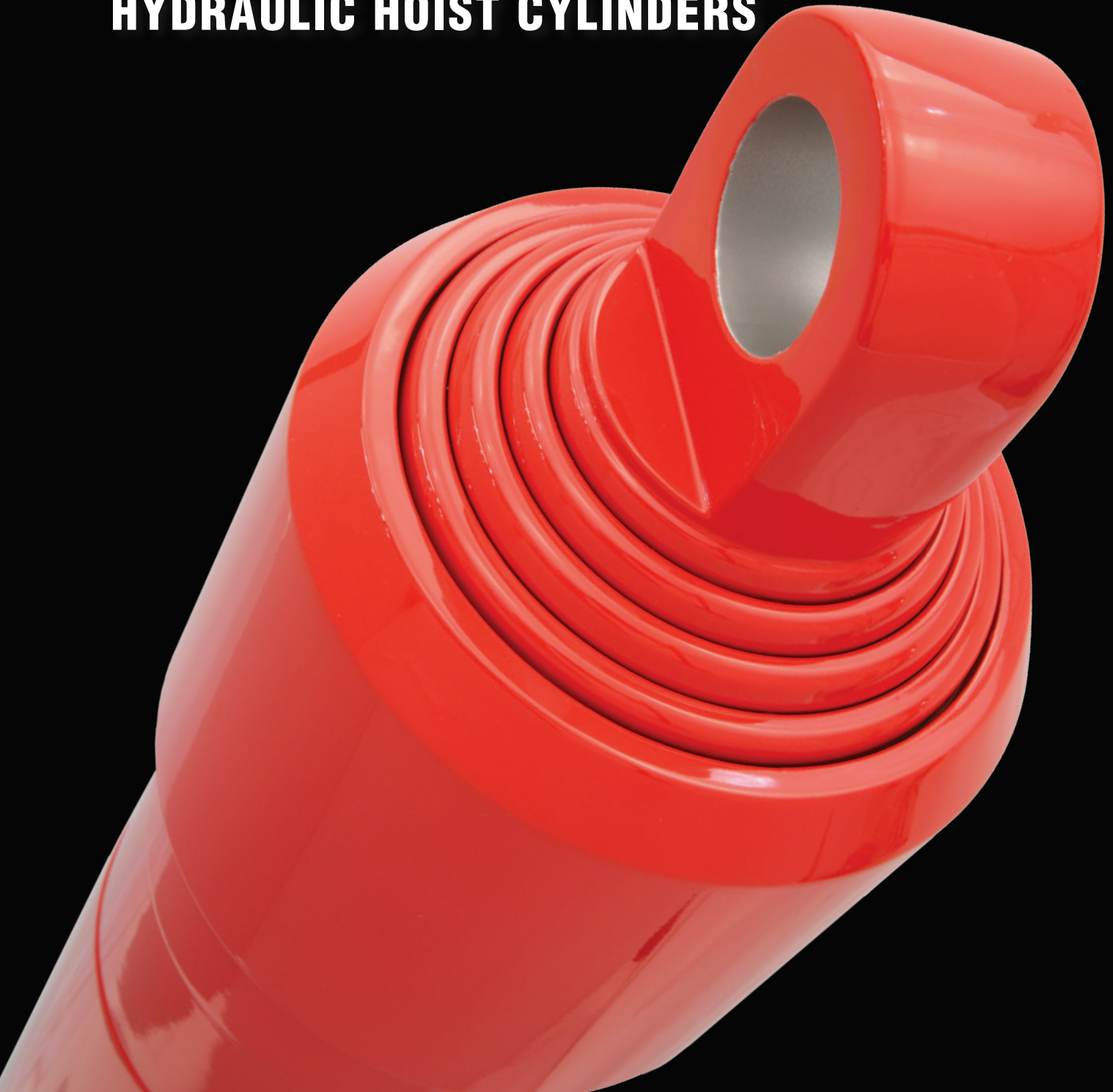




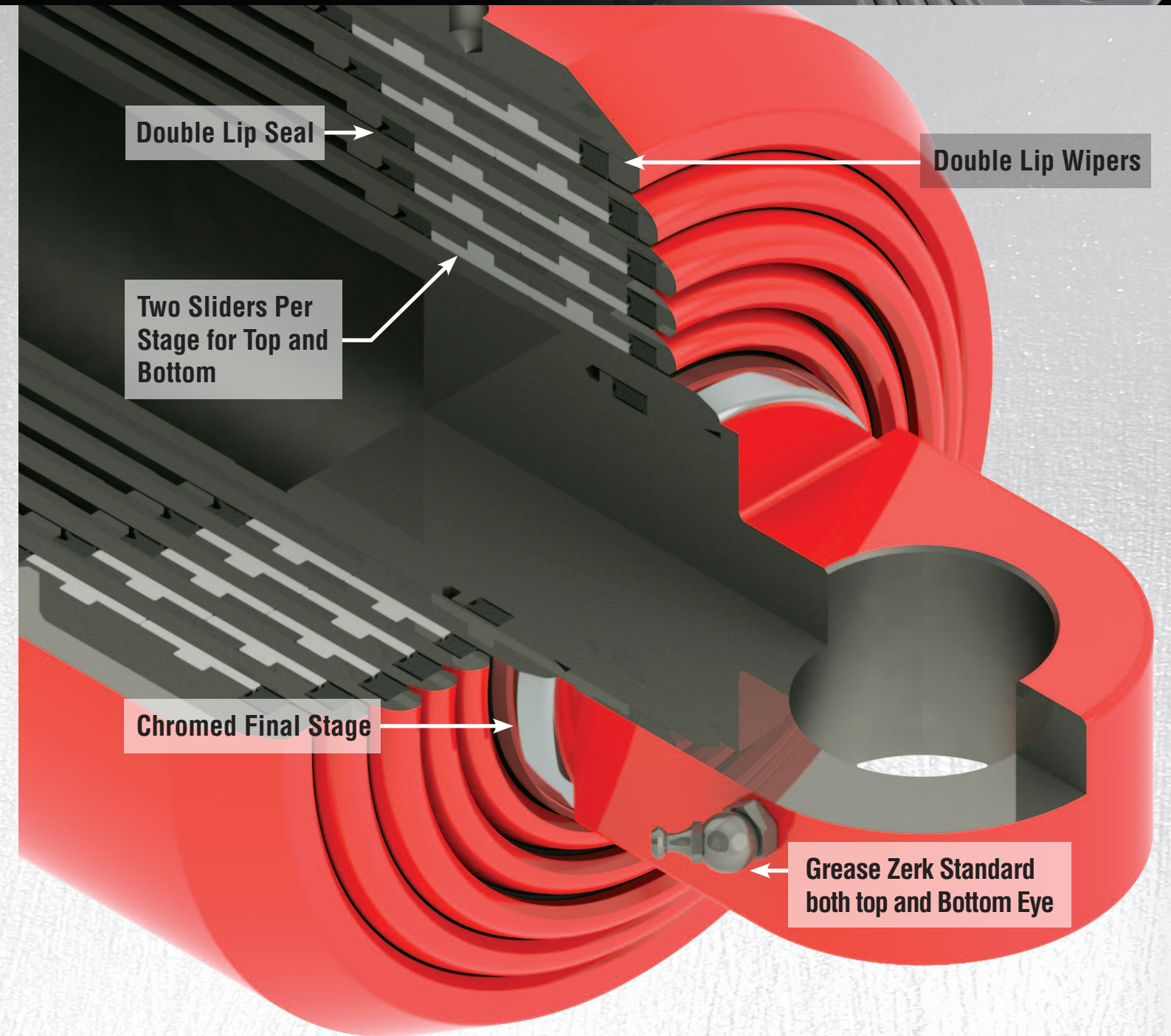
CYLINDERS

HYDRAULIC HOIST CYLINDERS



The combination of strict machining tolerances, solid stop contact faces, and larger overlap between the stages has resulted in one of the strongest and most stable cylinder columns currently available on the market. These improvements help to increase safety for dumping applications, helping to prevent accidents due to vehicle roll-over.

| FEATURES | BENEFITS |
|----------------------------------|--|
| Material | <ul style="list-style-type: none"> All Muncie cylinders are made of hot rolled solid seamless tubes. Allow for higher pressures due to higher strength material, no weak points, and Muncie's focus on quality. Increased resistance to mechanical stress and longer life. |
| High Precision Machining Process | <ul style="list-style-type: none"> Solid stop faces are machined into each stage this creates a single solid component with no need for stop rings, bushings or gland nuts. |
| Seals/Wipers | <ul style="list-style-type: none"> Made of polyurethane, with a double lip design, the seals and wipers assure optimum performance in all climate conditions (-40°F to 212°F / -40°C to 100°C). Muncie cylinders do not require packing due to the top quality material, paired with the low tolerance machining of the stages. |
| Sliders | <ul style="list-style-type: none"> Made of DELRIN, they are compatible with all types of hydraulic oils approved by pump makers and are capable of withstanding high and low pressures. Each cylinder is equipped with two sliders at both the top and bottom of each stage. |
| Overlap & Column Strength | <ul style="list-style-type: none"> All of Muncie's Front End Cylinders have two bottom sliders on each stage to achieve larger overlap. Longer stages have greater overlap to improve column stability on longer strokes. |
| Weight Savings | <ul style="list-style-type: none"> Due to the construction philosophy, Muncie is able to offer one of the lightest solutions available on the market. This results in greater payloads, less oil consumption, and faster dumping. |
| Low Maintenance | <ul style="list-style-type: none"> Easy assembly and disassembly process, due to the low level of components used, along with no need for any special tools allows for easy maintenance. Muncie cylinders are able to be reconditioned at low cost due to the solid machining, high steel grade, and dimensional stability of the cylinder during its work cycle. Muncie cylinders have low maintenance requirements, and offer many years of top performance without additional expenses. Self-Bleeding Design, reduces time spent maintaining cylinder Chrome Plated Final Stage, extends the life of the cylinder. |
| Two Year Warranty | <ul style="list-style-type: none"> Standard for Muncie Cylinders |



