

Air Cylinder Specifications

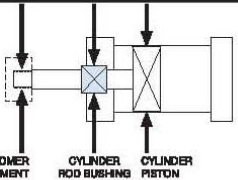
APPENDIX D

TRD Cylinders

SERIES 'TA' (NFPA) CYLINDER

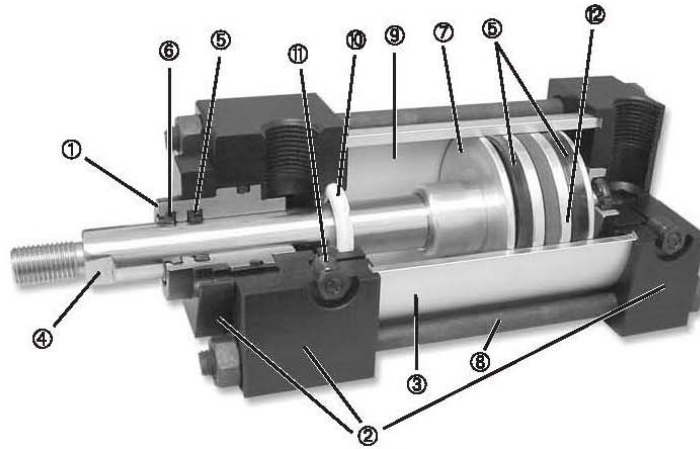
Floating Rod Bushing

SELF ALIGNMENT FEATURE
 Rod Bushing is designed to float .002", improving bearing surface alignment.



CUSTOMER EQUIPMENT
CYLINDER ROD BUSHING
CYLINDER PISTON

- Reduces cylinder drag and erratic operation
- Reduces cylinder wear
- Provides a minimum of 25% longer life than "fixed" Rod Bushing designs



HEAVY-DUTY DESIGN FOR RELIABLE, CONSISTENT OPERATION

- ① **FLOATING ROD BUSHING** – Precision machined from 150,000 PSI rated graphite filled cast iron and PTFE coated to reduce friction and extend cycle life. Bushing design "traps" lubrication in effective bearing area.
- ② **HEAD, CAP & RETAINER** – Precision machined from high strength 6061-T6 aluminum alloy. Black anodized for corrosion resistance.
- ③ **CYLINDER TUBE** – Precision machined from 6063-T6832 high tensile aluminum alloy and hard coat to 60 Rc for wear resistance and extended cycle life.
- ④ **PISTON ROD** – Precision machined from high yield, polished and hard chrome plated steel.
- ⑤ **PISTON & ROD SEALS** – Heavy lip design Carboxilated Nitrile construction. Seals are pressure activated and wear compensating for long life. (Self lubricating material).
- ⑥ **ROD WIPER** – Abrasion resistant urethane provides aggressive wiping action in all environments. External lip design prevents debris from entering cylinder.
- ⑦ **PISTON** – Precision machined from 6061-T651 alloy aluminum, provides an excellent bearing surface for extended cylinder life.
- ⑧ **TIE RODS** – Prestressed high carbon steel tie rod construction eliminates axial loading of cylinder tube and maintains compression on tube and end seals.
- ⑨ **PERMANENT LUBRICATION** – Permanently lubricated with Magna-Lube G PTFE based grease on all internal components. This is a non-migratory type high performance grease providing outstanding service life. No additional lubrication is required.
- ⑩ **CUSHIONS** – (Options H & C) Floating cushion seal designed for maximum cushion performance, quick return stroke break-away and extended life.
- ⑪ **CUSHION ADJUSTMENT NEEDLE** – Adjustable steel needle design has fine thread metering and is positively captured to prevent needle ejection during adjustment.
- ⑫ **PISTON MAGNET** – (Option MPR) for TRD magnetically operated reed and solid state switches (refer to pages 107-113).

OPERATING PRESSURE	250 PSI AIR (17 BAR)	OPERATING TEMPERATURE	Carboxilated Nitrile: -20°F to 200°F (-25°C to 90°C) Fluorocarbon: 0°F to 400°F (-20°C to 200°C)
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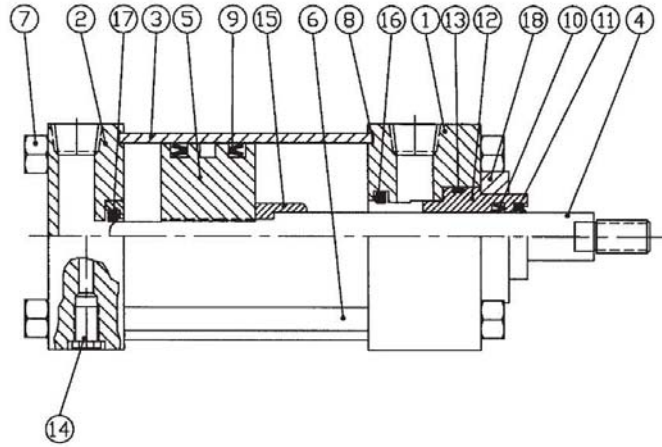
Performance options:

- **WB** – PTFE piston wear band, recommended for pivot mounted, long strokes or cylinders that may see side loads.
- **ST** – Stop tubes are used to reduce rod bearing and piston stress (refer to page 89 for cylinder design guidance).
- **MA** – Micro-Adjust provides a precision adjustment on the cylinder extend stroke, providing quick and accurate cylinder positioning, reducing set-up time.
- **SSA** – Stainless Steel Piston Rod, Tie Rods, Nuts, and Fasteners provide corrosion resistance in outdoor applications and wet environments.
- **LF** – Low Friction seals reduce breakaway and running friction. Effective at all operating pressures.
- **NR** – Non-Rotating option incorporates (2) internal guide rods preventing rod rotation (NFPA dimensions).

TRD Cylinder

SERIES 'TA' CYLINDER PARTS LIST: STANDARD ROD DIAMETER
(Below listed parts can also be used for Back To Back Cylinders)

NOTE:
When ordering any part,
please supply TRD Serial
Number to insure proper
parts are supplied.



ITEM	QTY.	PART NAME	BORE SIZE									
			1.50	2	2.50	3.25	4	5	6	8	10	12
1	1	HEAD	A-10-15	A-10-20	A-10-25	A-10-32	A-10-40	A-10-50	A-10-60	A-10-80	A-10-100	A-10-120
2	1	CAP	A-25-15	A-25-20	A-25-25	A-25-32	A-25-40	A-25-50	A-25-60	A-25-80	A-25-100	A-25-120
3	1	TUBE	A-40-15 1.25 + STK	A-40-20 1.25 + STK	A-40-25 1.38 + STK	A-40-32 1.44 + STK	A-40-40 1.44 + STK	A-40-50 1.69 + STK	A-40-60 1.69 + STK	A-40-80 1.81 + STK	A-40-100 2.31 + STK	A-40-120 2.88 + STK
4	1	PISTON ROD <small>△</small>	Consult Factory with Serial Number									
5	1	*PISTON	A-15-15	A-15-20	A-15-25	A-15-32	A-15-40	A-15-50	A-15-60	A-15-80	A-15-100	A-15-120
6	4	TIE ROD	A-50-15	A-50-20	A-50-25	A-50-32	A-50-32	A-50-50	A-50-60	A-50-80	A-50-100	A-50-120
7	8	TIE ROD NUTS	.25-28	.31-24	.31-24	.38-24	.38-24	.50-20	.50-20	.63-18	.75-16	.75-16
8	2	TUBE SEAL	TS-15	TS-20	TS-25	TS-32	TS-40	TS-50	TS-60	TS-80	TS-100	TS-120
9	2	PISTON SEAL	PS-15	PS-20	PS-25	PS-32	PS-40	PS-50	PS-60	PS-80	PS-100	PS-120
10	1	ROD SEAL	RS-625	RS-625	RS-625	RS-1000	RS-1000	RS-1000	RS-1375	RS-1375	RS-1750	RS-2000
11	1	ROD WIPER	RW-625	RW-625	RW-625	RW-1000	RW-1000	RW-1000	RW-1375	RW-1375	RW-1750	RW-2000
12	1	ROD BUSHING	A-30-1	A-30-1	A-30-1	A-30-2	A-30-2	A-30-2	A-30-3	A-30-3	A-30-4	A-30-5
13	1	BUSHING "O" RING	BO-1	BO-1	BO-1	BO-2	BO-2	BO-2	BO-3	BO-3	BO-4	BO-5
14	1 or 2	ADJ. NEEDLE (incl) SEAL	A-66-1	A-66-1	A-66-1	A-66-2	A-66-2	A-66-2	A-66-2	A-66-2	A-66-2	A-66-2
15	1	CUSHION SPUD	A-65-1	A-65-1	A-65-1	A-65-2	A-65-2	A-65-2	A-65-3	A-65-3	A-65-4	A-65-5
16	1	CUSHION SEAL-H	CS-3	CS-3	CS-3	CS-4	CS-4	CS-4	CS-5	CS-5	CS-6	CS-6
17	1	CUSHION SEAL-C	CS-1	CS-1	CS-1	CS-2	CS-2	CS-2	CS-3	CS-3	CS-3	CS-3
18	1	RETAINER PLATE	A-36-15	A-35-1	A-35-1	A-35-2	A-35-2	A-35-2	A-35-3	A-35-3	A-35-4	A-35-5
1	1	ROD BUSH SEALS INSTALLED	A-30-1A	A-30-1A	A-30-1A	A-30-2A	A-30-2A	A-30-2A	A-30-3A	A-30-3A	A-30-4A	A-30-5A

△ When ordering piston rod it is recommended to order both piston rod & piston (parts 4 & 5). Please specify TRD serial number.
* Specify if air/oil seal is required - standard piston will accept magnetic strip only for center groove.
† Must supply serial number to insure proper tie rods are supplied.