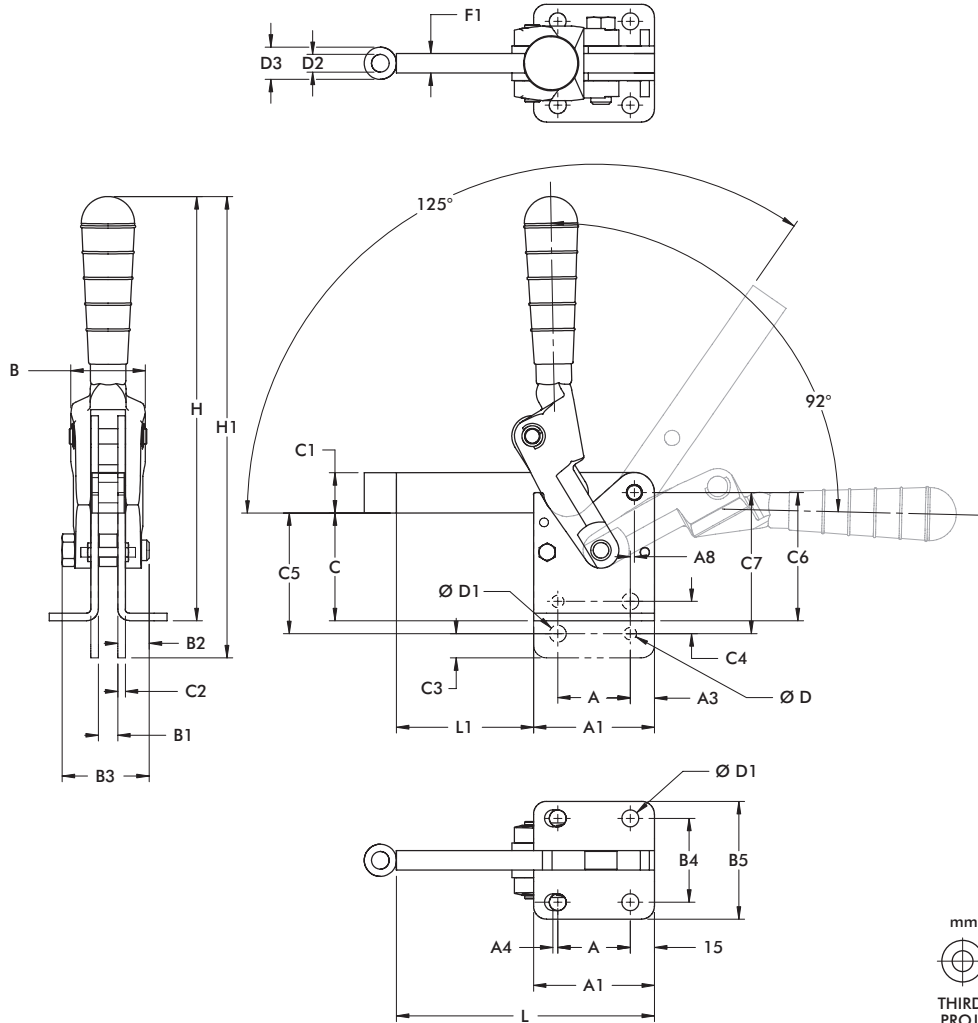
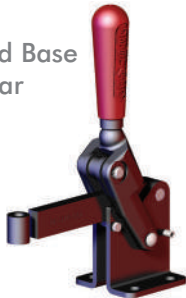
Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)
					Bolt Retainer
533-L	7000 N [1575 lbf]	120°	90°	1,00kg [2.20lbs]	533108-M
533-LB					
535-L	10000 N [2250 lbf]			1,85kg [4.087lbs]	535108-M
535-LB					

Series 533, 535 Standard Clamp Dimensions -L/-LB

533-L
Flanged Base
Solid Bar



535-L
Flanged Base
Solid Bar



Model	A	A1	A3	A4	A8	B	B1	B2	B3	B4	B5	C	C1	C2
533-L	[1.18] 30	[2.36] 59,9		[0.08] 2	[0.20] 5,1	[1.52] 38,6	[0.39] 9,9	[0.69] 15,5	[1.75] 44,5	[1.77] 45	[2.44] 62	[1.86] 47,2	[0.79] 20,1	
533-LB			[0.59] 15							--	--	--		[0.19] 4,8
535-L	[1.77] 45	[2.95] 74,9		--	[0.18] 4,6	[1.89] 48	[0.47] 11,9	[0.89] 22,6	[2.13] 54,1	[2.05] 52,1	[2.87] 72,9	[2.63] 66,8	[0.98] 24,9	
535-LB										--	--	--		

Model	C3	C4	C5	C6	C7	D	D1	D2	D3	F1	H	H1	L	L1
533-L	--	--	--	[2.24] 56,9	--	--	[0.33] 8,4	[0.35] 8,9	[0.59] 15	[0.39] 9,9	[8.6] 218,4	--	[4.92] 125	[2.56] 65
533-LB	[0.39] 9,9	[0.59] 15	[1.86] 55,1	--	[2.56] 65	[0.22] 5,6					--	[9.31] 236,5		
535-L	--	--	--	[3.13] 79,5	--	--	[0.41] 10,4	[0.43] 10,9	[0.79] 20,1	[0.47] 11,9	[10.35] 262,9	--	[6.30] 160	[3.35] 85,1
535-LB	[0.59] 15	[0.79] 20,1	[2.95] 74,9	--	[3.44] 87,4	[0.30] 7,6					--	[11.26] 286		

Series 558 Product Overview

Features:

- Forged alloy steel handle and links for rugged service
- Hardened steel pins and bushings
- Hold down bar can be machined to suit application requirements

Applications:

- Welding
- Heavy duty clamping requirements

Also Available:

Model 858 Pneumatic Toggle clamp
See page 9.17

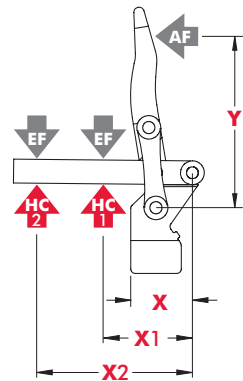
558



Series 558 Technical Information

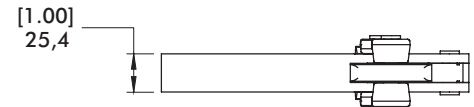
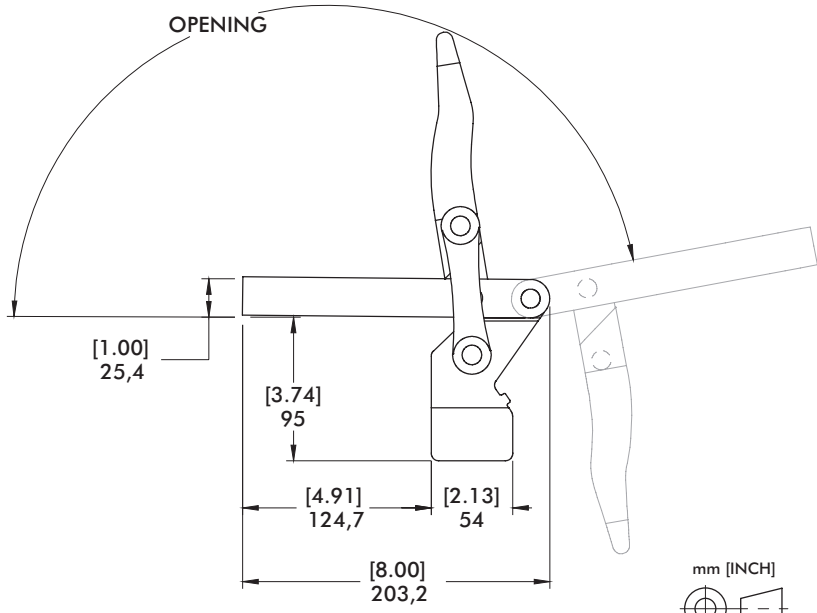
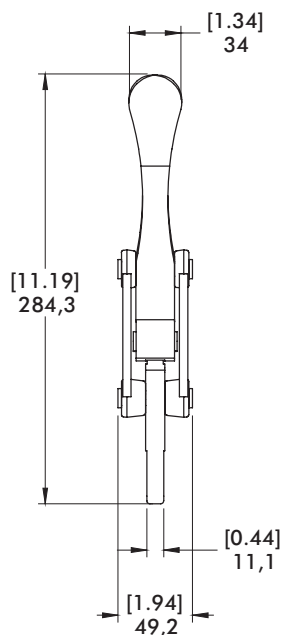
Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
558	11100 N [2500 lbf]	192°	64°	2,27kg [5.0lbs]

Series 558 Holding Capacities, Standard Clamp Dimensions



Model	X	X1	±HC1	±HC2
558	65,8 [2.59]	76,2 [3.00]	[2500 lbf] 11100 N	[1500 lbf] 6680 N

Dimensions shown "mm [inch]", ± HC = Holding Capacity



mm [INCH]
THIRD ANGLE PROJECTION

Series 91090 Product Overview

Features:

- Front flange mount
- Accepts M8 or 5/16" spindle accessory (not supplied)

Applications:

- Assembly & test
- Checking fixtures
- Light machining
- Woodworking

Also Available:

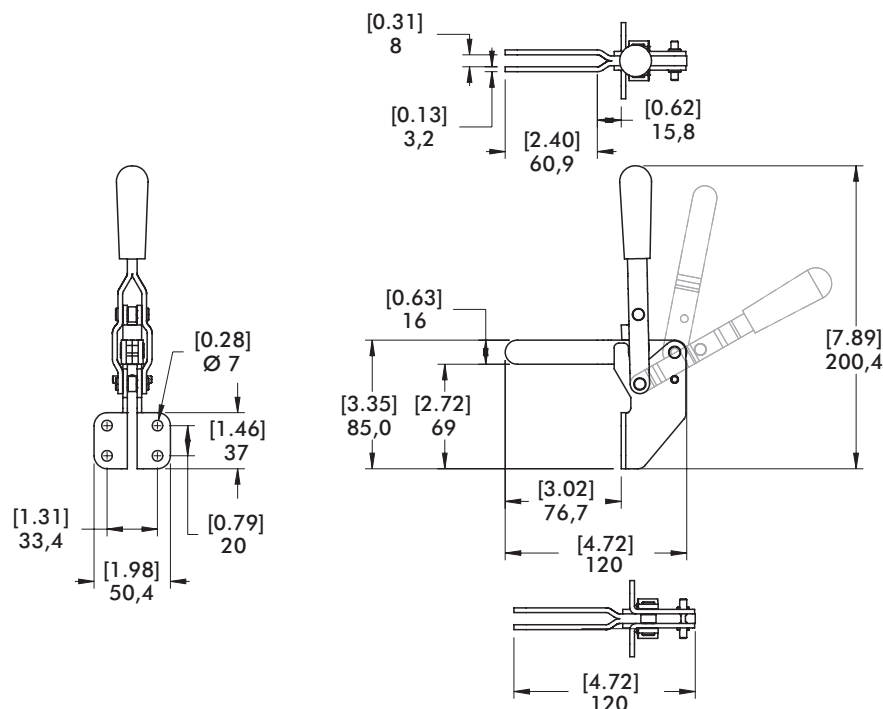
See page 7.1 for accessories

91090
Front Flanged Base
Open Bar



Series 91090 Technical Information, Standard Clamp Dimensions

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Recommended Accessories		
					Bolt Retainer	Spindle Assembly	Flanged Washers
91090	1710 N [385 lbf]	100°	60°	0,37kg [0.81lbs]	---	507208-M	507107



Series 317 Product Overview
Features:

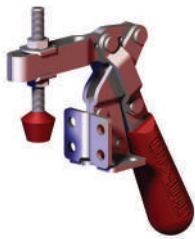
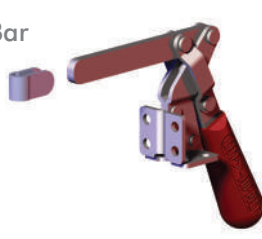
- Dual mounting surfaces
- Large bar opening angle
- Accommodates M8 or 5/16" spindle accessories

Applications:

- Assembly & test
- Checking fixtures
- Light machining
- Woodworking

Also Available:

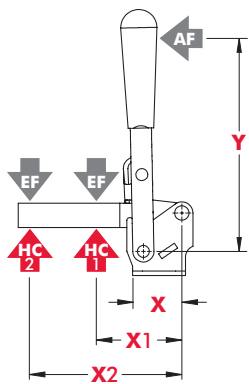
See page 7.1 for accessories
 817-U Pneumatic Toggle Clamp
 (See page 9.21)
 817-S Pneumatic Toggle Clamp
 (See page 9.21)

317-U
 U-Bar

317-S
 Solid Bar

Note:

Clamps shown with included accessories.

Series 317 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Bolt Retainer	Spindle Assembly	Flanged Washers
317-U	1670 N [375 lbf]	185°	60°	0,34kg [0.75lbs]	---	507208-M	507107
317-S	1780 N [400 lbf]				207105	---	---

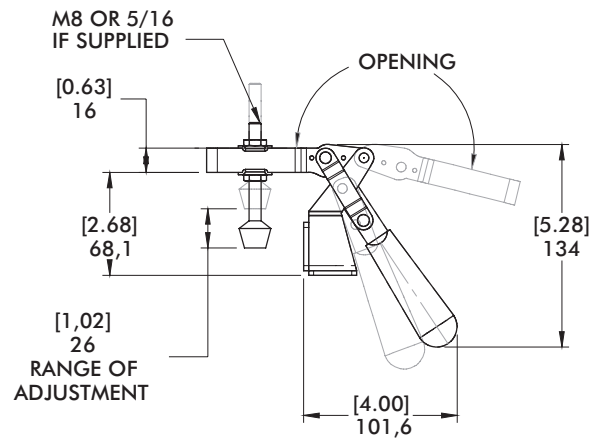
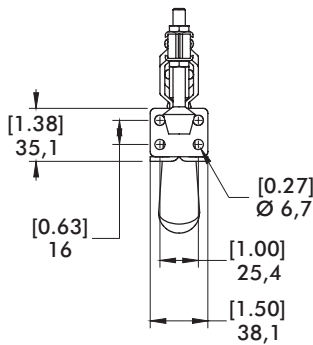
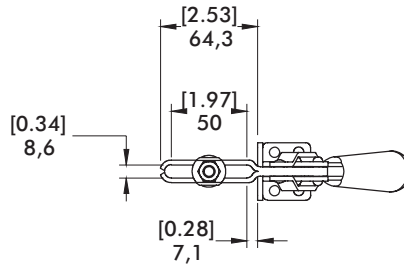
Series 317 Holding Capacities


Model	X	X1	X2	Y	‡HC1	‡HC2	‡EF(X1):AF	‡EF(X2):AF
317-U	[1.57]	[2.00] 50,8	[3.75] 95,3	[4.00]	[375 lbf] 1670 N	[200lbf.] 900N	17:1	8:1
317-S	40,0	[2.50] 63,5	[5.00] 127,0	101,6	[400 lbf] 1780 N	[190lbf.] 850N	13:1	5:1

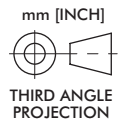
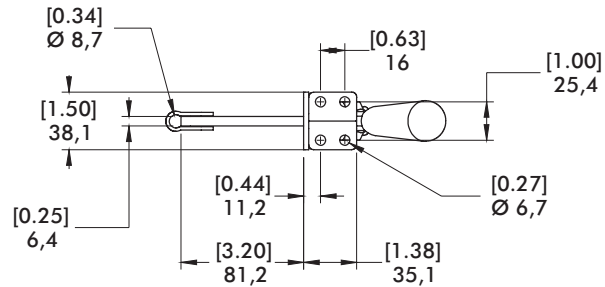
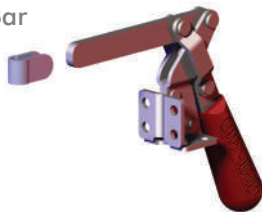
Dimensions shown "mm [inch]" ‡ HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
 Refer to page 15.4 for additional information.

Series 317 Standard Clamp Dimensions -U/-S

317-U
U-Bar



317-S
Solid Bar



Series 527 Product Overview

Features:

- Hardened steel bushings at pivot points
- Solid bar can be modified to suit application requirements
- Thumb lever on link for easy opening

Applications:

- Assembly & test
- Light machining
- Woodworking

527
Flanged Base



527-F ⓘ
Front Mount

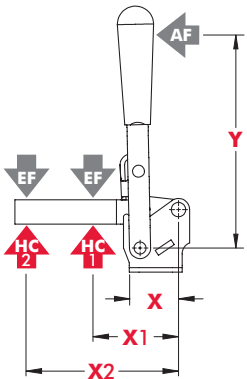


Series 527 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
527	4450 N [1000 lbf]	195°	65°	[2.50lbs] 1,13kg
527-F ⓘ				

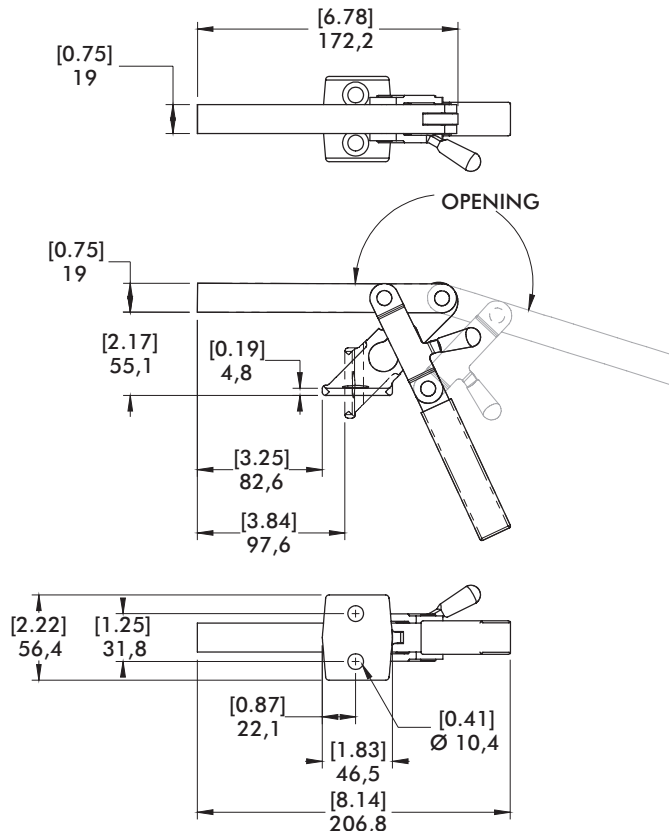
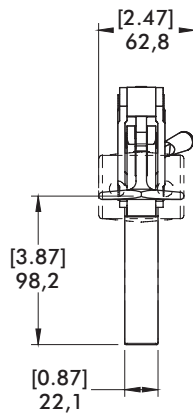
ⓘ This item is available upon request

Series 527 Holding Capacities, Standard Clamp Dimensions



Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
527	[3.12] 79,2	[3.50] 89,0	[6.00] 152,4	[4.00] 101,6	[1000lbf.]	[580lbf.]	23:1	12:1
527-F	[2.53] 64,3				4450N	2580N		

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.



mm [INCH]
THIRD ANGLE PROJECTION

Heavy Duty Cam Action Series Product Overview

Features:

- Cam action accommodates variable workpiece thickness
- Heavy duty construction
- Solid clamp arms may be modified to suit application requirements

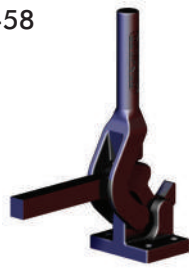
Applications:

- Light machining
- Welding
- Assembly

7-101



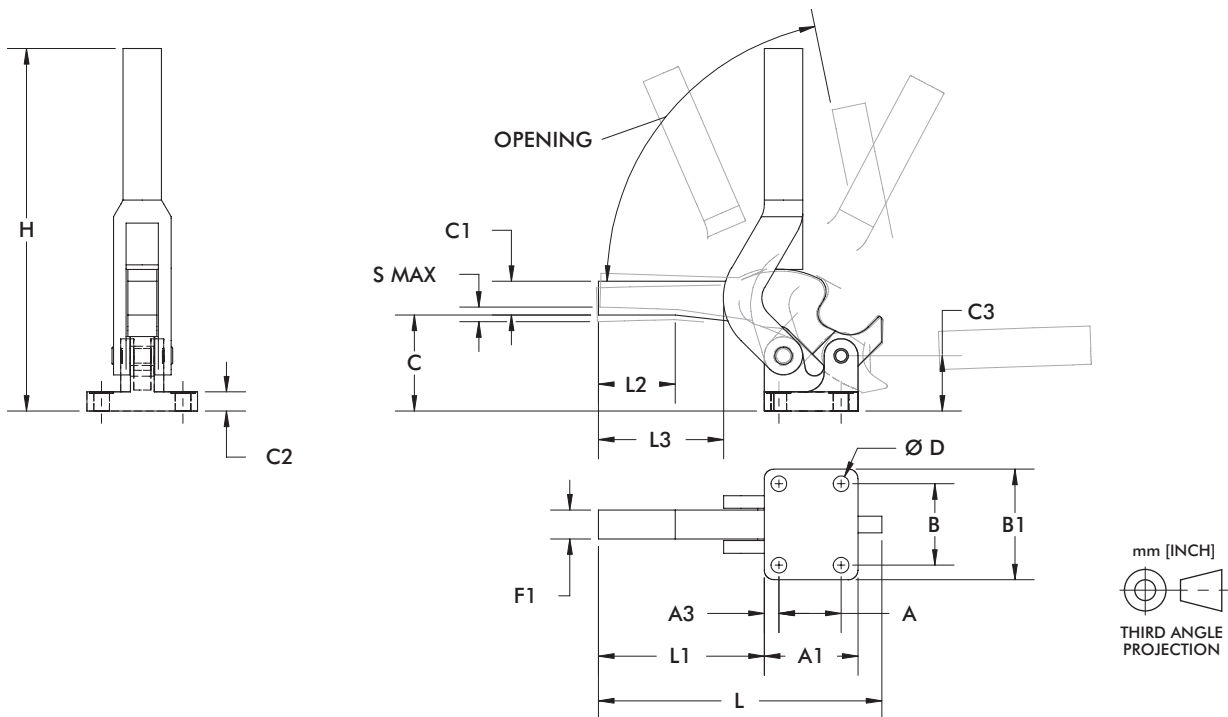
7-58



Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Weight
7-101	2110 N [475 lbf]	80°	0,45kg [1.0lbs]
7-58	2670 N [600 lbf]	95°	0,91kg [2.0lbs]
7-59	4450 N [1000 lbf]	95°	1,36kg [3.0lbs]
7-60	7120 N [1600 lbf]	80°	2,27kg [5.0lbs]

Heavy Duty Cam Action Series Standard Clamp Dimensions - Flanged Base



Model	A	A1	A3	B	B1	C	C1	C2	C3	D	F1	H	L	L1	L2	S max.
7-101	[0.75] 19,1	[1.25] 31,8	[0.25] 6,1	[1.25] 31,8	[1.75] 44,5	[1.44] 36,6	[0.50] 12,7	[0.31] 7,9	[1.00] 25,4	[0.22] 5,6	[0.50] 12,7	[5.00] 127	[4.63] 117,6	[3.12] 79,3	-	[0.13] 3,3
7-58	[1.00] 25,4	[1.69] 42,9	[0.34] 8,6	[1.62] 41,2	[2.25] 57,2	[1.87] 47,5	[0.56] 14,2	[0.38] 9,7	[1.12] 28,5	[0.28] 7,1	[0.50] 12,7	[7.00] 177,8	[6.99] 177,6	[2.55] 64,8	-	[0.13] 3,3
7-59	[1.38] 35,1	[2.06] 52,3	[0.39] 9,9	[1.88] 47,8	[2.50] 63,5	[2.19] 55,6	[0.63] 16	[0.44] 11,2	[1.25] 31,8	[0.34] 8,6	[0.63] 16	[8.50] 215,9	[6.00] 152,4	[3.50] 88,9	[1.24] 31,5	[0.19] 4,8
7-60	[1.62] 41,2	[2.44] 62	[0.44] 11,2	[2.12] 53,9	[2.88] 73,2	[2.50] 63,5	[0.88] 22,4	[0.50] 12,7	[1.44] 36,6	[0.41] 10,4	[0.75] 19,1	[9.50] 241,3	[7.40] 188	[4.38] 111,3	[1.97] 50	[0.25] 6,4

Series 229 Product Overview

Features:

- Cam action clamp holds workpieces of varying height
- Total clamping range of 8mm [.31in.]
- Accommodates M12 or 1/2" accessories

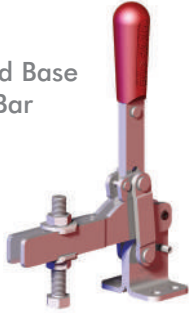
Applications:

- Assembly & test
- Light machining
- Welding

Also Available:

See page 7.1 for accessories

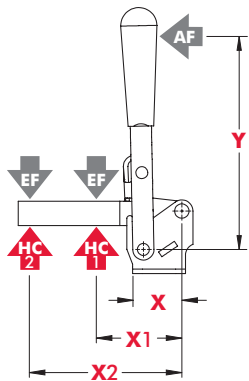
229
Flanged Base
Open Bar



Series 229 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
229	4450 N [1000 lbf]	115°	180°	1,17kg [2.59lbs]	229203	247109

Series 229 Holding Capacities

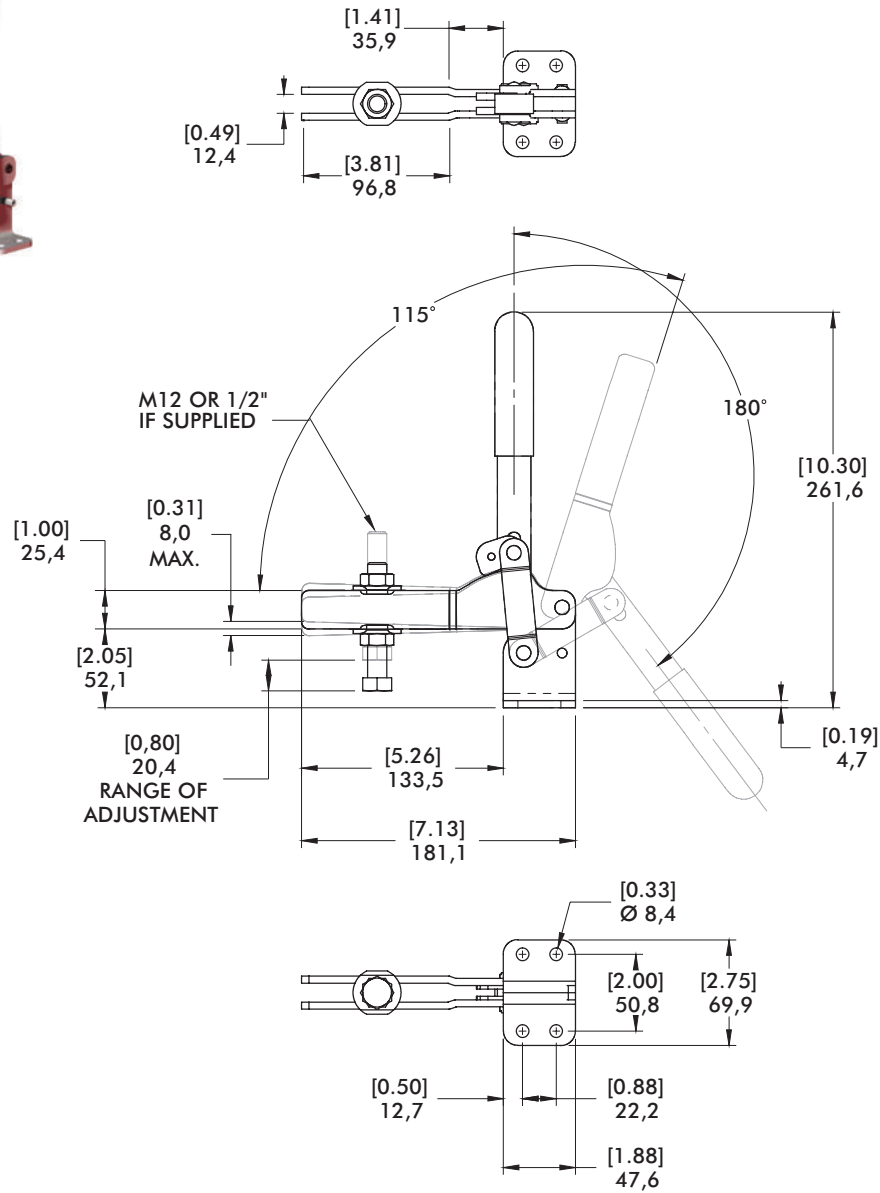
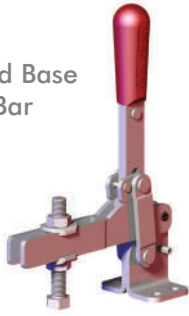


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
229	[1.53] 38,9	[3.00] 76,2	[6.12] 155,4	[7.06] 179,3	[1000lbf.] 4450N	[500lbf.] 2230N	7:1	3:1

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 229 Standard Clamp Dimensions

229
Flanged Base
Open Bar



Series 500 Product Overview

Features:

- Hardened pivot pins and bushings
- Weldable clamping bar
- LSC version with locking spring clip for securing the handle in the open position
- Modular design allows you to set up the clamp to meet application requirements

Applications:

- Welding
- Assembly
- Heavy duty, production clamping applications

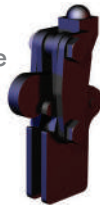
Also Available:

See page 1.46 for accessories

501-**B** ⓘ
Swivel Base



501-**LB** ⓘ
Long Base



503-**MB**
Swivel Base



503-**MLB**
Long Base



503-**MBLSC** ⓘ
Swivel Base
with Locking
Spring Clip



503-**MLBLSCL** ⓘ
Long Base
with Locking
Spring Clip



505-**MB**
Swivel Base



505-**MLB**
Long Base



505-**MBLSC** ⓘ
Swivel Base
with Locking
Spring Clip



505-**MLBLSCL** ⓘ
Long Base
with Locking
Spring Clip



506-**MB**
Swivel Base



506-**MLB** ⓘ
Long Base



506-**MBLSC** ⓘ
Swivel Base
with Locking
Spring Clip

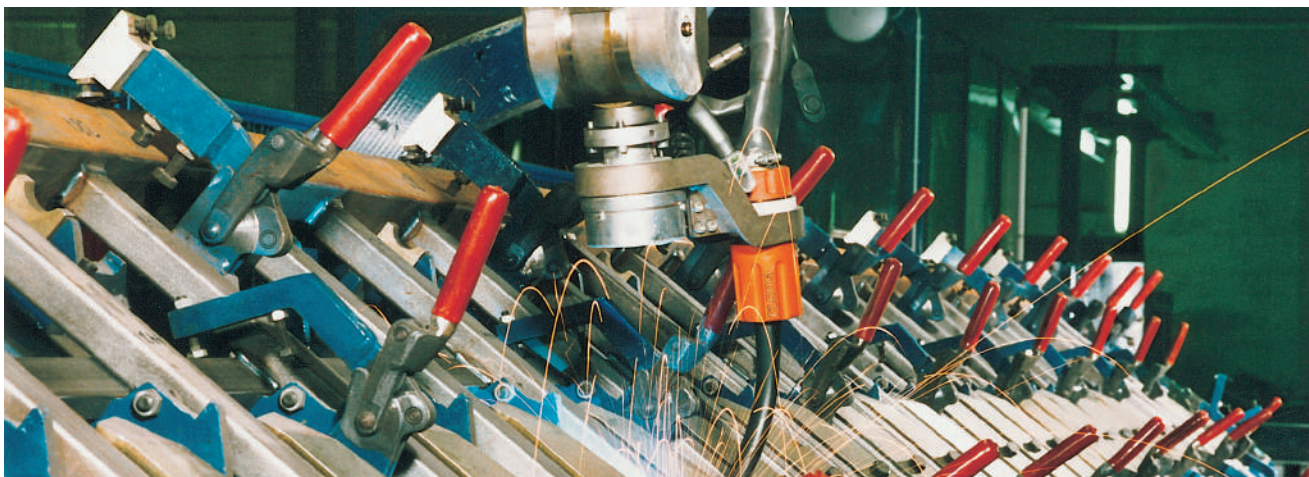


506-**MLBLSCL** ⓘ
Long Base
with Locking
Spring Clip



Model 505-MLB in a robotic welding fixture

ⓘ This item is available upon request



Series 500 Technical Information

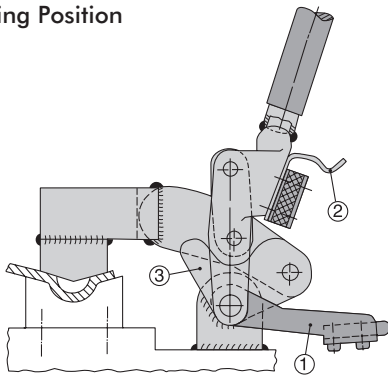
Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Weight
501-B ⓘ	2000 N [450 lbf]	200°	0,18kg [0.40lbs]
501-LB ⓘ			0,20kg [0.44lbs]
503-MB	7000 N [1575 lbf]		0,70kg [1.54lbs]
503-MLB			0,80kg [1.76lbs]
503-MBLSC ⓘ			
503-MLBLSC ⓘ	0,90kg [1.98lbs]		
505-MB	11000 N [2475 lbf]		1,40kg [3.09lbs]
505-MLB			1,50kg [3.31lbs]
505-MBLSC ⓘ			
505-MLBLSC ⓘ			
506-MB	22500 N [5060 lbf]		2,60kg [5.73lbs]
506-MLB ⓘ			2,80kg [6.17lbs]
506-MBLSC ⓘ			
506-MLBLSC ⓘ		3,00kg [6.61lbs]	

Note:

The clamping bars are made from forged alloy steel and must be heated to 200°C(400°F) prior to welding. We recommend welding the handles, clamp arms, and mounting bases when disassembled. Welding of non pre-heated parts may only be done with the addition of welding fillers.

ⓘ This item is available upon request

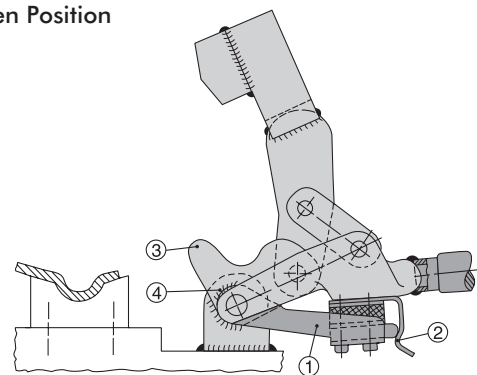
Clamping Position



Patented spring latch hold-open device

1. Mount the clamp and place it in the closed position
2. Position the bracket in the leaf spring

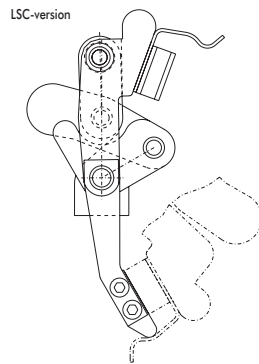
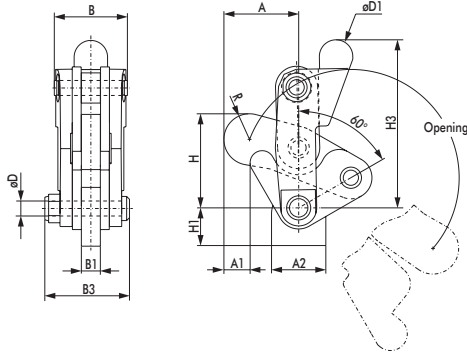
Open Position



3. Swivel the clamp into the open position
4. In this position, weld the bracket with the bar guide feature at point

Series 500 Standard Clamp Dimensions
-B/-LB/-MB/-MLB/-MLBSC/-MLBSC

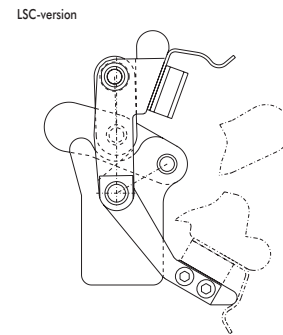
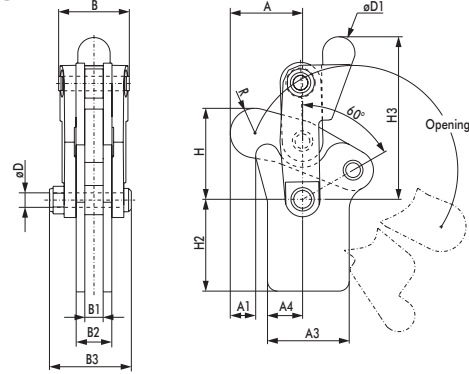
Swivel Base



503-MB
Swivel Base



Long Base



503-MLB
Long Base



Swivel Base Dimensions

Model	A	A1	A2	B	B1	B3	ØD	ØD1	H	H1	H3	R
501-B ⓘ	[1.13] 28,6	[0.56] 14,3	[0.75] 19,1	[0.79] 20,0	[0.25] 6,4	[1.09] 27,8	[0.19] 4,8	[0.50] 12,7	[1.12] 28,5	[0.79] 20	[2.20] 56	[0.37] 9,5
503-MB	[1.54] 39,2	[0.50] 12,8	[1.12] 28,5	[1.52] 38,5	[0.39] 10	[1.82] 46,2	[0.31] 8	[0.69] 17,5	[1.96] 49,8	[0.79] 20	[3.51] 89,1	[0.53] 13,5
503-MBLSC ⓘ												
505-MB	[2.22] 56,5	[1.02] 25,9	[1.38] 35	[1.89] 48	[0.48] 12,3	[2.31] 58,6	[0.37] 9,5	[0.87] 22,2	[2.79] 70,8	[1.10] 28	[4.33] 110,1	[0.72] 18,3
505-MBLSC ⓘ												
506-MB	[2.82] 71,7	[1.27] 32,3	[1.97] 50	[1.91] 48,4	[0.63] 16	[2.72] 69	[0.47] 12	[0.94] 24	[3.45] 87,7	[1.29] 32,8	[5.30] 134,6	[0.84] 21,4
506-MBLSC ⓘ												

Long Base Dimensions

Model	A	A1	A3	A4	B	B1	B2	B3	ØD	ØD1	H	H2	H3	R
501-LB ⓘ	[1.13] 28,6	[0.50] 12,8	[1.13] 28,6	[0.56] 14,3	[0.79] 20	[0.25] 6,4	[0.51] 13	[1.09] 27,8	[0.19] 4,8	[0.50] 12,7	[1.12] 28,5	[1.32] 33,5	[2.21] 56,1	[0.37] 9,5
503-MLB	[1.54] 39,2	[0.50] 12,8	[1.75] 44,5	[0.75] 19	[1.52] 38,5	[0.39] 10	[0.79] 20	[1.82] 46,2	[0.31] 8	[0.69] 17,5	[1.96] 49,8	[1.97] 50	[3.51] 89,1	[0.53] 13,5
503-MLBSC ⓘ														
505-MLB	[2.22] 56,5	[1.02] 25,9	[2.09] 53	[1.08] 27,5	[1.89] 48	[0.48] 12,3	[0.88] 22,3	[2.31] 58,6	[0.37] 9,5	[0.87] 22,2	[2.79] 70,8	[2.50] 63,5	[4.33] 110,1	[0.72] 18,3
505-MLBSC ⓘ														
506-MLB	[2.82] 71,7	[1.27] 32,3	[2.58] 65,5	[1.45] 36,9	[1.91] 48,4	[0.63] 16	[1.10] 28	[2.72] 69	[0.47] 12	[0.94] 24	[3.45] 87,7	[3.00] 76,2	[5.30] 134,6	[0.84] 21,4
506-MLBSC ⓘ														[8.43] 214

Features:

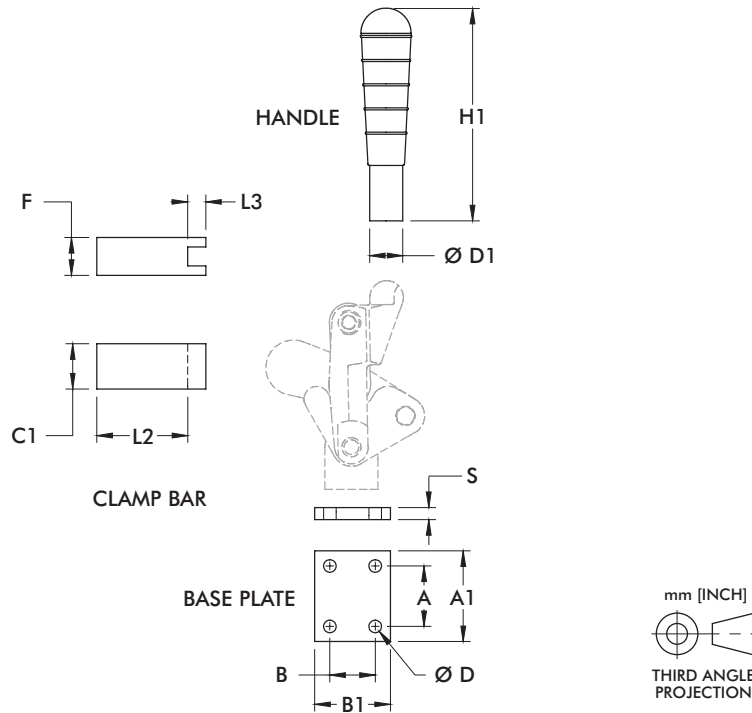
- Used with 500 Series Vertical Clamps
- Allows you to customize the clamp to suit application requirements

Applications:

- Welding
- Assembly
- Heavy duty, production clamping applications

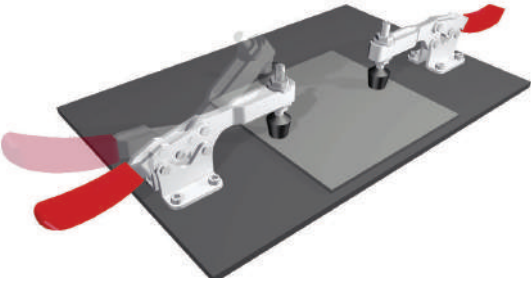

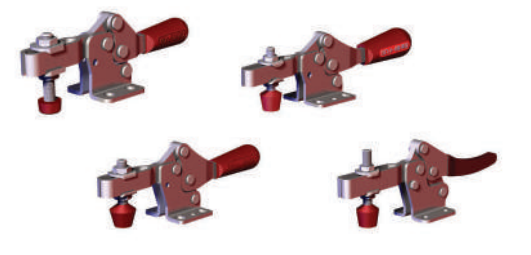


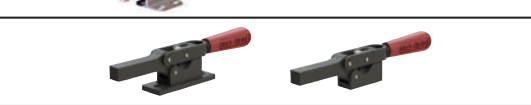
Also Available:

See page 1.43 for clamp linkage



Use with	Part No.	Handle						Clamping Bar				Base Plate			
		ØD1	H1	C1	F	L2	L3	A	A1	B	B1	ØD	S		
	501503 ⓘ	6x10	61	-	-	-	-	-	-	-	-	-	-		
501	501501 ⓘ	-	-	15	15	40	10	-	-	-	-	-	-		
	503502	-	-	-	-	-	-	25	40	35	50	6.3	8		
503	503503-L	Ø18	129.5	-	-	-	-	-	-	-	-	-	-		
	503501	-	-	25	20	50	8	-	-	-	-	-	-		
	503502	-	-	-	-	-	-	25	40	35	50	6.3	8		
505	505503-L	Ø22	159	-	-	-	-	-	-	-	-	-	-		
	505501	-	-	30	25	60	12	-	-	-	-	-	-		
	505502	-	-	-	-	-	-	40	60	30	50	8.1	8		
506	506503-L	Ø28	188	-	-	-	-	-	-	-	-	-	-		
	506501	-	-	35	30	75	15	-	-	-	-	-	-		
	506502	-	-	-	-	-	-	50	70	45	65	8.1	8		

ⓘ This item is available upon request Note: Dimensions shown in millimeters.

	Series	Section Page	Max. Holding Capacity N[lbf.]						Height Under Clamping Bar mm [inch]												
			0 to 1000 [0 to 225]	1000 to 2000 [225 to 450]	2000 to 3000 [450 to 675]	3000 to 5000 [675 to 1125]	5000 to 7000 [1125 to 1575]	7000 to 10000 [1575 to 2250]	0 to 10 [0 to 0.39]	10 to 20 [0.39 to 0.79]	20 to 30 [0.79 to 1.18]	30 to 40 [1.18 to 1.57]	40 to 50 [1.57 to 1.97]	50 to 60 [1.97 to 2.36]	0 to 25 [0 to 0.98]	25 to 40 [0.98 to 1.57]	40 to 55 [1.57 to 2.17]	55 to 70 [2.17 to 2.76]	70 to 85 [2.76 to 3.35]	85 to 100 [3.35 to 3.94]	100+ [3.94+]
	2013	2.3	■																		
	2017	2.5		■																	
	2027	2.7			■																
	213	2.9	■																		
	217	2.11	■	■																	
	227	2.13			■																
	237	2.15				■															
	245	2.17					■														■
	205	2.19	■																		
	215	2.21		■	■																
	225	2.23			■																
	235	2.25				■															
	305	2.27	■																		
	307	2.27		■																	
	309	2.27				■															■
	206	2.29	■																		
	5305	2.31			■																
	5310	2.31						■													



Overall Length mm [inch]		Overall Width mm [inch]		Suitable Application Area								Standard Material	Arm Style	Mounting Style	Service Environment															
50 to 75 [1.97 to 2.95]	75 to 100 [2.95 to 3.94]	100 to 125 [3.94 to 4.92]	125 to 150 [4.92 to 5.91]	150 to 175 [5.91 to 6.89]	175 to 200 [6.89 to 7.87]	200 to 225 [7.87 to 8.86]	225 to 250 [8.86 to 9.84]	250+ [9.84+]	0 to 25 [0 to 0.98]	25 to 40 [0.98 to 1.57]	40 to 55 [1.57 to 2.17]	55 to 70 [1.57 to 2.76]	Welding	Assembly	Checking Fixtures	Machining	Woodworking	Closures	Food Processing	Duty Cycle	Steel	Stainless Steel	Toggle Lock Plus	U-Bar Version	Solid Arm Version	Straight Base	Flanged Base	Weid-On Mounting	Normal	Harsh/Dirty
													○	●	●	●	●	●	⊗	○	✓		✓	✓			✓		✓	
													○	●	●	●	●	●	⊗	○	✓		✓	✓			✓		✓	
													○	●	●	○	●	●	⊗	○	✓		✓	✓			✓		✓	
													○	●	●	●	●	●	○	○	✓	✓		✓		✓	✓	✓	✓	✓
													○	●	●	●	●	●	○	○	✓	✓		✓		✓	✓	✓	✓	✓
													○	●	○	○	●	○	⊗	○	✓			✓		✓	✓	✓	✓	✓
●									●				●	●	●	●	●	●	○	○	✓	✓		✓	✓	✓	✓	✓	✓	✓
													○	●	●	●	●	●	○	○	✓	✓		✓	✓	✓	✓	✓	✓	✓
													○	●	●	●	●	●	○	○	✓	✓		✓		✓	✓	✓	✓	✓
													○	●	○	○	●	○	○	○	✓	✓		✓		✓	✓	✓	✓	✓
●									●				●	●	○	●	○	○	○	○	✓	✓		✓		✓	✓	✓	✓	✓
													○	●	○	○	●	○	○	○	✓	✓		✓		✓	✓	✓	✓	✓
													○	●	○	○	●	○	○	○	✓	✓		✓		✓	✓	✓	✓	✓
													○	●	○	○	●	○	○	○	✓	✓		✓		✓	✓	✓	✓	✓
													○	●	○	○	●	○	○	○	✓	✓		✓		✓	✓	✓	✓	✓
													○	●	○	○	●	○	○	○	✓	✓		✓		✓	✓	✓	✓	✓
													○	●	○	○	●	○	○	○	✓	✓		✓		✓	✓	✓	✓	✓
													○	●	○	○	●	○	○	○	✓	✓		✓		✓	✓	✓	✓	✓
													○	●	○	○	●	○	○	○	✓	✓		✓		✓	✓	✓	✓	✓

● Excellent/High ○ Fair/Medium ● Poor/Low ⊗ Not Recommended

Series 2013 Product Overview

Features:

- Increased handle clearance reduces pinch points
- Common mounting hole pattern to Model 213
- Fixed handle pivot provides smooth action
- Nearly 2 times the holding capacity Model 213
- BLK models feature a black, non-reflective finish

Applications:

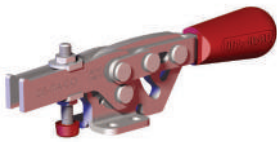
- Checking fixtures
- Assembly & test
- Light machining
- Woodworking
- Closures

Also Available:

See page 7.1 for accessories
Accommodates M5 or #10 spindle accessory

Covered under one year or more U.S./International Patents

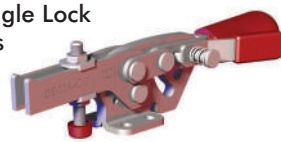
2013-U
Flanged Base
U-Bar



2013-U-LS-BLK ⓘ
Blackout Series
Flanged Base, U-Bar



2013-UR
Flanged Base, U-Bar
with DE-STA-CO®
Toggle Lock
Plus



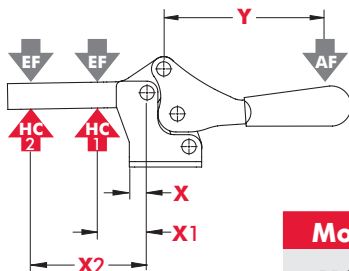
Note: Clamps shown with included accessories.

ⓘ This item is available upon request

Series 2013 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening(+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
2013-U	1310 N [295 lbf]	71°	58°	0,17kg [0.37lb]	2013208-M	102111
2013-U-LS-BLK ⓘ					--	102111-BLK
2013-UR					2013208-M	102111

Series 2013 Holding Capacities



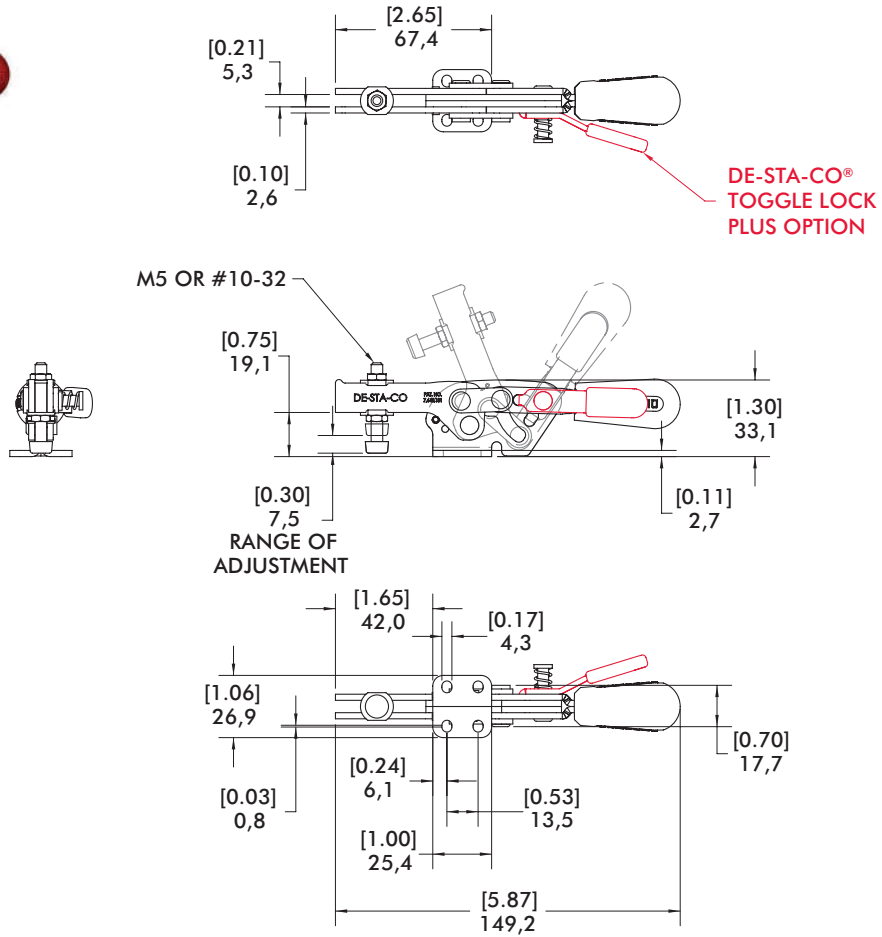
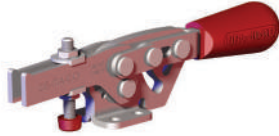
Model	X	X1	X2	Y	‡HC1	‡HC2	‡EF(X1):AF	‡EF(X2):AF
U/UR	[0.63] 16	[0.95] 24	[1.95] 49,5	[2.34] 59,5	[295lbf.] 1310N	[175lbf.] 780N	6:1	4:1

Dimensions shown "mm [inch]" ‡ HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.



Series 2013 Standard Clamp Dimensions -U/-UR

2013-U
Flanged Base
U-Bar



Series 2017 Product Overview

Features:

- Increased handle clearance reduces pinch points
- Common mounting hole pattern to Model 217
- Fixed handle pivot provides smooth action
- Over 2½ times the holding capacity Model 217
- BLK models feature a black, non-reflective finish

Applications:

- Checking fixtures
- Assembly & test
- Light machining
- Woodworking
- Closures

Also Available:

See page 7.1 for accessories
Accommodates M6 or ¼" spindle accessory

Covered under one year or more U.S./International Patents

2017-U
Flanged Base
U-Bar



2017-U-LS-BLK ⓘ
Blackout Series
Flanged Base
U-Bar



2017-UR
Flanged Base, U-Bar
with DE-STA-CO®
Toggle Lock
Plus



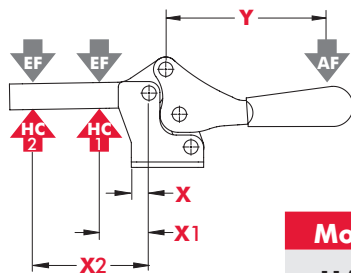
Note: Clamps shown with included accessories.

ⓘ This item is available upon request

Series 2017 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
2017-U	2500 N [560 lbf]	73°	69°	0,44kg [0.97lb]	215208-M	215105
2017-U-LS-BLK ⓘ					--	215105-BLK
2017-UR					215208-M	215105

Series 2017 Holding Capacities

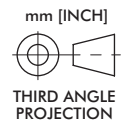
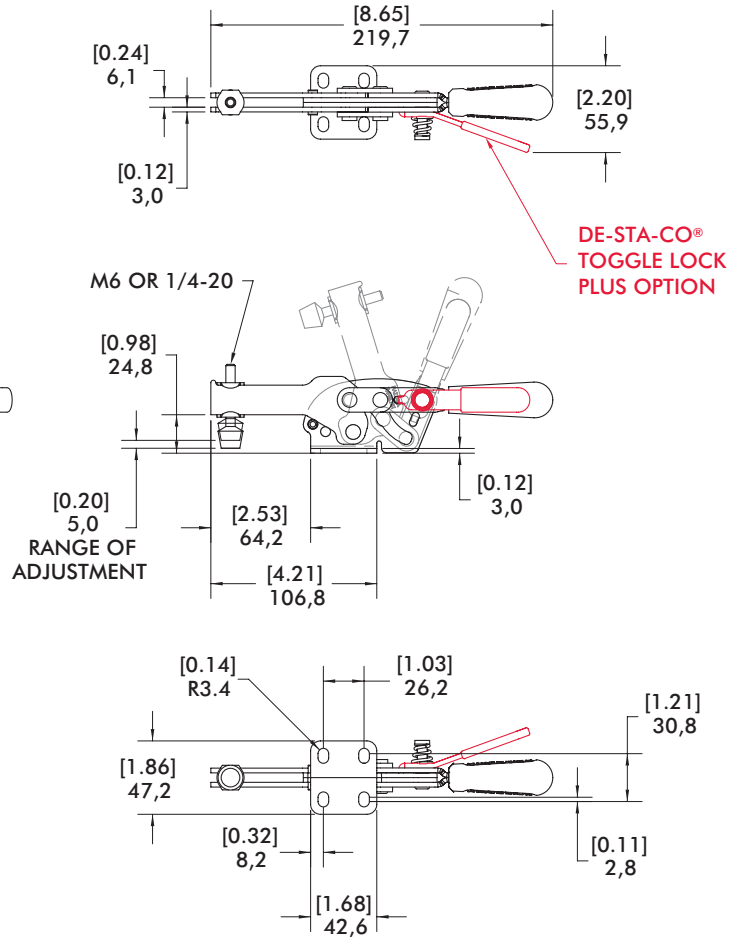


Model	X	X1	X2	Y	‡HC1	‡HC2	‡EF(X1):AF	‡EF(X2):AF
U/UR	[1.08] 27,4	[1.65] 42	[3.15] 80	[2.54] 64,5	[560lbf.] 2500N	[245lbf.] 1090N	5:1	2.5:1

Dimensions shown "mm [inch]" ‡ HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 2017 Standard Clamp Dimensions
-U/-UR

2017-U
Flanged Base
U-Bar



Series 2027 Product Overview

Features:

- Increased handle clearance reduces pinch points
- Common mounting hole pattern to Model 227
- Fixed handle pivot provides smooth action
- Over 1½ times the holding capacity Model 227
- BLK models feature a black, non-reflective finish

Applications:

- Checking fixtures
- Assembly & test
- Light machining
- Woodworking
- Closures

Also Available:

See page 7.1 for accessories
Accommodates M8 or 5/16" spindle accessory

Covered under one year or more U.S./International Patents

2027-U
Flanged Base
U-Bar



2027-U-LS-BLK ⓘ
Blackout Series
Flanged Base
U-Bar



2027-UR
Flanged Base, U-Bar
with DE-STA-CO®
Toggle Lock
Plus



Note: Clamps shown with included accessories.

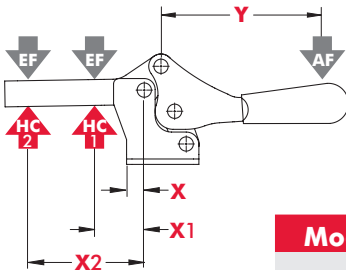
ⓘ This item is available upon request

Series 2027 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
2027-U	3740 N [840 lbf]	68°	70°	0,61kg [1.34lb]	2007208-M	507107
2027-U-LS-BLK ⓘ					--	507107-BLK
2027-UR					2007208-M	507107

ⓘ This item is available upon request

Series 2027 Holding Capacities

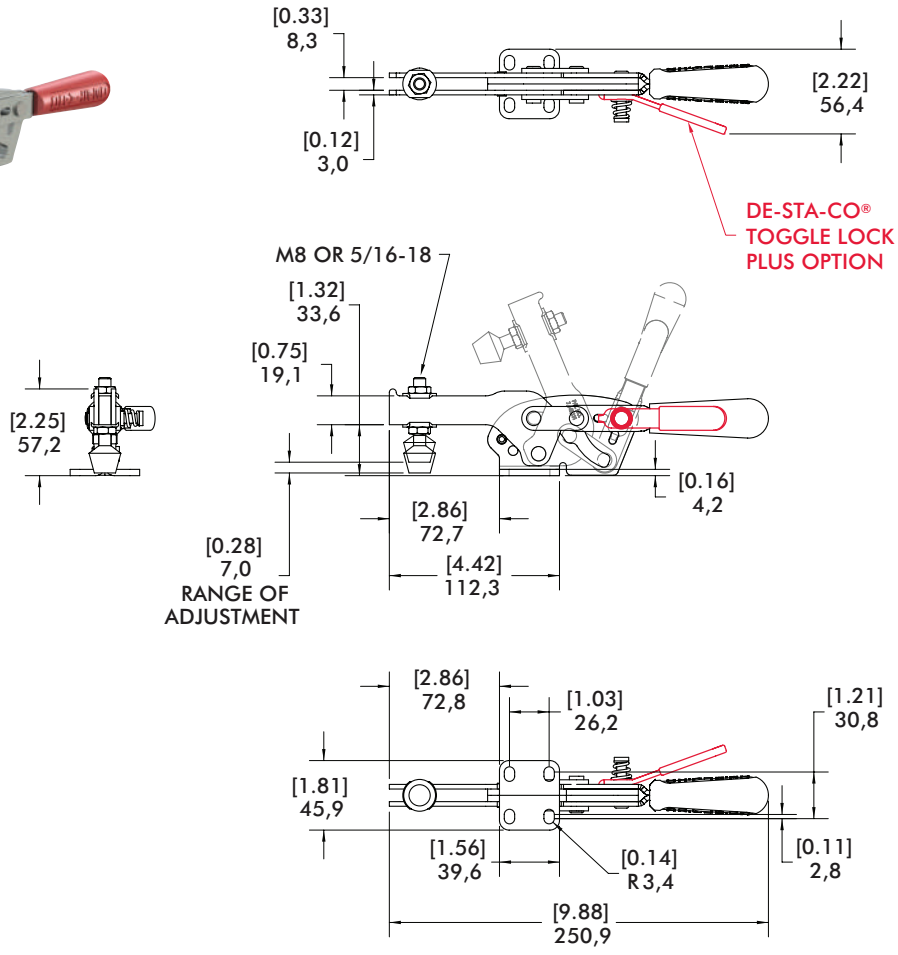


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U/UR	[1.02] 25,8	[1.75] 44,5	[3.30] 83,8	[2.54] 64,5	[840lbf.] 3740N	[480lbf.] 2140N	5:1	3:1

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 2027 Standard Clamp Dimensions -U/-UR

2027-U
Flanged Base
U-Bar



Series 213 Product Overview

Features:

- Low profile
- Large handle clearance in the open position
- Available in stainless steel
- BLK models feature a black, non-reflective finish

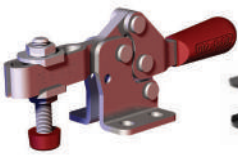
Applications:

- Assembly
- Checking fixtures
- Closures
- Woodworking

Also Available:

See page 7.1 for accessories
Accommodates M5 or #10 spindle accessory

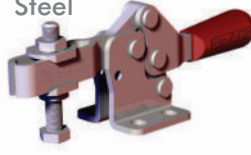
213-U
Flanged Base
U-Bar



213-U-LS-BLK ⓘ
Blackout Series
Flanged Base
U-Bar



213-USS
Flanged Base
U-Bar, Stainless
Steel



213-UB
Straight Base
U-Bar



213-UB-LS-BLK ⓘ
Blackout Series
Straight Base
U-Bar



213-U-L ⓘ
Flanged Base
Open Bar



213-U-L-BLK ⓘ
Flanged Base
Open Bar



213-UB-L ⓘ
Straight Base
Open Bar



213-UB-L-BLK ⓘ
Blackout Series
Straight Base
Open Bar



Note: Clamps shown with included accessories.

ⓘ This item is available upon request

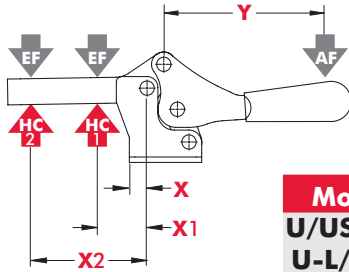
Series 213 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
213-U	670 N [150 lbf]	90°	60°	0,08kg [0.17lb]	213208-M	102111
213-U-LS-BLK ⓘ					--	102111-BLK
213-USS					201943-M	102911
213-UB					213208-M	102111
213-UB-LS-BLK ⓘ					--	102111-BLK
213-U-L ⓘ						102111
213-U-L-BLK ⓘ						102111-BLK
213-UB-L ⓘ						102111
213-UB-L-BLK ⓘ						102111-BLK

ⓘ This item is available upon request



Series 213 Holding Capacities

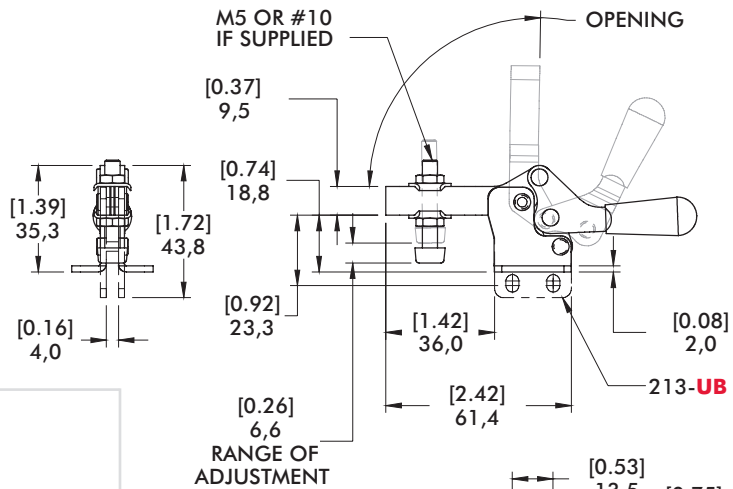
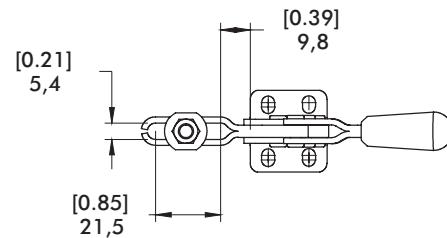
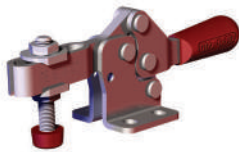


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U/USS/UB	[0.36]	[0.75]	[1.63]	[1.81]	[150lbf.]	[70lbf.]	7:1	3:1
U-L/UB-L	9,3	19	41,4	46	670N	310N		

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 213 Standard Clamp Dimensions -U/-USS/-UB

213-U
Flanged Base
U-Bar

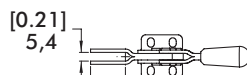


Series 213 Open Bar

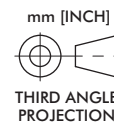
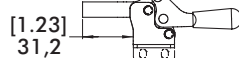


Flanged Base
Model
213-U-L ⓘ

See page 7.7 for Complete offering of Open bar accessories



Straight Base
Model
213-UB-L ⓘ



Series 217 Product Overview

Features:

- Low profile
- Large handle clearance in the open position
- Available in stainless steel
- BLK models feature a black, non-reflective finish

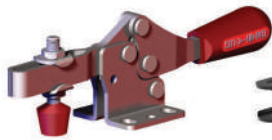
Applications:

- Assembly
- Checking fixtures
- Closures
- Woodworking

Also Available:

See page 7.1 for accessories
Accommodates M6 or 1/4" spindle accessory

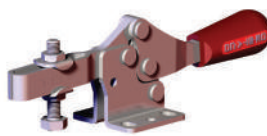
217-U
Flanged Base
U-Bar



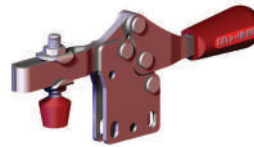
217-U-LS-BLK ⓘ
Blackout Series
Flanged Base
U-Bar



217-USS
Flanged Base
U-Bar, Stainless
Steel



217-UB
Straight Base
U-Bar



217-UB-LS-BLK ⓘ
Blackout Series
Straight Base
U-Bar



217-U-L ⓘ
Flanged Base
Open Bar



217-U-L-BLK ⓘ
Flanged Base
Open Bar



217-UB-L ⓘ
Straight Base
Open Bar



217-UB-L-BLK ⓘ
Blackout Series
Straight Base
Open Bar



Note: Clamps shown with included accessories.

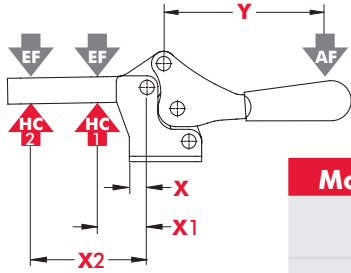
ⓘ This item is available upon request

Series 217 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Spindle Assembly	Flanged Washers	
217-U	900 N [200 lbf]	91°	61°	0,18kg [0.40lb]	202208-M	215105	
217-U-LS-BLK ⓘ					--	215105-BLK	
217-USS	1110 N [250 lbf]				202943-M	215105	
217-UB	900 N [200 lbf]				202208-M	215105	
217-UB-LS-BLK ⓘ					--	215105-BLK	
217-U-L ⓘ							215105
217-U-L-BLK ⓘ						--	215105-BLK
217-UB-L ⓘ							215105
217-UB-L-BLK ⓘ			--	215105-BLK			

ⓘ This item is available upon request

Series 217 Holding Capacities



Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U					[200lbF.] 900N	[80lbF.] 360N		
USS	[0.53] 13,5	[1.13] 28,6	[2.63] 66,8	[2.93] 74,5	[250lbF.] 1110N	[100lbF.] 440N	7:1	3:1
UB/U-L/ UB-L					[200lbF.] 900N	[80lbF.] 360N		

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 217 Open Bar

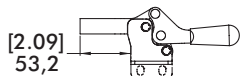
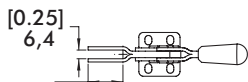


Flanged Base
Model
217-U-L ⓘ

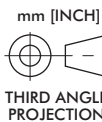
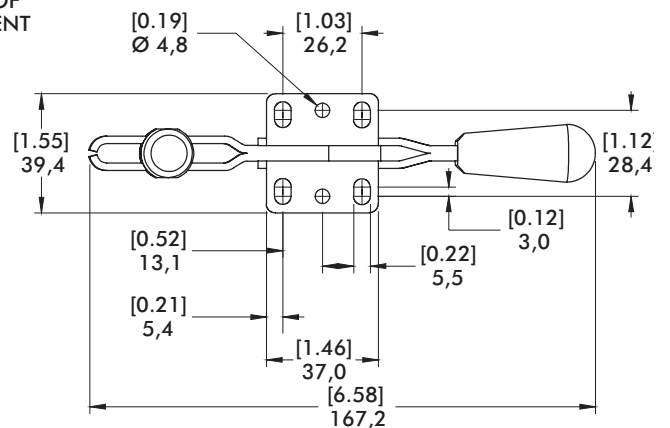
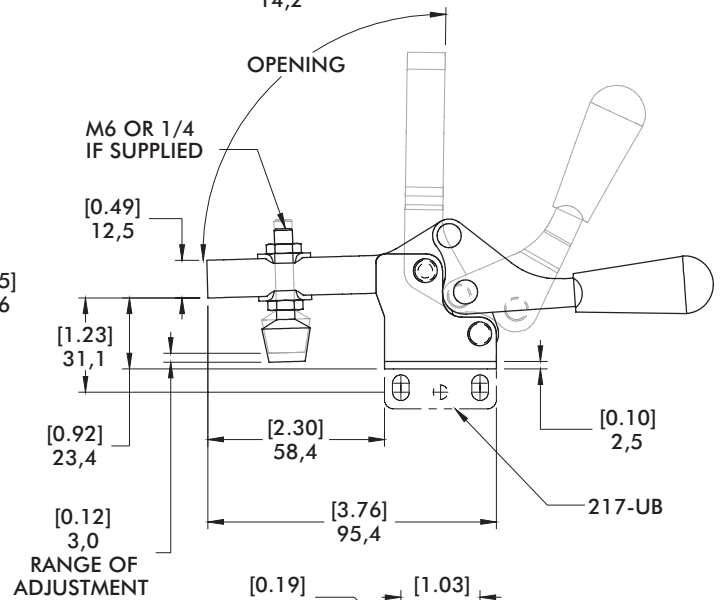
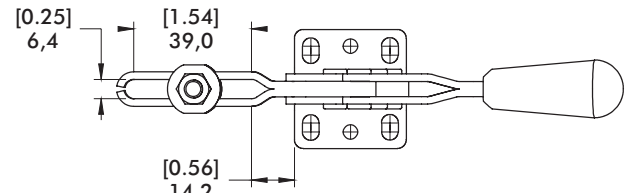
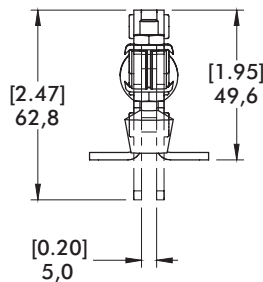
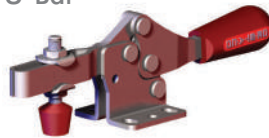


Straight Base
Model
217-UB-L ⓘ

See page 7.7 for Complete offering of Open bar accessories



217-U
Flanged Base
U-Bar



Series 227 Product Overview

Features:

- Low profile
- Large handle clearance in the open position.
- Available in stainless steel
- BLK models feature a black, non-reflective finish

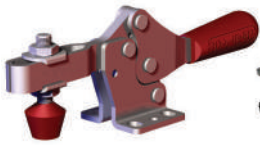
Applications:

- Assembly
- Checking fixtures
- Closures
- Woodworking

Also Available:

See page 7.1 for accessories
Accommodates M6 or 5/16" spindle accessory

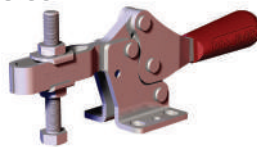
227-U
Flanged Base
U-Bar



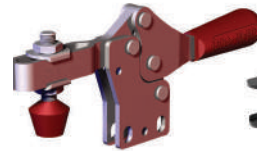
227-U-LS-BLK ⓘ
Blackout Series
Flanged Base
U-Bar



227-USS
Flanged Base
U-Bar, Stainless
Steel



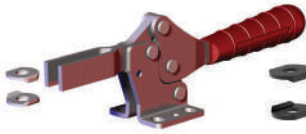
227-UB
Straight Base
U-Bar



227-UB-LS-BLK ⓘ
Blackout Series
Straight Base
U-Bar



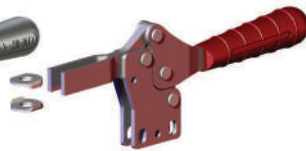
227-U-L ⓘ
Flanged Base
Open Bar



227-U-L-BLK ⓘ
Blackout Series
Flanged Base
Open Bar



227-UB-L ⓘ
Straight Base
Open Bar



227-UB-L-BLK ⓘ
Blackout Series
Straight Base
Open Bar



Note: Clamps shown with included accessories.

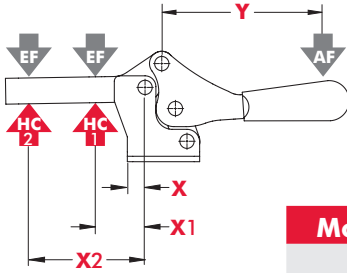
ⓘ This item is available upon request

Series 227 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
227-U	2220 N [500 lbf]	91°	56°	0,31kg [0.68lb]	225208-M	507107
227-U-LS-BLK ⓘ					--	507107-BLK
227-USS	2670 N [600 lbf]				-207943-M	507907
227-UB	2220 N [500 lbf]				225208-M	507107
227-UB-LS-BLK ⓘ					--	507107-BLK
227-U-L ⓘ					--	507107
227-U-L-BLK ⓘ					--	507107-BLK
227-UB-L ⓘ					--	507107
227-UB-L-BLK ⓘ		--	507107-BLK			

ⓘ This item is available upon request

Series 227 Holding Capacities

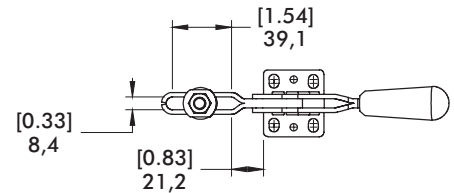
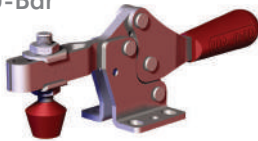


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U					[500lbf.] 2220N	[225lbf.] 1000N		
USS	[0.39] 10,0	[1.25] 31,8	[2.75] 70,0	[3.58] 91,0	[600lbf.] 2670N	[270lbf.] 1200N	8:1	3:1
UB/U-L/ UB-L					500lbf.] 2220N	[225lbf.] 1000N		

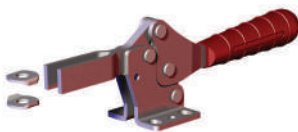
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 227 Standard Clamp Dimensions -U/-USS/-UB

227-U
Flanged Base
U-Bar

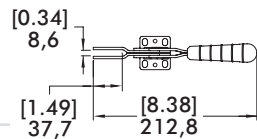


Series 227 Open Bar

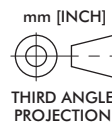
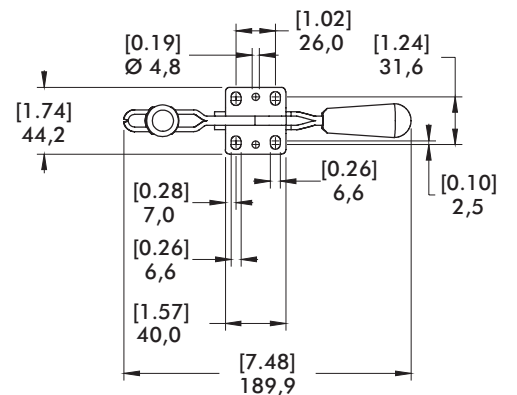
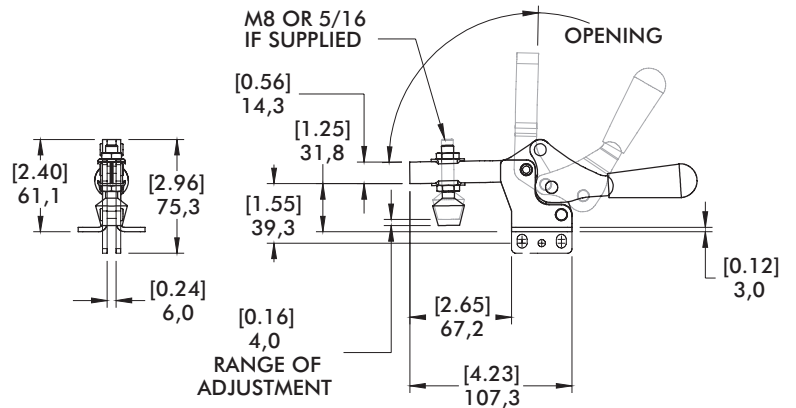
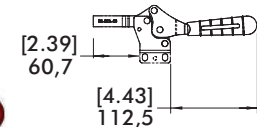


Flanged Base
Model
227-U-L

See page 7.7 for Complete offering of Open bar accessories



Straight Base
Model
227-UB-L



Series 237 Product Overview

Features:

- Low profile
- Large handle clearance in the open position.
- Available in stainless steel

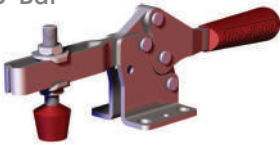
Applications:

- Assembly
- Checking fixtures
- Welding

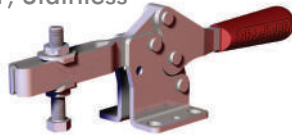
Also Available:

See page 7.1 for accessories
Accommodates M10 or 3/8" spindle accessory

237-U
Flanged Base
U-Bar



237-USS^①
Flanged Base
U-Bar, Stainless
Steel



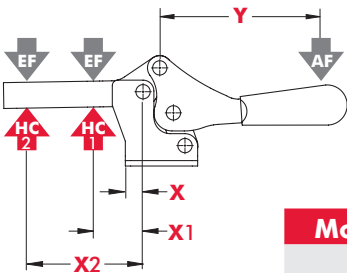
Note:
Clamps shown with included accessories.

Series 237 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening(+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
237-U	3340 N [750 lbf]	93°	59°	0,73kg [1.60lb]	240208-M	235106
237-USS ^①	3780 N [850 lbf]				237943-M	235906

① This item is available upon request

Series 237 Holding Capacities

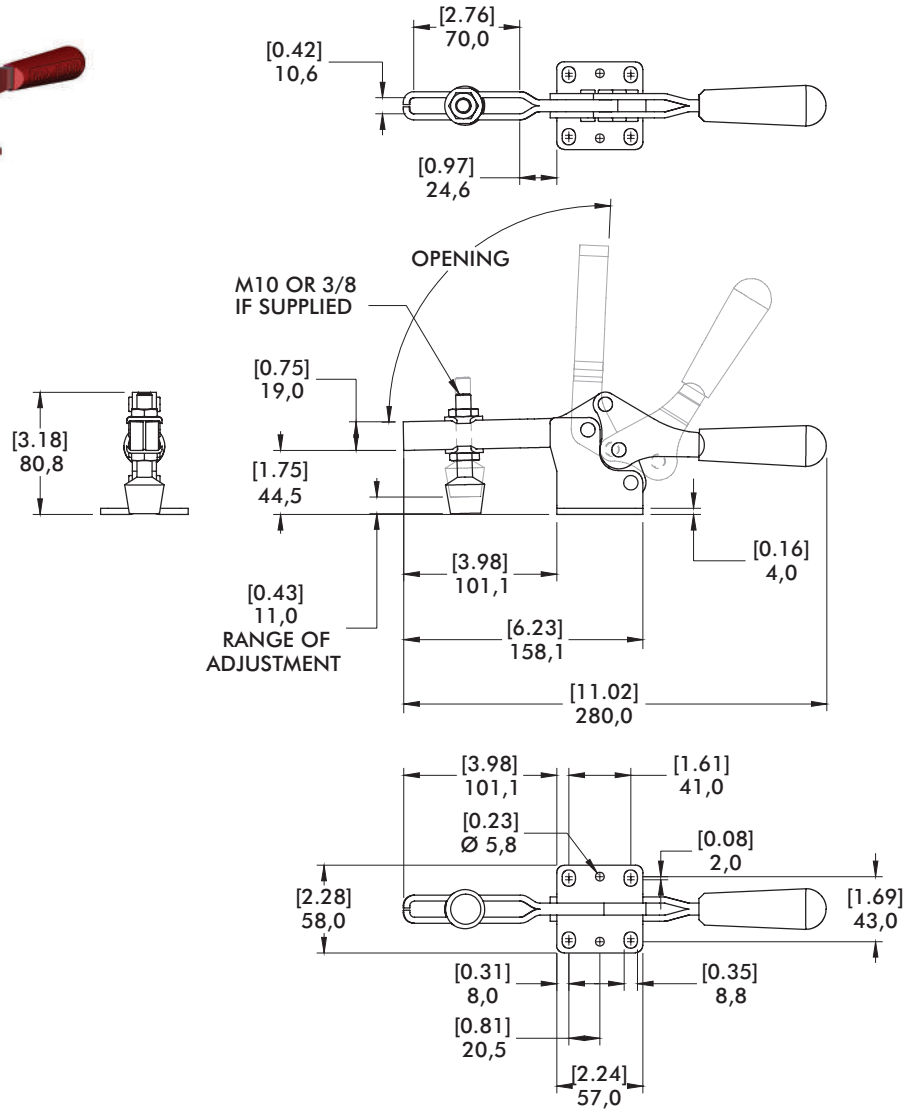
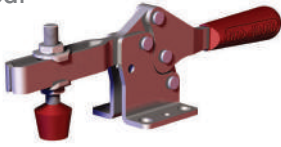


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U	[0.81]	[1.75]	[4.50]	[5.25]	[750lbf.] 3340N	[290lbf.] 1290N	6:1	2:1
USS	20,6	44,5	114,3	133,3	[850lbf.] 3780N	[330lbf.] 1470N		

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 237 Standard Clamp Dimensions -U/-USS

237-U
Flanged Base
U-Bar



Series 245 Product Overview

Features:

- Low profile
- Large handle clearance in the open position.

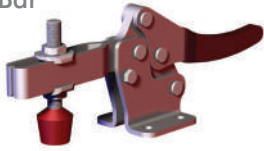
Applications:

- Assembly
- Checking fixtures
- Welding

Also Available:

See page 7.1 for accessories
Accommodates M12 or 1/2" spindle accessory

245-U
Flanged Base
U-Bar

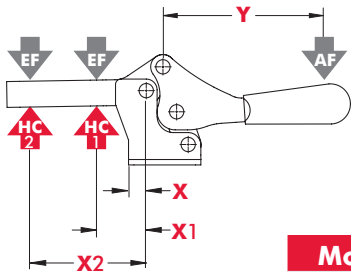


Note:
Clamps shown with included accessories.

Series 245 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
245-U	4450 N [1000 lbf]	105°	74°	1,32kg [2.90lb]	247208-M	247109

Series 245 Holding Capacities

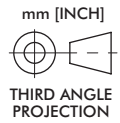
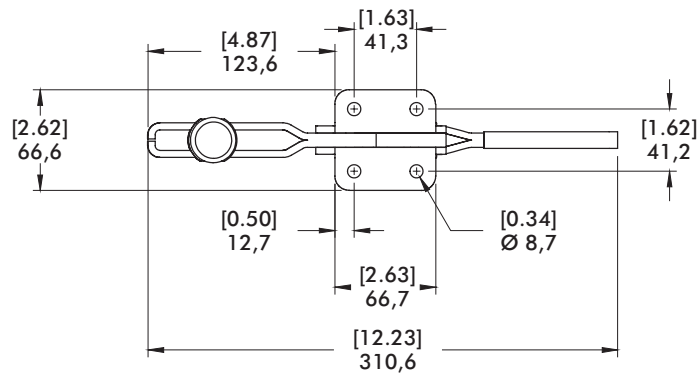
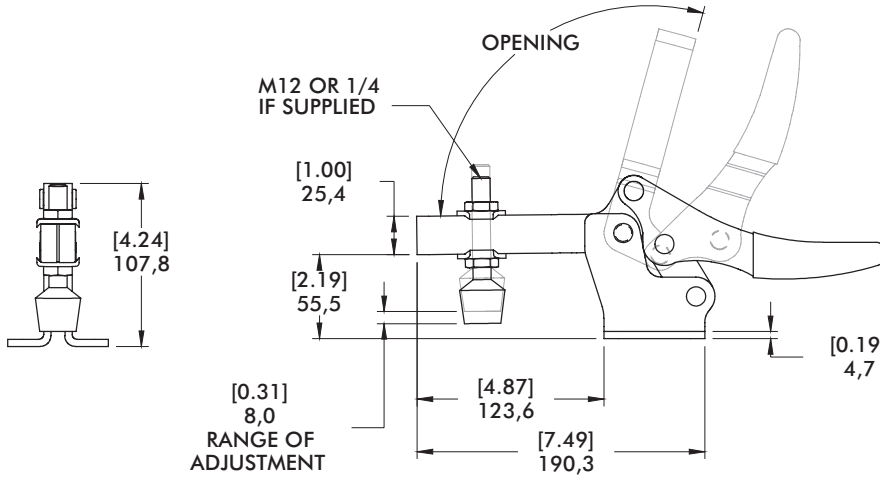
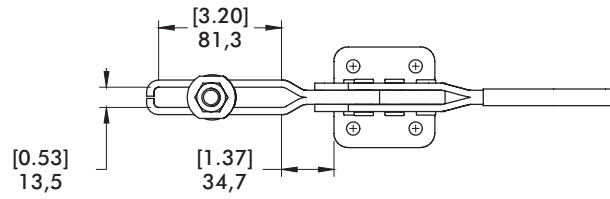
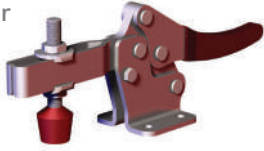


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U	[0.50] 12,7	[2.00] 50,8	[5.00] 127	[6.09] 154,7	[1000lbf.] 4450N	[400lbf.] 1780N	11:1	5:1

Dimensions shown "mm [inch]" ‡ HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 245 Standard Clamp Dimensions

245-U
Flanged Base
U-Bar



Series 205 Product Overview

Features:

- Smallest of the Horizontal Hold Down clamps
- Ideal for light duty clamping in tight spaces
- Stainless steel models furnished without plastic grip

Applications:

- Assembly
- Closures
- Woodworking
- Light duty clamping

Also Available:

See page 7.1 for accessories
Accommodates M4 or #8 spindle accessory

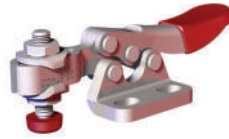
205-U
Flanged Base
U-Bar



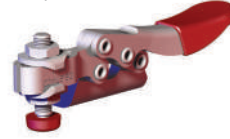
205-UB ⓘ
Straight Base
U-Bar



205-UL ⓘ
Left Flanged
Base, U-Bar



205-UR ⓘ
Right Flanged
Base, U-Bar



205-USS
Flanged Base
U-Bar, Stainless
Steel



205-S
Flanged Base
Solid Bar



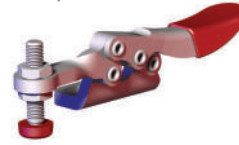
205-SB ⓘ
Straight Base
Solid Bar



205-SL ⓘ
Left Flanged Base,
Solid Bar



205-SR ⓘ
Right Flanged
Base, Solid Bar



205-SSS
Flanged Base
Solid Bar, Stainless
Steel



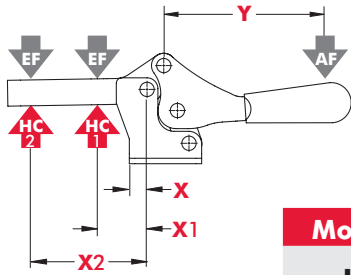
Note:
Clamps shown with included accessories.

Series 205 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
205-U	270N [60 lbf]	90°	80°	0,03kg [0.06lb]	205208-M	105106
205-UB ⓘ						
205-UL ⓘ						
205-UR ⓘ	340N [75 lbf]	94°	82°	0,03kg [0.06lb]	205943-M	105906
205-USS						
205-S	270N [60 lbf]	94°	82°	0,03kg [0.06lb]	205208-M	--
205-SB ⓘ						
205-SL ⓘ						
205-SR ⓘ						
205-SSS	340N [75 lbf]				205943-M	

ⓘ This item is available upon request

Series 205 Holding Capacities

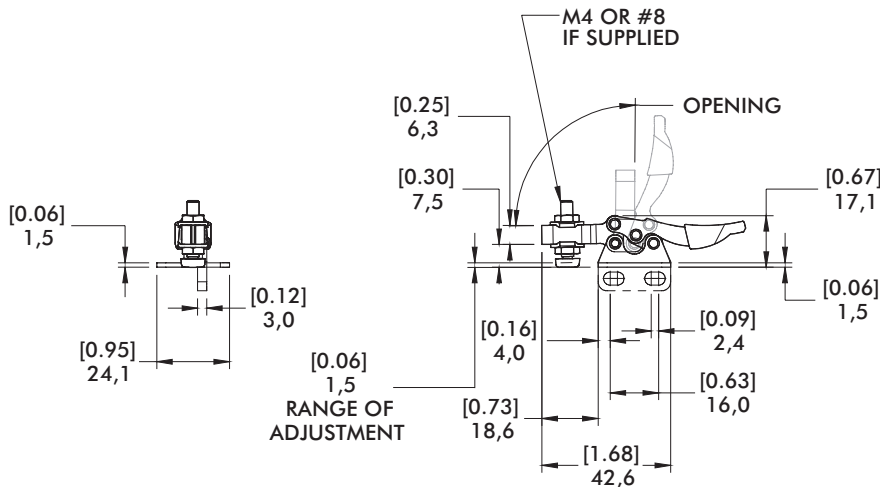
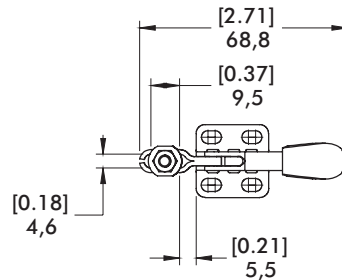


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U		[0.43] 11			[60lbf.] 270N	[50lbf.] 220N	9:1	5:1
USS	[0.22] 5,6		[0.81] 20,5	[1.31] 33,2	[75lbf.] 340N	[65lbf.] 290N		
S		--			--	[60lbf.] 270N	--	4:1
SSS						[75lbf.] 340N		

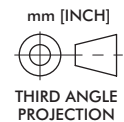
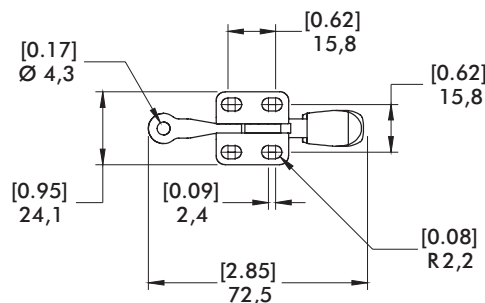
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 205 Standard Clamp Dimensions -U/-UB/-UL-/-UR/-USS/-S/-SB/-SL/-SR/-SSS

205-U
Flanged Base
U-Bar



205-S
Flanged Base
Solid Bar



Series 215 Product Overview

Features:

- Low profile
- Stainless steel model furnished without plastic grip

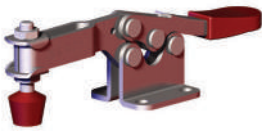
Applications:

- Assembly
- Checking fixtures
- Closures
- Woodworking

Also Available:

See page 7.1 for accessories
Accommodates M6 or 1/4" spindle accessory

215-U
Flanged Base
U-Bar



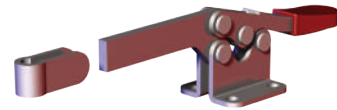
215-USS
Flanged Base
U-Bar, Stainless
Steel



215-UB ⓘ
Straight Base
U-Bar



215-S
Flanged Base
Solid Bar



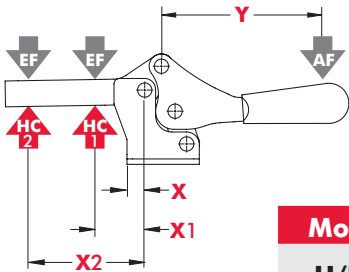
Note:
Clamps shown with included accessories.

Series 215 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Spindle Assembly	Flanged Washers	Bolt Retainer
215-U	890 N [200 lbf]	87°	78°	0,15kg [0.34lb]	202208-M	215105	--
215-USS	1110 N [250 lbf]				202943-M	215905	
215-UB ⓘ	890 N [200 lbf]				202208-M	215105	
215-S	890 N [200 lbf]				--	--	205105

ⓘ This item is available upon request

Series 215 Holding Capacities

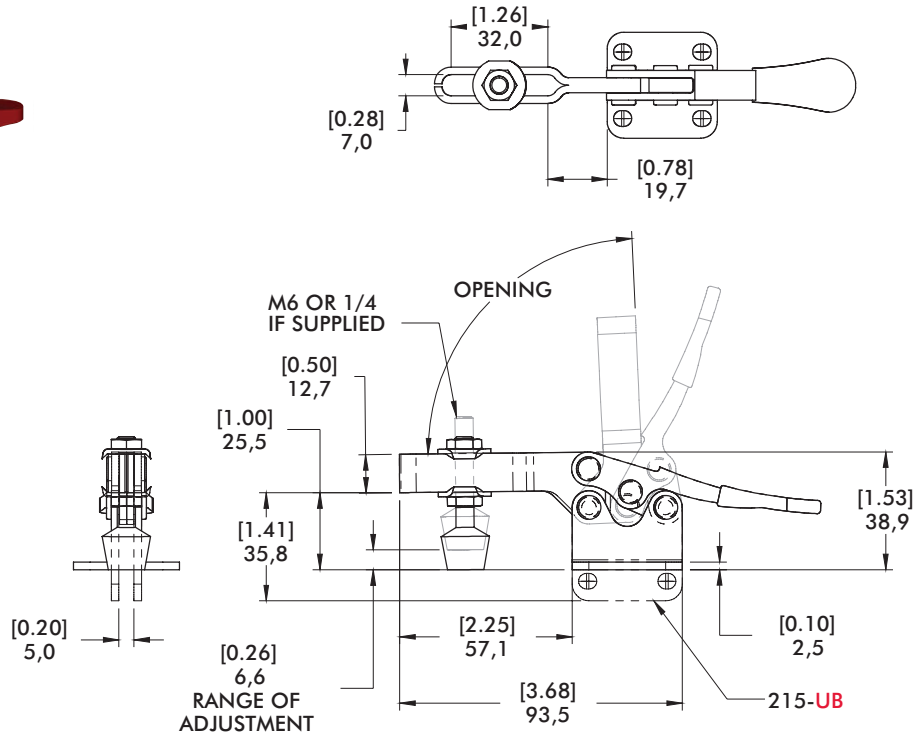
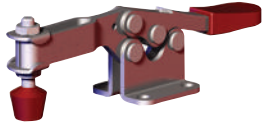


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U/UB		[1.00]	[2.25]		[200lbf.] 890N	[80lbf.] 360N	9:1	4:1
USS	[0.22] 5,6	25,4	57	[2.72] 69	[250lbf.] 1110N	[110lbf.] 490N		
S		[1.63] 41,4	[2.88] 73		[200lbf.] 890N	6:1		

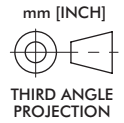
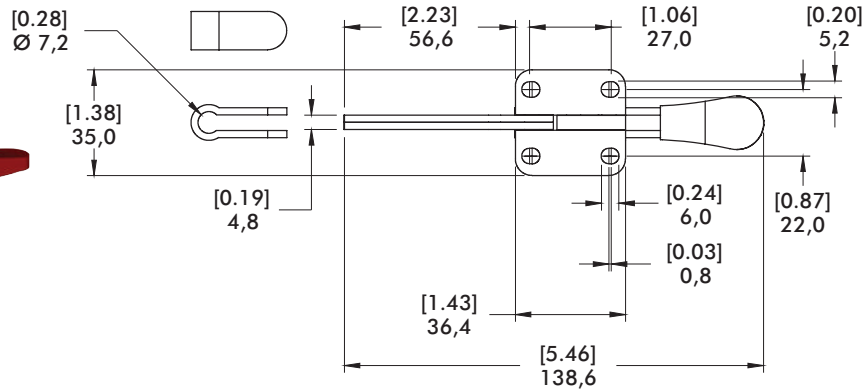
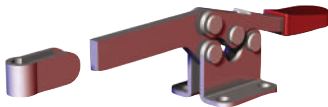
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 215 Standard Clamp Dimensions
-U/-USS/-UB/-S

215-U
Flanged Base
U-Bar



215-S
Flanged Base
Solid Bar



Series 225 Product Overview

Features:

- Low profile
- Stainless steel model furnished without plastic grip
- Available with DE-STA-CO® Toggle Lock Plus

Applications:

- Assembly
- Checking fixtures
- Closures
- Woodworking

Also Available:

See page 7.1 for accessories
Accommodates M8 or 5/16" spindle accessory

Covered under one year or more U.S./International Patents

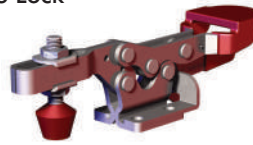
225-U
Flanged Base
U-Bar



225-USS
Flanged Base, U-Bar,
Stainless Steel



225-UR
Flanged Base, U-Bar
with DE-STA-CO®
Toggle Lock
Plus



225-UB ⓘ
Straight Base
U Bar



225-UBSS ⓘ
Straight Base, U Bar,
Stainless Steel



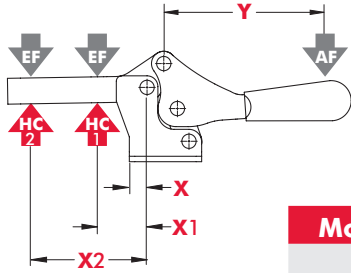
Note:
Clamps shown with included accessories.

Series 225 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)		
					Spindle Assembly	Flanged Washers	
225-U	2220 N [500 lbf]	92°	70°	0,25kg [0.55lb]	225208-M	507107	
225-USS	2670 N [600 lbf]				207943-M	507907	
225-UR	2220 N [500 lbf]			0,31kg [0.69lb]	225208-M	507107	
225-UB ⓘ					0,25kg [0.55lb]	207943-M	507907
225-UBSS ⓘ							

ⓘ This item is available upon request

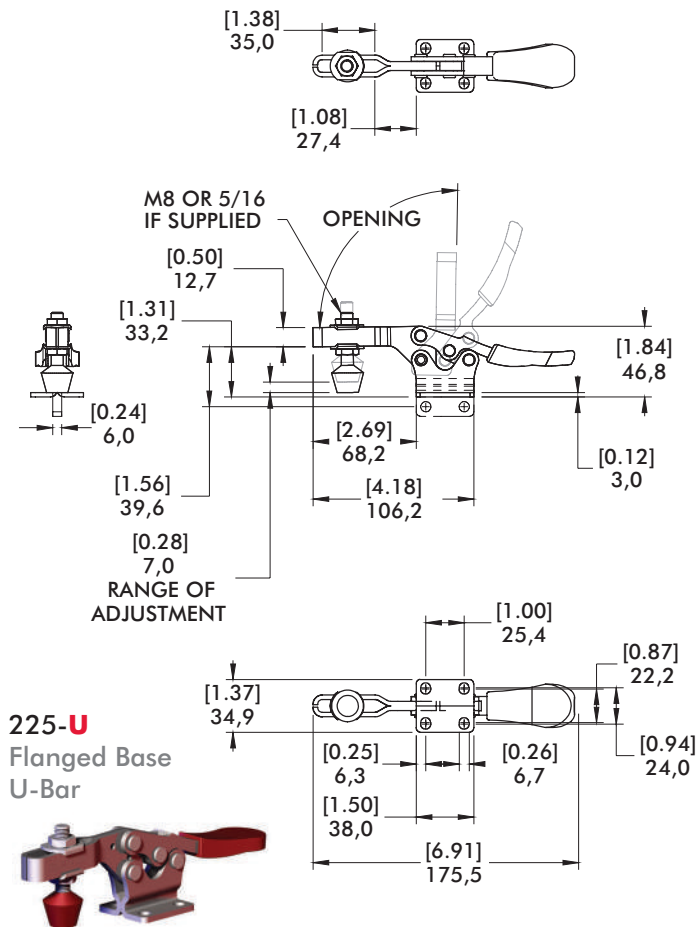
Series 225 Holding Capacities



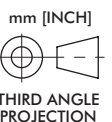
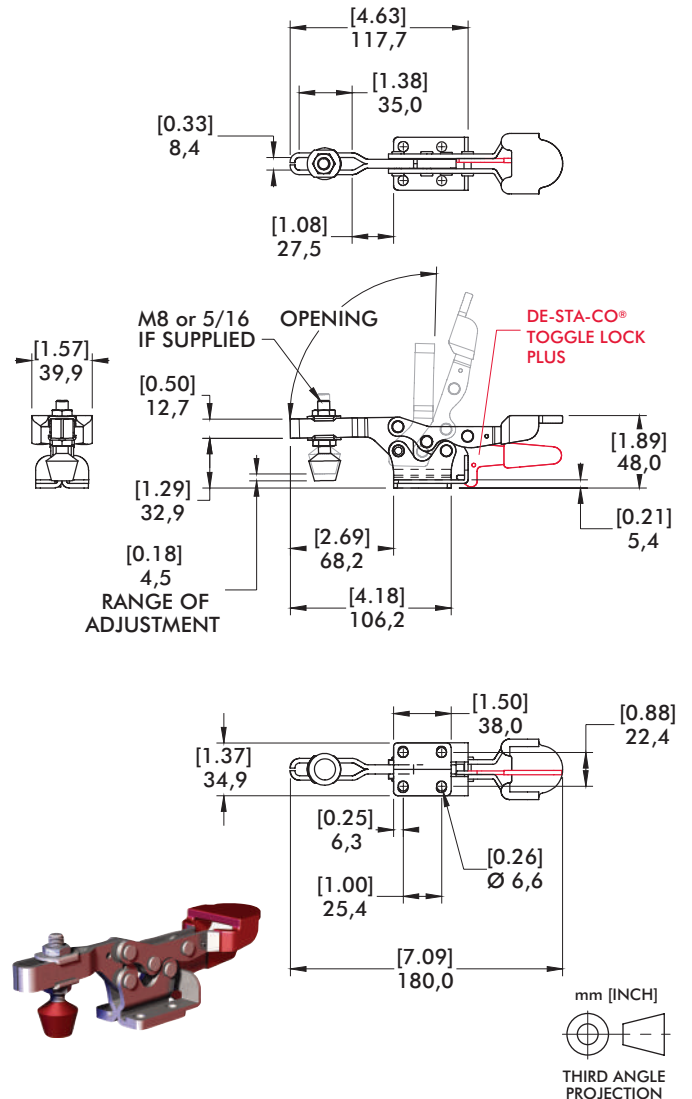
Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U					[500lbf.] 2220N	[250lbf.] 1110N		
USS	[0.12] 3,0	[1.25] 31,8	[2.50] 63,5	[3.56] 90,4	[600lbf.] 2760N	[300lbf.] 1340N	12:1	5:1
UR/UB					[500lbf.] 2220N	[250lbf.] 1110N		
UBSS					[600lbf.] 2760N	[300lbf.] 1340N		

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 225 Standard Clamp Dimensions -U/-USS-/UB-/UBSS



Series 225-UR Standard Clamp Dimensions



Series 235 Product Overview

Features:

- Low profile
- Available with DE-STA-CO® Toggle Lock Plus
- Available in stainless steel

Applications:

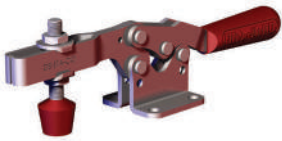
- Assembly
- Checking fixtures
- Welding
- Closures
- Woodworking

Also Available:

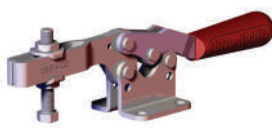
See page 7.1 for accessories
Accommodates M10 or 3/8" spindle accessory

Covered under one year or more U.S./International Patents

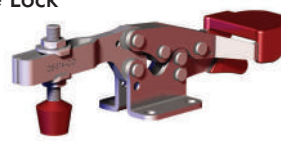
235-U
Flanged Base
U-Bar



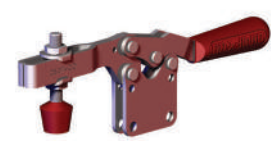
235-USS
Flanged Base, U-Bar,
Stainless Steel



235-UR
Flanged Base, U-Bar
with DE-STA-CO®
Toggle Lock
Plus



235-UB①
Straight Base
U-Bar



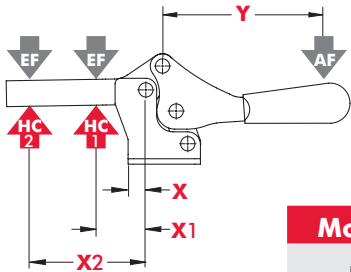
Note:
Clamps shown with included accessories.

Series 235 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
235-U	3340 N [750 lbf]	92°	70°	0,67kg [1.47lb]	240208-M	235106
235-USS	3780 N [850 lbf]				237943-M	235906
235-UR	3340 N [750 lbf]			0,74kg [1.64lb]	240208-M	235106
235-UB①				0,67kg [1.47lb]		

① This item is available upon request

Series 235 Holding Capacities

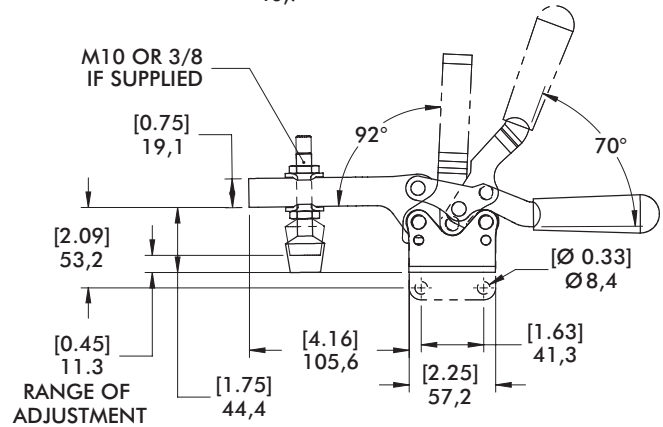
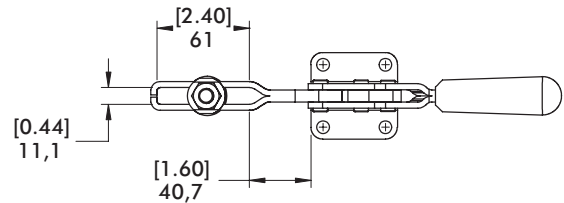
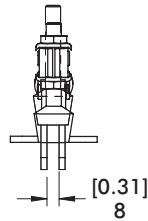
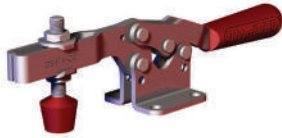


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
U					[750lbf.] 3340N	[300lbf.] 1330N	9:1	5:1
USS	[0.25] 6,4	[1.75] 44,5	[4.13] 105	[5.75] 146	[850lbf.] 3780N	[360lbf.] 1600N		
UR/UB					[750lbf.] 3340N	[300lbf.] 1330N		

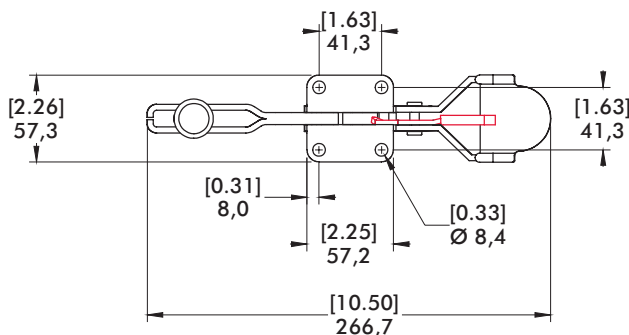
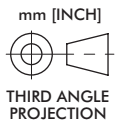
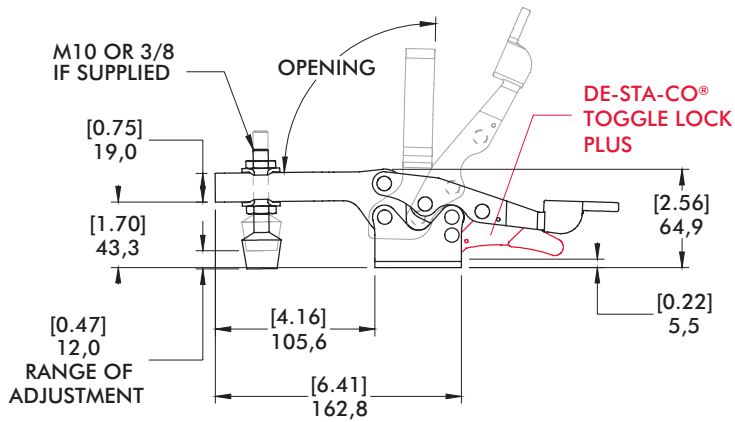
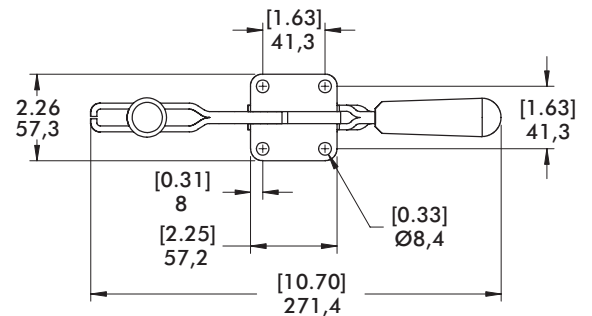
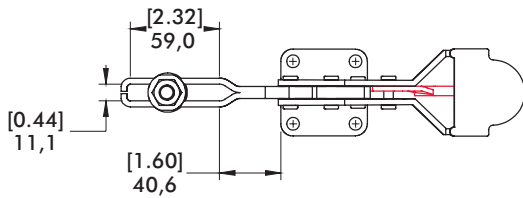
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 235 Standard Clamp Dimensions -U/-USS/-UR/-UB

235-U
Flanged Base
U-Bar



Series 235-UR
Standard Clamp Dimensions



235-UR
Flanged Base, U-Bar
with DE-STA-CO®
Toggle Lock
Plus



Series 305, 307, 309 Product Overview

Features:

- Compact design suitable for use in confined spaces
- Available with DE-STA-CO® Toggle Lock Plus
- Stainless steel models available

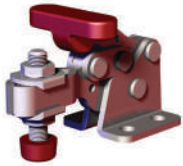
Applications:

- Assembly & Test
- Light Machining
- Closures
- Woodworking

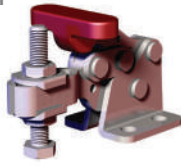
Also Available:

See page 7.1 for accessories

305-U
Flanged Base
U-Bar



305-USS
Flanged Base
U-Bar, Stainless
Steel



305-UR
Flanged Base,
U-Bar with
DE-STA-CO®
Toggle
Lock
Plus



307-U
Flanged Base
U-Bar



307-USS
Flanged Base
U-Bar, Stainless
Steel



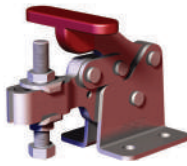
307-UR
Flanged Base,
U-Bar with
DE-STA-CO®
Toggle
Lock
Plus



309-U
Flanged Base
U-Bar



309-USS
Flanged Base
U-Bar, Stainless
Steel



309-UR ⓘ
Flanged Base,
U-Bar with
DE-STA-CO®
Toggle
Lock
Plus



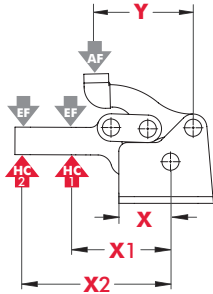
Note:
Clamps shown with included accessories.

Series 305, 307, 309 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
305-U	670 N [150 lbf]	90°	170°	0,06kg [0.13lb]	305208-M	102111
305-USS	900 N [200 lbf]				201943-M	102911
305-UR	670 N [150 lbf]				305208-M	102111
307-U	1560 N [350 lbf]	92°	173°	0,24kg [0.54lb]	307208-M	507107
307-USS					207943-M	507907
307-UR					307208-M	507107
309-U	3340 N [750 lbf]	90°	168°	1,30kg [0.59lb]	309208	235106
309-USS					237943-M	235906
309-UR ⓘ					309208	235106

ⓘ This item is available upon request

Series 305, 307, 309 Holding Capacities

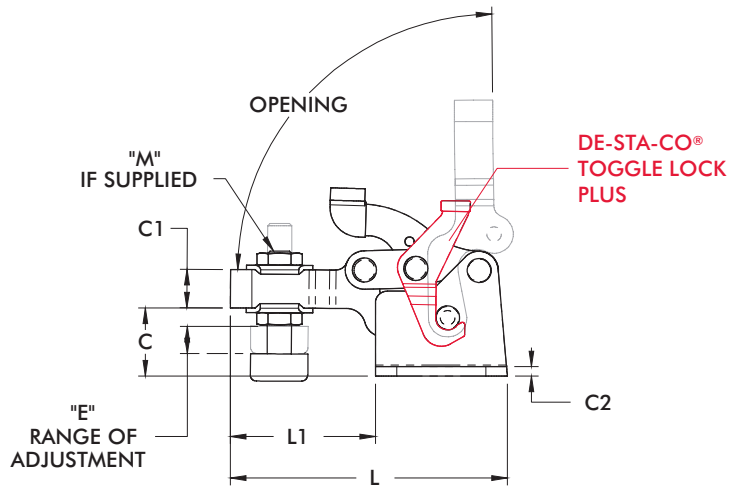
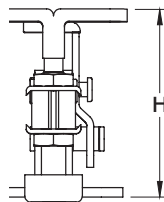
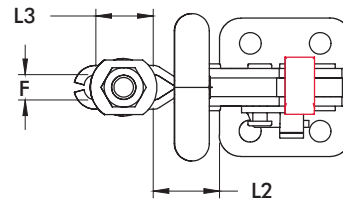
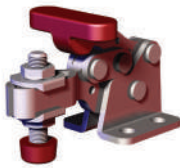


Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
305-U/UR	[0.58]	[1.38]	[1.88]	[1.14]	[150lbf.] 670N	[110lbf.] 490N	3:1	2:1
305-USS	14,6	35	47,7	29	[200lbf.] 900N	[150lbf.] 670N		
307-U/UR/USS	[0.94]	[1.88]	[2.50]	[1.77]	[350lbf.] 1560N	[260lbf.] 1160N	4:1	
309-U/UR/USS	[1.34]	[2.50]	[3.50]	[2.70]	[750lbf.] 3340N	[530lbf.] 2360N		

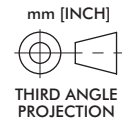
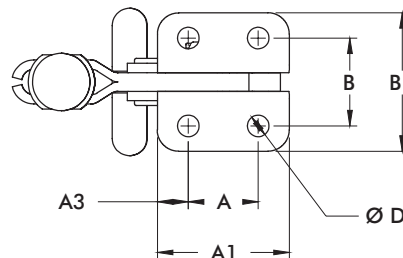
Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 305, 307, 309 Standard Clamp Dimensions
-U/-USS/-UR

305-U
Flanged Base
U-Bar



307-UR
Flanged Base,
U-Bar with
DE-STA-CO®
Toggle
Lock
Plus



Model	A	A1	A3	B	B1	C	C1	C2	D	E	F	H	L	L1	L2	L3	M
305-U/UR	[0.53] 13,5	[1.035] 26,3	[0.25] 6,4	[0.63] 16,0	[1.02] 25,9	[0.48] 12,2	[0.31] 7,9	[0.08] 2,0	[0.18] 4,6	[0.31] 8	[0.21] 5,3	[1.43] 36,3	[2.21] 56,1	[1.19] 30,2	[0.51] 13,0	[0.50] 12,7	[#10] M5
307-U/UR	[0.91] 23,1	[1.72] 43,7	[0.40] 10,2	[1.14] 29,0	[1.80] 45,7	[0.89] 22,6	[0.50] 12,7	[0.12] 3,0	[0.28] 7,1	[0.37] 9,5	[0.33] 8,4	[2.36] 59,9	[3.61] 91,7	[1.89] 48,0	[0.86] 21,8	[0.75] 19,1	[5/16] M8
309-U/UR	[1.38] 35,1	[2.52] 64,0	[0.58] 14,7	[1.50] 38,1	[2.47] 62,7	[1.31] 33,3	[0.75] 19,1	[0.12] 3,0	[0.33] 8,4	[0.72] 18,5	[0.44] 10,4	[3.53] 89,7	[5.19] 131,8	[2.68] 68,1	[1.28] 32,5	[1.06] 26,9	[3/8-1/4] M10

Series 206 Product Overview

Features:

- All stainless steel construction
- Offers good bar clearance under clamping bar while maintaining low profile

Applications:

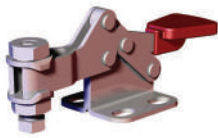
- Assembly
- Chemical processing
- Closures
- Light duty clamping

Also Available:

See page 7.1 for accessories
Accommodates M4 or #8 spindle accessory

206-SS

Flanged Base
Low U-Bar,
Stainless Steel



206-HSS

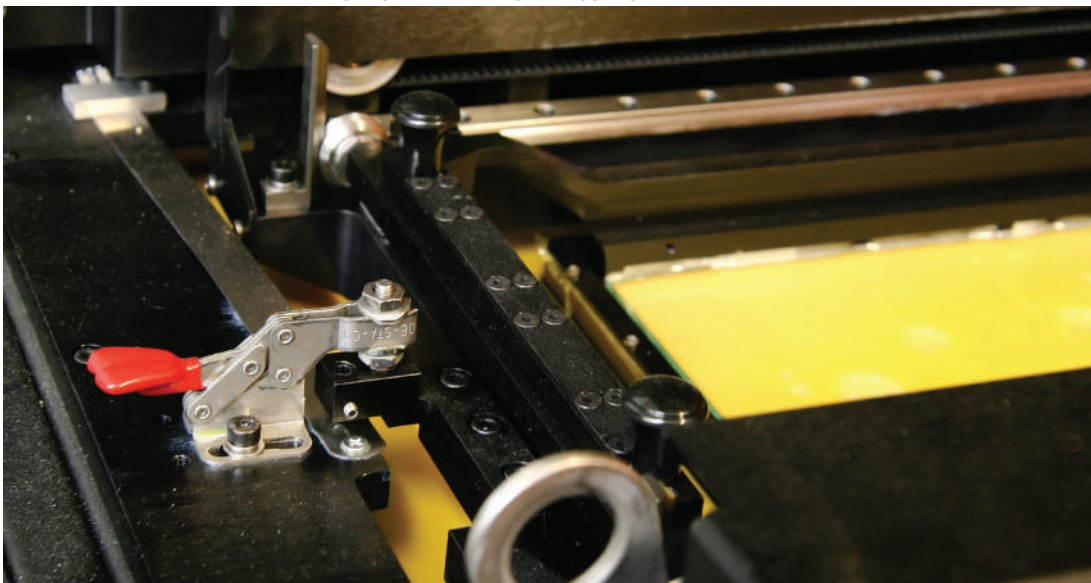
Flanged Base
High U-Bar,
Stainless Steel



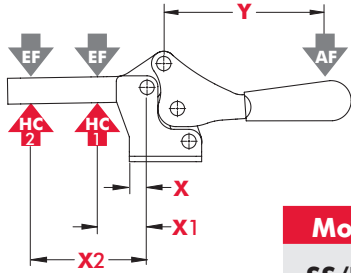
Series 206 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight	Accessories (Supplied)	
					Spindle Assembly	Flanged Washers
206-SS	440 N [100 lbf]	90°	90°	0,03kg [0.07lb]	205943-M	105906
206-HSS						

Model 206-HSS shown securing a platen on a prototyping machine.



