

- > **Larger diameter, two-piece 303 stainless steel piston rod**
- > **Rod end made of heat treated alloy steel - easily removed in case of failure due to overload**
- > **Cushion quiet elastomer bumpers**



## Technical Data

### Medium

Air only

### Operation

Double action

### Operating Pressure

250 PSI

### Operating Temperature

-20° F to 200° F

### Cylinder Diameters

3/4" - 2"

### Strokes

1/2" - 32"

### Ports

1/8" NPT, 1/4", NPT

### Lubrication

Semi-synthetic grease

### Materials

Barell: 304 stainless steel

End Caps: Aluminum

Piston Rod: 303 stainless steel

Piston and rod seals: Buna N

"U" cups

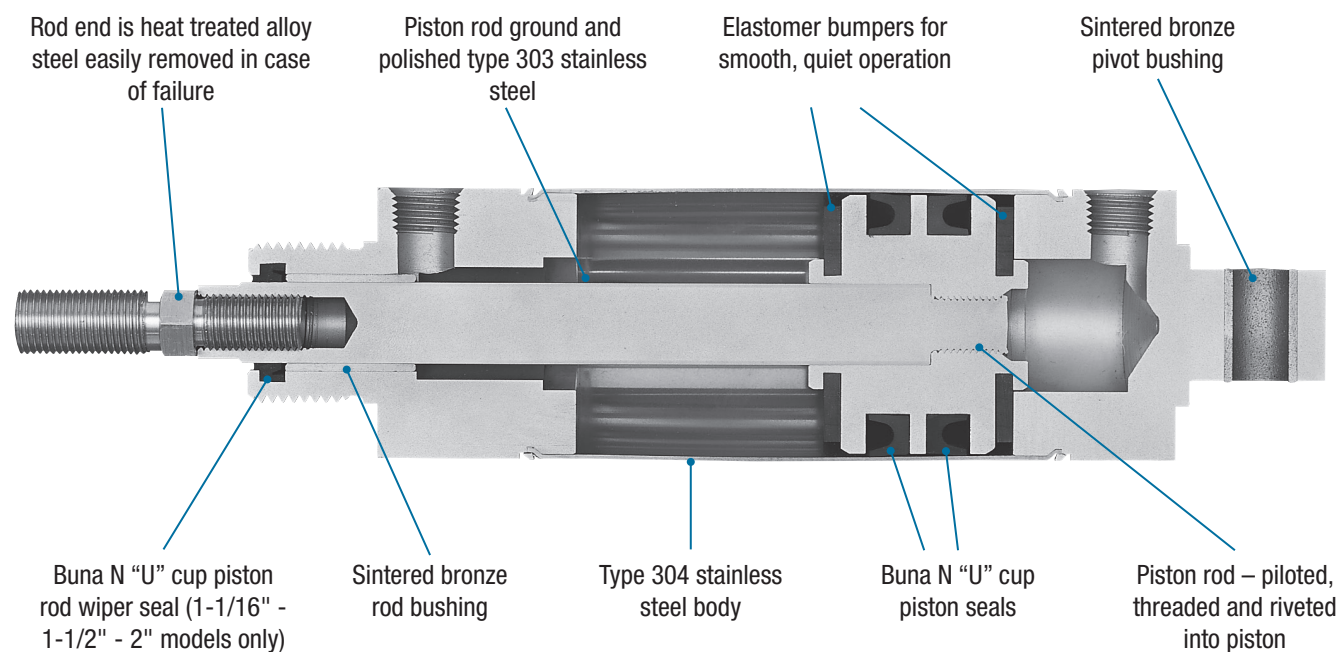
Rod and pivot bushings:

Sintered bronze

### Mounting

Double acting Nose, Universal and Block Front

## Tough Duty Air Cylinders



**ZR106X4-DPM**

**ZR★★★X4-★★★**

**Order**

Type	
Tough Duty Roundline	ZR
Bore	Substitute
3/4"	075
1-1/16"	106
1-1/2"	150
2"	200
Stroke	
In inches and decimal fractions	X

Options	Substitute
M - Magnet (no track)	M
Magnet with track in position 1, 2, 3 or 4. Include "M" only once and each track location after that. For example, a cylinder with track in position 1 and 3 would have option M13	M1 M2 M3 M4
Extra rod extension. Specify total additional rod extension in inches. For example, a cylinder with an extra extension of 1-1/2" would have option R1.5	RX.XX

