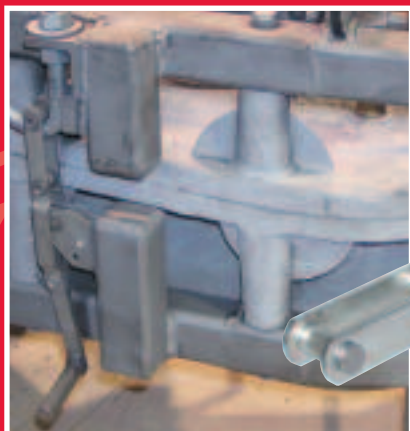
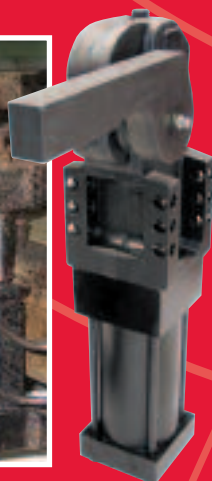




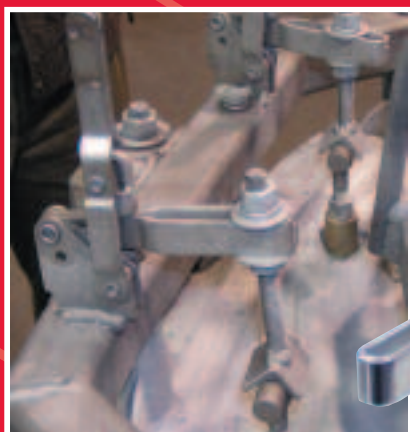
A DOVER COMPANY



Pull-Action Latch Clamps



Pneumatic Clamps



Vertical/Horizontal/Straight-line Clamps

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ROTATIONAL MOLDERS PRODUCTS

FALL 2005



NEW

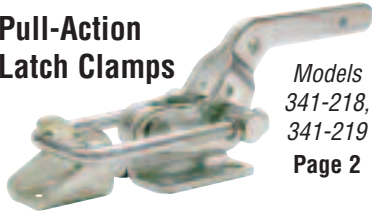
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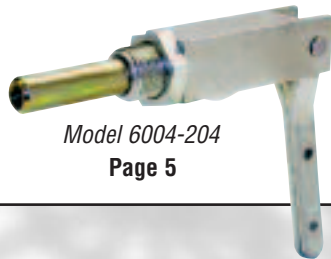
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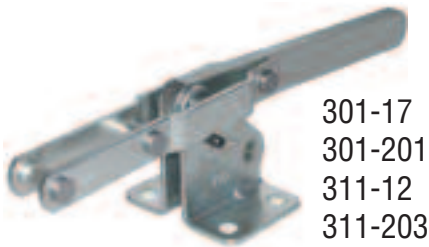


As the worldwide leader in toggle clamping technology, DE-STA-CO Industries offers you the best products from our global manufacturing facilities.

In addition to our Rotational Molders Product catalog, we highly recommend adding the newest edition of our **WORLD OF CLAMPING** catalog to your resource library.

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Note: Engineering dimensions and specifications in this catalog are subject to change without notice.



301-17
301-201
311-12
311-203



301-200
301-22
311-202
311-204

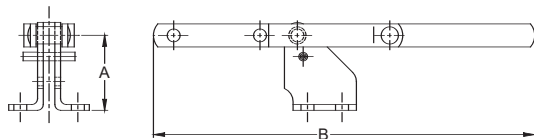
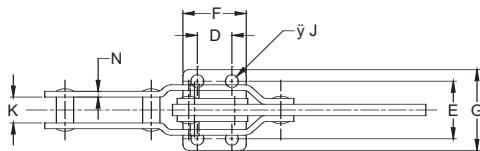
Pull-Action Latch Clamps

Series 301, 311

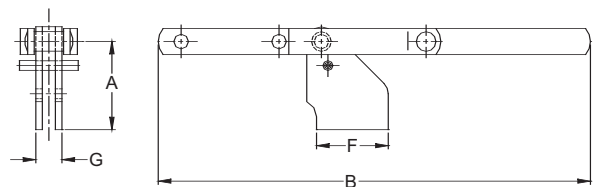
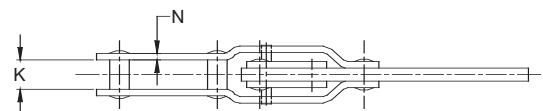
DE-STA-CO clamp Series 301 and 311 are the most widely used clamps in the molding industry. You will find these clamps being used to clamp mold halves together once the mold is closed. A fixed stop automatically limits handle travel at various clamping positions once the clamp is installed, removing the need to adjust a manual stop. Series 301 and 311 have either a flanged base or a straight base allowing for more mounting flexibility. These clamps are available in cold-rolled steel or stainless steel. Due to the high temperatures of the molding process these clamps are not supplied with grips.

