

# NPL Series

## LOW HEIGHT GAS SPRINGS

*IDEAL FOR STAMPING  
APPLICATIONS WHERE  
HEIGHT IS RESTRICTED*



# HYSON

## GENUINELY HYSON

Since 1964 Hyson has been dedicated to providing safer and more reliable products with worldwide support and service. We are continually at the forefront of innovative product design, and engineer forward-thinking features into our self-contained springs which enable our customers to provide safer working environments.

Our nitrogen gas springs, which comply with all major industry standards, are designed to reduce the risk of tool damage and injuries and include at least one of the following safety features:



### Overstroke Protection:

In the event of an overstroke, the Hyson cylinder is designed to fail-safe and release pressure in a pre-defined manner with deformation or knockout plug.



### Overpressure Protection:

Designed to vent excessive gas in the event that the spring becomes overpressured, deformation of the safety lip guide or separation of disc will occur.



### Overload Protection:

The piston rod is designed for controlled gas venting between the seal and piston rod with a specially designed guide and fundamental safety stop in the event of an overload caused by a jammed tool, part or rod side-load.



Additionally, the majority of Hyson springs are **PED** (Pressure Equipment Directive) approved to withstand a minimum of 2 million full cycles according to PED97/23/EC. Many of our competitors are in compliance of PED, but compliance is unequal to the 2 million cycle test and approval that Hyson gas springs have undergone. This is one more assurance that with Hyson Nitrogen Gas Springs you receive an added value of reliability and operational excellence.

***IDEAL FOR STAMPING APPLICATIONS WHERE HEIGHT IS RESTRICTED.  
NPL Series is 25mm – 50mm shorter than NP series.***

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## General Information

Hyson, headquartered in Brecksville, Ohio, is a world class engineering and manufacturing company that provides high-quality, safety-engineered force control solutions for a wide range of applications and industries, including automotive, aerospace, appliance, medical and HVAC. Hyson partners with our customers to understand applications and provide the best solutions for each one. We are a full service force control provider for critical machine, vehicle and precision metal processing applications, meaning we can supply dependent upon each customer's needs, including: gas springs, cam systems, cushions, manifolds to knockout systems.

Our success lies with our commitment to continually improve ourselves, our processes and our products to ensure we meet or exceed our customers' expectations. Our ISO-9001, AS-9000 and PED certifications attest to our ongoing commitment to the highest standards of quality.

## PED – Pressure Equipment Directive

Hyson gas springs are designed to meet customer expectations for reliability, safety and service lifetime. The design, manufacture and testing of Hyson gas springs has been approved according to the European Pressure Equipment Directive (97/23/EC).



The Pressure Equipment Directive (PED) replaces all previous European legislation governing the design, manufacture and testing of pressure vessels.

## NPL Spring Value

- Lower Height
  - Provides the force needed in a shorter profile where height is restricted.
- Force adjustability & increased productivity
  - Our gas springs are adjustable simply by modifying gas pressure through a hoses control panel while the die is in the press.
- Balanced, consistent force
  - Our gas springs provide for a balanced pad and high quality parts while, as coil springs start to fatigue and break, the pad can become imbalanced resulting in poor quality parts.

## Product Features

- Five models with contact forces from 7,400 N to 75,000 N/*1,665 lbf to 16,860 lbf*.
- Stroke lengths from 12.5 mm to 250 mm/*.49 in to 9.84 in*
- Diameters available from 50 mm to 150 mm/*1.98 in to 5.61 in*
- Variety of mounting options available
- Flexible guide absorbs lateral movement and misalignments in the die
- Upper C-groove, lower U-groove and bottom threaded holes enable various standard mounting possibilities

## Advanced Safety Features

- **Over-Pressure Protection:** designed to safely vent excessive gas pressure in the event of an over-pressure situation such as over-charged gas springs or the ingestion of large amounts of drawing or cooling fluids.
- **Over-Stroke Protection:** A patented system allows the venting of gas in a pre-determined manner with deformation or knock-out plug in the event of a mechanical overload of the gas spring body.
- **Overload Protection:** In the case of blockage in the tool that causes excessive piston return speed, a specially-designed rod and integral safety stops retain the piston rod in the gas spring and allow gas to vent safely.



