

STAINLESS STEEL CYLINDERS	2
CORROSION RESISTANT CYLINDERS	62
AIR FORCE ONE COMPACT CYLINDERS	70
MINIMATIC® CYLINDERS	82

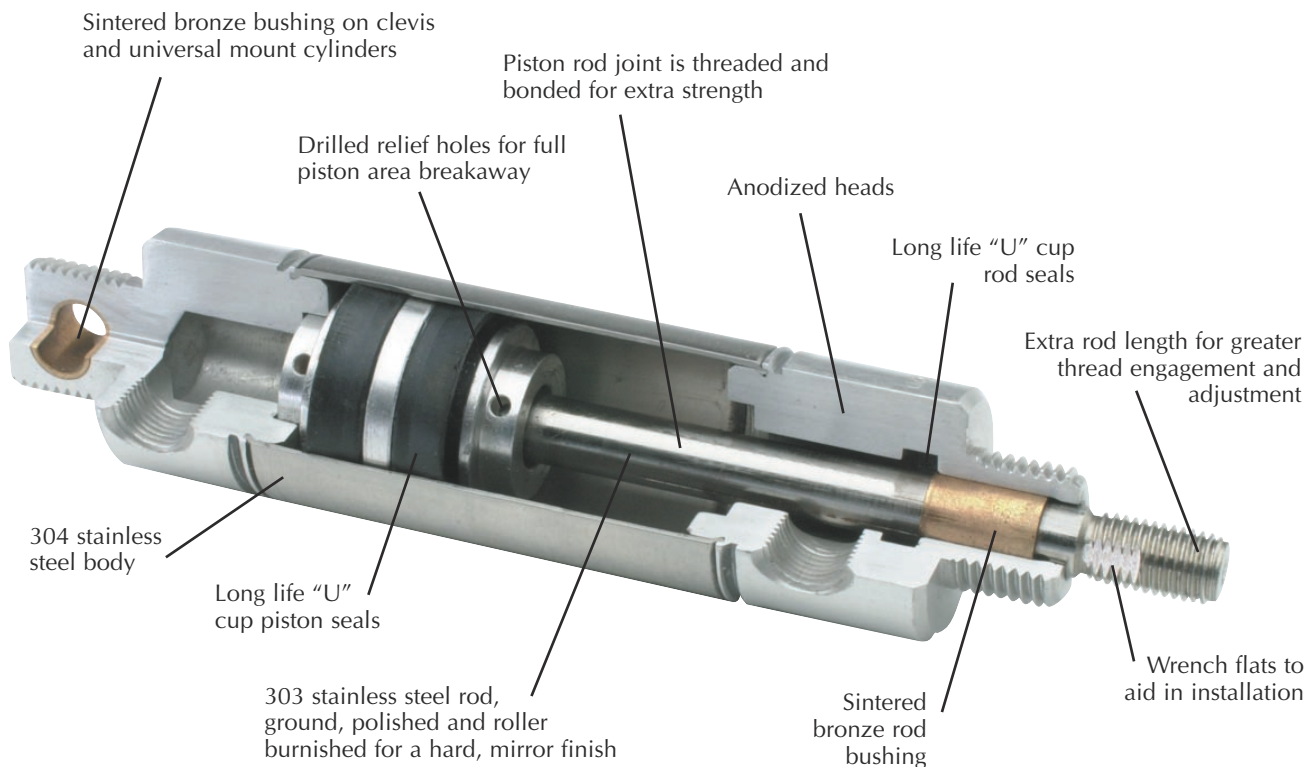




STAINLESS STEEL CYLINDER CONSTRUCTION

In the early 1950's, Clippard introduced miniature pneumatic cylinders and valves to industry. No other manufacturer can boast of the same experience or knowledge of miniature components.

Air cylinders have always been an integral part of the Clippard Minimatic® line. Over the years Clippard has responded to requests from cylinder users to provide additional sizes of air cylinders and auxiliary support products. While competitively priced, these products maintain the Clippard standard for quality and reliability that has been the industry standard for many years.



Features

- Polished ID 304 stainless steel tubes for low breakaway
- Precision rolled construction for a solid, leakproof cylinder at a reasonable price
- Machined aluminum heads are clear anodized for extra protection against corrosion
- Cylinder heads are machined from one side for better concentricity
- Sintered bronze rod bushing
- Sintered bronze clevis bushing on all clevis and universal mount cylinders
- Rods are threaded and bonded to pistons
- Ground, polished and roller burnished 303 stainless rods provide a smoother rod finish that protects rod seals, giving longer life
- Full piston area breakaway to assure full power from the beginning of each stroke
- Buna-N "U"-cup piston seals for full power, low friction and trouble-free performance
- Buna-N "U"-cup rod seals for leakproof operation
- Temperature range: -32°F to 230°F
- Maximum pressure: 250 psig



NUMBERING SYSTEM

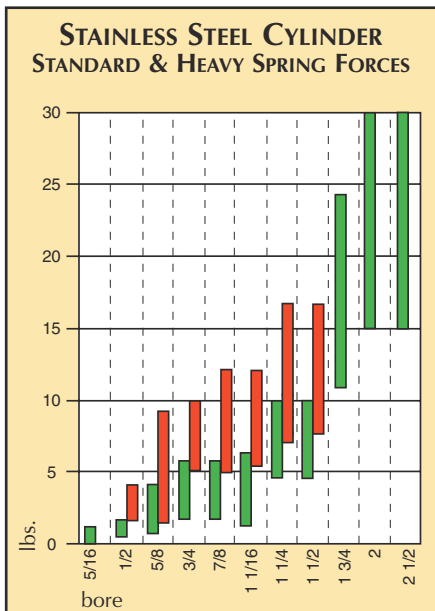
Stroke

In inches & fractions of an inch

□	□	□	-	□	-	□	-	□
Mounting Type		Rod Type		Bore		Options		
S - Stud U - Universal C - Clevis F - Front Block E - End Stud T - Trunnion		D - Double Ended Rod R - Rotating Rod N - Non-Rotating Rod H - Hollow Rod		05 - 5/16" 08 - 1/2" 10 - 5/8" 12 - 3/4" 14 - 7/8" 17 - 1 1/16" 20 - 1 1/4" 24 - 1 1/2" 28 - 1 3/4" 32 - 2" 40 - 2 1/2" 48 - 3"		B - Bumpers V - Viton® Seals C - Cushions MB - Magnetic Piston for Hall Effect sensors (includes bumpers) F - Cushion Front End R - Cushion Rear End W - Rod Wiper S - Side Ported H - Heavy Spring P - Rotated Ports		
	Cylinder Type							
	D - Double Acting S - Single Acting R - Reverse Acting F - Front Spring Bias B - Back Spring Bias							

Not all combinations are available - consult factory

SPECIFICATIONS



Bore Size

5/16	1/2	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-3/4	2	2-1/2	3
------	-----	-----	-----	-----	--------	-------	-------	-------	---	-------	---

Force Factor - Extend (Area)

.07	.19	.31	.44	.60	.88	1.2	1.7	2.4	3.1	4.9	7.0
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Rod Size

1/8	3/16	3/16	1/4	1/4	5/16	3/8	7/16	1/2	5/8	5/8	3/4
-----	------	------	-----	-----	------	-----	------	-----	-----	-----	-----

Rod Area

.01	.03	.03	.05	.05	.08	.11	.15	.20	.31	.31	.44
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Force Factor - Retract (Area)

.06	.16	.28	.39	.55	.80	1.09	1.55	2.20	2.90	4.59	6.56
-----	-----	-----	-----	-----	-----	------	------	------	------	------	------

The force required, operating air pressure and cylinder bore are all factors that must be determined or known when sizing an air cylinder. If two are known the other is easily calculated per the formulas and triangle shown below.

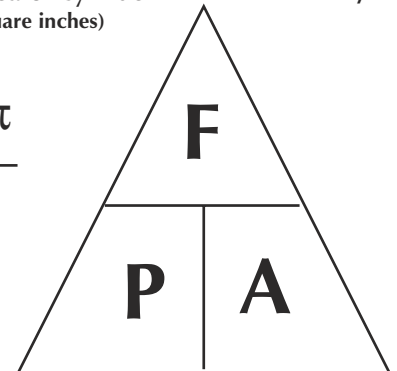
F - Force or load in pounds
P - Pressure
A - Area of cylinder
(square inches)

$$F = P \times A$$

$$P = F / A$$

$$A = F / P$$

Area is derived using either of the following formulas: **Diameter** ² x .7854 or **Radius** ² x π



Standard Spring Forces (lbs)

Bore	5/16	1/2	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-3/4	2	2-1/2
At Rest	.5	.9	1.3	3.0	3.0	2.0	4.5	4.5	11.0	15.0	15.0
Compressed	1.0	2.0	4.0	6.0	6.0	7.0	10.0	10.0	24.0	30.0	30.0

Heavy Spring Forces (lbs)

Bore	5/16	1/2	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-3/4	2	2-1/2
At Rest	N/A	2.0	3.3	5.0	5.0	5.5	8.5	8.5	N/A	N/A	N/A
Compressed	N/A	4.0	9.0	10.0	10.0	13.0	17.0	17.0	N/A	N/A	N/A



STAINLESS STEEL CYLINDER

OPTIONS

The following options are available with Clippard stainless steel cylinders. Available options are shown by the abbreviations noted in the information shown with each standard cylinder.

Viton® Seals -V

This option is used in applications where chemical resistance, compatibility and temperature become an issue. Temperature ranges: -20 F up to 400 F.

Viton® is a registered trademark of DuPont Co.

Cushions -C

(Front Cushion Only) -F

(Rear Cushion Only) -R

Clippard's cushion cylinders offer an adjustable cushion to slow the cylinder near the end of the stroke to reduce impact and prolong cylinder life. Our adjustment needle is held captive to prevent the needle from blowing out. The cushion can be adjusted to have a dead stop 1/2" from end of stroke or adjusted to have virtually no effect on the action of the cylinder. See specific cylinder specifications for availability of this option.

No Rod Threads -N

Rods are provided with no threads when this option is ordered.

Magnetic Piston -MB

A magnet is attached to the piston that will actuate the Hall Effect and reed switches. This option also includes bumpers and extends the overall length of the cylinder. Switches and clamps need to be ordered separately. For more information see page 60 on Clippard's Hall Effect and reed switches. For multiple reed switches we need a 1" stroke or more. Maximum temperature 300° F.

Rod Wipers -W

Rod Wipers are added to cylinders in applications where a liquid wash could dry out the rod seals of a double acting cylinder.

Non-standard Options

- Extra Rod Extensions
- Thread Modifications
- Silk Screening Private Labels

If you can't find a cylinder to suit your needs call your Clippard distributor to inquire about custom cylinders.

Bumpers -B

Internal polyurethane bumpers are supplied for applications where the cylinder is cycled with a light load and/or high speeds. The elastic bumpers reduce noise and shock to the load. Use of this option may add to the overall length of the cylinder. See specific cylinder listings on the following pages for availability and details of the overall length added. Maximum temperature 200° F.

Side Ported -S

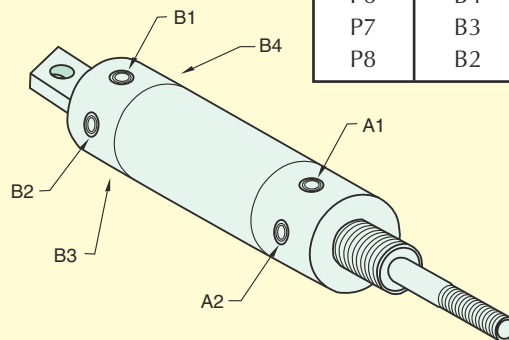
Side ported rear heads are sometimes needed when the standard cylinder has the rear port out the back. This option changes the design of the rear head so the rear port is located on the side of the cylinder. Overall length of cylinder changes with this option.

Heavy Spring -H

In single acting, reverse acting or spring bias cylinders the standard spring force can be changed by ordering the -H option. The spring forces for the heavy springs are shown on page three.

Rotated Ports

Option #	Rear Port	Front Port
P2	B2	A2
P3	B1	A2
P4	B4	A2
P5	B3	A2
P6	B4	A1
P7	B3	A1
P8	B2	A1



This option is used in applications where ports need to be rotated to accommodate a specific space requirement or port orientation for the fittings and tube attachments. The diagram explains the options and orientation of the ports. See the specific cylinder to find availability of these options.



STROKE LENGTHS

Standard stroke lengths for each bore size and cylinder style are listed in



this catalog. Non-standard stroke lengths (not listed in the catalog) up to 24" for single acting cylinders and 36" for double acting cylinders are available. Stroke length should be specified in inches and fractions of an inch. Consult the factory for other requirements.

In applications, attention should be given to minimizing the side load on the rod to insure a smooth stroke without binding. Also, in applications where the cylinder rod is subjected to an unsupported column load, the load on the rod should be less than the force shown in the table below to prevent buckling of the rod.

Maximum Load (lbs) to Prevent Buckling of the Rod									
Rod dia.	Rod Length								
	1"	5"	10"	15"	20"	25"	30"	35"	40"
1/8"	110	12	3	1.3					
3/16"	262	59	15	6.6	3.7				
1/4"	478	190	47	21	12	7.5			
5/16"	756	451	116	52	29	19	13		
3/8"	1091	786	240	106	60	38	27	20	
7/16"	1490	1184	444	197	111	71	49	36	28
1/2"	1950	1645	757	336	189	120	84	62	47
5/8"	3055	2750	1795	821	462	295	205	150	115
3/4"	4405	4100	3140	1700	950	613	425	312	240

Rod Thread	Bore Size	Series	Rod Size	Rod Flats
#5-40 UNC-2A	5/16	05	1/8	none
#10-32 UNF-2A	1/2	08	3/16	none
#10-32 UNF-2A	5/8	10	3/16	none
1/4-28 UNF-2A	3/4	12	1/4	.218
1/4-28 UNF-2A	7/8	14	1/4	.218
5/16-24 UNF-2A	1 1/16	17	5/16	.250
3/8-24 UNF-2A	1 1/4	20	3/8	.312
7/16-20 UNF-2A	1 1/2	24	7/16	.375
1/2-20 UNF-2A	1 3/4	28	1/2	.437
1/2-20 UNF-2A	2	32	5/8	.500
1/2-20 UNF-2A	2 1/2	40	5/8	.500
5/8-18 UNF-2A	3	48	3/4	.625

CUSTOM CYLINDERS

If your application requires a custom feature that you do not see in our catalog please contact our distributor in your area

for assistance. We manufacture a wide variety of special cylinders. Examples of our custom cylinder capabilities would include: stroke and rod modifications, special mounting configurations and ports, seal and lubrication options, integrated valving and adjustable stroke cylinders. We also provide application based special cylinder design for those customers having unique parameters.

FREE CYLINDER SAMPLE PROGRAM

We invite competitive comparisons. If you are an OEM that uses air cylinders, Clippard will provide a free sample for your evaluation. Contact us or your local distributor and ask for the "Free Sample Cylinder" request form.





POSITION SENSORS

Clippard pneumatic cylinders are available with a choice of magnetically operated position sensors. The magnetic reed switch or Hall Effect sensor... on cylinders equipped with magnetic piston option.

Hall Effect Position Sensors

Clippard Hall Effect sensors offer the user more accurate sensing of piston location for the ultimate in pneumatic system control.

The Hall Effect sensor operates with Clippard stainless steel pneumatic cylinders equipped with internal magnets on the pistons. By accurately sensing the magnetic field of the piston when it passes beneath the sensor, the position of the rod piston is determined, and a feedback signal is created. See page 60.



Reed Switches

The Clippard RS magnetic reed switches have power ranges to 25 watts, current up to 1.5 amperes and a rated lifespan of 10 million cycles. Plan to use them where the high performance of the Clippard HS Hall Effect switch is not required.

Two models are available: 36 volts or 200 volts AC/DC. Each is a SPST normally open configuration. When the cylinder's magnet-equipped piston moves to a location where the magnet is positioned below the reed switch, the switch sends a feedback signal to indicate piston location. In the 36 VDC model, an LED provides switch closing indication. See page 60.



ACCESSORIES

Mounting Hardware

For efficient power and easy mounting, Clippard has designed and manufactured brackets suitable for each cylinder shown in this catalog.

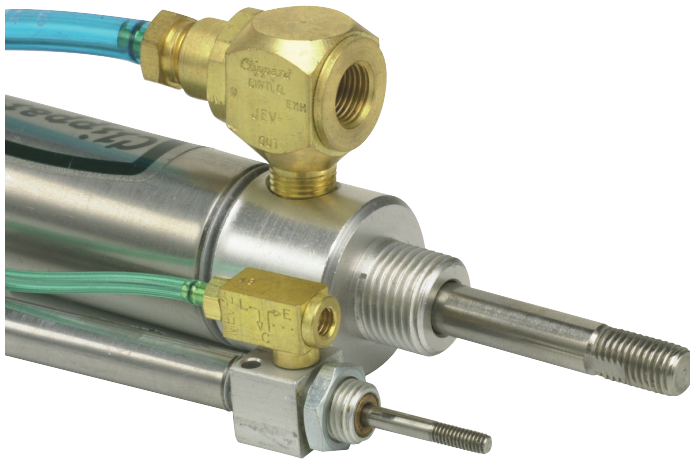
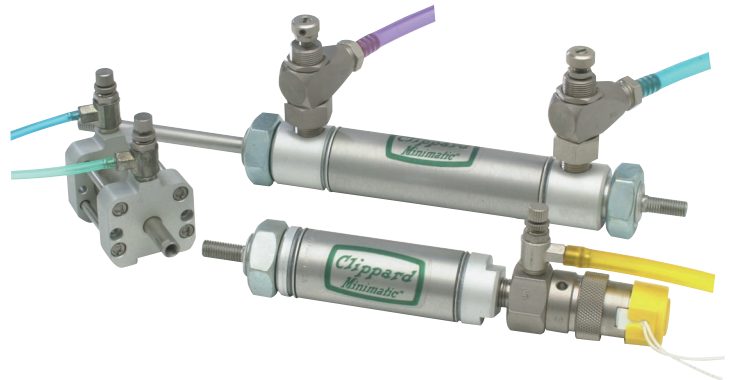
These products are shown on the last page of each corresponding bore size and include clevis mounting brackets, foot mounting brackets, rod clevis assemblies and rod eye assemblies. Extra mounting nuts are available.



Flow Controls

Clippard offers a large variety of flow controls and needle valves for adjusting the speed of the cylinder. Several models are available from fine adjustments to coarse adjustments in a variety of mounting configurations.

See page 11, 154 - 155



Quick Exhaust Valves

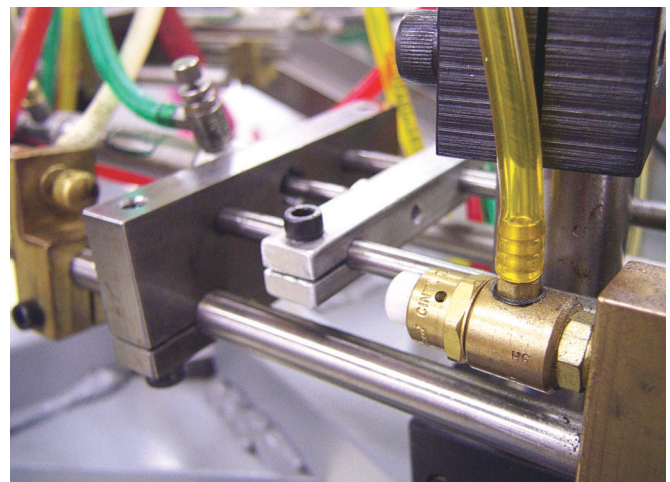
The primary function of a quick exhaust valve is to increase cylinder speed. This also enables the use of smaller directional valves and longer control lines. Offered with several port configurations from 10-32 models up to 1/4 inch.

See page 164, 165

Limit Valves

A limit valve is the best way to have a mechanical limit to return air signals to control valves or circuits. Clippard offers limit valves in ports ranging from 3-56 up to 1/8 NPT, high force and heavy duty limits as well as non-contact sensing valves.

See page 106 - 129





5/16" BORE STAINLESS STEEL CYLINDER

SSR-05-□-□

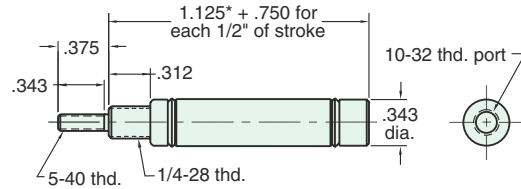
Single Acting

Mount: Stud
Type: Rotating Rod
Options: B, H, V, S, N

Standard Stroke Lengths: 1/2, 1, 1-1/2, 2, 3, 4
Spring Compressed: 1 lbs. **Spring At Rest:** 0.5 lbs.

*For bumpers add .250

For S option add .220



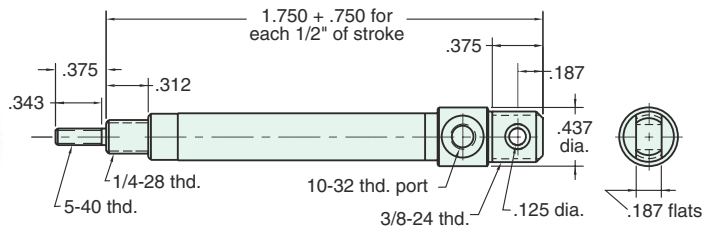
USR-05-□-□

Single Acting

Mount: Universal
Type: Rotating Rod
Options: B, H, V, N

Standard Stroke Lengths: 1/2, 1, 1-1/2, 2, 3, 4
Spring Compressed: 1 lbs. **Spring At Rest:** 0.5 lbs.

For bumpers add .250



SDR-05-□-□

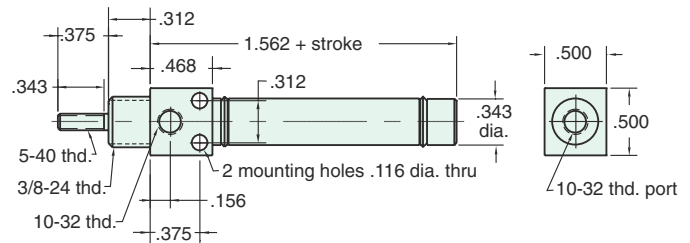
Double Acting

Mount: Stud
Type: Rotating Rod
Options: B, V, P6, P7, P8, S, N

Standard Stroke Lengths: 1/2, 1, 1-1/2, 2, 3, 4

For bumpers add .250

For S option add .220



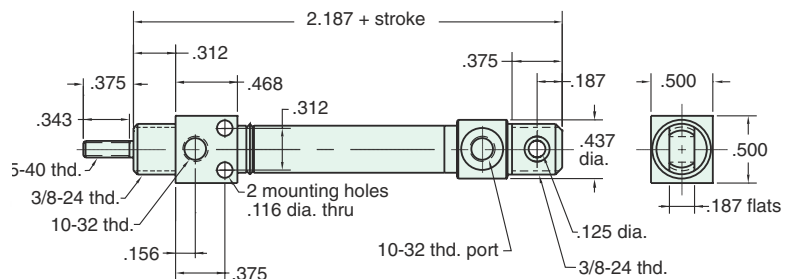
UDR-05-□-□

Double Acting

Mount: Universal
Type: Rotating Rod
Options: B, V, P2, P3, P4, P5, P6, P7, P8, N

Standard Stroke Lengths: 1/2, 1, 1-1/2, 2, 3, 4

For bumpers add .250



5/16" BORE STAINLESS STEEL CYLINDER



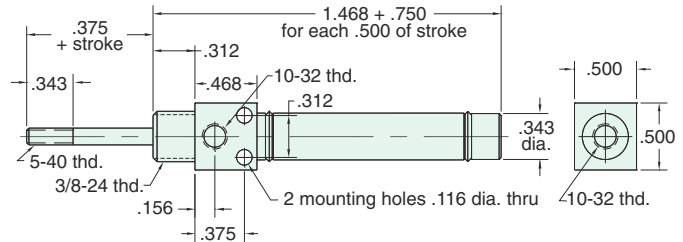
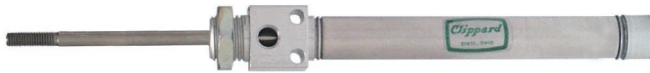
SRR-05-□-□

Reverse Acting

Mount: Stud
Type: Rotating Rod
Options: B, H, V, N

Standard Stroke Lengths: 1/2, 1, 1-1/2, 2, 3, 4
Spring Compressed: 1 lbs. **Spring At Rest:** 0.5 lbs.

For bumpers add .250



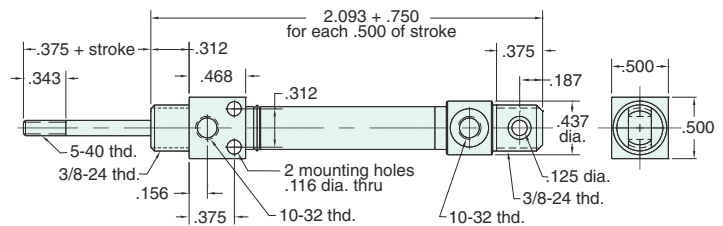
URR-05-□-□

Reverse Acting

Mount: Universal
Type: Rotating Rod
Options: B, H, V, P2, P3, P4, P5, P6, P7, P8, N

Standard Stroke Lengths: 1/2, 1, 1-1/2, 2, 3, 4
Spring Compressed: 1 lbs. **Spring At Rest:** 0.5 lbs.

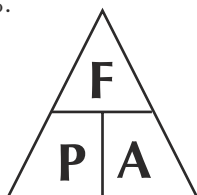
For bumpers add .250



FORCE FACTOR

The "force factor" is the nominal area of the cylinder bore size. The chart to the right provides theoretical forces in both the extend and retract stroke of all available bore sizes.

These values are theoretical and make no allowance for friction which varies with the bore size. It is recommended that a 25% safety factor be allowed when selecting a cylinder bore for normal load movement. In high speed applications that number should be at least 40%.

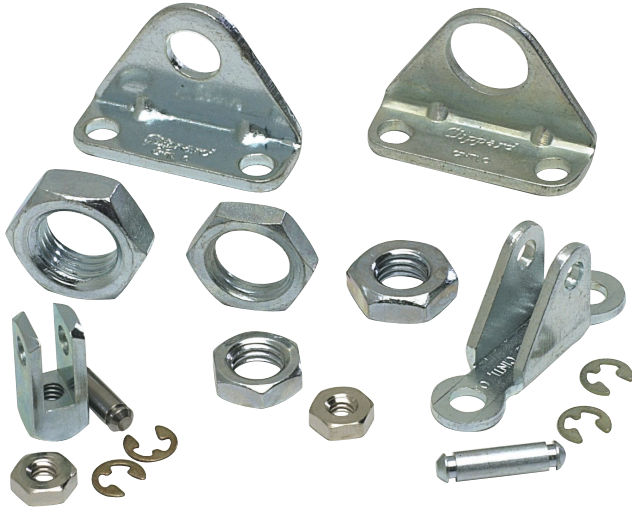


The extend and retract values differ due to the rod diameter.

