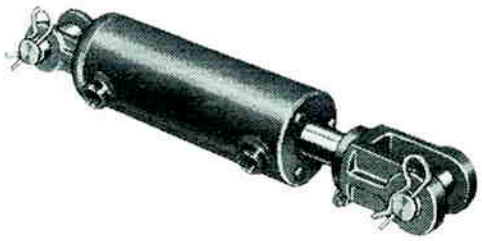
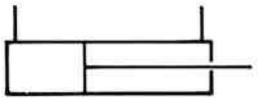
HYDRAULIC CYLINDERS

WELDED CYLINDERS
NU, NW SERIES
Specification Sheets





CROSS **NW** and **NU** Series cylinders feature cylinder barrels that are skived burnished and precision finished. They are carefully inspected for smoothness and cylindricity to provide longer seal life. Rods are induction hardened and hard chrome plated to resist dirt and corrosion. Each cylinder is pressure tested before shipping. **NW** cylinders are available in a variety of stroke and mounting combinations. **NU** cylinders are a standard clevis-mounted series available in standardized strokes only.

GENERAL SPECIFICATIONS

Rated working pressure for NW and standard NU series ..... 2500 psi*(172 bar)
(see pin recommendations p.3)
Rated working pressure for heavy duty NU series ..... 3000 psi(206 bar)
Maximum shock and surge pressure for NW and standard NU ..... 4000 psi(276 bar)
Proof pressure for heavy duty NU ..... 6000 psi (413 bar)

Bore diameters.....

1.50	2.00	2.50	3.00	3.50	4.00	5.00	in.
38	51	64	76	89	102	127	mm

(1.50 bore size not available in NU series.)

MATERIAL SPECIFICATIONS:

Cylinder barrels ..... ST52.3 steel alloy
Pistons ..... Aluminum alloy
Rods ..... Induction hardened and hard chrome plated C1045 steel alloy
Rods over 3/4" diameter, strokes up to 65" (1651mm)
Base and head castings ..... Steel
Rod clevises ..... Ductile iron
Seals ..... 70 durometer Buna N o-rings with polyurethane back-up rings
Double lipped polyurethane u-cup rod seal
(Heavy duty NU ..... Polyurethane u-cup piston seals)

STANDARD FEATURES:

- Cylinder barrels are skived burnished precision finished to provide long seal life
- Rods are hardened, chrome plated and polished for long wear life
- Rod wipers clean dirt and foreign matter from rod to insure long seal life
- Steel base clevis mounting and ductile rod end clevis

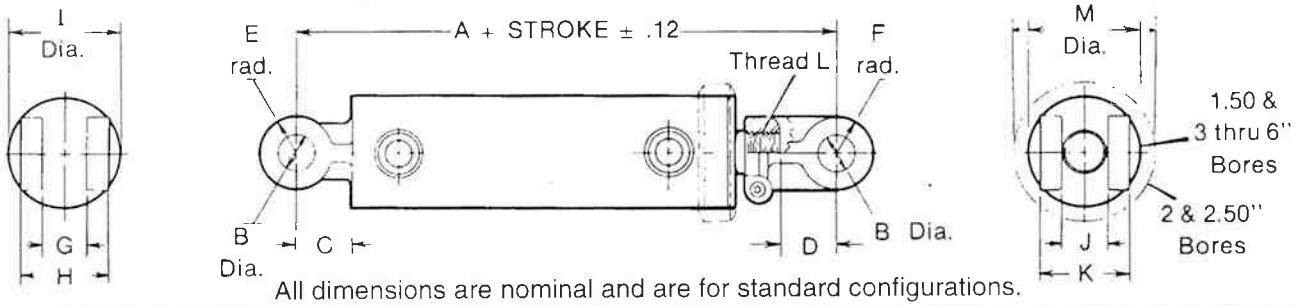
OPTIONAL FEATURES AVAILABLE

- Welded rod end mounts: pineye, single lug or clevis
- SAE straight thread o-ring ports or NPTF dryseal pipe thread ports
- Ports at 90° or in line with pins
- Hardened steel pins and bushings
- Grease fittings
- Self-aligning spherical bushings

HYDRAULIC CYLINDERS

NW Series

DIMENSIONAL DATA in inches and (millimeters)



All dimensions are nominal and are for standard configurations.