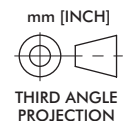
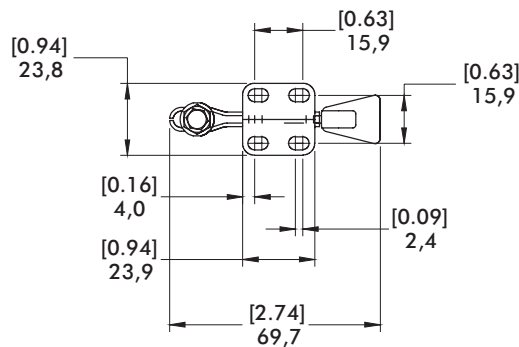
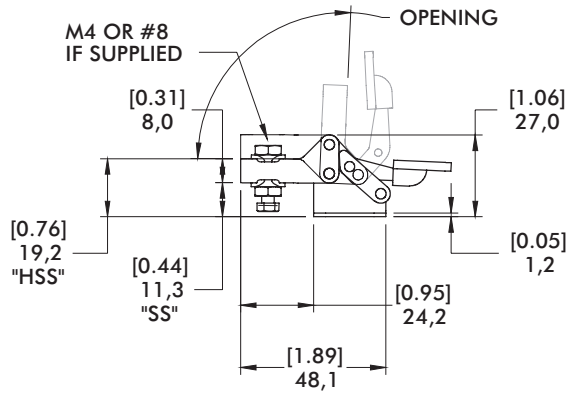
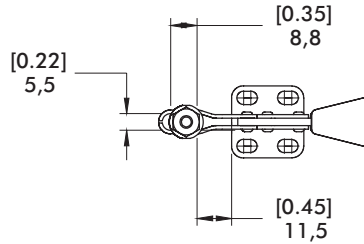
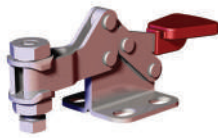
Series 206 Holding Capacities



Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
SS/HSS	[0.20] 5	[0.43] 11	[1.06] 27	[1.14] 29	[100lbf.] 440N	[50lbf.] 220N	5:1	3:1

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page 15.4 for additional information.

Series 206 Standard Clamp Dimensions -SS/-HSS



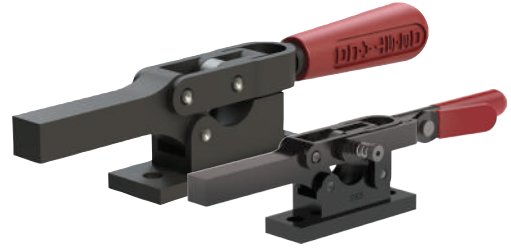
Series 5305, 5310 Product Overview

Features:

- Solid clamping arm may be modified to suit requirements
- Hardened steel pivot pins and bushings provide long life
- Black oxide finish
- DE-STA-CO® Toggle Lock Plus versions available†

Applications:

- Welding fixtures
- Assembly fixtures
- Light machining



5305/5310
Flanged Base



5305-B/5310-B
Solid Base



5305-R/5310-R
Flanged Base with DE-STA-CO® Toggle Lock Plus



5305-BR†/5310-BR†
Solid Base with DE-STA-CO® Toggle Lock Plus

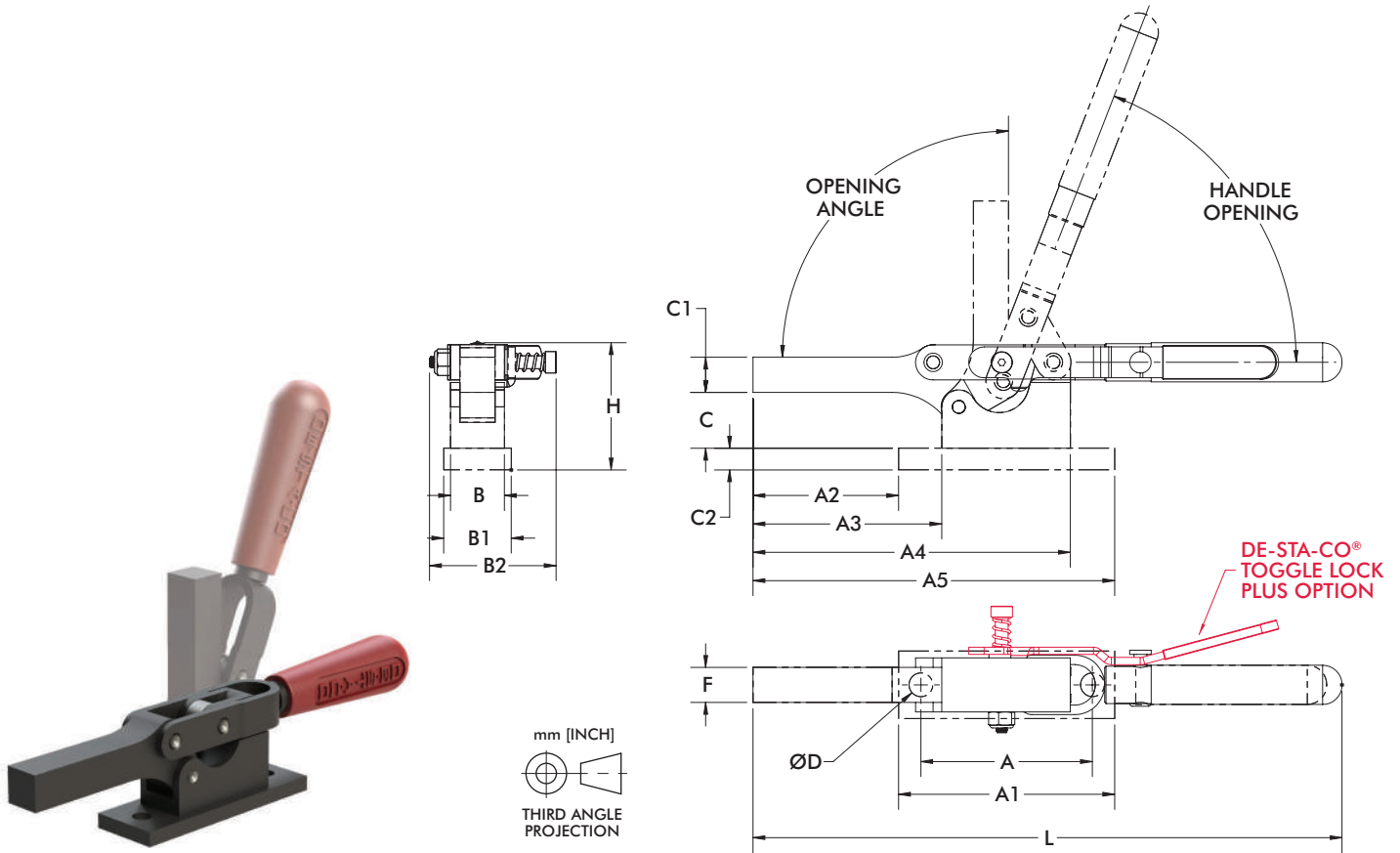


Series 5305, 5310 Technical Information

Model	Max. Holding Capacity	Clamp Bar Opening (+10°)	Handle Opening (+10°)	Weight
5305	[600lbf.] 2670N	90°	69°	[1.08lbs] 0,49kg
5305-B				[0.82lbs] 0,37kg
5305-R				[1.09lbs] 0,49kg
5305-BR†				[0.83lbs] 0,37kg
5310	[1300lbf.] 5780N	90°	69°	[2.84lbs] 1,29kg
5310-B				[2.24lbs] 1,02kg
5310-R				[2.87lbs] 1,30kg
5310-BR†				[2.27lbs] 1,03kg

† This item is available upon request.
† Toggle Lock Plus locks the handle in the closed position only.

Series 5305, 5310 Standard Clamp Dimensions



Model	A	A1	A2	A3	A4	A5	B	B1	B2	C	C1	C2	D	F	H	L
5305	[2.50]	[3.15]	[2.12]	[2.75]	[4.63]	[5.27]	[0.79]	[0.98]	--	[0.81]	[0.51]	[0.31]	[0.35]	[0.51]	[1.51]	[8.36]
5305-R	63,5	80,0	53,8	69,9	117,6	133,9	20,1	24,9	[1.84] 46,7	20,6	13,0	7,9	8,9	13,0	38,4	212,4
5310	[3.63]	[4.63]	[2.63]	[3.63]	[6.25]	[7.25]	[1.13]	[1.50]	--	[1.00]	[0.75]	[0.31]	[0.41]	[0.79]	[2.00]	[11.13]
5310-R	92,2	117,6	66,8	92,2	158,8	184,2	28,7	38,1	[2.31] 58,7	25,4	19,1	7,9	10,4	20,1	50,8	[11.02] 279,8

Model	A3	A4	B2	C	C1	F	H	L
5305-B	[2.75]	[4.63]	--	[0.81]	[0.51]	[0.51]	[1.51]	[8.36]
5305-BR^①	69,9	117,6	[1.84] 46,7	20,6	13,0	13,0	38,4	212,4
5310-B	[3.63]	[6.25]	--	[1.00]	[0.75]	[0.79]	[2.00]	[11.13]
5310-BR^①	92,2	158,8	[2.31] 58,7	25,4	19,1	20,1	50,8	[11.02] 279,8

^① This item is available upon request

		Max. Holding Capacity N[lbf.]						Plunger Travel mm [inch]					
		0 to 1000 [0 to 225]	1000 to 2000 [225 to 450]	2000 to 3000 [450 to 675]	3000 to 5000 [675 to 1125]	5000 to 7000 [1125 to 1575]	7000 to 10000 [1575 to 2250]	10000+ [2250+]	0 to 20 [0 to 0.79]	20 to 40 [0.79 to 1.57]	40 to 60 [1.57 to 2.36]	60 to 80 [2.36 to 3.15]	80 to 105 [3.15 to 4.13]
Series	Section Page												
	6001 3.3	■											
	601 3.4	■											
	6015 3.5			■									
	603 3.7			■									
	608 3.7				■								
	605 3.9		■										
	606 3.10		■										
	607 3.11				■								
	609 3.12		■										
	610 3.13				■								
	615 3.14		■										
	620 3.15			■									
	630 3.16							■					
	640 3.17								■				■
	650 3.18									■			■
	95030 3.19			■									
	95040 3.19				■								
	95050 3.19							■					
	95060 3.19								■				
	5130 3.21							■					
	5131 3.21			■									
	5133 3.21				■								
	5150 3.23							■					
	602 3.25	■											
	604 3.25		■										
	624 3.25				■								■
	6004 3.27		■										
	614 3.29				■								
	670 3.31									■			
	675 3.31										■		
	690 3.31											■	
	695 3.31												■

Series 6001 Product Overview

Features:

- Heavier duty version of Model 601 with 50% more holding capacity
- Mounting pattern interchangeable with Model 601
- Allow handle to fall below mounting plane to lock in retracted position

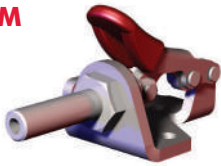
Applications:

- Assembly
- Testing
- Soldering
- Gluing

Also Available:

See page 7.1 for accessories

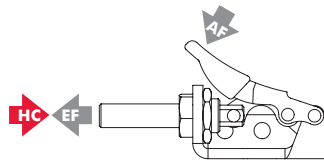
6001
6001-M



6001-SS
6001-MSS

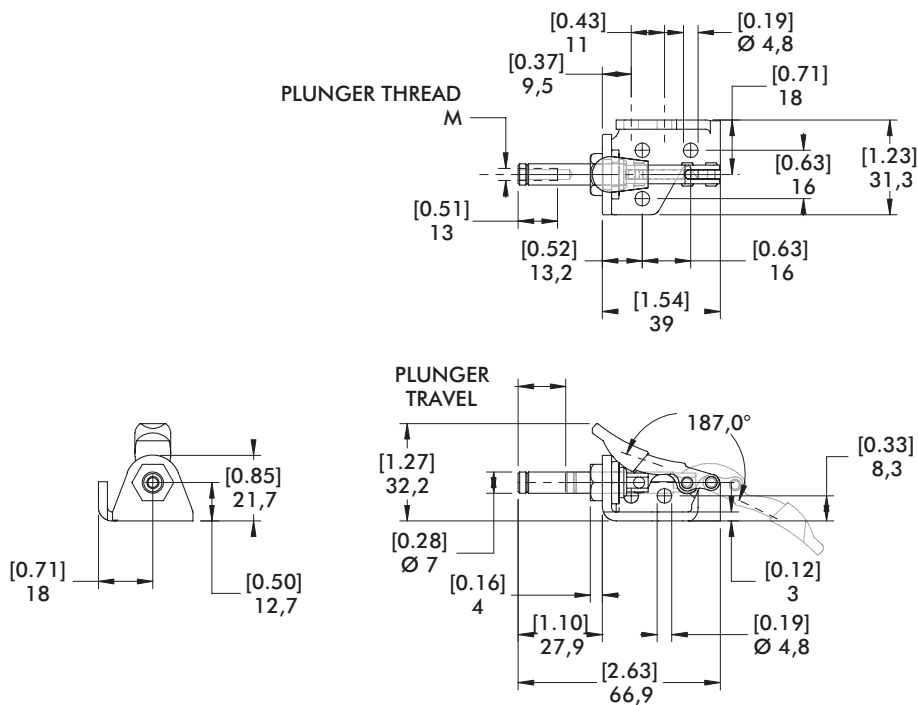


Series 6001 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Spindle (Recommended)	Spindle Included
6001					#8-32	105203	No
6001-M	[150 lbf] 670 N	[0.12lb] 0,05kg	14:1/25:1	[0.63] 16	M4	205208-M	
6001-SS					#8-32	205943	Yes
6001-MSS					M4	205943-M	

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force



Series 601 Product Overview

Features:

- Compact straight line action clamp

Applications:

- Assembly
- Testing
- Soldering
- Gluing

Also Available:

See page 7.1 for accessories

601



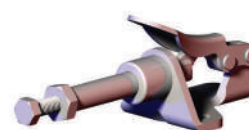
601-M



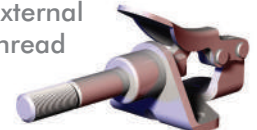
601-O
Straight Base
U-Bar



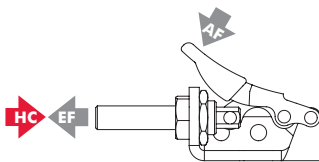
601-SS
Stainless steel



601-OSS ⓘ
Stainless steel
External
thread

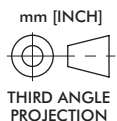
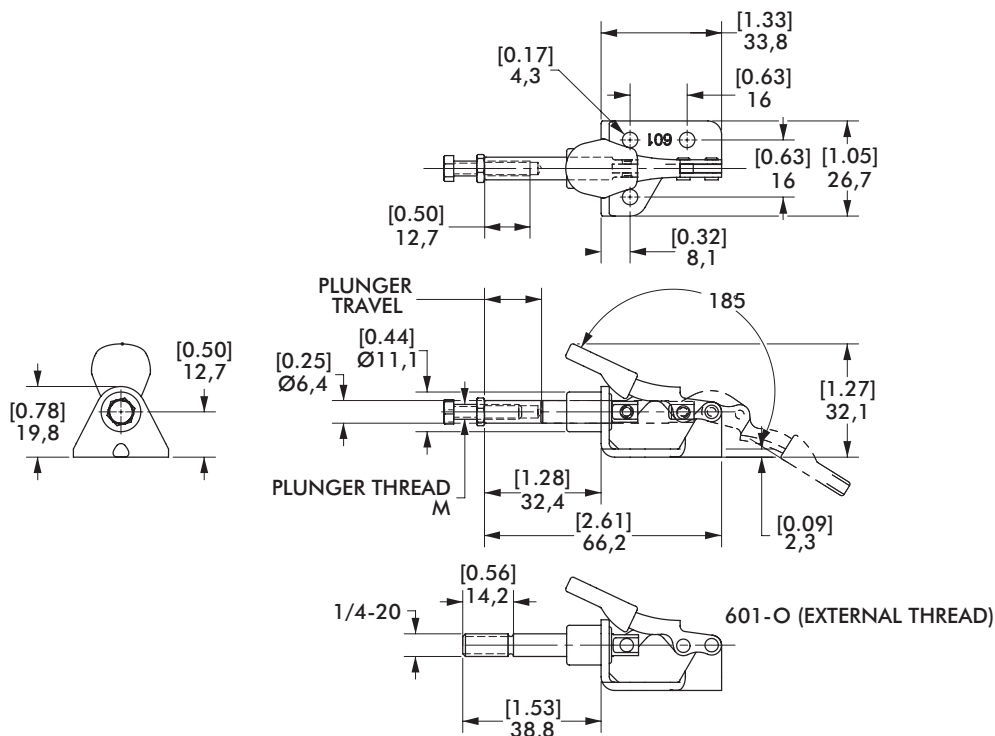


Series 601 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Spindle (Recommended)	Spindle Included
601					#8-32	105203	Yes
601-M					M4	205208-M	No
601-O	[100 lbf] 440 NXX	[0.09lb] 0,04kg	14:1/25:1	[0.63] 16	1/4-20	--	No
601-SS					#8-32	205943	Yes
601-OSS ⓘ					1/4-20	--	No

ⓘ This item is available upon request HC = Holding Capacity, EF = Exerting Force, AF = Applied Force



Series 6015 Product Overview

Features:

- Smallest of the solid base Straight Line Action clamps
- Compact design combined with high holding capacity
- Allow handle to fall below mounting plane to lock in retracted position

Applications:

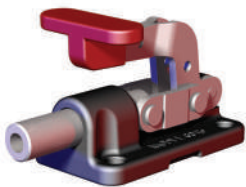
- Assembly
- Checking fixtures
- Tensioning devices

Also Available:

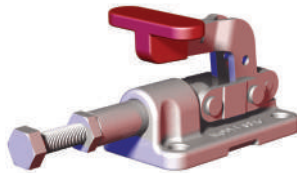
See page 7.1 for accessories

Covered under one year or more U.S./International Patents

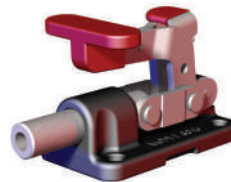
6015
6015-M



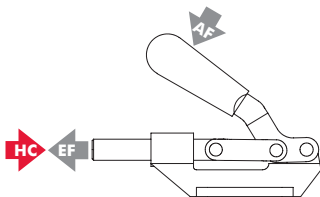
6015-SS,
6015-MSS
Stainless
Steel



6015-R,
6015-MR
with DE-STA-CO®
Toggle Lock
Plus



Series 6015 Technical Information, Holding Capacities



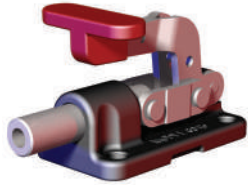
Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
6015	[560 lbf] 2500 N	[0.35lb] 0,15kg	35:1	[0.70] 17,8	1/4-20	205203
6015-M					M6	205203-M
6015-SS	[630 lbf] 2800 N	[0.35lb] 0,15kg	35:1	[0.70] 17,8	1/4-20	202943 (supplied)
6015-MSS					M6	202916-M (supplied)
6015-R	[560 lbf] 2500 N	[0.35lb] 0,15kg	35:1	[0.70] 17,8	1/4-20	205203
6015-MR					M6	205203-M

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force

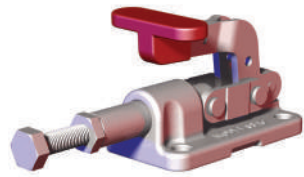


Series 6015 Standard Clamp Dimensions 6015/-M/-SS/-MSS/-R/-MR

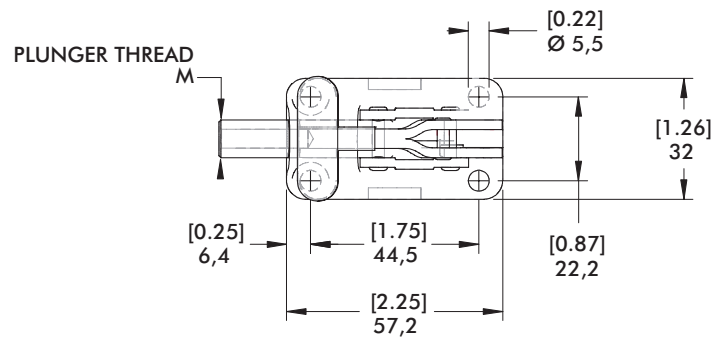
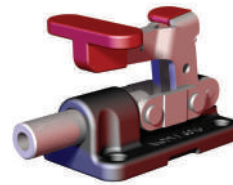
6015
6015-M



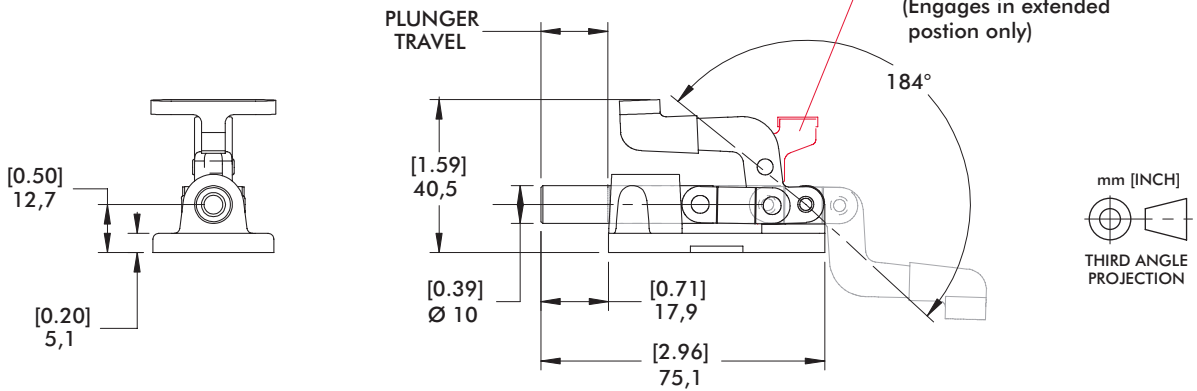
6015-SS,
6015-MSS
Stainless
Steel



6015-R,
6015-MR
with DE-STA-CO®
Toggle Lock Plus



DE-STA-CO®
TOGGLE LOCK
PLUS OPTION
6015-R / 6015-MR
(Engages in extended
position only)



Series 603, 608 Product Overview

Features:

- Allow handle to rotate and fall below mounting plane to lock in retracted position
- Large holding capacities for their size
- Available with DE-STA-CO® Toggle Lock Plus

Applications:

- Assembly & test
- Checking fixtures
- Welding fixtures
- Tensioning devices

Also Available:

- See page 7.1 for accessories
- 803 Pneumatic Toggle Clamp
See page 9.27
- 803-ME Pneumatic Toggle Clamp
See page 9.27

Covered under one year or more U.S./International Patents

603
603-M



603-SS
603-MSS
Stainless Steel



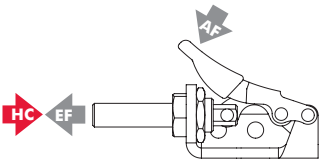
603-R
603-MR
with
DE-STA-CO®
Toggle Lock
Plus



608
608-M



Series 603, 608 Technical Information, Holding Capacities



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
603	[600 lbf] 2670 N				5/16-18	207203
603-M					M8	207203-M
603-SS	[840 lbf] 3740 N	[0.83lb] 0,38kg	23:1/34:1	[1.25] 31,8	5/16-18	207943
603-MSS					M8	207943-M (supplied)
603-R	[600 lbf] 2670 N				5/16-18	207203
603-MR					M8	207203-M
608	[850 lbf] 3780 N	[1.25lb] 0,57kg	44:1/50:1	[1.63] 41,3	3/8-16	210203
608-M					M10	210203-M

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force

Series 603, 608 Standard Clamp Dimensions 603/608/-M/-SS/-MSS/-R/-MR

603
603-M



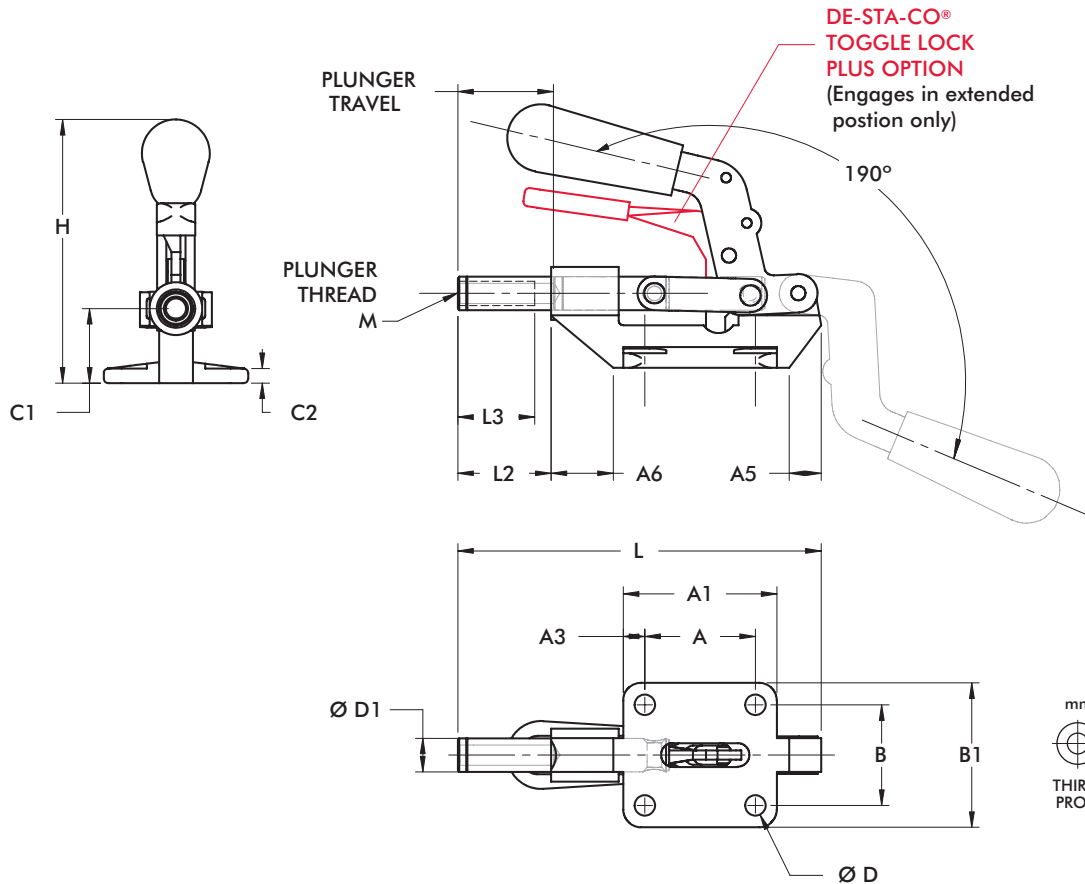
603-SS
603-MSS
Stainless
Steel



603-R
603-MR
with
DE-STA-CO®
Toggle Lock
Plus



608
608-M



Model	A	A1	A3	A5	A6	B	B1	C1	C2	D	D1	H	L	L2	L3
603		[2.17]	[0.34]	[0.51]	[0.82]				[0.19]		[0.44]	[3.43]	[4.77]		
603-M		55	8,5	13	21				4,8		11,1	87	121,2		
603-SS	[1.44]			[0.54]	[0.65]	[1.31]	[1.88]	[0.97]	[0.25]	[0.27]	[0.47]	[3.28]	[4.69]	[1.28]	[1.00]
603-MSS	36,6	[2.20]	[0.30]	13,6	16,5	33,3	48	24,6	6,4	6,8	12	83,4	119,2	32,5	25,4
603-R				[0.51]	[0.82]						[0.44]	[3.43]	[4.77]		
603-MR				13	21						11,1	87	121,2		
608	[1.63]	[2.25]	[0.31]	[0.75]	[1.40]	[1.63]	[2.25]	[1.25]	[0.19]						
608-M	41,4	57,2	8	19	36	41,4	57,2	31,8	4,8	[0.33]	[0.62]	[4.04]	[6.00]	[1.59]	[1.25]
										8,4	15,8	102,6	152,3	40,5	31,8

Dimensions shown mm [inch]

Series 605 Product Overview

Features:

- For push/pull clamping
- Allow handle to rotate and fall below mounting plane to lock in retracted position

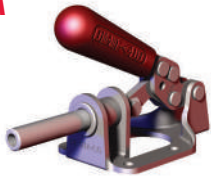
Applications:

- Assembly & test
- Woodworking
- Tensioning devices

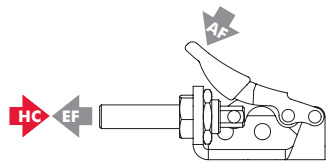
Also Available:

See page 7.1 for accessories
Reverse action version Model 615/615-M

605
605-M

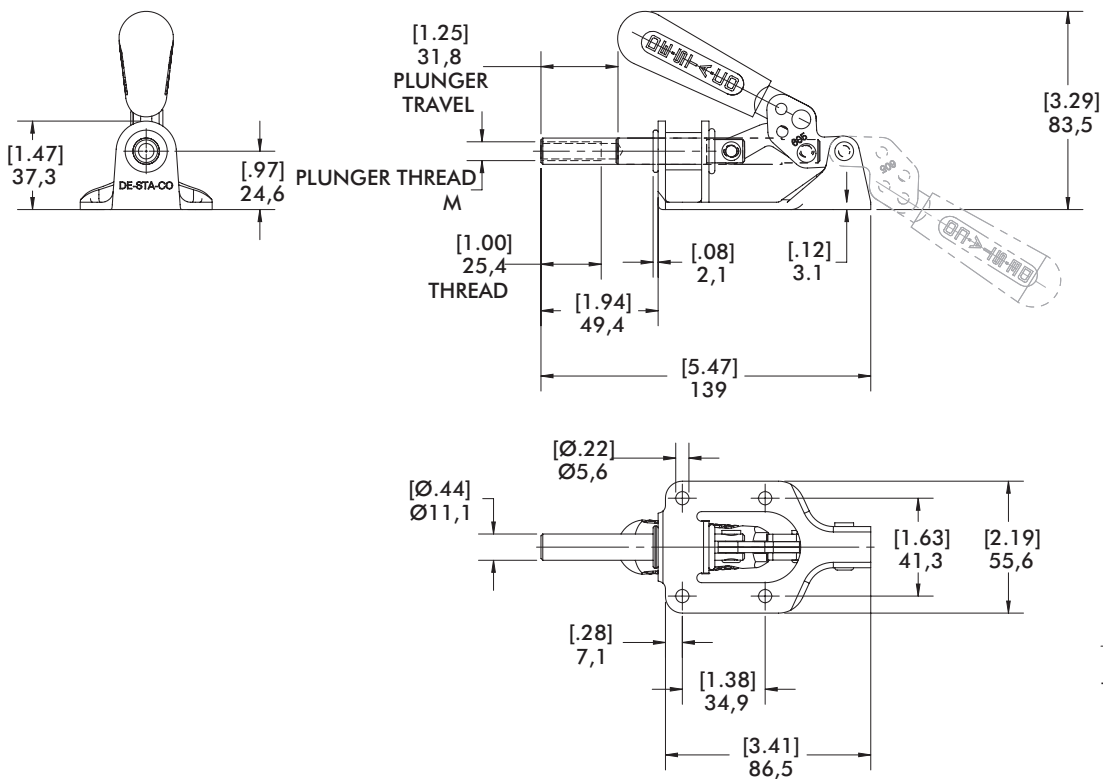


Series 605 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
605	[300 lbf] 1330 N	[0.69lb] 0,31kg	45:1/40:1	[1.25] 31,8	5/16-18	207203
605-M					M8	207203-M

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force



Series 606 Product Overview

Features:

- Handle and linkage swivel 125° for mounting flexibility
- Narrow base for tight spaces
- Plunger locks in extended position only

Applications:

- Assembly & test
- Woodworking
- Tensioning devices

Also Available:

See page 7.1 for accessories

606
606-M

Mounting configuration:

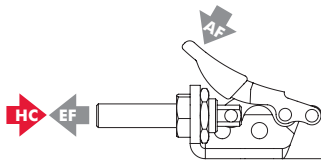


Bottom Mount



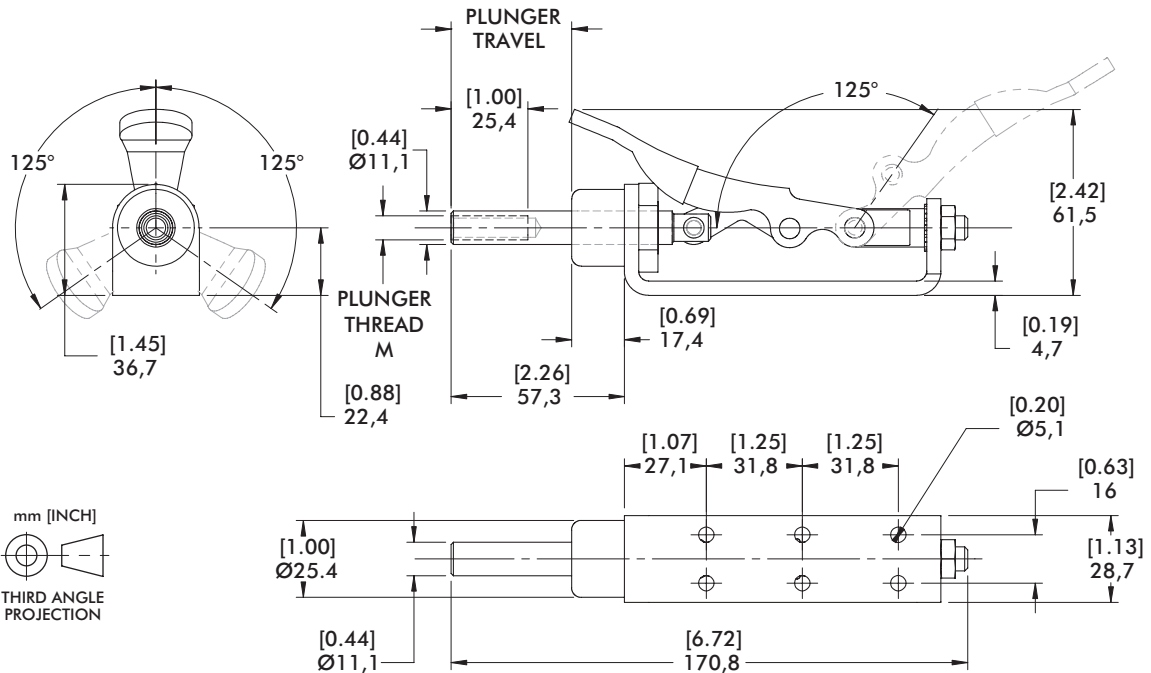
Side Mount

Series 606 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
606	[450 lbf] 2000 N	[0.81lb] 0,37kg	33:1	40 [1.57]	5/16-18 M8	207203
606-M						207203-M

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force



Series 607 Product Overview

Features:

- Low profile and high holding capacity for its size
- Available with round or square plunger to resist torsional loads
- Allow handle to rotate and fall below mounting plane to lock in retracted position

Applications:

- Assembly & test
- Welding
- Tensioning devices

Also Available:

See page 7.1 for accessories

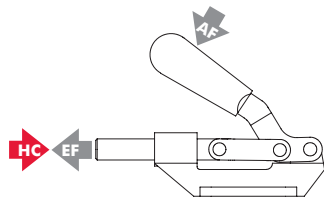
607
607-M



607-SQ
607-SQM
with Square
Plunger

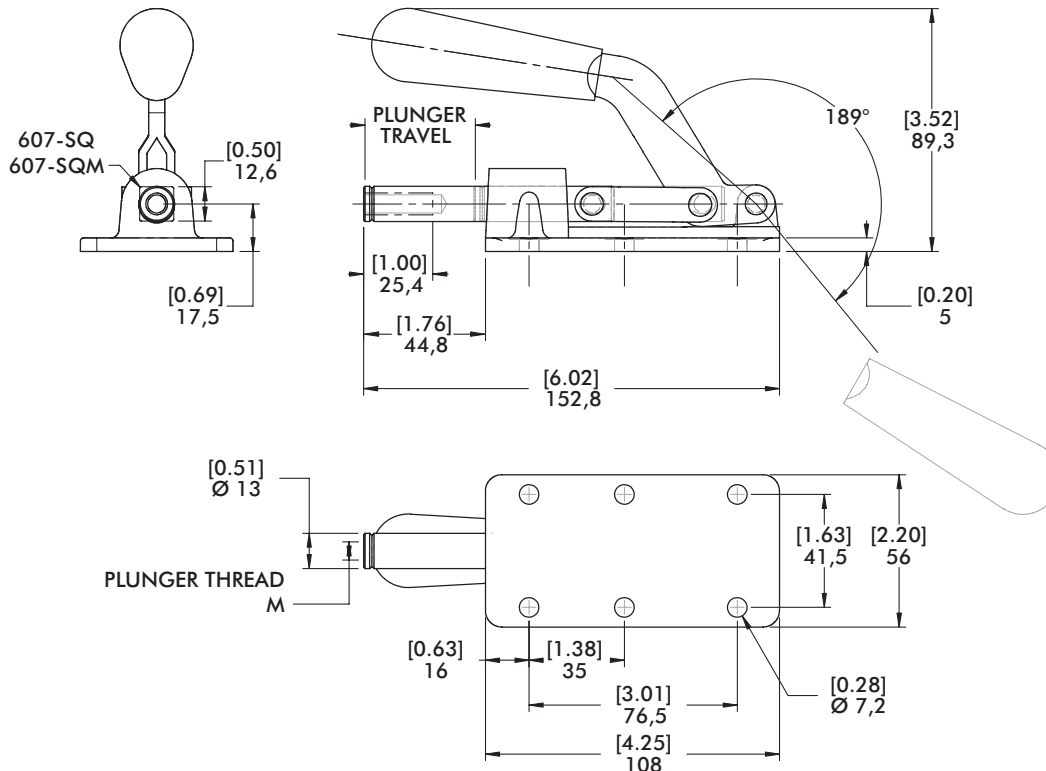


Series 607 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
607					5/16-18	207203
607-M	[800 lbf] 3560 N	[1.63lb] 0,74kg	37:1/64:1	[1.63] 41,4	M8	207203-M
607-SQ					5/16-18	207203
607-SQM					M8	207203-M

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force



Features:

- Low profile and high holding capacity for its size
- Flanged or straight base
- Allow handle to rotate and fall below mounting plane to lock in retracted position

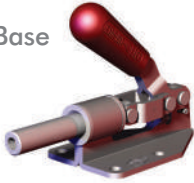
Applications:

- Assembly & test
- Welding
- Tensioning devices

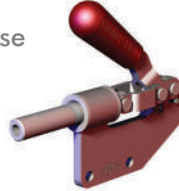
Also Available:

See page 7.1 for accessories

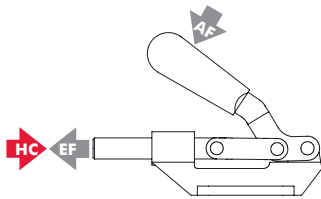
609
Flanged Base



609-B
Straight Base

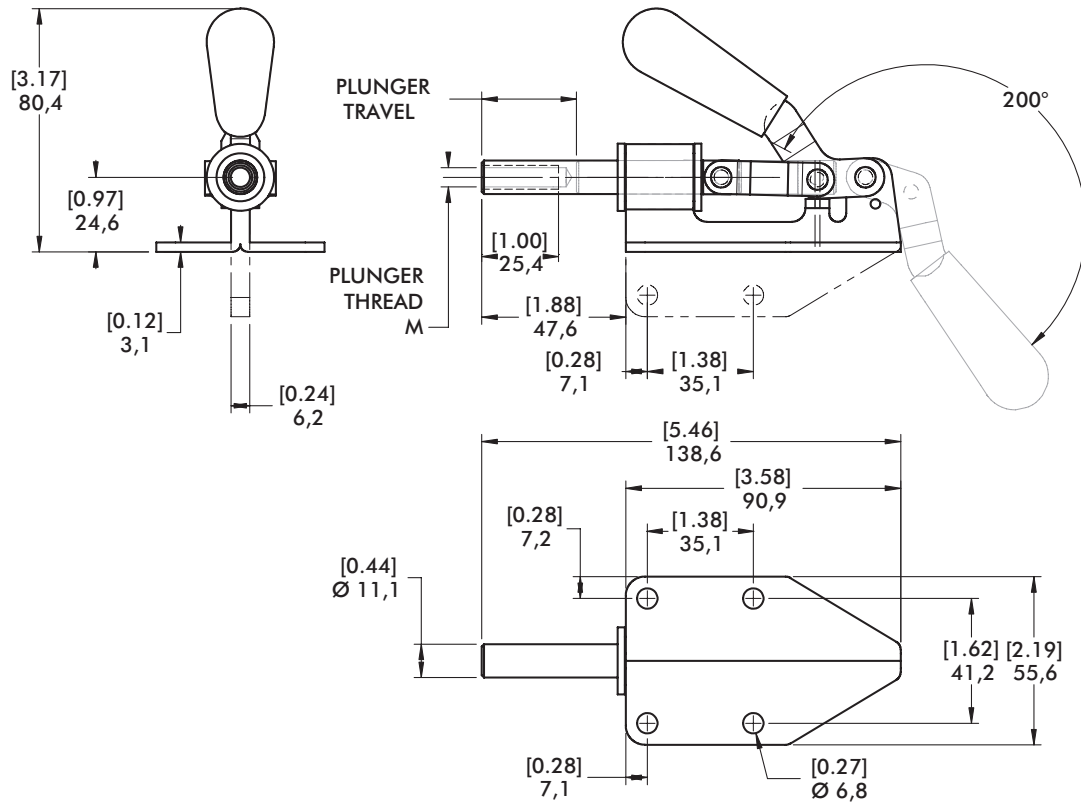


Series 609 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
609	[300 lbf] 1330 N	[0.88lb] 0,40kg	36:1/47:1	[1.25] 31,8	5/16-18	207203
609-B						

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force



Series 610 Product Overview

Features:

- For push/pull clamping
- Allow handle to rotate and fall below mounting plane to lock in retracted position

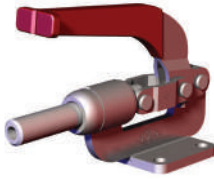
Applications:

- Assembly & test
- Woodworking
- Tensioning devices

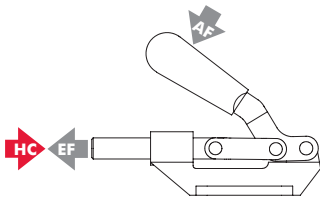
Also Available:

See page 7.1 for accessories

610
610-M

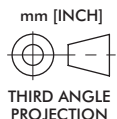
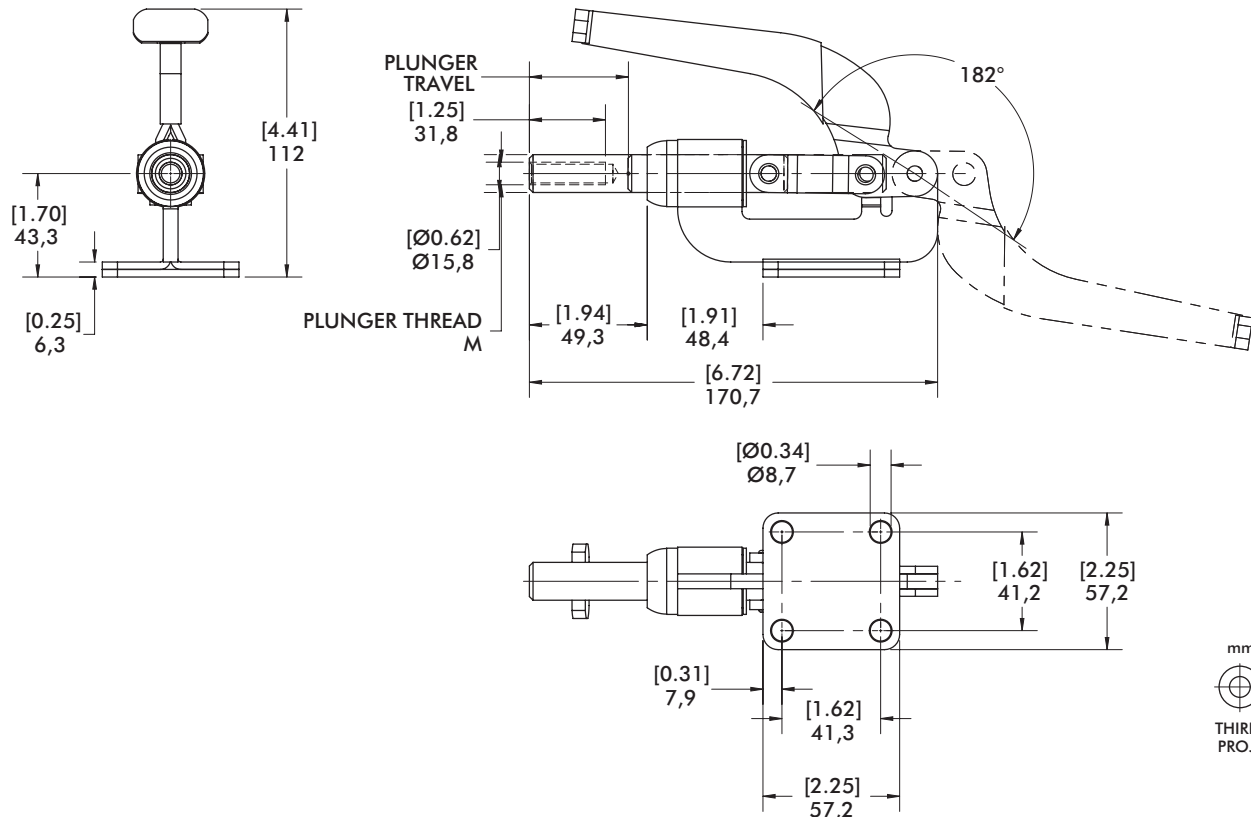


Series 610 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
610	[800 lbf] 3560 N	[1.69 lb] 0,77kg	51:1/70:1	[1.63] 41,4	3/8-16	210203
610-M					M10	210203-M

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force



Series 615 Product Overview

Features:

- Reverse handle action.
- Plunger locks in the extended position only as the handle is moved downward

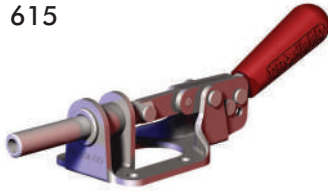
Applications:

- Assembly & test
- Woodworking
- Tensioning devices

Also Available:

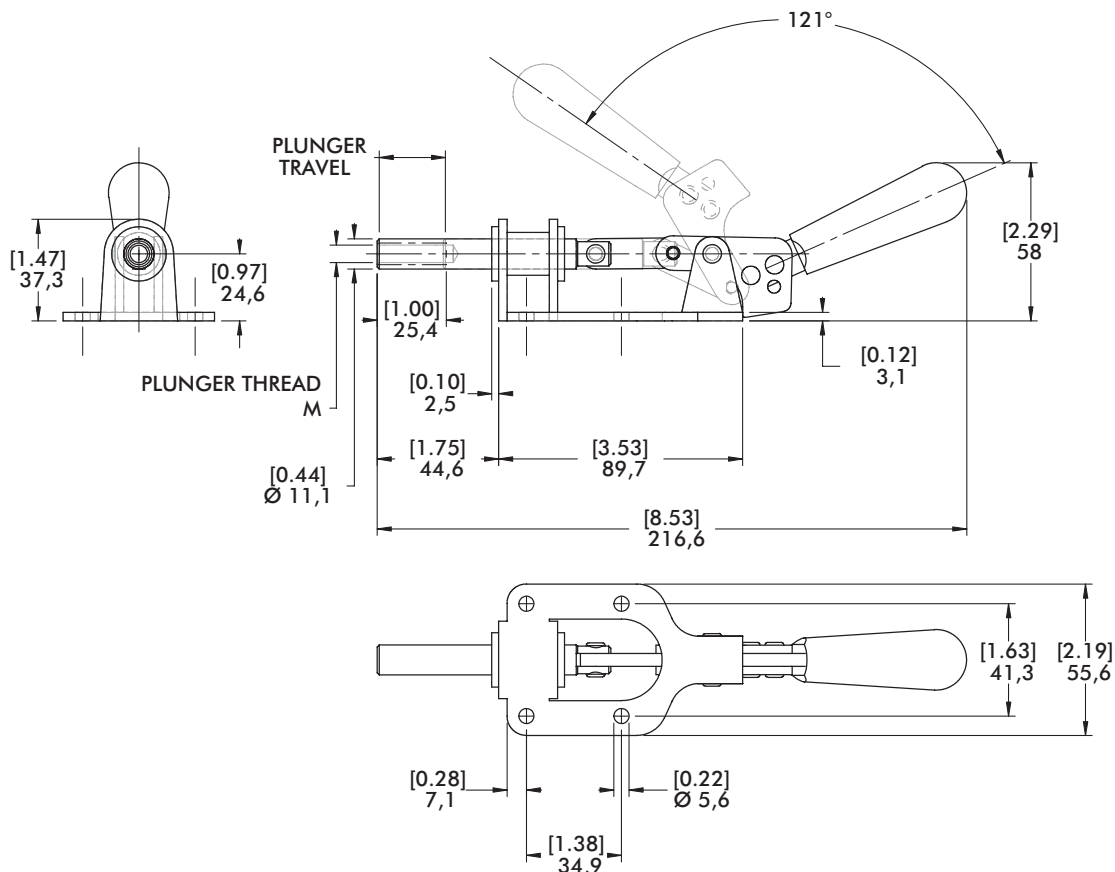
See page 7.1 for accessories

615



Series 615 Technical Information, Holding Capacities, Standard Clamp Dimensions

Model	Max. Holding Capacity	Weight	Plunger Travel (M)	Plunger Thread	Recommended Spindle (Not Supplied)
615	[300 lbf] 1330 N	[0.69lb] 0,31kg	[0.97] 24,6	5/16-18	207203



Series 620 Product Overview

Features:

- Reverse handle action
- Plunger locks in the extended position only as the handle is moved downward

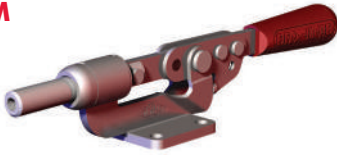
Applications:

- Assembly & test
- Woodworking
- Tensioning devices

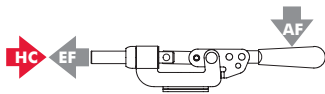
Also Available:

See page 7.1 for accessories

620
620-M

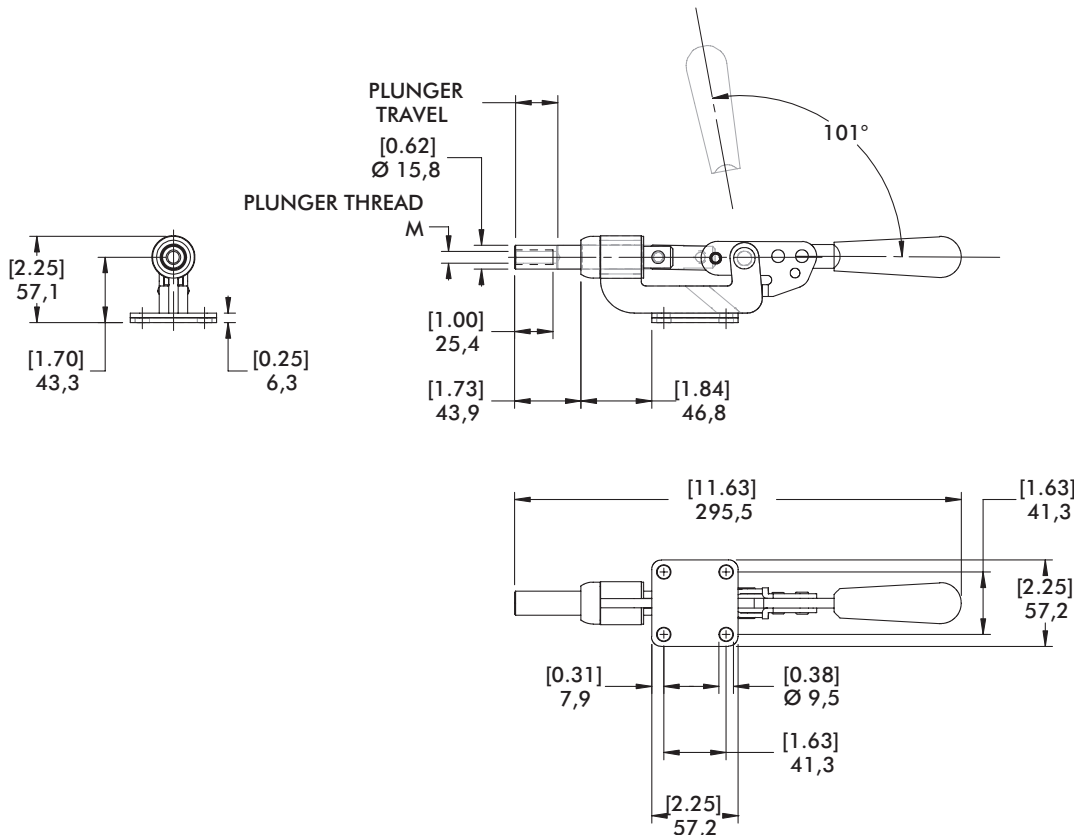


Series 620 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
620	[600 lbf] 2670 N	[1.50lb] 0,68kg	44:1	[1.11] 28,2	3/8-16	210203
620-M					M10	210203-M

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force



Series 630 Product Overview

Features:

- For push/pull clamping
- Allow handle to rotate and fall below mounting plane to lock in retracted position
- Available with DE-STA-CO® Toggle Lock Plus

Applications:

- Assembly & test
- Welding
- Tensioning devices

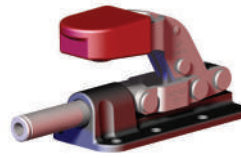
Also Available:

See page 7.1 for accessories
830, 830-ME Pneumatic Toggle Clamp
(See page 9.27)

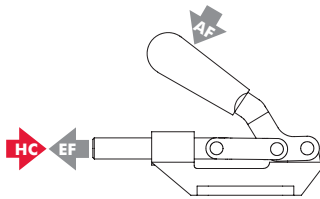
630
630-M



630-R
630-MR
with
DE-STA-CO®
Toggle Lock
Plus

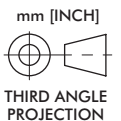
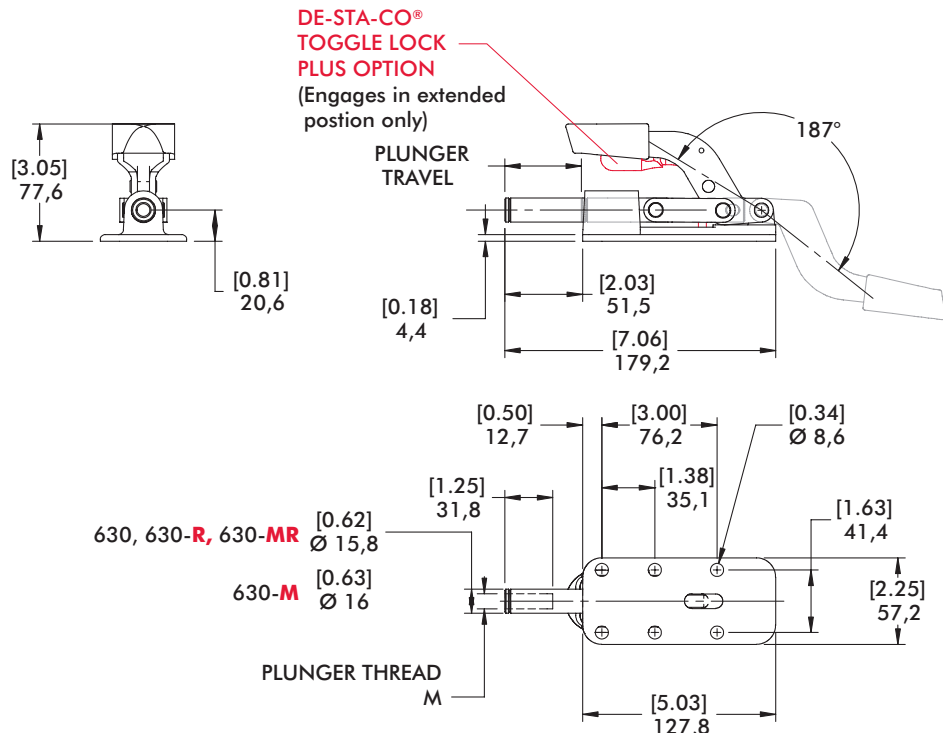


Series 630 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
630					3/8-16	210203
630-M	[2,500 lbf] 11100 N	[1.90lb] 0,89kg	36:1/23:1	[2.00] 50,8	M10	210203-M
630-R					3/8-16	210203
630-MR					M10	210203-M

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force



Series 640 Product Overview

Features:

- For heavy duty push/pull clamping
- Longest stroke of our Straight Line Action Clamps
- Allow handle to rotate and fall below mounting plane to lock in retracted position
- Available with DE-STA-CO® Toggle Lock Plus

Applications:

- Assembly & test
- Welding
- Tensioning devices

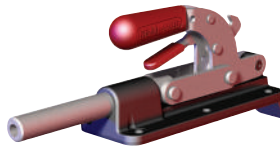
Also Available:

See page 7.1 for accessories

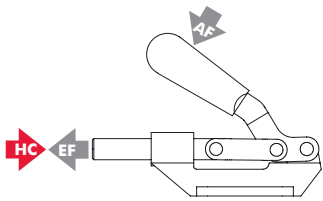
640
640-M



640-R
640-MR
with
DE-STA-CO®
Toggle Lock
Plus

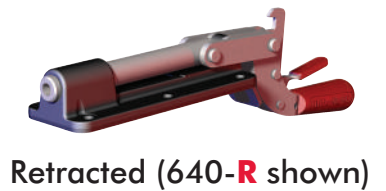
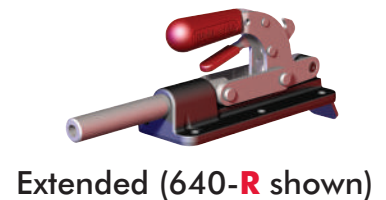
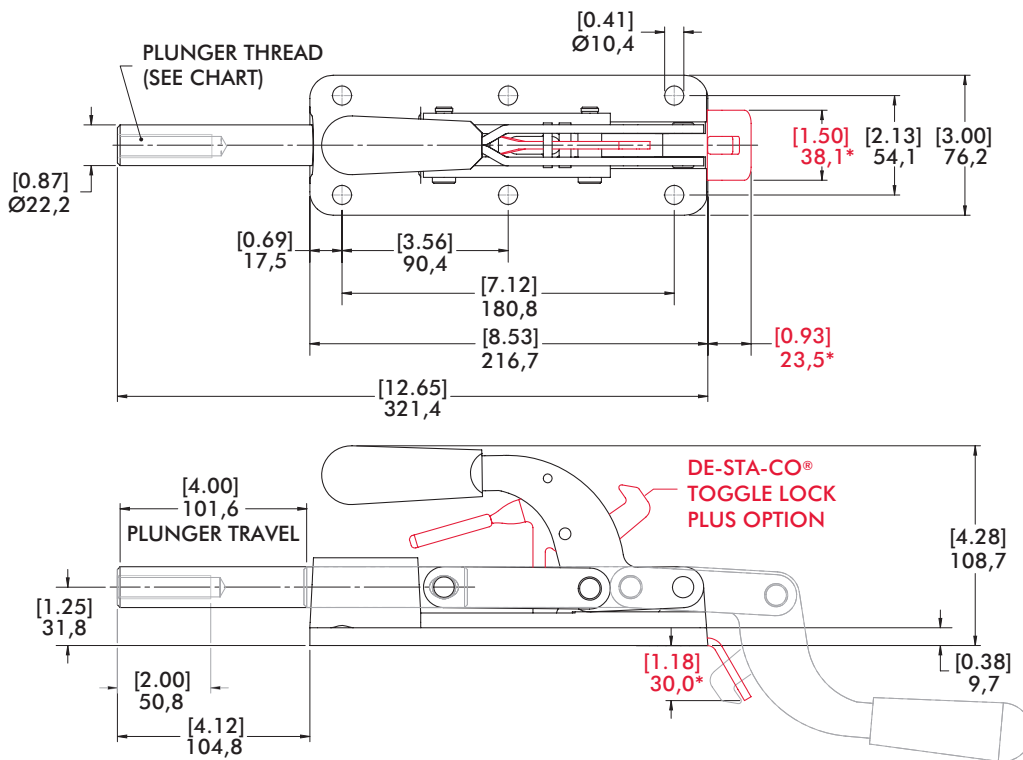


Series 640 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
640					1/2-13	220203
640-M	[7,500 lbf] 33400 N	[6.78lb] 3,08kg	35:1	[4.00] 101,6	M12	220203-M
640-R					1/2-13	220203
640-MR					M12	220203-M

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force



(* Dimensions above in RED applies to the 640-R/640-MR only

Features:

- For heavy duty push/pull clamping
- Largest of our Straight Line Action Clamps
- Forged steel base and handle
- Allow handle to rotate and fall below mounting plane to lock in retracted position

Applications:

- Assembly
- Welding
- Staking, light presswork
- Tensioning devices

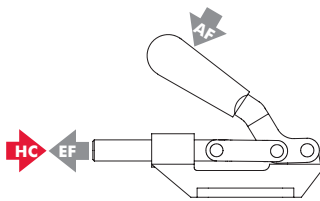
Also Available:

See page 7.1 for accessories

650
650-M

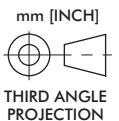
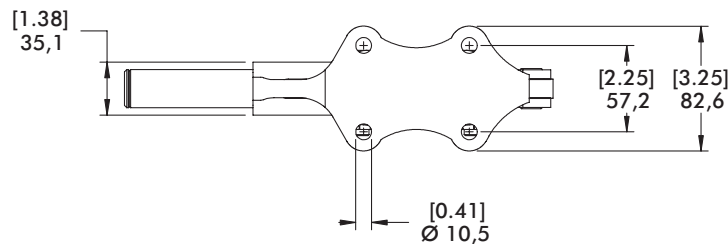
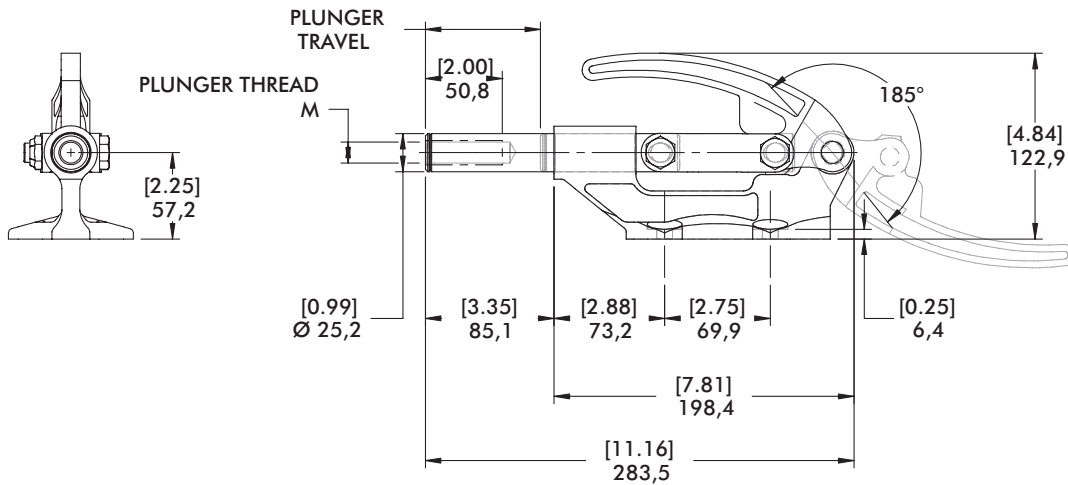


Series 650 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
650	[16,000 lbf] 71200 N	[5.69lb] 2,58kg	25:1	[3.00] 76,6	5/8-11	250203
650-M					M16	250203-M

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force



Series 95030, 95040, 95050, 95060 Product Overview

Features:

- Low profile with high holding capacities
- Cast steel base and handle
- Allow handle to rotate and fall below mounting plane to lock in retracted position

Applications:

- Assembly
- Testing
- Tensioning devices

Also Available:

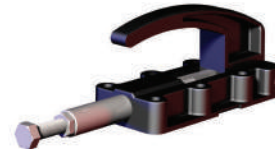
See page 7.1 for accessories

95030

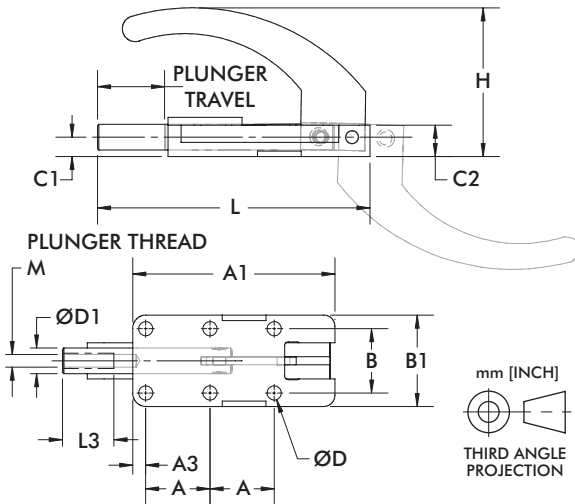
95040

95050 ⓘ

95060 ⓘ



Series 95030, 95040, 95050, 95060 Technical Information, Holding Capacities



Model	Max. Holding Capacity	Weight	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
95030	[550 lbf] 2450 N	[0.80lb] 2,58kg	[0.98] 24,9	M6	205203-M
95040	[1100 lbf] 4900 N	[1.60lb] 0,73kg	[1.50] 38,1	M8	207203-M
95050 ⓘ	[1650 lbf] 7340 N	[2.10lb] 0,95kg	[1.97] 50	M12X	220203-M
95060 ⓘ	[3960 lbf] 17600 N	[6.4lb] 2,9kg	[2.36] 60		

ⓘ This item is available upon request
HC = Holding Capacity, **EF** = Exerting Force, **AF** = Applied Force

Part No.	A	A1	A3	B	B1	C1	C2	ØD	ØD1	H	L	L3
95030	[0.98] 25	[3.09] 78,6	[0.20] 5	[0.98] 25	[1.40] 35,5	[0.30] 7,5	[0.48] 12,2	[0.22] 5,5	[0.39] 10	[2.28] 57,8	[4.17] 106	[0.79] 20
95040	[1.38] 35	[4.35] 110,6	[0.34] 8,6	[1.38] 35	[2.00] 50,7	[0.39] 10	[0.72] 18,3	[0.26] 6,5	[0.55] 14	[2.82] 71,7	[5.86] 148,9	[0.98] 25
95050 ⓘ	[1.77] 45	[5.54] 170,6	[0.40] 10,1	[1.77] 45	[2.60] 66	[0.55] 14	[0.94] 23,8	[0.33] 8,4	[0.75] 19	[3.21] 81,5	[7.48] 189,9	[1.57] 40
95060 ⓘ	[2.17] 55	[6.73] 170,9	[0.40] 10,1	[2.17] 55	[2.99] 76	[0.63] 16	[1.08] 27,4	[0.41] 10,5	[0.87] 22	[3.55] 90,2	[9.17] 233	[1.57] 40

ⓘ This item is available upon request Dimensions shown mm [inch]



Series 5130, 5131, 5133 Product Overview

Features:

- Reverse action allows the handle to stay out of the work zone
- Hardened steel pivot pins and bushings provide long life
- Black oxide finish with hardened plungers

Applications:

- Welding fixtures
- Assembly fixtures
- Light machining



5131/-M
Flanged Base

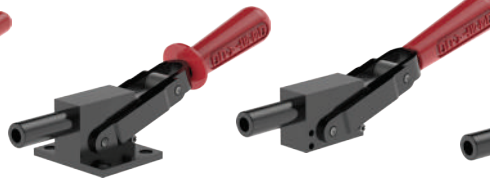
5131-B/-MB
Solid Base

5130/-M
Flanged Base

5130-B/-MB
Solid Base

5133/-M
Flanged Base

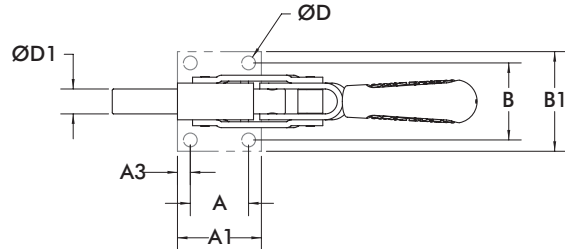
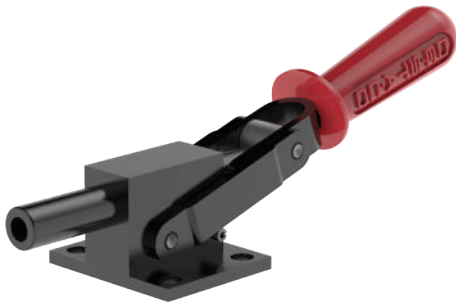
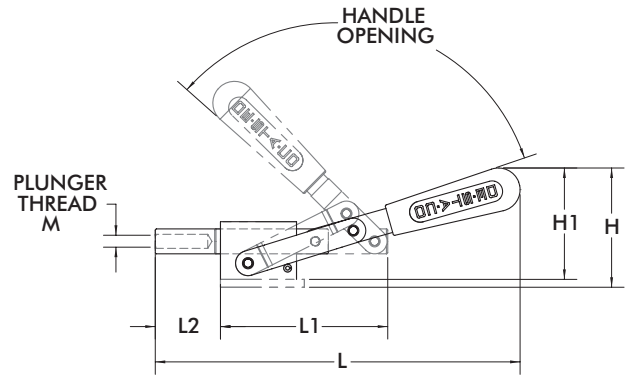
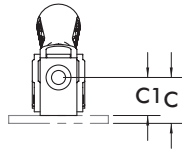
5133-B/-MB
Solid Base



Model	Max. Holding Capacity	Weight	Plunger Travel mm[in.]	Handle Opening	Plunger Thread (M)	Recommended Spindle (not supplied)
5131	[2500lbf.] 11120N	[1.12lbs] 0,51kg	[1.10] 28	113°	5/16-18	461203
5131-M					M8	461203-M
5131-B		[0.85lbs] 0,39kg			5/16-18	461203
5131-MB					M8	461203-M
5130	[5800lbf.] 25800N	[2.87lbs] 1,30kg	[1.90] 48.4	125°	1/2-13	z325203
5130-M					M12	220203-M
5130-B		[2.40lbs] 1,09kg			1/2-13	325203
5130-MB					M12	220203-M
5133	[4600lbf.] 20460N	[3.12lbs] 1,41kg	[3.18] 81	139°	1/2-13	325203
5133-M					M12	220203-M
5133-B		[2.65lbs] 1,20kg			1/2-13	325203
5133-MB					M12	220203-M

Series 5130, 5131, 5133 Standard Clamp Dimensions

mm [INCH]
THIRD ANGLE PROJECTION



Model	A	A1	A3	B	B1	B3	C	D	D1	H	L	L1	L2
5131	[1.13]	[1.73]	[0.30]	[1.87]	[2.52]	[1.14]	[1.10]	[0.34]	[0.51]	[3.15]	[7.37]	[3.22]	[1.15]
5131-M	28,7	44	7,7	47,6	64,0	29,0	28,0	8,6	13,0	80,0	187,2	81,7	29,3
5130										[3.63]	[11.11]	[5.20]	[1.96]
5130-M	[1.75]	[2.52]	[0.38]	[2.99]	[2.99]	[1.57]	[1.38]	[0.41]	[0.75]	92,3	282,4	132,0	49,7
5133	44,5	64,0	9,8	76	75,9	40	35,1	10,5	19,1	[4.22]	[12.89]	[6.58]	[3.23]
5133-M										107,2	327,3	167,0	82,2

Model	B3	C1	D1	H1
5131-B	[1.14]	[0.87]	[0.51]	[2.91]
5131-MB	29,0	22,1	13,0	74,0
5130-B				[3.40]
5130-MB	[1.57]	[1.14]	[0.75]	86,3
5133-B	39,9	29,0	19,1	[3.98]
5133-MB				101,2

ⓘ This item is available upon request

Series 5150 Product Overview

Features:

- Square plunger provides positive radial location
- Reverse action allows the handle to stay out of the work zone
- Hardened steel pivot pins and bushings provide long life
- Black oxide finish with hardened plungers

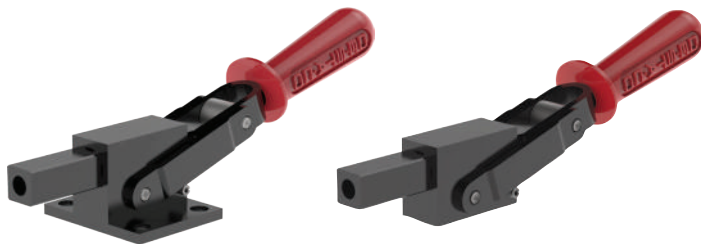
Applications:

- Welding fixtures
- Assembly fixtures
- Light machining



5150/5150-M
Flanged Base

5150-B/5150-M
Solid Base

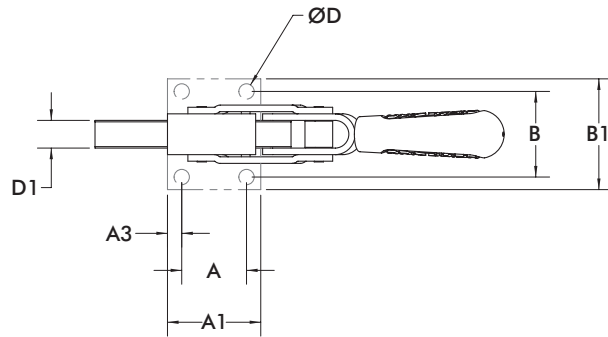
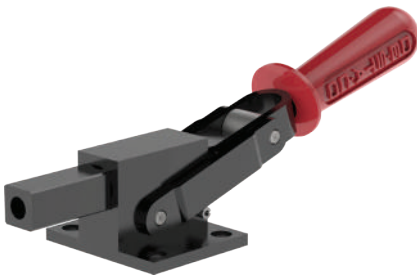
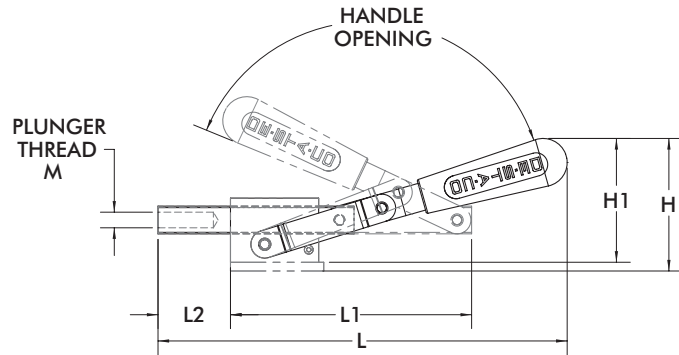
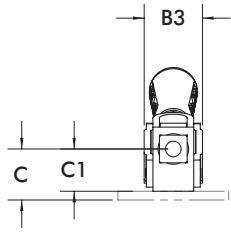


Series 5150 Technical Information

Model	Max. Holding Capacity	Weight	Plunger Travel mm[in.]	Handle Opening	Plunger Thread (M)	Recommended Spindle (not supplied)
5150	[5800lbf.] 25800N	[1.12lbs] 0,51kg	[1.91] 48.4	125°	1/2-13	461203
5150-M					M12	461203-M
5150-B		[0.85lbs] 0,39kg	1/2-13		461203	
5150-MB			M12		461203-M	

Series 5150 Standard Clamp Dimensions

mm [INCH]
THIRD ANGLE PROJECTION



Model	A	A1	A3	B	B1	B3	C	C1	D	D1
5150	[1.75]	[2.52]	[0.38]	[2.31]	[2.99]		[1.38]	--	[0.41]	
5150-M	44,5	64,0	9,8	58,7	76	[1.57]	35	--	10,5	[0.75]
5150-B	--	--	--	--	--	40	--	[1.14]	--	19,1
5150-MB	--	--	--	--	--		--	29	--	

Model	H	H1	L	L1	L2	M
5150	[3.63]	--				1/2-13
5150-M	92,3	--	[11.25]	[5.24]	[1.96]	M12
5150-B	--	[3.40]	286	133,1	49,7	1/2-13
5150-MB	--	86,3				M12

Series 602, 604, 624 Product Overview

Features:

- Versatile and compact straight line action clamps
- Threaded body for through hole mounting
- **-SS** models are stainless steel

Applications:

- Assembly
- Checking fixtures
- Welding fixtures
- Tensioning devices

Also Available:

See page 7.1 for accessories

602
602-**SS**
602-**MM**
602-**MMSS**



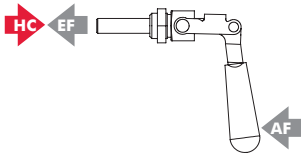
604
604-**SS**
604-**MM**
604-**MMSS** ⓘ



624
624-**SS**
624-**MM**



Series 602, 604, 624 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel (M)	Plunger Thread	Spindle (Recommended)	Mounting Nut (Supplied)
602	[200 lbf] 900 N	[0.12lb] 0,05kg	31:1/28:1	[0.75] 19	1/4-20	205203	602105
602-SS					202943	602905	
602-MM					M6	205203-M	602105-M
602-MMSS					202943-M	602905-M	
604	[300 lbf] 1330 N	[0.44lb] 0,20kg	45:1/26:1	[1.50] 38	5/16-18	207203	606104
604-SS	[400 lbf] 1780 N					--	606904
604-MM	[300 lbf] 1330 N				M8	207943	606104-M
604-MMSS ⓘ	[400 lbf] 1780 N				207943-M (included)	606904-M	
624	[700 lbf] 3110 N	[1.63lb] 0,74kg	49:1/21:1	[2.63] 66	3/8-16	210203	624105
624-SS						237943 (included)	624905
624-MM					M10	210203-M	624105-M

ⓘ This item is available upon request **HC** = Holding Capacity, **EF** = Exerting Force, **AF** = Applied Force

Series 602, 604, 624 Standard Clamp Dimensions 602/604/624/-SS/-MM/-MMSS

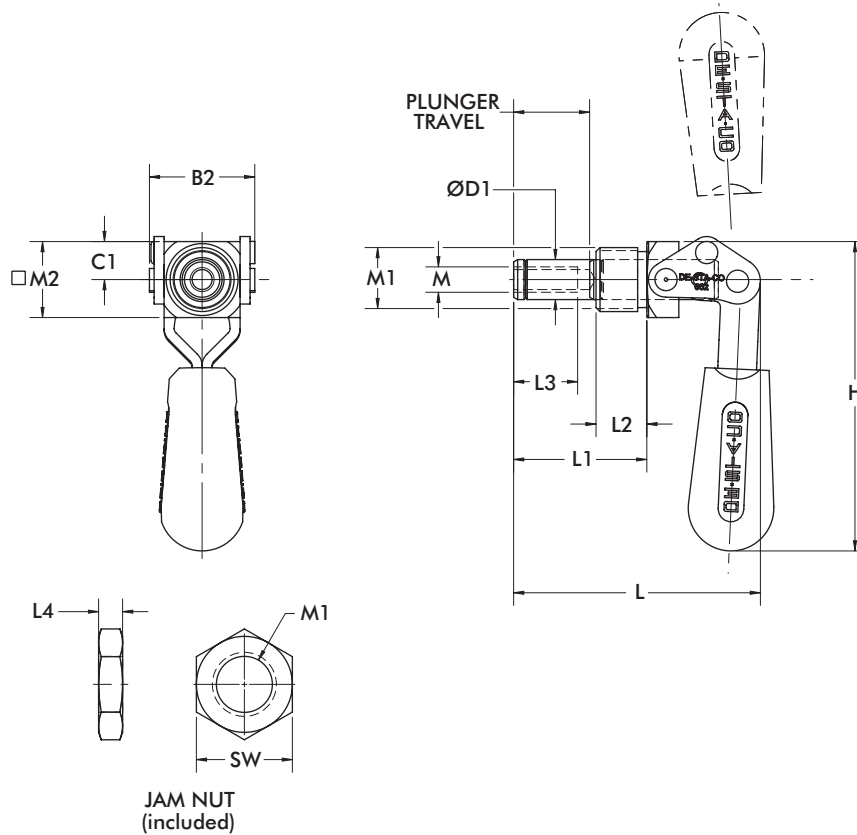
602
602-SS
602-MM
602-MMSS



604
604-SS
604-MM
604-MMSS ⓘ



624
624-SS
624-MM



Model no.	B2	C1	ØD1	H	L	L1	L2	L3	L4	M1	M2	SW
602			[0.39] 10									
602-SS	[1.04]	[0.37]	[0.37] 9,5	[3.13]	[2.43]	[1.31]	[0.50]	[0.63]	[0.25]	5/8-18	[0.75]	[0.88]
602-MM	26,3	9,5		80	61,7	33,3	12,7	16	6,4	M16x1.5	19	[0.87]
602-MMSS			[0.39] 10									22
604												
604-SS	[1.30]	[0.44]	[0.44]	[4.16]	[4.27]	[2.18]	[1.82]	[1.00]		3/4-16	[0.88]	[1.00]
604-MM	33	11	11	106	108,5	55	46	25		M20x1.5	22	[1.18]
604-MMSS									[0.25] 6			30
624												
624-SS	[1.81]	[0.75]	[0.62]	[5.60]	[6.68]	[3.62]	[3.24]	[1.25]		1-14	[1.25]	[1.50]
624-MM	46	19	16	142	170	92	82	32		M27x2	32	[1.61]
												41

Dimensions shown mm [inch]

Series 6004 Product Overview

Features:

- Similar in size to Model 604, with a solid body
- 50% more holding capacity than 604
- May be mounted through a hole or in a tapped hole.
- Locks over center in the extended and retracted position

Applications:

- Assembly
- Checking fixtures
- Welding fixtures
- Tensioning devices

Also Available:

See page 7.1 for accessories

Covered under one year or more U.S./International Patents

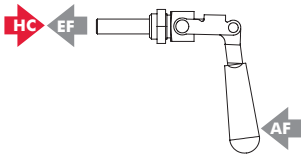
6004
6004-MM



6004-R
6004-MMR
with
DE-STA-CO®
Toggle Lock
Plus

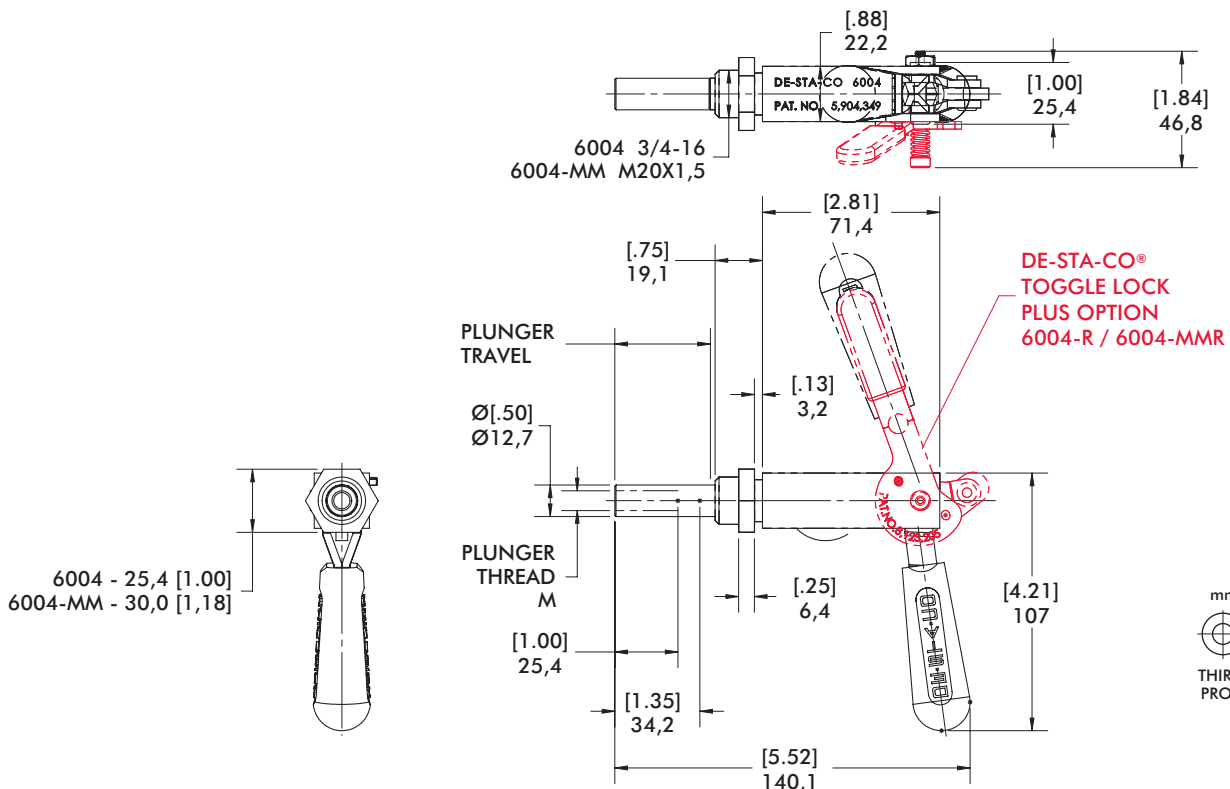


Series 6004 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing)	Plunger Travel	(M) Plunger Thread	Spindle (Recommended)	Mounting Nut (Supplied)
6004	[450 lbf] 2000 N	[0.81 lb] 0,37kg	14.4:1	38 [1.50]	5/16-18	207203	606104
6004-MM					M8	207203-M	606104-M
6004-R		[0.89 lb] 0,40kg			5/16-18	207203	606104
6004-MMR					M8	207203-M	606104-M

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force

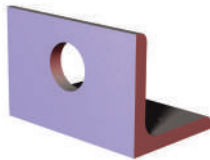


Mounting Plates for Series 602, 604, 624, 6004 Product Overview

Features:

- Mounting accessories for Threaded Body Straight Line Action Clamps

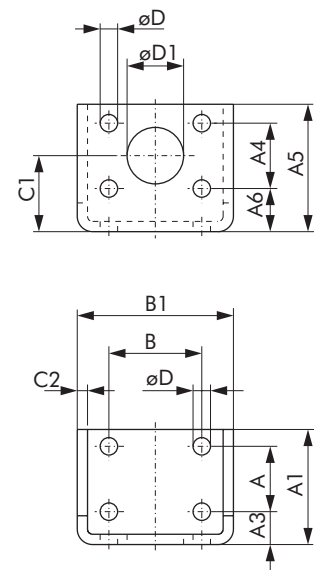
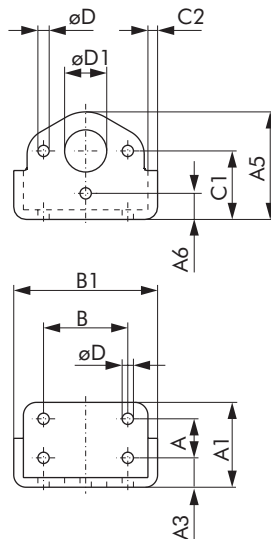
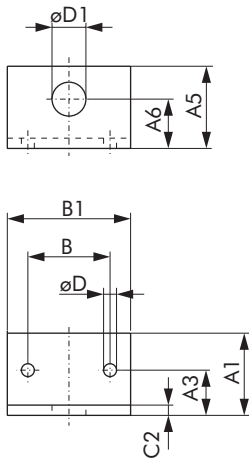
602106-M



604106,
604106-M



624106-M



Item Number	For Use With	A	A1	A3	A4	A5	A6	B	B1	C1	C2	D	D1
602106-M	602 602-MM	--	[1.57] 40	[0.87] 22	--	[1.57] 40	[0.94] 24	[1.57] 40	[2.36] 60	--	[0.20] 5	[0.25] 6,3	[0.65] 16,5
604106	604 6004	[0.75] 19,1	[1.60] 40,6	[0.55] 14	--	[2.05] 52,1	[0.50] 12,7	[1.62] 41,1	[2.80] 71,1	[1.30] 33	[0.19] 4,7	[0.22] 5,6	[0.75] 19,1
604106-M	604-MM 6004-MM												[0.81] 20,5
624106-M	624 624-MM	[1.25] 31,8	[2.20] 56	[0.63] 16	[1.25] 31,8	[2.44] 62	[0.83] 21	[1.78] 45,2	[2.99] 76	[1.46] 37	[0.20] 5	[0.33] 8,5	[1.08] 27,5

Dimensions shown mm [inch]

Series 614 Product Overview

Features:

- Single hole threaded mount or side mount
- Precision hardened and ground plunger is designed for anti-rotation under torsional loads
- Locks in the extended or retracted position, internal locking in the push direction

Applications:

- Assembly
- Checking fixtures
- Locaters and positioners

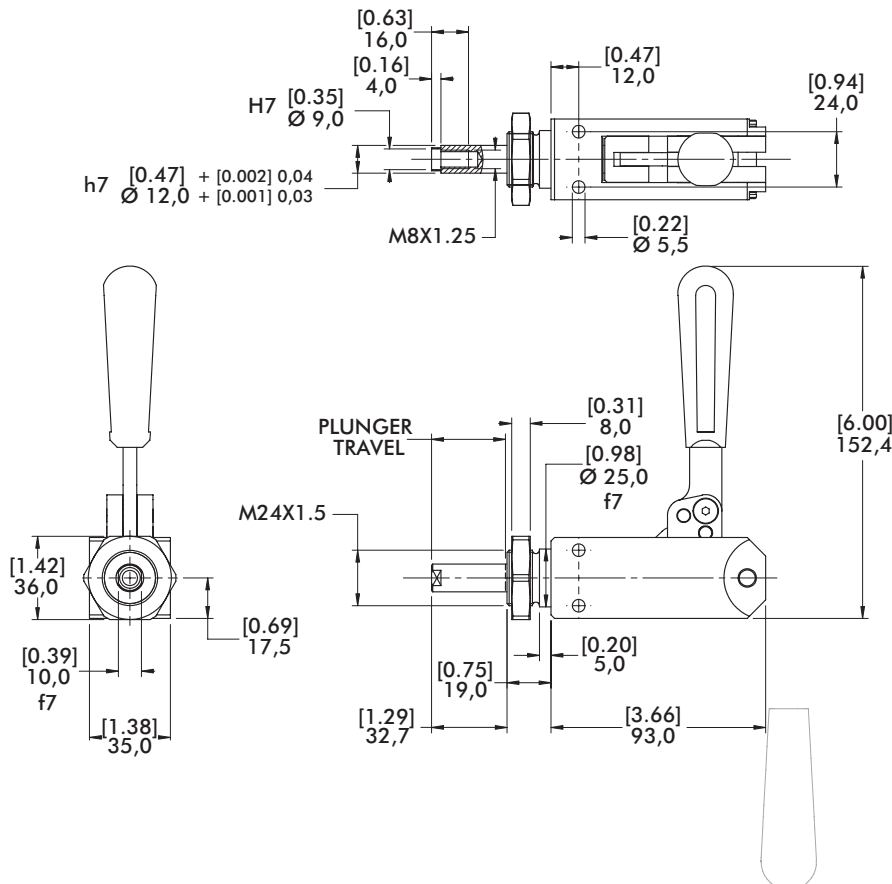
Also Available:

See page 7.1 for accessories



Series 614 Technical Information, Holding Capacities, Standard Clamp Dimensions

Model	Max. Holding Capacity	Weight	Plunger Travel	Plunger Thread	Mounting Nut (Supplied)
614-M	[1125 lbf] 5000 N	[1.81lb] 0,82kg	[1.26] 32	M8	614-1-10



Series 670, 675, 690, 695 Product Overview

Features:

- Precision clamping for high production
- Adjustable collet-type bushing minimizes radial plunger movement
- Plunger has a flat surface for anti rotation
- Pre-load nut and hold open device included

Applications:

- Assembly
- Welding

670-1MBPLS



675-1MBPLS



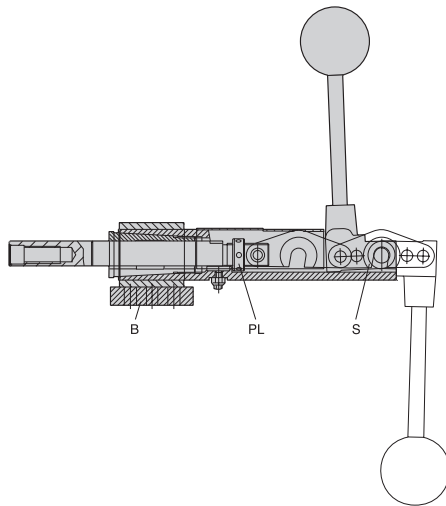
690-1MBPLS



695-1MBPLS ⓘ



Series 670, 675, 690, 695 Technical Information, Holding Capacities



Model	Max. Holding Capacity	Weight	Plunger Travel	Plunger Thread
670-1MBPLS	[2400 lbf] 10680 N	[4.2lb] 1,91kg	[2.25] 57,2	M12
675-1MBPLS		[4.0lb] 1,81kg	[1.10] 28	
690-1MBPLS	[5000 lbf] 22240 N	[8.2lb] 3,72kg	[3.00] 76,2	M16
695-1MBPLS ⓘ		[7.2lb] 3,27kg	[1.50] 38,1	

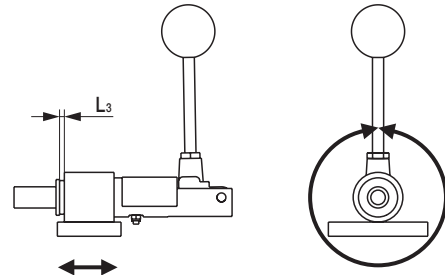
ⓘ This item is available upon request

The unique feature of these clamps is the collet-type bushing that can be adjusted to eliminate plunger end movement after long repeated use. The plunger also has a flat which prevents lateral movement and allows offset piloting and holding. The plunger is drilled and tapped for threaded spindles or custom fixturing.

The adjustable pre-load nut (PL) can be used to lock the clamp against itself when not under pressure and therefore prevent opening when mounted vertically. The spring hold-open device (S) prevents the clamp from accidentally closing.

The mounting base (B) is supplied disassembled with the four models, to enable welding the base and the main assembly in any handle position.

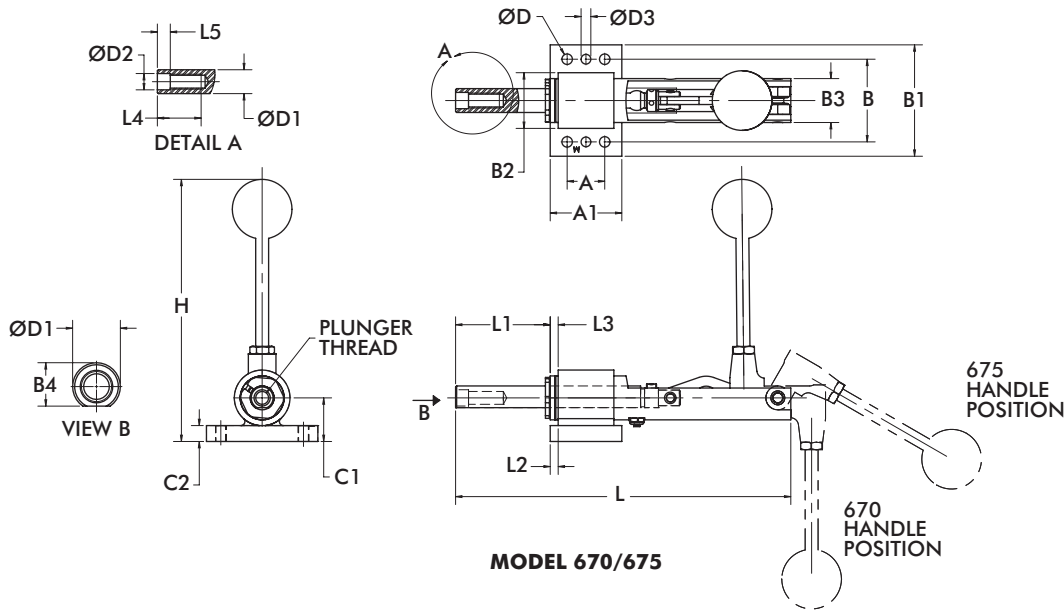
Series 675 and 695 (shorter stroke) reach the over-center position only when clamping. Series 670 and 690 (longer stroke) lock in both the extended and retracted position.



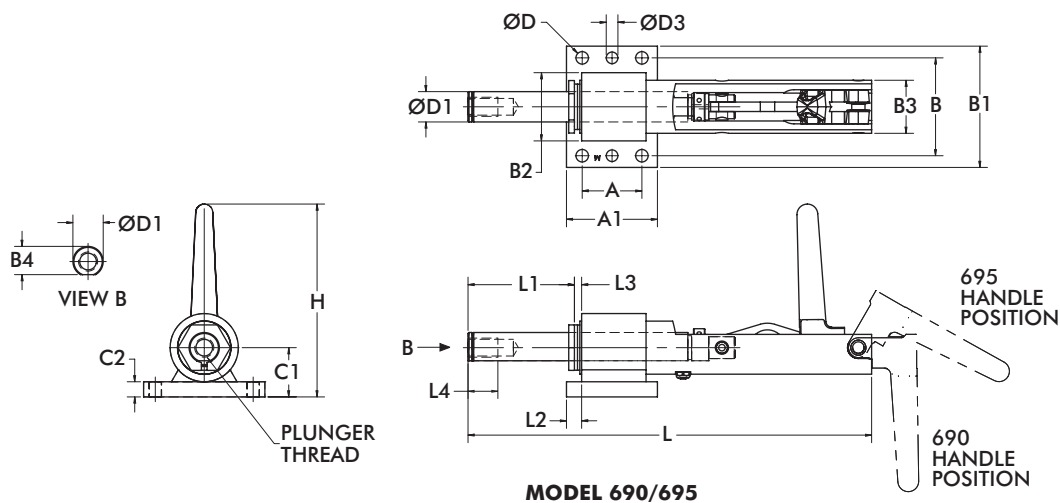
Welding range L_3 axial
0-8mm [0-0.31in.]

Welding range radial 360°

Series 670, 675, 690, 695 Standard Clamp Dimensions



MODEL 670/675



MODEL 690/695

Model	A	A1	B	B1	B2	B3	B4	C1	C2	D	D1	D2H7	D3
670-1MBPLS	[1.18]	[2.24]	[2.60]	[3.50]	[1.75]	[1.38]	[0.68]	[1.37]	[0.50]	[0.33]	[0.75]	[0.51]	[0.31]
675-1MBPLS	30	57	66	89	44,5	35	17,3	34,8	12,7	8,4	19	13	7,8
690-1MBPLS	[1.97]	[3.00]	[3.23]	[4.00]	[2.25]	[1.75]	[0.93]	[1.63]	[0.50]	[0.41]	[1.00]	--	[0.39]
695-1MBPLS	50	76,2	82	101,6	57,2	44,4	23,7	41,3	12,7	10,5	25,4	--	9,8

Model	H	L	L1	L2	L3	L4	L5
670-1MBPLS	[8.11]	[10.55]	[2.97]	[0.25]	[0-0.31]	[1.38]	[0.41]
675-1MBPLS	206	[7.68]	[1.74]	6,4	0-8	35	10,3
690-1MBPLS	[6.37]	[13.31]	[3.69]	[0.50]	[0-0.31]	[0.98]	--
695-1MBPLS	162	[9.45]	[2.25]	12,7	0-8	25	--



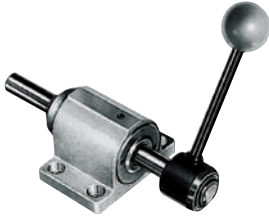
FO Series

Type of Mounting:

- Foot mount

Type of Actuation:

- Hand wheel or hand lever (one-handed operation)
- Locking lever and Plunger (two-handed operation)



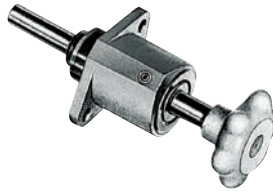
FL Series

Type of Mounting:

- Flange mount

Type of Actuation:

- Locking lever or hand wheel (one-handed operation)
- Locking lever and Plunger (two-handed operation)



G Series

Type of Mounting:

- Through hole mount

Type of Actuation:

- Locking lever and Plunger (two-handed operation)
- Hand wheel or hand lever (one-handed operation)



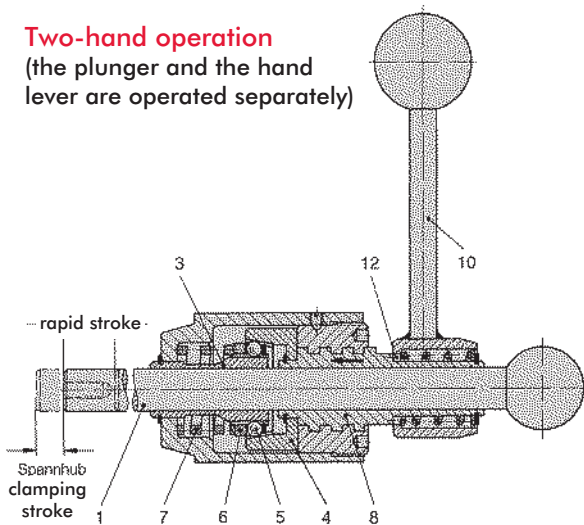
Variable Stroke Straight-Line Action Technical Information

		Model	Holding Capacity max. [lbs] N	Page	Accessories	Model	Page
Flanged base		FO-082-40	[335] 1500	4.3	Plunger 	12/100	4.4
		FO-120	[675] 3000			12/200	
FO-121-45		[675] 3000	12/300				
	FO-122-45	[675] 3000	16/100				
	FO-160	[2020] 9000	16/200				
	FO-161-60	[2020] 9000	16/300				
	FO-162-60	[2020] 9000	16/400				
	FO-220	[4045] 18000	16/500				
	FO-221-80	[4045] 18000	22/100				
			22/200				
			22/300				
Front flange		FL-120	[675] 3000			4.7	
		FL-121-45	[675] 3000	K612			
FL-122-45		[675] 3000	K816				
	FL-160	[2020] 9000	K1222				
	FL-161-60	[2020] 9000					
	FL-162-60	[2020] 9000					
Threaded mount		G-082-40	[335] 1500	4.3			
		G-120	[675] 3000				
	G-121-45	[675] 3000					
	G-122-45	[675] 3000					

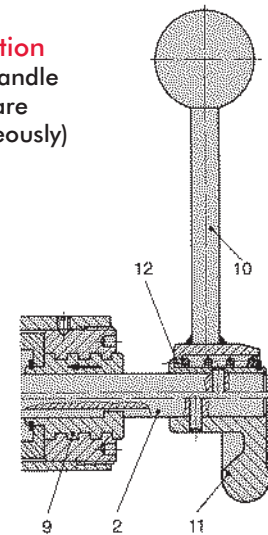
Model	Holding Capacity max. [lbs] N	Page
F-160	[4,040] 18000	4.3



Two-hand operation
(the plunger and the hand lever are operated separately)



One-hand operation
(the plunger and handle lever/hand wheel are operated simultaneously)



DE-STA-CO's variable stroke straight-line clamps are used in applications where workpiece thicknesses and workpiece tolerances vary. These clamps are suitable for clamping between ribs and hollow spaces difficult to reach.

Compact design and different types of operation allow for application of the straight-line clamps in fixtures for mass production as well as for single part production.

Mounting types

- Foot base (FO Series)
- Flange mount (FL Series)
- Through hole mount (G Series)

Type of operation

- Two hand operation
- The hand lever (10) and the plunger (1) are separate. The hand lever is connected to the clamping mechanism. The plunger can be removed from the clamp
- One-hand operation
- The hand lever (10) or the hand wheel (11) and the plunger (2) are linked. The plunger is retained within the clamp.

Clamping operation

The plunger (1) or (2) which is guided within the clamp body contacts the workpiece. By rotating the hand lever (10) or the hand wheel (11) clock-wise the clamping stroke, S1 is engaged and the plunger is tightly gripped by the slotted clamping sleeve (3).

Operating principle

The hand lever's (10) clock-wise rotation causes the threaded sleeve (8) and the conical sleeve (4) to which it is connected to move in the direction of the arrow shown in the drawing. The conical sleeve produces a force-locking connection between the slotted clamping sleeve (3) and the plunger by means of the ball bearings (5) located at the clamping sleeve's perimeter.

Due to the force-locking connection, the plunger rotates and produces the clamping stroke S1. The plungers rotation may be compensated for by means of a swivel hold-down piece.

The clamping strokes S1 specified in this catalog were measured with no opposing forces present while measurements were taken. When clamping this product against a workpiece, the clamping stroke S1 is reduced by the force-locking connection between the plunger and the workpiece. The straight-action clamp is unlocked by turning the hand lever or the hand wheel counter-clock-wise. This method is used for both the one-hand and the two-hand operation types. This counter-clockwise rotation makes the conical sleeve (4) and the threaded sleeve (8) or (9) move backward. The pressure spring (7) pushes back the relieved ball bearings (5) via the pressure ring (6).

The force-locking connection between the slotted clamping sleeve and the plunger can be moved freely again. Straight-line clamps which are two-hand operated can also be applied to pull actions when the plunger is inserted in the clamp's housing in the opposite direction. On the one hand operated clamp, the rotation inducing the clamping stroke S1 is directly transmitted from the plunger (2) or the hand wheel to the threaded sleeve (9) via a groovespring connection. The clamping and unclamping operations are executed in the same way as described before.

Handling

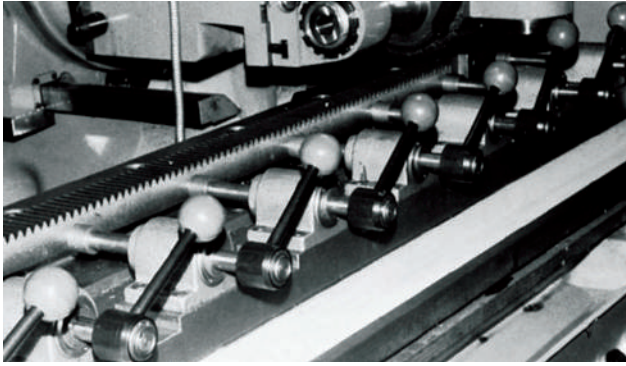
To change the position of the handle while in the clamped or the unclamped position, pull the hand lever off its spline (12) and set it in the desired position.

Important

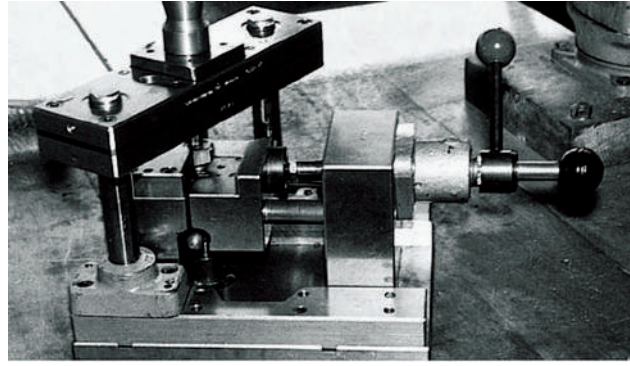
The holding forces specified in the catalog refer to the maximum load exerted on the clamp by counter-forces. For details concerning the clamping force FS exerted on the workpiece by the clamp and depending on the operation force FB (manual force), please see the chart on the next page.

The clamping force is proportional to the operation force. The achieved clamping force must not exceed the maximum holding force.

As the straight-line clamps, with the exception of the F-160 model, are designed only for axial load, we recommend to use an additional radial support for the plunger in the event of side load.



Model FO-161/60 on a milling machine



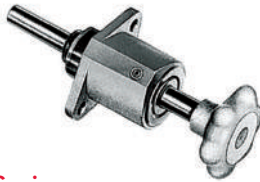
Model FL-160 with plunger 16/100 on a punching fixture

Different Designs



FO Series

Mounting type: flange base foot mount
Operating method: one-hand or two-hand operation



FL Series

Mounting type: front flange mount
Operating method: one-hand or two-hand operation



G Series

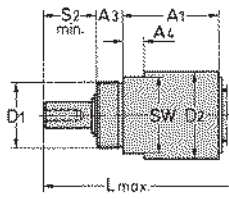
Mounting type: through hole mount
Operating method: one-hand or two-hand operation

Mounting type	Operating method			Model	Max. holding capacity [lbs.] N	Clamping force F _s with an operating force F _B		Rapid stroke S [mm]	Max. clamping stroke S1 [mm]	Weight	
	Two-hand operation Plunger and hand lever	One-hand operation Hand lever	One-hand operation Hand wheel			FB [lbs.] N	FS [lbs.] N			[lbs.]	Kg
Foot mount	 	•		•	FO-082-40	[335] 1500	[22] 100	[100] 450	40	2,5	[0.72] 0,325
		•			FO-120¹⁾	[675] 3000		[425] 1900	100, 200, 300	3	[1.19] 0,540
			•		FO-121-45	[675] 3000		[425] 1900	45	3	[1.47] 0,665
				•	FO-122-45	[675] 3000		[100] 450	40	3	[1.34] 0,610
	 	•			FO-160¹⁾	[2020] 9000		[560] 2500	100, 200, 300	4	[2.73] 1,240
			•		FO-161-60	[2020] 9000		[560] 2500	60	4	[3.40] 1,540
				•	FO-162-60	[2020] 9000		[190] 850	60	4	[3.15] 1,430
		•			FO-220¹⁾	[4045] 18000		[675] 3000	100, 200, 300	4	[5.85] 2,655
Flange mount	 	•			FL-120¹⁾	[675] 3000	[425] 1900	100, 200, 300	3	[1.07] 0,485	
			•		FL-121-45	[675] 3000	[425] 1900	45	3	[1.34] 0,610	
	 			•	FL-122-45	[675] 3000	[100] 450	40	3	[1.21] 0,550	
		•			FL-160¹⁾	[2020] 9000	[560] 2500	100, 200, 300	4	[2.49] 1,130	
Through hole mount	 			•	FL-161-60	[2020] 9000	[560] 2500	60	4	[3.15] 1,430	
				•	FL-162-60	[2020] 9000	[190] 850	60	4	[2.92] 1,325	
		•		•	G-082-40	[335] 1500	[100] 450	40	2,5	[0.66] 0,300	
			•		G-120¹⁾	[675] 3000	[425] 1900	100, 200, 300	3	[1.01] 0,470	
			•	G-121-45	[675] 3000	[425] 1900	45	3	[1.31] 0,595		
		•	G-122-45	[675] 3000	[100] 450	40	3	[1.18] 0,335			



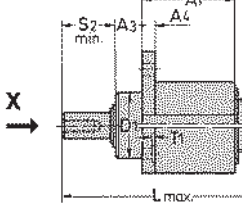
Two-hand operation (the plunger and the hand lever are operated separately)

Through hole mount

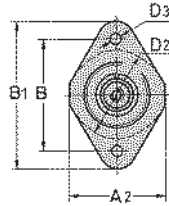


Part no. G-120/--

Flange mount

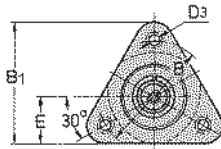


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Part no. FL-120/--

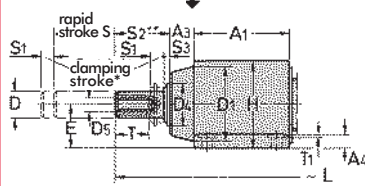
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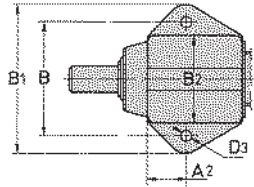
Part no. FL-160/--

Foot mount

*without counter-force effect

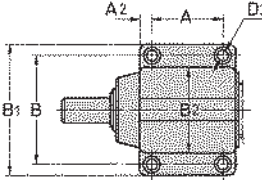


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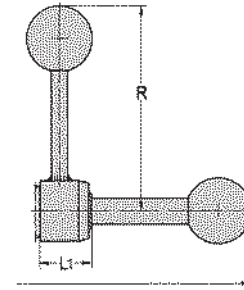


Part no. FO-120/--

View "Y"

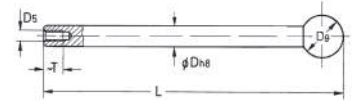


Part no. FO-160/--
FO-220/--



Accessories

(order separately)



Plunger

Part no. Ø length	For rapid stroke S	Weight ~ [lbs.] kg	For clamps
12/100	100	[0.30] 0,135	FO-120
12/200	200	[0.62] 0,280	FL-120
12/300	300	[0.82] 0,370	G-120
16/100	100	[0.88] 0,400	FO-160
16/200	200	[1.10] 0,500	FL-160
16/300*	300	[1.54] 0,700	
22/100	100	[2.20] 1,000	FO-220
22/200	200	[2.40] 1,090	
22/300	300	[3.06] 1,390	

*400 and 500 mm lengths available upon request.

Important

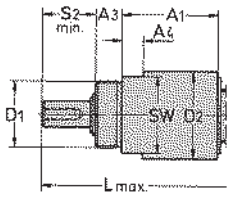
The straight-line clamps are designed only for **axial load**. In case of side load, we recommend an additional radial support of the plunger.

Mounting type	Part no. without plunger	Available rapid strokes S (order plunger separately)	A	A1	A2	A3	A4	A8	B	B1	B2	Dh8	D1	D2	D3	D4
Foot mount	FO-120	100, 200, 300	-	44	19	12	6,3	8,5	52	68	40	12	35	-	6,5	20
	FO-160	100, 200, 300	40	62	11	12	12	10	70	90	52	16	46	-	9	25
	FO-220	100, 200, 300	50	75	13	20	15	12	90	115	69	22	60	-	11	36
Flange mount	FL-120	100, 200, 300	-	44	44	12	6	8,5	52	68	-	12	30f7	40	6,5	20
	FL-160	100, 200, 300	-	60	-	14	14	10	68	73	-	16	40f7	52	9	25
Through hole mount	G-120	100, 200, 300	-	44	-	12	10	8.5	-	-	-	12	M30 x1,5	40	-	20

Mounting type	Part no. without plunger	D5	D6	E	E1	H	L with rapid strokes:			L1	R	S2	S3	SW	SW1	T	T1	T3
							~	100	200									
Foot mount	FO-120	M6	30	20	12,5	42	228	328	428	24	95	2,5	2,5	-	11	12	-	10
	FO-160	M8	35	30	14,8	58	280	380	480	33	130	3	3	-	13	15	1	14
	FO-220	M12	40	35	19,5	71	295	395	495	35	197	3	3	-	17	25	1	18
Flange mount	FL-120	M6	30	-	12,5	-	228	328	428	24	95	2,5	2,5	-	11	12	-	10
	FL-160	M8	35	28	14,8	-	280	380	480	33	130	3	3	-	13	15	1	14
Through hole mount	G-120	M6	30	-	12,5	-	228	328	428	24	95	2,5	2,5	35	11	12	-	12

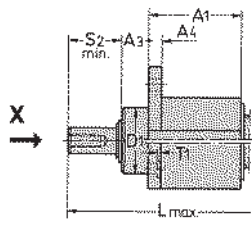
One-hand operation (the plunger and the hand wheel are operated simultaneously)

Through hole mount

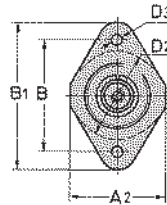


Part no. G-082/40
G-122/45

Flange mount

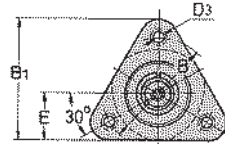


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Part no. FL-122/45

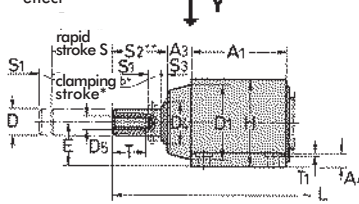
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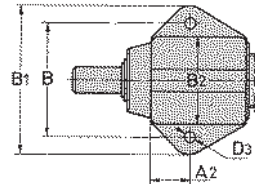
Part no. FL-162/60

Foot mount

*without counter-force effect

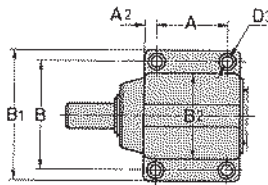


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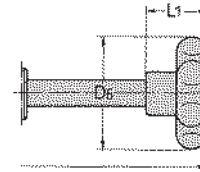


Part no. FO-082/40
FO-122/45

View "Y"



Part no. FO-162/60



Important
The straight-line clamps are designed only for axial load. In case of side load, we recommend an additional radial support of the plunger.