Model No.	Material	Holding Capacity	Weight	Drawing Movement	Dimensions								
					A	B	D	E	F	G	J	K	N
301-17	Carbon	375 lbs.	0.7 lbs.	4.00"	1.63	8.28	0.75	1.25	1.38	1.75	0.28	0.56	0.13
301-200	Carbon	375 lbs.	0.7 lbs.	4.00"	1.69	8.28	-	-	1.38	0.50	-	0.56	0.13
301-201	Stainless	450 lbs.	0.7 lbs.	4.00"	1.63	8.28	0.75	1.25	1.38	1.75	0.28	0.56	0.13
301-22	Stainless	450 lbs.	0.7 lbs.	4.00"	1.69	8.28	-	-	1.38	0.50	-	0.56	0.13
311-12	Carbon	1200 lbs.	1.16 lbs.	3.38"	2.06	9.5	1.25	1.78	1.91	2.53	0.33	0.56	0.13
311-202	Carbon	1200 lbs.	1.16 lbs.	3.38"	2.12	9.5	-	-	1.91	0.56	-	0.56	0.13
311-203	Stainless	1400 lbs.	1.16 lbs.	3.38"	2.06	9.5	1.25	1.78	1.91	2.53	0.33	0.56	0.13
311-204	Stainless	1400 lbs.	1.16 lbs.	3.38"	2.12	9.5	-	-	1.91	0.56	-	0.56	0.13

301-17
301-201
311-12
311-203



301-200
301-22
311-202
311-204



◀ On this kayak mold, the customer uses model 311 with a pipe handle to hold the mold halves together.

301-22 clamps are used to hold together two mold halves. ▶





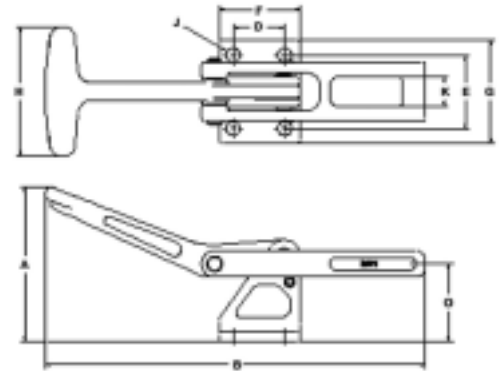
Latch Clamps



Heavy Duty Pull Action Latch Clamps

Models 3011-200, 3011-201

DE-STA-CO clamp series 3011 is the newest addition to the rotational mold product offering. As a direct, drop-in replacement for the legacy 311 clamp, these cast, robust clamps will withstand the harsh environment of the rotational mold industry. A fixed stop automatically limits handle travel at various clamping positions after installation, removing the need to adjust a manual stop. The clamps are available in 4130 carbon steel or 316 stainless steel. Model 3011-200 is black oxidized to help against corrosion. The ergonomic whale-tail handle provides better operator hand comfort.



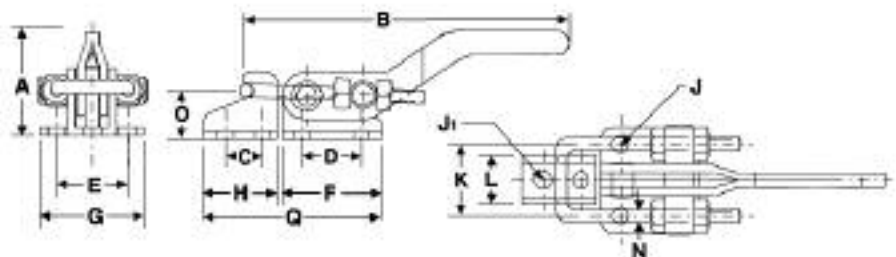
Model No.	Material	Holding Capacity	Weight	Drawing Movement	Dimensions									
					A	B	D	E	F	G	H	J	K	O
3011-200	Carbon	2000 lbs.	2 lbs.	3.00"	3.72	9.23	1.25	1.78	1.97	2.52	3.15	.33	0.71	1.87
3011-201	Stainless	2000 lbs.	2 lbs.	3.00"	3.72	9.23	1.25	1.78	1.97	2.52	3.15	.33	0.71	1.87

Pull-Action Latch Clamps



Models 341-218, 341-219

The over-center toggle locking action of these clamps suits them ideally for holding against heavy forces such as those generated in plastic molding operations. These models are ideal for quick clamping of doors, lids, or access covers onto drums, containers, or other vessels. The threaded U-bolts permit easy adjustment and provide a positive connection with the supplied latch plate. Clamps are supplied without plastic grip.