Bore Size	1/2	5/8	3/4	7/8	1-1/16	1-1/4	1-1/2	1-3/4	2	2-1/2	3	
Force Factor - Extend (area)	.07	.19	.31	.44	.60	.88	1.2	1.7	2.4	3.1	4.9	7.0
Force Factor - Retract (area)	.06	.16	.28	.39	.55	.80	1.09	1.55	2.2	2.9	4.59	6.56
20 PSI - Extend (lbs)	1.4	3.8	6.2	8.8	12.	17.6	24.	34.	48.	62.	98.	140.
20 PSI - Retract (lbs)	1.16	3.25	5.65	7.82	11.02	16.07	21.79	31.	44.07	58.07	91.86	131.16
50 PSI - Extend (lbs)	3.5	9.5	15.5	22.	30.	44.	60.	85.	120.	155.	245.	350.
50 PSI - Retract (lbs)	2.9	8.13	14.13	19.55	27.55	40.17	54.48	77.5	110.18	145.18	229.66	327.91
80 PSI - Extend (lbs)	5.6	15.2	24.8	35.2	48.	70.4	96.	136.	192.	248.	392.	560.
80 PSI - Retract (lbs)	4.64	13.	22.6	31.27	44.07	64.26	87.17	124.	176.29	232.29	367.46	524.66



5/16" BORE ACCESSORIES



MOUNTING NUTS

Stud Nut

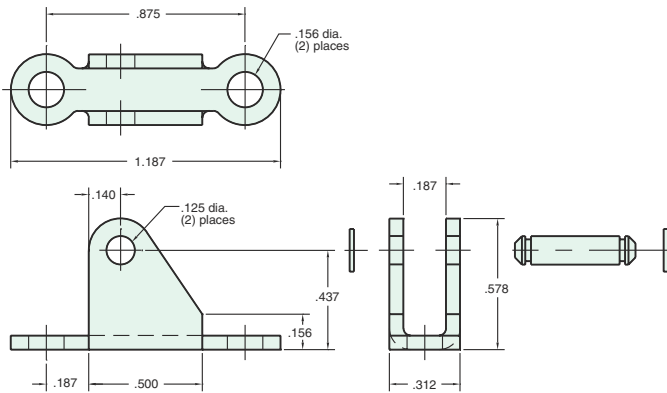
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N04-28A	7/16	5/32	1/4-28
N04-28B	3/8	1/8	1/4-28
N06-24A	9/16	7/32	3/8-24
N06-24B	1/2	1/8	3/8-24

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N02-40	1/4	3/32	5-40

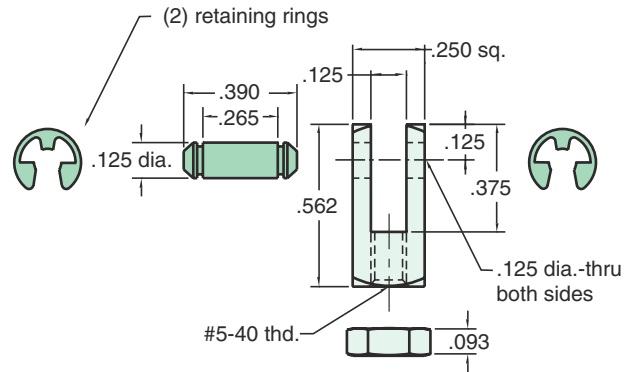
CB-0595

Clevis Bracket
Material: steel, bright zinc plated



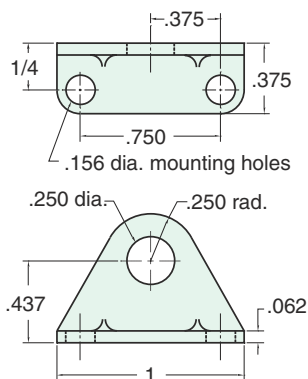
RC-0581

Rod Clevis
Material: steel, bright zinc plated



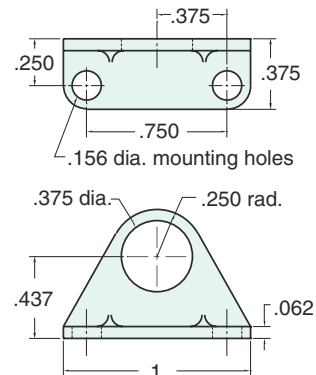
FB-0591

Foot Bracket
Material: steel, bright zinc plated



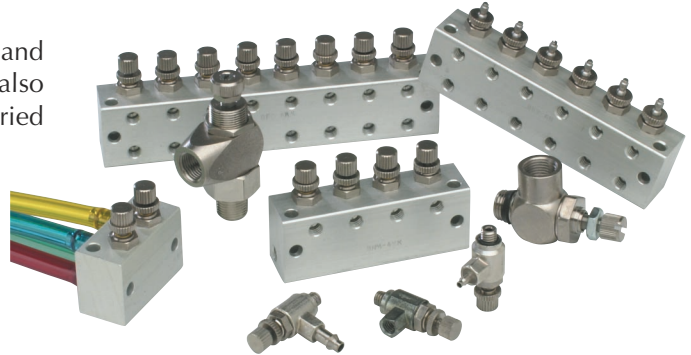
FB-0592

Foot Bracket
Material: steel, bright zinc plated



Flow Controls

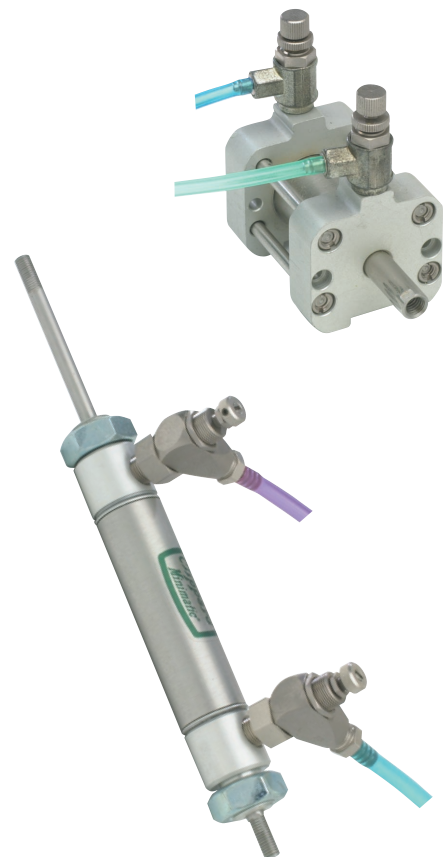
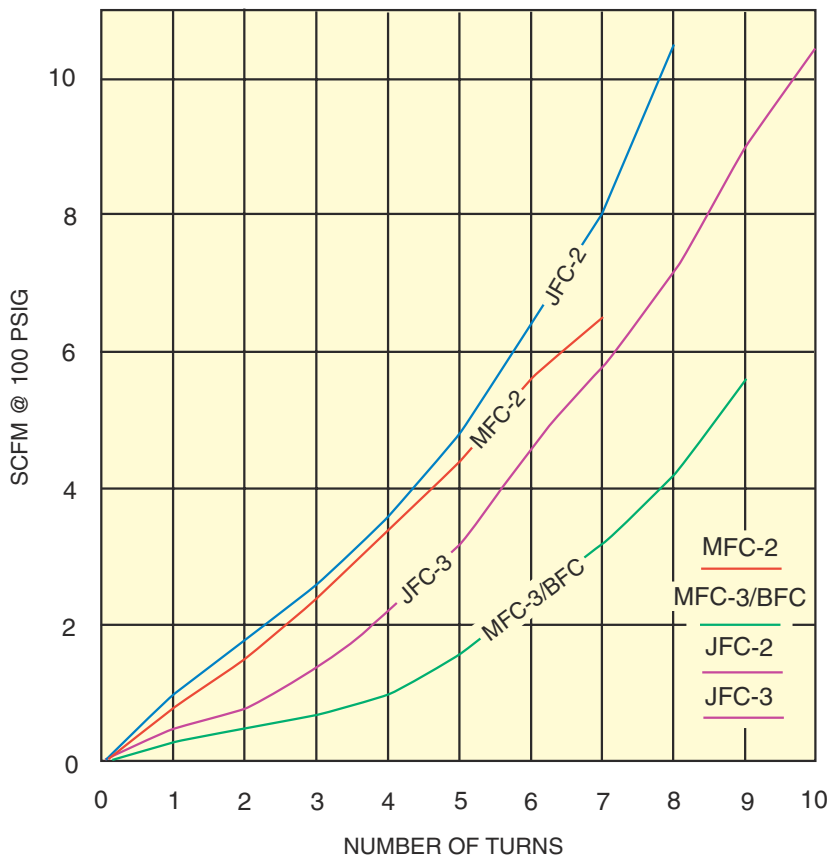
Clippard provides a full range of stainless steel cylinders and Minimatic® cylinders. To compliment this offering, we also manufacture a variety of flow controls to meet the varied needs of our customers. Large and small alike, cylinders often need speed controls, and Clippard flow controls provide that needed control. From the MFC series (#10-32 ports) to JFC series (1/8" NPT ports) flow controls are designed for ease of use either directly installed in the cylinder ports, or remotely (in-line or subplate) mounted.



Clippard also offers a BFC (Block Flow Control) series of flow control valves. This product combines the features of our standard MFC series valve with a manifold-mount configuration to enable the use of up to 8 flow controls in one body.

Whether you are remotely controlling the speed of up to eight miniature cylinders, or just like the convenience of all the speed controls in one place, this series flow control is the right product for the application!

Flow Controls Flow vs. Needle Turns



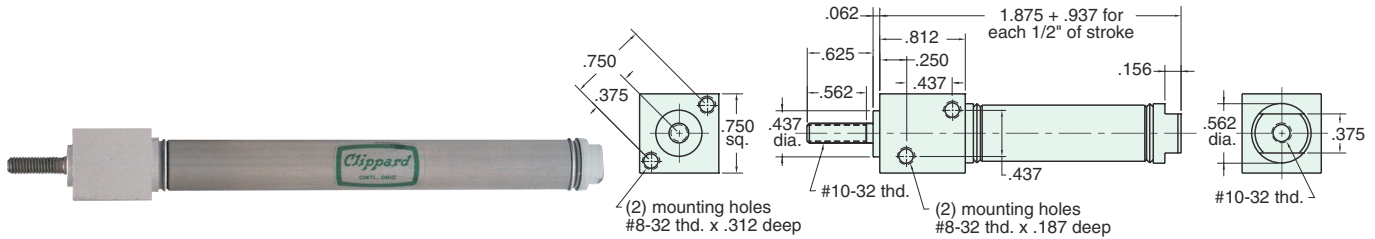


1/2" BORE STAINLESS STEEL CYLINDER

FSR-08-□-□

Single Acting

Mount: Front **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 2 lbs. **Spring At Rest:** 0.9 lbs.
Options: MB, B, H, V, S, N For bumpers add .500" For magnetic bumpers add .812
For S option add .187



SSN-08-□-□

Single Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Non-Rotating Rod **Spring Compressed:** 2 lbs. **Spring At Rest:** 0.9 lbs.
Options: MB, B, H, V, S, N For bumpers add .500" For magnetic bumpers add .812
For S option add .187



SSR-08-□-□

Single Acting

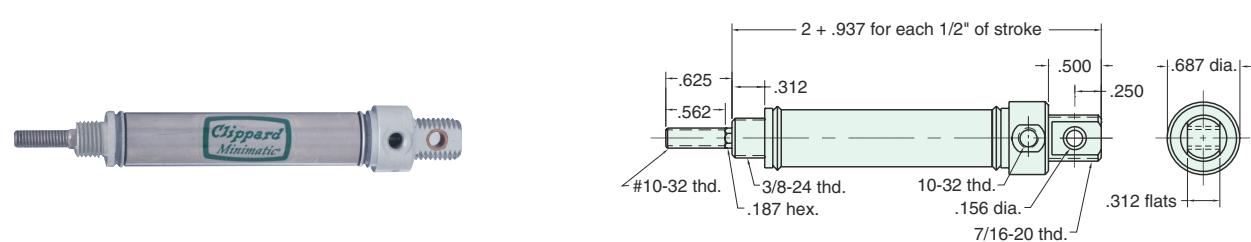
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 2 lbs. **Spring At Rest:** 0.9 lbs.
Options: MB, B, H, V, S, N For bumpers add .500" For magnetic bumpers add .812
For S option add .187



USN-08-□-□

Single Acting

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s)
See chart on page 15
Type: Non-Rotating Rod **Spring Compressed:** 2 lbs. **Spring At Rest:** 0.9 lbs. Bumpers add .500
Options: MB, B, H, V, P6, N For magnetic bumpers add .812



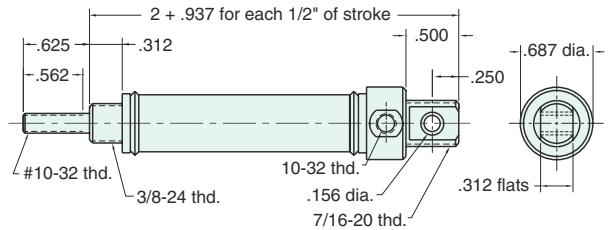
1/2" BORE STAINLESS STEEL CYLINDER



USR-08-□-□

Single Acting

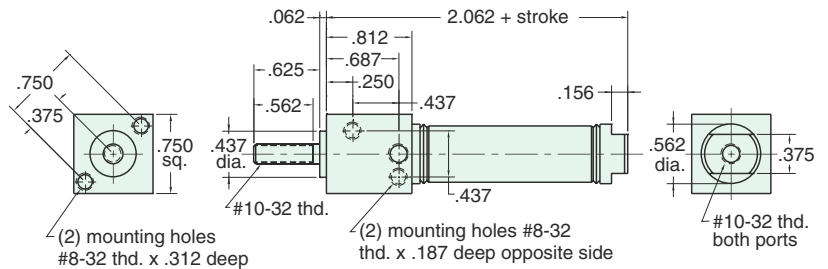
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 15
Type: Rotating Rod **Spring Compressed:** 2 lbs. **Spring At Rest:** 0.9 lbs.
Options: MB, B, H, V, P6, N Bumpers add .500 For magnetic bumpers add .812



FDR-08-□-□

Double Acting

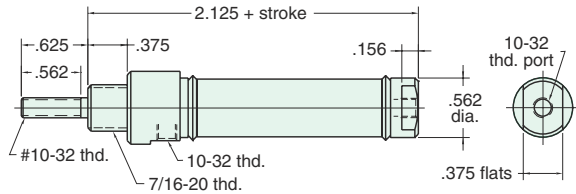
Mount: Front **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Bumpers add .500 For magnetic bumpers add .812
Type: Rotating Rod For S option add .187
Options: MB, B, V, P6, P7, P8, S, N



SDR-08-□-□

Double Acting

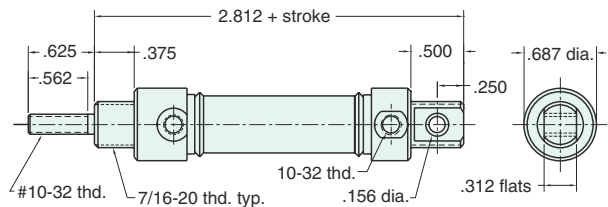
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Bumpers add .500 For magnetic bumpers add .812
Type: Rotating Rod For S option add .187
Options: MB, B, V, P6, P7, P8, S, N



UDR-08-□-□

Double Acting

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 15
Type: Rotating Rod Bumpers add .500 For magnetic bumpers add .812
Options: MB, B, V, P2, P3, P4, P5, P6, P7, P8, N





1/2" BORE STAINLESS STEEL CYLINDER

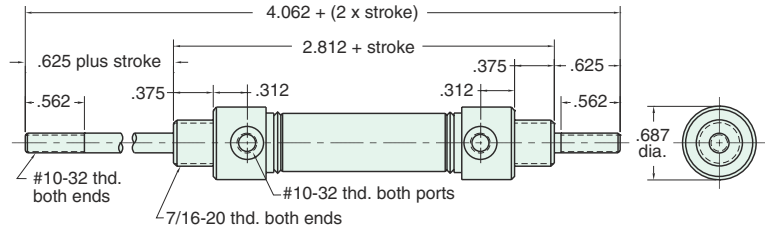
SDD-08-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Double Rod
Options: MB, B, V, P6, P7, P8, N

For bumpers add .500

For Magnetic Bumper add .812



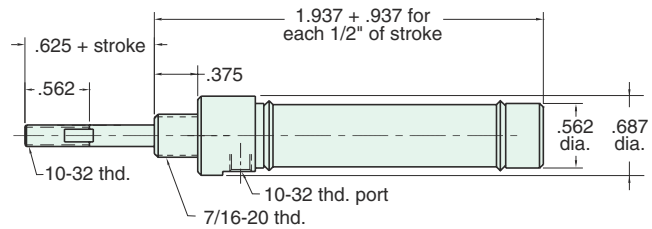
SRR-08-□-□

Reverse Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod
Options: MB, B, H, V, N

For bumpers add .500

For Magnetic Bumper add .812



URR-08-□-□

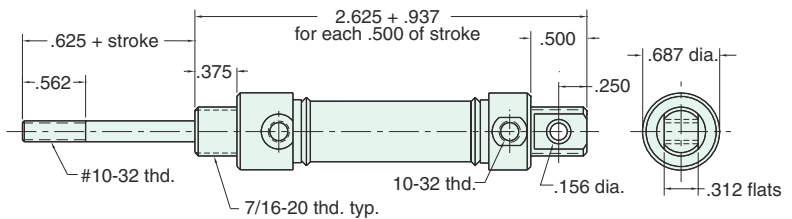
Reverse Acting

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod
Options: MB, B, H, V, P6, P7, P8, N

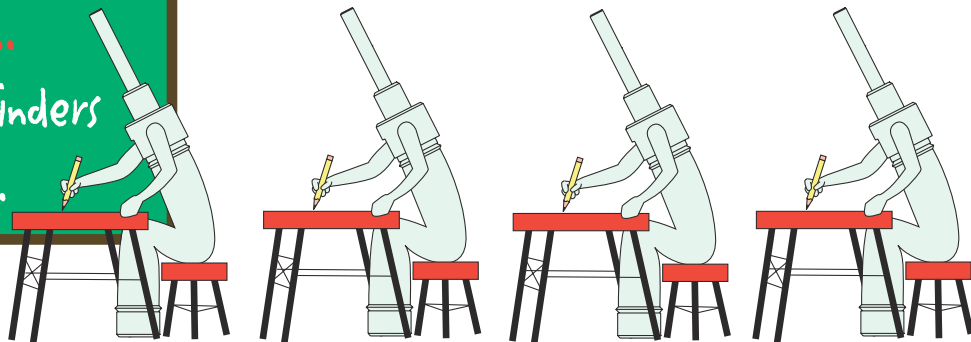
Furnished without nut(s)
See chart on page 15

For bumpers add .500

For Magnetic Bumper add .812



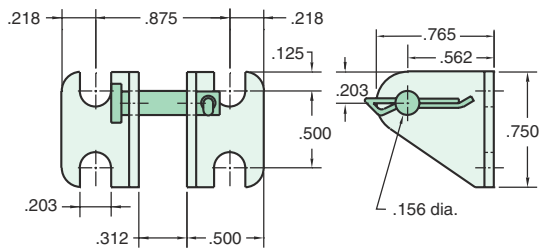
Did you know...
 All Clippard Cylinders
 are 100% tested.





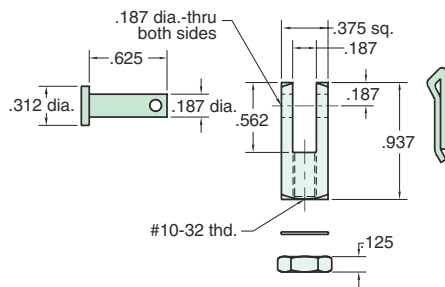
CB-0895

Clevis Bracket
Material: steel, bright zinc plated



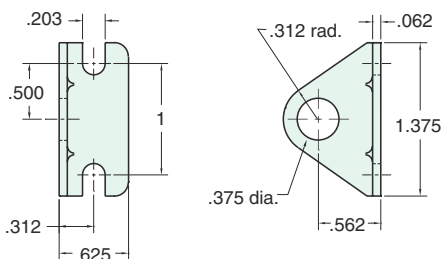
RC-0881

Rod Clevis
Material: steel, bright zinc plated



FB-0891

Foot Bracket
Material: steel, bright zinc plated



MOUNTING NUTS

Stud Nut

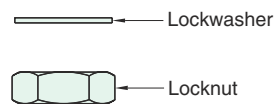
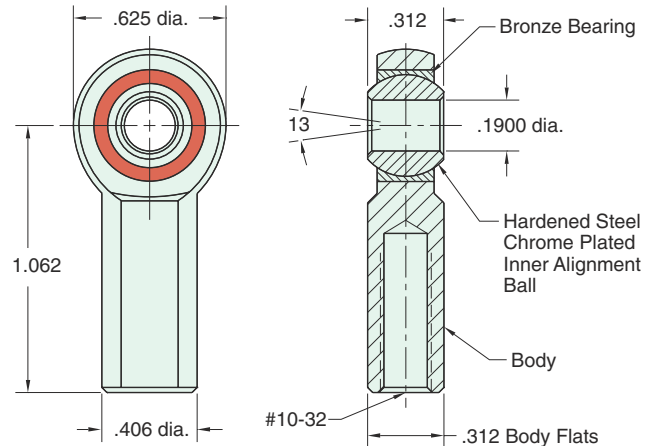
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N06-24A	9/16	7/32	3/8-24
N06-24B	1/2	1/8	3/8-24
N07-20	11/16	1/4	7/16-20

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N03-32	3/8	1/8	10-32

RE-0885

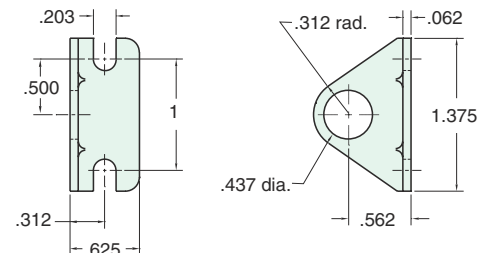
Rod End
Material: steel, bright zinc plated body



Max. Static Radial Load: 1624 lbs.
Fits Rod Thread Size: #10-32

FB-0892

Foot Bracket
Material: steel, bright zinc plated



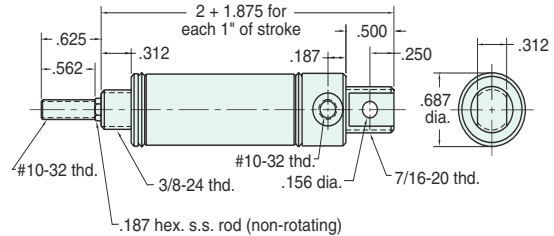


5/8" BORE STAINLESS STEEL CYLINDER

USN-10-□-□

Single Acting

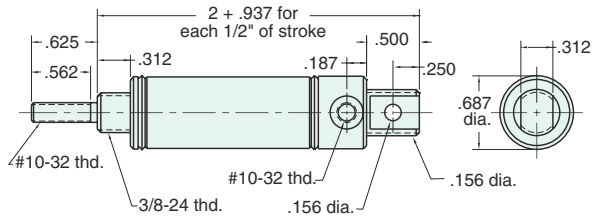
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 19
Type: Non-Rotating Rod **Spring Compressed:** 4 lbs. **Spring At Rest:** 1.3 lbs.
Options: MB, B, H, V, P6, N Bumpers add .500 For magnetic bumpers add .812



USR-10-□-□

Single Acting

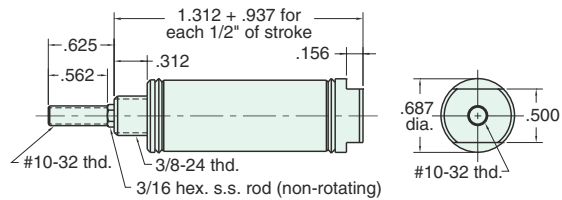
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 19
Type: Rotating Rod **Spring Compressed:** 4 lbs. **Spring At Rest:** 1.3 lbs.
Options: MB, B, H, V, P6, N Bumpers add .500 For magnetic bumpers add .812



SSN-10-□-□

Single Acting

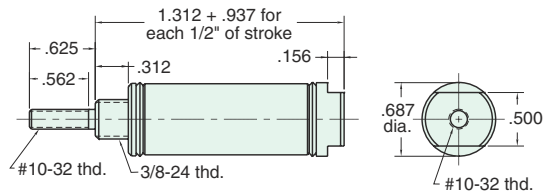
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 19
Type: Non-Rotating Rod **Spring Compressed:** 4 lbs. **Spring At Rest:** 1.3 lbs.
Options: MB, B, H, V, S, N For bumpers add .500 For magnetic bumpers add .812



SSR-10-□-□

Single Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 19
Type: Rotating rod **Spring Compressed:** 4 lbs. **Spring At Rest:** 1.3 lbs.
Options: MB, B, H, V, S, N For bumpers add .500 For magnetic bumpers add .812



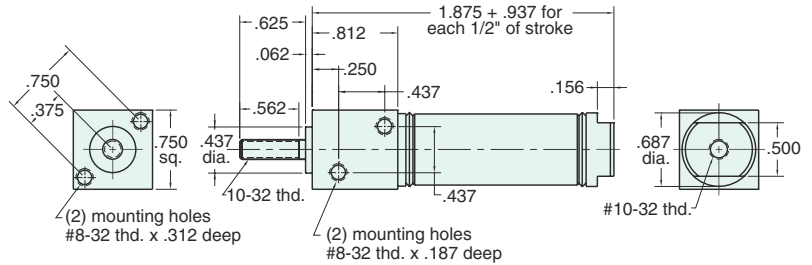
5/8" BORE STAINLESS STEEL CYLINDER



FSR-10-□-□

Single Acting

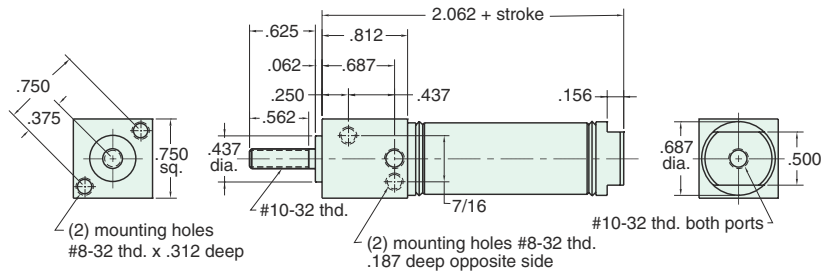
Mount: Front **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 4 lbs. **Spring At Rest:** 1.3 lbs.
Options: MB, B, H, V, S, N For bumpers add .500 For magnetic bumpers add .812
 For S option add .187



FDR-10-□-□

Double Acting

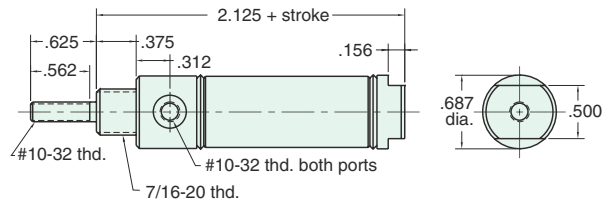
Mount: Front **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod
Options: MB, B, V, P6, P7, P8, S, N For bumpers add .500
 For magnetic bumpers add .812
 For S option add .187