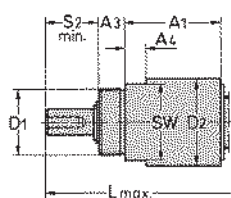
Mounting type		Part no. with plunger	A	A ₁	A ₂	A ₃	A ₄	A ₅	B	B ₁	B ₂	D _{h8}	D ₁	D ₂	D ₃	D ₄
Foot mount		FO-082-40	-	37	15,3	10	5	6	44	56	35	8	30	-	4,5	16
		FO-122-45	-	44	19	12	6,3	8,5	52	68	40	12	35	-	6,5	20
		FO-162-60	40	62	11	12	12	10	70	90	52	16	46	-	9	25
Flange mount		FL-122-45	-	44	44	12	6	85	52	68	-	12	30f7	40	6,5	20
		FL-162-60	-	60	-	14	14	10	68	73	-	16	40f7	52	9	25
Through hole mount		G-082-40	-	37	-	10	8	6	-	-	-	8	M24x1,5	35	-	16
		G-122-45	-	44	-	12	10	8,5	-	-	-	12	M30x1,5	40	-	20

Mounting type		Part no. with plunger	D ₅	D ₆	E	E ₁	H	L	L ₁	S ₂	S ₃	SW	SW ₁	T	T ₁	T ₃
Foot mount		FO-082-40	M5	40	18	9,2	36	128	26	9	2,5	-	8	8	-	8
		FO-122-45	M6	75	20	12,5	42	153	27	15	2,5	-	11	12	-	10
		FO-162-60	M8	75	30	14,8	58	196	35	18	3	-	13	15	1	14
Flange mount		FL-122-45	M6	52	-	12,5	-	153	27	15	2,5	-	11	12	-	10
		FL-162-60	M8	75	28	14,8	-	196	35	18	3	-	13	15	1	14
Through hole mount		G-082-40	M5	40	-	9,2	-	128	26	9	2,5	30	8	12	-	8
		G-122-45	M6	52	-	12,5	-	153	27	15	2,5	35	11	12	-	10



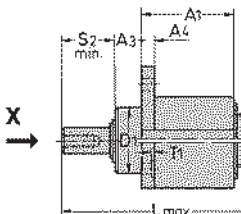
One-hand operation (the plunger and the hand lever are operated simultaneously)

Through hole mount

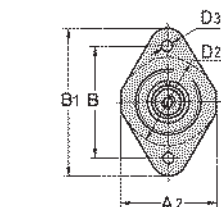


Part no. G-121/45

Flange mount

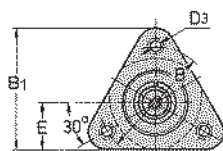


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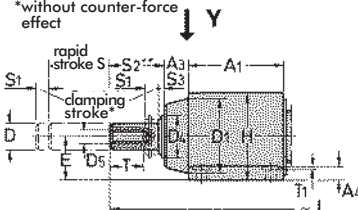
Part no. FL-121/45

View "X"

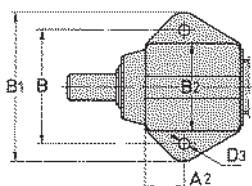


Part no. FL-161/60

Foot mount

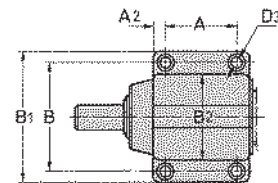


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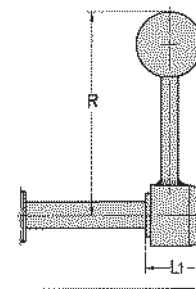


Part no. FO-121/45

View "Y"



Part no. FO-161/60
FO-221/80



Important

The straight-line clamps are designed only for **axial load**. In case of side load, we recommend an additional radial support of the plunger.

Mounting type	Part no. with plunger	A	A ₁	A ₂	A ₃	A ₄	A ₅	B	B ₁	B ₂	D _{h8}	D ₁	D ₂	D ₃	D ₄
	FO-121-45	-	44	19	12	6,3	8,5	52	68	40	12	35	-	6,5	20
	FO-161-60	40	62	11	12	12	10	70	90	52	16	46	-	9	25
	FO-221-80	50	75	13	20	15	12	90	115	69	22	60	-	11	36
	FL-121-45	-	44	44	12	6	8,5	52	68	-	12	30f7	40	6,5	20
	FL-161-60	-	60	-	14	14	10	68	73	-	16	40f7	52	9	25
	G-121-45	-	44	-	12	10	8,5	-	-	-	12	M30x1,5	40	-	20

Mounting type	Part no. with plunger	D ₅	E	E ₁	H	L	L ₁	R	S ₂	S ₃	SW	SW ₁	T	T ₁	T ₃
	FO-121-45	M6	20	12,5	42	153	27	95	15	2,5	-	11	12	-	10
	FO-161-60	M8	30	14,8	58	196	35	130	18	3	-	13	15	1	14
	FO-221-80	M12	35	19,5	71	245	40	197	20	3	-	17	25	1	18
	FL-121-45	M6	-	12,5	-	153	27	95	15	2,5	-	11	12	-	10
	FL-161-60	M8	28	14,8	-	196	35	130	18	3	-	13	15	1	14
	G-121-45	M6	-	12,5	-	153	27	95	15	2,5	35	11	12	-	10

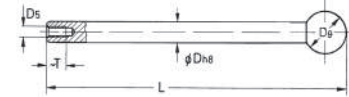


Technical features:

- High holding capacity of [4040 lbf] 18000N lbs.
- High side load capacity
- Plunger guide
- Wiper ring avoiding contamination of clamping mechanism
- Block style base provides for variable mounting
- Low weight due to the aluminium housing
- 50 mm horizontal and vertical hole pattern

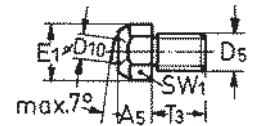
Accessories (order separately)

Plunger



Part no.	For rapid stroke S	D _{H8}	D ₅	D ₉	L	T	Weight ~ [lbs.] kg
16/100	100	16	M8	35	280	15	[0.90] 0,4
16/200	200	16	M8	35	380	15	[1.10] 0,5
16/300*	300	16	M8	35	480	15	[1.54] 0,7

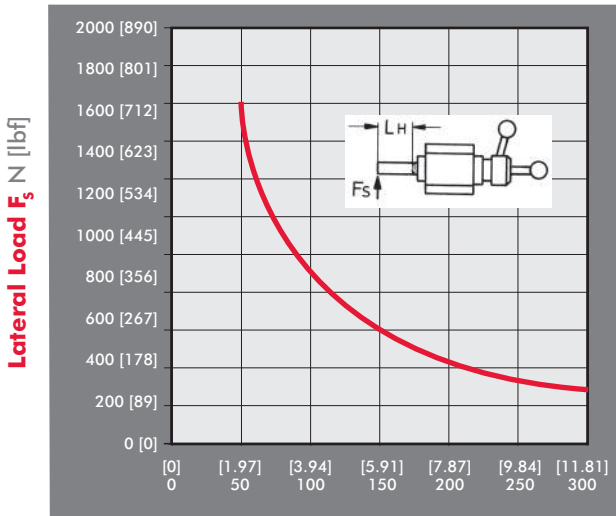
*400 and 500 mm strokes available on request



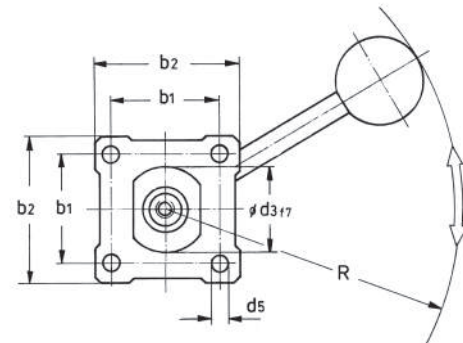
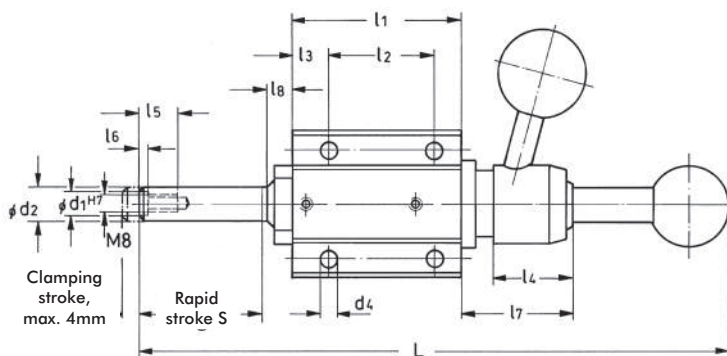
Swivel thrust pad

Part no.	Use with plunger diameter	A ₅	D ₅	D ₁₀	E ₁	T ₃	SW ₁
K-508	8	6	M5	5	9,2	8	8
K-612	12	8,5	M6	6	12,5	10	11
K-816	16	10	M8	8	14,8	14	13
K-1222	22	12	M12	9,5	19,5	18	17

Allowable side load F_s depending on the stroke length L_H



Stroke Length L_H mm [in]



Part no. without plunger	Max. holding cap. [lbs] N	F_s^* [lbs] N	~L													Weight ~ [lbs.] kg						
			b ₁	b ₂	For rapid strokes: 100			200			300			d ₁ ^{H7}	d _{2H8}		d ₃	d ₄	d ₅	R		
F-160	[4040] 18000N	[110] 500N	50	68	250	350	451	80	50	18	35	20	2	50	12	10	16	40	8,3	8,5	165	[3.30] 1,5

* F_s =exerting force at an operating force of [22lbf] 100N.

	Series	Section Page	Max. Holding Capacity N [lbf.]					Drawing Movement mm [inch]						
			0 to 2000 [0 to 450]	2000 to 4000 [450 to 900]	4000 to 6000 [900 to 1350]	6000 to 10000 [1350 to 2250]	10000 to 20000 [2250 to 4500]	20000+ [4500+]	0 to 50 [0 to 1.97]	50 to 75 [14.97 to 2.95]	75 to 100 [2.95 to 3.94]	100 to 125 [3.94 to 4.92]	125 to 150 [4.92 to 5.91]	150+ [5.91+]
	3051	5.3												
	330	5.4												
	351	5.4												
	371	5.4												
	381	5.4												
	323	5.8												
	331	5.8												
	341	5.8												
	375	5.12												
	385	5.14												
	324	5.17												
	334	5.17												
	344	5.17												
	374	5.17												
	301	5.21												
	311	5.21												
	3011	5.22												
	353	5.23												



Overall Height mm [inch]					Overall Length mm [inch]					Overall Width mm [inch]					Standard Material			Hook Style			Service Environment					
0 to 50 [0 to 1.97]	50 to 75 [1.497 to 2.95]	75 to 100 [2.95 to 3.94]	100 to 125 [3.94 to 4.92]	125 to 150 [4.92 to 5.91]	150+ [5.91+]	50 to 100 [1.97 to 3.94]	100 to 150 [3.94 to 5.91]	150 to 200 [5.91 to 7.87]	200 to 250 [5.91 to 9.84]	250 to 300 [5.91 to 11.81]	300 to 350 [11.81 to 13.78]	0 to 40 [0 to 1.57]	40 to 50 [1.57 to 1.97]	50 to 60 [1.97 to 2.36]	60 to 70 [2.36 to 2.76]	70 to 80 [2.76 to 3.15]	80 to 90 [3.15 to 3.54]	Duty Cycle	Steel	Stainless Steel	Toggle Lock Plus	Fixed	Adjustable U-Hook	Adjustable J-Hook	Normal	Harsh/Dirty
■								■									○	✓		✓				✓	✓	
■								■										○	✓	✓				✓	✓	
■								■										○	✓	✓	✓			✓	✓	
	■										■							○	✓	✓	✓			✓	✓	
	■										■							○	✓	✓	✓			✓	✓	
■						■						■						○	✓	✓	✓		✓		✓	
■								■					■					○	✓	✓	✓		✓		✓	
				■													■	●	✓		✓		✓			✓
				■													■	●	✓	✓	✓		✓			✓
		■				■							■					○	✓	✓	✓		✓		✓	
				■														○	✓	✓	✓		✓		✓	
				■														○	✓	✓	✓		✓		✓	
				■														●	✓				✓			✓
■																		○	✓	✓		✓		✓		
	■																	○	✓			✓			✓	
		■																●	✓	✓		✓				✓
			■															●	✓	✓		✓				✓

● Excellent/High ○ Fair/Medium ● Poor/Low ⊗ Not Recommended

Series 3051 Product Overview

Features:

- Safe, single handed operation
- Innovative controlled motion
- Secure toggle locking action
- Simple set-up and adjustment
- Clamp hook/arm moves and stays safely out of the way

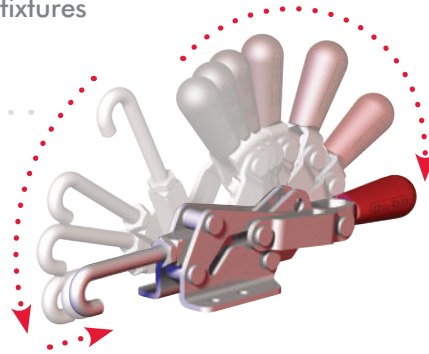
Applications:

- Molding
- Closures for doors, lids, covers
- Assembly
- Checking fixtures

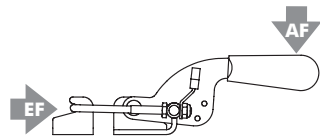
3051



3051-R

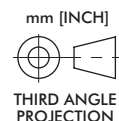
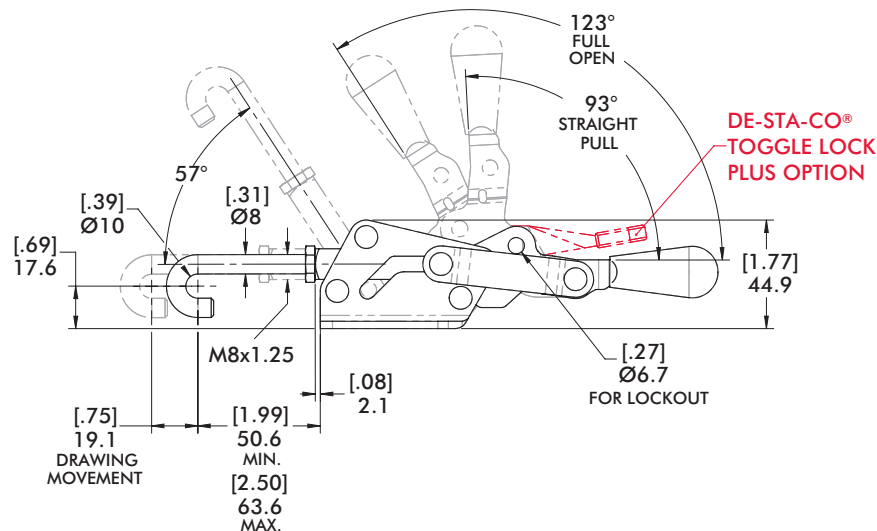
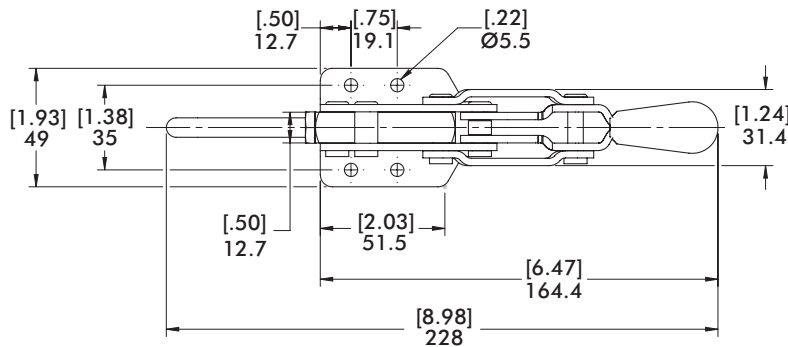


Series 3051 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF	Drawing Movement	Replacement Hook Assembly	Hook Adj. Range
3051	6700N [1500lbf]	0,50kg [1.0lb]	12:1	19,1 [0.75]	3051208	14 [0.55]
3051-R						

EF = Exerting Force, AF = Applied Force





Series 330, 351, 371, 381 Product Overview

Features:

- J-hook style latch clamps are supplied with threaded J-hooks for easy adjustment
- Supplied with patented thumb control lever for one handed operation
- DE-STA-CO® Toggle Lock Plus versions available
- Stainless steel version available as **-SS** models

Applications:

- Molding
- Closures for doors, lids, covers
- Assembly

Also Available:

- Clamps with longer hooks available Upon Request that are 25mm, 50mm, 100mm longer than standard length
- To order clamp with longer hook, add **-M-25**, **-M-50**, or **-M-100** to the end of the model. Example: 330-**M-50**

Covered under one year or more U.S./International Patents

330
330-SS



351
351-SS



351-B
351-BSS
Narrow Base



351-R
with
DE-STA-CO®
Toggle Lock
Plus



371
371-SS



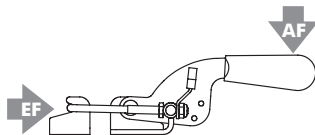
371-R
with DE-STA-CO®
Toggle Lock
Plus



381
381-SS



Series 330, 351, 371, 381 Technical Information, Holding Capacities



Model	Max. Holding Capacity	Weight	EF:AF	Drawing Movement	Replacement Hook Assembly	Hook Adj. Range
330	900 N [200 lbf]	0,11kg [0.24lb]	17:1	59,7 [2.35]	330215	7.4 [0.29]
330-SS					330915	
351	1670 N [375 lbf]	0,28kg [0.61lb]	21:1	101,6 [4.00]	351215	12.4 [0.49]
351-SS	2000 N [450 lbf]				351915	
351-B	1670 N [375 lbf]				351215	
351-BSS					351915	
351-R					351215	
371	3340 N [750 lbf]	0,69kg [1.53lb]	36:1	136,7 [5.38]	371215	23.9 [0.94]
371-SS		371915				
371-R		0,85kg [1.88lb]			371215	
381	4450 N [1000 lbf]	1,16kg [2.56lb]	37:1	155,7 [6.13]	381215	29.7 [1.17]
381-SS					381915	

EF = Exerting Force, AF = Applied Force

Series 330, 351, 371, 381 Standard Clamp Dimensions
330/351/371/381/-SS/-B/-BSS

330
330-SS



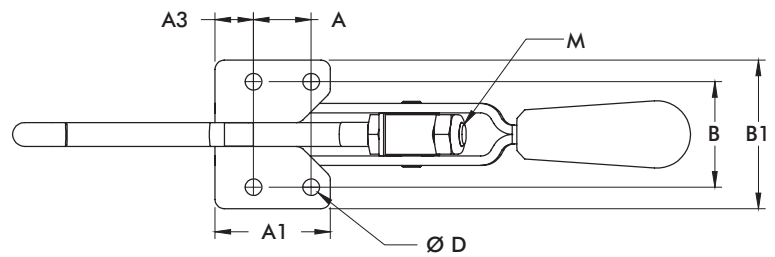
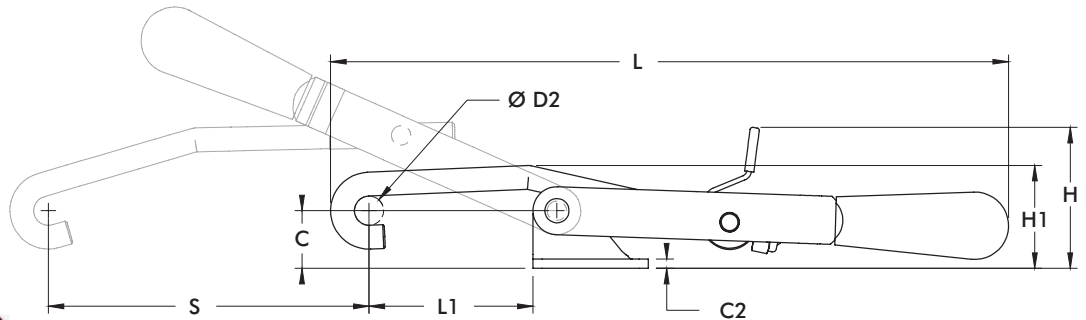
351
351-SS



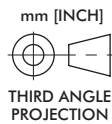
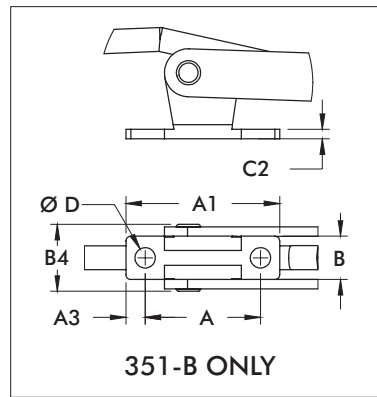
371
371-SS



381
381-SS



351-B
351-BSS
Narrow Base

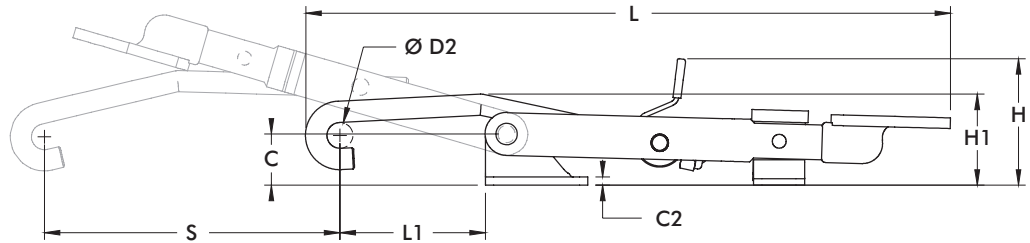


Model	A	A1	A3	B
330	[0.50]	[1.00]	[0.25]	[1.22]
330-SS	12,7	25,4	6,4	30,9
351	[0.75]	[1.50]	[0.50]	[1.37]
351-SS	19,1	38,1	12,7	34,8
351-B	[1.50]	[2.00]	[0.25]	[0.56]
	38,1	38,1	6,4	14,3
371	[1.25]	[1.94]	[0.34]	[1.94]
371-SS	31,8	49,2	8,7	49,2
381	[1.13]	[2.13]	[0.50]	[2.37]
381-SS	28,6	54,1	12,7	60,3

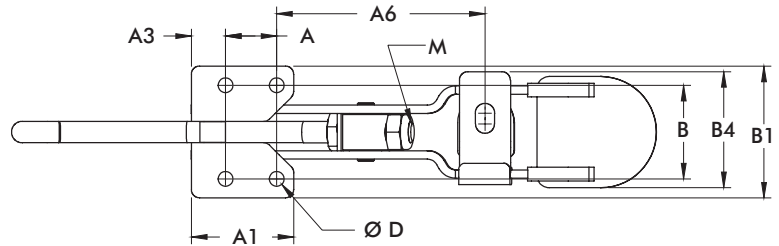
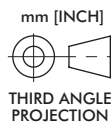
Model	B1	B4	C	C2	ØD	ØD2	H	H1	L	L1 Max	M	S
330	[1.69]	-	[0.56]	[0.12]	[0.22]	[0.32]	[1.43]	[0.89]	[6.01]	[1.70]	M5	[2.35]
330-SS	42,9	-	14,2	3,1	5,6	8,1	36,2	22,6	152,7	43,3		59,7
351	[1.93]	-	[0.75]		[0.22]		[1.83]	[1.34]		[2.13]		
351-SS	49,1	-	19,1		5,5		46,6	34		54,2		
				[0.12]		[0.38]			[8.82]		M8	[4.00]
351-B	-	[0.87]	[0.86]		[0.27]		[1.94]	[1.45]		[1.63]		
		22,1	21,8		6,7		49,3	36,8		41,4		
371	[2.63]	-	[1.42]		[0.34]	[0.50]	[2.58]	[2.23]	[11.89]	[2.81]	M10	[5.38]
371-SS	66,7	-	36,1		8,7	12,7	65,6	56,5	302	71,5		136,7
				[0.16]	4							
381	[3.38]	-	[1.81]		[0.41]	[0.62]	[2.90]	[2.71]	[13.45]	[3.13]	M12	[6.13]
381-SS	85,9	-	46		10,3	15,7	73,6	68,8	341,7	79,5		155,7

Series 351-R, 371-R Standard Clamp Dimensions

371-R
with
DE-STA-CO®
Toggle Lock
Plus

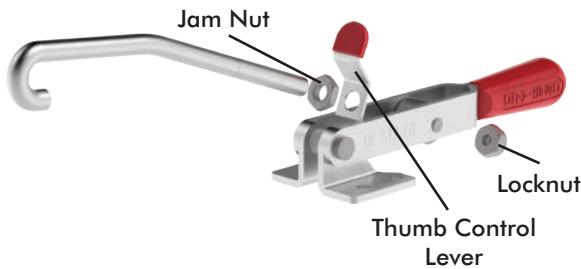


351-R
with
DE-STA-CO®
Toggle Lock
Plus



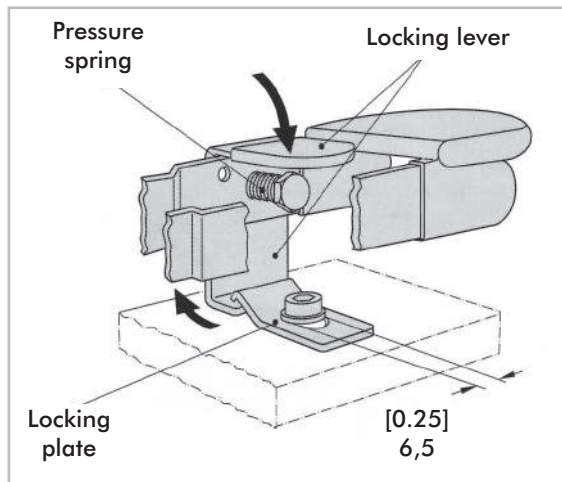
Model	A	A1	A3	A6	B	B1	B4	C	C2	ØD	H	H1
351-R	[0.75] 19,1	[1.50] 38,1	[0.50] 12,7	[3.06] 77,7	[1.37] 34,8	[1.93] 49,1	[1.70] 19,1	[0.75] 19,1	[0.12] 3,1	[0.22] 5,5	[1.85] 47,1	[1.34] 33,9
371-R	[1.25] 31,8	[1.94] 49,2	[0.34] 8,7	[4.73] 120,1	[1.94] 49,2	[2.63] 66,7	[2.25] 57,2	[1.42] 36,1	[0.16] 4	[0.34] 8,7	[2.65] 67,4	[2.22] 56,3

Model	L	L1	M	S
351-R	[9.45] 240	[2.13] 54,2	M8	[4.33] 110
371-R	[12.74] 323,6	[2.81] 71,4	M10	[5.59] 142



For added convenience, DE-STA-CO Pull Action Toggle Clamps are supplied with a thumb control lever.

Replacement Thumb Control Lever	Used on Clamp Model
330-ZB1	330
351-ZB1	351, 351-B 351-R, 351-SS
371-ZB1	371, 371-R 371-SS
381-ZB1	381, 381-SS



Model 351-R, 371-R

Information concerning the assembly and function of the clamps locking mechanism

The locking plate which is supplied with the unit must be fastened with a screw (M6 or 1/4-20) as shown in this illustration. The screw head should be flat.

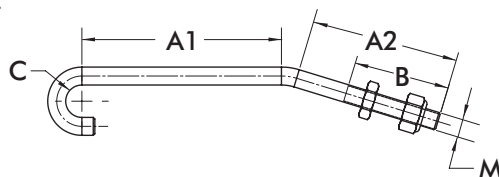
Function

When closing the latch clamp, the locking lever engages automatically. Actuate the locking lever to open the clamp.

Series **351-R**, **371-R** Replacement Hook Assembly Standard Dimensions

Replacement Hook Assembly	Used on Clamp Model	A1	A2	B	ØC	M	Material	
330215	330	[2.00] 50,8					Steel	
330215-M-25 ⓘ	330-M-25	[3.00] 76,2						
330215-M-50 ⓘ	330-M-50	[4.00] 101,6						
330215-M-100 ⓘ	330-M-100	[6.00] 152,4	[1.50] 38,1	[0.75] 19,1	[0.32] 8,1	M5 x 0.8		
330915	330-SS	[2.00] 50,8						Stainless Steel
330915-M-25 ⓘ	330-SS-M-25	[3.00] 76,2						
330915-M-50 ⓘ	330-SS-M-50	[4.00] 101,6						
330915-M-100 ⓘ	330-SS-M-100	[6.00] 152,4						
351215	351 351-B 351-R	[2.09] 53,1					Steel	
351215-M-25 ⓘ	351-M-25 351-B-M-25 351-R-M-25	[3.09] 78,5						
351215-M-50 ⓘ	351-M-50 351-B-M-50 351-R-M-50	[4.09] 103,9	[3.38] 85,9	[1.63] 41,4	[0.38] 9,6	M8 x 1.25		
351215-M-100 ⓘ	351-M-100 351-B-M-100 351-R-M-100	[6.09] 154,7						
351915	351-SS	[2.09] 53,1						Stainless Steel
351915-M-25 ⓘ	351-SS-M-25	[3.09] 78,5						
351915-M-50 ⓘ	351-SS-M-50	[4.09] 103,9						
351915-M-100 ⓘ	351-SS-M-100	[6.09] 154,7						
371215	371 371-R	[2.94] 74,7						Steel
371215-M-25 ⓘ	371-M-25 371-R-M-25	[3.94] 100						
371215-M-50 ⓘ	371-M-50 371-R-M-50	[4.94] 125,5	[4.16] 105,7	[2.22] 56,4	[0.50] 12,7	M10 x 1.50		
371215-M-100 ⓘ	371-M-100 371-R-M-100	[6.94] 176,3						
371915	371-SS	[2.94] 74,7					Stainless Steel	
371915-M-25 ⓘ	371-SS-M-25	[3.94] 100						
371915-M-50 ⓘ	371-SS-M-50	[4.94] 125,5						
371915-M-100 ⓘ	371-SS-M-100	[6.94] 176,3						
381215	381	[3.00] 76,2					Steel	
381215-M-25 ⓘ	381-M-25	[4.00] 101,6						
381215-M-50 ⓘ	381-M-50	[5.00] 127						
381215-M-100 ⓘ	381-M-100	[7.00] 177,8	[4.63] 117,6	[2.50] 63,5	[0.62] 15,8	M12 x 1.75		
381915	381-SS	[3.00] 76,2						Stainless Steel
381915-M-25 ⓘ	381-SS-M-25	[4.00] 101,6						
381915-M-50 ⓘ	381-SS-M-50	[5.00] 127						
381915-M-100 ⓘ	381-SS-M-100	[7.00] 177,8						

ⓘ This item is available upon request.





Series **323, 331, 341** Product Overview

Features:

- U-hook style latch clamps are supplied with threaded U-hooks for easy adjustment
- Supplied with latch plate and patented thumb control lever for one handed operation
- DE-STA-CO® Toggle Lock Plus versions available
- Stainless steel version available as **-SS** models

Applications:

- Molding
- Closures for doors, lids, covers
- Assembly

Also Available:

- Clamps with longer hooks available Upon Request that are 25mm, 50mm, 100mm longer than standard length
- To order clamp with longer hook, add **-M-25, -M-50, or -M-100** to the end of the model. Example: 323-**M-50**

Covered under one year or more U.S./International Patents

323
323-SS



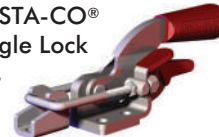
323-R
323-RSS
with DE-STA-CO®
Toggle Lock
Plus



331
331-SS



331-R
331-RSS
with
DE-STA-CO®
Toggle Lock
Plus



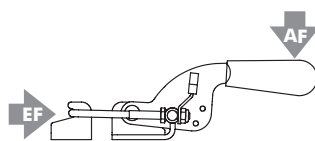
341
341-SS



341-R
341-RSS
with DE-STA-CO®
Toggle Lock
Plus



Series **323, 331, 341** Technical Information, Holding Capacities

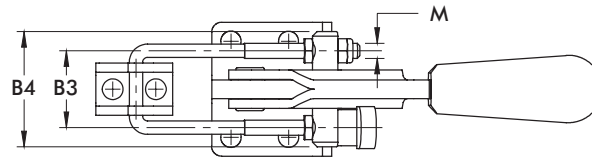


Model	Max. Holding Capacity	Weight	EF:AF	Drawing Movement	Latch Plate (Supplied)	Replacement Hook Assembly	Hook Adj. Range
323	1600 N [360 lbf]	0,07kg [0.15lb]	27:1	30 [1.18]	323104-M	323215	[0.36] 9,1
323-SS					323104-MSS	323915	
323-R				323104-M	323215		
323-RSS				323104-MSS	323915		
331	3200 N [720 lbf]	0,25kg [0.56lb]	32:1	44,5 [1.75]	331005	331215	[0.87] 22,1
331-SS					331905	331915	
331-R					331005	331215	
331-RSS					331905	331915	
341	8900 N [2000 lbf]	0,65kg [1.43lb]	29:1	63,5 [2.50]	341005	341215	[0.97] 24,6
341-SS					341905	341915	
341-R					341005	341215	
341-RSS					341905	341915	

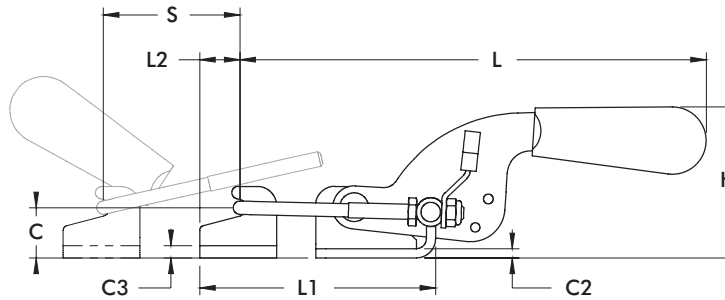
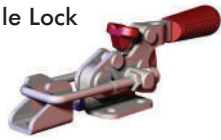
EF = Exerting Force, AF = Applied Force

Series **323, 323-R, 331, 341** Standard Clamp Dimensions
 323/331/341/-SS/-R/-RSS

323
 323-SS



323-R
 323-RSS
 with DE-STA-CO®
 Toggle Lock
 Plus



331
 331-SS

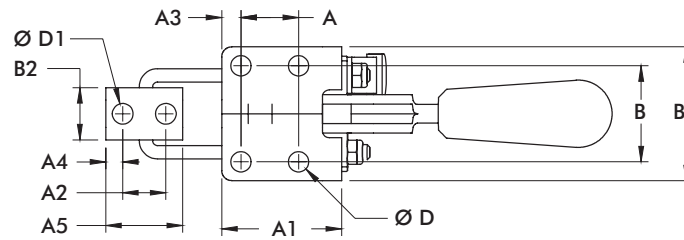


341
 341-SS



mm [INCH]

 THIRD ANGLE
 PROJECTION

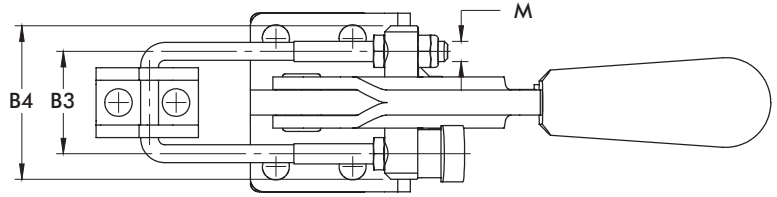
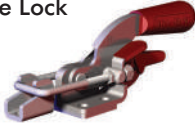


Model	A	A1	A2	A3	A4	A5	B	B1	B2	B3	B4	C	C2
323													
323-SS	[0.63]	[1.02]	[0.39]	[0.20]	[0.24]	[0.79]	[0.75]	[1.10]	[0.52]	[0.75]	[1.10]	[0.47]	[0.08]
323-R	16	26	10	5	6	20	19	28	13,2	19,1	28	12	2
323-RSS													
331													
331-SS	[0.75]	[1.56]	[0.56]	[0.25]	[0.22]	[1.00]	[1.25]	[1.74]	[0.68]	[1.00]	[1.50]	[0.66]	[0.12]
331	19,1	39,7	14,3	6,4	5,6	25,4	31,8	44,3	17,3	25,4	38,1	16,7	3,1
341													
341-SS	[1.63]	[2.38]	[0.75]	[0.38]	[0.38]	[1.50]	[1.50]	[2.12]	[1.19]	[1.75]	[2.38]	[0.94]	[0.16]
341	41,3	60.5	19.1	9.7	9.5	38.1	38.1	53.8	30.1	44.5	60.5	23.8	4

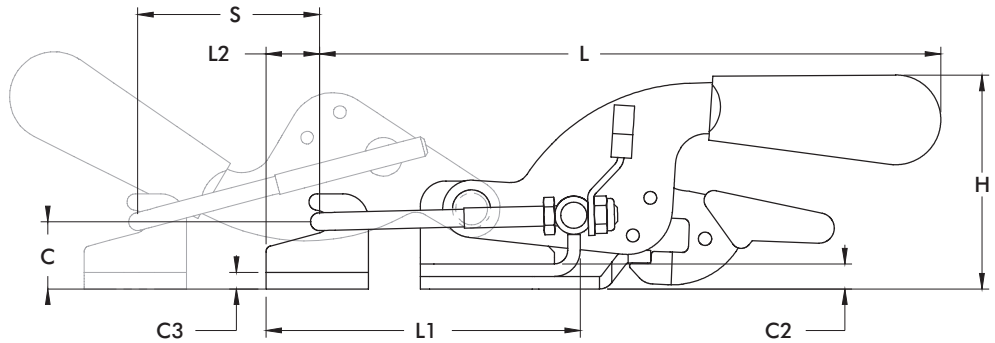
Model	C3	ØD	ØD2	H	L	L1 MAX	L2	M	S
323									
323-SS	[0.08]	[0.17]	[0.17]	[1.19]	[3.88]	[2.32]	[0.37]	M4	[1.18]
323-R	2	4,2	4,2	30,3	98,6	58,9	9,3		30
323-RSS									
331									
331-SS	[0.12]	[0.27]	[0.27]	[1.97]	[6.07]	[3.07]	[0.52]	M5	[1.75]
331	3,1	6,7	6,9	50	154,2	78	13,3		45,5
341									
341-SS	[0.16]	[0.33]	[0.33]	[2.89]	[8.20]	[4.59]	[0.75]	M8	[2.50]
341	4	8,5	8,5	73,4	208,3	116,6	19,1		63,5

Series **331-R**, **341-R** Standard Clamp Dimensions
-R/-RSS

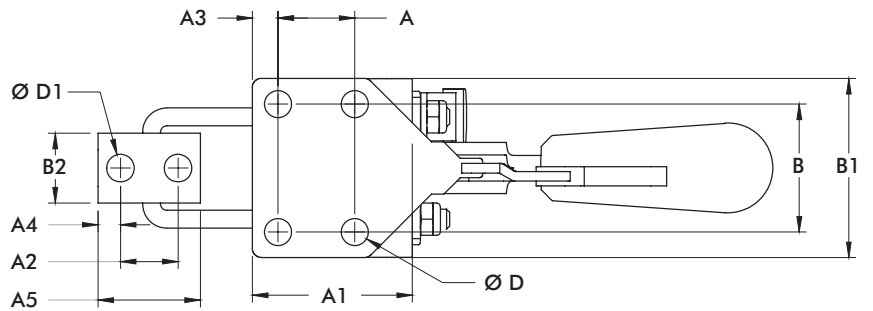
331-R
331-RSS
with
DE-STA-CO®
Toggle Lock
Plus



341-R
341-RSS
with DE-STA-CO®
Toggle Lock
Plus



mm [INCH]
THIRD ANGLE
PROJECTION



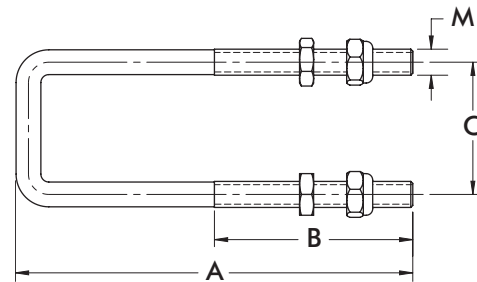
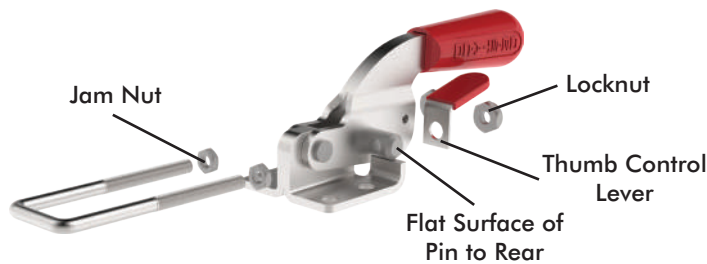
Model	A	A1	A2	A3	A4	A5	B	B1	B2	B3	B4	C	C2
331-R	[0.75]	[1.56]	[0.56]	[0.25]	[0.22]	[1.00]	[1.25]	[1.74]	[0.68]	[1.00]	[1.50]	[0.66]	[0.12]
331-RSS	19,1	39,7	14,3	6,4	5,6	25,4	31,8	44,3	17,3	25,4	38,1	16,7	3,1
341-R	[1.63]	[2.38]	[0.75]	[0.38]	[0.38]	[1.50]	[1.50]	[2.12]	[1.19]	[1.75]	[2.38]	[0.94]	[0.16]
341-RSS	41,3	60,5	19,1	9,7	9,5	38,1	38,1	53,8	30,1	44,5	60,5	23,8	4

Model	C3	ØD	ØD2	H	L	L1 MAX	L2	M	S
331-R	[0.12]	[0.27]	[0.27]	[2.01]	[6.07]	[3.07]	[0.52]		[1.75]
331-RSS	3,1	6,7	6,9	53,1	154,2	78	13,3	M5	45,5
341-R	[0.16]	[0.33]	[0.33]	[2.89]	[8.20]	[5.24]	[0.77]		[2.50]
341-RSS	4	8,5	8,5	73,4	208,3	133,2	19,4	M8	63.5

Series **323, 331, 341** Replacement Hook Assembly Standard Dimensions

Replacement Hook Assembly	Used on Clamp Model	A	B	C	M	Material
323215	323, 323-R	[2.12] 53,8	[0.94] 23,8	[0.75] 19,1	M4 x 0.7	Steel
323215-M-25 ⓘ	323-M-25, 323-R-M-25	[3.12] 79,2				
323215-M-50 ⓘ	323-M-50, 323-R-M-50	[4.12] 104,6				
323215-M-100 ⓘ	323-M-100, 323-R-M-100	[6.12] 155,4				
323915	323-SS, 323-RSS	[2.12] 53,8				Stainless Steel
323915-M-25 ⓘ	323-SS-M-25, 323-RSS-M-25	[3.12] 79,2				
323915-M-50 ⓘ	323-SS-M-50, 323-RSS-M-50	[4.12] 104,6				
323915-M-100 ⓘ	323-SS-M-100, 323-RSS-M-100	[6.12] 155,4				
331215	331, 331-R	[3.00] 76,2	[1.50] 38,1	[1.00] 25,4	M5 x 0.8	Steel
331215-M-25 ⓘ	331-M-25, 331-R-M-25	[4.00] 101,6				
331215-M-50 ⓘ	331-M-50, 331-R-M-50	[5.00] 127				
331215-M-100 ⓘ	331-M-100, 331-R-M-100	[7.00] 177,8				
331915	331-SS, 331-RSS	[3.00] 76,2				Stainless Steel
331915-M-25 ⓘ	331-SS-M-25, 331-RSS-M-25	[4.00] 101,6				
331915-M-50 ⓘ	331-SS-M-50, 331-RSS-M-50	[5.00] 127				
331915-M-100 ⓘ	331-SS-M-100, 331-RSS-M-100	[7.00] 177,8				
341215	341, 341-R	[4.31] 109,5	[1.97] 50	[1.75] 44,5	M8 x 1.25	Steel
341215-M-25 ⓘ	341-M-25, 341-R-M-25	[5.31] 135				
341215-M-50 ⓘ	341-M-50, 341-R-M-50	[6.31] 160,2				
341215-M-100 ⓘ	341-M-100, 341-R-M-100	[8.31] 211				
341915	341-SS, 341-RSS	[4.31] 109,5				Stainless Steel
341915-M-25 ⓘ	341-SS-M-25, 341-RSS-M-25	[5.31] 135				
341915-M-50 ⓘ	341-SS-M-50, 341-RSS-M-50	[6.31] 160,2				
341915-M-100 ⓘ	341-SS-M-100, 341-RSS-M-100	[8.31] 211				

ⓘ This item is available upon request.



For added convenience, DE-STA-CO Pull Action Toggle Clamps are supplied with a thumb control lever that allows the clamp to be operated with one hand.

Replacement Thumb Control Lever	Used on Clamp Model
324-ZB1	323, 323-SS
330-ZB1	331, 331-SS 331-R, 331-RSS
341-ZB1	341, 341-SS 341-R, 341-RSS

Series 375 Product Overview

Features:

- Heavy duty U-hook style latch clamps are supplied with threaded U-hooks for easy adjustment
- Supplied patented thumb control lever for one handed operation
- DE-STA-CO® Toggle Lock Plus versions available

Applications:

- Molding
- Closures for doors, lids, covers
- Assembly

Also Available:

- Clamps with longer hooks available Upon Request that are 25mm, 50mm, 100mm longer than standard length
- To order clamp with longer hook, add **-M-25**, **-M-50**, or **-M-100** to the end of the model. Example: 375-**M-50**

Covered under one year or more U.S./International Patents

375



375-R
with
DE-STA-CO®
Toggle Lock
Plus



375-B
Weld-on
Mounting



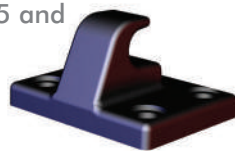
375-BR ⓘ
Weld-on
Mounting
with DE-STA-CO®
Toggle Lock
Plus



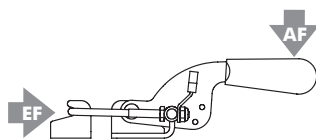
375509
Cleat



385102
Optional
Latch Plate
for 375 and
375-R



Series 375 Technical Information, Holding Capacities

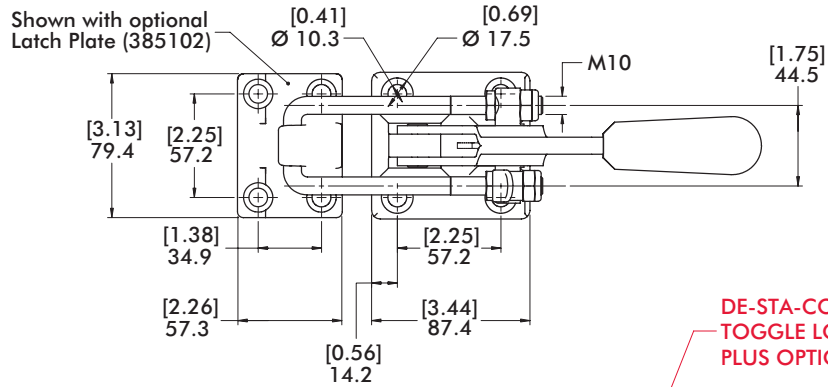


Model	Max. Holding Capacity	Weight	EF:AF	Drawing Movement	Latch Plate	Replacement Hook Assembly	Hook Adj. Range
375	[4000 lbf] 17800 N	[2.94lb] 1,33kg	44:1	88,9 [3.50]	385102 (Optional)	375215	[0.81] 20,5
375-R		[3.0lb] 1,36kg					
375-B		[2.56lb] 1,16kg			375509 (Supplied)		
375-BR ⓘ		[2.62lb] 1,19kg					

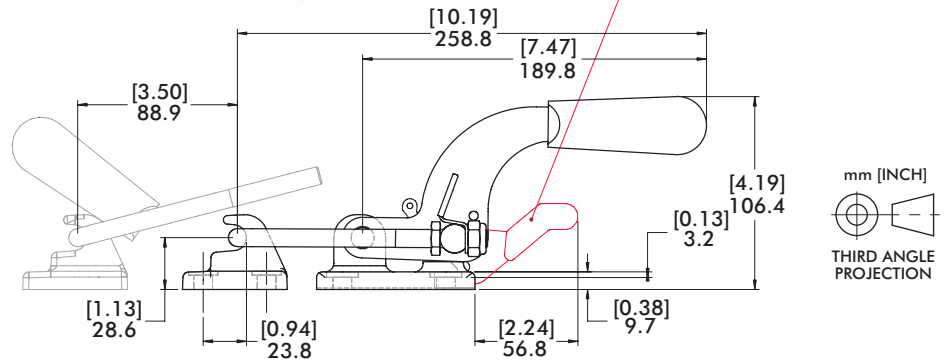
ⓘ This item is available upon request. **EF** = Exerting Force, **AF** = Applied Force

Series 375, 375-R Standard Clamp Dimensions

375

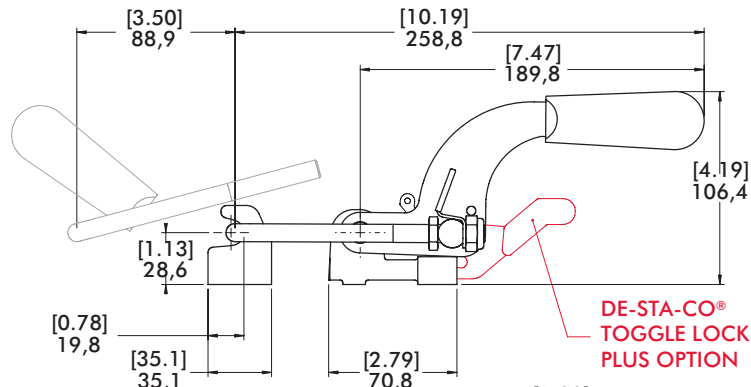


375-R with DE-STA-CO® Toggle Lock Plus

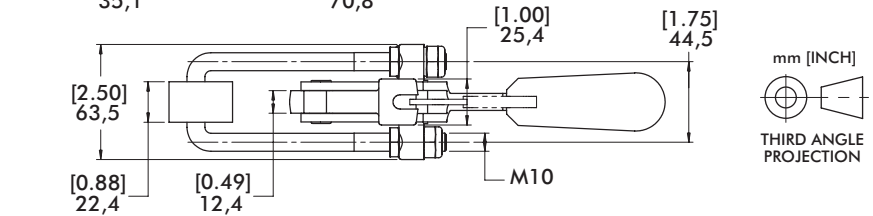


Series 375-B, 375-BR Standard Clamp Dimensions

375-B Weld-on Mounting

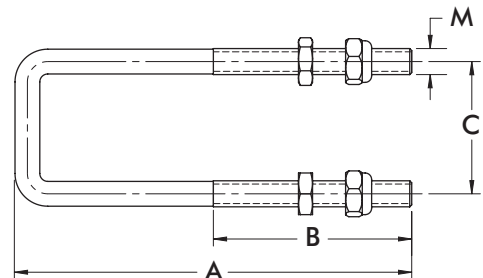


375-BR[®] Weld-on Mounting with DE-STA-CO® Toggle Lock Plus



Replacement Hook Assembly	A	B	C	M
375215	[5.72] 145	50,8 [2.00]	[1.75] 44,5	M10 x 1.50

Hook assembly includes (2) jam nuts and (2) locknuts. Longer hook lengths available Upon Request. 375215-M-25, 375215-M-50, 375215-M-100





Series 385 Product Overview

Features:

- Heavy duty U-hook style latch clamps are supplied with threaded U-hooks for easy adjustment
- Supplied with patented thumb control lever for one handed operation
- DE-STA-CO® Toggle Lock Plus versions available

Applications:

- Molding
- Closures for doors, lids, covers
- Assembly

Also Available:

- Clamps with longer hooks available Upon Request that are 25mm, 50mm, 100mm longer than standard length
- To order clamp with longer hook, add **-M-25**, **-M-50**, or **-M-100** to the end of the model. Example: 385-**M-50**

Covered under one year or more U.S./International Patents

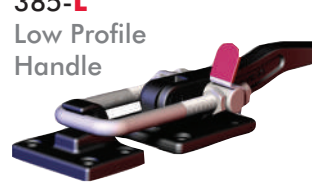
385



385-R with DE-STA-CO® Toggle Lock Plus



385-L Low Profile Handle



385-V2A Stainless Steel



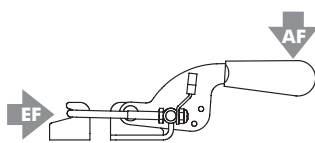
375509 Cleat



385102 Optional Latch Plate for 385, 385-R and 385-L



Series 385 Technical Information, Holding Capacities



Model	Max. Holding Capacity	Weight	EF:AF	Drawing Movement	Latch Plate	Replacement Hook Assembly	Hook Adj. Range
385		[3.3lb] 1,50kg	44:1	55,6 [2.19]	385102 (Optional) 375509 (Optional)	385215	[1.36] 34,5
385-R	[7500 lbf] 33300 N	[3.4lb] 1,54kg					
385-L		[3.3lb] 1,50kg					
385-V2A ⓘ	[6000 lbf] 26700 N				Supplied	ⓘ 385915	[1.77] 45

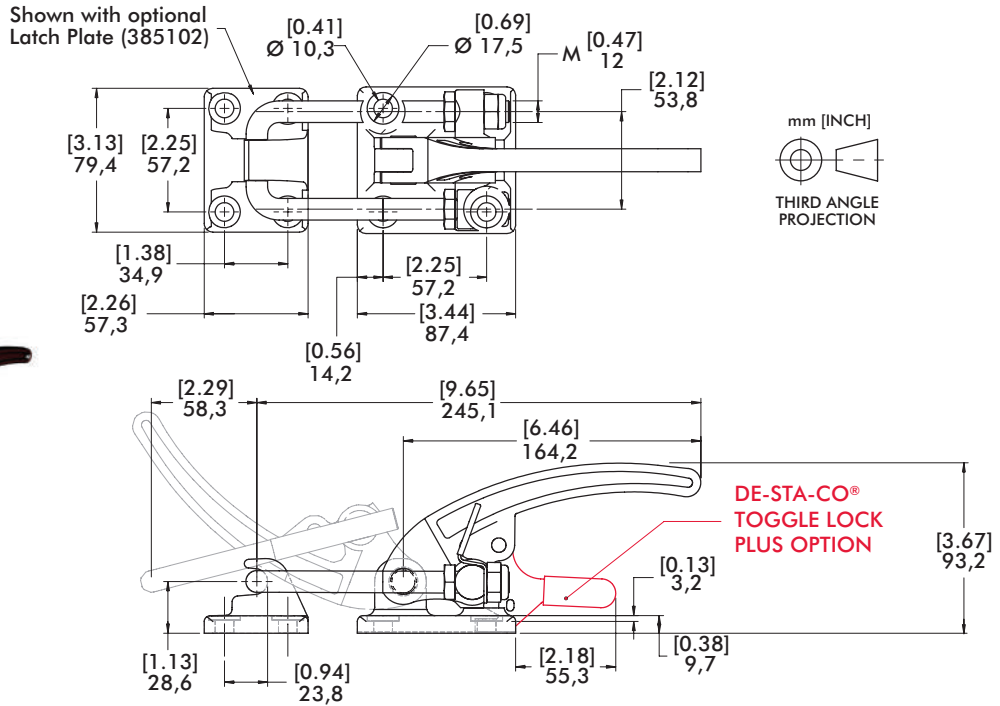
ⓘ This item is available upon request. EF = Exerting Force, AF = Applied Force

Series 385, 385-R Standard Clamp Dimensions



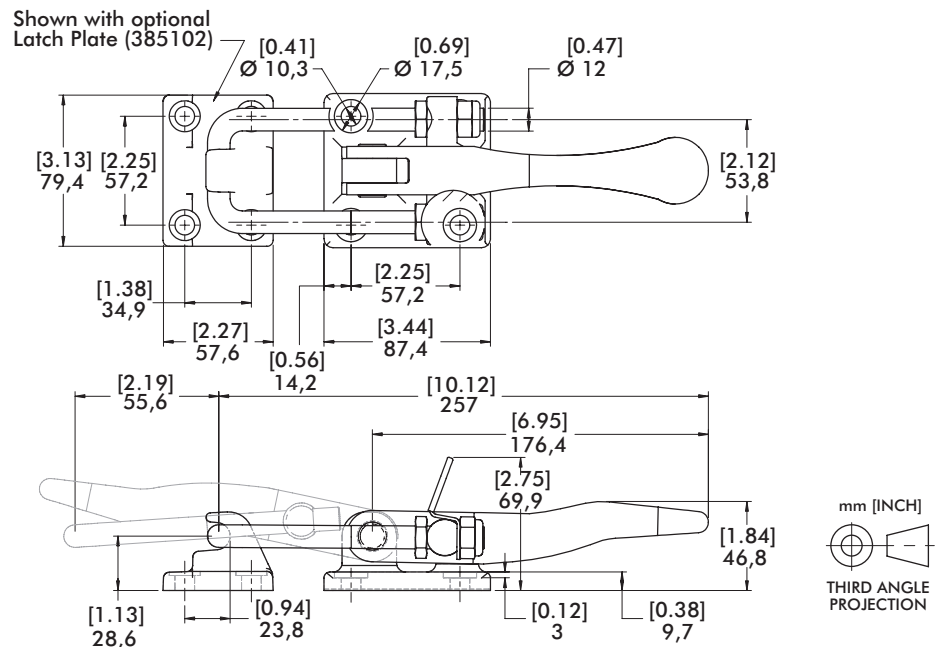
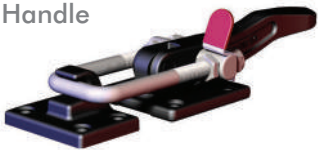
385

385-R
with DE-STA-CO®
Toggle Lock
Plus



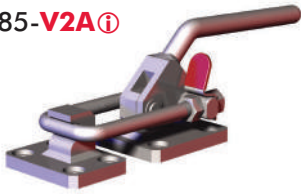
Series 385-L Standard Clamp Dimensions

385-L
Low Profile
Handle

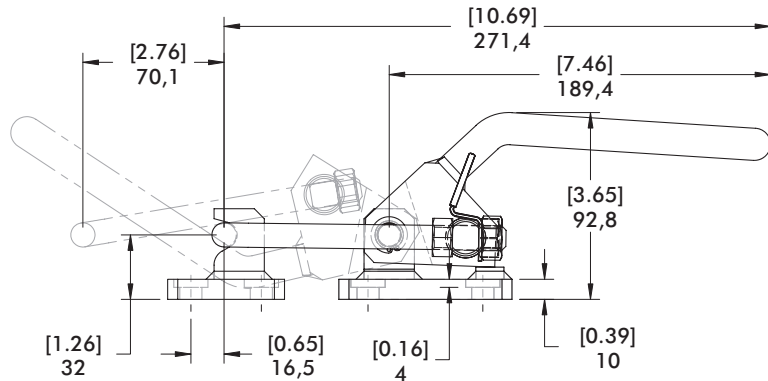
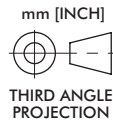
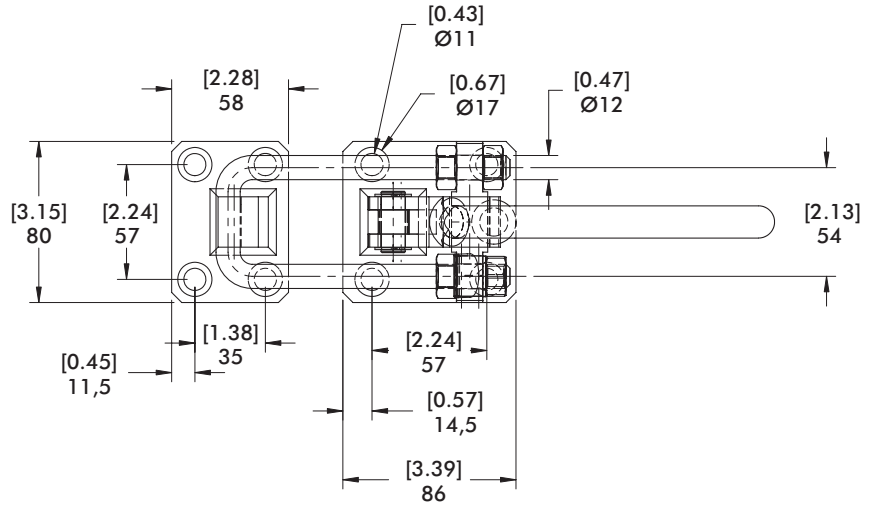


Series 385-V2A Standard Clamp Dimensions

385-V2A ⓘ



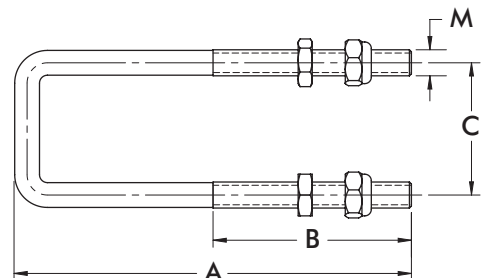
ⓘ This item is available upon request



Replacement Hook Assembly	Used on Clamp Model	A	B	C	M	Material
385215	385, 385-R, 385-L	[5.72] 145,3				Steel
385215-M-25 ⓘ	385-M-25, 385-R-M-25 385-L-M-25	[6.72] 170,7				
385215-M-50 ⓘ	385-M-50, 385-R-M-50 385-L-M-50	[7.72] 196				
385215-M-100 ⓘ	385-M-100, 385-R-M-100 385-L-M-100	[9.72] 247	[2.75] 70	[2.12] 53,8	M12 x 1.75	
385915	385-V2A	[5.72] 145,3				Stainless Steel
385915-M-25 ⓘ	385-V2A-M-25	[6.72] 170,7				
385915-M-50 ⓘ	385-V2A-M-50	[7.72] 196				
385915-M-100 ⓘ	385-V2A-M-100	[9.72] 247				

ⓘ This item is available upon request.

Replacement Thumb Control Lever	Used on Clamp Model
375-ZB1	375, 375-B 375-R, 375-BR
385-ZB1	385, 385-R 385-L, 385-V2A



Series 324, 334, 344, 374 Product Overview

Features:

- U-hook style latch clamps supplied with threaded U-hooks for easy adjustment
- Supplied with latch plate (except 374) and patented thumb control lever for one handed operation.
- DE-STA-CO® Toggle Lock Plus versions available
- Stainless steel available as **-SS** models.

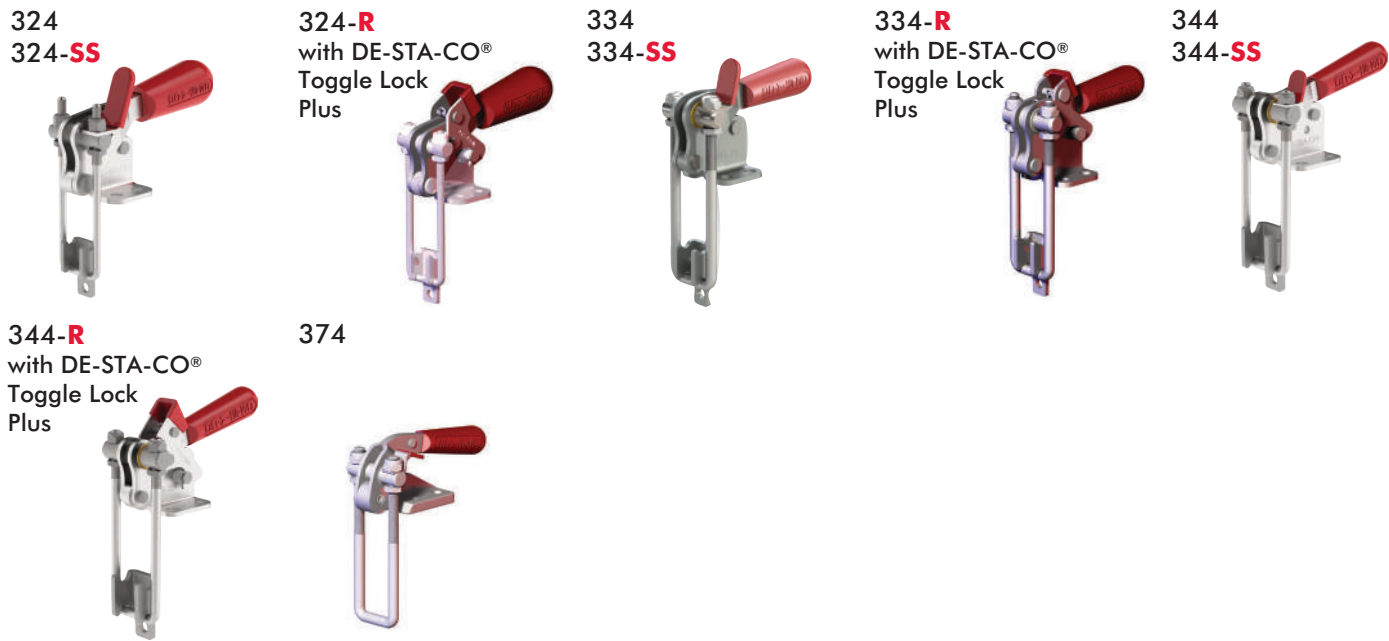
Applications:

- Molding
- Closures for doors, lids, covers
- Assembly

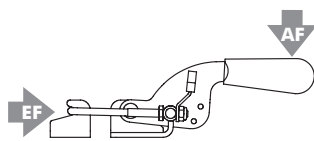
Also Available:

- Clamps with longer hooks available Upon Request that are 25mm, 50mm, 100mm longer than standard length
- To order clamp with longer hook, add **-M-25**, **-M-50**, or **-M-100** to the end of the model. Example: 324-**M-50**

Covered under one year or more U.S./International Patents



Series 324, 334, 344, 374 Technical Information, Holding Capacities



Model	Max. Holding Capacity	Weight	EF:AF	(S) Drawing Movement	Latch Plate (Supplied)	Replacement Hook Assembly	Hook Adj. Range
324	[500 lbf] 2200 N	[0.25lb] 0,11kg	31:1	38,7 [1.53]	324101	324215	11.9 [0.47]
324-SS					324901	324915	
324-R					324101	324215	
334	[1000 lbf] 4450 N	[0.60lb] 0,27kg	31:1	51,7 [2.04]	334101	334915	19.3 [0.76]
334-SS					334901	334915	
334-R					334101	334215	
344	[2000 lbf] 8900 N	[1.50lb] 0,68kg	45:1	62,4 [2.46]	344101	344215	31 [1.22]
344-SS					344901	344915	
344-R					344101	344215	
374	[4000 lbf] 17800 N	[2.10lb] 0,95kg	36:1	44,5 [1.75]	None*	374215	53.8 [2.12]

EF = Exerting Force, AF = Applied Force *375509 Latch Plate may be used as an alternate.



Series 324, 334, 344, 374 Standard Clamp Dimensions
324/334/374/-SS

324
324-SS



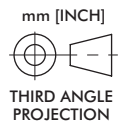
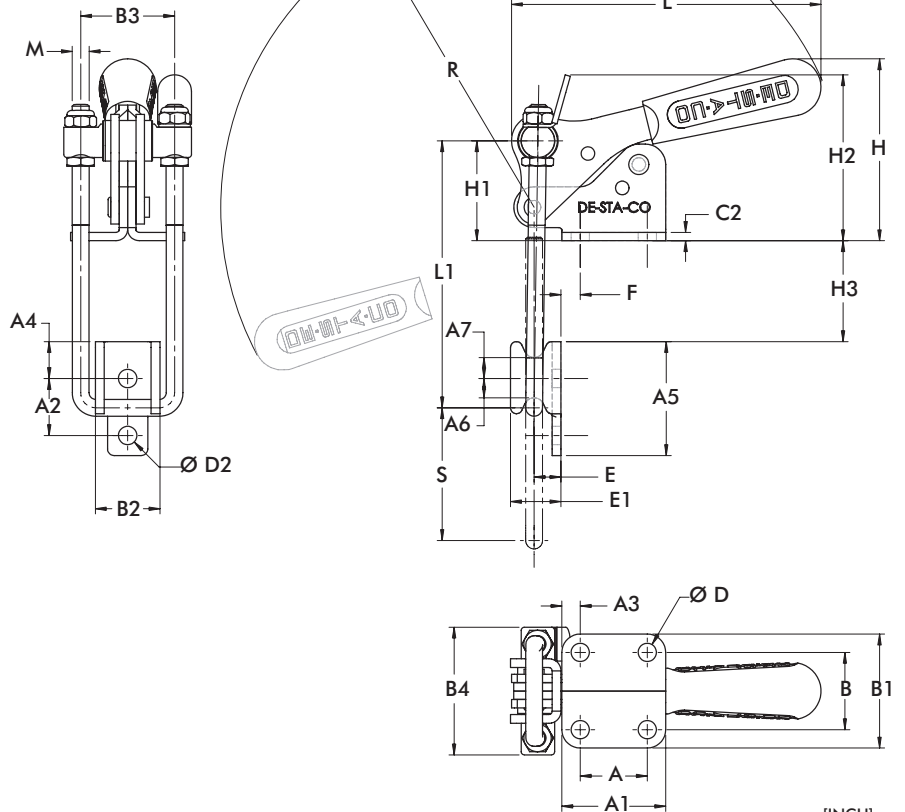
334
334-SS



344
344-SS



374



Model	A	A1	A2	A3	A4	A5	A6	A7	B	B1	B2	B3	B4	C2
324	[0.50]	[1.00]	[0.56]	[0.25]	[0.28]	[1.00]	[0.19]	[0.19]	[0.88]	[1.38]	[0.53]	[0.81]	[1.19]	[0.09]
324-SS	12,7	25,4	14,2	6,4	7,1	25,4	4,8	4,8	22,4	35,1	13,5	20,7	30,2	2,4
334	[0.75]	[1.31]	[0.81]	[0.28]	[0.41]	[1.50]	[0.28]	[0.28]	[1.00]	[1.56]	[0.68]	[1.13]	[1.63]	[0.12]
334-SS	19,1	33,3	20,6	7,1	10,4	38,1	7,1	7,1	25,4	39,6	17,4	28,7	41,4	3,1
344	[1.25] 31,8	[1.94]	[1.06]	[0.35]	[0.69]	[2.13]	[0.36]	[0.39]	[1.44]	[2.12]	[1.20]	[1.75] 44,5	[2.38]	[0.16]
344-SS		49,3	27	8,0	17,5	54	9,1	9,9	36,6	53,8	30,6		60,5	4
374		[2.43]	--	[0.68]	--	--	--	--	[1.50]	[2.50]	--		[2.36]	[0.37]
		61,7	--	17,3	--	--	--	--	38,1	63,5	--		60	9,4

Model	ØD	ØD2	F	H	H1	H2	H3	E	E1	L	L1 MAX	R	M	S
324	[0.20]	[0.17]	[0.25]	[1.91]	[1.10]	[1.97]	[0.92]	[0.19]	[0.38]	[3.49]	[2.56]	[3.49]	M4	[1.53]
324-SS	5,1	4,3	6,4	48,5	28	50,1	[23,4]	4,4	9,7	88,7	65,1	88,8 _a		38,7
334	[0.28]	[0.22]	[0.28]	[2,37]	[1.55]	[2.68]	[1.34]	[0.35]	[0.63]	[4.10]	[3.70]	[4.12]	M6	[2.04]
334-SS	7,1	5,6	7,1	60,1	39,3	68	34	8,8	16	104,2	94	104,5		51,8
344	[0.34]	[0.34]	[0.35]	[3.39]	[1.86]	[7.09]	[1.73]	[0.50]	[0.94]	[5.77]	[5.00]	[5.84]	M8	[2.46]
344-SS	8,6	8,6	8,9	86,1	47,3	78,6	49,1	12,7	23,8	146,6	126,9	148,4		62,4
374	[0.41]	--	[0.68]	[2.38]	[1.36]	--	[2.40]	--	--	[6.60]	[6.04]	[6.04]	M10	[1,75]
	10,3	--	17,3	60,5	34,5	--	61	--	--	167,8	153,5	153,5		44,5

Series **324-R**, **334-R**, **344-R** Standard Clamp Dimensions
-R/-SS

324-R

with DE-STA-CO®
Toggle Lock
Plus



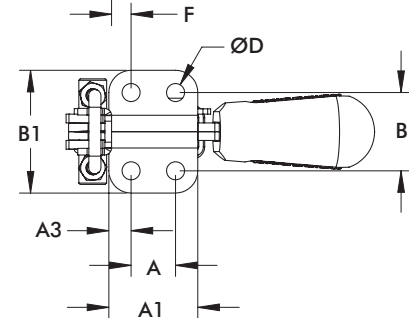
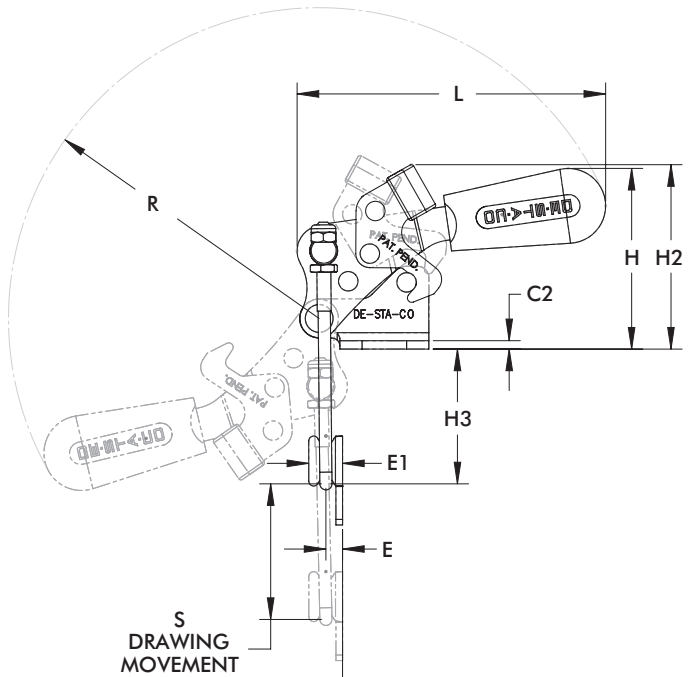
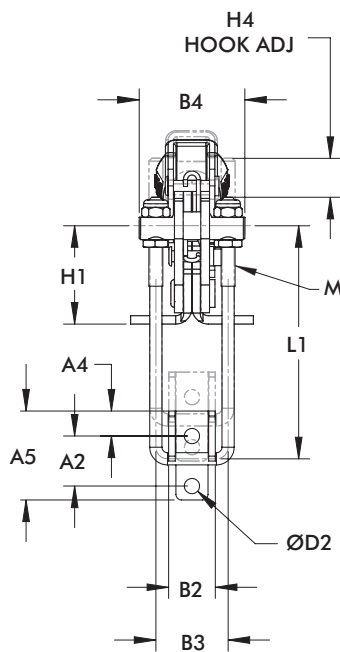
334-R

with DE-STA-CO®
Toggle Lock
Plus



344-R

with DE-STA-CO®
Toggle Lock
Plus



mm [INCH]
THIRD ANGLE PROJECTION

Model	A	A1	A2	A3	A4	A5	B	B1	B2	B3	B4	C2	D
324-R	[.50] 12.7	[1.00] 25.4	[.56] 14.3	[.25] 6.4	[.28] 7.1	[1.00] 25.4	[0.88] 22.4	[1.38] 35.1	[.52] 13.3	[0.81] 20.6	[0.44] 11.1	[0.09] 2.4	[0.20] 5.2
334-R	[.75] 19.1	[1.38] 34.9	[.81] 20.6	[.27] 7.0	[.41] 10.3	[2.13] 54.0	[1.00] 25.4	[1.56] 39.6	[0.68] 17.3	[1.13] 28.6	[1.63] 41.3	[0.12] 3.1	[0.28] 7.1
344-R	[1.25] 31,8	[1.94] 49.1	[1.06] 27.0	[.34] 8.7	[0.69] 17,5	[2.13] 54	[1.44] 36,6	[2.13] 54	[1.21] 30,6	[1.75] 44,5	[2.38] 60,5	[0.16] 4	[0.34] 8.6

Model	D2	E	E1	F	H	H1	H2	H3	H4	L	L1	M	S	R
324-R	[0.17] 4.4	[0.20] 5.2	[0.17] 4.4	[0.22] 5.6	[2.03] 51.6	[1.11] 28.1	[2.07] 52.7	[1.52] 38.5	[.44] 11.1	[3.47] 88.1	[2.62] 66.6	M4	[1.53] 38.7	[3.49] 88.8
334-R	[0.22] 5.6	[0.35] 8.8	[0.63] 15.9	[0.18] 4.5	[2.37] 60.2	[1.55] 39.3	[2.55] 64.7	[2.22] 56.3	[0.86] 21.8	[4.12] 104.6	[3.76] 95.6	M6	[2.04] 51.7	[4.10] 104.2
344-R	[0.34] 8,7	[0.50] 12,7	[0.94] 23,9	[0.36] 9,1	[3.40] 86,5	[1.86] 47,3	[3.39] 86.0	[3.17] 80.8	[1.22] 31	[5.77] 146.5	[5.04] 128.0	M8	[2.46] 62.4	[5.90] 150

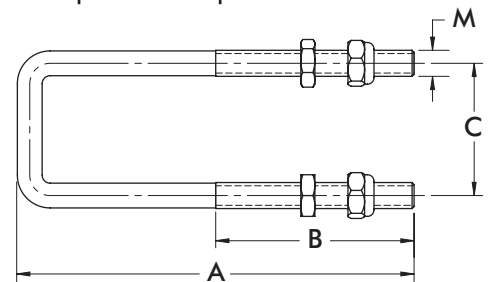
Series 324, 334, 344, 374 Replacement Hook Assembly Standard Dimensions

Replacement Hook Assembly	Used on Clamp Model	A	B	C	M	Material
324215	324 324-R	[3.00] 76	[1.00] 25,4	[0.81] 20,6	M4X0.7	Steel
324215-M-25 ⓘ	324-M-25* 324-R-M-25*	[4.00] 101,6				
324215-M-50 ⓘ	324-M-50* 324-R-M-50*	[5.00] 127				
324215-M-100 ⓘ	324-M-100* 324-R-M-100*	[7.00] 178				
324915	334-SS	[3.00] 76	[1.50] 38,1	[1.13] 28,7	M6X1.0	Stainless Steel
324915-M-25 ⓘ	334-SS-M-25*	[4.00] 101,6				
324915-M-50 ⓘ	334-SS-M-50*	[5.00] 127				
324915-M-100 ⓘ	334-SS-M-100*	[7.00] 178				
334215	334 334-R	[4.31] 109,5	[2.25] 57,2	[1.75] 44,5	M8X1.25	Steel
334215-M-25 ⓘ	334-M-25* 334-R-M-25*	[5.31] 135				
334215-M-50 ⓘ	334-M-50* 334-R-M-50*	[6.31] 160,3				
334215-M-100 ⓘ	334-M-100* 334-R-M-100*	[8.31] 211				
334915	334-SS	[4.31] 109,5	[3.25] 82,6		M10X1.50	Stainless Steel
334915-M-25 ⓘ	334-SS-M-25*	[5.31] 135				
334915-M-50 ⓘ	334-SS-M-50*	[6.31] 160,3				
334915-M-100 ⓘ	334-SS-M-100*	[8.31] 211				
344215	344 344-R	[5.81] 147,5	[2.25] 57,2	[1.75] 44,5	M8X1.25	Steel
344215-M-25 ⓘ	344-M-25* 344-R-M-25*	[6.81] 173				
344215-M-50 ⓘ	344-M-50* 344-R-M-50*	[7.81] 198,5				
344215-M-100 ⓘ	344-M-100* 344-R-M-100*	[9.81] 249,2				
344915	344-SS	[5.81] 147,5	[3.25] 82,6		M10X1.50	Stainless Steel
344915-M-25 ⓘ	344-SS-M-25*	[6.81] 173				
344915-M-50 ⓘ	344-SS-M-50*	[7.81] 198,5				
344915-M-100 ⓘ	344-SS-M-100*	[9.81] 249,2				
374215	374	[6.50] 165	[3.25] 82,6		M10X1.50	Steel
374215-M-25 ⓘ	374-M-25*	[7.50] 190,5				
374215-M-50 ⓘ	374-M-50*	[8.50] 216				
374215-M-100 ⓘ	374-M-100*	[10.50] 266,5				

Hook assemblies are supplied with (2) jam nuts and (2) locknuts.

ⓘ This item is available upon request.

Replacement Thumb Control Lever	Used on Clamp Model
324-ZB1	324, 324-SS
334-ZB1	334, 334-SS
344-ZB1	344, 344-SS
375-ZB1	374



Series 301, 311 Product Overview

Features:

- Fixed stop automatically limits handle travel at various clamping positions once the clamp is installed
- Model 301 available in stainless steel as 301-SS

Applications:

- Molding
- Closures for doors, lids, covers
- Assembly

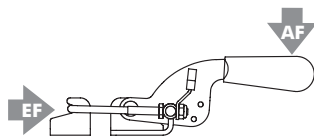
301
301-SS



311

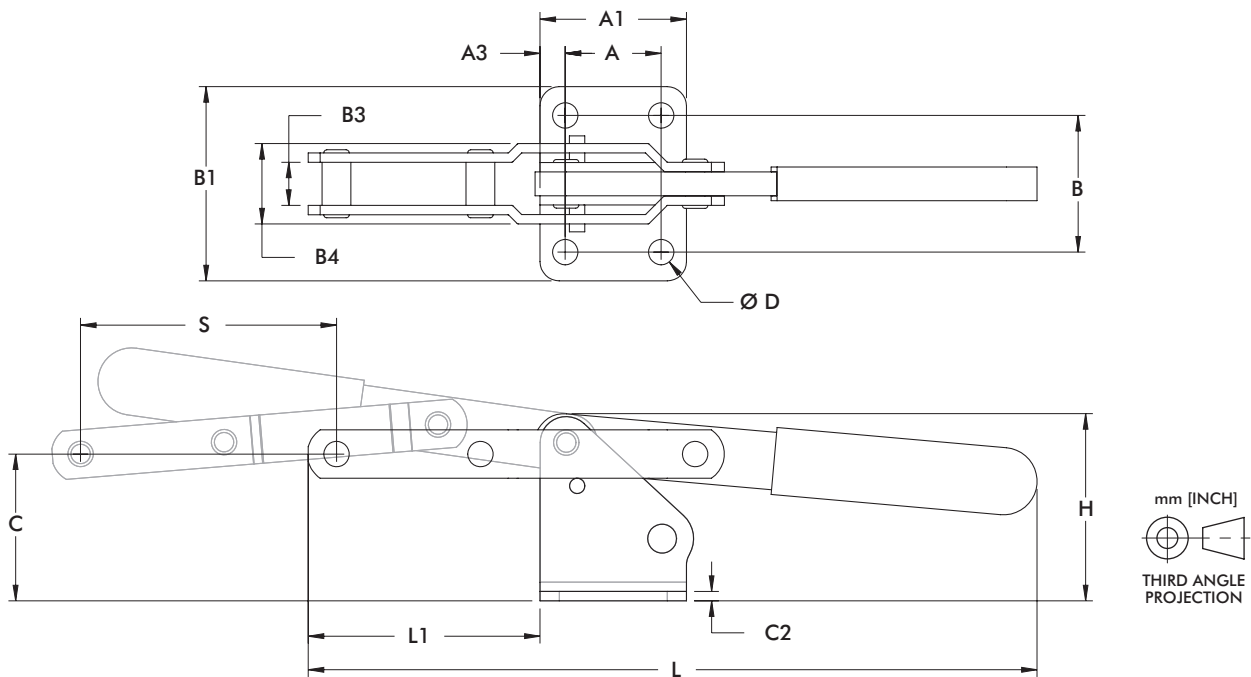


Series 301, 311 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF	Drawing Movement
301	1670 N [375 lbf]	0,32kg [0.70lb]	29:1	101,6 [4.00]
301-SS	2000 N [450 lbf]			
311	5340 N [1200 lbf]	0,53kg [1.16lb]	31:1	85,9 [3.38]

EF = Exerting Force, AF = Applied Force



Model	A	A1	A3	B	B1	B3	B4	C	C2	ØD	H	L	L1	S
301	[0.75]	[1.38]	[0.32]	[1.25]	[1.75]	[0.56]	[1.04]	[1.52]	[0.12]	[0.28]	[1.91]	[8.33]	[3.04]	[4.00]
301-SS	19,1	35,1	8	31,8	44,5	14,1	26,4	38,6	3,1	7,1	48,4	211,5	77,1	101,6
311	[1.25]	[1.91]	[0.33]	[1.78]	[2.53]	[0.56]	[1.05]	[1.91]	[0.12]	[0.33]	[2.44]	[9.49]	[3.02]	[3.88]
	31,8	48,4	8,3	45,2	64,3	14,3	26,6	48,6	3,1	8,4	61,9	241,2	76,7	85,9

Features:

- Heavy duty cast steel or stainless steel construction with ergonomic handle
- Replaceable stainless steel pivot pins

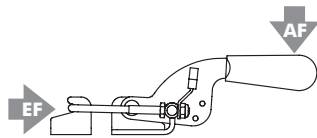
Applications:

- Molding
- Closures for doors, lids, covers
- Assembly

3011

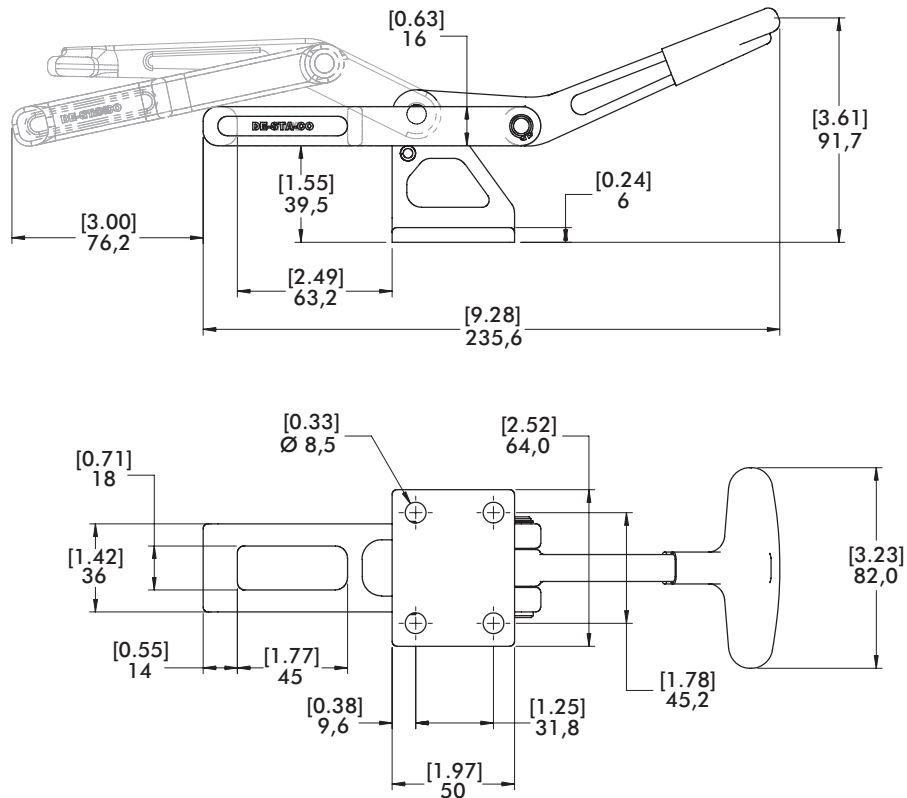


Series 3011 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF	Drawing Movement
3011	8900 N [2000 lbf]	0,91kg [2.00lb]	31:1	76,2 [3.00]

EF = Exerting Force, AF = Applied Force



Series 353 Product Overview

Features:

- Heavy duty cast steel clamps are designed to withstand the harshest environments
- Ideally suit for parting line clamping of rotational molds
- Replaceable stainless steel pivot pins

Applications:

- Molding
- Closures for doors, lids, covers

Also Available:

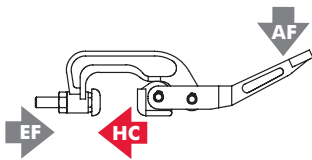
- Keeper plate
- Papered bolt assembly

353-35

353-65



Series 353 Technical Information, Holding Capacities



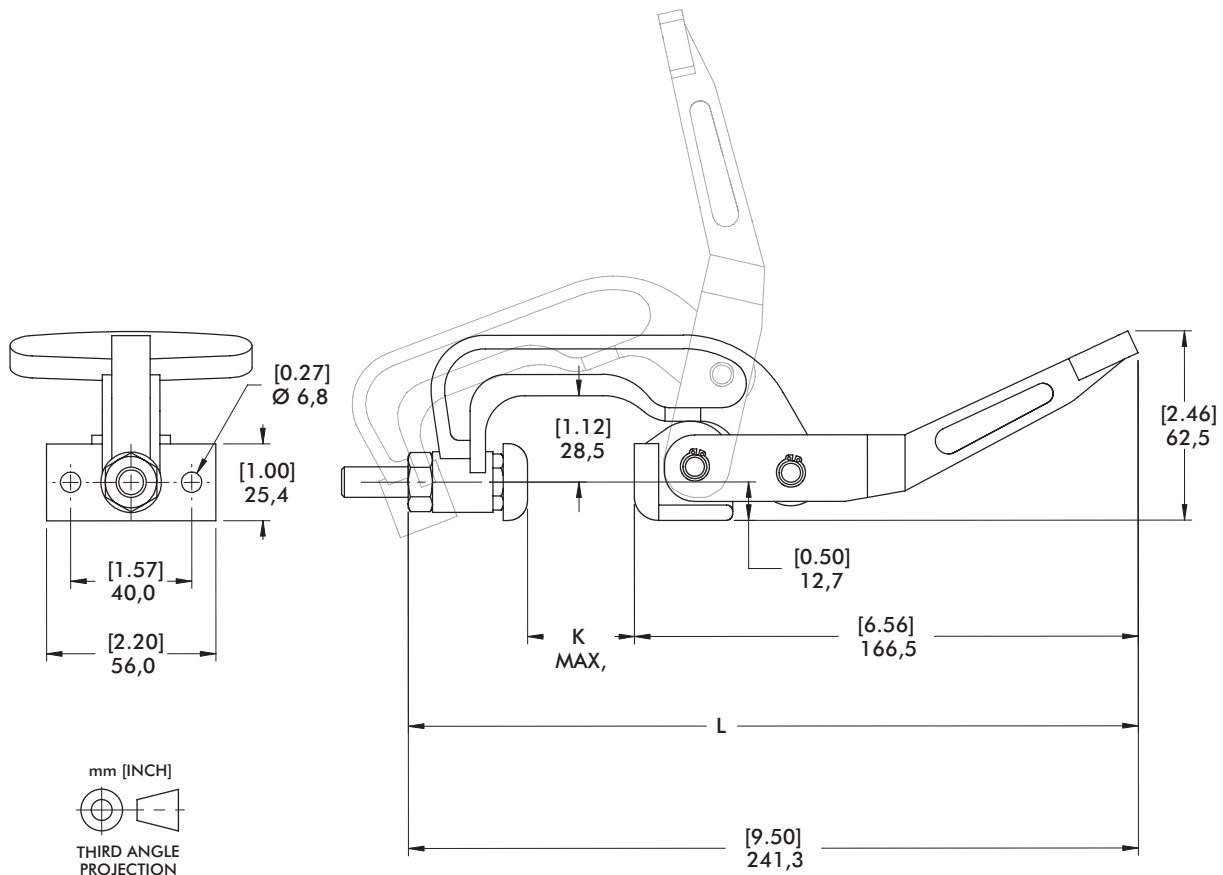
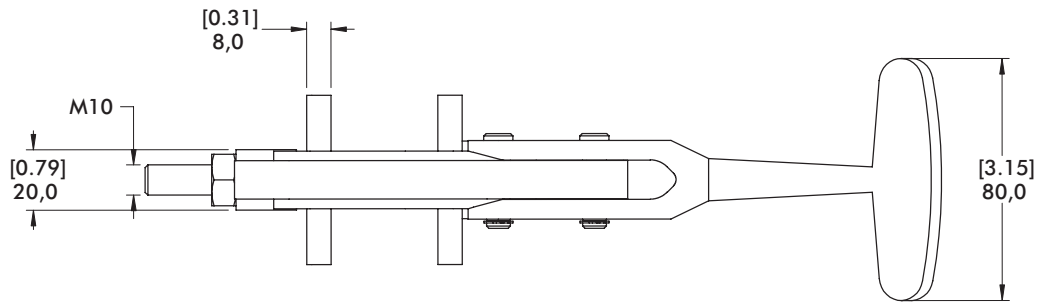
Model	Max. Holding Capacity	Weight	EF:AF	Drawing Movement	L	K	Keeper Plate (included)	Tapered Bolt Assembly (included)
353-35	[2800 lbf] 12460 N	[2.10lb] 0,95kg	23:1	12 [0.47]	[9.50] 241,5	[1.38] 35	353004	353908
353-65	[2100 lbf] 9350 N	[2.30lb] 1,04kg	27:1		[10.69] 271,5	[2.56] 65	353004	

EF = Exerting Force, AF = Applied Force

Series 353 Standard Clamp Dimensions







353-35

353-65



mm [INCH]
THIRD ANGLE PROJECTION



	Series	Section Page	Max. Holding Capacity N [lbf.]					Maximum Clamping Thickness mm [inch]							
			0 to 1000 [0 to 225]	1000 to 2000 [225 to 450]	2000 to 3000 [450 to 675]	3000 to 4000 [675 to 900]	4000 to 5000 [900 to 1125]	5000 to 6000 [1125 to 1350]	0 to 10 [0 to 0.39]	10 to 20 [0.39 to 0.78]	20 to 30 [0.78 to 1.18]	30 to 40 [1.18 to 1.57]	40 to 60 [1.57 to 2.36]	60 to 80 [1.57 to 3.15]	80+ [2.26+]
	325	6.2													
	345	6.3													
	424	6.4													
	441	6.4													
	431	6.5													
	425	6.6													
	435	6.6													
	462	6.7													
	463	6.7													
	482	6.7													
	484	6.7													
	486	6.7													

Series 325 Product Overview

Features:

- Designed for attachment by welding or using mounting holes
- Available in stainless steel as **-SS** version

Applications:

- Molding
- Closures for doors, lids, covers

Also Available:

See page 7.1 for accessories

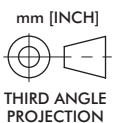
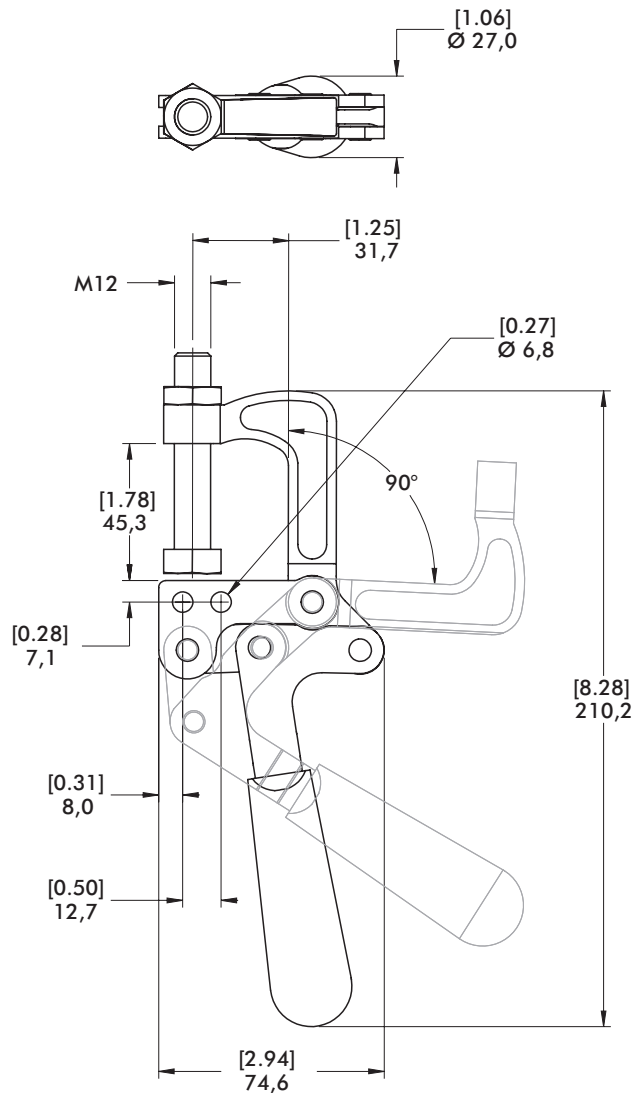
325,
325-SS



Series 325 Technical Information, Holding Capacities

Model	Max. Holding Capacity	Weight	Jaw Opening	Spindle (Supplied)
325	3560 N [800 lbf]	0,54kg [1.18lb]	90°	325203-M
325-SS				325943-M

Series 325 Standard Clamp Dimensions



Series 345 Product Overview

Features:

- Designed for welding or bolting at any point along the mounting bar
- Includes M10 swivel foot spindle
- Model 345-G includes sliding jaw with spindle

Applications:

- Welding fixtures
- Assembly fixtures
- Closures for doors, lids, covers

Also Available:

See page 7.1 for accessories

345,
345-G ⓘ

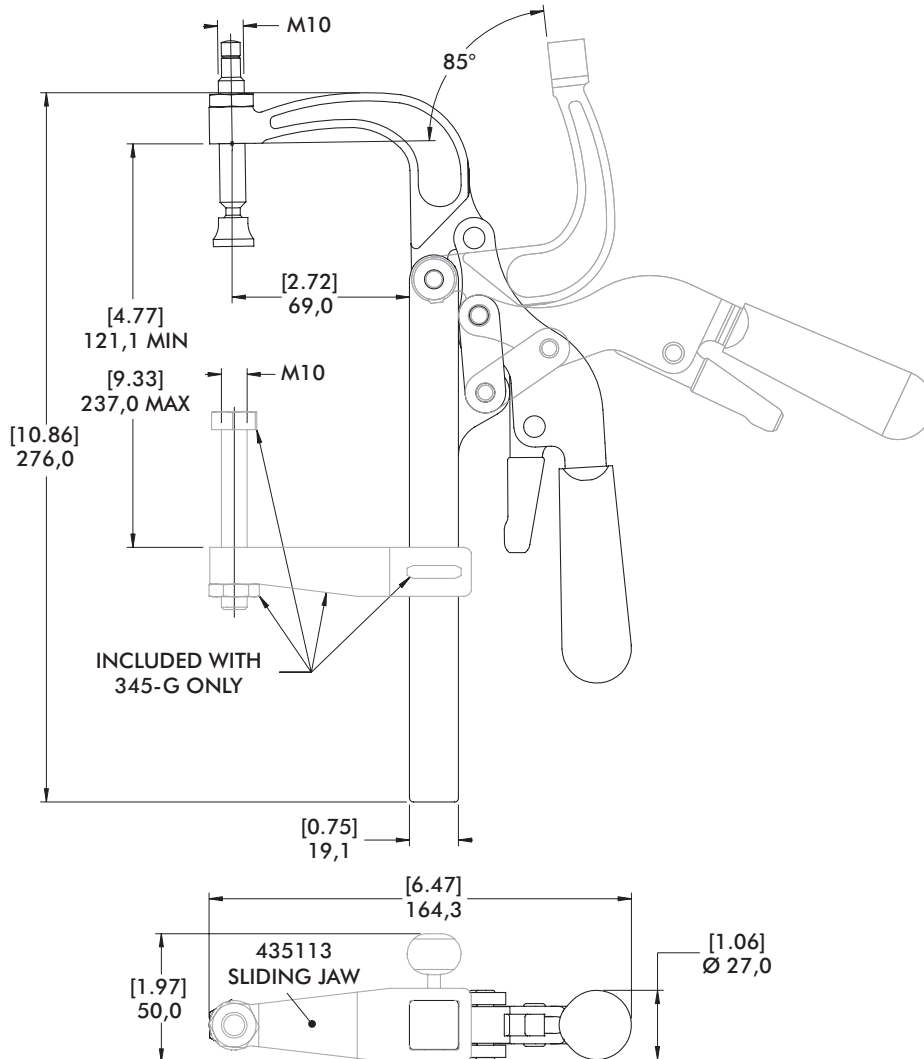


Series 345 Technical Information, Holding Capacities

Model	Max. Holding Capacity	Weight	Jaw Opening	Spindle (Supplied)
345	3560 N [800 lbf]	1,22kg [2.69lb]	85°	468206-M
345-G ⓘ		1,40kg [3.09lb]		468206-M 210203-M

ⓘ This item is available upon request.

Series 345 Standard Clamp Dimensions



Series 424, 441 Product Overview

Features:

- Compact clamps with forged alloy steel construction for high strength
- Versions ending with (-2) are supplied with two adjustable spindles

Applications:

- Welding
- Assembly

Also Available:

See page 7.1 for accessories

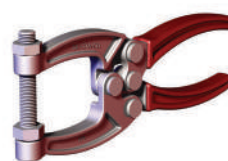
424



424-2
With Two
Adjustable
Spindles



441

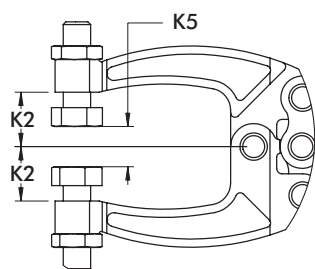


441-2
With Two
Adjustable
Spindles

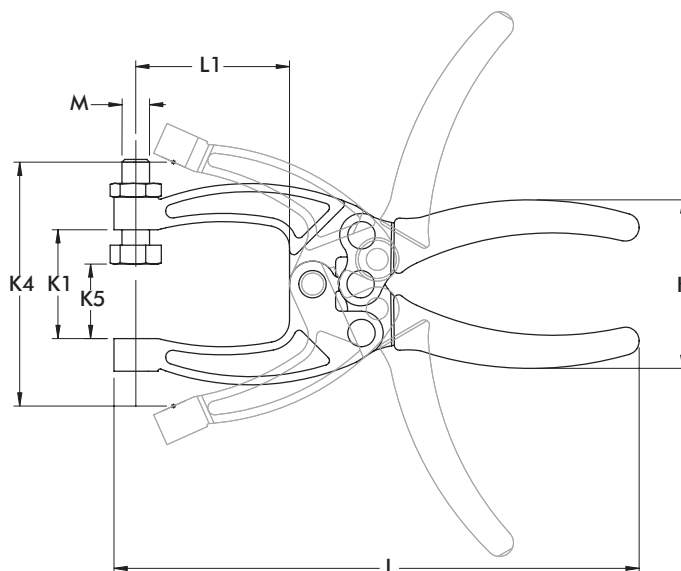
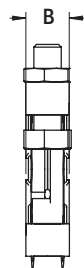


Series 424, 441 Technical Information, Holding Capacities, Standard Clamp Dimensions

Model	Max. Holding Capacity	Weight	(K5) Maximum Clamping Thickness	Spindle (Supplied)
424	900 N [200 lbf]	0,14kg [0.31lb]	16 [0.63]	424208-M
424-2			7,4 [0.29]	(2X) 431208-M
441	1560 N [350 lbf]	0,29kg [0.63lb]	23,3 [1.03]	441203-M
441-2			20,8 [0.82]	(2X) 461203-M



MODEL 424-2 & 441-2 AS SHOWN



mm [INCH]
THIRD ANGLE PROJECTION

Model	B	K	K1	K2	K4	L	L1	M
424	[0.66]	[1.91]	[1.00]	[0.50]	[2.06]	[4.63]	[1.08]	M6
424-2	16.8	48.5	25.4	12.7	52.3	117.6	27.4	M6
441	[0.50]	[2.07]	[1.25]	[0.63]	[2.80]	[6.03]	[1.77]	M8
441-2	12.7	52.5	31.8	15.9	71.2	153.1	44.9	M8

Series 431 Product Overview

Features:

- Tempered spring steel jaws provide exceptional jaw depth

Applications:

- Assembly
- Gluing, soldering

Also Available:

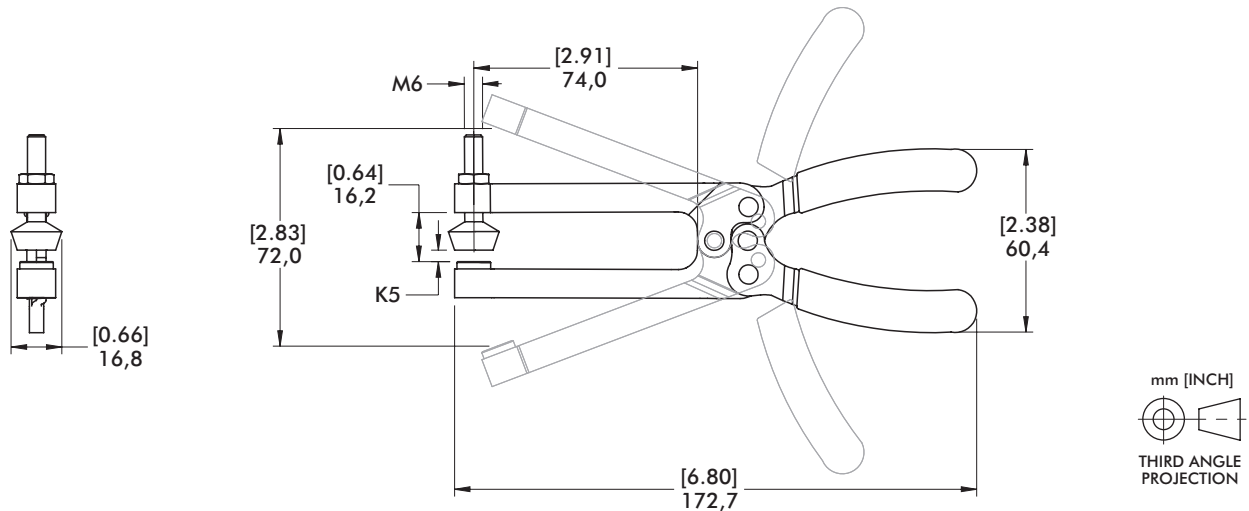
See page 7.1 for accessories

431



Series 431 Technical Information, Holding Capacities, Standard Clamp Dimensions

Model	Max. Holding Capacity	Weight	(K5) Maximum Clamping Thickness	Spindle (Supplied)
431	400 N [100 lbf]	0,14kg [0.31lb]	6,8 [0.27]	424208-M



Series 425, 435 Product Overview

Features:

- Two way trigger release allows for fast and easy opening of clamp

Applications:

- Assembly
- Welding
- Gluing, soldering

Also Available:

See page 7.1 for accessories

425 ⓘ

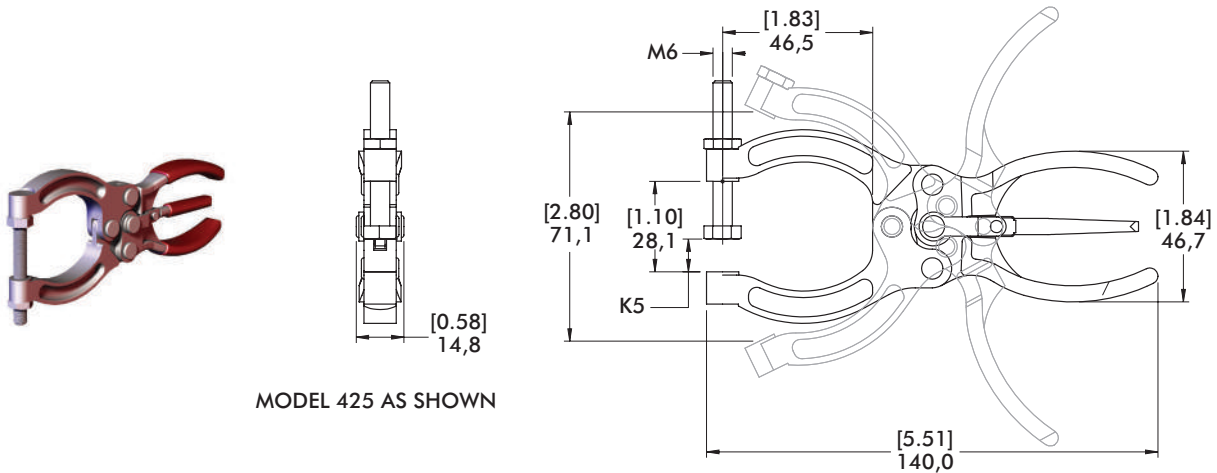
435



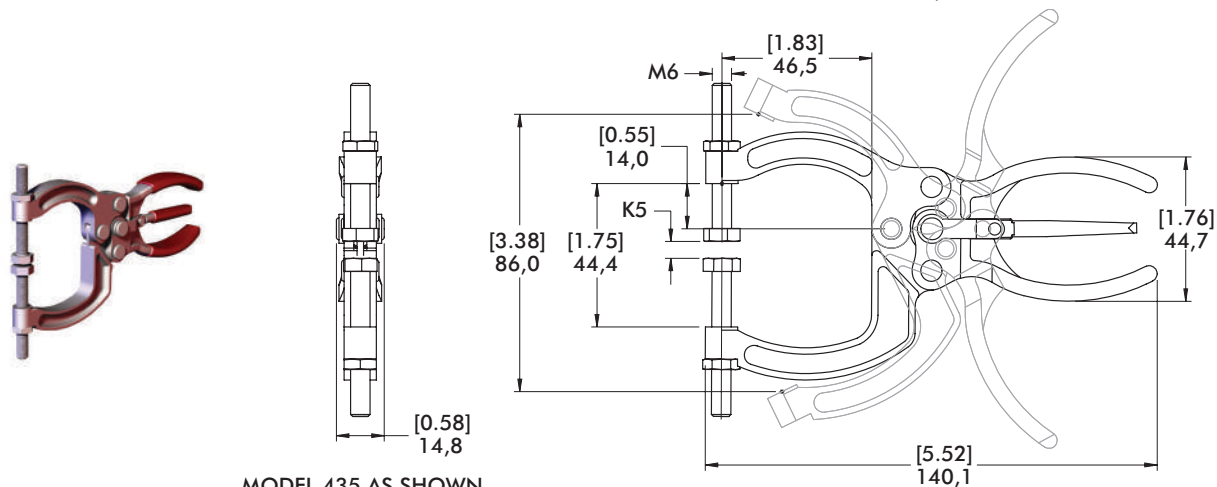
Series 425, 435 Technical Information, Holding Capacities, Standard Clamp Dimensions

Model	Max. Holding Capacity	Weight	(K5) Maximum Clamping Thickness	Spindle (Supplied)
425 ⓘ	2220 N [500 lbf]	0,14kg [0.31lb]	24 [0.94]	205203-M
435		0,23kg [0.50lb]	36,3 [1.43]	(2X) 205203-M

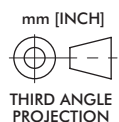
ⓘ This item is available upon request



MODEL 425 AS SHOWN



MODEL 435 AS SHOWN



Series 460, 480 Product Overview

Features:

- Drop forged alloy steel components for exceptional strength
- Two way trigger release allows for fast and easy opening of clamp

Applications:

- Assembly
- Welding

Also Available:

See page 7.1 for accessories

462

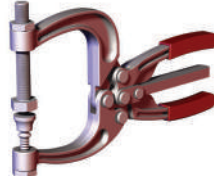


462-2

With Two Adjustable Spindles



463



482



484



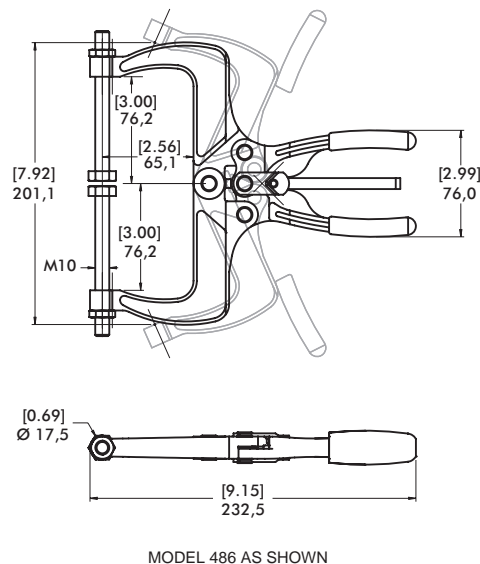
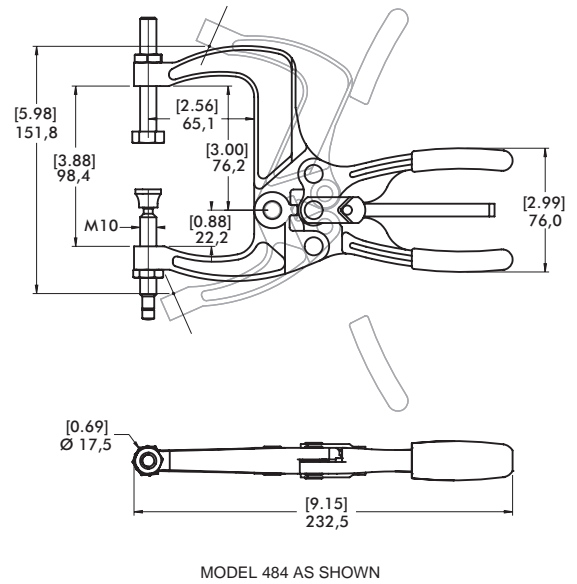
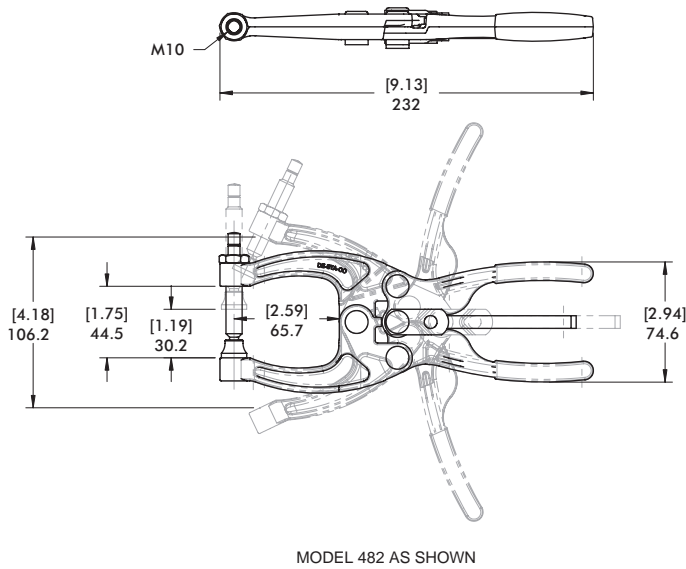
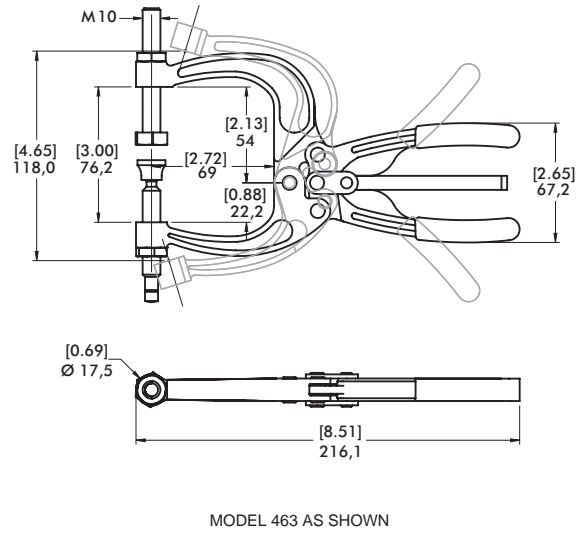
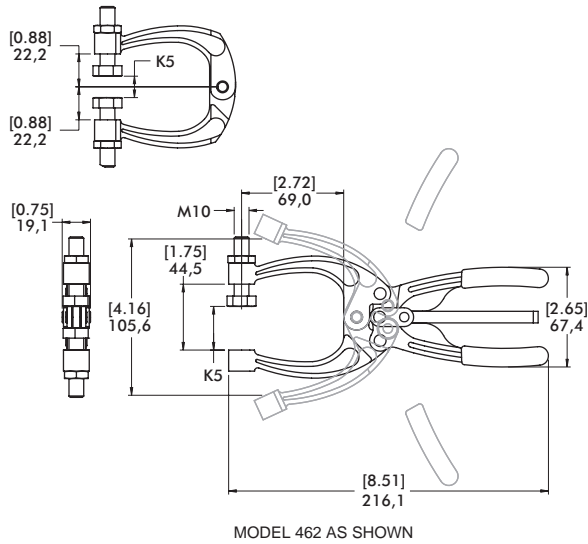
486



Series 460, 480 Technical Information, Holding Capacities

Model	Max. Holding Capacity	Weight	(K5) Maximum Clamping Thickness	Spindle (Supplied)
462	3110 N [700 lbf]	0,51kg [1.13lb]	29,5 [1.16]	468206-M 210206-M
462-2			30,5 [1.20]	(2X) 491203-M
463	5340 N [1200 lbf]	0,54kg [1.19lb]	54,2 [2.13]	468206-M 210206-M
482			29,5 [1.16]	468206-M
484	4450 N [1000 lbf]	0,91kg [2.00lb]	76,5 [3.01]	468206-M 210206-M
486			138,4 [5.45]	(2X) 240203-M

Series 460, 480 Standard Clamp Dimensions



mm [INCH]

 THIRD ANGLE PROJECTION



Flat-Tip Bonded Neoprene Spindle - Inch



Large Diameter Padded Swivel Foot Spindle - Inch



Neoprene Caps



Bolt Retainers



Flat-Tip Bonded Neoprene Spindle - Metric



Swivel Foot Spindle



Special Neoprene Caps



Flanged Washers



Round Bonded Neoprene Spindle - Metric



Hex Head Spindle



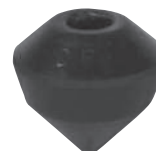
Polyurethane Caps



Cone-Tip Bonded Neoprene Spindle - Metric



Plunger-matic Assemblies

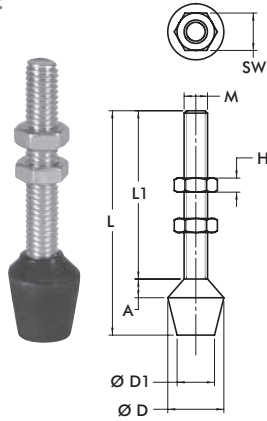


Cone-Tip Polyurethane Caps

Manual Accessories

Flat-Tip Bonded Neoprene Spindle – Inch

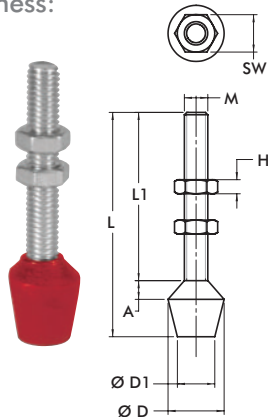
- Black neoprene, hardness: 70-80 Shore A
- Temperature Range: -20°C to 100°C [-22°F to 212°F]
- Oil resistant, LABS (silicone) free
- Includes jam nuts
- Stainless steel versions available upon request



Part No.	M	L	L1	SW	H	A	ØD	ØD1
102208	#8-32	[1.25] 31,8	[0.94] 23,8	[0.34] 8,7	[0.13] 3,2	[0.06] 1,6	[0.56] 14,3	[0.44] 11,1
105208		[1.00] 25,4	[0.69] 17,4			[0.13] 3,2		
201208	#10-32	[1.38] 35,1	[1.01] 25,5	[0.38] 9,5				
202208		[1.63] 41,4	[1.08] 27,4			[0.12] 3	[0.63] 16	[0.47] 12
215208	1/4-20	2.13 54,1	[1.58] 40,1	[0.44] 11,1	[0.16] 4			
424208		[1.50] 38,1	[1.12] 28,5			[0.13] 3,3	[0.66] 16,8	[0.50] 12,7
431208		[1.00] 25,4	[0.62] 15,8					
225208	5/16-18	[2.25] 57,2	[1.54] 39,1	[0.50] 12,7	[0.19] 4,8		[0.83] 21	[0.55] 14
507208		[3.00] 76,2	[2.29] 58,2			[0.20] 5	[1.02] 26	[0.79] 20
240208	3/8-16	[3.25] 82,6	[2.31] 58,5				[1.02] 26	[0.79] 20
527208		[3.50] 88,9	[2.50] 63,5	[0.56] 14,3	[0.22] 5,6		[0.88] 22,2	[0.63] 16
235208		[5.75] 146,1	[4.77] 121,1				[1.02] 26	[0.79] 20
247208	1/2-13	[3.87] 98,3	[2.73] 69,3	[0.75] 19,1	[0.31] 7,9	[0.28] 7	[1.18] 30	[0.95] 24
267208	5/8-11	[5.00] 127	[3.63] 92,1	[0.94] 23,8	[0.38] 9,5	[0.38] 9,5	[1.38] 35,1	[1.00] 25,4

Flat-Tip Bonded Neoprene Spindle – Metric

- Red neoprene, hardness: 80-85 Shore A
- Temperature Range: -20°C to 100°C [-22°F to 212°F]
- Oil resistant, LABS (silicone) free
- Includes jam nuts

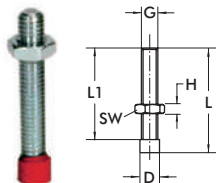


Part No.	M	L	L1	SW	H	A	ØD	ØD1
431208-M		[1.00] 25,4	[0.6] 15,8			[0.13] 3,3	[0.66] 16,8	[0.66] 16,8
424208-M	M6	[1.63] 41,3	[1.25] 31,7	[0.39] 10	[0.13] 3,2			
202208-M		[1.73] 44	[1.18] 30			[0.12] 3	[0.63] 16	[0.47] 12
215208-M		[2.13] 54	[1.57] 40					
225208-M		[2.09] 53	[1.38] 35					
2007208-M	M8	[2.48] 63	[1.77] 45	[0.51] 13	[0.16] 4		[0.83] 21	[0.55] 14
507208-M		[3.27] 83	[2.56] 65			[0.20] 5		
240208-M		[3.11] 79	[2.17] 55	[0.67] 17	[0.20] 5		[1.02] 26	[0.78] 20
235208-M	M10	[4.72] 120	[3.74] 95					
247208-M	M12	[4.02] 102	[2.87] 73	[0.75] 19	[0.24] 6	[0.28] 7	[1.18] 30	[0.94] 24

Part No.	M	L	L1	SW	H	A	ØD
205208-M	M4	[0.87] 22	[0.79] 20	[0.28] 7	[0.09] 2,2	[0.11] 2,8	[0.32] 8
201208-M		[1.26] 32	[1.18] 30				
305208-M		[1.14] 29	[0.98] 25				
213208-M	M5	[1.34] 34	[1.18] 30	[0.32] 8	[0.11] 2,7	[0.20] 5	[0.39] 10
2013208-M		[1.54] 39		[1.38] 35			
307208-M	M8	[1.69] 43		[0.51] 13	[0.16] 4	[0.35] 9	[0.75] 19

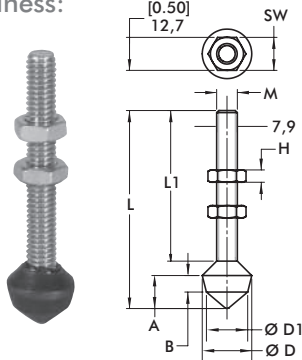
Part No.	D	L	L1	ØG
213208-M-L ⓘ	[0.24] 6	[1.34] 34	[1.18] 30	M5

ⓘ Item is available upon request.