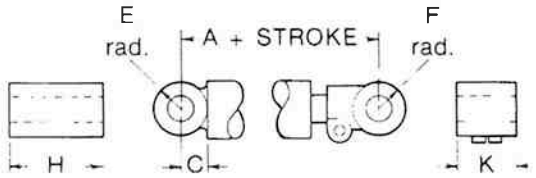
BORE DIA	A	B	C	D	E	F	G	H	I	J	K	L	M
1.50 (38)	7.81 (198.4)	.765 (19.4)	1.19 (30.2)	1.50 (38.1)	.94 (23.9)	.94 (23.9)	.81 (20.6)	1.56 (39.6)	1.88 (47.7)	.875 (22.2)	1.88 (47.7)	3/4 -16	1.88 (47.7)
2.00 (51)	10.75 (273.0)	1.015 (25.8)	2.25 (57.2)	2.12 (53.8)	1.00 (25.4)	1.00 (25.4)	1.12 (28.4)	2.12 (53.8)	2.38 (60.4)	1.12 (28.4)	2.62 (66.5)	1 1/16 -12	2.88 (73.1)
2.50 (64)	10.75 (273.0)	1.015 (25.8)	2.25 (57.2)	2.12 (53.8)	1.00 (25.4)	1.00 (25.4)	1.12 (28.4)	2.12 (53.8)	2.88 (73.1)	1.12 (28.4)	2.62 (66.5)	1 1/4 -12	3.38 (85.8)
3.00 (76)	10.62 (269.7)	1.015 (25.8)	2.12 (53.8)	2.12 (53.8)	1.00 (25.4)	1.00 (25.4)	1.12 (28.4)	2.12 (53.8)	3.38 (85.8)	1.12 (28.4)	2.62 (66.5)	1 1/4 -12	3.38 (85.8)
3.50 (89)	11.00 (279.4)	1.015 (25.8)	2.06 (52.3)	2.12 (53.8)	1.00 (25.4)	1.00 (25.4)	1.12 (28.4)	2.12 (53.8)	3.88 (98.5)	1.25 (31.8)	2.75 (69.8)	1 1/4 -12	3.88 (98.5)
4.00 (102)	11.12 (282.4)	1.015 (25.8)	2.12 (53.8)	2.12 (53.8)	1.00 (25.4)	1.00 (25.4)	1.25 (31.8)	2.50 (63.5)	4.50 (114.3)	1.25 (31.8)	2.75 (69.8)	1 1/4 -12	4.50 (114.3)
5.00 (127)	11.75 (298.4)	1.265 (32.1)	2.00 (50.8)	2.00 (50.8)	1.25 (31.8)	1.25 (31.8)	1.50 (38.1)	3.00 (76.2)	5.50 (139.7)	1.50 (38.1)	3.00 (76.2)	1 1/2 -12	5.50 (139.7)

NU Series

NU dimensions are as noted above except for dimension "A" as shown at right.

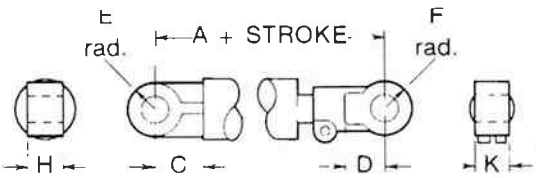
2, 2 1/2" Bore	Stroke + 11 1/2" = Closed Center
3, 3 1/2" Bore	Stroke + 11 1/4" = Closed Center
4, 5" Bore	Stroke + 12" = Closed Center

OPTIONAL PINEYE MOUNT



BORE DIA	A	C	E	F	H	K
1.50 (38)	6.75 (171.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	1.88 (47.8)	2.25 (57.2)
2.00 (51)	8.12 (206.2)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	3.00 (76.2)	2.25 (57.2)
2.50 (64)	8.12 (206.2)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	3.25 (82.6)	2.25 (57.2)
3.00 (76)	8.12 (206.2)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	4.00 (101.6)	2.75 (69.8)
3.50 (89)	8.56 (217.4)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	4.50 (114.3)	2.75 (69.8)
4.00 (102)	8.62 (218.9)	1.00 (25.4)	1.00 (25.4)	1.00 (25.4)	5.00 (127)	2.75 (69.8)
5.00 (127)	10.12 (257.0)	1.25 (31.8)	1.25 (31.8)	1.25 (31.8)	6.00 (152.4)	3.25 (82.6)