Overload  
Protection



Overpressure  
Protection



Overstroke  
Protection

## Product Specifications

|                                               |                             |
|-----------------------------------------------|-----------------------------|
| Pressure Medium .....                         | Nitrogen                    |
| Max. Charging Pressure .....                  | 150 bar/2,175 psi           |
| Min. Charging Pressure .....                  | 25 bar/365 psi              |
| Operating Temperature .....                   | 0° to 80°C/32° to 176°F     |
| Force Increase by Temperature .....           | ±0.3% per °C/±0.009% per °F |
| Recommended Max. Strokes/Min. ....            | ~15-40 @ 20°C/68°F          |
| Max. Piston Rod Velocity .....                | 1.6 m/s /315 ft per min.    |
| Max. Utilized stroke .....                    | 100%                        |
| Inlet Valve                                   |                             |
| NPL-750 .....                                 | 4018112                     |
| NPL-1500, NPL-3000, NPL-5000 & NPL-7500 ..... | 56-072-5500                 |
| Charge Fitting .....                          | T2-770-G1/8-P               |

## Ordering Instructions

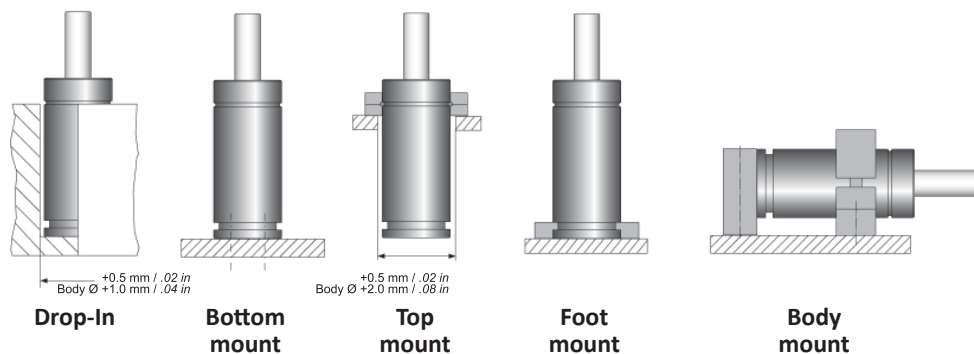
|                |   |                    |
|----------------|---|--------------------|
| <b>NPL-750</b> | x | <b>25</b>          |
|                |   |                    |
| Model          |   | Stroke             |
|                |   |                    |
| NPL-750        |   | See                |
| NPL-1500       |   | Dimensional        |
| NPL-3000       |   | Information Charts |
| NPL-5000       |   |                    |
| NPL-7500       |   |                    |

All gas springs shipped at maximum charge pressure unless otherwise specified.

## Repair Kits

| Gas Spring | Repair Kit Part Number |
|------------|------------------------|
| NPL-750    | <b>3324118</b>         |
| NPL-1500   | <b>3324144</b>         |
| NPL-3000   | <b>3324171</b>         |
| NPL-5000   | <b>3324178</b>         |
| NPL-7500   | <b>3325027</b>         |