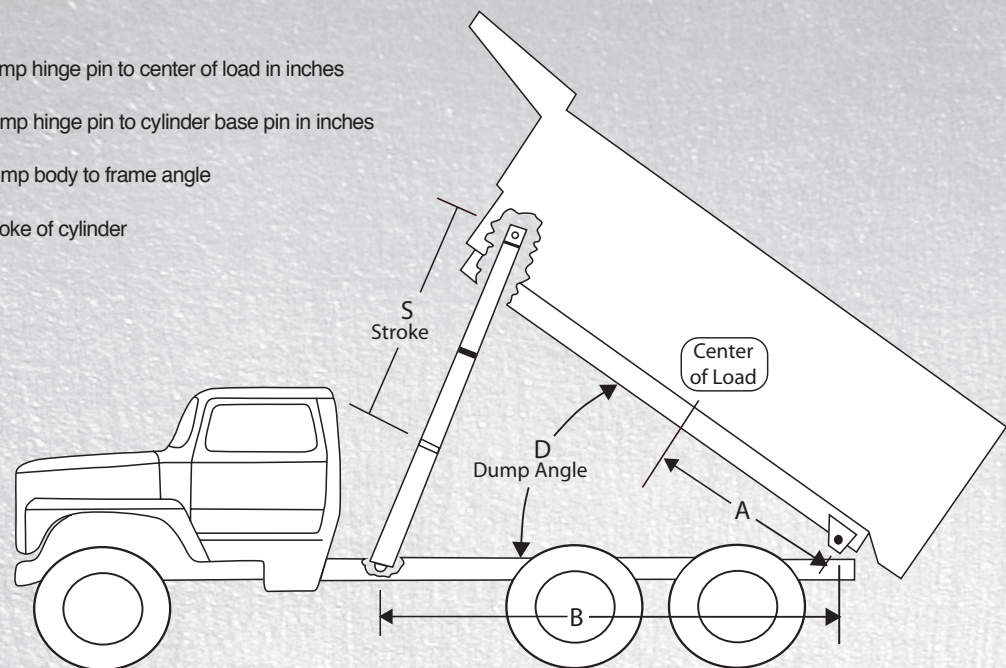
- Seamless one piece, high tensile tubes
- Machined end stops with extra overlap
- High column strength and stiffness
- Large bearing surface area
- Robust/high durability design
- No Packing, or Packing Nuts One Head Nut that does not need adjustments.

- Tight tolerancing and machining
- Small tube clearance for smaller bending moment
- Precision ground finish for optimum performance and seal life
- Self-Bleeding Design

DUMP BODY CYLINDER CALCULATIONS

Note: These calculations are provided to provide you with approximate values. Final calculations and product selection should be determined by a qualified engineer and engineering drawing.

- A = Dump hinge pin to center of load in inches
- B = Dump hinge pin to cylinder base pin in inches
- D = Dump body to frame angle
- S = Stroke of cylinder



| Dump Angle* | 42° | 43° | 44° | 45° | 46° | 47° | 48° | 49° | 50° | 51° | 52° | 53° | 54° | 55° | 56° | 57° |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| "D" | .715 | .733 | .750 | .765 | .780 | .797 | .813 | .830 | .845 | .861 | .877 | .892 | .903 | .923 | .939 | .954 |

*Normal minimum dump angle is 45°. Normal Maximum dump angle is 57°.

To calculate the appropriate cylinder stroke to achieve a determined dump angle:

$$\text{Approximate Stroke (inches)} = "B" \times "D"$$

Example: B = 162" and Desired Dump Angle = 49°

$$\text{Approximate Cylinder Stroke} = 162" \times .830$$

$$\text{Approximate Cylinder Stroke} = 135"$$

To calculate the initial required cylinder force to lift a load:

$$\text{Force required to lift a load} = [\text{Load (lbs)} \times "A"] / "B"$$

Example: Load = 40,000 lbs, A = 85", and B = 162"