Cone-Tip Bonded Neoprene Spindle – Inch

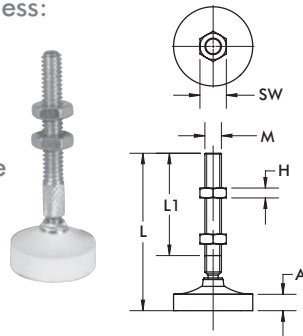
- Black neoprene, hardness: 70-80 Shore A
- Temperature Range: -20°C to 100°C [-22°F to 212°F]
- Oil resistant, LABS (silicone) free
- Includes jam nuts



Part No.	M	L	L1	SW	H	A	B	ØD	ØD1
305208	#10-32	[1.50] 38,1	[1.00] 25,4	[0.38] 9,5	[0.13] 3,3	[0.38] 9,5	[0.19] 4,8	[0.56] 14,2	[0.44] 11,2
213208	1/4-20	[2.25] 57,2	[1.56] 39,6	[0.44] 11,2	[0.16] 4,0				
509208	5/16-18	[3.00] 76,2	[2.28] 57,9	[0.50] 12,7	[0.19] 4,8	[0.50] 12,7	[0.25] 6,4	[0.75] 19,1	[0.63] 16
519208		[5.50] 139,7	[4.75] 120,7						
210208	3/8-16	[3.50] 88,9	[2.50] 63,5	[0.56] 14,2	[0.23] 5,8	[0.75] 19,1	[0.41] 10,4	[0.88] 22,4	[0.75] 19,1

Large Diameter Padded Swivel Foot Spindle-Inch

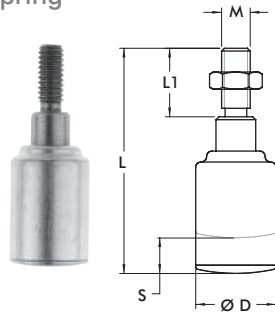
- White neoprene, hardness: 70-80 Shore A
- Temperature Range: -40°C to 105°C [-40°F to 220°F]
- Non-marking neoprene
- Includes jam nuts



Part No.	M	L	L1	SW	H	A	ØD	Swivel Angle
207209	1/4-20	[2.56] 65	[1.56] 39,6	[0.44] 11,2	[0.16] 4		[1.00] 25,4	14°
507209	5/16-18	[2.98] 75,7	[1.94] 49,3	[0.50] 12,7	[0.19] 4,8	[0.31] 8	[1.50] 38,1	24°
210209	3/8-16	[3.56] 90,4	[2.44] 62	[0.56] 14,2	[0.23] 5,8		[2.00] 50,8	26°

Plunger-matic Assemblies

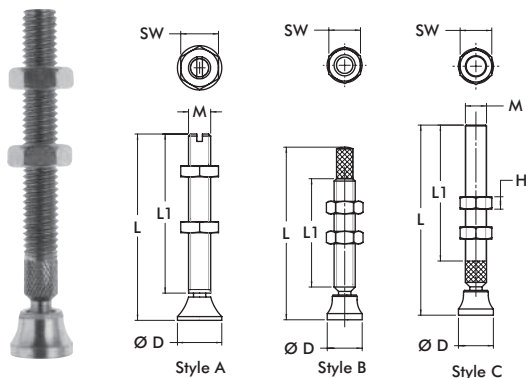
- For use with Straight Line Action clamps
- Internal compression spring compensates for variations in material thickness
- Zinc plated
- Includes jam nut



Part No.	M	L	L1	ØD	Max. Compression S	Spring Constant [lb./in] N/mm	Max. Force [lb.] N
905	5/16-18	[2.50] 63,5	[0.75] 19,1	[0.88] 22,2		[0.19] 4,8	[750] 131
905-M	M8						
920	3/8-16	[3.63] 92,2	[1.13] 28,6				
920-M	M10						

Swivel Foot Spindle

- Includes jam nuts



Part No.	M	Style	L	L1	SW	H	ØD	Swivel Angle
207206-M	M6	A	[2.44] 62	[2.13] 54	[0.39] 10	[0.13] 3,2	[0.47] 12	30°
507206-M	M8		[2.87] 73	[2.46] 62,5	[0.51] 13	[0.16] 4	[0.63] 16	
468206-M	M10	B	[3.00] 76,2	[2.00] 50,8	[0.67] 17	[0.20] 5	[0.79] 20	24°
210206-M		A	[3.31] 84	[2.80] 71				
250206-M	M12	A	[4.72] 120	[4.13] 105	[0.75] 19	[0.24] 6	[0.98] 25	30°
207206	1/4-20	C	[2.38] 60,5	[1.56] 39,6	[0.44] 11,2	[0.16] 4	[0.50] 12,7	14°
507206	5/16-18		[2.75] 69,9	[1.94] 49,3	[0.50] 12,7	[0.19] 4,8	[0.56] 14,2	
468206	3/8-16	B	[3.06] 77,7	[1.92] 48,8	[0.56] 14,2	[0.23] 5,8	[0.63] 16	24°
210206		C	[3.38] 85,9	[2.41] 61,2				
250206	1/2-13	C	[4.63] 117,6	[3.44] 87,4	[0.75] 19,1	[0.31] 7,9	[1.00] 25,4	24°

Manual Accessories

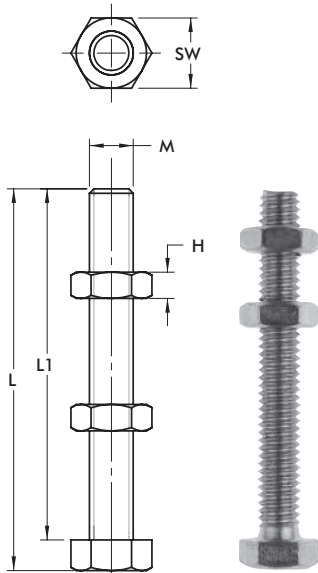
Hex Head Spindle – Stainless Steel

- Includes Plain hexagonal head
- Includes Fully threaded
- Includes Stainless steel, type 303
- Includes Includes jam nuts

Part No.	M	L	L1	SW	H	Part No.	M	L	L1	SW	H
205943-M	M4	[0.89] 22	[0.79] 20	[0.28] 7	[0.09] 2,2	205943	#8-32	[0.86] 21,8	[0.75] 19,1	[0.25] 6,4	[0.13] 3,2
201943-M	M5	[1.32] 33,5	[1.18] 30	[0.31] 8	[0.11] 2,7	201943	#10-32	[1.37] 34,8	[1.37] 34,8	[0.31] 8	
202943-M	M6	[1.73] 42,4	[1.57] 40	[0.39] 10	[0.13] 3,2	202943	1/4-20	[1.67] 42,4	[1.50] 38,1	[0.44] 11,1	[0.16] 4
207943-M	M8	[2.77] 70,3	[2.56] 65	[0.51] 13	[0.16] 4	207943	5/16-18	[2.72] 69	[2.50] 63,5	[0.50] 12,7	[0.19] 4,8
237943-M	M10	[3.00] 76,4	[2.76] 70	[0.67] 17	[0.20] 5	237943	3/8-16	[2.75] 69,9	[2.50] 63,5	[0.56] 14,2	[0.22] 5,6
245943-M	M12	[2.87] 73	[2.56] 65	[0.75] 19	[0.24] 6	245943	1/2-13	[2.72] 69	[2.38] 60,5	[0.75] 19,1	[0.31] 8

Hex Head Spindle

- Plain hexagonal head
- Fully threaded
- Zinc plated
- Includes jam nuts

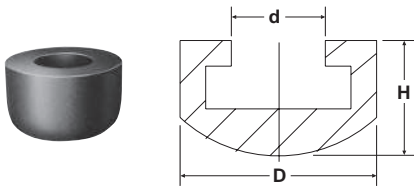


*Material: nylon

Part No.	M	L	L1	SW	H	Part No.	M	L	L1	SW	H
205203-M	M6	[1.93] 49	[1.77] 45	[0.39] 10	[0.13] 3,2	205203	1/4-20	[1.92] 48,8	[1.75] 44,5	[0.44] 11,2	[0.16] 4
461203-M	M8	[1.20] 30,5	[0.98] 25	[0.51] 13	[0.16] 4	202203		[3.17] 80,5	[3.00] 76,2		
207203-M		[2.97] 75,5	[2.76] 70			461203		[1.22] 31	[1.00] 25,4		
491203-M		[1.85] 47	[1.57] 40			441203	5/16-18	[1.97] 50	[1.75] 44,5	[0.50] 12,7	[0.19] 4,8
210203-M	M10	[3.03] 77	[2.76] 70	[0.67] 17	[0.20] 5	207203		[2.72] 69,1	[2.50] 63,5		
240203-M		[4.21] 107	[3.94] 100			491203		[1.75] 44,5	[1.50] 38,1		
220203-M	M12	[3.46] 88	[3.15] 80	[0.75] 19	[0.24] 6	210203	3/8-16	[3.00] 76,2	[2.75] 69,9	[0.56] 14,2	[0.23] 5,8
267203-M	M16	[5.12] 130	[4.72] 120	[0.94] 24	[0.28] 7	240203		[4.25] 108	[4.00] 101,6		
105203*	#8-32	[0.86] 21,8	[0.75] 19,1	[0.25] 6,4	[0.13] 3,3	527203		[5.25] 133,4	[5.00] 127		
305203	#10-32	[1.12] 28,4	[1.00] 25,4	[0.31] 8		325203	1/2-13	[2.84] 72,1	[2.50] 63,5	[0.75] 19,1	[0.31] 7,9
						220203		[3.34] 84,8	[3.00] 76,2		
						250203	5/8-11	[4.42] 111,6	[4.00] 101,6	[0.38] 9,5	[0.38] 9,5

Neoprene Caps

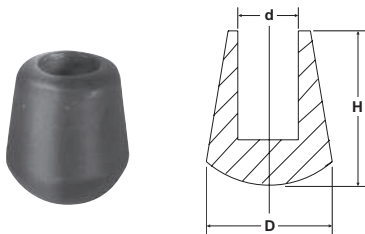
- Slip on head of hex-head spindles
- Hardness: 60-70 Shore A
- Temperature range:
-40°C to 105°C [-40°F to 220°F]



Part No.	D	d	H	For Spindle Diameter
215119	[0.63] 16	[0.25] 6,35	[0.44] 11,1	M6 or 1/4
225119	[0.75] 19,1	[0.31] 8	[0.50] 12,7	M8 or 5/16
235119	[0.88] 22,3	[0.38] 9,7	[0.53] 13,5	3/8

Special Neoprene Caps

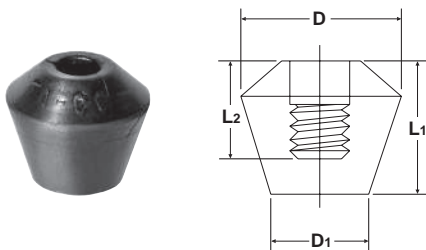
- Slip on threaded spindle rod
- Hardness: 60-70 Shore A
- Temperature range:
-40°C to 10°C [-40°F to 220°F]



Part No.	D	d	H	For Spindle Diameter
424107	[0.44] 11,1	[0.22] 5,6	[0.44] 11,1	M6 or 1/4
235110	[0.72] 18,3	[0.34] 8,6	[0.88] 22,3	M10 or 3/8

Polyurethane Caps

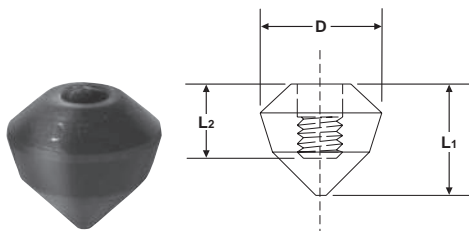
- Flat tip, internally threaded
- Hardness: 80 Shore A
- Temperature range:
-70°C to 95°C [-90°F to 200°F]



Part No.	D	D1	L1	L2	For Spindle Diameter
215219					1/4-20
215219-M	[0.79] 20	[0.50] 12,7	[0.69] 17,5	[0.50] 12,7	M6 x 1.0
225219					5/16-18
225219-M					M8 x 1.25
235219	[0.81] 20,5	[0.63] 16	[0.88] 22,3	[0.63] 16	3/8-16
235219-M					M10 x 1.5

Polyurethane Caps – Cone-tip

- Cone tip, internally threaded
- Hardness: 80 Shore A
- Temperature range:
-70°C to 95°C [-90°F to 200°F]

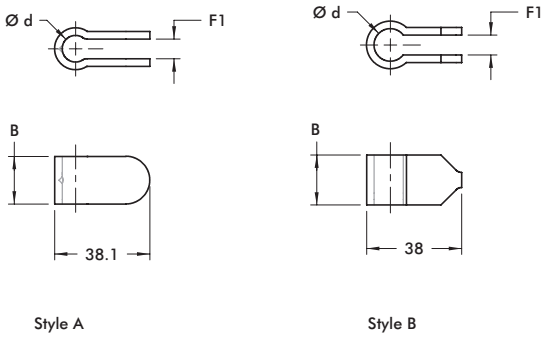


Part No.	D	L1	L2	For Spindle Diameter
215319				1/4
225319	[0.81] 20,5	[0.75] 19,1	[0.50] 12,7	5/16
235319		[0.94] 23,9	[0.63] 16	3/8

Manual Accessories

Bolt Retainers –

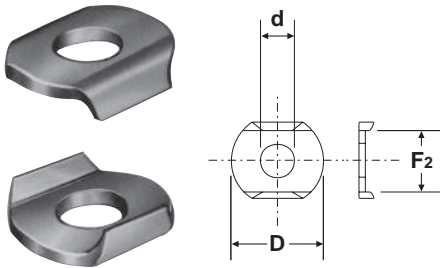
- For use with clamps featuring U-bar and open bar clamping arms



Part No.	A	B	Ød	F1	For Spindle Diameter	Style
207105	[1.25] 31,8	[0.63] 16	[0.33] 8,4	[0.25] 6,4	M8 or 5/16	A
207105-M	[1.26] 32		[0.32] 8,2	[0.24] 6		B
210114	[1.50] 38,1	[0.75] 19,1	[0.53] 13,5	[0.31] 8	M10 or 3/8	A
210114-M	[1.49] 38	[0.78] 20	[0.51] 13			B
247110	[1.63] 41,4	[0.88] 22,3	[0.56] 14,2	[0.38] 9,7	M12 or 1/2	A
247110-M	[1.61] 41	[0.87] 22,2	[0.57] 14,4			B
250121	[1.88] 47,8	[1.00] 25,4	[0.64] 16,3		M12 or 1/2	A
2002115-E	[0.97] 24,6	[0.50] 12,7	[0.26] 6,6	[0.23] 5,8	M6 or 1/4	B
2007115-E	[1.26] 32	[0.75] 19,1	[0.34] 8,6		M8 or 5/16	
2010115-E	[1.58] 40,1	[1.13] 28,7	[0.41] 10,4	[0.32] 8,1	M10 or 3/8	

Flanged Washers –

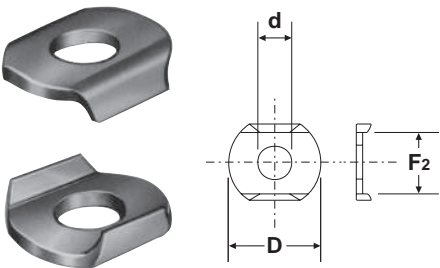
- For use with clamps featuring U-bar and open bar clamping arms
- Zinc plated



Part No.	ØD	Ød	F2	For Spindle Diameter
105106	[0.44] 11,2	[0.17] 4,3	[0.33] 8,3	M4 or #8
102111	[0.56] 14,2	[0.20] 5,1	[0.38] 9,6	M5 or #10
215105	[0.69] 17,5	[0.26] 6,7	[0.50] 12,7	M6 or 1/4
507107	[0.88] 22,4	[0.33] 8,4	[0.59] 15	M8 or 5/16
235106	[1.00] 25,4	[0.41] 10,5	[0.75] 19,1	M10 or 3/8
247109	[1.26] 32	[0.53] 13,5	[0.91] 23,2	M12 or 1/2
267102	[1.44] 36,5	[0.66] 16,8	[1.03] 26,2	M16 or 5/8

Flanged Washers-Stainless Steel

- For use with clamps featuring U-bar and open bar clamping arms



Part No.	ØD	Ød	F2	For Spindle Diameter
105906	[0.44] 11,2	[0.17] 4,3	[0.33] 8,3	M4 or #8
102911	[0.56] 14,2	[0.20] 5,1	[0.38] 9,6	M5 or #10
215905	[0.69] 17,5	[0.26] 6,7	[0.50] 12,7	M6 or 1/4
507907	[0.88] 22,4	[0.33] 8,4	[0.60] 15,2	M8 or 5/16
235906	[1.00] 25,4	[0.41] 10,5	[0.75] 19,1	M10 or 3/8
247909	[1.26] 32	[0.53] 13,5	[0.91] 23,2	M12 or 1/2
267902	[1.44] 36,6	[0.66] 16,8	[1.03] 26,2	M16 or 3/8

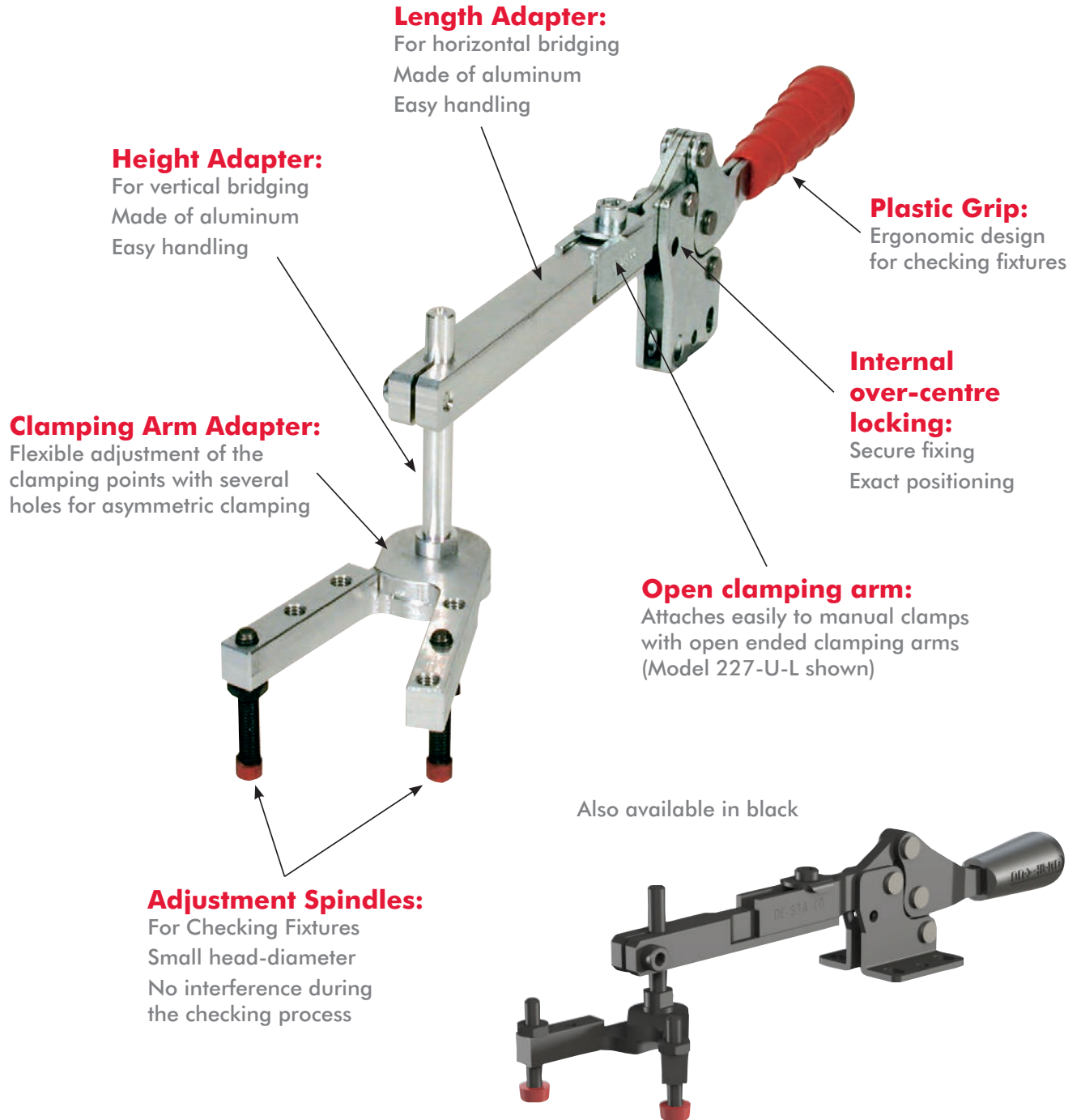
Adapters & Extensions

Features:

- Provides flexible adjustment of length and height
- Mounts to manual clamp models that feature open clamping arms
- Lightweight aluminum

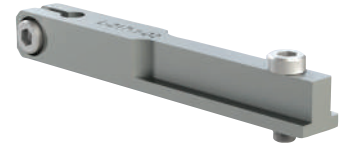
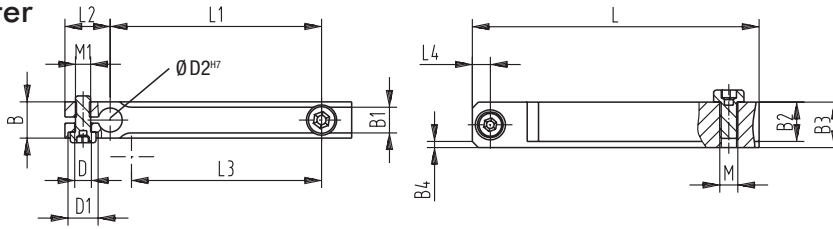
Application Areas:

- Checking fixtures
- Areas requiring multiple clamping points



Adapters & Extensions

Length Adapter

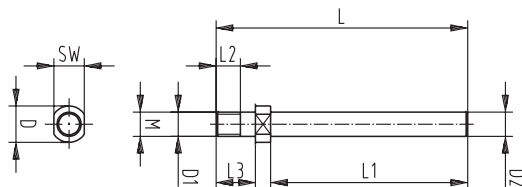


Model no.	Length adapter	B	B1 +0, -1	B2	B3	B4	DØ	D1 Ø	D2 ^{H7}	L	L1 ±0,2	L2	L3	L4	M	M1
213-U-L / 213-UB-L	L-213-1-01	[0.39] 10	[0.22] 5,5	[0.31] 8	[0.39] 10	2x 45°	[0.22] 5,5	--		[1.97] 50	[1.18] 30	[0.47] 12	[0.79] 20	[0.20] 5	M4	M5
2013-U / 2013-UB	L-213-1-02									[3.54] 90	[2.76] 70					
2013-UR / 2013-UBR	L-213-1-02															
202-U-L / 202-UB-L	L-217-1-01								[0.24] 6	[2.17] 55	[1.18] 30		[1.30] 33			
217-U-L / 217-UB-L	L-217-1-01															
2002-U-L / 2002-UB-L	L-217-1-02		[0.26] 6,5	[0.35] 9	[0.47] 12	2x 45°	[0.22] 5,5			[3.74] 95	[2.76] 70				M5	M5
2017-U / 2017-UB	L-217-1-03									[5.31] 135	[4.33] 110		[1.89] 48			
2017-UR / 2017-UBR	L-217-1-03															
207-U-L / 207-UB-L	L-227-1-01	[0.47] 12						[0.39] 10		[2.17] 55	[1.18] 30	[0.59] 15	[1.30] 33	[0.24] 6		
227-U-L / 227-UB-L	L-227-1-02									[3.74] 95	[2.76] 70					
2007-U-LS / 2007-U-LS	L-227-1-03		[0.33] 8,5	[0.51] 13	[0.59] 15	2x 45°	[0.22] 5,5		[0.31] 8	[5.31] 135	[4.33] 110		[2.87] 73		M6	M5
2027-U / 2027-UB	L-227-1-03															
2027-UR / 2027-UBR	L-227-1-04									[6.89] 175	[5.91] 150					

Ⓢ Available upon request.

Also available in Black. Add **-BLK** to part number.

Height Adapter



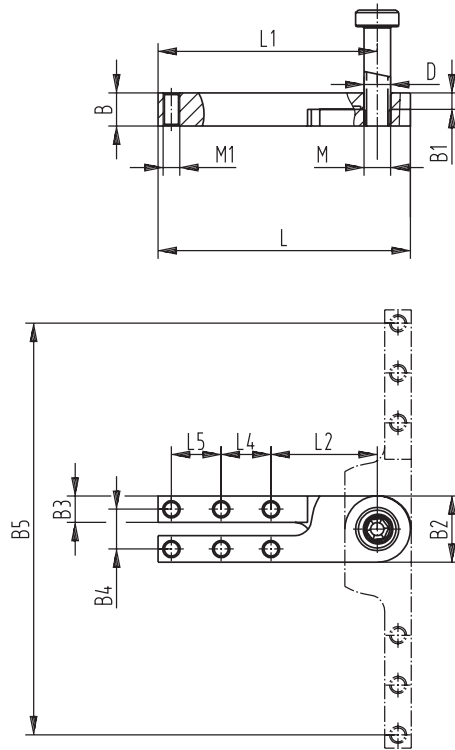
Model no.	Height adapter	DØ	D1 Ø f7	D2 f7	L	L1	L2	L3	SW	M
213-U-L / 213-UB-L	L-213-2-01		[0.20] 5	[0.24] 6	[2.05] 52	[1.38] 35				M5
2013-U / 2013-UB	L-213-2-02				[3.23] 82	[2.56] 65				
2013-UR / 2013-UBR	L-213-2-02									
202-U-L / 202-UB-L	L-217-2-01	[0.39] 10			[2.05] 52	[1.38] 35		[0.47] 12	[0.31] 8	M6
217-U-L / 217-UB-L	L-217-2-01		[0.24] 6	[0.24] 6						
2002-U-LS / 2002-UB-LS	L-217-2-02				[3.23] 82	[2.56] 65	[0.31] 8			
2017-U / 2017-UB	L-217-2-02									
2017-UR / 2017-UBR	L-217-2-02									
207-U-L / 207-UB-L	L-227-2-01		[0.31] 8	[0.31] 8	[2.09] 53	[1.38] 35		[0.51] 13	[0.39] 10	M8
227-U-L / 227-UB-L	L-227-2-01									
2007-U-LS / 2007-U-LS	L-227-2-02			[0.31] 88	[3.23] 82	[2.56] 65				
2027-U / 2027-UB	L-227-2-02									
2027-UR / 2027-UBR	L-227-2-02									

Ⓢ Available upon request.

Also available in Black. Add **-BLK** to part number.

Adapters & Extensions

Clamping Arm Adapter



Model no.	Clamping arm adapter	B	B1	B2	B3	B4	B5	DØ _{H7}	L	L1	L2	L4	L5	L6	M	M1
213-U-L / 213-UB-L 2013-U / 2013-UB 2013-UR / 2013-UBR	L-213-3-01 ①							[0.20] 5					-		M5	M5
202-U-L / 202-UB-L 217-U-L / 217-UB-L 2002-U-LS / 2002-UB-LS 2017-U / 2017-UB 2017-UR / 2017-UBR	L-217-3-01 ①	[0.39] 10	[0.20] 5	[0.79] 20	[0.31] 8	[0.47] 12	[3.70] 94	[0.24] 6	[2.40] 61	[2.01] 51	[1.26] 32	[0.59] 15	-	[0.39] 10	M6	M5
207-U-L / 207-UB-L 227-U-L / 227-UB-L 2007-U-LS / 2007-UB-LS 2027-U / 2027-UB 2027-UR / 2027-UBR	L-227-3-01 ①						4.88 124	[0.31] 8	[2.99] 76	[2.60] 66			[0.59] 15		M8	M5

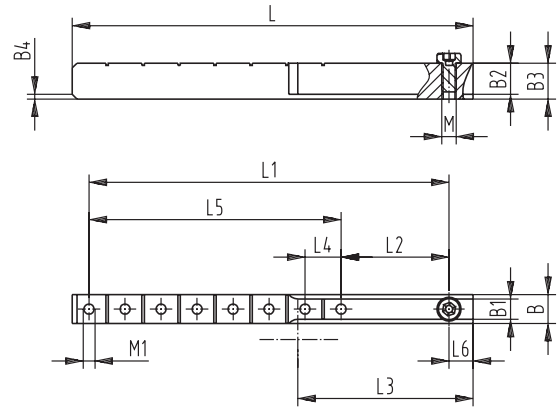
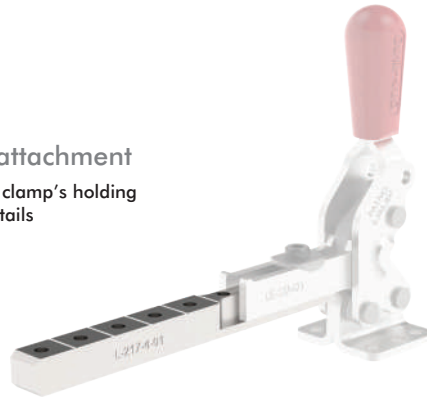
① Available upon request. Also available in Black. Add **-BLK** to part number.

Adapters & Extensions

Arm Extension:

- Easily cut to length
- Drilled & tapped for spindle attachment

Note: adding arm extension will reduce the clamp's holding capacity. Refer to Technical Appendix for details

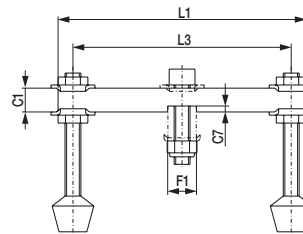


Model no.	Extension link	B	B1 +0, -1	B2	B3	B4	L ±0,2	L1	L2	L3	L4	L5	L6	M	M1
213-U-L / 213-UB-L 2013-U / 2013-UB 2013-UR / 2013-UBR	L-213-4-01 ⓘ	[0.39] 10	[0.22] 5,5	[0.31] 8	[0.39] 10	2x 45°	[2.95] 75	[2.36] 60	[0.94] 24	[0.79] 20	[0.47] 12	[1.42] 36	[0.31] 8	M4	M5
202-U-L / 202-UB-L 217-U-L / 217-UB-L 2002-U-LS / 2002-UB-LS 2017-U / 2017-UB 2017-UR / 2017-UBR	L-217-4-01 ⓘ	[0.47] 12	[0.26] 6,5	[0.35] 9	[0.47] 12	2x 45°	[5.00] 127	[4.33] 110	[1.38] 35	[1.89] 48	[0.59] 15	[2.95] 75	[0.39] 10	M5	M5
207-U-L / 207-UB-L 227-U-L / 227-UB-L 2007-U-LS / 2007-UB-LS 2027-U / 2027-UB 2027-UR / 2027-UBR	L-227-4-01 ⓘ	[0.33] 8,5	[0.51] 13	[0.59] 15	2x 45°	[6.57] 167	[5.91] 150	[1.77] 45	[2.87] 73	[4.13] 105	[0.39] 10			M6	M5

ⓘ Available upon request. Also available in Black. Add **-BLK** to part number.

Cross Arm Set

- 1 x cross arm
- 2 x adjustment spindles with neoprene thrust pads vulcanized, resin-free, inc.
- 2 x fastening nuts
- 4 x flange washers
- 1 x screw incl. 1 x fastening nut, self-locking



Model no.	For Models with U Arms	C1	C7	F	F1	L1	L3	Adjustable Spindles
207426-Q	207, 225, 227	[0.47] 12	[0.12] 3	[0.31] 35	[0.57] 14,5	[4.92] 125	[4.33] 110	507208-M
210440-Q	210, 235, 237	[0.63] 16	[0.16] 4	[0.43] 11	[0.75] 19	[5.87] 149	[5.12] 130	240208-M

C-Style Carver Clamps



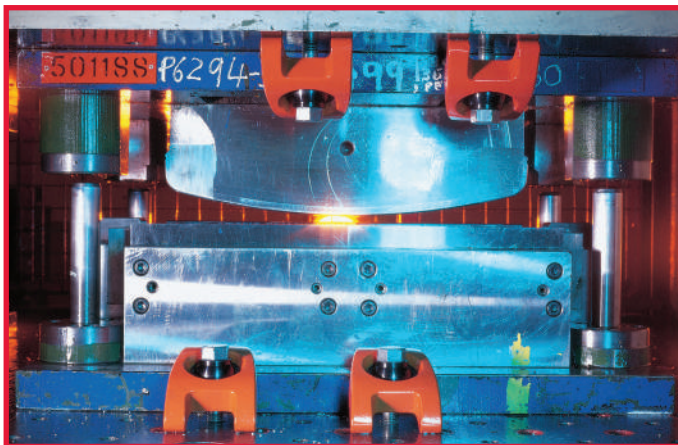
- Adjustment screw is shielded and out of the work area
- Ideal for rugged welding & fabrication jobs
- Holds round or flat objects
- Holding capacities to 27kN [6,000lb.]

Bar Style Carver Clamps



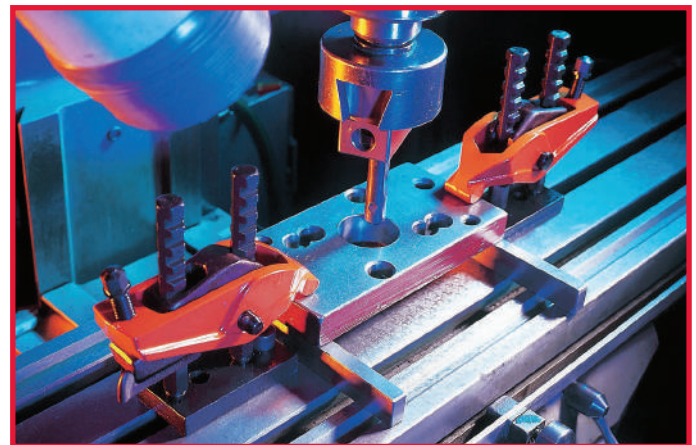
- Removable jaws can be reversed to provide spreading action
- Multiple jaws can be used on a single bar for positive part positioning
- Holding capacities to 27kN [6,000lb.]

Buttress Style Carver Clamps







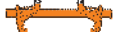
- Eliminates need for step blocks or riser blocks
- Self aligning swiveling pivot provides vertical clamping force over a wide range of work-piece heights
- T-bolt sizes M12 to M24[1/2" to 1"], capacities up to 80kN [18,000lb.]
- Ideally suited for T-slot machining tables or manual die clamping

T-Slot Style Carver Clamps








- Rapid height adjustment reduces set-up times by as much as 80%
- 100% of clamping force is transmitted to workpiece
- Ideal for use as manual die clamps.
- Holding capacities to 25kN [5,620lb.]

Bar-Style

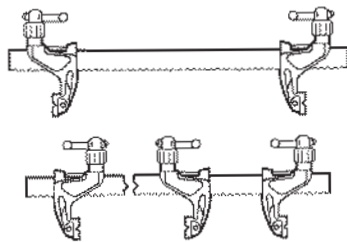
	Model	Holding Capacity max	Page
	T186-24 T186-36	[2500 lbf] 11300N	8.4-8.5
	T321-24 T321-36 T321-60	[1500 lbf] 5650N	
	T290-36 T290-60 T290-84	[4000 lbf] 18000N	
	T285-36 T285-60 T285-84	[2000 lbf] 9000N	
	T257-84	[6000 lbf] 27000N	

C-Style

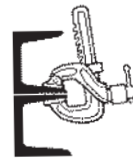
	Model	Holding Capacity max	Page
	T186-6 T186-12 T186-20	[2500 lbf] 11300N	8.6-8.7
	T321-10	[1270 lbf] 5650N	
	T290-9 T290-18 T290-40	[4000 lbf] 18000N	
	T285-9 T285-18	[2000 lbf] 9000N	
	T257-24 T257-36	[6000 lbf] 27000N	

Typical Applications

Bar Clamps



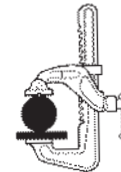
"C" Clamps



No obstruction from long screw. Ideal for structural steel fabrication.



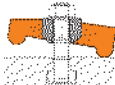


Unaffected by weld spatter. Screw is shielded and out of work area.







Holds rounds to flats. Limited movement of moveable jaw pad and grooved face ensure positive grip on round objects.

Buttress Style

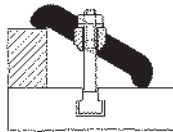
	Model	Holding Capacity max	Page
	T614-0	[2900 lbf] 13000N	8.8-8.9
	T614-1	[14000 lbf] 62500N	
	T614-2	[18000 lbf] 80000N	

T-Slot Style

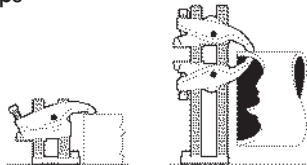
	Model	Holding Capacity max	Page
	T400-4 T400-6 T400-8	[5100 lbf] 22700N	8.10-8.13
	T600-4 T600-6 T600-8	[3600 lbf] 16000N	
	T402-6 T402-12 T402-18 T402-24	[8160 lbf] 36300N	
	T602-6 T602-12 T602-18	[5620 lbf] 25000N	

Typical Applications

Buttress Clamps



T-Slot Clamps



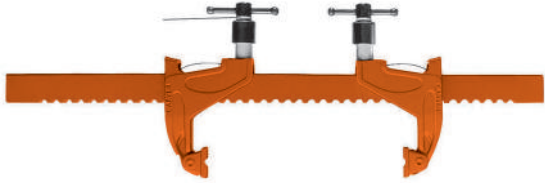
Ideal for use as manual die clamps. Eliminates the need for step blocks or riser blocks.

Bar-Style Product Overview

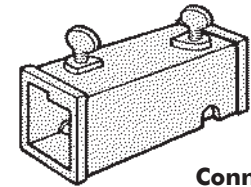
Features:

These rugged clamps, made from high-tensile, heat-treated steel, are designed for all types of applications requiring large holding capacities from 1270 lbf to 6000 lbf (5650N to 27000N). The clamps are highly versatile. For example, jaws can be reversed to provide spreading action, or several jaws can be used on a single bar both for fixturing and positive component location and clamping.

Available models include T321 Standard-Duty Deep Throat, T285 Medium-Duty Deep Throat, T186 Standard-Duty, T290 Medium-Duty and T257 Heavy-Duty. In addition, standard and medium-duty connectors are available to couple like bars together for increased clamping reaches.



Model	For Bar Clamps Model	Weight [lbs.] kg
186-13	T186-... and T321-...	[1.54] 0,7
290-13	T285-... and T290-...	[2.87] 1,3



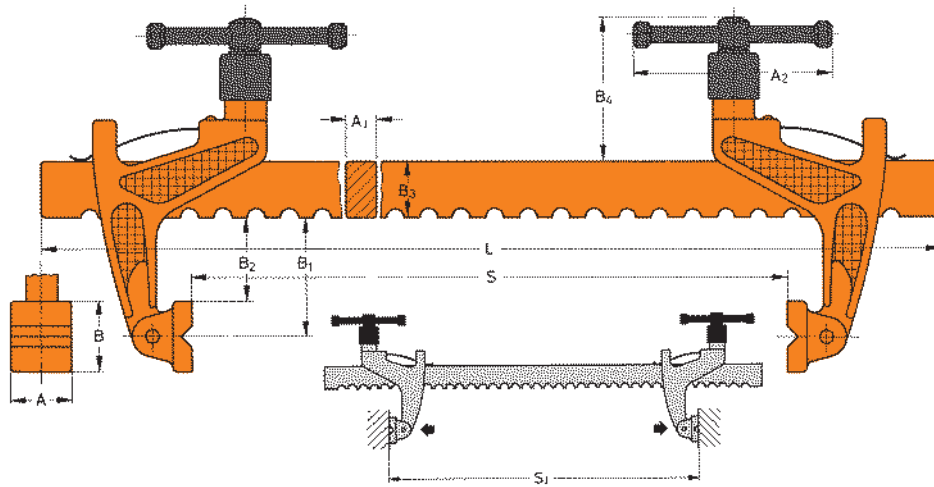
Connector

Bar-Style Technical Information, Holding Capacities

Holding Capacity	Throat Depth	Width Opening S		Width Opening S1		Model	Clamping Screw Ø	Weight [lbs.] kg	Consisting of:	
		min	max	min	max				1 x	2 x
 [2500 lbf] 11300N	[2.38] 60	[8.50] 215	[24] 600	[2.95] 75	[26.8] 680	T186-24	M12	[7.50] 3,4	186-24-1	186-2
			[36] 900		[39] 990	T186-36		[9.50] 4,4		
 [1270 lbf] 5650N	[4.7] 120	[5.50] 140	[24] 600	[3.15] 80	[27.2] 690	T321-24	M12	[7.70] 3,5	186-24-1	321-2
			[36] 900		[39.4] 1000	T321-36		[9.00] 4,5		
			[60] 1500		[63] 1600	T321-60		[13.00] 5,9		
 [4000 lbf] 18000N	[3.5] 90	[10.00] 250	[36] 900	[4.72] 120	[36.9] 1005	T290-36	M16	[20.50] 10,5	290-36-1	290-2
			[48] 1200		[63.8] 1620	ⓈT290-60		[28.50] 14,0		
			[60] 1500		[87.4] 2220	ⓈT290-84		[36.50] 18,0		
 [2000 lbf] 9000N	[8.0] 200	[6.00] 150	[36] 900	[4.72] 120	[42.7] 1085	T285-36	M16	[24.50] 10,5	290-36-1	285-2
			[48] 1200		[66.93] 700	ⓈT285-60		[32.50] 15,0		
			[60] 1500		[90.6] 2300	ⓈT285-84		[40.50] 19,0		
 [6000 lbf] 27000N	[4.5] 115	[12.00] 305	[84] 2100	[5.90] 150	[86.6] 2200	ⓈT257-84	M20	[61.00] 27,2	257-84-1	257-2

Ⓢ Available upon request

Bar-Style Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	[inch] mm							
	A	A1	A2	B	B2	B3	B4	L
T186-24	[0.98]	[0.47]	[2.99]	[1.26]	[1.73]	[1.18]	[2.99]	[28]
T186-36	25	12	76	32	44	30	76	[40.2]
T321-24								710
T321-36	[0.98]	[0.47]	[2.99]	[1.26]	[4.09]	[1.18]	[2.99]	[40.2]
T321-60	25	12	76	32	104	30	76	1020
T290-36								[64]
Ⓢ T290-60	[1.50]	[0.79]	[5.51]	[2.00]	[2.56]	[1.57]	[4.13]	[42.1]
Ⓢ T290-84	38	20	140	51	65	40	105	1070
T285-36								[66.5]
Ⓢ T285-60	[1.50]	[0.79]	[5.51]	[2.00]	[7.09]	[1.57]	[4.13]	[66.5]
Ⓢ T285-84	38	20	140	51	180	40	105	1690
Ⓢ T257-84								[90.2]
	[2.00]	[0.87]	[7.36]	[2.50]	[3.27]	[2.05]	[5.00]	[91.9]
	51	22	187	63,5	83	52	127	2335

Ⓢ Available upon request

C-Style Product Overview

Features:

Operation is very simple. The operator slides the spring loaded moveable jaw toward the workpiece to the nearest notch where it locks into the detent. Hand tightening the screw advances the clamp jaw. The jaw advances the tilting pad directly into contact with the workpiece – there is no rotating to twist the work or the clamp out of position.

An unusual and very useful feature of these clamps is the ability to use the clamp for spreading or locating as well as squeezing..



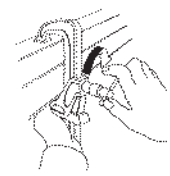
1. Loosen Screw



2. Push In Jaw Base

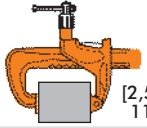
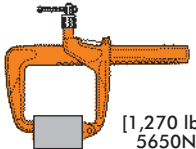
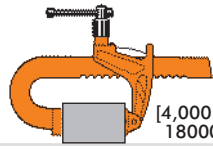
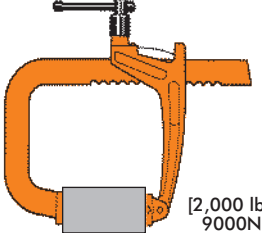
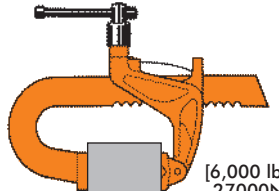


3. Slide Jaw Up or Down



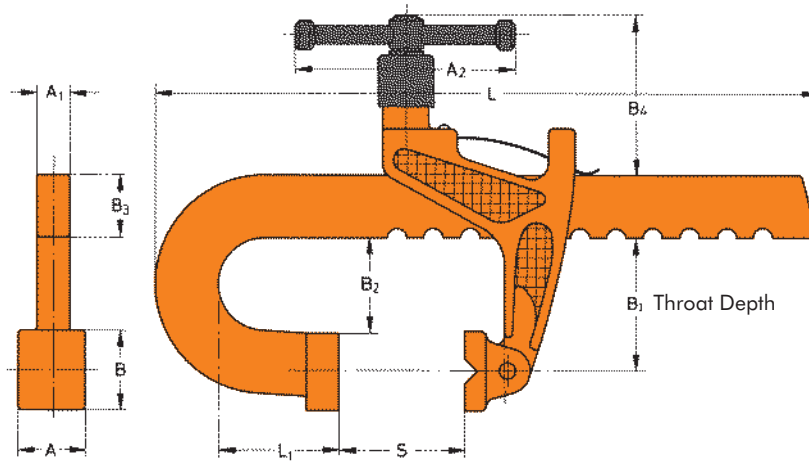
4. Tighten Screw

C-Style Technical Information, Holding Capacities

Holding Capacity	Throat Depth B1 [in] mm	Width Opening S [in] mm	Model	Clamping Screw Ø	Weight [lbs.] kg	Consisting of:	
						1 x	1 x
 [2,500 lbf] 11300N	[2.38] 60	[0-6] 0-150 [0-12] 0-300 [0-20] 0-500	T186-6	M12	[2.75] 1,4 [3.75] 1,8 [5.51] 2,5	186-6-1	186-2
			T186-12			186-12-1	186-2
			ⓘ T186-20			186-20-1	186-2
 [1,270 lbf] 5650N	[4.7] 120	[0-10] 0-250	T321-10	M12	[4.4] 2,0	321-10-1	321-2
 [4,000 lbf] 18000N	[3.5] 90	[0-9] 0-225 [0-18] 0-450 [0-40] 0-1000	T290-9	M16	[10.00] 5,5 [13.50] 7,0 [23.15] 10,5	290-9-1	290-2
			T290-18			290-18-1	290-2
			ⓘ T290-40			290-40-1	290-2
 [2,000 lbf] 9000N	[8.0] 200	[0-9] 0-225 [0-18] 0-450	T285-9	M16	[12.00] 7,1 [13.50] 8,5	285-9-1	285-2
T285-18	285-18-1	285-2					
 [6,000 lbf] 27000N	[4.5] 115	[0-24] 0-610 [0-36] 0-914	T257-24	M20	[27.50] 13,1 [32.50] 15,8	257-24-1	257-2
T257-36	257-36-1	257-2					

ⓘ Available upon request

C-Style Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	[inch] mm									
	A	A1	A2	B	B2	B3	B4	L	L1	
T186-6				[1.26] 32		[1.30] 33		[9.65] 245	[.79] 20	
T186-12	[0.98] 25	[0.51] 13	[3.00] 76	[1.26] 38	[1.69] 43	[1.30] 33	[3.00] 76	[15.55] 395	[.79] 20	
① T186-20				[1.38] 35		[1.18] 30		[24.61] 625	[1.18] 30	
T321-10	[0.98] 25	[0.51] 13	[3.00] 76	[1.38] 35	[4.02] 102	[1.32] 33,5	[3.00] 76	[14.2] 360	[1.00] 25	
T290-9								[16.53] 420		
T290-18	[1.57] 40	[0.79] 20	[5.51] 140	[2.36] 60	[2.56] 65	[1.57] 40	[4.13] 105	[25.78] 655	[2.56] 65	
① T290-40								[47.44] 1205		
T285-9								[16.53] 420		
T285-18	[1.57] 40	[0.79] 20	[5.51] 140	[2.36] 60	[7.09] 180	[1.57] 40	[4.13] 105	[25.78] 655	[2.56] 65	
T257-24								[33.46] 850		
T257-36	[2.00] 51	[0.87] 22	[7.36] 187	[2.36] 60	[3.35] 85	[2.00] 51	[5.00] 127	[45.87] 1165	[3.94] 100	

① Available upon request

Buttress Style Product Overview

Features:

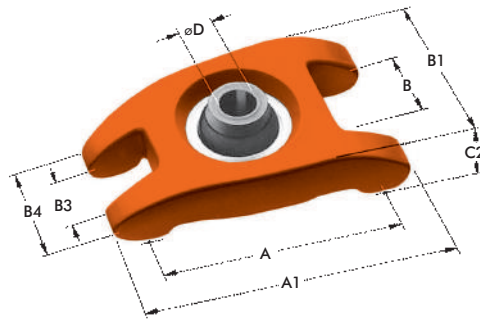
These workholding clamps are designed for use on thin or low-profile workpieces replacing ordinary strap clamps. They feature a self-aligning swiveling pivot which allows the tightening bolt to always remain vertical, preventing any side forces. The two-point contact offered by Models T614-0 and T614-1 also provides greater stability to the workpiece. Ideally suited for manual die clamping. Eliminates the need for step blocks or riser blocks.



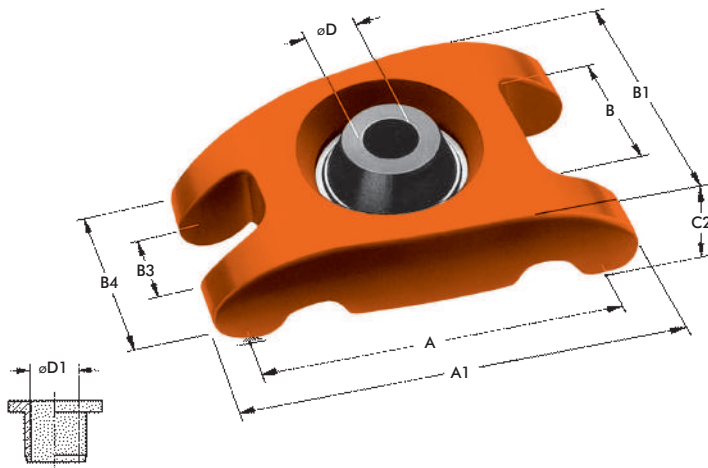
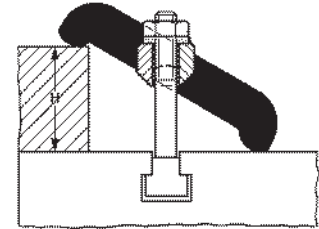
Buttress Style Technical Information, Holding Capacities

Holding Capacity	Working Height Range	For screw diameter	Model	Weight [lbs.] kg
<p>[2900 lbf] 13000N</p>	<p>[0-1.75"] 0-45</p>	<p>[1/2"] M12</p>	T614-0	<p>[1.5] 0,6</p>
<p>[14000 lbf] 62500N</p>	<p>[0-2.25"] 0-57</p>	<p>[5/8"] M16 or [3/4"] M20</p>	T614-1	<p>[5.8] 2,7</p>
<p>[18000 lbf] 80000N</p>	<p>[0-3.00"] 0-75</p>	<p>[1"] M24</p>	T614-2	<p>[9.5] 4,3</p>

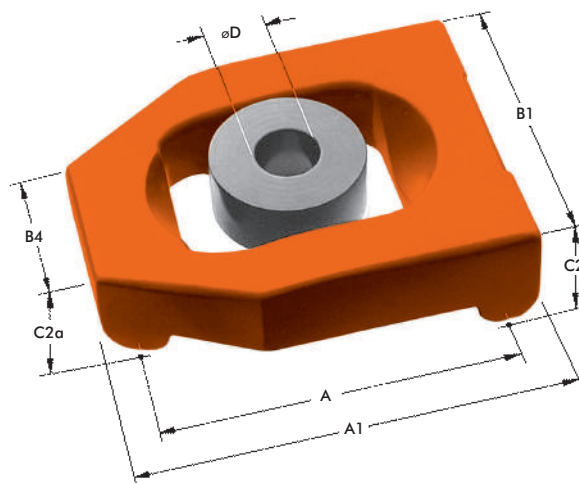
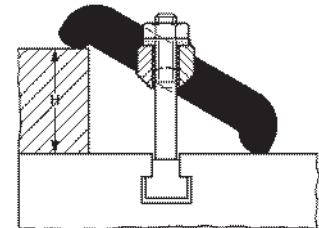
Buttress Style Standard Clamp Dimensions



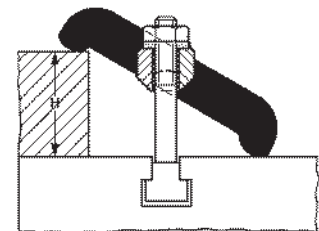
Holding capacity [2900 lbf] 13kN
Clamping height [1.75] 45mm max.
Model T614-0



Holding capacity [14000 lbf] 62.5kN
Clamping height [2.25] 57mm max.
Model T614-1
Delivery includes reducing bush with inner diameter 17 [0.67].
Reducer bushing is standard equipment



Holding capacity [18000 lbf] 80kN
Clamping height 75 [3.00] max.
Model T614-2



Model	[inch] mm									
	A	A1	B	B1	B3	B4	C2	C2a	ØD	ØD1
T614-0	[3.54] 90	[4.34] 110	[1.41] 36	[2.59] 66	[0.78] 40	[1.56] 40	1.02 26	-	[0.51] 13	-
T614-1	[5.28] 134	[6.31] 160	[2.09] 53	[3.94] 100	[1.14] 29	[2.56] 65	[1.81] 46	-	[0.83] 21	[0.67] 17
T614-2	[5.83] 148	[6.69] 170	-	[5.13] 130	-	[2.56] 65	[1.97] 50	[1.57] 40	[1.02] 26	-

T-Slot Style Product Overview

Features:

These clamps provide rapid height adjustment and positive holding. They are designed with a single-unit clamp head and base. The DE-STA-CO Carver T-Slot Clamp is one single assembly – there are no loose parts. When setting up, the safety lock on the back is released and the clamp lifted on the base to the desired height. When the clamp screw is turned, 100% of the force is transmitted to the work-piece. Backing off the clamp adjusting screw and releasing the safety lock and lifting the clamp head makes for rapid job changeover.


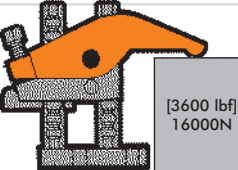
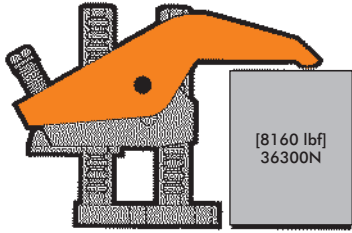
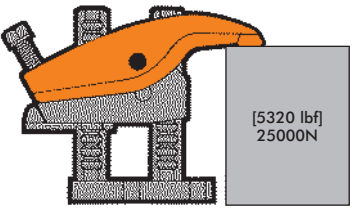


If the clamping height is more than [29.5in] 750mm the connector shown below will be delivered as standard equipment.

MODEL T813400



T-Slot Style Technical Information, Holding Capacities

Holding Capacity	Throat Depth		Working Height C		Model	Max. Torque	Accessories standard equipment	Weight [lbs.] kg
	a	b	min.	max.				
 <p>[5100 lbf] 22700N</p>	[0.55] 14	[1.30] 33	[0.50] 12	[4.00] 100	T400-4	[36 ft. lbs.] 49Nm	(2) M12 T-nuts for 14mm T-slot T2060-05	[5.1] 2,3
			[0.50] 12	[6.00] 150	T400-6			[5.5] 2,5
			[2.00] 50	[8.00] 200	T400-8			[5.7] 2,6
 <p>[3600 lbf] 16000N</p>	[2.24] 57	[2.87] 73	[0.50] 12	[4.00] 100	T600-4	[30 ft. lbs.] 40Nm	(2) M12 T-nuts for 14mm T-slot T2060-05	[5.9] 2,7
			[0.50] 12	[6.00] 150	T600-6			[6.4] 2,9
			[2.00] 50	[8.00] 200	T600-8			[6.6] 3,0
 <p>[8160 lbf] 36300N</p>	[1.73] 44	[2.68] 68	0	[6.00] 150	T402-6	[85 ft. lbs.] 115Nm	(2) M16 T-nuts for 18mm T-slot T2060-07	[14.00] 6.4
			0	[12.00] 300	T402-12			[17.70] 8.0
			[6.00] 150	[18.00] 450	T402-18			[19.40] 8.8
			[12.00] 300	[24.00] 600	ⓈT402-24			[20.00] 9.0
 <p>[5320 lbf] 25000N</p>	[3.90] 99	[4.84] 123	[6.00] 150	[6.00] 150	T602-6	[70 ft. lbs.] 95Nm	(2) M16 T-nuts for 18mm T-slot T2060-07	[16.00] 7.3
			[12.00] 300	[12.00] 300	T602-12			[19.80] 9.0
			[18.00] 450	[18.00] 450	ⓈT602-18			[21.60] 9.8

Ⓢ Available upon request

T-Slot Style Product Overview

These clamps provide rapid height adjustment and positive holding. They are designed with a single-unit clamp head and base, providing up to [8000 lbf] 35.6kn. of positive holding capacity for workpieces up to 60" high. The design applies 100% of the screw force directly onto the workpiece far more than any strap clamp arrangement. Additionally, there is no searching for the correct riser block height. The DE-STA-CO Carver T-Slot Clamp is one single assembly – there are no loose parts.

When setting up, the safety lock on the back is released and the clamp lifted on the base to the desired height. When the clamp screw is turned, 100% of the force is transmitted to the workpiece. Backing off the clamp adjusting screw and releasing the safety lock and lifting the clamp head makes for rapid job changeover.

Safety – No loose parts. Clamp and base are one unit. Higher clamping force holds parts more securely and safely.

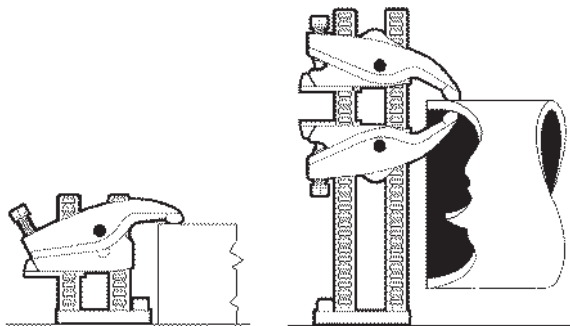
Speed – The clamp head adjusts much faster than an operator can select proper size spacers and bolts. Benefits include:

- Cuts set-up time by as much as 80%
- Reduces machine downtime
- Offers more rapid loading and unloading

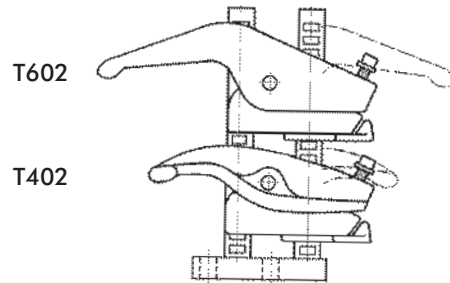
Economy – Tool tip technology and digital control have reduced machining time. Why lose these advantages on long set-up times? T-Slot clamps can reduce set-up time by as much as 80%. Benefit: Money saved.

Ease of Operation – Loosen adjusting screw and release safety catch to adjust height instantly.

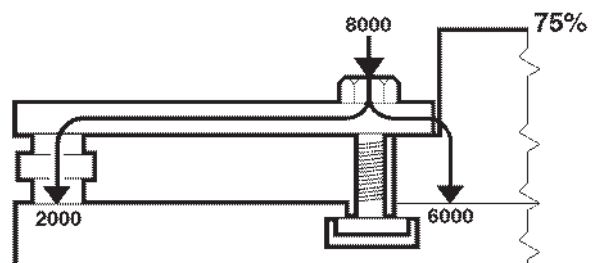
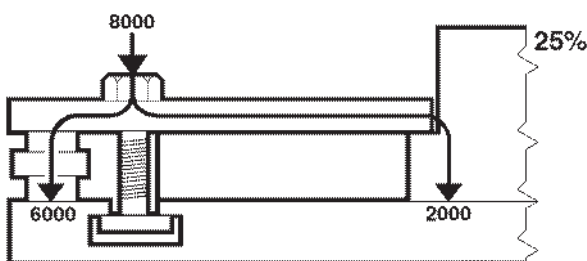
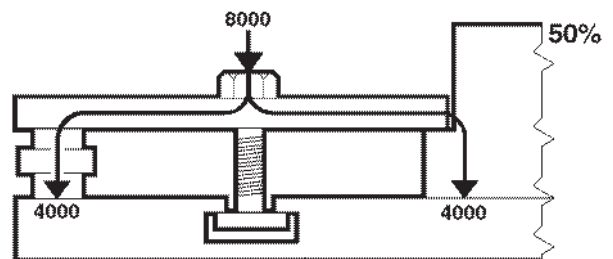
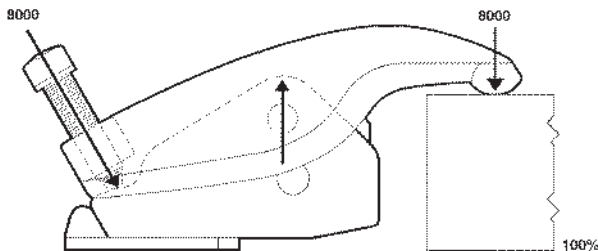
Versatility - Selection of bases gives standard clamping heights from 0 to 600mm[0 to 24in.]. Additional heights available up to 1500mm[60in.] are available upon request. Two or more heads can be used on one base to position and hold down as well as support – ideal for fine height adjustment during set-up. Also eliminates riser blocks.



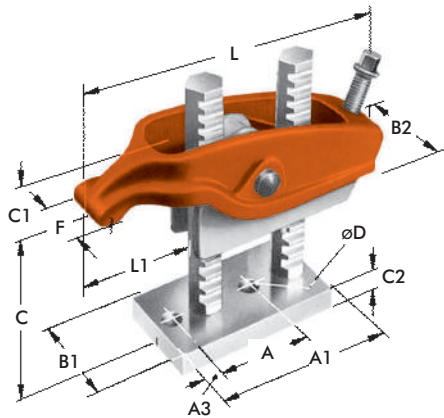
Ideal for use as manual die clamps. Eliminates the need for step blocks or riser blocks.



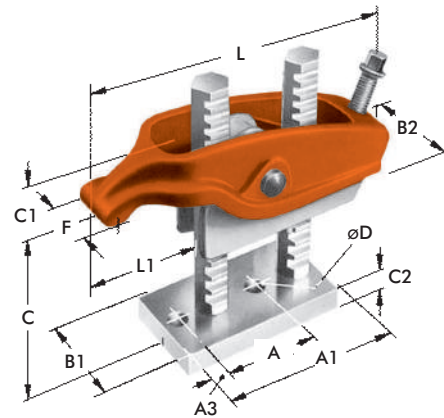
The T402 and T602 can be reversed on their bases to give added reach.



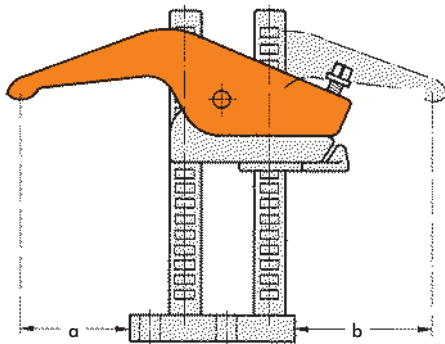
T-Slot Style Standard Clamp Dimensions



Model T400-..



Model T402-..



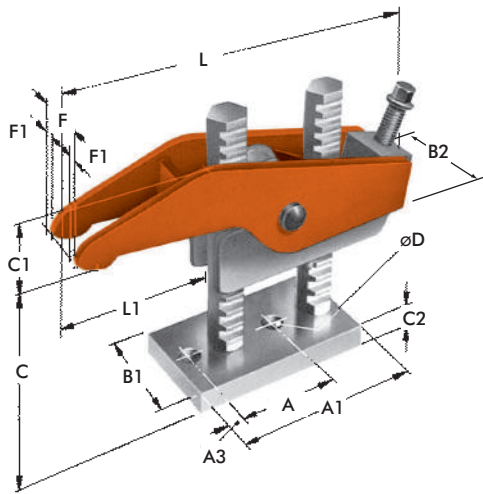
If the T402 is reversed on its base, the measurement of the throat depth will change.

	T400-..	T402-..
a	[0.55] 14	[1.73] 44
b	[1.30] 33	[2.68] 68

Model	A	A1	A3	B1	B2	C		C1	C2	ØD	F	L	L1	Consisting of		Clamping Screw Size Ø
						min	max							1x	1x	
T400-4						[1.00] 25	[4.00] 100							400-4-1		
T400-6	[2.12] 54	[3.78] 96,2	[0.41] 10.5	[2.00] 51	[2.00] 51	[1.00] 25	[6.00] 150	[1.09] 28	[0.63] 16	[0.53] 13,5	[1.02] 26	[6.30] 160	[1.44] 36,5	400-2	400-6-1	12mm
T400-8						[2.50] 62	[8.00] 200							400-8-1		
T402-6						0	[6.00] 150							402-6-1		
T402-12						0	[1200] 300							402-12-1		
T402-18	[2.81] 71	[5.51] 140	[0.59] 15	[3.00] 76	[2.68] 68	[6.00] 150	[18.00] 450	[1.77] 45	[0.75] 19	[0.66] 16,3	[1.50] 38	[9.65] 245	[2.56] 65	402-2	402-18-1	20mm
① T402-24						[12.00] 300	[24.00] 600							402-24-1		

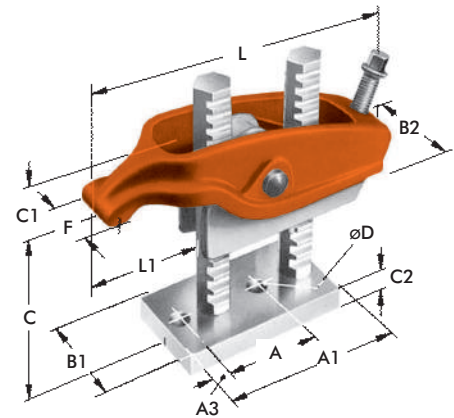
① Available upon request

T-Slot Style Standard Clamp Dimensions

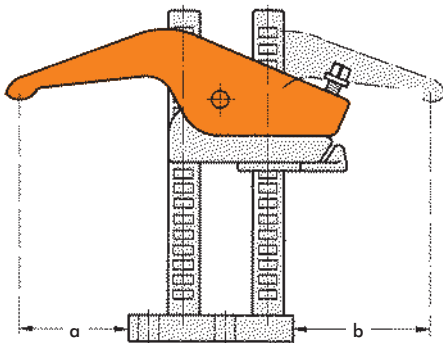


Model

T600-..



Model T602-..



If the T602 is reversed on its base, the measurement of the throat depth will change.

	T600-..	T602-..
a	[2.24] 57	[3.90] 99
b	[2.87] 73	[4.84] 123

Model	A	A1	A3	B1	B2	C		C1	C2	ØD	F	F1	L	L1	Consisting of		Clamping Screw Size Ø	
						min	max								1x	1x		
T600-4						[0.47] 12	[4.00] 100									600-4-1		
T600-6	[2.12] 54	[3.78] 96,2	[0.41] 10,5	[2.00] 51	[1.97] 50	[0.47] 12	[6.00] 150	[1.50] 38	[0.63] 16	[0.53] 13,5	[1.97] 50	[0.41] 10,5	[7.88] 200	[3.35] 85	600-2	600-6-1	12mm	
T600-8						[1.97] 50	[8.00] 200									600-8-1		
T602-6						0	[6.00] 150										402-6-1	
T602-12	[2.81] 71	[5.51] 140	[0.59] 15	[3.11] 79	[3.11] 79	0	[1200] 300	[3.19] 81	[0.75] 19	[0.66] 16,3	[1.50] 38	-	[12.40] 315	[5.31] 135	602-2	402-12-1	20mm	
ⓘ T602-18						[6.00] 150	[18.00] 450										402-18-1	

ⓘ Available upon request

DE-STA-CO Pneumatic Clamps use air-actuated cylinders to operate the clamping action. They are ideal for quick and repetitive production operations, and yet are portable and economical to use on short run jobs with temporary fixturing

Series	Section. Page	Max. Holding Capacity N[lbf.]							Max. Exerting Force at 5bar[72PSI] N[lbf.]						
		0 to 1000 [0 to 225]	1000 to 2000 [225 to 450]	2000 to 3000 [450 to 675]	3000 to 5000 [675 to 1125]	5000 to 7000 [1125 to 1575]	7000 to 10000 [1575 to 2250]	10000+ [2250+]	0 to 1000 [0 to 225]	1000 to 2000 [225 to 450]	2000 to 3000 [450 to 675]	3000 to 4000 [675 to 900]	4000 to 5000 [900 to 1125]	5000 to 6000 [1125 to 1350]	6000 to 8000 [1350 to 1800]
	812	9.3	■						■						
	802	9.5	■							■					
	807	9.7			■						■				
	810	9.9				■						■			
	846	9.11				■							■		
	847	9.15				■								■	
	8007	9.13				■						■			
	858	9.17							■						■
	8021	9.19		■						■					
	8071	9.19		■							■				
	8101	9.19				■						■			
	817	9.21		■							■				
	827	9.21				■						■			
	868	9.23								■					■
	803	9.25			■						■				
	8031	9.26						■				■			
	830	9.27							■				■		
	850	9.28							■					■	
	800	9.29								■					
	1200	9.29								■					

Series 812 Product Overview

Features:

- Smallest of the pneumatic hold down series
- Pneumatic version of Model 201-U

Applications:

- Assembly
- Welding

Also Available:

See page 7.1 for spindle accessories
 See page 11.1 for sensing options
 High temperature version available
 Upon Request as Model 812-**U-HT**

812-U



Series 812 Technical Information, Holding Capacities

Model	Maximum Holding Capacity		Maximum Exerting Force @ 5bar [72PSI]		Weight	Bore Size	Air Consumption† dm³ [ft³]	Port Size	Accessories (Supplied)	
	Inner	Outer	Inner	Outer					Spindle Accessory	Flanged Washers
812-U	[100 lbf] 440 N	[55 lbf] 245 N	[136 lbf] 613 N	[92 lbf] 413 N	[0.46lb] 0,21kg	[0.75] 19,1	[0.003] 0,09	M5	305208-M	102111

†Per double stroke at 5bar [72PSI]

Max. Operating Temp: -23°C to 74°C [-10°F to 165°F]

Optional Sensors: 810156, 810158

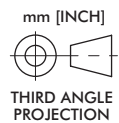
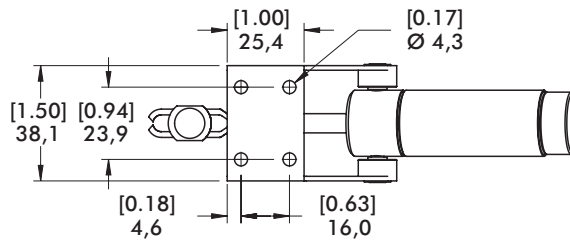
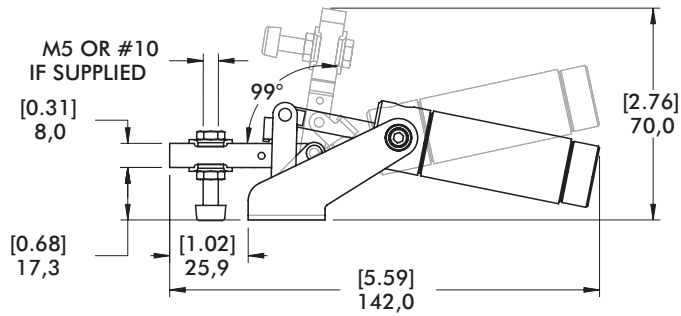
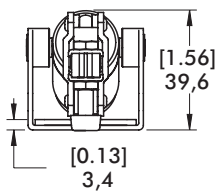
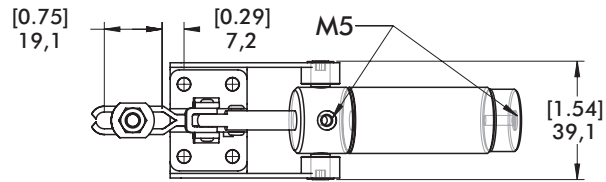
Replacement Clamp Assembly: 812-U-LC

In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity.

See Technical Appendix Section for details.

Series 812 Standard Clamp Dimensions

812-U



Note:

Model 812-U requires either 810156 or 810158 sensors. Two (2) sensors are required if detecting both open and closed positions. These sensors use 810156-1 (included with sensors) band clamp to mount the sensor to the cylinder wall.



Series 802 Product Overview

Features:

- Pneumatic version of Model 202-U
- Sensor ready for T-slot or round sensors

Applications:

- Assembly
- Welding

Also Available:

See page 7.1 for spindle accessories
 See page 11.1 for sensing options
 High temperature version available
 Upon Request, add **-HT** to model number. Example: 802-U-**HT**

802-U
 802-UE



Series 802 Technical Information, Holding Capacities

Model	Maximum Holding Capacity		Max. Exerting Force @ 5bar [72PSI]		Weight	Bore Size	Air Consumption† dm ³ [ft ³]	Port Size	Accessories (Supplied)	
	Inner	Outer	Inner	Outer					Spindle Accessory	Flanged Washers
802-U	[200 lbf]	[110 lbf]	[450 lbf]	[234 lbf]	[1.60lb]	[1.26]	[0.012]	1/8 NPT	202208-M	215105
802-UE	890 N	490 N	2010 N	1045 N	0,73kg	32	0,34	G-1/8		

†Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]*
Max Operating Temp: -10°C to 90°C [-14°F to 194°F]
Replacement Seal Kit: 802450-32-1-00
Replacement Clamp Assembly: 802-U-LC

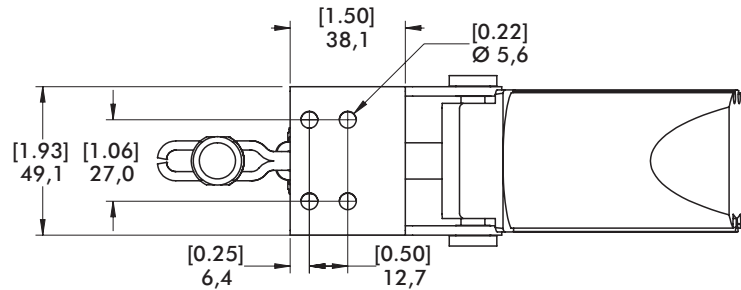
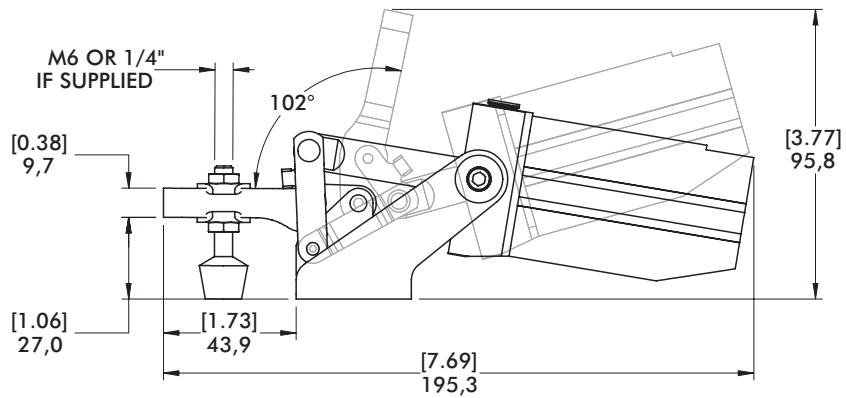
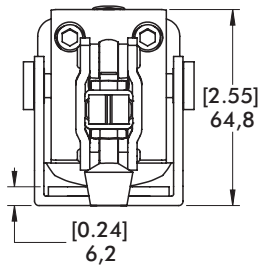
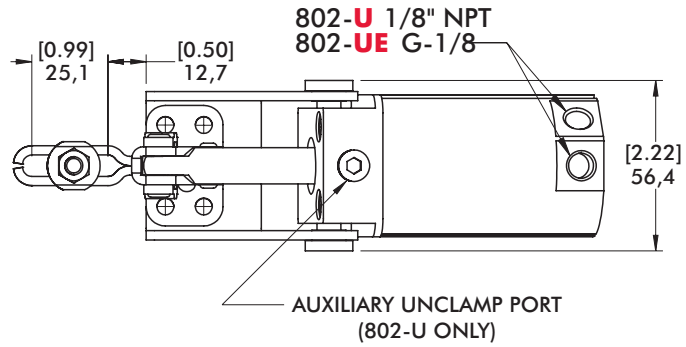
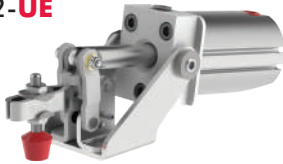
*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix for details.

Sensor Accessories	Item Number
Round Reed Switch with Quick Disconnect	810169
T-slot Reed Switch with Quick Disconnect	8EA-109-1
Quick Disconnect 2M Extension Cable	CABL-010
Quick Disconnect 5M Extension Cable	CABL-013

See Pneumatic Accessories section for more options

Series 802 Standard Clamp Dimensions
-U/-UE

802-U
802-UE



mm [INCH]
THIRD ANGLE PROJECTION

Series 807 Product Overview

Features:

- Pneumatic version of Series 207 manual clamps
- Sensor ready for round or T-slot sensors.
- Built-in flow restriction eliminates need for external flow controls

Applications:

- Assembly
- Welding

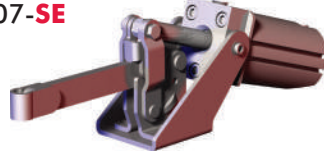
Also Available:

See page 7.1 for spindle accessories
 See page 11.1 for sensing options
 High temperature version available
 Upon Request, add **-HT** to model number. Example: 807-U-**HT**

807-U
807-UE



807-S
807-SE



Series 807 Technical Information, Holding Capacities

Model	Maximum Holding Capacity		Maximum Exerting Force @ 5bar [72PSI]		Weight	Bore Size	Air Consumption† dm ³ [ft ³]	Port Size	Accessories (Supplied)		
	Inner	Outer	Inner	Outer					Spindle Accessory	Flanged Washers	Bolt Retainer
807-U	[375 lbf]	[275 lbf]	[576 lbf]	[297 lbf]	[1.66lb] 0,75kg	[1.26] 32	[0.015] 0,42	1/8 NPT	--	507107	--
807-UE	1670 N	1220 N	2573 N	1327 N				G-1/8	2007208-M		
807-S	[500 lbf]	[260 lbf]	[540 lbf]	[180 lbf]	[1.66lb] 0,75kg	[1.26] 32	[0.015] 0,42	1/8 NPT	--	--	207105
807-SE	2220 N	1160 N	2412 N	804 N				G-1/8	--		

†Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]*

Max Operating Temp: -10°C to 90°C [-14°F to 194°F]

Replacement Seal Kit: 802450-32-1-00

Replacement Clamp Assembly: 807-U-LC, 807-S-LC

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix for details.

Sensor Accessories

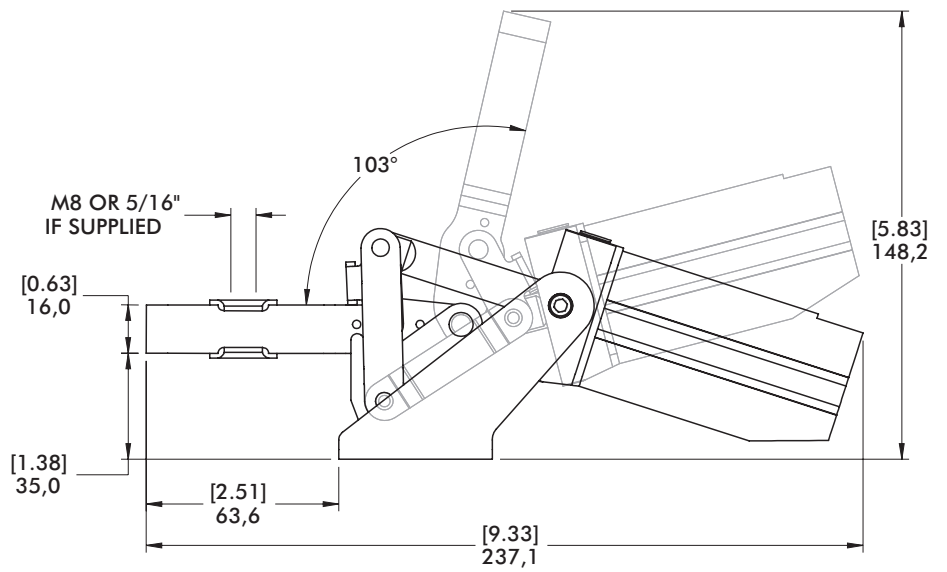
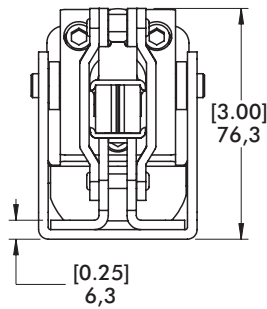
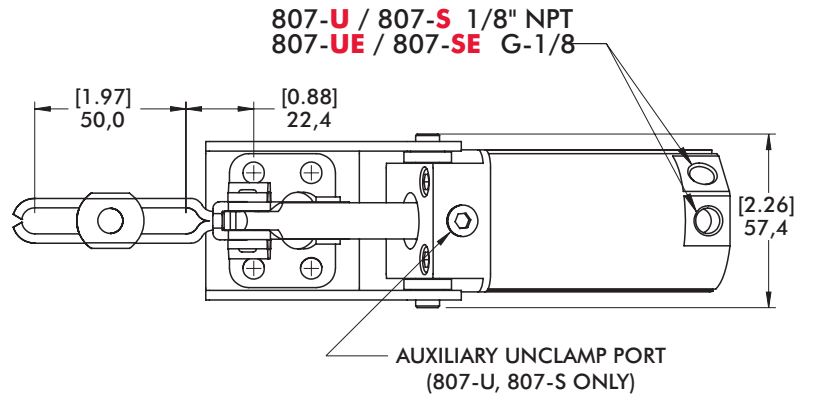
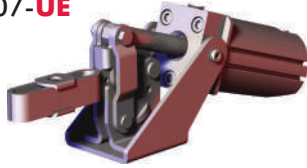
Item Number

Round Reed Switch with Quick Disconnect	810169
T-slot Reed Switch with Quick Disconnect	8EA-109-1
Quick Disconnect 2M Extension Cable	CABL-010
Quick Disconnect 5M Extension Cable	CABL-013

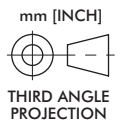
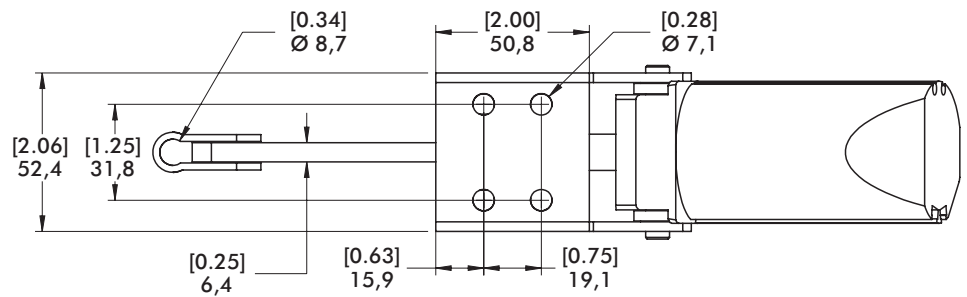
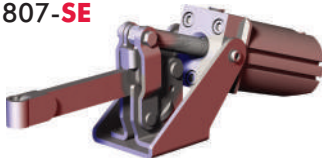
See Pneumatic Accessories section for more options

Series 807 Standard Clamp Dimensions
-U/-UE/-S/-SE

807-U
807-UE



807-S
807-SE



Series 810 Product Overview

Features:

- Pneumatic version of Series 210 manual clamps
- Sensor ready for round or T-slot style sensors
- Built-in flow restriction eliminates need for external flow controls

Applications:

- Assembly
- Welding

Also Available:

- See page 7.1 for spindle accessories
- See page 11.1 for sensing options



Series 810 Technical Information, Holding Capacities

Model	Maximum Holding Capacity		Maximum Exerting Force @ 5bar [72PSI]		Weight	Bore Size	Air Consumption† dm ³ [ft ³]	Port Size	Accessories (Supplied)		
	Inner	Outer	Inner	Outer					Spindle Accessory	Flanged Washers	Bolt Retainer
810-U	[600 lbf]	[290 lbf]	[856 lbf]					1/8 NPT	--		
810-UE	2670 N	1290 N	3834 N	[407 lbf]	[4.07lb]	[1.57]	[0.029]	G-1/8	240208-M	235106	--
810-S	[750 lbf]	[500 lbf]	[702 lbf]	1823 N	1,85kg	40	0,83	1/8 NPT	--	--	210114
810-SE	3340 N	2220 N	3143 N					G-1/8			

†Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]*

Max Operating Temp: -10°C to 90°C [-14°F to 194°F]

Replacement Seal Kit: 810450-40-1-00

Replacement Clamp Assembly: 810-U-LC, 810-S-LC

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity.

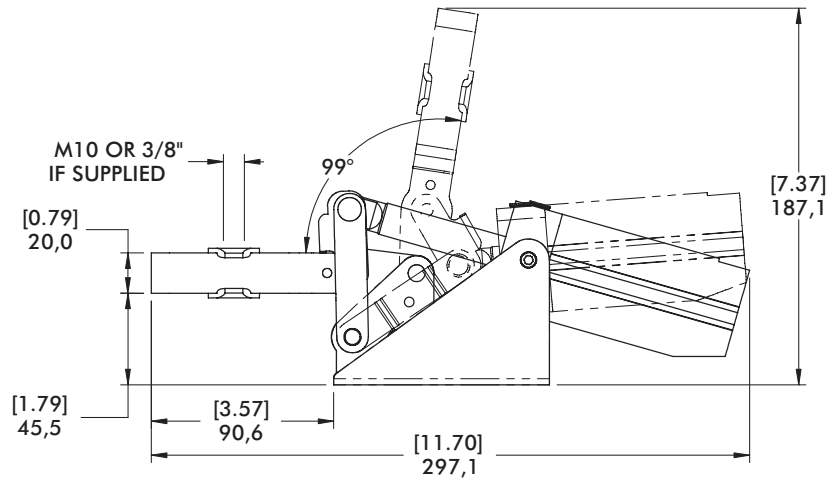
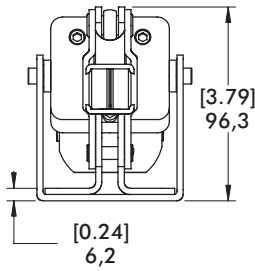
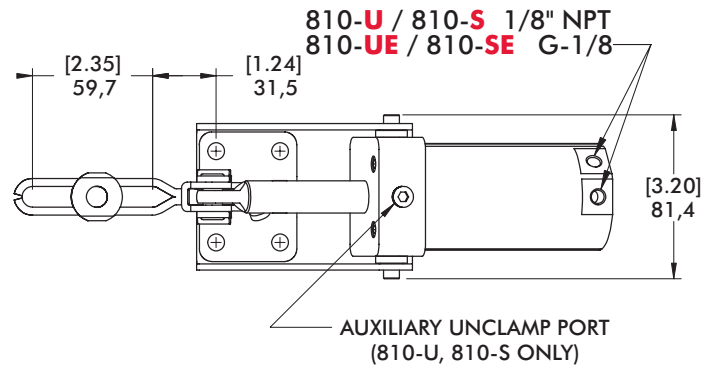
Sensor Accessories

	Item Number
Round Reed Switch with Quick Disconnect	810169
T-slot Reed Switch with Quick Disconnect	8EA-109-1
Quick Disconnect 2M Extension Cable	CABL-010
Quick Disconnect 5M Extension Cable	CABL-013

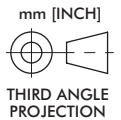
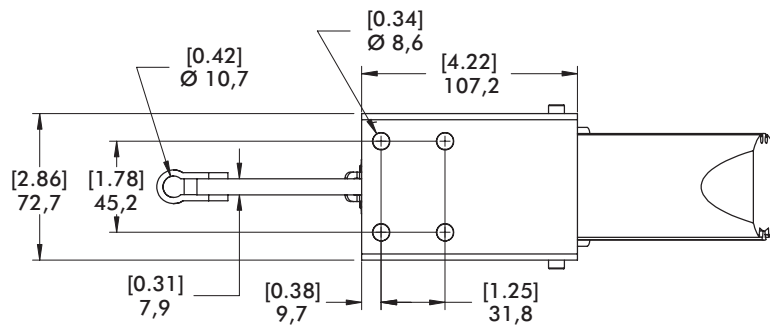
See Pneumatic Accessories section for more options

Series 810 Standard Clamp Dimensions
-U/-UE/-S/-SE

810-U
810-UE



810-S
810-SE



Series 846 Product Overview

Features:

- Similar in size to 807 but with higher holding capacity
- Large, solid clamping arm is easily modified to suit application requirements
- Sensor ready for round or T-slot style sensors

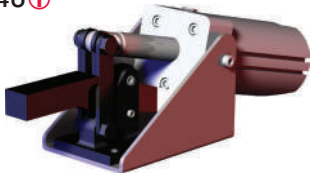
Applications:

- Assembly
- Welding

Also Available:

See page 11.1 for sensing options

846 ⓘ



Series 846 Technical Information, Holding Capacities

Model	Maximum Holding Capacity		Max. Exerting Force @ 5bar [72PSI]		Weight	Bore Size	Air Consumption† dm ³ [ft ³]	Port Size
	Inner	Outer	Inner	Outer				
846 ⓘ	[750 lbf] 3340 N	[520 lbf] 2310 N	[786 lbf] 3520 N	[491 lbf] 2200 N	[4.18lb] 1,90kg	[1.57] 40	[0.029] 0,83	1/8 NPT

ⓘ This item is available upon request. †Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]*

Max Operating Temp: -10°C to 90°C [-14°F to 194°F]

Replacement Seal Kit: 810450-40-1-00

Replacement Clamp Assembly: 846-LC

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix Section for details.

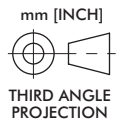
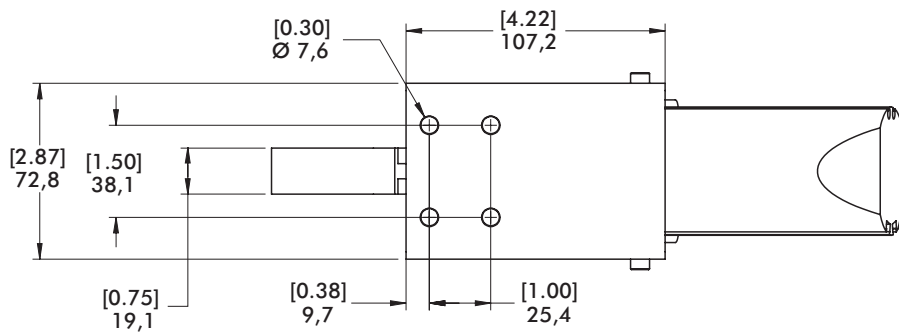
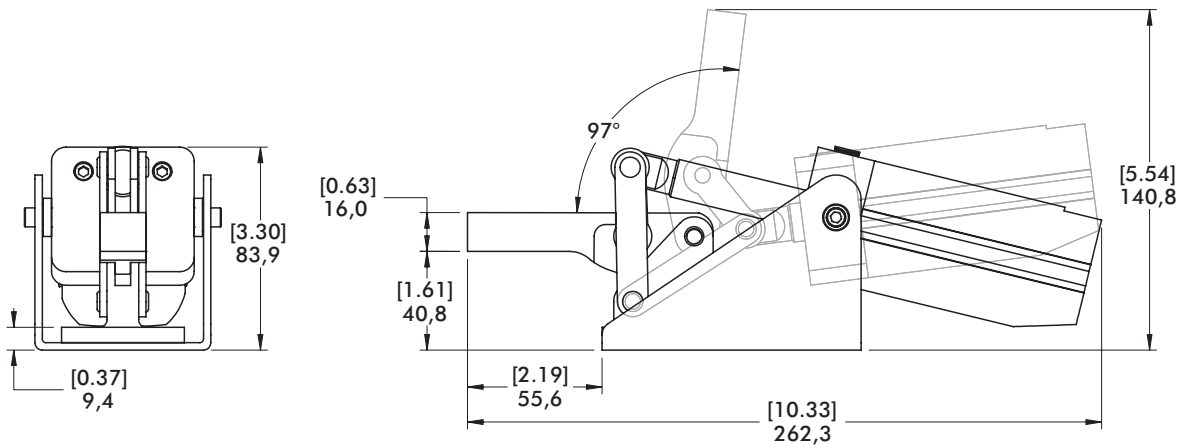
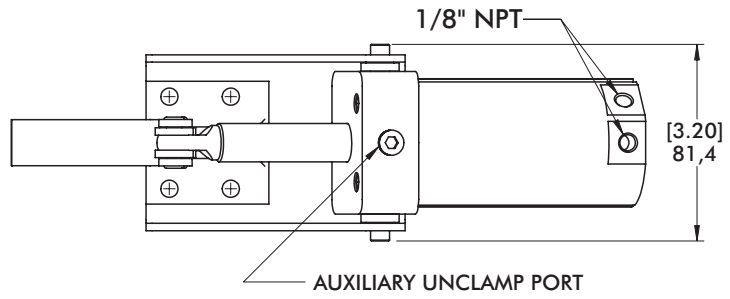
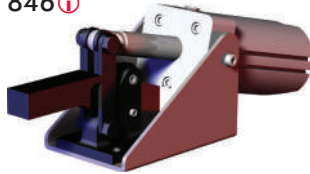
Sensor Accessories

	Item Number
Round Reed Switch with Quick Disconnect	810169
T-slot Reed Switch with Quick Disconnect	8EA-109-1
Quick Disconnect 2M Extension Cable	CABL-010
Quick Disconnect 5M Extension Cable	CABL-013

See Pneumatic Accessories section for more options

Series 846 Standard Clamp Dimensions

846 ①



Series 8007 Product Overview

Features:

- Hardened pins and bushing at all pivot points for long life cycle
- Solid clamping bar may be modified to suit application requirements
- Sensor ready for round or T-slot style sensors

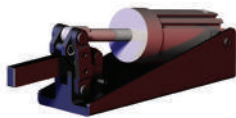
Applications:

- Assembly
- Welding

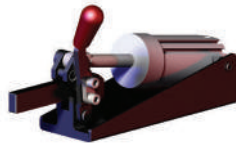
Also Available:

See page 11.1 for sensing options

8007-E



8007-EHL



8007-EHR



Series 8007 Technical Information, Holding Capacities

Model	Maximum Holding Capacity		Max. Exerting Force @ 5bar [72PSI]		Weight	Bore Size	Air Consumption† dm ³ [ft ³]	Port Size
	Inner	Outer	Inner	Outer				
8007-E					1,6kg [3.53lb]			
8007-EHL	[830 lbf] 3700 N	[405 lbf] 1800 N	[606 lbf] 2700 N	[225 lbf] 1000 N		[1.26] 32	[0.016] 0,44	G-1/8
8007-EHR					1,7kg [3.75lb]			

†Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]*

Max Operating Temp: -10°C to 90°C [-14°F to 194°F]

Replacement Clamp Assembly: 8007-LC

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix Section for details.

Sensor Accessories

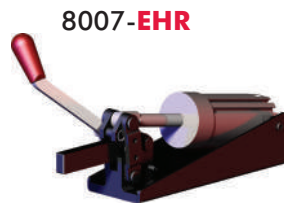
- Round Reed Switch with Quick Disconnect
- T-slot Reed Switch with Quick Disconnect
- Quick Disconnect 2M Extension Cable
- Quick Disconnect 5M Extension Cable

Item Number

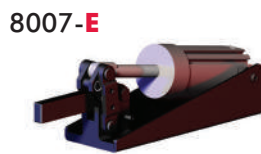
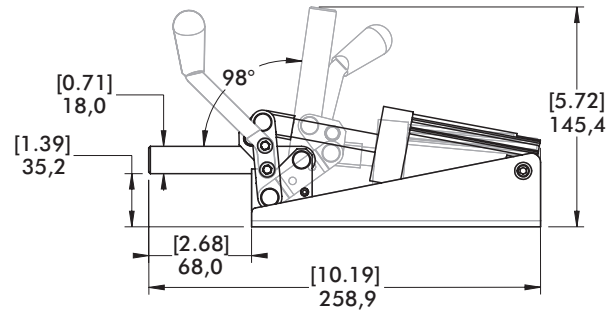
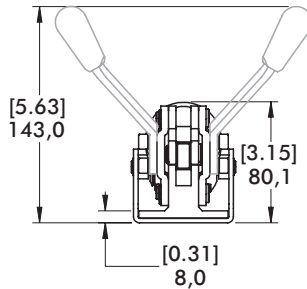
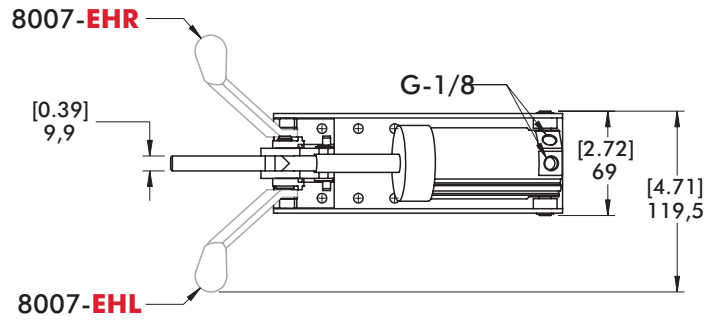
- 810169
- 8EA-109-1
- CABL-010
- CABL-013

See Pneumatic Accessories section for more options

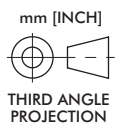
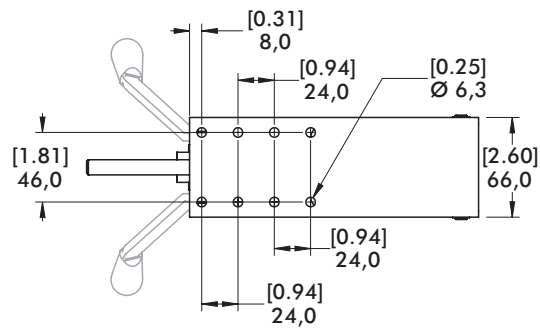
Series 8007 Standard Clamp Dimensions
-E/-EHL/-EHR



8007-EHR



8007-E



Series 847 Product Overview

Features:

- Pneumatic version of Series 247 manual clamps
- Switch ready for Ø4mm or 6,5mmX5mm sensors
- Built-in flow restriction eliminates need for external flow controls

Applications:

- Assembly
- Welding

Also Available:

See page 7.1 for spindle accessories
See page 11.1 for sensing options

847-U



847-S



Series 847 Technical Information, Holding Capacities

Model	Maximum Holding Capacity		Max. Exerting Force @ 5bar [72PSI]		Weight	Bore Size	Air Consumption† dm ³ [ft ³]	Port Size	Accessories (Supplied)		
	Inner	Outer	Inner	Outer					Spindle Accessory	Flanged Washers	Bolt Retainer
847-U	[1000 lbf] 4450 N	[480 lbf] 2135 N	[948 lbf] 4248 N	[450 lbf] 2018 N	[8.93lb] 4,05kg	[1.97] 50	[0.044] 1,25	1/4 NPT	--	247109	--
847-S	[1000 lbf] 4450 N	[650 lbf] 2890 N		[426 lbf] 1912 N					--	--	247110

†Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]*

Max Operating Temp: -10°C to 90°C [-14°F to 194°F]

Replacement Seal Kit: 847450-50-1-00

Replacement Clamp Assembly: 847-U-LC, 847-S-LC

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix Section for details.

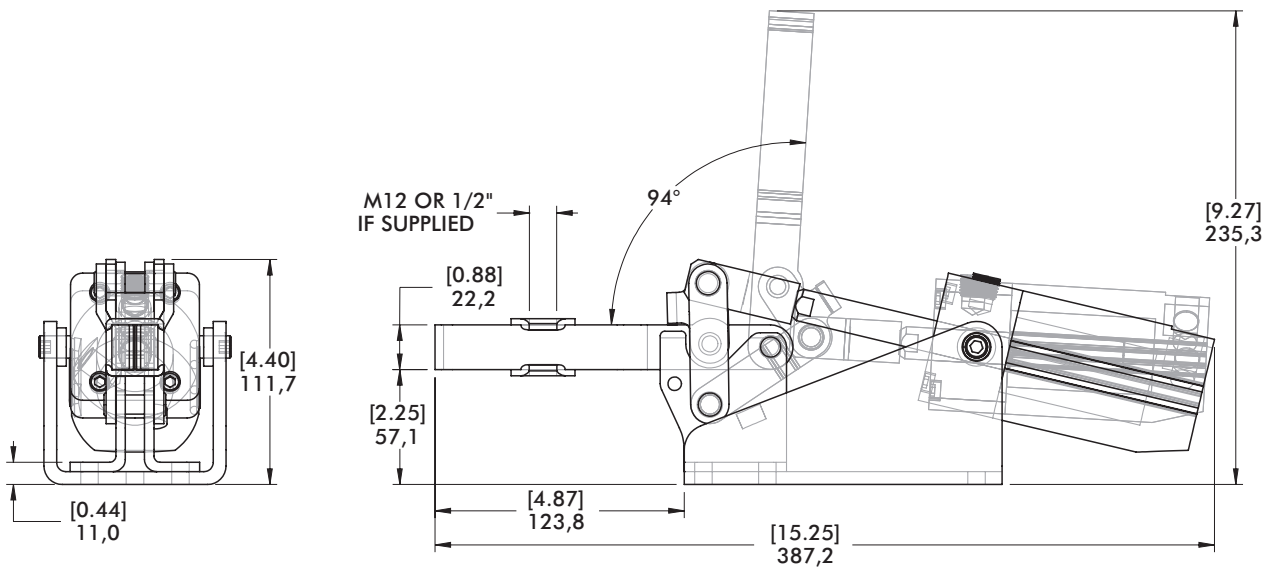
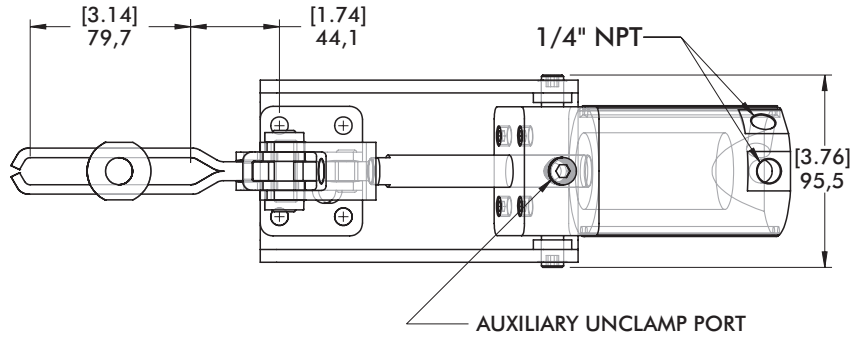
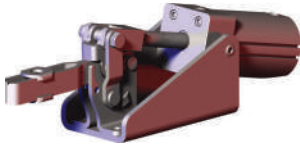
Sensor Accessories

	Item Number
Round Reed Switch with Quick Disconnect	810169
T-slot Reed Switch with Quick Disconnect	8EA-109-1
Quick Disconnect 2M Extension Cable	CABL-010
Quick Disconnect 5M Extension Cable	CABL-013

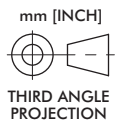
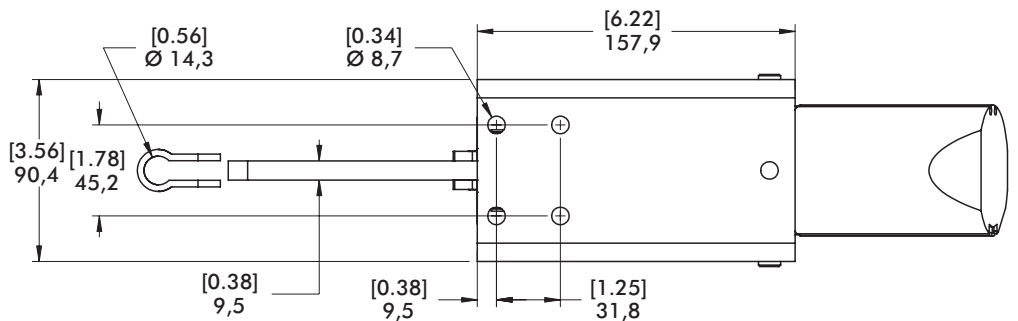
See Pneumatic Accessories section for more options

Series 847 Standard Clamp Dimensions
-U/-S

847-U



847-S



Series 858 Product Overview

Features:

- Hardened pins and bushing at all pivot points for long lifecycle
- Large, solid clamping arm is easily modified to suit application requirements
- Sensor ready for round or T-slot style sensors

Applications:

- Assembly
- Welding

Also Available:

See page 11.1 for sensing options

858
858-E



Series 858 Technical Information, Holding Capacities

Model	Maximum Holding Capacity		Max. Exerting Force @ 5bar [72PSI]		Weight	Bore Size	Air Consumption† dm ³ [ft ³]	Port Size
	Inner	Outer	Inner	Outer				
858	[4,000 lbf]	[2,000 lbf]	[1,530 lbf]	[800 lbf]	[16.11lb]	[2.48]	[0.109]	1/4 NPT
858-E	17800 N	8900 N	6857 N	3585 N	7.31kg	63	3,08	G-1/4

†Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]*

Max Operating Temp: -10°C to 90°C [-14°F to 194°F]

Replacement Seal Kit: 850450-63-1-00

Replacement Clamp Assembly: 858-LC

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix Section for details.

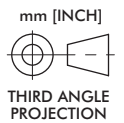
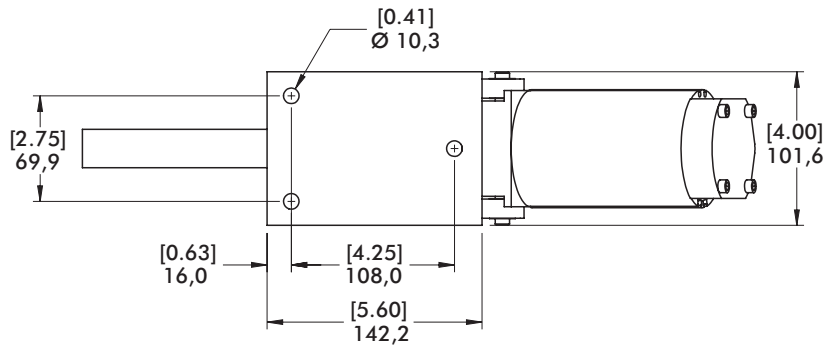
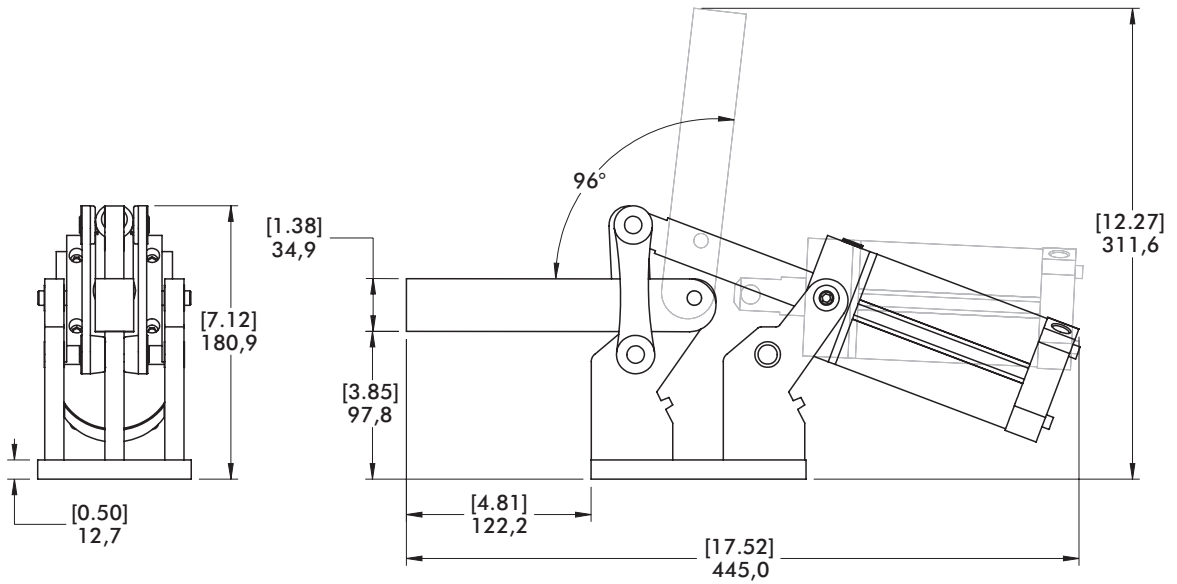
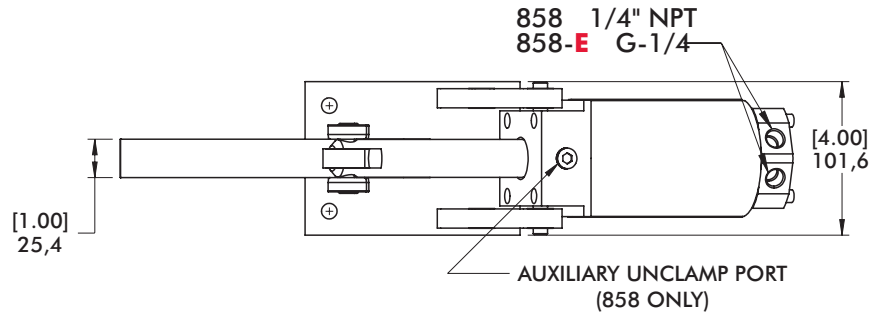
Sensor Accessories

	Item Number
Round Reed Switch with Quick Disconnect	810169
T-slot Reed Switch with Quick Disconnect	8EA-109-1
Quick Disconnect 2M Extension Cable	CABL-010
Quick Disconnect 5M Extension Cable	CABL-013

See Pneumatic Accessories section for more options

Series 858 Standard Clamp Dimensions

858
858-E



Series 8021, 8071 Product Overview

Features:

- Enclosed clamp for dirty environments such as spot and MIG welding
- Non-pivoting cylinder can be hard-piped into fixtures
- Sensor ready for round or T-slot style sensors

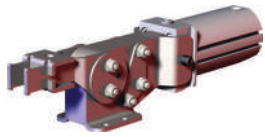
Applications:

- Assembly
- Welding

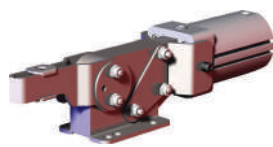
Also Available:

See page 7.1 for spindle accessories
See page 11.1 for sensing options

8021 ⓘ
8021-UE ⓘ



8071
8071-UE



Series 8021, 8071 Technical Information, Holding Capacities

Model	Maximum Holding Capacity		Max. Exerting Force @ 5bar [72PSI]		Weight	Bore Size	Air Consumption† dm ³ [ft ³]	Port Size	Accessories (Supplied)	
	Inner	Outer	Inner	Outer					Spindle Accessory	Flanged Washer
8021 ⓘ	[390 lbf]	[255 lbf]	[169 lbf]	[100 lbf]	[2.30lb]	[1.26]	[0.015]	1/8 NPT	--	8021122
8021-UE ⓘ	1735 N	1135 N	760 N	449 N	1,04kg	32	0,42	G-1/8		
8071	[450 lbf]	[310 lbf]	[496 lbf]	[283 lbf]	[2.80lb]	[1.57]	[0.020]	1/8 NPT	--	507107
8071-UE	2000 N	1380 N	2218 N	1267 N	1,27kg	40	0,58	G-1/8		

ⓘ This item is available upon request. †Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]*

Max Operating Temp: -10°C to 90°C [-14°F to 194°F]

Replacement Seal Kit: 8021: 802450-32-1-00
8071: 810450-40-1-00

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix Section for details.