\*Enter options in alphabetical order

Mounting	Substitute
Double Acting Nose Mount	DN
Double Acting Universal Mount	DP
Double Acting Block Front Mount	DP

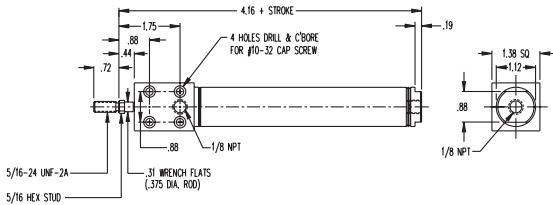
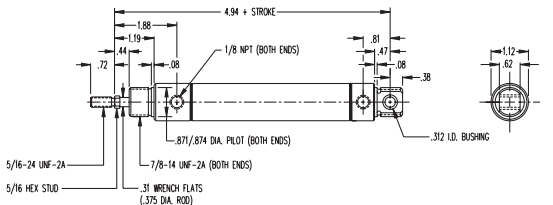
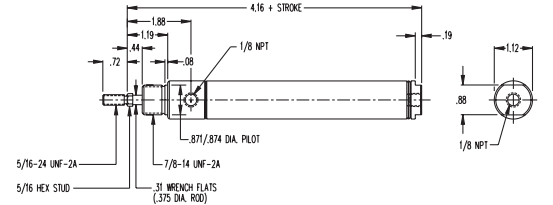
**3/4" Tough Duty Cylinder**

Push Force = .441 x PSI, Pull Force = .365 X PSI

Model	Description	Standard stroke lengths	Maximum stroke length	Weight (lbs)	Adder per inch of stroke (lbs)	Dimensional Drawing
ZR075-DB	Block Mount - Double Acting - Two bolt holes are provided for positive mounting to a base.	1" - 6"	12"	0.30	0.04	
ZR075-DP	Universal Mount - Double Acting	1" - 12"	32"	0.30	0.04	
ZR075-DN	Nose Mount - Double Acting	1" - 6"	12"	0.27	0.04	

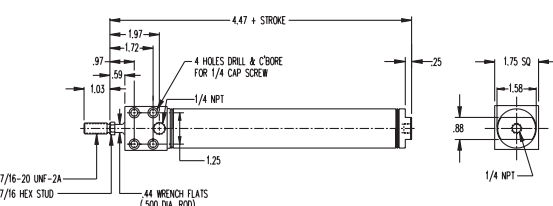
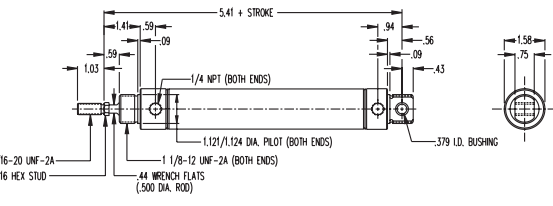
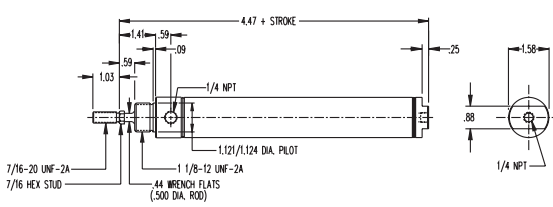
### 1-1/16" Tough Duty Cylinder

Push Force = .886 x PSI, Pull Force = .776 X PSI

Model	Description	Standard stroke lengths	Maximum stroke length	Weight (lbs)	Adder per inch of stroke (lbs)	Dimensional Drawing
ZR106-DB	Block Mount - Double Acting - Four bolt holes are provided for positive mounting to a base.	1" - 6"	12"	0.55	0.06	
ZR106-DP	Universal Mount - Double Acting	1" - 12"	32"	0.45	0.06	
ZR106-DN	Nose Mount - Double Acting	1" - 6"	12"	0.38	0.06	


