

	Series	Section, Page	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]
	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						■				■		
	602	3.21	■							■				
	604	3.21		■							■			
	624	3.21				■							■	
	6004	3.23		■							■			

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 8.1 for accessories

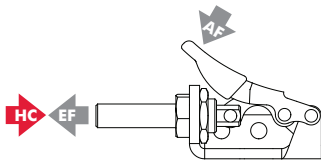
▲ 6001
● 6001-M



▲ 6001-SS
● 6001-MSS

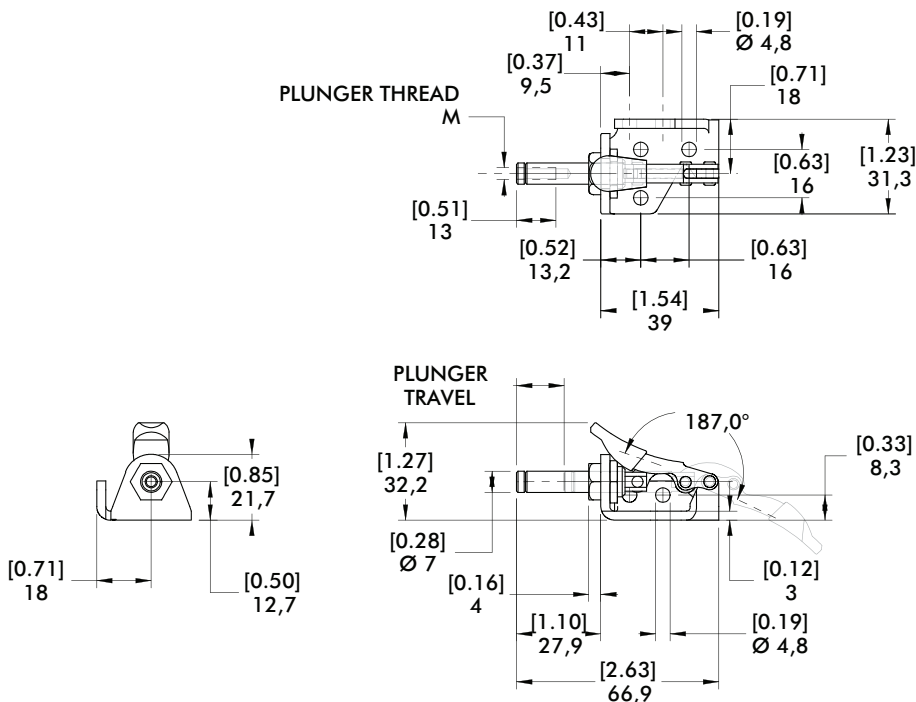


Series 6001 Technical Information, Holding Capacities, Standard Clamp Dimensions



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	No
▲ 6001-SS					#8-32	205943	Yes
● 6001-MSS					M4	102908-M	Yes

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Preferred Market: ▲ NA/SA ■ Europe ● Global



Series 601 Product Overview

Features:

- Compact straight line action clamp

Applications:

- Assembly
- Testing
- Soldering
- Gluing

Also Available:

See page 8.1 for accessories

▲ 601



● 601-M



● 601-O
Straight Base
U-Bar



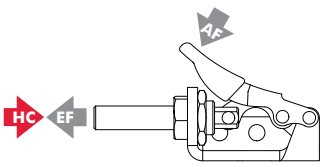
● 601-SS
Stainless steel



● 601-OSS ⓘ
Stainless steel
External
thread

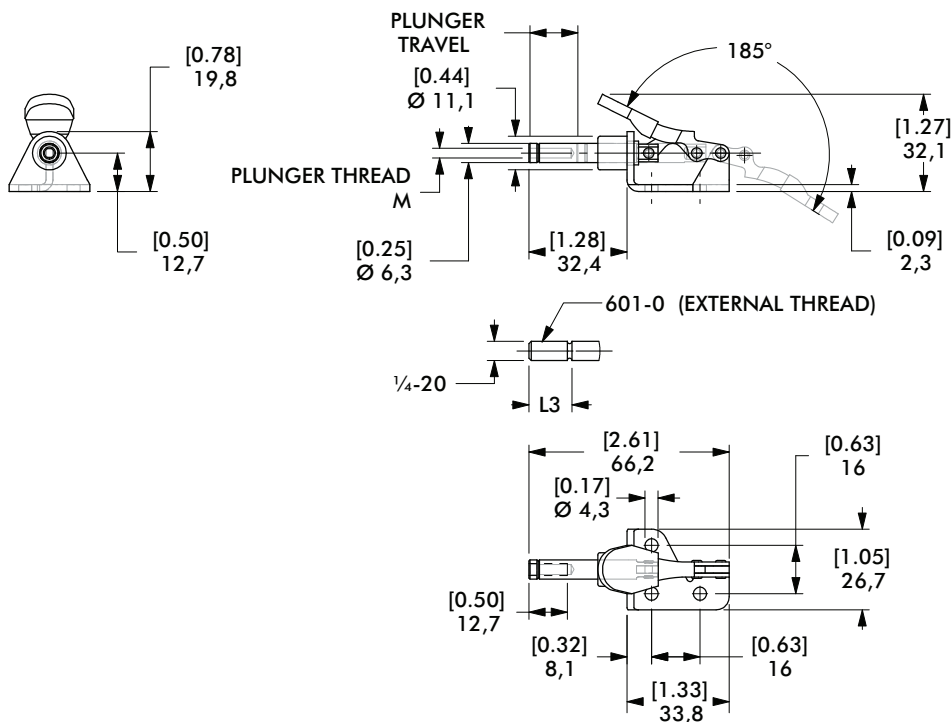


Series 601 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Spindle (Recommended)	Spindle Included
▲ 601	[100 lbf] 440 N	[0.09lb] 0,04kg	14:1/25:1	[0.63] 16	#8-32	105203	Yes
● 601-M					M4	205208-M	No
● 601-O					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
 Preferred Market: ▲ NA/SA ■ Europe ● Global



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 8.1 for accessories

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

▲ 6015
● 6015-M



▲ 6015-SS,
● 6015-MSS
Stainless Steel



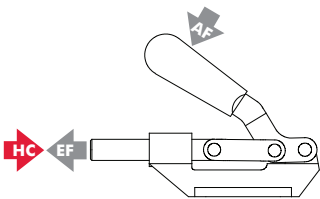
▲ 6015-R,
● 6015-MR
with DE-STA-CO®
Toggle Lock
Plus



● 6015-MRSS
Stainless Steel
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				1/4-20	202943 (supplied)
● 6015-MSS					M6	202916-M (supplied)
▲ 6015-R	[560 lbf] 2500 N				1/4-20	205203
● 6015-MR					M6	205203-M
● 6015-MRSS	[630 lbf] 2800 N			M6	202943-M* (supplied)	

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Preferred Market: ▲ NA/SA ■ Europe ● Global

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

▲ 6015
● 6015-M



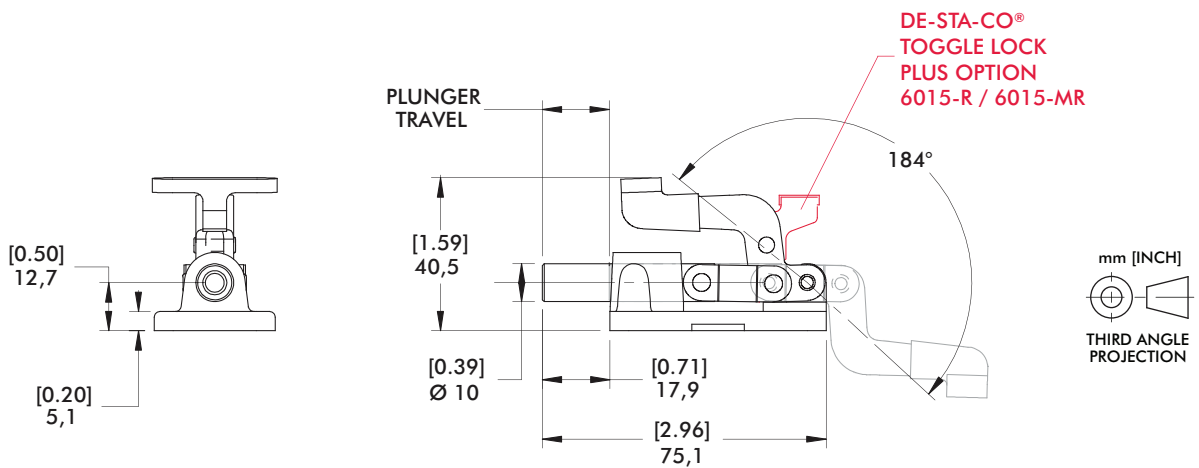
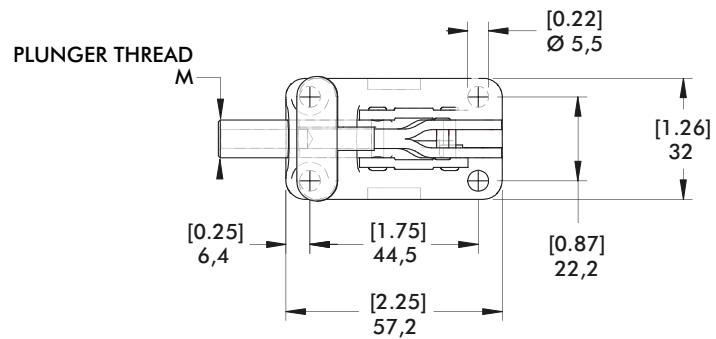
▲ 6015-SS,
● 6015-MSS
Stainless
Steel