OPTIONAL SINGLE LUG MOUNT



BORE DIA	A	C	D	E	F	H	K
1.50 (38)	8.19 (208)	1.19 (30.2)	1.50 (38.1)	.94 (23.9)	1.25 (31.8)	.75 (19)	.75 (19)
2.00 (51)	10.75 (273)	2.25 (57.2)	1.50 (38.1)	1.18 (30.0)	1.25 (31.8)	.75 (19)	.75 (19)
2.50 (64)	10.75 (273)	2.25 (57.2)	1.50 (38.1)	1.25 (31.8)	1.25 (31.8)	.75 (19)	.75 (19)
3.00 (76)	10.62 (269.7)	2.12 (53.8)	1.50 (38.1)	1.25 (31.8)	1.25 (31.8)	1.12 (28.4)	1.12 (28.4)
3.50 (89)	11.00 (279.4)	2.06 (52.3)	1.62 (41.1)	1.25 (31.8)	1.25 (31.8)	1.12 (28.4)	1.12 (28.4)
4.00 (102)	11.12 (282.4)	2.12 (53.8)	1.62 (41.1)	1.25 (31.8)	1.25 (31.8)	1.12 (28.4)	1.12 (28.4)
5.00 (127)	11.75 (298.4)	2.00 (50.8)	2.00 (50.8)	1.50 (38.1)	1.50 (38.1)	1.50 (38.1)	2.00 (50.8)

NW SERIES
CYLINDER PORTS AND RODS

BORE DIA.	SIZE & TYPE PORTS		STANDARD RODS		OPTIONAL RODS	
	STANDARD	OPTIONAL	DIA.	MAX. STROKE*	DIA.	MAX. STROKE*
1.50 (38)	9/16 - 18 SAE	1/4 NPTF	.750 (19.0)	22" (559)	NONE	CONTACT CROSS MFG. INC. ENGINEERING DEPT. FOR MAXIMUM RECOMMENDED STROKE
2.00 (51)	9/16 - 18 SAE	1/4, 3/8 NPTF	1.062 (27.0)	24" (610)	1.125 (28.6) 1.250 (31.8)	
2.50 (64)	9/16 - 18 SAE	1/4, 3/8 NPTF	1.062 (27.0)	16" (406)	1.125 (28.6) 1.250 (31.8) 1.500 (38.1)	
3.00 (76)	3/4 - 16 SAE	9/16 - 18 SAE 3/8, 1/2 NPTF	1.250 (31.8)	22" (559)	1.125 (28.6) 1.500 (38.1)	
3.50 (89)	3/4 - 16 SAE	3/8, 1/2 NPTF	1.250 (31.8)	17" (432)	1.500 (38.1) 2.000 (50.8)	
4.00 (102)	3/4 - 16 SAE	3/8, 1/2 NPTF	1.500 (38.1)	19" (483)	2.000 (50.8)	
5.00 (127)	1 1/16 - 12 SAE	3/4 - 16 SAE 1/2, 3/4 NPTF	2.000 (50.8)	35" (889)	2.500 (63.5)	

* At 2500 psi rated operating pressure. Longer strokes are possible at reduced pressures. Additionally, smaller diameter rods can be provided for use at lower pressures or shorter length strokes. Consult CROSS Sales Dept. for maximum stroke at given pressure. For extended cylinder lengths of over 30" (762 mm), 1" (25.4 mm) of stop tubing must be used for each 10" (254 mm) of stroke. Stroke limitation applies to compressive loading only.

