

# Cylinders

## Slip-In Cartridge Mount Pull

# NEW

### Single Acting

These "buried" devices clean up the face of your fixture. Manifold mounted, minimal fixture space consumption, an easy way for you to add precise hydraulic pull to a bolt or device on the fixture face. Use our optional cylinder retaining ring or design your own retainer to fit your application.

- Easy to use, cartridge mount, Pull Cylinders available in six sizes.
- Slip-in Pull design provides easy cavity machining.
- Short strokes specifically designed for use with bolt down clamping elements.
- Compact design, return springs included.
- 360° oil feed location simplifies oil passages.

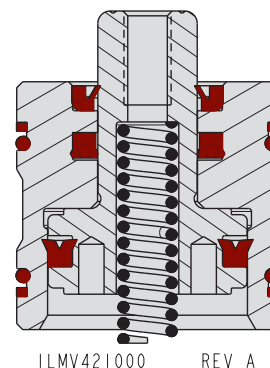


F-16

BHC™ (Black Hard Coating) on the cylinder body helps prevent scoring and scratching. After years of use, cylinder removal is easier because of BHC's corrosion resistance.

### Specifications

Model No.	Cylinder Capacity* (kN)		Stroke (mm)**	Plunger Thread***	Min. Length (mm)	Effective Piston Area (cm <sup>2</sup> )		Oil Capacity (cm <sup>3</sup> )	
	Extend	Retract				Extend	Retract	Extend	Retract
<b>Single Acting (S/A) Cylinders, actuated hydraulically and spring returned.</b>									
42-1136-00	N/A	4.4	3.2	M4 X 0.7	30.7	N/A	1.3	N/A	0.4
42-1139-00	N/A	8.9	4.5	M4 X 0.7	30.7	N/A	2.6	N/A	1.2
42-1139-01	N/A	8.9	4.5	M6 X 1.0	33.7	N/A	2.6	N/A	1.2
42-1140-00	N/A	13.1	4.5	M6 X 1.0	36	N/A	3.8	N/A	1.7
42-1140-01	N/A	13.1	4.5	M8 X 1.25	36	N/A	3.8	N/A	1.7
42-1143-00	N/A	23.1	4.5	M10 X 1.5	37.3	N/A	6.7	N/A	3.0
42-1143-01	N/A	23.1	4.5	M12 X 1.75	37.3	N/A	6.7	N/A	3.0
42-1146-00	N/A	40	7.3	M12 X 1.75	40.8	N/A	11.6	N/A	8.5
42-1146-01	N/A	40	7.3	M16 X 2.0	42.9	N/A	11.6	N/A	8.5
42-1151-00	N/A	76.1	7.3	M16 X 2.0	50.8	N/A	22.9	N/A	16.8



\* Cylinder capacities are listed at 350 Bar (35 MPa) operating pressure. The minimum operating pressure is 52 Bar (5.2 MPa) for S/A operation. The cylinder force is adjustable by varying the hydraulic system pressure to the cylinder. To determine approximate output force for your application, divide the cylinder capacity shown above by 350 bar (35 MPa), and multiply the resultant by your system pressure in bar to obtain the approximate cylinder force for your application. (Actual forces will vary slightly due to internal friction and/or return spring force.)

\*\* Cylinder stroke may exceed stroke of the clamping element. Limiting cylinder stroke may be required to ensure proper operation of clamping element.

\*\*\* At full cylinder capacity, fastener life will be limited, and fasteners should be considered service items. Fasteners should be replaced frequently when operating at full capacity to prevent plunger damage. Only class 12.9 fasteners should be used. Models 42-1139-00 and 42-1140-00 are not recommended for use above 172 Bar (17.2 MPa).