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



● 6015-MRSS
Stainless Steel
with DE-STA-CO®
Toggle Lock
Plus



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

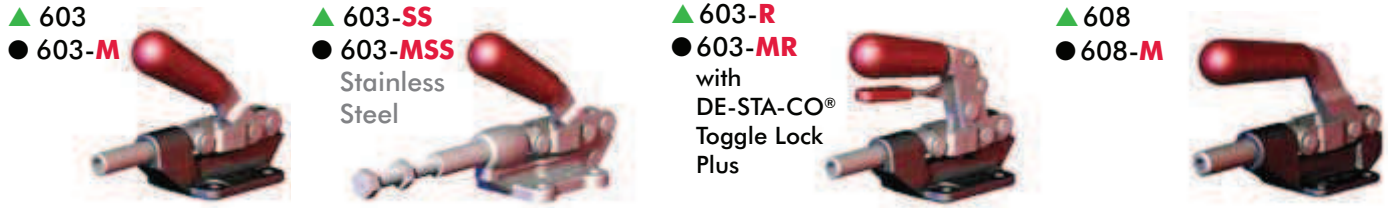
Applications:

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

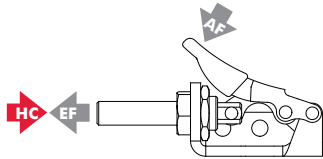
Also Available:

- See page 8.1 for accessories
- 803 Pneumatic Toggle Clamp
See page 10.26
- 803-ME Pneumatic Toggle Clamp
See page 10.26

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



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
 Preferred Market: ▲ NA/SA ■ Europe ● Global



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

▲ 603
● 603-M



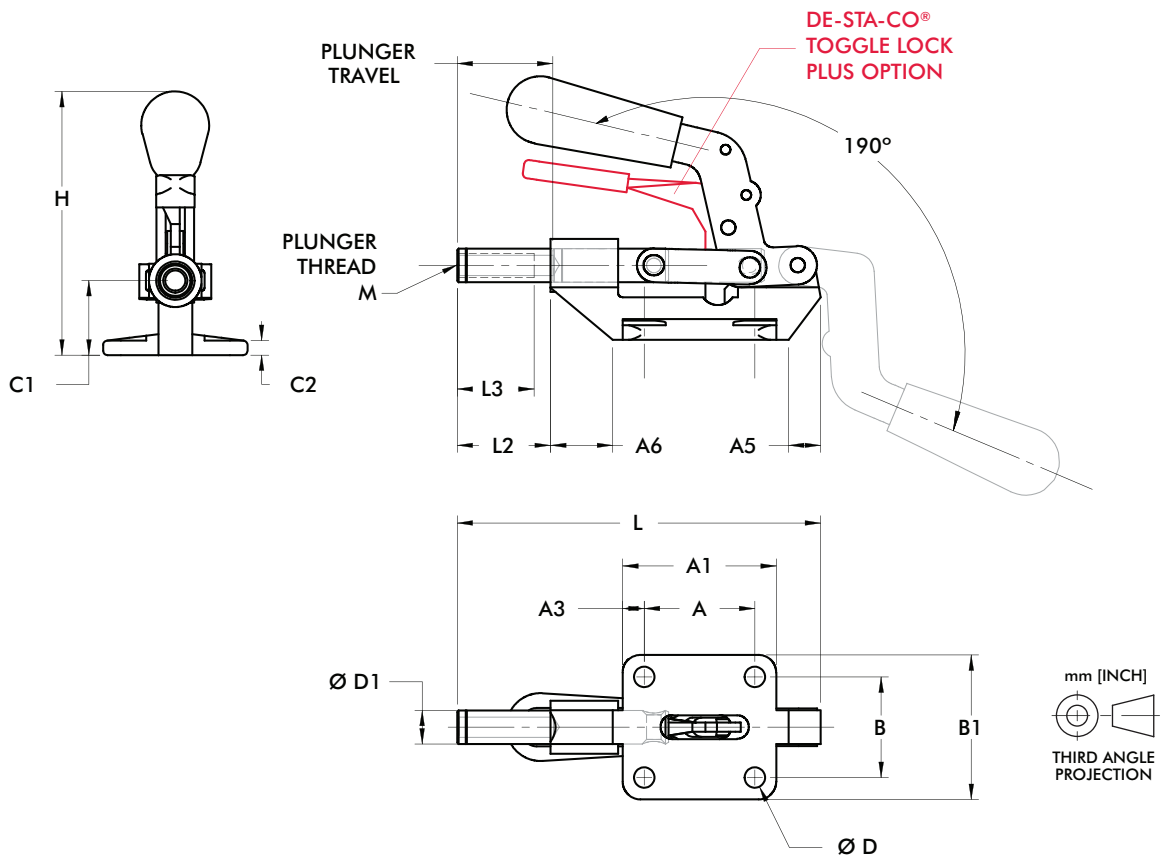
▲ 603-SS
● 603-MSS
Stainless Steel



▲ 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				[0.58] 15	[0.94] 24								[4.73] 120	[1.22] 31	
603-M				[0.62] 16	[0.88] 22								[4.80] 122	[1.30] 33	
603-SS	[1.44] 37	[2.00] 51	[0.28] 7	[0.58] 15	[0.94] 24	[1.31] 33	[1.88] 48	[0.97] 25					[4.73] 120	[1.22] 31	[1.00] 25
603-MSS				[0.62] 16	[0.88] 22				[0.19] 5		[0.27] 7	[0.44] 11	[3.43] 87	[4.80] 122	[1.30] 33
603-R				[0.58] 15	[0.94] 24								[4.73] 120	[1.22] 31	
603-MR				[0.62] 16	[0.88] 22								[4.80] 122	[1.30] 33	
608	[1.63] 41	[2.25] 57	[0.31] 8	[0.75] 19	[1.40] 36	[1.63] 41	[2.25] 57	[1.25] 32					[0.33] 8	[0.62] 16	[4.12] 105
608-M													[6.00] 152	[1.60] 41	[1.25] 32

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 8.1 for accessories
Reverse action version Model 615/615-M

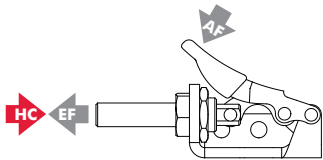
- ▲ 605
- 605-M



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

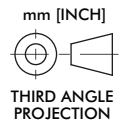
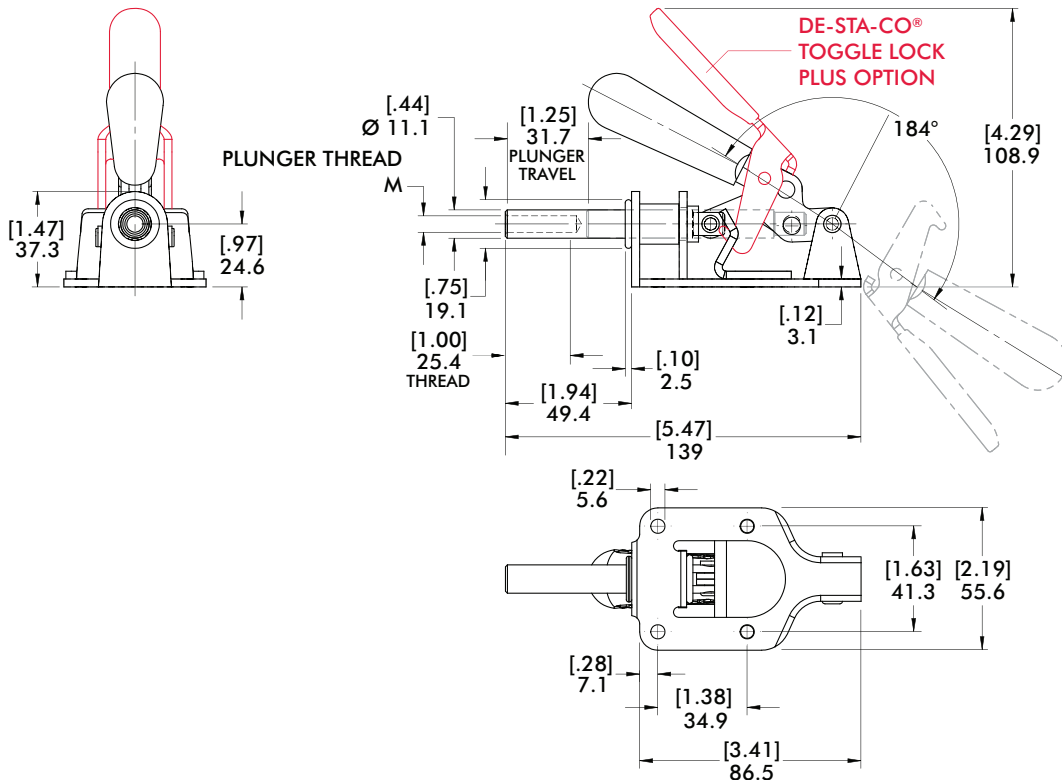


Series 605 Technical Information, Holding Capacities, Standard Clamp Dimensions



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

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
Preferred Market: ▲ NA/SA ■ Europe ● Global



Features:

- Handle and linkage swivel 125° for mounting flexibility
- Narrow base for tight spaces

Applications:

- Assembly & test
- Woodworking
- Tensioning devices

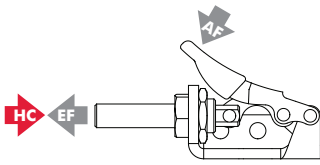
Also Available:

See page 8.1 for accessories

- ▲ 606
- 606-M

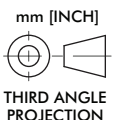
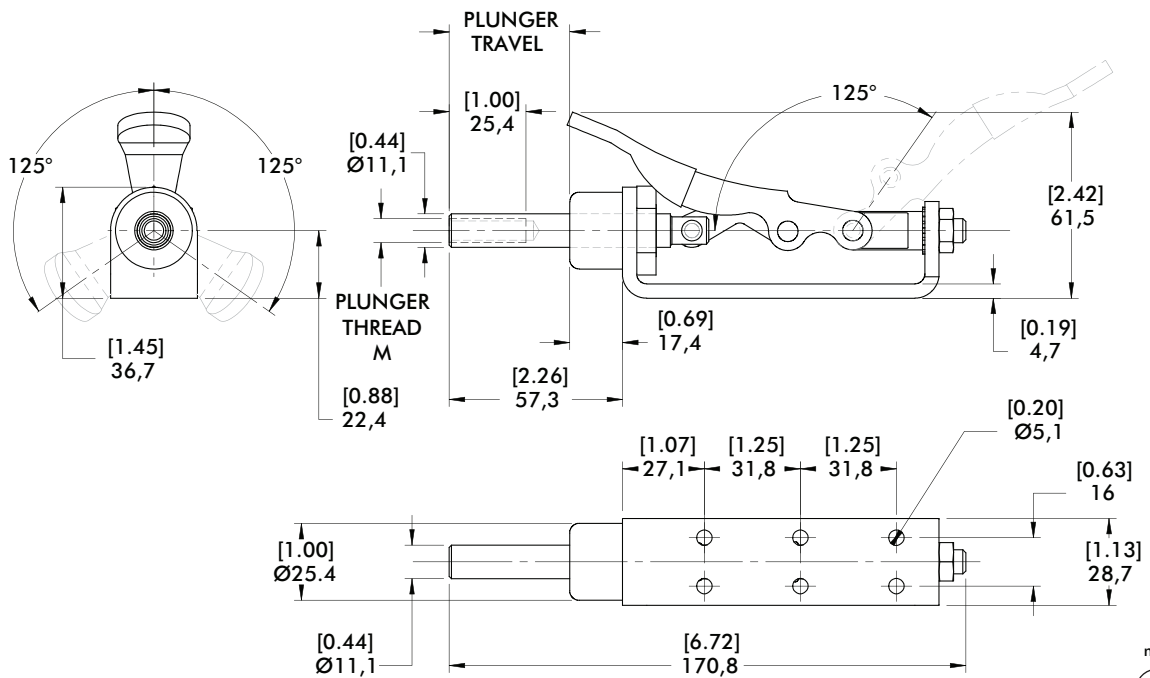


Series 606 Technical Information, Holding Capacities, Standard Clamp Dimensions



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

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
 Preferred Market: ▲ NA/SA ■ Europe ● Global



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 8.1 for accessories

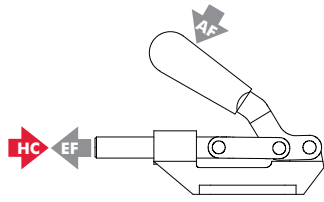
▲ 607
● 607-M



▲ 607-SQ
● 607-SQM
with Square
Plunger

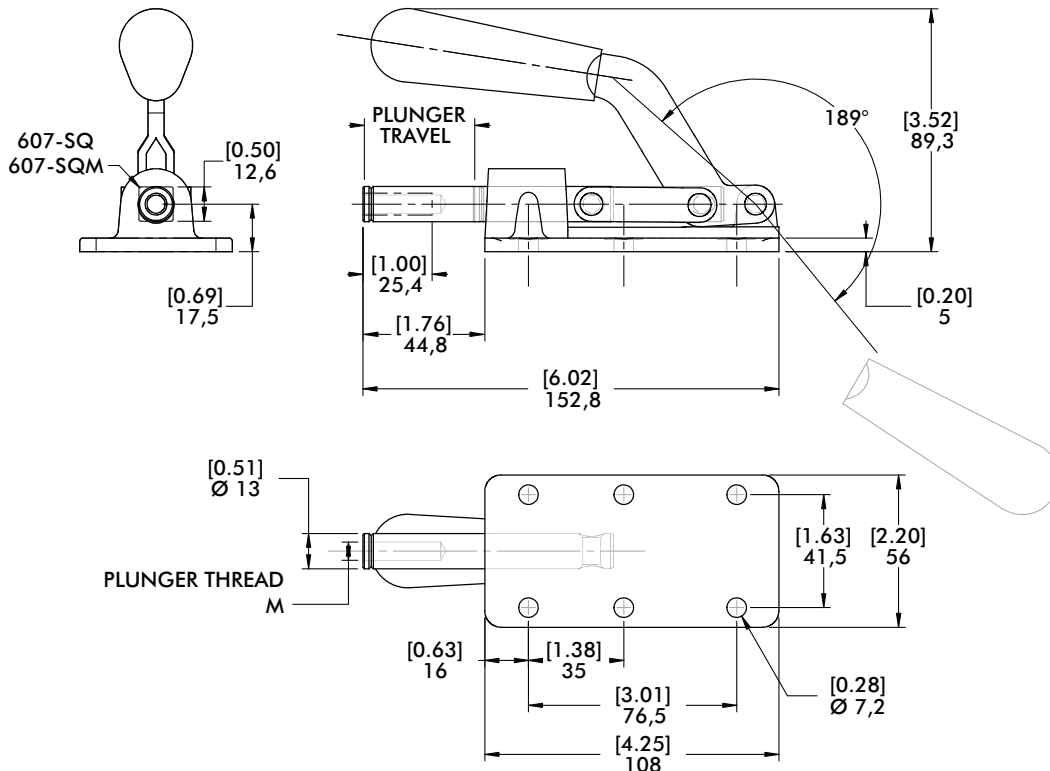


Series 607 Technical Information, Holding Capacities, Standard Clamp Dimensions



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
Preferred Market: ▲ NA/SA ■ Europe ● Global



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 8.1 for accessories

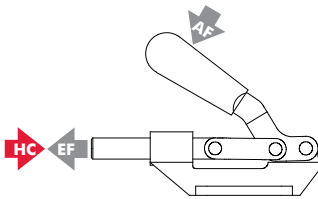
609
Flanged Base



609-B
Straight Base

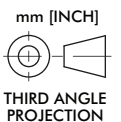
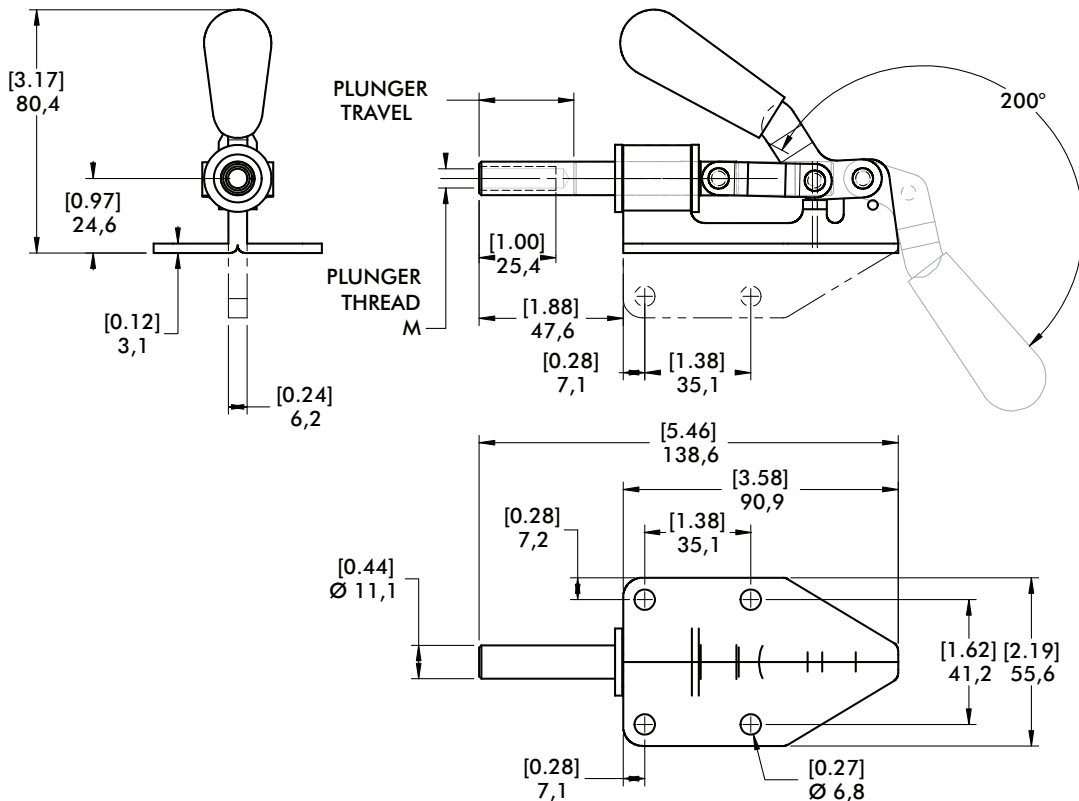


Series 609 Technical Information, Holding Capacities, Standard Clamp Dimensions



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

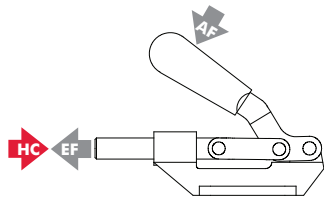
Also Available:

See page 8.1 for accessories

- ▲ 610
- 610-M

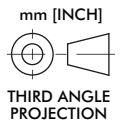
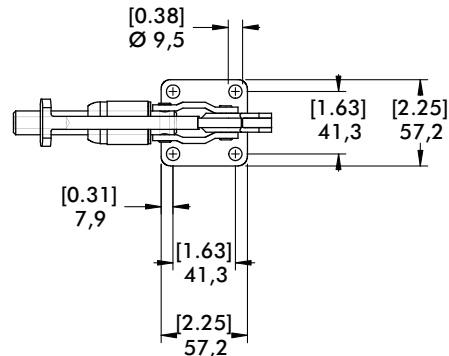
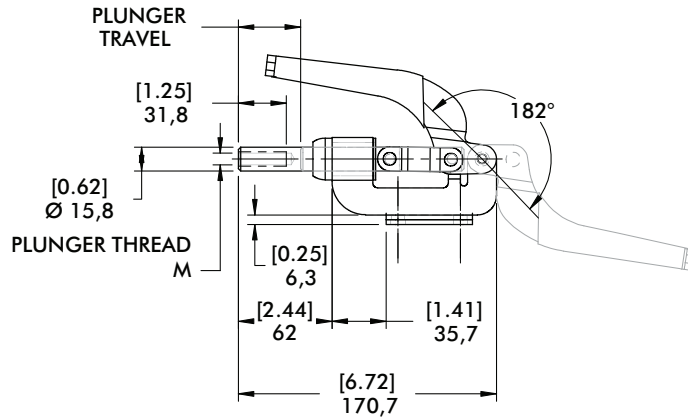
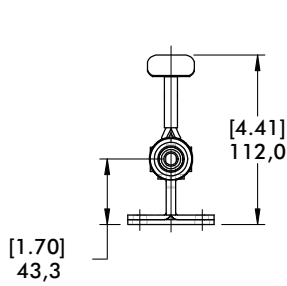


Series 610 Technical Information, Holding Capacities, Standard Clamp Dimensions



Model	Max. Holding Capacity	Weight	EF:AF (pushing/pulling)	Plunger Travel	(M) Plunger Thread	Recommended Spindle (Not Supplied)
▲ 610	[800 lbf] 3560 N	[1.69lb] 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
 Preferred Market: ▲ NA/SA ■ Europe ● Global



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:

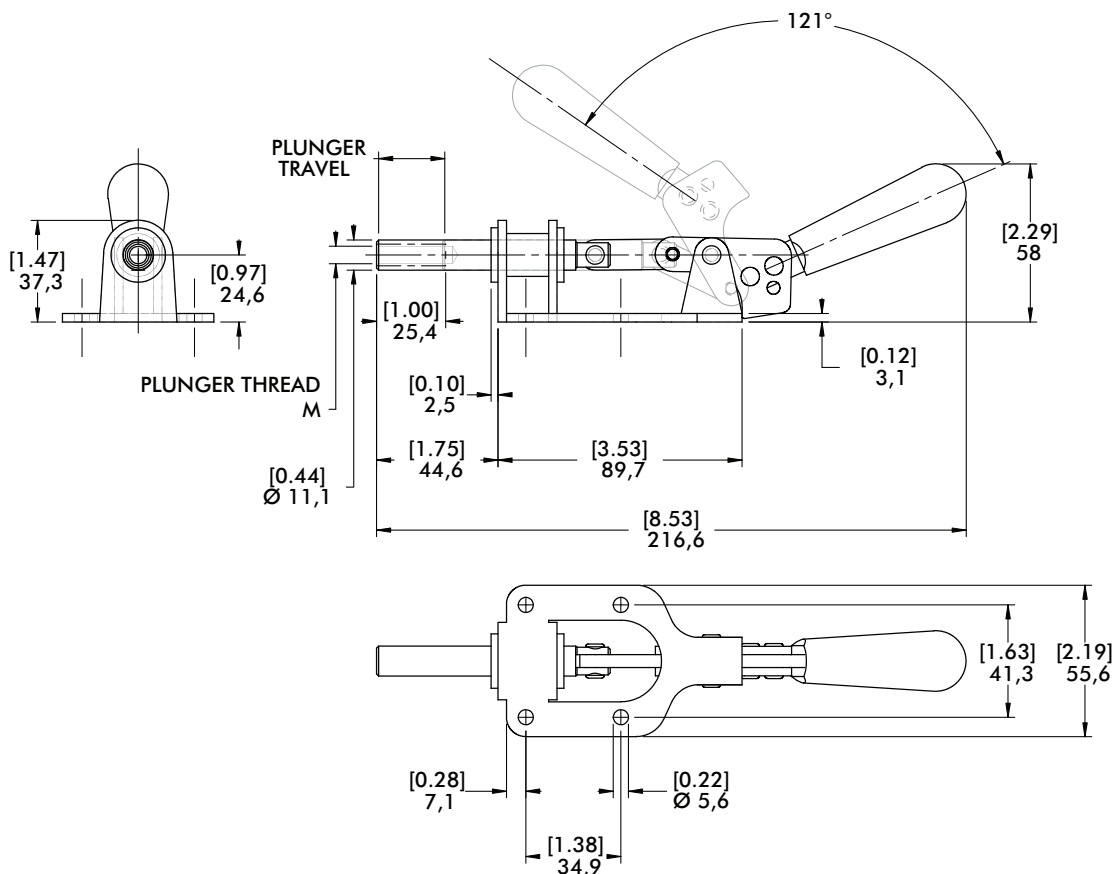
See page 8.1 for accessories

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:

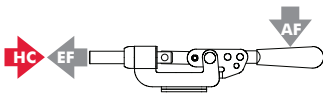
See page 8.1 for accessories

- ▲ 620
- 620-M

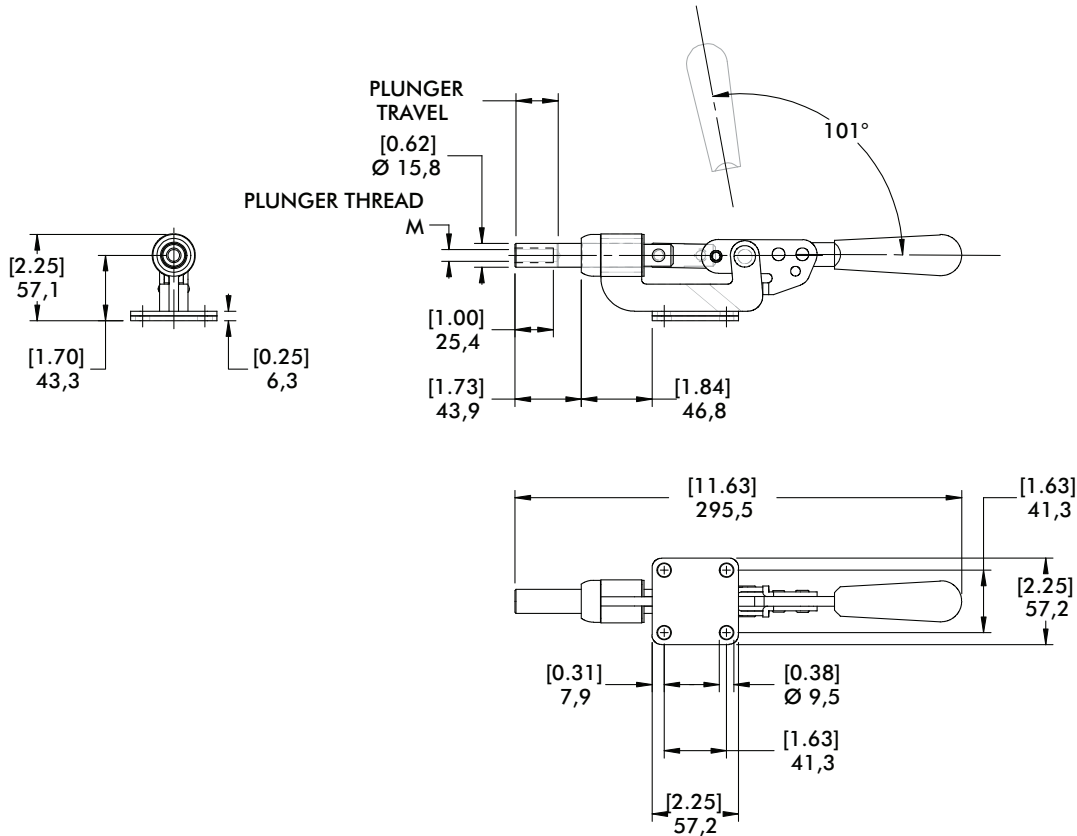


Series 620 Technical Information, Holding Capacities, Standard Clamp Dimensions

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
 Preferred Market: ▲ NA/SA ■ Europe ● Global



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 8.1 for accessories
830, 830-ME Pneumatic Toggle Clamp
(See page 10.29)

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

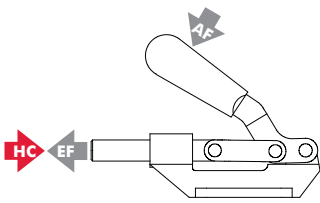
- ▲ 630
- 630-M



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

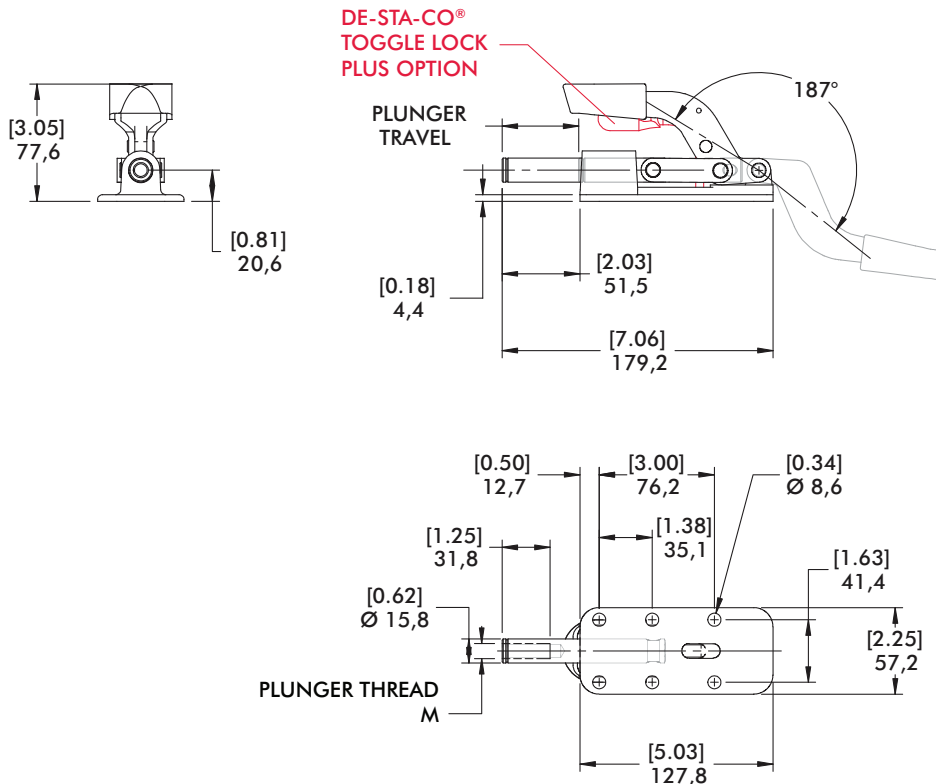


Series 630 Technical Information, Holding Capacities, Standard Clamp Dimensions



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
Preferred Market: ▲ NA/SA ■ Europe ● Global