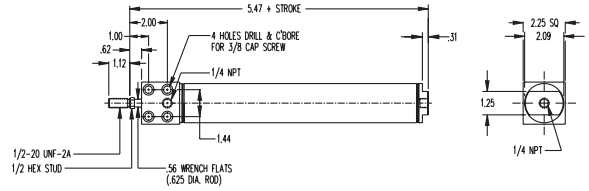

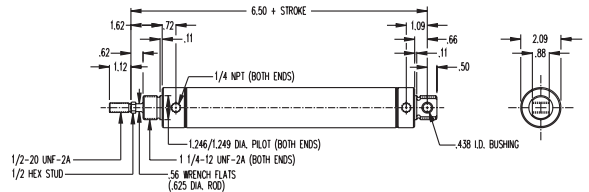

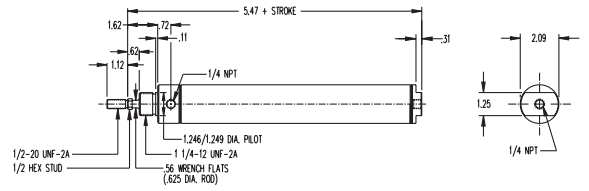
### 1-1/2" Tough Duty Cylinder

Push Force = 1.77x PSI, Pull Force = 1.57 X PSI

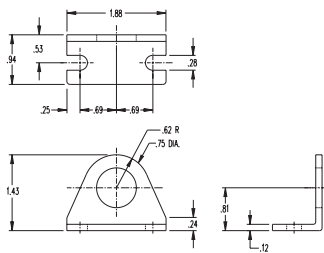
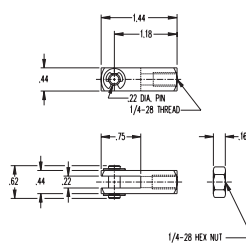
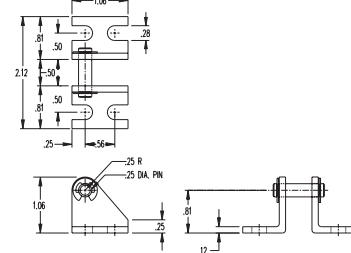
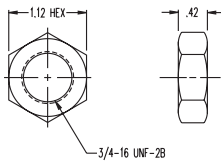
Model	Description	Standard stroke lengths	Maximum stroke length	Weight (lbs)	Adder per inch of stroke (lbs)	Dimensional Drawing
ZR150-DB	Block Mount - Double Acting - Four bolt holes are provided for positive mounting to a base.	1" - 6"	12"	1.00	0.10	
ZR150-DP	Universal Mount - Double Acting	1" - 12"	32"	0.92	0.10	
ZR150-DN	Nose Mount - Double Acting	1" - 6"	12"	0.78	0.10	

## 2" Tough Duty Cylinder

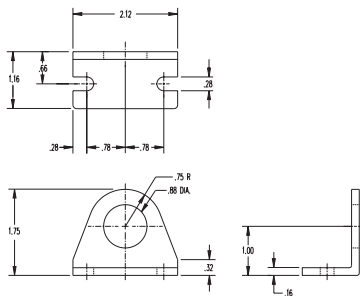
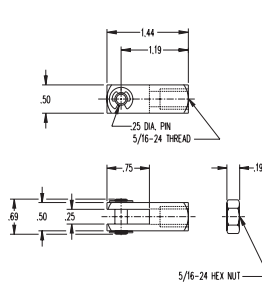
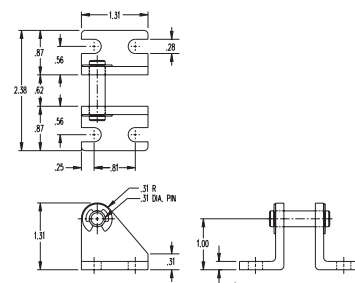
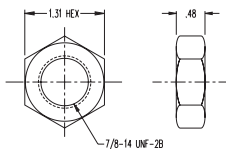
Push Force = 3.14x PSI, Pull Force = 2.83 X PSI

Model	Description	Standard stroke lengths	Maximum stroke length	Weight (lbs)	Adder per inch of stroke (lbs)	Dimensional Drawing
ZR200-DB	Block Mount - Double Acting - Four bolt holes are provided for positive mounting to a base.	1" - 6"	12"	2.03	0.15	 
ZR200-DP	Universal Mount - Double Acting	1" - 12"	32"	2.15	0.15	 
ZR200-DN	Nose Mount - Double Acting	1" - 6"	12"	1.91	0.15	 

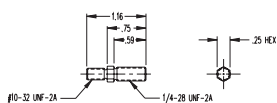
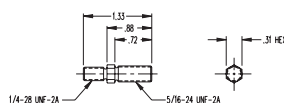
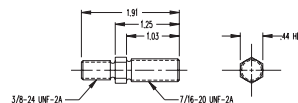
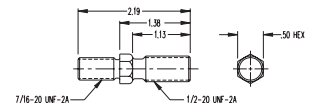
### 3/4" Bore Accessories