$$\text{Force required} = [40,000 \text{ lbs} \times 85"] / 162"$$

$$\text{Force Required} = 20,988 \text{ lbs}$$

| REF. MODEL | STAGE DIA. (IN) | EFF. AREA (SQ.IN) | 800 psi | 1,000 psi | 1,500 psi | 2,000 psi | 2,500 psi |
|------------|-----------------|-------------------|---------|-----------|-----------|-----------|-----------|
| 8 | 6.85 | 36.85 | 29,482 | 36,853 | 55,279 | 73,706 | 92,132 |
| 7 | 6.06 | 28.84 | 23,074 | 28,843 | 43,264 | 57,685 | 72,107 |
| 6 | 5.31 | 22.15 | 17,716 | 22,145 | 33,218 | 44,290 | 55,363 |
| 5 | 4.57 | 16.40 | 13,122 | 16,403 | 24,604 | 32,806 | 41,007 |
| - | 3.86 | 11.70 | 9,362 | 11,702 | 17,553 | 23,404 | 29,255 |
| - | 3.11 | 7.60 | 6,077 | 7,596 | 11,395 | 15,193 | 18,991 |

Note: A properly designed system should operate at approximately 800 psi or less during the start of the lift. The load imposed on a cylinder by a dump body is dynamic, and as such, your system pressure will be changing to accommodate the difference in force required to lift the changing load. You will see system pressure increase as your cylinder extends from stage to stage. You will also see a decrease in cycle time due to the effective volume change from stage to stage as the cylinder extends (your cylinder will move faster).

MODEL NUMBER CONSTRUCTION

8 - 5 - 265 - A00

Series
(8, 7, 6, 5)

Number of Stages

- 5 (8 Series Only)
- 4 (7 Series Only)
- 3 (5 & 6 Series Only)

Design Code

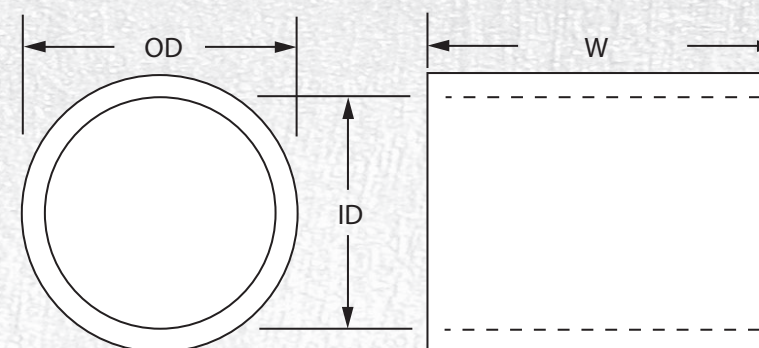
Style: A - Pin to Pin

Nominal Stroke (in)
See next page for standard size availability

CYLINDER SEAL AND REBUILD KITS

| CYLINDERS USED WITH | SEAL KIT NUMBER | REBUILD KIT NUMBER |
|---------------------|-----------------|--------------------|
| 5-3-XXX-A00 | GSK-53-00 | RBK-53-00 |
| 6-3-XXX-A00 | GSK-63-00 | RBK-63-00 |
| 7-4-XXX-A00 | GSK-74-00 | RBK-74-00 |
| 8-5-XXX-A00 | GSK-85-00 | RBK-85-00 |

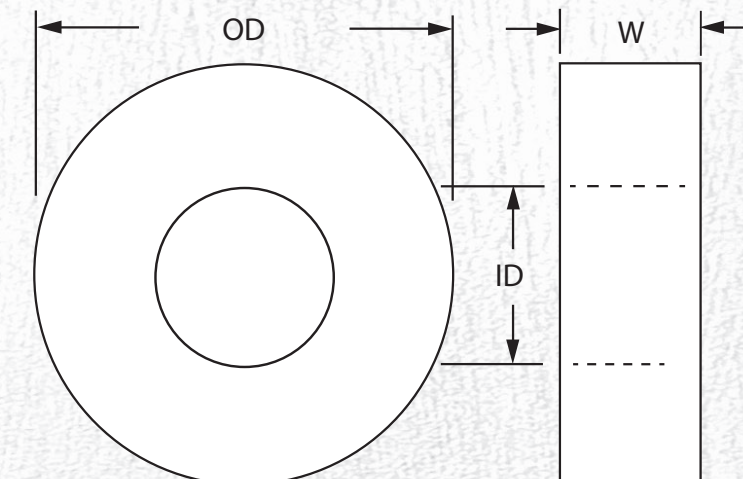
PIN-EYE BUSHINGS FOR TOP PIN



| DESCRIPTION | PART NUMBER |
|----------------------------|-----------------|
| 2.00 OD X 1.31 ID X 2.00 W | 18T42905-131200 |
| 2.00 OD X 1.50 ID X 1.50 W | 18T42905-150150 |
| 2.00 OD X 1.50 ID X 2.00 W | 18T42905-150200 |
| 2.00 OD X 1.68 ID X 2.00 W | 18T42905-168200 |
| 2.00 OD X 1.75 ID X 1.50 W | 18T42905-175150 |
| 2.00 OD X 1.75 ID X 2.00 W | 18T42905-175200 |