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

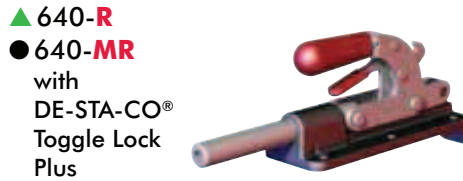
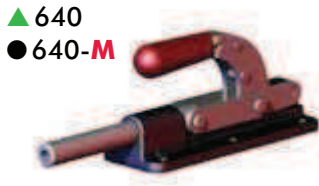
Applications:

- Assembly & test
- Welding
- Tensioning devices

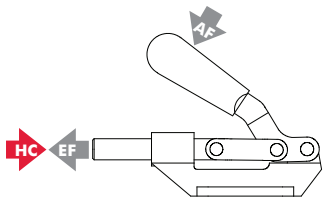
Also Available:

See page 8.1 for accessories

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

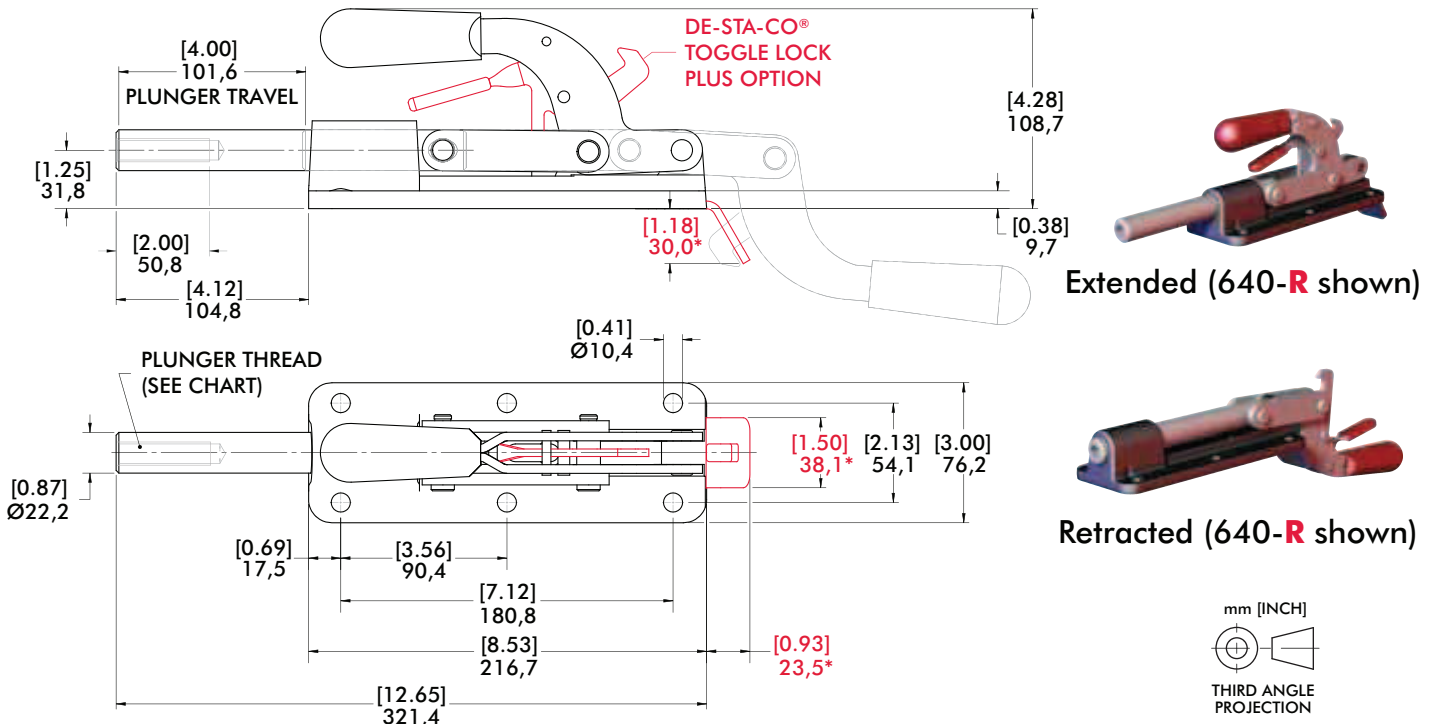


Series 640 Technical Information, Holding Capacities, Standard Clamp Dimensions



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
Preferred Market: ▲ NA/SA ■ Europe ● Global



(* 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

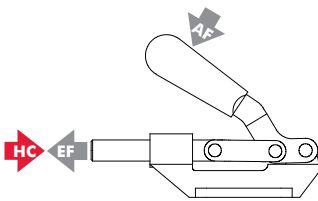
Also Available:

See page 8.1 for accessories

- ▲ 650
- 650-M

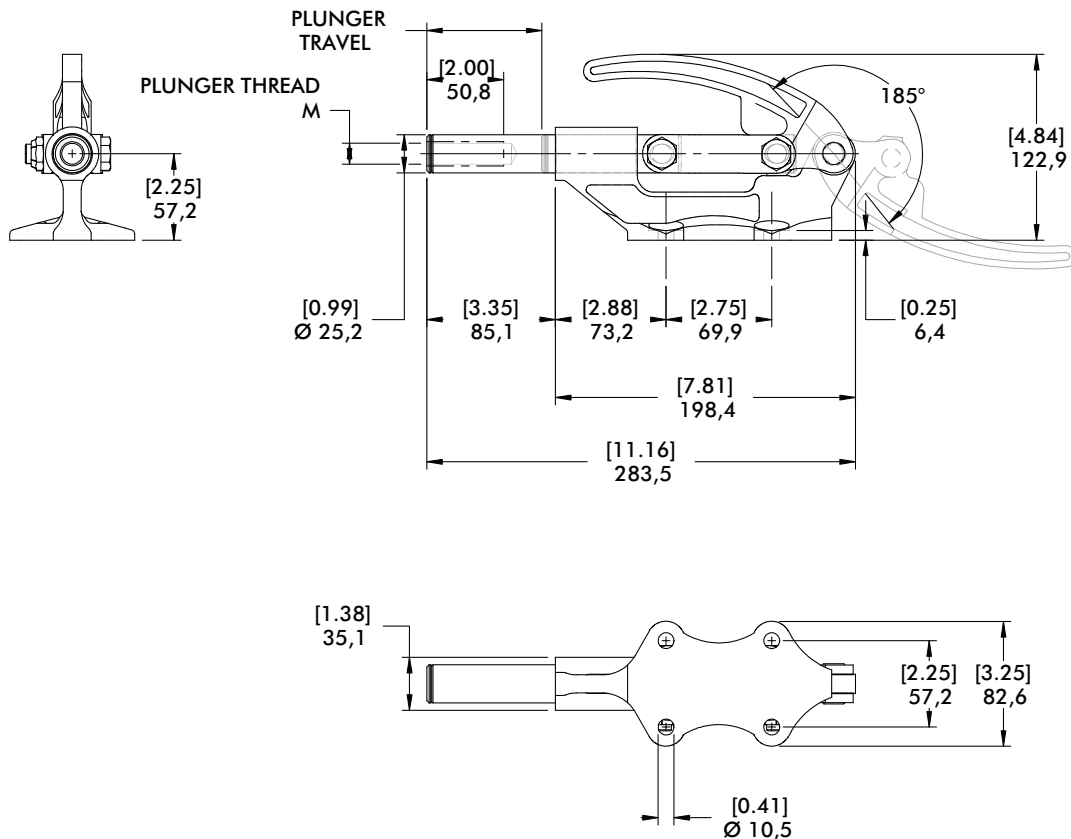


Series 650 Technical Information, Holding Capacities, Standard Clamp Dimensions



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
 Preferred Market: ▲ NA/SA ■ Europe ● Global



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 8.1 for accessories

95030



95040



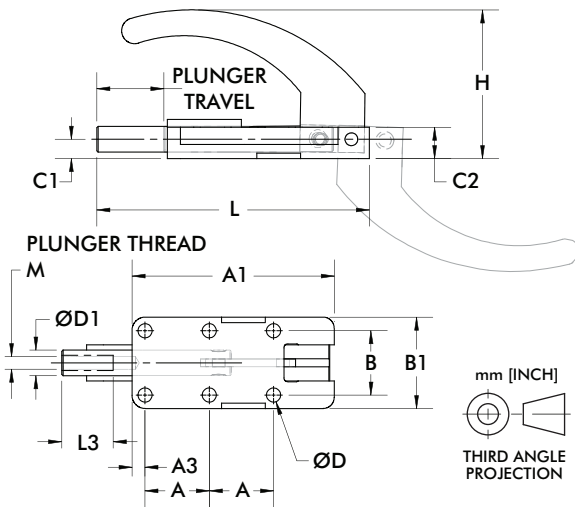
95050 ⓘ



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 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 8.1 for accessories