NW SERIES
CLEVIS PINS

BORE DIA.	STANDARD PINS		OPTIONAL PINS	
	DIA. / MAT'L	MAX. PRESSURE	DIA. / MAT'L	MAX. PRESSURE
1.50 (38)	1.00 (25.4) Steel	2500 psi (172 bar)	NONE	——
2.00 (51)	1.00 (25.4) Steel	2500 psi (172 bar)	NONE	——
2.50 (64)	1.00 (25.4) Steel	2500 psi (172 bar)	NONE	——
3.00 (76)	1.00 (25.4) Steel	2500 psi (172 bar)	NONE	——
3.50 (89)	1.00 (25.4) Steel	2000 psi (138 bar)	1.00 (25.4) Hard Steel	2500 psi (172 bar)
4.00 (102)	1.00 (25.4) Steel	1500 psi (104 bar)	1.00 (25.4) Hard Steel	2500 psi (172 bar)
5.00 (127)	1.00 (25.4) Steel	2100 psi (144 bar)	1.25 (31.8) Hard Steel	2500 psi (172 bar)

(Hardened steel bushings are provided with hardened steel pins)

HYDRAULIC CYLINDERS

NW SERIES ORDERING INFORMATION

SERIES	BORE DIA. INCH x100	STROKE INCH x100	ROD DIA. INCH x100	PORT SIZE & TYPE	END MOUNTING	CLEVIS PIN	PORT LOCATION	OTHER
NW	150 200 250 300 350 400 500	As Required	075 106 125 150 200 250	C 9/16-18 SAE D 3/4-16 SAE E 7/8-14 SAE F 1 1/16-12 SAE N 1/4" NPTF P 3/8" NPTF R 1/2" NPTF S 3/4" NPTF	C* Clevis P Pineye S(1) Single Lug X Other (Specify)	A 1.00 Steel B 1.00 Hard C 1.25 Hard	A In Line with Pins B 90° to Pins	X specify

NOTE: Cylinders are painted "CROSS Red" unless otherwise stated. (1) Single lug and pineye mounts may be welded rather than screw-on type.
Consult the CROSS Sales Department for other optional features.

NU SERIES

NU Series are available in sizes listed below only, All have clevis mounting on both ends. Specify standard (2500 psi) or heavy duty (3000 psi).

- Ports —in line with pins. 3/8" NPTF in on 2" bore; 1/2" NPTF on 2 1/2" through 4" bores; 3/4" NPTF on 5" bore
- Pins — 1" diameter on 2" through 4" bores; 1 1/4" diameter on 5" bore

MODEL NUMBER	BORE DIA. (INCH)	STROKE (INCH)	CL. CENTERS (INCH)	ROD DIA. (INCH)
208 NU	2	8	19.50	1 1/4
210 NU		10	21.50	
212 NU		12	23.50	
216 NU		16	27.50	
220 NU*		20	31.50	
224 NU*		24	35.50	
2508 NU	2 1/2	8	19.50	1 1/4
2510 NU		10	21.50	
2512 NU		12	23.50	
2516 NU		16	27.50	
2520 NU		20	31.50	
2524 NU*		24	35.50	
308 NU	3	8	19.25	1 1/2
310 NU		10	21.25	
312 NU		12	23.25	
316 NU		16	27.25	
320 NU		20	31.25	
324 NU		24	35.25	
330 NU*		30	41.25	
336 NU*		36	47.25	

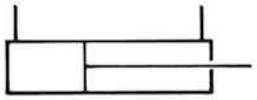
MODEL NUMBER	BORE DIA. (INCH)	STROKE (INCH)	CL. CENTERS (INCH)	ROD DIA. (INCH)
3508 NU	3 1/2	8	19.25	1 3/4
3510 NU		10	21.25	
3512 NU		12	23.25	
3516 NU		16	27.25	
3520 NU		20	31.25	
3524 NU		24	35.25	
3530 NU		30	41.25	
3536 NU*		36	47.25	
408 NU	4	8	20.00	2
410 NU		10	22.00	
412 NU		12	24.00	
416 NU		16	28.00	
418 NU		18	30.00	
420 NU		20	32.00	
424 NU		24	36.00	
430 NU		30	42.00	
436 NU		36	48.00	
448 NU*		48	60.00	
508 NU	5	8	20.00	2
510 NU		10	22.00	
512 NU		12	24.00	
516 NU		16	28.00	
520 NU		20	32.00	

These cylinders are rated for 2500 psi service but the safe operating pressure is greatly reduced due to rod buckling considerations when operated in the push mode. Please contact CROSS Engineering for recommendations.