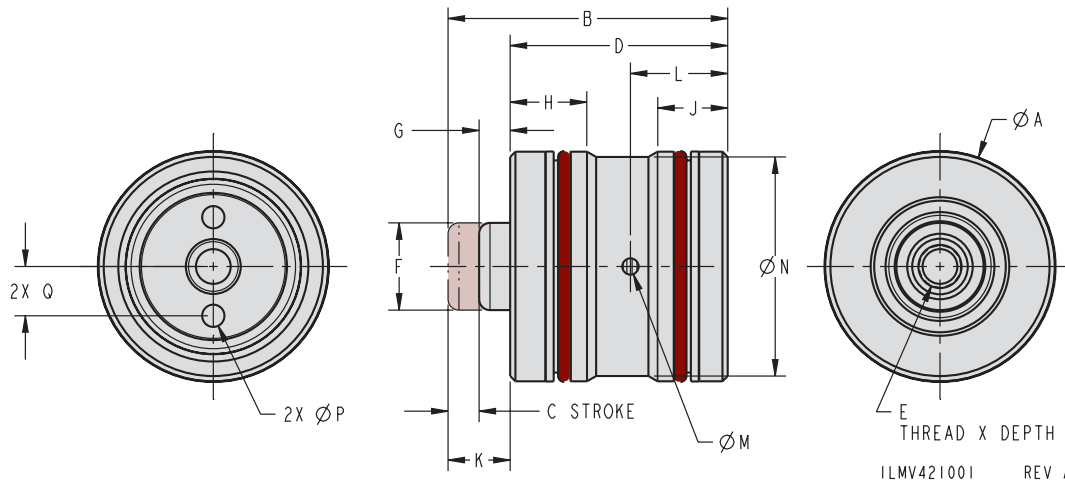
### Dimensions

Model No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
<b>Single Acting (S/A) Cylinders, actuated hydraulically and spring returned.</b>															
42-1136-00	20.5	33.9	3.2	28.3	M4 X 0.7 X 6.2	9.5	2.4	11.1	10.2	5.6	13	2	19.0	2.4	5.5
42-1139-00	30.1	35.2	4.5	28.3	M4 X 0.7 X 8.8	12.7	2.4	11.1	10.2	6.9	14	2.4	28.5	2.4	6.7
42-1139-01	30.1	38.2	4.5	31.5	M6 X 1.0 X 11.8	12.7	2.2	11.1	10.2	6.7	14	2.4	28.5	2.4	6.7
42-1140-00	33.2	40.5	4.5	31.5	M6 X 1.0 X 11.9	12.7	4.5	11.1	10.2	9	14	2.4	31.7	3.2	7.1
42-1140-01	33.2	40.5	4.5	31.5	M8 X 1.25 X 14.1	12.7	4.5	11.1	10.2	9	14	2.4	31.7	3.2	7.1
42-1143-00	44.4	41.8	4.5	34.7	M10 X 1.5 X 16.9	19	2.7	11.1	10.2	7.2	14	2.4	42.8	3.2	11.1
42-1143-01	44.4	41.8	4.5	34.7	M12 X 1.75 X 16.9	19	2.7	11.1	10.2	7.2	14	2.4	42.8	3.2	11.1
42-1146-00	53.9	48.1	7.3	37.8	M12 X 1.75 X 12.7	22.2	2.9	11.1	10.2	10.3	20.3	2.8	52.4	6.4	12.7
42-1146-01	53.9	50.3	7.3	37.8	M16 X 2.0 X 14.9	22.2	5.1	11.1	10.2	12.4	20.3	2.8	52.4	6.4	12.7
42-1151-00	72.9	58.1	7.3	41.0	M16 X 2.0 X 19.9	26.9	9.8	11.1	10.2	17.1	20.3	2.8	71.4	6.4	19.9