Model No.	Material	Holding Capacity	Weight	Drawing Movement	Dimensions															Q	
					A	B	C	D	E	F	G	H	J	K	L	N	O	Min	Max		
341-218	Carbon	2000 lbs.	1.43 lbs.	2.50"	2.9	7.5	.8	1.6	1.5	2.4	2.1	1.5	.3	1.75	1.2	.3	.9	3.88	4.64		
341-219	Stainless	2000 lbs.	1.43 lbs.	2.50"	2.9	7.5	.8	1.6	1.5	2.4	2.1	1.5	.3	1.75	1.2	.3	.9	3.88	4.64		



385-39

375509 Optional Latch Plate

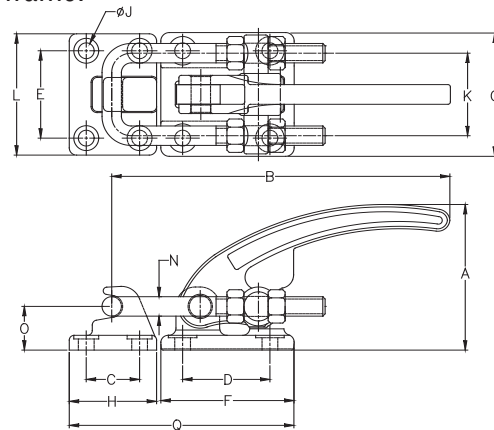
Pull-Action Latch Clamps

Model 385-29

Model 385-29, the largest latch clamp in DE-STA-CO's product line, offers a holding capacity up to 7,500 lbs. These clamps are manufactured with a stainless steel hook pin to prevent any binding caused by the harsh environments of rotational molding. The stop on the base is machined an extra .005" to allow for more of an over-center toggle lock, guaranteeing that the clamp will not open during the rotation cycles of a rotomolding application. A thumb-control release lever is supplied with the clamp – allowing the operator to remove the U-hook from the mold with the same hand being used to operate the clamp. The optional latch plate 375509 eliminates the need for fabricating a latching mechanism on the other half of the mold or frame.



Several 385-29 latch clamps are used in a rotational molding application



Model No.	Material	Holding Capacity	Weight	Drawing Movement						
385-29	Carbon	7500 lbs.	3.62 lbs.	2.19"						
Dimensions										
A	B	D	F	G	J	K	N	O	Q Min	Q Max
3.75	8.75	2.25	3.38	3.13	0.41	2.13	0.47	1.18	4.57	5.64



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Parting Line Clamps

NEW



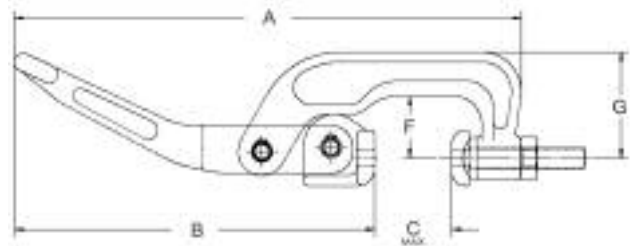
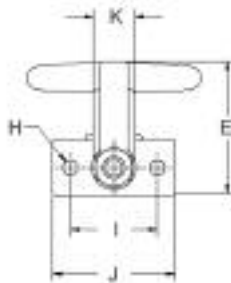
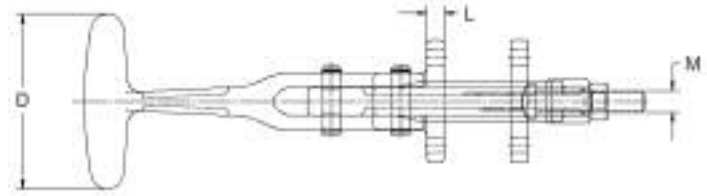
353-65

Sold as Complete Assembly

Parting Line Clamps

Models 353-35, 359-35, 353-65, 359-65

These robust, heavy-duty cast clamps are designed to withstand the harshest environments of the rotational mold industry. They are ideal for clamping directly on the parting lines of CNC machined molds and are available in carbon or stainless steel. The clamps utilize two stainless steel pivot pins to help eliminate pivot point binding. The curved radius on the mounting flange and keeper plate allows the clamp to fit snugly along the radius of the parting line. The ergonomic handle provides greater operator comfort by reducing the stress on the operator's hands. Models 353-35 and 353-65 are black oxidized to help reduce corrosion. The clamps are supplied with a tapered M10X1.5 hex head bolt assembly and keeper plate.