CROSS MANUFACTURING, INC.
100 Factory Street
Lewis, KS 67552
Phone 620/324-5525; Fax 620/324-5737; e-mail: info@crossmfg.com

HYDRAULIC CYLINDERS

WELDED CYLINDERS
UT SERIES
Specification Sheet



The CROSS series UT welded type cylinders have been designed for continuous operation at pressures up to 3000 psi. They provide long life and reliable operation with a broad range of bore sizes, strokes, and features available.

GENERAL SPECIFICATIONS

Rated working pressure (Max. relief valve setting at full flow ..... 3000 psi (207 bar)
Maximum shock and surge pressure..... 4500 psi (310 bar)
Bore diameters.....

1.50	2.00	2.50	3.00	3.50	4.00	5.00	in.
38	51	64	76	89	102	127	mm

MATERIAL SPECIFICATIONS

Cylinder barrels.....ST 52.3 steel alloy
Pistons .....High strength aluminum alloy
Rods .....Induction hardened C1045 steel alloy*
Seals .....Polyurethane U-cups
*Rods over 3/4" diameter, strokes up to 65" (1651 mm)

STANDARD FEATURES:

- Cylinder barrels are skived burnished precision finished to provide long seal life
- Rods are hardened, chrome plated and polished for long wear life
- Rod wipers clean dirt and foreign matter from rod to insure long seal life
- Steel base clevis mounting and ductile rod end clevis
- Screw-on head cap with locking screw

OPTIONAL FEATURES AVAILABLE

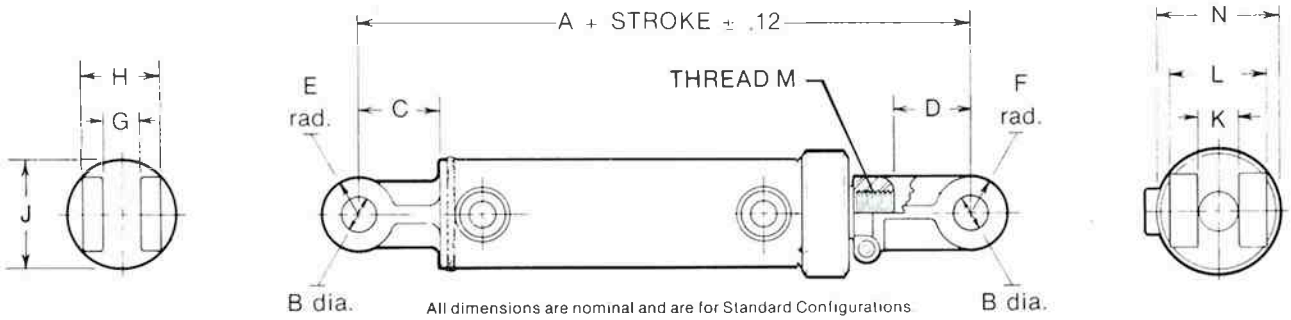
- Welded rod end mounts: pineye, single lug or clevis
- SAE straight thread o-ring ports or NPTF dryseal pipe thread ports
- Ports at 90° or in line with pins
- Hardened steel pins and bushings
- Grease fittings
- Self-aligning spherical bushings

WELDED CYLINDERS
UT SERIES
Specification Sheet

HYDRAULIC CYLINDERS

CROSS

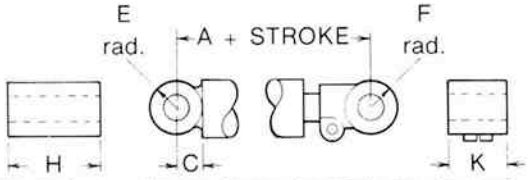
DIMENSIONAL DATA in inches and (millimeters)