- ▲ 602
- ▲ 602-SS
- 602-MM
- 602-MMSS



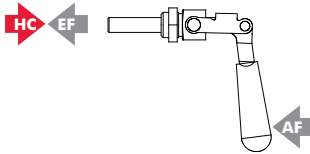
- ▲ 604
- ▲ 604-SS
- 604-MM
- 604-MMSS ⓘ



- ▲ 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					1/4-20	205203	602105
▲ 602-SS	[200 lbf] 900 N	[0.12lb] 0,05kg	31:1/28:1	[0.75] 19	M6	202943	602905
● 602-MM						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					3/8-16	210203	624105
● 624-SS	[700 lbf] 3110 N	[1.63lb] 0,74kg	49:1/21:1	[2.63] 66		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
 Preferred Market: ▲ NA/SA ■ Europe ● Global

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

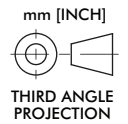
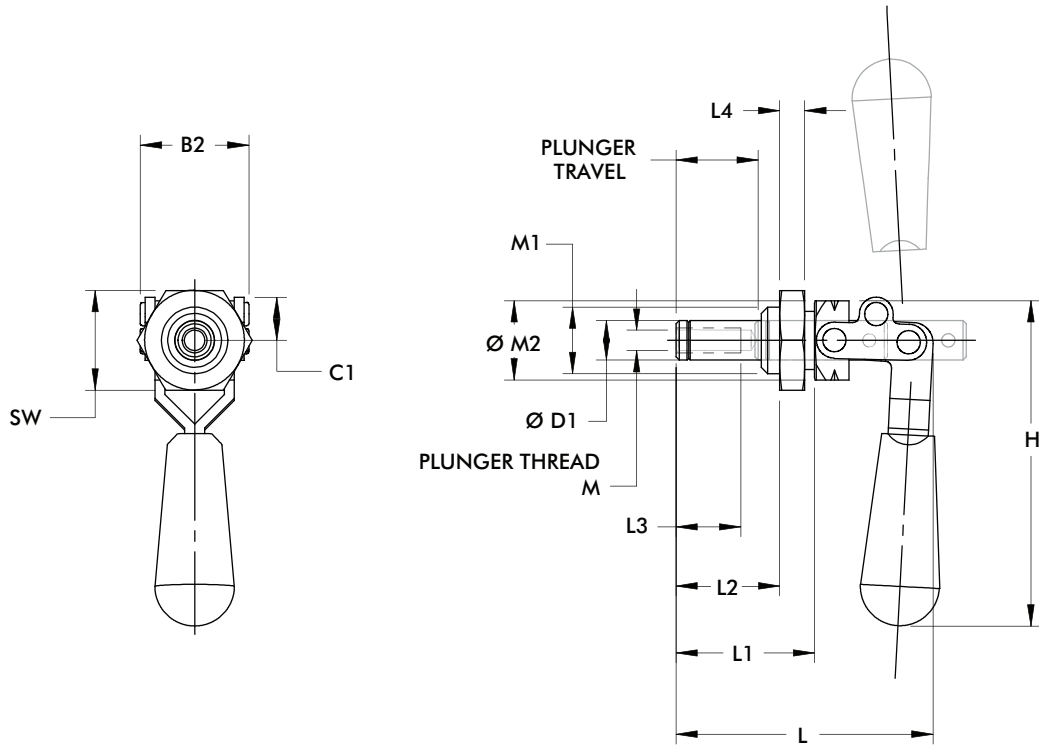
- ▲ 602
- ▲ 602-SS
- 602-MM
- 602-MMSS



- ▲ 604
- ▲ 604-SS
- 604-MM
- 604-MMSS ①



- ▲ 624
- 624-SS
- 624-MM



Model no.	B2	C1	ØD1	H	L	L1	L2	L3	L4	M1	M2	SW
602	[1.03] 26									5/8-18		0.44 in
602-SS		[0.88] 22	[0.37] 9	[3.13] 80	[2.62] 67	[1.31] 33	[0.97] 25	[0.63] 16			[0.75] 19	
602-MM										M16x1.5		24mm
602-MMSS												
604									[0.25] 6	3/4-16		1.00 in
604-SS		[0.50] 13	[0.44] 11	[4.16] 106	[4.95] 126	[2.18] 55	[1.82] 46	[1.00] 25			[0.88] 22	
604-MM										M20x1.5		30mm
604-MMSS												
624	[1.81] 46	[0.75] 19	[0.62] 16	[5.60] 142	[6.68] 170	[3.62] 92	[3.24] 82	[1.25] 32		1-14	[1.25] 32	1.50 in
624-MM										M27x2		41mm

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:

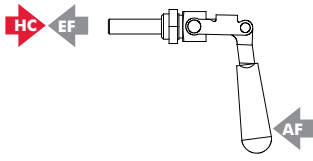
See page 8.1 for accessories

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

- ▲ 6004
- 6004-MM

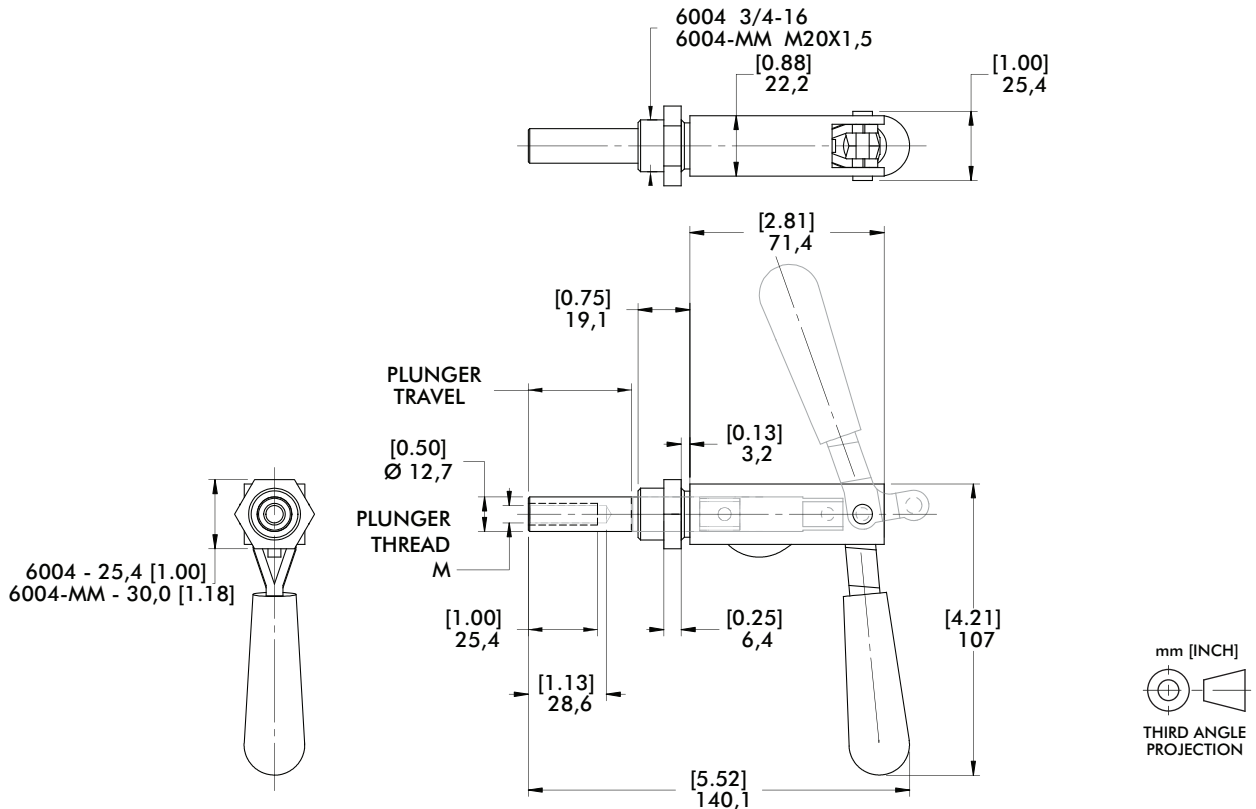


Series 6004 Technical Information, Holding Capacities, Standard Clamp Dimensions



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

HC = Holding Capacity, EF = Exerting Force, AF = Applied Force
 Preferred Market: ▲ NA/SA ■ Europe ● Global

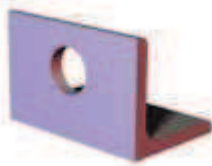


Mounting Plates for Series 602, 604, 624, 6004 Product Overview

Features:

- Mounting accessories for Threaded Body Straight Line Action Clamps

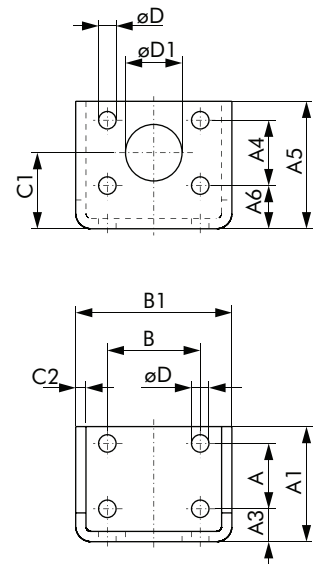
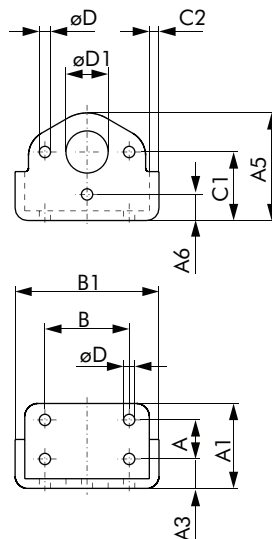
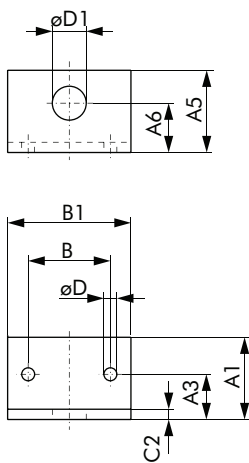
602106-M



