
NORTHSTAR HYDRAULICS INC

**PRODUCT
CATALOGUE**



WWW.NORTHSTARHYDRAULICS.COM
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UNIT 42 - 140 Milner Ave
Toronto ON M1S 3R3

ISO CERTIFIED

**Certified Hydraulic Cylinder
Manufacturing
Engineered for Quality.
Built for Reliability.
Tested for Performance.**



WHY CHOOSE US



- **20+ years** of experience
- **28** CNC machines
- More than **10** production lines
- **5** supervisors with **46** operators
- **6** In-line QC/QA hydraulic test stations

Annual production capacity: **300,000+** pieces



- Bore diameter up to **1,000 mm** (40")
- Stroke up to **18,000 mm** (708")
- Pressure up to **70 MPa** (10,153 PSI)
- Piston rod: NSS **grade 9**, salt spray tested for **48 to 1,500** hours

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ADJUSTABLE TYPE

CLEVIS



ACTION	Double acting
ROD END	Ductile iron threaded female clevis
BASE END	Cast-steel welded tube assembly, pins and clips included
BORE	1.50" to 4.00"
STROKE	4" to 36"
ROD	1045 chrome-plated steel rod
PRESSURE	3000 PSI

ADJUSTABLE

WELDED

TELESCOPIC

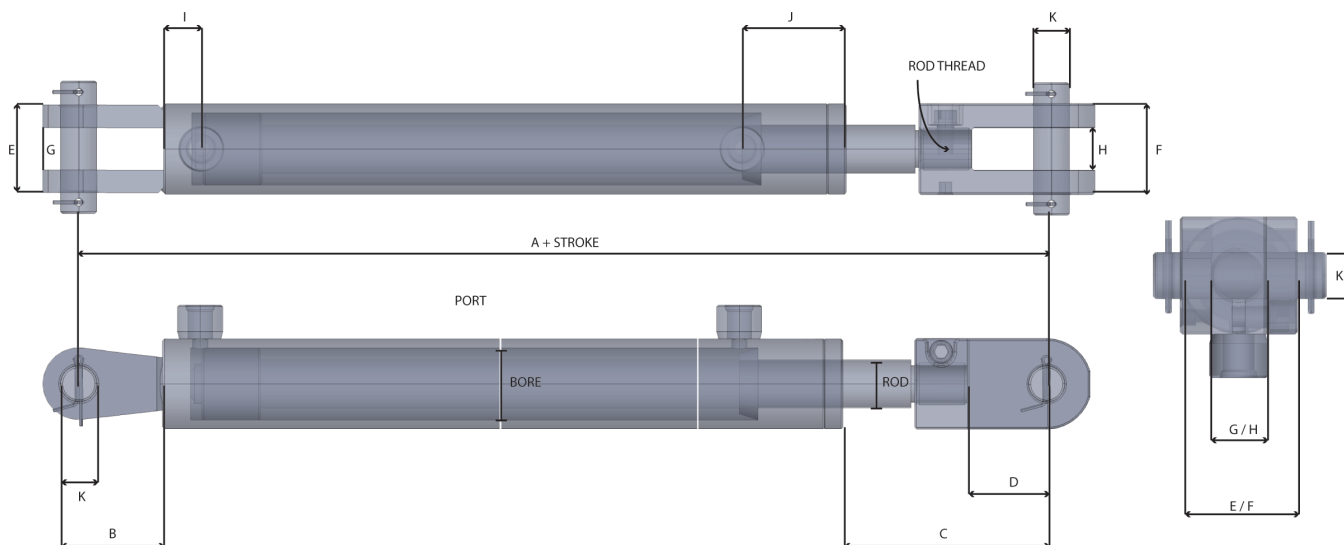
TIE ROD

SNOW PLOW

CUSTOM



ADJUSTABLE TYPE



*ALL VALUES ARE IN INCHES

**ALL NUMBERS GIVEN ARE NOMINAL VALUES AND SHOULD BE USED FOR REFERENCE ONLY. ALL PRODUCT SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

BORE	ROD	ROD THREAD	PORTS	A	B	C	D	E	F	G	H	I	J	K
1.50	1.000"	7/8-14 UNF	SAE 6	10.25"	1.625"	4.500"	1.625"	1.750"	2.000"	0.875"	0.875"	0.938"	1.875"	0.750"
2.00	1.125"	1 1/8-12 UNF	SAE 8	10.25"	2.125"	3.625"	2.125"	2.125"	2.504"	1.125"	1.165"	0.812"	2.062"	1.000"
2.50	1.250"	1 1/8-12 UNF	SAE 8	10.25"	2.125"	3.625"	2.125"	2.125"	2.504"	1.125"	1.165"	0.812"	2.062"	1.000"
3.00	1.500"	1 1/4-12 UNF	SAE 8	10.25"	1.875"	3.625"	2.125"	2.625"	2.717"	1.125"	1.165"	0.875"	2.188"	1.000"
3.50	1.750"	1 1/4-12 UNF	SAE 8	10.25"	1.875"	3.625"	2.125"	2.625"	2.717"	1.125"	1.165"	0.938"	2.188"	1.000"
4.00	2.000"	1 1/2-12 UNF	SAE 8	10.25"	1.750"	3.625"	2.125"	2.625"	2.717"	1.125"	1.165"	1.000"	2.188"	1.000"

For 8.00" ASAE Stroke: A = 12.25"

For 8.00" ASAE Stroke: E = 6.50" (1.50" to Bore) E = 5.62" (2.00 to 4.00" Bore)

1.5" BORE	ADJUSTABLE CLEVIS DOUBLE ACTING HYDRAULIC CYLINDER - 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
AC-1504-NS	1.5 X 4	14.25	18.25	1	0.75	SAE 6	5300	10
AC-1506-NS	1.5 X 6	16.25	22.25	1	0.75	SAE 6	5300	11
AC-1508-NS	1.5 X 8	18.25	26.25	1	0.75	SAE 6	5300	12
AC-1508-ASAE-NS	1.5 X 8	20.25	28.25	1	0.75	SAE 6	5300	13
AC-1510-NS	1.5 X 10	20.25	30.25	1	0.75	SAE 6	5300	13
AC-1512-NS	1.5 X 12	22.25	34.25	1	0.75	SAE 6	5300	15
AC-1514-NS	1.5 X 14	24.25	38.25	1	0.75	SAE 6	5300	16
AC-1516-NS	1.5 X 16	26.25	42.25	1	0.75	SAE 6	5200	17
AC-1518-NS	1.5 X 18	28.25	46.25	1	0.75	SAE 6	4400	18
AC-1520-NS	1.5 X 20	30.25	50.25	1	0.75	SAE 6	3700	20
AC-1524-NS	1.5 X 24	34.25	58.25	1	0.75	SAE 6	2700	22
AC-1528-NS	1.5 X 28	38.25	66.25	1	0.75	SAE 6	2100	25
AC-1530-NS	1.5 X 30	40.25	70.25	1	0.75	SAE 6	1900	26
AC-1532-NS	1.5 X 32	42.25	74.25	1	0.75	SAE 6	1700	27
AC-1534-NS	1.5 X 34	44.25	78.25	1	0.75	SAE 6	1500	28
AC-1536-NS	1.5 X 36	46.25	82.25	1	0.75	SAE 6	1300	29

ADJUSTABLE TYPE

2.0" BORE	ADJUSTABLE CLEVIS DOUBLE ACTING HYDRAULIC CYLINDER - 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
AC-2004-NS	2 X 4	14.25	18.25	1.125	1	SAE 8	9400	16
AC-2006-NS	2 X 6	16.25	22.25	1.125	1	SAE 8	9400	17
AC-2008-NS	2 X 8	18.25	26.25	1.125	1	SAE 8	9400	19
AC-2008-ASAE-NS	2 X 8	20.25	28.25	1.125	1	SAE 8	9400	19
AC-2010-NS	2 X 10	20.25	30.25	1.125	1	SAE 8	9400	20
AC-2012-NS	2 X 12	22.25	34.25	1.125	1	SAE 8	9400	22
AC-2014-NS	2 X 14	24.25	38.25	1.125	1	SAE 8	9400	23
AC-2016-NS	2 X 16	26.25	42.25	1.125	1	SAE 8	8400	25
AC-2018-NS	2 X 18	28.25	46.25	1.125	1	SAE 8	7000	27
AC-2020-NS	2 X 20	30.25	50.25	1.125	1	SAE 8	5900	28
AC-2024-NS	2 X 24	34.25	58.25	1.125	1	SAE 8	4400	31
AC-2030-NS	2 X 30	40.25	70.25	1.125	1	SAE 8	3000	36
AC-2036-NS	2 X 36	46.25	82.25	1.125	1	SAE 8	2200	41

2.5" BORE	ADJUSTABLE CLEVIS DOUBLE ACTING HYDRAULIC CYLINDER - 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
AC-2504-NS	2.5 X 4	14.25	18.25	1.25	1	SAE 8	14700	19
AC-2506-NS	2.5 X 6	16.25	22.25	1.25	1	SAE 8	14700	20
AC-2508-NS	2.5 X 8	18.25	26.25	1.25	1	SAE 8	14700	22
AC-2508-ASAE-NS	2.5 X 8	20.25	28.25	1.25	1	SAE 8	14700	23
AC-2510-NS	2.5 X 10	20.25	30.25	1.25	1	SAE 8	14700	24
AC-2512-NS	2.5 X 12	22.25	34.25	1.25	1	SAE 8	14700	26
AC-2514-NS	2.5 X 14	24.25	38.25	1.25	1	SAE 8	14700	28
AC-2516-NS	2.5 X 16	26.25	42.25	1.25	1	SAE 8	12800	30
AC-2518-NS	2.5 X 18	28.25	46.25	1.25	1	SAE 8	10700	32
AC-2520-NS	2.5 X 20	30.25	50.25	1.25	1	SAE 8	9100	34
AC-2524-NS	2.5 X 24	34.25	58.25	1.25	1	SAE 8	6700	38
AC-2530-NS	2.5 X 30	40.25	70.25	1.25	1	SAE 8	4600	44
AC-2536-NS	2.5 X 36	46.25	82.25	1.25	1	SAE 8	3400	49

3.0" BORE	ADJUSTABLE CLEVIS DOUBLE ACTING HYDRAULIC CYLINDER - 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
AC-3004-NS	3 X 4	14.25	18.25	1.5	1	SAE 8	21200	24
AC-3006-NS	3 X 6	16.25	22.25	1.5	1	SAE 8	21200	26
AC-3008-NS	3 X 8	18.25	26.25	1.5	1	SAE 8	21200	29
AC-3008-ASAE-NS	3 X 8	20.25	28.25	1.5	1	SAE 8	21200	29
AC-3010-NS	3 X 10	20.25	30.25	1.5	1	SAE 8	21200	31
AC-3012-NS	3 X 12	22.25	34.25	1.5	1	SAE 8	21200	33
AC-3014-NS	3 X 14	24.25	38.25	1.5	1	SAE 8	21200	36
AC-3016-NS	3 X 16	26.25	42.25	1.5	1	SAE 8	21200	38
AC-3018-NS	3 X 18	28.25	46.25	1.5	1	SAE 8	21200	41
AC-3020-NS	3 X 20	30.25	50.25	1.5	1	SAE 8	18800	43
AC-3024-NS	3 X 24	34.25	58.25	1.5	1	SAE 8	14000	48
AC-3030-NS	3 X 30	40.25	70.25	1.5	1	SAE 8	9600	56
AC-3036-NS	3 X 36	46.25	82.25	1.5	1	SAE 8	7000	63

ADJUSTABLE TYPE

3.5" BORE	ADJUSTABLE CLEVIS DOUBLE ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
AC-3504-NS	3.5 X 4	14.25	18.25	1.75	1	SAE 8	28800	29
AC-3506-NS	3.5 X 6	16.25	22.25	1.75	1	SAE 8	28800	32
AC-3508-NS	3.5 X 8	18.25	26.25	1.75	1	SAE 8	28800	35
AC-3508-ASAE-NS	3.5 X 8	20.25	28.25	1.75	1	SAE 8	28800	36
AC-3510-NS	3.5 X 10	20.25	30.25	1.75	1	SAE 8	28800	38
AC-3512-NS	3.5 X 12	22.25	34.25	1.75	1	SAE 8	28800	41
AC-3514-NS	3.5 X 14	24.25	38.25	1.75	1	SAE 8	28800	44
AC-3516-NS	3.5 X 16	26.25	42.25	1.75	1	SAE 8	28800	47
AC-3518-NS	3.5 X 18	28.25	46.25	1.75	1	SAE 8	28800	50
AC-3520-NS	3.5 X 20	30.25	50.25	1.75	1	SAE 8	28800	53
AC-3524-NS	3.5 X 24	34.25	58.25	1.75	1	SAE 8	26000	59
AC-3530-NS	3.5 X 30	40.25	70.25	1.75	1	SAE 8	17900	68
AC-3536-NS	3.5 X 36	46.25	82.25	1.75	1	SAE 8	13000	77

4.0" BORE	ADJUSTABLE CLEVIS DOUBLE ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
AC-4004-NS	4 X 4	14.25	18.25	2	1	SAE 8	37600	35
AC-4006-NS	4 X 6	16.25	22.25	2	1	SAE 8	37600	38
AC-4008-NS	4 X 8	18.25	26.25	2	1	SAE 8	37600	42
AC-4008-ASAE-NS	4 X 8	20.25	28.25	2	1	SAE 8	37600	43
AC-4010-NS	4 X 10	20.25	30.25	2	1	SAE 8	37600	46
AC-4012-NS	4 X 12	22.25	34.25	2	1	SAE 8	37600	49
AC-4014-NS	4 X 14	24.25	38.25	2	1	SAE 8	37600	53
AC-4016-NS	4 X 16	26.25	42.25	2	1	SAE 8	37600	57
AC-4018-NS	4 X 18	28.25	46.25	2	1	SAE 8	37600	60
AC-4020-NS	4 X 20	30.25	50.25	2	1	SAE 8	37600	64
AC-4024-NS	4 X 24	34.25	58.25	2	1	SAE 8	37600	71
AC-4030-NS	4 X 30	40.25	70.25	2	1	SAE 8	30500	82
AC-4036-NS	4 X 36	46.25	82.25	2	1	SAE 8	22200	93

WELDED TYPE

Built to fit. Designed to perform.

ADJUSTABLE

WELDED

TELESCOPIC

TIE ROD

SNOW PLOW

CUSTOM



WELDED TYPE

CLEVIS

ADJUSTABLE

WELDED

TELESCOPIC

TIE ROD

SNOW PLOW

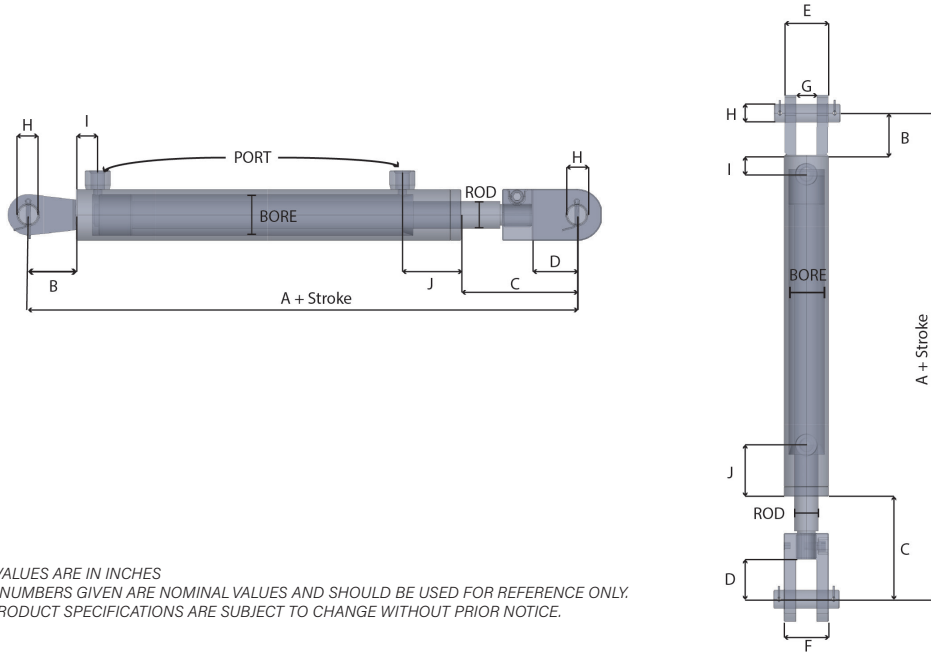
CUSTOM



ACTION	Double acting
ROD END	Ductile iron, welded steel clevis
BASE END	Welded steel clevis mount, pins and clips included
BORE	2.00" to 4.00"
STROKE	4" to 48"
ROD	1045 chrome-plated steel rod
PRESSURE	3000 PSI



WELDED TYPE



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BORE	ROD	ROD THREAD	PORTS	A	B	C	D	E	F	G	H	I	J	K
2.00"	1.25"	SAE 6	10.25"	2.125"	3.72"	2.125"	2.125"	2.125"	1.125"	1.000"	0.894"	1.937"	2.00"	1.25"
2.50"	1.50"	SAE 8	10.25"	2.125"	3.53"	2.125"	2.125"	2.125"	1.125"	1.000"	0.894"	1.925"	2.50"	1.50"
3.00"	1.50"	SAE 8	10.25"	2.125"	3.24"	2.125"	2.125"	2.125"	1.125"	1.000"	1.071"	2.264"	3.00"	1.50"
3.50"	1.75"	SAE 8	10.25"	2.125"	3.18"	2.125"	2.386"	2.386"	1.125"	1.000"	1.071"	2.165"	3.50"	1.75"
4.00"	2.00"	SAE 8	10.25"	2.125"	3.44"	2.125"	2.386"	2.386"	1.125"	1.000"	1.071"	2.047"	4.00"	2.00"