All dimensions are nominal and are for Standard Configurations

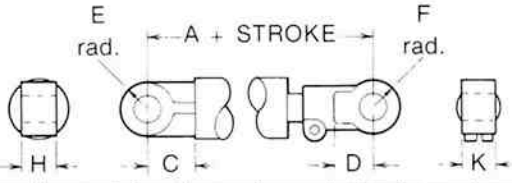
BORE DIA	A	B	C	D	E	F	G	H	J	K	L	M	N
1.50 (38)	8.62 (218.9)	.765 (19.4)	1.19 (30.2)	1.50 (38.1)	.94 (23.9)	.94 (23.9)	.81 (20.6)	1.56 (39.6)	1.88 (47.8)	.88 (22.4)	1.88 (47.8)	3/4 -16	2.38 (60.4)
2.00 (51)	11.25 (285.8)	1.015 (25.8)	2.25 (57.2)	2.12 (53.8)	1.00 (25.4)	1.00 (25.4)	1.12 (28.4)	2.12 (53.8)	2.38 (60.4)	1.12 (28.4)	2.62 (66.5)	1 1/16 -12	2.88 (73.2)
2.50 (64)	11.25 (285.8)	1.015 (25.8)	2.25 (57.2)	2.12 (53.8)	1.00 (25.4)	1.00 (25.4)	1.12 (28.4)	2.12 (53.8)	2.88 (73.2)	1.12 (28.4)	2.62 (66.5)	1 1/4 -12	3.38 (85.8)
3.00 (76)	11.38 (289.0)	1.015 (25.8)	2.12 (53.8)	2.12 (53.8)	1.00 (25.4)	1.00 (25.4)	1.12 (28.4)	2.12 (53.8)	3.50 (88.9)	1.12 (28.4)	2.62 (66.5)	1 1/4 -12	4.25 (108.0)
3.50 (89)	11.38 (289.0)	1.015 (25.8)	2.06 (52.3)	2.12 (53.8)	1.00 (25.4)	1.25 (31.8)	1.12 (28.4)	2.12 (53.8)	4.00 (101.6)	1.25 (31.8)	2.75 (69.8)	1 1/4 -12	4.75 (120.6)
4.00 (102)	12.00 (304.8)	1.015 (25.8)	2.12 (53.8)	2.12 (53.8)	1.25 (31.8)	1.25 (31.8)	1.25 (31.8)	2.50 (63.5)	4.50 (114.3)	1.25 (31.8)	2.75 (69.8)	1 1/4 -12	5.25 (133.4)
5.00 (127)	12.00 (304.8)	1.265 (32.1)	2.00 (50.8)	2.00 (50.8)	1.25 (31.8)	1.25 (31.8)	1.50 (38.1)	3.00 (76.2)	5.62 (142.7)	1.25 (31.8)	2.75 (69.8)	1 1/2 -12	6.25 (158.8)

OPTIONAL PINEYE MOUNT



BORE DIA	A	C	E	F	H	K
1.50 (38)	7.56 (192.0)	.88 (22.4)	.94 (23.9)	1.00 (25.4)	1.88 (47.8)	2.25 (57.2)
2.00 (51)	8.62 (218.9)	.88 (22.4)	1.00 (25.4)	1.00 (25.4)	3.00 (76.2)	2.25 (57.2)
2.50 (64)	8.62 (218.9)	.88 (22.4)	1.00 (25.4)	1.00 (25.4)	3.25 (82.6)	2.25 (57.2)
3.00 (76)	8.88 (225.6)	.88 (22.4)	1.00 (25.4)	1.00 (25.4)	4.00 (101.6)	2.75 (69.8)
3.50 (89)	8.94 (227.1)	.88 (22.4)	1.00 (25.4)	1.00 (25.4)	4.50 (114.3)	2.75 (69.8)
4.00 (102)	9.50 (241.3)	.88 (22.4)	1.00 (25.4)	1.00 (25.4)	5.00 (127.0)	2.75 (69.8)
5.00 (127)	10.38 (263.6)	1.12 (28.4)	1.25 (31.8)	1.25 (31.8)	6.00 (152.4)	3.25 (82.6)