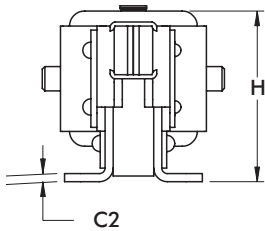
Sensor Accessories

	Item Number
Round Reed Switch with Quick Disconnect	810169
T-slot Reed Switch with Quick Disconnect	8EA-109-1
Quick Disconnect 2M Extension Cable	CABL-010
Quick Disconnect 5M Extension Cable	CABL-013

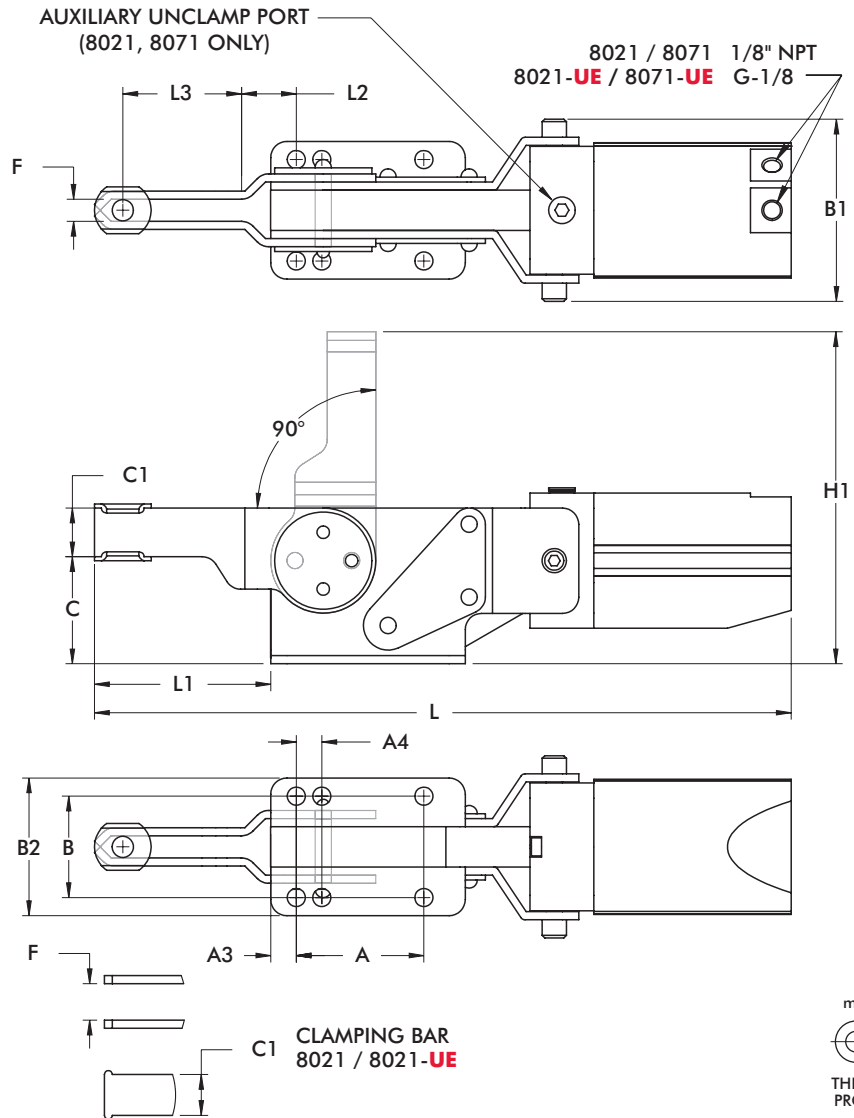
See Pneumatic Accessories section for more options

Series 8021, 8071 Standard Clamp Dimensions
8021/8071/-UE

8021
8021-UE



8071
8071-UE



mm [INCH]
THIRD ANGLE PROJECTION

Model	A	A1	A3	A4	B	B1	B2	C	C1	C2	ØD	F
8021	[0.79]	[1.97]	[0.47]	-	[1.50]	[2.26]	[1.88]	[1.56]	[0.63]	[0.13]	[0.21]	[0.34]
8021-UE	20	50	12		38,2	57,4	47,9	39,6	16	3,2	5,3	8,7
8071	[1.97]	[3.00]	[0.39]	[0.39]	[1.56]	[2.81]	[2.12]	[1.65]	[0.75]	[0.13]	[0.28]	[0.56]
8071-UE	50	76,2	10	10	39,7	71,4	53,9	41,9	19,1	3,2	7,1	14,3

Model	H	H1	L	L1	L2	L3	M
8021	[2.40]	[4.44]	[9.86]	[2.25]	[0.44]	[1.31]	1/4
8021-UE	60,9	112,8	250,4	57,2	11	33,2	M6
8071	[2.63]	[5.12]	[10.74]	[2.72]	[0.40]	[1.83]	5/16
8071-UE	66,9	130	272,9	69	10,1	46,5	M8

Series 817, 827 Product Overview

Features:

- Dual mounting surfaces for maximum flexibility
- Sensor ready for round or T-slot style sensors
- Built-in flow restriction eliminates need for external flow controls

Applications:

- Assembly
- Welding

Also Available:

See page 7.1 for spindle accessories
See page 11.1 for sensing options

817-U
817-UE



817-S
817-SE



827-U
827-UE



827-S
827-SE



Series 817, 827 Technical Information, Holding Capacities, Mounting Options

Model	Maximum Holding Capacity		Max. Exerting Force @ 5bar [72PSI]		Weight	Bore Size	Air Consumption† dm³ [ft³]	Port Size	Accessories (Supplied)		
	Inner	Outer	Inner	Outer					Spindle Accessory	Flanged Washers	Bolt Retainer
817-U	[375 lbf] 1670 N		[369 lbf] 1648 N					1/8NPT	--	507107	--
817-UE		[200 lbf] 890 N		[225 lbf] 1005 N	1,05kg [2.31lb]	[1.26] 32	[0.015] 0,42	G-1/8	225208-M		
817-S	[450 lbf] 2000 N		[360 lbf] 1608 N					1/8 NPT	--	--	207107
817-SE								G-1/8			
827-U	[600 lbf] 2670 N	[390 lbf] 1735 N		[309 lbf] 1383 N				1/8 NPT	--	235106	--
827-UE			[491 lbf] 2200 N		2,14kg [4.71lb]	[1.57] 40	[0.029] 0,83	G-1/8	240208-M		
827-S	[700 lbf] 3110 N	[330 lbf] 1470 N		[281 lbf] 1257 N				1/8 NPT	--	--	210114
827-SE								G-1/8			

†Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]*

Max Operating Temp: -10°C to 90°C [-14°F to 194°F]

Replacement Seal Kit: 817: 802450-32-1-00
827: 810450-40-1-00

Replacement Clamp Assembly: 817-U-LC, 817-S-LC, 827-U-LC, 827-S-LC

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix Section for details.

Sensor Accessories

	Item Number
Round Reed Switch with Quick Disconnect	810169
T-slot Reed Switch with Quick Disconnect	8EA-109-1
Quick Disconnect 2M Extension Cable	CABL-010
Quick Disconnect 5M Extension Cable	CABL-013

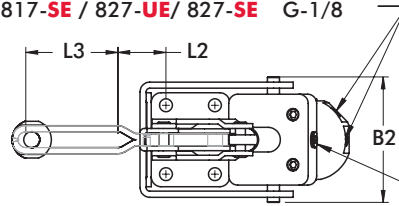
See Pneumatic Accessories section for more options

Series 817, 827 Standard Clamp Dimensions
-U/-UE/-S/-SE

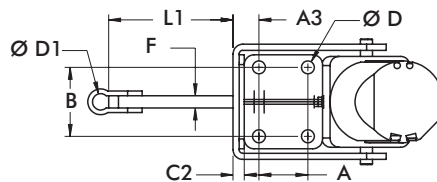
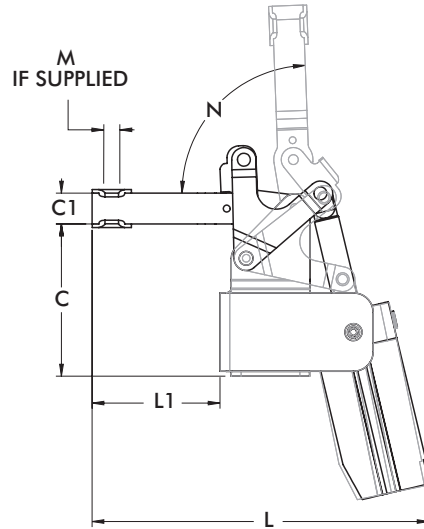
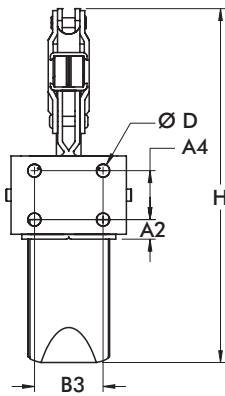
817-U
817-UE



817-U / 817-S / 827-U / 827-S 1/8" NPT
817-UE / 817-SE / 827-UE / 827-SE G-1/8



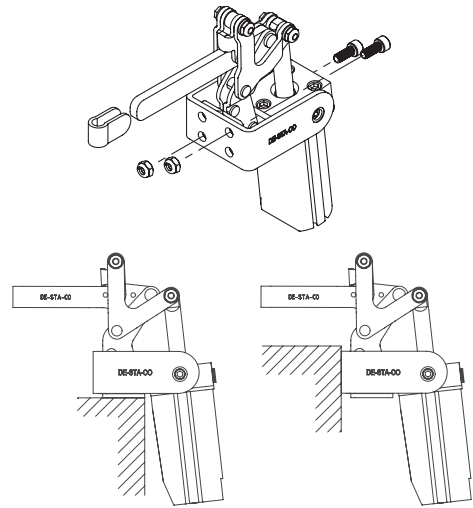
AUXILIARY UNCLAMP PORT
(817-U, 817-S, 827-U, 827-S ONLY)



mm [INCH]
THIRD ANGLE
PROJECTION

Mounting Options:

Use two bolts in the "side" mounting holes, to secure mounting bracket, when "top" mounting.



Top Mounting

Side Mounting

Model	A	A2	A3	A4	B	B2	B3	C	C1	C2	C3	C4
817-U												
817-UE	[0.63]	[0.44]	[0.60]	[0.63]	[1.00]	[2.44]	[1.00]	[2.69]	[0.63]	[0.12]	[1.25]	[1.31]
817-S	16	11,2	15,1	16	25,4	62	25,4	68,3	16	3,1	31,8	33,3
817-SE												
827-U								[3.89]	[0.79]			[1.76]
827-UE	[1.25]	[0.51]	[0.66]	[1.25]	[1.75]	[3.08]	[1.75]	98,8	20	[0.12]	[2.00]	44,8
827-S	31,8	12,8	16,8	31,8	44,45	78,3	44,45			3,1	50,8	
827-SE								[3.91]	[0.75]			[1.78]
								99,2	19,1			45,3

Model	ØD	ØD1	F	H	L	L1	L2	L3	M	N
817-U					[6.24]	[2.37]	[0.19]	[1.90]		
817-UE	[0.27]	-	-	[7.51]	158,6	60,3	4,8	48,4	5/16	95°
817-S	6,7			190,7					M8	
817-SE		[0.34]	[0.25]		[6.97]	[3.04]	-	-		
		8,7	6,4		175,5	77,2				
827-U					[8.61]	[3.27]	[1.23]	[2.35]		
827-UE	[0.33]	-	-	[9.04]	218,7	83,1	31,2	59,7	3/8	88°
827-S	8,4			229,7					M10	
827-SE		[0.42]	[0.31]		[8.49]	[3.18]	-	-		
		10,7	7,9		215,6	80,7				

Series 868 Product Overview

Features:

- Hardened pins and bushing at all pivot points for long lifecycle
- Large, solid clamping arm is easily modified to suit application requirements
- Sensor ready for round or T-slot style sensors

Applications:

- Assembly
- Welding

Also Available:

See page 11.1 for sensing options

868

868-E



Series 868 Technical Information, Holding Capacities

Model	Maximum Holding Capacity		Max. Exerting Force @ 5bar [72PSI]		Weight	Bore Size	Air Consumption† dm ³ [ft ³]	Port Size
	Inner	Outer	Inner	Outer				
868	[4000 lbf] 17800 N	[2400 lbf] 10675 N	[1704 lbf] 7637 N	[800 lbf] 3585 N	[17.0lb] 7,71kg	[2.48] 63	[0.109] 3,08	1/4 NPT
868-E								G-1/4

†Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]*

Max Operating Temp: -10°C to 90°C [-14°F to 194°F]

Replacement Seal Kit: 850450-63-1-00

Replacement Clamp Assembly: 868-LC

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix Section for details.

Sensor Accessories

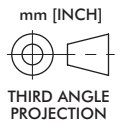
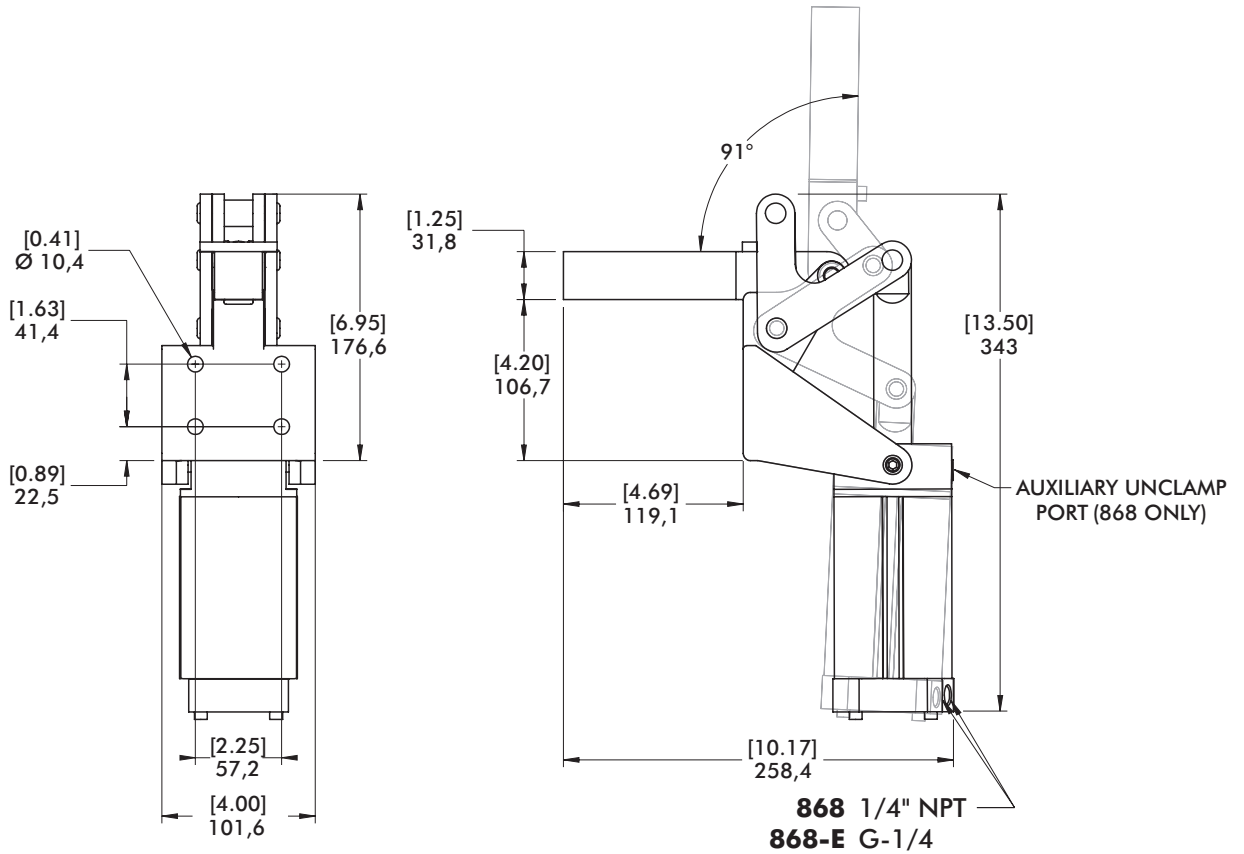
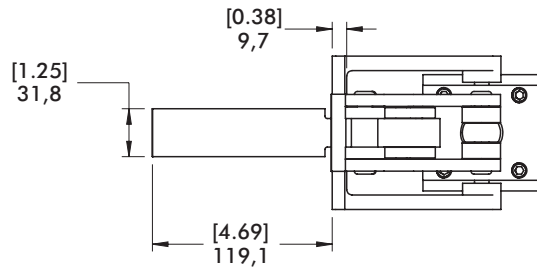
Item Number

Round Reed Switch with Quick Disconnect	810169
T-slot Reed Switch with Quick Disconnect	8EA-109-1
Quick Disconnect 2M Extension Cable	CABL-010
Quick Disconnect 5M Extension Cable	CABL-013

See Pneumatic Accessories section for more options

Series 868 Standard Clamp Dimensions

868
868-E



Series 803 Product Overview

Features:

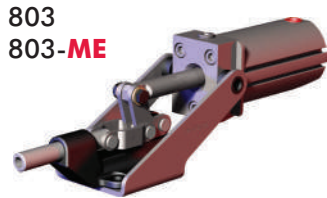
- Pneumatic version of Model 603 manual straight line action clamp
- Sensor ready for round or T-slot style sensors

Applications:

- Assembly
- Welding

Also Available:

See page 7.1 for spindle accessories
 See page 11.1 for sensing options
 High temperature version available
 Upon Request, add **-HT** to model number. Example: 803-U-**HT**



Series 803 Technical Information, Holding Capacities, Standard Clamp Dimensions

Model	Maximum Holding Capacity	Maximum Exerting Force @ 5bar [72PSI]	Plunger Travel	Plunger Thread	Weight	Bore Size	Air Consumption† dm³ [ft³]	Port Size
803	[600 lbf] 2670 N	[675 lbf] 3015 N	[0.75] 19,1	5/16-18 M8	[1.86lb] 0,84kg	[1.26] 32	[0.015] 0,42	1/8 NPT G-1/8

†Per double stroke at 5bar [72PSI]

- Max Cylinder Pressure:** 10bar [145psig]
- Max Operating Temp:** -10°C to 90°C [-14°F to 194°F]
- Replacement Seal Kit:** 802450-32-1-00
- Replacement Clamp Assembly:** 803-LC, 803-M-LC

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix Section for details.

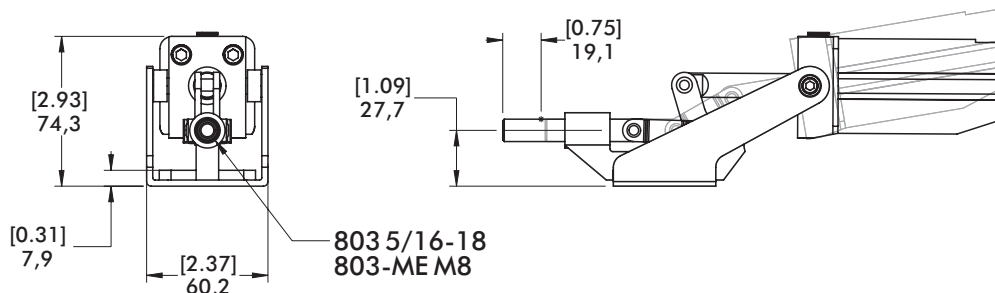
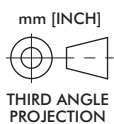
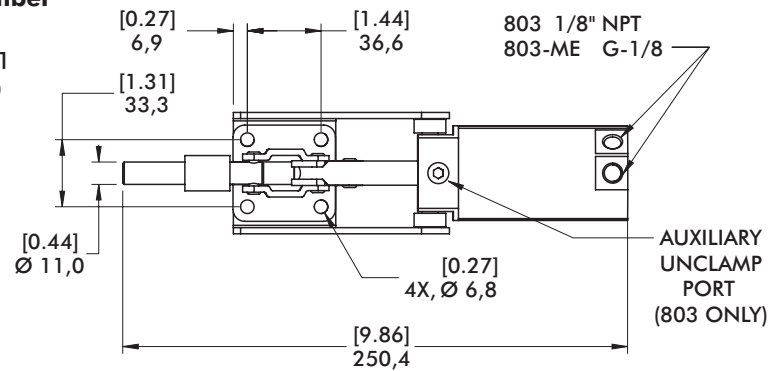
Sensor Accessories

- Round Reed Switch with Quick Disconnect
- T-slot Reed Switch with Quick Disconnect
- Quick Disconnect 2M Extension Cable
- Quick Disconnect 5M Extension Cable

Item Number

- 810169
- 8EA-109-1
- CABL-010
- CABL-013

See Pneumatic Accessories section for more options



Series 8031 Product Overview

Features:

- Fully enclosed straight line action clamp for the dirtiest environments
- Compact design with high holding capacity
- Sensor ready for round style sensors

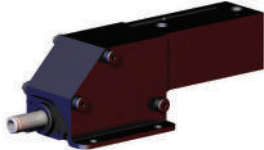
Applications:

- Assembly
- Welding

Also Available:

See page 7.1 for spindle accessories
See page 11.1 for sensing options

8031 ⓘ



Series 8031 Technical Information, Holding Capacities, Standard Clamp Dimensions

Model	Maximum Holding Capacity	Maximum Exerting Force @ 5bar [72PSI]	Plunger Travel	Plunger Thread	Weight	Bore Size	Air Consumption† dm³ [ft³]	Port Size
8031 ⓘ	[2000 lbf] 8900 N	[731 lbf] 3285 N	[0.75] 19,1	M8	[1.17lb] 2,58kg	[1.26] 32	[0.006] 0,18	1/8 NPT

Max Cylinder Pressure: 10bar [145psig]*

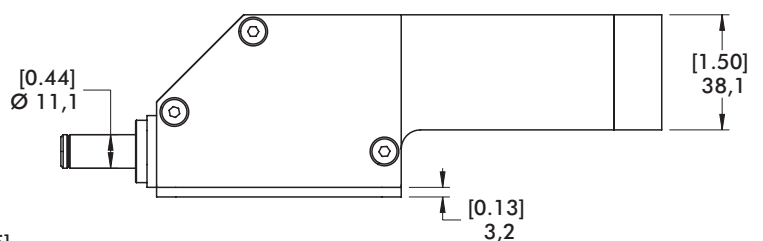
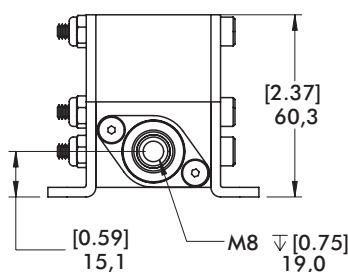
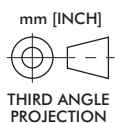
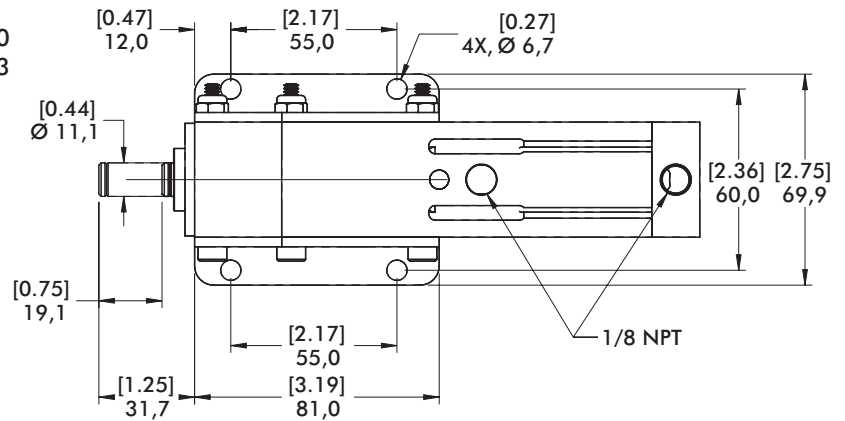
Max Operating Temp: -10°C to 90°C [-14°F to 194°F]

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix Section for details.

Sensor Accessories

	Item Number
Round Reed Switch with Quick Disconnect	810169
Quick Disconnect 2M Extension Cable	CABL-010
Quick Disconnect 5M Extension Cable	CABL-013

See Pneumatic Accessories section for more options



Series 830 Product Overview

Features:

- Pneumatic version of Model 630 manual straight line action clamp
- Sensor ready for round or T-slot style sensors
- Built-in flow restriction eliminates need for external flow controls

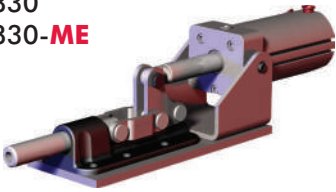
Applications:

- Assembly
- Welding

Also Available:

See page 7.1 for spindle accessories
See page 11.1 for sensing options

830
830-ME



Series 830 Technical Information, Holding Capacities, Standard Clamp Dimensions

Model	Maximum Holding Capacity	Maximum Exerting Force @ 5bar [72PSI]	Plunger Travel	Plunger Thread	Weight	Bore Size	Air Consumption† dm ³ [ft ³]	Port Size
830	[2500 lbf] 11100 N	[800 lbf] 3582 N	[0.75] 19,1	3/8-16	2,79kg [6.14lb]	[1.57] 40	[0.029] 0,83	1/8 NPT
830-ME				M10				G-1/8

†Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]
Max Operating Temp: -10°C to 90°C [-14°F to 194°F]
Replacement Seal Kit: 810450-40-1-00
Replacement Clamp Assembly: 830-LC, 830-M-LC

*In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix Section for details.

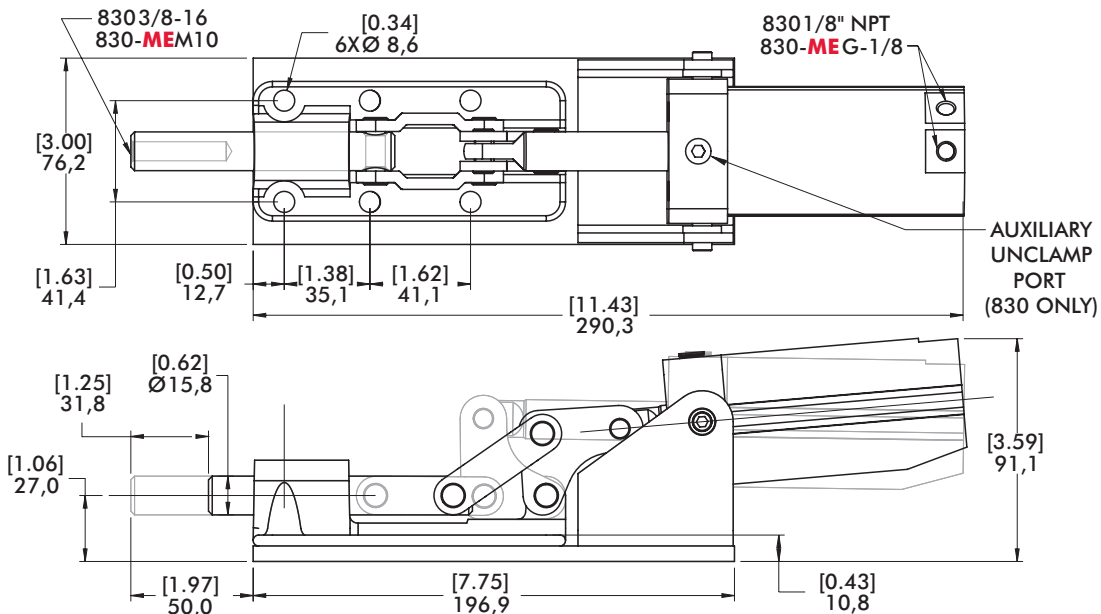
Sensor Accessories

- Round Reed Switch with Quick Disconnect
- T-slot Reed Switch with Quick Disconnect
- Quick Disconnect 2M Extension Cable
- Quick Disconnect 5M Extension Cable

Item Number

- 810169
- 8EA-109-1
- CABL-010
- CABL-013

See Pneumatic Accessories section for more options



Features:

- Pneumatic version of Model 650 manual straight line action clamp
- Sensor ready for round or T-slot style sensors
- Built-in flow restriction eliminates need for external flow controls

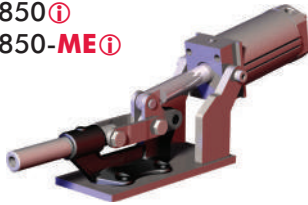
Applications:

- Assembly
- Welding
- Light press operations

Also Available:

See page 7.1 for spindle accessories
See page 11.1 for sensing options

850 ⓘ
850-ME ⓘ



Series 850 Technical Information, Holding Capacities, Standard Clamp Dimensions

Model	Maximum Holding Capacity	Maximum Exerting Force @ 5bar [72PSI]	Plunger Travel	Plunger Thread	Weight	Bore Size	Air Consumption† dm³ [ft³]	Port Size
850 ⓘ	[16,000 lbf]	[1232 lbf]	[2.00]	5/8-11	[16.66lb]	[2.48]	[0.109]	1/4 NPT
850-ME ⓘ	71200 N	5522 N	50,8	M16	7,56kg	63	3,08	G-1/4

ⓘ This item is available upon request. †Per double stroke at 5bar [72PSI]

Max Cylinder Pressure: 10bar [145psig]
Max Operating Temp: -10°C to 90°C [-14°F to 194°F]
Replacement Seal Kit: 850450-63-1-00
Replacement Clamp Assembly: 850-LC, 850-M-LCc
 *In no case should the inlet pressure be high enough to create an exerting force that exceeds the clamp's holding capacity. See Technical Appendix Section for details.

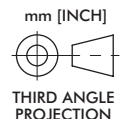
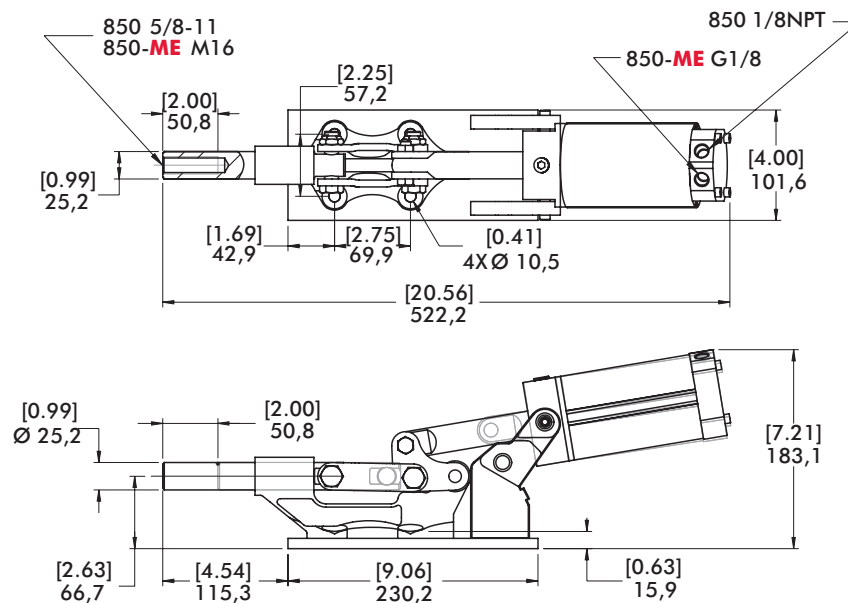
Sensor Accessories

- Round Reed Switch with Quick Disconnect
- T-slot Reed Switch with Quick Disconnect
- Quick Disconnect 2M Extension Cable
- Quick Disconnect 5M Extension Cable

Item Number

- 810169
- 8EA-109-1
- CABL-010
- CABL-013

See Pneumatic Accessories section for more options



Series 800, 1200 Product Overview

Features:

- Low profile and compact for mounting in tight spaces
- Uniform clamping force throughout full stroke
- Accommodates variable workpiece thickness
- Single acting - air advance, spring return

Applications:

- Assembly
- Welding
- Light machining

How it Works:

1. Clamp arm retracts fully for loading and unloading.
2. Clamp arm moves straight forward.
3. Clamp arm pivots down to hold workpiece.

800
800-E 1200 ⓘ
 1200-E ⓘ



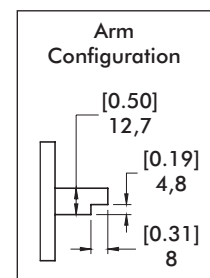
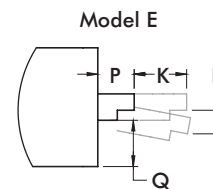
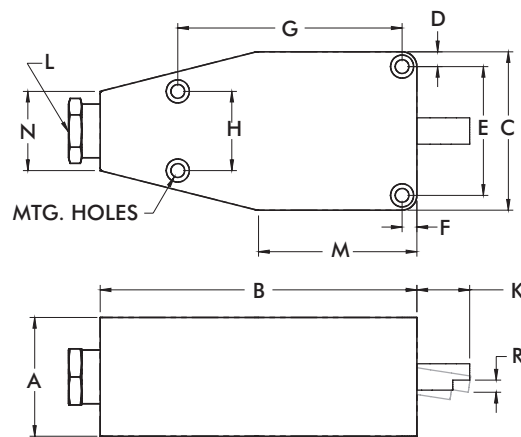
Series 800, 1200 Technical Information, Holding Capacities

Model	Inlet Pressure bar [PSI]	Exerting Force	Max. Pressure at Max. Mechanical Advantage† bar [PSI]	Clamping Range	Weight	Port Size
800	[70~150] 4,8~10,3	[850~1500 lbf] 3780~6670N	4,8 [70]	[0.09] 2,3	[2.50lb] 1,13kg	1/4 NPT
800-E		[650~1200 lbf] 2890~5340N		[0.16] 4,0		
1200 ⓘ		[750~1600 lbf] 3340~7120N		[0.25] 6,4	[4.00lb] 1,81kg	
1200-E ⓘ		[550~1200 lbf] 2450~5340N		[0.38] 9,6		



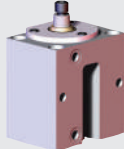
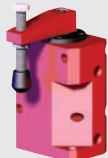
ⓘ This item is available upon request

Note: For use with pneumatic power only. This is a single acting device (air clamp, spring return), a 3-way air valve required for control.




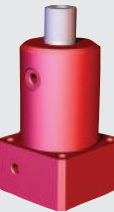
Repair Kits: 800-00,
1200-00



Model	A	B	C	D	E	F	G	H	K	L	M	N	P	Q	R	MNTG HOLES	
800	[1.63]	[4.81]	[2.72]	[0.25]	[2.21]	[0.25]	[3.13]	[1.19]	[0.50]	1/4 NPT	[2.31]	[1.50]	-	[0.59]	[0.09]	[0.26] 6,6	
800-E	41,4	122,8	69,1	6,4	56,1	6,4	79,5	30,2	12,7		[2.31]	58,37	38,1	[0.50]	15,0		[0.16]
1200	[2.25]	[6.00]	[3.00]	[0.28]	[2.44]	[0.28]	[4.25]	[1.50]	[1.00]		[3.00]	[1.38]	-	[0.63]	[0.25]		6,4
1200-E	57,2	152,4	76,2	7,1	62	7,1	108	38,1	25,4		76,2	35,1	[0.69]	17,5	[0.38]		9,7

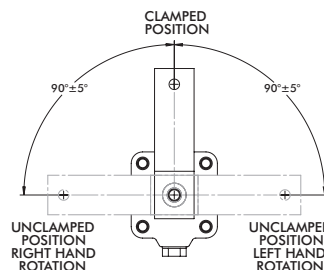
Series	Standard Features	Bore [in]mm	Clamping Stroke [in]mm	Clamping Force [lbf.]N
9500 Series 	<ul style="list-style-type: none"> • Arm rotates at the top of stroke • Shielded rod protects against weld spatter • NEW mounting options • Sensor ready • Keyed arm connection adjustable in 90° increments • Clamp arm sold separately 	[0.86] 22	[0.50] 13	[34] 150
		[1.26] 32	[0.79] 20	[76] 340
		[1.57] 40		[123] 550
		[1.97] 50		[196] 870
89R Series 	<ul style="list-style-type: none"> • Field changeable swing direction • Multiple mounting accessories • Sensor ready • Locking taper arm connection for 360° adjustability • Clamp arm sold separately 	[0.79] 20	[0.39] 10	[18] 80
		[1.26] 32		[55] 245
		[1.57] 40	[0.39]10 [0.98]25	[85] 380
		[1.97] 50	[0.98] 25	[138] 614
		[2.48] 63		[218] 970
89B Series 	<ul style="list-style-type: none"> • Block style body for side mounting • Metric design featuring G-ports • Sensor ready • Locking taper arm connection for 360° adjustability • Clamp arm sold separately 	[0.79] 20	[0.39] 10	[18] 80
		[1.26] 32		[52] 231
		[1.57] 40		[85] 378
		[1.97] 50	[0.98] 25	[161] 716
		[2.48] 63	[0.32] 8	[247] 1100
8100/8300 Series 	<ul style="list-style-type: none"> • Block style body for side mounting • Imperial design featuring NPT ports • Sensor ready • Locking taper arm connection for 360° adjustability • Clamp arm and spindle included 	[0.75] 19,1	[0.38] 9,7	[18] 80
		[1.50] 38,1	[0.50] 12,7	[67] 298



Series	Standard Features	Bore [in.]mm	Clamping Stroke [in.]mm	Clamping Force [lbf.]N
89E Series 	<ul style="list-style-type: none"> • Threaded body style body through-hole mounting • Metric design featuring G-ports • Not sensing capable • Locking taper arm connection for 360° adjustability • Clamp arm sold separately 	[0.79] 20	[0.39] 10	[18] 80
		[1.26] 32		[52] 231
		[1.57] 40		[85] 378
		[1.97] 50	[0.98] 25	[161] 716
		[2.48] 63	[0.32] 8	[247] 1100
8000/8200/8400 Series 	<ul style="list-style-type: none"> • Threaded body style body through-hole mounting • Imperial design featuring NPT ports • Sensor ready • Locking taper arm connection for 360° adjustability • Clamp arm and spindle included 	[0.75] 19,1	[0.38] 9,7	[1.50] 38,1
		[1.19] 30,2	[0.50] 12,7	[67] 300
		[1.50] 38,1		[55] 245
035-1 Series 	<ul style="list-style-type: none"> • Compact, low profile design • Threaded body style body through-hole mounting • Imperial design featuring NPT ports • Not sensing capable • Clamp-on style arm connections for 360° adjustability • Clamp arm sold separately 	[0.98] 25	[0.53] 13,5	[20] 89
		[1.26] 32	[0.57] 14,5	[30] 133
		[1.57] 40	[0.63] 16	[60] 267
		[1.97] 50	[0.55] 14	[69] 307
035-2 Series 	<ul style="list-style-type: none"> • Compact, low profile design • Bottom flange mounting • Imperial design featuring NPT ports • Not sensing capable • Clamp-on style arm connections for 360° adjustability • Clamp arm sold separately 	[0.98] 25	[0.51] 13	[20] 89
		[1.26] 32	[0.49] 12,4	[30] 133
		[1.57] 40	[0.52] 13,3	[60] 267
		[1.97] 50	[0.51] 12,8	[69] 307

Application Note:

Swing Cylinder Rotation: The frame of reference for specifying the rotation direction (left or right) is the clamp arm viewed from above during the clamping stroke. A RIGHT HAND unit rotates CLOCKWISE and then clamps down; a LEFT HAND unit rotates COUNTER-CLOCKWISE and then clamps down.



Series 9500 Product Overview

Features:

- Ideal for tight spaces with an arm motion that rotates at the top of the stroke
- Includes a rod weld cover to protect the rod throughout the entire stroke
- Can be mounted on any face with optional side flange mounting kit

Applications:

- Assembly
- Welding
- Light machining

Also Available:

- See page 10.6 for mounting options
- See page 10.7 for clamping arms
- See page 11.1 for sensing options

Covered under one year or more U.S./International Patents

9522-2



9530-2



9540-2



9550-2



Shown with optional clamping arm.

Series 9500 Technical Information

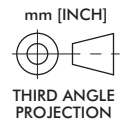
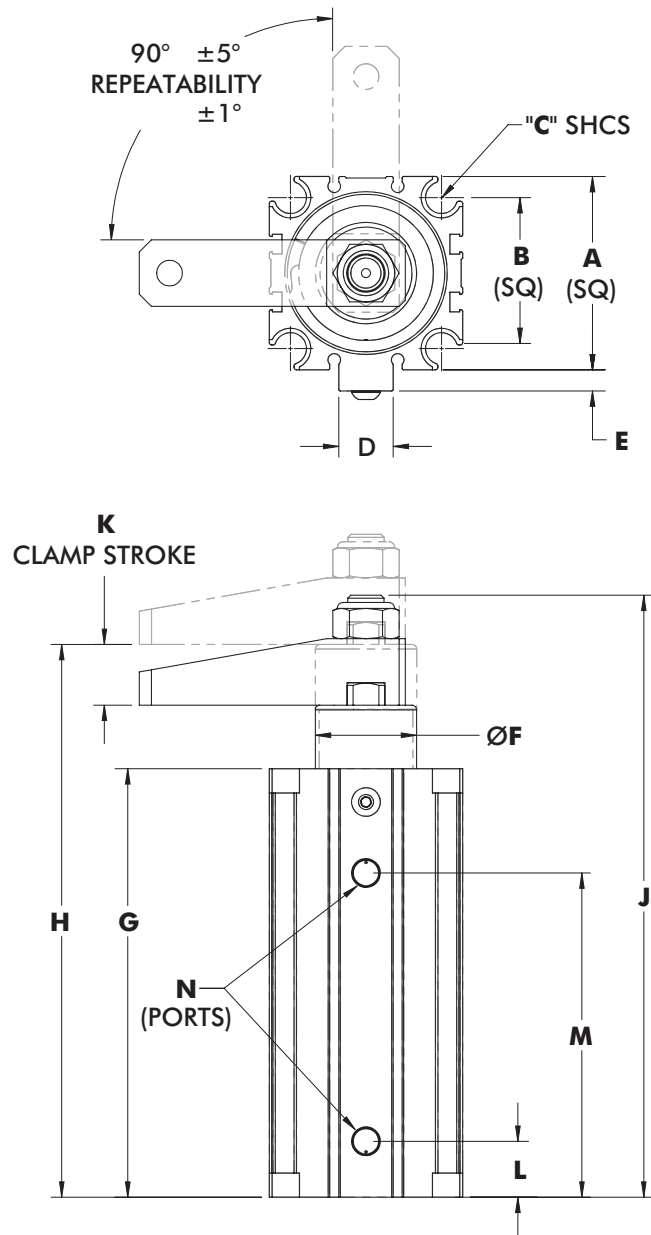
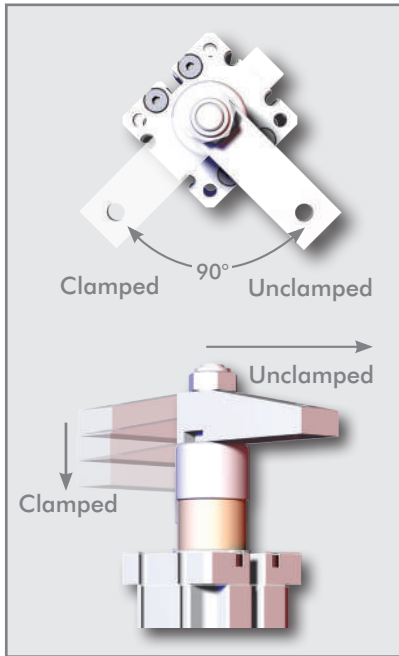
Model	Swing Direction	Total Stroke [in]mm	Stroke During Rotation [in]mm	Vertical Clamping Stroke [in]mm	Clamping Force @ [lbf.]N†	Bore Size [in.]mm	Air Consumption‡ dm³[in³]	Weight [lb.]kg	Replacement Seal Kit
9522-2L	LH	[0.50]		[0.50]	[34]	[0.86]	[0.004]	[0.68]	952292
9522-2R	RH	13							
9530-2L	LH	[0.79]	--	[0.79]	[76]	[1.26]	[0.010]	[1.25]	953092
9530-2R	RH								
9540-2L	LH	[0.79]	--	[0.79]	[123]	[1.57]	[0.016]	[1.98]	954092
9540-2R	RH								
9550-2L	LH	[0.79]	--	[0.79]	[196]	[1.97]	[0.026]	[3.33]	955092
9550-2R	RH								
9550-2GL	LH	[0.79]	--	[0.79]	[196]	[1.97]	[0.026]	[3.33]	955092
9550-2GR	RH								

† with standard clamping arm at 5bar [72psi]. ‡ Per double stroke at 5bar [72psi]

Operating Pressure Range: 3bar [40psig] to 8bar [120psig]

Maximum Operating Temperature: 60°C [140°F]

Series 9500 Standard Clamp Dimensions

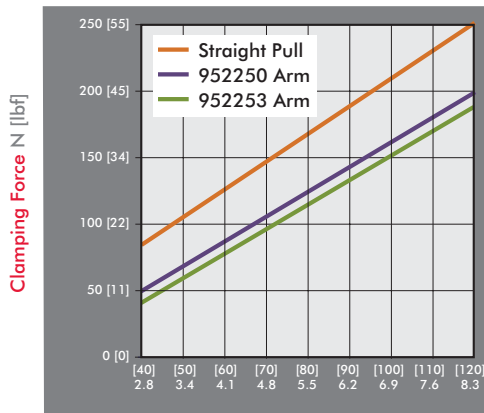


Shown with optional clamping arm.

Model	A	B	C	D	E	F	G	H	J	K	L	M	N
9522-2	[1.42] 36	[1.00] 25,4	M5 (#10)	--	--	[0.82] 21	[3.77] 95,8	[4.79] 121,8	[5.22] 132,7	[0.50] 13	[0.43] 11	[2.90] 73,8	M5
9530-2	[1.81] 46	[1.34] 34	M6 (1/4")	[0.55] 14	[0.16] 4	[0.96] 24,4	[4.48] 113,7	[6.09] 154,8	[6.54] 166	[0.79] 20	[0.61] 15,5	[3.39] 86,2	1/8NPT
9530-2G													
9540-2	[2.05] 52	[1.57] 40			[0.20] 5	[1.13] 28,7	[4.63] 117,6	[6.29] 159,7	[6.73] 170,9		[0.65] 16,5	[3.43] 87,1	1/8NPT
9540-2G													G-1/8
9550-2	[2.52] 64	[1.97] 50	M8 (5/16")	[0.71] 18	[0.28] 7	[1.32] 33,5	[5.58] 141,8	[7.20] 182,9	[7.85] 199,3		[0.73] 18,5	[4.22] 107,3	1/8NPT
9550-2G													G-1/8

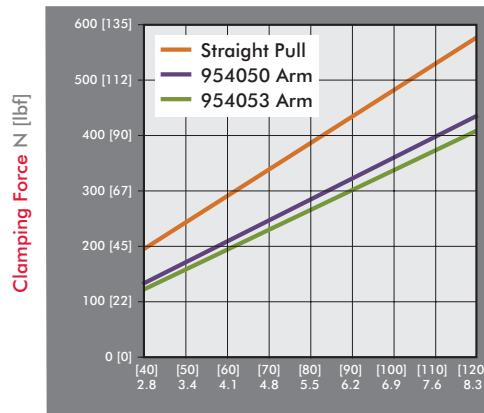
Series 9500 Clamping Forces

Series 9522 Clamping Force



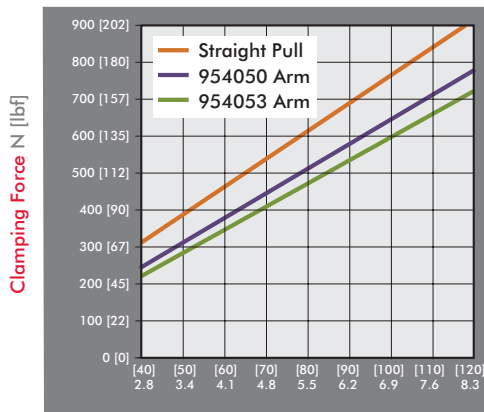
Inlet Pressure bar [PSI]

Series 9530 Clamping Force



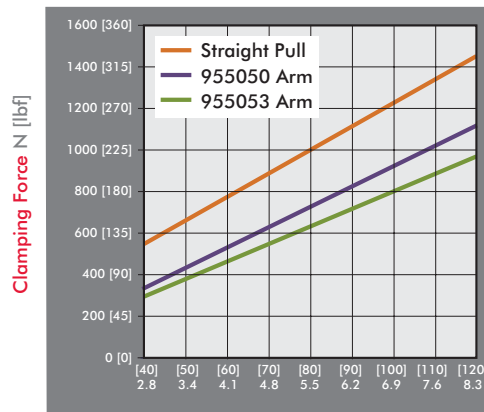
Inlet Pressure bar [PSI]

Series 9540 Clamping Force



Inlet Pressure bar [PSI]

Series 9550 Clamping Force



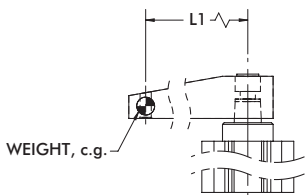
Inlet Pressure bar [PSI]

Series 9500 Guidelines

DE-STA-CO Pneumatic Swing Clamps are designed for long life when using standard clamping arms and spindles. In the event that a longer arm or additional weight is needed, please consult these charts for the allowable weight and length.

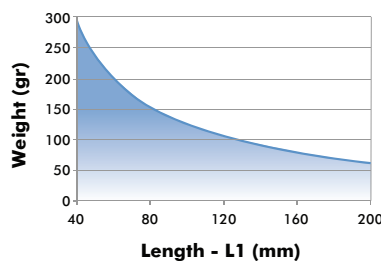
Example: 9522-2

At a weight of 80 gr, the maximum length of the arm is approximately 120mm.

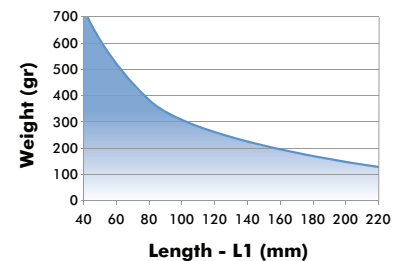


All data refers to an operating pressure of 5 bar (72psi) and an opening and closing time of 1 second.

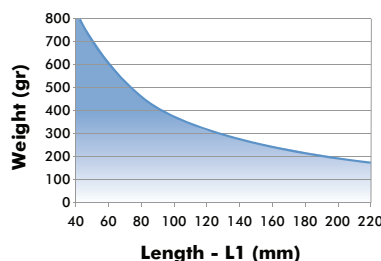
9522-2 Clamp Arm Weight



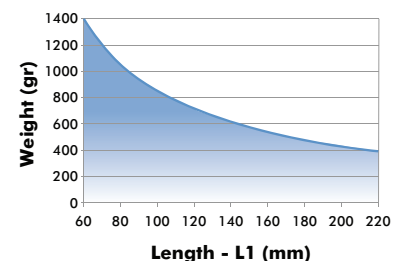
9530-2 Clamp Arm Weight



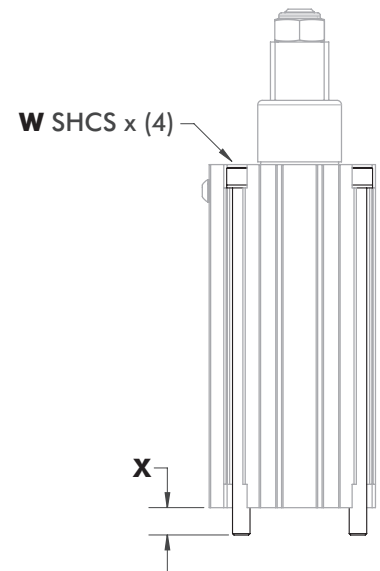
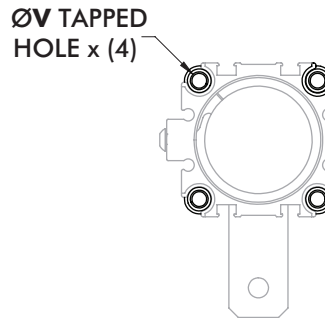
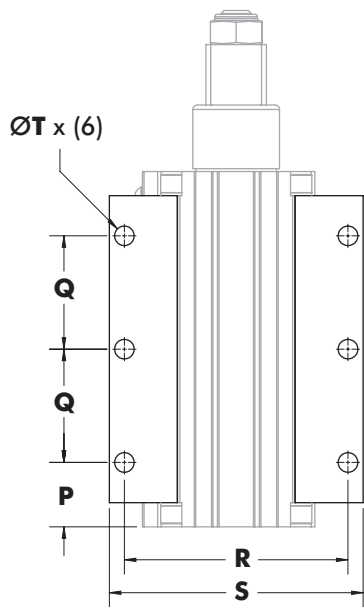
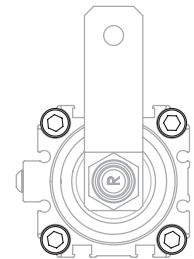
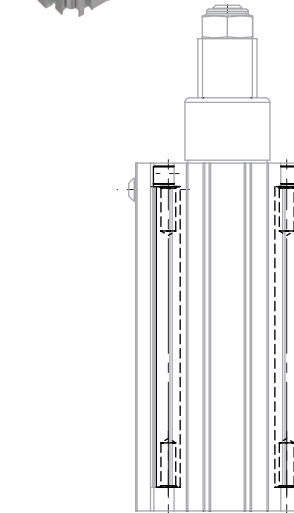
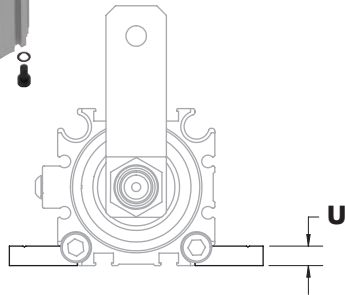
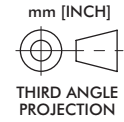
9540-2 Clamp Arm Weight



9550-2 Clamp Arm Weight



Series 9500 Mounting Accessories



Side Flange Mounting

Tapped Hole Mount

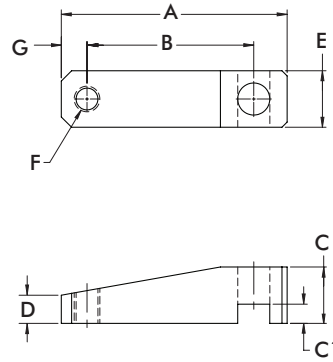
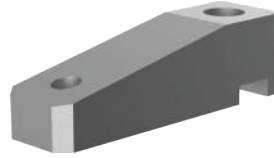
Standard Mount

Model	P	Q	R	S	T	U	V	W	X	Side Flange Kit	Tapped Hole Kit	Standard Mount Kit
9522-2	[0.41] 10,4		[1.91] 48,5	[2.26] 57,5	[0.22] 5,5	[0.22] 5,5	M5	M5x100	[0.36] 9.2	952260	952261	952262
9530-2	[0.76] 19,4	[1.48] 37,5	[2.68] 68	[3.07] 78			M6	M6x120	[0.52] 13.3	953060	953061	953062
9530-2G					[0.26] 6,5	[0.26] 6,5						
9540-2	[0.84] 21,3		[2.91] 74	[3.31] 84			M6	M6x120	[0.37] 9.4	954060	954061	
9540-2G												
9550-2	[0.82] 20,9	[1.97] 50	[3.66] 93	[4.17] 106	[0.33] 8,5	[0.31] 8	M8	M8x150	[0.59] 15	955060	955061	955062
9550-2G												

Refer to NPN-9500-2 for mounting instructions

Series 9500 Clamping Arms
Features:

- Lightweight aluminum construction
- Designed for use with 9500-2 series clamps



Part Number	Used with Model/series	A	B	C	C1	D	E	F	G	Weight [lbs] kg
9522150	9522-2R	[2.28] 58	[1.77] 45	[0.59]	[0.16]	[0.30]	[0.59]	M6	[0.20] 5	[0.06] 0,025
9522153	9522-2L	[3.07] 78	[2.56] 65	15	4	7.50	15			[0.08] 0,034
9540150	9530-2R/9530-2L	[2.76] 70	[1.97] 50	[0.79]	[0.18]	[0.39]	[0.79]	M8	[0.39] 10	[0.12] 0,054
9540153	9540-2R/9540-2L	[3.94] 100	[3.15] 80	20	4.57	10	20			[0.17] 0,079
	95402-GR/9540-2GL									
9550150	9550-2R/9550-2L	[3.46] 88	[2.56] 65	[0.87]	[0.30]	[0.43]	[0.87]	M10	[0.39] 10	[0.18] 0,081
9550153	9550-2GR/9550-2GL	[4.45] 113	[3.54] 90	22	7.5	11	22			[0.23] 0,11

Series 89R Product Overview

Features:

- Swing direction is field adjustable between left, right, or straight. (20mm not linear adjustable)
- Switch ready for Ø4mm or 6.5mmX5mm sensors
- Lightweight and robust, designed for several million cycles
- Clamp arm sold separately

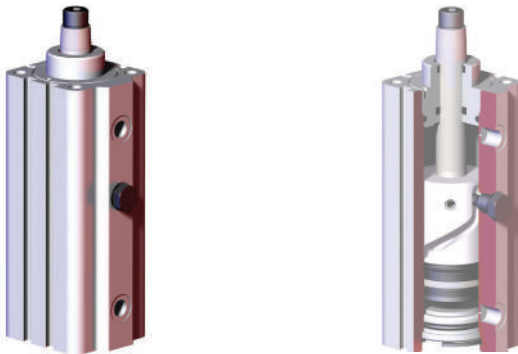
Applications:

- Assembly
- Welding
- Light machining

Also Available:

See page 10.11 - 10.13 for clamping arms and mounting accessories
See page 11.1 for sensing options

89R



Series 89R Technical Information

Model	Swing Direction*	Total Stroke [in]mm	Stroke During Rotation [in]mm	Vertical Clamp Stroke [in]mm	Clamping Force† [lbf]N	Bore Size [in]mm	Air Consumption‡ [ft³]dm³	Weight [lb.]kg	Replacement Seal Kit
89R20-010-2	LH, RH	[0.83] 21	[0.43] 11		[18] 80	[0.79] 20	[0.002] 0,07	[0.66] 0,30	89R20-00
89R32-010-2	LH, RH, STRT	[1.10] 28	[0.61] 18	[0.39] 10	[55] 245	[1.26] 32	[0.009] 0,25	[1.32] 0,60	89R32-00
89R40-010-2		[1.24] 31,5	[0.85] 21,5		[85] 380	[1.57] 40	[0.015] 0,43	[2.09] 0,95	89R40-00
89R40-025-2		[1.83] 46,5					[0.022] 0,63	[2.43] 1,10	
89R50-025-2		[2.05] 52	[1.06] 27	[0.98] 25	[138] 614	[1.97] 50	[0.040] 1,13	[3.97] 1,80	89R50-00
89R63-025-2		[2.30] 58,5	[1.32] 33,5		[218] 970	[2.48] 63	[0.072] 2,04	[6.17] 2,80	89R63-00

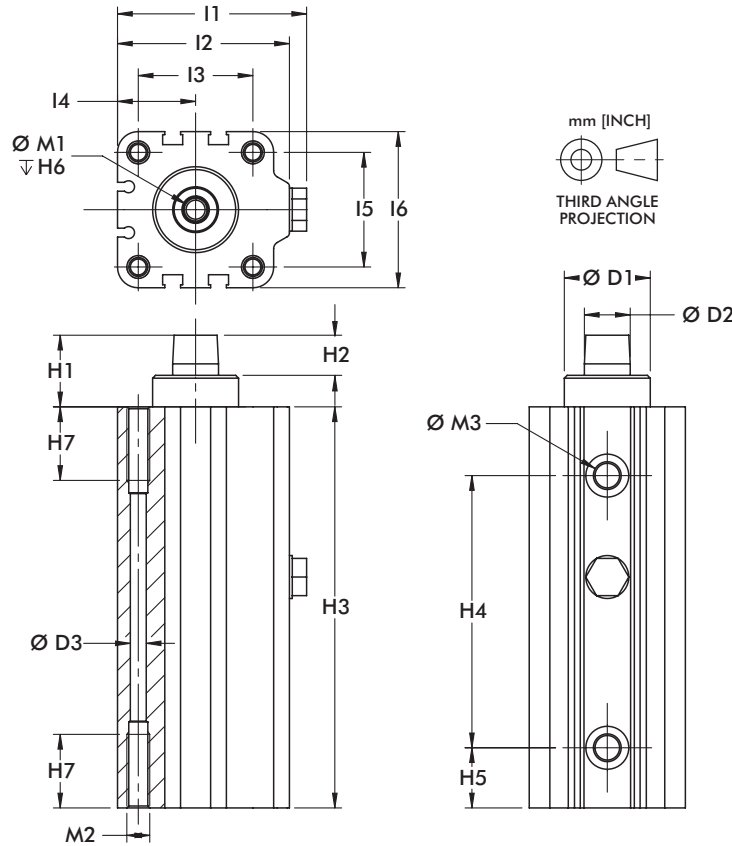
*Swing direction is field adjustable. †with standard clamping arm 5bar[72psi]. ‡per double stroke at 5bar[72psi]

Operating Pressure Range: 3bar[40psig] to 8bar[120psig]
Maximum Operating Temperature: 60°C [140°F]

Note:

Switches are optional. To order with (2) 8EA-109-1 switches, add **A** to the end of the model. Ex. 89R32-010-2**A**

Series 89R Standard Clamp Dimensions

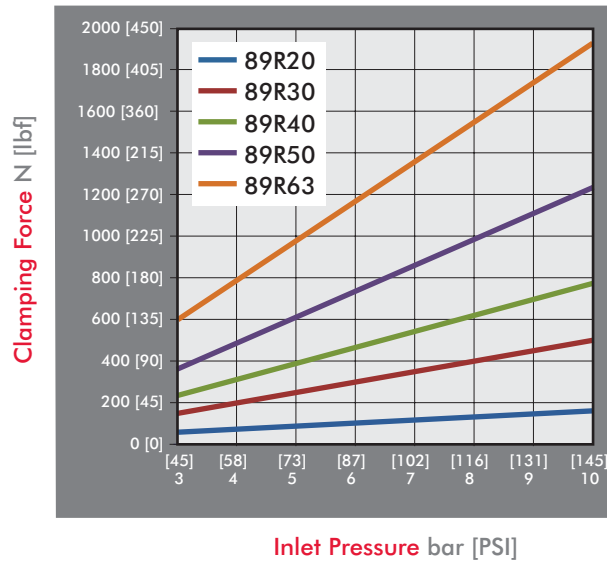


Model	ØD1 H9	ØD2 F7	ØD3	H1	H2	H3	H4	H5	H6	H7	L1	L2
89R20-010-2	[0.71] 18	[0.39] 10	[0.18] 4,6	[0.78] 19,8	[0.47] 11,9	[4.15] 105,5	[2.60] 66	[0.52] 13,2	[0.59] 15	[0.55] 14	[1.56] 39,5	[1.38] 35
89R32-010-2	[0.87] 22	[0.47] 12		[0.93] 23,7		[4.92] 125	[3.27] 83	[0.69] 17,5		[0.63] 16	[2.36] 60	[2.13] 54
89R40-010-2	[1.18] 30	[0.63] 16	[0.22] 5,5	[0.98] 25	[0.43] 11	[5.51] 140	[3.74] 95	[0.83] 21	[0.67] 17		[2.60] 66	[2.36] 60
89R40-025-2						[6.69] 170	[4.92] 125			[0.98] 25		
89R50-025-2	[1.57] 40	[0.71] 18	[0.29] 7,4	[1.24] 31,4		[7.70] 195,5	[5.39] 137	[1.05] 26,7	[0.98] 25		[3.09] 78,5	[2.85] 72,5
89R63-025-2	[1.77] 45	[0.78] 20	[0.37] 9,3	[1.30] 33	[0.59] 15	[8.33] 211,5	[6.08] 154,5	[1.04] 26,5			[3.74] 95	[3.46] 88

Model	L3	L4	L5	L6	M1	M2	M3
89R20-010-2	[0.87] 22	[0.63] 16	[0.87] 22	[1.26] 32	M5	M6	M5
89R32-010-2	[1.42] 36	[0.94] 24	[1.26] 32	[1.77] 45	M6		
89R40-010-2	[1.57] 40	[1.07] 27,3	[1.57] 40	[2.15] 54,5	M8	M8	G-1/8
89R40-025-2							
89R50-025-2	[1.97] 50	[1.28] 32,5	[1.97] 50	[2.56] 65		M10	
89R63-025-2	[2.44] 62	[1.57] 40	[2.44] 62	[3.15] 80	M10	M12	G-1/4

Series 89R Clamping Forces

Series 89R Clamping Force (w/ standard clamping arm)

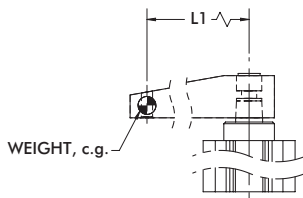


Series 89R Guidelines

DE-STA-CO Pneumatic Swing Clamps are designed for long life when using standard Clamps and spindles. In the event that a longer arm or additional weight is needed, please consult these charts for the allowable weight and length.

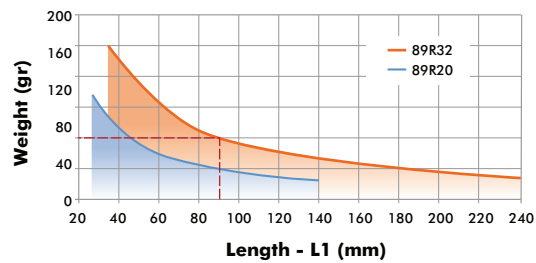
Example: 89R32

At a weight of 80 gr, the maximum length of the arm is approximately 90mm.

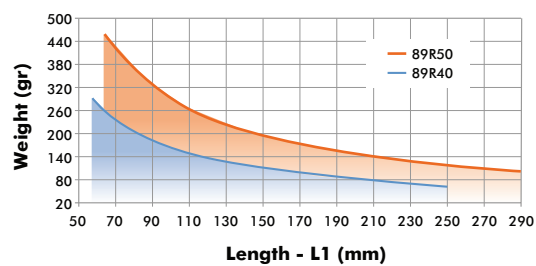


All data refers to an operating pressure of 5 bar (72psi) and an opening and closing time of 1 second.

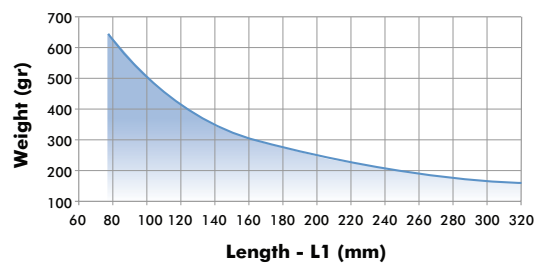
89R20 & 89R32 Clamp Arm Weight



89R40 & 89R50 Clamp Arm Weight



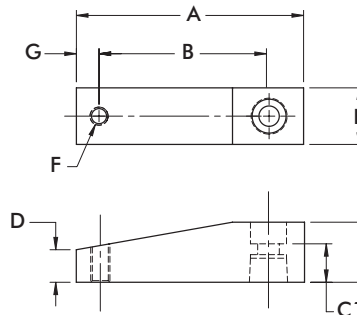
89R63 Clamp Arm Weight



Series 89R Clamping Arms

Features:

- Lightweight aluminum construction
- Locking tapered connection for 360 deg. arm positioning

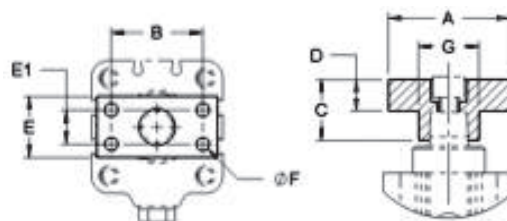
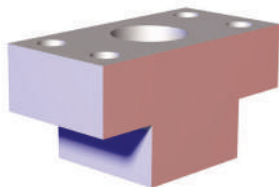


Part Number	Used with Model/series	A	B	C	C1	D	E	F	G	Weight [lbs] kg
8JG-215-1	89R20-010-2	[2.64] 67	[2.05] 52	[0.59] 15	[0.33] 8.5	[0.24] 6	[0.59] 15	M6	[0.28] 7	[0.08] 0.04
8JG-217-1	89R32-010-2	[3.15] 80	[2.36] 60	[0.79] 20	[0.37] 9.5	[0.33] 8.5	[0.79] 20	M8	[0.39] 10	[0.14] 0.06
8JG-218-1	89R40-010-2 89R40-025-2	[3.74] 95	[2.76] 70	[0.98] 25	[0.45] 11.5	[0.55] 14	[0.98] 25	M8	[0.39] 10	[0.28] 0.13
8JG-219-1	89R50-025-2	[4.17] 106	[3.15] 80	[1.18] 30	[0.59] 15	[0.67] 17	[1.18] 30	M8	[0.39] 10	[0.42] 0.19
8JG-220-1	89R63-025-2	[4.72] 120	[3.54] 90	[1.38] 35	[0.67] 17	[0.79] 20	[1.38] 35	M10	[0.47] 12	[0.66] 0.30

Series 89R Clamping Arm Adapters

Features:

- For attaching custom made clamp arms
- 360° rotatable arm
- Aluminum construction

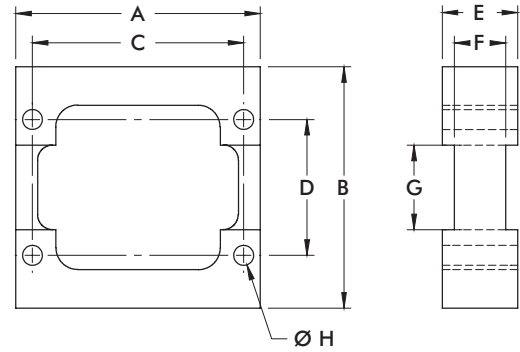


Part Number	Used with Model/series	A	B	C	D	E	E1	F	Weight [lbs] kg
8MA-084-1	89R20-010-2	[1.57] 40	[1.10] 28	[0.59] 15	[0.32] 8	[0.59] 15	--	[0.22]	[0.03] 0,014
8MA-086-1	89R32-010-2	[1.97] 50	[1.38] 35	[0.79] 20	[0.43] 11	[0.79] 20	--	5,5 (2x)	[0.08] 0,035
8MA-087-1	89R40-010-2 89R40-025-2		[1.50] 38	[0.98] 25	[0.51] 13	[0.98] 25	[0.55] 14	[0.22] 5,5 (4x)	[0.11] 0,050
8MA-088-1	89R50-025-2	[2.36] 60	[1.77] 45	[1.18] 30	[0.59] 15	[1.18] 30	[0.59] 15	[0.28] 7 (4x)	[0.19] 0,085
8MA-089-1	89R63-025-2	[2.56] 65	[1.89] 48	[1.38] 35	[0.67] 17	[1.38] 35	[0.71] 18	[0.35] 9 (4x)	[0.28] 0,125

Series 89R Body Mount Flanges

Features:

- For recessed mounting
- Variable height adjustment
- Can be used with switches
- For use with the **89R** Series Pneumatic Swing Clamps

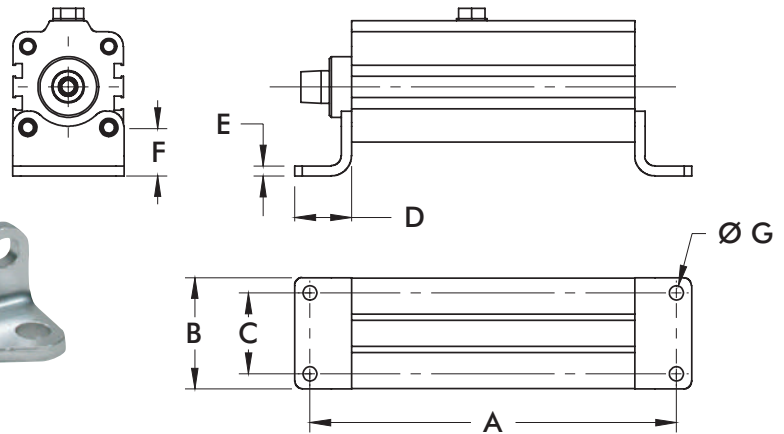


Part Number	Used with Model/series	A	B	C	D	E	F	G	H	Weight [lbs] kg
8MA-092-1	89R20-010-2	[2.24] 57	[2.17] 55	[1.85] 47	[0.94] 24	[0.59] 15	--	--	[0.28] 5,5	[0.22] 0,10
8MA-094-1	89R32-010-2		[2.95] 75		[1.57] 40	[0.79] 20	[0.47] 12	[0.98] 25		[0.44] 0,20
8MA-095-1	89R40-010-2	[3.19] 81	[3.15] 80	[2.55] 70	[1.77] 45			[1.10] 28	[0.26] 6,6	[0.55] 0,25
	89R40-025-2					[0.98] 25	[0.67] 17			
8MA-096-1	89R50-025-2	[4.00] 101,5	[3.94] 100	[3.37] 85,5	[1.97] 50			[1.46] 37	[0.35] 9	[0.88] 0,40

Series 89R Mounting Feet

Features:

- Can be mounted on bottom side or front side
- Can be mounted on 4 sides of the cylinder
- For use with **89R** Series Pneumatic Swing Clamps

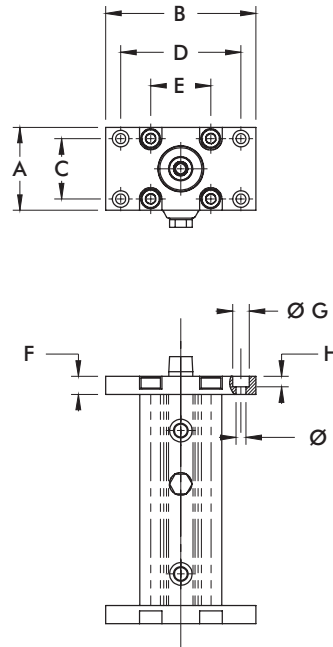
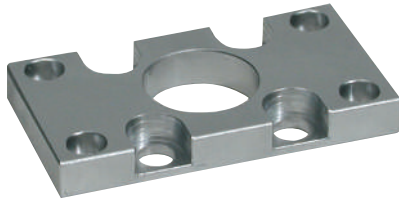


Part Number	Used with Model/series	A	B	C	D	E	F	G	Weight [lbs] kg
8MW-018-1	89R20-010-2	[5.41] 137,5	[1.38] 35	[0.87] 22	[0.87] 22	[0.16] 4	[0.63] 16		[0.08] 0,04
8MW-020-1	89R32-010-2	[6.54] 166	[1.97] 50	[1.38] 35			[0.71] 18	[0.28] 7	[0.15] 0,07
8MW-021-1	89R40-010-2	[7.13] 181	[2.17] 55	[1.57] 40	[1.10] 28	[0.20] 5			[0.22] 0,10
	89R40-025-2	[8.31] 211					[0.94] 24		
8MW-022-1	89R50-025-2	[9.39] 238,5	[2.64] 67	[1.97] 50	[1.26] 32	[0.24]		[0.35] 9	[0.33] 0,15
8MW-023-1	89R63-025-2	[10.37] 263,5	[3.35] 85	[2.44] 62	[1.57] 40	6	[1.06] 27	[0.43] 11	[0.52] 0,24

Series **89R** End Mount Flanges

Features:

- Can be mounted on bottom side or top side
- For use with **89R** Pneumatic Swing Clamps



Part Number	Used with Model/series	A	B	C [±0.008] ±0,2	D [±0.008] ±0,2	E	F	G	H	J	Weight [lbs]kg
8MA-061-1	89R20-010-2	[1.26] 32	[2.56] 65	[0.71] 18	[1.97] 50	[0.87] 22	[0.39] 10				[0.07] 0,03
8MA-063-1	89R32-010-2	[1.97] 50	[3.15] 80	[1.26] 32	[2.52] 64	[1.26] 32	[0.47] 12	[0.43] 11	[0.28] 7	[0.26] 6,6	[0.20] 0,09
8MA-064-1	89R40-010-2 89R40-025-2	[2.17] 55	[3.94] 100	[1.57] 40	[3.15] 80	[1.57] 40					
8MA-065-1	89R50-025-2	[2.56] 65	[4.72] 120	[1.77] 45	[3.94] 100	[1.97] 50	[0.59] 15	[0.59] 15	[0.35] 9	[0.33] 8,5	[0.46] 0,21
8MA-066-1	89R63-025-2	[3.15] 80	[5.12] 130	[2.36] 60	[4.33] 110	[2.44] 62					[0.35] 8,8

Series 89B Product Overview

Features:

- Lightweight and robust, designed for several millions cycles
- Can be mounted from the side or the top
- Sensor ready for T-slot style sensors
- Metric design
- Clamp arm sold separately

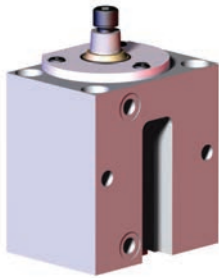
Applications:

- Assembly
- Welding
- Light machining

Also Available:

See page 10.17 for clamping arms
See page 11.1 for sensing options

Series 89B



Series 89B Technical Information

Model	Swing Direction	Total Stroke [in]mm S	Stroke During Rotation [in]mm S1	Vertical Clamp Stroke [in]mm S2	Clamping Force [lbf.]N†	Bore Size mm[in]	Air Consumption‡ [ft³]dm³	Weight [lb.]kg	Replacement Seal Kit
89B20-010-1R	RH	[0.79]	[0.39]		[18]	[0.79]	[0.002]	[1.70]	8940-3-00
89B20-010-1L	LH	20	10		80	20	0,06	0,77	
89B30-010-1R	RH	[0.83]	[0.43]	[0.39]	[52]	[1.18]	[0.006]	[2.43]	8945-3-00
89B30-010-1L	LH	21	11	10	231	30	0,16	1,10	
89B40-010-1R	RH	[0.94]	[0.55]		[85]	[1.57]	[0.012]	[3.26]	8950-3-00
89B40-010-1L	LH	24	14		378	40	0,33	1,48	
89B50-025-1R	RH	[1.57]	[0.59]	[0.98]	[161]	[1.97]	[0.031]	[5.73]	8952-3-00
89B50-025-1L	LH	40	15	25	716	50	0,087	2,6	
89B63-008-1R	RH	[1.02]	[0.71]	[0.32]	[247]	[2.48]	[0.032]	[6.24]	8955-3-00
89B63-008-1L	LH	26	18	8	1100	63	0,091	2,83	

†with standard clamping arm at 5bar[72psi]. ‡ per double stroke at 5bar[72psi]

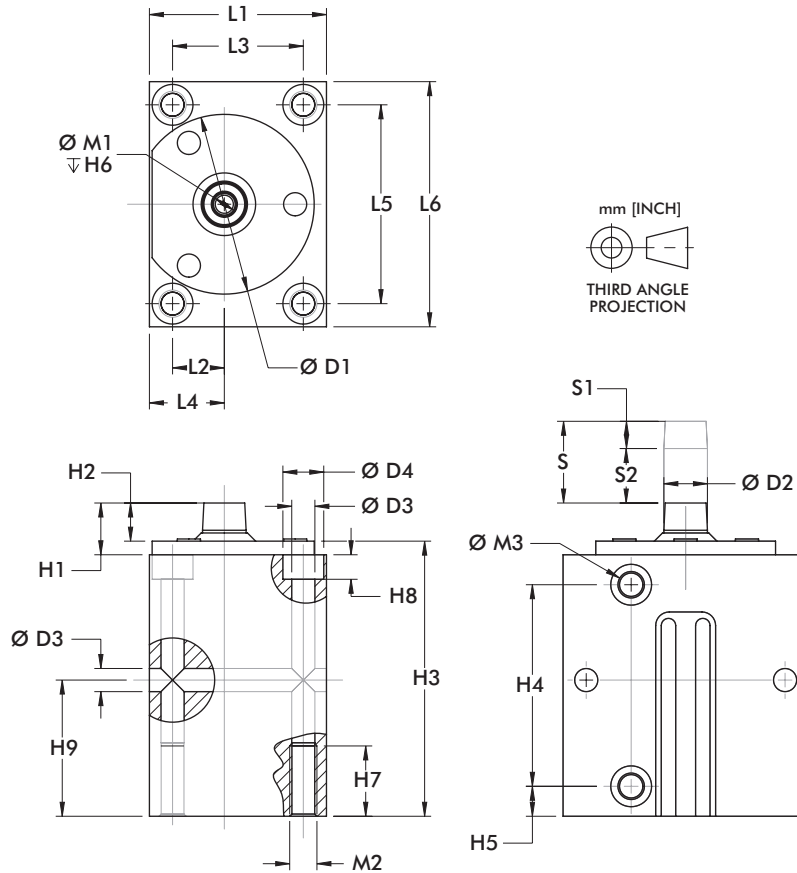
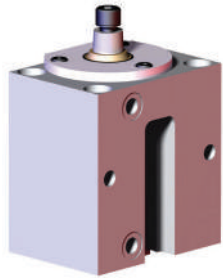
Operating Pressure Range: 3bar [30psig] to 10bar [145psig] (89B20 8bar [116psig] max.)

Maximum Operating Temperature: 80°C[176°F]

Note:

Switches are optional. To order clamp with (2) 8EA-109-1 switches, add **A** to the end of the model. EX. 89B30-010-1**RA**. See page 11.1 for additional switch options.

Series 89B Standard Clamp Dimensions

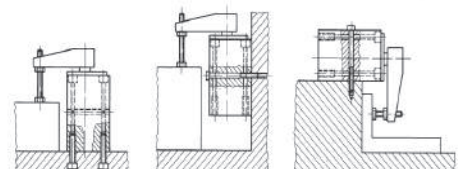


mm [INCH]
THIRD ANGLE PROJECTION

Model	ØD1	ØD2	ØD3	D4	H1	H2	H3	H4	H5	H6	H7	H9	L1	L2
89B20	[1.89] 48	[0.39] 10	[0.26] 6,6	[0.43] 11	[0.69] 17,5	[0.37] 9,5	[3.46] 88	[2.31] 58,7	[0.35] 9	[0.59] 15	[0.79] 20	[1.57] 40	[1.77] 45	[0.45] 11,5
89B30	[2.52] 64	[0.47] 12	[0.33] 8,5	[0.59] 15	[0.63] 16	[0.43] 11	[3.70] 94	[2.72] 69,2	[0.39] 10	[0.67] 17	[0.98] 25	[1.77] 45	[2.17] 55	[0.55] 14
89B40	[2.59] 66	[0.63] 16	[0.41] 10,5	[0.71] 18	[0.75] 19	[0.55] 14	[3.98] 101	[2.91] 74	[0.43] 11	[0.98] 25	[1.18] 30	[1.97] 50	[2.56] 65	[0.75] 19
89B50	[3.07] 78	[0.71] 18	[0.41] 10,5	[0.71] 18	[0.98] 25	[0.67] 17	[5.51] 140	[4.29] 109	[0.43] 11	[0.98] 25	[1.18] 30	[2.76] 70	[2.95] 75	[0.94] 24
89B63	[4.13] 105	[0.79] 20	[0.41] 10,5	[0.71] 18	[1.06] 27	[0.75] 19	[4.53] 115	[3.35] 85	[0.43] 11	[0.79] 20	[1.18] 30	[2.16] 55	[3.54] 90	[1.18] 30

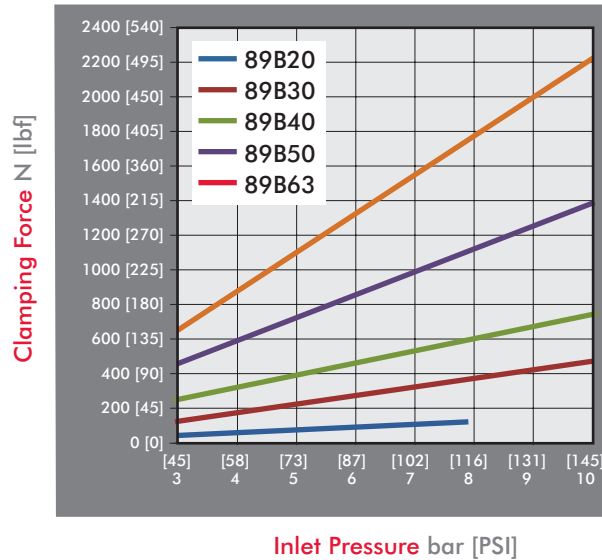
Model	L3	L4	L5	L6	M1	M2	M3
89B20	[1.18] 30	[0.75] 19	[2.36] 60	[2.95] 75	M5	M8	M5
89B30	[1.50] 38	[0.89] 22,5	[2.68] 68	[3.35] 85	M6	M10	G-1/8
89B40	[1.89] 48	[1.08] 27,5	[2.87] 73	[3.54] 90	M8	M10	
89B50	[2.17] 55	[1.34] 34	[3.54] 90	[4.33] 110	M8	M12	G-1/4
89B63	[2.76] 70	[1.57] 40	[3.94] 100	[4.72] 120	M10	M12	

Mounting Options



Series 89B Clamping Forces

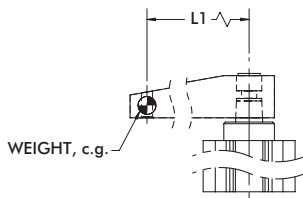
Series 89B Clamping Force
(w/ standard clamping arm)



DE-STA-CO Pneumatic Swing Clamps are designed for long life when using standard clamping arms and spindles. In the event that a longer arm or additional weight is needed, please consult these charts for the allowable weight and length.

Example: 89B30

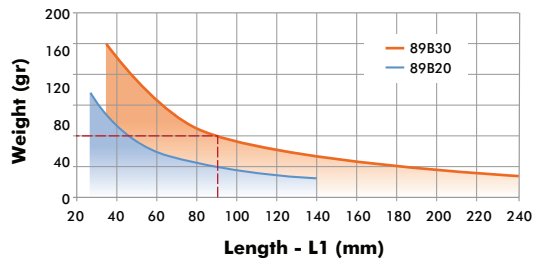
At a weight of 80 gr, the maximum length of the arm is approximately 90mm.



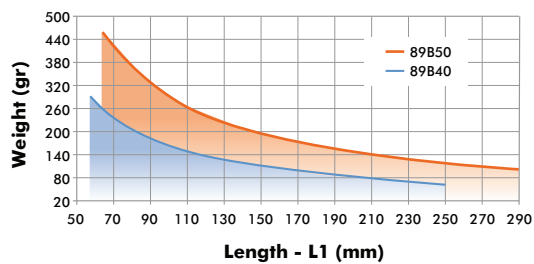
All data refers to an operating pressure of 5 bar (72psi) and an opening and closing time of 1 second.

Series 89B Guidelines

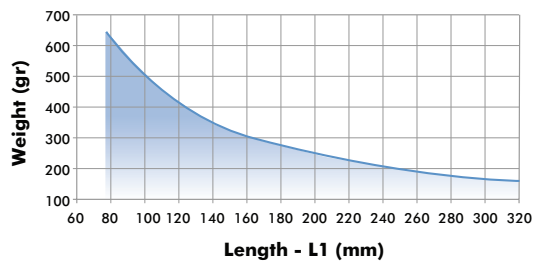
89B20 & 89B30 Clamp Arm Weight



89B40 & 89B50 Clamp Arm Weight



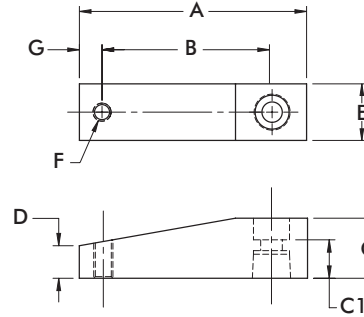
89B63 Clamp Arm Weight



Series 89B Clamping Arm

Features:

- Lightweight aluminum construction
- Locking tapered connection for 360 deg. arm positioning

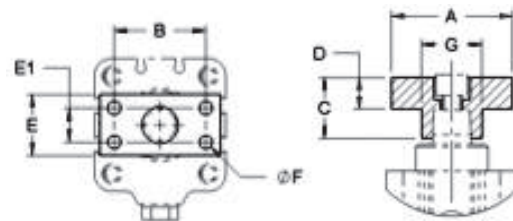
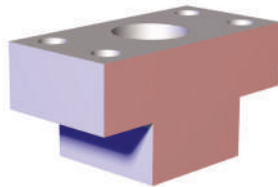


Part Number	Used with Model/series	A	B	C	C1	D	E	F	G	Weight [lbs] kg
8JG-215-1	89B20-010-1	[2.64] 67	[2.05] 52	[0.59] 15	[0.33] 8.5	[0.24] 6	[0.59] 15	M6	[0.28] 7	[0.08] 0.04
8JG-217-1	89B30-010-1	[3.15] 80	[2.36] 60	[0.79] 20	[0.37] 9.5	[0.33] 8.5	[0.79] 20	M8	[0.39] 10	[0.14] 0.06
8JG-218-1	89B40-010-1	[3.74] 95	[2.76] 70	[0.98] 25	[0.45] 11.5	[0.55] 14	[0.98] 25	M8	[0.39] 10	[0.28] 0.13
8JG-219-1	89B50-025-1	[4.17] 106	[3.15] 80	[1.18] 30	[0.59] 15	[0.67] 17	[1.18] 30	M8	[0.39] 10	[0.42] 0.19
8JG-220-1	89B63-008-1	[4.72] 120	[3.54] 90	[1.38] 35	[0.67] 17	[0.79] 20	[1.38] 35	M10	[0.47] 12	[0.66] 0.30

Series 89B Clamping Arm Adapters

Features:

- For attaching custom made clamp arms
- 360° rotatable arm
- Aluminum construction



Part Number	Used with Model/series	A	B	C	D	E	E1	F	Weight [lbs] kg
8MA-084-1	89B20-010-1	[1.57] 40	[1.10] 28	[0.59] 15	[0.32] 8	[0.59] 15	--	[0.22]	[0.03] 0,014
8MA-086-1	89B30-010-1	[1.97] 50	[1.38] 35	[0.79] 20	[0.43] 11	[0.79] 20	--	5,5 (2x)	[0.08] 0,035
8MA-087-1	89B40-010-1	[1.97] 50	[1.50] 38	[0.98] 25	[0.51] 13	[0.98] 25	[0.55] 14	[0.22] 5,5 (4x)	[0.11] 0,050
8MA-088-1	89B50-025-1	[2.36] 60	[1.77] 45	[1.18] 30	[0.59] 15	[1.18] 30	[0.59] 15	[0.28] 7 (4x)	[0.19] 0,085
8MA-089-1	89B63-008-1	[2.56] 65	[1.89] 48	[1.38] 35	[0.67] 17	[1.38] 35	[0.71] 18	[0.35] 9 (4x)	[0.28] 0,125

Series 8100, 8300 Product Overview

Features:

- Lightweight and robust, designed for several millions cycles
- Block style body may be mounted from the side or the top.
- Sensor ready for use with round style sensors
- Clamp arm and spindle included

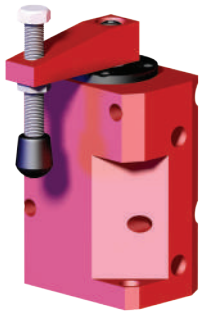
Applications:

- Assembly
- Welding
- Light machining

Also Available:

See page 10.22 for clamping arms
See page 11.1 for sensing options

Series 8100, 8300



Sensor ready.

Supplied with clamping arm and spindle.

To order without clamping arm add **-LA** to the end of the model. Ex. 8115-**LA**

Series 8100, 8300 Technical Information

Model	Swing Direction	Total Stroke [in]mm	Stroke During Rotation [in]mm	Vertical Clamp Stroke [in]mm	Clamping Force [lbf.]N†	Bore Size mm[in]	Air Consumption‡ [ft³]dm³	Weight [lb.]kg	Replacement Seal Kit
8115	RH	[0.85]	[0.47]	[0.38]	[25]	[18]	[0.002]	[0.68]	801560
8116	LH	21,5	11,8	9,7	110	80	0,06	0,31	
8315	RH	[1.25]	[0.75]	[0.50]	[89]	[67]	[0.014]	[2.00]	821560
8316	LH	31,8	19,1	12,7	400	298	0,40	0,91	

† with standard clamping arm at 5bar[72psi]. ‡ per double stroke at 5bar[72psi]

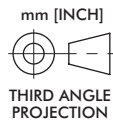
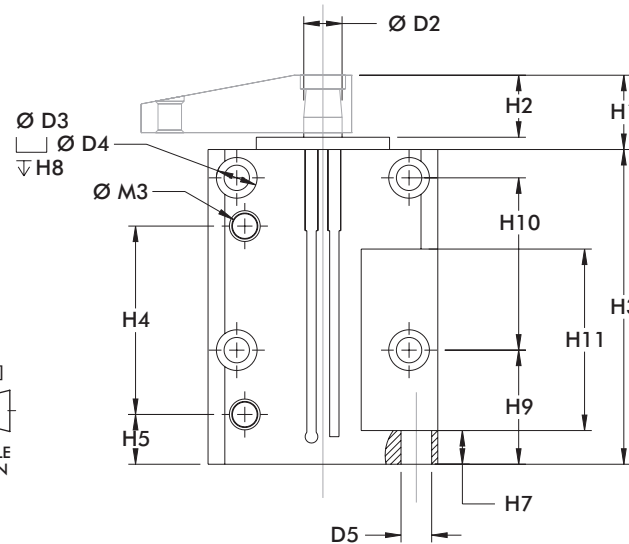
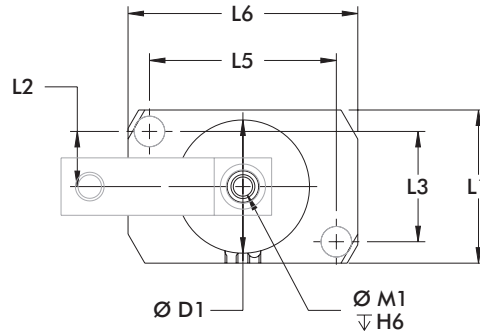
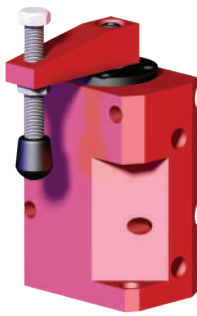
Operating Pressure Range: 3bar [30psig] to 9bar [130psig]

Maximum Operating Temperature: -18°C to 60°C [0°F to 140°F]

Note:

To order with out clamping arm, add **-LA** to the end of the model number. EX. 8115-**LA**.

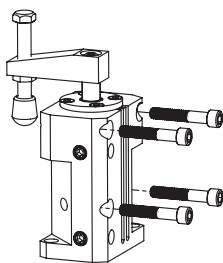
Series 8100, 8300 Standard Clamp Dimensions



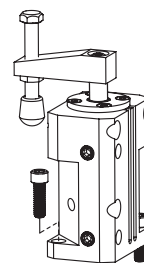
Model	ØD1	ØD2	ØD3	ØD4	ØD5	H1	H2	H3	H4	H5	H6	H7
8115	[1.23]	[0.44]	[0.20]	--	--	[0.53]	[0.41]	[3.37]	[1.45]	[0.35]	[0.75]	[0.25]
8116	31,2	11,2	5,1	--	--	13,5	10,4	85,6	36,8	8,9	19,1	6,4
8315	[1.74]	[0.50]	[0.33]	[0.53]	[0.40]	[0.97]	[0.81]	[4.11]	[2.46]	[0.65]	[0.67]	[0.44]
8316	44,2	12,7	8,4	13,5	10,2	24,6	20,6	104,4	62,5	16,5	17	11,2

Model	H8	H9	H10	H11	L1	L2	L3	L5	L6	M1	M3
8115	--	[1.37]	[1.00]	[1.00]	[1.25]	[0.47]	[0.94]	[0.94]	[1.25]	¼-20	#10-32
8116	--	34,8	25,4	25,4	31,8	11,9	23,9	23,9	31,8		
8315	[1.00]	[1.49]	[2.25]	[2.37]	[2.00]	[0.72]	[1.44]	[2.44]	[3.00]	5/16/18	1/8 NPT
8316	25,4	37,9	57,2	60,2	50,8	18,3	36,6	62	76,2		

Mounting Options



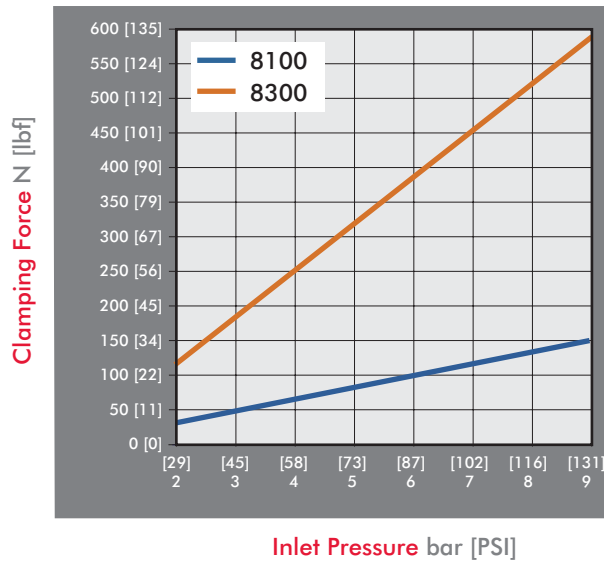
Can be mounted to the side or front of the fixture, or mounted back to back for multiple clamping operations.



Mounted to the top of the work surface through the two mounting holes in the bottom of unit.

Series 8100, 8300 Clamping Forces

Series 8100, 8300 Clamping Force
(w/ standard clamping arm)

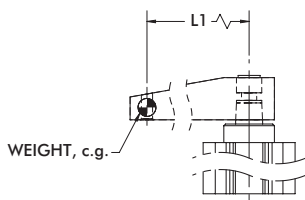


Series 8100, 8300 Guidelines

DE-STA-CO Pneumatic Swing Clamps are designed for long life when using standard clamping arms and spindles. In the event that a longer arm or additional weight is needed, please consult these charts for the allowable weight and length.

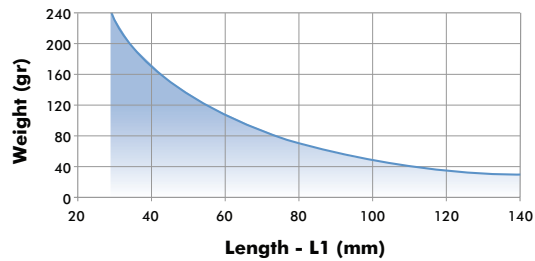
Example: 8315

At a weight of 80 gr, the maximum length of the arm is approximately 90mm.

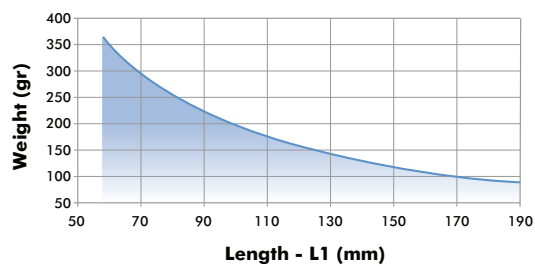


All data refers to an operating pressure of 5 bar (72psi) and an opening and closing time of 1 second.

8115/8116 Clamp Arm Weight



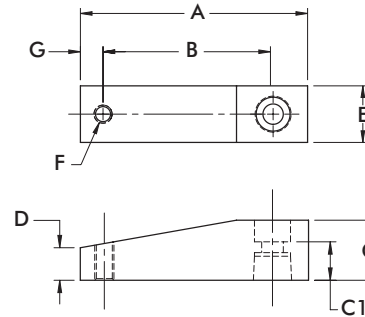
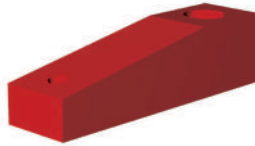
8315/8316 Clamp Arm Weight



Series 8100, 8300 Clamping Arm

Features:

- Lightweight aluminum construction
- Locking tapered connection for 360 deg. arm positioning

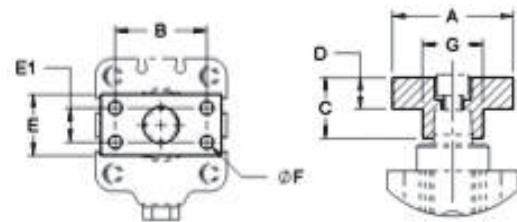
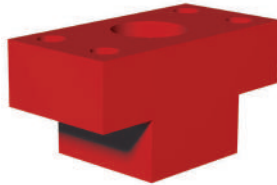


Part Number	Used with Model/series	A	B	C	C1	D	E	F	G	Weight [lbs] kg
801528	8115/8116	[1.74] 44.2	[1.11] 28.2	[0.37] 9.4	[0.33] 8.3	[0.25] 6.4	[0.62] 15.7	#10-32	[0.32] 8.1	[0.03] 0.01
801529	8115/8116	[2.87] 72.9	[2.24] 56.9	[0.37] 9.4	[0.33] 8.3	[0.25] 6.4	[0.62] 15.7	#10-32	[0.32] 8.1	[0.05] 0.02
821512	8315/8316	[2.75] 69.9	[2.00] 50.8	[0.75] 19.1	[0.57] 14.5	[0.38] 9.5	[0.75] 19.1	3/8-16	[0.38] 9.5	[0.04] 0.02
821513	8315/8316	[3.75] 95.3	[3.00] 76.2	[0.75] 19.1	[0.57] 14.5	[0.38] 9.5	[0.75] 19.1	3/8-16	[0.38] 9.5	[0.05] 0.02

Series 8100, 8300 Clamping Arm Adapters

Features:

- For attaching custom made clamp arms
- 360° rotatable arm
- Aluminum construction



Part Number	Used with Model/series	A	B	C	D	E	E1	F	Weight [lbs] kg
801532	8115/8116	[1.37] 34,8	[1.00] 25,4	[0.39] 9,9	[0.25] 6,4	[0.62] 15,7	--	#10-32 (2x)	[0.03] 0,014
821556	8315/8316	[1.50] 38,1	[1.06] 26,9	[0.75] 19,1	[0.37] 9,4	[0.75] 19,1	--	1/4-20 (2x)	[0.05] 0,020

Series 89E Product Overview

Features:

- Lightweight and robust, designed for several millions cycles
- Threaded body may be mounted in a tapped hole or a clearance hole with optional mounting flange
- Metric design
- Clamp arm sold separately

Applications:

- Assembly
- Welding
- Light machining

Also Available:

See page 10.26 for clamping arms
See page 10.27 for mounting flanges

Series 89E



Series 89E Technical Information

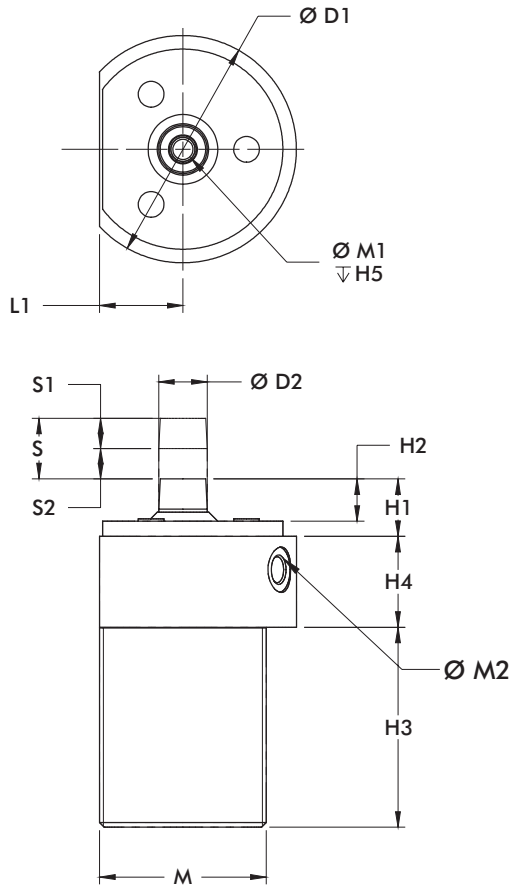
Model	Swing Direction	Total Stroke [in]mm S	Stroke During Rotation [in]mm S1	Vertical Clamp Stroke [in]mm S2	Clamping Force [lbf.]N†	Bore Size [in]mm	Air Consumption‡ [ft³]dm³	Weight [lb.]kg	Replacement Seal Kit
89E20-010-1R	RH	[0.79]	[0.39]		[18]	[0.79]	[0.002]	[0.62]	8940-3-00
89E20-010-1L	LH	20	10		80	20	0,06	0,28	
89E30-010-1R	RH	[0.83]	[0.43]	[0.39]	[52]	[1.18]	[0.006]	[0.88]	8945-3-00
89E30-010-1L	LH	21	11	10	231	30	0,16	0,40	
89E40-010-1R	RH	[0.94]	[0.55]		[85]	[1.57]	[0.012]	[1.57]	8950-3-00
89E40-010-1L	LH	24	14		378	40	0,33	0,71	
89E50-025-1R	RH	[1.57]	[0.59]	[0.98]	[161]	[1.97]	[0.031]	[2.91]	8952-3-00
89E50-025-1L	LH	40	15	25	716	50	0,087	1,32	
89E63-008-1R	RH	[1.02]	[0.71]	[0.32]	[247]	[298]	[0.032]	[4.63]	8955-3-00
89E63-008-1L	LH	26	18	8	1100	1,330	0,091	2,10	

† with standard clamping arm at 5bar[72psi]. ‡ per double stroke at 5bar[72psi]

Operating Pressure Range: 3bar[40psig] to 8bar[120psig], (89E20 8bar [120psi] max.)

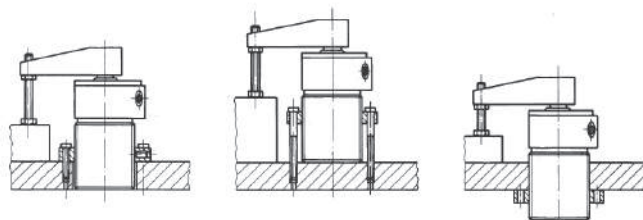
Maximum Operating Temperature: 80°C[176°F]

Series 89E Standard Clamp Dimensions



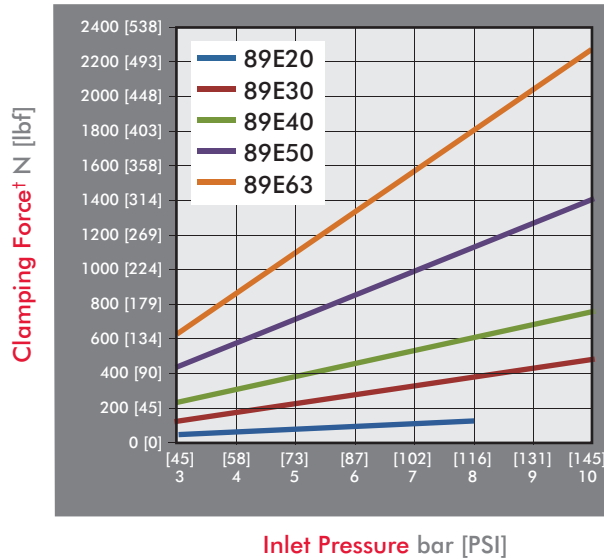
Model	Ø D1	Ø D2	H1	H2	H3	H4	H5	L1	M	M1	M2
89E20	[1.89] 48	[0.39] 10	[0.69] 17,5	[0.37] 9,5	[2.36] 60	[1.10] 28	[0.59] 15	[0.75] 19	M36X1,5	M5	M5
89E30	[2.52] 64	[0.47] 12	[0.63] 16	[0.43] 11	[2.72] 69	[0.98] 25	[0.67] 17	[0.89] 22,5	M42X1,5	M6	G-1/8
89E40	[2.95] 75	[0.63] 16	[0.75] 19	[0.55] 14	[2.60] 66	[1.38] 35	[0.98] 25	[1.08] 27,5	M55X2	M8	
89E50	[3.54] 90	[0.71] 18	[0.98] 25	[0.67] 17	[4.09] 104	[1.50] 38	[0.98] 25	[1.36] 34,5	M68X2	M10	G-1/4
89E63	[4.13] 105	[0.79] 20	[1.06] 27	[0.75] 19	[3.03] 77	[0.79] 20	[1.57] 40	M80X2			

Mounting Options



Series 89E Clamping Forces

Series 89E Clamping Force
(w/ standard clamping arm)

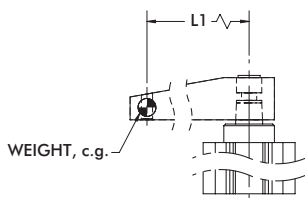


Series 89E Guidelines

DE-STA-CO Pneumatic Swing Clamps are designed for long life when using standard clamping arms and spindles. In the event that a longer arm or additional weight is needed, please consult these charts for the allowable weight and length.

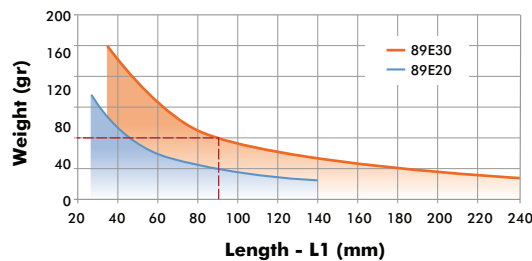
Example: 89E30

At a weight of 80 gr, the maximum length of the arm is approximately 90mm.

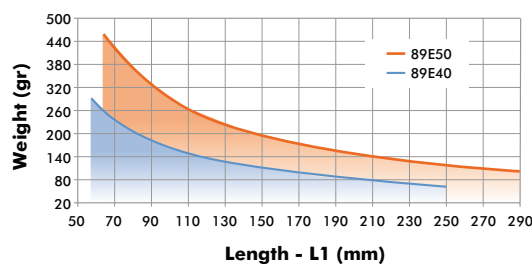


All data refers to an operating pressure of 5 bar (72psi) and an opening and closing time of 1 second.

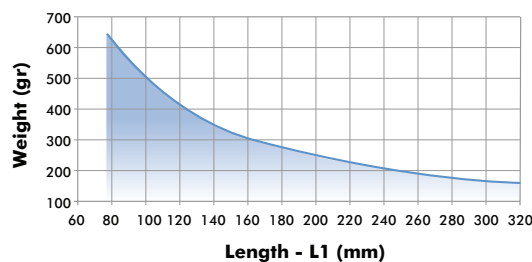
89E20 & 89E30 Clamp Arm Weight



89E40 & 89E50 Clamp Arm Weight



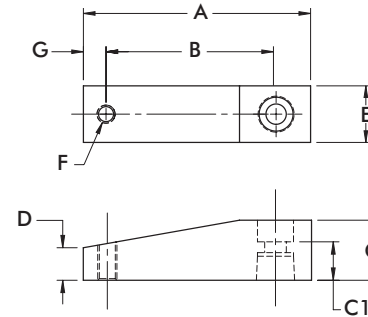
89E63 Clamp Arm Weight



Series 89E Clamping Arm

Features:

- Lightweight aluminum construction
- Locking tapered connection for 360 deg. arm positioning

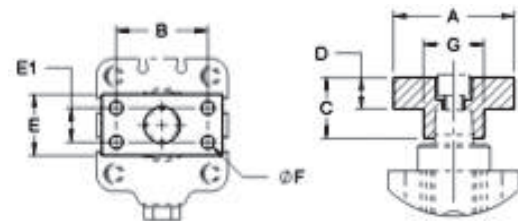
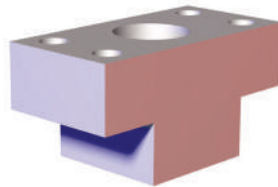


Part Number	Used with Model/series	A	B	C	C1	D	E	F	G	Weight [lbs] kg
8JG-215-1	89E20-010-1	[2.64] 67	[2.05] 52	[0.59] 15	[0.33] 8.5	[0.24] 6	[0.59] 15	M6	[0.28] 7	[0.08] 0.04
8JG-217-1	89BE30-010-1	[3.15] 80	[2.36] 60	[0.79] 20	[0.37] 9.5	[0.33] 8.5	[0.79] 20	M8	[0.39] 10	[0.14] 0.06
8JG-218-1	89E40-010-1	[3.74] 95	[2.76] 70	[0.98] 25	[0.45] 11.5	[0.55] 14	[0.98] 25	M8	[0.39] 10	[0.28] 0.13
8JG-219-1	89E50-025-1	[4.17] 106	[3.15] 80	[1.18] 30	[0.59] 15	[0.67] 17	[1.18] 30	M8	[0.39] 10	[0.42] 0.19
8JG-220-1	89E63-008-1	[4.72] 120	[3.54] 90	[1.38] 35	[0.67] 17	[0.79] 20	[1.38] 35	M10	[0.47] 12	[0.66] 0.30

Series 89E Clamping Arm Adapters

Features:

- For attaching custom made clamp arms
- 360° rotatable arm
- Aluminum construction

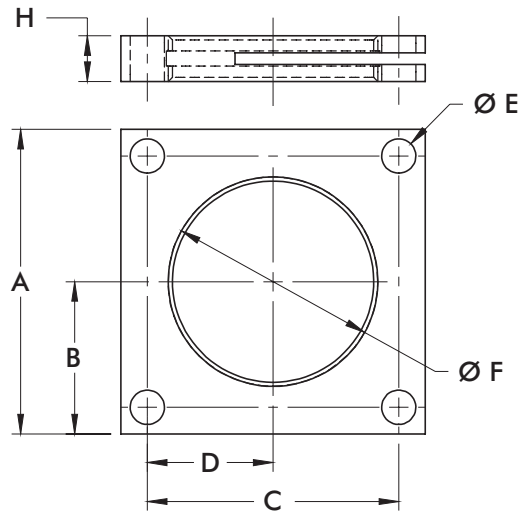
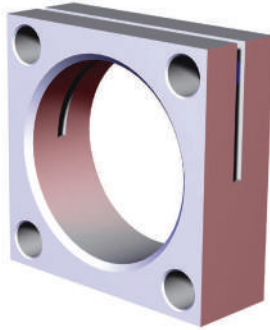


Part Number	Used with Model/series	A	B	C	D	E	E1	F	Weight [lbs] kg
8MA-084-1	89BE0-010-1	[1.57] 40	[1.10] 28	[0.59] 15	[0.32] 8	[0.59] 15	--	[0.22]	[0.03] 0,014
8MA-086-1	89E30-010-1	[1.97] 50	[1.38] 35	[0.79] 20	[0.43] 11	[0.79] 20	--	5,5 (2x)	[0.08] 0,035
8MA-087-1	89E40-010-1		[1.50] 38	[0.98] 25	[0.51] 13	[0.98] 25	[0.55] 14	[0.22] 5,5 (4x)	[0.11] 0,050
8MA-088-1	89E50-025-1	[2.36] 60	[1.77] 45	[1.18] 30	[0.59] 15	[1.18] 30	[0.59] 15	[0.28] 7 (4x)	[0.19] 0,085
8MA-089-1	89E63-008-1	[2.56] 65	[1.89] 48	[1.38] 35	[0.67] 17	[1.38] 35	[0.71] 18	[0.35] 9 (4x)	[0.28] 0,125

Series 89E Mounting Flanges

Features:

- For use with Threaded Body Pneumatic Swing Clamps
- Variable height adjustment
- For recessed mounting



Part Number	Used with Model/series	A	B	C	D	E	F	H
8MA-219-1	89E20-010-1	[2.17] 55	[4.33] 27,5	[1.65] 42	[0.83] 21	[0.26] 6,6	M36X1,5	[0.31] 8
8MA-220-1	89E30-010-1	[2.76] 70	[1.38] 35	[2.13] 54	[1.06] 27	[0.35] 9	M42X1,5	[0.39] 10
8MA-221-1	89E40-010-1	[3.15] 80	[1.57] 40	[2.60] 66	[1.30] 33		M55X2	[0.47] 12
8MA-222-1	89E50-025-1	[3.54] 90	[1.77] 45	[2.99] 76	[1.50] 38	[0.43] 11	M68X2	[0.59] 15
8MA-223-1	89E63-008-1	[4.33] 110	[2.17] 55	[3.54] 90	[1.77] 45		M80X2	

Series 8000, 8200, 8400 Product Overview

Features:

- Threaded body may be mounted in a tapped hole or a clearance hole with optional mounting flange. 8215/8216 may be mounted with the upper flange.
- Sensor ready for use with round style sensors
- Clamp arm and spindle included

Applications:

- Assembly
- Welding
- Light machining

Also Available:

- See page 10.31 for clamping arms
- See page 10.31 for mounting flanges
- See page 11.1 for sensing options

Series 8000, 8200, 8400



Series 8000, 8200, 8400 Technical Information

Model	Swing Direction	Total Stroke [in]mm	Stroke During Rotation [in]mm	Vertical Clamp Stroke [in]mm	Clamping Force [lbf.]N [†]	Bore Size [in]mm	Air Consumption [‡] [ft ³]dm ³	Weight [lb.]kg	Replacement Seal Kit
8015	RH	[0.85]	[0.47]	[0.38]	[18]	[0.75]	[0.002]	[1.0]	801560
8016	LH	21,5	11,8	9,7	80	19,1	0,06	0,45	
8215	RH	[1.25]	[0.75]	[0.50]	[67]	[1.50]	[0.015]	[2.2]	821560
8216	LH				300	38,1	0,41	1,0	
8415	RH	31,8	19,1	12,7	[55]	[1.19]	[0.009]	[1.5]	841560
8416	LH				245	30,2	0,25	0,68	

[†] with standard clamping arm at 5bar[72psi]. [‡] per double stroke at 5bar[72psi]

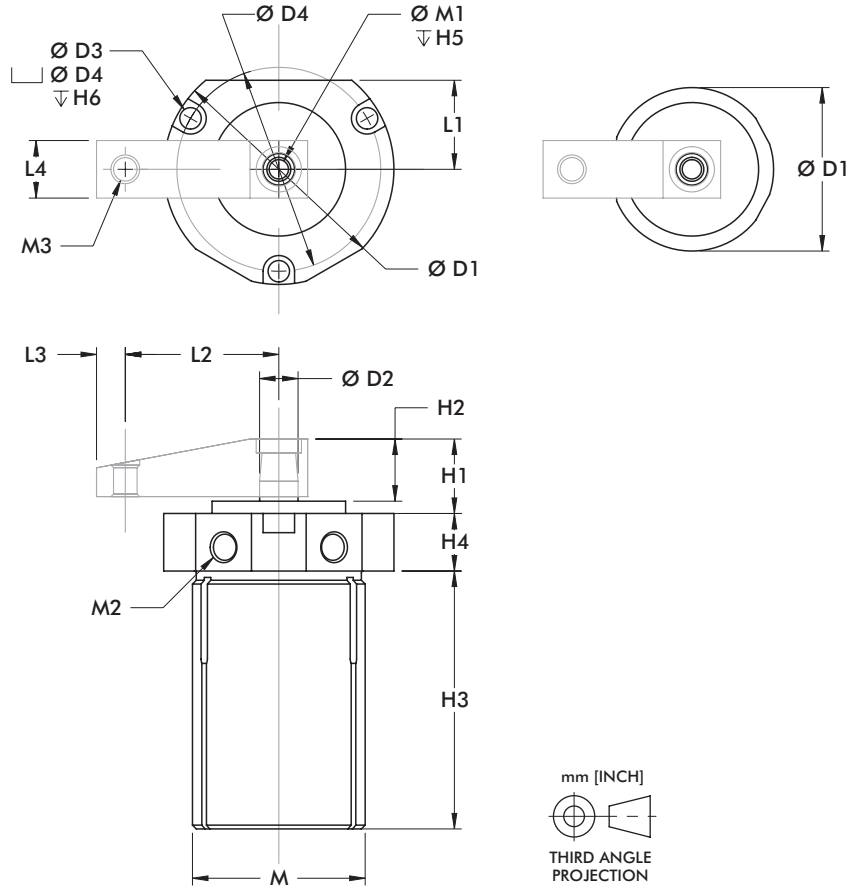
Operating Pressure Range: 3bar[40psig] to 9bar[130psig]

Maximum Operating Temperature: 60°C[140°F]

Note:

To order with out clamping arm, add **-LA** to the end of the model number. EX. 8115-**LA**.