SDR-10-□-□

Double Acting

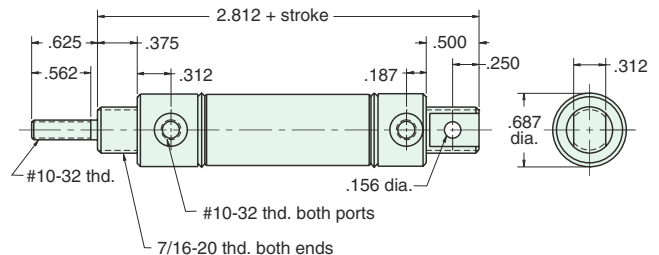
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod
Options: MB, B, V, P6, P7, P8, S, N For bumpers add .500
 For magnetic bumpers add .812
 For S option add .187



UDR-10-□-□

Double Acting

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod
Options: MB, B, V, P2, P3, P4, P5, P6, P7, P8, N For bumpers add .500
 For magnetic bumpers add .812





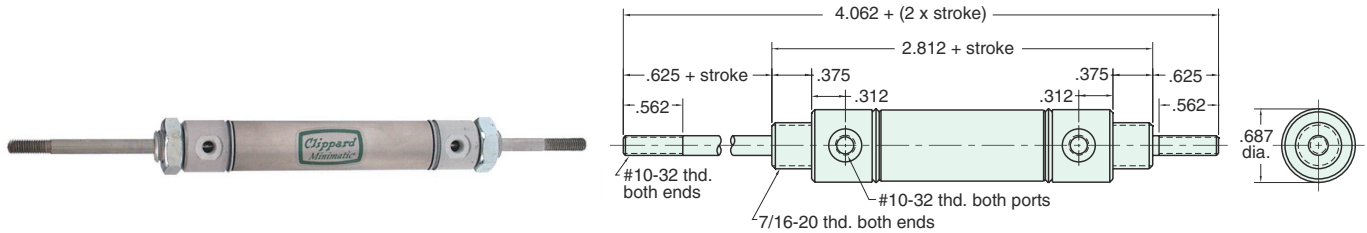
5/8" BORE STAINLESS STEEL CYLINDER

SDD-10-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Double Rod
Options: MB, B, V, P6, P7, P8, N

For bumpers add .500
 For magnetic bumpers add .812

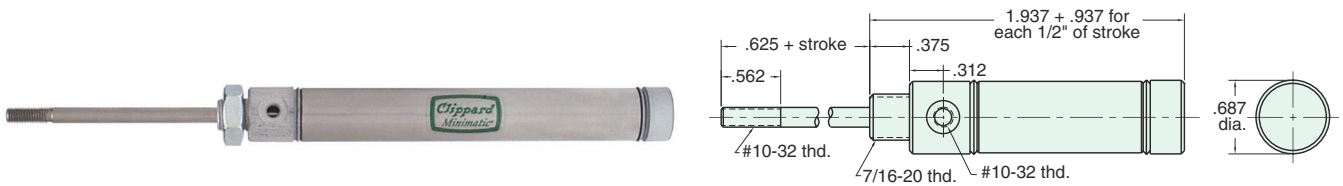


SRR-10-□-□

Reverse Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 4 lbs. **Spring At Rest:** 1.3 lbs.
Options: MB, B, H, V, N

For bumpers add .500

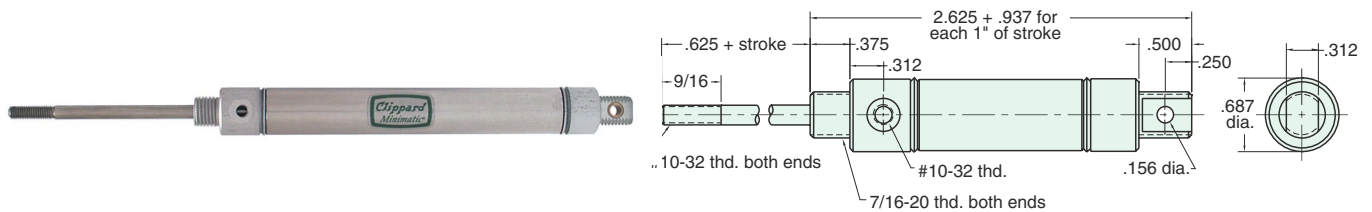


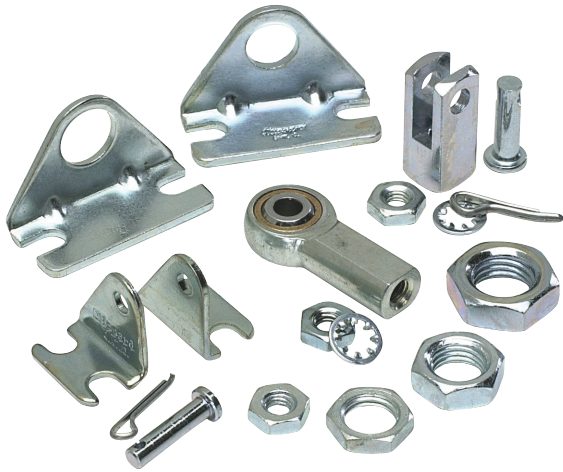
URR-10-□-□

Reverse Acting

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 4 lbs. **Spring At Rest:** 1.3 lbs.
Options: MB, B, H, V, P6, N

Furnished without nut(s)
 See chart on page 19





MOUNTING NUTS

Stud Nut

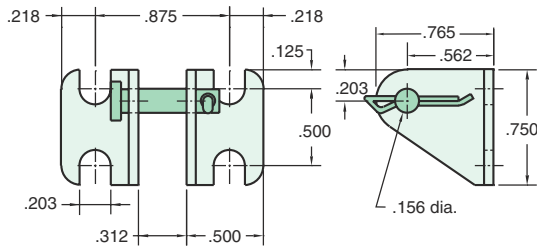
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N06-24A	9/16	7/32	3/8-24
N06-24B	1/2	1/8	3/8-24
N07-20	11/16	1/4	7/16-20

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N03-32	3/8	1/8	10-32

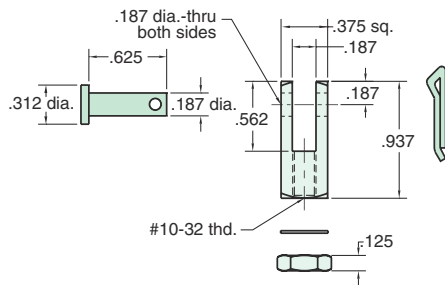
CB-0895

Clevis Bracket
Material: steel, bright zinc plated



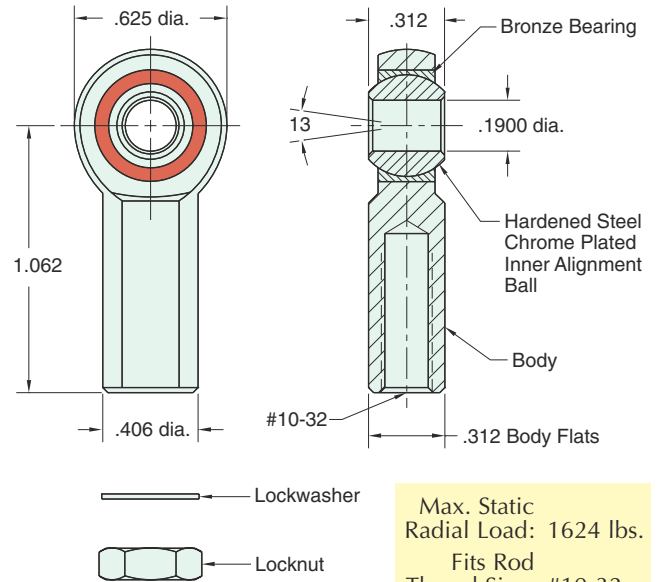
RC-0881

Rod Clevis
Material: steel, bright zinc plated



RE-0885

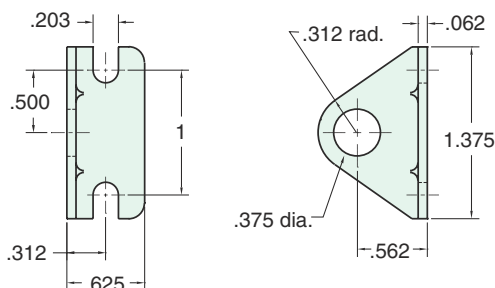
Rod End
Material: steel, bright zinc plated body



Max. Static Radial Load: 1624 lbs.
Fits Rod Thread Size: #10-32

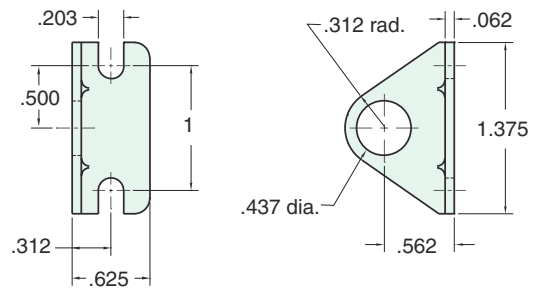
FB-0891

Foot Bracket
Material: steel, bright zinc plated



FB-0892

Foot Bracket
Material: steel, bright zinc plated





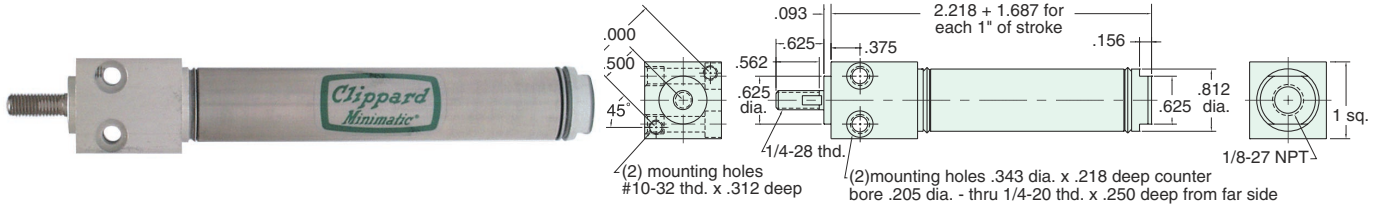
3/4" BORE STAINLESS STEEL CYLINDER

FSR-12-□-□

Single Acting

Mount: Front **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, V, S, N For bumpers add .500 For magnetic bumpers add .812

For S option add .437

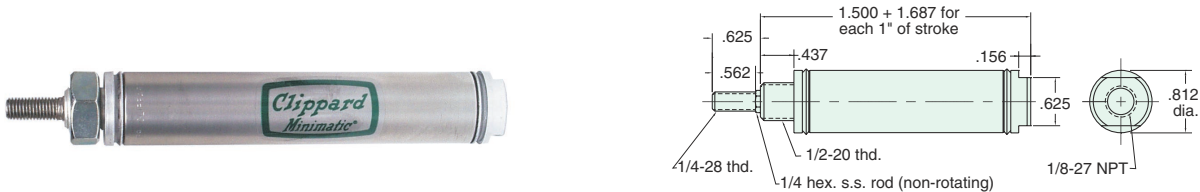


SSN-12-□-□

Single Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Non-Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, V, S, N For bumpers add .500 For magnetic bumpers add .812

For S option add .437

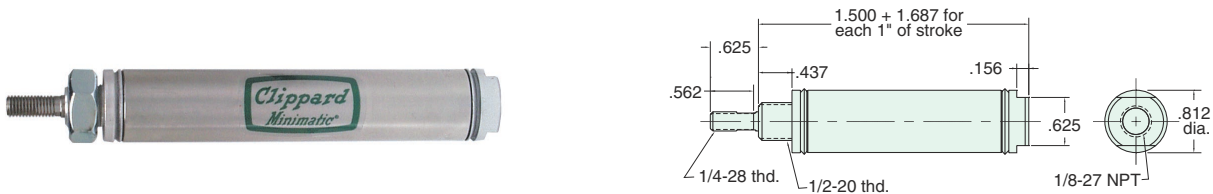


SSR-12-□-□

Single Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, V, S, N For bumpers add .500 For magnetic bumpers add .812

For S option add .437

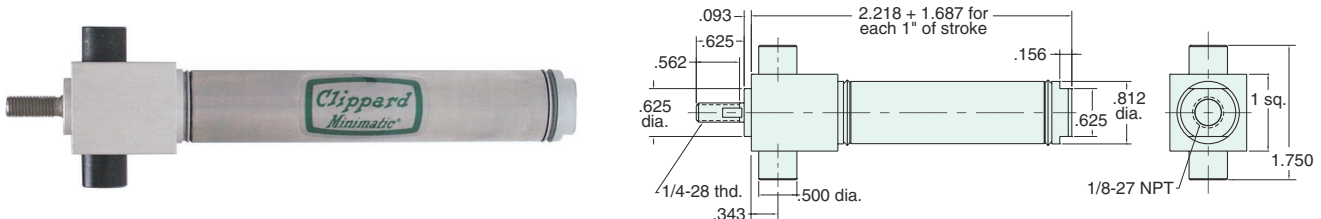


TSR-12-□-□

Single Acting

Mount: Trunnion **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, V, S, N For bumpers add .500 For magnetic bumpers add .812

For S option add .437



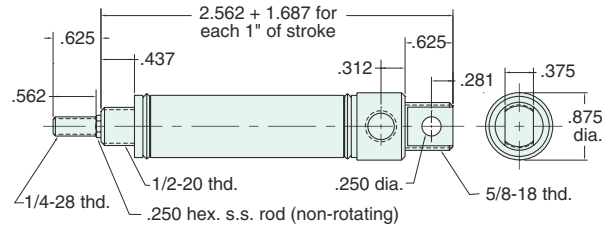
3/4" BORE STAINLESS STEEL CYLINDER



USN-12-□-□

Single Acting

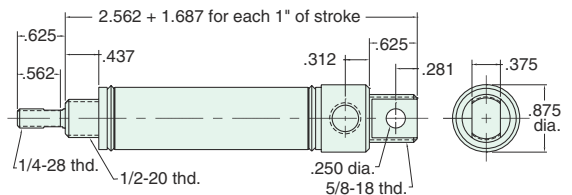
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 25
Type: Non-Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, V, P6, N For bumpers add .500 For magnetic bumpers add .812



USR-12-□-□

Single Acting

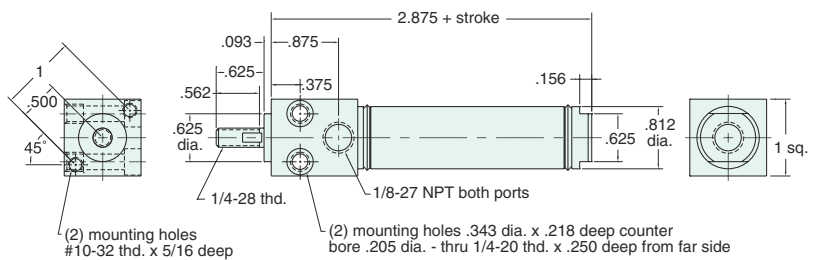
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 25
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, V, P6, N For bumpers add .500 For magnetic bumpers add .812



FDR-12-□-□

Double Acting

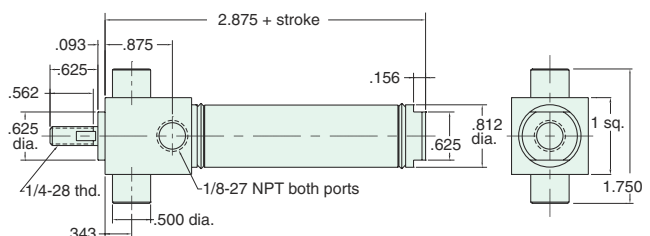
Mount: Front **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6 For bumpers add .500 For magnetic bumpers add .812 For S option add .437
Type: Rotating Rod
Options: MB, B, W, V, P6, P7, P8, S, N



TDR-12-□-□

Double Acting

Mount: Trunnion **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6 For bumpers add .500 For magnetic bumpers add .812 For S option add .437
Type: Rotating Rod
Options: MB, B, W, V, S, N



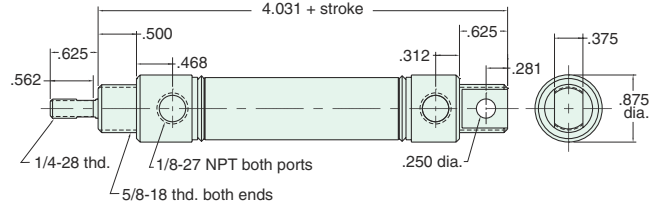


3/4" BORE STAINLESS STEEL CYLINDER

UDR-12-□-□

Double Acting

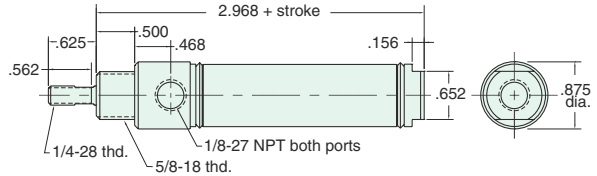
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating rod **Options:** C, F, R, MB, B, W, V, P2, P3, P4, P5, P6, P7, P8, M, N
 Furnished without nut(s) See chart on page 25
 For bumpers add .500 For magnetic bumpers add .812
 For magnet add .312



SDR-12-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6
Type: Rotating Rod **Options:** C, F, R, MB, B, W, V, P6, P7, P8, S, M, N
 For bumpers add .500 For magnetic bumpers add .812
 For C, F, R & S options add .437 For magnet add .312

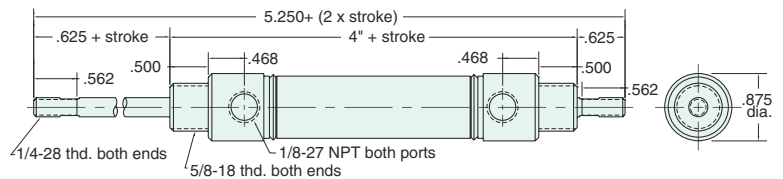


For C, F, & R options use side ported rear head

SDD-12-□-□

Double Acting

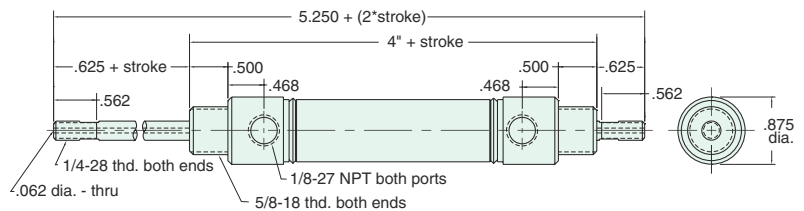
Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6
Type: Double Rod **Options:** C, F, MB, B, W, V, P6, P7, P8, M, N
 Bumpers add .500 For magnetic bumpers add .812
 For CM, FM add .312



SDH-12-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6
Type: Hollow Rod **Options:** C, F, MB, B, W, V, P6, P7, P8, M, N
 For bumpers add .500 For magnetic bumpers add .812
 For CM, FM add .312



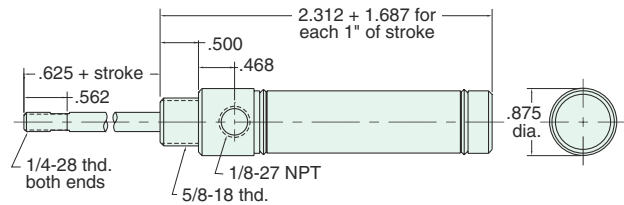
3/4" BORE STAINLESS STEEL CYLINDER



SRR-12-□-□

Reverse Acting

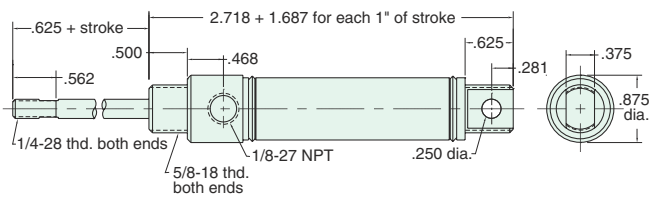
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, W, V, N For bumpers add .375
 For magnetic bumpers add .687



URR-12-□-□

Reverse Acting

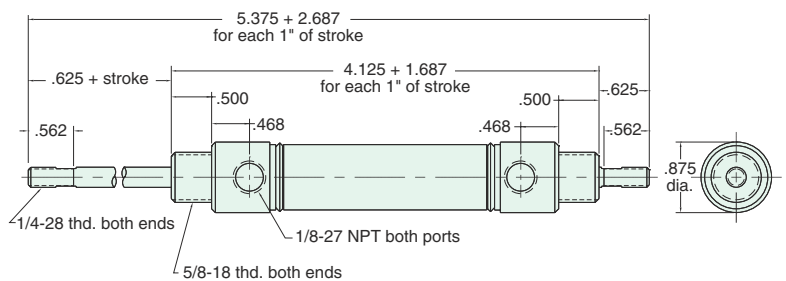
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s)
See chart on page 25
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, W, V, P6, N For bumpers add .500
 For magnetic bumpers add .812



SFD-12-□-□

Double Acting, Spring Bias

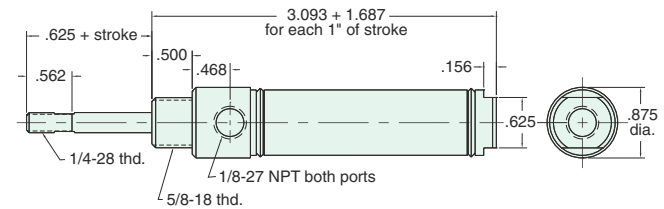
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Double Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, W, V, P6, P7, P8, N For bumpers add .375
 For magnetic bumpers add .687



SBR-12-□-□

Double Acting, Rear Spring Bias

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, W, V, P6, P7, P8, S, N For bumpers add .375
 For magnetic bumpers add .687
 For S option add .437





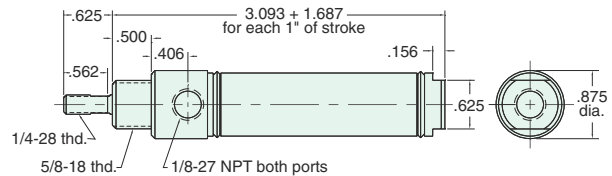
3/4" BORE STAINLESS STEEL CYLINDER

SFR-12-□-□

Double Acting, Front Spring Bias

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, W, V, P6, P7, P8, S, N

For bumpers add .375
 For magnetic bumpers add .687
 For S option add .437

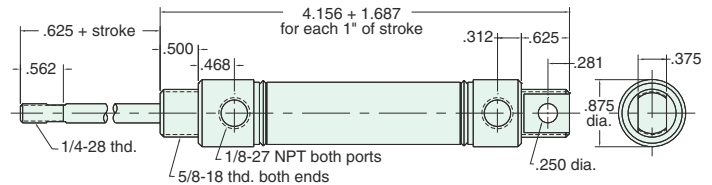


UBR-12-□-□

Double Acting, Rear Spring Bias

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, W, V, P2, P3, P4, P5, P6, P7, P8, N

For bumpers add .375
 For magnetic bumpers add .687

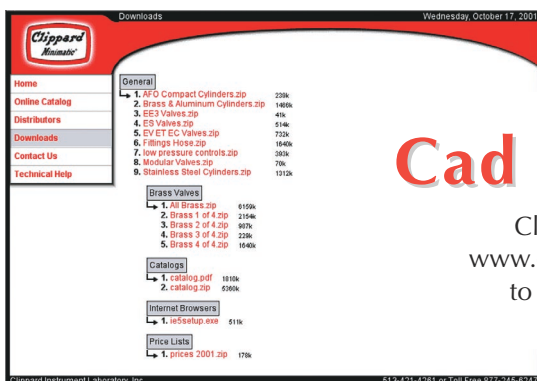
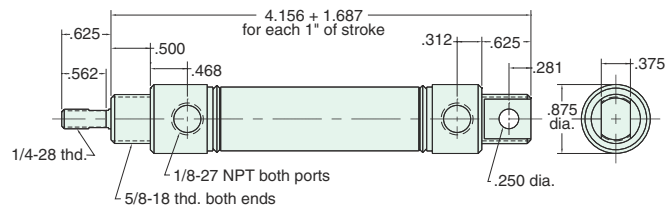


UFR-12-□-□

Double Acting, Front Spring Bias

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, B, H, W, V, P2, P3, P4, P5, P6, P7, P8, N

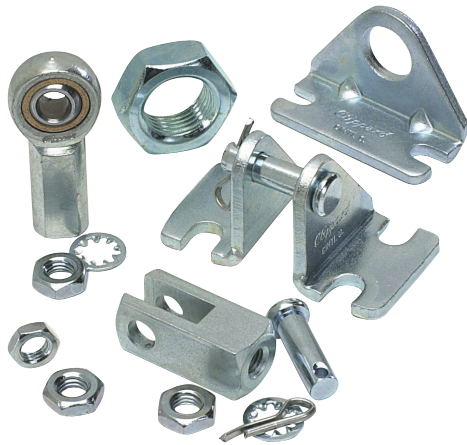
For bumpers add .375
 For magnetic bumpers add .687



visit our site at www.clippard.com

Cad Files:

Clippard offers all of our products in CAD format at our website, www.clippard.com. Download the files and insert them into your design to save time and money. CD's are available upon special request.