For 8" ASAE Stroke: A = 12.25

2.0" BORE	WELDED CLEVIS DOUBLE-ACTING HYDRAULIC CYLINDER - 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
WC-2004-NS	2" X 4"	14 1/4"	18 1/4"	1 1/4"	1"	SAE 6	9400	14
WC-2006-NS	2" X 6"	16 1/4"	22 1/4"	1 1/4"	1"	SAE 6	9400	16
WC-2008-NS	2" X 8"	18 1/4"	26 1/4"	1 1/4"	1"	SAE 6	9400	17
WC-2008-ASAE-NS	2" X 8"	20 1/4"	28 1/4"	1 1/4"	1"	SAE 6	9400	18
WC-2010-NS	2" X 10"	20 1/4"	30 1/4"	1 1/4"	1"	SAE 6	9400	19
WC-2012-NS	2" X 12"	22 1/4"	34 1/4"	1 1/4"	1"	SAE 6	9400	21
WC-2014-NS	2" X 14"	24 1/4"	38 1/4"	1 1/4"	1"	SAE 6	9400	23
WC-2016-NS	2" X 16"	26 1/4"	42 1/4"	1 1/4"	1"	SAE 6	9400	25
WC-2018-NS	2" X 18"	28 1/4"	46 1/4"	1 1/4"	1"	SAE 6	9400	26
WC-2020-NS	2" X 20"	30 1/4"	50 1/4"	1 1/4"	1"	SAE 6	9100	28
WC-2024-NS	2" X 24"	34 1/4"	58 1/4"	1 1/4"	1"	SAE 6	6700	31
WC-2028-NS	2" X 28"	38 1/4"	66 1/4"	1 1/4"	1"	SAE 6	5200	35
WC-2030-NS	2" X 30"	40 1/4"	70 1/4"	1 1/4"	1"	SAE 6	4600	36
WC-2032-NS	2" X 32"	42 1/4"	74 1/4"	1 1/4"	1"	SAE 6	4100	38
WC-2034-NS	2" X 34"	44 1/4"	78 1/4"	1 1/4"	1"	SAE 6	3700	40
WC-2036-NS	2" X 36"	46 1/4"	82 1/4"	1 1/4"	1"	SAE 6	3400	42
WC-2040-NS	2" X 40"	50 1/4"	90 1/4"	1 1/4"	1"	SAE 6	2800	45
WC-2048-NS	2" X 48"	58 1/4"	106 1/4"	1 1/4"	1"	SAE 6	2000	52

WELDED TYPE

2.5" BORE	WELDED CLEVIS DOUBLE-ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
WC-2504-NS	2.5" X 4"	14 1/4"	18 1/4"	1 1/2"	1"	SAE 8	14700	18
WC-2506-NS	2.5" X 6"	16 1/4"	22 1/4"	1 1/2"	1"	SAE 8	14700	20
WC-2508-NS	2.5" X 8"	18 1/4"	26 1/4"	1 1/2"	1"	SAE 8	14700	23
WC-2508-ASAE-NS	2.5" X 8"	20 1/4"	28 1/4"	1 1/2"	1"	SAE 8	14700	24
WC-2510-NS	2.5" X 10"	20 1/4"	30 1/4"	1 1/2"	1"	SAE 8	14700	25
WC-2512-NS	2.5" X 12"	22 1/4"	34 1/4"	1 1/2"	1"	SAE 8	14700	27
WC-2514-NS	2.5" X 14"	24 1/4"	38 1/4"	1 1/2"	1"	SAE 8	14700	29
WC-2516-NS	2.5" X 16"	26 1/4"	42 1/4"	1 1/2"	1"	SAE 8	14700	32
WC-2518-NS	2.5" X 18"	28 1/4"	46 1/4"	1 1/2"	1"	SAE 8	14700	34
WC-2520-NS	2.5" X 20"	30 1/4"	50 1/4"	1 1/2"	1"	SAE 8	14700	36
WC-2524-NS	2.5" X 24"	34 1/4"	58 1/4"	1 1/2"	1"	SAE 8	14000	40
WC-2528-NS	2.5" X 28"	38 1/4"	66 1/4"	1 1/2"	1"	SAE 8	10800	45
WC-2530-NS	2.5" X 30"	40 1/4"	70 1/4"	1 1/2"	1"	SAE 8	9600	47
WC-2532-NS	2.5" X 32"	42 1/4"	74 1/4"	1 1/2"	1"	SAE 8	8600	49
WC-2534-NS	2.5" X 34"	44 1/4"	78 1/4"	1 1/2"	1"	SAE 8	7700	52
WC-2536-NS	2.5" X 36"	46 1/4"	82 1/4"	1 1/2"	1"	SAE 8	7000	54
WC-2540-NS	2.5" X 40"	50 1/4"	90 1/4"	1 1/2"	1"	SAE 8	5800	58
WC-2548-NS	2.5" X 48"	58 1/4"	106 1/4"	1 1/2"	1"	SAE 8	4200	67

3.0" BORE	WELDED CLEVIS DOUBLE-ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
WC-3004-NS	3" X 4"	14 1/4"	18 1/4"	1 1/2"	1"	SAE 8	21200	22
WC-3006-NS	3" X 6"	16 1/4"	22 1/4"	1 1/2"	1"	SAE 8	21200	24
WC-3008-NS	3" X 8"	18 1/4"	26 1/4"	1 1/2"	1"	SAE 8	21200	27
WC-3008-ASAE-NS	3" X 8"	20 1/4"	28 1/4"	1 1/2"	1"	SAE 8	21200	28
WC-3010-NS	3" X 10"	20 1/4"	30 1/4"	1 1/2"	1"	SAE 8	21200	29
WC-3012-NS	3" X 12"	22 1/4"	34 1/4"	1 1/2"	1"	SAE 8	21200	31
WC-3014-NS	3" X 14"	24 1/4"	38 1/4"	1 1/2"	1"	SAE 8	21200	34
WC-3016-NS	3" X 16"	26 1/4"	42 1/4"	1 1/2"	1"	SAE 8	21200	36
WC-3018-NS	3" X 18"	28 1/4"	46 1/4"	1 1/2"	1"	SAE 8	21200	39
WC-3020-NS	3" X 20"	30 1/4"	50 1/4"	1 1/2"	1"	SAE 8	18800	41
WC-3024-NS	3" X 24"	34 1/4"	58 1/4"	1 1/2"	1"	SAE 8	14000	46
WC-3028-NS	3" X 28"	38 1/4"	66 1/4"	1 1/2"	1"	SAE 8	10800	51
WC-3030-NS	3" X 30"	40 1/4"	70 1/4"	1 1/2"	1"	SAE 8	9600	53
WC-3032-NS	3" X 32"	42 1/4"	74 1/4"	1 1/2"	1"	SAE 8	8600	56
WC-3034-NS	3" X 34"	44 1/4"	78 1/4"	1 1/2"	1"	SAE 8	7700	58
WC-3036-NS	3" X 36"	46 1/4"	82 1/4"	1 1/2"	1"	SAE 8	7000	61

WELDED TYPE

3.5" BORE	WELDED CLEVIS DOUBLE-ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
WC-3504-NS	3.5" X 4"	14 1/4"	18 1/4"	1 3/4"	1"	SAE 8	28800	27
WC-3506-NS	3.5" X 6"	16 1/4"	22 1/4"	1 3/4"	1"	SAE 8	28800	30
WC-3508-NS	3.5" X 8"	18 1/4"	26 1/4"	1 3/4"	1"	SAE 8	28800	34
WC-3508-ASAE-NS	3.5" X 8"	20 1/4"	28 1/4"	1 3/4"	1"	SAE 8	28800	35
WC-3510-NS	3.5" X 10"	20 1/4"	30 1/4"	1 3/4"	1"	SAE 8	28800	36
WC-3512-NS	3.5" X 12"	22 1/4"	34 1/4"	1 3/4"	1"	SAE 8	28800	39
WC-3514-NS	3.5" X 14"	24 1/4"	38 1/4"	1 3/4"	1"	SAE 8	28800	42
WC-3516-NS	3.5" X 16"	26 1/4"	42 1/4"	1 3/4"	1"	SAE 8	28800	46
WC-3518-NS	3.5" X 18"	28 1/4"	46 1/4"	1 3/4"	1"	SAE 8	28800	49
WC-3520-NS	3.5" X 20"	30 1/4"	50 1/4"	1 3/4"	1"	SAE 8	28800	52
WC-3524-NS	3.5" X 24"	34 1/4"	58 1/4"	1 3/4"	1"	SAE 8	26000	58
WC-3528-NS	3.5" X 28"	38 1/4"	66 1/4"	1 3/4"	1"	SAE 8	20100	64
WC-3530-NS	3.5" X 30"	40 1/4"	70 1/4"	1 3/4"	1"	SAE 8	17900	67
WC-3532-NS	3.5" X 32"	42 1/4"	74 1/4"	1 3/4"	1"	SAE 8	16000	70
WC-3534-NS	3.5" X 34"	44 1/4"	78 1/4"	1 3/4"	1"	SAE 8	14400	73
WC-3536-NS	3.5" X 36"	46 1/4"	82 1/4"	1 3/4"	1"	SAE 8	13000	76

4.0" BORE	WELDED CLEVIS DOUBLE-ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
WC-4004-NS	4" X 4"	14 1/4"	18 1/4"	2"	1"	SAE 8	37600	33
WC-4006-NS	4" X 6"	16 1/4"	22 1/4"	2"	1"	SAE 8	37600	37
WC-4008-NS	4" X 8"	18 1/4"	26 1/4"	2"	1"	SAE 8	37600	42
WC-4008-ASAE-NS	4" X 8"	20 1/4"	28 1/4"	2"	1"	SAE 8	37600	43
WC-4010-NS	4" X 10"	20 1/4"	30 1/4"	2"	1"	SAE 8	37600	44
WC-4012-NS	4" X 12"	22 1/4"	34 1/4"	2"	1"	SAE 8	37600	48
WC-4014-NS	4" X 14"	24 1/4"	38 1/4"	2"	1"	SAE 8	37600	52
WC-4016-NS	4" X 16"	26 1/4"	42 1/4"	2"	1"	SAE 8	37600	55
WC-4018-NS	4" X 18"	28 1/4"	46 1/4"	2"	1"	SAE 8	37600	59
WC-4020-NS	4" X 20"	30 1/4"	50 1/4"	2"	1"	SAE 8	37600	63
WC-4024-NS	4" X 24"	34 1/4"	58 1/4"	2"	1"	SAE 8	37600	70
WC-4028-NS	4" X 28"	38 1/4"	66 1/4"	2"	1"	SAE 8	34300	77
WC-4030-NS	4" X 30"	40 1/4"	70 1/4"	2"	1"	SAE 8	30500	81
WC-4032-NS	4" X 32"	42 1/4"	74 1/4"	2"	1"	SAE 8	27300	85
WC-4034-NS	4" X 34"	44 1/4"	78 1/4"	2"	1"	SAE 8	24600	89
WC-4036-NS	4" X 36"	46 1/4"	82 1/4"	2"	1"	SAE 8	22200	92

WELDED TYPE

CROSS TUBE

ADJUSTABLE

WELDED

TELESCOPIC

TIE ROD

SNOW PLOW

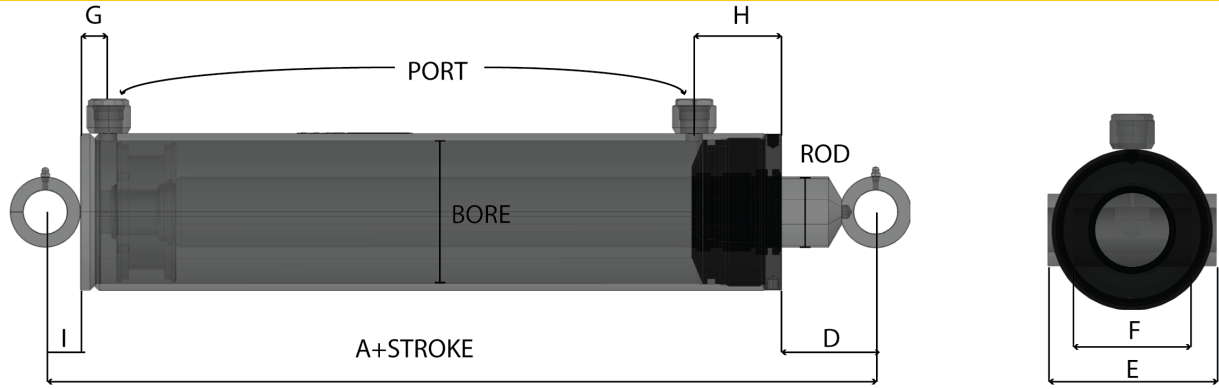
CUSTOM



ACTION	Double acting
ROD END	Ductile iron rod end with welded steel cross tube
BASE END	Welded steel cross tube
BORE	1.50" to 5.00"
STROKE	4" to 48"
ROD	1045 chrome-plated steel rod
PRESSURE	3000 PSI



WELDED TYPE



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BORE	ROD	PORT	A	B	C	D	E	F	G	H	I
1.50"	1.00"	SAE 4	8.00"	1.25"	0.764"	2.913"	2.25"	2.00"	0.929"	2.129"	0.625"
2.00"	1.25"	SAE 6	8.00"	1.50"	1.015"	2.844"	2.75"	2.25"	0.894"	1.937"	0.750"
2.50"	1.50"	SAE 8	8.00"	1.50"	1.015"	2.654"	3.25"	2.25"	0.894"	1.925"	0.750"
3.00"	1.50"	SAE 8	8.00"	1.50"	1.015"	2.301"	3.75"	2.25"	1.012"	2.244"	0.750"
3.50"	1.75"	SAE 8	10.00"	2.00"	1.265"	3.980"	4.25"	2.25"	1.012"	2.248"	1.000"
4.00"	2.00"	SAE 8	10.00"	2.25"	1.515"	3.934"	4.75"	2.50"	1.012"	2.244"	1.126"
5.00"	2.50"	3/4NPT	11.00"	2.50"	1.515"	2.750"	5.75"	4.00"	1.500"	2.272"	0.787"

1.5" BORE	WELDED CROSS TUBE DOUBLE-ACTING HYDRAULIC CYLINDER – 3000 PSI								
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)	
WT-1504-NS	1.5" X 4"	12"	16"	1"	3/4"	SAE 4	5300	8	
WT-1506-NS	1.5" X 6"	14"	20"	1"	3/4"	SAE 4	5300	9	
WT-1508-NS	1.5" X 8"	16"	24"	1"	3/4"	SAE 4	5300	10	
WT-1510-NS	1.5" X 10"	18"	28"	1"	3/4"	SAE 4	5300	12	
WT-1512-NS	1.5" X 12"	20"	32"	1"	3/4"	SAE 4	5300	13	
WT-1514-NS	1.5" X 14"	22"	36"	1"	3/4"	SAE 4	5300	14	
WT-1516-NS	1.5" X 16"	24"	40"	1"	3/4"	SAE 4	5300	15	
WT-1518-NS	1.5" X 18"	26"	44"	1"	3/4"	SAE 4	4800	17	
WT-1520-NS	1.5" X 20"	28"	48"	1"	3/4"	SAE 4	4000	18	
WT-1524-NS	1.5" X 24"	32"	56"	1"	3/4"	SAE 4	3000	20	

WELDED TYPE

2.0" BORE	WELDED CROSS TUBE DOUBLE-ACTING HYDRAULIC CYLINDER - 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
WT-2004-NS	2" X 4"	12"	16"	1 1/4"	1"	SAE 6	9400	12
WT-2006-NS	2" X 6"	14"	20"	1 1/4"	1"	SAE 6	9400	13
WT-2008-NS	2" X 8"	16"	24"	1 1/4"	1"	SAE 6	9400	15
WT-2010-NS	2" X 10"	18"	28"	1 1/4"	1"	SAE 6	9400	17
WT-2012-NS	2" X 12"	20"	32"	1 1/4"	1"	SAE 6	9400	19
WT-2014-NS	2" X 14"	22"	36"	1 1/4"	1"	SAE 6	9400	20
WT-2016-NS	2" X 16"	24"	40"	1 1/4"	1"	SAE 6	9400	22
WT-2018-NS	2" X 18"	26"	44"	1 1/4"	1"	SAE 6	9400	24
WT-2020-NS	2" X 20"	28"	48"	1 1/4"	1"	SAE 6	9400	25
WT-2024-NS	2" X 24"	32"	56"	1 1/4"	1"	SAE 6	7300	29
WT-2028-NS	2" X 28"	36"	64"	1 1/4"	1"	SAE 6	5600	32
WT-2030-NS	2" X 30"	38"	68"	1 1/4"	1"	SAE 6	4900	34
WT-2032-NS	2" X 32"	40"	72"	1 1/4"	1"	SAE 6	4400	35
WT-2036-NS	2" X 36"	44"	80"	1 1/4"	1"	SAE 6	3500	39
WT-2040-NS	2" X 40"	48"	88"	1 1/4"	1"	SAE 6	2900	42
WT-2048-NS	2" X 48"	56"	104"	1 1/4"	1"	SAE 6	2100	49

