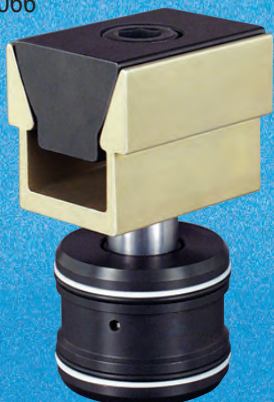


Uniforce® Hydraulic Clamp

U.S. Patent No. 6,019,357

110066



These clamps are a combination of Mitee-Bite® Products Uniforce® Clamp and Hytec's cartridge pull cylinders. Two pull cylinders are offered to power each of five of the most popular Uniforce clamps. One will create the force necessary to achieve the clamp's rated force at 5,000 psi hydraulic pressure. The other powers the clamp to its maximum rating at only 2,500 psi. This allows the efficient use of these clamps in lower pressure systems however, **never exceed the maximum pressure rating** of the clamp/cylinder assembly.

The pull cylinders are designed for cartridge mounting in a cavity supplied by the fixture builder. The required cavity is simply a cylindrical bore with a properly deburred pressure port intersecting it, providing the fluid connection. Where possible, pins inserted in the back of the piston are provided.

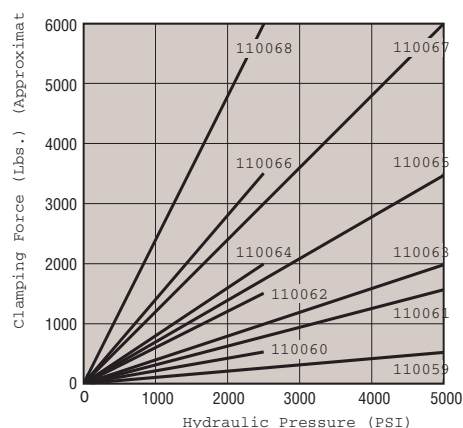
These pins can be guided by holes drilled in the sub-plate to prevent cylinder rotation when adjustments are made. A breather hole should always be provided and may be combined with the pin holes where appropriate.

An external stop prevents over-travel of the clamp if actuated without a workpiece in place.

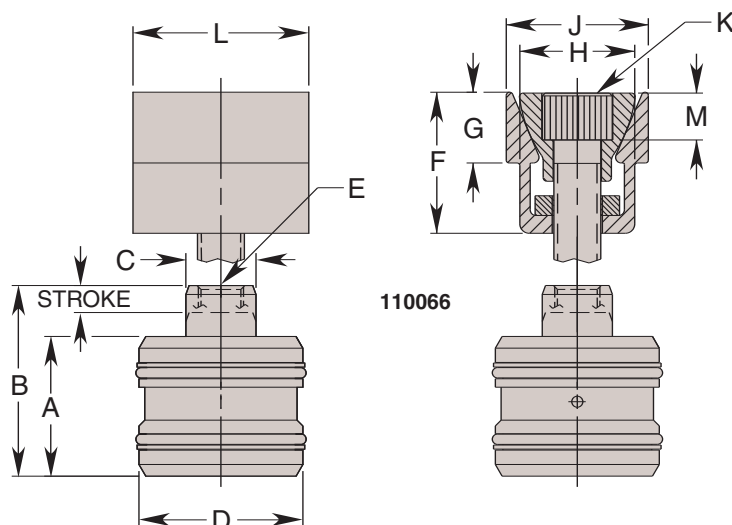
Features:

- Minimal space requirements
- Reduces repetitive motion injuries
- 5,000 psi and 2,500 psi max. versions
- Cylinders require no additional fixture space
- Rod wiper excludes contaminants
- Plating & Power-Tech™ processes resist corrosion
- Single-acting, spring return

Mitee-Bite and Uniforce are registered trademarks of Mitee-Bite Products Company.