OPTIONAL SINGLE LUG MOUNT



BORE DIA	A	C	D	E	F	H	K
1.50 (38)	8.62 (218.9)	1.19 (30.2)	1.25 (31.8)	.94 (23.9)	1.25 (38.1)	.75 (19.0)	.75 (19.0)
2.00 (51)	11.25 (285.8)	2.25 (57.2)	1.25 (31.8)	1.18 (30.0)	1.25 (31.8)	.75 (19.0)	.75 (19.0)
2.50 (64)	11.25 (285.8)	2.25 (57.2)	1.25 (31.8)	1.25 (31.8)	1.25 (31.8)	.75 (19.0)	.75 (19.0)
3.00 (76)	11.38 (289.0)	2.12 (53.8)	1.50 (38.1)	1.25 (31.8)	1.25 (31.8)	1.12 (28.4)	1.12 (28.4)
3.50 (89)	11.38 (289.0)	2.06 (52.3)	1.50 (38.1)	1.25 (31.8)	1.25 (31.8)	1.12 (28.4)	1.12 (28.4)
4.00 (102)	12.00 (304.8)	2.12 (53.8)	1.75 (44.4)	1.25 (31.8)	1.25 (31.8)	1.12 (28.4)	1.12 (28.4)
5.00 (127)	12.00 (304.8)	2.00 (50.8)	2.00 (50.8)	1.50 (38.1)	1.50 (38.1)	1.50 (38.1)	2.00 (50.8)

CYLINDER PORTS AND RODS

BORE DIA.	SIZE & TYPE PORTS		STANDARD RODS		OPTIONAL RODS	
	STANDARD	OPTIONAL	DIA.	MAX. STROKE*	DIA.	MAX. STROKE*
1.50 (38)	9/16 - 18 SAE	1/4 NPTF	.750 (19.0)	27 (686)	None	CONTACT CROSS MFG. INC. ENGINEERING DEPT. FOR MAXIMUM RECOMMENDED STROKE
2.00 (51)	9/16 - 18 SAE	1/4, 3/8 NPTF	1.062 (27.0)	14 (356)	1.250 (31.8)	
2.50 (64)	9/16 - 18 SAE	1/4, 3/8 NPTF	1.250 (31.8)	20 (508)	1.500 (38.1)	
3.00 (76)	3/4 - 16 SAE	3/8, 1/2 NPTF	1.250 (31.8)	16 (406)	1.500 (38.1) 2.000 (50.8)	
3.50 (89)	3/4 - 16 SAE	3/8, 1/2 NPTF	1.500 (38.1)	21 (533)	2.000 (50.8) 2.500 (63.5)	
4.00 (102)	3/4 - 16 SAE	3/8, 1/2 NPTF	1.500 (38.1)	16 (406)	2.000 (50.8) 2.500 (63.5) 3.000 (76.2)	
5.00 (127)	1 1/16 - 12 SAE	1/2, 3/4 NPTF	2.000 (50.8)	26 (660)	2.500 (63.5) 3.000 (76.2) 3.500 (88.9) 4.000 (101.6)	

*At 3000 psi rated operating pressure. Longer strokes are possible at reduced pressures. Additionally, smaller diameter rods can be provided for use at lower pressures or shorter length strokes. Consult CROSS Sales Department for maximum stroke at given pressure. For extended cylinder lengths of over 40" (1016 mm), 1" (25.4 mm) of stop tubing must be used for each 10" (254 mm) of stroke. Stroke limitation applies to compressive loading only.

CLEVIS PINS

BORE DIA.	STANDARD PINS				OPTIONAL PINS			
	DIA. in. mm	MATL.	MAX. PRESSURE psi	MAX. PRESSURE bar	DIA. in. mm	MATL	MAX. PRESSURE psi	MAX. PRESSURE bar
1.50 (38)	.75 (19.0)	STEEL	3000	207	NONE		—	—
2.00 (51)	1.00 (25.4)						—	—
2.50 (64)	1.00 (25.4)						—	—
3.00 (76)	1.00 (25.4)						—	—
3.50 (89)	1.00 (25.4)	HARDENED STEEL			1.00 (25.4)	STEEL	2500	(172.5)
4.00 (102)	1.00 (25.4)				1.25 (31.8)		1500	(103.5)
5.00 (127)	1.25 (31.8)				1.25 (31.8)		2100	(144.9)