2.5" BORE	WELDED CROSS TUBE DOUBLE-ACTING HYDRAULIC CYLINDER - 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
WT-2504-NS	2.5" X 4"	12"	16"	1 1/2"	1"	SAE 8	14700	16
WT-2506-NS	2.5" X 6"	14"	20"	1 1/2"	1"	SAE 8	14700	18
WT-2508-NS	2.5" X 8"	16"	24"	1 1/2"	1"	SAE 8	14700	20
WT-2510-NS	2.5" X 10"	18"	28"	1 1/2"	1"	SAE 8	14700	22
WT-2512-NS	2.5" X 12"	20"	32"	1 1/2"	1"	SAE 8	14700	24
WT-2514-NS	2.5" X 14"	22"	36"	1 1/2"	1"	SAE 8	14700	27
WT-2516-NS	2.5" X 16"	24"	40"	1 1/2"	1"	SAE 8	14700	29
WT-2518-NS	2.5" X 18"	26"	44"	1 1/2"	1"	SAE 8	14700	31
WT-2520-NS	2.5" X 20"	28"	48"	1 1/2"	1"	SAE 8	14700	33
WT-2524-NS	2.5" X 24"	32"	56"	1 1/2"	1"	SAE 8	14700	38
WT-2528-NS	2.5" X 28"	36"	64"	1 1/2"	1"	SAE 8	11600	42
WT-2530-NS	2.5" X 30"	38"	68"	1 1/2"	1"	SAE 8	10300	45
WT-2532-NS	2.5" X 32"	40"	72"	1 1/2"	1"	SAE 8	9200	47
WT-2536-NS	2.5" X 36"	44"	80"	1 1/2"	1"	SAE 8	7400	51
WT-2540-NS	2.5" X 40"	48"	88"	1 1/2"	1"	SAE 8	6100	56
WT-2548-NS	2.5" X 48"	56"	104"	1 1/2"	1"	SAE 8	4400	65

WELDED TYPE

3.0" BORE	WELDED CROSS TUBE DOUBLE-ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
WT-3004-NS	3" X 4"	12"	16"	1 1/2"	1"	SAE 8	21200	19
WT-3006-NS	3" X 6"	14"	20"	1 1/2"	1"	SAE 8	21200	22
WT-3008-NS	3" X 8"	16"	24"	1 1/2"	1"	SAE 8	21200	24
WT-3010-NS	3" X 10"	18"	28"	1 1/2"	1"	SAE 8	21200	27
WT-3012-NS	3" X 12"	20"	32"	1 1/2"	1"	SAE 8	21200	29
WT-3014-NS	3" X 14"	22"	36"	1 1/2"	1"	SAE 8	21200	32
WT-3016-NS	3" X 16"	24"	40"	1 1/2"	1"	SAE 8	21200	34
WT-3018-NS	3" X 18"	26"	44"	1 1/2"	1"	SAE 8	21200	36
WT-3020-NS	3" X 20"	28"	48"	1 1/2"	1"	SAE 8	20700	39
WT-3024-NS	3" X 24"	32"	56"	1 1/2"	1"	SAE 8	15200	44
WT-3028-NS	3" X 28"	36"	64"	1 1/2"	1"	SAE 8	11600	49
WT-3030-NS	3" X 30"	38"	68"	1 1/2"	1"	SAE 8	10300	51
WT-3032-NS	3" X 32"	40"	72"	1 1/2"	1"	SAE 8	9200	53
WT-3036-NS	3" X 36"	44"	80"	1 1/2"	1"	SAE 8	7400	58
WT-3040-NS	3" X 40"	48"	88"	1 1/2"	1"	SAE 8	6100	63
WT-3048-NS	3" X 48"	56"	104"	1 1/2"	1"	SAE 8	4400	73

3.5" BORE	WELDED CROSS TUBE DOUBLE-ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
WT-3504-NS	3.5" X 4"	14"	18"	1 3/4"	1 1/4"	SAE 8	28800	27
WT-3506-NS	3.5" X 6"	16"	22"	1 3/4"	1 1/4"	SAE 8	28800	30
WT-3508-NS	3.5" X 8"	18"	26"	1 3/4"	1 1/4"	SAE 8	28800	33
WT-3510-NS	3.5" X 10"	20"	30"	1 3/4"	1 1/4"	SAE 8	28800	36
WT-3512-NS	3.5" X 12"	22"	34"	1 3/4"	1 1/4"	SAE 8	28800	39
WT-3514-NS	3.5" X 14"	24"	38"	1 3/4"	1 1/4"	SAE 8	28800	42
WT-3516-NS	3.5" X 16"	26"	42"	1 3/4"	1 1/4"	SAE 8	28800	45
WT-3518-NS	3.5" X 18"	28"	46"	1 3/4"	1 1/4"	SAE 8	28800	48
WT-3520-NS	3.5" X 20"	30"	50"	1 3/4"	1 1/4"	SAE 8	28800	51
WT-3524-NS	3.5" X 24"	34"	58"	1 3/4"	1 1/4"	SAE 8	26200	57
WT-3528-NS	3.5" X 28"	38"	66"	1 3/4"	1 1/4"	SAE 8	20200	63
WT-3530-NS	3.5" X 30"	40"	70"	1 3/4"	1 1/4"	SAE 8	18000	66
WT-3532-NS	3.5" X 32"	42"	74"	1 3/4"	1 1/4"	SAE 8	16100	69
WT-3536-NS	3.5" X 36"	46"	82"	1 3/4"	1 1/4"	SAE 8	13100	75
WT-3540-NS	3.5" X 40"	50"	90"	1 3/4"	1 1/4"	SAE 8	10900	81
WT-3548-NS	3.5" X 48"	58"	106"	1 3/4"	1 1/4"	SAE 8	7800	94

WELDED TYPE

4.0" BORE	WELDED CROSS TUBE DOUBLE-ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
WT-4004-NS	4" X 4"	14"	18"	2"	1 1/2"	SAE 8	37600	34
WT-4006-NS	4" X 6"	16"	22"	2"	1 1/2"	SAE 8	37600	38
WT-4008-NS	4" X 8"	18"	26"	2"	1 1/2"	SAE 8	37600	41
WT-4010-NS	4" X 10"	20"	30"	2"	1 1/2"	SAE 8	37600	45
WT-4012-NS	4" X 12"	22"	34"	2"	1 1/2"	SAE 8	37600	49
WT-4014-NS	4" X 14"	24"	38"	2"	1 1/2"	SAE 8	37600	52
WT-4016-NS	4" X 16"	26"	42"	2"	1 1/2"	SAE 8	37600	56
WT-4018-NS	4" X 18"	28"	46"	2"	1 1/2"	SAE 8	37600	59
WT-4020-NS	4" X 20"	30"	50"	2"	1 1/2"	SAE 8	37600	63
WT-4024-NS	4" X 24"	34"	58"	2"	1 1/2"	SAE 8	37600	70
WT-4028-NS	4" X 28"	38"	66"	2"	1 1/2"	SAE 8	34600	78
WT-4030-NS	4" X 30"	40"	70"	2"	1 1/2"	SAE 8	30700	81
WT-4032-NS	4" X 32"	42"	74"	2"	1 1/2"	SAE 8	27500	85
WT-4036-NS	4" X 36"	46"	82"	2"	1 1/2"	SAE 8	22400	92
WT-4040-NS	4" X 40"	50"	90"	2"	1 1/2"	SAE 8	18600	99
WT-4048-NS	4" X 48"	58"	106"	2"	1 1/2"	SAE 8	13400	114

5.0" BORE	WELDED CROSS TUBE DOUBLE-ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
WT-5004-NS	5" X 4"	15"	19"	2 1/2"	1 1/2"	3/4 NPT	58900	64
WT-5006-NS	5" X 6"	17"	23"	2 1/2"	1 1/2"	3/4 NPT	58900	69
WT-5008-NS	5" X 8"	19"	27"	2 1/2"	1 1/2"	3/4 NPT	58900	75
WT-5010-NS	5" X 10"	21"	31"	2 1/2"	1 1/2"	3/4 NPT	58900	80
WT-5012-NS	5" X 12"	23"	35"	2 1/2"	1 1/2"	3/4 NPT	58900	85
WT-5014-NS	5" X 14"	25"	39"	2 1/2"	1 1/2"	3/4 NPT	58900	90
WT-5016-NS	5" X 16"	27"	43"	2 1/2"	1 1/2"	3/4 NPT	58900	96
WT-5018-NS	5" X 18"	29"	47"	2 1/2"	1 1/2"	3/4 NPT	58900	101
WT-5020-NS	5" X 20"	31"	51"	2 1/2"	1 1/2"	3/4 NPT	58900	106
WT-5024-NS	5" X 24"	35"	59"	2 1/2"	1 1/2"	3/4 NPT	58900	116
WT-5028-NS	5" X 28"	39"	67"	2 1/2"	1 1/2"	3/4 NPT	58900	126
WT-5030-NS	5" X 30"	41"	71"	2 1/2"	1 1/2"	3/4 NPT	58900	131
WT-5032-NS	5" X 32"	43"	75"	2 1/2"	1 1/2"	3/4 NPT	58900	136
WT-5036-NS	5" X 36"	47"	83"	2 1/2"	1 1/2"	3/4 NPT	52100	147
WT-5040-NS	5" X 40"	51"	91"	2 1/2"	1 1/2"	3/4 NPT	43400	157
WT-5048-NS	5" X 48"	59"	107"	2 1/2"	1 1/2"	3/4 NPT	31500	177

WELDED TYPE

DUMP HOIST



ADJUSTABLE

WELDED

TELESCOPIC

TIE ROD

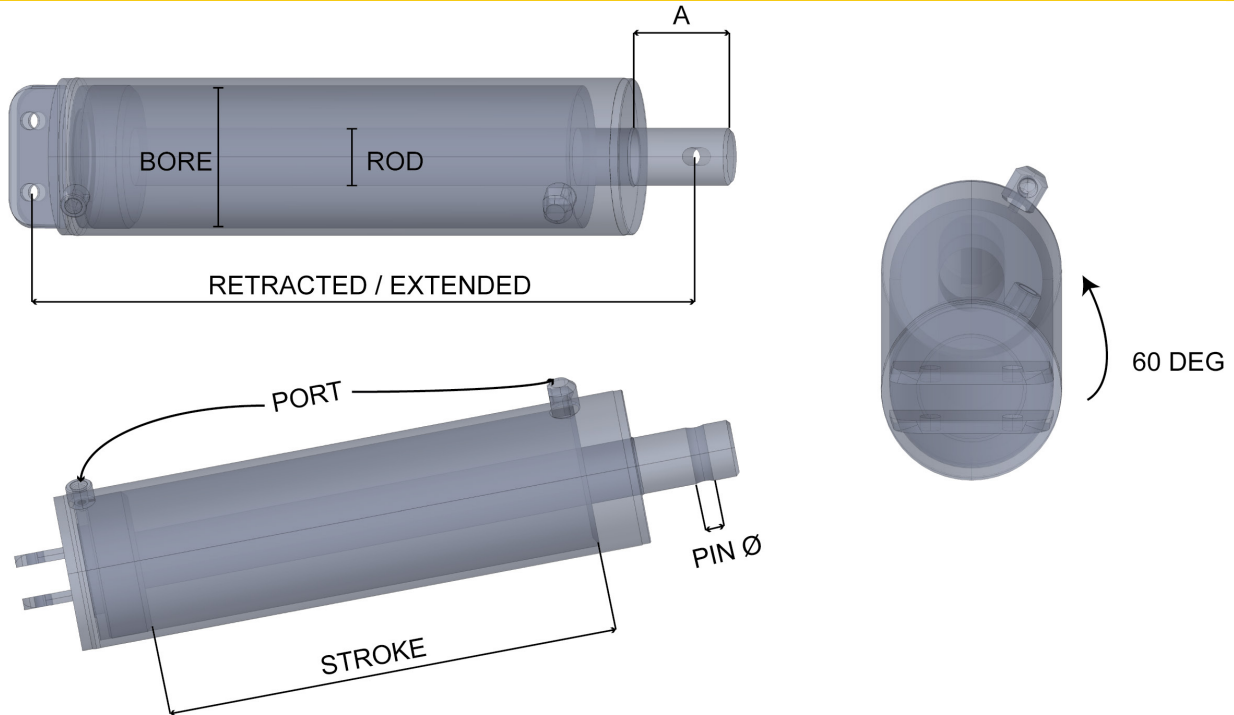
SNOW PLOW

CUSTOM

ACTION	Double acting
ROD END	Heavy-duty rod with through-hole pin attachment
BASE END	Mounting flange (solid machined piece)
BORE	5.00" to 6.00"
STROKE	15.75", 16.00", 20.00", & 21.50"
ROD	1045 chrome-plated steel rod
PRESSURE	3500 PSI



WELDED TYPE



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5" BORE	DUMP HOIST WELDED DOUBLE ACTING HYDRAULIC CYLINDER – 3500 PSI									
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN Ø BASE	PIN Ø ROD	A	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
HTC 5X15.75	5" X 15.75"	23.5"	39.25"	2"	0.63"	0.63"	3.5"	SAE 6	57700	66
HTC 5X16	5" X 16"	25"	41"	2.5"	1.262"	1.262"	3.125"	3/8-18 NPT	57724	80
HTC 5X20	5" X 20"	27.5"	47.5"	2"	0.63"	0.63"	3.2"	SAE 6	57700	74
HTC 5X21.5	5" X 21.5"	29.37"	50.87"	2"	0.63"	0.63"	3.57"	SAE 6	57700	78

TELESCOPIC TYPE

**Compact when closed.
Powerful when extended.**



TELESCOPIC TYPE

PARKER (BLEEDERLESS)

ADJUSTABLE

WELDED

TELESCOPIC

TIE ROD

SNOW PLOW

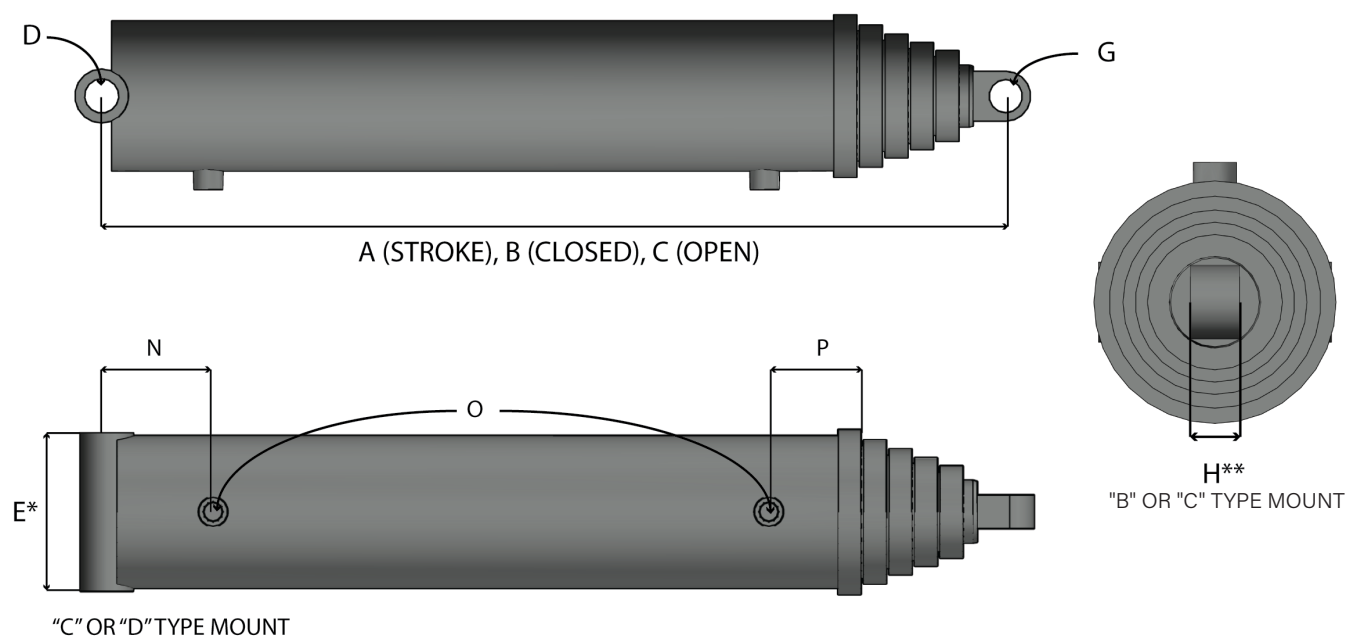
CUSTOM



ACTION	Single acting
ROD END	Options available
BASE END	Options available
STAGES	2 to 4 moving stages
NOMINAL STAGE OD RANGE:	4" to 8"
ROD	1045 chrome-plated steel rod