## Mounting Options



**Advanced  
Safety Features**



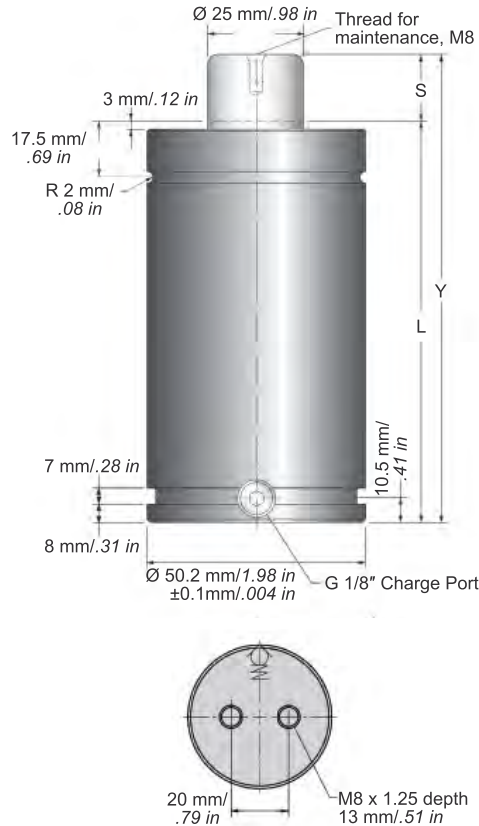
Overload  
Protection



Overpressure  
Protection



Overstroke  
Protection



**NPL-750 Dimensional Information**

| Order Number<br>Model X<br>Stroke | Stroke<br>S |      | Contact<br>Force** |       | Full Stroke<br>Force** |       | Y            |               | L     |       | Gas<br>Volume | Weight |      |
|-----------------------------------|-------------|------|--------------------|-------|------------------------|-------|--------------|---------------|-------|-------|---------------|--------|------|
|                                   | mm          | in   | N                  | lbf   | N                      | lbf   | ± 0.25<br>mm | ± 0.010<br>in | mm    | in    | ℓ             | kg     | lbs  |
| NPL-750X12.5                      | 12.5        | .49  | 7,400              | 1,665 | 11,400                 | 2,560 | 95           | 3.74          | 82.5  | 3.25  | 0.03          | .97    | 2.14 |
| *NPL-750X25                       | 25          | .98  |                    |       | 11,700                 | 2,630 | 120          | 4.72          | 95    | 3.35  | 0.04          | 1.08   | 2.38 |
| NPL-750X37.5                      | 37.5        | 1.48 |                    |       | 11,800                 | 2,650 | 145          | 5.71          | 107.5 | 4.23  | 0.06          | 1.20   | 2.65 |
| *NPL-750X50                       | 50          | 1.97 |                    |       | 11,900                 | 2,670 | 170          | 6.69          | 120   | 4.72  | 0.08          | 1.32   | 2.91 |
| NPL-750X62.5                      | 62.5        | 2.46 |                    |       | 11,900                 | 2,670 | 195          | 7.68          | 132.5 | 5.22  | 0.09          | 1.42   | 3.13 |
| NPL-750X75                        | 75          | 2.95 |                    |       | 11,900                 | 2,675 | 220          | 8.66          | 145   | 5.71  | 0.11          | 1.53   | 3.37 |
| *NPL-750X80                       | 80          | 3.15 |                    |       | 11,900                 | 2,670 | 230          | 9.06          | 150   | 5.91  | 0.11          | 1.58   | 3.48 |
| NPL-750X87.5                      | 87.5        | 3.44 |                    |       | 11,900                 | 2,670 | 245          | 9.65          | 157.5 | 6.20  | 0.11          | 1.65   | 3.64 |
| *NPL-750X100                      | 100         | 3.94 |                    |       | 11,900                 | 2,670 | 270          | 10.63         | 170   | 6.69  | 0.14          | 1.77   | 3.90 |
| NPL-750X112.5                     | 112.5       | 4.43 |                    |       | 12,000                 | 2,700 | 295          | 11.61         | 182.5 | 7.19  | 0.15          | 1.89   | 4.17 |
| *NPL-750X125                      | 125         | 4.92 |                    |       | 12,000                 | 2,700 | 320          | 12.60         | 195   | 7.68  | 0.15          | 2.01   | 4.43 |
| NPL-750X137.5                     | 137.5       | 5.41 |                    |       | 12,000                 | 2,700 | 345          | 13.58         | 207.5 | 8.17  | 0.17          | 2.13   | 4.70 |
| NPL-750X150                       | 150         | 5.91 |                    |       | 12,000                 | 2,700 | 370          | 14.57         | 220   | 8.66  | 0.19          | 2.25   | 4.96 |
| *NPL-750X160                      | 160         | 6.30 |                    |       | 12,000                 | 2,700 | 390          | 15.35         | 230   | 9.06  | 0.20          | 2.34   | 5.16 |
| NPL-750X175                       | 175         | 6.89 |                    |       | 12,000                 | 2,700 | 420          | 16.54         | 245   | 9.65  | 0.23          | 2.48   | 5.47 |
| NPL-750X200                       | 200         | 7.87 |                    |       | 12,000                 | 2,700 | 470          | 18.50         | 270   | 10.63 | 0.26          | 2.72   | 6.00 |
| NPL-750X225                       | 225         | 8.86 |                    |       | 12,000                 | 2,700 | 520          | 20.47         | 295   | 11.61 | 0.30          | 2.96   | 6.53 |
| NPL-750X250                       | 250         | 9.84 |                    |       | 12,000                 | 2,700 | 570          | 22.44         | 320   | 12.60 | 0.33          | 3.19   | 7.03 |