604106,
604106-M



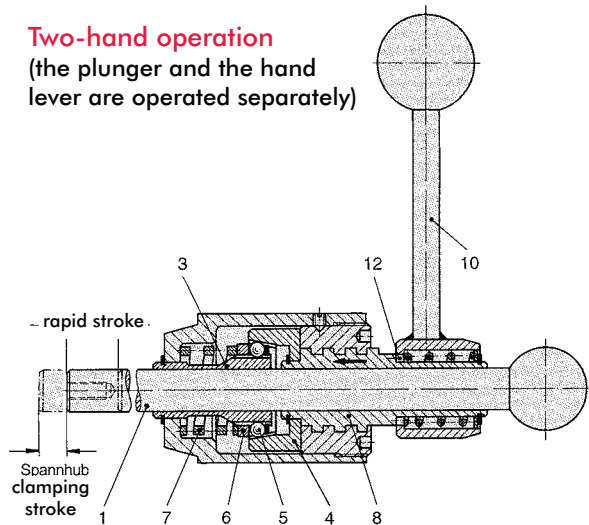
624106-M



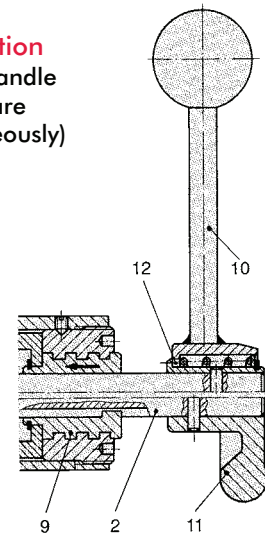
Item Number	For Use With	A	A1	A3	A4	A5	A6	B	B1	C1	C2	D	D1
602106-M	602 602-MM	--	[1.57] 40	[0.87] 22	--	[1.57] 40	[0.94] 24	[1.57] 40	[2.36] 60	--	[0.20] 5	[0.25] 6,3	[0.65] 16,5
604106	604 6004	[0.75] 19,1	[1.60] 40,6	[0.55] 14	--	[2.05] 52,1	[0.50] 12,7	[1.62] 41,1	[2.80] 71,1	[1.30] 33	[0.19] 4,7	[0.22] 5,6	[0.75] 19,1
604106-M	604-MM 6004-MM												
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]

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 plunger's 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-clockwise. 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 groove-spring connection. The clamping and unclamping operations are executed in the same way as described before.

Handling

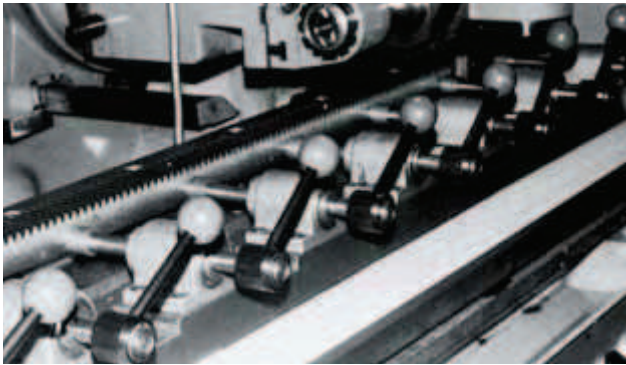
To change the position of the handle while in the clamped or the unclamped position, pull the hand lever off its spline (12) and set it in the desired position.

Important

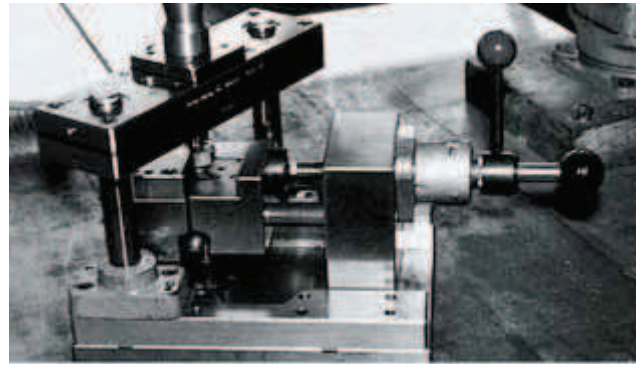
The holding forces specified in the catalog refer to the maximum load exerted on the clamp by counter-forces. For details concerning the clamping force FS exerted on the workpiece by the clamp and depending on the operation force FB (manual force), please see the chart on the next page.

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

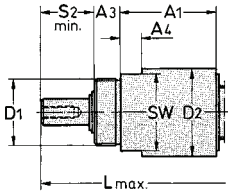
Mounting type: through hole mount
Operating method: one-hand or two-hand operation

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	One-hand operation	One-hand operation			FB [lbs.] N	FS [lbs.] N			[lbs.]	Kg
						1) Plunger order separately; see page 4.5					
 Foot mount			•	FO-082-40	[335] 1500		[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-161-160	[2020] 9000		[560] 2500	60	4	[3.40] 1,540	
			•	FO-162-60	[2020] 9000		[190] 850	60	4	[3.15] 1,430	
 Flange mount			•	FO-220¹⁾	[4045] 18000		[675] 3000	100, 200, 300	4	[5.85] 2,655	
			•	FO-221-80	[4045] 18000	[22] 100	[675] 3000	80	4	[7.46] 3,385	
		•		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		



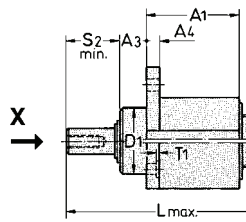
Two-hand operation (the plunger and the hand lever are operated separately)

Through hole mount

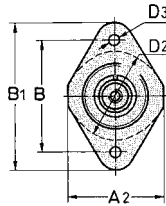


Part no. G-120/--

Flange mount

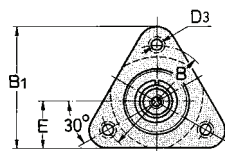


View "X"



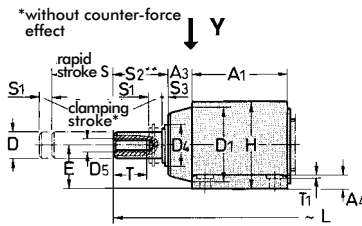
Part no. FL-120/--

View "X"

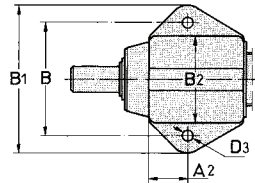


Part no. FL-160/--

Foot mount

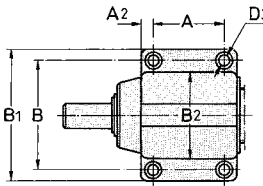


View "Y"

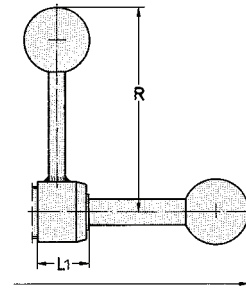


Part no. FO-120/--

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
16/100F	100	[0.88] 0,400	FO-160
16/200F	200	[1.10] 0,500	FL-160
16/300F*	300	[1.54] 0,700	
22/100	100	[2.20] 1,000	
22/200	200	[2.40] 1,090	FO-220
22/300	300	[3.06] 1,390	

Swivel thrust pad

Part no.	Thread	Weight ~ [lbs.] Kkg
K-612	M6	[0.02] 0,007
K-816	M8	[0.03] 0,015
K-1222	M12	[0.08] 0,035

Important

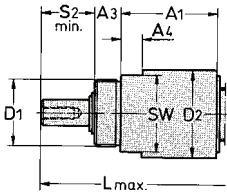
The straight-line clamps are designed only for **axial load**. In case of side load, we recommend an additional radial support of the plunger.

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	M30x1,5	40	-	20

Mounting type	Part no. without plunger	D5	D9	D10	E	E1	H	L with rapid strokes:			L1	R	S2	S3	SW	SW1	T	T1	T3
								~	100	200	300								
Foot mount	FO-120	M6	30	6	20	12,5	42	228	328	428	24	95	2,5	2,5	-	11	12	-	10
	FO-160	M8	35	8	30	14,8	58	280	380	480	33	130	3	3	-	13	15	1	14
	FO-220	M12	40	9,5	35	19,5	71	295	395	495	35	197	3	3	-	17	25	1	18
Flange mount	FL-120	M6	30	6	-	12,5	-	228	328	428	24	95	2,5	2,5	-	11	12	-	10
	FL-160	M8	35	8	28	14,8	-	280	380	480	33	130	3	3	-	13	15	1	14
Through hole mount	G-120	M6	30	6	-	12,5	-	228	328	428	24	95	2,5	2,5	35	11	12	-	12

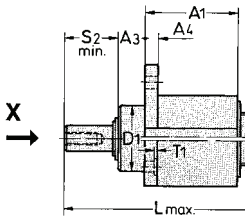
One-hand operation (the plunger and the hand wheel are operated simultaneously)

Through hole mount

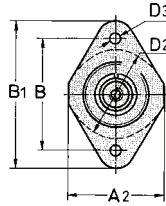


Part no. G-082/40
G-122/45

Flange mount

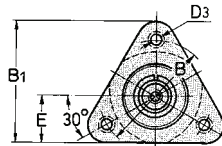


View "X"