TELESCOPIC TYPE



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MOUNTING OPTIONS	MOUNT		MOUNT LOCATION	
			BODY	ROD
	A	PLAIN - NO MOUNT	X	X
	B	PIN EYE DRILLED THRU MOUNT		X
	C	PIN EYE DRILLED THRU LUG	X	X
	D	CROSS TUBE	X	X
	E	THREADED	X	X
	F	DRILLED AND TAPPED	X	X
	G	FLANGE MOUNT AT BASE	X	
	H	FLANGE MOUNT MID-BODY	X	
	J	FOOT/PAD MOUNT	X	
	K	CENTERLINE MOUNT	X	
	L	DOUBLE LUG CLEVIS MOUNT	X	X
	M	TRUNNION MOUNT	X	
	N	ROD END DRILLED AND TAPPED		X
	O	BALL MOUNT	X	X
	P	SOCKET MOUNT	X	X

TELESCOPIC TYPE

2 STAGE		BLEEDERLESS-PARKER TYPE HYDRAULIC CYLINDER											
PART NUMBER	NOMINAL	NUMBER	A	B	C	D	E	G	H	N	O	P	WEIGHT
	STAGE OD	STAGES	STROKE	CLOSED	OPEN	PIN	WIDTH	PIN	WIDTH	LOCATION	SIZE	LOCATION	LBS
S42CC-19-40	4	2	40	32.44	72.44	1.5	2	1.5	2	14"	3/4" NPT		52
S52CC-41-54.62	5	2	54.62	38	92.62	2.5	3.62	2.5	3.62	3.88"	1" NPT		120
S52CC-41-67.25	5	2	67.25	46.81	114.06	2.5	3.62	2.5	3.62	3.88"	1" NPT		145
S52DB-9-67.50	5	2	67.5	46.75	114.25	3	5.5	2	3	20"	1" NPT		135

3 STAGE		BLEEDERLESS-PARKER TYPE HYDRAULIC CYLINDER											
PART NUMBER	NOMINAL	NUMBER	A	B	C	D	E	G	H	N	O	P	WEIGHT
	STAGE OD	STAGES	STROKE	CLOSED	OPEN	PIN	WIDTH	PIN	WIDTH	LOCATION	SIZE	LOCATION	LBS
S43DB-3-75	4	3	75	33.88	108.88	2	5	1.25	1.69		3/4" NPT	19"	85
S53DB-13-60	5	3	60	30	90	2	6	1.5	2.63		1" NPT	19"	120
S53DB-18-90	5	3	90	39.75	129.75	2	6	1.5	2.63		1" NPT	19"	200
S53DC-65-104	5	3	104	47.69	151.69	2	7	1.75	2		1" NPT	15.50"	175
S53DC-65-107	5	3	107.56	48.38	155.94	2	7	1.75	2		1" NPT	9.94"	178
S53DC-65-120	5	3	120.13	53.06	173.19	2	7	1.75	2		1" NPT	15.50"	195
S53DC-65-126	5	3	126.63	54.56	181.19	2	7	1.75	2		1" NPT	16.12"	205
S53DC-66-72	5	3	72	37.19	109.19	2	7	1.63	1.5	19.50"	1" NPT		165
S53DC-66-84	5	3	84	41.19	125.19	2	7	1.63	1.5	19.50"	1" NPT		170
S53DC-68-105	5	3	105	48.5	153.5	2	7.75	1.75	1.5	24.81"	1" NPT		170
S53DC-68-120	5	3	120	52.5	172.5	2	7.75	1.75	1.5	24.81"	1" NPT		220
S53DC-68-123	5	3	123	54.5	177.5	2	7.75	1.75	1.5	24.81"	1" NPT		232
S53DC-68-99	5	3	99	46.5	145.5	2	7.75	1.75	1.5	24.81"	1" NPT		165
S63DC-101-104	6	3	103.94	47	150.94	2	7	2	2	20.81"	1" NPT		250
S63DC-101-107	6	3	107.56	48.38	155.94	2	7	2	2	20.81"	1" NPT		256
S63DC-101-120	6	3	120.06	52.62	172.68	2	7	2	2	20.81"	1" NPT		275
S63DC-101-126	6	3	126.31	54.56	180.87	2	7	2	2	20.81"	1" NPT		285
S63DC-101-140	6	3	140.25	59.81	200.06	2	7	2	2	20.81"	1" NPT		310
S63DC-101-150	6	3	149.88	63	212.88	2	7	2	2	20.81"	1" NPT		325
S63DC-101-86	6	3	86.75	40.88	127.63	2	7	2	2	20.81"	1" NPT		225
S63DC-101-92	6	3	92	45	137	2	7	2	2	20.81"	1" NPT		195
S63DC-102-120	6	3	120	53.5	173.5	2.38	8	2.19	1.5	24.91"	1" NPT		270
S63DC-102-126	6	3	126	55.5	181.5	2.38	8	2.19	1.5	24.91"	1" NPT		275
S63DC-102-138	6	3	138	59.5	197.5	2.38	8	2.19	1.5	24.91"	1" NPT		300
S63DC-102-150	6	3	150	66	216	2.38	8	2.19	1.5	24.91"	1" NPT		330
S63DC-102-162	6	3	162	67.5	229.5	2.38	8	2.19	1.5	24.91"	1" NPT		330
S63DC-79-67	6	3	67	36.5	103.5	3	7.88	1.75	1.5	20.50"	1" NPT		180
S63DC-96-130	6	3	130	56	186	2	7	2	2	20.81"	1" NPT		295
S63DC-96-82.50	6	3	82.5	43.56	126.06	2	7	2	2	20.81"	1" NPT		230
S63DC-97-111	6	3	111	49.94	160.94	2	7	2	2	3.81"	1" NPT	24"	270
S63DC-97-123	6	3	123	54.94	177.94	2	7	2	2	3.81"	1" NPT	29"	285
S73DC-66-110	7	3	110.63	50.06	160.69	2	8.25	2	2	7.06"	1" NPT	4.62"	335
S73DC-66-120	7	3	120	53.12	173.12	2	8.25	2	2	7.06"	1" NPT	4.62"	360
S73DC-66-124	7	3	124.88	54.81	179.69	2	8.25	2	2	7.06"	1" NPT	4.62"	370
S73DC-66-129	7	3	129	56.5	185.5	2	8.25	2	2	8.56"	1" NPT	4.62"	385
S73DC-66-140	7	3	140.44	60	200.44	2	8.25	2	2	7.06"	1" NPT	4.62"	400
S73DC-66-150	7	3	150	63.5	213.5	2	8.25	2	2	7.06"	1" NPT	4.62"	420

TELESCOPIC TYPE

4 STAGE		BLEEDERLESS-PARKER TYPE HYDRAULIC CYLINDER											
PART NUMBER	NOMINAL	NUMBER	A	B	C	D	E	G	H	N	O	P	WEIGHT
	STAGE OD	STAGES	STROKE	CLOSED	OPEN	PIN	WIDTH	PIN	WIDTH	LOCATION	SIZE	LOCATION	LBS
S64DB-12-135	6	4	135	47.19	182.19	1.75	8	1.5	2.69			5.50"	275
S64DB-12-156	6	4	156	53.19	209.19	1.75	8	1.5	2.69			5.50"	293
S64DC-14-156	6	4	156	53.62	209.62	2	7.25	2	1.75	6.31"	1" NPT		310
S64DC-15-157	6	4	157	58.56	215.56	1.5	7	1.5	2	4.31"	1" NPT		310
S74DC-74-120	7	4	120	44.12	164.12	2	8.25	2	2	7.06"	1" NPT	4.62"	325
S74DC-74-135	7	4	135	48.44	183.44	2	8.25	2	2	7.06"	1" NPT	4.62"	375
S74DC-74-140	7	4	140	49.75	189.75	2	8.25	2	2	7.06"	1" NPT	4.62"	365
S74DC-74-156	7	4	156	53.75	209.75	2	8.25	2	2	7.06"	1" NPT	4.62"	388
S74DC-74-161	7	4	161.75	55.31	217.06	2	8.25	2	2	7.06"	1" NPT	4.62"	405
S74DC-74-180	7	4	180	61.12	241.12	2	8.25	2	2	7.06"	1" NPT	4.62"	430
S84DC-40-170	8	4	170	57.25	227.25	2	9.5	2	2	6.50"	1" NPT	5.62"	570
S84DC-66-140	8	4	140	49.75	189.75	2	9.5	2	2	6.50"	1" NPT	5.62"	488
S84DC-66-148	8	4	147.75	51.5	199.25	2	9.5	2	2	6.50"	1" NPT	5.62"	515
S84DC-66-156	8	4	156	53.75	209.75	2	9.5	2	2	5.56"	1" NPT	5.62"	535
S84DC-66-161	8	4	160	55.75	215.75	2	9.5	2	2	6.50"	1" NPT	5.62"	555
S84DC-66-170	8	4	170	57.25	227.25	2	9.5	2	2	6.50"	1" NPT	5.62"	568
S84DC-66-180	8	4	180	59.75	239.75	2	9.5	2	2	6.50"	1" NPT	5.62"	591
S84DC-66-188	8	4	188	61.75	249.75	2	9.5	2	2	6.50"	1" NPT	5.62"	610

TELESCOPIC TYPE

FRONT EYE (PIN TO PIN)

ADJUSTABLE

WELDED

TELESCOPIC

TIE ROD

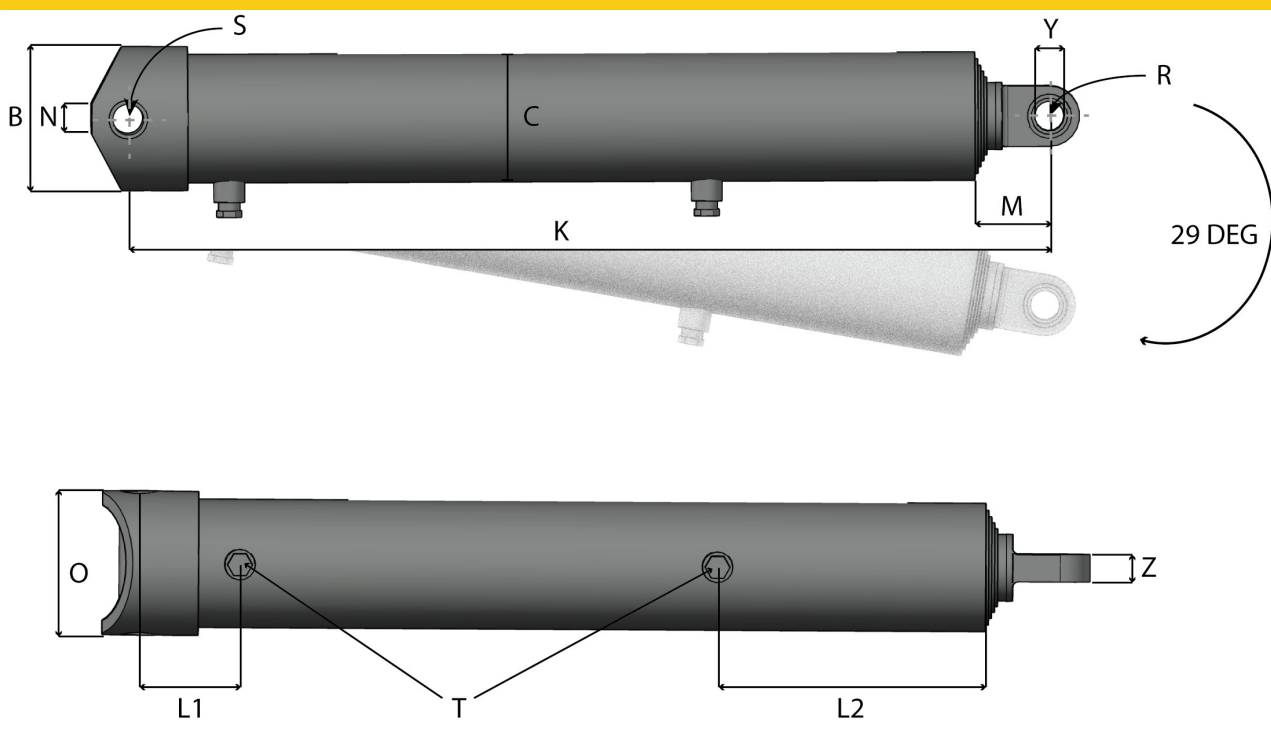
SNOW PLOW

CUSTOM

ACTION	Single acting
ROD END	Piston eye with cross pin
BASE END	Bottom eye with cross pin
STAGES	3 to 5 moving stages
NOMINAL STAGE OD RANGE:	5" to 9"
ROD	1045 chrome-plated steel rod



TELESCOPIC TYPE



*ALL VALUES ARE IN INCHES
**ALL NUMBERS GIVEN ARE NOMINAL VALUES AND SHOULD BE USED FOR REFERENCE ONLY. ALL PRODUCT SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

3 STAGE		FRONT EYE (PIN TO PIN) TELESCOPIC HYDRAULIC CYLINDER																
Model	LBS	K*	TOTAL (Gal.)	O	B	C	L1	L2	Z	M*	S	T	N	Y	R	Last stage	Stroke	Max PSI
FEE A5-3-83-K42	163	42.31	4.2	6.63	5.69	5.13	13	-	1.63	4	2.19	1	2.13	2	2.06	2.83	83.2	3626
FEE A6-3-83-K42	196	42.31	5.8	7	6.56	1.63	13	-	1.63	4	2.19	1	2.13	2	2.06	3.58	83.2	3626
FEE A6-3-96-K51	236	51.19	7.1	7	6.56	5.88	13	17.69	1.63	4	2.19	1	2.06	2	2.06	3.58	96	3626
FEE A6-3-101-K48	223	48.25	7.1	7	6.56	5.88	13	17.69	1.63	4	2.19	1	2.06	2	2.06	3.58	100.9	3626
FEE A6-3-110-K51	236	51.19	7.7	7	6.56	5.88	13	17.69	1.63	4	2.19	1	2.13	2	2.06	3.58	109.6	3626
FEE A6-3-119-K54	249	54.13	8.5	7	6.56	5.88	13	17.69	1.63	4	2.19	1	2.06	2	2.06	3.58	118.6	3626
FEE A6-3-124-K57-HD	262	57.06	9	7	6.56	5.88	13	17.69	1.63	4	2.19	1	2.13	2	2.06	3.58	123.6	3626
FEE A6-3-134-K60-HD	278	60.44	9.5	7	6.56	5.88	13	17.69	1.63	4	2.19	1	2.13	2	2.06	3.58	133.7	3626
FEE A7-3-110-K51	282	51.19	10.6	8.25	7.38	6.69	13	17.69	1.63	4	2.19	1	2.13	2	2.06	4.33	109.6	3626
FEE A7-3-119-K53-SKE	300	53.13	11.4	8.25	7.38	6.69	13	17.69	1.63	3	2.19	1	2.06	2	1.77	4.33	118.6	3626
FEE A7-3-127-K56-SKE	315	56.13	12.4	8.25	7.38	6.69	13	17.69	1.63	3	2.19	1	2.06	2	1.77	4.33	127.3	3626
FEE A7-3-137-K60	333	60.44	13.2	8.25	7.38	6.69	13	17.69	1.63	4	2.19	1	2.06	2	2.06	4.33	137.5	3626
FEE A7-3-147-K64	351	63.56	14.3	8.25	7.38	6.69	13	17.69	1.63	4	2.19	1	2.06	2	2.06	4.33	146.8	3626

TELESCOPIC TYPE

4 STAGE		FRONT EYE (PIN TO PIN) TELESCOPIC HYDRAULIC CYLINDER																
Model	LBS	K*	TOTAL (Gal.)	O	B	C	L1	L2	Z	M*	S	T	N	Y	R	Last stage	Stroke	Max PSI
FEE A6-4-158-K54	278	54.13	9.8	7	6.56	5.88	13	17.69	1.63	4	2.19	1	2.06	2	2.06	2.83	158.4	3626
FEE A7-4-135-K48	298	48.25	11.4	8.25	7.38	6.69	13	17.69	1.63	4	2.19	1	2.13	2	2.06	3.58	134.8	3626
FEE A7-4-146-K51	315	51.19	12.4	8.25	7.38	6.69	13	17.69	1.63	4	2.19	1	2.06	2	2.06	3.58	146.4	3626
FEE A7-4-158-K54	333	54.13	13.5	8.25	7.38	6.69	13	17.69	1.63	4	2.19	1	2.13	2	2.06	3.58	158.4	3626
FEE A7-4-170-K57	353	57.06	14.3	8.25	7.38	6.69	13	17.69	1.63	4	2.19	1	2.06	2	2.06	3.58	170	3626
FEE A7-4-183-K60	373	60.44	15.6	8.25	7.38	6.69	13	17.69	1.63	4	2.19	1	2.06	2	2.06	3.58	183.6	3626
FEE A8-4-146-K51	379	51.31	16.6	9.44	8.25	7.56	11.69	17.69	1.63	4	2.19	1	2.06	2	2.06	4.33	146.4	3626
FEE A8-4-158-K54	401	54.31	18	9.44	8.25	7.56	6.69	17.69	1.63	4	2.19	1	2.06	2	2.06	4.33	158.4	3626
FEE A8-4-170-K57	423	57.25	19.3	9.44	8.25	7.56	6.69	17.69	1.63	4	2.19	1	2.06	2	2.06	4.33	170	3626
FEE A8-4-183-K61	448	60.56	20.6	9.44	8.25	7.56	6.69	17.69	1.63	4	2.19	1	2.06	2	2.06	4.33	183.6	3626
FEE A7-3-127-K56-SKE	315	56.13	12.4	8.25	7.38	6.69	13	17.69	1.63	3	2.19	1	2.06	2	1.77	4.33	127.3	3626
FEE A7-3-137-K60	333	60.44	13.2	8.25	7.38	6.69	13	17.69	1.63	4	2.19	1	2.06	2	2.06	4.33	137.5	3626
FEE A7-3-147-K64	351	63.56	14.3	8.25	7.38	6.69	13	17.69	1.63	4	2.19	1	2.06	2	2.06	4.33	146.8	3626