MOUNTING NUTS

Stud Nut

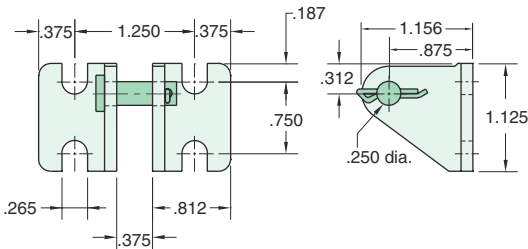
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N08-20	3/4	5/16	1/2-20
N10-18	15/16	3/8	5/8-18

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N04-28A	7/16	5/32	1/4-28
N04-28B	3/8	1/8	1/4-28

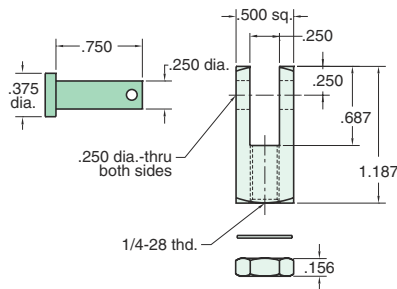
CB-1795

Clevis Bracket
Material: steel, bright zinc plated



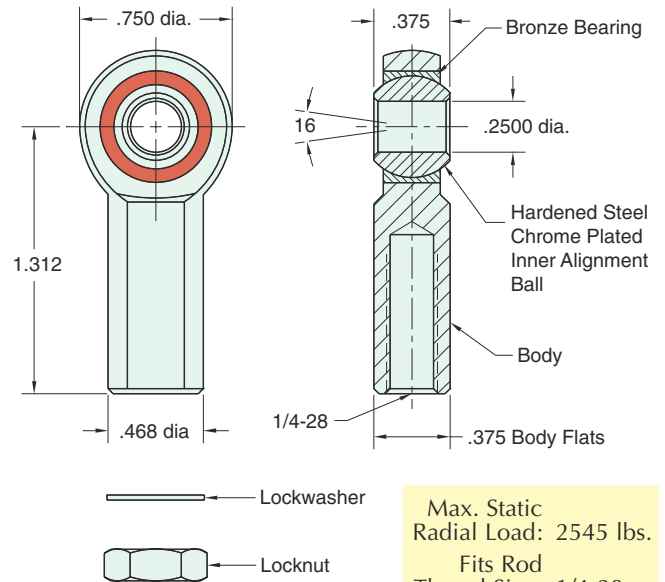
RC-1281

Rod Clevis
Material: steel, bright zinc plated



RE-1285

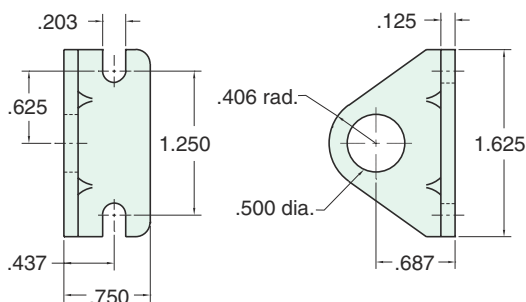
Rod End
Material: steel, bright zinc plated body



Max. Static Radial Load: 2545 lbs.
Fits Rod Thread Size: 1/4-28

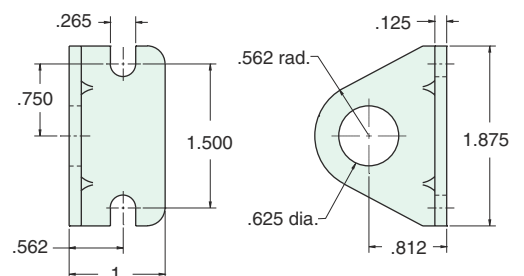
FB-1291

Foot Bracket
Material: steel, bright zinc plated



FB-1791

Foot Bracket
Material: steel, bright zinc plated





7/8" BORE STAINLESS STEEL CYLINDER

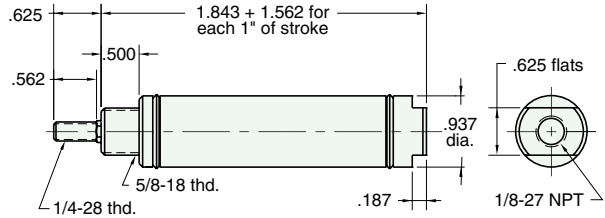
SSN-14-□-□

Single Acting



Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Non-Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, H, V, S, N **Bumpers are standard** For magnetic bumpers add .312

For S option add .281



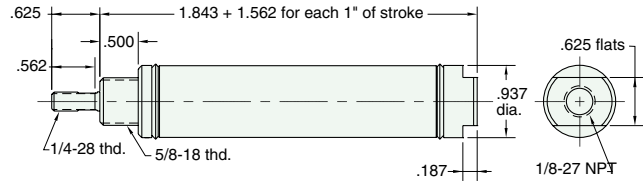
SSR-14-□-□

Single Acting



Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, H, V, S, N **Bumpers are standard** For magnetic bumpers add .312

For S option add .281

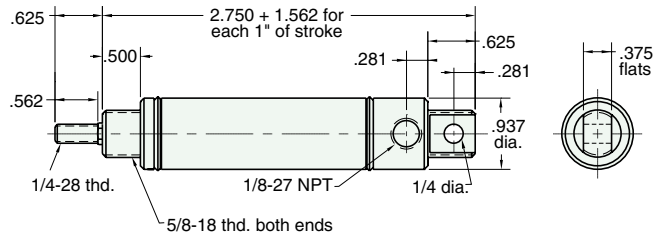


USN-14-□-□

Single Acting



Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 29
Type: Non-Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, H, V, P2, P3, P4, P5, P6, P7, P8, N **Bumpers are standard** For magnetic bumpers add .312

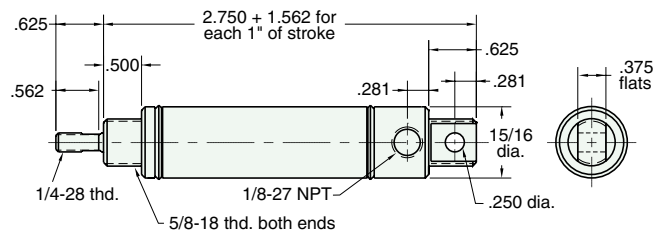


USR-14-□-□

Single Acting



Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 29
Type: Rotating Rod **Spring Compressed:** 6 lbs. **Spring At Rest:** 3 lbs.
Options: MB, H, V, P2, P3, P4, P5, P6, P7, P8, N **Bumpers are standard** For magnetic bumpers add .312



7/8" BORE STAINLESS STEEL CYLINDER



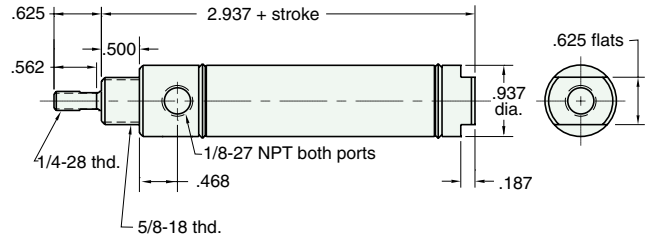
SDR-14-□-□

Double Acting



Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6
Type: Rotating Rod
Options: C, F, R, MB, W, V, P6, P7, P8, S, N

Bumpers are standard
 For magnetic bumpers add .312
 For C, F, R and S option add .281



For C, F, & R options use side ported rear head

UDR-14-□-□

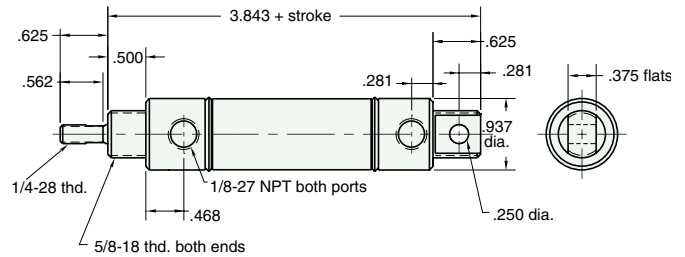
Double Acting



Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6
Type: Rotating Rod
Options: C, F, R, MB, W, V, P2, P3, P4, P5, P6, P7, P8, N

Furnished without nut(s)
 See chart on page 29

Bumpers are standard
 For magnetic bumpers add .312



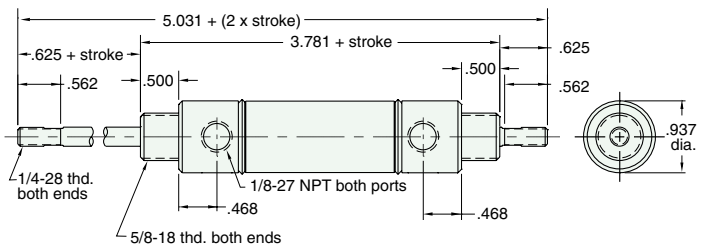
SDD-14-□-□

Double Acting



Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6
Type: Double Rod
Options: C, F, MB, W, V, P6, P7, P8, N

Bumpers are standard
 For magnetic bumpers add .312



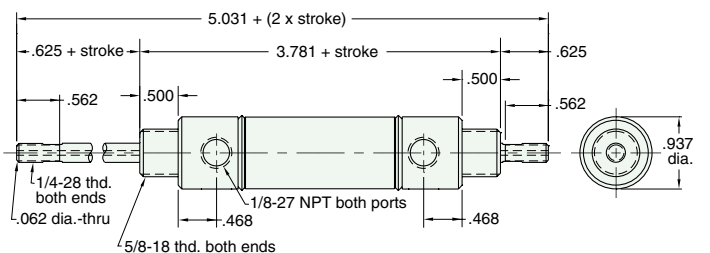
SDH-14-□-□

Double Acting



Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6
Type: Hollow Rod
Options: C, F, MB, W, V, P6, P7, P8, N

Bumpers are standard
 For magnetic bumpers add .312





7/8" BORE STAINLESS STEEL CYLINDER

SRR-14-□-□

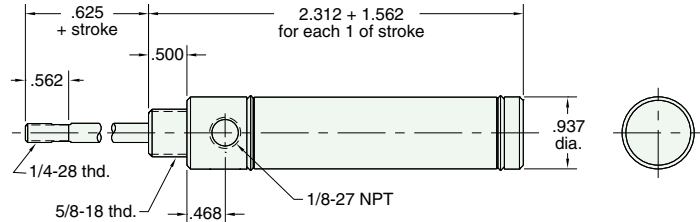
Reverse Acting

Mount: Stud
Type: Rotating Rod
Options: MB, H, W, V, N

Standard Stroke Lengths: 1/2, 1, 1-1/2, 2, 3, 4
Spring Compressed: 6 lbs. **Spring At Rest:** 3 lbs.

Bumpers are standard

For magnetic bumpers add .312



URR-14-□-□

Reverse Acting

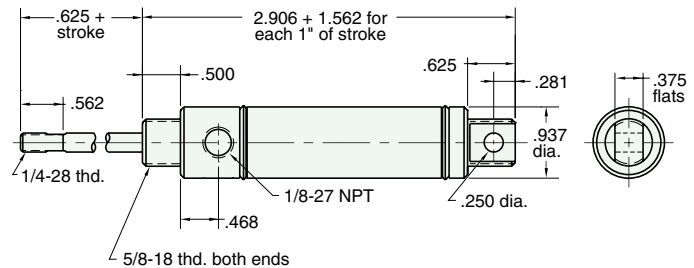
Mount: Universal
Type: Rotating Rod
Options: MB, H, W, V, P6, P7, P8, N

Standard Stroke Lengths: 1/2, 1, 1-1/2, 2, 3, 4
Spring Compressed: 6 lbs. **Spring At Rest:** 3 lbs.

Furnished without nut(s)
See chart on page 29

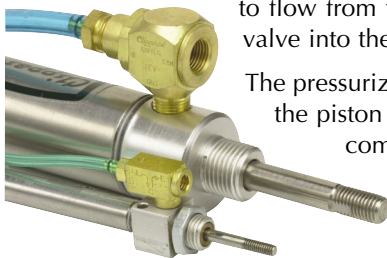
Bumpers are standard

For magnetic bumpers add .312



J-Series Exhaust Valve

In a typical application the exhaust valve is installed in the inlet of a spring return or double acting pneumatic cylinder. Supply air from a control valve is directed into the inlet port of the exhaust valve. The Buna-N poppet seals the exhaust port and allows air to flow from the outlet port of the valve into the cylinder.

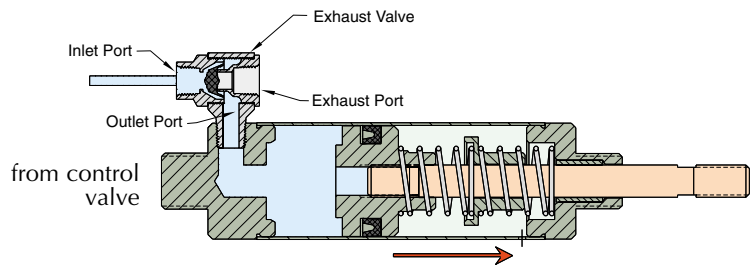


The pressurized air pushes against the piston and extends the rod, compressing the spring, until full rod extension is achieved.

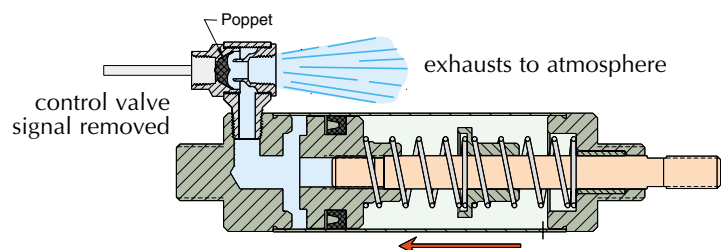
When the control valve exhausts air from the exhaust valve inlet port, the Buna-N poppet shifts to seal the inlet port and open the exhaust port to the cylinder. The pressurized air is allowed to exhaust directly through the exhaust valve to atmosphere.

Normally the air must travel back through the long air line to the control valve to exhaust. By mounting the exhaust valve directly on the cylinder, the piston retracts quickly since the distance to atmosphere is very short and unrestricted.

Cylinder Extends



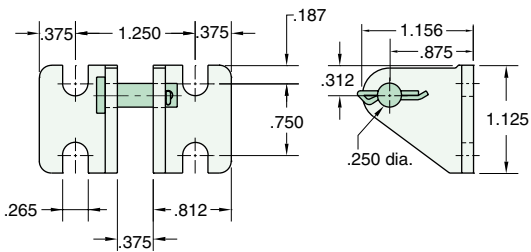
Cylinder Retracts - Fast!





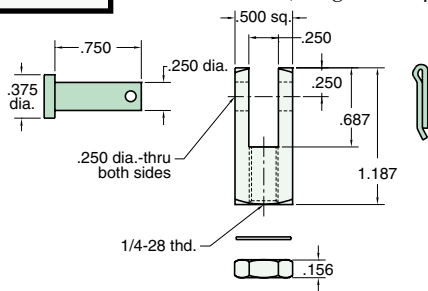
CB-1795

Clevis Bracket
Material: steel, bright zinc plated



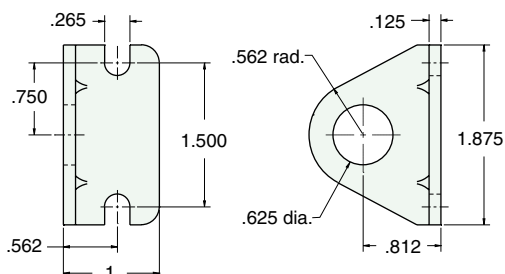
RC-1281

Rod Clevis
Material: steel, bright zinc plated



FB-1791

Foot Bracket
Material: steel, bright zinc plated



MOUNTING NUTS

Stud Nut

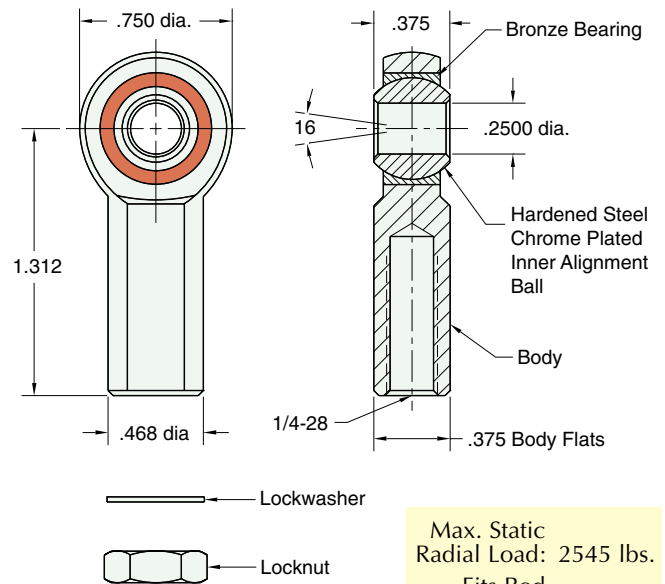
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N10-18	15/16	3/8	5/8-18

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N04-28A	7/16	5/32	1/4-28
N04-28B	3/8	1/8	1/4-28

RE-1285

Rod End
Material: steel, bright zinc plated body



Max. Static Radial Load: 2545 lbs.
Fits Rod Thread Size: 1/4-28



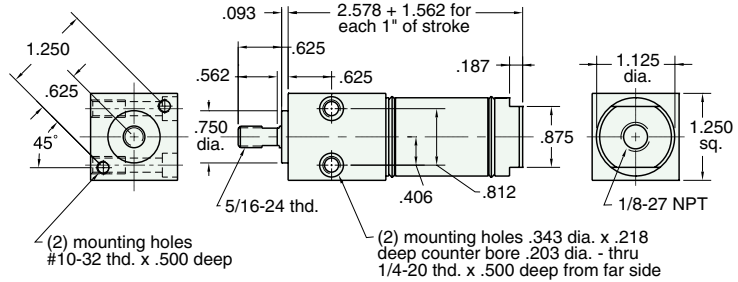
1 1/16" BORE STAINLESS STEEL CYLINDER

FSR-17-□-□

Single Acting



Mount: Front **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, V, S, N For magnetic bumpers add .312
For S option add .250

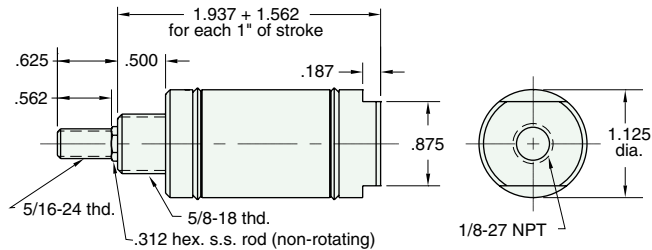


SSN-17-□-□

Single Acting



Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Non-Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, V, S, N For magnetic bumpers add .312
For S option add .250

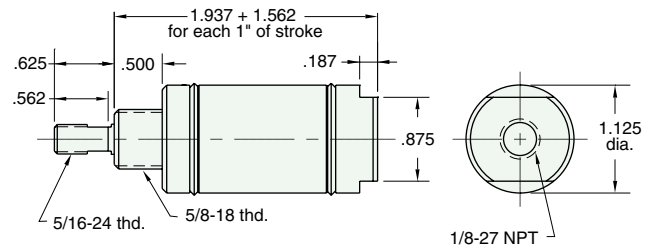


SSR-17-□-□

Single Acting



Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, V, S, N For magnetic bumpers add .312
For S option add .250

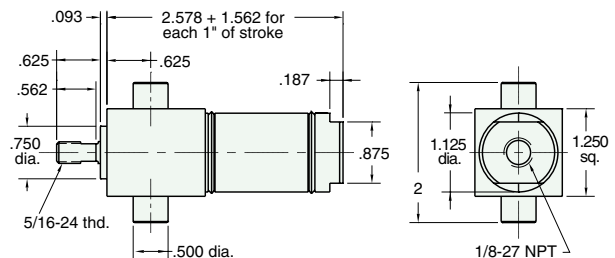


TSR-17-□-□

Single Acting



Mount: Trunnion **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, V, S, N For magnetic bumpers add .312
For S option add .250



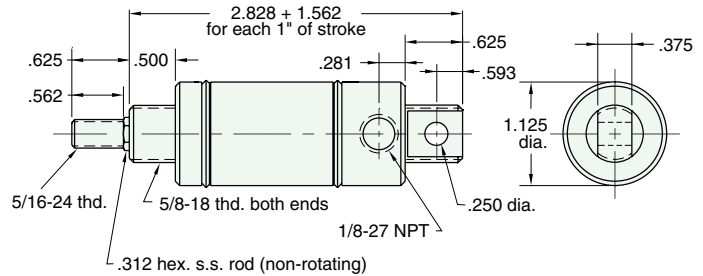
1 1/16" BORE STAINLESS STEEL CYLINDER



USN-17-□-□

Single Acting

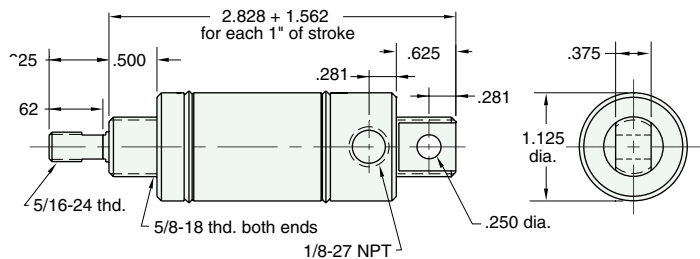
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 35
Type: Non-Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, V, P6, N For magnetic bumpers add .312



USR-17-□-□

Single Acting

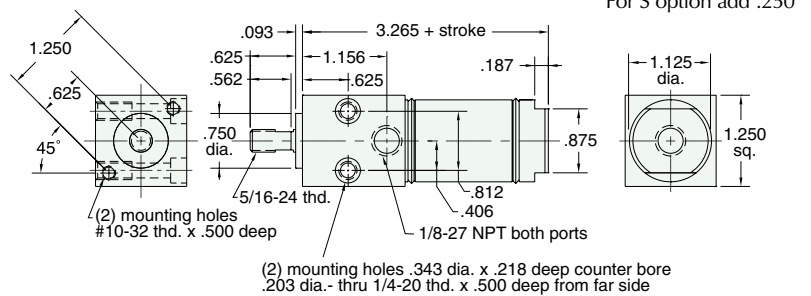
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 35
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, V, P6, N For magnetic bumpers add .312



FDR-17-□-□

Double Acting

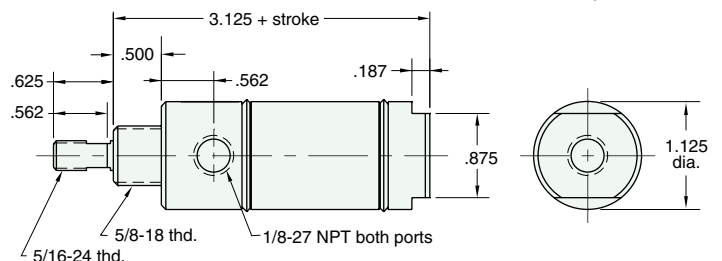
Mount: Front **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6 Furnished without nut(s) See chart on page 35
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, W, V, P6, P7, P8, S, N For magnetic bumpers add .312 For S option add .250



SDR-17-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6 Furnished without nut(s) See chart on page 35
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: C, F, R, MB, B, W, V, P6, P7, P8, S, N For magnetic bumpers add .312 For C, F, R or S option add .250



For C, F, & R options use side ported rear head



1 1/16" BORE STAINLESS STEEL CYLINDER

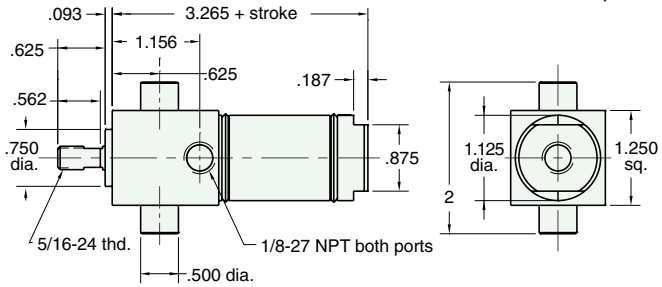
TDR-17-□-□

Double Acting

Mount: Trunnion **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6
Type: Rotating Rod
Options: MB, B, W, V, S, N

For magnetic bumpers add .312

For S option add .250



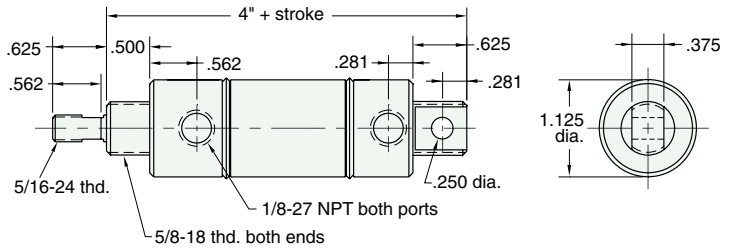
UDR-17-□-□

Double Acting

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6, 8, 10, 12
Type: Rotating Rod
Options: C, F, R, MB, B, W, V, P2, P3, P4, P5, P6, P7, P8, N

Furnished without nut(s)
See chart on page 35

For magnetic bumpers add .312

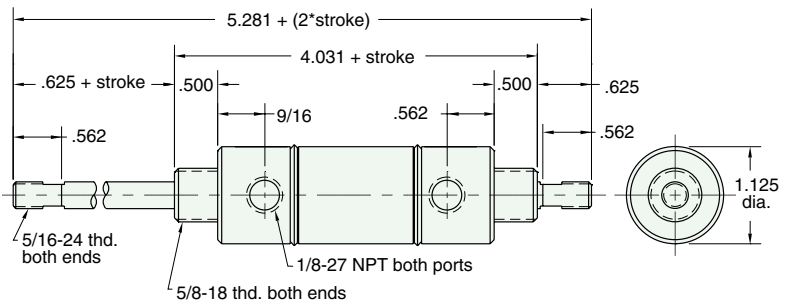


SDD-17-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6
Type: Double Rod
Options: C, F, R, MB, B, W, V, P6, P7, P8, N

For magnetic bumpers add .312

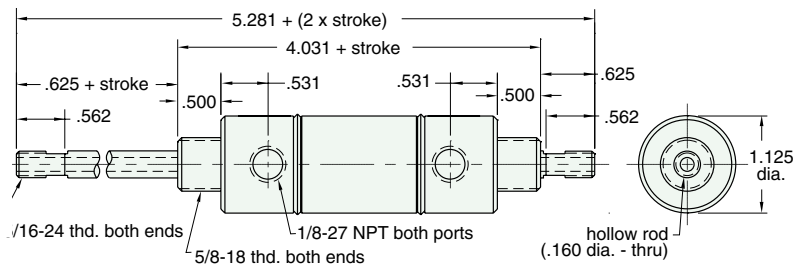


SDH-17-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6
Type: Hollow Rod
Options: C, F, MB, B, W, V, P6, P7, P8, N

For magnetic bumpers add .312



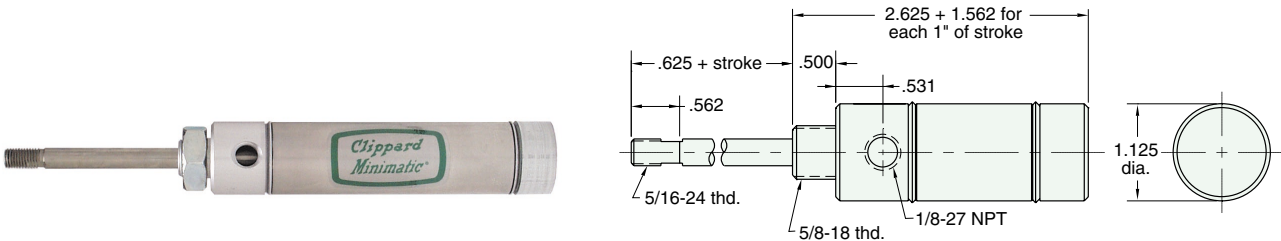
1 1/16" BORE STAINLESS STEEL CYLINDER



SRR-17-□-□

Reverse Acting

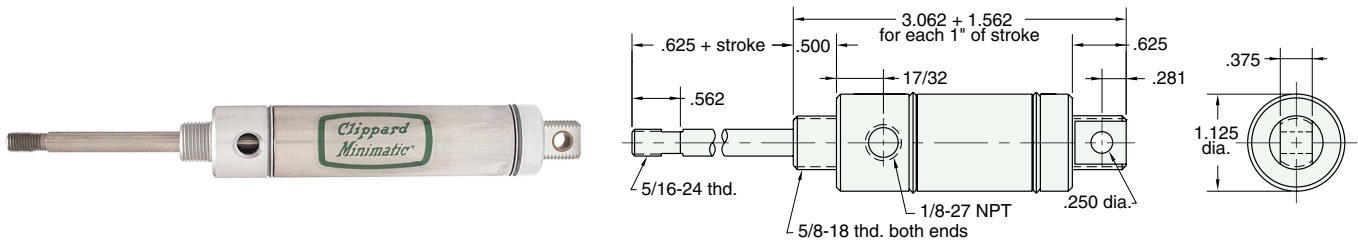
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, W, V, N For magnetic bumpers add .312