353004 - Carbon
353904 - Stainless
Keeper Plate



353908
Tapered Bolt
Assembly

Model No.	Material	Max Mechanical Advantage (M.A.)	Holding Capacity	Weight	Dimensions												
					A	B	C Max	D	E	F	G	H	I	J	K	L	M
353-35	Carbon	23:1	2800 lbs.	2.1 lbs.	232.4	165.2	35.3	80	60.4	28.5	48.5	6.8	40	56	19	8	M10X1.5
					9.15	6.5	1.39	3.15	2.38	1.12	1.91	0.27	1.57	2.2	0.75	0.31	
359-35	Stainless	23:1	1400 lbs.	2.1 lbs.	232.4	165.2	35.3	80	60.4	28.5	48.5	6.8	40	56	19	8	M10X1.5
					9.15	6.5	1.39	3.15	2.38	1.12	1.91	0.27	1.57	2.2	0.75	0.31	
353-65	Carbon	27:1	2100 lbs.	2.3lbs.	262.4	165.2	65.3	80	60.4	28.5	48.5	6.8	40	56	19	8	M10X1.5
					10.33	6.5	2.57	3.15	2.38	1.12	1.91	0.27	1.57	2.2	0.75	0.31	
359-65	Stainless	27:1	1200 lbs.	2.3 lbs.	262.4	165.2	65.3	80	60.4	28.5	48.5	6.8	40	56	19	8	M10X1.5
					10.33	6.5	2.57	3.15	2.38	1.12	1.91	0.27	1.57	2.2	0.75	0.31	

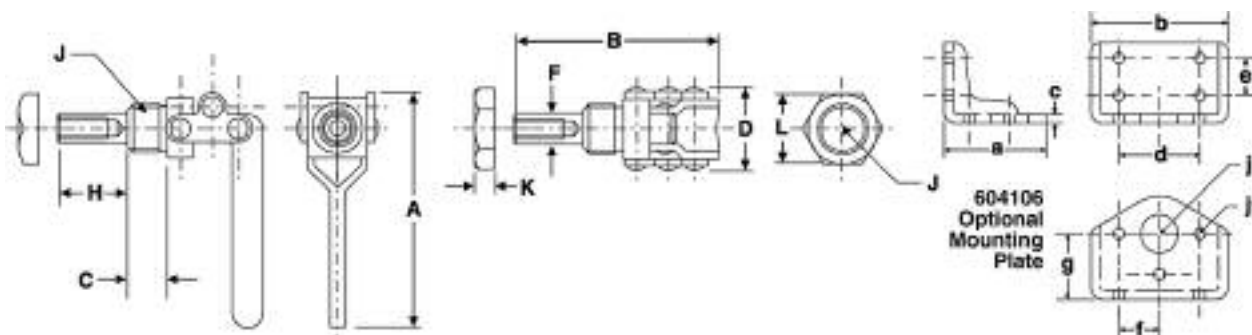
Straight-Line Action Clamps

Models 604-203, 604-215

With fully retractable locators, these models are ideal for locating or holding in place small mold components where traditional hold-down clamps will not work. These clamps are mounted directly through a member by a jam nut on the work side, or flush by drilling and tapping the member. Model 604 locks in both the extended and retracted positions. Clamps are manufactured without grips.