5 STAGE		FRONT EYE (PIN TO PIN) TELESCOPIC HYDRAULIC CYLINDER																
Model	LBS	K*	TOTAL (Gal.)	O	B	C	L1	L2	Z	M*	S	T	N	Y	R	Last stage	Stroke	Max PSI
FEE A8-5-169-K50	465	50.25	22.2	9.44	9.25	8.44	6.69	17.69	1.63	5.38	2.38	1	2.06	2	2.06	4.33	168.7	3626
FEE A8-5-190-K55	522	54.81	25.4	9.44	9.25	8.44	6.69	17.69	1.63	4	2.38	1	2.13	2	2.06	4.33	190.3	3626
FEE A8-5-213-K58	551	57.75	28	9.44	9.25	8.44	6.69	17.69	1.63	4	2.38	1	2.06	2	2.06	4.33	212.7	3626
FEE A8-5-222-K60	567	59.5	29.1	9.44	9.25	8.44	6.69	17.69	1.63	4	2.38	1	2.06	2	2.06	4.33	221.7	3626
FEE A8-5-230-K61	582	61.13	30.1	9.44	9.25	8.44	6.69	17.69	1.63	4	2.38	1	2.06	2	2.06	4.33	229.7	3626
FEE A8-5-245-K64	613	64.25	32.2	9.44	9.25	8.44	6.69	17.69	1.63	4	2.38	1	2.06	2	2.06	4.33	245.2	3191
FEE A8-5-255-K67	639	67	33.5	9.44	9.25	8.44	6.69	17.69	1.63	4	2.38	1	2.06	2	2.06	4.33	255.2	2756
FEE A8-5-255-K68-LKE	642	68.13	33.5	9.44	9.25	8.44	6.69	17.69	1.63	5.06	2.38	1	2.06	2	2.06	4.33	255.5	2756
FEE A8-5-269-K70	666	69.75	35.4	9.44	9.25	8.44	6.69	17.69	1.63	4	2.38	1	2.06	2	2.06	4.33	268.7	2756
FEE A8-5-269-K71-LKE	668	70.88	35.4	9.44	9.25	8.44	6.69	17.69	1.63	5.06	2.38	1	2.06	2	2.06	4.33	268.7	2756
FEE A8-5-279-K78-LK	694	77.63	36.7	9.44	9.25	8.44	6.69	17.69	1.63	9.5	2.38	1	2.06	2	2.06	4.33	279.1	2466
FEE A8-5-281-K72	690	72.13	36.7	9.44	9.25	8.44	6.69	17.69	1.63	4	2.38	1	2.06	2	2.06	4.33	280.7	2466
FEE A9-5-230-K61	697	61.13	38.6	10.63	10.19	9.44	6.69	17.69	2.06	4	2.5	1	2.06	2	2.44	5.08	229.7	3191
FEE A9-5-245-K64	734	64.25	41.2	10.63	10.19	9.44	6.69	17.69	2.06	4	2.5	1	2.06	2	2.44	5.08	245.2	3191
FEE A9-5-255-K67	765	67	43.1	10.63	10.19	9.44	6.69	17.69	2.06	4	2.5	1	2.06	2	2.44	5.08	255.2	3191
FEE A9-5-269-K70	796	69.75	45.2	10.63	10.19	9.44	6.69	17.69	2.06	4	2.5	1	2.06	2	2.44	5.08	268.7	3191
FEE A9-5-269-K76-LK	802	75.69	45.2	10.63	10.19	9.44	6.69	17.69	2.06	4	2.5	1	2.06	2	2.44	5.08	268.7	2756
FEE A9-5-279-K78-LK	829	77.63	47	10.63	10.19	9.44	6.69	17.69	2.06	9.5	2.5	1	2.06	2	2.44	5.08	279.1	2756
FEE A9-5-281-K72	825	72.13	47.3	10.63	10.19	9.44	6.69	17.69	2.06	4	2.5	1	2.06	2	2.44	5.08	280.7	2756
FEE A9-5-299-K83-LK	893	82.75	50.5	10.63	10.19	9.44	6.69	17.69	2.06	9.13	2.5	1	2.06	2	2.44	5.08	299.1	2466
FEE A9-5-300-K78	886	77.63	50.5	10.63	10.19	9.44	6.69	17.69	2.06	4	2.5	1	2.06	2	2.44	5.08	300.2	2466
FEE A9-5-320-K82	933	81.56	53.9	10.63	10.19	9.44	6.69	17.69	2.06	4	2.5	1	2.06	2	2.44	5.08	320.2	2176
FEE A9-5-336-K86	981	85.88	56.5	10.63	10.19	9.44	6.69	17.69	2.06	4	2.5	1	2.06	2	2.44	5.08	335.7	1958
FEE A9-5-336-K87-LK	983	87.06	56.5	10.63	10.19	9.44	6.69	17.69	2.06	4	2.5	1	2.06	2	2.44	5.08	335.7	1958

TELESCOPIC TYPE

FRONT END WITH OUTER COVER

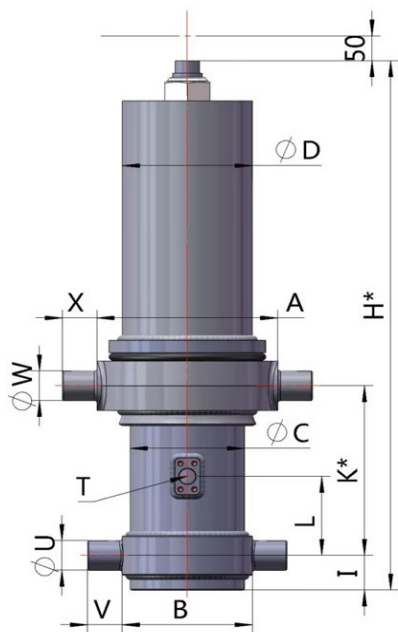


ACTION	Single acting
ROD END	Trunnion mount
BASE END	Trunnion mount
STAGES	3 to 5 moving stages
ROD	1045 chrome-plated steel rod

ADJUSTABLE

WELDED

TELESCOPIC



* incl. 20 [-5; +30] mm pull out.



TIE ROD

SNOW PLOW

CUSTOM

Effective diameter - First stage (mm)	A	B	C	D	I	J	L	T	V	W	X
129	340	201	151	219	60	91	160	1"SAE	65	60	65
149	340	201	171	245	60	96	160	1"SAE	65	60	65
169	340	245	192	245	65	106	160	1"SAE	65	60	65
191	340	245	215	273	70	116	160	1"SAE	65	60	65
214	340	270	242	273	85	135	160	1"SAE	65	60	65

*ALL VALUES ARE IN MILLIMETERS

**ALL NUMBERS GIVEN ARE NOMINAL VALUES AND SHOULD BE USED FOR REFERENCE ONLY. ALL PRODUCT SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

TELESCOPIC TYPE

3 STAGE	FRONT END WITH OUTER COVER										
MODEL	Stroke (mm)	K*	PRESSURE (BAR)	MAX TRHUST (kN)	H*	Max Working Pressure (Bar)	Min Tipping Weight (T)	Max Tipping Weight (T)	effective diameter first stage (mm)	Weight (kgs)	Closest Hyva Alpha Reference
SAT 129-3-3460-FC	3460	343	190	248.2	1484	250	45	60	129	186	
SAT 129-3-3880-FC	3880	343	190	248.2	1644	250	44	58	129	206	FC A129-3-03880-000-K0343
SAT 129-3-4270-FC	4270	343	190	248.2	1744	250	45	61	129	219	FC A129-3-04270-000-K0343
SAT 149-3-3880-FC	3880	343	190	331.2	1644	250	64	84	149	248	FC A149-3-03880-000-K0343
SAT 149-3-4270-FC	4270	343	190	331.2	1774	250	66	89	149		FC A149-3-04270-000-K0343

4 STAGE	FRONT END WITH OUTER COVER										
MODEL	Stroke (mm)	K*	PRESSURE (BAR)	MAX TRHUST (kN)	H*	Max Working Pressure (Bar)	Min Tipping Weight (T)	Max Tipping Weight (T)	effective diameter first stage (mm)	Weight (kgs)	Closest Hyva Alpha Reference
SAT 129-4-4280-FC	4280	343	190	248.2	1339	250	29	49	129	195	
SAT 129-4-4620-FC	4620	343	190	248.2	1484	250	29	46	129	204	
SAT 129-4-5180-FC	5180	343	190	248.2	1644	250	28	47	129	221	FC A129-4-05180-000-K0343
SAT 149-4-4280-FC	4280	343	190	331.2	1399	250	48	56	149	219	
SAT 149-4-4620-FC	4620	343	190	331.2	1484	250	46	59	149	230	
SAT 149-4-4940-FC	4940	343	190	331.2	1564	250	46	60	149	241	
SAT 149-4-5180-FC	5180	343	190	331.2	1644	250	45	59	149	250	FC A149-4-05180-000-K0343
SAT 149-4-5460-FC	5460	343	190	331.2	1714	250	45	59	149	259	FC A149-4-05460-070-K0343
SAT 169-4-4280-FC	4280	343	190	426	1394	250	70	82	169		
SAT 169-4-4620-FC	4620	343	190	426	1479	250	68	86	169	283	
SAT 169-4-4940-FC	4940	343	190	426	1559	250	67	83	169		
SAT 169-4-5180-FC	5180	343	190	426	1639	250	66	81	169	307	FC A169-4-05180-000-K0343
SAT 169-4-5460-FC	5460	343	190	426	1709	250	65	83	169	318	FC A169-4-05460-000-K0343
SAT 191-4-5460-FC	5460	343	190	544.1	1712	250	90	98	191	379	FC A191-4-05460-000-K0343

5 STAGE	FRONT END WITH OUTER COVER										
MODEL	Stroke (mm)	K*	PRESSURE (BAR)	MAX TRHUST (kN)	H*	Max Working Pressure (Bar)	Min Tipping Weight (T)	Max Tipping Weight (T)	effective diameter first stage (mm)	Weight (kgs)	Closest Hyva Alpha Reference
SAT 169-5-5355-FC	5355	343	190	426	1394	250	46	56	169	268	
SAT 169-5-5780-FC	5780	343	190	426	1479	250	46	58	169	282	
SAT 169-5-6180-FC	6180	343	190	426	1559	250	45	57	169	295	
SAT 169-5-6830-FC	6830	343	190	426	1709	250	45	55	169	319	FC A169-5-06830-000-K0343
SAT 169-5-7130-FC	7130	343	190	426	1769	250	44	56	169	329	FC A169-5-07130-000-K0343
SAT 169-5-7630-FC	7630	343	170	381.2	1899	220	38	55	169	352	FC A169-5-07630-004-K0343
SAT 169-5-8130-FC	8130	343	170	381.2	1999	190	33	47	169	369	FC A169-5-08130-004-K0343
SAT 169-5-9030-FC	9030	486	150	336.3	2209	150	26	35	169	400	FC A169-5-09030-000-K0486
SAT 169-5-9530-FC	9530	343	135	302.7	2309	150	26	34	169	420	FC A169-5-09530-004-K0343
SAT 191-5-5780-FC	5780	343	190	544.1	1482	250	67	79	191	call	
SAT 191-5-6180-FC	6180	343	190	544.1	1562	250	66	77	191	376	
SAT 191-5-7130-FC	7130	343	190	544.1	1772	250	65	79	191	418	FC A191-5-07130-000-K0343
SAT 191-5-7630-FC	7630	343	190	544.1	1902	250	64	77	191	447	FC A191-5-07630-004-K0343
SAT 191-5-8130-FC	8130	343	190	544.1	2002	220	56	79	191	468	FC A191-5-08130-004-K0343
SAT 191-5-9030-FC	9030	343	170	486.8	2212	170	43	57	191	507	FC A191-5-09030-004-K0343
SAT 191-5-9530-FC	9530	343	150	430	2312	150	37	49	191	528	
SAT 214-5-9030-FC	9030	486	170	611.1	2197	190	66	88	214	590	FC A214-5-09030-000-K0486
SAT 214-5-9530-FC	9530	343	150	150	2297	170	58	77	214	620	FC A214-5-09530-004-K0343
SAT 214-5-12200-FC	12200	486	150	150	2967	150	call	call	214	call	

TELESCOPIC TYPE

FRONT END WITH SINGLE EYE

ACTION	Single acting
ROD END	Pin mount
BASE END	Trunnion mount
STAGES	3 to 5 moving stages
ROD	1045 chrome-plated steel rod

ADJUSTABLE

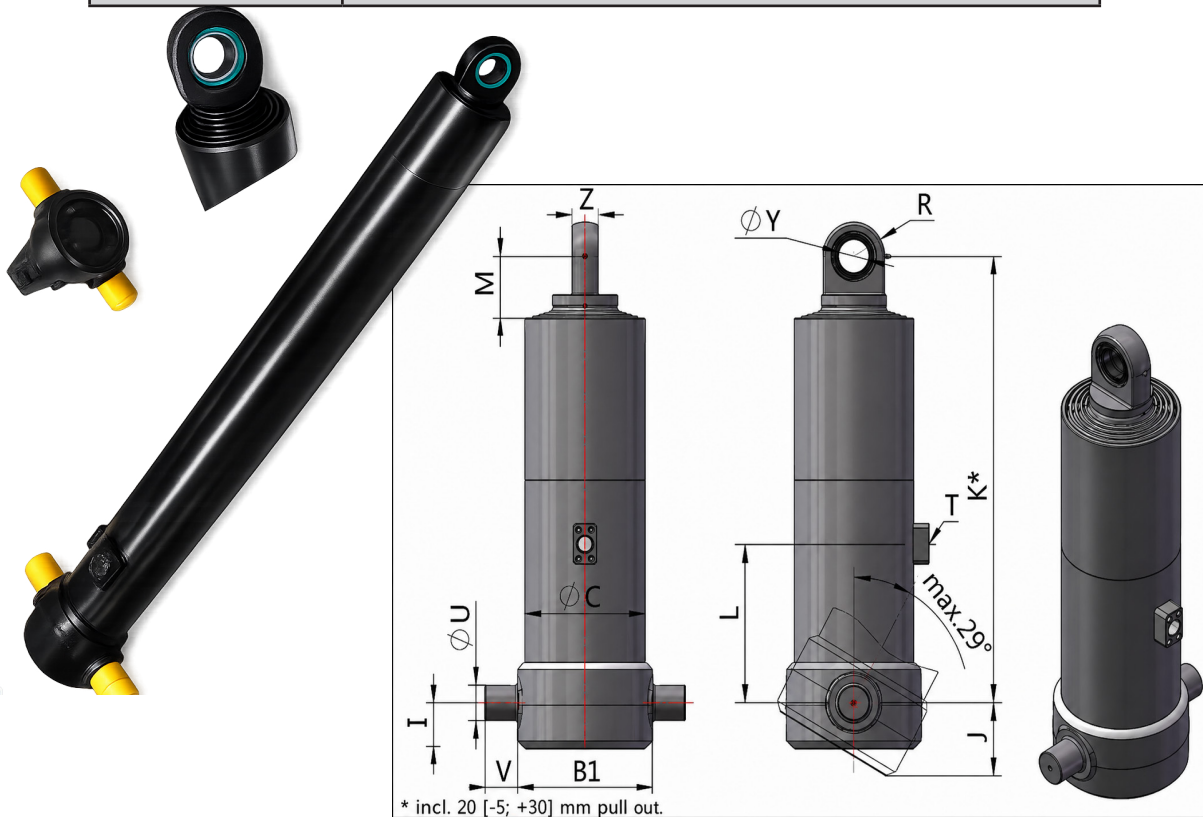
WELDED

TELESCOPIC

TIE ROD

SNOW PLOW

CUSTOM



Effective diameter - First stage (mm)	B1	C	I	J	R	L	T	U	V	Y	Z
110	163	129	60	91	52	160	I"SAE	60	65	50	42
129	201	151	60	91	52	160	I"SAE	60	65	50	42
149	201	171	60	96	52	160	I"SAE	60	65	50	42
169	245	192	65	106	52	160	I"SAE	60	65	50	42
191	245	215	70	116	52	160	I"SAE	60	65	50	42
214	270	242	85	135	62	160	I"SAE	65	65	60	52

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TELESCOPIC TYPE

3 STAGE	FRONT END SINGLE ACTING TELESCOPIC CYLINDER WITH SINGLE EYE										
MODEL	STROKE (mm)	K*	M	H*	PRESSURE (BAR)	MAX TRHUST (kN)	Max Working pressure (Bar)	Max Tipping Weight (T)	Min Tipping Weight (T)	effective diameter first stage (mm)	Weight (kgs)
SAT 110-3-3205-FE	3205	1449	100	1545	190	180.5	250	46	21	110	99
SAT 110-3-3460-FE	3460	1609	100	1634	190	180.5	250	call	call	110	129
SAT 129-3-3460-FE	3460	1449	100	1634	190	248.2	250	59	33	129	142
SAT 129-3-3880-FE	3880	1609	100	1795	190	248.2	250	56	32	129	142
SAT 149-3-2900-FE	2900	1320	135	call	190	331.2	250	call	call	149	call
SAT 149-3-3200-FE	3200	1420	135	call	190	331.2	250	call	call	149	call
SAT 149-3-3500-FE	3500	1520	135	call	190	331.2	250	call	call	149	call
SAT 149-3-3880-FE	3880	1644	135	1698	190	331.2	250	83	62	149	168
SAT 149-3-4280-FE	4280	1777	135	1864	190	331.2	250	call	call	149	175