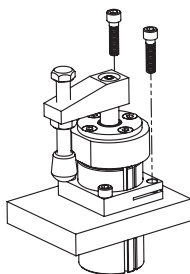
Series 8000, 8200, 8400 Standard Clamp Dimensions



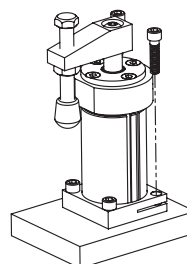
Model	ØD1	ØD2	ØD3	ØD4	H1	H2	H3	H4	H5	H6	L1	L2
8015	[1.25]	[0.44]	--	--	[0.53]	[0.41]	[2.87]	[0.50]	[0.75]	--	--	[1.12]
8016	31,8	11,1	--	--	13,5	10,4	72,9	12,7	19,1	--	--	28,4
8215	[3.00]		[0.28]	[2.66]	[0.97]	[0.81]	[3.36]			[0.25]	[1.16]	[2.00]
8216	76,2	[0.50]	7,1	67,6	24,6	20,6	85,3	[0.75]	[0.67]	6,4	29,5	50,8
8415	[2.13]		--	--	[0.94]	[0.78]	[3.17]					[1.56]
8416	54,1	12,7	--	--	23,9	19,8	80,5	19,1	17	--	--	39,6

Model	L3	L4	M	M1	M2	M3
8015	[0.31]	[0.62]	1-1/8-16	¼-20	#10-32	#10-32
8016	7,9	15,7				
8215			2-1/4-12			
8216	[0.38]	[0.75]		5/16-18	1/8 NPT	3/8-16
8415	9,6	19,1				
8416			1-3/4-12			

Mounting Options



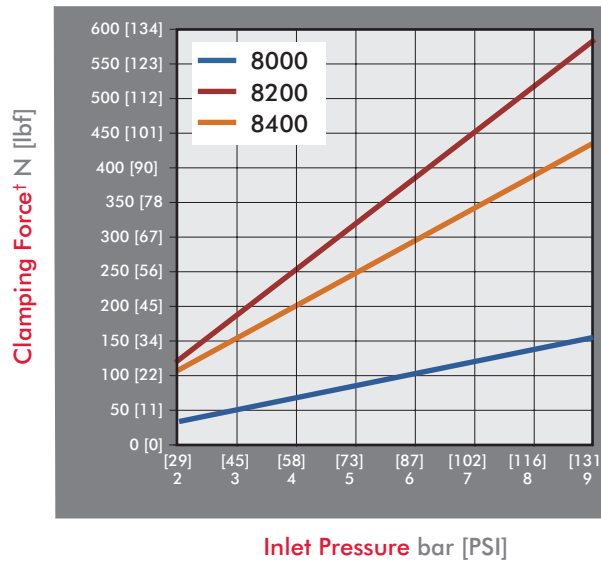
8000, 8200, 8400
 Mounted into a tapped hole or a through a clearance hole with the optional mounting flange. Jam nuts are available for 8000.



8200 only
 Mounted through a clearance hole using mounting screws in the top flange.

Series 8000, 8200, 8400 Clamping Forces

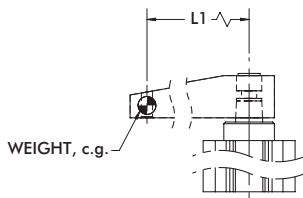
Series 8000, 8200, 8400 Clamping Force (w/ standard clamping arm)



DE-STA-CO Pneumatic Swing Clamps are designed for long life when using standard clamping arms and spindles. In the event that a longer arm or additional weight is needed, please consult these charts for the allowable weight and length.

Example: 8215

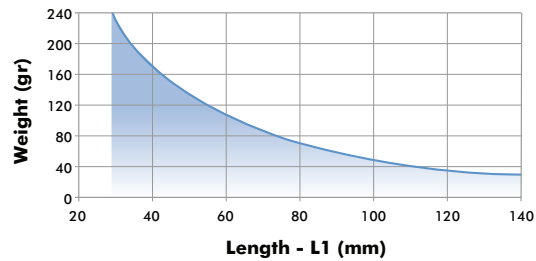
At a weight of 80 gr, the maximum length of the arm is approximately 90mm.



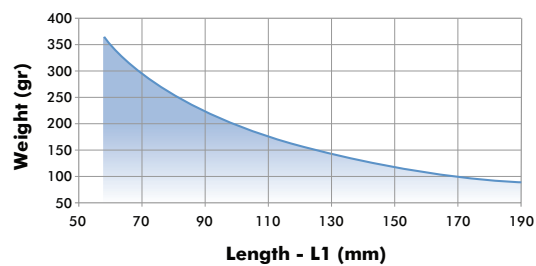
All data refers to an operating pressure of 5 bar (72psi) and an opening and closing time of 1 second.

Series 8000, 8200, 8400 Guidelines

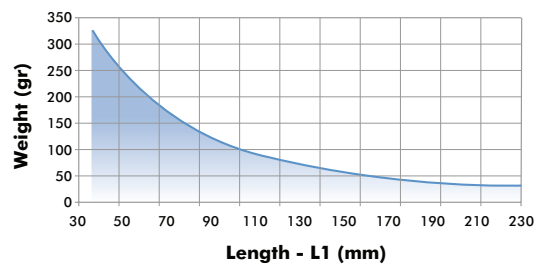
8015/8016 Clamp Arm Weight



8215/8216 Clamp Arm Weight

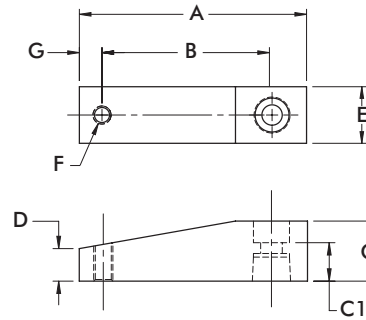
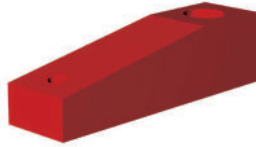


8415/8416 Clamp Arm Weight



Series 8000, 8200, 8400 Clamping Arm
Features:

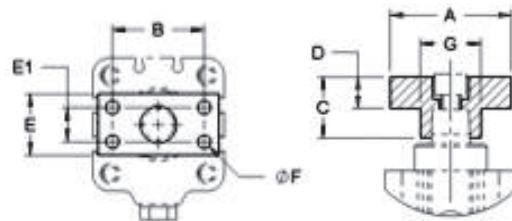
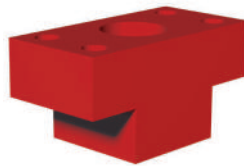
- Lightweight aluminum construction
- Locking tapered connection for 360 deg. arm positioning



Part Number	Used with Model/series	A	B	C	C1	D	E	F	G	Weight [lbs] kg
801528	8015/8016	[1.74] 44.2	[1.11] 28.2	[0.37] 9.4	[0.33] 8.3	[0.25] 6.4	[0.62] 15.7	#10-32	[0.32] 8.1	[0.03] 0.01
801529	8015/8016	[2.87] 72.9	[2.24] 56.9	[0.37] 9.4	[0.33] 8.3	[0.25] 6.4	[0.62] 15.7	#10-32	[0.32] 8.1	[0.05] 0.02
821512	8215/8216 8415/8416	[2.75] 69.9	[2.00] 50.8	[0.75] 19.1	[0.57] 14.5	[0.38] 9.5	[0.75] 19.1	3/8-16	[0.38] 9.5	[0.04] 0.02
821513	8215/8216	[3.75] 95.3	[3.00] 76.2	[0.75] 19.1	[0.57] 14.5	[0.38] 9.5	[0.75] 19.1	3/8-16	[0.38] 9.5	[0.05] 0.02

Series 8000, 8200, 8400 Clamping Arm Adapters
Features:

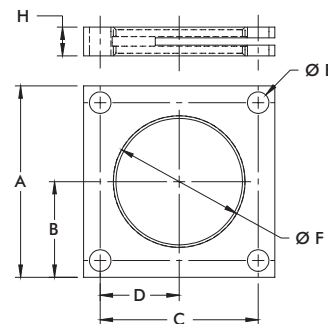
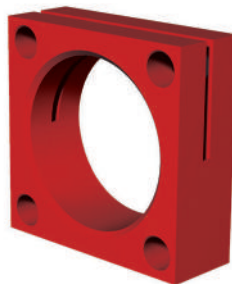
- For attaching custom made clamp arms
- 360° rotatable arm
- Aluminum construction



Part Number	Used with Model/series	A	B	C	D	E	E1	F	Weight [lbs] kg
801532	8015/8016	[1.37] 34,8	[1.00] 25,4	[0.39]	[0.25]	[0.62]	--	#10-32 (2x)	[0.03] 0,014
821556	8215/8216	[1.50] 38,1	[1.06] 26,9	[0.75]	[0.37]	[0.75]	--	1/4-20 (2x)	[0.05] 0,020

Mounting Flanges
Features:

- For use with Threaded Body Pneumatic Swing Clamps
- Variable height adjustment
- For recessed mounting



Part Number	Used with Model/series	A	B	C	D	E	F	H
801553	8015/8016	[1.38] 35	[0.69] 17,5	[1.08] 27,4	[0.54] 13,7	[0.20] 5,1	1 1/8-16	[0.50] 12.7
821553	8215/8216	[2.50] 63,5	[1.25] 31,8	[2.12] 53,8	[1.06] 26,9	[0.28] 7,1	2 1/4-12	
841550	8415/8416	[2.00] 50,8	[1.00] 25,4	[1.60] 40,6	[0.80] 20,3		1 3/4-12	

Series 035 Product Overview

Features:

- Available with threaded body, or lower flange mounting
- Low profile for confined spaces
- Double locked arm attachment is bolted to piston rod and clamped around shaft diameter

Applications:

- Assembly
- Welding
- Light machining

Also Available:

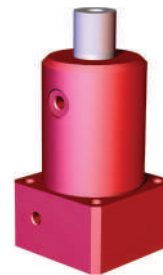
See page 10.35 for clamping arms
See page 10.36 for jam nuts

Series 035-1



Threaded body design for mounting through fixture plates.

Series 035-2



Flanged body design for quick and easy mounting

Series 035 Technical Information

Model	Swing Direction	Total Stroke [in]mm S	Stroke During Rotation [in]mm S1	Vertical Clamp Stroke [in]mm S2	Clamping Force [lbf.]N†	Bore Size [in]mm	Air Consumption‡ [ft³]dm³	Weight [lb.]kg	Replacement Seal Kit
035-125-190	RH	[1.04]	[0.51]	[0.53]	[20]	[0.98]	[0.005]	[0.56]	905516
035-125-290	LH	26,3	12,8	13,5	89	25	0,13	0,25	
035-132-190	RH	[1.13]	[0.56]	[0.57]	[30]	[1.26]	[0.008]	[0.94]	905517
035-132-290	LH	28,8	14,3	14,5	133	32	0,24	0,43	
035-140-190	RH	[1.20]	[0.57]	[0.63]	[60]	[1.57]	[0.015]	[1.31]	905518
035-140-290	LH	30,4	14,4	16	267	40	0,41	0,59	
035-150-190	RH	[1.18]	[0.63]	[0.55]	[69]	[1.97]	[0.023]	[1.81]	905519
035-150-290	LH	30	16	14	307	50	0,64	0,82	
035-225-190	RH	[1.05]	[0.54]	[0.51]	[20]	[0.98]	[0.005]	[0.56]	905516
035-225-290	LH	26,7	13,7	13	89	25	0,13	0,25	
035-232-190	RH	[1.06]	[0.57]	[0.49]	[30]	[1.26]	[0.008]	[1.13]	905517
035-232-290	LH	26,8	14,4	12,4	133	32	0,24	0,51	
035-240-190	RH	[1.09]	[0.57]	[0.52]	[60]	[1.57]	[0.015]	[1.40]	905518
035-240-290	LH	27,7	14,4	13,3	267	40	0,41	0,64	
035-250-190	RH	[1.13]	[0.63]	[0.51]	[69]	[1.97]	[0.023]	[1.90]	905519
035-250-290	LH	28,8	16	12,8	307	50	0,64	0,86	

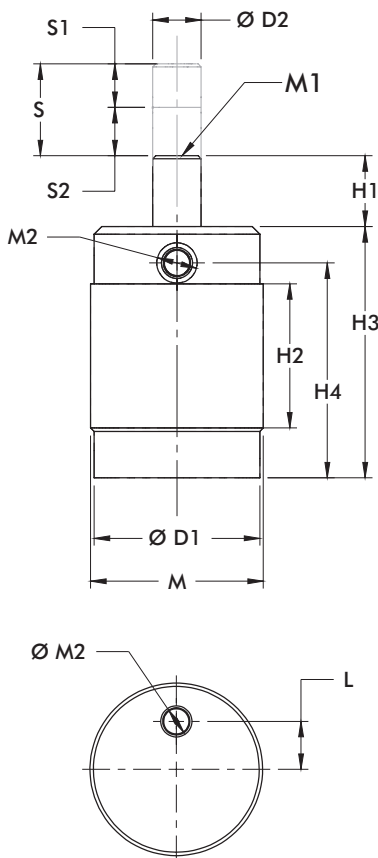
† with standard clamping arm at 5bar[72psi]. ‡ per double stroke at 5bar[72psi]

Operating Pressure Range: 3bar[40psig] to 7bar[100psig]
Maximum Operating Temperature: 80°C[176°F]

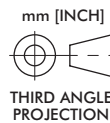
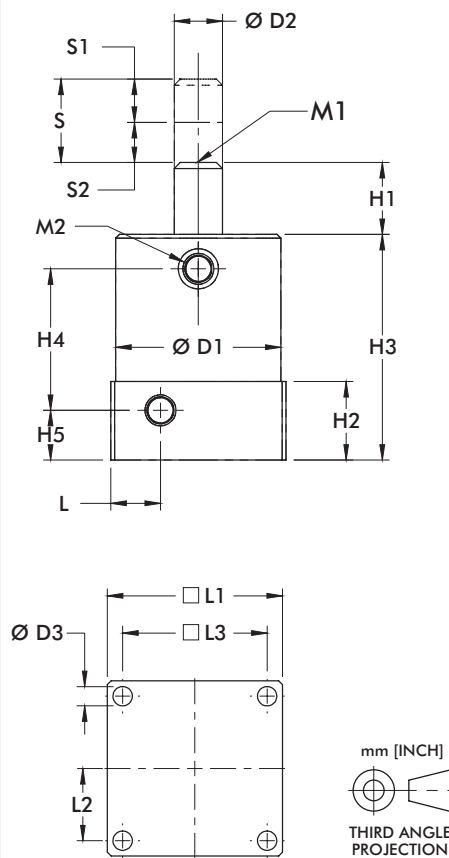
Series 035 Standard Clamp Dimensions



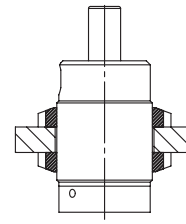
Series 035-1



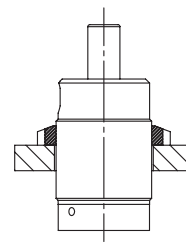
Series 035-2



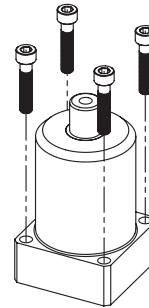
Mounting Options



035-1
Threaded body mounts through a clearance hole and locked in place using two optional jam nuts



035-1
Threaded body mounts into a threaded hole and is locked in place using one optional jam nuts

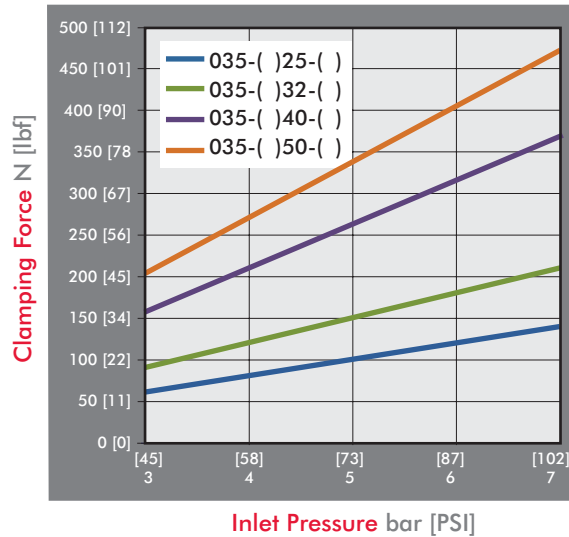


035-2
Mount using four mounting holes in the base flange

Model	ØD1	ØD2	D3	H1	H2	H3	H4	H5	L	L1	L3	M	M1	M2
035-125-()	[1.42] 36	[.55] 14	--	[0.57] 14,4	[1.50] 38,1	[2.76] 70	[2.25] 57,2	--	[0.35] 9	--	--	1-1/2 -16	1/4-20	#10-32
035-132-()	[1.79] 45,4	[.63] 16	--	[0.75] 19,1	[1.72] 43,7	[3.87] 98,2	[2.63] 66,7	--	[0.45] 11,4	--	--	1-7/8-16	5/16-18	1/8 NPT
035-140-()	[2.16] 54,8		--	[0.76] 19,4	[1.88] 47,7	[3.28] 83,2	[2.80] 71	--	[0.70] 17,8	--	--	2-1/4-16		
035-150-()	[2.36] 60	[0.79] 20	--	[0.70] 17,8	[2.00] 50,8	[3.48] 88,3	[2.95] 75	--	[0.50] 12,7	--	--	2-1/2-16	3/8-16	
035-225-()	[1.38] 35	[.55] 14	[.18] 4,5	[0.60] 15,2	[.91] 23	[2.62] 66,5	[1.60] 40,6	[0.50] 12,7	[0.57] 14,5	[1.57] 40	[1.22] 31	--	1/4-20	#10-32
035-232-()	[1.97] 50	[.63] 16	[.26] 6,5	[0.85] 21,6		[2.79] 71	[1.76] 44,6	[0.57] 14,5	[0.65] 16,5	[2.13] 54	[1.73] 44	--	5/16-18	1/8 NPT
035-240-()	[2.16] 54,8			[0.94] 23,9	[1.03] 26,1	[2.95] 75	[1.85] 47	[0.65] 16,5	[0.65] 16,5	[2.29] 58,2	[1.89] 48	--		
035-250-()	[2.36] 60	[0.79] 20	[.33] 8,5	[0.78] 19,7	[1.03] 26	[3.15] 80	[2.05] 52			[2.68] 68	[2.17] 55	--	3/8-16	

Series 035 Clamping Forces

Series 035 Clamping Force (w/ standard clamping arm)

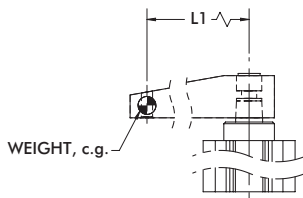


Series 035 Guidelines

DE-STA-CO Pneumatic Swing Clamps are designed for long life when using standard clamping arms and spindles. In the event that a longer arm or additional weight is needed, please consult these charts for the allowable weight and length.

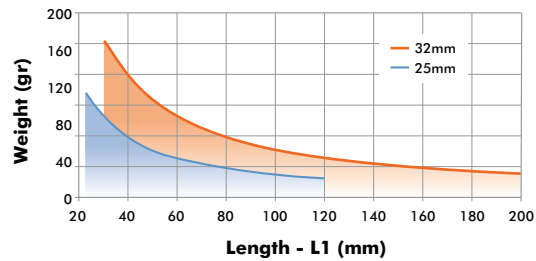
Example: 035-132-190

At a weight of 80 gr, the maximum length of the arm is approximately 90mm.

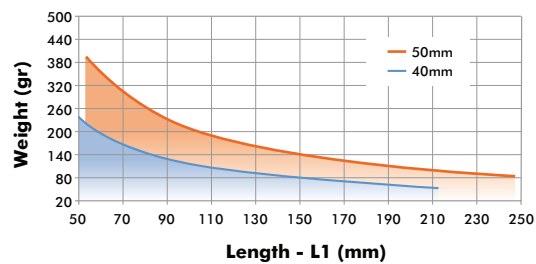


All data refers to an operating pressure of 5 bar (72psi) and an opening and closing time of 1 second.

25mm, 32mm Clamp Arm Weight



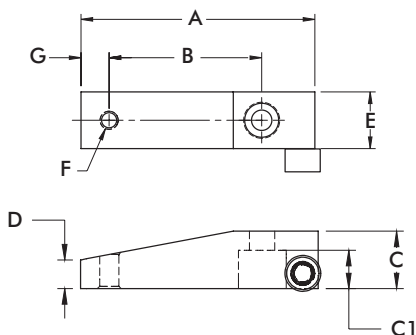
40mm, 50mm Clamp Arm Weight



Series 035 Clamping Arm

Features:

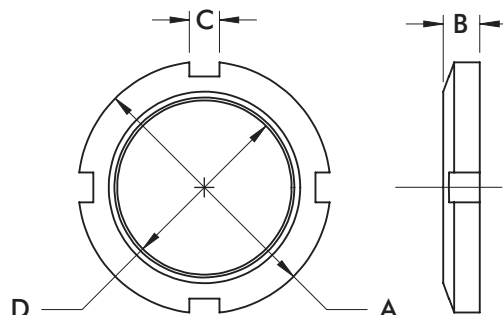
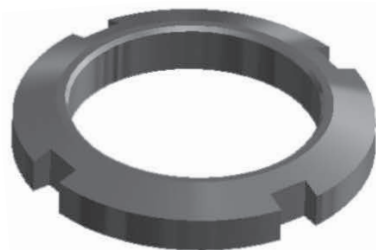
- For standard use
- Aluminum construction
- Clamp on style connection for 360 deg. arm positioning



Part Number	Used with Model/series	A	B	C	C1	D	E	F	G	Weight [lbs] kg
036-551-01	035-12.... 035-22....	[2.38] 60.5	[1.36] 34.5	[0.63] 15.9	[0.40] 10.2	[0.31] 8.0	[0.75] 19.1	1/4-20	[0.32] 8.0	[0.10] 0.05
036-551-02	035-12.... 035-22....	[3.38] 85.9	[2.36] 60.0	[0.63] 15.9	[0.40] 10.2	[0.31] 8.0	[0.75] 19.1	1/4-20	[0.32] 8.0	[0.13] 0.06
036-630-01	035-13.... 035-23.... 035-14.... 035-24....	[3.10] 78.7	[2.00] 50.8	[0.75] 19.1	[0.50] 12.7	[0.38] 9.5	[0.75] 19.1	5/16-18	[0.38] 9.5	[0.15] 0.07
036-630-02	035-13.... 035-23.... 035-14.... 035-24....	[4.73] 120.0	[3.63] 92.1	[0.75] 19.1	[0.50] 12.7	[0.38] 9.5	[0.75] 19.1	5/16-18	[0.38] 9.5	[0.21] 0.10
036-787-01	035-15.... 035-25....	[4.00] 101.6	[2.75] 69.9	[1.00] 25.4	[0.70] 17.8	[0.50] 12.7	[1.00] 25.4	3/8-16	[0.38] 9.5	[0.33] 0.15
036-787-02	035-15.... 035-25....	[6.36] 161.5	[5.00] 127.0	[1.00] 25.4	[0.70] 17.8	[0.50] 12.7	[1.00] 25.4	3/8-16	[0.38] 9.5	[0.49] 0.22

Features:

- For use with Threaded Body Pneumatic Swing Clamps
- Variable height adjustment
- For recessed mounting
- Steel construction



Part Number	Used with Model/series	A	B	C	D	Weight [lbs] kg
051-150-160	035-125-190 035-125-290	[2.00] 50.8	[0.38] 9.7	[0.275] 7.0	1 1/2-16 UN	[0.13] 0.06
051-187-160	035-132-190 035-132-290	[2.63] 66.7	[0.38] 9.7	[0.312] 7.9	1 7/8-16 UN	[0.25] 0.11
051-225-160	035-140-190 035-140-290	[3.00] 76.2	[0.50] 12.7	[0.312] 7.9	2 1/4-16 UN	[0.40] 0.18
051-250-160	035-150-190 035-150-290	[3.25] 82.6	[0.50] 12.7	[0.312] 7.9	2 1/2-16 UN	[0.44] 0.20

Series 8700 Product Overview

Features:

- Alternative solution to swing clamps when space is limited
- The clamping lever may be positioned left, forward, or right (relative to ports) within the same clamp body
- Threaded body with upper mount
- Non-toggle locking linkage
- Clamping arm and spindle included

Applications:

- Assembly & welding fixtures
- Light machining

Also Available:

See page 10.39 for jam nuts

8725



8732
8732G



8740
8740G



8750
8750G



Series 8700 Technical Information

Model	Vertical Clamping Stroke* [in.]mm	Clamping Force† [lbf.]N	Bore Size [in.]mm	Air Consumption‡ [in. ³]cm ³	Weight [lb.]kg	Seal Kit
8725	[0.10] 2,5	[43] 195	[0.98] 25	[0.004] 0,11	[1.3] 0,6	872500
8732	[0.12] 3,2	[64] 285	[1.26] 32	[0.008] 0,23	[2.2] 1,0	873200
8740		[106] 470	[1.57] 40	[0.014] 0,41	[2.6] 1,2	874000
8740G						
8750	[0.15] 3,8	[167] 745	[1.97] 50	[0.023] 0,64	[4,4] 2,0	875000
8750G						

* Equal to approx. 6° above horizontal with standard clamping arm. † at 5bar [72psi].
‡ per double stroke at 5bar [72psi].

Operating Pressure Range:

3bar [40psig] to 7bar [100psig]

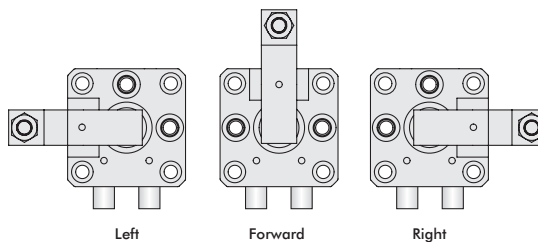
Max. Operating Temperature:

-10°C to 80°C [14°F to 175°F]

Application Note:

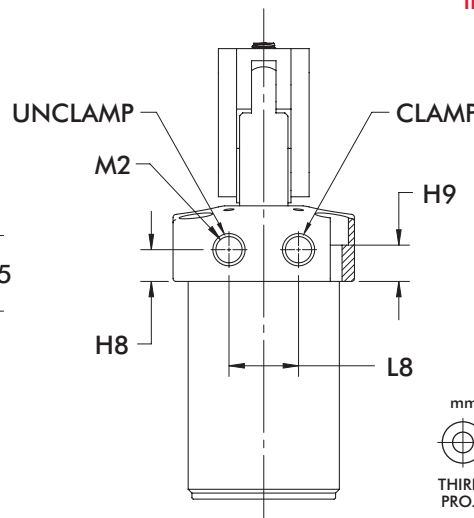
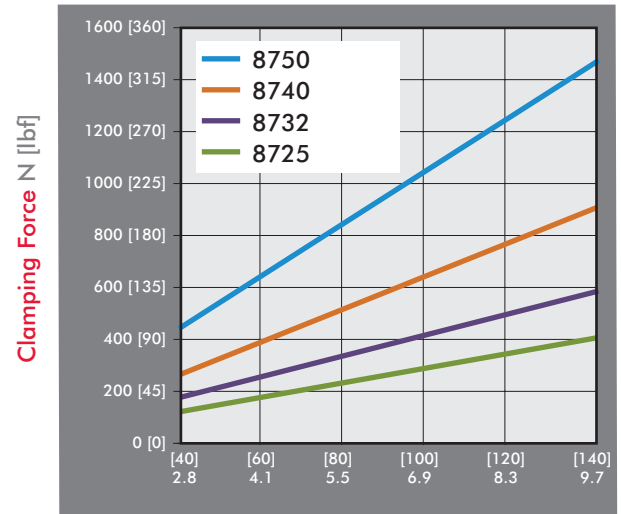
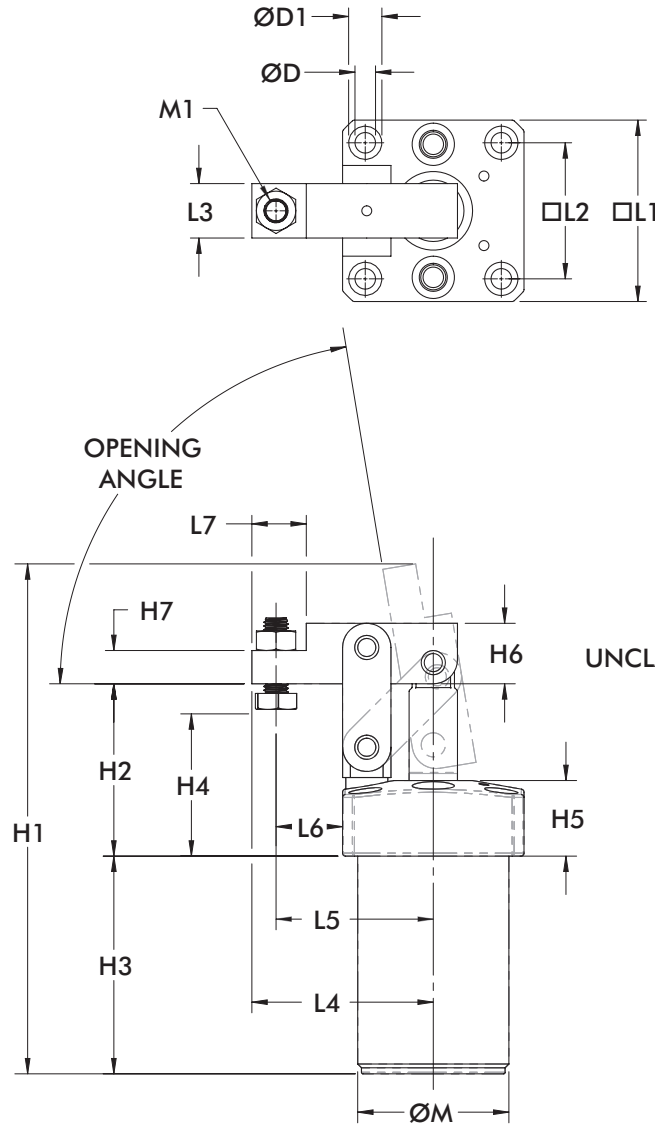
If using clamping arms other than standard, the length must not exceed 1.5X the overall length of the standard arm.

The inlet air flow rate should be adjusted to position the arm in no less than 1/2 second for standard arms and no less than 1 second in the case of an extended arm.



Levers can be positioned in one of three positions in relation to the air ports.

Series 8700 Standard Clamp Dimensions, Clamping Forces



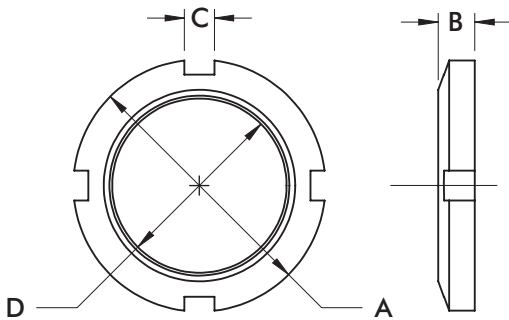
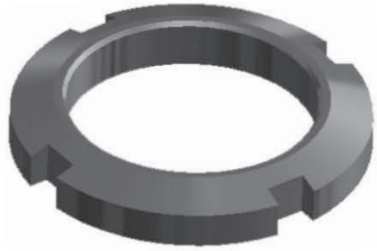
Model	Opening Angle	ØD	ØD1	H1	H2	H3	H4 (min/max)	H5	H6	H7	H8	H9
8725	80°	[0.22] 5,5	[0.35] 9	[5.67] 144	[1.97] 50	[2.42] 61,5	[0.59-0.98] 15-25		[0.67] 17	[0.39] 10	[0.47] 12	[0.59] 15
8732/ 8732G	81°	[0.27] 6,8	[0.43] 11	[6.65] 169	[2.25] 57	[2.83] 72	[0.63-1.18] 16-30	[0.98] 25	[0.79] 20	[0.43] 11		[0.51] 13
8740/ 8740G	82°			[6.93] 176	[2.40] 61	[2.85] 72.5	[0.75-1.14] 19-29		[0.98] 25	[0.55] 14	[0.41] 10,5	
8750/ 8750G	75°	[0.33] 8,5	[0.55] 14	[7.87] 200	[2.60] 66	[3.11] 79	[0.86-1.30] 22-33		[1.18] 30	[0.59] 15		[0.43] 11

Model	L1	L2	L3	L4	L5	L6	L7	L8	ØM	M1	M2
8725	[1.97] 50	[1.46] 37	[0.63] 16	[1.89] 48	[1.61] 41	[0.63] 16	[0.55] 14	[0.91] 23	M40 x 1.50	M6 x 1.0	M5 x 0.8
8732 8732G	[2.36] 60	[1.77] 45	[0.71] 18	[2.36] 60	[2.05] 52	[0.87] 22	[0.71] 18		M50 x 1.50	M8 x 1.25	[1/8NPT] G-1/8
8740 8740G	[2.65] 65	[1.97] 50	[0.79] 20	[2.60] 66	[2.20] 56	[0.93] 23,5	[0.79] 20	[1.02] 26	M55 x 1.50		[1/8NPT] G-1/8
8750 8750G	[2.95] 75	[2.28] 57	[0.87] 22	[3.05] 77,5	[2.50] 63,5	[1.02] 26	[1.10] 28	[1.26] 32	M65 x 1.50	M12 x 1.75	[1/8NPT] G-1/8

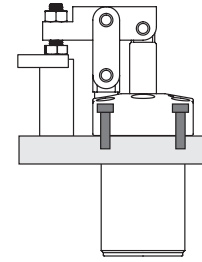
Series 8700 Jam Nuts

Features:

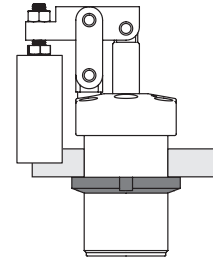
- For use with 8700 Series Pneumatic Lever Clamps
- Variable height adjustment
- For recessed mounting



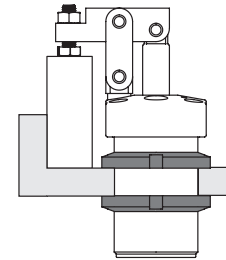
Mounting from above using 4 socket cap screws through the flange.



Mounting by screwing body into a tapped hole and locking with one jam nut.



Mounting by inserting body into a plain hole and locking with two jam nuts.



Part Number	Used with Model/series	A	B	C	D	Weight [lbs] kg
872550	8725	[2.09] 53	[0.35] 9	[0.28] 7	M40 x 1.50	[0.13] 0.06
873250	8732/ 8732G	[2.76] 70	[0.43] 11	[0.24] 6	M50 x 1.50	[0.35] 0.16
874050	8740/ 8740G	[2.95] 75		[0.31] 8	M55 x 1.50	[0.37] 0.17
875050	8750/ 8750G	[3.25] 82,5	[0.39] 10	[0.39] 10	M65 x 1.50	[0.33] 0.15



Features:

- Sensors are activated by a magnetic ring installed on the cylinder piston
- All sensors feature an LED for easy set-up
- IP67 rated
- Temperature Range: -10°C to 60°C [14°F to 140°F]

810169,
810173,
810174



8EA-109-1,
8EA-120-1,
810170,
810171



810151,
810153,
810155,
810157



Tie rod clip 810151-1 included.

810156,
810158



810153



Sensors Technical Information

Item Number	Mount Style	Connector	Length	Function	Voltage	Max. Switching Current	Voltage Drop
810169	Round	M8 male quick connect	165mm [6.5in.]	Reed	5-120V AC/DC	50mA	3.0V
810173				PNP	4.5-28V DC	100mA	0.5V
810174				NPN	4.5-28V DC	100mA	0.5V
8EA-109-1	T-slot	M8 male quick connect	300mm [11.8in.]	Reed	10-30V DC	100mA	3.0V
8EA-120-1		M12 male quick connect	300mm [11.8in.]	Reed	15-30 V AC/DC	500mA	1.5V
810170		M8 male quick connect	165mm [6.5in.]	PNP	10-30V DC	100mA	2.0V
810171				NPN	10-30V DC	100mA	2.0V
810151	Tie Rod	No connector cord	2.7m [9ft.]	Reed	5-120V AC/DC	500mA	3.5V
810153				Reed	24-240V AC	4A	1.0V
810155				PNP	6-24V DC	500mA	1.0V
810157				NPN	6-24V DC	500mA	1.0V
810156	Band Clamp			Reed	5-120V AC/DC	500mA	3.5V
810158				PNP	6-24V DC	500mA	1.0V

Extension Cordsets

Features:

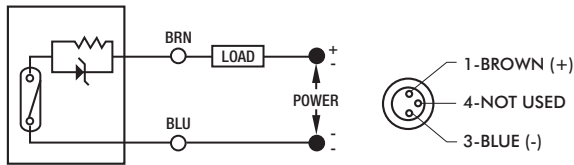
- For use with M8 quick connect sensors
- Threaded coupling nuts provide IP67 protection
- Robotic grade, oil and abrasion resistant polyurethane (PUR) cable



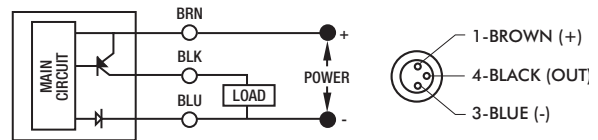
Item Number	Length	Rating	Temperature Rating
CABL-010	2 Meter [78in.]	120V AC/DC, 3A max.	-20°C to 80°C [-40°F to 176°F]
CABL-013	5meter [16.4ft.]		

Wiring Schematics

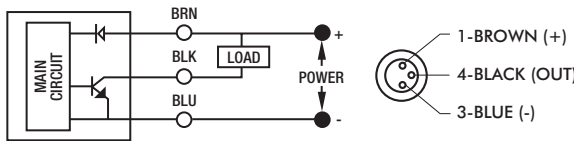
810169



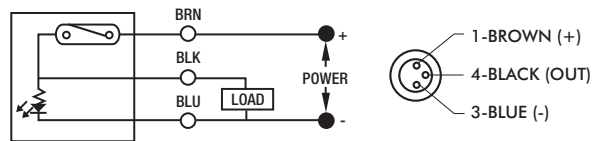
810170, 810173



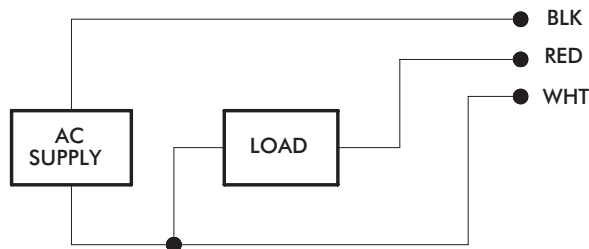
810171, 810174



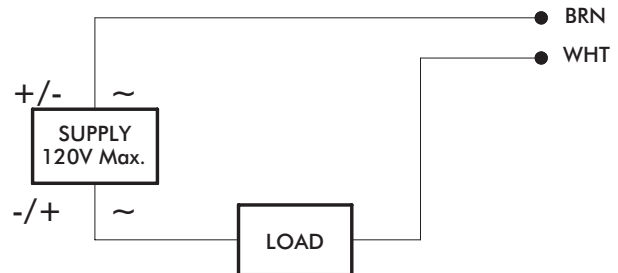
8EA-109-1, 8EA-120-1



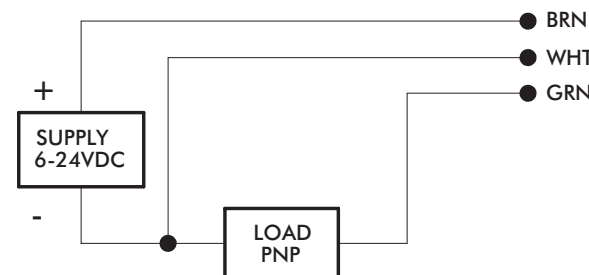
810153



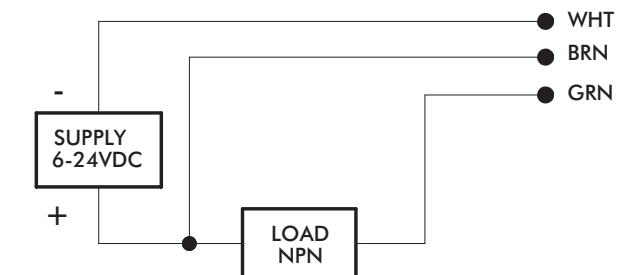
810151, 810156



810155, 810158



810157, 810158



Features

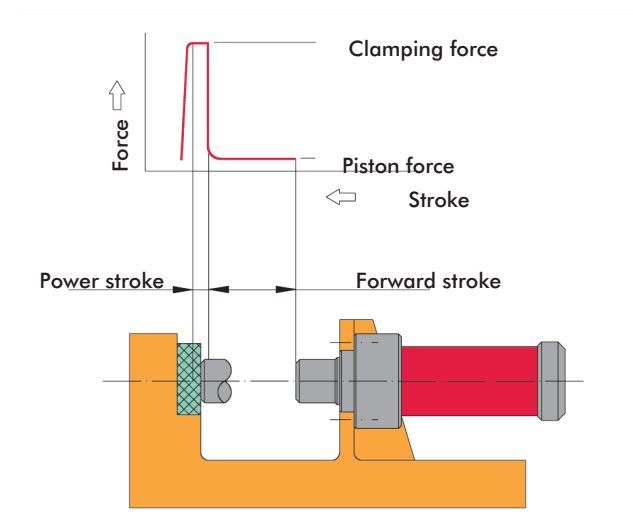
Your requirements

Power element of machines, tools and devices for the following applications:

- Clamping
- Coining
- Punching
- Riveting
- Stamping
- Pressing
- Notching
- Clinching

The solution

DE-STA-CO's double acting power cylinder, which is based on the wedge lever principle.



Product features

- Mechanical advantage: 10: 1
- Characteristic are the two steps of stroke: the forward stroke to move a certain distance and the power stroke with an amplified force on a short distance
- Exact positioning of cylinder by flange mount on cylinder's head
- Cylinder works in any position
- High durability because of solid and maintenance free wedge lever mechanics.
- End position control by magnetic field sensing

Technical Data

Power forces at 6 bar	4 – 60 kN
Forward strokes	15 – 200 mm
Power strokes	6 and 7 mm*
Air pressure	max. 6 bar, min 3 bar
Mechanical advantage	max. 10:1
Cylinders require clean, water- and oil free air	

*power strokes up to max. 12 mm upon request

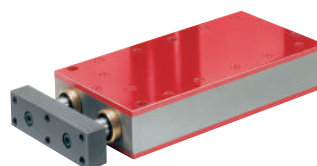
Round design: Type K and WK

- Piston rod with male thread (Type K) or ISO fit (Type WK)



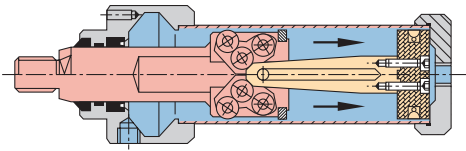
Rectangular design: Type WR

- Two piston rods prevent twisting

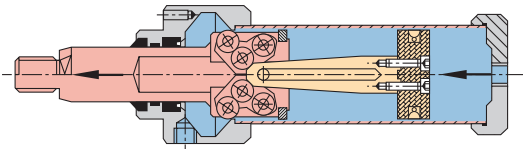


Application Recommendations

- Compressed air should be treated by filter, water separator and pressure regulator. Oiler is not allowed!
- For an adequate piston speed air hoses with 6mm I.D. should be used.
- Do not increase the max. air pressure of 6 bar, because this would reduce the cylinder's life cycle considerably.
- The piston rods of type K and WK are not secured against twisting, an external device should be provided.
- Piston rod should not be subjected to transversal forces. Force should always be exerted by coaxial force through the piston rod to the work piece.
- For Type WR, force must be transmitted via the centre of the pressure plate.
- Connection between rod and tool should be performed as frictional connection (coupling), not as form fitting connection.
- For punching operations we recommend a force reserve of approx. 30 %.
- If the cylinder is used for positioning in the extended rod position you should consider that a possible counter-force will cause an axial deflection of approx. 1 mm. This feature is due to the cylinder's design because after the nominal power stroke the clamping force drops down to the level of the piston force (see force-stroke diagram left side).
- Valves are not usable to avoid piston movement. If the piston should be positioned within the range of the forward stroke, both chambers of the cylinder have to be vented. If the cylinder should stay at a retracted position the piston rod chamber should be under pressure and the piston chamber should be vented.
- For further facts and additional applications features see operating instruction MAPnkz-2.

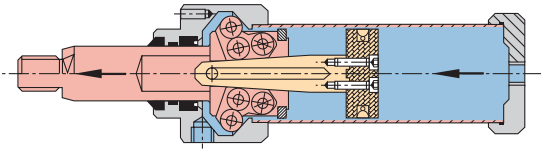


Basic position



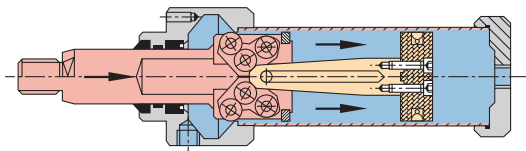
Forward stroke

Piston force is identical to the force of a common pneumatic cylinder with adequate piston diameter



Power stroke

Beginning of mechanical force amplification. Mechanical advantage max. 10:1

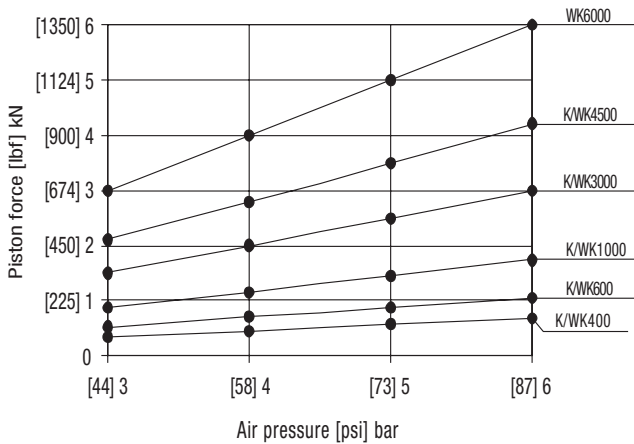


Return stroke

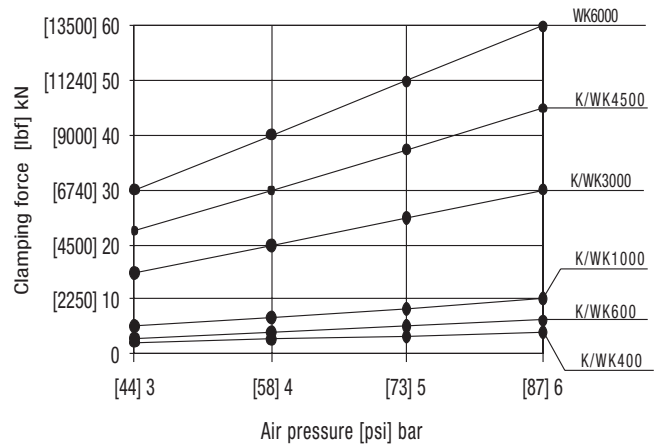
The return stroke can be initiated in any position of piston. The force during return stroke is approx. half of piston force.

Forces

Force within forward stroke



Clamping force within power stroke



Return stroke force: half of piston force

Type K Product Overview



- Piston rod with male thread

Note:

Operating pressure max. 6 bar [87psi], min 3 bar [44psi]. Use only clean, water- and oilfree compressed air. Piston rod is not secured against twisting and should not be loaded transversal.

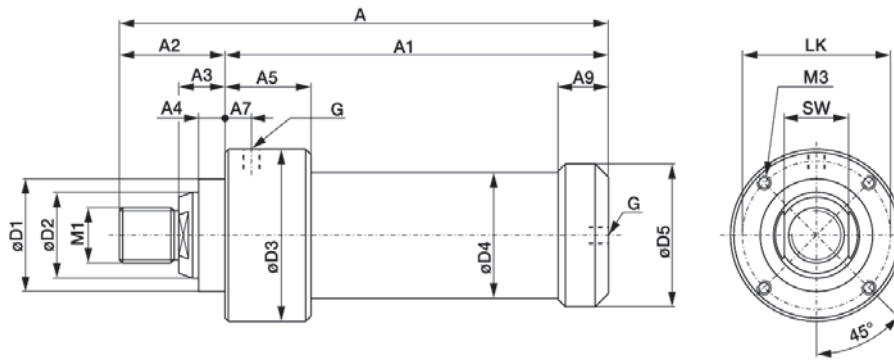
See page 12.2 for more information.

Type K Technical Information

Model	Piston force within forward stroke at 6 bar kN [lbf]	Forward stroke mm [in]	Clamping force within power stroke at 6 bar kN [lbf]	Power stroke mm [in]	Piston dia. mm [in]	Air consumption per double stroke at 6 bar dm ³ [ft ³]	Stroke frequency depending on total stroke [min ⁻¹]	Temperature range °C [°F]	Weight Kg [lbs]
K400-15-6-1	0,68 [153]	15 [0.59]	4 [900lbf]	6 [0.24]	40 [1.75]	0,71 [0.025]	5 to 30	- 5 to +75 [23 to 167]	1,20 [2.6]
K400-30-6-1		30 [1.18]							1,25 [2.8]
K400-50-6-1		50 [1.97]							1,30 [2.9]
K400-70-6-1		70 [2.76]							1,35 [3.0]
K400-120-6-1		120 [4.72]							1,50 [3.3]
K400-200-6-1		200 [7.87]							1,70 [3.7]
K600-15-6-1	1,06 [238]	15 [0.59]	6 [1350lbf]	6 [0.24]	50 [1.97]	1,34 [0.047]	5 to 30	- 5 to +75 [23 to 167]	2,05 [4.5]
K600-30-6-1		30 [1.18]							2,15 [4.7]
K600-50-6-1		50 [1.97]							2,30 [5.1]
K600-70-6-1		70 [2.76]							2,40 [5.3]
K600-120-6-1		120 [4.72]							2,70 [6.0]
K600-200-6-1		200 [7.87]							3,20 [7.1]
K1000-15-7-1	1,75 [393]	15 [0.59]	10 [2250lbf]	7* [0.27]	63 [2.48]	2,20 [0.078]	5 to 30	- 5 to +75 [23 to 167]	3,60 [7.9]
K1000-30-7-1		30 [1.18]							3,80 [8.4]
K1000-50-7-1		50 [1.97]							4,10 [9.0]
K1000-70-7-1		70 [2.76]							4,40 [9.7]
K1000-120-7-1		120 [4.72]							5,20 [11.5]
K1000-200-7-1		200 [7.87]							6,40 [14.1]
K3000-15-6-1	3 [674]	15 [0.59]	30 [4500lbf]	6* [0.24]	85 [3.35]	4,48 [0.158]	5 to 25	- 5 to +75 [23 to 167]	11,80 [26.0]
K3000-30-6-1		30 [1.18]							12,50 [27.6]
K3000-50-6-1		50 [1.97]							13,40 [29.5]
K3000-70-6-1		70 [2.76]							14,30 [31.5]
K3000-120-6-1		120 [4.72]							16,60 [36.6]
K3000-200-6-1		200 [7.87]							20,20 [44.5]
K4500-15-6-1	4,2 [944]	15 [0.59]	45 [10120lbf]	6* [0.24]	100 [3.94]	6,18 [0.218]	5 to 25	- 5 to +75 [23 to 167]	13,30 [29.3]
K4500-30-6-1		30 [1.18]							14,00 [30.9]
K4500-50-6-1		50 [1.97]							15,00 [33.1]
K4500-70-6-1		70 [2.76]							15,80 [34.8]
K4500-120-6-1		120 [4.72]							18,10 [39.9]
K4500-200-6-1		200 [7.87]							21,70 [47.8]

* Power strokes up to 12 mm and other forward strokes upon request

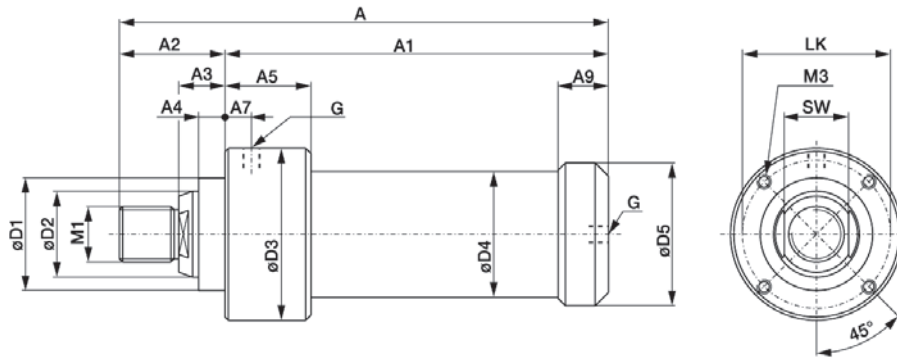
Type K in standard version



Model	Dimensions for standard version of type K Differences of dimensions for cylinder with magnet piston rings see chart on page 12.10																		
	A	A ₁	A ₂	A ₃	A ₄	A ₅	A ₇	A ₉	ø D ₁	ø D ₂	ø D ₃	ø D ₄	ø D ₅	M ₁	M ₃	LK	SW	G	
K400-15-6-1	186 [7.32]	145 [5.71]																	
K400-30-6-1	201 [7.91]	160 [6.30]																	
K400-50-6-1	221 [8.70]	180 [7.09]	41 [1.6]	21 [0.8]	12 [0.5]	39 [1.5]	10 [0.4]	23,5 [0.9]	40 _{h8} [1.6]	25 _{h7} [1.0]	63 [2.5]	44 [1.7]	49 [1.9]	M16 x 1,5 [0.06]	M5, 10mm deep [0.1]	54 [2.1]	21 [0.8]	G1/8	
K400-70-6-1	241 [9.49]	200 [7.87]																	
K400-120-6-1	291 [11.46]	250 [9.84]																	
K400-200-6-1	371 [14.61]	330 [12.99]																	
K600-15-6-1	201 [7.91]	160 [6.30]																	
K600-30-6-1	216 [8.50]	175 [6.89]																	
K600-50-6-1	236 [9.29]	195 [7.68]	41 [1.6]	21 [0.8]	12 [0.5]	39 [1.5]	10 [0.4]	23,5 [0.9]	40 _{h8} [1.6]	25 _{h7} [1.0]	73 [2.9]	54 [2.1]	59 [2.3]	M16 x 1,5 [0.06]	M6, 10mm deep [0.1]	64 [2.5]	21 [0.1]	G1/8	
K600-70-6-1	256 [10.08]	215 [8.46]																	
K600-120-6-1	306 [12.05]	265 [10.43]																	
K600-200-6-1	386 [15.20]	345 [13.58]																	
K1000-15-7-1	243 [9.57]	187 [7.36]																	
K1000-30-7-1	258 [10.16]	202 [7.95]																	
K1000-50-7-1	278 [10.94]	222 [8.74]	56 [2.2]	25 [1.0]	15 [0.6]	52 [2.0]	10 [0.4]	29 [1.1]	63 _{h8} [2.5]	40 _{h7} [1.6]	100 [3.9]	68 [2.7]	74,5 [2.9]	M24 x 3,0 [0.98]	M8, 12mm deep [1]	85 [3.3]	32 [1.3]	G1/8	
K1000-70-7-1	298 [11.73]	242 [9.53]																	
K1000-120-7-1	348 [13.70]	292 [11.50]																	
K1000-200-7-1	428 [16.85]	372 [14.65]																	

Type K Technical Information (continued)

Type K in standard version



Model	Dimensions for standard version of type K Differences of dimensions for cylinder with magnet piston rings see chart on page 12.10																		
	A	A ₁	A ₂	A ₃	A ₄	A ₅	A ₇	A ₉	ø D ₁	ø D ₂	ø D ₃	ø D ₄	ø D ₅	M ₁	M ₃	LK	SW	G	
K3000-15-6-1	315 [12.40]	235 [9.25]																	
K3000-30-6-1	330 [12.99]	250 [9.84]																	
K3000-50-6-1	350 [13.78]	270 [10.63]	50 [2.0]	35 [1.4]	20 [0.8]	70 [2.8]	20 [0.8]	45 [1.8]	85 _{h8} [3.3]	65 _{h7} [2.6]	130 [5.1]	95 [3.7]	108 [4.3]	M42 x 2,5 [1.65]	M10, 16mm deep [1.7]	112 [4.4]	55 [2.2]	G1/4	
K3000-70-6-1	370 [14.57]	290 [11.42]																	
K3000-120-6-1	420 [16.54]	340 [13.39]																	
K3000-200-6-1	500 [19.69]	420 [16.54]																	
K4500-15-6-1	315 [12.40]	235 [9.25]																	
K4500-30-6-1	330 [12.99]	250 [9.84]																	
K4500-50-6-1	350 [13.78]	270 [10.63]	80 [3.1]	35 [1.4]	20 [0.8]	70 [2.8]	20 [0.8]	45 [1.8]	85 _{h8} [3.3]	65 _{h7} [2.6]	145 [5.7]	110 [4.3]	123 [4.8]	M42 x 2,5 [1.65]	[1.7] M10, 16mm deep	127 [5.0]	55 [2.2]	G1/4	
K4500-70-6-1	370 [14.57]	290 [11.42]																	
K4500-120-6-1	420 [16.54]	340 [13.39]																	
K4500-200-6-1	500 [19.69]	420 [16.54]																	



Type WK Product Overview



• Piston rod with iso fit

Note:

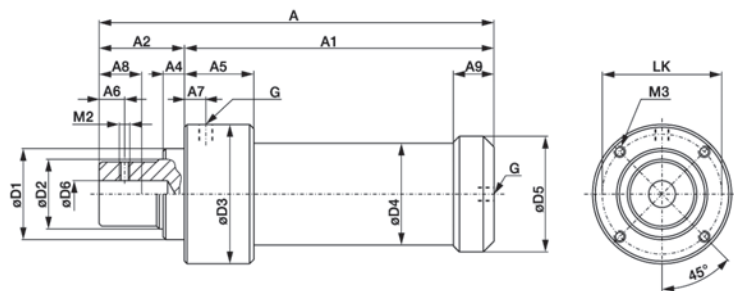
Operating pressure max. [87psi]6 bar, min [44psi] 3 bar. Use only clean, water- and oilfree compressed air. Piston rod is not secured against twisting and should not be loaded transversal. See page 12.2 for more information.

Model	Piston force within forward stroke at 6 bar kN [lbf]	Forward stroke mm [in]	Clamping force within power stroke at 6 bar kN [lbf]	Power stroke mm [in]	Piston dia. mm [in]	Air consumption per double stroke at 6 bar dm ³ [ft ³]	Stroke frequency depending on total stroke [min ⁻¹]	Temperature range °C [°F]	Weight [lbs] kg
WK400-15-6-1	0,68 [153]	15 [0.59]	4 [900lbf]	6 [0.24]	40 [1.75]	0,71 [0.025]	5 to 30	- 5 to +75 [23 to 167]	1,20 [2.6]
WK400-30-6-1		30 [1.18]				0,89 [0.031]			1,25 [2.8]
WK400-50-6-1		50 [1.97]				1,14 [0.040]			1,30 [2.9]
WK400-70-6-1		70 [2.76]				1,38 [0.049]			1,35 [3.0]
WK400-120-6-1		120 [4.72]				1,98 [0.070]			1,50 [3.3]
WK400-200-6-1	200 [7.87]	200 [7.87]	2,94 [0.104]	1,70 [3.7]					
WK600-15-6-1	1,06 [238]	15 [0.59]	6 [1350lbf]	6 [0.24]	50 [1.97]	1,34 [0.047]	5 to 30	- 5 to +75 [23 to 167]	2,05 [4.5]
WK600-30-6-1		30 [1.18]				1,65 [0.058]			2,15 [4.7]
WK600-50-6-1		50 [1.97]				2,06 [0.073]			2,30 [5.1]
WK600-70-6-1		70 [2.76]				2,47 [0.087]			2,40 [5.3]
WK600-120-6-1		120 [4.72]				3,50 [0.124]			2,70 [6.0]
WK600-200-6-1	200 [7.87]	200 [7.87]	5,15 [0.182]	3,20 [7.1]					
WK1000-15-7-1	1,75 [393]	15 [0.59]	10 [2250lbf]	7* [0.27]	63 [2.48]	2,20 [0.078]	5 to 30	- 5 to +75 [23 to 167]	3,60 [7.9]
WK1000-30-7-1		30 [1.18]				2,66 [0.094]			3,80 [8.4]
WK1000-50-7-1		50 [1.97]				3,26 [0.115]			4,10 [9.0]
WK1000-70-7-1		70 [2.76]				3,85 [0.136]			4,40 [9.7]
WK1000-120-7-1		120 [4.72]				5,35 [0.189]			5,20 [11.5]
WK1000-200-7-1	200 [7.87]	200 [7.87]	7,74 [0.273]	6,40 [14.1]					
WK3000-15-6-1	3 [674]	15 [0.59]	30 [4500lbf]	6* [0.24]	85 [3.35]	4,48 [0.158]	5 to 25	- 5 to +75 [23 to 167]	11,80 [26.0]
WK3000-30-6-1		30 [1.18]				5,20 [0.184]			12,50 [27.6]
WK3000-50-6-1		50 [1.97]				6,17 [0.218]			13,40 [29.5]
WK3000-70-6-1		70 [2.76]				7,13 [0.252]			14,30 [31.5]
WK3000-120-6-1		120 [4.72]				9,54 [0.337]			16,60 [36.6]
WK3000-200-6-1	200 [7.87]	200 [7.87]	13,40 [0.473]	20,20 [44.5]					
WK4500-15-6-1	4,2 [944]	15 [0.59]	45 [10120lbf]	6* [0.24]	100 [3.94]	6,18 [0.218]	5 to 25	- 5 to +75 [23 to 167]	13,30 [29.3]
WK4500-30-6-1		30 [1.18]				7,17 [0.253]			14,00 [30.9]
WK4500-50-6-1		50 [1.97]				8,50 [0.300]			15,00 [33.1]
WK4500-70-6-1		70 [2.76]				9,83 [0.347]			15,80 [34.8]
WK4500-120-6-1		120 [4.72]				13,20 [0.466]			18,10 [39.9]
WK4500-200-6-1	200 [7.87]	200 [7.87]	18,50 [0.653]	21,70 [47.8]					
WK6000-30-6	6,0 [1350]	[1.18] 30	60,0 [13490lbf]	6* [0.24]	125,0 [4.92]	[0.367] 10,40	5 to 25	- 5 to +75 [23 to 167]	24,00 [52.9]
WK6000-50-6		[1.97] 50				[0.454] 12,85			24,50 [54.0]
WK6000-70-6		[2.76] 70				[0.536] 15,17			25,00 [55.1]
WK6000-120-6		[4.72] 120				[0.747] 21,15			26,50 [58.4]

* Power strokes up to 12 mm and other forward strokes upon request

Type WK Technical Information

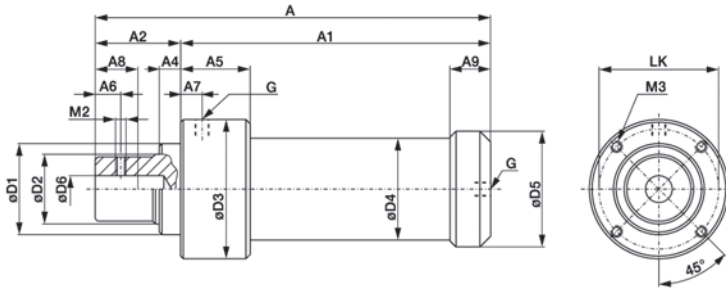
Type WK in standard version



Model	Dimensions for standard version of type WK Differences of dimensions for cylinder with magnet piston rings see chart on page 12.10																		
	A	A ₁	A ₂	A ₃	A ₄	A ₅	A ₇	A ₈ **	A ₉	Ø D ₁	Ø D ₂	Ø D ₃	Ø D ₄	Ø D ₅	Ø D ₆	M ₂	M ₃	LK	G
WK400-15-6-1	186 [7.32]	145 [5.71]																	
WK400-30-6-1	201 [7.91]	160 [6.30]																	
WK400-50-6-1	221 [8.70]	180 [7.09]	41 [1.61]	21 [0.83]	12 [0.47]	39 [1.54]	10 [0.39]	25 [0.98]	23,5 [0.93]	40 _{h7} [1.57]	25 _{h7} [0.98]	63 [2.48]	44 [1.73]	49 [1.93]	10 ^{H7}	M6	M5, 10mm deep [0.06]	54 [2.13]	G1/8
WK400-70-6-1	241 [9.49]	200 [7.87]																	
WK400-120-6-1	291 [11.46]	250 [9.84]																	
WK400-200-6-1	371 [14.61]	330 [12.99]																	
WK600-15-6-1	201 [7.91]	160 [6.30]																	
WK600-30-6-1	216 [8.50]	175 [6.89]																	
WK600-50-6-1	236 [9.29]	195 [7.68]	41 [1.61]	21 [0.83]	12 [0.47]	39 [1.54]	10 [0.39]	25 [0.98]	23,5 [0.93]	40 _{h7} [1.57]	25 _{h7} [0.98]	73 [2.87]	54 [2.13]	59 [2.32]	10 ^{H7}	M6	M6, 10mm deep [0.06]	64 [2.52]	G1/8
WK600-70-6-1	256 [10.08]	215 [8.46]																	
WK600-120-6-1	306 [12.05]	265 [10.43]																	
WK600-200-6-1	386 [15.20]	345 [13.58]																	
WK1000-15-7-1	243 [9.57]	187 [7.36]																	
WK1000-30-7-1	258 [10.16]	202 [7.95]																	
WK1000-50-7-1	278 [10.94]	222 [8.74]	56 [2.20]	25 [0.98]	15 [0.59]	52 [2.05]	10 [0.39]	40 [1.57]	29 [1.14]	63 _{h8} [2.48]	40 _{h7} [1.57]	99,5 [3.92]	68 [2.68]	74,5 [2.93]	20 ^{H7}	M8	M8, 12mm deep [0.98]	85 [3.35]	G1/8
WK1000-70-7-1	298 [11.73]	242 [9.53]																	
WK1000-120-7-1	348 [13.70]	292 [11.50]																	
WK1000-200-7-1	428 [16.85]	372 [14.65]																	

Continued on next page

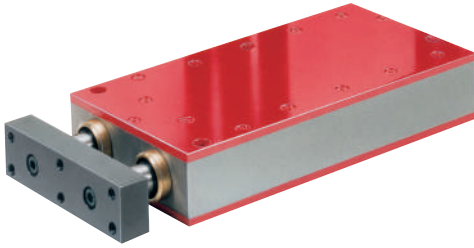
Type WK in standard version



Model	Dimensions for standard version of type WK Differences of dimensions for cylinder with magnet piston rings see chart on page 12.10																		
	A	A ₁	A ₂	A ₃	A ₄	A ₅	A ₇	A ₈ **	A ₉	Ø D ₁	Ø D ₂	Ø D ₃	Ø D ₄	Ø D ₅	Ø D ₆	M ₂	M ₃	LK	G
WK3000-15-6-1	315 [12.40]	235 [9.25]																	
WK3000-30-6-1	330 [12.99]	250 [9.84]																	
WK3000-50-6-1	350 [13.78]	270 [10.63]	80 [3.15]	35 [1.38]	20 [0.79]	70 [2.76]	20 [0.79]	40 [1.57]	45 [1.77]	85 _{h8} [3.35]	65 _{h7} [2.56]	130 [5.12]	95 [3.74]	108 [4.25]	25 ^{H7}	M10	M10, 16mm deep [16]	112 [4.41]	G1/4
WK3000-70-6-1	370 [14.57]	290 [11.42]																	
WK3000-120-6-1	420 [16.54]	340 [13.39]																	
WK3000-200-6-1	500 [19.69]	420 [16.54]																	
WK4500-15-6-1	315 [12.40]	235 [9.25]																	
WK4500-30-6-1	330 [12.99]	250 [9.84]																	
WK4500-50-6-1	350 [13.78]	270 [10.63]	80 [3.15]	35 [1.38]	20 [0.79]	70 [2.76]	20 [0.79]	40 [1.57]	45 [1.77]	85 _{h8} [3.35]	65 _{h7} [2.56]	145 [5.71]	110 [4.33]	123 [4.84]	25 ^{H7}	M10	M10, 16mm deep [1.65]	127 [5.00]	G1/4
WK4500-70-6-1	370 [14.57]	290 [11.42]																	
WK4500-120-6-1	420 [16.54]	340 [13.39]																	
WK4500-200-6-1	500 [19.69]	420 [16.54]																	
WK6000-30-6	365 [14.37]	285 [11.22]																	
WK6000-50-6	385 [15.16]	305 [12.01]	80 [3.15]	20 [0.79]	48 [1.89]	24 [0.94]	22 [0.87]	40 [1.57]	53 [2.09]	85 _{h8} [3.35]	65 _{h7} [2.56]	178 [7.01]	135 [5.31]	148 [5.83]	25 ^{H7}	M10	M10, 16mm deep [1.65]	150 [5.91]	G1/2
WK6000-70-6	405 [15.94]	325 [12.80]																	
WK6000-120-6	455 [17.91]	375 [14.76]																	

** Usable depth of bore with ISO fit D6

Type WR Product Overview

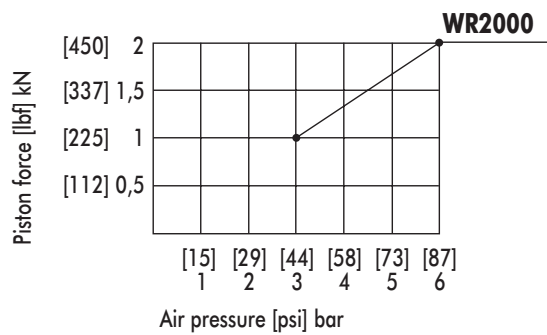
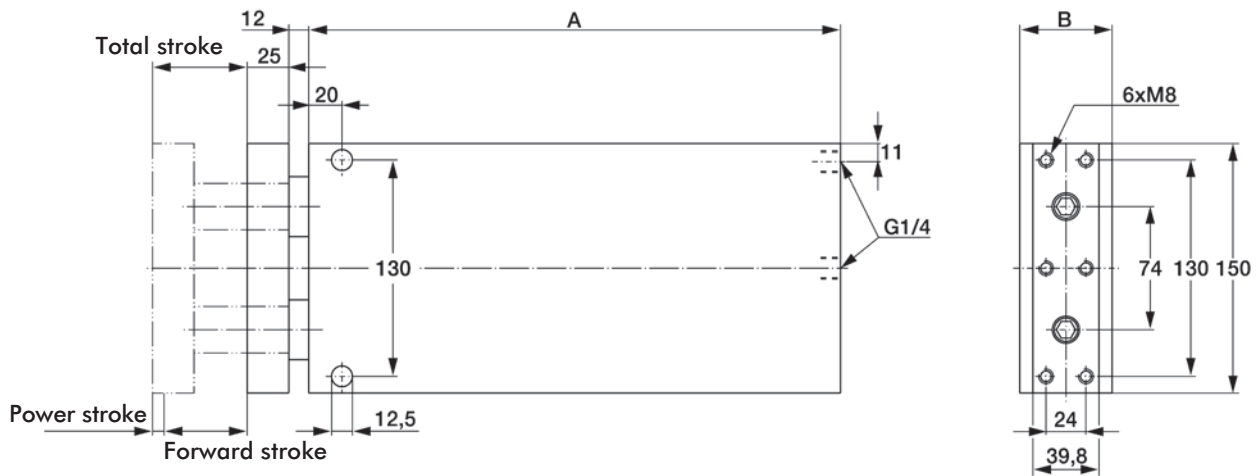


- Piston rods prevent twisting

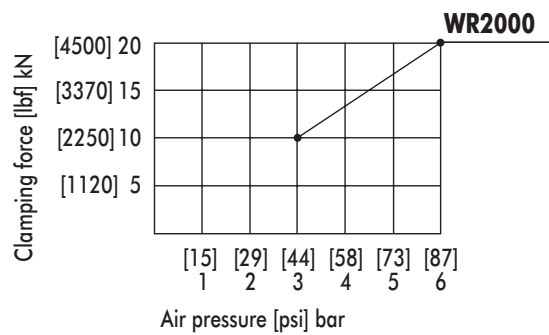
Note:

Use only clean, water- and oilfree compressed air. Force must be transmitted via the centre of the pressure plate. One-sided loading of the pressure plate should be avoided. For punching applications contact our technical support! See page 12.2 for more information.

Type WR



Return stroke force: half of piston force



Air pressure: max. [87psi] 6 bar; min. [44psi] 3 bar

Model	Piston force within forward stroke at 6 bar kN [lbf]	Forward stroke mm [in]	Clamping force within power stroke at 6 bar [lbf] kN	Power stroke mm [in]	Piston dia. mm [in]	Air consumption per double stroke at 6 bar dm ³ [ft ³]	Stroke frequency depending on total stroke [min ⁻¹]	Temperature range °C [°F]	Weight kg [lbs]	A	B
WR 2000-15-7		15 [0.59]				2,44 [0.086]			12,5 [27.6]	285	51,6
WR 2000-30-7		30 [1.18]				2,95 [0.104]			14,0 [30.9]	300	51,6
WR 2000-50-7	2 [450]	50 [1.97]	20 [4500]	7 [0.27]	70 [2.76]	3,62 [0.128]	5 - 25	-5 up to +75 [23 to up167]	15,5 [34.1]	320	55,6
WR 2000-70-7		70 [2.76]				4,27 [0.151]			17,2 [37.9]	340	55,6
WR 2000-120-7		120 [4.72]				5,94 [0.210]			21,0 [46.3]	390	59,6

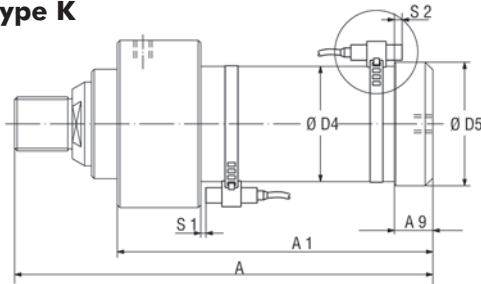
Pneumatic Power Cylinders Type K and WK with end position control by magnetic field sensors.

- For the sizes
K and WK 400.... , K and WK 600... ,
K and WK 1000.... K and WK 3000...,
K and WK 4500...
- Change of Model
Indicate „-A” at the end of Model instead of „-1”
for standard version!
Example:
K400 – 15 – 6 – 1 change to K400 – 15 – 6 – A
WK 3000 – 50 – 6 – 1 change to WK 3000 - 50 – 6 – A
- Change in construction
Only the dimensions Ø D4, Ø D5, A/A 1 and A9 are
different to the standard version.



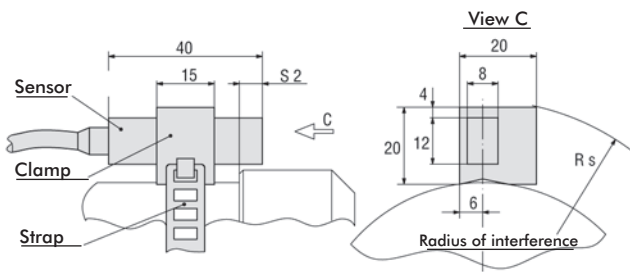
- Standard equipment (as shown above)
Pneumatic Power Cylinders with “-A” at the end of
Model are completely furnished with a magnetic
piston ring and with two mounted sensor sets
(Model SMB-102157, consisting of magnetic field
sensor with 3m cable, clamp and strap)

Type K

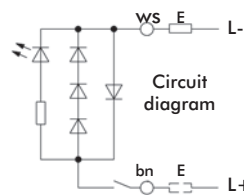


For sizes	Switching points of sensors		**Differences of dimensions compared with standard version				
	S1*	S2*	Ø D4	Ø D5	A/A 1	A9	Rs
K 400-...-A	5	12	-	-	+15	-	44
K 1000-...-A	10	18	-	-	+15	-	56
K 3000-...-A	5	14	90	97	-	30	67
K 45000-...-A	5	12	106	113	-	28,5	75

* Approx. data, because of magnet field variations. S1 refers to the max. power stroke and enlarges up to 60 mm, when smaller power strokes are used.

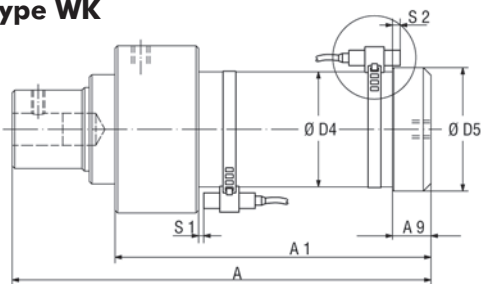


Circuit diagram and technical data of sensor set Model **SMB-102157**, consisting of magnetic field sensor with 3 m cable, clamp and strap (2 sets per cylinder are standard equipment).



Switching voltage	10...250 VAC/DC
Switching current	0,5 A
Switching power	20 W/30 VA
Function	normally open contact
Protection class	IP 67 (DIN 40050)
Indicator	LED

Type WK



For sizes	Switching points of sensors		**Differences of dimensions compared with standard version				
	S1*	S2*	Ø D4	Ø D5	A/A 1	A9	Rs
WK 400-...-A	5	12	-	-	+15	-	44
WK 1000-...-A	10	18	-	-	+15	-	56
WK 3000-...-A	5	14	90	97	-	30	67
WK 45000-...-A	5	12	106	113	-	28,5	75

* Approx. data, because of magnet field variations. S1 refers to the max. power stroke and enlarges up to 60 mm, when smaller power strokes are used.

Magnetic field sensing -K



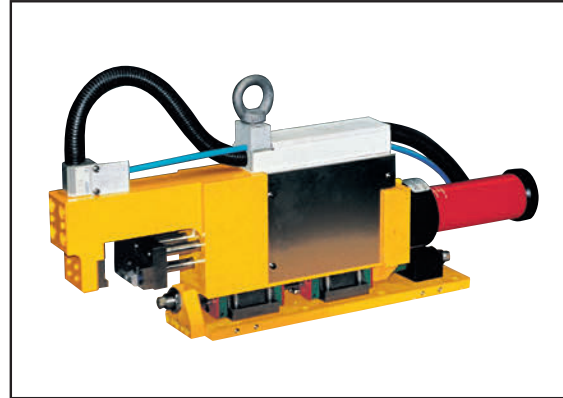
Sensor cage for T-slot proximity sensor

- **For the sizes**
K and WK 400.... , K and WK 600... , K and WK 1000.... ,
K and WK 3000..., K and WK 4500...
- **Change of Model**
Indicate "-K" at the end of Model instead of "-A" for standard version.
Example:
K400 – 15 – 6 – A change to K400 – 15 – 6 – K
WK 3000 – 50 – 6 – A change to WK 3000 - 50 – 6 – K
- **Benefits:**
Small radii of interference.
Customer specific T-slot sensors are usable.
- **Standard equipment:**
Pneumatic power cylinder with "-K" at the end of Model are supplied with mounted sensor cages but without T-slot sensors.

Press frame



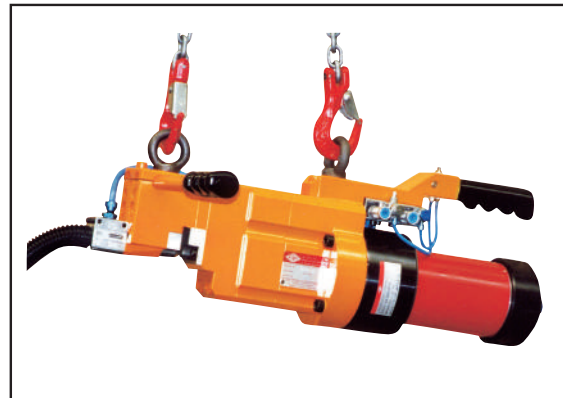
Radius clinching unit for profiled aluminium



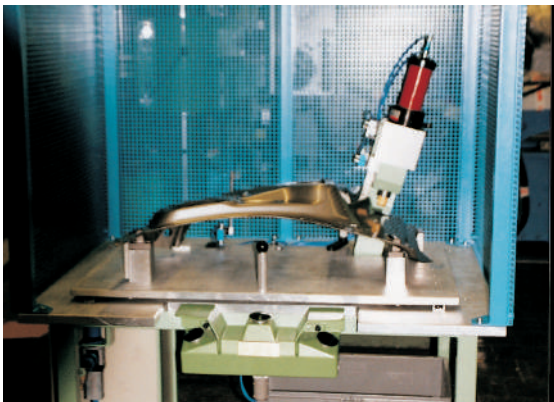
Special punching unit for 2 holes Ø 3,4 in steel 0,9 mm



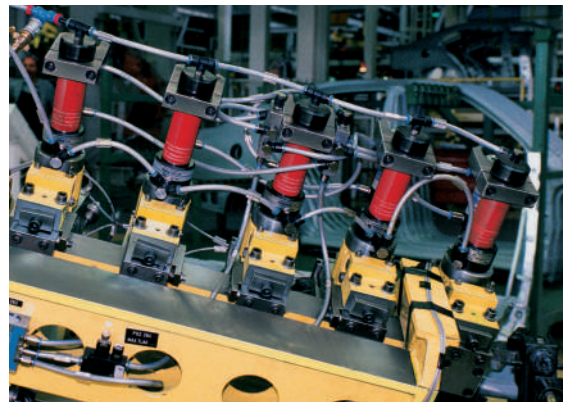
Special device for 2 holes Ø 12 in steel 1,2 mm



Mobile punching unit for holes Ø 6,2 in crossbeams



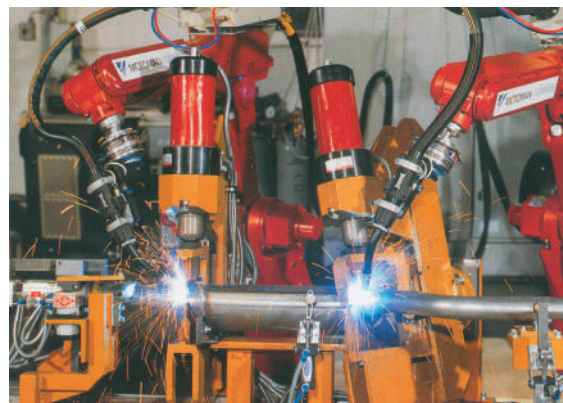
Device for holes Ø 8 in sheet metal



Stamping units placed in line



Stamping units placed in line



Welding fixture for exhaust components

	Holding Torque at 5 bar						Clamping Torque at 5 bar					Piston Diameter					Material				
	Series	Section Page	0 to 100 [Nm]	100 to 500 [Nm]	500 to 1000 [Nm]	1000 to 2000 [Nm]	2000 to 4000 [Nm]	0 to 100 [Nm]	100 to 500 [Nm]	500 to 1000 [Nm]	1000 to 2000 [Nm]	2000 to 4000 [N] (Clamping Torque)	Less than 25mm	25mm	32mm	40mm	50mm	63mm	80mm	Aluminum	Steel
	81L	13.3	■				■					■							■		
	82L-4	13.7	■				■					■	■						■		
	82L-2	13.15	■	■			■	■				■	■	■					■		
	82M-3E	13.25		■	■	■	■	■	■					■	■	■	■		■		
	870/871	13.47		■				■							■					■	
	860/861	13.49			■			■									■			■	
	890/891	13.49				■		■										■		■	
	1000/1001	13.49				■			■									■	■		■



Weight		Air Consumption Per Double Stroke at 5 bar [dm ³]				Application Area																
0 to 2 [Kg]	2-4 [Kg]	4-6 [Kg]	6-8 [Kg]	More than 8 [Kg]	0 to 0.5 [dm ³]	0.50 to 1.00 [dm ³]	1.00 to 2.00 [dm ³]	More than 2.00 [dm ³]	Welding	Assembly	Dirty Environment	End Effectors	Machining	Duty Cycle	Adjustable Opening Angle	Inductive Sensors Available	Dual Arms	Locating	Manual Version Available	Center Arm	Lateral Arms	Toggle Locking
Red				Red					⊗	●	○	●	●	○						✓		✓
Red				Red					●	●	●	●	●	●	✓	✓			✓	✓	✓	✓
Red	Red				Red	Red	Red		●	●	●	○	●	●	✓	✓			✓	✓	✓	✓
Red	Red			Red			Red		●	●	●	●	●	●	✓	✓			✓	✓	✓	✓
	Red					Red			⊗	●	○	●	●	●						✓		✓
	Red						Red		⊗	●	○	●	●	●						✓		✓
			Red				Red		⊗	●	○	●	●	●						✓		✓
				Red			Red		⊗	●	○	●	●	●						✓		✓

● Excellent/High ○ Fair/Medium ● Poor/Low ⊗ Not Recommended

Series **81L** Ordering Information



Base Model

Size	Description
12-1	12mm Cylinder Bore Size
16-1	16mm Cylinder Bore Size
20-1	20mm Cylinder Bore Size
25-1	25mm Cylinder Bore Size

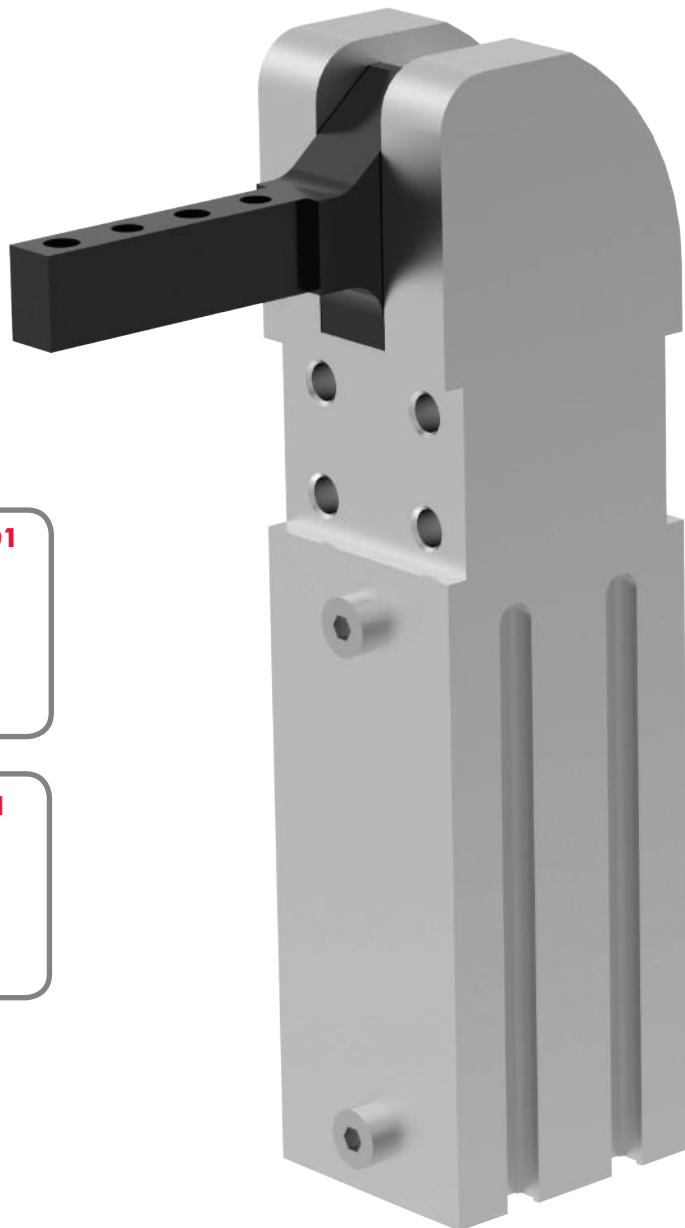
Arm Style

Arm Style	Description
01	Clamping arm, horizontal
41	Clamping arm, vertical

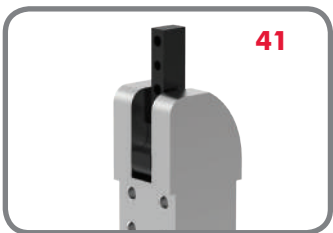
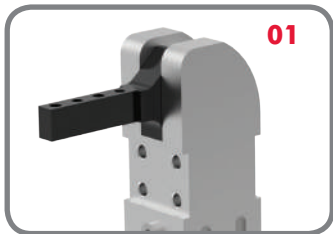
See below for further details

Design

Design	Description
00	Standard design



Arm Style



Series 81L Ordering Information

Accessories

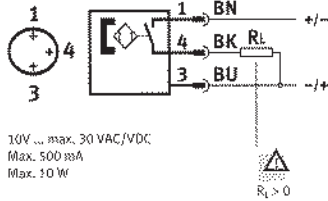
8EA-109-1

Description (order seperately)

Sensor, 3-wire cable, M8x1 connector, 3-pin

82ZB-004-1

Adapter for mounting 81L20-1, 81L25-1 to 25mm dia. bar



12

Max Holding Torque
25 Nm
Max Clamping Torque
4,5 Nm at 5bar

16

Max Holding Torque
60 Nm
Max Clamping Torque
7,0 Nm at 5bar

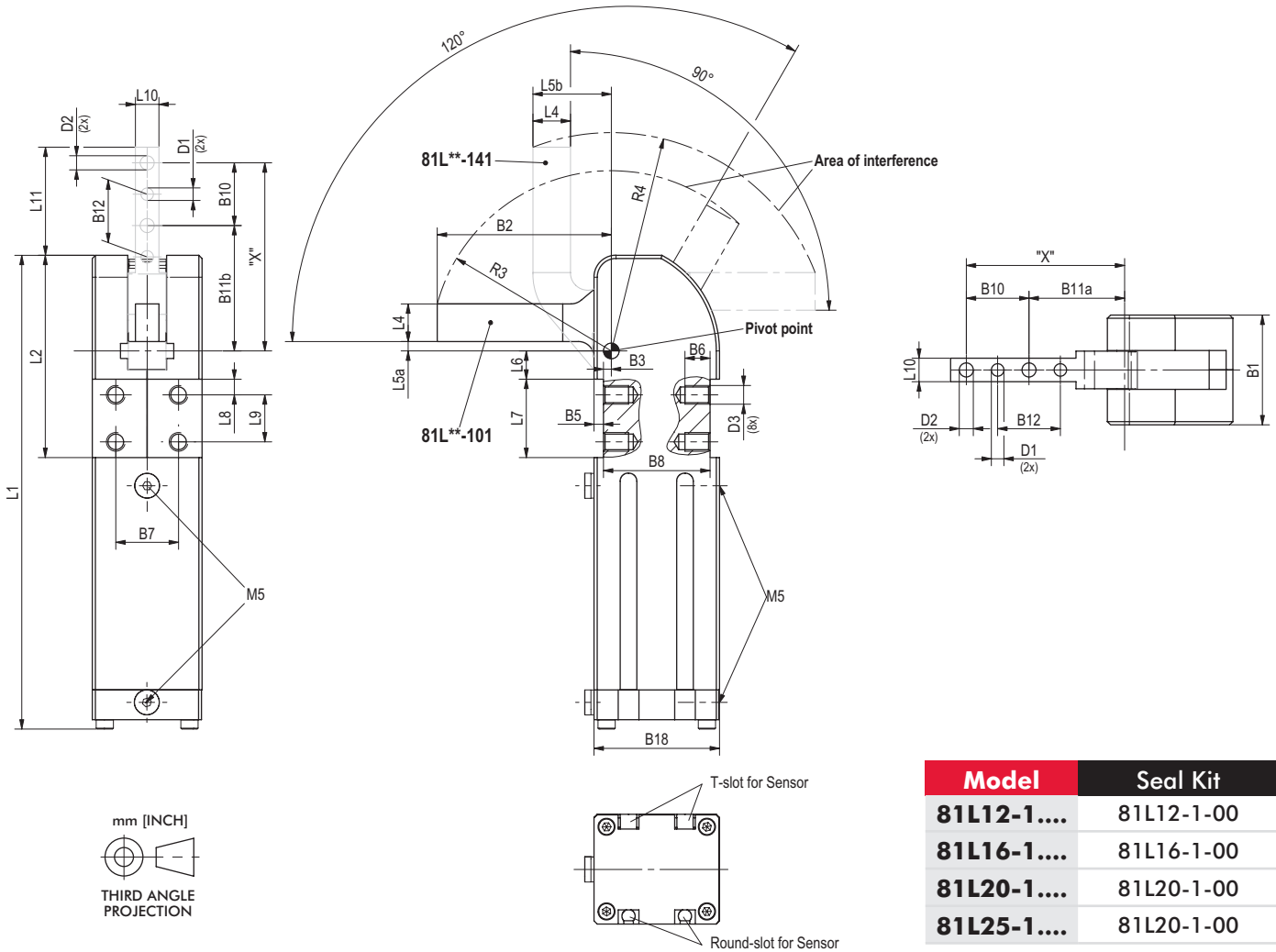
20

Max Holding Torque
100 Nm
Max Clamping Torque
18 Nm at 5bar

25

Max Holding Torque
100 Nm
Max Clamping Torque
18 Nm at 5bar

Series 81L Standard Clamp Dimensions, Seal Kits



Power by compressed air, max. 6 bar Operation with oil-free air is permissible.

Model	D1 Ø [H7]	D2 Ø	D3 Ø	B1	B2	B3 ±0,1	B5 ±0,2	B6	B7 ±0,1	B8 ±0,1	B10 ±0,2	B11a	B11b	B12
81L12-1....	[0.12] 3	[0.13] 3,3	M4	[0.94] 24	[1.57] 40	[0.10] 2,5	[0.06] 1,5	[0.24] 6	[0.59] 15	[0.98] 25	[0.35] 9	[1.06] 27	[1.24] 31,5	[0.35] 9
81L16-1....	[0.12] 3	[0.17] 4,3	M5	[1.12] 30	[1.97] 50	[0.08] 2	[0.08] 2	[0.19] 5	[0.79] 20	[1.02] 26	[0.59] 15	[1.18] 30	[1.56] 39,5	[0.59] 15
81L20-1....	[0.16] 4	[0.18] 4,5	M6	[1.38] 35	[2.12] 55,5	[0.10] 2,5	[0.12] 3	[0.28] 7	[0.79] 20	[1.34] 34	[0.79] 20	[1.20] 30,5	[1.57] 40	[0.79] 20
81L25-1....	[0.16] 4	[0.26] 6,5	M6	[1.38] 35	[2.58] 65,5	[0.10] 2,5	[0.12] 3	[0.28] 7	[0.79] 20	[1.34] 34	[0.79] 20	[1.59] 40,5	[1.97] 50	[0.79] 20

Model	B18	L1 ~	L2	L4	L5a	L5b	L6	L7 ±0,1	L8	L9	L10	L11	R3 ~	R4 ~
81L12-1....	[1.10] 28	[4.09] 104	[1.59] 40,5	[0.28] 7	[0.10] 2,5	[0.7] 17,5	[0.18] 4,5	[0.59] 15	[0.12] 3	[0.35] 9	[0.24] 6	[0.93] 23,5	[1.61] 41	[1.89] 48
81L16-1....	[1.18] 30	[4.69] 119	[1.95] 49,5	[0.35] 9	[0.09] 2,25	[0.8] 20,5	[0.23] 5,75	[0.79] 20	[0.16] 4	[0.47] 12	[0.31] 8	[1.41] 35,75	[2.00] 51	[2.48] 63
81L20-1....	[1.57] 40	[5.94] 151	[2.54] 64,5	[0.47] 12	[0.12] 3	[0.98] 25	[0.35] 9	[0.98] 25	[0.19] 5	[0.59] 15	[0.29] 7,5	[1.36] 34,5	[2.26] 57,5	[2.75] 70
81L25-1....	[1.57] 40	[5.94] 151	[2.54] 64,5	[0.47] 12	[0.12] 3	[0.98] 25	[0.35] 9	[0.98] 25	[0.19] 5	[0.59] 15	[0.47] 12	[1.75] 44,5	[2.64] 67	[3.11] 79



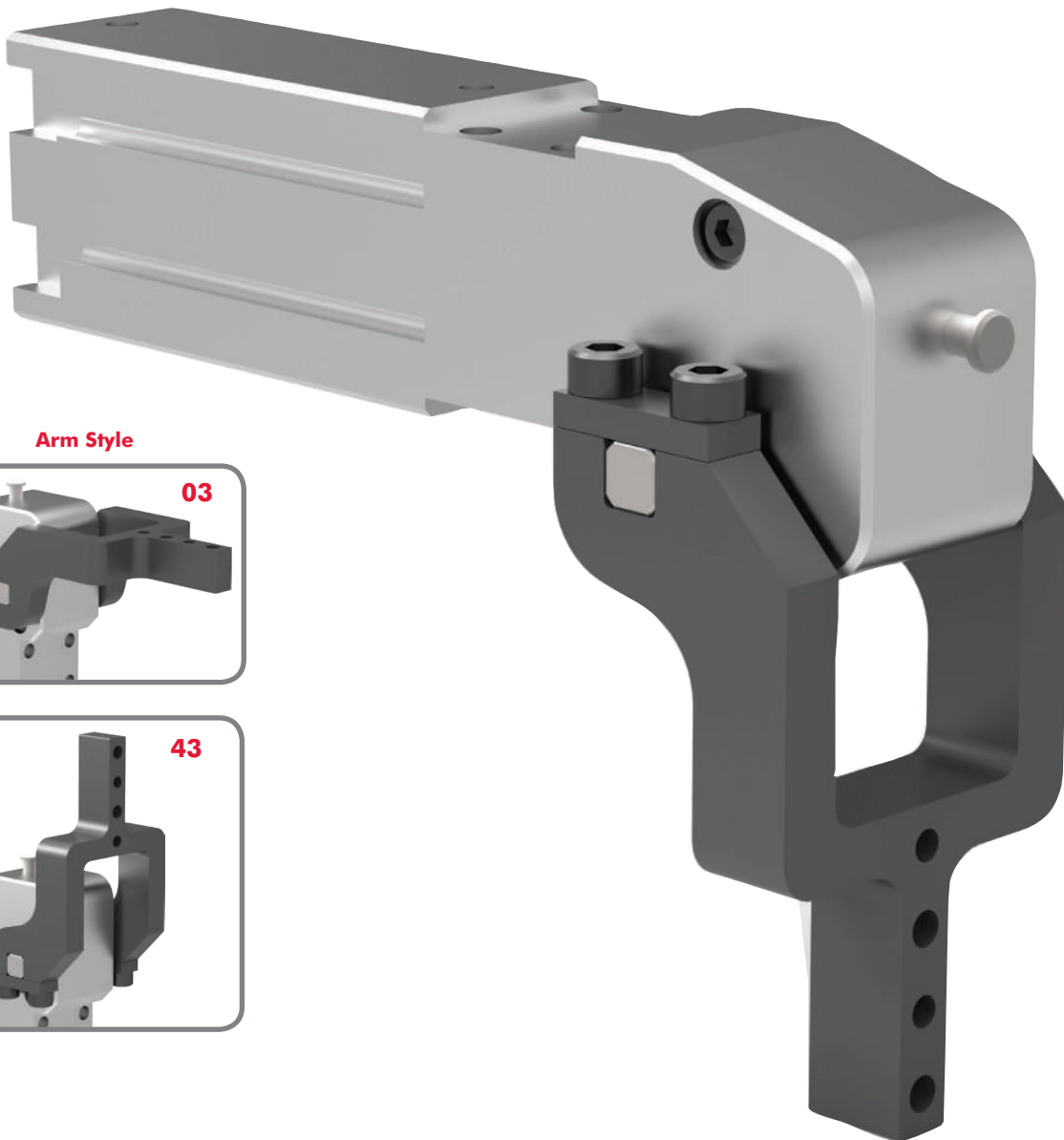
Series 81L Specifications

Model	Max. Holding Torque Nm [lb ft]	Max. Clamping Torque at 5 bar [72 psi] Nm [lb ft]	Weight kg [lb]	Air Consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Max. Added Load (at Position, "X") g [oz]
81L12-101..	25 [18.4]	4,5 [3.3]	0,16 [0.4]	0,25 [0.01]	50 [1.8]
81L12-141..	20 [14.8]	4,5 [3.3]	0,17 [0.4]	0,25 [0.01]	50 [1.8]
81L16-101..	60 [44]	6,5 [4.8]	0,25 [0.6]	0,27 [0.01]	80 [2.8]
81L16-141..	40 [29.5]	7,0 [5.23]	0,27 [0.6]	0,26 [0.01]	80 [2.8]
81L20-101..	100 [73.8]	18 [13.3]	0,50 [1.1]	0,40 [0.02]	90 [3.2]
81L20-141..	80 [59]	17 [12.5]	0,52 [1.2]	0,35 [0.01]	90 [3.2]
81L25-101..	100 [73.8]	18 [13.3]	0,52 [1.2]	0,40 [0.02]	100 [3.5]
81L25-141..	80 [59]	17 [12.5]	0,54 [1.25]	0,35 [0.01]	100 [3.5]

Series 82L..-4... Ordering Information

82L **16-4** **03** **0**

Base Model	Size	Description	Arm Style	Description	Opening Angle	Description
	12-4	12mm Cylinder Bore Size	00	No clamping arm	0	105° (Standard)
	16-4	16mm Cylinder Bore Size	03	U-bar, central 90°	3	90°
	20-4	20mm Cylinder Bore Size	43	U-bar, central 180°	4	75°
	25-4	25mm Cylinder Bore Size	See below for further details		5	60°
					6	45°
					7	30°
					8	15°



Series 82L..-4... Ordering Information

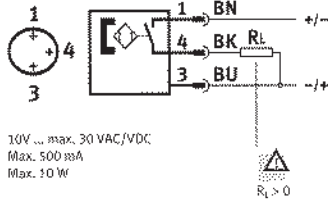
Accessories

8EA-109-1
82ZB-004-1

Description (order separately)

Sensor, 3-wire cable, M8x1 connector, 3-pin

Adapter for mounting 82L20-4, 82L25-4 to 25mm dia. bar



12

Max Holding Torque
35 Nm
Max Clamping Torque

90° version: 10,4 Nm at 5bar
180° version: 8,7 Nm at 5bar

16

Max Holding Torque
40 Nm
Max Clamping Torque

12,4 Nm at 5bar
11,0 Nm at 5bar

20

Max Holding Torque
50 Nm
Max Clamping Torque

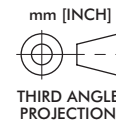
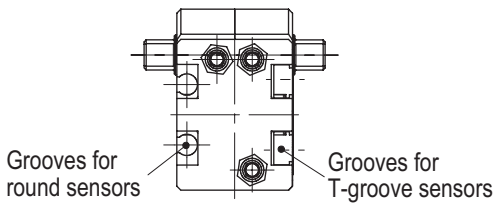
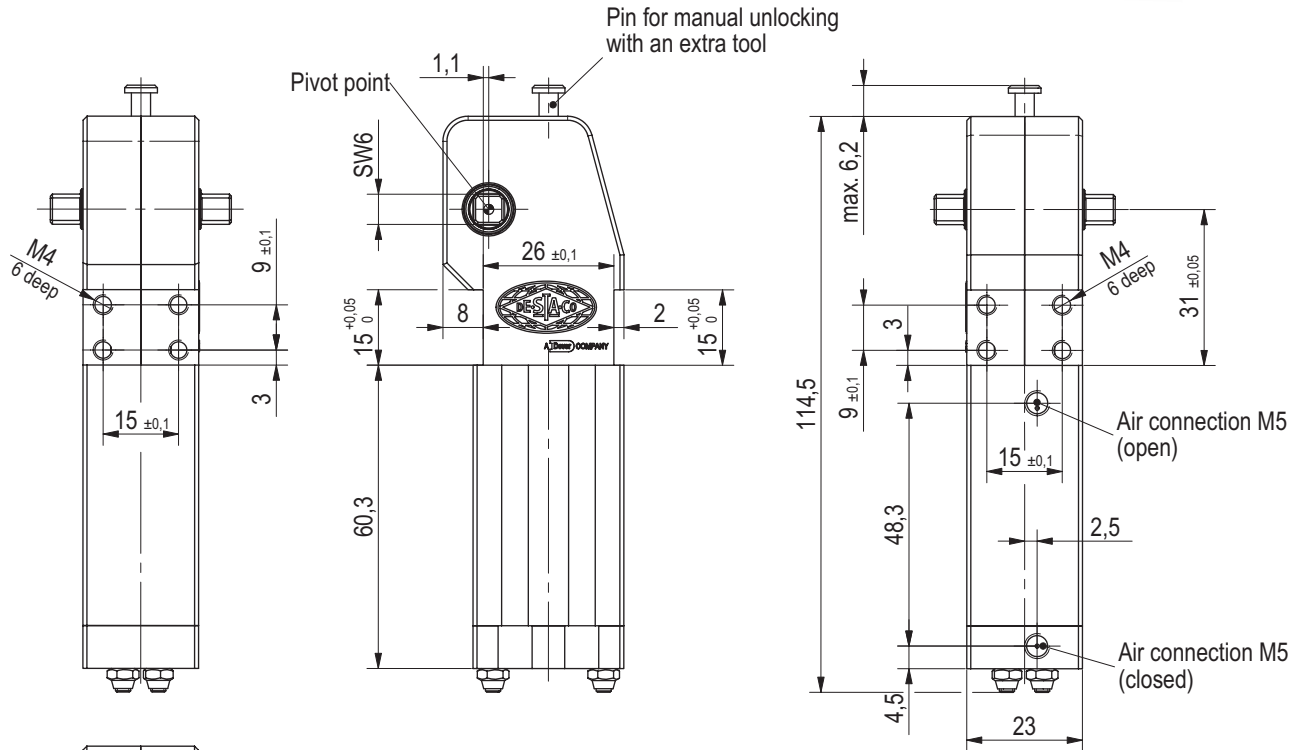
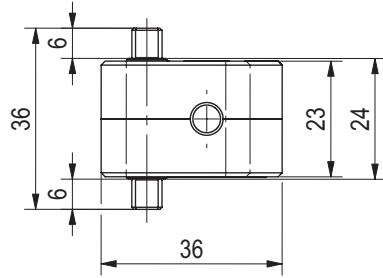
21,0 Nm at 5bar
19,3 Nm at 5bar

25

Max Holding Torque
80 Nm
Max Clamping Torque

31,8 Nm at 5bar
28,5 Nm at 5bar

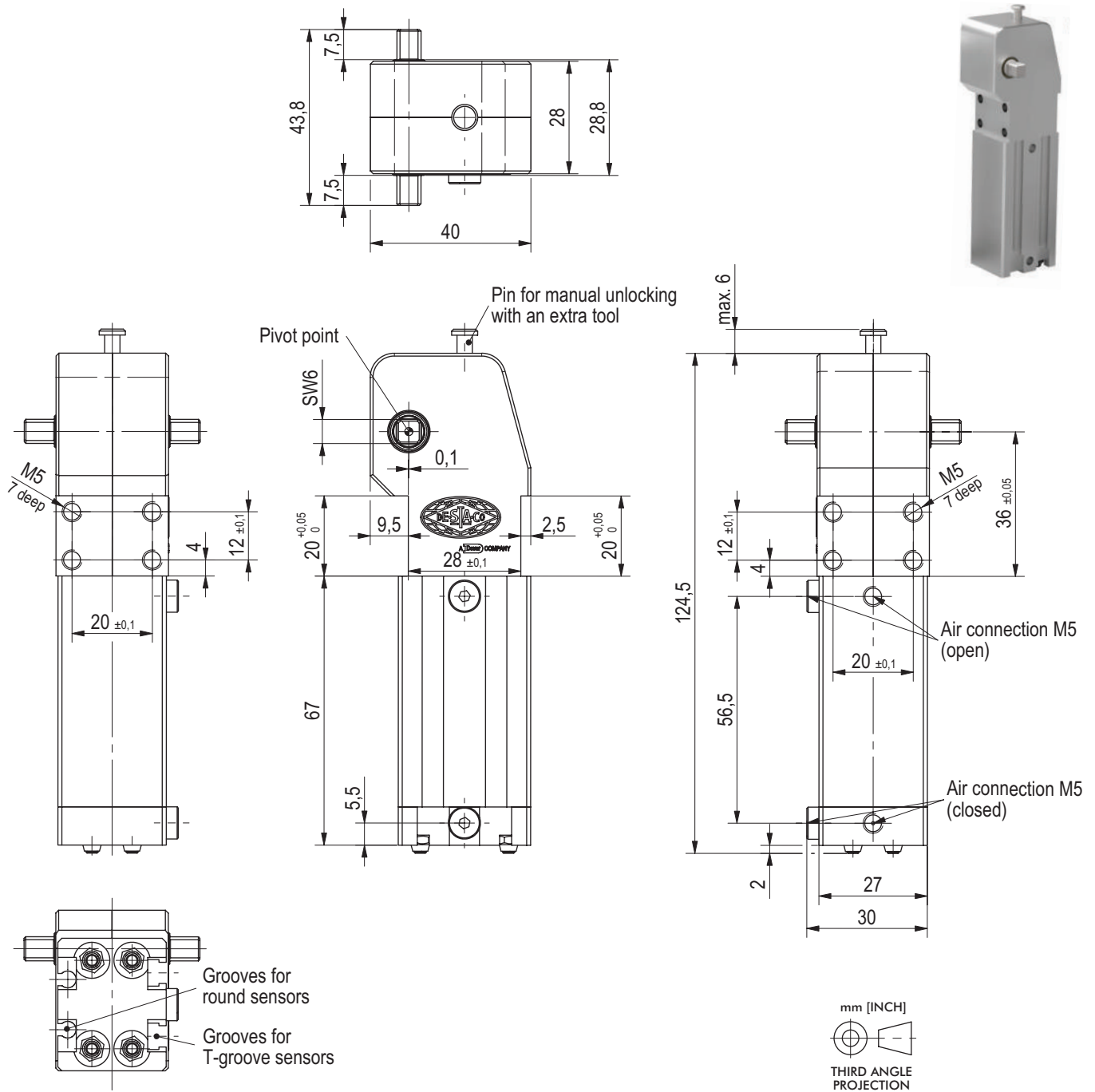
Series **82L12-4** Standard Clamp Dimensions



Power by compressed air, max. 6 bar Operation with oil-free air is permissible.

Model	Max. Holding Torque Nm [lb ft]	Max. Clamping Torque at 5 bar [72 psi] Nm [lb ft]	Weight [with arm] kg [lb]	Air Consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Max. Added Load (at Position, "X") g [oz]
82L12-4030	35 [18.4]	10,4 [3.3]	0,23 [0.5]	0,25 [0.01]	50 [1.8]
82L12-4430	35 [18.4]	8,7 [3.3]	0,23 [0.5]	0,25 [0.01]	50 [1.8]

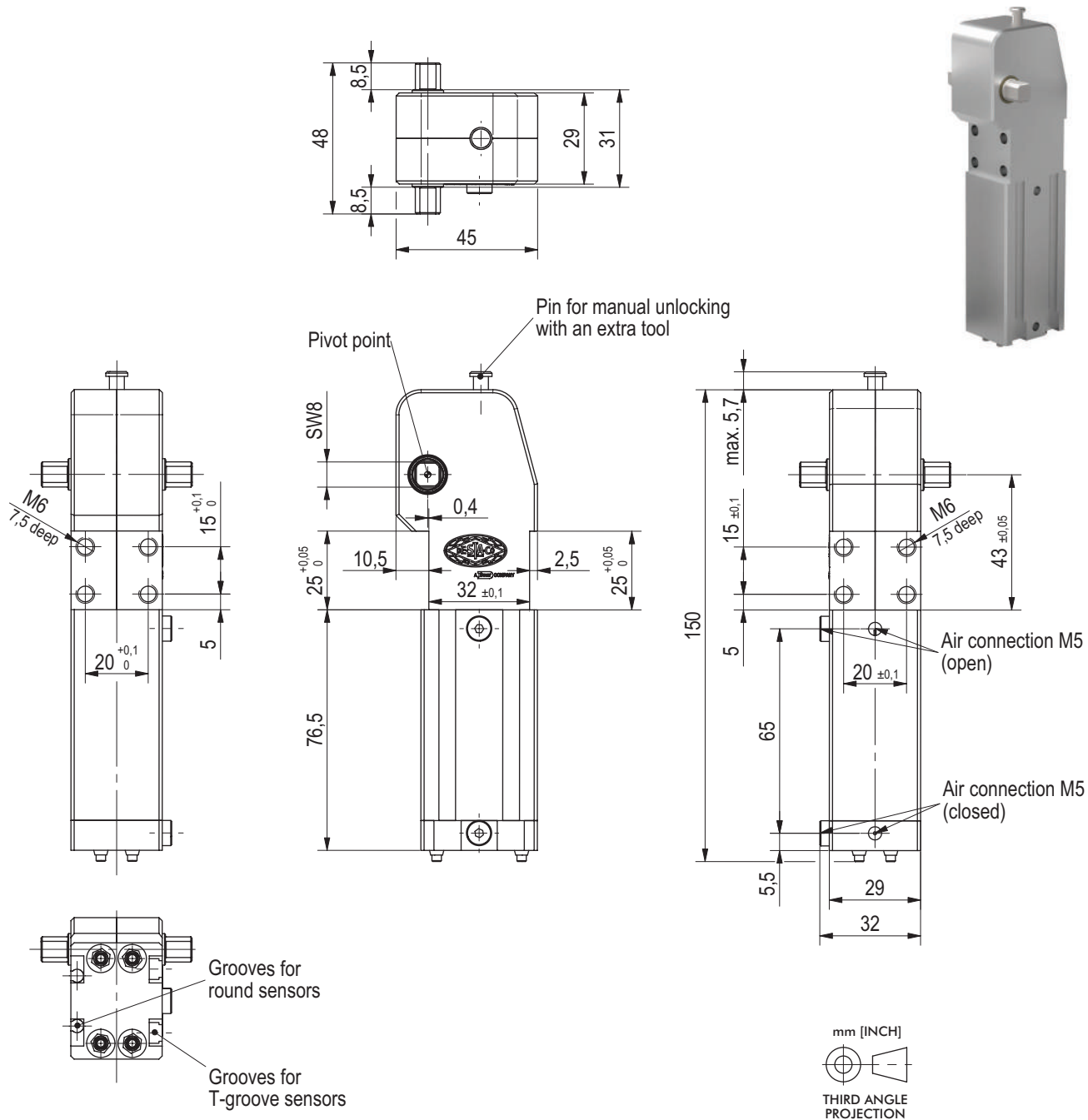
Series 82L16-4 Standard Clamp Dimensions



Power by compressed air, max. 6 bar Operation with oil-free air is permissible.

Model	Max. Holding Torque Nm [lb ft]	Max. Clamping Torque at 5 bar [72 psi] Nm [lb ft]	Weight [with arm] kg [lb]	Air Consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Max. Added Load (at Position, "X") g [oz]
82L16-4030	40 [29.5]	12,4 [4.4]	0,33 [0.7]	0,27 [0.01]	80 [2.8]
82L16-4430	40 [29.5]	11,0 [4.8]	0,33 [0.7]	0,27 [0.01]	80 [2.8]

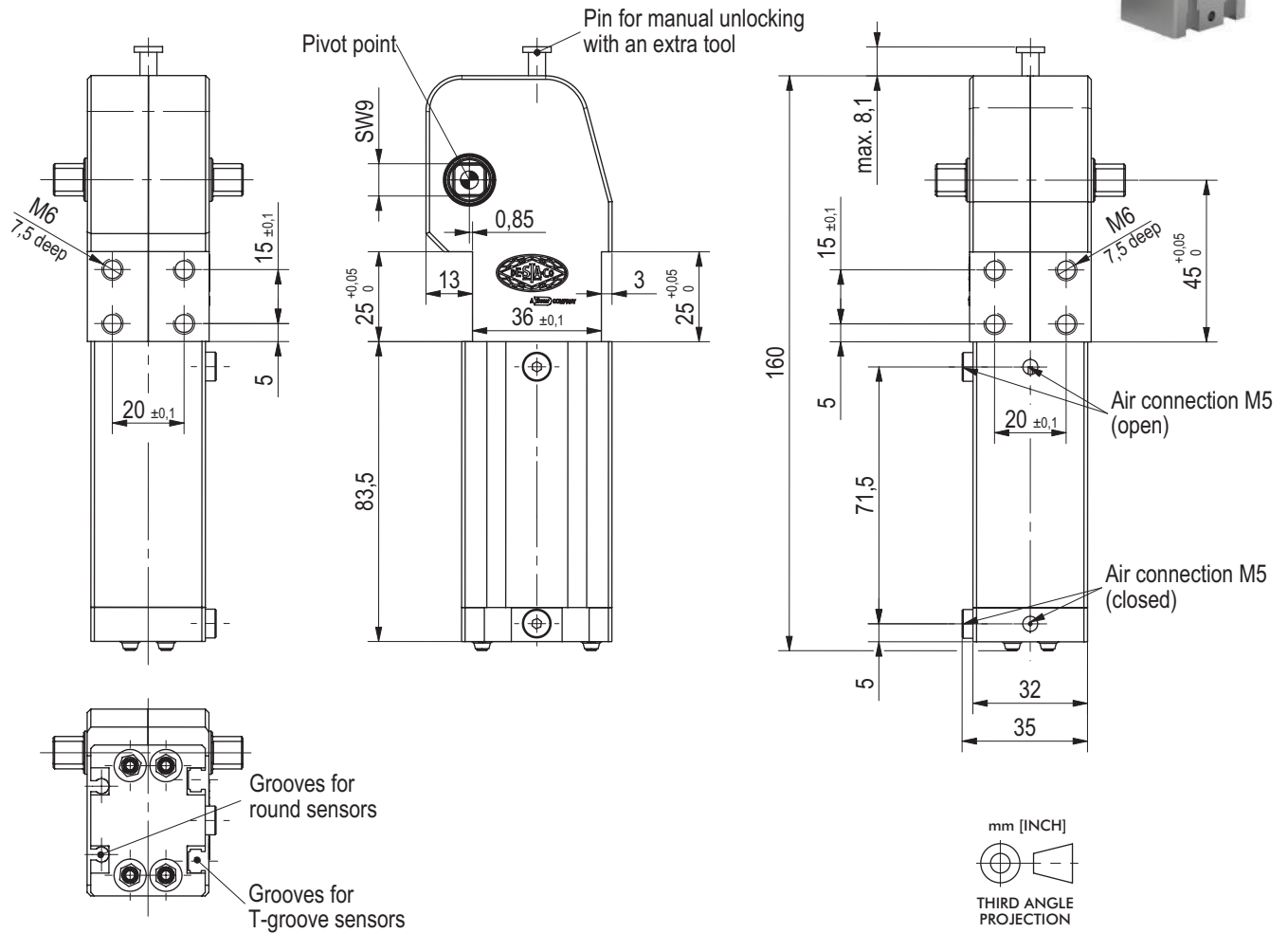
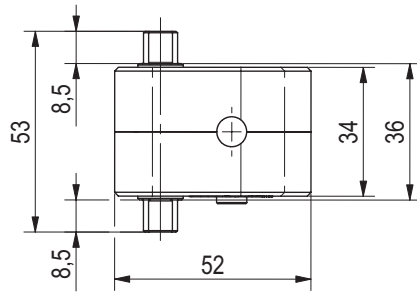
Series **82L20-4** Standard Clamp Dimensions



Power by compressed air, max. 6 bar Operation with oil-free air is permissible.