604106
Mounting Plate

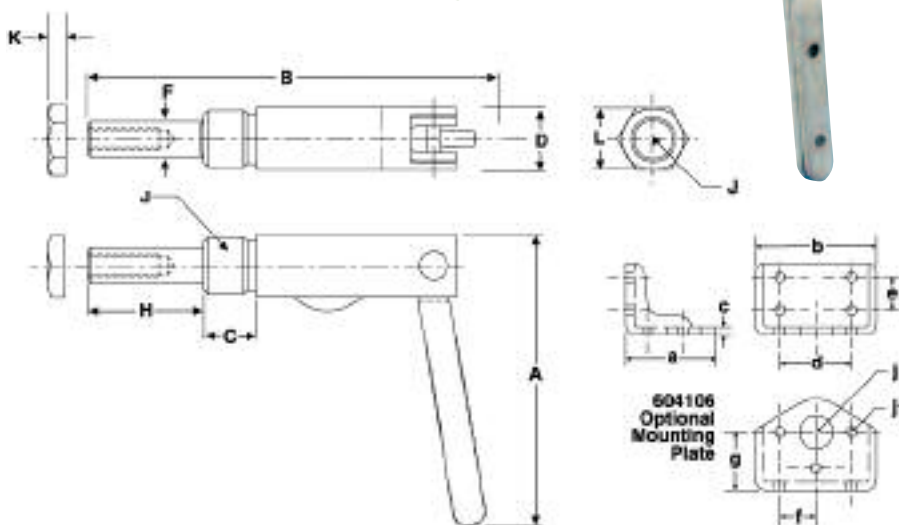
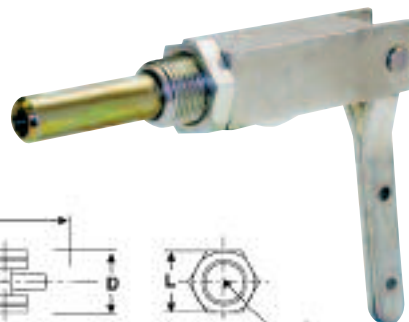


Straight-Line Action Clamp



Model 6004-204

The newest addition to the Rotational Mold product offering. Model 6004 is approximately the same size as Model 604, but offers **50% more** holding capacity. This higher holding capacity is a result of the clamp's longer body housing, which provides more support and stability for the plunger. May be mounted through a jam nut or a tapped hole, and locks in either the extended or retracted position.



Model No.	Material	Holding Capacity	Weight	Plunger Travel	Plunger Thread	Dimensions								
						A	B	C	D	F	H	J	K	L
604-203	Carbon	300 lbs.	.44 lbs.	1.50"	5/16-18	4.06	4.94	0.63	1.25	0.44	1.56	3/4-16	0.25	1.00
604-215	Stainless	400 lbs.	.44 lbs.	1.50"	5/16-18	4.06	4.94	0.63	1.25	0.44	1.56	3/4-16	0.25	1.00
6004-204	Carbon	450 lbs.	.81 lbs.	1.50"	5/16-18	4.12	5.63	0.75	0.87	0.50	1.59	3/4-16	-	-



Hold-Down Clamps

Vertical Hold-Down Clamps

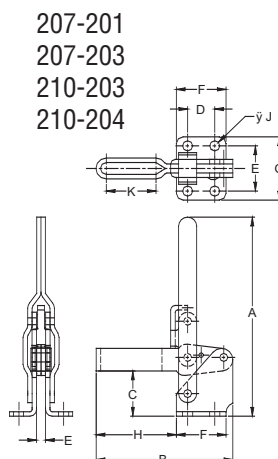
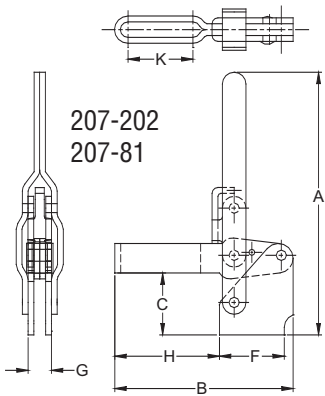
Series 207, 210

The vertical hold-down clamps offered by DE-STA-CO are the popular choice for workholding solutions in a variety of rotational molding applications. You will find these clamps functional and flexible, and the appropriate choice to hold core pins, close fill-ports, or secure sections of multi-piece molds.

Clamps for the rotational molding market are supplied without a grip. A 1/8" hole is drilled into the clamp arm for accepting a standard cotter pin, which is used to secure the clamp in the closed position during the rotation cycle of the mold. Two different base options – flanged or straight base – allow these clamps to be welded or bolted to the mold frame. Clamp Series 207 and 210 are available in stainless steel to prevent corrosion during the cool down process.