4 STAGE	FRONT END SINGLE ACTING TELESCOPIC CYLINDER WITH SINGLE EYE										
MODEL	STROKE (mm)	K*	H*	M	PRESSURE (BAR)	MAX TRHUST (kN)	Max Working pressure (Bar)	Max Tipping Weight (T)	Min Tipping Weight (T)	effective diameter first stage (mm)	Weight (kgs)
SAT 149-4-4280-FE	4280	1450	1418	160	190	331.2	250	61 t	47 t	149	162
SAT 149-4-4620-FE	4620	1484	1634	135	190	331.2	250	70	35	149	171
SAT 149-4-4940-FE	4940	1529	1583	100	190	331.2	250	66	34	149	179
SAT 169-4-4280-FE	4280	1394	1582	135	190	426	250	84	66	169	227
SAT 169-4-4620-FE	4620	1479	call	135	190	426	250	83	51	169	206
SAT 169-4-4940-FE	4940	1529	call	100	190	426	250	call	call	169	call
SAT 169-4-5180-FE	5180	1604	1814	100	190	426	250	83	50	169	227

5 STAGE	FRONT END SINGLE ACTING TELESCOPIC CYLINDER WITH SINGLE EYE										
MODEL	STROKE (mm)	K*	H*	M	PRESSURE (BAR)	MAX TRHUST (kN)	Max Working pressure (Bar)	Max Tipping Weight (T)	Min Tipping Weight (T)	effective diameter first stage (mm)	Weight (kgs)
SAT 169-5-5355-FE	5355	1394	call	100	190	426	250	66	35	169	212
SAT 169-5-5780-FE	5780	1459	call	100	190	426	250	60	34	169	224
SAT 169-5-6180-FE	6180	1497	1734	100	190	426	250	58	34	169	236
SAT 169-5-6830-FE	6830	1674	call	100	190	426	250	48	30	169	258
SAT 169-5-7130-FE	7130	1734	call	100	190	426	250	37	26	169	266
SAT 169-5-7630-FE	7630	1834	1922	100	170	381.2	250	40	29	169	286
SAT 169-5-8130-FE	8130	1934	call	100	170	381.2	250	call	call	169	call
SAT 191-5-6180-FE	6180	1527	1737	100	190	544.1	250	84	49	191	281
SAT 191-5-7130-FE	7130	1717	1785	100	190	544.1	250	61	43	191	316
SAT 191-5-7630-FE	7630	1817	call	100	190	544.1	250	call	call	191	call
SAT 191-5-9030-FE	9030	2177	call	100	150	429.6	250	36	27	191	395
SAT 214-5-7130-FE	7130	1722	call	100	190	683	250	84	60	214	380
SAT 214-5-7630-FE	7630	1857	1974	100	170	611.1	250	call	call	214	396

TELESCOPIC TYPE

7 TON & 12 TON



ACTION	Single acting
ROD END	Drilled pin mount
BASE END	Trunnion mount
STAGES	3 moving stages
ROD	1045 chrome-plated steel rod
PRESSURE	2,500 PSI

ADJUSTABLE

WELDED

TELESCOPIC

TIE ROD

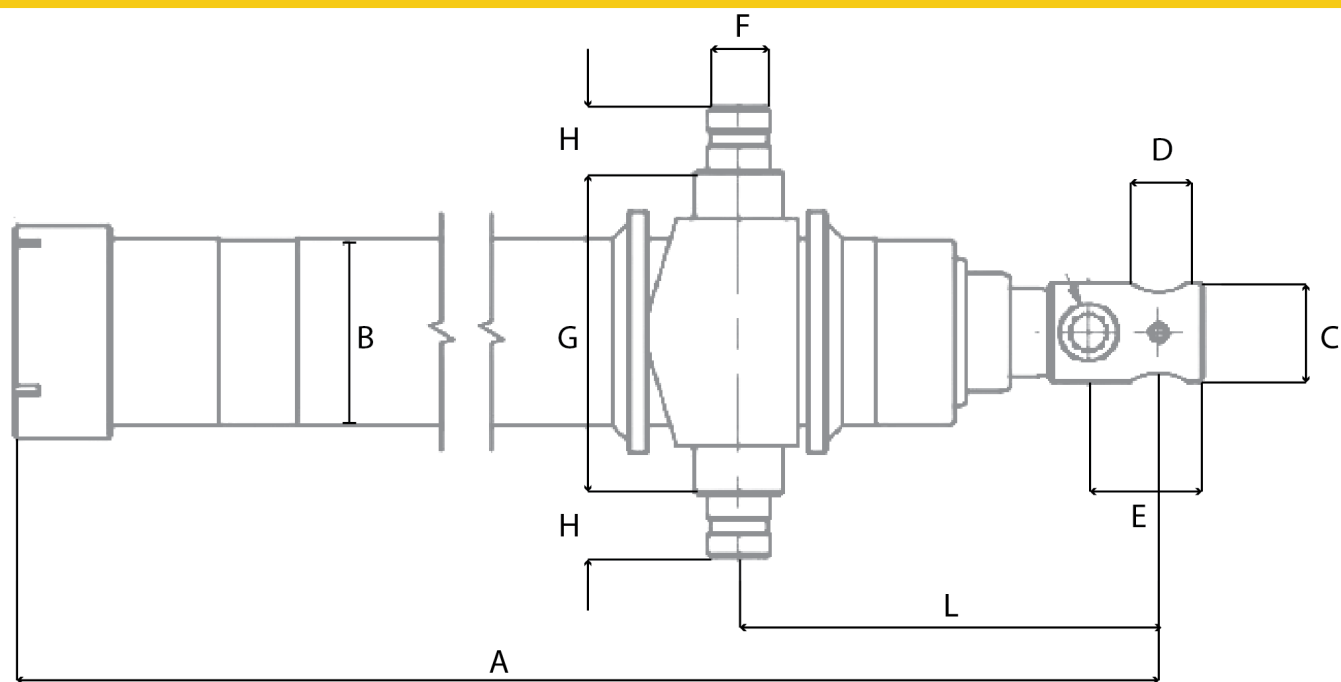
SNOW PLOW

CUSTOM



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TELESCOPIC TYPE

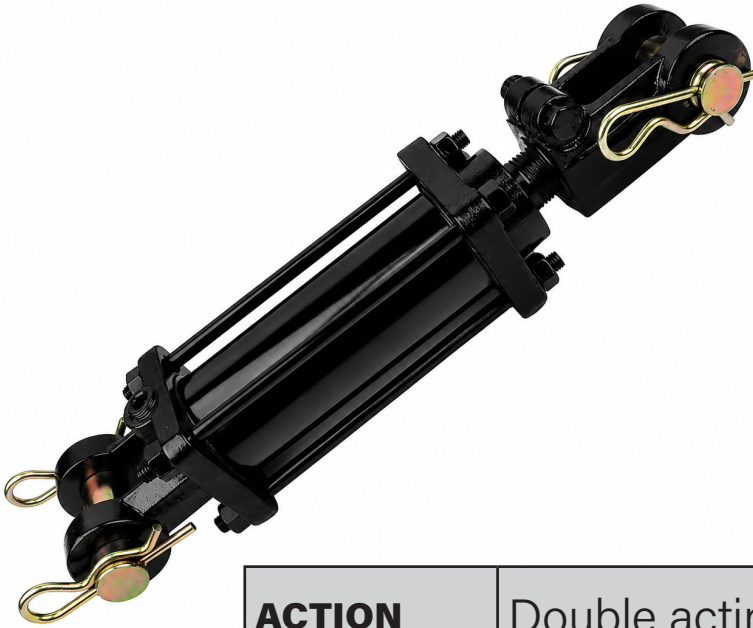


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7 TON	INVERSE SINGLE ACTING TELESCOPIC CYLINDER – 2500 PSI										
PART NUMBER	STROKE	A	B	C	D	E	F	G	H	L	Kgs
HTC-07833	78"	35.5"	3.75"	2"	1.063"	2.5"	1.25"	6.5"	1.25"	7"	37
HTC-09033	90"	39.5"	3.75"	2"	1.063"	3.0"	1.25"	6.5"	1.25"	7"	41
HTC-10833	108"	45"	3.75"	2"	1.063"	3.0"	1.25"	6.5"	1.25"	7"	46

12 TON	INVERSE SINGLE ACTING TELESCOPIC CYLINDER – 2500 PSI										
PART NUMBER	STROKE	A	B	C	D	E	F	G	H	L	Kgs
HTC-07843	78"	34.75"	4.4"	2"	1.063"	2.25"	1.5"	7.5"	1.5"	7"	48
HTC-09043	90"	38.75"	4.4"	2"	1.063"	2.25"	1.5"	7.5"	1.5"	7"	52
HTC-10843	108"	44.75"	4.4"	2"	1.063"	2.25"	1.5"	7.5"	1.5"	7"	59
HTC-12043	120"	48.75"	4.4"	2"	1.063"	2.25"	1.5"	7.5"	1.5"	7"	64
HTC-13243	132"	52.75"	4.4"	2"	1.063"	2.25"	1.5"	7.5"	1.5"	7"	71.5
HTC-14443	144"	56.78"	4.4"	2"	1.063"	2.25"	1.5"	7.5"	1.5"	7"	74

TIE ROD



ACTION	Double acting
ROD END	Clevis mounts, pins, and clips included
BASE END	Clevis mounts, pins, and clips included
BORE	2.00" to 4.00"
STROKE	4" to 60"
ROD	1045 chrome-plated steel rod
PRESSURE	2,500 and 3,000 PSI

ADJUSTABLE

WELDED

TELESCOPIC

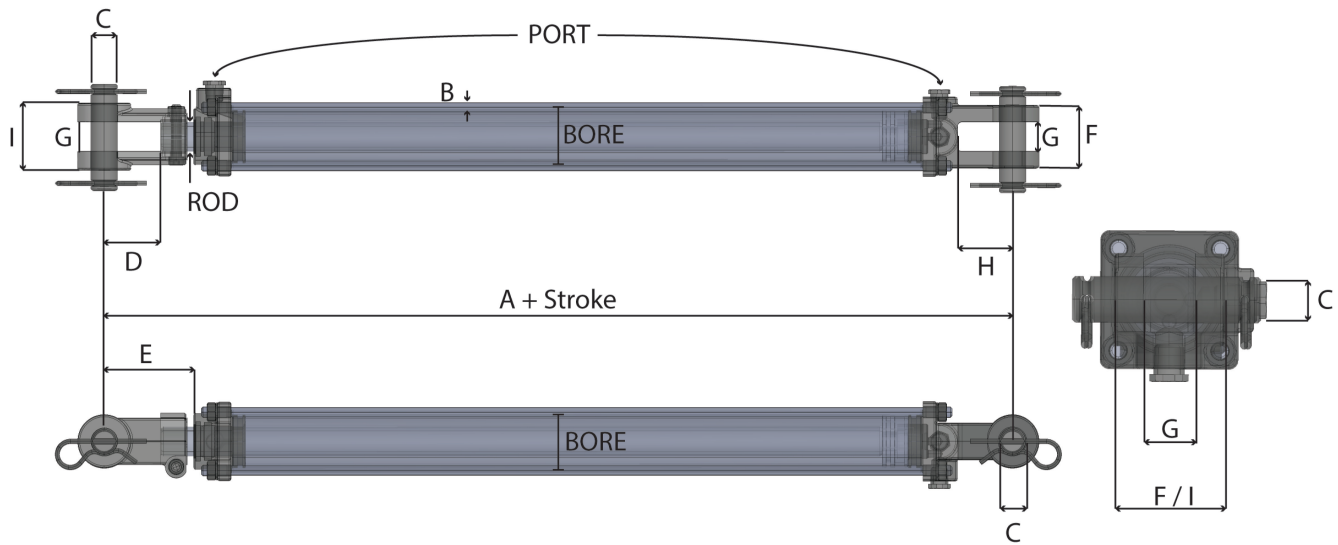
TIE ROD

SNOW PLOW

CUSTOM



TIE ROD



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2500 PSI		TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER									
BORE	ROD THREAD	PORTS	A	B	C	D	E	F	G	H	I
2.00"	1 1/8-12 UNF	3/8 NPT	10.25"	M10	1.0"	2.125"	3.502"	2.50"	1.165"	2.008"	2.504"
2.50"	1 1/8-12 UNF	3/8 NPT	10.25"	M10	1.0"	2.125"	3.502"	2.50"	1.165"	2.008"	2.504"
3.00"	1 1/4-12 UNF	1/2 NPT	10.25"	M12	1.0"	2.125"	3.502"	2.56"	1.165"	2.008"	2.717"
3.50"	1 1/4-12 UNF	1/2 NPT	10.25"	M14	1.0"	2.125"	3.502"	2.56"	1.165"	2.008"	2.717"
4.00"	1 1/4-12 UNF	1/2 NPT	10.25"	M16	1.0"	2.125"	3.502"	2.76"	1.165"	2.008"	2.717"

For 8.00" ASAE STROKE: A= 12.25"

For 16.00" ASAE STROKE: A= 15.50" , C= 1.25"

For TR2.5-3516-ASAE-ZX , Rod diameter is 1.50"

For TR2.5-4016-ASAE-ZX, Rod diameter is 2.00"

3500 PSI		TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER									
BORE	ROD THREAD	PORTS	A	B	C	D	E	F	G	H	I
2.00"	1 1/8-12 UNF	SAE 8	10.25"	M10	1.0"	2.125"	3.502"	2.50"	1.165"	2.008"	2.504"
2.50"	1 1/8-12 UNF	SAE 8	10.25"	M10	1.0"	2.125"	3.502"	2.50"	1.165"	2.008"	2.504"
3.00"	1 1/4-12 UNF	SAE 8	10.25"	M12	1.0"	2.125"	3.502"	2.56"	1.165"	2.008"	2.717"
3.50"	1 1/4-12 UNF	SAE 8	10.25"	M14	1.0"	2.125"	3.502"	2.56"	1.165"	2.008"	2.717"
4.00"	1 1/4-12 UNF	SAE 8	10.25"	M16	1.0"	2.125"	3.502"	2.76"	1.165"	2.008"	2.717"

For 8.00" ASAE STROKE: A= 12.25"

For 16.00" ASAE STROKE: A= 15.50" , C= 1.25"

For TR3.0-4016-ASAE-ZX, Rod diameter is 2.00"

TIE ROD

2500 PSI

2.0" BORE	TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER – 2500 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
TR2.5-2004-NS	2"×4"	14 1/4"	18 1/4"	1 1/8"	1"	3/8 NPT	7850	16
TR2.5-2006-NS	2"×6"	16 1/4"	22 1/4"	1 1/8"	1"	3/8 NPT	7850	17
TR2.5-2008-NS	2"×8"	18 1/4"	26 1/4"	1 1/8"	1"	3/8 NPT	7850	19
TR2.5-2008-ASAE-NS	2"×8"	20 1/4"	28 1/4"	1 1/8"	1"	3/8 NPT	7850	20
TR2.5-2010-NS	2"×10"	20 1/4"	30 1/4"	1 1/8"	1"	3/8 NPT	7850	20
TR2.5-2012-NS	2"×12"	22 1/4"	34 1/4"	1 1/8"	1"	3/8 NPT	7850	22
TR2.5-2014-NS	2"×14"	24 1/4"	38 1/4"	1 1/8"	1"	3/8 NPT	7850	24
TR2.5-2016-NS	2"×16"	26 1/4"	42 1/4"	1 1/8"	1"	3/8 NPT	7850	25
TR2.5-2018-NS	2"×18"	28 1/4"	46 1/4"	1 1/8"	1"	3/8 NPT	7850	27
TR2.5-2020-NS	2"×20"	30 1/4"	50 1/4"	1 1/8"	1"	3/8 NPT	6950	28
TR2.5-2024-NS	2"×24"	34 1/4"	58 1/4"	1 1/8"	1"	3/8 NPT	5180	31
TR2.5-2030-NS	2"×30"	40 1/4"	70 1/4"	1 1/8"	1"	3/8 NPT	3570	36
TR2.5-2036-NS	2"×36"	46 1/4"	82 1/4"	1 1/8"	1"	3/8 NPT	2610	41
TR2.5-2040-NS	2"×40"	50 1/4"	90 1/4"	1 1/8"	1"	3/8 NPT	1700	44
TR2.5-2048-NS	2"×48"	58 1/4"	106 1/4"	1 1/8"	1"	3/8 NPT	1570	49