Model	Max. Holding Torque Nm [lb ft]	Max. Clamping Torque at 5 bar [72 psi] Nm [lb ft]	Weight [with arm] kg [lb]	Air Consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Max. Added Load (at Position, "X") g [oz]
82L20-4030	50 [73.8]	21,0 [13.3]	0,42 [0.9]	0,35 [0.01]	90 [3.2]
82L20-4430	50 [73.8]	19,3 [12.5]	0,42 [0.9]	0,35 [0.01]	90 [3.2]

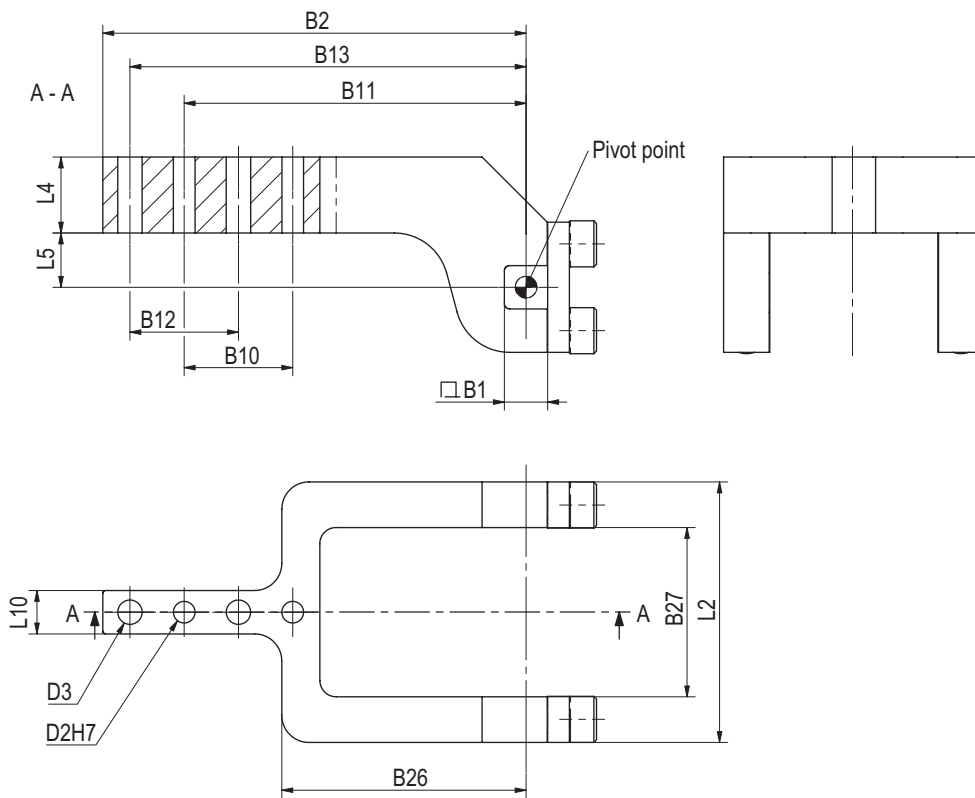
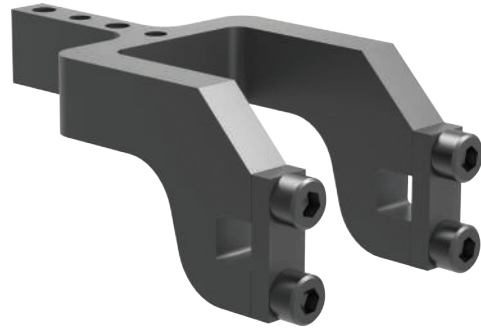
Series 82L25-4 Standard Clamp Dimensions



Power by compressed air, max. 6 bar Operation with oil-free air is permissible.

Model	Max. Holding Torque Nm [lb ft]	Max. Clamping Torque at 5 bar [72 psi] Nm [lb ft]	Weight [with arm] kg [lb]	Air Consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Max. Added Load (at Position, "X") g [oz]
82L25-4030	80 [59]	31,8 [13.3]	0,66 [1.5]	0,40 [0.01]	100 [3.5]
82L25-4430	80 [59]	28,5 [12.5]	0,66 [1.5]	0,40 [0.01]	100 [3.5]

Series 82L..-4... Clamp Arm Dimensions



Model	Order no. for Arm	Max. Opening angle	B1	B2	B10 ±0,02	B11 ±0,02	B12 ±0,1	B13 ±0,1	B26	B27	D2 H7	D3	L2	L4	L5	L10
82L12-4...	8JG-401-1-01	105°	6	54	9	45.5	9	50	38,5	24	3	3.3	36	7	10	6
82L16-4...	8JG-402-1-01	105°	6	63	15	50.5	15	58	36,5	29	3	4.5	44	9.5	10	10
82L20-4...	8JG-403-1-01	105°	8	78	20	63	20	73	45	31,2	4	4.5	48	14	10	8
82L25-4...	8JG-404-1-01	105°	9	81	20	66	20	76	48	36	4	6.4	53	16	10	12

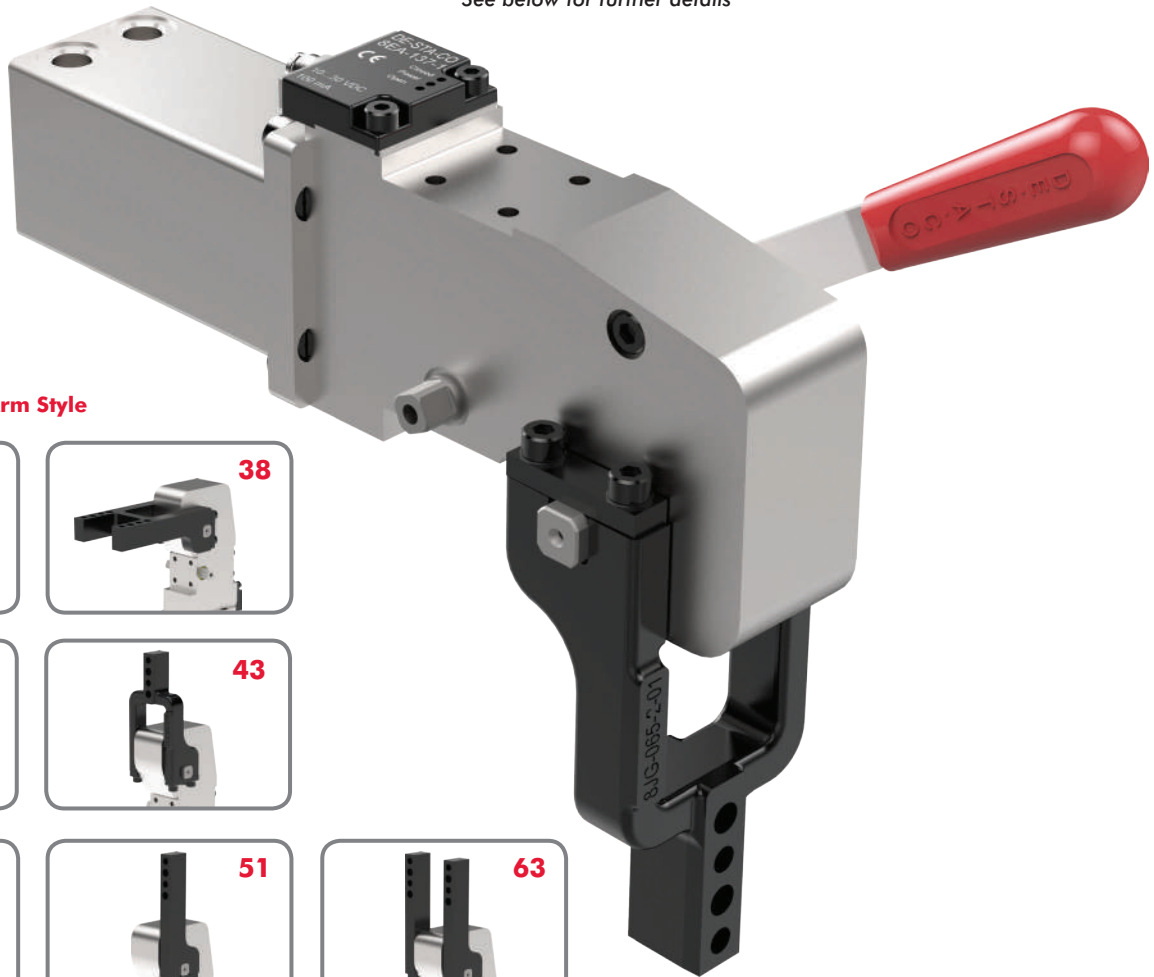
Series 82L..-2... Ordering Information

82L **2G** **-2** **03** **B8** **H** **0** **B**

Base Model	Size	Description
	2G	Ø25 (G1/8) Cylinder Bore Size
	3G	Ø32 (G1/8) Cylinder Bore Size
	3N	Ø32 (1/8-18 NPT) Cylinder Bore Size
	4G	Ø40 (G1/4) Cylinder Bore Size
	4N	Ø40 (1/4-18 NPT) Cylinder Bore Size

Arm Style	Description
00	No clamping arm
03	U-clamp arm, central 90°
11	Lateral clamp arm, left 90°
12	Lateral clamp arm, right 90°
23	2x lateral clamp arm 90°
38	H-clamp arm 90°
43	U-clamp arm, central 180°
51	Lateral clamp arm, left 180°
52	Lateral clamp arm, right 180°
63	2x lateral clamp arm 180°
78	H-clamp arm 180°

See below for further details



Arm Style



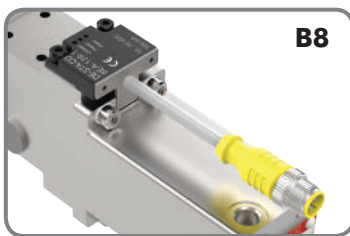
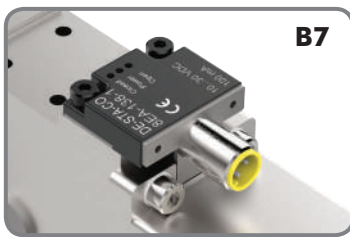
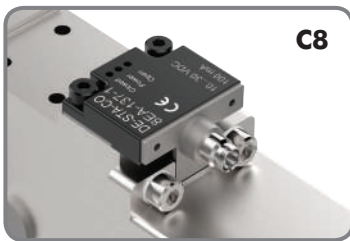
Series 82L..-2... Ordering Information

Hand Lever	Description
0	No Hand Lever
H	With Hand Lever

Base Model	Description
B	Power clamp without clamping arm. To be marked with an additional "B". Only with clamping arm "03"

Opening Angle	Description
0	105° (Standard)
3	90°
4	75°
5	60°
6	45°
7	30°
8	15°

Sensing	Description
00	No Sensing
C8	8EA-137-1 (M8x1)
B7	8EA-138-1 (M12x1)
B8	8EA-139-1 (M12x1)



2G

Max Holding Torque
75 Nm
Max Clamping Torque
25 Nm at 5bar

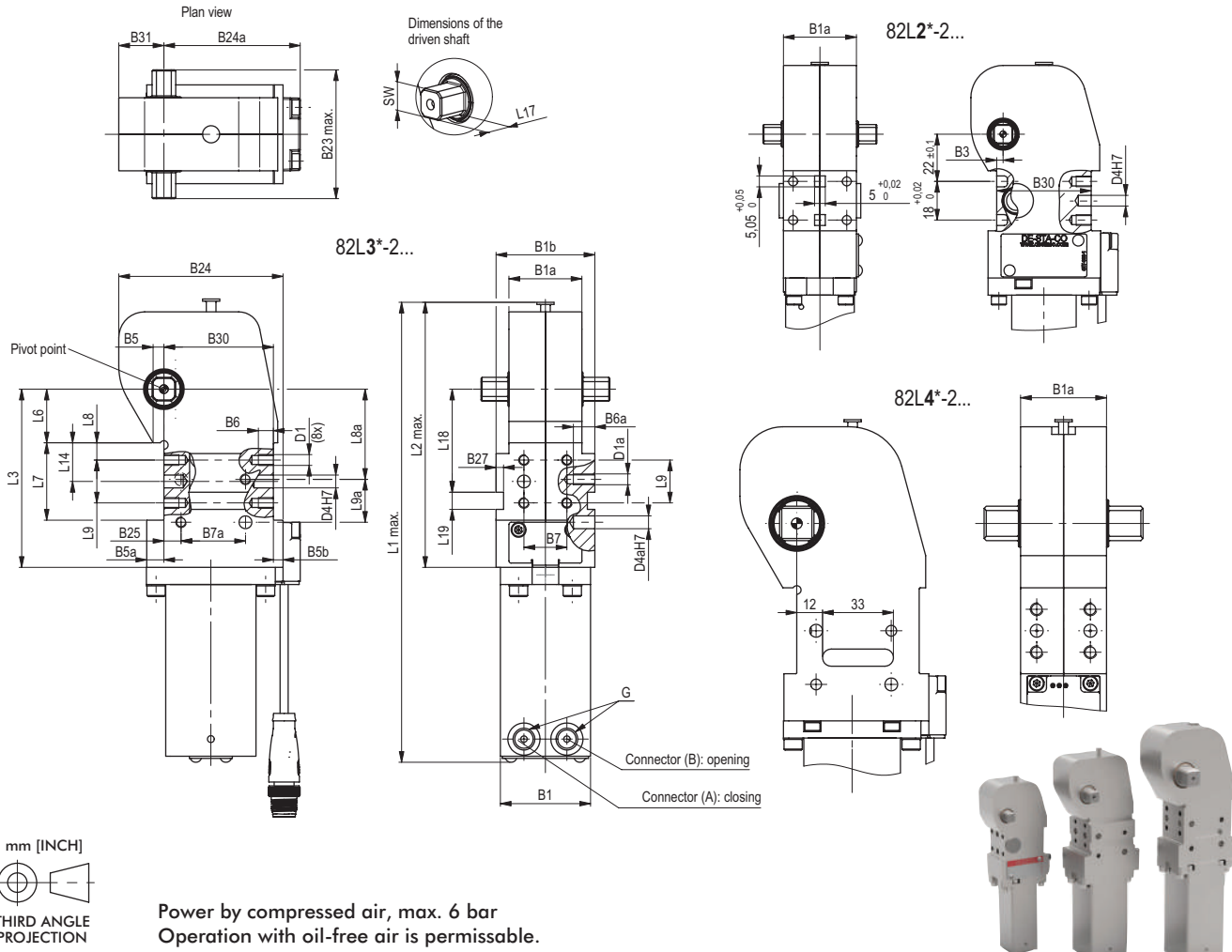
3G/N

Max Holding Torque
180 Nm
Max Clamping Torque
55 Nm at 5bar

4G/N

Max Holding Torque
380 Nm
Max Clamping Torque
120 Nm at 5bar

Series 82L..-2... Technical Information, Standard Clamp Dimensions



Series 82L2G-2, 82L3.-2, 82L4.-2 Technical Information, Model without Hand Lever

Model	Max. holding torque Nm [lb ft]	Clamping torque at 5 bar [72 psi] Nm [lb ft]	Piston Ø mm	Weight kg [lbs]	Air consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Connection G
82L2G-2...	75 [55]	25 [18]	25	1,0 [2.20]	0,4 [0.01]	G1/8 1/8-18 NPT
82L3G-2... 82L3N-2...	180 [133]	55 [41]	32	1,3 [2.86]	0,8 [0.03]	G1/8 1/8-18 NPT
82L4G-2... 82L4N-2...	380 [280]	120 [89]	40	1,9 [4.18]	1,2 [0.04]	G1/4 1/4-18 NPT

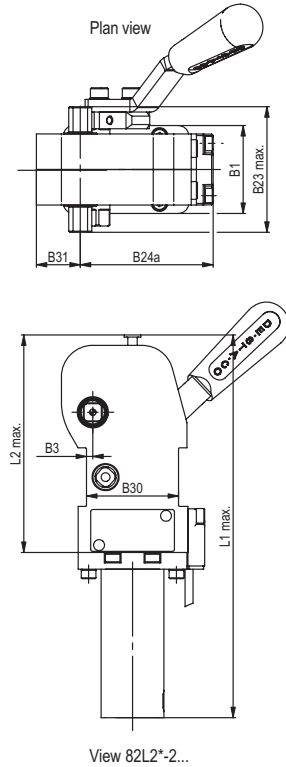
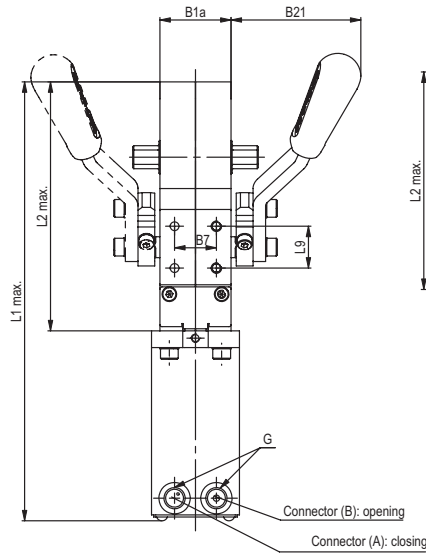
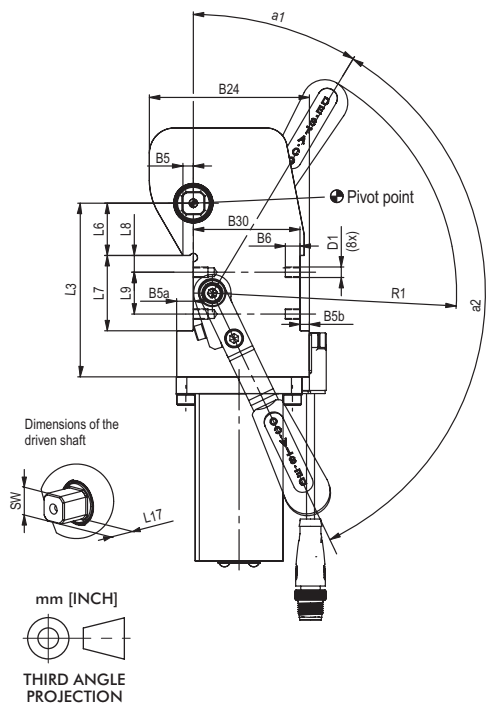
Model	B1	B1a	B1b	B3	B5	B5a	B5b	B6	B6a	B7	B7a**	B23	B24	B24a	B25	B27	B30	B31
										± 0,1	± 0,1	max.			+0,1		± 0,1	
82L2G-2...	32	34	-	3	4	4	4,5	7	-	25	-	53	60,5	53,5	-	-	44	15
82L3*-2...	42	34	46	-	5	8	4,5	7	10	20	30	60	76,5	63,5	8	3,5	51	21
82L4*-2...	45	40	-	-	6,5	6	4,5	10	10	25	35	74	88	69,5	9	3,5	57	26,5

Model	D1	D1a	D4	D4a	L1	L2	L3	L6	L7	L8	L8a	L9	L9a**	L14	L17	L18	L19	SW
			H7	H7	max.	max.		± 0,05	+ 0,1	± 0,1	± 0,1	± 0,1	± 0,1	± 0,1				N9 h9
82L2G-2...	M5	M5	5	-	183,5	104,5	67	17	28	5	-	18	-	14	8,5	-	-	9
82L3*-2...	M5	M5	6	6	215	124	83	25	36	8	42	20	20	18	12,5	48	8	11
82L4*-2...	M6	M6	6	6	245	141	92	30	40	10	50	20	25	20	16	58,5	8	16

**Tolerance for distance to dowel hole ±0,02

Series 82L.-2... Technical Information, Standard Clamp Dimensions

Automation power clamps, lightweight design enclosed model, with hand lever



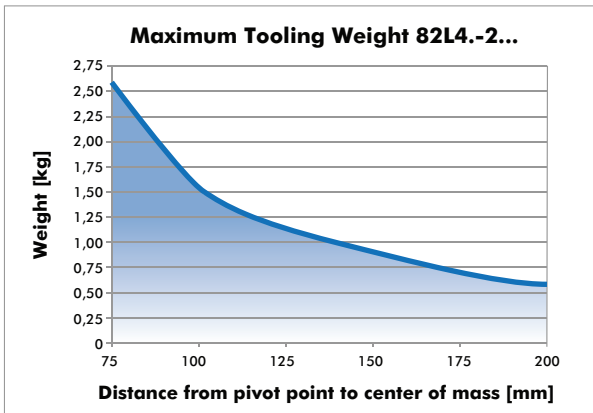
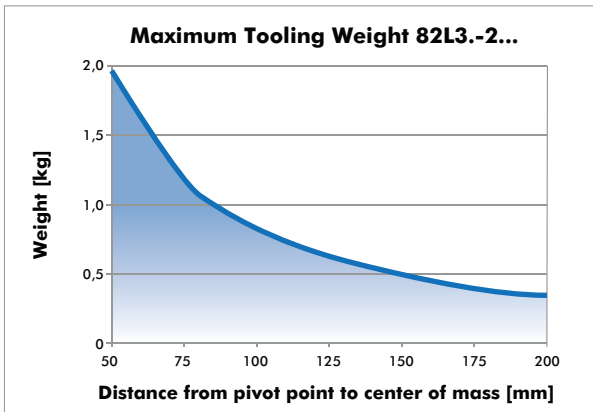
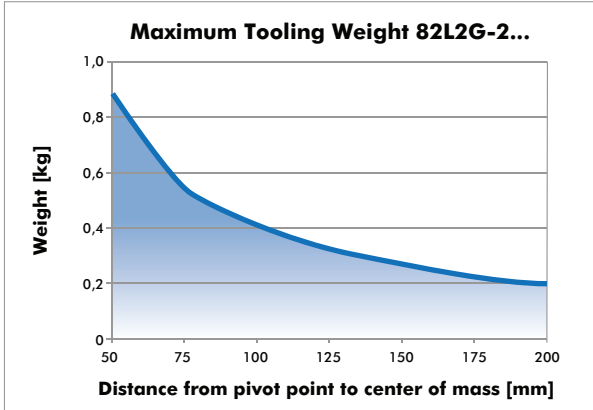
Power by compressed air, max. 6 bar
Operation with oil-free air is permissible.

Series 82L2G-2, 82L3.-2, 82L4.-2 Technical Information, Model with Hand Lever

Model	Max. holding torque Nm [lb ft]	Clamping torque at 5 bar [72 psi] Nm [lb ft]	Piston Ø mm	Weight kg [lbs]	Opening angle	Air consumption per double stroke at 5 bar [72 psi] dm ³ [ft ³]	Connection G	B1	B1 _a	B3	B5	B5 _a
82L2G-2...	75 [55]	25 [18]	25	1,1 [2.42]	105°	0,4 [0.01]	G1/8	32	34	3	4	4
82L3G-2... 82L3N-2...	180 [133]	55 [41]	32	1,5 [3.30]		0,8 [0.03]	G1/8 1/8-18NPT	42	34	-	5	8
82L4G-2... 82L4N-2...	380 [280]	120 [89]	40	2,1 [4.62]		1,2 [0.04]	G1/4 1/4-18NPT	45	40	-	6,5	6

Model	B5b	B6	B7	B21	B23	B24	B24 _a	B30	B31	D1	L1	L2	L3	L6	L7	L8	L9	L17	SW	α1	α2	R1
			±0,1	~	max			±0,1			max.	max.		±0,05	+0,1	±0,1	±0,1		h9	~	~	~
82L2G-2...	4,5	7	25	62	53	60,5	53,5	44	15	M5	183,5	104,5	67	17	28	5	18	8,5	9	36°	131°	117
82L3G-2... 82L3N-2...	4,5	7	20	62	60	76,5	63,5	51	21	M5	210	119	83	25	36	8	20	12,5	11	31°	124°	117
82L4G-2... 82L4N-2...	4,5	10	25	62	74	88	69,5	57	26,5	M6	241	137	92	30	40	10	20	16	16	31°	131°	117

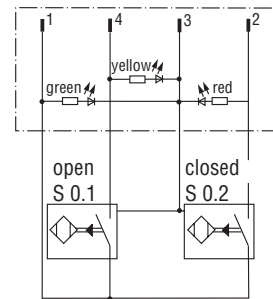
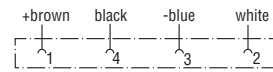
Series **82L2G-2**, **82L3.-2**, **82L4.-2** Specifications



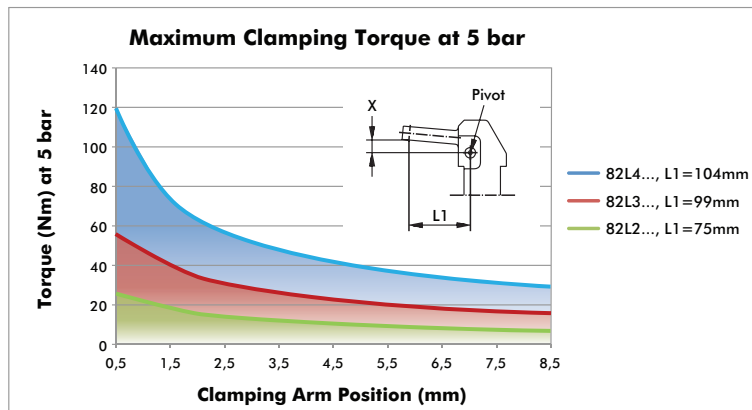
Wiring diagram of electrical sensing system
Sensing system immune to interference from d.c. arc welding and a.c. arc welding

Inductive version: B8, B7, C8

Pin Assignment

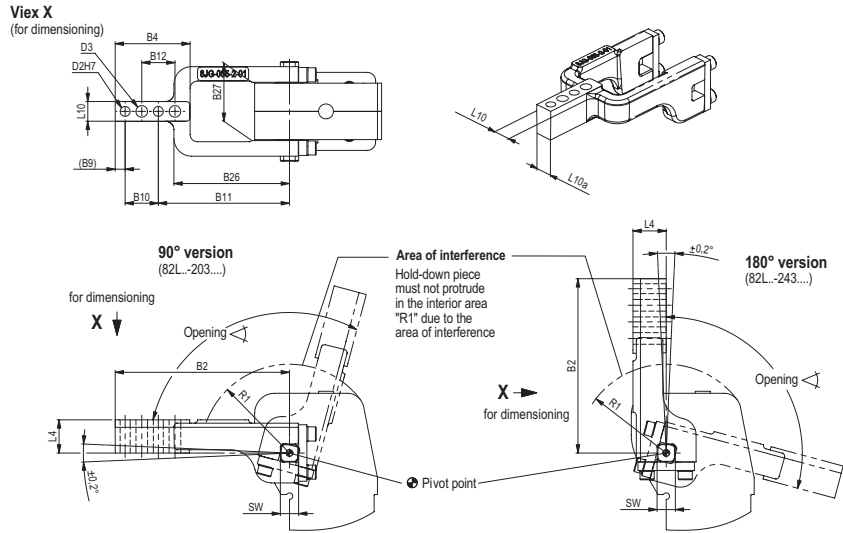


ATTENTION:
Calculation tool available. Please consult factory.



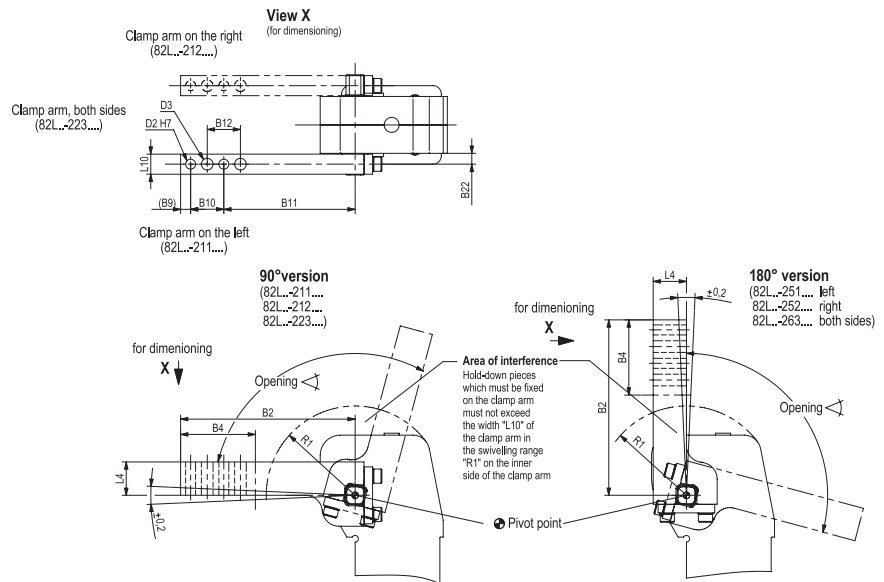
All data refers to a pneumatic pressure of 6 bar and to a opening and closing time of 1 second, as well as to the center of gravity of the complete construction directly attached to the clamp arm related to the fixed fulcrum.

Series 82L2G-2, 82L3.-2, 82L4.-2 U-Type Central Clamping Arms



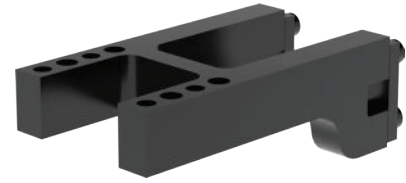
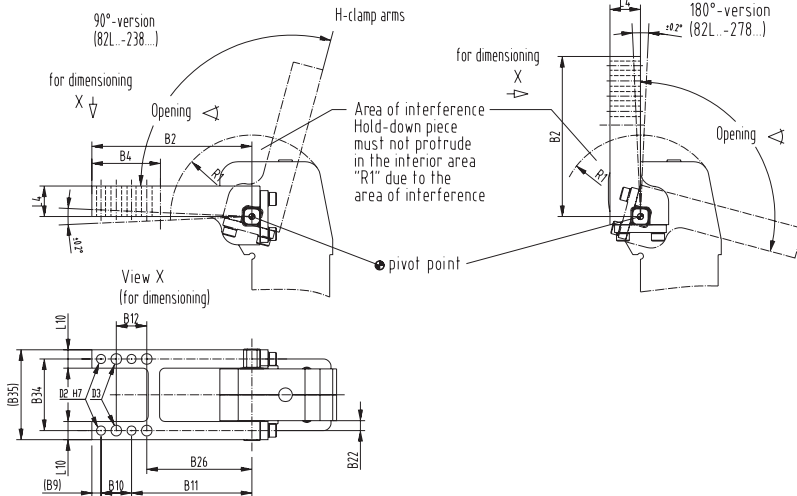
Model	Order no. for set of U-type central clamping arms	Opening angle for 90° Version	Opening angle for 180° Version	Weight [kg]	B2	B4	B9	B10	B11	B12	B26	B27	D2	D3	L4	L10	L10α	R1	SW J7
		max.	max.		[kg]										H7				
82L2G-2...	8JG-075-3-01	105°	105°	0,3	93	45	8	20	65	20	58	36	4	6,5	20	12	-	45	9
82L3*-2...	8JG-065-2-01	105°	105°	0,37	105	45	6	20	79	20	69	35,1	6	7	20	12*	11,4	55	11
82L4*-2...	8JG-067-2-01	105°	105°	0,5	110	45	6	20	84	20	78	42,1	6	7	22	15*	14,3	58	16

Series 82L2G-2, 82L3.-2, 82L4.-2 Lateral Clamping Arms



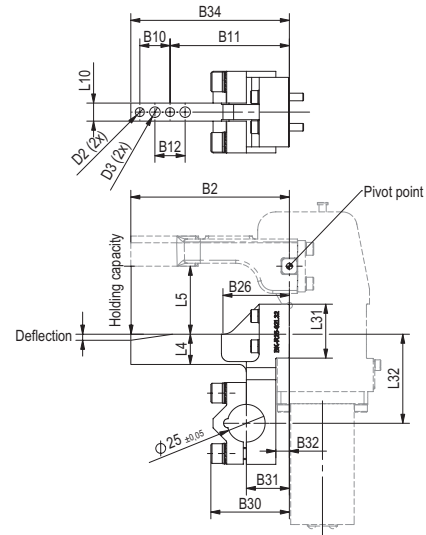
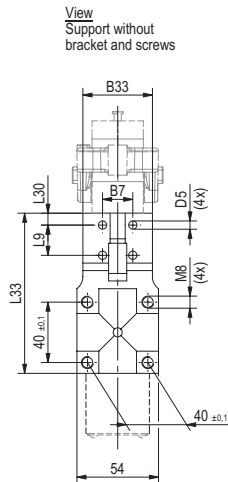
Model	Order no. for set of Lateral clamping arms	Opening angle for 90° - Version	Opening angle for 180° - Version	Weight [kg]	B2	B4	B9	B10	B11	B12	B22	D2	D3	L4	L10	R1
		max.	max.		[kg]								H7			
82L3*-2...	8JG-066-1-01	105°	105°	0,25	105	45	6	20	79	20	6,5	6	7	20	12	55
82L4*-2...	8JG-068-1-01	105°	105°	0,3	92	45	6	20	66	20	8,5	6	7	22	15	58

Series **82L2G-2, 82L3.-2, 82L4.-2** H- Clamping Arms



Model	Order no. for set of H-clamping arms	Opening angle for 90° - Version	Opening angle for 180° - Version	Weight [kg]	B2	B4	B9	B10	B11	B12	B26	B34	B35	D2	D3	L4	L10	R1
		max.	max.		[kg]													
82L3*-2*8...	8JG-363-1-01	105°	105°	0,52	105	45	6	20	79	20	69	47,1	59,1	6	7	20	12	55
82L4*-2*8...	8JG-364-1-01	105°	105°	0,77	110	45	6	20	84	20	78	57,1	72,1	6	7	22	15	58

Series **82L2G-2, 82L3.-2, 82L4.-2** Counter-Support

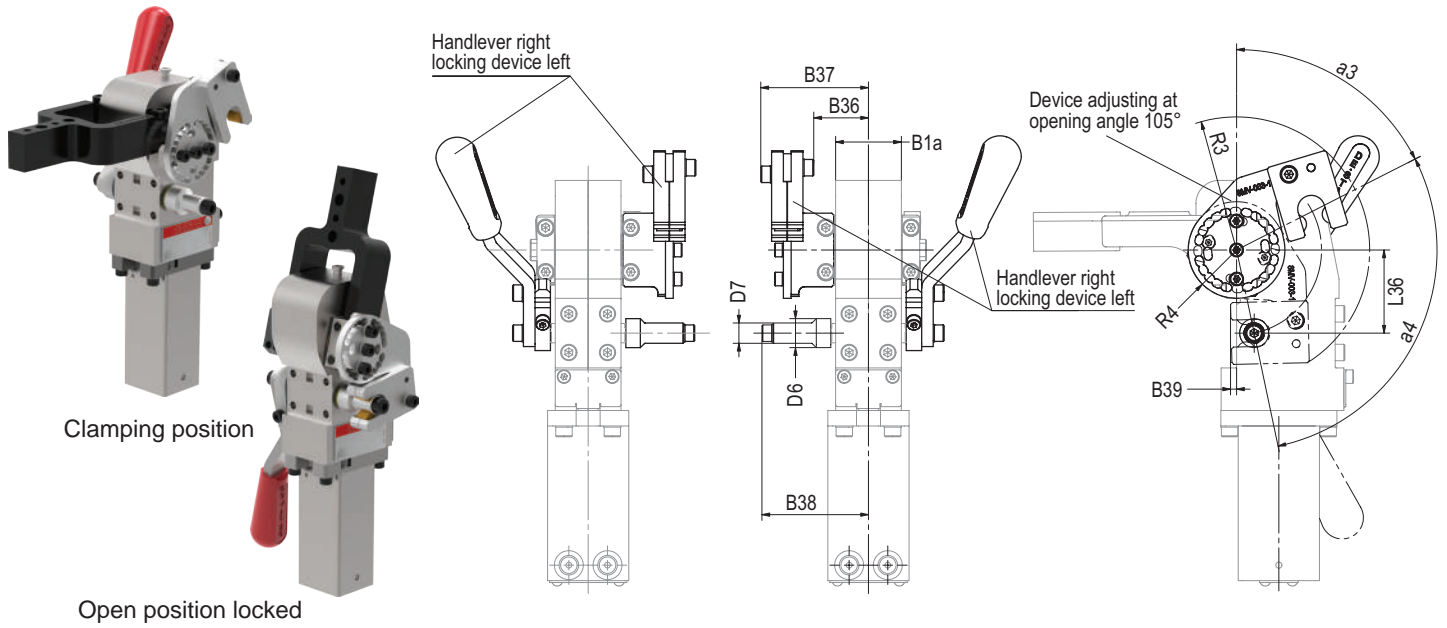


* = Tolerance for distance to dowel holes ±0,02
 ** = distance from pivot point

Model	Fit for Model	Holding Capacity max.	Deflection	Weight [kg]	B2	B7*	B10	B11	B12	B26**	B30**	B31**	B32**
		[N]	[mm]		[kg]								
BK-R25-82L25-1	82L2_	914	0,2	0,4	93	25	20	62	20	42	55	31,5	11
BK-R25-82L32-1	82L3_	660	0,16	0,5	105	20	20	79	20	44	52	28,5	9
BK-R25-82L40-1	82L4_	2000	0,37	0,56	110	25	20	84	20	41	52	28,5	7,5

Model	B33	B34	D2	D3	D5	L4	L5	L9	L10	L30	L31	L32	L33
			∅ H7	∅	∅	±0,1		±0,1			-0,1		
BK-R25-82L25-1	35	90	4	6,5	5,5	20	45	18	12	4,95	27,9	50,9	106
BK-R25-82L32-1	46	105	6	7	5,5	20	45	20	12	7,85	35,7	59	106
BK-R25-82L40-1	40	110	6	7	6,6	22	45	20	15	9,85	39,7	66	108

Series **82L2G-2, 82L3.-2, 82L4.-2** Hold Open Device



Model	Fit for Model	B1 α	B36	B37	B38	B39	D6	D7	L36	R3	R4	α 3	α 4
82ZB-036-1	82L2.-2....H..	34	25	47	47	3	15	10	31	53	18,5	63°	105°
82ZB-037-1	82L3.-2....H..	34	28	56	56	4	15	10,5	43	69	25	63°	105°
82ZB-038-1	82L4.-2....H..	40	30	58	58	3	15	10,5	50	76	27	63°	105°

Accessories with or without hand lever

Clamping Arms		Order No. for set 82L2G-2....0../ 82L2G-2....H..	Order No. for set 82L3.-2....0../ 82L3.-2....H..	Order No. for set 82L4.-2....0../ 82L4.-2....H..						
U-central		8JG-075-3-01	8JG-065-2-01	8JG-067-2-01						
Lateral		--	8JG-066-1-01	8JG-068-1-01						
H-Shape		--	8JG-363-1-01	8JG-364-1-01						
Connector cable (1 connector socket & 5 m cable)										
Connector socket M8x1 straight 4-pin		8EL-009-1	8EL-009-1	8EL-009-1						
Connector socket M8x1 angular 4-pin		8EL-007-1	8EL-007-1	8EL-007-1						
Connector socket M12x1 straight 5-pin		8EL-002-1	8EL-002-1	8EL-002-1						
Connector socket M12x1 angular 4-pin		8EL-003-1	8EL-003-1	8EL-003-1						
Opening angle limitation		82L2G-2		82L3.-2		82L4.-2				
		Opening Angle	Order No.	L ± 0,1	Order No.	L ± 0,1	Order No.	L ± 0,1		
		15°	8CE-282-1	28,6	8CE-296-1	33,3	8CE-310-1	38,4		
		30°	8CE-284-1	22	8CE-298-1	26,9	8CE-312-1	31		
		45°	8CE-286-1	18,5	8CE-300-1	21,5	8CE-314-1	24,7		
		60°	8CE-288-1	14	8CE-302-1	16,3	8CE-316-1	18,6		
		75°	8CE-290-1	7,9	8CE-304-1	11	8CE-318-1	11		
		90°	8CE-292-1	4,7	8CE-306-1	5,5	8CE-320-1	6,2		
Shim for clamping arm		Order No.	A1	A2	D2	D3	B9	B10	B12	L10
		82ZB-SH4001		0,1						
		82ZB-SH4002		0,2						
		82ZB-SH4005	42	0,5	6,5	7	6	20	20	11,8
		82ZB-SH4010		1,0						
		82ZB-SH4020		2,0						
		82ZB-SH4050		5,0						
Spare Parts		Order No. for set		Order No. for set		Order No. for set				
		82L2G-2....0..	82L2G-2....H..	82L3.-2....0..	82L3.-2....H..	82L4.-2....0..	82L4.-2....H..			
Cylinder	8PW-095-2	82L3G-2 (G port): 8PW-096-2 82L3N-2 (NPT port): 8PW-102-2		82L4G-2 (G port): 8PW-097-2 82L4N-2 (NPT port): 8PW-103-2						
Seal Kit	8PW-095-1-00	8PW-096-1-00		8PW-097-1-00						
Sensor Kit										
B8 Connector plug, M12x1, cable			8EA-139-1							
B7 Connector plug, M12x1, parallel with cylinder			8EA-138-1							
C8 Connector plug, M8x1, parallel with cylinder			8EA-137-1							
Hand Lever	--	8KB-031-1	--	8KB-031-1	--	8KB-032-1				

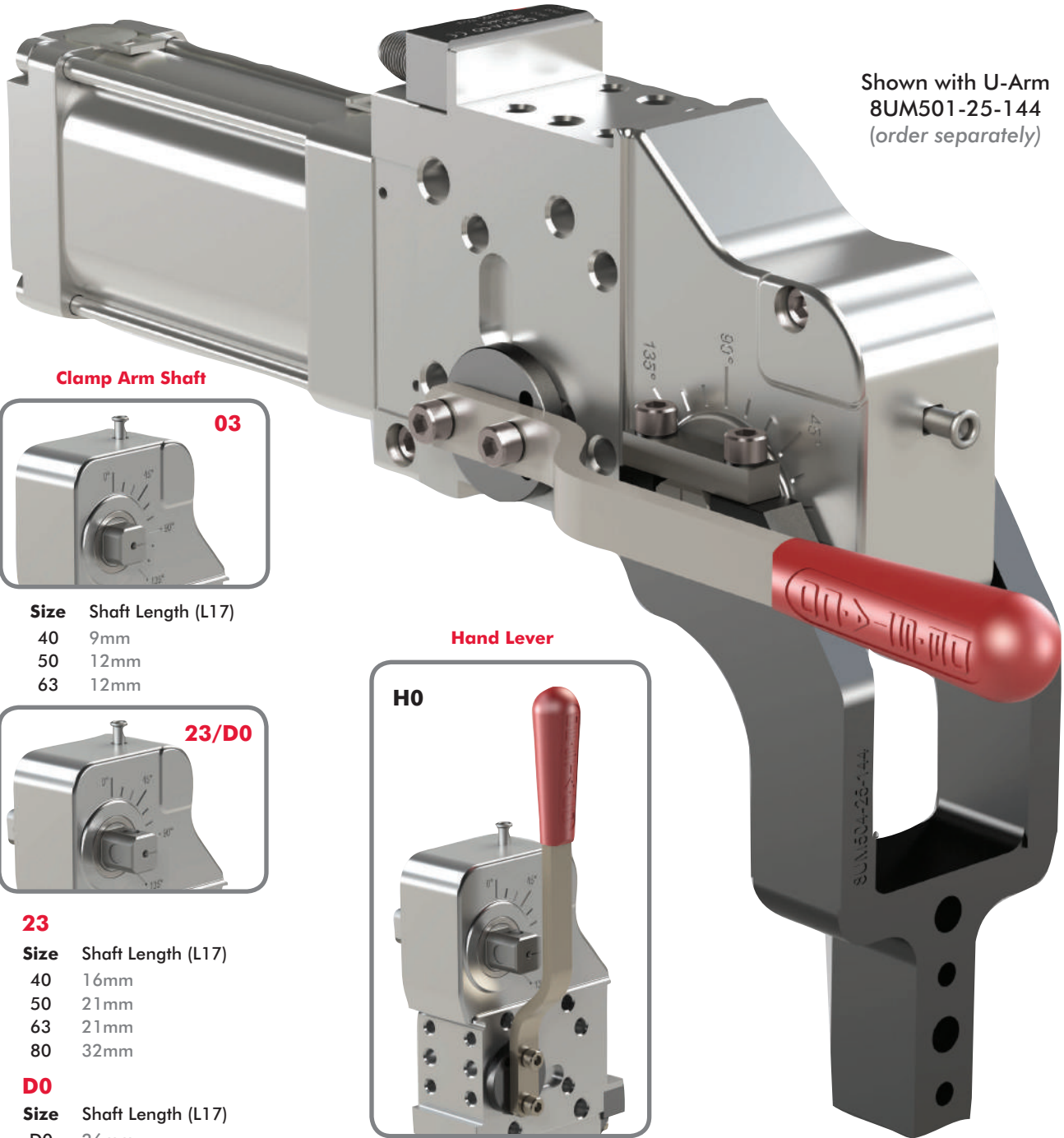


Series 82M-3E Ordering Information

82M-3 E 23 H0 50 L8

Base Model	Mounting	Description	Clamp Arm Shaft	Description	Handle	Description
	E	Standard	03	for U-Arms	00	No Hand lever
	N	NAAMS (Size 63 only)	23	for Lateral Arms	H0	Hand Lever
			D0	for Lateral Arms (size 63 only)		

See below for further details



Shown with U-Arm 8UM501-25-144 (order separately)

Clamp Arm Shaft



Size	Shaft Length (L17)
40	9mm
50	12mm
63	12mm



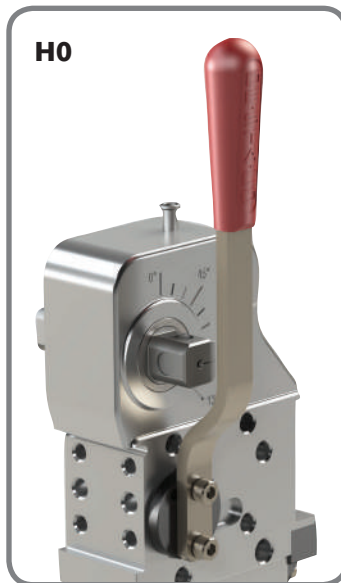
23

Size	Shaft Length (L17)
40	16mm
50	21mm
63	21mm
80	32mm

D0

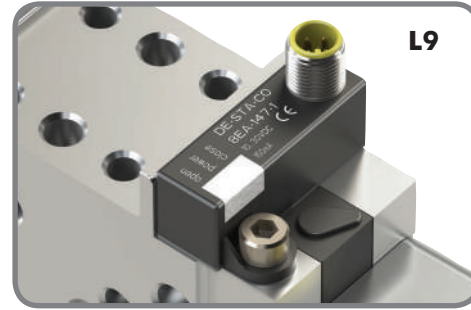
Size	Shaft Length (L17)
D0	26mm

Hand Lever

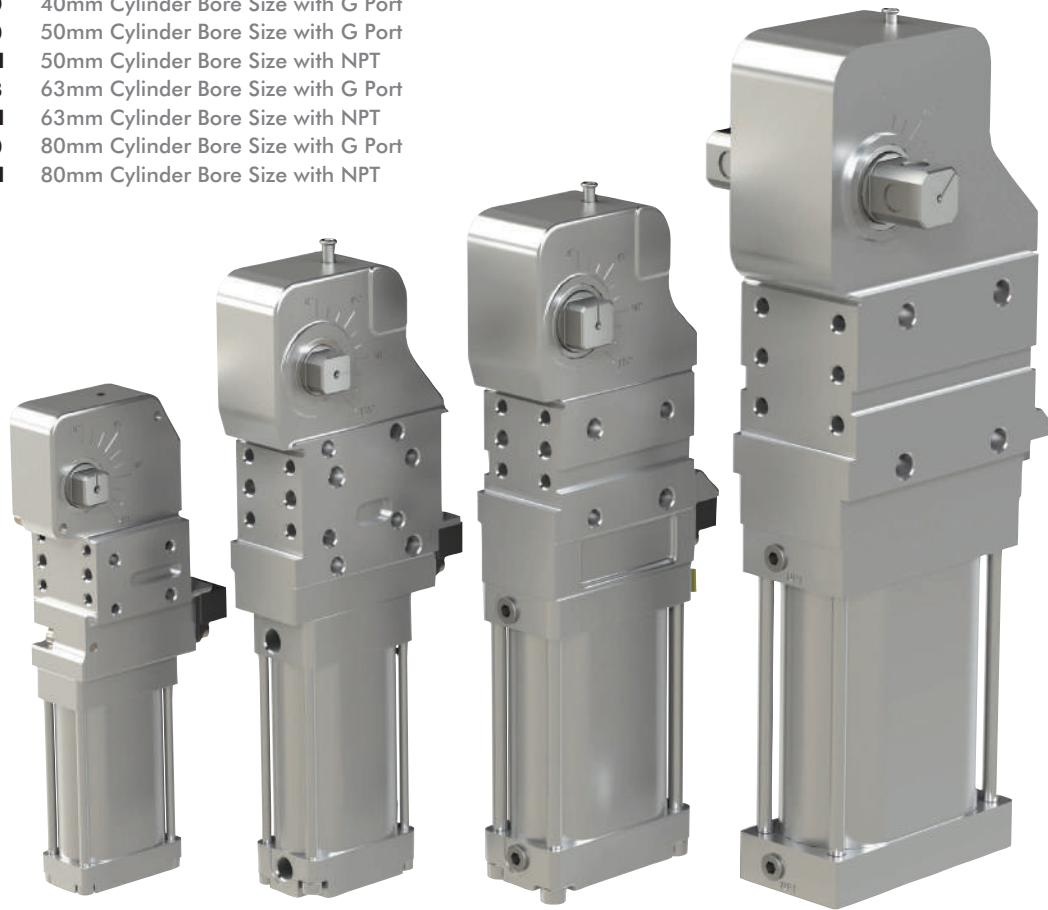


Series 82M-3E Ordering Information

Sensor	Description
00	No sensor
L8	Sensor with In-line Connector (Replacement Order No.: 8EA-146-2)
L9	Sensor with 90 deg Connection (Replacement Order No.: 8EA-147-2)



Size	Description
40	40mm Cylinder Bore Size with G Port
50	50mm Cylinder Bore Size with G Port
5N	50mm Cylinder Bore Size with NPT
63	63mm Cylinder Bore Size with G Port
6N	63mm Cylinder Bore Size with NPT
80	80mm Cylinder Bore Size with G Port
8N	80mm Cylinder Bore Size with NPT



40

Max Holding Torque
380 Nm
Max Clamping Torque
120 Nm at 5bar

50

Max Holding Torque
1300 Nm
Max Clamping Torque
270 Nm at 5bar

63

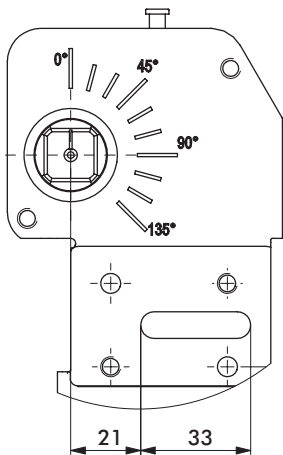
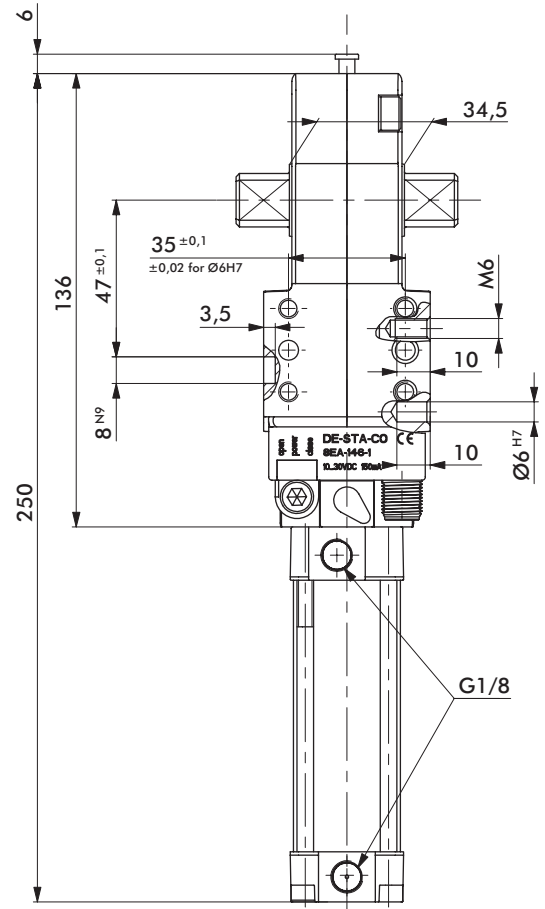
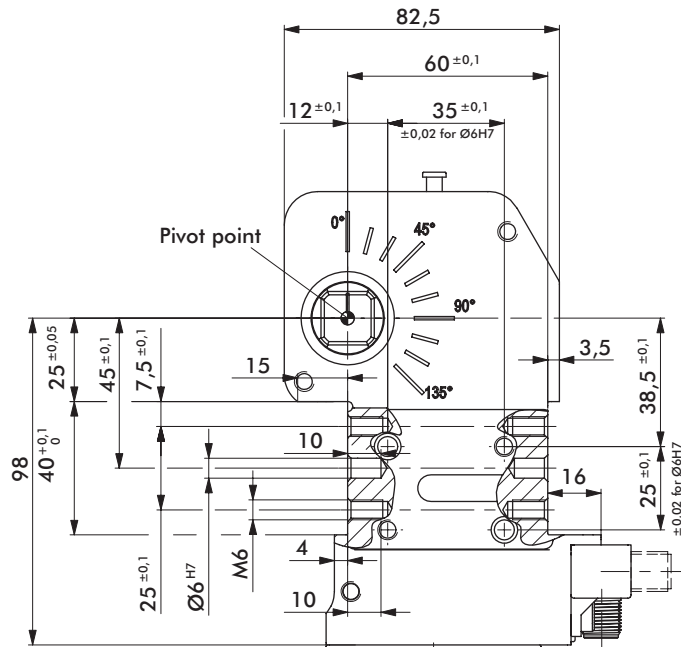
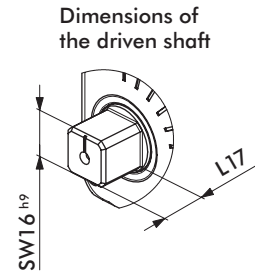
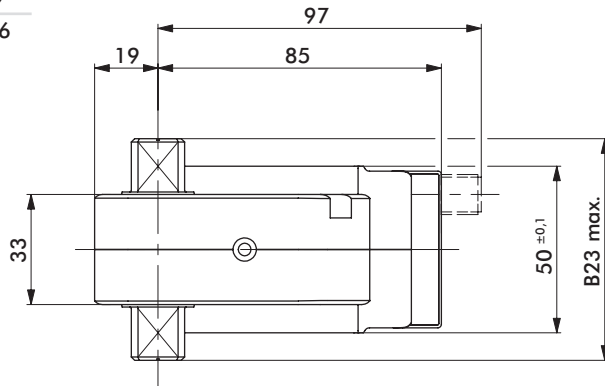
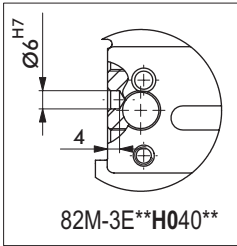
Max Holding Torque
1800 Nm
Max Clamping Torque
420 Nm at 5bar

80

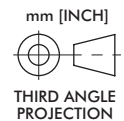
Max Holding Torque
3000 Nm
Max Clamping Torque
850 Nm at 5bar

Series **82M-3E****40** Standard Clamp Dimensions

Model	B23 Max.	L17
82M-3E03**40**	54,5	9
82M-3E23**40**	66,5	16

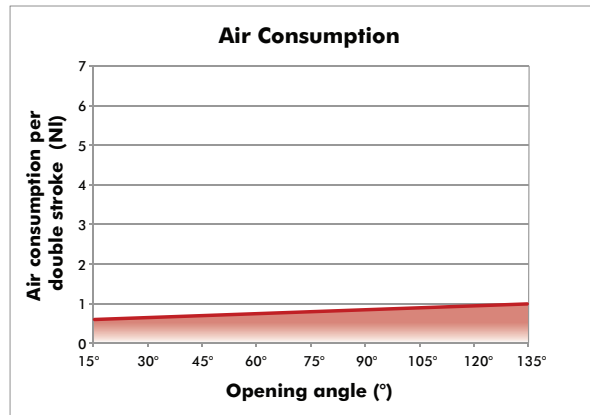
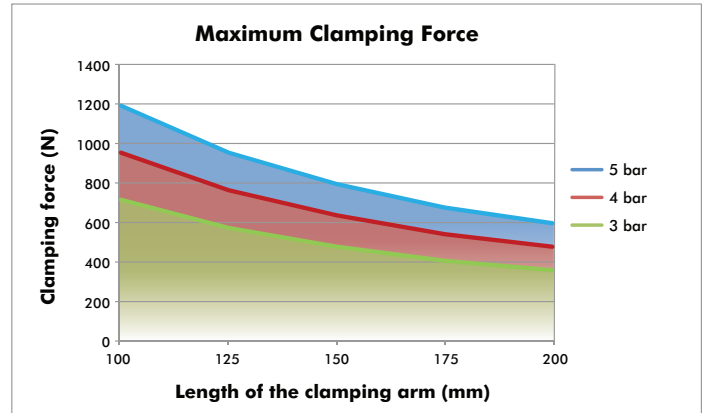
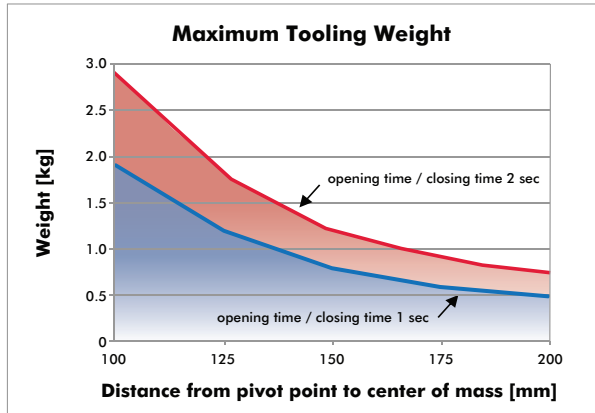


Power by compressed air, max. 6 bar operation with oil-free air is permissible.
The connector socket and the cable are not supplied with the unit.



Series 82M-3E****40 Specifications

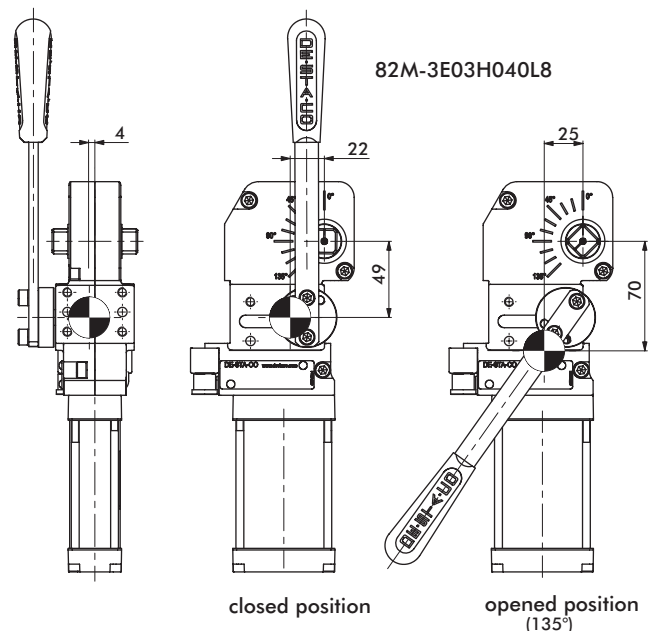
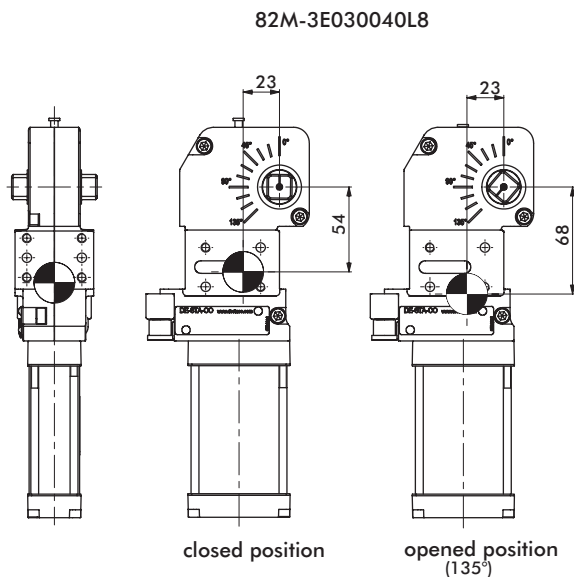
Model	Max. Holding Torque (Nm)	Clamping Torque at 5 bar (Nm)	Cylinder Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (liter)
82M-3E****40**	380	120	40	1,5	0,9



ATTENTION:
Calculation tool available. Please consult factory.

Model	Weight (kg)
82M-3E030040L*	1,5
82M-3E03H040L*	1,6

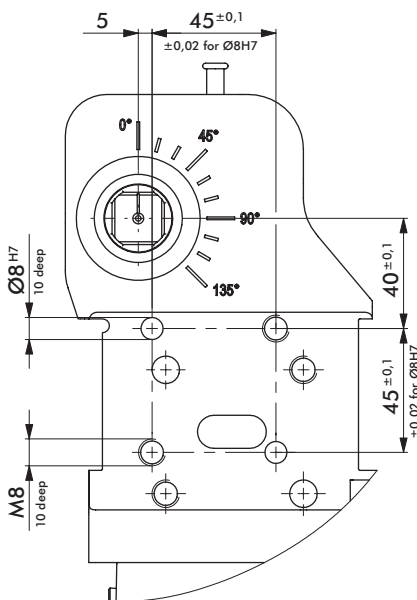
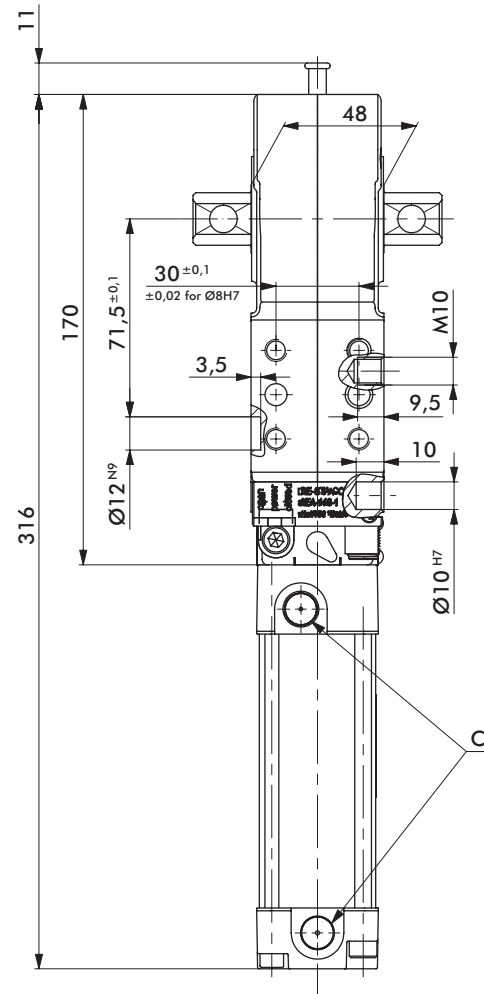
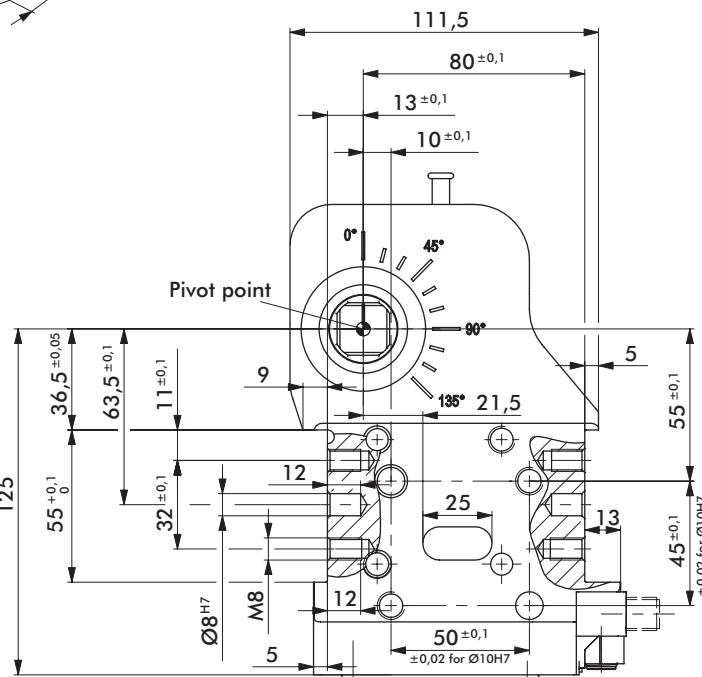
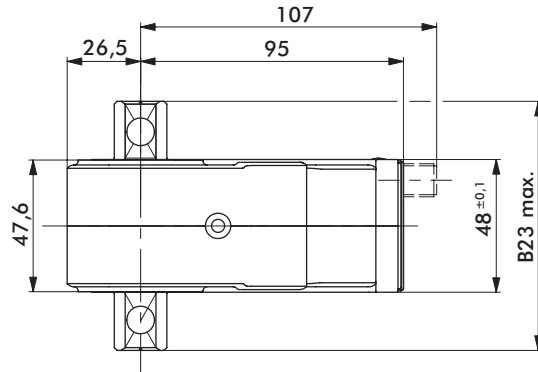
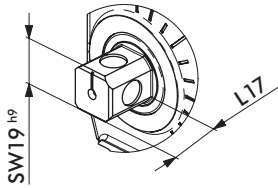
Series 82M-3E****40 Center of Mass



Series 82M-3E****5* Standard Clamp Dimensions

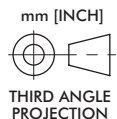
Model	B23 Max.	L17
82M-3E03**5***	72	12
82M-3E23**5***	90	21

Dimensions of the driven shaft



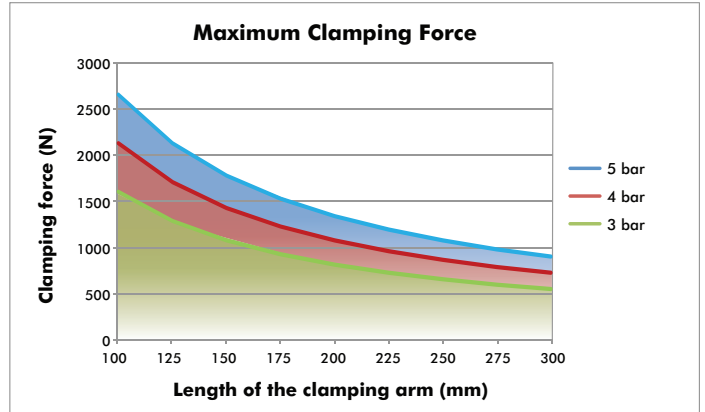
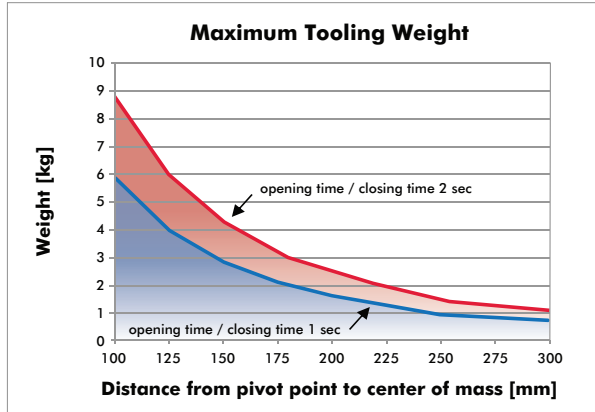
Important !
For optimal cushioning external pneumatic one-way, flow control valves should be used.

Power by compressed air, max. 6 bar operation with oil-free air is permissible.
The connector socket and the cable are not supplied with the unit.

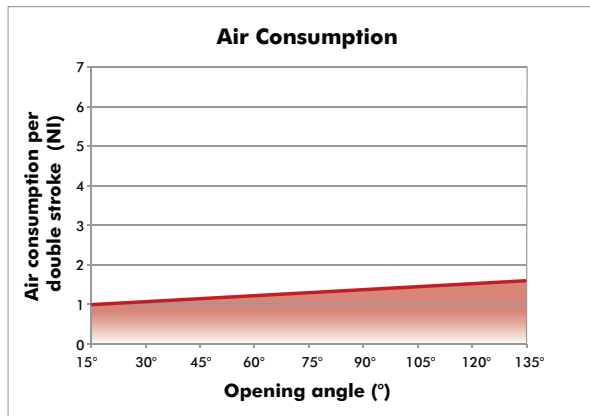


Series 82M-3E****5* Specifications

Model	Connection (C)	Max. Holding Torque (Nm)	Clamping Torque at 5 bar (Nm)	Cylinder Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (liter)
82M-3E****50**	G 1/4	1300	270	50	2,8	1,6
82M-3E****5N**	1/4-18 NPT					

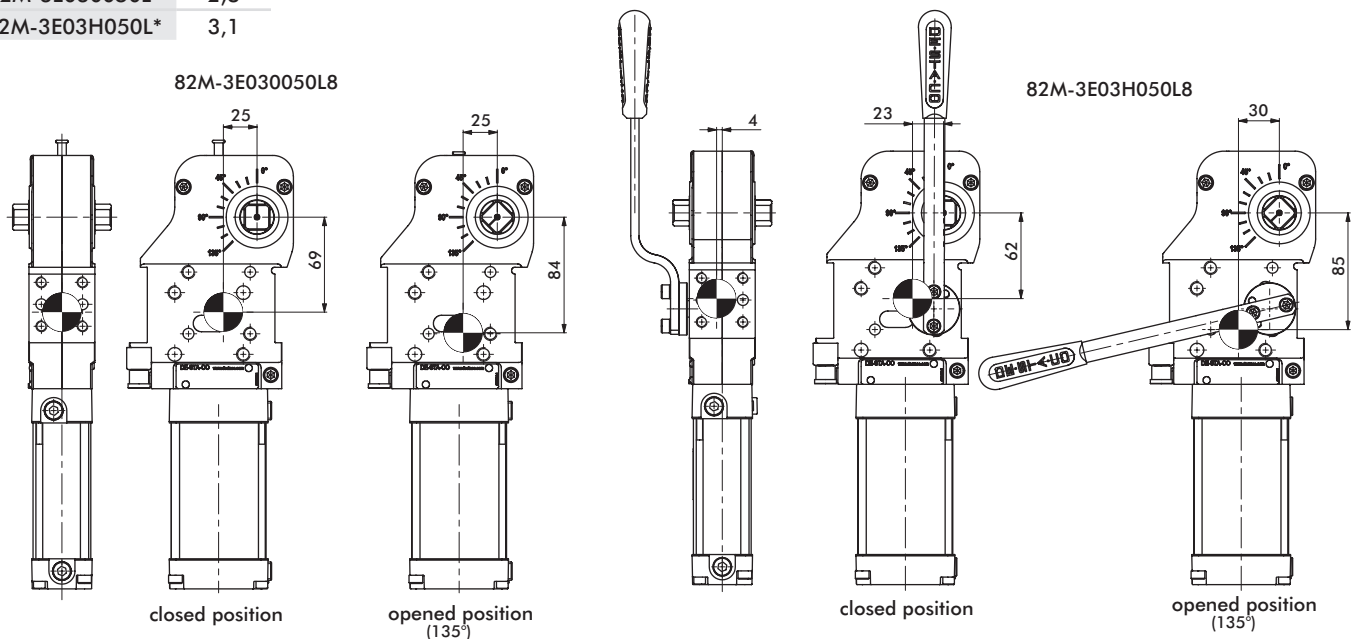


ATTENTION:
Calculation tool available. Please consult factory.



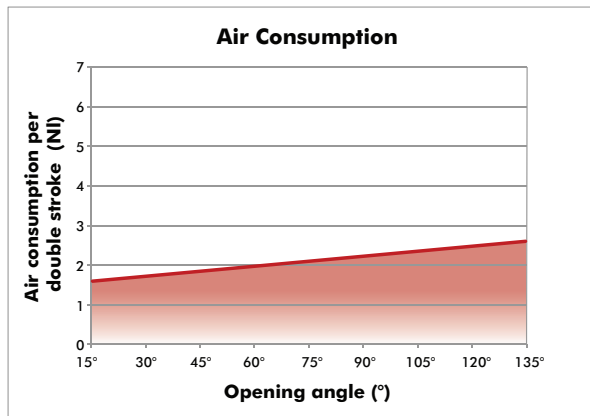
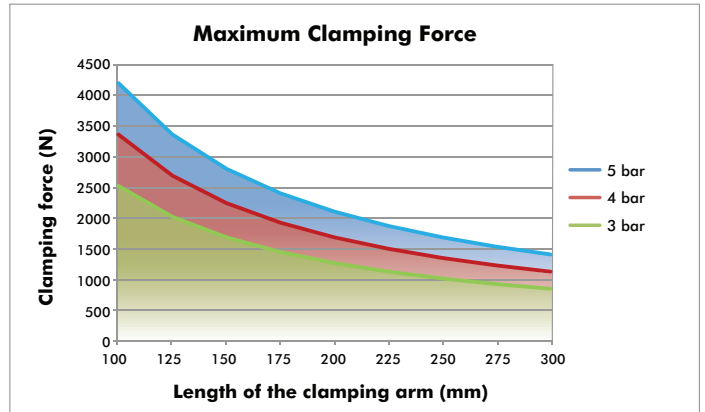
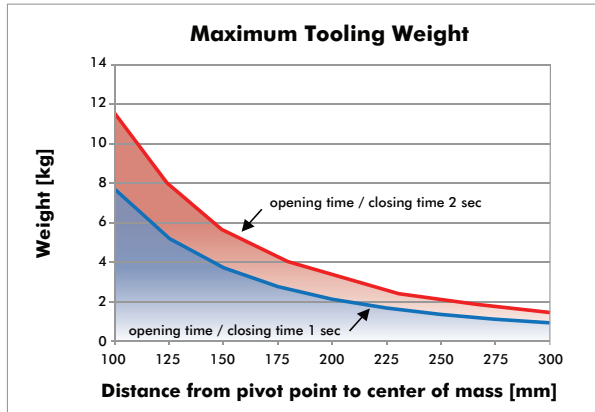
Model	Weight (kg)
82M-3E030050L*	2,8
82M-3E03H050L*	3,1

Series 82M-3E****5* Center of Mass



Series 82M-3*****6* Specifications

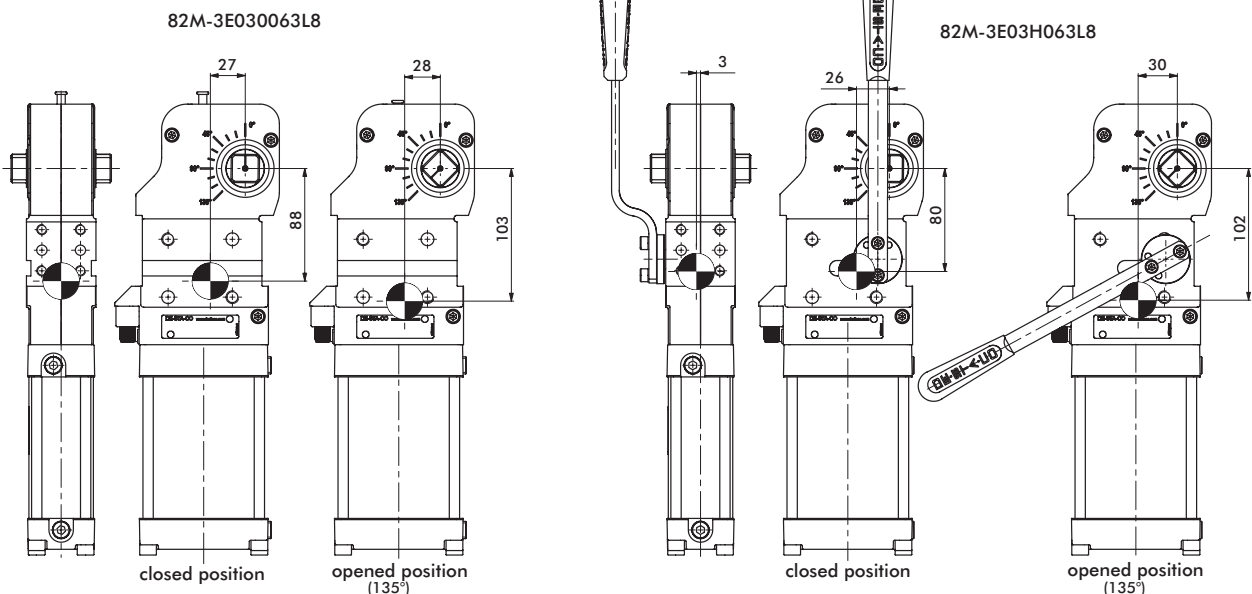
Model	Connection (C)	Max. Holding Torque (Nm)	Clamping Torque at 5 bar (Nm)	Cylinder Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (liter)
82M-3E****63**	G 1/4	1800	420	63	3,8	2,6
82M-3N****63**						
82M-3E****6N**	1/4-18 NPT	1800	420	63	3,8	2,6
82M-3N****6N**						



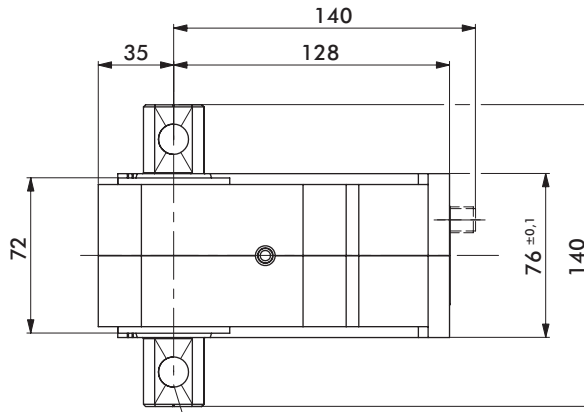
ATTENTION:
Calculation tool available. Please consult factory.

Model	Weight (kg)
82M-3E030063L*	3,8
82M-3E03H063L*	4,2

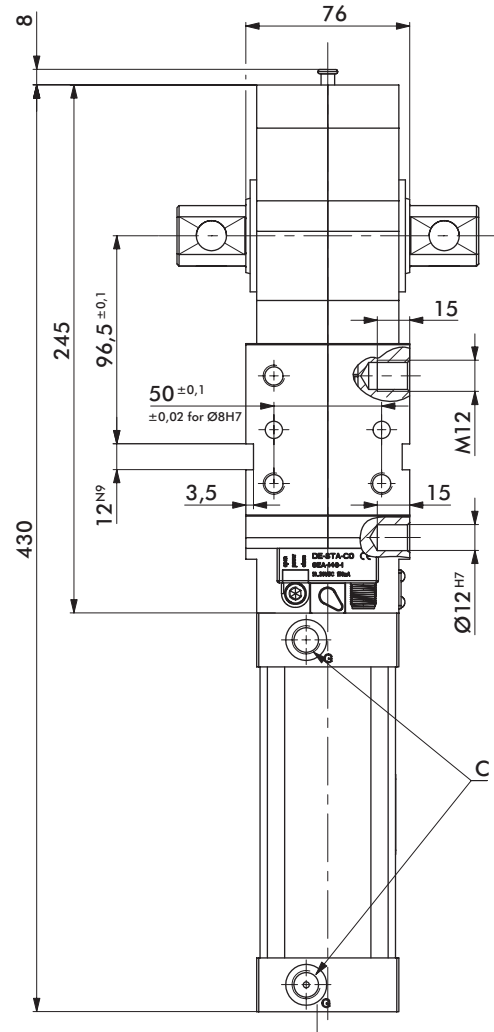
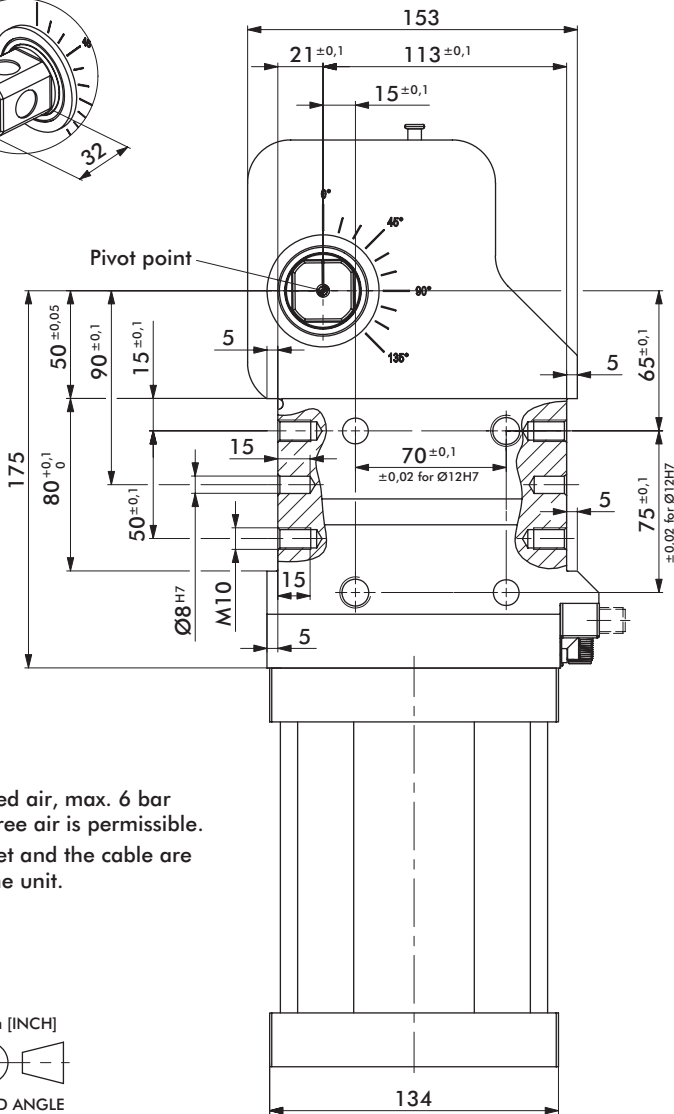
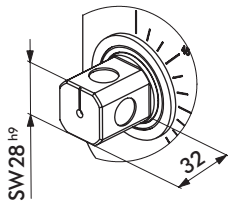
Series 82M-3*****6* Center of Mass



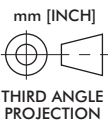
Series 82M-3E****8* Standard Clamp Dimensions



Dimensions of the driven shaft



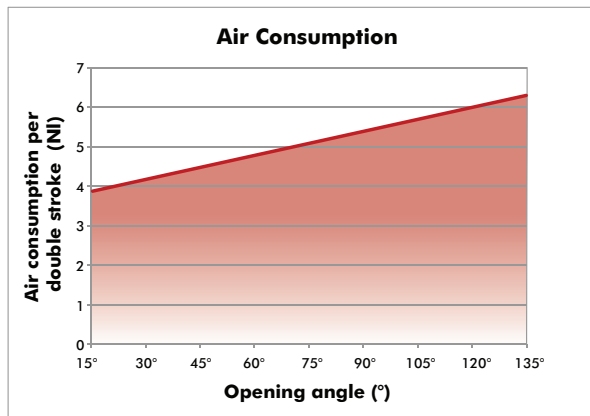
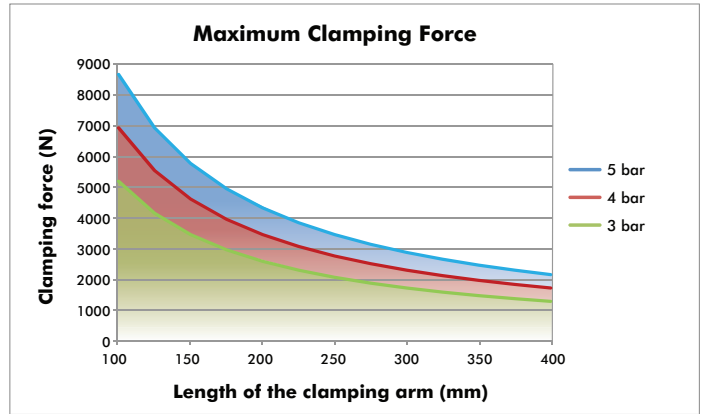
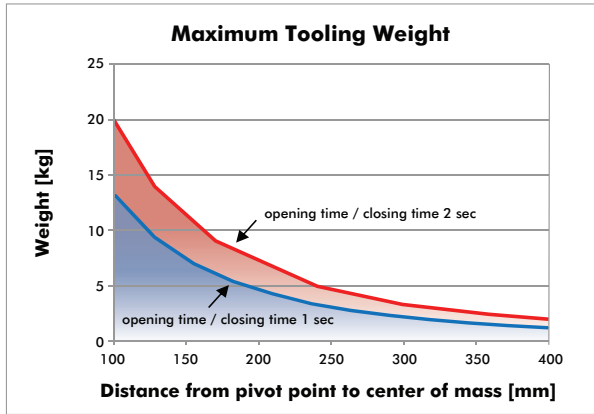
Power by compressed air, max. 6 bar operation with oil-free air is permissible. The connector socket and the cable are not supplied with the unit.



Important !
For optimal cushioning external pneumatic one-way, flow control valves should be used.

Series 82M-3E****8* Specifications

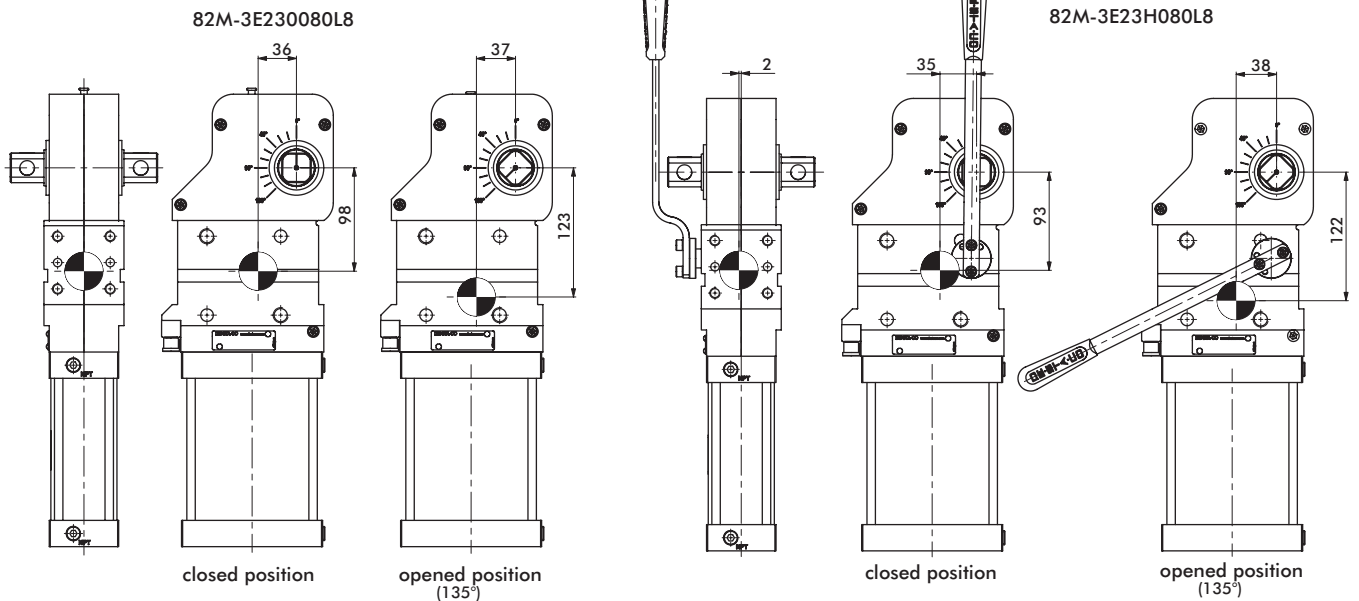
Model	Connection (C)	Max. Holding Torque (Nm)	Clamping Torque at 5 bar (Nm)	Cylinder Ø (mm)	Weight (kg)	Air Consumption per double stroke at 5 bar (liter)
82M-3E****80**	G 1/4	3000	850	80	8,7	6,3
82M-3E****8N**	1/4-18 NPT					



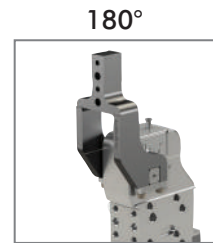
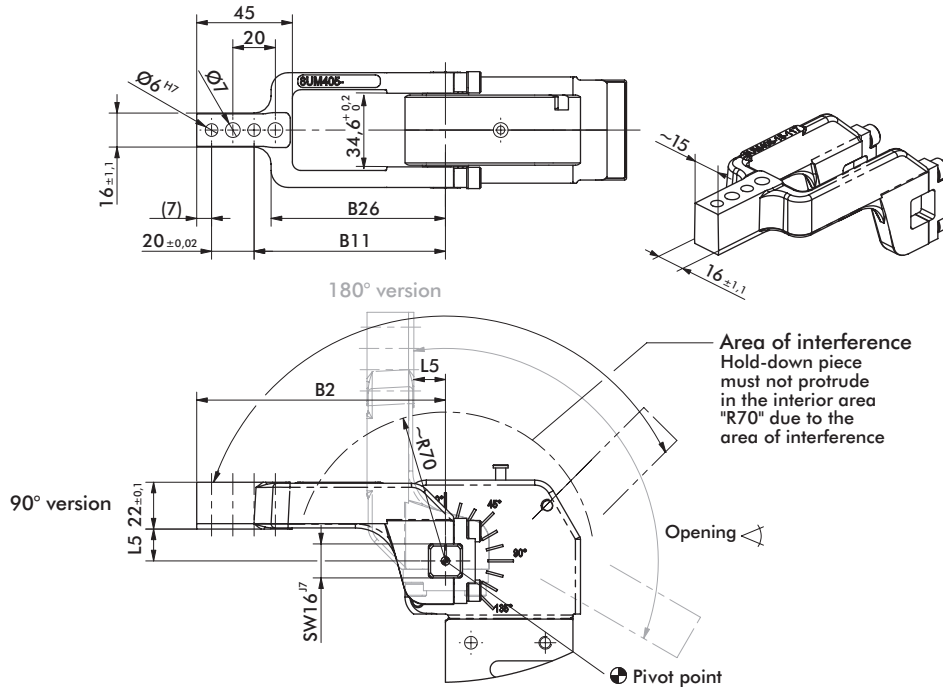
ATTENTION:
Calculation tool available. Please consult factory.

Series 82M-3E****8* Center of Mass

Model	Weight (kg)
82M-3E230080L*	8,7
82M-3E23H080L*	9,2



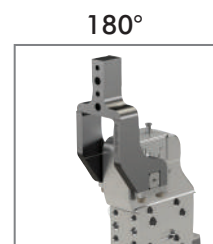
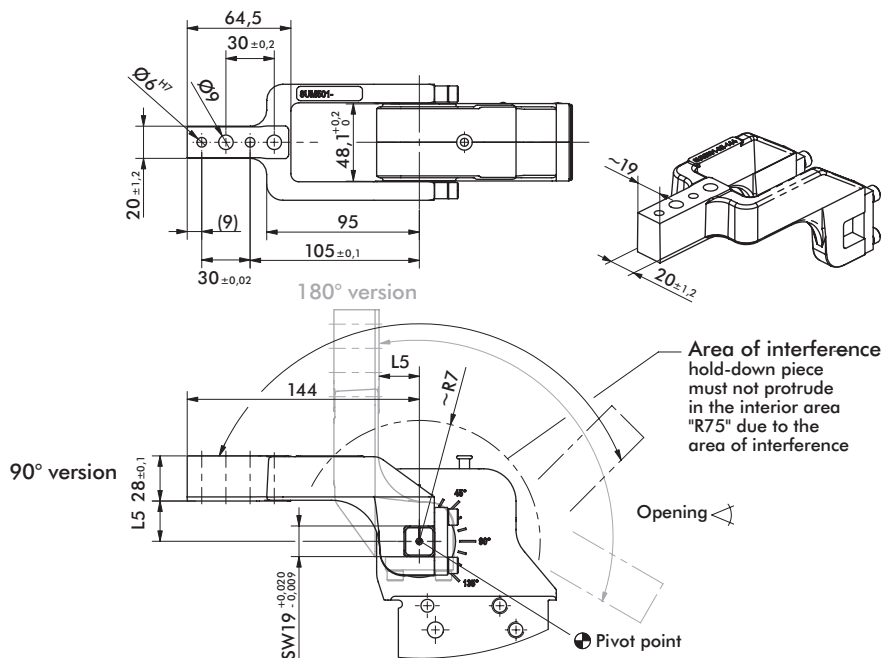
Series **82M-3E****40**** U-Arms Center (Steel)



- 8UM405-00-117
- 8UM405-15-117
- 8UM405-25-117
- 8UM405-45-107

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B11 ±0,1	B26	L5
8UM405-00-117		105°	0,45				0
8UM405-15-117	135°	120°	0,48	117	90	82	15
8UM405-25-117		135°	0,53				25
8UM405-45-107	130°			107	80	72	45

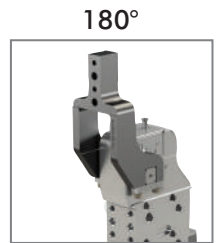
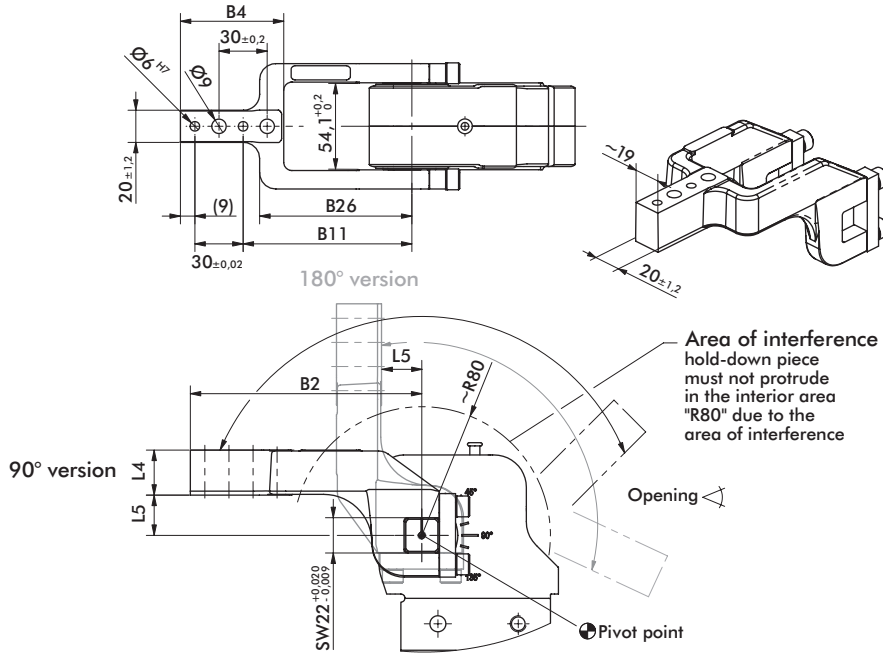
Series **82M-3E****5***** U-Arms Center (Steel)



- 8UM501-15-144
- 8UM501-25-144
- 8UM501-45-144

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	L5
8UM501-15-144		105°		15
8UM501-25-144	135°	120°	1,1	25
8UM501-45-144		135°		45

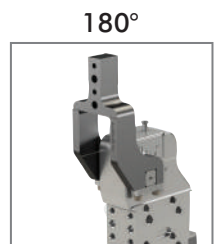
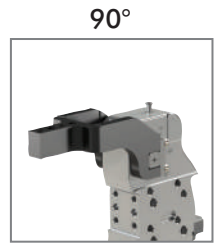
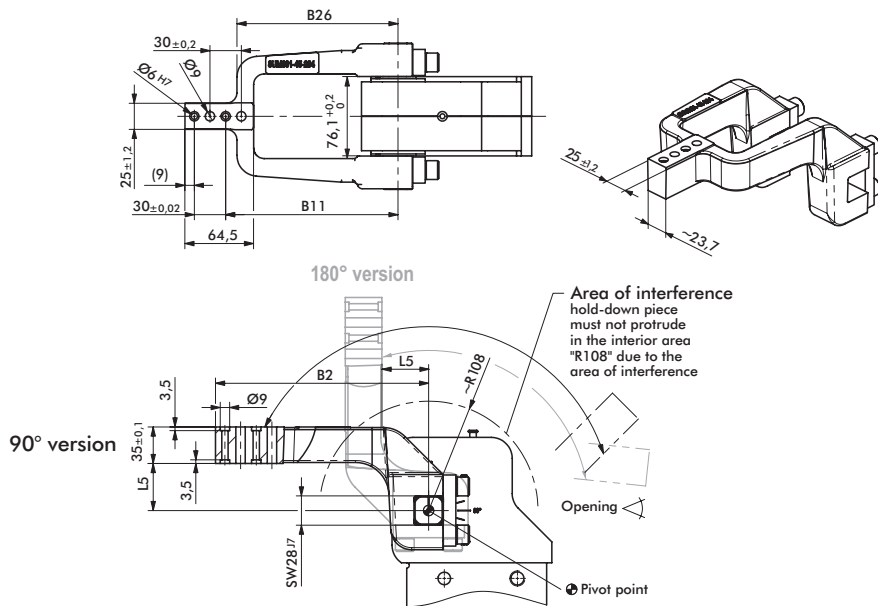
Series 82M-3****6*** U-Arms Center (Steel)



- 8UM631-15-144
- 8UM631-25-144
- 8UM631-45-144
- 8UM631-75-204

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B4	B11 ±0,1	B26	L4 ±0,1	L5
8UM631-15-144	135°	105°	1,1	144	64,5	105	95	28	15
8UM631-25-144		120°	1,2						25
8UM631-45-144		135°	1,3						45
8UM631-75-204		135°	1,7						75

Series 82M-3E****8*** U-Arms Center (Steel)

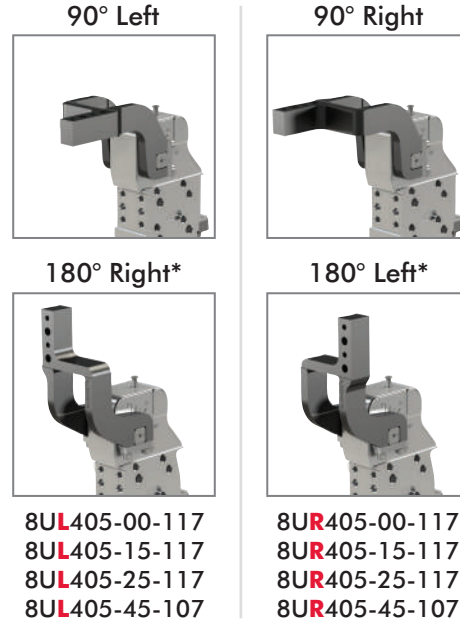
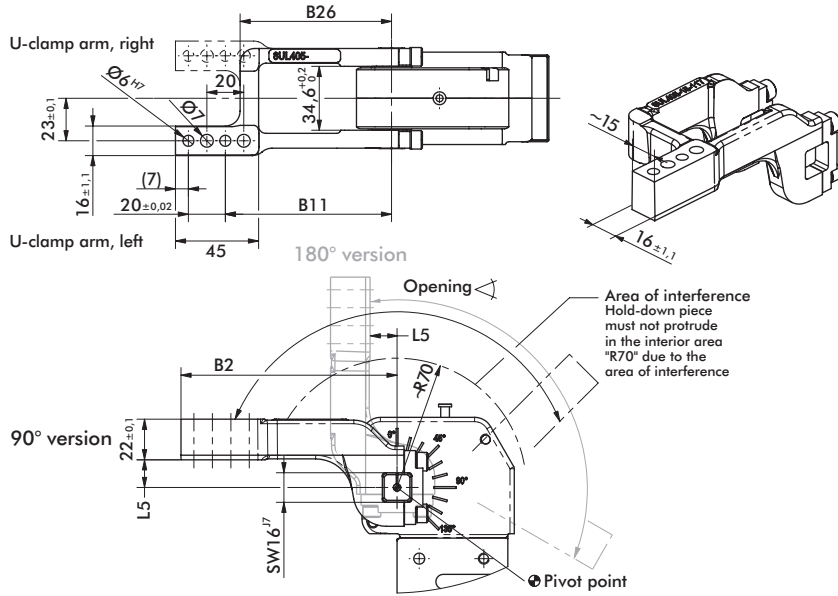


- 8JG-169-2-01
- 8UM801-45-204

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B11 ±0,1	B26	L5* ±0,2
8JG-169-2-01	135°	105°	3,5	179	140	129	20
8UM801-45-204		135°	4,1	204	165	154	45

*Tolerance measured 80mm from pivot point.

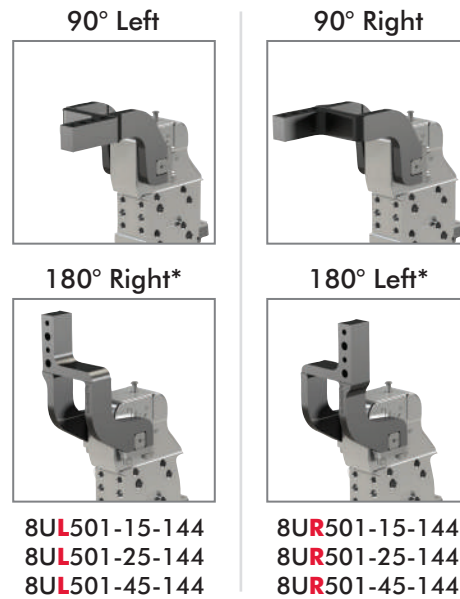
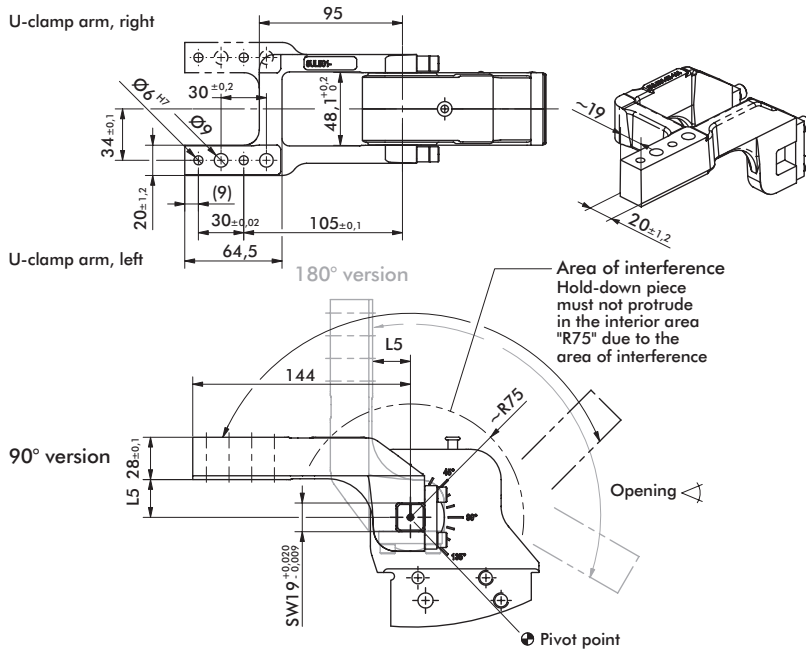
Series 82M-3E****40** U-Arms Offset (Steel)



*90° left/180° right uses same clamp arm.
 90° right/180° left uses same clamp arm.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B11 ±0,1	B26	L5
8U(•)405-00-117	135°	105°	0,47	117	90	82	0
8U(•)405-15-117		120°	0,52				15
8U(•)405-25-117		135°	0,55				25
8U(•)405-45-107	130°		0,54	107	80	72	45

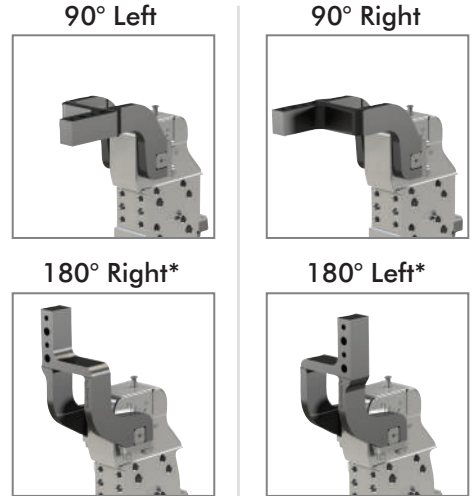
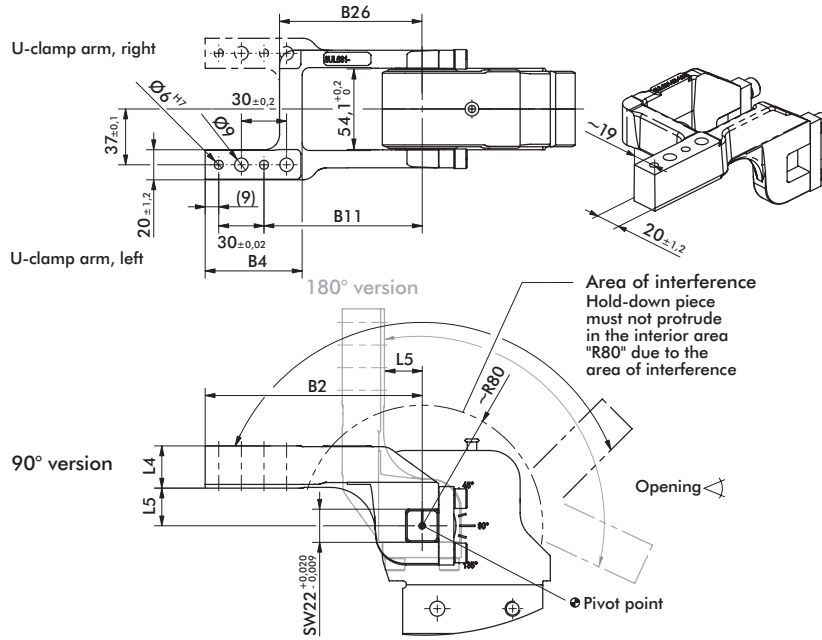
Series 82M-3E****5*** U-Arms Offset (Steel)



*90° left/180° right uses same clamp arm.
 90° right/180° left uses same clamp arm.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	L5
8U(•)501-15-144	135°	105°	1,1	15
8U(•)501-25-144		120°	1,2	25
8U(•)501-45-144		135°		45

Series 82M-3*****6*** U-Arms Offset (Steel)

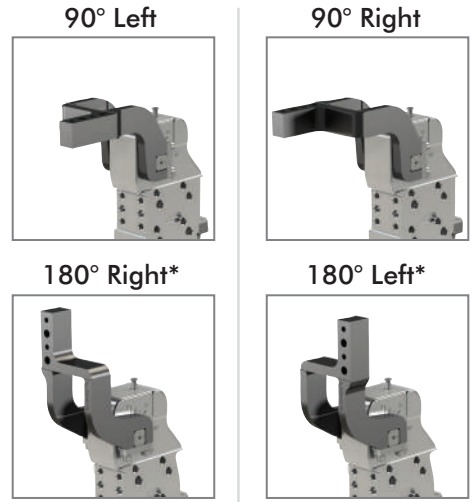
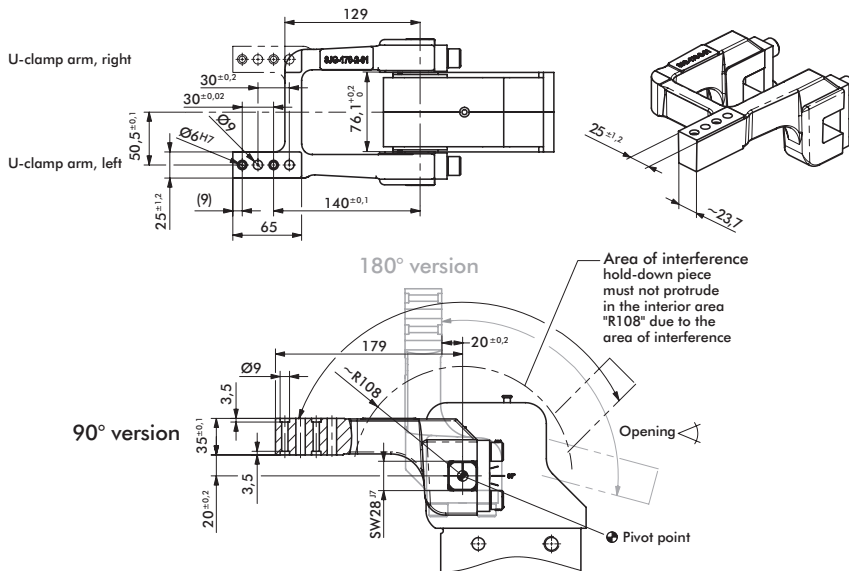


- | | |
|---------------|---------------|
| 8UL631-15-144 | 8UR631-15-144 |
| 8UL631-25-144 | 8UR631-25-144 |
| 8UL631-45-144 | 8UR631-45-144 |
| 8UL631-75-204 | 8UR631-75-204 |

*90° left/180° right uses same clamp arm.
90° right/180° left uses same clamp arm.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B4	B11 ±0,1	B26	L4 ±0,1	L5
8U(•)631-15-144	135°	105°	1,2	144	64,5	105	95	28	15
8U(•)631-25-144		120°	1,2						25
8U(•)631-45-144		135°	1,3						45
8U(•)631-75-204			1,9						204

Series 82M-3E*****8*** U-Arms Offset (Steel)

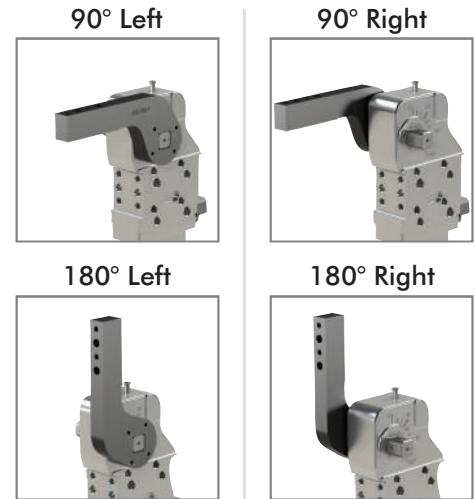
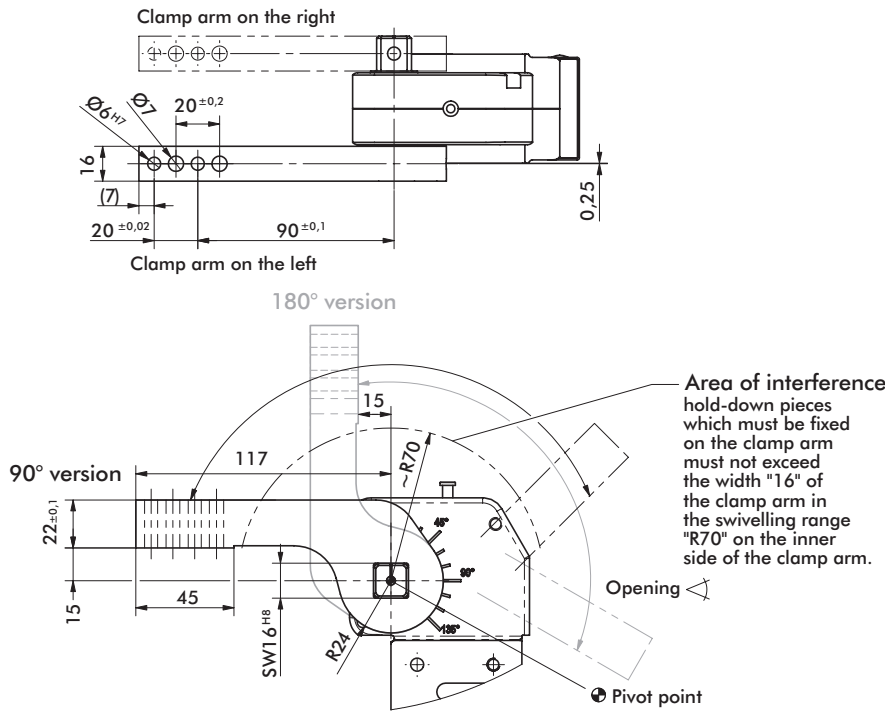


- | | |
|--------------|--------------|
| 8JG-170-2-01 | 8JG-171-2-01 |
|--------------|--------------|

*90° left/180° right uses same clamp arm.
90° right/180° left uses same clamp arm.

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)
8JG-17(•)-2-01	135°	105°	3,5

Series 82M-3E****40** Lateral Arms

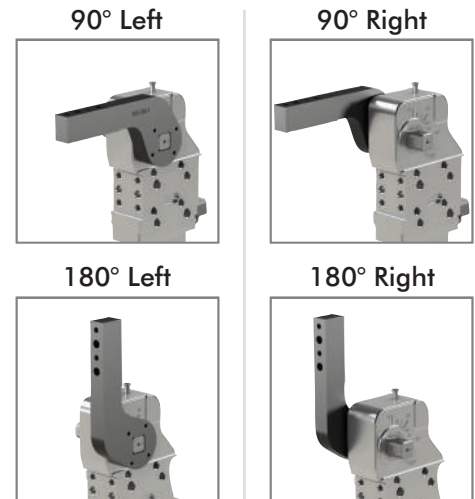
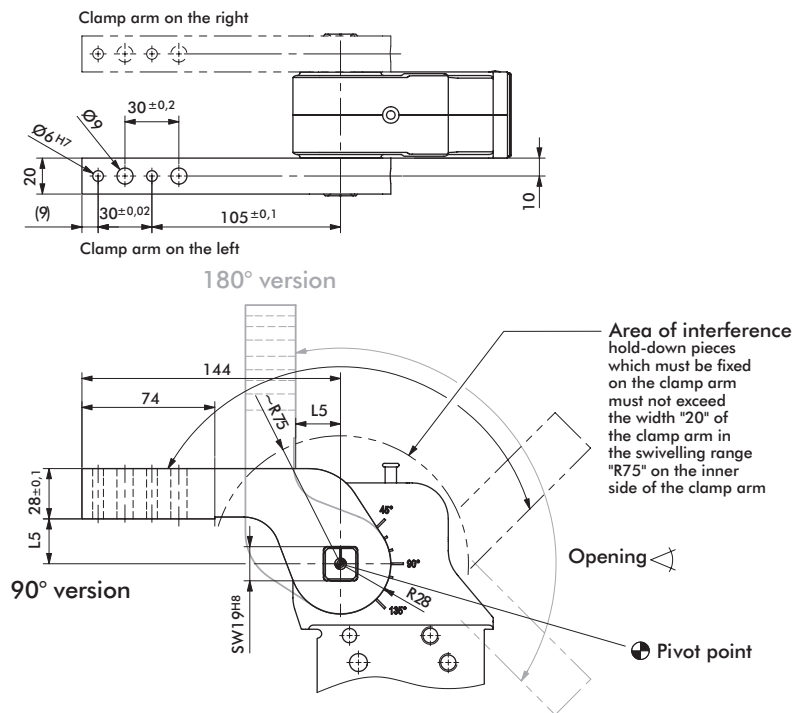


8S401-15-117

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)
8S401-15-117	135°	120°	0,5

Models with 2 lateral clamp arms requires 2 clamp arm sets.

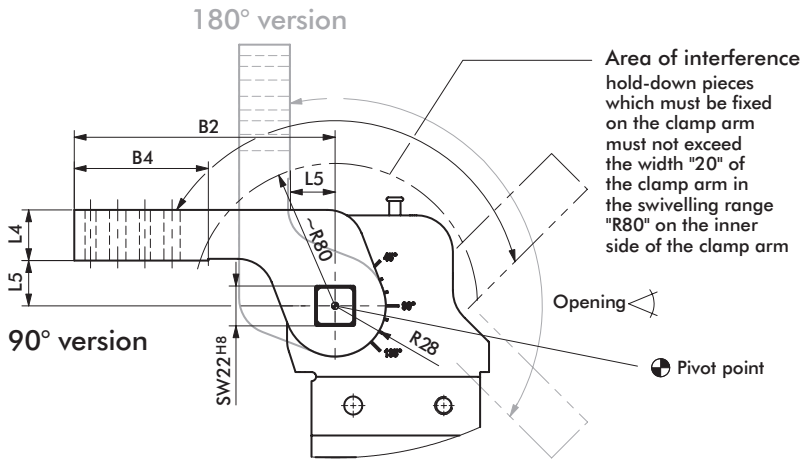
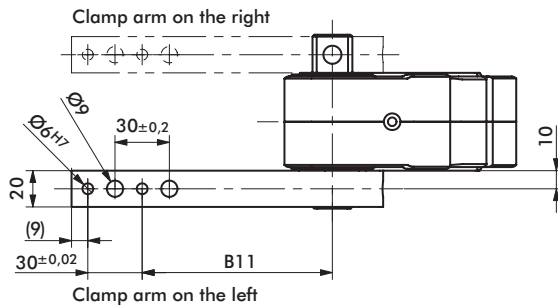
Series 82M-3E****5*** Lateral Arms



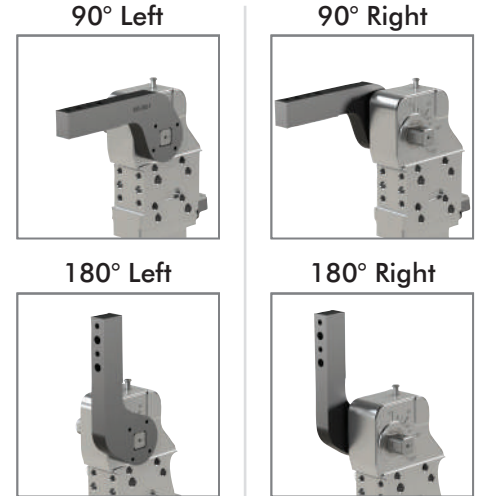
8JG-070-1-01
8S501-25-144

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	L5
8JG-070-1-01	135°	135°	0,9	15
8S501-25-144			1,0	25

Models with 2 lateral clamp arms requires 2 clamp arm sets.



