

# Cylinders

## Block

### Single and Double Acting

- No special mounting hardware required, just bolt down these easy to use devices.
- Dual position mounting, either parallel or perpendicular to piston travel, on every model.
- A force ranging from "negligible" to maximum cylinder capacity, simply adjust the input pressure.
- Advance porting, for easy plumbing, is provided on both bottom and side of most models.

Threaded piston ends allow the use of custom end attachments (Double Acting recommended for attachments or mechanisms).

Springs are designed to return the cylinder and contact points, S/A not intended to pull mechanisms.



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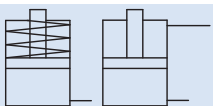
Model No.	Cylinder Capacity (lb.)**		Stroke (in.)	Body Size	Minimum Length (in)	Piston Area (sq. in.)		Oil Capacity (cu. in.)	
	Extend	Retract				Extend	Retract	Extend	Retract
<b>Single Acting (S/A)</b>									
<b>Cylinders, actuated hydraulically 1 direction, spring returned.</b>									
20-1108-00	2200	N/A	0.25	1.13 x 2.00	2.37	0.442	N/A	0.110	N/A
20-1108-01			0.75		3.12			0.330	
20-1110-00	3900	N/A	0.50	1.75 x 2.00	2.80	0.785	N/A	0.393	N/A
20-1110-01			1.00		3.30			0.785	
20-1110-04			1.50		3.93			1.177	
20-1110-02			2.00		4.43			1.570	
20-1115-00	8800	N/A	0.50	2.00 x 2.50	2.88	1.767	N/A	0.884	N/A
20-1115-01			1.00		3.38			1.767	
20-1115-04			1.50		3.88			2.650	
20-1115-02			2.00		4.38			3.534	
<b>Double Acting (D/A)</b>									
<b>Cylinders, actuated hydraulically both directions.</b>									
20-1208-00	2200	1200	0.25	1.13 X 2.00	2.37	0.442	0.246	0.110	0.061
20-1208-01			0.75		3.12			0.330	0.183
20-1210-00	3900	1300	0.50	1.75 X 2.00	2.80	0.785	0.267	0.393	0.134
20-1210-01			1.00		3.30			0.785	0.268
20-1210-04			1.50		3.93			1.177	0.400
20-1210-02			2.00		4.43			1.570	0.536
20-1215-00	8800	3800	0.50	2.00 x 2.50	2.88	1.767	0.773	0.884	0.387
20-1215-01			1.0		3.38			1.767	0.774
20-1215-04			1.5		3.88			2.650	1.160
20-1215-02			2.0		4.38			3.534	1.548

\*\* Cylinder capacities are at 5,000 psi maximum operating pressure. The output force is adjustable by varying hydraulic system pressure. To determine the approximate output force for your application, multiply the piston area by your system operating pressure. (Actual force may vary slightly due to friction loss, seal and wiper drag, and/or return springs.)