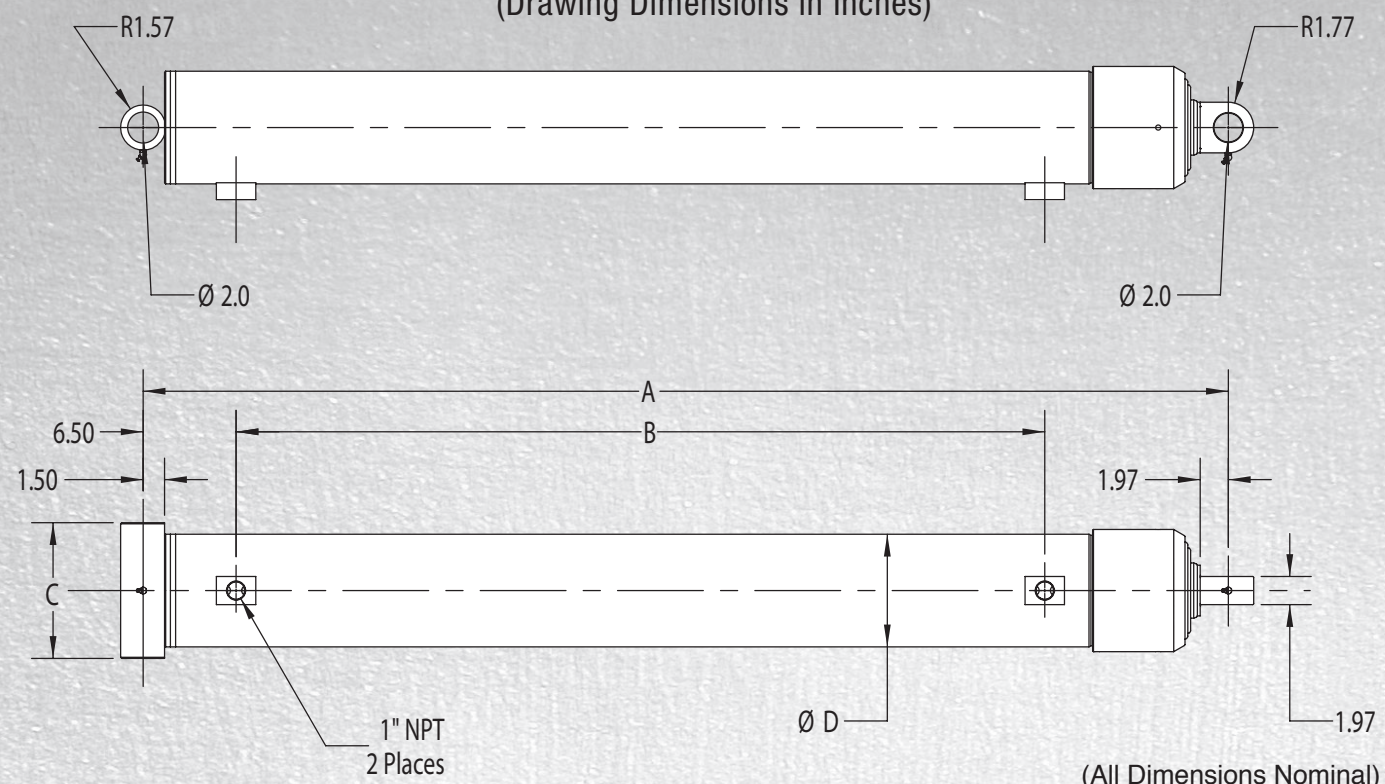
PIN-EYE MOUNT SPACERS

| DESCRIPTION | PART NUMBER |
|----------------------------|-----------------|
| 3.00 OD X 1.81 ID X 0.25 W | 18T42906-181025 |
| 3.00 OD X 1.81 ID X 0.50 W | 18T42906-181050 |
| 3.00 OD X 1.81 ID X 0.75 W | 18T42906-181075 |
| 3.00 OD X 1.81 ID X 1.00 W | 18T42906-181100 |
| 3.00 OD X 2.12 ID X 0.25 W | 18T42906-212025 |
| 3.00 OD X 2.12 ID X 0.50 W | 18T42906-212050 |
| 3.00 OD X 2.12 ID X 0.75 W | 18T42906-212075 |
| 3.00 OD X 2.12 ID X 1.00 W | 18T42906-212100 |



ENGLISH UNITS

(Drawing Dimensions in Inches)