URR-17-□-□

Reverse Acting

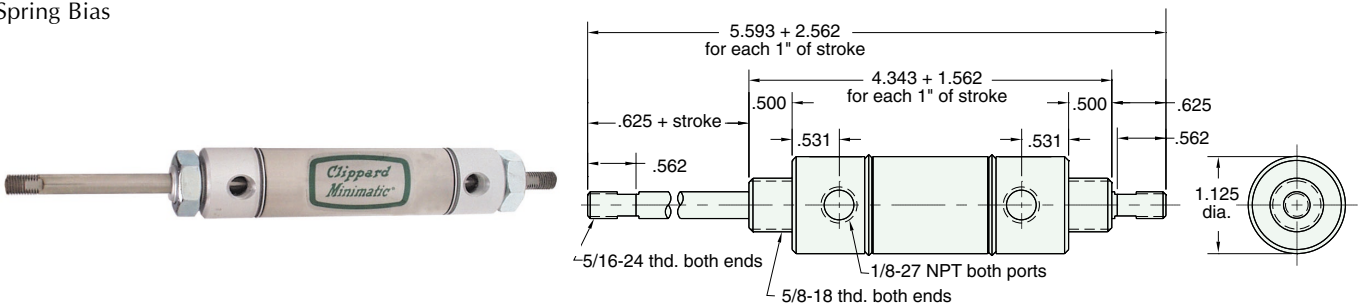
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s)
See chart on page 35
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, W, V, P6, N For magnetic bumpers add .312



SFD-17-□-□

Spring Bias

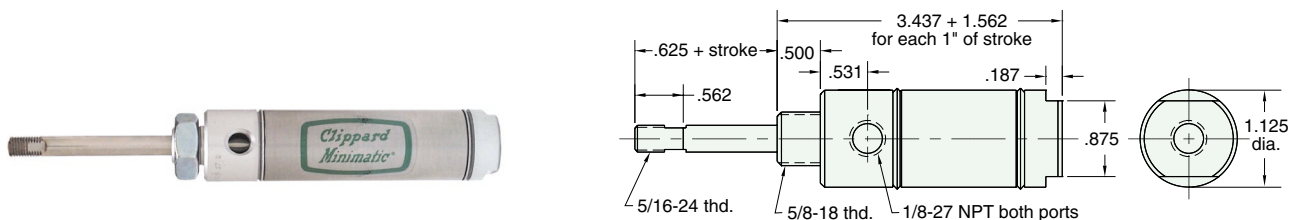
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Double Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, W, V, P6, P7, P8, N For magnetic bumpers add .312



SBR-17-□-□

Double Acting Rear Spring Bias

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, W, V, P6, P7, P8, S, N For magnetic bumpers add .312
 For S option add .250





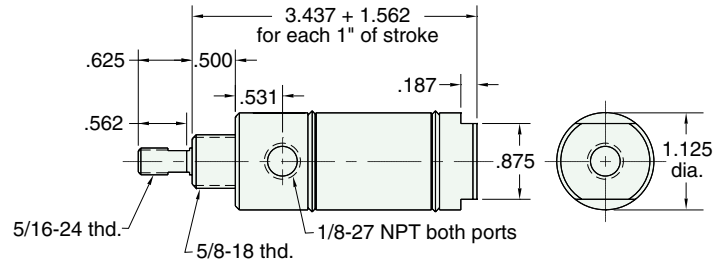
1 1/16" BORE STAINLESS STEEL CYLINDER

SFR-17-□-□

Double Acting, Spring Bias

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, W, V, P6, P7, P8, S, N For magnetic bumpers add .312

For S option add .250

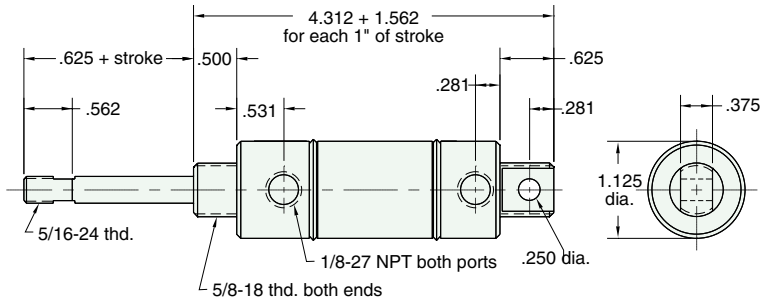


UBR-17-□-□

Double Acting, Rear Spring Bias

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, W, V, P2, P3, P4, P5, P6, P7, P8, N For magnetic bumpers add .312

For magnetic bumpers add .312

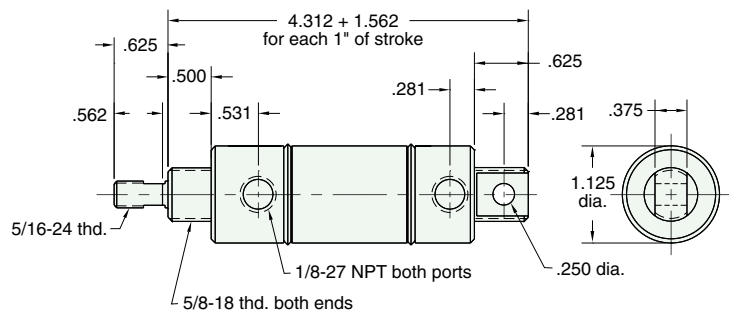


UFR-17-□-□

Double Acting Front Spring Bias

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 7 lbs. **Spring At Rest:** 2 lbs.
Options: MB, B, H, W, V, P2, P3, P4, P5, P6, P7, P8, N For magnetic bumpers add .312

For magnetic bumpers add .312





MOUNTING NUTS

Stud Nut

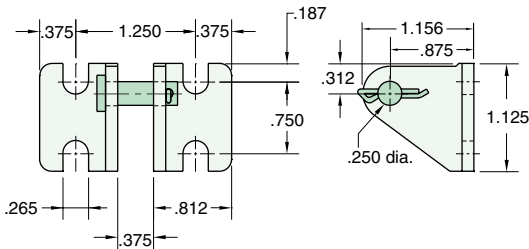
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N10-18	15/16	3/8	5/8-18

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N05-24	1/2	3/16	5/16-24

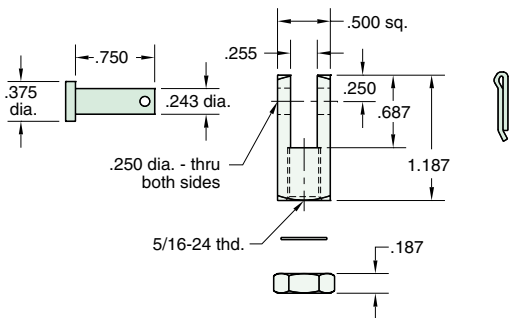
CB-1795

Clevis Bracket
Material: steel, bright zinc plated



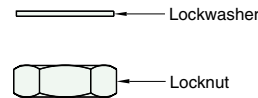
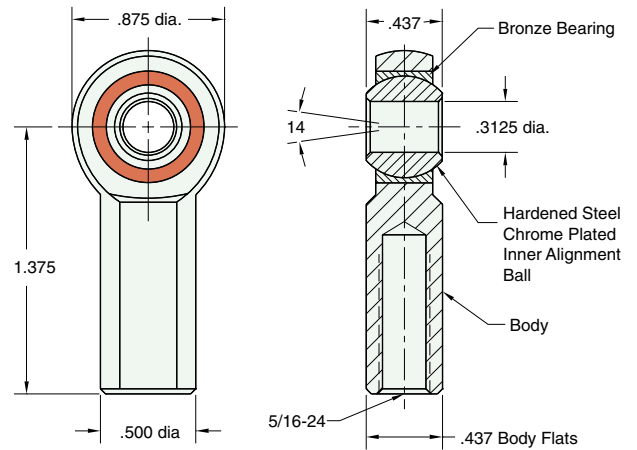
RC-1781

Rod Clevis
Material: steel, bright zinc plated



RE-1785

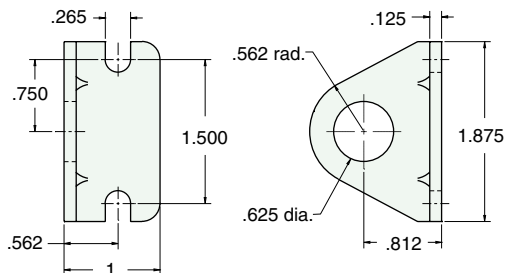
Rod End
Material: steel, bright zinc plated body



Max. Static Radial Load: 3200 lbs.
Fits Rod Thread Size: 5/16-24

FB-1791

Foot Bracket
Material: steel, bright zinc plated





1 1/4" BORE STAINLESS STEEL CYLINDER

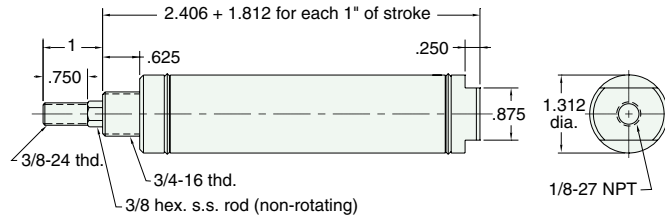
Note: The 1 1/4" bore is also available with a 7/16-20 threaded rod. Order -LR option.

SSN-20-□-□

Single Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Non-Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4.5 lbs.
Options: MB, B, H, V, S, N

For S option add .312

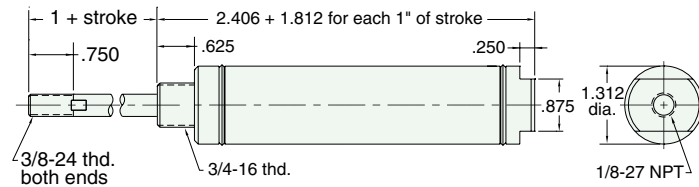


SSR-20-□-□

Single Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4.5 lbs.
Options: MB, B, H, V, S, N

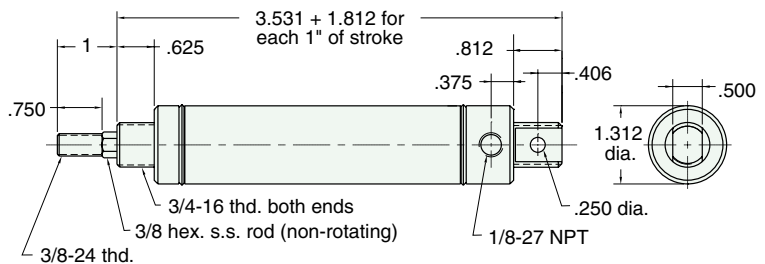
For S option add .312



USN-20-□-□

Single Acting

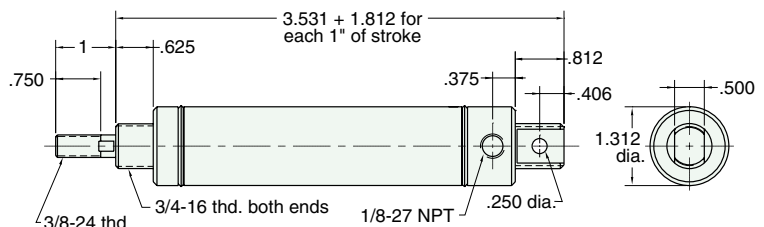
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s)
See chart on page 39
Type: Non-Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4.5 lbs.
Options: MB, B, H, V, P2, P3, P4, P5, P6, P7, P8, N For magnetic bumpers add .312



USR-20-□-□

Single Acting

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s)
See chart on page 39
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4.5 lbs.
Options: MB, B, H, V, P2, P3, P4, P5, P6, P7, P8, N For magnetic bumpers add .312



1 1/4" BORE STAINLESS STEEL CYLINDER

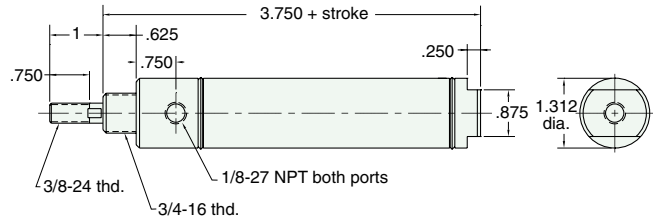


Note: The 1 1/4" bore is also available with a 7/16-20 threaded rod. Order -LR option.

SDR-20-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6
Type: Rotating Rod
Options: C, F, R, MB, B, W, V, P6, P7, P8, S, N For magnetic bumpers add .312
 For C, F, R and S option add .312

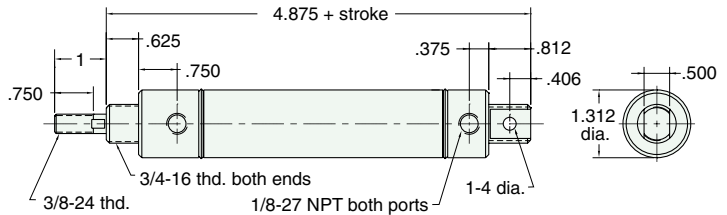


For C, F, & R options use side ported rear head

UDR-20-□-□

Double Acting

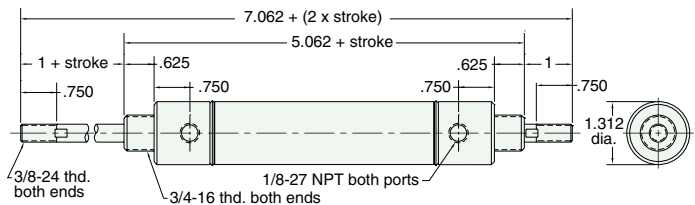
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 6, 8, 10, 12
Type: Rotating Rod
Options: C, F, R, MB, B, W, V, P2, P3, P4, P5, P6, P7, P8, N For magnetic bumpers add .312
 Furnished without nut(s) See chart on page 39



SDD-20-□-□

Double Acting

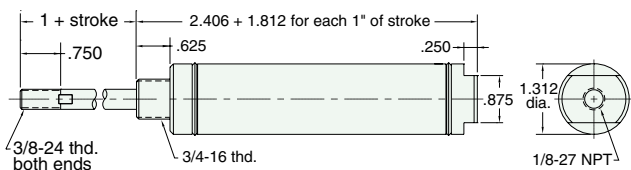
Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6
Type: Double Rod
Options: C, F, MB, B, W, V, P6, P7, P8, N For magnetic bumpers add .312



SRR-20-□-□

Reverse Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4.5 lbs.
Options: MB, B, H, W, V, N For magnetic bumpers add .312





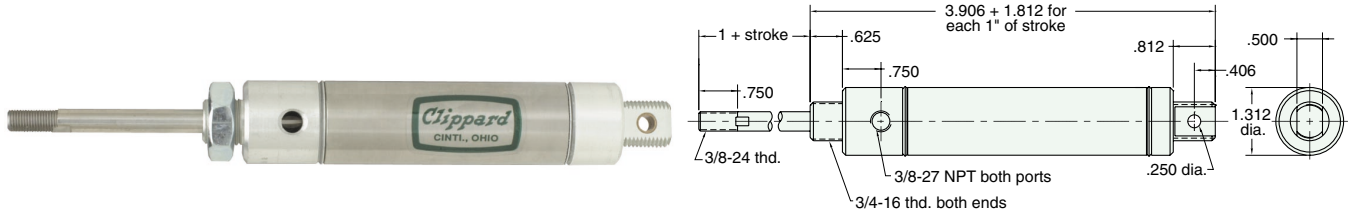
1 1/4" BORE STAINLESS STEEL CYLINDER

Note: The 1 1/4" bore is also available with a 7/16-20 threaded rod. Order -LR option.

URR-20-□-□

Reverse Acting

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 39
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4.5 lbs.
Options: MB, B, H, W, V, P6, N



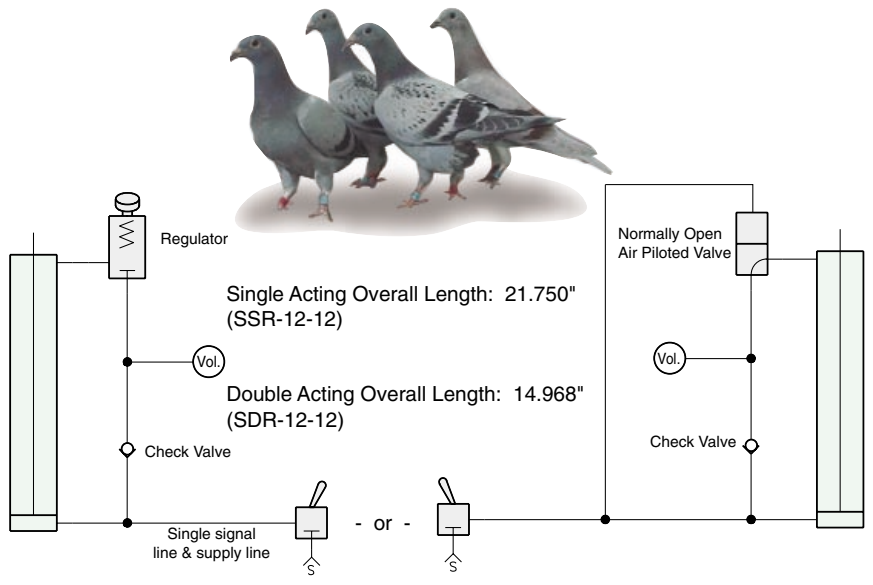
APPLICATION STORY

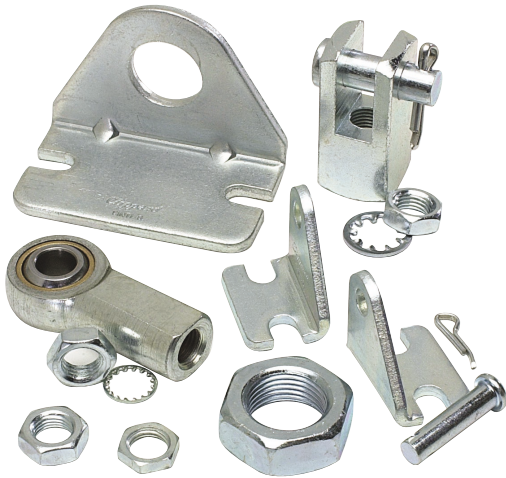
ap-ply-ca-tion \ap-l ə-ˈkâ-sh ən\ n 1 : the act of applying 2 : assiduous attention 3 : REQUEST; also : a form used in making a request 4 : something placed or spread on a surface 5 : capacity for use

Clippard Applications Have Gone to the Birds

Pneumatic automation plays a role on the roof tops of Clippard. Over time, pigeons become unruffled by the presence of a motionless plastic owl. By automating several owls throughout the area to pop up out of 8 inch PVC pipes, the pigeon problem has flown away.

While this application only requires a single acting cylinder, they tend to be longer than double acting cylinders of the same stroke. To fit the cylinder inside of the owl and have enough stroke to raise it fully, these wise old birds used double acting cylinders with a little circuitry to make them act like single acting cylinders.





MOUNTING NUTS

Stud Nut

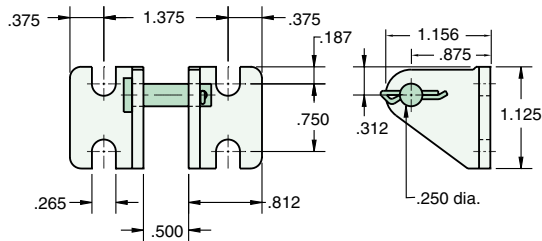
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N12-16	1 3/32	27/64	3/4-16

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N06-24A	9/16	7/32	3/8-24
N06-24B	1/2	1/8	3/8-24

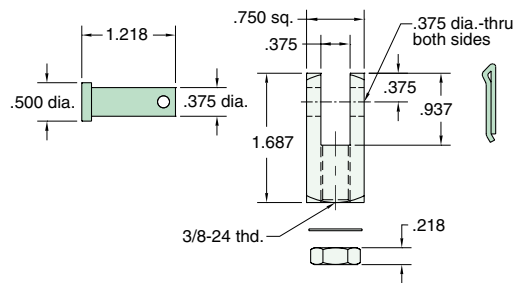
CB-2095

Clevis Bracket
Material: steel, bright zinc plated



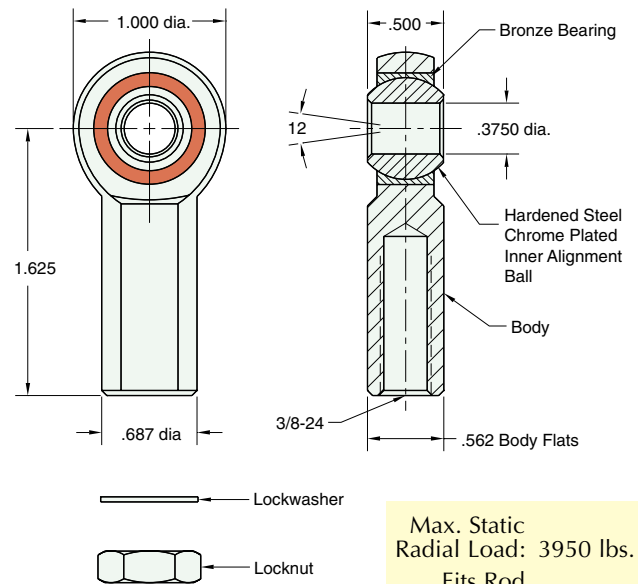
RC-2081

Rod Clevis
Material: steel, bright zinc plated



RE-2085

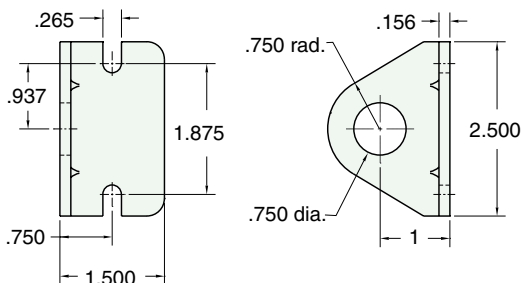
Rod End
Material: steel, bright zinc plated body



Max. Static Radial Load: 3950 lbs.
Fits Rod Thread Size: 3/8-24

FB-2491

Foot Bracket
Material: steel, bright zinc plated



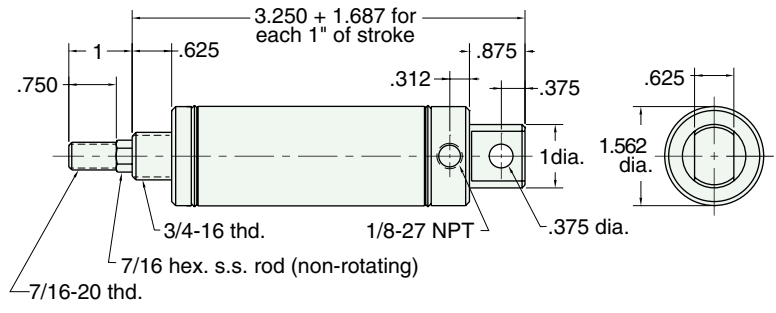


1 1/2" BORE STAINLESS STEEL CYLINDER

CSN-24-□-□

Single Acting

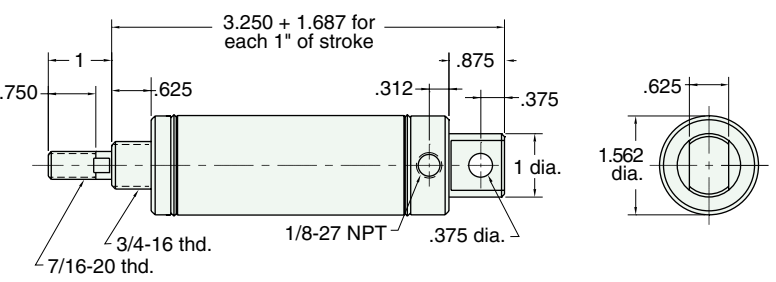
Mount: Clevis **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 47
Type: Non-Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, V, P6, N For magnetic bumpers add .312



CSR-24-□-□

Single Acting

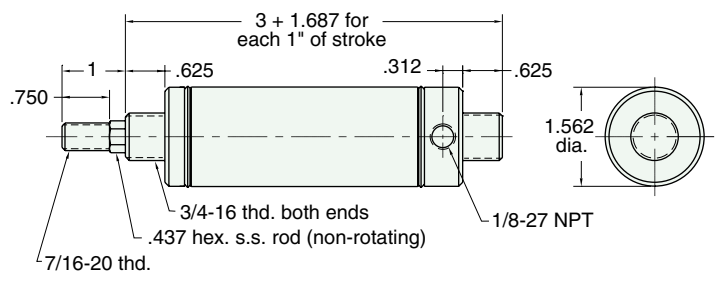
Mount: Clevis **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 47
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, V, P6, N For magnetic bumpers add .312



ESN-24-□-□

Single Acting

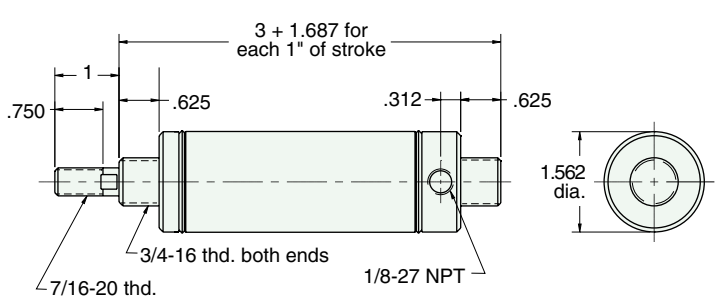
Mount: End **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 47
Type: Non-Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, V, N For magnetic bumpers add .312



ESR-24-□-□

Single Acting

Mount: End **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 47
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, V, N For magnetic bumpers add .312