Series 82M-3*****6*** Lateral Arms

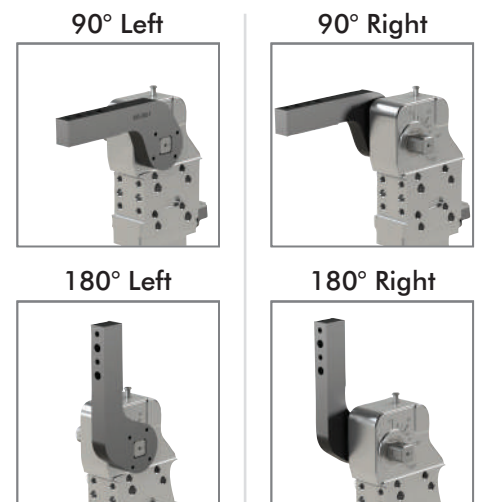
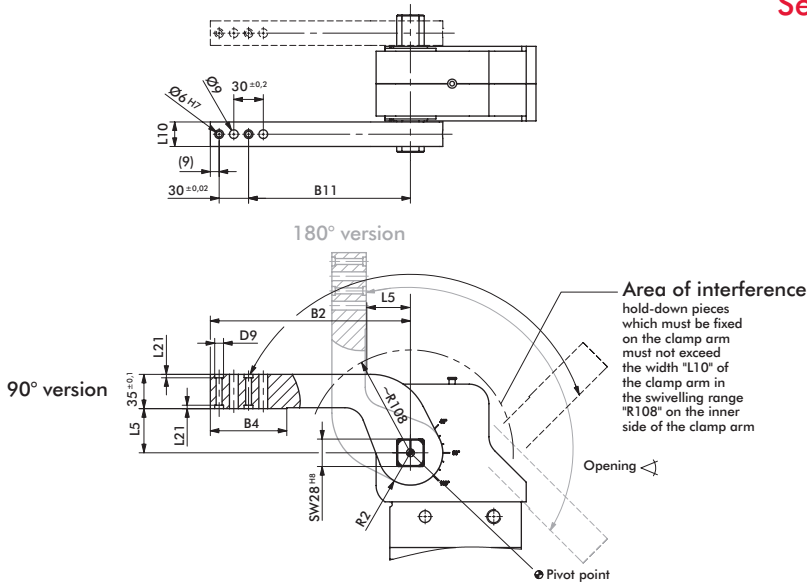


- 8JG-080-1-01
- 8S631-25-144
- 8S631-45-144
- 8S631-75-204

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B4	B11 ±0,1	L4 ±0,1	L5
8JG-080-1-01	135°	135°	0,9	144	74	105	28	15
8S631-25-144			1,0					25
8S631-45-144			1,1					45
8S631-75-204			1,5					75

Models with 2 lateral clamp arms requires 2 clamp arm sets.

Series 82M-3E*****8*** Lateral Arms

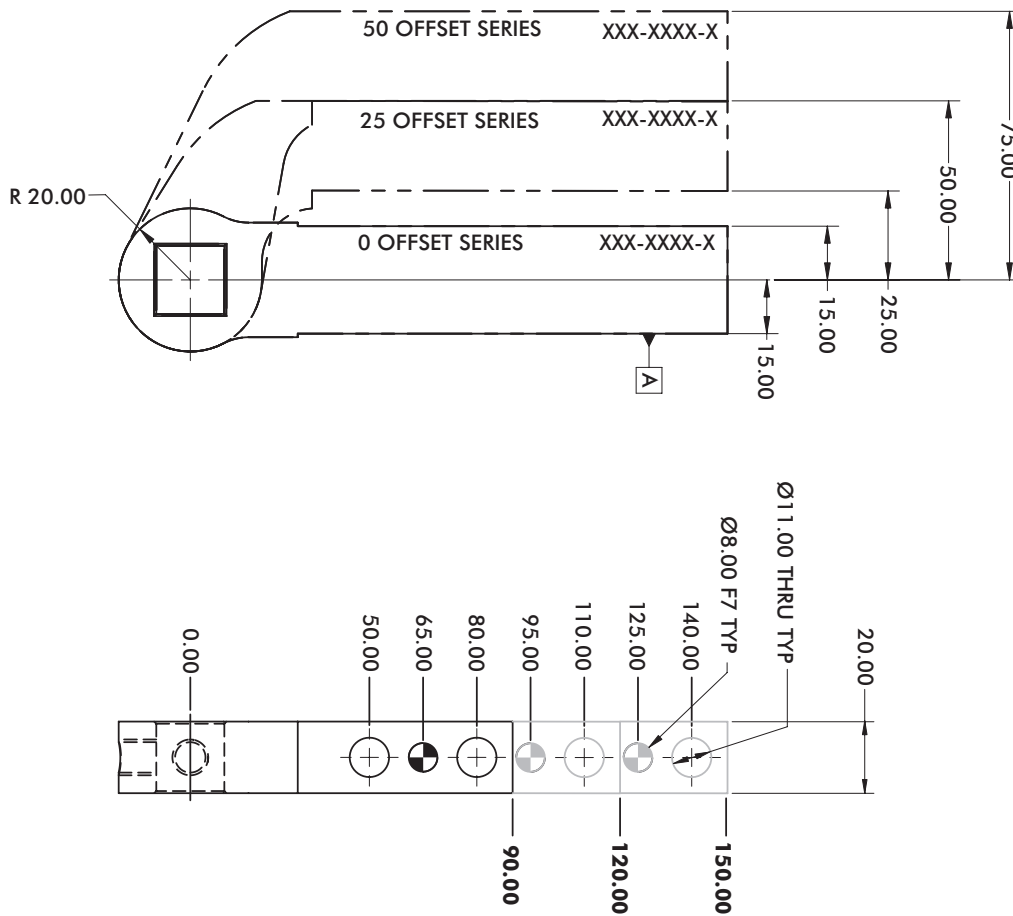


- 8JG-1179-1-01
- 8S801-45-204

Arm Model No.	Max. Opening 90° Version	Max. Opening 180° Version	Weight (kg)	B2	B4	D9	B11 ±0,1	L5	L10	L21	R2
8JG-1179-1-01	135°	135°	2,1	179	74	-	140	20	30	-	35
8S801-45-204				204	78	9	165	45	25	3,5	33

Models with 2 lateral clamp arms requires 2 clamp arm sets.

Series **82M-3E** Lateral (Side) Arms, NAAMS-Style, 50mm



9mm Thru Hole (6.00 H7 Dowel)

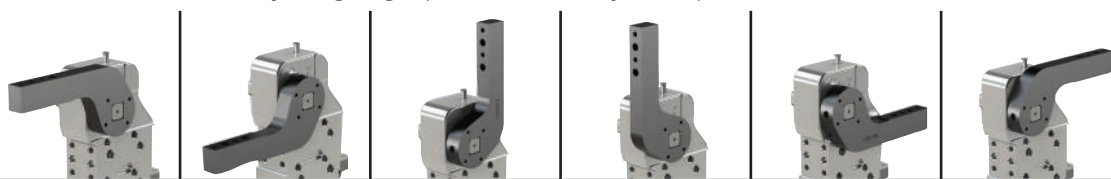
90mm [3.54"] Arm Length			120mm [4.72"] Arm Length			150mm [5.90"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
50 Offset	▲ • 3256	B8JG-3256-1	50 Offset	▲ • 3257	B8JG-3257-1	50 Offset	▲ • 3258	B8JG-3258-1
25 Offset	▲ • 3246	B8JG-3246-1	25 Offset	▲ • 3247	B8JG-3247-1	25 Offset	▲ • 3248	B8JG-3248-1
0 Offset	▲ • 3236	B8JG-3236-1	0 Offset	▲ • 3237	B8JG-3237-1	0 Offset	▲ • 3238	B8JG-3238-1

11mm Thru Hole (8.00 F7 Dowel)

90mm [3.54"] Arm Length			120mm [4.72"] Arm Length			150mm [5.90"] Arm Length		
Series	Arm Style	Model	Series	Arm Style	Model	Series	Arm Style	Model
50 Offset	▲ • 1226	B8JG-1226-1	50 Offset	▲ • 1227	B8JG-1227-1	50 Offset	▲ • 1228	B8JG-1228-1
25 Offset	▲ • 1216	B8JG-1216-1	25 Offset	▲ • 1217	B8JG-1217-1	25 Offset	▲ • 1218	B8JG-1218-1
0 Offset	▲ • 1206	B8JG-1206-1	0 Offset	▲ • 1207	B8JG-1207-1	0 Offset	▲ • 1208	B8JG-1208-1

▲ Common in North America (•) STANDARD ARM OFFERING

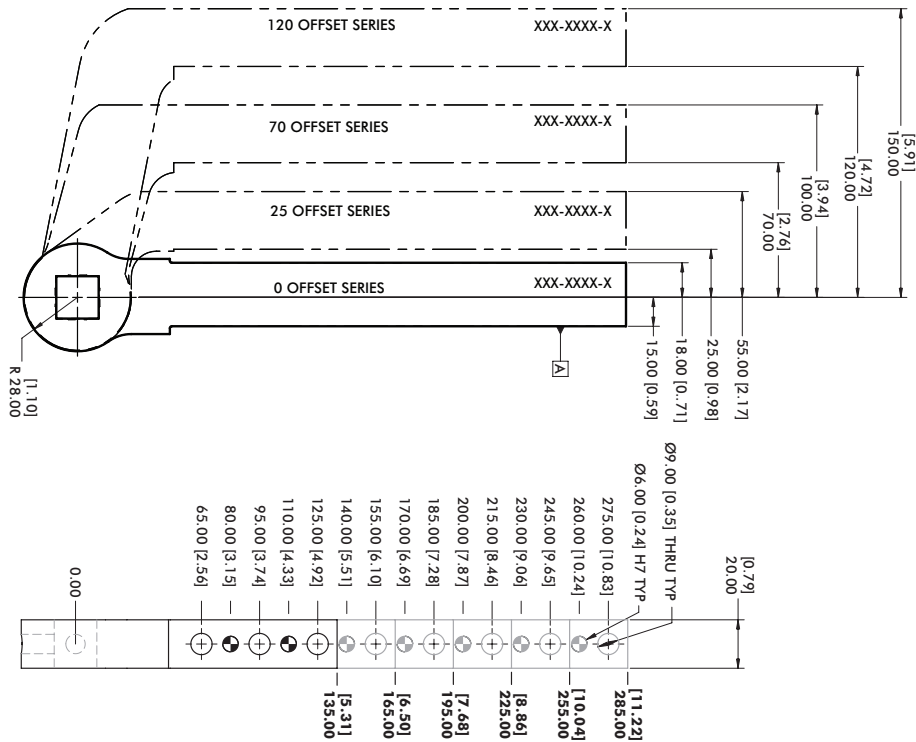
Maximum Opening Angle (shown in locked position)



Arm Styles	1206-1208/3236-3238	1216-1218/3246-3248	1226-1228/3256-3258	1207	1217	1227	1208	1218	1228
Maximum Opening Angle	135°	135°	125°	100°	50°	100°	N/A	N/A	N/A
Locking Position	30°	30°	50°	35°	125°	135°	N/A	N/A	N/A



Series 82M-3* Lateral (Side) Arms, NAAMS-Style, 63mm for 23 Clamp Arm Shaft Option



135mm [5.31"] Arm Length

Series	Arm Style	Model
120 Offset	▲ 1543	B8JG-1543-1
70 Offset	▲ 1531	B8JG-1531-1
25 Offset	▲ 1519	B8JG-1519-1
0 Offset	▲ 1507	B8JG-1507-1

165mm [6.50"] Arm Length

Series	Arm Style	Model
120 Offset	▲ 1544	B8JG-1544-1
70 Offset	▲ 1532	B8JG-1532-1
25 Offset	▲ 1520	B8JG-1520-1
0 Offset	▲ 1508	B8JG-1508-1

195mm [7.68"] Arm Length

Series	Arm Style	Model
120 Offset	▲ 1545	B8JG-1545-1
70 Offset	▲ 1533	B8JG-1533-1
25 Offset	▲ 1521	B8JG-1521-1
0 Offset	▲ 1509	B8JG-1509-1

225mm [8.86"] Arm Length

Series	Arm Style	Model
120 Offset	▲ 1546	B8JG-1546-1
70 Offset	▲ 1534	B8JG-1534-1
25 Offset	▲ 1522	B8JG-1522-1
0 Offset	▲ 1510	B8JG-1510-1

255mm [10.04"] Arm Length

Series	Arm Style	Model
120 Offset	▲ 1547	B8JG-1547-1
70 Offset	▲ 1535	B8JG-1535-1
25 Offset	▲ 1523	B8JG-1523-1
0 Offset	▲ 1511	B8JG-1511-1

285mm [11.22"] Arm Length

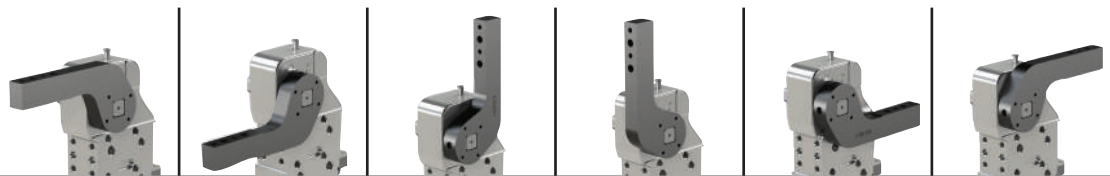
Series	Arm Style	Model
120 Offset	▲ 1548	B8JG-1548-1
70 Offset	▲ 1536	B8JG-1536-1
25 Offset	▲ 1524	B8JG-1524-1
0 Offset	▲ 1512	B8JG-1512-1

▲ Common in North America

(•) STANDARD ARM OFFERING

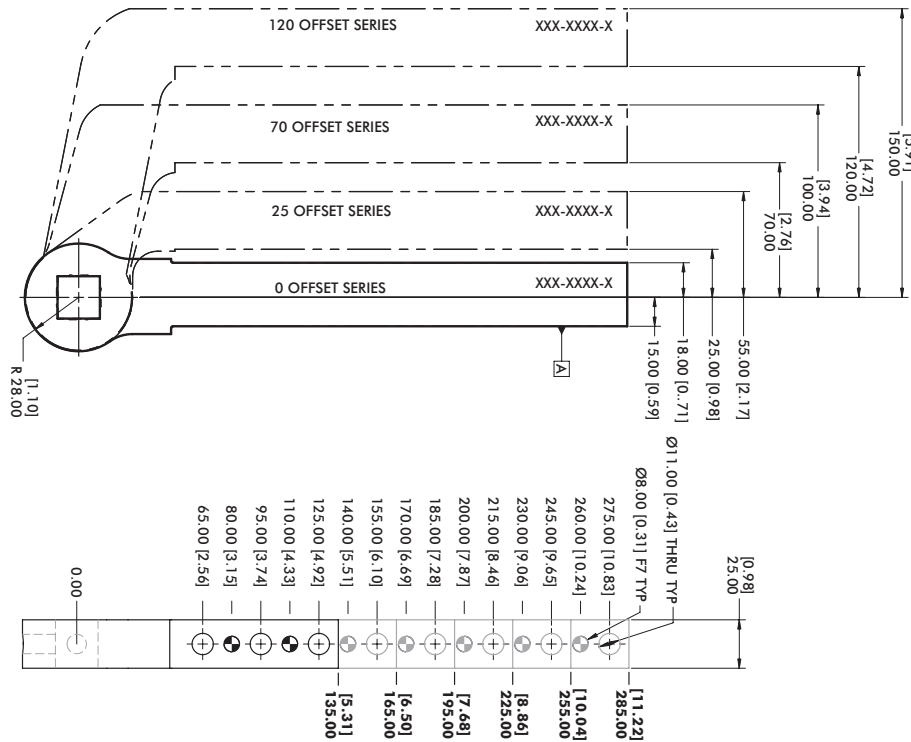
Ⓜ NON-STANDARD ARM OFFERING (extended leadtimes apply)

Maximum Opening Angle (shown in locked position)



Arm Styles	1	2	3	4	5	6
1510-1512/1507-1509	135°	135°	100°	100°	N/A	N/A
1522-1524/1519-1521	135°	N/A	50°	130°	N/A	40°
1534-1536/1531-1533	115°	N/A	25°	135°	N/A	75°
1546-1548/1543-1545	110°	N/A	20°	135°	N/A	85°

Series **82M-3*** Lateral (Side) Arms, NAAMS-Style, 63mm for **D0** Clamp Arm Shaft Option



135mm [5.31"] Arm Length

Series	Arm Style	Model
120 Offset	▲ • 1043	B8JG-1043-1
70 Offset	▲ • 1031	B8JG-1031-1
25 Offset	▲ • 1019	B8JG-1019-1
0 Offset	▲ • 1007	B8JG-1007-1

165mm [6.50"] Arm Length

Series	Arm Style	Model
120 Offset	▲ (Ⓢ) 1044	B8JG-1044-1
70 Offset	▲ • 1032	B8JG-1032-1
25 Offset	▲ • 1020	B8JG-1020-1
0 Offset	▲ • 1008	B8JG-1008-1

195mm [7.68"] Arm Length

Series	Arm Style	Model
120 Offset	▲ (Ⓢ) 1045	B8JG-1045-1
70 Offset	▲ • 1033	B8JG-1033-1
25 Offset	▲ (Ⓢ) 1021	B8JG-1021-1
0 Offset	▲ • 1009	B8JG-1009-1

225mm [8.86"] Arm Length

Series	Arm Style	Model
120 Offset	▲ (Ⓢ) 1046	B8JG-1046-1
70 Offset	▲ • 1034	B8JG-1034-1
25 Offset	▲ (Ⓢ) 1022	B8JG-1022-1
0 Offset	▲ (Ⓢ) 1010	B8JG-1010-1

255mm [10.04"] Arm Length

Series	Arm Style	Model
120 Offset	▲ (Ⓢ) 1047	B8JG-1047-1
70 Offset	▲ • 1035	B8JG-1035-1
25 Offset	▲ (Ⓢ) 1023	B8JG-1023-1
0 Offset	▲ (Ⓢ) 1011	B8JG-1011-1

285mm [11.22"] Arm Length

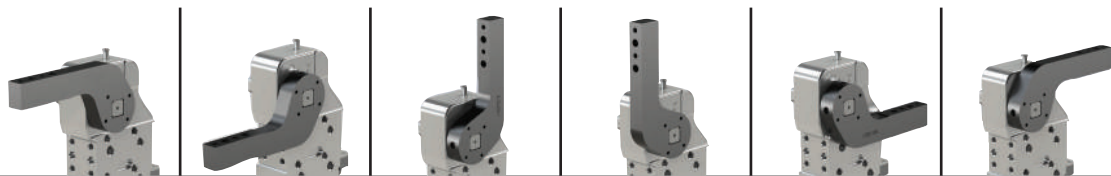
Series	Arm Style	Model
120 Offset	▲ (Ⓢ) 1048	B8JG-1048-1
70 Offset	▲ (Ⓢ) 1036	B8JG-1036-1
25 Offset	▲ (Ⓢ) 1024	B8JG-1024-1
0 Offset	▲ (Ⓢ) 1012	B8JG-1012-1

▲ Common in North America

(•) STANDARD ARM OFFERING

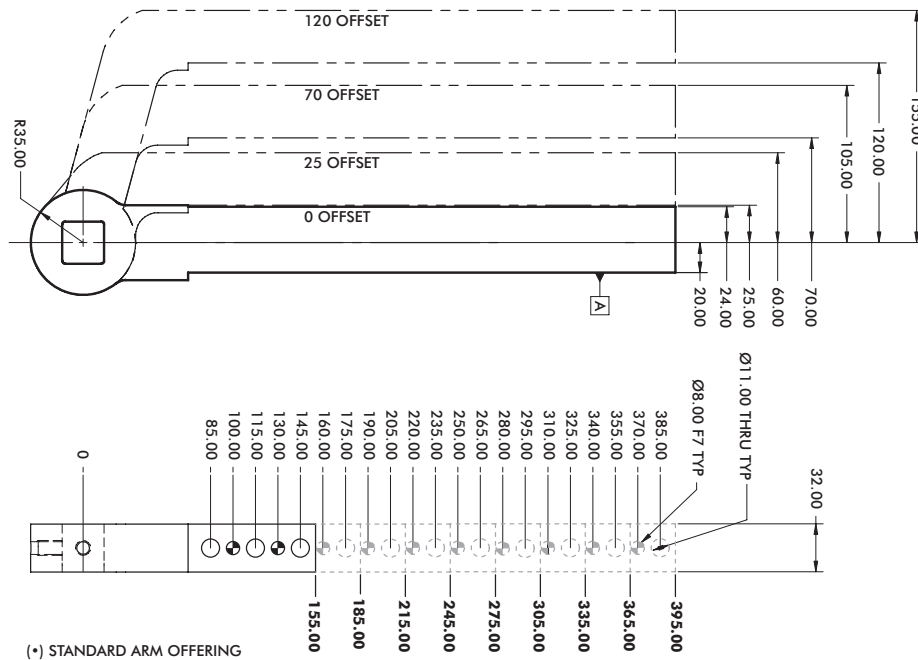
(Ⓢ) NON-STANDARD ARM OFFERING (extended leadtimes apply)

Maximum Opening Angle (shown in locked position)



Arm Styles	135°	135°	100°	100°	N/A	N/A
1010-1012/1007-1009	135°	N/A	50°	130°	N/A	40°
1022-1024/1019-1021	115°	N/A	25°	135°	N/A	75°
1034-1036/1031-1033	110°	N/A	20°	135°	N/A	85°

Series 82M-3E Lateral (Side) Arms, NAAMS-Style, 80mm



(*) STANDARD ARM OFFERING

155mm [4.53"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ①170	B8JG-1170-1
70 Offset	▲ • 150	B8JG-1150-1
25 Offset	▲ ①130	B8JG-1130-1
0 Offset	▲ ①110	B8JG-1110-1

185mm [7.28"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ①171	B8JG-1171-1
70 Offset	▲ ①151	B8JG-1151-1
25 Offset	▲ ①131	B8JG-1131-1
0 Offset	▲ ①111	B8JG-1111-1

215mm [8.46"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ①172	B8JG-1172-1
70 Offset	▲ ①152	B8JG-1152-1
25 Offset	▲ ①132	B8JG-1132-1
0 Offset	▲ • 112	B8JG-1112-1

245mm [9.65"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ①173	B8JG-1173-1
70 Offset	▲ ①153	B8JG-1153-1
25 Offset	▲ ①133	B8JG-1133-1
0 Offset	▲ ①113	B8JG-1113-1

275mm [10.83"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ①174	B8JG-1174-1
70 Offset	▲ ①154	B8JG-1154-1
25 Offset	▲ • 134	B8JG-1134-1
0 Offset	▲ ①114	B8JG-1114-1

305mm [12.00"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ①175	B8JG-1175-1
70 Offset	▲ • 155	B8JG-1155-1
25 Offset	▲ ①135	B8JG-1135-1
0 Offset	▲ ①115	B8JG-1115-1

335mm [13.19"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ①176	B8JG-1176-1
70 Offset	▲ ①156	B8JG-1156-1
25 Offset	▲ ①136	B8JG-1136-1
0 Offset	▲ ①116	B8JG-1116-1

365mm [14.37"] Arm Length

Series	Arm Style	Model
120 Offset	▲ ①177	B8JG-1177-1
70 Offset	▲ ①157	B8JG-1157-1
25 Offset	▲ ①137	B8JG-1137-1
0 Offset	▲ ①117	B8JG-1117-1

395mm [15.55"] Arm Length

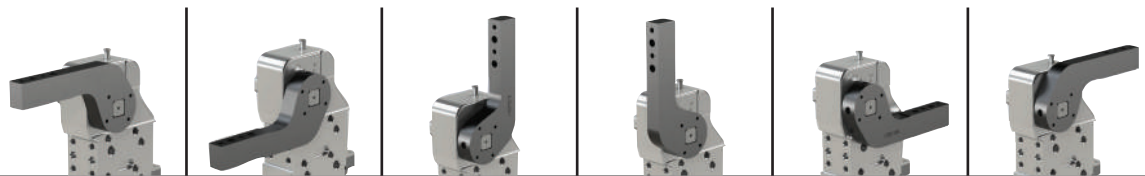
Series	Arm Style	Model
120 Offset	▲ ①178	B8JG-1178-1
70 Offset	▲ • 158	B8JG-1158-1
25 Offset	▲ ①138	B8JG-1138-1
0 Offset	▲ • 118	B8JG-1118-1

▲ Common in North America

(*) STANDARD ARM OFFERING

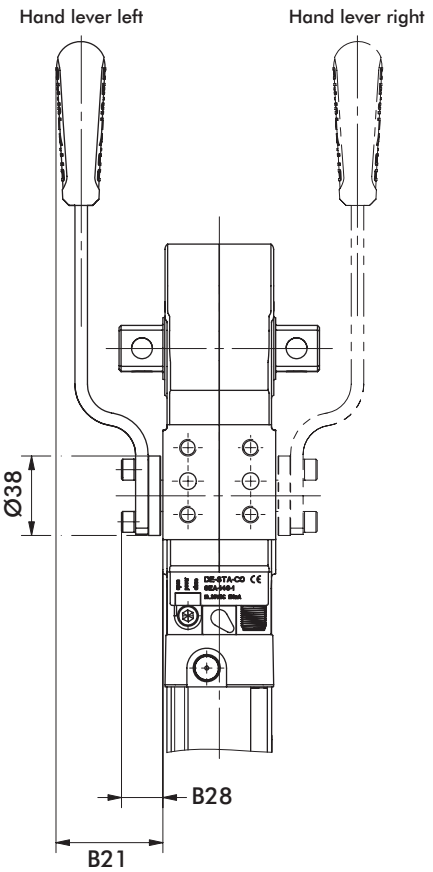
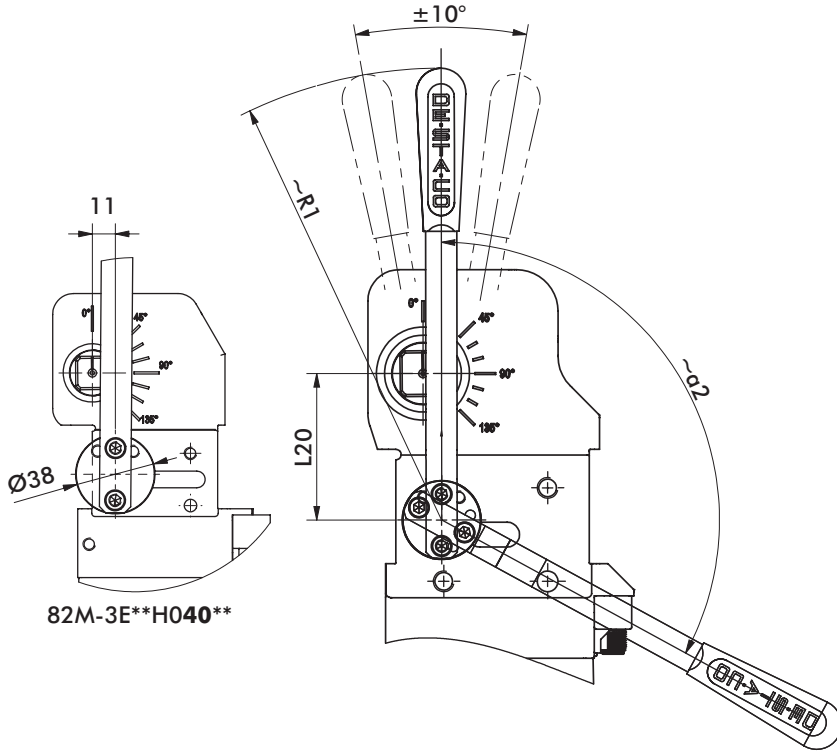
① NON-STANDARD ARM OFFERING (extended leadtimes apply)

Maximum Opening Angle (shown in locked position)

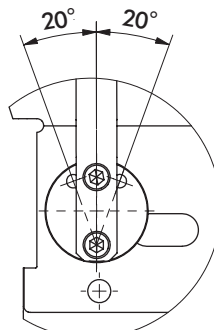
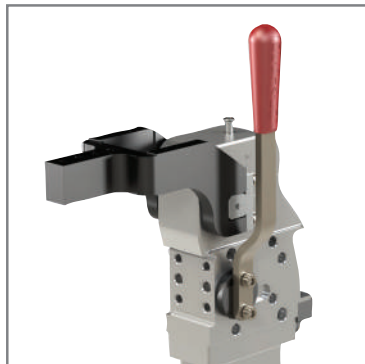
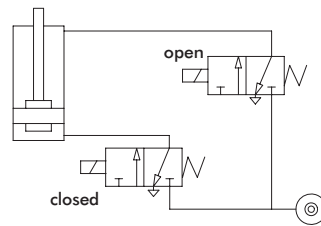


Arm Styles	1110 - 1118	1130 - 1138	1150 - 1158	1170 - 1178	1190 - 1198	1210 - 1218	1230 - 1238
1110 - 1118	135°	135°	100°	100°	N/A	N/A	N/A
1130 - 1138	135°	N/A	60°	120°	N/A	30°	N/A
1150 - 1158	125°	N/A	35°	135°	N/A	55°	N/A
1170 - 1178	115°	N/A	25°	135°	N/A	80°	N/A

Hand Lever Accessory



Pneumatic circuit required for manual and pneumatic actuation.



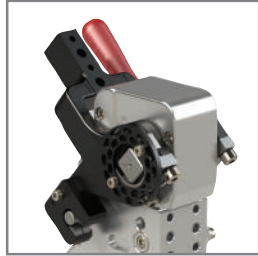
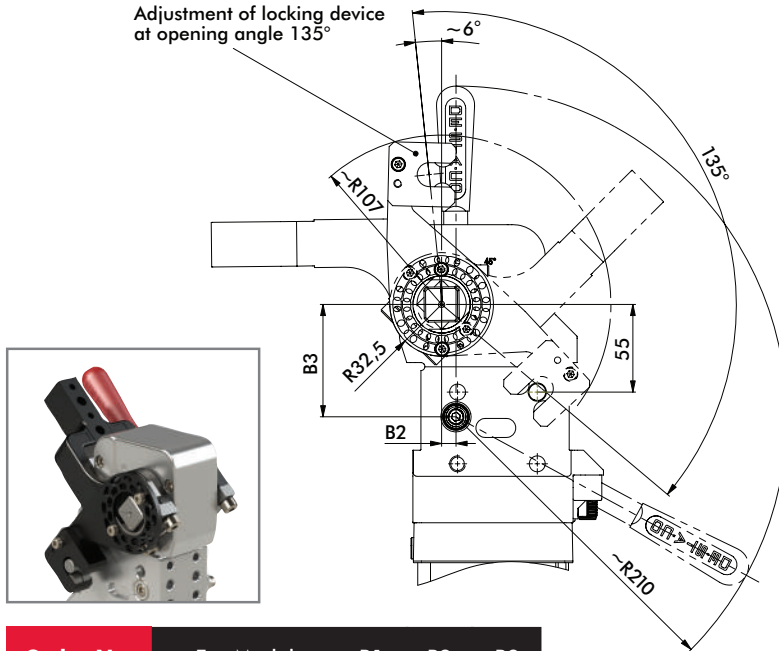
Hand lever can be mounted in 3 positions



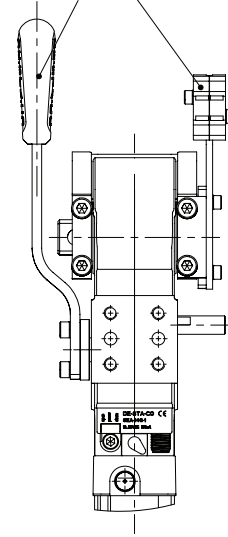
Hand lever position is adjustable to ±20 degrees for improved ergonomics.

Model No.	B21	B28	L20	~R1	Swivel Angle α2 (with reference to opening angle of clamp arm)									
					0°	15°	30°	45°	60°	75°	90°	105°	120°	135°
82M-3E..H040..	27	24	48,5	190	0°	31°	41°	49°	58°	69°	88°	113°	134°	144°
82M-3E..H05...	52	20	70	218	1°	32°	40°	48°	55°	63°	72°	83°	95°	105°
82M-3E..H06..	52	20	70,5	218	0°	30°	39°	47°	56°	66°	79°	94°	108°	119°
82M-3E..H08..	56	24	82	268	-1°	28°	37°	45°	53°	63°	75°	92°	107°	117°

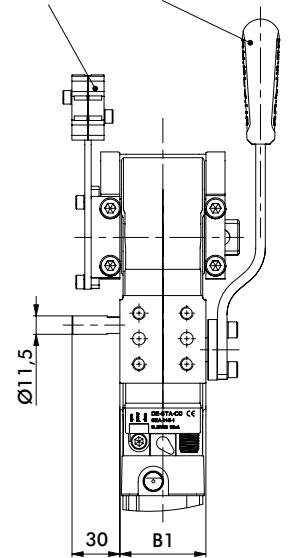
Locking Device for Hand Lever Accessory



Situation of installation: handlever left-hand side locking device right-hand side



Situation of installation: handlever right-hand side locking device left-hand side

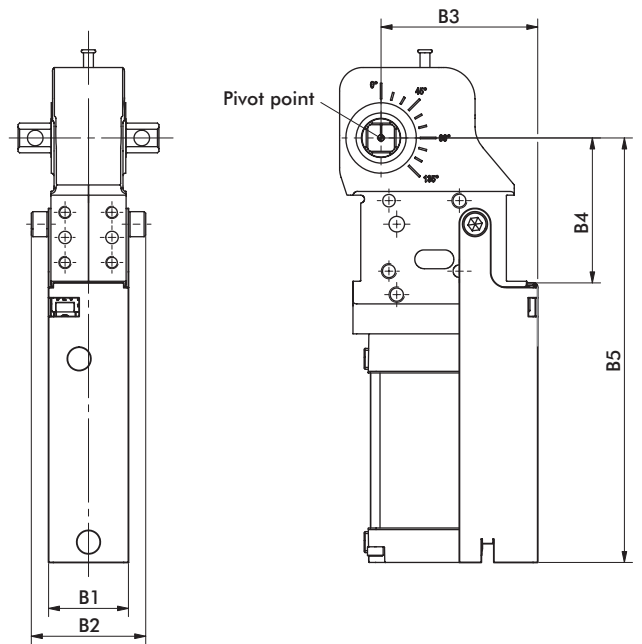


Order No.	For Model	B1	B2	B3
82ZB-084-1	82M-3E**H05***	48	7	70
82ZB-039-1	82M-3E**H06***	54	9	70,5

Anti-Ramming Device Accessory



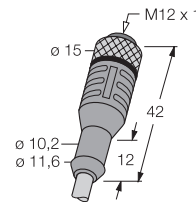
Using of the anti-ramming device is only possible with 82M-3E*****00 and 82M-3E*****L8



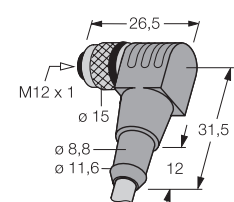
Order No.	For Model	B1	B2	B3	B4	B5
8AB-151-1	82M-3E****40**	53	66,5	89,5	65,5	210,5
8AB-152-1	82M-3E****5***	51	73	100	92,5	271
8AB-153-1	82M-3E****6***	57	79	120	104,5	296
8AB-154-1	82M-3E****8***	79	105,5	148	142,5	360

Cable and Connector Accessory

Order No.	Description
8EL-002-1	M12x1, Straight, 5-pin Connector with 5m Cable
8EL-003-1	M12x1, Angular, 4-pin Connector with 5m Cable



8EL-002-1



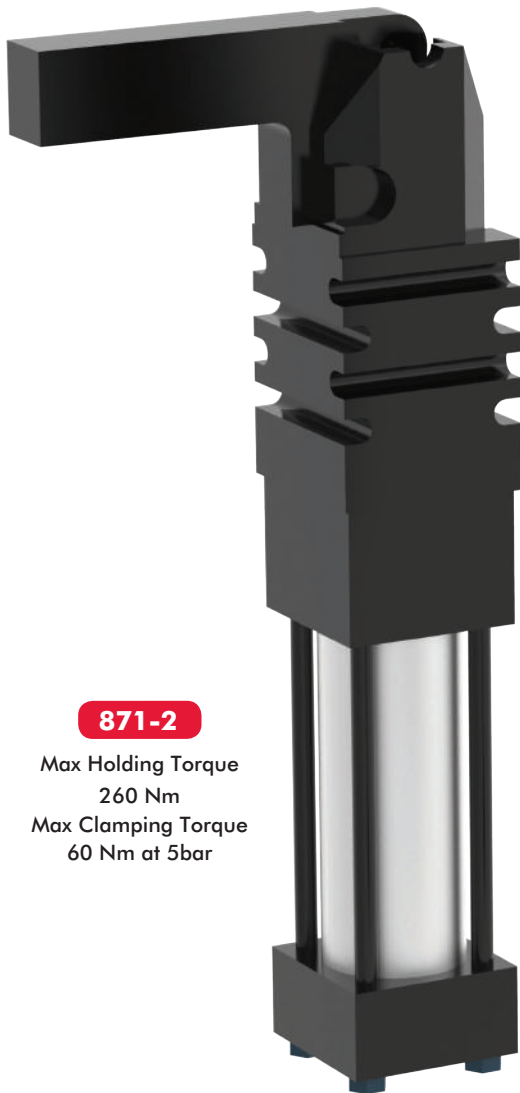
8EL-003-1

Series **870-2**, **871-2** Ordering Information

870-2

Base Model	Description
870-2	With Clamping Arm in Vertical Position
871-2	With Clamping Arm in Horizontal Position

Sensors	Description (order seperately)
BIM-IKE-AP	Magnetic Sensor, 2 pieces required



871-2

Max Holding Torque
260 Nm
Max Clamping Torque
60 Nm at 5bar



870-2

Max Holding Torque
260 Nm
Max Clamping Torque
60 Nm at 5bar

Series 860, 861, 890, 891, 1000, 1001 Product Overview

860

Base Model

Description

860	2 in. Cylinder Bore Size with Vertical Clamp Arm
861	2 in. Cylinder Bore Size with Horizontal Clamp Arm
890	2.5 in. mm Cylinder Bore Size with Vertical Clamp Arm
891	2.5 in. Cylinder Bore Size with Horizontal Clamp Arm
1000	3.25 in. Cylinder Bore Size with Vertical Clamp Arm
1001	3.25 in. Cylinder Bore Size with Horizontal Clamp Arm

Sensors

Description (order separately)

BIM-IKE-AP Magnetic Sensor, 2 pieces required

Seal Kit

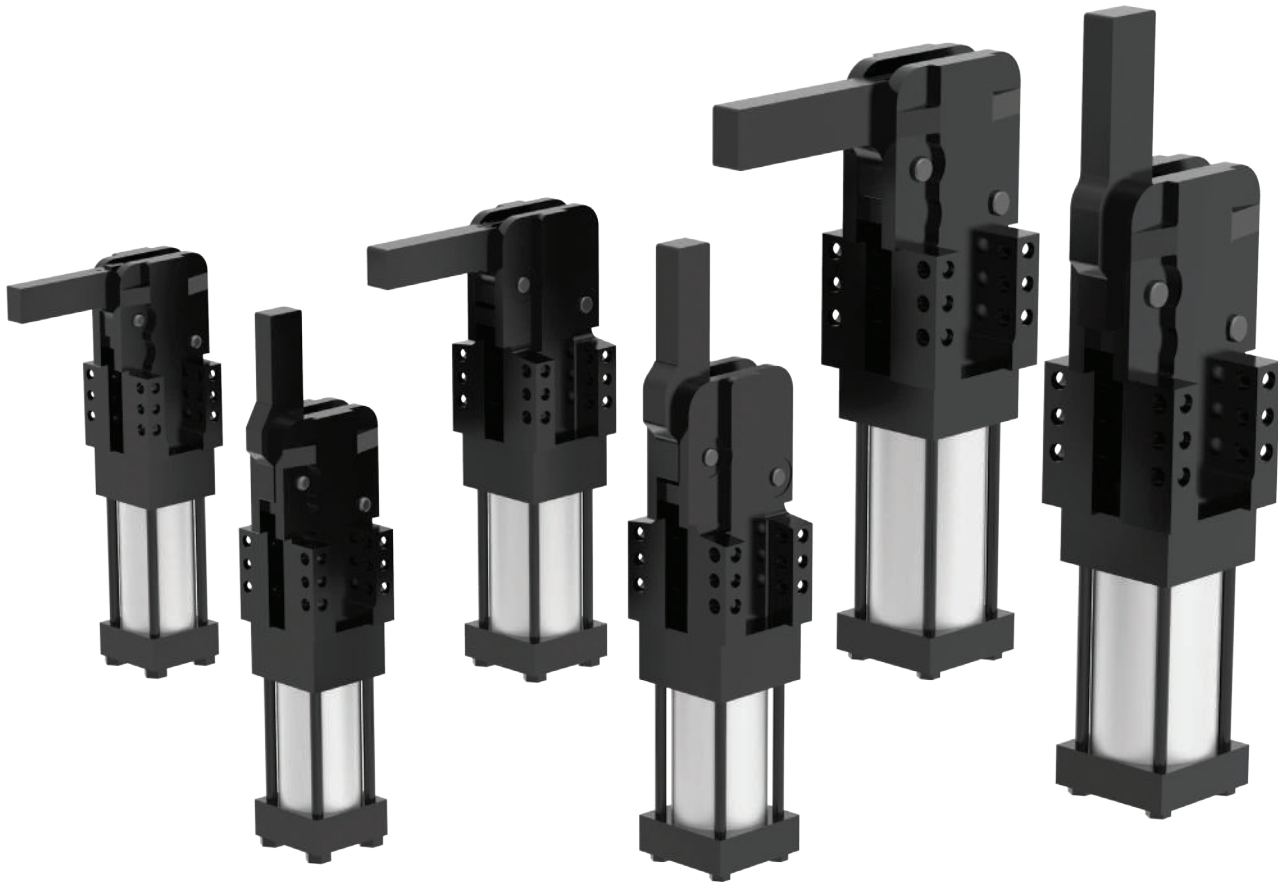
Description (order separately)

8610100	Seal Kit for Model 860, 861
8910100	Seal Kit for Model 890, 891
10010100	Seal Kit for Model 1000, 1001

Cylinder

Description (order separately)

865133-MR	Replacement Cylinder for Model 860
865132-MR	Replacement Cylinder for Model 861
895133-MR	Replacement Cylinder for Model 890
895132-MR	Replacement Cylinder for Model 891
1005134-MR	Replacement Cylinder for Model 1000
1005133-MR	Replacement Cylinder for Model 1001



861

Max Holding Torque
380 Nm
Max Clamping Torque
120 Nm at 5bar

891

Max Holding Torque
1300 Nm
Max Clamping Torque
270 Nm at 5bar

1001

Max Holding Torque
1800 Nm
Max Clamping Torque
420 Nm at 5bar

860

Max Holding Torque
380 Nm
Max Clamping Torque
120 Nm at 5bar

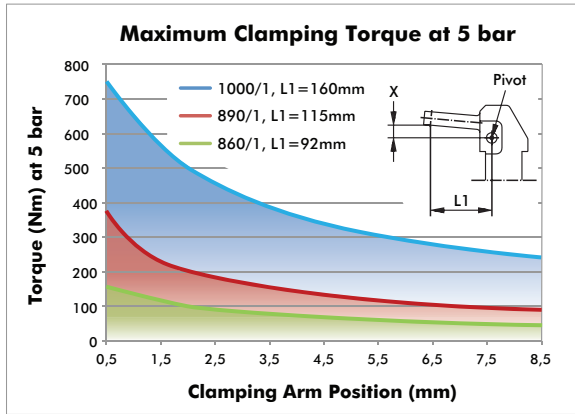
890

Max Holding Torque
1300 Nm
Max Clamping Torque
270 Nm at 5bar

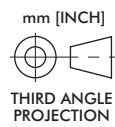
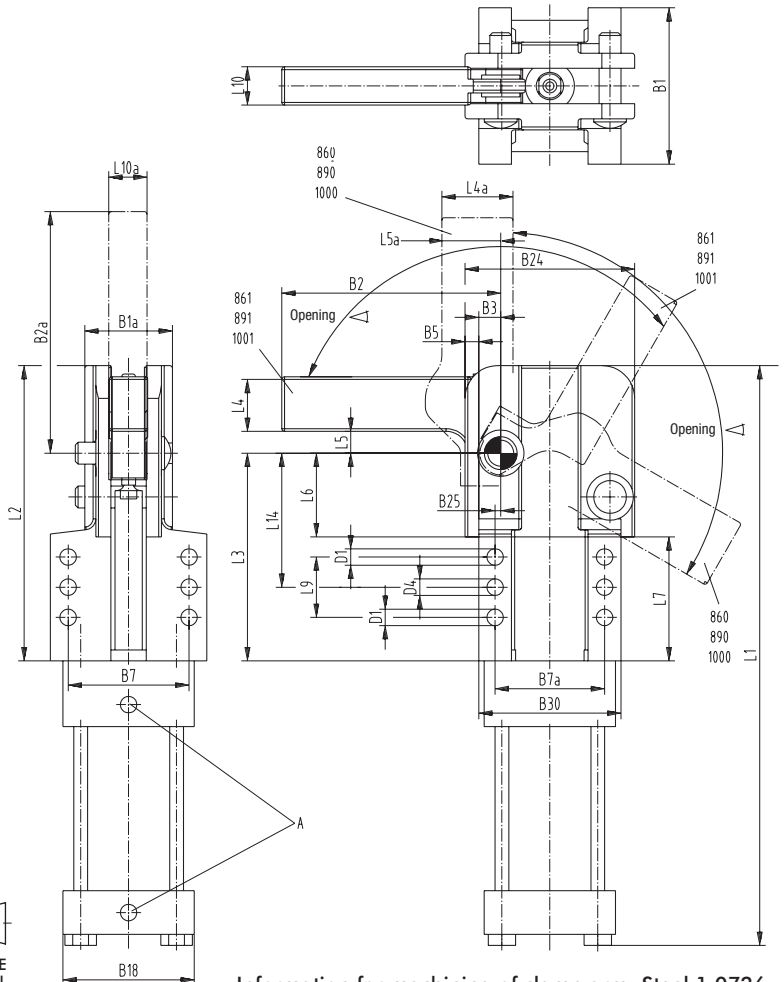
1000

Max Holding Torque
1800 Nm
Max Clamping Torque
420 Nm at 5bar

Series 860, 861, 890, 891, 1000, 1001 Standard Clamp Dimensions



Model	Cylinder Ø mm [in]	Opening Angle	Weight kg [lbs]
860	[2.00]	96°	[8.58]
861	50,8	110°	3,9
890	[2.50]	96°	[16.06]
891	63,5	119°	7,3
1000	[3.25]	98°	[29.70]
1001	82,5	122°	13,5


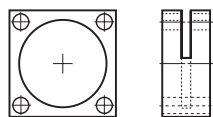
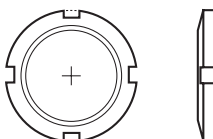







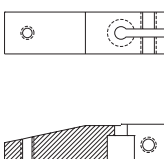

Power by compressed air, max. 6 bar
 Operation with oil-free air is permissible.

Information for machining of clamp arm: Steel 1.0726

Model	A	B1	B1A	B2	B2A	B3	B5	B7	B7A	B18	B24	B25	B30
860	G1/8	[2.94]	[1.75]	-	[5.44]	[0.41]	[0.25]	[2.31]	[2.19]	[2.5]	[3.31]	[0.09]	[2.81]
861		74,7	44,5	[4]	-	10,4	6,4	58,7	55,6	63,5	84,1	2,3	71,4
890	G1/8	[3.56]	[2]	-	[6.57]	[0.5]	[0.31]	[2.76]	[2.5]	[3]	[3.87]	[0.13]	[3.25]
891		90,4	50,8	5.06	-	12,7	7,9	70,1	63,5	76,2	98,3	3,3	82,6
1000	NPT	[4.5]	[2.62]	-	[9]	[0.63]	[0.44]	[3.5]	[3.5]	[3.75]	[5.38]	[0.13]	[4.5]
1001		114,3	66,5	7	-	16	11,2	88,9	88,9	95,3	136,7	3,3	114,3

Model	ØD1	ØD4	L1	L2	L3	L4	L4A	L5	L5a	L6	L7	L9	L10	L10a	L14
860	[0.34]	[0.31]	[12.44]	[5.75]	[4.06]	-	[1.12]	--	[0.69]	[1.44]	[2.5]	[1.25]	[0.62]	[0.62]	[2.5]
861	8,6	7,9	316	146,1	103,1	[1.13]	-	[0.4]	--	36,6	63,5	31,8	15,7	15,7	63,5
890	[0.41]	[0.38]	[13.37]	[6.75]	[4.75]	-	[1.25]	-	[0.84]	[1.75]	[2.65]	[1.38]	[0.81]	[0.81]	[3.06]
891	10,4	9,7	339,6	171,5	120,7	[1.25]	-	[0.5]	--	44,5	67,3	35,1	20,6	20,6	77,7
1000	[0.53]	[0.5]	[17.51]	[9.25]	[6.25]	-	[1.75]	-	[1.37]	[2.25]	[3.96]	[2]	[1]	[1]	[3.75]
1001	13,5	12,7	444,8	235	158,8	[1.75]	-	[0.88]	--	57,2	100,6	50,8	25,4	25,4	95,3

Hydraulic Clamping		Page
	010-210-400	14.2-14.3
	010-210-501	
	010-210-702	
	010-211-002	
	010-211-004	
	010-211-502	
	010-211-504	
	010-212-004	
	052-Series	14.3
	051-Series	14.3
	020-011-011DE	14.4
	020-012-021DE	
	020-013-031DE	

Hydraulic Clamping		Page
	030-1-S-475	14.6
	030-1-D-475	
	030-1-S-1100	14.7
	030-1-D-1100	
	030-1-S-2400	14.8
	030-1-D-2400	
	030-1-S-4000	14.9
	030-1-D-4000	14.9
	031-S-475	14.1-14.11
	031-L-475	
	031-S-1100	
	031-L-1100	
	031-S-2400	
	031-L-2400	
	031-S-4000	
031-L-4000		
	039-101-000DE	14.12
	039-104-000DE	

Series 010 Hydraulic Threaded Body Cylinders Product Overview

The single-action, spring-return hydraulic power cylinders are small pistons that can be used singly or combined. They offer tremendous force in a small, easily mounted package that can be used in any attitude and requires only a single inlet port. They are often used grouped together by a common manifold to provide as much force as needed for the operation. For a relatively small volume of oil, they provide exceptional exerting force, and are generally the best choice if stroke lengths can be kept short.



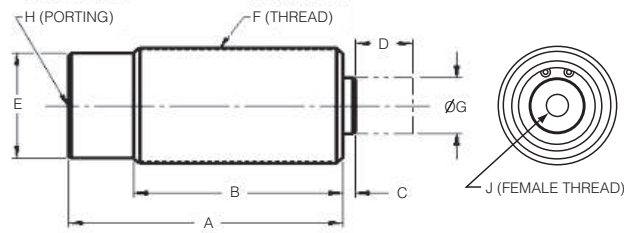
Features:

- Threaded body for easy mounting
- Small size permits “low profile” workholding
- Accessories available for easy mounting
- Available in metric or inch sizes (Metric on special request)
- Hardened piston and rod
- Single-acting for simple plumbing
- Wide variety of sizes and strokes
- Pressure capacity up to 5,000 PSIG, provided piston does not bottom out

Technical Information

Model no.	SAE Ports	Threaded Body	Stroke	Force at 3,000 PSIG	Oil Displacement	Effective Area For Clamping	Jamnuts
010-210-400	#2	1/2-20	0.22	279 lbs.	0.024 cu. in.	0.110	Furnished
010-210-501	#4	3/4-16	0.31	588 lbs.	0.061 cu. in.	0.196	Furnished
010-210-702	#4	1-12	0.50	1,326 lbs.	0.221 cu. in.	0.442	Furnished
010-211-002	#4	1 5/16-16	0.50	2,355 lbs.	0.393 cu. in.	0.785	Optional
010-211-004	#4	1 5/16-16	1.00	2,355 lbs.	0.785 cu. in.	0.785	Optional
010-211-502	#4	1 7/8-16	0.50	5,301 lbs.	0.884 cu. in.	1.767	Optional
010-211-504	#4	1 7/8-16	1.00	5,301 lbs.	1.767 cu. in.	1.767	Optional
010-212-004	#4	2 1/2-16	1.00	9,423 lbs.	3.142 cu. in.	3.142	Optional

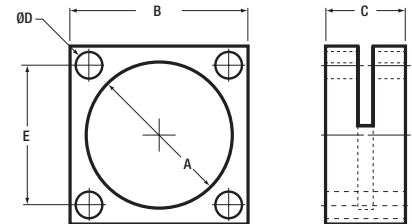
Series 010 Hydraulic Threaded Body Cylinders Standart Dimensions



Model no.	Dimensions (In Inches)								
	A	B	C	D	E	F	G	H	J
010-210-400	1.66	1.41	0.19	0.22	.044 Hex	1/2-20	0.15	SAE #2	-
010-210-501	2.25	1.97	0.22	0.31	.062 Hex	3/4-16	0.22	SAE #4	-
010-210-702	2.56	2.31	0.31	0.50	.075 Hex	1-12	.024	SAE #4	-
010-211-002	2.63	2.25	0.13	0.50	1.00 Hex	1 5/16-16	0.64	SAE #4	1/4-20
010-211-004	3.63	3.25	0.12	1.00	1.00 Hex	1 5/16-16	0.64	SAE #4	1/4-20
010-211-502	2.94	2.57	0.13	0.50	1.50 Hex	1 7/8-16	1.00	SAE #4	5/16-18
010-211-504	4.59	4.22	0.14	1.00	1.50 Hex	1 7/8-16	1.00	SAE #4	5/16-18
010-212-004	4.13	3.76	0.13	1.00	2.00 Hex	2 1/2-16	1.50	SAE #4	5/16-18

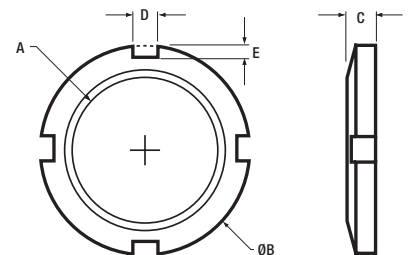
Series 052 Flange Mount

Model no.	Dimensions (In Inches)				
	A	B	C	øD	E
052-112-160	1 1/8-16 UN 2B	1.50	0.50	0.22	1.030
052-131-160	1 5/16-16 UN 2B	1.69	0.50	0.27	1.250
052-137-180	1 3/8-16 UN 2B	1.75	0.50	0.27	1.340
052-187-160	1 7/8-16 UN 2B	2.25	1.00	0.34	1.770
052-250-160	2 1/2-16 UN 2B	3.00	1.00	0.34	2.170



Series 051 Jam Nut

Model no.	Dimensions (In Inches)				
	A	B	C	D	E
051-112-160	1 1/8-16 UN 2B	1.500	0.31	0.250	0.250
051-131-160	1 5/16-16 UN 2B	1.688	0.31	0.250	0.250
051-137-180	1 3/8-16 UN 2B	1.875	0.31	0.250	0.250
051-187-160	1 7/8-16 UN 2B	2.625	0.38	0.312	0.132
051-250-160	2 1/2-16 UN 2B	3.250	0.50	0.312	0.312



Series 020 Thru-Hole Hydraulic Ram Product Overview

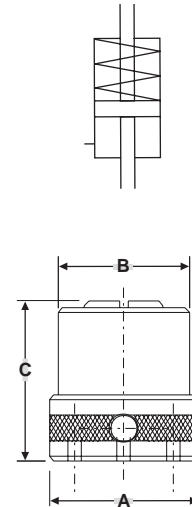
By inserting a rod through the hollow piston, these cylinders can be used to push or pull depending on the orientation of the ram. They will actuate a rod of any length or shape and are extremely effective in translating power to a remote location. Greater forces are generated in these thru-hole rams because of their larger piston area.

Features:

- Larger piston diameter for greater clamping forces
- Hardened steel piston and rod
- Single-acting for simple plumbing
- Optional threaded inserts
- Optional mounting plate (permits mounting ram with a single cap screw)



Symbol



Model no.	RAM I.D.*	Port	Stroke	Force at 3,000 PSIG	Oil Displacement	Dimensions		
						A	B	C
020-011-011DE	0.38	SAE #2	0.38	4,380 lbs.	0.547 cu. in.	2.13	1.88	2.25
020-012-021DE	0.50	SAE #4	0.50	8,100 lbs.	1.35 cu. in.	3.00	2.63	2.88
020-013-031DE	0.63	SAE #4	0.63	12,066 lbs.	2.51 cu. in.	3.25	3.00	3.63

* Clearance for rod or bolt of given dimension.

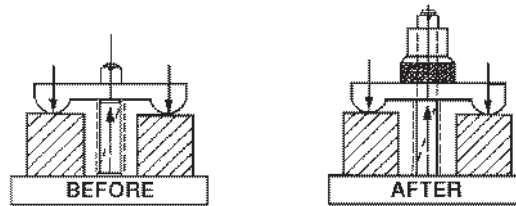
Maximum input pressure 3,500 PSIG.

Accessories

All size thru-hole rams are supplied with a thru-hole insert threaded into the top. Optional threaded inserts, inch or metric, are also available.

RAM no.	Thru-Hole Insert (supplied)
020-011-011DE	705384
020-012-021DE	705512
020-013-031DE	705634

A thru-hole ram easily converts a manual strap clamp into an automatic hydraulic powered clamp. Usually a longer bolt is the only part needed to make this conversion.



Loads Transmitted by Various Diameter Screws		
Bolt Size	Wrench Length	F-lbs. (Average)
1/4 UNF	4.00	2,400 lbs.
1/4 UNF	4.00	1,920 lbs.
3/8 UNF	5.75	3,000 lbs.
3/8 UNF	5.75	2,920 lbs.
1/2 UNF	8.00	4,200 lbs.
1/2 UNF	8.00	3,640 lbs.
5/8 UNF	9.00	5,600 lbs.
5/8 UNF	9.00	5,600 lbs.
3/4 UNF	9.00	4,800 lbs.
3/4 UNF	11.00	4,200 lbs.
7/8 UNF	12.00	50,400 lbs.

To determine how much force is needed to replace a manual clamp, use this chart as a guide.

Series 020 Thru-Hole Hydraulic Rams Technical Information

Calculation of Forces Using Straps and Levers

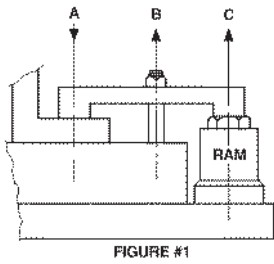


Figure #1
When the distance AB is equal to the distance BC the force upward from Model 020-011-011DE Ram "C" is equal to the downward force "A" on the part.

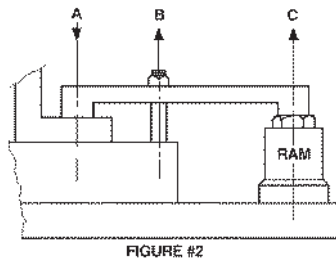


Figure #2
The downward force "A" is equal to the upward force "C" times a ratio of the distance BC:AB.
Example:
AB = 2", BC = 4", Force "C" = 1,000 lbs.
Force "A" = Force "C" x $\frac{BC}{AB}$
"A" = 1,000 lbs. x $\frac{4}{2}$
"A" = 2,000 lbs.

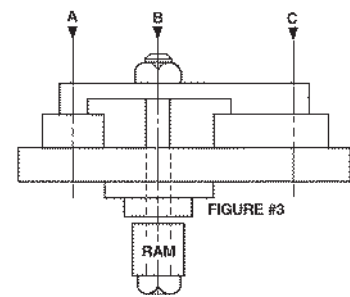
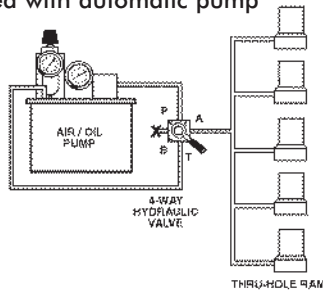


Figure #3
When Force "B" from Model 020-011-011DE Hollow Bore is divided between "A" & "C", the forces at "A" & "C" are in inverse ratio to the distance AB & BC respectively.
Force "A" = Force "B" x $\frac{BC}{AB}$
Force "C" = Force "B" x $\frac{AB}{AC}$
Example:
AB = 2", BC = 4", Force "B" = 1,000 lbs.
Force "A" = 1,000 lbs. x $\frac{4}{6}$ = 666.7 lbs.
Force "C" = 1,000 lbs. x $\frac{2}{6}$ = 333.3 lbs.

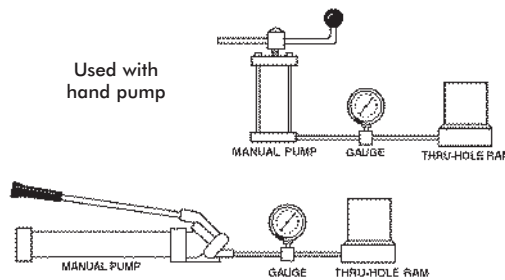
Power Sources

Thru-hole Rams can be powered by automatic pumps, hand pumps, boosters or existing machine hydraulics.

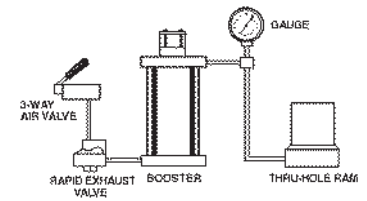
Used with automatic pump



Used with hand pump

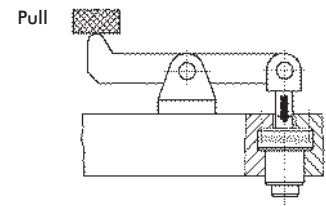
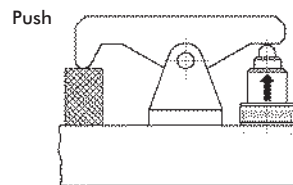
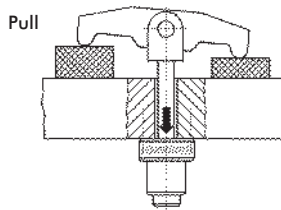
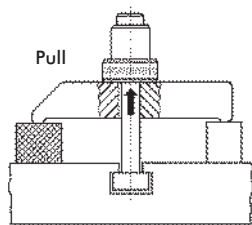


Used with booster



Multiple Uses

Thru-hole Rams can be used to push or pull depending on the position of the ram.



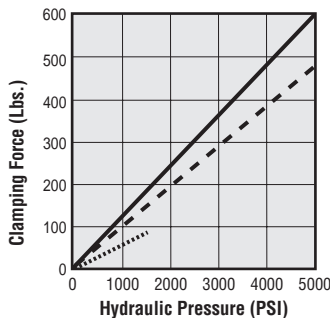
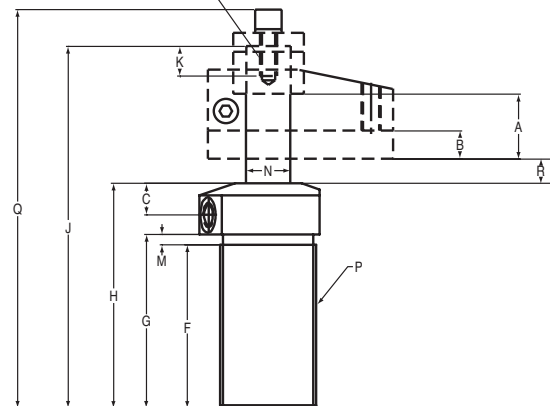
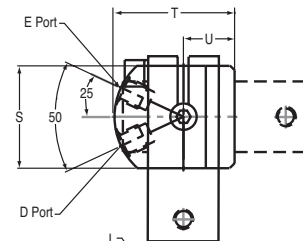
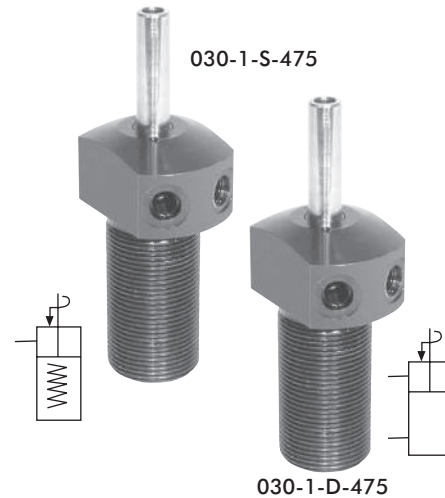
Series 030 Hydraulic Swing/Pull Clamps – 475 lb.

The DE-STA-CO Threaded Body Swing/Pull Clamps are available in both single-acting and double-acting versions. They incorporate the latest hydraulic swing clamp technology. The top port design allows easy access for plumbing connections.

They are available with 90° left or right hand rotation, or with guided straight pull. The breather port on single-acting models may be replaced with tubing for remote venting. The optional arms clamp securely to the piston rod to reduce fatigue and deflection. Arms may be easily modified or custom arms may be substituted.

Features:

- Advanced seals and wipers utilize a special, highly wear-resistant construction for long cycle life and 5,000 PSI operation
- Triple track piston rod design for field adjustable swing direction
- Hardened and hard chrome plated piston rod for increased strength and wear resistance
- Advanced metal treated body for superior wear and corrosion resistance
- MRO interchange design
- Straight pull capacity 600 lbs. at 5,000 PSI max



Performance

- With 031-L-475 Arm (3.25' long)
- - - With 0-31-S-475 Arm (1.22' long)
- Straight Pull

For 475 lb. Swing/Pull Clamp Arms see Page 19.10

Cat. no.	Specifications							Max Oil Flow in ³ /m in
	Oper.	Swing Direction	*Force (lbs.)	Eff. Area (sq. In.) Clamp Unclamp	Oil Cap. (cu. In.) Clamp Unclamp			
030-1-S-475 (-X) ⓘ	Single-Acting	Left Hand (Counter Clockwise)	475	0.12	-	0.08	-	12
030-1-D-475 (-X) ⓘ	Double-acting	Right Hand (Clockwise) Straight Pull		0.24	0.15			

Ordering Notes:

- Left hand swing (ccw) is standard—no suffix
- Add -R suffix for right hand swing
- Add -S suffix for straight guided pull

Cat. no.	Specifications																		
	A Total Stroke	B Clamping Stroke	C	D Clamp Port	E Unclamp Port	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
030-1-S-475 ⓘ	0.65	0.210	0.59	SAE-2	SAE-2	1.929	2.086	3.07	4.429	0.8	M6x1	0.157	0.393	1-1/8-16UN	4.96	0.495	1.3	1.55	0.61
030-1-D-475 ⓘ	0.65	0.32	0.59																

ⓘ This item is available upon request

NOTE: *With 1.22" long arm at 5,000 PSI maximum operating pressure.
[‡]Do not pressurize – single-acting only
[†] See page 19.10 for arms, accessories and custom arm mounting

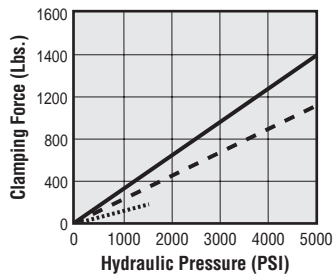
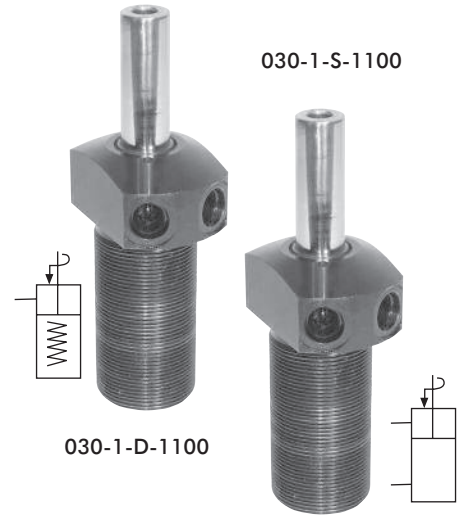
Series 030 Hydraulic Swing/Pull Clamps – 1,100lb.

The DE-STA-CO Threaded Body Swing/Pull Clamps are available in both single-acting and double-acting versions. They incorporate the latest hydraulic swing clamp technology. The top port design allows easy access for plumbing connections.

They are available with 90° left or right hand rotation, or with guided straight pull. The breather port on single-acting models may be replaced with tubing for remote venting. The optional arms clamp securely to the piston rod to reduce fatigue and deflection. Arms may be easily modified or custom arms may be substituted.

Features:

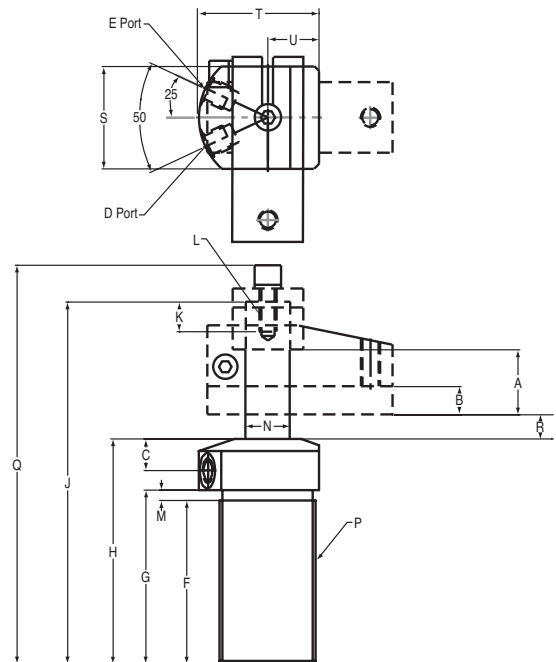
- Advanced seals and wipers utilize a special, highly wear-resistant construction for long cycle life and 5,000 PSI operation
- Triple track piston rod design for field adjustable swing direction
- Hardened and hard chrome plated piston rod for increased strength and wear resistance
- Advanced metal treated body for superior wear and corrosion resistance
- MRO interchange design
- Straight pull capacity 1,400 lbs. at 5,000 PSI max



Performance

- With 031-L-1100 Arm (5.31\"/>

For 1,100 lb. Swing/Pull Clamp Arms see Page 19.10



Cat. no.	Specifications							Max Oil Flow in ³ /m in
	Oper.	Swing Direction	*Force (lbs.)	Eff. Area (sq. In.) Clamp Unclamp	Oil Cap. (cu. In.) Clamp Unclamp			
030-1-S-1000 (-X) †	Single-Acting	Left Hand (Counter Clockwise) Right Hand (Clockwise)	1100	0.28	-	0.25	-	25
030-1-D-1000 (-X) †	Double-acting	Straight Pull			0.59	0.52		

Ordering Notes:

- Left hand swing (ccw) is standard—no suffix
- Add -R suffix for right hand swing
- Add -S suffix for straight guided pull

Cat. no.	Specifications																		
	A Total Stroke	B Clamping Stroke	C	D Clamp Port	E Unclamp Port	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
030-1-S-1100 †	0.89	0.39	0.6	SAE-4	SAE-4	2.4	2.6	3.58	5.305	0.94	M8 x 1.25	0.196	0.629	1-3/8-18UN	5.965	0.400	1.5	1.87	0.75
030-1-D-1100 †																			

† This item is available upon request

NOTE: *With 1.89" long arm at 5,000 PSI maximum operating pressure.

‡ Do not pressurize – single-acting only

† See page 19.10 for arms, accessories and custom arm mounting

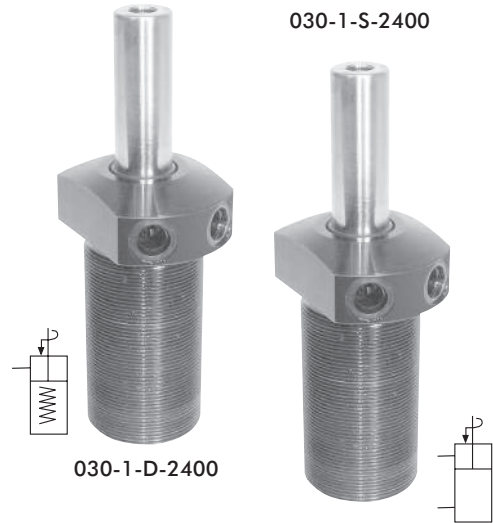
Series 030 Hydraulic Swing/Pull Clamps – 2,400 lb.

The DE-STA-CO Threaded Body Swing/Pull Clamps are available in both single-acting and double-acting versions. They incorporate the latest hydraulic swing clamp technology. The top port design allows easy access for plumbing connections.

They are available with 90° left or right hand rotation, or with guided straight pull. The breather port on single-acting models may be replaced with tubing for remote venting. The optional arms clamp securely to the piston rod to reduce fatigue and deflection. Arms may be easily modified or custom arms may be substituted.

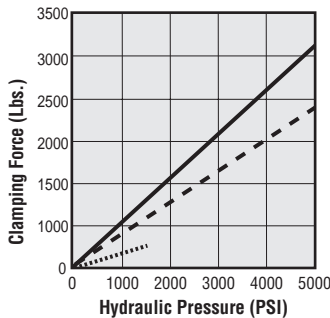
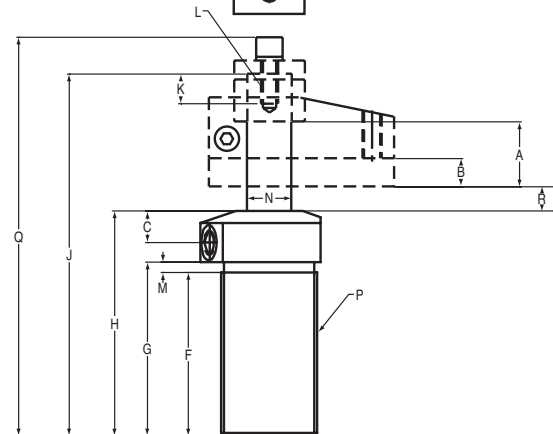
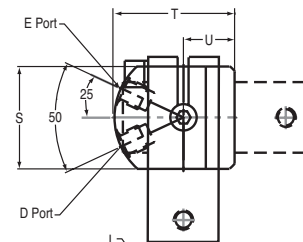
Features:

- Advanced seals and wipers utilize a special, highly wear-resistant construction for long cycle life and 5,000 PSI operation
- Triple track piston rod design for field adjustable swing direction
- Hardened and hard chrome plated piston rod for increased strength and wear resistance
- Advanced metal treated body for superior wear and corrosion resistance
- MRO interchange design
- Straight pull capacity 3,150 lbs. at 5,000 PSI max



030-1-D-2400

030-1-S-2400



For 2,400 lb. Swing/Pull Clamp Arms see Page 19.10

Performance

- With 031-L-2400 Arm (6.36" long)
- - - With 031-S-2400 Arm (2.43" long)
- Straight Pull

Cat. no.	Specifications							Max Oil Flow in ³ /m in
	Oper.	Swing Direction	*Force (lbs.)	Eff. Area (sq. In.) Clamp Unclamp	Oil Cap. (cu. In.) Clamp Unclamp			
030-1-S-2400 (-X) ⓘ	Single-Acting	Left Hand (Counter Clockwise)	2400	0.63	-	0.7	-	100
030-1-D-2400 (-X) ⓘ	Double-acting	Right Hand (Clockwise) Straight Pull		1.23	1.10			

- Ordering Notes:**
- Left hand swing (ccw) is standard—no suffix
 - Add -R suffix for right hand swing
 - Add -S suffix for straight guided pull

Cat. no.	Specifications																		
	A Total Stroke	B Clamping Stroke	C	D Clamp Port	E Unclamp Port	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
030-1-S-2400 ⓘ	1.12	0.5	0.62	SAE-4	SAE-4	†	3.38	4.38	6.8	1.28	M10x1.5	0.196	0.87	1-7/8-16UN	7.543	0.517	2.0	2.38	1.0
030-1-D-2400 ⓘ																			

ⓘ This item is available upon request
 NOTE: *With 2.43" long arm at 5,000 PSI maximum operating pressure.
 †Do not pressurize – single-acting only
 ‡ See page 19.10 for arms, accessories and custom arm mounting



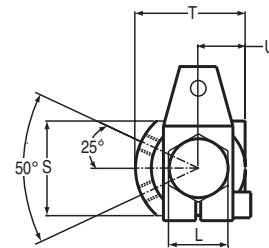
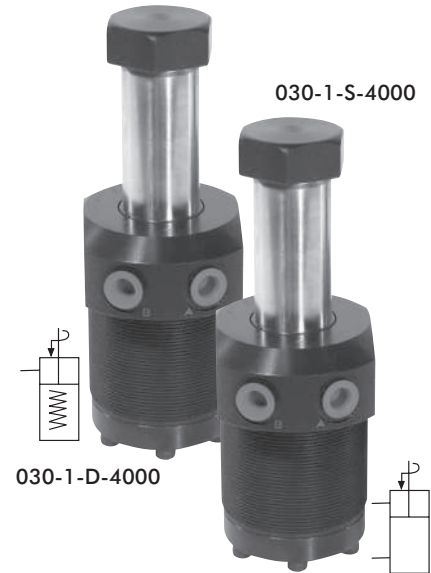
Series 030 Hydraulic Swing/Pull Clamps – 4,000 lb.

The DE-STA-CO Threaded Body Swing/Pull Clamps are available in both single-acting and double-acting versions. They incorporate the latest hydraulic swing clamp technology. The top port design allows easy access for plumbing connections.

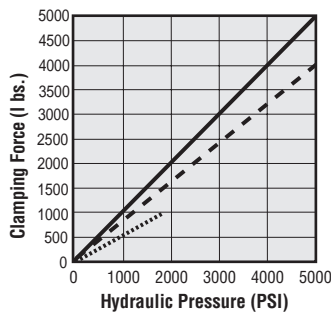
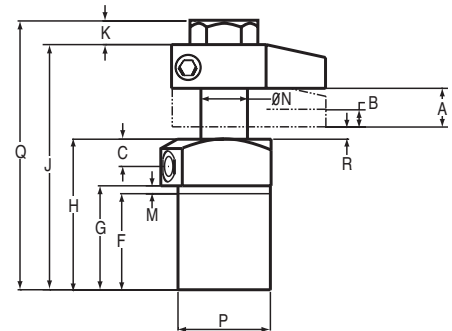
They are available with 90° left or right hand rotation, or with guided straight pull. The breather port on single-acting models may be replaced with tubing for remote venting. The optional arms clamp securely to the piston rod to reduce fatigue and deflection. Arms may be easily modified or custom arms may be substituted.

Features:

- Advanced seals and wipers utilize a special, highly wear-resistant construction for long cycle life and 5,000 PSI operation
- Triple track piston rod design for field adjustable swing direction
- Hardened and hard chrome plated piston rod for increased strength and wear resistance
- Advanced metal treated body for superior wear and corrosion resistance
- MRO interchange design
- Straight pull capacity 5,500 lbs. at 5,000 PSI max



For 4,000 lb. Swing/Pull Clamp Arms see Page 19.11



Performance

- With 031-L-4000 Arm (X.XX" long)
- - - With 031-S-4000 Arm (X.70" long)
- Straight Pull (2.75" long)

Cat. no.	Specifications							Max Oil Flow in ³ /m in
	Oper.	Swing Direction	*Force (lbs.)	Eff. Area (sq. In.) Clamp Unclamp	Oil Cap. (cu. In.) Clamp Unclamp			
030-1-S-4000 (-X) ⓘ	Single-Acting	Left Hand (Counter Clockwise)	4000	1.10	-	1.22	-	140
030-1-D-4000 (-X) ⓘ	Double-acting	Right Hand (Clockwise) Straight Pull						

- Ordering Notes:
- Left hand swing (ccw) is standard—no suffix
 - Add -R suffix for right hand swing
 - Add -S suffix for straight guided pull

ⓘ This item is available upon request

Cat. no.	Specifications																		
	A Total Stroke	B Clamping Stroke	C	D Clamp Port	E Unclamp Port	F	G	H	J	K	L	M	N	P	Q	R	S	T	U
030-1-S-4000 ⓘ	1.07	0.45	0.75	SAE#4	SAE#4	2.70	2.83	4.09	6.67	0.64	1.61	0.14	1.26	2-1/2-16 UN	7.30	0.33	2.56	2.99	1.28
030-1-D-4000 ⓘ																			

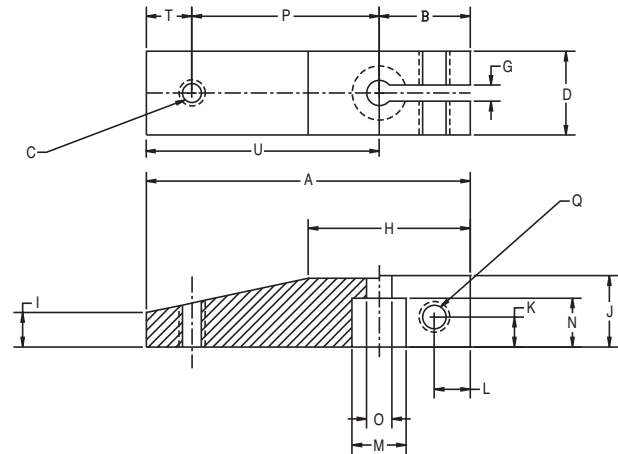
ⓘ This item is available upon request

NOTE: *With 2.75" long arm at 5,000 PSI maximum operating pressure.
 †Do not pressurize – single-acting only
 ‡ See page 19.10 for arms, accessories and custom arm mounting

Series 030 Hydraulic Swing/Pull Clamps 475-2,400 lb. Arms

Custom built arms of any length must clamp to the swing/pull clamp's piston rod in a manner similar to the DE-STA-CO arms or some derating of the clamp will be necessary.

The design feature "K," in the chart and drawing at the bottom of this page, is recommended for all applications of custom, single arms. See the accompanying chart for design details. In applications where there is no bending stress being transferred into the piston rod (like push/pull linkages and equalizing double arms), this design detail may be eliminated. In these applications, the clamp's full capacity (referred to as "straight pull" capacity) is available.



Cat. no.	Specifications														Weight (lbs.)					
	A	B	C	D	G	H	I	J	K	L	M	N	O	P		Q	T	U		
031-S-475	1.929	0.709	M6	0.63	0.126	1.139	0.394	0.630	0.236	0.217	0.394	0.394	0.256	0.984	M6	0.236	1.220	0.159		
031-L-475	3.959	0.709	-	0.63		1.166	0.394	0.630			0.394	0.394	0.256	-	M6	-	-	-	3.250	0.348
031-S-1100	2.598	0.709	M8	0.748		1.294	0.433	0.748			0.630	0.472	0.33	1.575	M6	0.315	1.889	0.286		
031-L-1100	6.019	0.709	-	0.748		1.412	0.433	0.748			0.630	0.472	0.335	-	M6	-	-	-	5.310	0.721
031-S-2400	3.268	0.866	M10	1.125		1.459	0.633	1.00			0.866	0.709	0.413	1.969	M8	0.433	2.402	0.634		
031-L-2400	7.226	0.866	-	1.125		1.696	0.633	1.00			0.866	0.709	0.413	-	M8	-	-	-	6.360	1.564

IMPORTANT: Any clamp using a modified or custom arm that is longer or heavier than DE-STA-CO's standard arms must be derated to prevent internal damage. Do not exceed the maximum speed and pressure ratings for DE-STA-CO's standard arms. For maximum hydraulic pressure and speed ratings, see the accompanying charts. Do not use meter-out circuitry for controlling double-acting clamp speeds. Contact DE-STA-CO if further design assistance is required.

Custom Arm Mounting Dimensions for Swing/Pull Clamps

Shaft Dia.	Specifications										
	A	B	C	D	E	F	G	H	J	K	M
10 MM	0.394	0.256	0.63	0.63	0.709	1.26	0.394	0.236	0.217	0.30	M6 x 1.0
16MM	0.630	0.335	0.748	0.748	0.709		0.472	0.236	0.217		M6 x 1.0
22 MM	0.866	0.413	1.00	1.00	0.866		0.709	0.236	0.217		M8 x 1.25

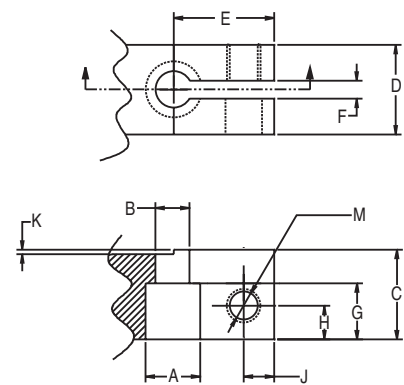
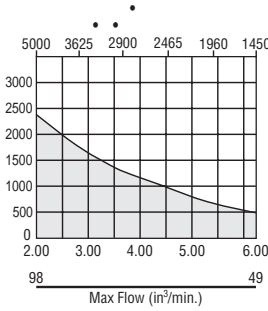
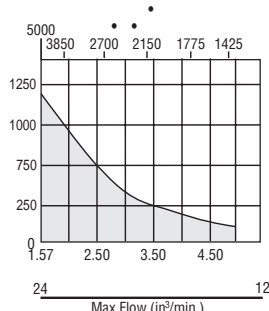
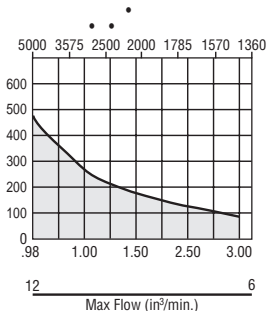


Chart Legend

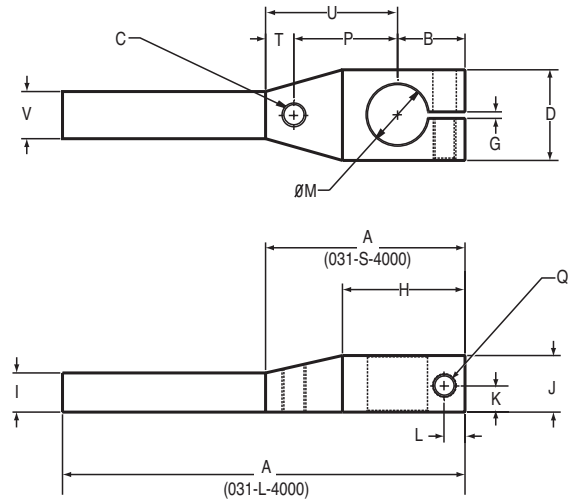
$FORCE = P \times A \times [1 - (P/M \times .23)]$
 P =
 A =
 M =



Series 030 Hydraulic Swing/Pull Clamps – 4,000 lb. Arms

Custom built arms of any length must clamp to the swing/pull clamp's piston rod in a manner similar to the DE-STA-CO arms or some derating of the clamp will be necessary.

The design feature "K," in the chart and drawing at the bottom of this page, is recommended for all applications of custom, single arms. See the accompanying chart for design details. In applications where there is no bending stress being transferred into the piston rod (like push/pull linkages and equalizing double arms), this design detail may be eliminated. In these applications, the clamp's full capacity (referred to as "straight pull" capacity) is available.

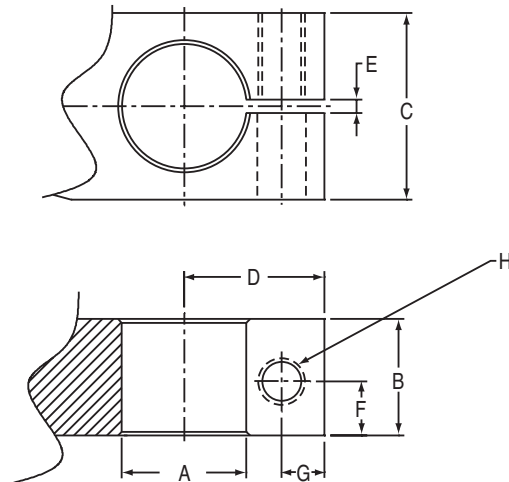


Cat no.	Specifications																Weight (lbs.)
	A	B	C	D	G	H	I	J	K	L	M	P	Q	T	U	V	
031-S-4000	4.17	1.42	1/2-13	1.89	0.138	2.56	0.83	1.18	0.55	0.43	1.26	2.17	M12	0.58	2.75	0.98	1.80
031-L-4000	8.43	1.42	1/2-13	1.89	0.138	2.56	0.83	1.18	0.55	0.43	1.26	-	M12	-	7.01	0.98	2.80

IMPORTANT: Any clamp using a modified or custom arm that is longer or heavier than DE-STA-CO's standard arms must be derated to prevent internal damage.
 Do not exceed the maximum speed and pressure ratings for DE-STA-CO's standard arms.
 For maximum hydraulic pressure and speed ratings, see the accompanying charts
 Do not use meter-out circuitry for controlling double-acting clamp speeds
 Contact DE-STA-CO if further design assistance is required

Custom Arm Mounting Dimensions for 4,000 lb. Swing/Pull Clamps

Cat no.	Specifications							
	A	B	C	D	E	F	G	H
32MM	1.26	1.18	1.89	1.42	0.138	0.55	0.43	M12 x 1.75



031-S-4000 • 031-L-4000

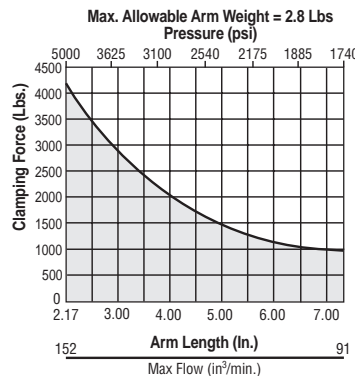


Chart Legend

$FORCE = P \times A \times [1 - (P/M \times .23)]$
 $P = \dots \cdot \dots$
 $A = \dots \cdot \dots$
 $M = \dots \cdot \dots$

Series 039 Air/Hydraulic Power Boosters

The De-Sta-Co Air/Hydraulic Power Booster converts normal shop-line air pressure to high-pressure hydraulic power. The two models available provide oil displacements ranging from 1 cu. in. to 4 cu. in. per stroke.

With the system filled, the volume of oil required to actuate a cylinder or pressure point is only equal to the cubic content of the piston displacement. The small booster, producing 1 cu. in. of usable oil per stroke, can operate 50 of the tiny 1/2-20 pressure points a full .22 max. stroke, and even more when strokes are kept to a minimum.

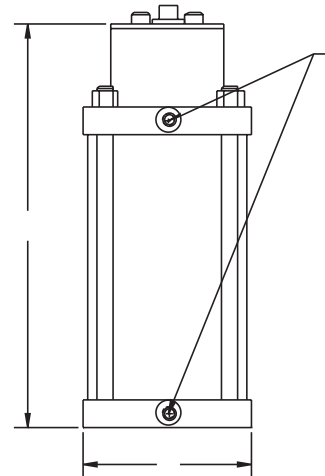
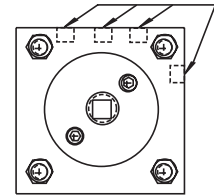
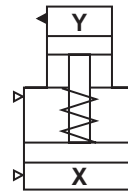
Features:

- Built-in manifold
- Complete automatic bleeding with each return stroke
- Automatic relief of system overcharge
- Automatic bleeding feature eliminates pre-filling
- Large volume visible oil reservoir automatically

replenishes the system with reserve oil capacity

- Corrosion and wear-resistant materials
- Wear rings on hydraulic piston tube
- Unique self-centering air piston assures long life
- Increases hydraulic pressure to 3,000 PSIG from 100 PSIG air-line pressure
- All models supplied with SAE hydraulic ports
- NPT hydraulic ports available on request

039-104-000DE



Model no.	Press Ratio	Displacement Per Stroke	Nominal Reservoir Capacity	Weight	Dimensions		Ports
					A	B (Square)	
039-101-000DE	33.87:1	1 cu. in.	10.4 cu. in.	9 lbs.	10.88	4.50	SAE #4
039-104-000DE	32.41:1	4 cu. in.	42 cu. in.	23 lbs.	16.38	6.50	SAE #4

(100 PSIG max. input air pressure)

Note: Special High Temperature Seals available for applications where Viton Seals are required. Order as H/T option.

Manual Clamping Technology

Selecting The Proper DE-STA-CO Clamp

The information contained in this catalog is designed to help you select the right clamp to accomplish your job. DE-STA-CO distributor personnel, as well as DE-STA-CO's Technical Service department, are qualified and willing to offer assistance in special or unusual applications. For most ordinary applications, however, consideration of the following points will lead to the proper clamp selection

- Size and shape of the parts to be held.
- Uniformity of part size (Should you consider a spring-loaded spindle to compensate for uneven parts?)
- Holding capacity required
- Strength and dexterity of the operator
- Operator's position (Should you use horizontal or vertical handle models?)
- Frequency of operation (Should you plan for a temporary or permanent fixture?)
- Time cycle of operation (Should you consider a turntable or conveyor set-up if curing time is required?)
- Cycling time and sequence (Should you consider air-operated models that can be operated faster and in sequence?)
- Environment (Should a stainless steel model be considered?)

Processing Applications

Remember, the same toggle action force multiplying principle can be applied to other tasks besides holding. Certain DE-STA-CO models can be used to position parts, power fixtures or perform mechanical functions such as piercing sheet metal, staking rivets or locating.

OEM Applications

DE-STA-CO clamps provide ready-made, compact devices for moving or holding components. A little imagination will often show the product designer a way to obtain motion or locking force with no tooling costs and often at less cost than custom designed components. Thousands of DE-STA-CO clamps will be found installed as original equipment for cleanout door latches, wheel locks, positioning devices, etc.

Safety

Our concern is not only the constant high quality of our products, but also their fail-safe and foolproof handling. The knowledge gathered since 1936 guarantees a developed, safe and high-quality clamping unit.

A certain clamping force will be necessary to safely hold a part. This force is determined by taking the following into account:

- (A) the part material: such as, steel, wood, plastic or glass, etc.
- (B) the surface finish of the part: such as, polished, hard or soft, etc.
- (C) the machining or assembly operation: such as, milling, welding, drilling, bonding, joining or sealing a mold, etc.

In order to ensure clamp strength is not compromised, use all the mounting holes provided.

Red handle grips are provided on each model. Users should only locate their hand in this area when operating the clamp, thus reducing the possibility of injury.

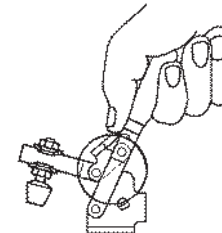
Safety Handle

This ergonomic handle provides greater operator comfort.



Safety Feature

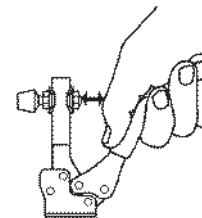
This safety link prevents accidental injury to an operator when opening the clamp.



Clamp Series 201, 202, 207, 210, 247, 267

Safety Distance

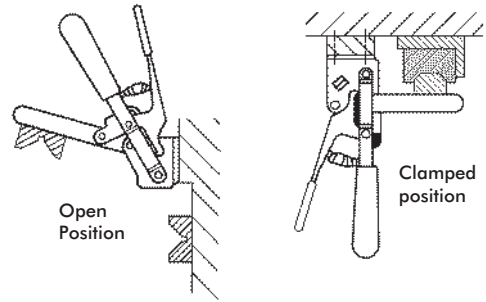
Exclusive handle design gives more hand clearance between bar and handle when clamp is in fully open position.



Clamp Series 213, 217, 227, 237, 245

DE-STA-CO Toggle-Lock Plus Clamps

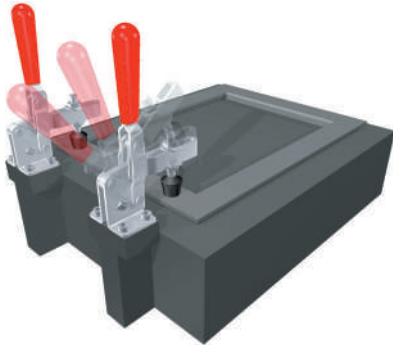
We have taken several of our most popular toggle clamps and have added a locking release lever for improved safety. The locking release lever helps ensure that the over-center locking condition is maintained. In order to unlock each clamp, the locking condition is maintained. In order to unlock each clamp, the locking lever must first be released. The additional locking feature expands the range of applications where DE-STA-CO clamps can be used. If a clamp application warrants concerns over accidental or unintentional opening, then a DE-STA-CO Toggle-Lock Plus clamp is right for the job.



The most important models at a glance:

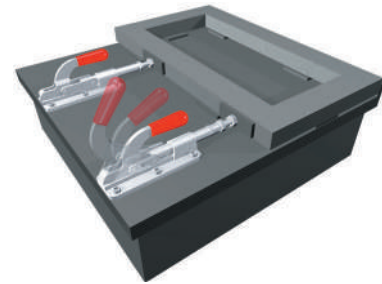
Vertical hold-down clamp

- Handle is vertical in clamped position
- Holding capacities up to 22,25kN [5000lbf.]
- Opening angle between 65° and 215°



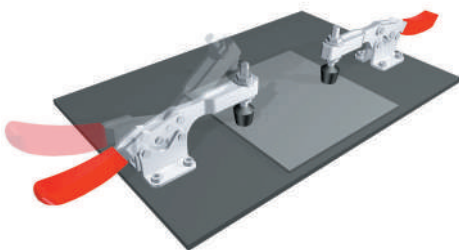
Straight line action clamp

- Forward movement of the handle pushes the plunger into the forward position
- Can be used as a push clamp and pull clamp, locking in two positions
- Holding capacities of 445N-71,2kN [100–6,000lbf.]



Horizontal hold-down clamp

- Very low profile
- Handle is horizontal in the clamped position
- Holding capacities up to 7,5kN [1,680lbf.]
- Opening angle between 90° and 105°



Latch clamp

- Convenient one-hand operation due to the patented thumb control lever
- Compact models
- Holding capacities up to 33,4kN [7,500lbf.]



Plier clamp

- Flexible clamping and fixturing
- Also equipped with quick release lever
- Holding capacities 450N-5340N [100-1200lbf.]



How Toggle Action Works

Toggle action clamps operate through a linkage system of levers and pivots. The fixed-length levers, connected by pivot pins, supply the action and clamping force. Toggle action has an over-center lock point which is a fixed stop and linkage. Once in the over-center position, the clamp cannot move or unlock unless the linkage is moved. All types of toggle clamps have this same action, just oriented differently.

Toggle Action Force Factors

The maximum clamping or exerting force developed in any toggle action clamp is attained when the three pivot points of the mechanism are in a straight line. While this is theoretically true, it makes no allowance for vibration and intermittent load conditions found in industrial applications. Such conditions would soon unlock an improperly designed clamp. The proper amount of over-center travel to produce maximum holding force and yet ensure positive locking is a carefully calculated and controlled dimension developed by years of experimentation and experience.

Throughout this catalog each clamp is rated with its "holding capacity." This is the maximum load or force the clamp will sustain in the closed and locked position without permanent deflection. Exerting forces applied as the clamp closes are less than the holding capacity, and are dependent on variables such as the position of the operator's hand on the handle; amount of force applied; and position of the spindle on the bar.

What about the forces?

In the case of clamping products, a clear distinction must be made between exerting forces and holding capacities. Here are the essential features:

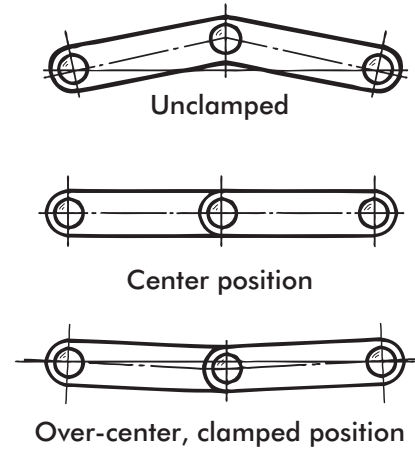
Exerting or Clamping Force

The "exerting force" of our air toggle clamps is well defined and can be found on page 15.7. Manually operated clamps present a series of variables to determine actual exerting force.

These variables are:

- (a) the force exerted on the handle by the operator;
- (b) the point on the handle where this force is applied;
- (c) the mechanical advantage in the linkage; and
- (d) the point on the work holding bar where the force will be measured. As a general rule, the mechanical advantage available throughout the line ranges 2:1 to 10:1

Toggle Action Principle

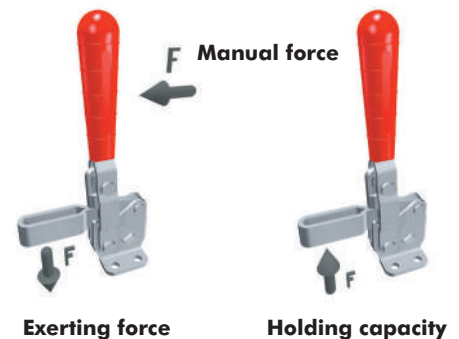


Toggle Action Clamps Compared with Cam Action Clamps

Cam action uses frictional force to effect a locking condition between the cam surface on the bar and the follower on the handle. Toggle action clamps have many advantages over cam action clamps, mainly because cam action clamps allow some movement while clamping. Toggle action clamps thus provide a more consistent clamping point, can be manufactured from inexpensive materials, and are available in stainless steel for outdoor or corrosive applications. If the material being clamped has a variable thickness, however, a cam action clamp has the ability to better accommodate this application.

Holding Capacity

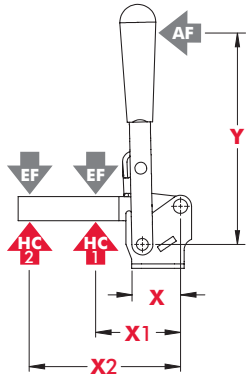
The "holding capacity" of DE-STA-CO toggle clamps has been determined by actual tests. It is defined as the maximum amount of force which may be applied to the work holding bar, in the closed position, without creating permanent deformation of the clamp components. This maximum force is measured at a point closest to the base and diminishes as the spindle approaches the end of the bar. The ratings for holding capacity are maximum and should not be exceeded. These values include a safety factor.





Calculating Exerting or Clamping Force

The table below depicts holding capacity (HC) and clamping force (EF) data for a typical manual clamp. The clamping force (EF) is expressed as a ratio of the force that is applied to the clamp handle (AF). In this example, either 10:1 or 5.3:1 depending upon position of the clamping point on the clamp arm. That is, at position X1, the maximum clamping force (EF) that can be generated is 10 times the force that is applied to the clamp handle.



Model	X	X1	X2	Y	±HC1	±HC2	±EF(X1):AF	±EF(X2):AF
2007-()	[1.59] 40,5	[1.95] 49,5	[3.92] 99,5	[5.16] 131	[1000lbf.] 4450N	[470lbf.] 2090N	10:1	5.3:1

Dimensions shown "mm [inch]" ± HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Refer to page (15.4) for additional information.

Examples:

- Find the force (AF) the operator would have to apply to the clamp to generate a clamping force of 400N [90lbf.] at the end of the clamp arm (X1).

$$AF = 400 \div 10 = 40N [9lbf.]$$

- What is the maximum clamp force that can be generated at X2 if the operator is only able to apply 20N [4.5lbf.] to the clamp handle?

$$EF = 20 \cdot 5,3 = 106N [24lbf.]$$

Calculating Holding Capacity

The holding capacity (HC) ratings shown in the table are in relation to the pivot point of the clamping arm. This is useful in estimating the holding capacity at an intermediate clamping point along the arm, or at a point beyond the length of the standard clamping arm.

Examples:

- Find the maximum holding capacity if the clamping point is 40mm [1.5in.] from the front of the base of the clamp.
 - Step 1 – find the clamping distance from the clamping point to the pivot point

$$Xc = 40mm + X = 40mm + 40,5mm = 80.5mm$$

- Step 2 – express the holding capacity as a moment

$$M = X1 \cdot HC1 = 49,5mm \times 4450N = 220275 \text{ N}\cdot\text{mm}$$

- Step 3 – calculate the holding capacity at XC

$$HC = M \div Xc = 220275 \div 80,5 = 2736N [615lbf.]$$

- Find the maximum holding capacity if the clamp arm is extended by 25mm [1in.]

$$Xc = 25+X2 = 25 + 99,5 = 124,5mm$$

$$M = X2 \cdot HC2 = 99,5mm \cdot 2090mm = 207955 \text{ N}\cdot\text{mm}$$

$$HC = M \div Xc = 207955 \div 124,5 = 1670N [375lbf.]$$

General Specifications

Material, finishes, treatments, etc. of DE-STA-CO products are changed from time-to-time to improve performance or reliability. These items are, naturally, subject to change without notice. In the interest of catalog longevity, they are not discussed in detail throughout the catalog. As of the date of going to press, however, the following specifications apply unless noted otherwise:

Materials

In general, light and medium duty clamp components are made from low carbon cold-rolled steel. Materials for other models vary depending upon the clamp model and specific engineering requirements. These materials include low to medium carbon steel castings and forgings, heat treated as necessary to obtain the desired mechanical properties.

Pivot pins for most light and medium duty clamps are cold headed from precision cold drawn type 430, EN 1.4016 stainless steel. Pins for heavy duty models are made from heat treated alloy steel. Bushings used in select models are made from low carbon, case-hardened steel for wear resistance and serrated on the outside diameter to prevent rotation.

Ergonomic grips are made from an oil-resistant plasticized PVC compound, while some handles and locking levers covered with plastisol dipping.

Stainless Steel

Stamped components in our stainless steel clamps are made from type 302/304, 1.4300 or 1.4301 (or comparable) stainless steel, annealed & cold rolled. Machined stainless steel components are type 303, EN1.4305 (or comparable).

Finishes

Most manual toggle clamps are electro-plated zinc per ASTM B633-98, SC1, type2 (or comparable). Most cast or forged components are finished black oxide with light oil to add corrosion protection.

Mounting

To properly secure the clamp to the mounting surface and achieve the clamp's rating, all mounting holes provided must be used.

Modifications

Making changes to the clamp may affect the performance of the product. The life expectancy of a clamp is dependent upon many factors, including alterations to the clamping bar, handle, or the addition of any tooling. Manual clamps are rated using hand power to actuate them. The use of "cheater bars" or hammers to impact the opening or closing of the clamp is expressly prohibited.

Maintenance

Manual clamps are generally maintenance free; however, lubrication of pivot points will extend the life of the clamp dramatically. Clamps are shipped from the factory with a light coating of oil, occasional lubrication with a lightweight machine oil at pivot points is recommended. A typical oil specification is ISO grade 22 or 46 (SAE No. 10W or 20).

Temperature Limits

DE-STA-CO manual clamps are intended to be used at normal ambient temperatures. These limits are intended to be guidelines and you should contact DE-STA-CO if you have a specific application concern. For low-carbon steel clamps: -65°F(-54°C) to 480°F(250°C); for stainless steel (type 304): up to 750°F (400°C). These values are based upon maintaining the tensile strength of the material, due to the many variables associated with operating clamps at elevated temperatures service life may be affected. Bear in mind that for low carbon steel parts that are zinc plated, the plating has a useful service temperature of up to 250°F(120°C), but corrosion inhibiting properties degrade above 140°F(60°C). These temperatures are NOT inclusive of any plastic grip, vinyl dipping, rubber spindle accessory, pneumatic, or hydraulic actuator.

Pneumatic Clamping Technology

End position sensing of pneumatic clamps for automated production.



Model 807-S with 2 integral groove mounted sensors (order separately)

Exerting Force vs. Holding Capacity

Due to the nature of the toggle action within the clamping mechanism combined with the line pressure of the cylinder, care should be taken in setting up Pneumatic Toggle Clamps.

The clamping force of a given pneumatic toggle clamp is determined by two factors - adjustment of the clamping spindle and the line pressure in the cylinder. If the line pressure remains constant, then the clamping force is solely determined by the vertical adjustment of the spindle. If the spindle is improperly adjusted, the clamp is capable of creating a clamping force that exceeds the rated holding capacity.

As a result of this condition care must be taken by properly adjusting the spindle OR by regulating the inlet pressure to the cylinder in order to insure the clamp does not exert a force higher than it's rated holding capacity.

Please consult the table and formulae on the next page. The Max M.A. is the highest mechanical advantage the clamp can create at the optimum spindle height while still toggle-locking.

Remote control and end position sensing

A particularly interesting advantage of DE-STA-CO power clamps is the fact that they may be mounted on rather inaccessible places of clamping fixtures and they may be operated simultaneously while being controlled by a control valve. Power clamps with an end position sensing system allow fully automated operation with in controlled manufacturing processes.

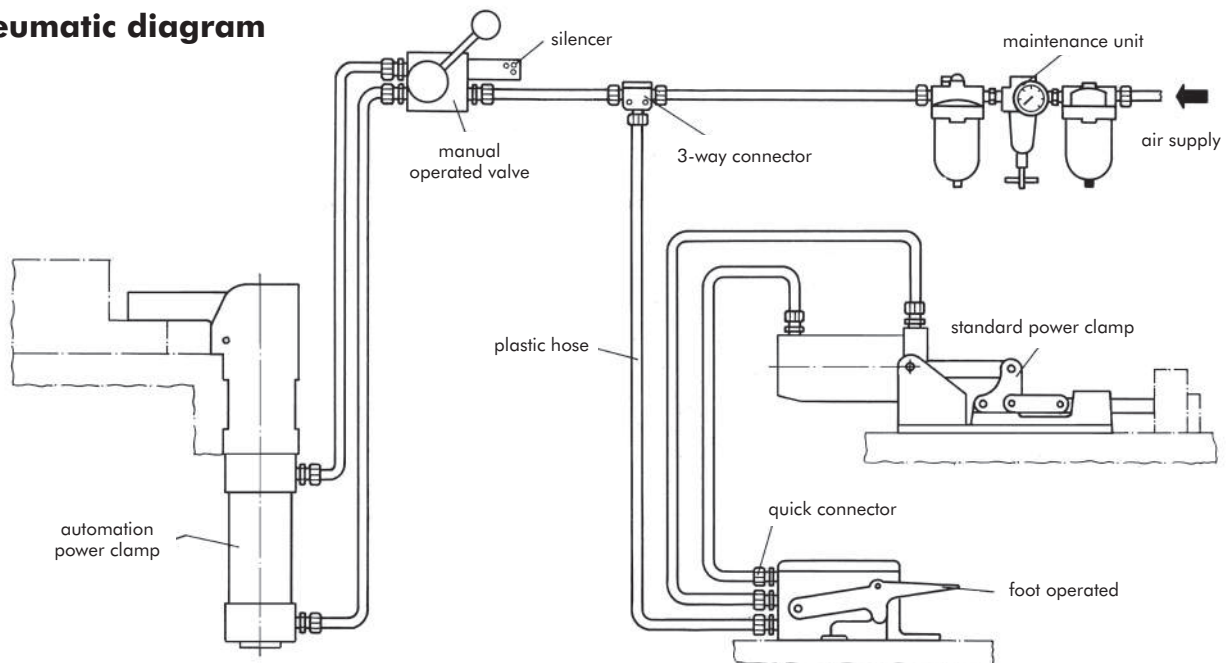
Safety

DE-STA-CO power clamps are based on the toggle action principle (exceptions will be mentioned separately) and offer the same safety advantages as DE-STA-CO manual clamps: no risk of accidental opening of the clamp arm - even in case of a sudden pressure drop.

The toggle action principle with over-center locking guarantees safety during operation and protects the parts from damage. (Provided that the power clamps are mounted correctly and the air supply is reliable.)

Note: Most pneumatic products are now supplied with a magnetic ring on the piston as a standard feature for sensing the position of the cylinder (open/closed).

Pneumatic diagram



Specifications

Model no.	Cylinder Bore		Rod Diameter		Cylinder Area (Clamping Stroke)		Cylinder Area (Opening Stroke)		Max. Mechanical Advantage (M.A.)		Distance From Pivot				Holding Capacity				Max Inlet Pressure at Max M.A*				Max. Clamping Force at 5 bar [72 psij]			
											A		B		A		B		A		B		A		B	
	(in)	(mm)	(in)	(mm)	(in ²)	(mm ²)	(in ²)	(mm ²)	A	B	(in)	(mm)	(in)	(mm)	(lbf.)	(N)	(lbf.)	(N)	(PSIG)	(bar)	(PSIG)	(bar)	(lbf.)	(N)	(lbf.)	(N)

Hold DownClamps

802-U	1.26	32	0.47	12	1.25	804	1.07	691	5.0	2.6	1.25	31.8	2.25	57.2	200	890	110	489	32	2.2	34	2.3	450	2010	234	1045
807-S	1.26	32	0.47	12	1.25	804	1.07	691	6.0	2.0	2.00	50.8	5.00	127.0	500	2220	260	1160	67	4.6	104	7.2	540	2412	180	804
807-U	1.26	32	0.47	12	1.25	804	1.07	691	6.4	3.3	2.00	50.8	3.75	95.3	375	1670	275	1220	47	3.2	67	4.6	576	2573	297	1327
810-S	1.57	40	0.63	16.0	1.95	1257	1.64	1056	5.0	2.9	2.38	60.5	5.31	134.9	750	3340	500	2220	77	5.3	89	6.1	702	3143	407	1823
810-U	1.57	40	0.63	16.0	1.95	1257	1.64	1056	6.1	2.9	2.38	60.3	4.88	123.8	600	2670	290	1290	50	3.5	51	3.5	856	3834	407	1823
812-U	0.75	19	0.25	6.4	0.4	258	0.39	253	4.3	2.9	1.25	31.8	2.25	57.2	100	440	55	245	53	3.6	43	3.0	136	613	92	413
846	1.57	40	0.63	16.0	1.95	1257	1.64	1056	5.6	3.5	2.25	57.2	3.25	82.6	750	3340	520	2310	69	4.7	76	5.3	786	3520	491	2200
847-S	2.05	50	0.63	16.0	3.29	2124	2.98	1923	4.0	1.8	3.25	82.6	6.50	165.1	1000	1118	650	2890	76	5.2	110	7.6	948	4248	426	1912
847-U	2.05	50	0.63	16.0	3.29	2124	2.98	1923	4.0	1.9	3.25	82.6	6.25	158.8	1000	4450	480	2135	76	5.2	77	5.3	948	4248	450	2018
858	2.48	63	0.98	25.0	4.83	3117	4.07	2626	4.4	2.3	3.00	76.2	7.00	177.8	4000	17800	2000	8900	145**	10.0**	145**	10.0**	1530	6857	800	3585
8021	1.26	32	0.47	12.0	1.07	691	1.25	8.4	2.2	1.3	1.70	43.2	2.60	66.0	390	1735	255	1135	145**	10.0**	145**	10.0**	169	760	100	449
8071	1.57	40	0.63	16.0	1.64	1056	1.95	1257	4.2	2.4	2.25	57.2	3.25	82.6	450	2000	310	1380	65	4.5	79	5.4	496	2218	283	1267
8101	2.05	50	0.63	16.0	2.98	1923	3.29	2124	2.3	1.2	2.35	59.7	4.45	113.0	700	3110	370	1645	103	7.1	105	7.3	491	2202	253	1135
817-S	1.26	32	0.47	12.0	1.25	804	1.07	691	4	2.25	2.75	69.9	4.94	125.5	450	2000	200	890	90	6.2	64	4.4	360	1608	225	1005
817-U	1.26	32	0.47	12.0	1.25	804	1.07	691	4.1	2.5	2.75	69.9	5.00	127.0	375	1670	200	890	73	5.1	64	4.4	369	1648	225	1005
827-S	1.57	40	.063	16.0	1.95	1257	1.64	1056	3.5	2	2.50	63.5	5.30	134.6	700	3110	330	1470	103	7.1	85	5.8	491	2200	281	1257
827-U	1.57	40	0.63	16.0	1.95	1257	1.64	1026	3.5	2.2	2.13	54.1	3.25	82.6	600	2670	390	1735	88	6.1	91	6.3	491	2200	309	1383
868	2.48	63	0.98	25.0	4.83	3117	4.07	2626	4.9	2.3	5.00	127.0	8.25	209.6	4000	17800	2400	10675	145**	10.0**	145**	10.0**	1704	7637	800	3585

Model no.	Cylinder Bore		Rod Diameter		Cylinder Area (Clamping Stroke)		Cylinder Area (Opening Stroke)		Max. Mechanical Advantage (M.A.)		Holding Capacity		Max Inlet Pressure at Max M.A	
	(in)	(mm)	(in)	(mm)	(in ²)	(mm ²)	(in ²)	(mm ²)			(lbf.)	(N)	(PSIG)	(bar)

Straight Line Action Clamps

803	1.26	32.0	0.47	12.0	1.25	804	1.07	691.2	7.5		600	2670	64	4.4	675	3015
816	0.75	19.1	0.25	6.4	0.44	285	0.39	253.4	7.7		100	400	30	2.0	244	1097
830	1.57	40.0	0.63	16.0	1.95	1257	1.64	1055.6	5.7		2500	11100	145**	10.0**	800	3582
850	2.05	52.0	0.63	16.0	3.29	2124	2.98	1922.7	5.2		16000	71200	145**	10.0**	1232	5522
8031	1.13	28.6	0.38	9.5	0.99	641	0.88	570.0	10.25		2000	890	145**	10.0**	731	3285

* Maximum cylinder pressure is 145 PSIG (10 bar). Never exceed this value

**Maximum inlet pressure in conjunction with maximum mechanical advantage does not exceed holding capacity. Do not exceed maximum cylinder pressure

Formula for calculating maximum allowable inlet pressure:

$$\text{Maximum Line Pressure} = \text{Holding Capacity} \div (\text{Cylinder Area} \times \text{Mechanical Advantage})$$

Formula for calculating max. exerting force:

$$\text{Exerting Force} = \text{Inlet Pressure} \times \text{Mechanical Advantage} \times \text{Cylinder Area}$$

Example for Model 830

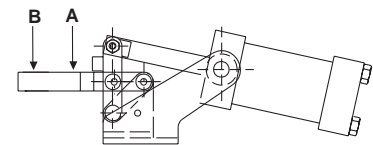
Holding Capacity = 11100N [2500lbf.]

Inlet Pressure 5bar (0,5 N/mm²) [72psig]

Cylinder Area = 1257mm² [1.95in²]

Maximum Line Pressure = 11100 ÷ (1257 X 5.7) = 1,5 N/mm² = 15bar

NOTE: This exceeds the maximum allowable cylinder pressure of 10bar



Spindle position to determine mechanical advantage.



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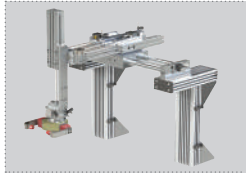
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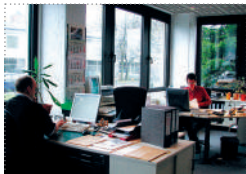
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