# Cylinders

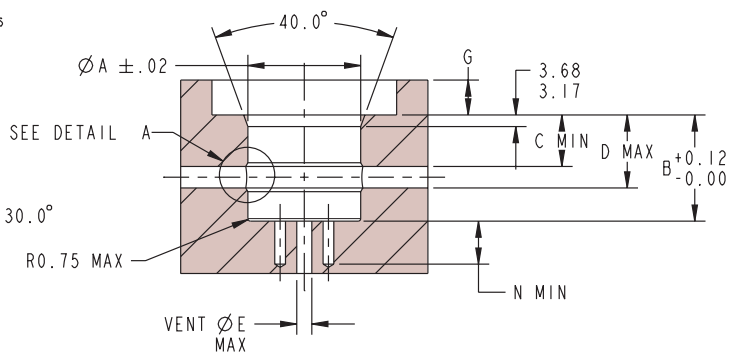
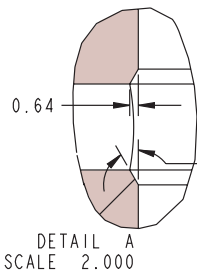
## Cartridge Mount Pull



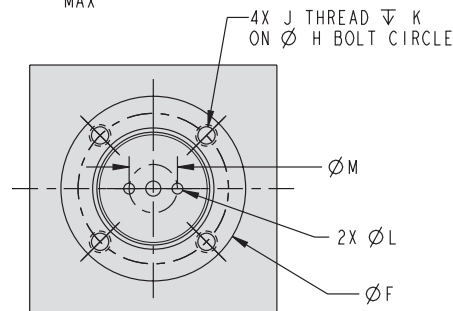
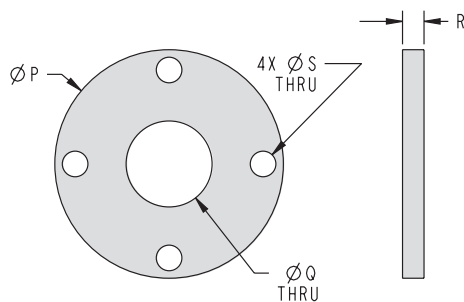
NOTE: Return spring and anti-rotation pins included.

NOTE: FLEXIBLE HONING/ BALL HONING OF CAVITY IS STRONGLY RECOMMENDED.

Preferred Relief Detail  
Relief to be within Dimensions C & D



OPTIONAL CYLINDER RETAINING RING



ILMV421002 REV A

### Cavity Dimensions

Model No.*	Cap. (kN)	A	B	C	D	E	F**	G**	H**	J**	K**	L***	M***	N***	P	Q	R	S	Bolt Torque	Optional Retainer
<b>Single Acting (S/A) Cylinders, actuated hydraulically and spring returned.</b>																				
42-1136-00	4.4	20.65	28.45	11.2	18.3	4.1	36.3	8.0	28.7	M4 X 0.7	6	3.3	11.2	7.9	35.43	12.7	3.18	4.39	3.3 N-m	64-0140-80
42-1139-00	8.9	30.18	28.45		18.3	4.6	47.2	8.0	39.6	M4 X 0.7	6	3.3	13.5	10.2	46.53	19.1	3.18	4.39	3.3 N-m	64-0141-10
42-1139-01					21.3															
42-1140-00	13.1	33.35	31.62		21.3	4.6	54.6	10.0	44.5	M6 X 1.0	9	3.3	14.3	10.2	53.98	19.1	3.18	6.53	7.0 N-m	64-0141-30
42-1140-01					21.3															
42-1143-00	23.1	44.48	34.80		24.6	8.4	71.9	13.5	58.8	M8 X 1.25	12	4.1	22.2	10.2	70.66	25.4	4.75	8.33	16 N-m	64-0141-70
42-1143-01					24.6															
42-1146-00	40	54.00	37.97		27.7	8.9	86.4	17.0	71.4	M10 X 1.5	15	7.1	25.4	15.2	85.73	28.5	6.35	10.4	35 N-m	64-0142-10
42-1146-01				27.7																
42-1151-00	76.1	73.05	41.15	31.0	10.2	116.6	23.0	96.8	M12 X 1.75	18	7.1	39.9	15.2	115.9	31.8	9.53	13.08	80 N-m	64-0142-80	

- \* Lubricate O-rings with grease prior to installation.
- \*\* This cavity uses the optional retaining ring available from Vektex. These features are for use with the retaining ring.
- \*\*\* These features are only needed if anti-rotation pins are used. Anti-rotation pins and return springs are included with the cylinder.