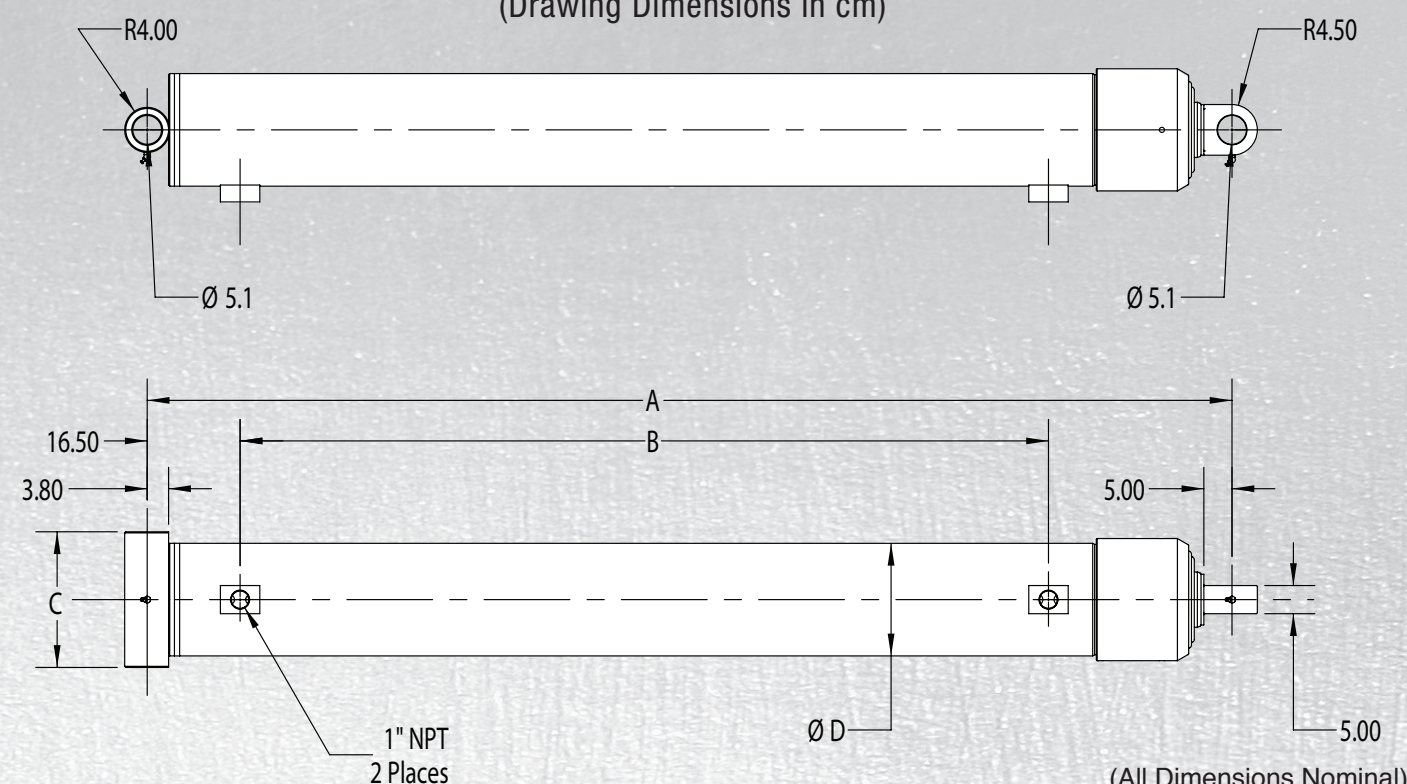
(All Dimensions Nominal)