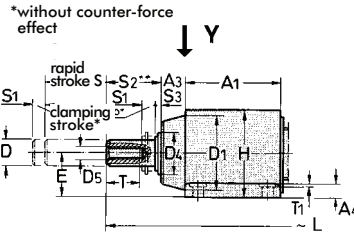
Part no. FL-122/45

View "X"

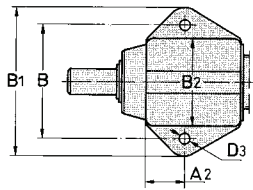


Part no. FL-162/60

Foot mount

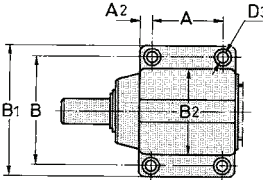


View "Y"

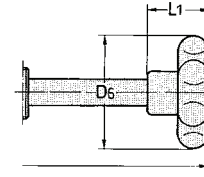


Part no. FO-082/45

View "Y"

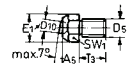


Part no. FO-162/60



Accessories (order separately)

Swivel thrust pad



Part no.	Thread	Weight ~ [lbs.] kg
K-508	M5	[0.01] 0,004
K-508	M6	[0.02] 0,007
K-508	M8	[0.03] 0,015
K-508	M12	[0.08] 0,035

Important

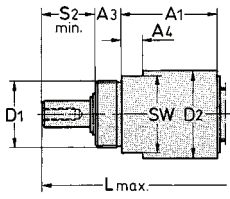
The straight-line clamps are designed only for axial load. In case of side load, we recommend an additional radial support of the plunger.

Mounting type	Part no. with plunger	A	A1	A2	A3	A4	A5	B	B1	B2	Dh8	D1	D2	D3	D4
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
Flange mount	FO-162-60	40	62	11	12	12	10	70	90	52	16	46	-	9	25
	FL-122-45	-	44	44	12	6	85	52	68	-	12	30f7	40	6,5	20
Through hole mount	FL-162-60	-	60	-	14	14	10	68	73	-	16	40f7	52	9	25
	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	D5	D9	D10	E	E1	H	L	L1	S2	S3	SW	SW1	T	T1	T3
Foot mount	FO-082-40	M5	40	5	18	9,2	36	128	26	9	2,5	-	8	8	-	8
	FO-122-45	M6	75	6	20	12,5	42	153	27	15	2,5	-	11	12	-	10
Flange mount	FO-162-60	M8	75	8	30	14,8	58	196	35	18	3	-	13	15	1	14
	FL-122-45	M6	52	6	-	12,5	-	153	27	15	2,5	-	11	12	-	10
Through hole mount	FL-162-60	M8	75	8	28	14,8	-	196	35	18	3	-	13	15	1	14
	G-082-40	M5	40	5	-	9,2	-	128	26	9	2,5	30	8	12	-	8
	G-122-45	M6	52	6	-	12,5	-	153	27	15	2,5	35	11	12	-	10

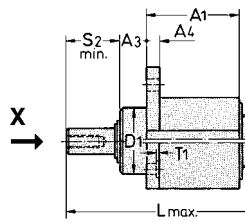
One-hand operation (the plunger and the hand lever are operated simultaneously)

Through hole mount

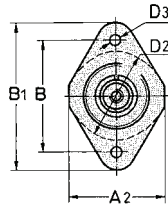


Part no. G-121/45

Flange mount

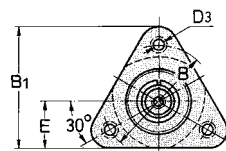


View "X"



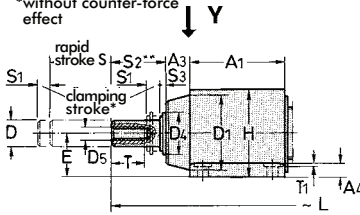
Part no. FL-121/45

View "X"

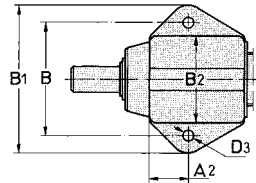


Part no. FL-161/60

Foot mount

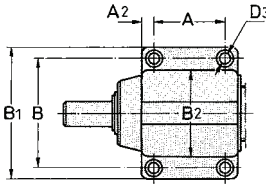


View "Y"

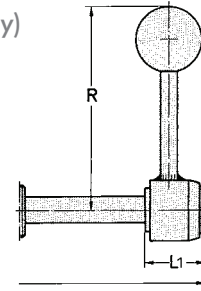


Part no. FO-121/45

View "Y"



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

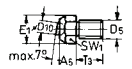


Important

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

Accessories (order separately)

Swivel thrust pad



Part no.	Thread	Weight ~ [lbs.] kg
K-612	M6	[0.02] 0,007
K-816	M8	[0.03] 0,015
K-1222	M12	[0.08] 0,035

Mounting type	Part no. with plunger	A	A1	A2	A3	A4	A5	B	B1	B2	D _{h8}	D ₁	D ₂	D ₃	D ₄
Foot mount	FO-121-45	-	44	19	12	6,3	8,5	52	68	40	12	35	-	6,5	20
	FO-161-60 FO-221-80	40 50	62 75	11 13	12 20	12 15	10 12	70 90	90 115	52 69	16 22	46 60	- -	9 11	25 36
Flange mount	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
Through hole mount	G-121-45	-	44	-	12	10	8,5	-	-	-	12	M30x1,5	40	-	20

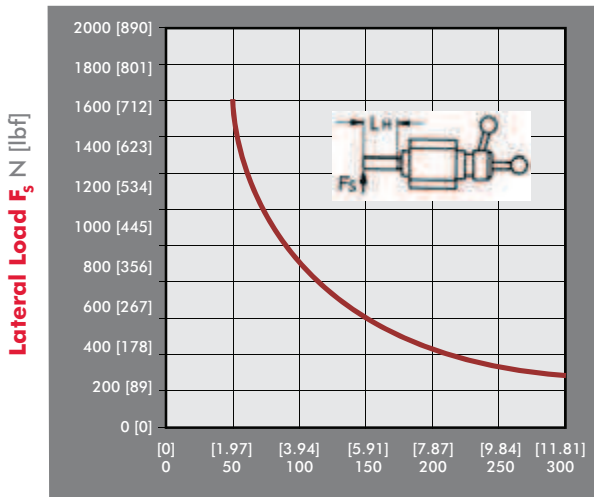
Mounting type	Part no. with plunger	D ₅	D ₁₀	E	E ₁	H	L	L ₁	R	S ₂	S ₃	SW	SW ₁	T	T ₁	T ₃
Foot mount	FO-121-45	M6	6	20	12,5	42	153	27	95	15	2,5	-	11	12	-	10
	FO-161-60 FO-221-80	M8 M12	8 9,5	30 35	14,8 19,5	58 71	196 245	35 40	130 197	18 20	3 3	- -	13 17	15 25	1 1	14 18
Flange mount	FL-121-45	M6	6	-	12,5	-	153	27	95	15	2,5	-	11	12	-	10
	FL-161-60	M8	8	28	14,8	-	196	35	130	18	3	-	13	15	1	14
Through hole mount	G-121-45	M6	6	-	12,5	-	153	27	95	15	2,5	35	11	12	-	10



Technical features:

- High holding capacity of [2020 lbf] 9000N 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

Allowable side load F_s depending on the stroke length L_H



Stroke Length L_H mm [in]

Accessories (order separately)

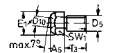
Plunger



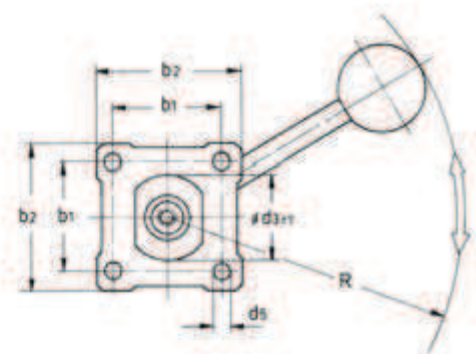
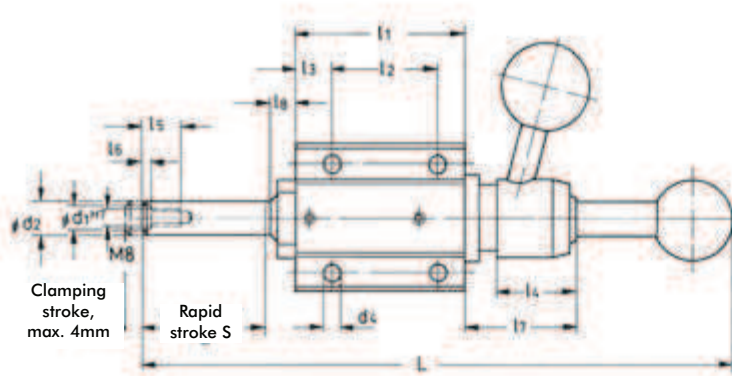
Part no.	For rapid stroke S	D_{H8}	D_5	D_9	L ~	T ~	Weight ~ [lbs.] kg
16/100F	100	16	M8	35	280	15	[0.90] 0,4
16/200F	200	16	M8	35	380	15	[1.10] 0,5
16/300F*	300	16	M8	35	480	15	[1.54] 0,7

*400 and 500 mm strokes available on request

Swivel thrust pad



Part no.	A_5	D_5	D_{10}	E_1	T_3	SW_1	Weight ~ [lbs.] kg
K-816	10	M8	8	14,8	14	13	[0.08] 0,035



Part no. without plunger	Max. holding cap. [lbs] N	F_s^* [lbs] N	b_1 b_2		~L For rapid strokes:													Weight ~ [lbs.] kg				
			100	200	300	11	12	13	14	15	16	17	18	d_1^{H7}	d_{2H8}	d_3	d_4		d_5	R		
F-160	[2020] 9000N	[1110] 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.