Model No.	Material	Holding Capacity	Weight	Handle Moves	Bar Moves	Dimensions									
						A	B	C	D	E	F	G	H	J	K
207-201	Carbon	375 lbs.	.67 lbs.	62°	115°	6.69	3.68	1.25	0.75	1.25	1.38	1.75	2.15	0.28	1.30
207-202	Carbon	375 lbs.	.67 lbs.	62°	115°	5.57	3.68	1.31	-	-	1.38	0.50	2.15	-	1.30
207-203	Stainless	450 lbs.	.67 lbs.	62°	115°	5.51	4.38	1.25	0.75	1.25	1.38	1.75	2.81	0.28	2.02
207-81	Stainless	450 lbs.	.67 lbs.	62°	115°	5.57	4.38	1.31	-	-	1.38	0.50	2.81	-	2.02
210-203	Carbon	600 lbs.	1.29 lbs.	58°	106°	7.53	5.35	1.69	1.25	1.78	1.91	2.53	3.44	0.33	2.58
210-204	Stainless	750 lbs.	1.29 lbs.	58°	106°	7.53	5.35	1.69	1.25	1.78	1.91	2.53	3.44	0.33	2.58



A 207-202 clamp is used to hold a component on a rotational mold.



Now as a standard feature for the molding industry, a 1/8" hole is drilled right behind the clamp handle to allow a cotter pin to be inserted for securing the clamp in the closed position.

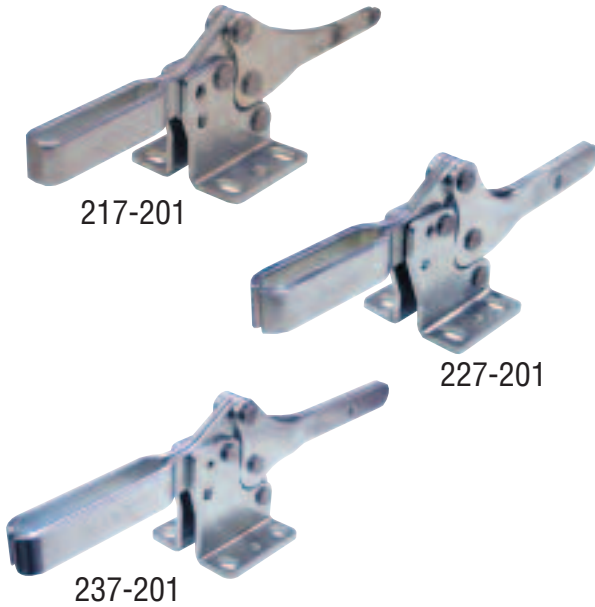


207-81 clamps are used to hold several pull-pins in place on a mold.

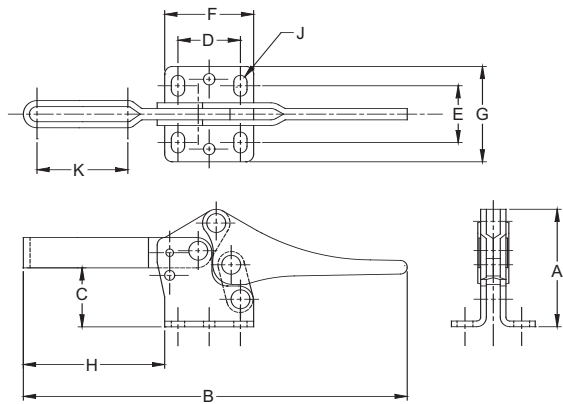
Horizontal Hold-Down Action Clamps

Models 217-201, 227-201, 237-201

These clamps are ideal for closing fill-ports, but because of their low-profile design they can be used in applications where overhead clearance is an issue. These models offer a combination of safety design and a patented bar guide feature. The bar guide gives extra lateral support and rigidity to the hold-down bar at the front of the base. The units are designed to give more hand clearance between the bar and handle when the clamps are in the full open position. The 1/8" hole drilled into the base of the clamp and the bar is supplied to accept a cotter pin, which secures the clamp in the closed position during the molding process. Clamps are not supplied with grips.



Model No.	Material	Holding Capacity	Weight	Handle Moves	Bar Moves	Dimensions									
						A	B	C	D	E	F	G	H	J	K
217-201	Carbon	200 lbs.	.40 lbs.	76°	92°	1.97	6.30	0.97	1.03	1.15	1.47	1.57	2.32	0.22	1.50
227-201	Carbon	500 lbs.	.68 lbs.	62°	92°	2.39	7.24	1.31	1.03	1.23	1.56	1.72	2.68	0.27	1.50
237-201	Carbon	750 lbs.	1.60 lbs.	63°	92°	3.11	10.57	1.77	1.63	1.69	2.25	2.25	4.07	0.34	2.75



To help keep the clamp in the closed position, a 1/8" hole was drilled through the base and bar of the clamp to accept a standard cotter pin.



To close the fill-ports on these molds, the rotational molder chooses to use DE-STA-CO clamp model 217-201.





