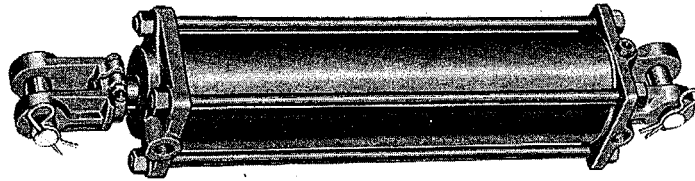




HYDRAULIC CYLINDERS

with Rephasing

TIE ROD CYLINDERS
DR SERIES
Specification Sheet



The CROSS series DR tie rod type cylinders provide long life and reliable operation due to high quality materials and workmanship. These cylinders incorporate an internal mechanism for automatic rephasing (synchronizing) in a series circuit. The DR cylinders may be used as master or slave units or as slave units with DCR cylinders with hydraulic depth control.

GENERAL SPECIFICATIONS

Rated system pressure (max. relief valve setting at full flow) 2500 psi (172 bar)
 Differential pressure 2500 psi (172 bar)
 Maximum shock and surge pressure 4000 psi (276 bar)

Bore diameters.	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	inches
	76	83	89	95	102	108	114	121	127	mm

MATERIAL SPECIFICATIONS

Cylinder barrels C1025 steel alloy
 Pistons High strength aluminum alloy
 Rods Induction hardened C1045 steel alloy
 Base castings and rod clevises Ductile iron
 Cylinder heads High tensile strength gray iron
 Seals o-ring with backup on tube and rod; wear ring and teflon seal on piston

STANDARD FEATURES

- Rephasing at end of extend stroke
- Hardened steel pins and heavy duty rod clevis with bushings
- Cylinder barrels are skived burnished precision finished to provide long seal life
- Rods are hardened, chrome plated and polished for long wear life and for protection from external damage and corrosion
- Rod wipers clean dirt and foreign matter from rod to insure long seal life
- High tensile strength tie rods with rolled threads for durability
- SAE straight thread o-ring ports in line with pins
- Double ported base allows optional connections to be made 90° to pins
- Standard ASAE 8" stroke

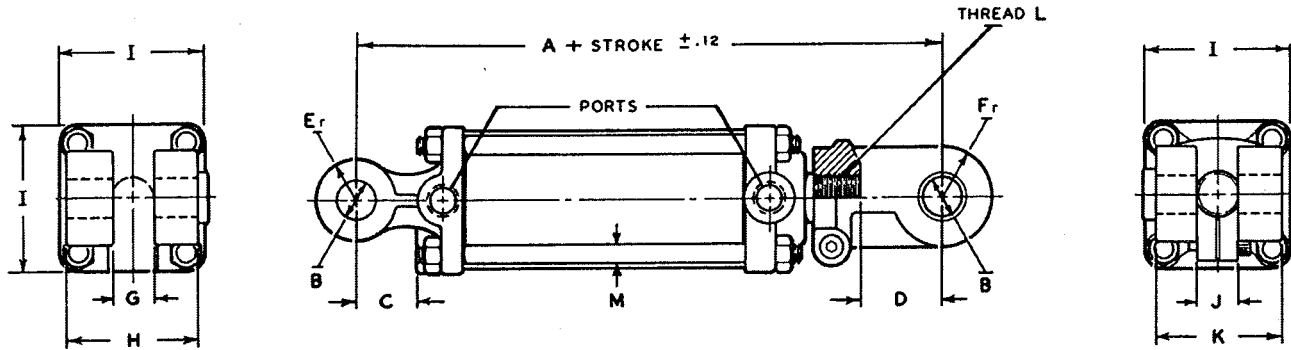
OPTIONAL FEATURES AVAILABLE

- NPTF dryseal pipe thread ports
- Strokes to 16"
- Rephasing at end of retract stroke

*Subject to compressive load limits on cylinder rod. Contact CROSS Engineering Department.



DIMENSIONAL DATA in inches and (millimeters)



ALL DIMENSIONS ARE NOMINAL

BORE DIA.	A**	B	C	D	Er.	Fr.	G	H	I	J	K	L -12UNF	M
3.00 (76)	12.25 (311.2)	1.015 (25.8)	1.625 (41.3)	2.125 (54.0)	1.000 (25.4)	1.250 (31.8)	1.125 (28.6)	2.625 (66.7)	3.750 (95.3)	1.250 ()	2.750 (69.8)	1 1/4	.500 (12.7)
3.25 (83)	12.25 (311.2)	1.015 (25.8)	1.625 (41.3)	2.125 (54.0)	1.000 (25.4)	1.250 (31.8)	1.250 (31.8)	2.750 (69.8)	4.250 (108.0)	1.250 (31.8)	2.750 (69.8)	1 1/4	.562 (14.3)
3.50 (89)	12.25 (311.2)	1.015 (25.8)	1.625 (41.3)	2.125 (54.0)	1.000 (25.4)	1.250 (31.8)	1.250 (31.8)	2.750 (69.8)	4.250 (108.0)	1.250 (31.8)	2.750 (69.8)	1 1/4	.562 (14.3)
3.75 (95)	12.25 (311.2)	1.015 (25.8)	2.000 (50.8)	2.125 (54.0)	1.125 (28.6)	1.250 (31.8)	1.250 (31.8)	2.875 (73.0)	5.000 (127.0)	1.250 (31.8)	2.750 (69.8)	1 1/4	.625 (15.9)
4.00 (102)	12.25 (311.2)	1.015 (25.8)	2.000 (50.8)	2.125 (54.0)	1.125 (28.6)	1.250 (31.8)	1.250 (31.8)	2.875 (73.0)	5.000 (127.0)	1.250 (31.8)	2.750 (69.8)	1 1/4	.625 (15.9)
4.25 (108)	12.25 (311.2)	1.265* (32.1)	2.000 (50.8)	2.125 (54.0)	1.375 (34.9)	1.250 (31.8)	1.250 (31.8)	3.125 (79.4)	5.500 (139.7)	1.250 (31.8)	2.750 (69.8)	1 1/4	.750 (19.0)
4.50 (114)	12.25 (311.2)	1.265* (32.1)	2.000 (50.8)	2.125 (54.0)	1.375 (34.9)	1.250 (31.8)	1.250 (31.8)	3.125 (79.4)	5.500 (139.7)	1.250 (31.8)	2.750 (69.8)	1 1/2	.750 (19.0)
4.75 (121)	12.25 (311.2)	1.265* (32.1)	2.312 (58.7)	2.125 (54.0)	1.500 (38.1)	1.250 (31.8)	1.375 (34.9)	3.500 (88.9)	6.000 (152.4)	1.250 (31.8)	2.750 (69.8)	1 1/2	.750 (19.0)
5.00 (127)	12.25 (311.2)	1.265* (32.1)	2.312 (58.7)	2.125 (54.0)	1.500 (38.1)	1.250 (31.8)	1.375 (34.9)	3.500 (88.9)	6.000 (152.4)	1.250 (31.8)	2.750 (69.8)	1 1/2	.750 (19.0)

*1.015 optional. Must be specified on order.

** REPRESENTATIVE FOR 8" STROKE

ORDERING INFORMATION For SAMPLE SYSTEM see CROSS Full Line Catalog page 9.

SERIES	BORE DIA. (inches x 100)	STROKE (inches x 100)	ROD DIAMETER (inches x 100)	PORT SIZE & TYPE
DR	300, 325, 350	800	125	**D — 3/4-16 SAE
	375, 400, 425	800	138	E — 7/8-14 SAE
	450, 475, 500	800	150	R — 1/2 NPTF

**Standard



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