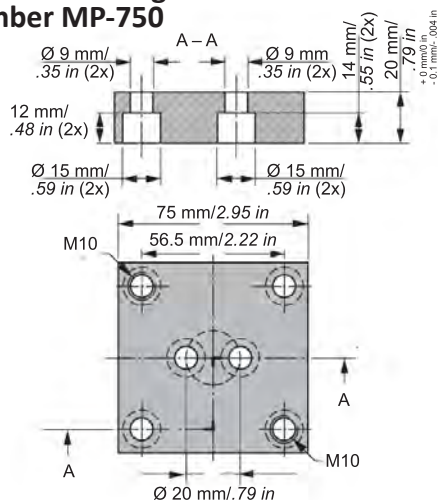
\* Recommended stroke lengths for optimal delivery

\*\* At full charge

**Note:** All flanges ordered separately.

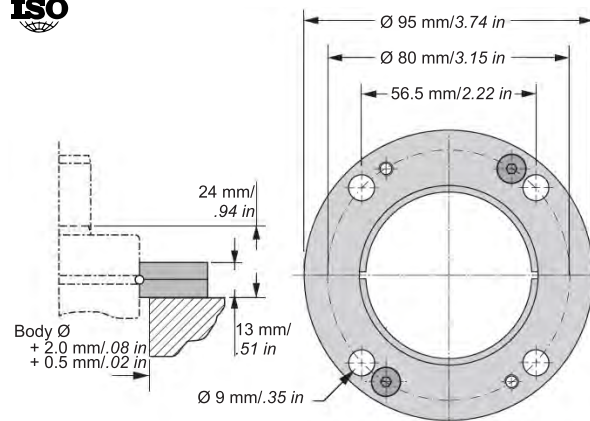
**Mounting Options**

**MP - Bottom Mounting Plate**  
**Order Number MP-750**

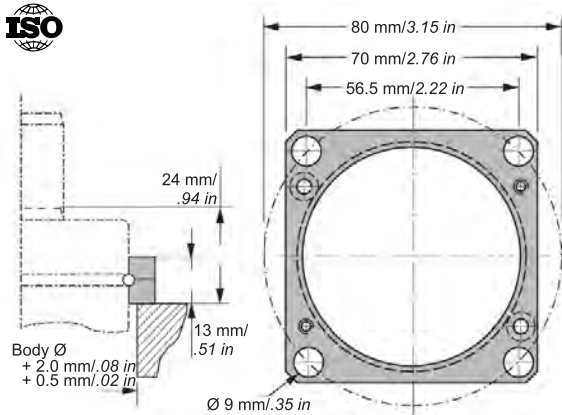


**Note:** Comes complete with screws to mount gas spring.

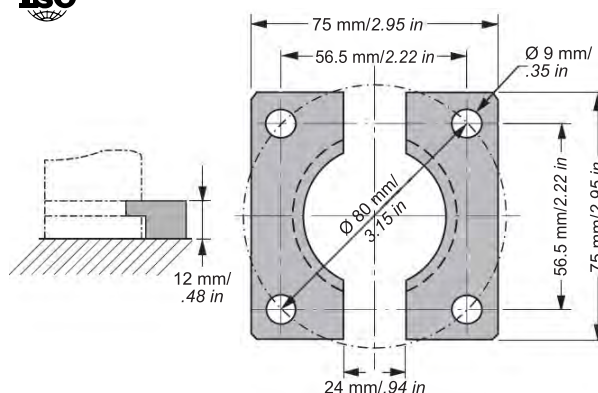
**FC - Circular Flange**  
**Order Number FC-750**