ORDERING INFORMATION

SERIES	BORE DIA. INCH x 100	—	STROKE INCH x 100	—	ROD DIA. INCH x 100	PORT SIZE & TYPE	END MOUNTING	CLEVIS PIN	PORT LOCATION	OTHER
UT	**150** **200** **250** **300** **350** **400** **500**		As Required		**75** **106** **125** **150** **200** **250** **300** **350** **400**	**C** 9/16-18 SAE **D** 3/4-16 SAE **E** 7/8 - 14 SAE **F** 1 1/16-12 SAE **M** 1/8 NPTF **N** 1/4 NPTF **P** 3/8 NPTF **R** 1/2 NPTF **S** 3/4 NPTF	**C*** Clevis **P** Pineye **S**(1) Single lug **X** Other (Specify)	**A** .75 Steel **B** 1.00 Steel **C** 1.00 Hard Steel **D** 1.25 Hard Steel **F** Other (Specify)	**A** In Line with pins **B** 90° to pins	**X** Specify

*Standard

(1) For pins over 1" diameter, single lug mounts will be welded rather than screw-on type.

EXAMPLE: UT250-2000-106CCAA is a standard 2 1/2 diameter bore cylinder with 20" stroke, 1 1/16" rod, 9/16 - 18 SAE ports, standard clevis and mountings, 3/4" diameter clevis pins with ports mounted in-line.

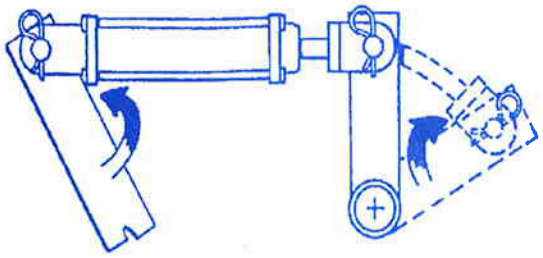
CROSS MANUFACTURING, INC.
100 Factory Street
Lewis, Kansas 67552
Phone: 620-324-5525

HYDRAULIC CYLINDER SAFETY

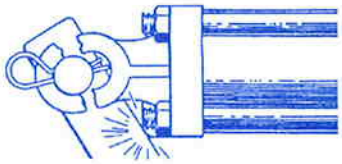
General Cautions:

- Always use a relief or bypass in your hydraulic system to prevent personal injury and/or breakage of equipment or components. Never operate a cylinder above rated pressures.
- Never use a cylinder as a transport device.
- Use correct fittings and proper hydraulic oil - Contact CROSS if you have questions.

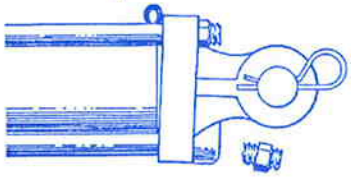
Binding



Check clevis clearances before, during and after extending the cylinder and before using the cylinder under pressure to avoid possible injury, or bent or broken rods or clevises caused by binding.

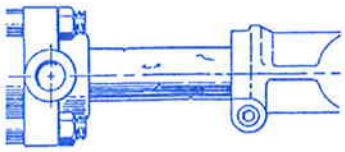


Too much pressure causes...



Extruded static seals and/or broken tie rods. Check pressure rating of cylinder against pump pressure of the tractor.

Rough or scored rod



Protect the rod at all times and make sure that nothing hits or rubs it when it is extended. Rough places on the rod damage the seals and reduce their normal life resulting in the necessity for frequent replacement.

Dirty Oil

Oil must be filtered to a minimum of 25 microns. Filters should be changed regularly - spin-on types after 50 hours of initial use and then after every two hundred fifty hours of use. Use of a condition indicator is recommended. Consult your tractor or implement owner's manual for filtration and changing recommendations for internal systems

Pinhole Leaks

If you observe a pinhole leak, discontinue use of the component. If oil has penetrated your skin or contacted your eye, seek medical attention immediately!

CROSS
www.crossmfg.com

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FAX 620/324-5737

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