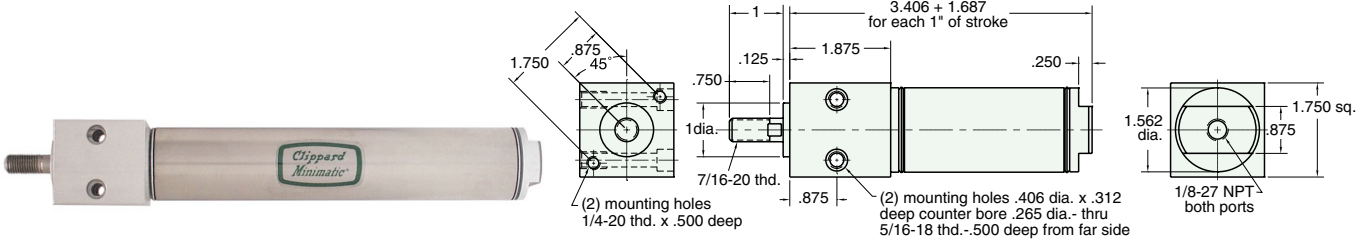
1 1/2" BORE STAINLESS STEEL CYLINDER



FSR-24-□-□

Single Acting

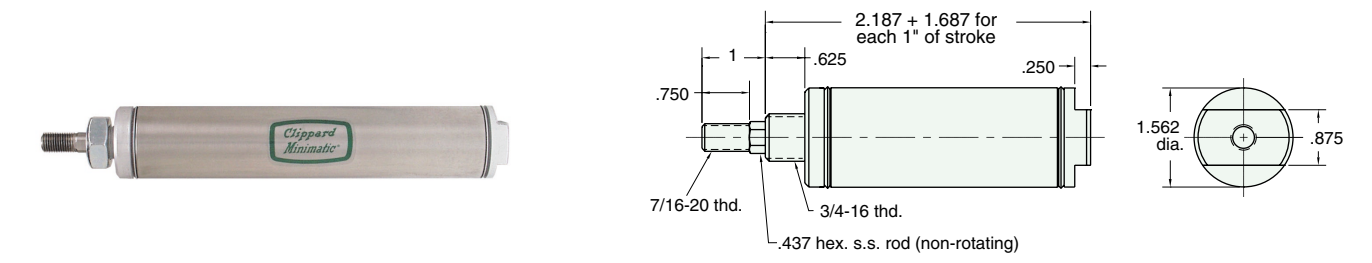
Mount: Front **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, V, S, N For magnetic bumpers add .312
 For S option add .187



SSN-24-□-□

Single Acting

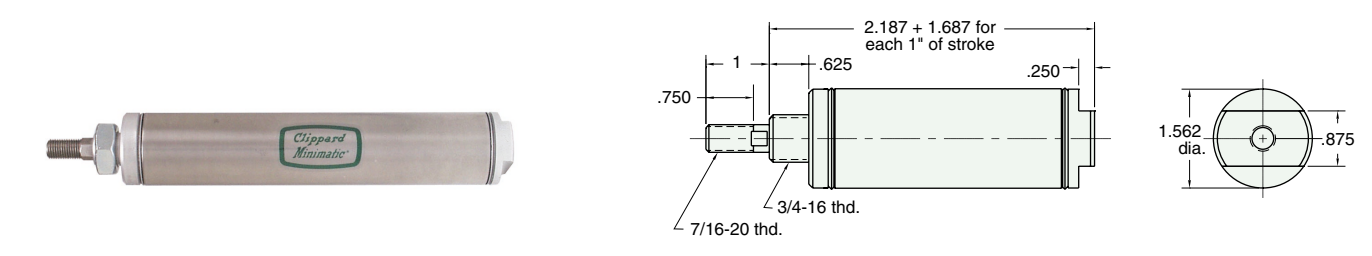
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Non-Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, V, S, N For magnetic bumpers add .312
 For S option add .187



SSR-24-□-□

Single Acting

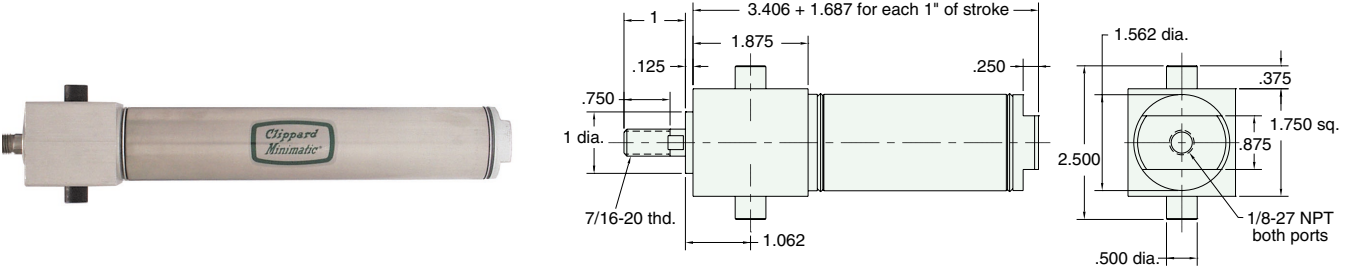
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, V, S, N For magnetic bumpers add .312
 For S option add .187



TSR-24-□-□

Single Acting

Mount: Trunnion **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, V, S, N For magnetic bumpers add .312
 For S option add .187



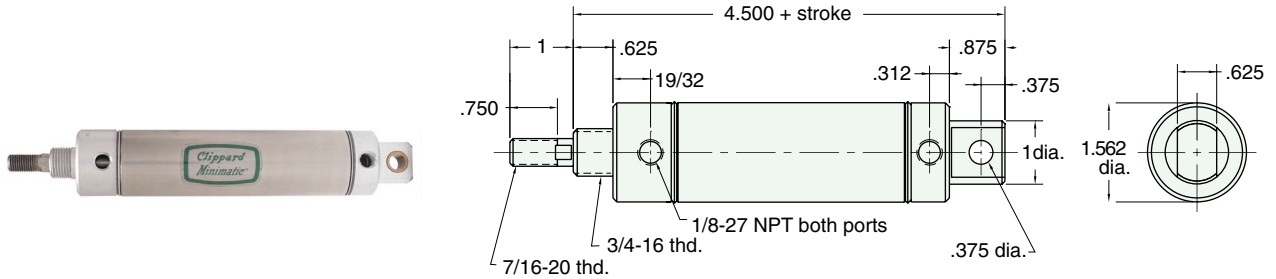


1 1/2" BORE STAINLESS STEEL CYLINDER

CDR-24-□-□

Double Acting

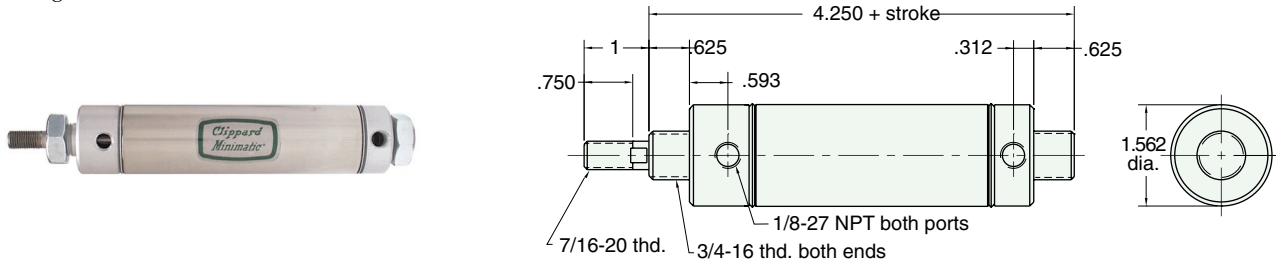
Mount: Clevis **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod 6, 8, 10, 12 Furnished without nut(s)
See chart on page 47
Options: C, F, R, MB, B, W, V, P2, P3, P4, P5, P6, P7, P8, N For magnetic bumpers add .312



EDR-24-□-□

Double Acting

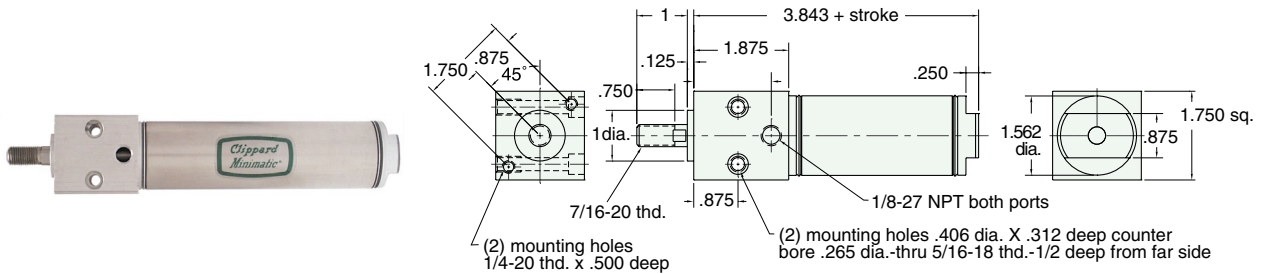
Mount: End **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 6, 8, 10, 12
Type: Rotating Rod
Options: C, F, R, MB, B, W, V, P6, P7, P8, N For magnetic bumpers add .312



FDR-24-□-□

Double Acting

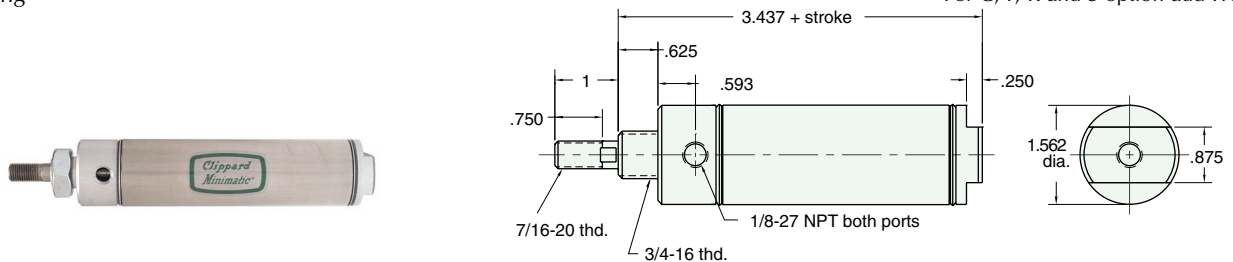
Mount: Front **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6
Type: Rotating Rod
Options: MB, B, W, V, P6, P7, P8, S, N For magnetic bumpers add .312
For S option add .187



SDR-24-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 6, 8, 10, 12
Type: Rotating Rod
Options: C, F, R, MB, B, W, V, P6, P7, P8, S, N For magnetic bumpers add .312
For C, F, R and S option add .187



For C, F, & R options use side ported rear head

1 1/2" BORE STAINLESS STEEL CYLINDER



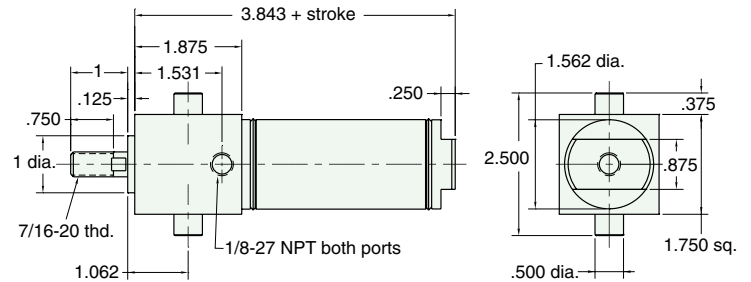
TDR-24-□-□

Double Acting

Mount: Trunnion **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6
Type: Rotating Rod
Options: MB, B, W, V, S, N

For magnetic bumpers add .312

For S option add .187

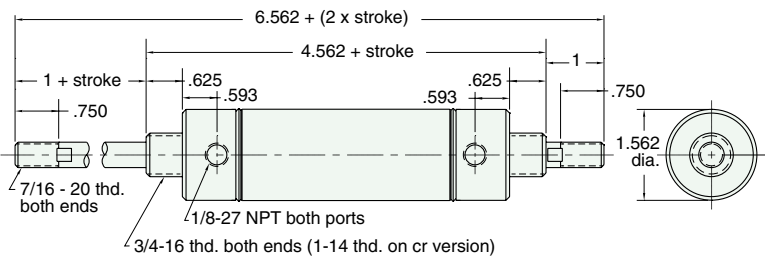


SDD-24-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6, 8, 10, 12
Type: Double Rod
Options: C, F, MB, B, W, V, P6, P7, P8, N

For magnetic bumpers add .312



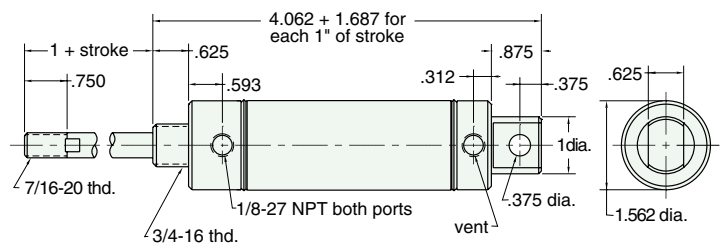
CRR-24-□-□

Reverse Acting

Mount: Clevis **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, W, V, P6, P7, P8, N

Furnished without nut(s)
See chart on page 47

For magnetic bumpers add .312

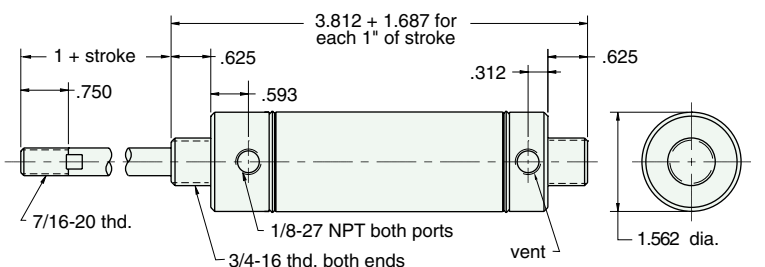


ERR-24-□-□

Reverse Acting

Mount: End **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, W, V, N

For magnetic bumpers add .312



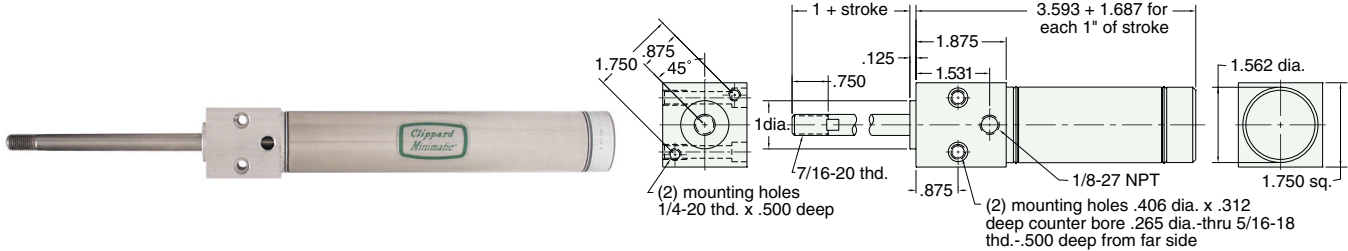


1 1/2" BORE STAINLESS STEEL CYLINDER

FRR-24-□-□

Reverse Acting

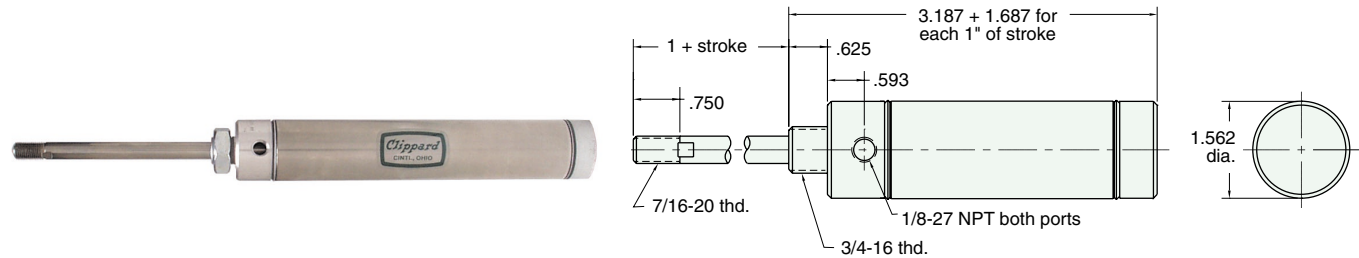
Mount: Front **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 47
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, W, V, N For magnetic bumpers add .312



SRR-24-□-□

Reverse Acting

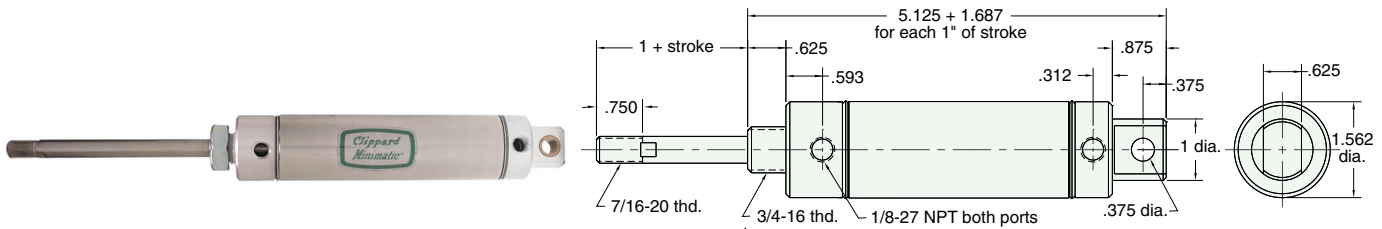
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, W, V, N For magnetic bumpers add .312



CBR-24-□-□

Double Acting, Spring Bias

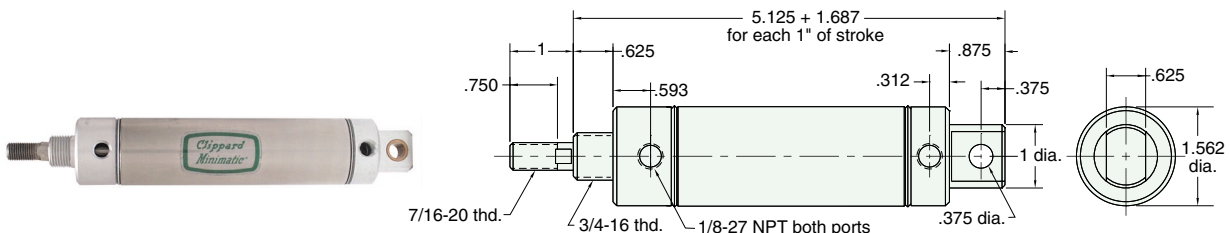
Mount: Clevis **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, W, V, P2, P3, P4, P5, P6, P7, P8, N For magnetic bumpers add .312



CFR-24-□-□

Double Acting, Front Spring Bias

Mount: Clevis **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, W, V, P2, P3, P4, P5, P6, P7, P8, N For magnetic bumpers add .312



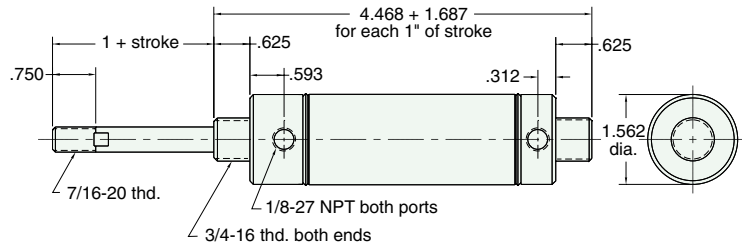
1 1/2" BORE STAINLESS STEEL CYLINDER



EBR-24-□-□

Double Acting, Rear Spring Bias

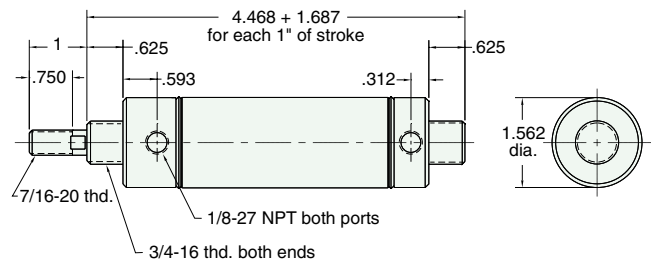
Mount: End **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, W, V, P6, P7, P8, N For magnetic bumpers add .312



EFR-24-□-□

Double Acting, Front Spring Bias

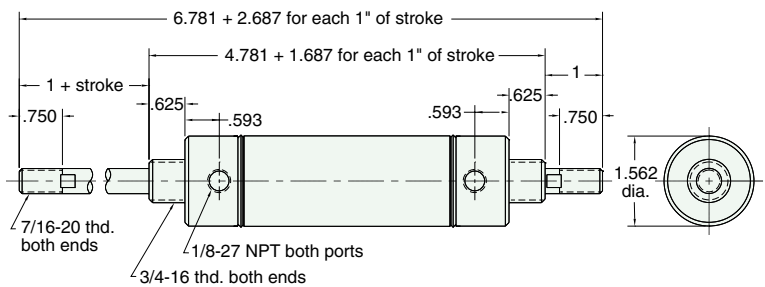
Mount: End **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, W, V, P6, P7, P8, N For magnetic bumpers add .312



SFD-24-□-□

Double Acting, Front Spring Bias

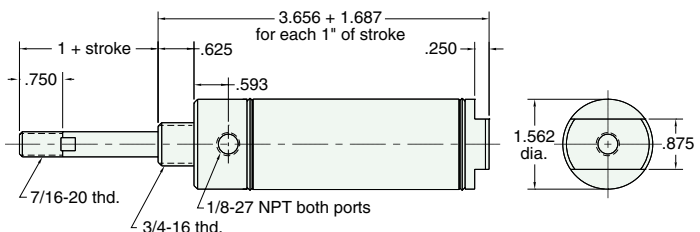
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Double Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, W, V, P6, P7, P8, N For magnetic bumpers add .312



SBR-24-□-□

Double Acting, Rear Spring Bias

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, W, V, P6, P7, P8, S, N For magnetic bumpers add .312
 For S option add .187





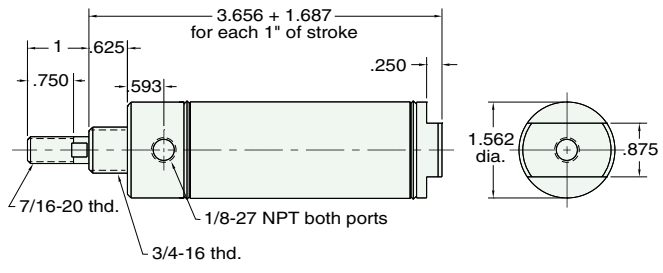
1 1/2" BORE STAINLESS STEEL CYLINDER

SFR-24-□-□

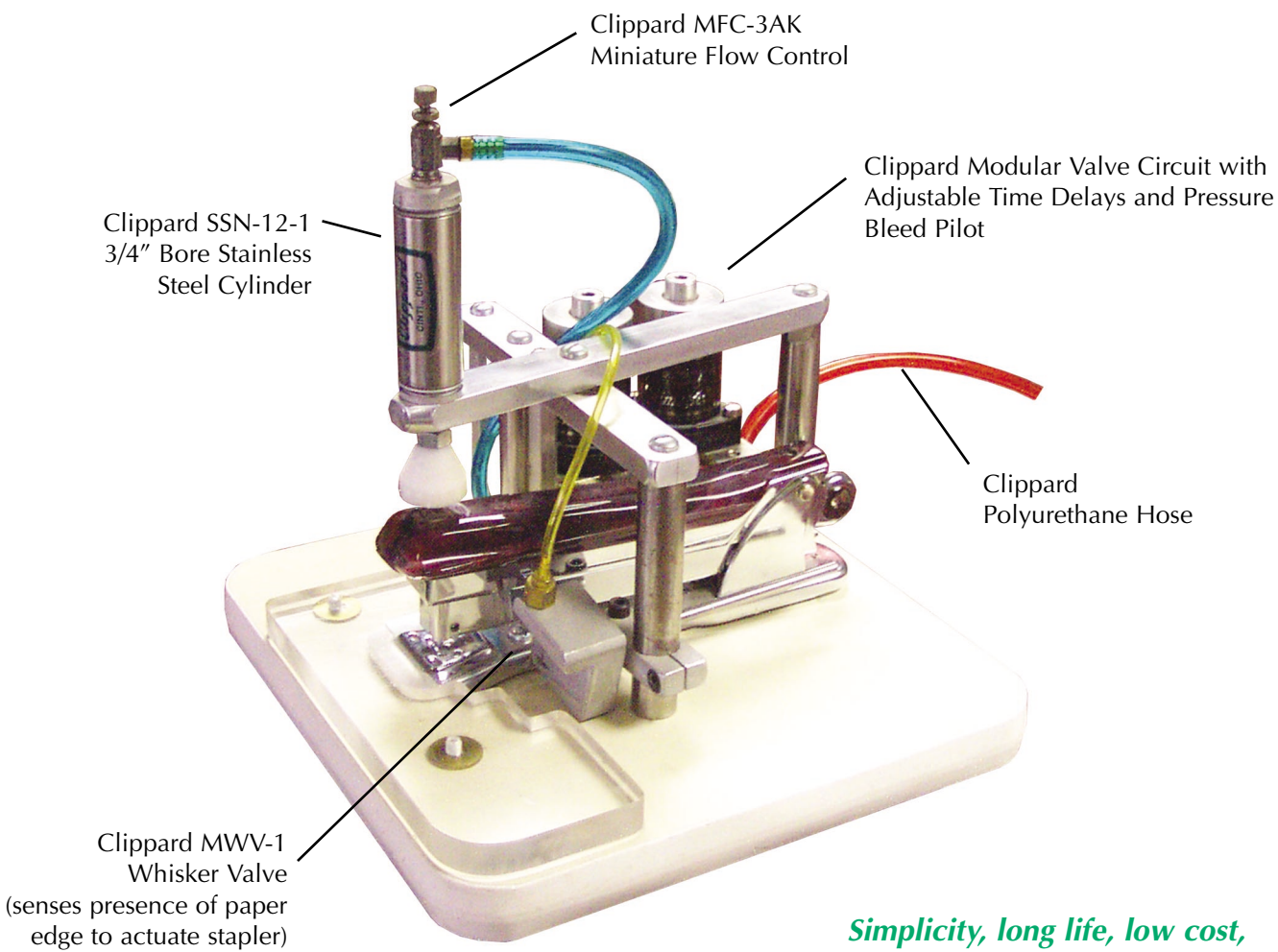
Double Acting, Front Spring Bias

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 10 lbs. **Spring At Rest:** 4 1/2 lbs.
Options: MB, B, H, W, V, P6, P7, P8, S, N For magnetic bumpers add .312

For S option add .187



Pneumatic Stapler



Simplicity, long life, low cost, ease of maintenance and high power are combined in this unique office stapler application.