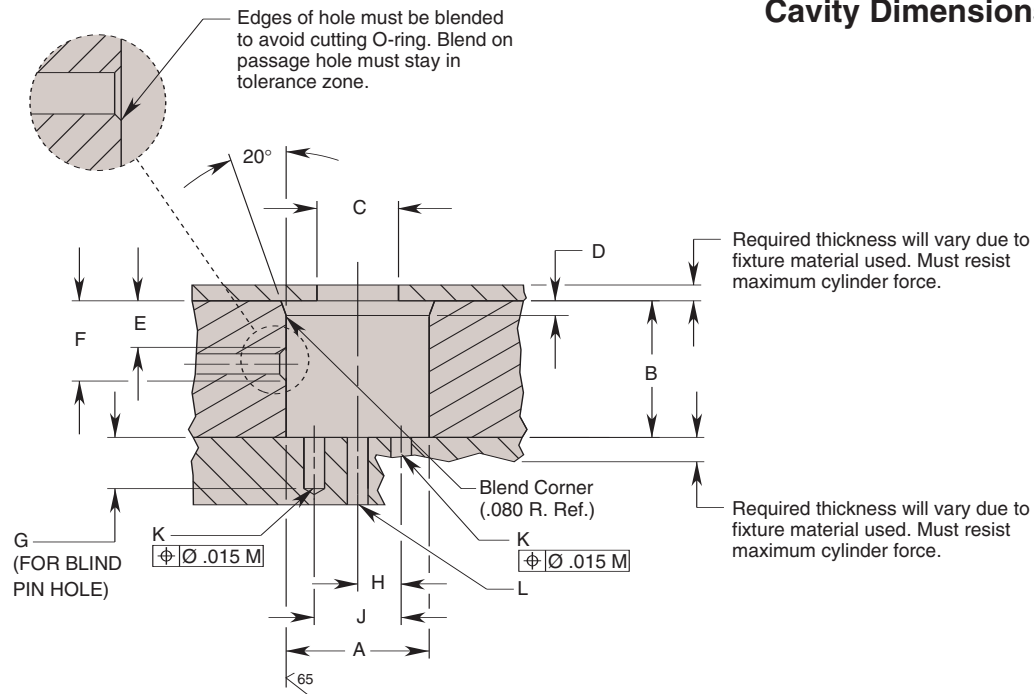
Performance
— 110059 — 110068



Clamp & Cylinder Assembly Cat. No.	Clamp Assembly Specifications			Cylinder Specifications			Cylinder Dimensions (In Inches)						
	Operating Pressure Max. (psi)	Holding Force Max. (Lbs.)	Clamp Spread Max.	Stroke (In.)	Eff. Area (Sq. in.)	Oil Cap. (Cu. in.)	A	B	C	D	E Piston Thread		
											Size	Depth	
110059	5,000	290	.565	.123	.137	.017	1.115	1.210	.373	.810	8-32 UNC	.320	
110060	2,500				.353	.043							
110061	5,000	1,500	.830		.178	.537	.096	1.240	1.325	.560	1.185	¼-20 UNC	.375
110062	2,500												
110063	5,000	2,000	1.120	.288		1.042	.185	1.365	1.470	.748	1.748	⅜-18 UNC	.470
110064	2,500												
110065	5,000	3,500	1.650		.288	1.802	.519	1.490	1.605	.873	2.123	½-13 UNC	.500
110066	2,500												
110067	5,000	6,000	2.175	.288		3.542	1.020	1.615	2.000	1.059	2.873	¾-11 UNC	.625
110068	2,500												

Clamp & Cylinder Assembly Cat. No.	Uniforce Clamp Dimensions (In Inches)								Uniforce Clamp (only) Cat. No.
	F	G	H	J	K Cap Screw		L	M C'Bore Depth	
					Thd. Size	Length			
110059	.575	.220	.410	.485	8-32 UNC	.625	.625	.165	500184
110060									
110061	.790	.375	.635	.735	¼-20 UNC	.875	.940	.255	500185
110062									
110063	1.090	.500	.820	.980	⅝-18 UNC	1.250	1.250	.310	500186
110064									
110065	1.590	.750	1.215	1.470	½-13 UNC	2.000	1.875	.510	500187
110066									
110067	2.090	1.000	1.625	1.960	¾-11 UNC	2.500	2.500	.625	500188
110068									

110059 — 110068 Cavity Dimensions



Cat. No.	Cavity Dimensions (In Inches)				Oil Passage Location (In Inches)		Cavity Dimensions (In Inches)				
	A Dia.	B Cyl. Body Length Max.	C Dia.	†D	E Min.	F Max.	G Min.	H	J	K Dia.	*L Vent Dia. Min.
110059	.812 .815	1.120 1.130	.387 .577	.125 .145	.475	.728	—	—	—	—	.125
110060	1.187 1.190		.572 .911		.427	.710					
110061	1.187 1.190		.572 .911		.437	.787					
110062	1.312 1.315	1.245 1.255	.572 1.000		.476	.734					
110063	1.312 1.315		.572 1.000		.476	.734					
110064	1.750 1.753		.760 1.437		.531	.819					
110065	1.750 1.753	1.370 1.380	.760 1.437		.531	.819					
110066	2.125 2.128	1.495 1.505	.885 1.812		.526	.943	.510	.550	1.100	.270 .280	
110067	2.125 2.128	1.495 1.505	.885 1.812			.943	.510	.550	1.100	.270 .280	
110068	2.875 2.878	1.620 1.630	1.074 2.500			1.001	.650	.785	1.570	.270 .280	

Note: * Cavity must be vented

† Chamfer to be located at end of bore "A" from which the cylinder will be assembled.

500184 — 500188 Application Chart

Cat. No.	Dimensions (In Inches)	
	A Groove Width	B Workpiece Spacing
500184	.440	.500
500185	.665	.750
500186	.850	1.000
500187	1.245	1.500
500188	1.655	2.000

Note: Groove "A" is recommended to maintain clamp orientation.