Extreme Temperature Pneumatic Clamps

Models 825-MRM, 991-MRM, 1091-MRM



Model 825-MRM

These new, fully-enclosed high temperature power clamps are manufactured using proprietary coatings and extreme temperature grease and seals. This makes them ideal for rotary molding applications. With the clamps over-center toggle lock design, air lines can be disconnected allowing the clamps to travel in and out of high temperature ovens while maintaining constant clamping pressure.

Model No.	Weight	Arm Style*	Arm Opening
825-MRM	4.7 lbs.	90° RH	90°
991-MRM	18 lbs.	90° Dual	118°
1091-MRM	33 lbs.	90° Dual	98°

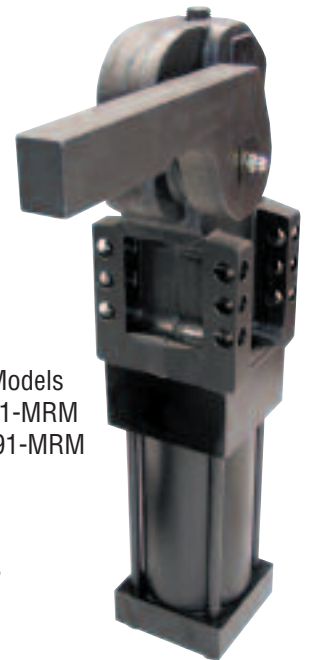
* Clamp arm can be positioned in 180° by removing the arm while the clamp is in the closed position – then adjusting arm to the 180° position

Features:

- Roller bearing used in high-stress loading points
- Over-center toggle lock mechanism
- Fully-enclosed mechanism packed with no melt, extreme temperature grease
- Extreme temperature polymer seals
- Totally enclosed clamp assembly

Benefits:

- Powerful holding and exerting forces
- Clamp remains locked when air pressure is lost or removed
- Specifically designed for rotary molding applications
- Capable of continuous exposure to 500°F and short exposure to 700°F ovens
- Retains lubrication while keeping out quench spray and other contaminants for reduced maintenance



Models 991-MRM 1091-MRM

Model No.	Formula to Calculate Exerting force
825-MRM	$\text{Max. Clamp Arm Exerting Force (lbs.)} = \frac{10 \text{ X Line Pressure (psi)}}{\text{Distance from Pivot Point to Clamping Point (in.)}}$
991-MRM	$\text{Max. Clamp Arm Exerting Force (lbs.)} = \frac{40 \text{ X Line Pressure (psi)}}{\text{Distance from Pivot Point to Clamping Point (in.)}}$
1091-MRM	$\text{Max. Clamp Arm Exerting Force (lbs.)} = \frac{92.5 \text{ X Line Pressure (psi)}}{\text{Distance from Pivot Point to Clamping Point (in.)}}$