MOUNTING NUTS

Stud Nut

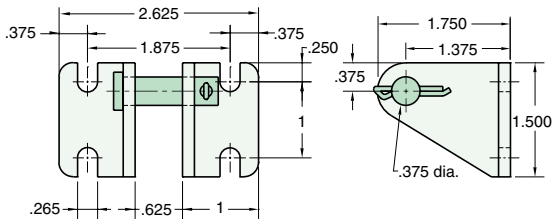
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N12-16	1 3/32	27/64	3/4-16

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N07-20	11/16	1/4	7/16-20

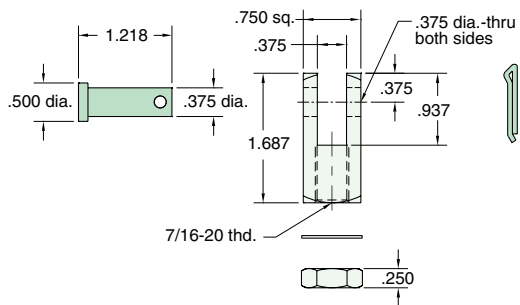
CB-2495

Clevis Bracket
Material: steel, bright zinc plated



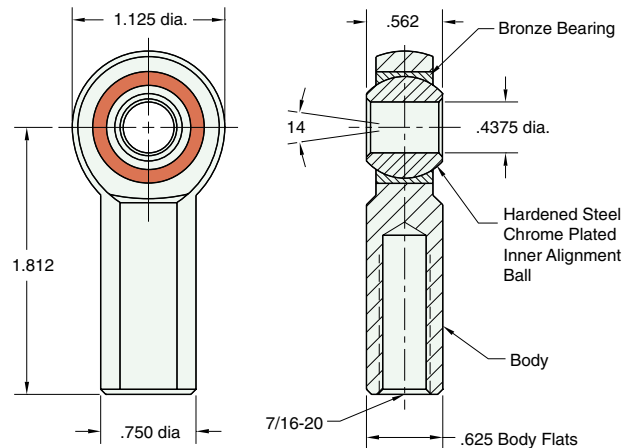
RC-2481

Rod Clevis
Material: steel, bright zinc plated



RE-2485

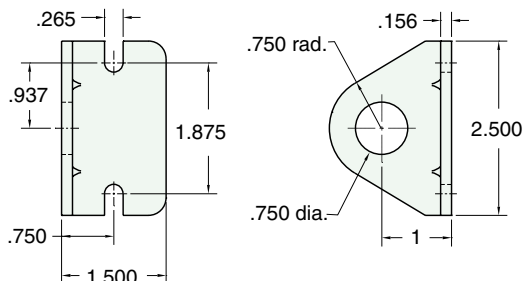
Rod End
Material: steel, bright zinc plated body



Max. Static Radial Load: 4300 lbs.
Fits Rod Thread Size: 7/16-24

FB-2491

Foot Bracket
Material: steel, bright zinc plated





1 3/4" BORE STAINLESS STEEL CYLINDER

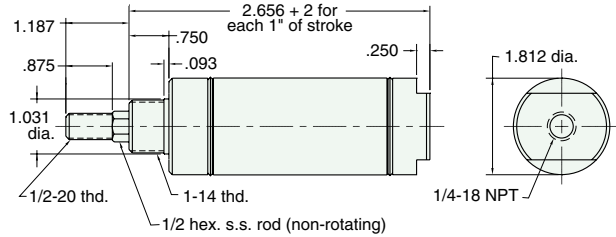
SSN-28-□-□

Single Acting



Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Non-Rotating Rod **Spring Compressed:** 24 lbs. **Spring At Rest:** 11 lbs.
Options: MB, V, S, N **Bumpers are standard** For magnetic bumpers add .312

For S option add .562



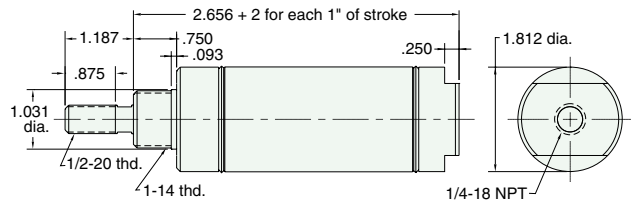
SSR-28-□-□

Single Acting



Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 24 lbs. **Spring At Rest:** 11 lbs.
Options: MB, V, S, N **Bumpers are standard** For magnetic bumpers add .312

For S option add .562

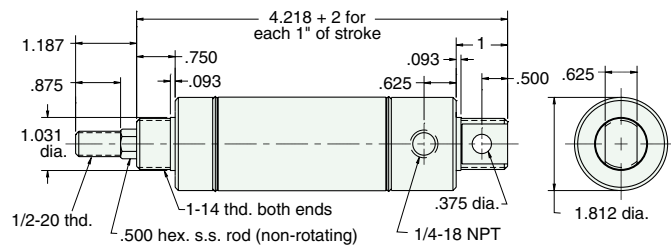


USN-28-□-□

Single Acting



Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 51
Type: Non-Rotating Rod **Spring Compressed:** 24 lbs. **Spring At Rest:** 11 lbs.
Options: MB, V, P2, P3, P4, P5, P6, P7, P8, N **Bumpers are standard** For magnetic bumpers add .312

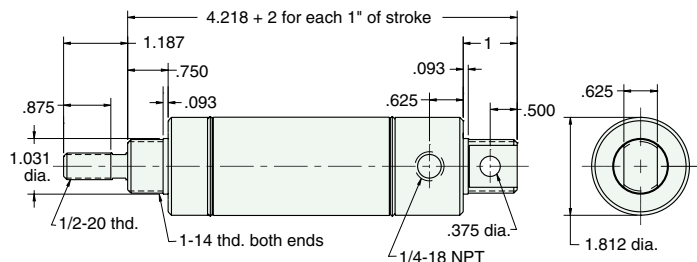


USR-28-□-□

Single Acting



Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4 Furnished without nut(s) See chart on page 51
Type: Rotating Rod **Spring Compressed:** 24 lbs. **Spring At Rest:** 11 lbs.
Options: MB, V, P2, P3, P4, P5, P6, P7, P8, N **Bumpers are standard** For magnetic bumpers add .312



1 3/4" BORE STAINLESS STEEL CYLINDER



SDR-28-□-□

Double Acting



Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6

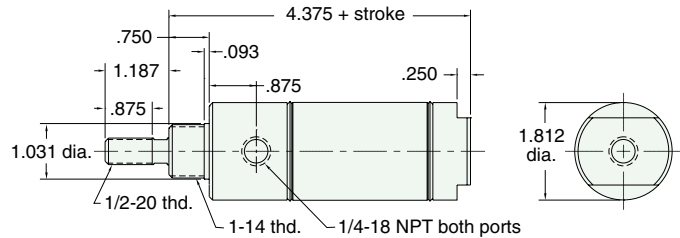
Type: Rotating Rod

Options: C, F, R, MB, W, V, P6, P7, P8, S, N

Bumpers are standard

For magnetic bumpers add .312

For C, F, R and S option add .562



For C, F, & R options use side ported rear head

UDR-28-□-□

Double Acting



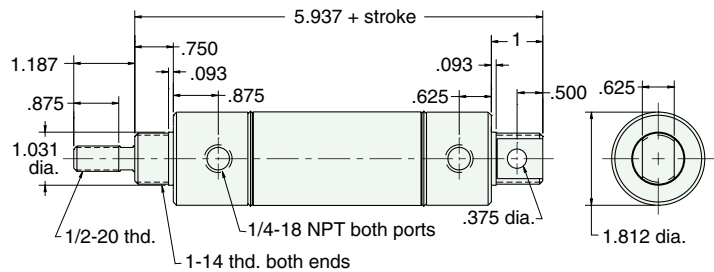
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 6, 8, 10, 12

Type: Rotating Rod

Options: C, F, R, MB, W, V, P2, P3, P4, P5, P6, P7, P8, N

Bumpers are standard

For magnetic bumpers add .312



SDD-28-□-□

Double Acting



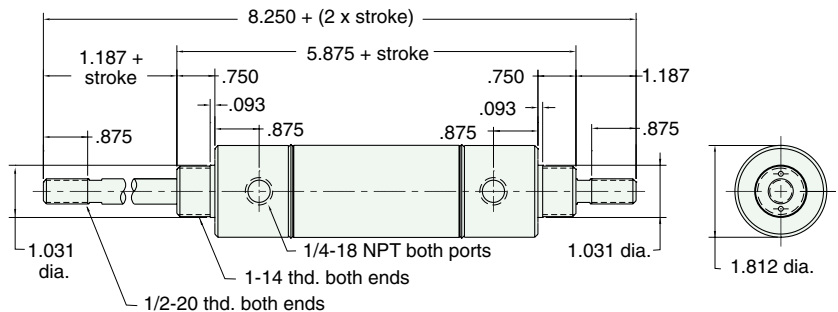
Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6, 8, 10, 12

Type: Double Rod

Options: C, F, MB, W, V, P6, P7, P8, N

Bumpers are standard

For magnetic bumpers add .312



SRR-28-□-□

Reverse Acting



Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4

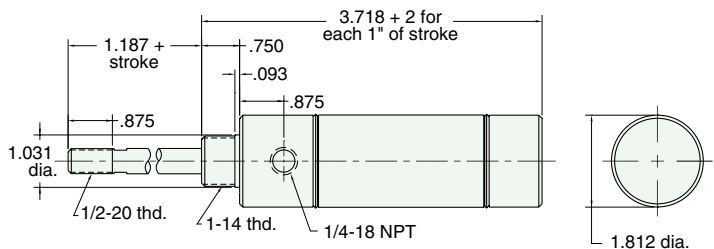
Type: Rotating Rod

Options: MB, W, V, N

Spring Compressed: 24 lbs. **Spring At Rest:** 11 lbs.

Bumpers are standard

For magnetic bumpers add .312





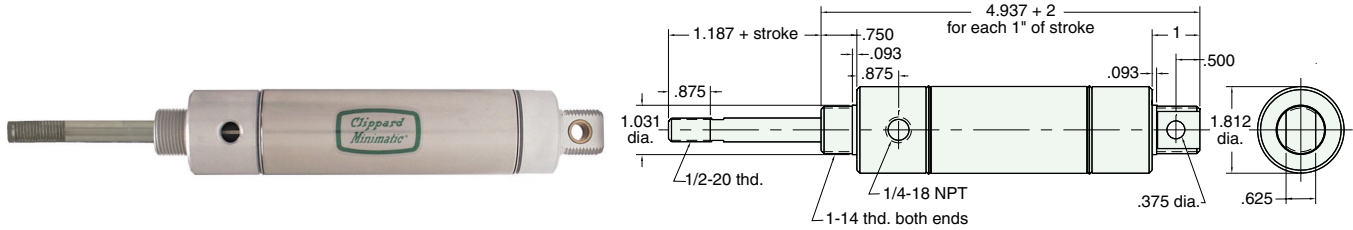
1 3/4" BORE STAINLESS STEEL CYLINDER

URR-28-□-□

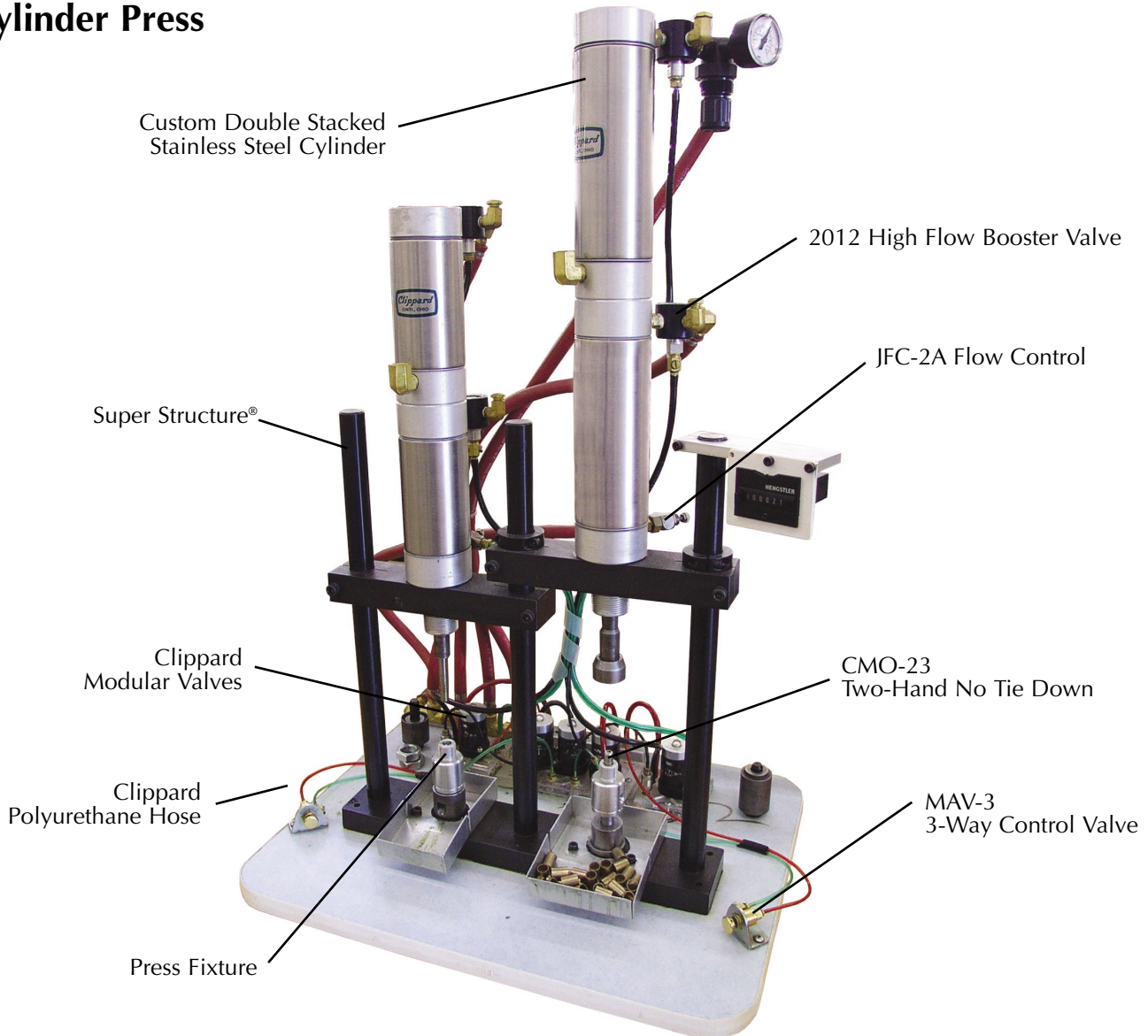
Reverse Acting

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 24 lbs. **Spring At Rest:** 11 lbs.
Options: MB, W, V, P6, N **Bumpers are standard**

For magnetic bumpers add .312



Dual Double Stacked Cylinder Press





MOUNTING NUTS

Stud Nut

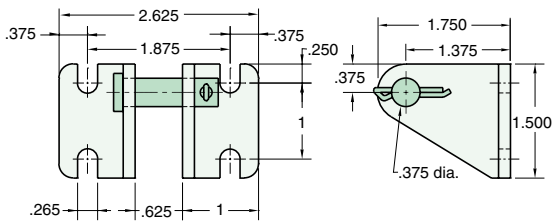
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N16-14	1 1/2	35/64	1-14

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N07-20	11/16	1/4	7/16-20

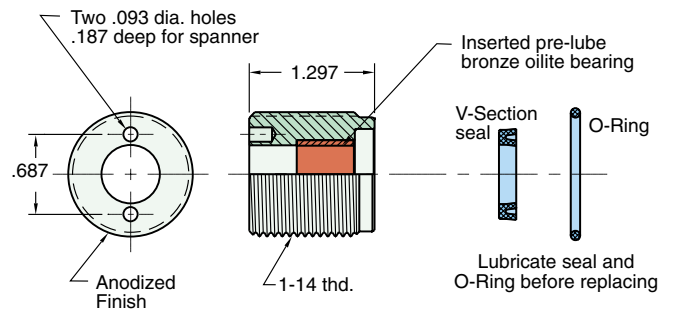
CB-2495

Clevis Bracket
Material: steel, bright zinc plated



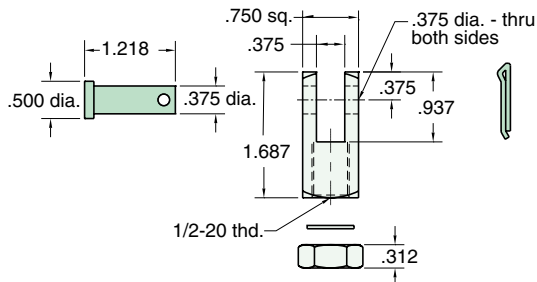
RK-2899

Replaceable Rod Seal
Material: aluminum body



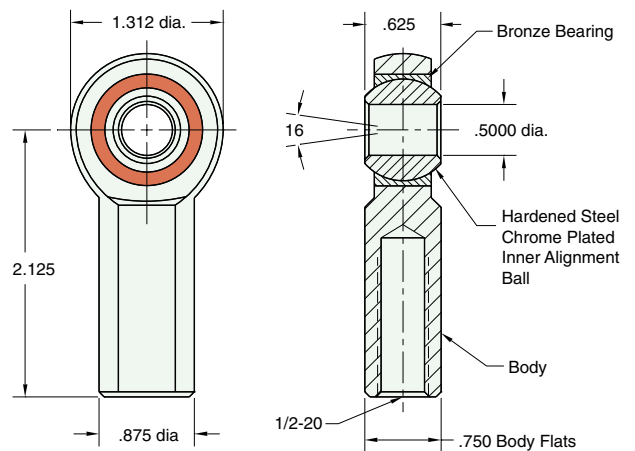
RC-3281

Rod Clevis
Material: steel, bright zinc plated



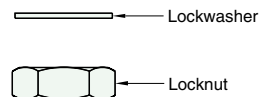
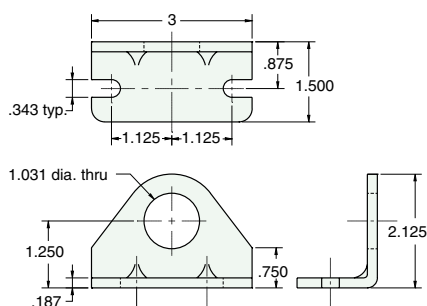
RE-3285

Rod End
Material: steel, bright zinc plated body



FB-2891

Foot Bracket
Material: steel, bright zinc plated



Max. Static Radial Load: 6700 lbs.
Fits Rod Thread Size: 1/2-20



2" BORE STAINLESS STEEL CYLINDER

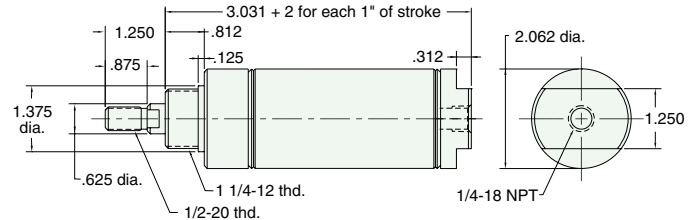
SSR-32-□-□

Single Acting

Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6, 7, 8, 10, 12
Type: Rotating Rod **Spring Compressed:** 30 lbs. **Spring At Rest:** 15 lbs.
Options: MB, B, V, S, N

For magnetic bumpers add .312

For S option add .375



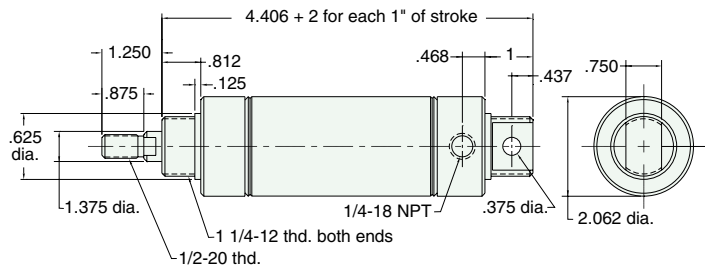
USR-32-□-□

Single Acting

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 30 lbs. **Spring At Rest:** 15 lbs.
Options: MB, B, V, N

Furnished without nut(s)
See chart on page 55

For magnetic bumpers add .312



SDR-32-□-□

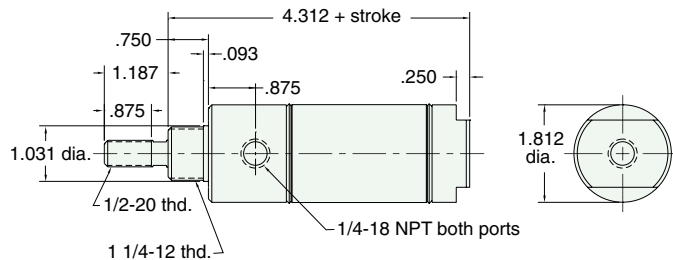
Double Acting

Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4, 5, 6
Type: Rotating Rod
Options: C, F, R, MB, B, W, V, P6, P7, P8, S, N

For magnetic bumpers add .312

For S option add .375

For C, F, R and S options add .375



For C, F, & R options use side ported rear head

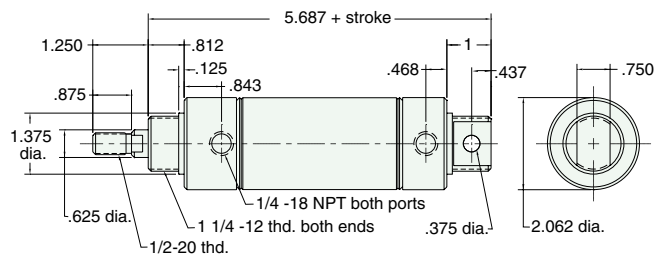
UDR-32-□-□

Double Acting

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 30 lbs. **Spring At Rest:** 15 lbs.
Options: C, F, R, MB, B, W, V, P2, P3, P4, P5, P6, P7, P8, N

Furnished without nut(s)
See chart on page 55

For magnetic bumpers add .312



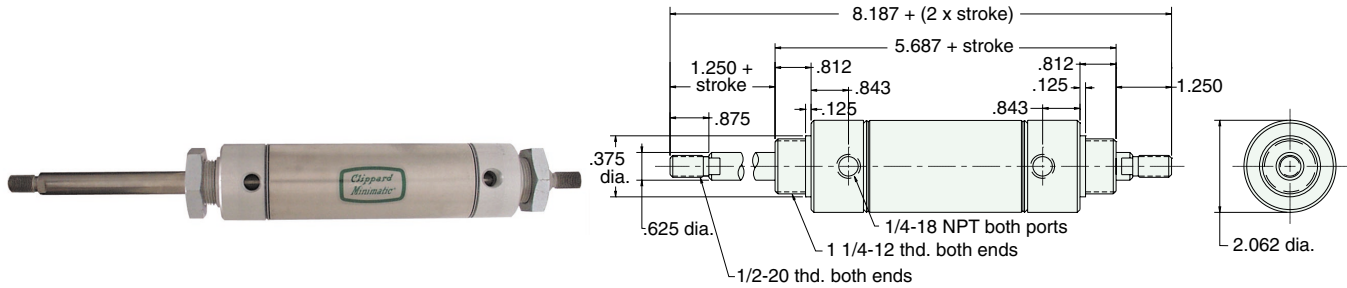
2" BORE STAINLESS STEEL CYLINDER



SDD-32-□-□

Double Acting

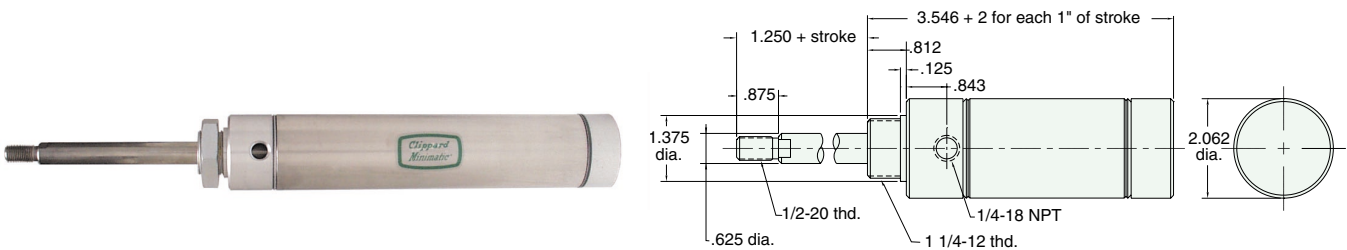
Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6, 8, 10, 12
Type: Double Rod
Options: C, F, MB, B, W, V, P2, P3, P4, P5, P6, P7, P8, N For magnetic bumpers add .312



SRR-32-□-□

Reverse Acting

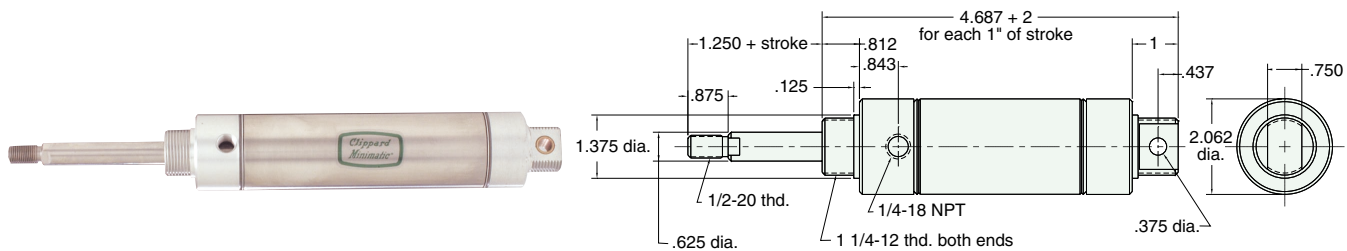
Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6
Type: Rotating Rod **Spring Compressed:** 30 lbs. **Spring At Rest:** 15 lbs.
Options: MB, B, W, V, N For magnetic bumpers add .312



URR-32-□-□

Reverse Acting

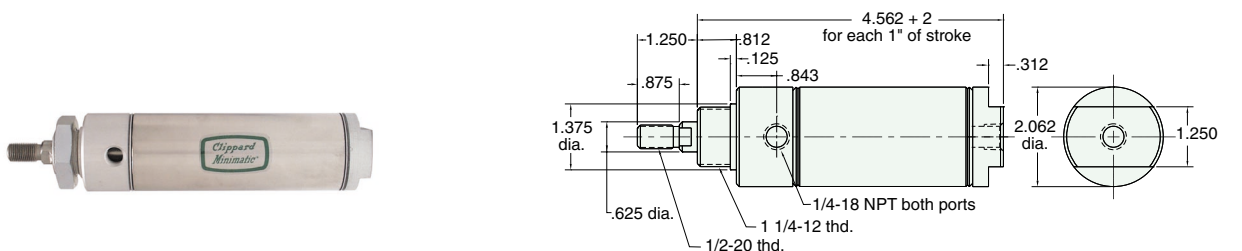
Mount: Universal **Standard Stroke Lengths:** $1/2$, 1, $1-1/2$, 2, 3, 4 Furnished without nut(s) See chart on page 55
Type: Rotating Rod **Spring Compressed:** 30 lbs. **Spring At Rest:** 15 lbs.
Options: MB, B, W, V, P6, N For magnetic bumpers add .312



SFR-32-□-□

Spring Bias

Mount: Stud **Standard Stroke Lengths:** $1/2$, 1, $1-1/2$, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 30 lbs. **Spring At Rest:** 15 lbs.
Options: MB, B, W, V, P6, P7, P8, S, N For magnetic bumpers add .312



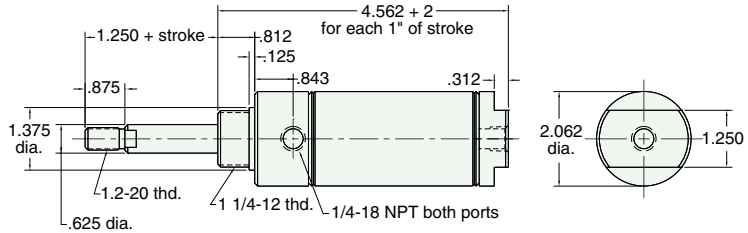


2" BORE STAINLESS STEEL CYLINDER

SBR-32-□-□

Spring Bias

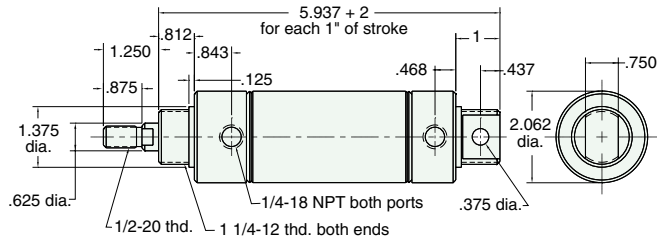
Mount: Stud **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 30 lbs. **Spring At Rest:** 15 lbs.
Options: MB, B, W, V, P6, P7, P8, S, N For magnetic bumpers add .312
 For S option add .375



UFR-32-□-□

Spring Bias

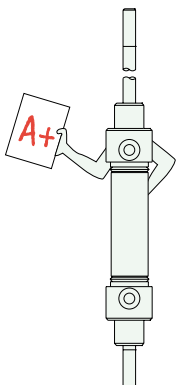
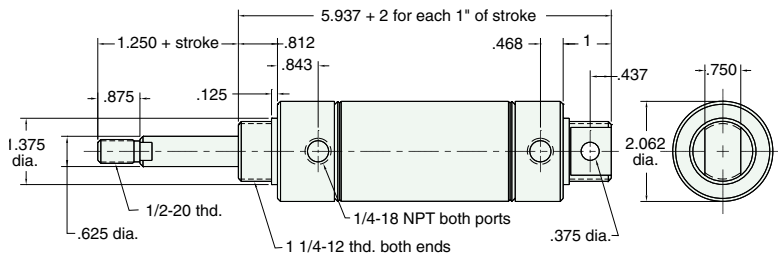
Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 30 lbs. **Spring At Rest:** 15 lbs.
Options: MB, B, W, V, P2, P3, P4, P5, P6, P7, P8, N For magnetic bumpers add .312



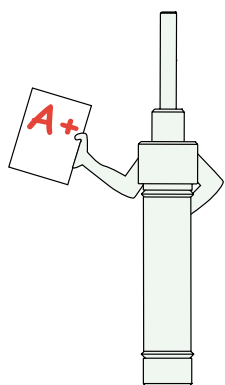
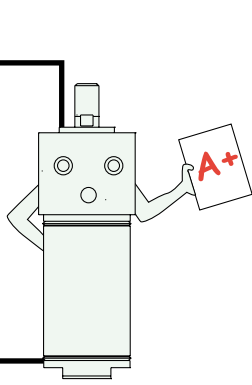
UBR-32-□-□

Spring Bias

Mount: Universal **Standard Stroke Lengths:** 1/2, 1, 1-1/2, 2, 3, 4
Type: Rotating Rod **Spring Compressed:** 30 lbs. **Spring At Rest:** 15 lbs.
Options: MB, B, W, V, P2, P3, P4, P5, P6, P7, P8, N For magnetic bumpers add .312



Did you know...
 All Clippard Cylinders
 are 100% tested.