2.5" BORE	TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER – 2500 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
TR2.5-2504-NS	2.5"×4"	14 1/4"	18 1/4"	1 1/8"	1"	3/8 NPT	12200	19
TR2.5-2506-NS	2.5"×6"	16 1/4"	22 1/4"	1 1/8"	1"	3/8 NPT	12200	21
TR2.5-2508-NS	2.5"×8"	18 1/4"	26 1/4"	1 1/8"	1"	3/8 NPT	12200	22
TR2.5-2508-ASAE-NS	2.5"×8"	20 1/4"	28 1/4"	1 1/8"	1"	3/8 NPT	12200	23
TR2.5-2510-NS	2.5"×10"	20 1/4"	30 1/4"	1 1/8"	1"	3/8 NPT	12200	24
TR2.5-2512-NS	2.5"×12"	22 1/4"	34 1/4"	1 1/8"	1"	3/8 NPT	12200	26
TR2.5-2514-NS	2.5"×14"	24 1/4"	38 1/4"	1 1/8"	1"	3/8 NPT	10300	28
TR2.5-2516-NS	2.5"×16"	26 1/4"	42 1/4"	1 1/8"	1"	3/8 NPT	8400	29
TR2.5-2518-NS	2.5"×18"	28 1/4"	46 1/4"	1 1/8"	1"	3/8 NPT	7000	32
TR2.5-2520-NS	2.5"×20"	30 1/4"	50 1/4"	1 1/8"	1"	3/8 NPT	5900	34
TR2.5-2524-NS	2.5"×24"	34 1/4"	58 1/4"	1 1/8"	1"	3/8 NPT	4400	38
TR2.5-2530-NS	2.5"×30"	40 1/4"	70 1/4"	1 1/4"	1"	3/8 NPT	4400	43
TR2.5-2536-NS	2.5"×36"	46 1/4"	82 1/4"	1 1/4"	1"	3/8 NPT	3400	49
TR2.5-2540-NS	2.5"×40"	50 1/4"	90 1/4"	1 1/4"	1"	3/8 NPT	2700	54
TR2.5-2548-NS	2.5"×48"	58 1/4"	106 1/4"	1 1/4"	1"	3/8 NPT	2000	60

TIE ROD

3.0" BORE	TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER – 2500 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
TR2.5-3004-NS	3"×4"	14 1/4"	18 1/4"	1 1/4"	1"	1/2 NPT	17600	24
TR2.5-3006-NS	3"×6"	16 1/4"	22 1/4"	1 1/4"	1"	1/2 NPT	17600	26
TR2.5-3008-NS	3"×8"	18 1/4"	26 1/4"	1 1/4"	1"	1/2 NPT	17600	28
TR2.5-3008-ASAE-NS	3"×8"	20 1/4"	28 1/4"	1 1/4"	1"	1/2 NPT	17600	29
TR2.5-3010-NS	3"×10"	20 1/4"	30 1/4"	1 1/4"	1"	1/2 NPT	17600	30
TR2.5-3012-NS	3"×12"	22 1/4"	34 1/4"	1 1/4"	1"	1/2 NPT	17600	33
TR2.5-3014-NS	3"×14"	24 1/4"	38 1/4"	1 1/4"	1"	1/2 NPT	15700	35
TR2.5-3016-NS	3"×16"	26 1/4"	42 1/4"	1 1/4"	1"	1/2 NPT	12800	37
TR2.5-3016-ASAE-NS	3"×16"	31 1/2"	47 1/2"	1 1/4"	1 1/4"	1/2 NPT	9200	42
TR2.5-3018-NS	3"×18"	28 1/4"	46 1/4"	1 1/4"	1"	1/2 NPT	11300	42
TR2.5-3020-NS	3"×20"	30 1/4"	50 1/4"	1 1/4"	1"	1/2 NPT	9200	44
TR2.5-3024-NS	3"×24"	34 1/4"	58 1/4"	1 1/4"	1"	1/2 NPT	6700	49
TR2.5-3030-NS	3"×30"	40 1/4"	70 1/4"	1 1/2"	1"	1/2 NPT	9600	57
TR2.5-3036-NS	3"×36"	46 1/4"	82 1/4"	1 1/2"	1"	1/2 NPT	7000	65
TR2.5-3040-NS	3"×40"	50 1/4"	90 1/4"	1 1/2"	1"	1/2 NPT	5700	70
TR2.5-3048-NS	3"×48"	58 1/4"	106 1/4"	1 1/2"	1"	1/2 NPT	3900	80

3.5" BORE	TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER – 2500 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
TR2.5-3504-NS	3.5"×4"	14 1/4"	18 1/4"	1 1/4"	1"	1/2 NPT	24000	29
TR2.5-3506-NS	3.5"×6"	16 1/4"	22 1/4"	1 1/4"	1"	1/2 NPT	24000	32
TR2.5-3508-NS	3.5"×8"	18 1/4"	26 1/4"	1 1/4"	1"	1/2 NPT	24000	34
TR2.5-3508-ASAE-NS	3.5"×8"	20 1/4"	28 1/4"	1 1/4"	1"	1/2 NPT	24000	35
TR2.5-3510-NS	3.5"×10"	20 1/4"	30 1/4"	1 1/4"	1"	1/2 NPT	24000	37
TR2.5-3512-NS	3.5"×12"	22 1/4"	34 1/4"	1 1/4"	1"	1/2 NPT	19600	39
TR2.5-3514-NS	3.5"×14"	24 1/4"	38 1/4"	1 1/4"	1"	1/2 NPT	15700	42
TR2.5-3516-NS	3.5"×16"	26 1/4"	42 1/4"	1 1/4"	1"	1/2 NPT	12800	44
TR2.5-3516-ASAE-NS	3.5"×16"	31 1/2"	47 1/2"	1 1/2"	1 1/4"	1/2 NPT	21100	50
TR2.5-3518-NS	3.5"×18"	28 1/4"	46 1/4"	1 1/4"	1"	1/2 NPT	10700	47
TR2.5-3520-NS	3.5"×20"	30 1/4"	50 1/4"	1 1/4"	1"	1/2 NPT	9100	49
TR2.5-3524-NS	3.5"×24"	34 1/4"	58 1/4"	1 1/2"	1"	1/2 NPT	14000	58
TR2.5-3530-NS	3.5"×30"	40 1/4"	70 1/4"	1 1/2"	1"	1/2 NPT	9600	66
TR2.5-3536-NS	3.5"×36"	46 1/4"	82 1/4"	1 1/2"	1"	1/2 NPT	7000	74
TR2.5-3540-NS	3.5"×40"	50 1/4"	90 1/4"	1 1/2"	1"	1/2 NPT	5800	80
TR2.5-3548-NS	3.5"×48"	58 1/4"	106 1/4"	1 1/2"	1"	1/2 NPT	3900	91

TIE ROD

4.0" BORE	TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER – 2500 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
TR2.5-4004-NS	4"×4"	14 1/4"	18 1/4"	1 1/2"	1"	1/2 NPT	31400	33
TR2.5-4006-NS	4"×6"	16 1/4"	22 1/4"	1 1/2"	1"	1/2 NPT	31400	36
TR2.5-4008-NS	4"×8"	18 1/4"	26 1/4"	1 1/2"	1"	1/2 NPT	31400	38
TR2.5-4008-ASAE-NS	4"×8"	20 1/4"	28 1/4"	1 1/2"	1"	1/2 NPT	31400	39
TR2.5-4010-NS	4"×10"	20 1/4"	30 1/4"	1 1/2"	1"	1/2 NPT	31400	41
TR2.5-4012-NS	4"×12"	22 1/4"	34 1/4"	1 1/2"	1"	1/2 NPT	31400	44
TR2.5-4014-NS	4"×14"	24 1/4"	38 1/4"	1 1/2"	1"	1/2 NPT	31400	46
TR2.5-4016-NS	4"×16"	26 1/4"	42 1/4"	1 1/2"	1"	1/2 NPT	26700	49
TR2.5-4016-ASAE-NS	4"×16"	31 1/2"	47 1/2"	2"	1 1/4"	1/2 NPT	31400	63
TR2.5-4018-NS	4"×18"	28 1/4"	46 1/4"	1 1/2"	1"	1/2 NPT	22300	55
TR2.5-4020-NS	4"×20"	30 1/4"	50 1/4"	1 1/2"	1"	1/2 NPT	18800	58
TR2.5-4024-NS	4"×24"	34 1/4"	58 1/4"	1 1/2"	1"	1/2 NPT	14000	64
TR2.5-4024-175-NS	4"×24"	34 1/4"	58 1/4"	1 3/4"	1"	1/2 NPT	26000	68
TR2.5-4024-200-NS	4"×24"	34 1/4"	58 1/4"	2"	1"	1/2 NPT	31400	73
TR2.5-4030-NS	4"×30"	40 1/4"	70 1/4"	2"	1"	1/2 NPT	30500	84
TR2.5-4036-NS	4"×36"	46 1/4"	82 1/4"	2"	1"	1/2 NPT	22200	95
TR2.5-4040-NS	4"×40"	50 1/4"	90 1/4"	2"	1"	1/2 NPT	18200	103
TR2.5-4048-NS	4"×48"	58 1/4"	106 1/4"	2"	1"	1/2 NPT	13200	118

TIE ROD

3000 PSI

2.0" BORE	TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER - 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
TR3.0-2004-NS	2"×4"	14 1/4"	18 1/4"	1 1/8"	1"	SAE 8	9420	16
TR3.0-2006-NS	2"×6"	16 1/4"	22 1/4"	1 1/8"	1"	SAE 8	9420	17
TR3.0-2008-NS	2"×8"	18 1/4"	26 1/4"	1 1/8"	1"	SAE 8	9420	19
TR3.0-2008-ASAE-NS	2"×8"	20 1/4"	28 1/4"	1 1/8"	1"	SAE 8	9420	20
TR3.0-2010-NS	2"×10"	20 1/4"	30 1/4"	1 1/8"	1"	SAE 8	9420	20
TR3.0-2012-NS	2"×12"	22 1/4"	34 1/4"	1 1/8"	1"	SAE 8	9420	22
TR3.0-2014-NS	2"×14"	24 1/4"	38 1/4"	1 1/8"	1"	SAE 8	9420	24
TR3.0-2016-NS	2"×16"	26 1/4"	42 1/4"	1 1/8"	1"	SAE 8	9420	25
TR3.0-2018-NS	2"×18"	28 1/4"	46 1/4"	1 1/8"	1"	SAE 8	8310	27
TR3.0-2020-NS	2"×20"	30 1/4"	50 1/4"	1 1/8"	1"	SAE 8	7050	28
TR3.0-2022-NS	2"× 22"	32 1/4"	54 1/4"	1 1/8"	1"	SAE 8	6050	30
TR3.0-2024-NS	2"×24"	34 1/4"	58 1/4"	1 1/8"	1"	SAE 8	5250	31
TR3.0-2030-NS	2"×30"	40 1/4"	70 1/4"	1 1/8"	1"	SAE 8	3610	36
TR3.0-2036-NS	2"×36"	46 1/4"	82 1/4"	1 1/8"	1"	SAE 8	2630	41

2.5" BORE	TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER - 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
TR3.0-2504-NS	2.5"×4"	14 1/4"	18 1/4"	1 1/8"	1"	SAE 8	14720	19
TR3.0-2506-NS	2.5"×6"	16 1/4"	22 1/4"	1 1/8"	1"	SAE 8	14720	21
TR3.0-2508-NS	2.5"×8"	18 1/4"	26 1/4"	1 1/8"	1"	SAE 8	14720	22
TR3.0-2508-ASAE-NS	2.5"×8"	20 1/4"	28 1/4"	1 1/8"	1"	SAE 8	14720	23
TR3.0-2510-NS	2.5"×10"	20 1/4"	30 1/4"	1 1/8"	1"	SAE 8	14720	24
TR3.0-2512-NS	2.5"×12"	22 1/4"	34 1/4"	1 1/8"	1"	SAE 8	14720	26
TR3.0-2514-NS	2.5"×14"	24 1/4"	38 1/4"	1 1/4"	1"	SAE 8	14720	28
TR3.0-2516-NS	2.5"×16"	26 1/4"	42 1/4"	1 1/4"	1"	SAE 8	14720	29
TR3.0-2518-NS	2.5"×18"	28 1/4"	46 1/4"	1 1/4"	1"	SAE 8	12790	32
TR3.0-2520-NS	2.5"×20"	30 1/4"	50 1/4"	1 1/4"	1"	SAE 8	10840	34
TR3.0-2524-NS	2.5"×24"	34 1/4"	58 1/4"	1 1/4"	1"	SAE 8	8070	38
TR3.0-2528-NS	2.5"× 28"	38 1/4"	66 1/4"	1 1/4"	1"	SAE 8	6240	40
TR3.0-2530-NS	2.5"×30"	40 1/4"	70 1/4"	1 1/4"	1"	SAE 8	5550	43
TR3.0-2536-NS	2.5"×36"	46 1/4"	82 1/4"	1 1/4"	1"	SAE 8	4050	49
TR3.0-2548-NS	2.5"×48"	58 1/4"	106 1/4"	1 1/4"	1"	SAE 8	2430	60

TIE ROD

3.0" BORE	TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER - 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
TR3.0-3004-NS	3"×4"	14 1/4"	18 1/4"	1 1/4"	1"	SAE 8	21200	24
TR3.0-3006-NS	3"×6"	16 1/4"	22 1/4"	1 1/4"	1"	SAE 8	21200	26
TR3.0-3008-NS	3"×8"	18 1/4"	26 1/4"	1 1/4"	1"	SAE 8	21200	28
TR3.0-3008-ASAE-NS	3"×8"	20 1/4"	28 1/4"	1 1/4"	1"	SAE 8	21200	29
TR3.0-3010-NS	3"×10"	20 1/4"	30 1/4"	1 1/4"	1"	SAE 8	21200	30
TR3.0-3012-NS	3"×12"	22 1/4"	34 1/4"	1 1/4"	1"	SAE 8	21200	33
TR3.0-3014-NS	3"×14"	24 1/4"	38 1/4"	1 1/2"	1"	SAE 8	21200	35
TR3.0-3016-NS	3"×16"	26 1/4"	42 1/4"	1 1/2"	1"	SAE 8	21200	37
TR3.0-3016-ASAE-NS	3"×16"	31 1/2"	47 1/2"	1 1/2"	1 1/4"	SAE 8	21200	42
TR3.0-3018-NS	3"×18"	28 1/4"	46 1/4"	1 1/2"	1"	SAE 8	21200	42
TR3.0-3020-NS	3"×20"	30 1/4"	50 1/4"	1 1/2"	1"	SAE 8	21200	44
TR3.0-3024-NS	3"×24"	34 1/4"	58 1/4"	1 1/2"	1"	SAE 8	16580	49
TR3.0-3030-NS	3"×30"	40 1/4"	70 1/4"	1 1/2"	1"	SAE 8	11410	57
TR3.0-3036-NS	3"×36"	46 1/4"	82 1/4"	1 1/2"	1"	SAE 8	8330	65
TR3.0-3048-NS	3"×48"	58 1/4"	106 1/4"	1 1/2"	1"	SAE 8	4990	75
TR3.0-3060-NS	3"×60"	70 1/4"	130 1/4"	1 1/2"	1"	SAE 8	3320	93

3.5" BORE	TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER - 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
TR3.0-3504-NS	3.5"×4"	14 1/4"	18 1/4"	1 1/2"	1"	SAE 8	28860	29
TR3.0-3506-NS	3.5"×6"	16 1/4"	22 1/4"	1 1/2"	1"	SAE 8	28860	32
TR3.0-3508-NS	3.5"×8"	18 1/4"	26 1/4"	1 1/2"	1"	SAE 8	28860	34
TR3.0-3508-ASAE-NS	3.5"×8"	20 1/4"	28 1/4"	1 1/2"	1"	SAE 8	28860	35
TR3.0-3510-NS	3.5"×10"	20 1/4"	30 1/4"	1 1/2"	1"	SAE 8	28860	37
TR3.0-3512-NS	3.5"×12"	22 1/4"	34 1/4"	1 1/2"	1"	SAE 8	28860	39
TR3.0-3514-NS	3.5"×14"	24 1/4"	38 1/4"	1 1/2"	1"	SAE 8	28860	42
TR3.0-3516-NS	3.5"×16"	26 1/4"	42 1/4"	1 1/2"	1"	SAE 8	28860	44
TR3.0-3516-ASAE-NS	3.5"×16"	31 1/2"	47 1/2"	1 1/2"	1 1/4"	SAE 8	22350	50
TR3.0-3518-NS	3.5"×18"	28 1/4"	46 1/4"	1 1/2"	1"	SAE 8	26730	47
TR3.0-3520-NS	3.5"×20"	30 1/4"	50 1/4"	1 1/2"	1"	SAE 8	22660	49
TR3.0-3524-NS	3.5"×24"	34 1/4"	58 1/4"	1 1/2"	1"	SAE 8	16880	58
TR3.0-3530-NS	3.5"×30"	40 1/4"	70 1/4"	1 1/2"	1"	SAE 8	11610	66
TR3.0-3536-NS	3.5"×36"	46 1/4"	82 1/4"	1 1/2"	1"	SAE 8	8480	74
TR3.0-3548-NS	3.5"×48"	58 1/4"	106 1/4"	1 1/2"	1"	SAE 8	5080	91