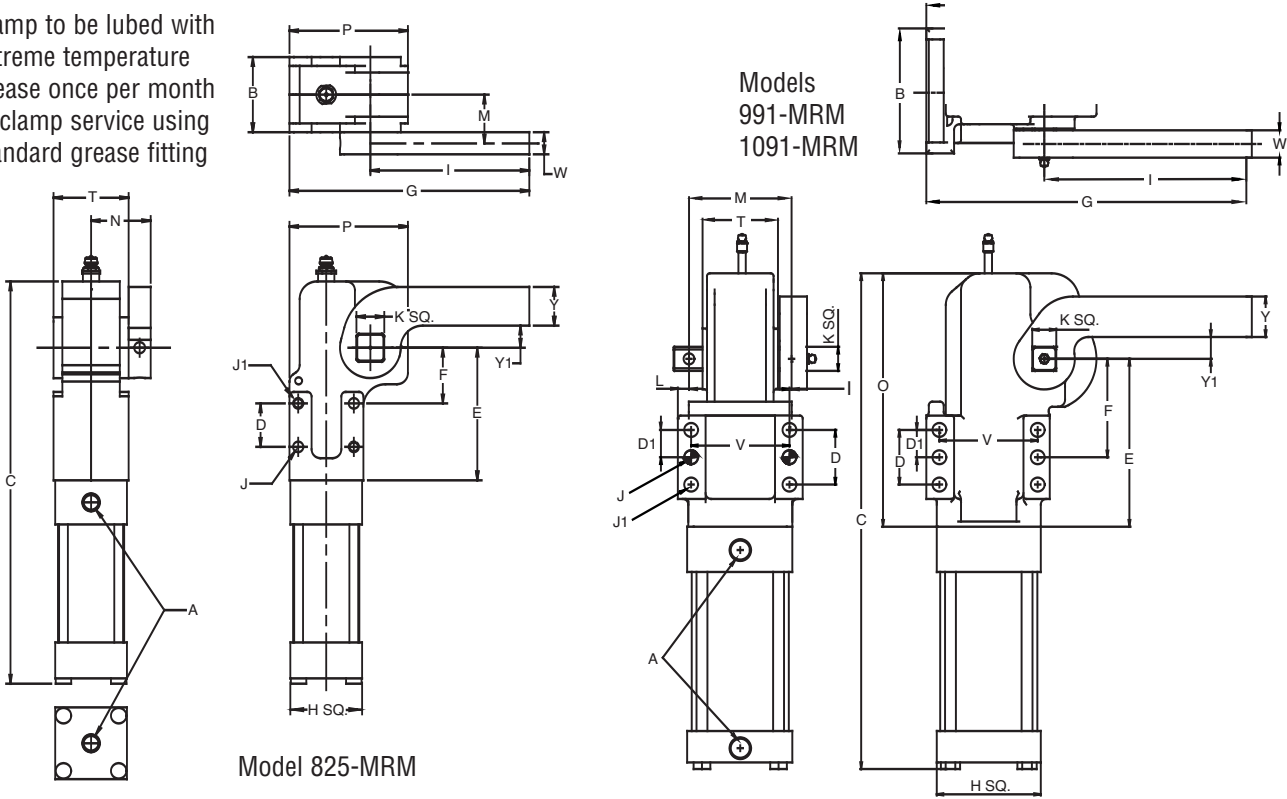


Extreme Temperature Pneumatic Clamps

Model 991-MRM

◀ 991 MRM clamps (4) used to clamp two mold halves together.

Clamp to be lubed with extreme temperature grease once per month of clamp service using standard grease fitting



Model No.	Dimensions												
	A	B	C	D	D1	E	F	G	H	I	Ø J	Ø J1	K
825-MRM	1/8 G Port	43	246	25	-	76	32	138	41 Sq.	91.7	6	M6 X 1	16
991-MRM	3/8 G Port	86	376	35	17.5	123	76.2	225	76 Sq.	150	9.5	10.0	19
1091-MRM	1/2 G Port	116	448	51	25	153	90	293	95 Sq.	195	13	13.5	22

Model No.	Dimensions										
	L	M	N	O	P	T	U	V	W	Y	Y1
825-MRM	-	28	34	114	68	43	32	-	13	22	13
991-MRM	10	70	43	183	104	49	65	70	20	33	20
1091-MRM	10.2	94	61	232	156	68	90	90	25	37	20

About DE-STA-CO

DE-STA-CO, a Dover Company, was founded in 1915. In 1936 the company designed and manufactured the first manual toggle clamp.

Innovations, quality and acquisitions have made DE-STA-CO the worldwide leader in the design, manufacture and support of clamping, gripping, transferring and robotic tooling solutions for workplace and flexible automation needs.

This family of brands has enabled DE-STA-CO to establish leading productivity improvement and cost-reduction manufacturing solutions for our customers using the breadth of products and value-added services we offer.

Our customer base covers a wide range of industries requiring a global customer service network offering consistent solutions and program support. With over 85 years of experience, DE-STA-CO brings a quality philosophy unsurpassed by its counterparts.

So Many Possibilities. One Company.



CLAMP



GRIP



TRANSFER



MOVE



AUTOMATE

DE-STA-CO Lean Initiative

The DE-STA-CO family of companies is committed to being a lean resource for its customers, providing ways to eliminate waste in manufacturing processes through the use of optimal clamping and automation solutions that eliminate bottlenecks.

DE-STA-CO's wide range of products allows the company to offer its customers an Automation Continuum™ providing solutions that increase profitability and efficiency, while reducing waste.

Product Warranty

All DE-STA-CO Products are thoroughly inspected and tested. We fully guarantee all materials and workmanship to be free of defects. Any product that is found to be defective in design, material or workmanship in the course of its normal use will be promptly replaced.

This Warranty does not apply to any product where the failure is a result of misapplication or abuse, nor is there any Warranty expressed or implied as to the merchantability or fitness for a particular purpose of the product and any warranty is limited to the above express warranty.

This Warranty is null and void if the product is repaired, modified or altered in any way.

DE-STA-CO is not liable for labor, special, direct, incidental, or consequential damages and under no circumstances any charges in excess of the invoice amount of the product proven to be defective.



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