**ZRE-FB-075**

**Mounting Bracket**
**ZRE-RC-075**

**Rod Clevis**
**ZRE-PB2-075**

**Pivot Bracket**
**RE-MN-125**

**Mounting Nut**

### 1-1/16" Bore Accessories

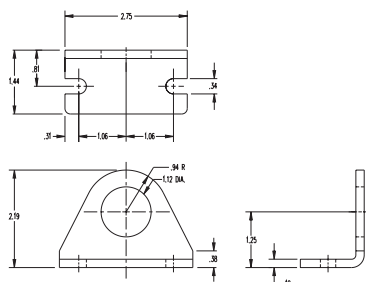
**ZRE-FB-106**

**Mounting Bracket**
**ZRE-RC-106**

**Rod Clevis**
**ZRE-PB2-106**

**Pivot Bracket**
**RE-MN-106**

**Mounting Nut**

### Replacement Stud

**3/4" Bore  
ZRE-RS-075**

**1-1/16" Bore  
ZRE-RS-106**

**1-1/2" Bore  
ZRE-RS-150**

**2" Bore  
ZRE-RS-200**


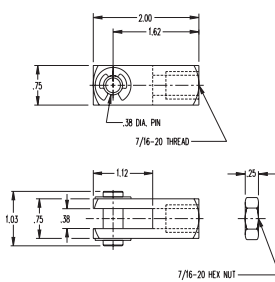
## 1-1/2" Bore Accessories

**ZRE-FB-150**



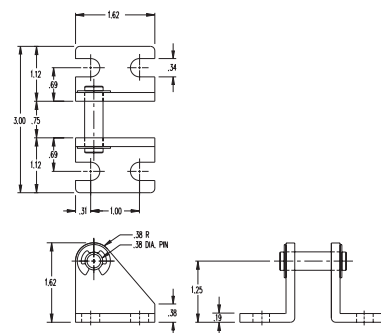
**Mounting Bracket**

**ZRE-RC-150**



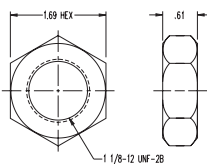
**Rod Clevis**

**ZRE-PB2-150**



**Pivot Bracket**

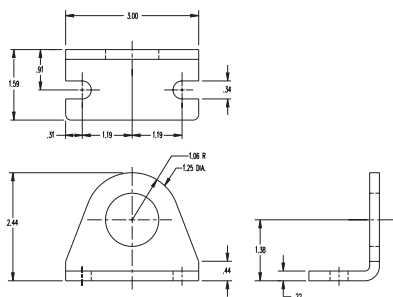
**ZRE-MN-150**



**Mounting Nut**

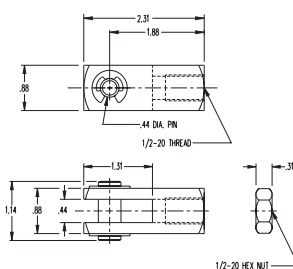
## 2" Bore Accessories

**ZRE-FB-200**



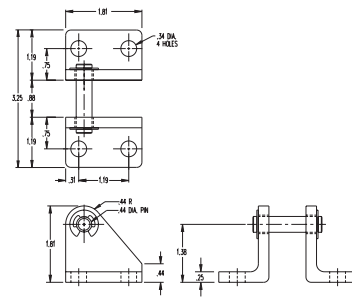
**Mounting Bracket**

**ZRE-RC-200**



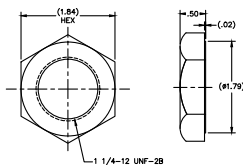
**Rod Clevis**

**ZRE-PB2-200**



**Pivot Bracket**

**RE-MN-200**



**Mounting Nut**

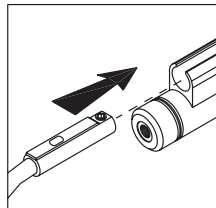
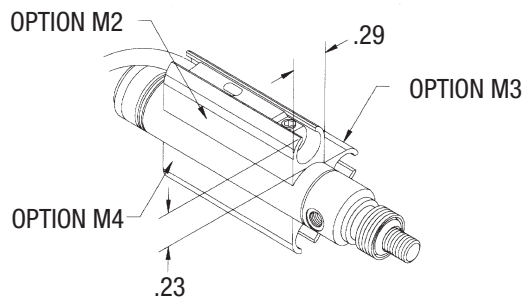
## Additional Specifications