MOUNTING NUTS

Stud Nut

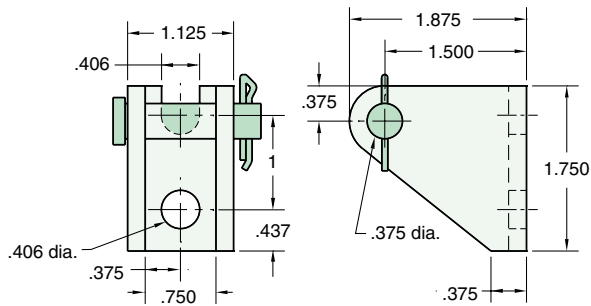
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N20-12	1 3/4	7/16	1 1/4-12

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N08-20	3/4	5/16	1/2-20

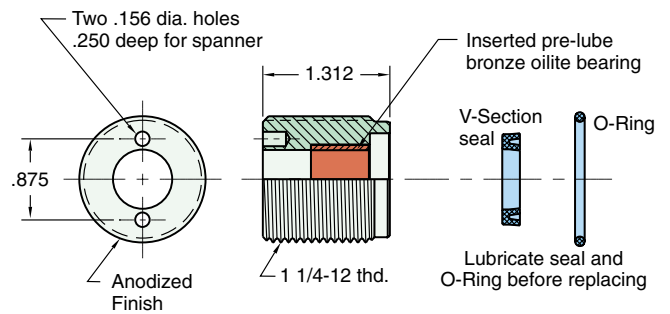
CB-3295

Clevis Bracket
Material: steel, bright zinc plated



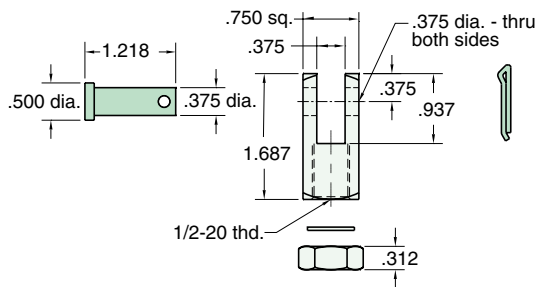
RK-3299

Replaceable Rod Seal
Material: aluminum body



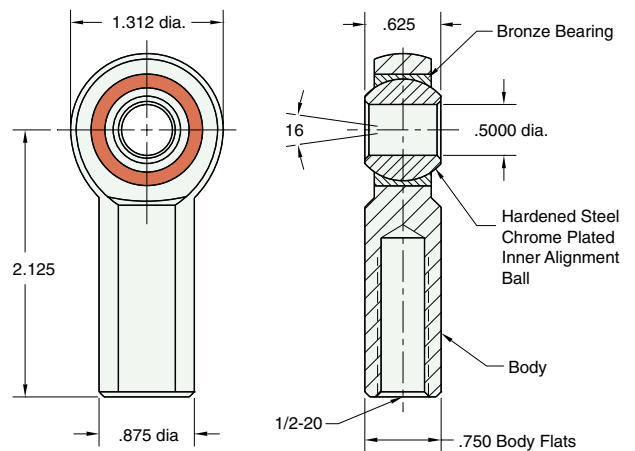
RC-3281

Rod Clevis
Material: steel, bright zinc plated



RE-3285

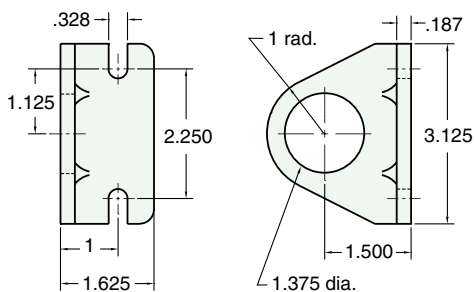
Rod End
Material: steel, bright zinc plated body



Max. Static Radial Load: 6700 lbs.
Fits Rod Thread Size: 1/2-20

FB-3291

Foot Bracket
Material: steel, bright zinc plated





2 1/2" BORE STAINLESS STEEL CYLINDER

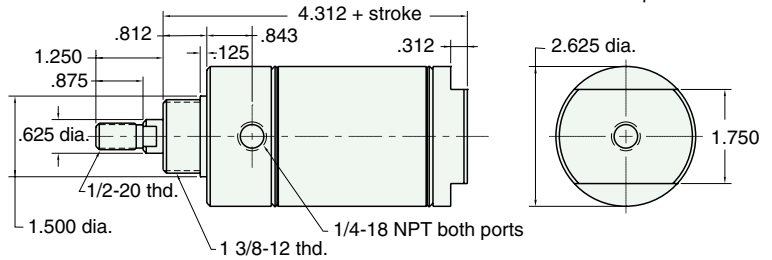
SDR-40-□-□

Double Acting



Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6
Type: Rotating Rod
Options: C, F, R, MB, W, V, P6, P7, P8, S, N

Bumpers are standard
 For magnetic bumpers add .312
 For S option add .437



For C, F, & R options use side ported rear head

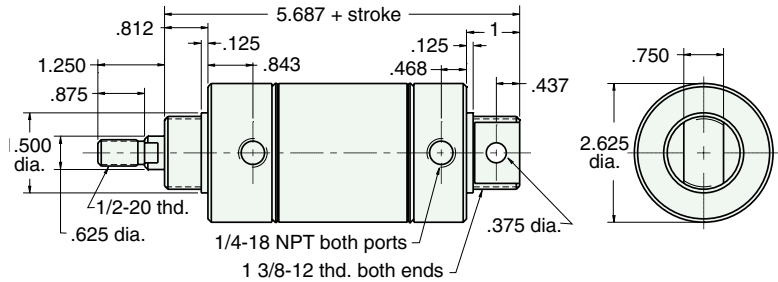
UDR-40-□-□

Double Acting



Mount: Universal **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6, 7, 8, 10, 12
Type: Rotating Rod
Options: C, F, R, MB, W, V, P2, P3, P4, P5, P6, P7, P8, N **Bumpers are standard** For magnetic bumpers add .312

Furnished without nut(s)
 See chart on page 57

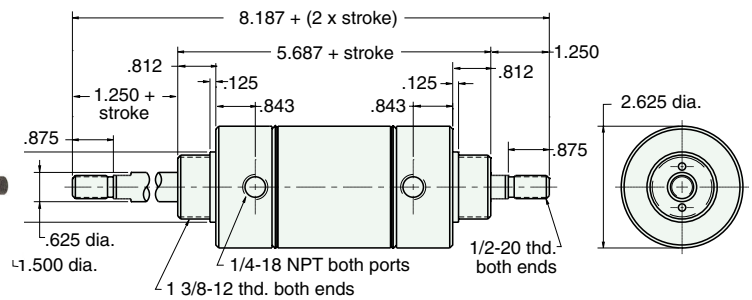


SDD-40-□-□

Double Acting



Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6, 8, 10, 12
Type: Double Rod
Options: C, F, R, MB, W, V, P6, P7, P8, N **Bumpers are standard** For magnetic bumpers add .312





MOUNTING NUTS

Stud Nut

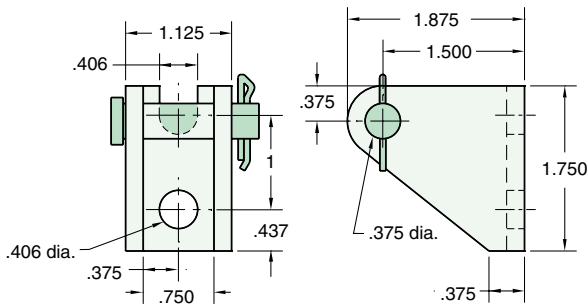
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N22-12	1 7/8	1/2	1 3/8-12

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N08-20	3/4	5/16	1/2-20

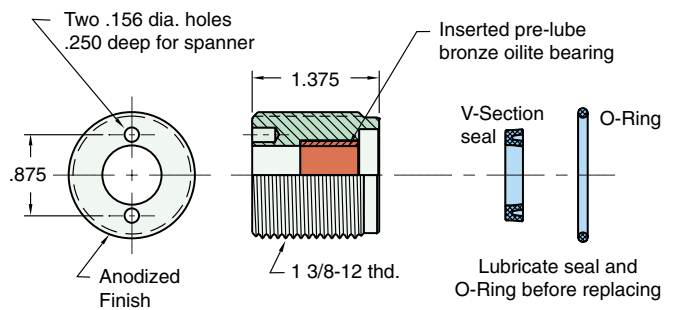
CB-3295

Clevis Bracket
Material: steel, bright zinc plated



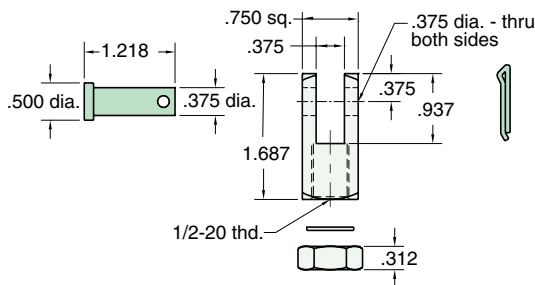
RK-4099

Replaceable Rod Seal
Material: aluminum body



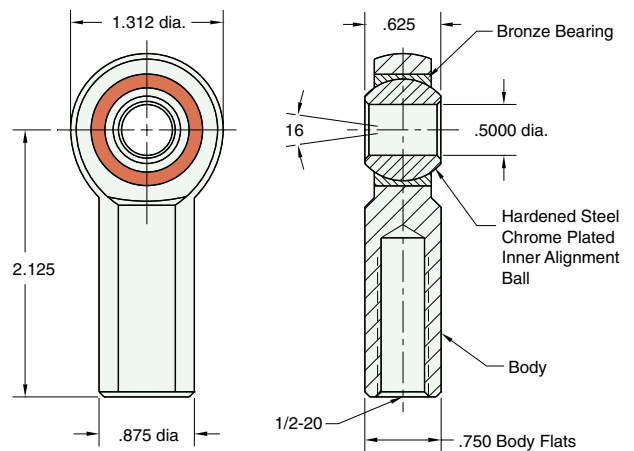
RC-3281

Rod Clevis
Material: steel, bright zinc plated



RE-3285

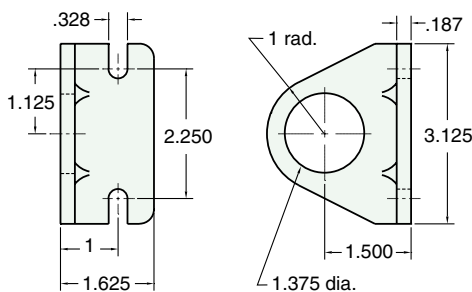
Rod End
Material: steel, bright zinc plated body



Max. Static Radial Load: 6700 lbs.
Fits Rod Thread Size: 1/2-20

FB-3291

Foot Bracket
Material: steel, bright zinc plated





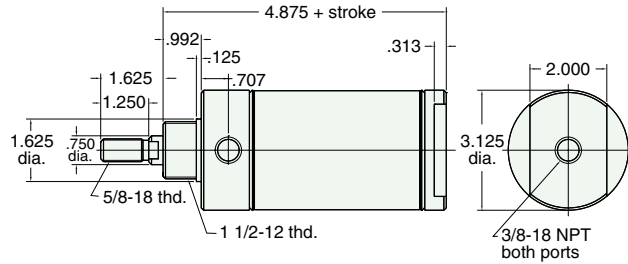
3" BORE STAINLESS STEEL CYLINDER

SDR-48-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6
Type: Rotating Rod
Options: MB, W, V, P6, P7, P8, S, N

Bumpers are standard
No additional length for bumpers
For S option add .437

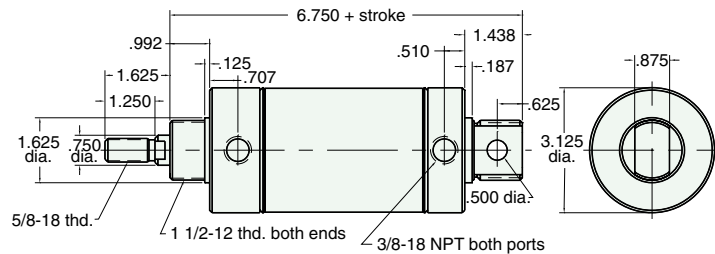


UDR-48-□-□

Double Acting

Mount: Universal **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6, 7, 8, 10, 12
Type: Rotating Rod
Options: MB, W, V, P2, P3, P4, P5, P6, P7, P8, N

Bumpers are standard
No additional length for bumpers

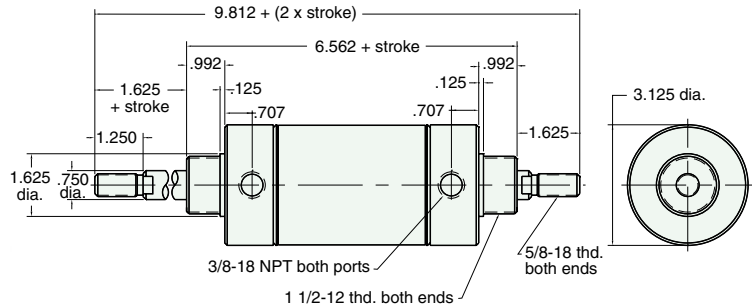


SDD-48-□-□

Double Acting

Mount: Stud **Standard Stroke Lengths:** 1, 2, 3, 4, 5, 6, 8, 10, 12
Type: Double Rod
Options: MB, W, V, P6, P7, P8, N

Bumpers are standard
No additional length for bumpers



Did you know...

Minimatic®
Minimetric®
Fluidamp®
Octoport®
Air-2-Electric® and Air Force One® are all Clippard's registered trademarks.





MOUNTING NUTS

Stud Nut

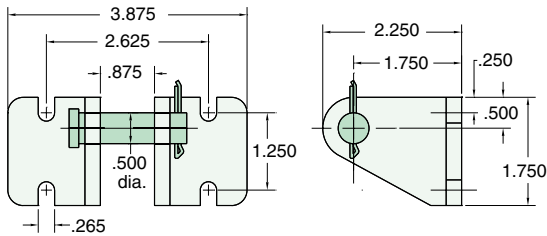
Part Number	Across Flats	Nut Thickness	Nut (Thread)
N24-12	2 1/4	1/2	1 1/2-12

Rod Nut

Part Number	Across Flats	Nut Thickness	Nut (Thread)
N08-20	3/4	5/16	1/2-20

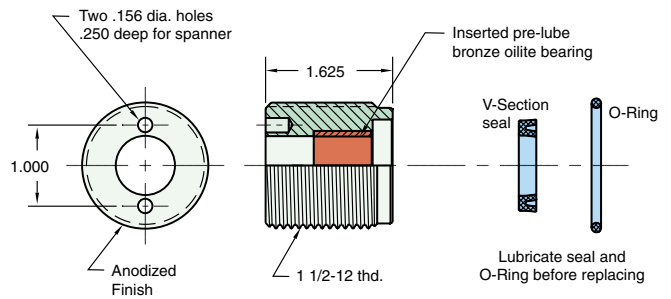
CB-4895

Clevis Bracket
Material: steel, bright zinc plated



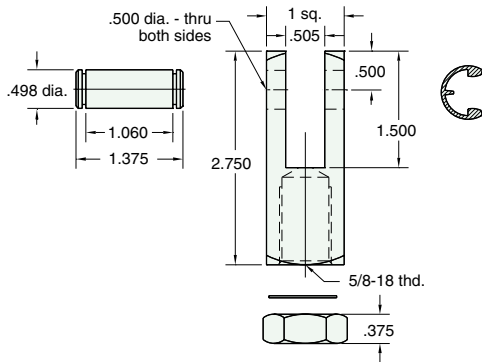
RK-4899

Replaceable Rod Seal
Material: aluminum body



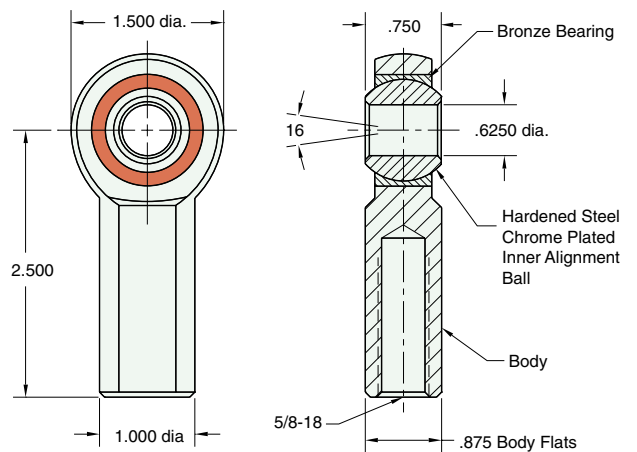
RC-4881

Rod Clevis
Material: steel, bright zinc plated



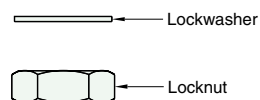
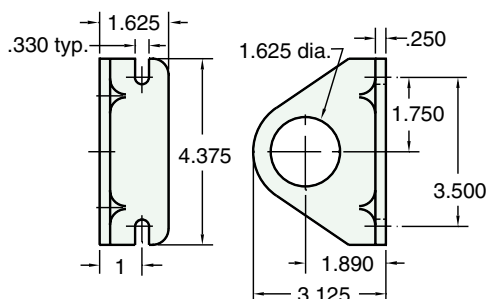
RE-4885

Rod End
Material: steel, bright zinc plated body



FB-4891

Foot Bracket
Material: steel, bright zinc plated



Max. Static Radial Load: 7400 lbs.
Fits Rod Thread Size: 5/8-18



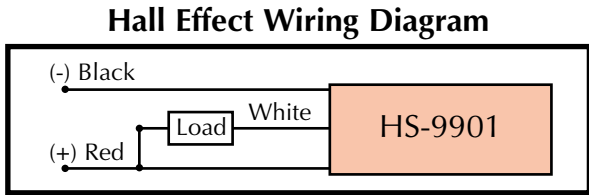
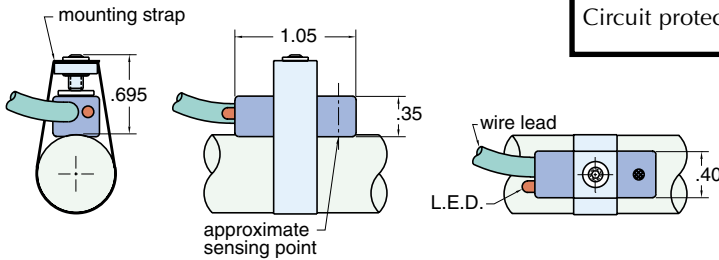
POSITION SENSORS

HS-9901

Hall Effect Sensors



Output type	Sinking (open collector output)
Input voltage (Vin)	5 to 28 VDC
Operation temp.	0 to 185°F
Input current (Iin)	25 mA maximum
Output voltage drop	.4 VDC maximum
Output current (Iout)	Iout = .3 Vin, 300 mA maximum
Power dissipation	300 mW maximum
Lead Wire	22 ga. x 4 ft. also avail. in 12 ft. length HS-9901-12
Circuit protection	Reverse polarity protected, transient voltage protected and false pulse protected.

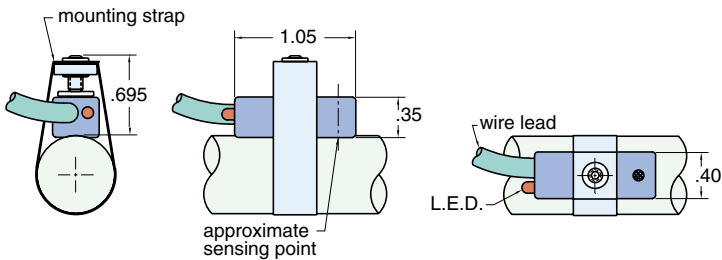
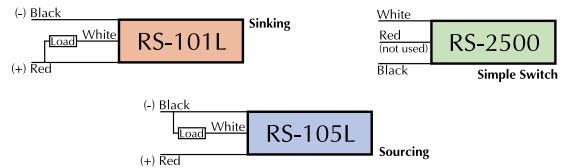


RS-

Magnetic Reed Switch

RS-101L • RS-105L • RS-2500

Circuit Diagram



Part Number	RS-101L	RS-105L	RS-2500
Output Type	Sinking	Sourcing	Simple Switch
Power Range	10w	25w	25w
Supply Voltage	3 to 36 VAC or VDC		220 VAC or VDC
Current Range	1.0 A max.		
LED	Provided	Provided	Not Provided
Lead Wire	22 ga. x 4 ft.		
Operating Temp.	0 to 300°		
Rated Life	10,000,000 cycles		
Housing	molded plastic		
Response Time	1 mSec		
Switching Logic	SPST normally open		

RS-105L pictured

■ RS-101L & RS-105L □ RS-101L, RS-105L & RS-2500

Universal Clamps

- SC-08 • SC-10 • SC-12 • SC-14 • SC-17 • SC-20
- SC-24 • SC-28 • SC-32 • SC-40 • SC-48



Clippard's stainless steel clamps are designed to be used with the Hall Effect and the reed switch. All clamps should be ordered based upon the size of the cylinder on which it will be mounted. The part numbers show the bore size using the numerical code. Each clamp is .375 wide stainless steel, and is equipped with a locking screw with #5-40 threads.

AVT-□-□

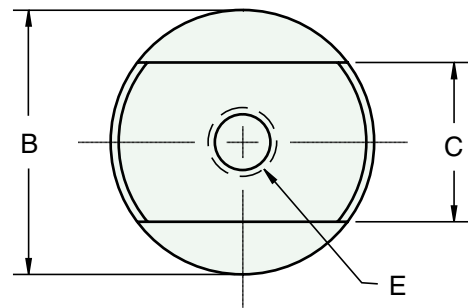
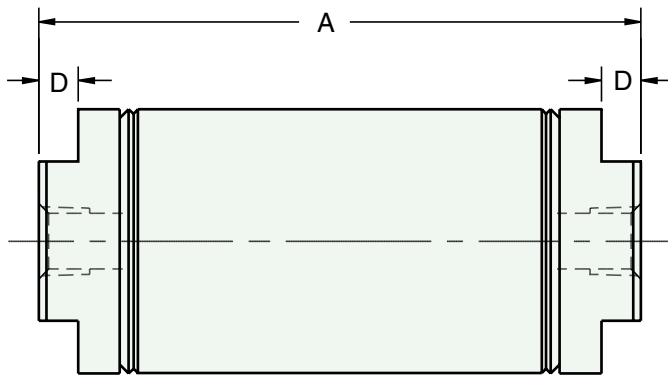
AVT-12-1	AVT-17-2 AVT-17-3	AVT-24-4 AVT-24-6	AVT-24-8 AVT-24-10	AVT-32-12 AVT-32-14	AVT-32-16
----------	----------------------	----------------------	-----------------------	------------------------	-----------

Additional models are available upon request

Clippard offers a line of air volume tanks suitable for use with Clippard air components. Using the same quality rolled construction as Clippard stainless steel cylinders, tanks are manufactured to exacting standards. Each is provided with a threaded port at both ends. See chart for volume capacity, dimensions, and port information.

For additional corrosion resistance Clippard can offer air volume tanks with Delrin® heads. Call for more information.

Delrin® is a registered trademark of DuPont



FEATURES

- Volumes from 1 to 16 cu. in.
- Ten models
- 304 stainless steel tubes
- Precision rolled construction
- Easy to connect, mount and use in your circuits
- Anodized aluminum heads
- Maximum pressure 250 psig

Part Number	Volume Cubic In.	A	B	C	D	E
AVT-12-1	1.0	3.281	.812	.625	.156	1/8 27
AVT-17-2	2.0	3.593	1.125	.875	.187	1/8 27
AVT-17-3	3.0	4.718	1.125	.875	.187	1/8 27
AVT-24-4	4.0	3.687	1.562	.875	.250	1/8 27
AVT-24-6	6.0	4.843	1.562	.875	.250	1/8 27
AVT-24-8	8.0	5.968	1.562	.875	.250	1/8 27
AVT-24-10	10.0	7.093	1.562	.875	.250	1/8 27
AVT-32-12	12.0	5.718	2.062	1.250	.312	1/4 18
AVT-32-14	14.0	6.343	2.062	1.250	.312	1/4 18
AVT-32-16	16.0	6.968	2.062	1.250	.312	1/4 18