TIE ROD

4.0" BORE	TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
TR3.0-4004-NS	4"x4"	14 1/4"	18 1/4"	1 1/2"	1"	SAE 8	37690	33
TR3.0-4006-NS	4"x6"	16 1/4"	22 1/4"	1 1/2"	1"	SAE 8	37690	36
TR3.0-4008-NS	4"x8"	18 1/4"	26 1/4"	1 1/2"	1"	SAE 8	37690	38
TR3.0-4008-ASAE-NS	4"x8"	20 1/4"	28 1/4"	1 1/2"	1"	SAE 8	37690	39
TR3.0-4010-NS	4"x10"	20 1/4"	30 1/4"	1 1/2"	1"	SAE 8	37690	41
TR3.0-4012-NS	4"x12"	22 1/4"	34 1/4"	1 1/2"	1"	SAE 8	37690	44
TR3.0-4014-NS	4"x14"	24 1/4"	38 1/4"	1 1/2"	1"	SAE 8	37690	46
TR3.0-4016-NS	4"x16"	26 1/4"	42 1/4"	1 3/4"	1"	SAE 8	37690	49
TR3.0-4016-ASAE-NS	4"x16"	31 1/2"	47 1/2"	2"	1 1/4"	SAE 8	37690	63
TR3.0-4018-NS	4"x18"	28 1/4"	46 1/4"	1 3/4"	1"	SAE 8	37690	66
TR3.0-4020-NS	4"x20"	30 1/4"	50 1/4"	1 3/4"	1"	SAE 8	37690	70
TR3.0-4024-NS	4"x24"	34 1/4"	58 1/4"	2"	1"	SAE 8	37690	79
TR3.0-4026-NS	4"x26"	36 1/4"	62 1/4"	2"	1"	SAE 8	37690	84
TR3.0-4030-NS	4"x30"	40 1/4"	70 1/4"	2"	1"	SAE 8	36070	92
TR3.0-4036-NS	4"x36"	46 1/4"	82 1/4"	2"	1"	SAE 8	26340	98
TR3.0-4048-NS	4"x48"	58 1/4"	106 1/4"	2"	1"	SAE 8	15790	123

5.0" BORE	TIE ROD CLEVIS TYPE DOUBLE ACTING HYDRAULIC CYLINDER – 3000 PSI							
PART NUMBER	BORE & STROKE	RETRACTED	EXTENDED	ROD DIAMETER	PIN SIZE	PORTS	COLUMN LOADS (LBS)	WEIGHT (LBS)
TR3.0-5004-NS	5"x4"	16 1/4"	20 1/4"	2"	1 1/4"	SAE 12	58900	71
TR3.0-5006-NS	5"x6"	18 1/4"	24 1/4"	2"	1 1/4"	SAE 12	58900	76
TR3.0-5008-ASAE-NS	5"x8"	22 1/4"	30 1/4"	2"	1 1/4"	SAE 12	58900	81
TR3.0-5010-NS	5"x10"	22 1/4"	30 1/4"	2"	1 1/4"	SAE 12	58900	86
TR3.0-5012-NS	5"x12"	24 1/4"	36 1/4"	2"	1 1/4"	SAE 12	58900	91
TR3.0-5014-NS	5"x14"	26 1/4"	40 1/4"	2"	1 1/4"	SAE 12	58900	96
TR3.0-5016-NS	5"x16"	28 1/4"	44 1/4"	2"	1 1/4"	SAE 12	58900	101
TR3.0-5016-ASAE-NS	5"x16"	31 1/2"	47 1/2"	2"	1 1/4"	SAE 12	58900	104
TR3.0-5018-NS	5"x18"	30 1/4"	48 1/4"	2"	1 1/4"	SAE 12	58900	106
TR3.0-5020-NS	5"x20"	32 1/4"	52 1/4"	2"	1 1/4"	SAE 12	58900	112
TR3.0-5024-NS	5"x24"	36 1/4"	60 1/4"	2 1/4"	1 1/4"	SAE 12	58900	122
TR3.0-5030-NS	5"x30"	42 1/4"	72 1/4"	2 1/4"	1 1/4"	SAE 12	56340	137
TR3.0-5036-NS	5"x36"	48 1/4"	84 1/4"	2 1/4"	1 1/4"	SAE 12	41380	153
TR3.0-5048-NS	5"x 48"	60 1/4"	108 1/4"	2 1/4"	1 1/4"	SAE 12	25020	163

SNOW PLOW



ACTION	Single- and double-acting
ROD END	Drilled pinhole
BASE END	Through-hole for pin attachment
BORE	1.50" to 2.00"
STROKE	6" to 16"
ROD	1045 chrome-plated steel rod
PRESSURE	2500 PSI

ADJUSTABLE

WELDED

TELESCOPIC

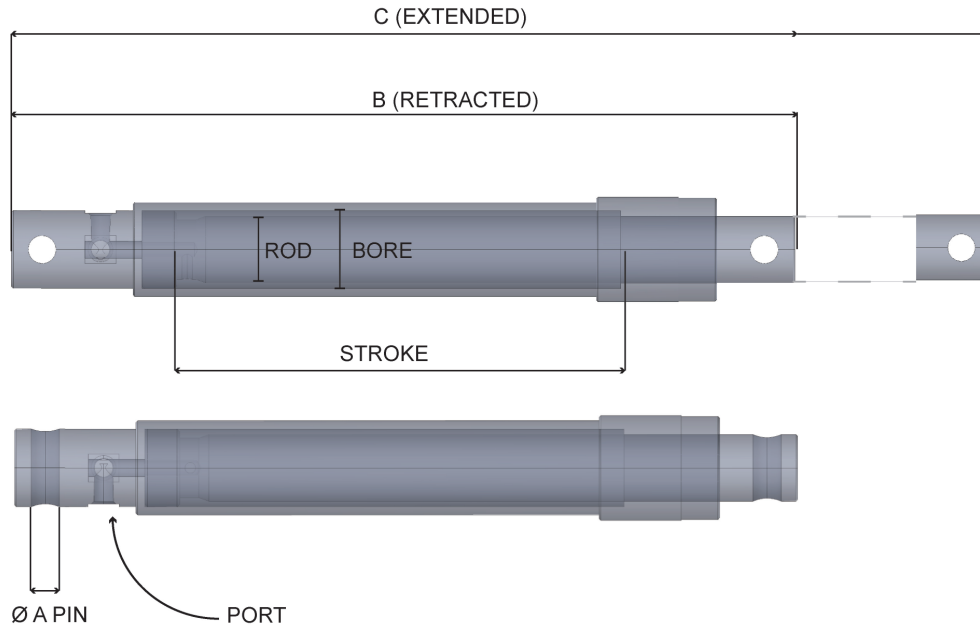
TIE ROD

SNOW PLOW

CUSTOM



SNOW PLOW



*ALL VALUES ARE IN INCHES

**ALL NUMBERS GIVEN ARE NOMINAL VALUES AND SHOULD BE USED FOR REFERENCE ONLY. ALL PRODUCT SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

1.5" BORE	SNOW PLOW SINGLE ACTING HYDRAULIC CYLINDER - 2500 PSI					
PART NUMBER	BORE	STROKE	Ø A PIN	B	C	WEIGHT (lbs)
F-SP-150-10-1000	1.5	10	1	18.75	20.5	15
F-SP-150-12-1000	1.5	12	1	20.75	22.5	16
M-SP-150-06-0625	1.5	6.375	0.625	12	13.375	10
M-SP-150-10-0625	1.5	10.375	0.625	16.063	17.5	14
M-SP-150-12-0625	1.5	12	0.625	18	19.375	15
W-SP-150-06-0750	1.5	6.063	0.75	12.937	14.313	11
W-SP-150-08-0750	1.5	8	0.75	15.25	16.625	12
W-SP-150-10-0750	1.5	10	0.75	17.25	18.625	14
W-SP-150-10-1000	1.5	10	1	17	18.5	14
MN-SP-150-10-1000	1.5	10	1	17	18.625	14
MN-SP-150-12-1000	1.5	12	1	19	20.625	15
A-SP-150-10-0750	1.5	10	0.75	17	18.5	14
A-SP-150-12-0750	1.5	12	0.75	19	20.5	16

2.0" BORE	SNOW PLOW SINGLE ACTING HYDRAULIC CYLINDER - 2500 PSI					
PART NUMBER	BORE	STROKE	Ø A PIN	B	C	WEIGHT (lbs)
M-SP-200-06-0750	2	6	0.75	13.188	14.688	17
M-SP-200-12-0625	2	12	0.625	18	19.375	24
W-SP-200-10-1000	2	10	1	17.25	18.75	22
W-SP-200-16-1000	2	16.375	1	23.625	25.125	31

F - FISHER REPLACEMENT
M - MEYER REPLACEMENT
W - WESTERN REPLACEMENT
MN - MONARCH REPLACEMENT
A - ARCTIC REPLACEMENT

CUSTOM SOLUTIONS

**Built to your specifications.
Designed for your application.**

SEND SPECS

Drawings, photos,
dimensions, or OEM
part numbers.

REVIEW & CONFIRM

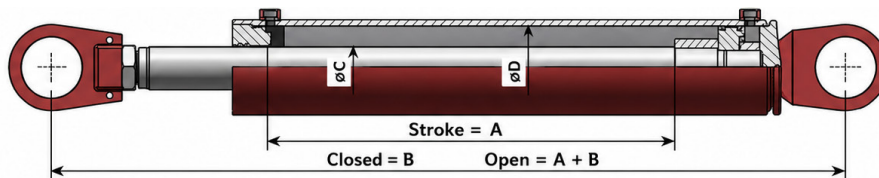
We verify mounting
style, stroke, bore,
ports, and application
requirements.

QUOTATION & PRODUCTION

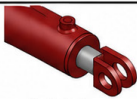
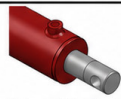
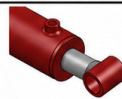
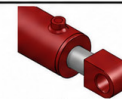
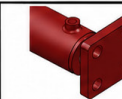
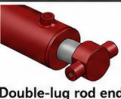
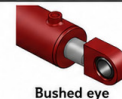
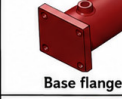
Pricing, lead time, and
production details are
confirmed before
manufacturing.

DELIVERY & SUPPORT

Products are packed,
shipped, and
supported based on
your project
requirements.



**Provide A/B/C/D length to get the price faster
Mounting Type As Below**

ROD END	 Rod clevis	 Plain rod / spigot	 Cross tube rod end	 Single-eye lug	 Rod flange	 Plain stud end
	 Male threaded rod end	 Double-lug rod end	 Ball end	 Bushed eye	 Spherical eye	
BODY	 Plain body	 Body flange	 Center flange body	 Trunnion mount	 Heavy trunnion body	
	 Base clevis	 Cross tube base	 Side lug base	 Single-eye base	 Base flange	 Cap end
BASE END	 Male threaded base	 Double-lug base	 Ball base	 Bushed base eye	 Spherical base eye	

WARRANTY & RETURNS

RETURNS & EXCHANGES

Standard stock items may be returned within forty-five (45) days of delivery, provided that the product is unused, uninstalled, has not been pressurized or filled with hydraulic fluid, remains in original or acceptable packaging, is free from damage, contamination, scratches, modification, or wear, and is accompanied by proof of purchase.

All returns require prior written authorization from NorthStar Hydraulics Inc. Returns sent without authorization may be refused. To request a return, the customer must provide the invoice number, model number, quantity, reason for return, and photos of the product condition. If approved, NorthStar will issue a Return Material Authorization.

Returns requested within fifteen (15) days of delivery may be eligible for refund or credit, provided the product meets all return condition requirements. Returns requested between sixteen (16) and forty-five (45) days may be subject to a 20% restocking fee. Returns after forty-five (45) days may not be accepted. Shipping and handling charges are non-refundable.

All returned products are inspected upon arrival. Returns may be rejected if the product shows evidence of installation, pin marks, mounting wear, oil residue, contamination, scratches or scoring on the chrome rod, modified ports or fittings, welded brackets, bent rods, structural damage, missing components, or any condition that prevents resale. Rejected returns may be shipped back to the customer at the customer's expense.

Products damaged during transit must be reported to NorthStar Hydraulics within forty-eight (48) hours of delivery. Photos of the product, packaging, shipping label, and visible damage must be provided. Carrier inspection may be required.

Custom-built, modified, private-label, OEM-configured, special-order, and special production cylinders are non-returnable and non-refundable unless NorthStar confirms a manufacturing defect. Exchanges for alternate models, stroke lengths, port sizes, mounting styles, or configurations are treated as a return and a new order. Price differences, shipping charges, and restocking fees may apply.

Customers are responsible for return shipping unless the return is due to a confirmed NorthStar shipping error or confirmed manufacturing defect. NorthStar recommends insured and trackable shipping for all returns. NorthStar Hydraulics Inc. reserves the right to deny any return that does not meet the above criteria.

WARRANTY

This Limited Warranty applies to hydraulic cylinders and related products sold by NorthStar Hydraulics Inc. under the NorthStar Hydraulics brand name. This Warranty applies only to products purchased directly from NorthStar Hydraulics Inc. or from an authorized NorthStar distributor.

NorthStar Hydraulics warrants its hydraulic cylinders against defects in material and workmanship for twelve (12) months from the date of delivery to the original purchaser. This Warranty applies only when the product has been properly installed, maintained, and operated under normal hydraulic service conditions and within the product's rated specifications, pressure limits, load limits, and intended application.

Covered products may include, but are not limited to, telescopic cylinders, welded cylinders, tie-rod cylinders, snow plow cylinders, dump hoist cylinders, and related hydraulic cylinder products supplied under the NorthStar Hydraulics brand.

If NorthStar determines, in its sole discretion, that a product is defective due to material or workmanship, NorthStar may, at its option, repair the product, replace the product, or refund the original purchase price. The warranty period is not extended by repair or replacement, and any repaired or replaced product remains covered only for the balance of the original warranty period.

This Warranty does not cover labour, removal, installation, downtime, loss of revenue, loss of production, shipping charges, misuse, abuse, improper installation, over-pressurization, side loading, misalignment, inadequate mounting support, contamination, improper hydraulic fluid, lack of filtration, corrosion, normal seal wear, unauthorized modification, welding alterations, repair attempts, improper storage, transport damage, or use in an application not approved by NorthStar Hydraulics.

Hydraulic cylinders are load-bearing mechanical components and must be installed according to accepted hydraulic industry practices. Improper geometry, misalignment, excessive pressure, contamination, or unsuitable application conditions may void this Warranty.

To initiate a warranty claim, the customer must provide written notice within the warranty period, including proof of purchase, model number, quantity, a description of the issue, and clear photos or videos of the alleged defect. NorthStar must be given a reasonable opportunity to inspect the product. No product may be returned for warranty review without prior written authorization from NorthStar Hydraulics.

NorthStar Hydraulics Inc.'s total liability shall not exceed the original purchase price paid for the product. The remedies stated above are the sole and exclusive remedies available to the purchaser. This Warranty shall be governed by the laws of the Province of Ontario, Canada.

PRODUCT SAFETY & GUIDELINES

Hydraulic cylinders are high-pressure, load-bearing mechanical components. Improper installation, misuse, modification, contamination, or poor storage may result in equipment damage, premature cylinder failure, or serious injury. All installers, operators, and maintenance personnel should follow proper hydraulic safety procedures before installation, operation, or service.

General Safety

Hydraulic systems may operate under high pressure and elevated temperatures. Never check for leaks using hands or exposed skin. Always relieve system pressure before disconnecting hoses, fittings, or components. Never stand beneath a raised load supported only by hydraulic pressure. Use proper mechanical supports or safety stands during service.

Installation & Operation

NorthStar hydraulic cylinders must only be operated within their rated specifications. Do not exceed rated pressure, load capacity, or intended application limits. Proper mounting alignment, adequate support, clean hydraulic fluid, correct hoses and fittings, and proper filtration are required. Over-pressurization, side loading, misalignment, and contamination are common causes of cylinder failure.

Personal Protection

When installing or servicing hydraulic equipment, wear appropriate protective equipment, including safety goggles or a face shield, oil-resistant gloves, and protective clothing suitable for industrial environments. Hydraulic components may become hot during operation.

Chrome Rod Protection

Hard chrome-plated rods provide wear and corrosion resistance, but exposed rods can corrode during storage or extended inactivity. Clean exposed chrome surfaces, apply a light protective oil or rust preventative, and inspect regularly. Reapply protection after equipment movement or cylinder cycling. Do not use sandpaper or abrasive materials on chrome rods.

Contamination Control

Keep ports capped during storage and prevent dirt, water, metal particles, or debris from entering the hydraulic system. Use clean, filtered hydraulic fluid and maintain proper system filtration. Contamination may cause seal failure, internal scoring, and premature product wear.

Important Notice

Do not weld, drill, grind, heat, modify, disassemble, or repair any hydraulic cylinder unless approved in writing by NorthStar Hydraulics. Unauthorized modifications may create unsafe operating conditions and may void warranty coverage.

NorthStar Hydraulics Inc. is not liable for injury, damage, downtime, or loss resulting from improper installation, misuse, operation outside rated specifications, contamination, poor storage practices, or unauthorized modification.

WARNING: Hydraulic systems may retain pressure even when equipment is not operating. Always depressurize and follow proper lockout/tagout procedures before inspection, service, or removal.



REFERENCES

Terms and Conditions: <https://www.northstarhydraulics.com/terms-conditions>

Shipping, Returns, & Warranty: <https://www.northstarhydraulics.com/shipping-returns>

Privacy Policy: <https://www.northstarhydraulics.com/privacy-policy>

IN STOCK, IN CANADA
HYDRAULIC
CYLINDERS

OEM REPLACEMENT CYLINDERS

- 1 Telescopic, welded, and tie rod hydraulic cylinders.**
- 2 ISO-certified manufacturing. Quality guaranteed.**
- 3 Same-day shipping available on in-stock cylinders from Ontario**
- 4 Private labelling & drop shipping available**
- 5 Sample orders available for validation**

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