Nose Mount Torque Values		
Thread Size	Torque (IN*LB) FT*LB	Bore Size
3/4-16 UNF	(480) 40	3/4"
7/8-16 UNF	(780) 65	1-1/16"
1 1/8-12 UNF	(1320) 110	1-1/2"
1 1/4-12 UNF	(1440) 120	2"

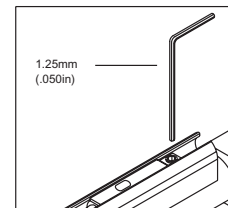
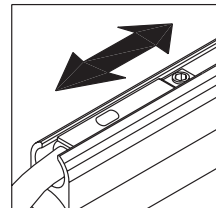
## Accessories

### Switch Track Options

For cylinders with M1, M2, M3 and M4 options



\*M1 = Inline with ports



## Switches and Cables

The table below outlines the switches that are compatible with the switch track option.

Part Number	Description
NMR	Reed, 24" Leads
NMRX	Reed, 144" Leads
NMRQ	Reed, M8 Quick Connect
NMRQC	Reed, M8 Quick Connect, with 2m cable
NMRQCX	Reed, M8 Quick Connect, with 5m cable
NMS	Autoconfigure, 24" Leads
NMSX	Autoconfigure, 144" Leads
NMSQ	Autoconfigure, M8 Quick Connect
NMSQC	Autoconfigure, M8 Quick Connect, with 2m cable
NMSQCX	Autoconfigure, M8 Quick Connect, with 5m cable
NMHF-90	Mini Switch, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, 24" Pigtail Leads, 90° version
NMHFX-90	Mini Switch, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, 144" Pigtail Leads, 90° version
NMHFQS-90	Mini Switch, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, with M8 Male Swivel Connector, 90° version
NMHFQCS-90	Mini Switch, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, with M8 Male Swivel Connector and 2m Mating Cable, 90° version
NMHFQCXS-90	Mini Switch, 2-wire, Solid-State Type, LED, 10-28VDC, 50mA, with M8 Male Swivel Connector and 5m Mating Cable, 90° version
NMHC-90	Mini Switch Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 24" Pigtail Leads, 90° version
NMHCX-90	Mini Switch Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 144" Pigtail Leads, 90° version
NMHQCS-90	Mini Switch Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector, 90° version
NMHQCS-90	Mini Switch Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 2m Mating Cable, 90° version
NMHQCSXS-90	Mini Switch Sourcing Switch (PNP), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 5m Mating Cable, 90° version
NMHK-90	Mini Switch Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 24" Pigtail Leads, 90° version
NMHKX-90	Mini Switch Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, 144" Pigtail Leads, 90° version
NMHQS-90	Mini Switch Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector, 90° version
NMHQCS-90	Mini Switch Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 2m Mating Cable, 90° version
NMHQCSXS-90	Mini Switch Sinking Switch (NPN), 3-wire, Solid-State Type, LED, 5-28VDC, 100mA, with M8 Male Swivel Connector and 5m Mating Cable, 90° version
NC4	Straight M8 Straight M8 Female Connector, Threaded Connection with 2 Meter Cable
NC4-S	Straight M8 Female Connector, Threaded Connection with 2 Meter Shielded Cable
NC4X	Straight M8 Female Connector, Threaded Connection with 5 Meter Cable
NC4X-S	Straight M8 Female Connector, Threaded Connection with 5 Meter Shielded Cable
NC5-S	Right Angle M8 Female Connector, Threaded Connection with 2 Meter Shielded Cable
NC5X-S	Right Angle M8 Female Connector, Threaded Connection with 5 Meter Shielded Cable

## Warning

Improper selection, misuse, age or malfunction of components used in systems can cause failure in various modes. The system designer is warned to consider the failure modes of all component parts and to provide adequate safeguards to prevent personal injury or damage to equipment or property in the event of such failure modes. System designers and end users are cautioned to consult instruction sheets and specifications available from the factory. The system designer/end user is responsible for verifying that all requirements for the application are met.

## Warranty

The products described herein are warranted subject to seller's Standard Terms and Condition of Sale, available at seller's website.

**⚠ WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).