| MODEL NUMBER | STROKE (IN) | A=CLOSED/ OPEN LENGTH (IN) | B=PORT TO PORT (IN) | C=BASE PIN WIDTH (IN) | D=TUBE OD (IN) | Stage Dia (IN) 1/ 2/ 3/ 4/ 5 | Fill/ Extend (GAL) | Cylinder Weight (lbs) |
|--------------|-------------|----------------------------|---------------------|-----------------------|----------------|------------------------------|--------------------|-----------------------|
| 5-3-084-A00 | 85.91 | 39.57/ 125.48 | 20.3 | 7.00 | 5.39 | 4.57/ 3.86/ 3.11 | 0.52/ 4.40 | 179 |
| 5-3-104-A00 | 103.23 | 47.32/ 150.55 | 28.3 | 7.00 | 5.39 | 4.57/ 3.86/ 3.11 | 0.62/ 5.26 | 220 |
| 6-3-104-A00 | 102.28 | 47.32/ 149.6 | 28.3 | 7.00 | 6.18 | 5.31/ 4.57/ 3.86 | 0.72/ 7.35 | 255 |
| 6-3-120-A00 | 118.35 | 52.48/ 170.83 | 33.5 | 7.00 | 6.18 | 5.31/ 4.57/ 3.86 | 0.82/ 8.55 | 280 |
| 6-3-126-A00 | 128.46 | 54.96/ 183.42 | 36.0 | 7.00 | 6.18 | 5.31/ 4.57/ 3.86 | 0.88/ 9.24 | 300 |
| 6-3-130-A00 | 128.46 | 55.75/ 184.21 | 36.0 | 7.00 | 6.18 | 5.31/ 4.57/ 3.86 | 0.88/ 9.24 | 300 |
| 6-3-140-A00 | 135.47 | 59.65/ 195.12 | 40.4 | 7.00 | 6.18 | 5.31/ 4.57/ 3.86 | 0.92/ 9.74 | 320 |
| 7-4-135-A00 | 135.67 | 47.76/ 183.43 | 27.6 | 8.23 | 6.93 | 6.18/ 5.31/ 4.57/ 3.86 | 1.04/ 11.49 | 330 |
| 7-4-156-A00 | 157.68 | 52.91/ 210.59 | 33.5 | 8.23 | 6.93 | 6.18/ 5.31/ 4.57/ 3.86 | 1.19/ 13.43 | 365 |
| 7-4-161-A00 | 162.99 | 55.39/ 218.38 | 36.5 | 8.23 | 6.93 | 6.18/ 5.31/ 4.57/ 3.86 | 1.24/ 14.14 | 374 |
| 7-4-167-A00 | 171.42 | 55.39/ 226.81 | 36.5 | 8.23 | 6.93 | 6.18/ 5.31/ 4.57/ 3.86 | 1.29/ 14.66 | 385 |
| 8-5-190-A00 | 188.98 | 53.98/ 242.96 | 32.1 | 9.49 | 7.87 | 6.85/ 6.18/ 5.31/ 4.57/ 3.86 | 1.53/ 18.70 | 464 |
| 8-5-220-A00 | 219.92 | 59.88/ 279.8 | 39.1 | 9.49 | 7.87 | 6.85/ 6.18/ 5.31/ 4.57/ 3.86 | 1.75/ 21.74 | 531 |
| 8-5-235-A00 | 235.00 | 64.53/ 299.53 | 44.9 | 9.49 | 7.87 | 6.85/ 6.18/ 5.31/ 4.57/ 3.86 | 1.89/ 23.34 | 584 |
| 8-5-250-A00 | 246.89 | 68.35/ 315.24 | 44.9 | 9.49 | 7.87 | 6.85/ 6.18/ 5.31/ 4.57/ 3.86 | 1.95/ 24.53 | 588 |
| 8-5-265-A00 | 265.83 | 69.72/ 335.55 | 48.7 | 9.49 | 7.87 | 6.85/ 6.18/ 5.31/ 4.57/ 3.86 | 2.09/ 26.35 | 620 |
| 8-5-285-A00 | 285.98 | 75.87/ 361.85 | 56.8 | 9.49 | 7.87 | 6.85/ 6.18/ 5.31/ 4.57/ 3.86 | 2.28/ 29.55 | 690 |

*All cylinders MAX Pressure: 2750 PSI Due to NPT Ports (Rated for 2900 PSI)

METRIC UNITS

(Drawing Dimensions in cm)



(All Dimensions Nominal)