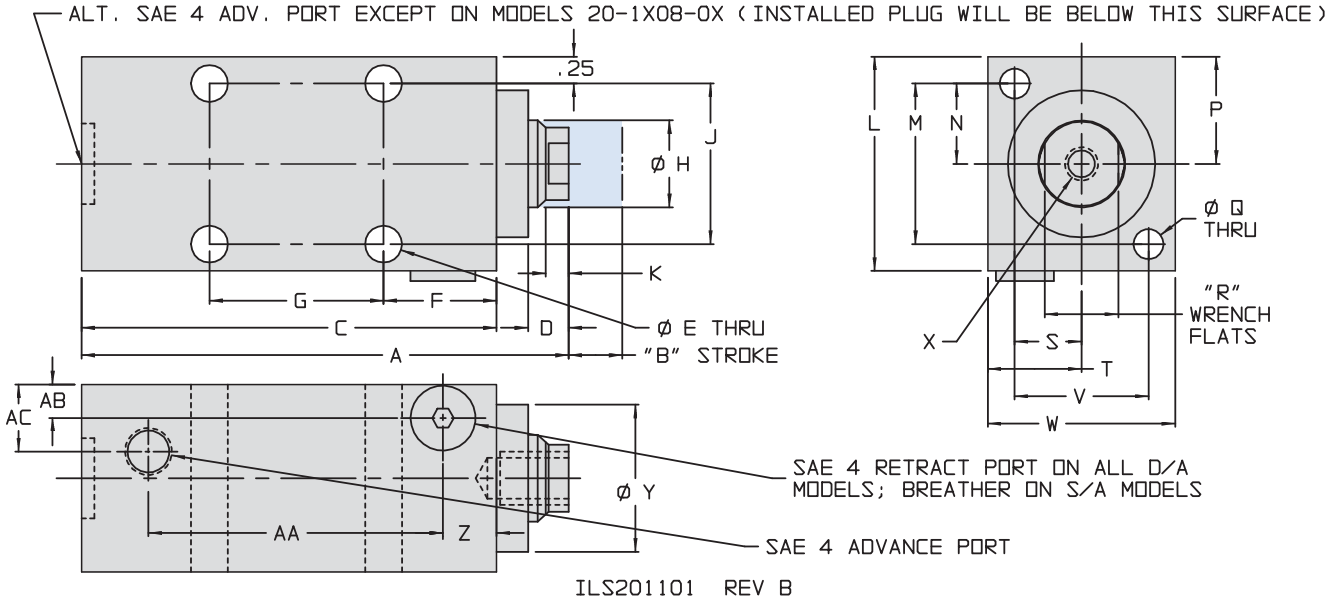
## Dimensions

Model No.	A	B	C	D	E	F	G	H	J	K	L	M	N
<b>Single Acting (S/A)</b>													
20-1108-00	2.37	0.25	1.84	0.29	0.28	0.92	N/A	0.50	1.31	0.22	2.00	1.31	0.66
20-1108-01	3.12	0.75	2.59										
20-1110-00	2.80	0.50	2.25	0.32	0.34	1.06	N/A	0.81	1.50	0.28	2.00	1.50	0.75
20-1110-01	3.30	1.00	2.75										
20-1110-04	3.93	1.50	3.38										
20-1110-02	4.43	2.00	3.87										
20-1115-00	2.88	0.50	2.25	0.40	0.34	1.06	N/A	1.13	2.00	0.34	2.50	1.90	0.95
20-1115-01	3.38	1.00	2.75										
20-1115-04	3.88	1.50	3.25										
20-1115-02	4.38	2.00	3.75										
<b>Double Acting (D/A)</b>													
20-1208-00	2.37	0.25	1.84	0.29	0.28	0.92	N/A	0.50	1.31	0.22	2.00	1.31	0.66
20-1208-01	3.12	0.75	2.59										
20-1210-00	2.80	0.50	2.25	0.32	0.34	1.06	N/A	0.81	1.50	0.28	2.00	1.50	0.75
20-1210-01	3.30	1.00	2.75										
20-1210-04	3.93	1.50	3.38										
20-1210-02	4.43	2.00	3.87										
20-1215-00	2.88	0.50	2.25	0.40	0.34	1.06	N/A	1.13	2.00	0.34	2.50	1.90	0.95
20-1215-01	3.38	1.00	2.75										
20-1215-04	3.88	1.50	3.25										
20-1215-02	4.38	2.00	3.75										

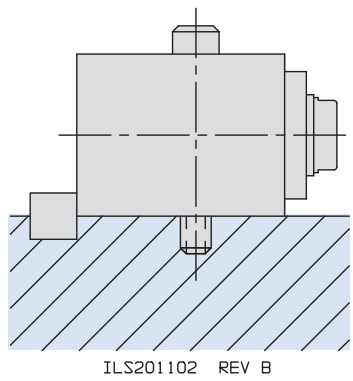
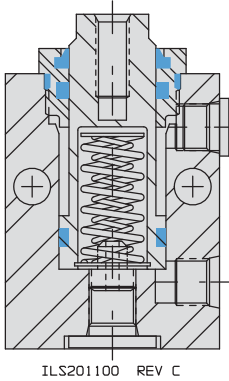
# Cylinders



## Block



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**NOTE:** When mounting block cylinders on high force installations, provide cylinder back-up using square key in fixture or similar means as shown in illustration at left. When clamping force is applied, the back-up element resists the sliding tendency of the block and eliminates shear loads on mounting bolts.

All dimensions are in inches.

	P	Q	R	S	T	V	W	X	Y	Z	AA	AB	AC
<b>Cylinders, actuated hydraulically 1 direction, spring returned.</b>													
	0.91	0.28	0.43	0.31	0.56	0.62	1.13	1/4-20 X 0.44	1.06	0.38	1.10 1.85	0.38	0.38
	1.00	0.28	0.68	0.62	0.87	1.25	1.75	5/16-18 X 0.44	1.38	0.50	1.12 1.62 2.25 2.75	0.31	0.88
	1.25	0.34	1.00	0.70	1.00	1.40	2.00	1/2-13 X 0.51	1.75	0.50	1.12 1.62 2.12 2.66	0.31	1.00
<b>Cylinders, actuated hydraulically both directions.</b>													
	0.91	0.28	0.43	0.31	0.56	0.62	1.13	1/4-20 X 0.44	1.06	0.38	1.10 1.85	0.38	0.38
	1.00	0.28	0.68	0.62	0.87	1.25	1.75	5/16-18 X 0.44	1.38	0.50	1.12 1.62 2.25 2.75	0.31	0.88
	1.25	0.34	1.00	0.70	1.00	1.40	2.00	1/2-13 X 0.51	1.75	.50	1.12 1.62 2.12 2.66	0.31	1.00