| MODEL NUMBER | STROKE (cm) | A=CLOSED/ OPEN LENGTH (cm) | B=PORT TO PORT (cm) | C=BASE PIN WIDTH (cm) | D=TUBE OD (cm) | Stage Dia (cm) 1/ 2/ 3/ 4/ 5 | Fill/ Extend (L) | Cylinder Weight (kg) |
|--------------|-------------|----------------------------|---------------------|-----------------------|----------------|----------------------------------|------------------|----------------------|
| 5-3-084-A00 | 218.2 | 100.5/ 318.7 | 51.6 | 17.78 | 13.69 | 11.60/ 9.80/ 7.90 | 1.97/ 16.65 | 81 |
| 5-3-104-A00 | 262.2 | 120.2/ 382.4 | 71.9 | 17.78 | 13.69 | 11.60/ 9.80/ 7.90 | 2.35/ 19.91 | 100 |
| 6-3-104-A00 | 259.8 | 120.2/ 380.1 | 71.9 | 17.78 | 15.70 | 13.49/ 11.60/ 9.80 | 2.73/ 27.82 | 116 |
| 6-3-120-A00 | 300.6 | 133.3/ 433.9 | 85.1 | 17.78 | 15.70 | 13.49/ 11.60/ 9.80 | 3.10/ 32.36 | 127 |
| 6-3-126-A00 | 326.3 | 139.6/ 465.9 | 91.4 | 17.78 | 15.70 | 13.49/ 11.60/ 9.80 | 3.33/ 34.97 | 136 |
| 6-3-130-A00 | 326.3 | 141.6/ 467.9 | 91.4 | 17.78 | 15.70 | 13.49/ 11.60/ 9.80 | 3.33/ 34.97 | 136 |
| 6-3-140-A00 | 344.1 | 151.5/ 495.6 | 102.6 | 17.78 | 15.70 | 13.49/ 11.60/ 9.80 | 3.48/ 36.87 | 145 |
| 7-4-135-A00 | 344.6 | 121.3/ 465.9 | 70.0 | 20.90 | 17.60 | 15.39/ 13.49/ 11.60/ 9.80 | 3.94/ 43.49 | 150 |
| 7-4-156-A00 | 400.5 | 134.4/ 534.9 | 85.0 | 20.90 | 17.60 | 15.39/ 13.49/ 11.60/ 9.80 | 4.50/ 50.83 | 166 |
| 7-4-161-A00 | 414.0 | 140.7/ 544.7 | 92.6 | 20.90 | 17.60 | 15.39/ 13.49/ 11.60/ 9.80 | 4.69/ 53.52 | 170 |
| 7-4-167-A00 | 435.4 | 140.7/ 576.1 | 92.6 | 20.90 | 17.60 | 15.39/ 13.49/ 11.60/ 9.80 | 4.88/ 55.49 | 175 |
| 8-5-190-A00 | 480.0 | 137.1/ 617.1 | 81.6 | 24.10 | 19.99 | 17.40/ 15.39/ 13.49/ 11.60/ 9.80 | 5.79/ 70.78 | 210 |
| 8-5-220-A00 | 558.6 | 152.1/ 710.7 | 99.3 | 24.10 | 19.99 | 17.40/ 15.39/ 13.49/ 11.60/ 9.80 | 6.62/ 82.28 | 241 |
| 8-5-235-A00 | 596.9 | 163.9/ 760.8 | 114.1 | 24.10 | 19.99 | 17.40/ 15.39/ 13.49/ 11.60/ 9.80 | 7.15/ 88.34 | 265 |
| 8-5-250-A00 | 627.1 | 173.6/ 800.7 | 114.1 | 24.10 | 19.99 | 17.40/ 15.39/ 13.49/ 11.60/ 9.80 | 7.38/ 92.85 | 267 |
| 8-5-265-A00 | 675.2 | 177.1/ 852.3 | 123.8 | 24.10 | 19.99 | 17.40/ 15.39/ 13.49/ 11.60/ 9.80 | 7.91/ 99.73 | 281 |
| 8-5-285-A00 | 726.4 | 192.7/ 919.1 | 144.3 | 24.10 | 19.99 | 17.40/ 15.39/ 13.49/ 11.60/ 9.80 | 8.63/ 111.85 | 313 |

*All cylinders MAX Pressure: 189.7 BAR Due to NPT Ports (Rated for 200 BAR)

TWO YEAR CYLINDER WARRANTY

Muncie's single acting telescopic cylinder is warranted against any defect in material and workmanship which existed at the time of sale by Muncie Power Products, Inc., according to the following provisions, subject to the requirements that the cylinder must be used only in accordance with catalog and package instructions.

The cylinder is warranted for a period of two years from the date of installation. If during the warranty period the cylinder fails to operate to Muncie's specifications due to a defect in any part, material or workmanship that existed at the time of sale by Muncie, the defective part will be repaired or replaced, at Muncie's election, at no charge, if the defective part is returned to Muncie with transportation prepaid.

WARNING: The above warranty shall terminate if any alterations or repairs are made to the cylinder other than at a Service Center owned by Muncie, or if the cylinder is used on any equipment other than the equipment upon which it is first installed.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER OBLIGATIONS AND LIABILITIES, INCLUDING NEGLIGENCE AND ALL WARRANTIES OF MERCHANTABILITY AND SUITABILITY, EXPRESSED OR IMPLIED, AND STATE MUNCIE'S ENTIRE AND EXCLUSIVE LIABILITY AND THE BUYER'S EXCLUSIVE REMEDY FOR ANY CLAIM OF DAMAGES IN CONNECTION WITH THE SALE, REPAIR OR REPLACEMENT OF THE ABOVE GOODS, THEIR DESIGN, INSTALLATION OR OPERATION. MUNCIE WILL IN NO EVENT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHATSOEVER, AND OUR LIABILITY WILL UNDER NO CIRCUMSTANCES EXCEED THE CONTRACT PRICE FOR THE GOODS FOR WHICH LIABILITY IS CLAIMED.

Distributed By:



MP12-12 Printed in the U.S.A
© Muncie Power Products, Inc. 2012

Muncie Power Products, Inc. Member of the Interpump Hydraulics Group
General Offices and Distribution Center • P.O. Box 548 • Muncie, IN 47308-0548
(765) 284-7721 • FAX (765) 284-6991 • E-mail info@munciepower.com
Web site <http://www.munciepower.com>

Drive Products, Inc., Exclusive Agents for Canada, ISO Certified by an Accredited Registrar