**FCS - Upper Square Flange**  
**Order Number FCS-750**



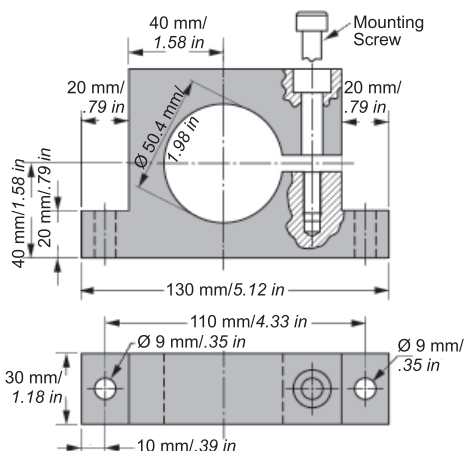
**FFC - Lower Square Flange**  
**Order Number FFC-750**



**S - Support Mount**  
**Order Number S-750**



**Note:** Support S is designed to be used in combination with flanges mounted in the U or C groove.



The mounting screw (M8) should be tightened with torque 25 Nm.

## Advanced Safety Features



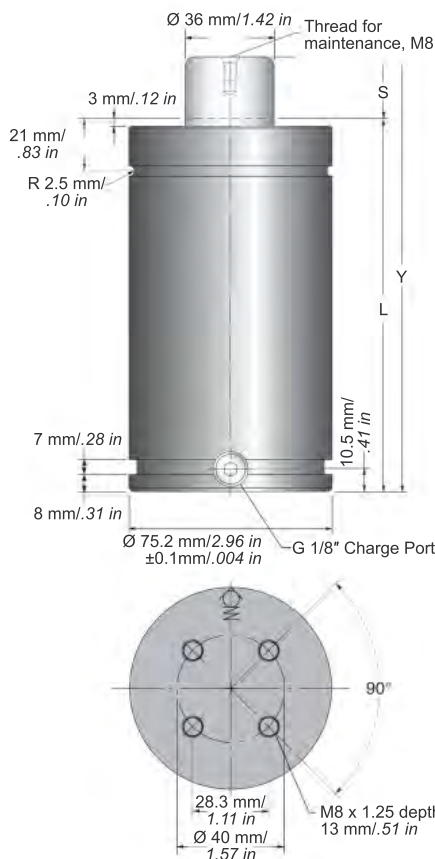
### Overload Protection



### Overpressure Protection



### Overstroke Protection



## NPL-1500 Dimensional Information

| Order Number<br>Model X<br>Stroke | Stroke<br>S |      | Contact<br>Force** |       | Full Stroke<br>Force** |       | Y      |         | L     |       | Gas<br>Volume | Weight |       |
|-----------------------------------|-------------|------|--------------------|-------|------------------------|-------|--------|---------|-------|-------|---------------|--------|-------|
|                                   | mm          | in   | N                  | lbf   | N                      | lbf   | ± 0.25 | ± 0.010 |       |       |               | mm     | in    |
|                                   |             |      |                    |       |                        |       |        |         |       |       |               |        |       |
| NPL-1500X12.5                     | 12.5        | .49  | 15,000             | 3,375 | 18,000                 | 4,050 | 110    | 4.33    | 97.5  | 3.84  | 0.11          | 2.65   | 5.84  |
| *NPL-1500X25                      | 25          | .98  |                    |       | 19,200                 | 4,320 | 135    | 5.31    | 110   | 4.33  | 0.15          | 2.88   | 6.35  |
| NPL-1500X37.5                     | 37.5        | 1.48 |                    |       | 20,000                 | 4,500 | 160    | 6.30    | 122.5 | 4.82  | 0.19          | 3.11   | 6.86  |
| *NPL-1500X50                      | 50          | 1.97 |                    |       | 20,400                 | 4,590 | 185    | 7.28    | 135   | 5.31  | 0.23          | 3.34   | 7.36  |
| NPL-1500X62.5                     | 62.5        | 2.46 |                    |       | 20,700                 | 4,650 | 210    | 8.27    | 147.5 | 5.81  | 0.27          | 3.57   | 7.87  |
| NPL-1500X75                       | 75          | 2.95 |                    |       | 20,900                 | 4,700 | 235    | 9.25    | 160   | 6.30  | 0.31          | 3.88   | 8.55  |
| *NPL-1500X80                      | 80          | 3.15 |                    |       | 21,000                 | 4,720 | 245    | 9.65    | 165   | 6.50  | 0.33          | 3.89   | 8.58  |
| NPL-1500X87.5                     | 87.5        | 3.44 |                    |       | 21,100                 | 4,740 | 260    | 10.24   | 172.5 | 6.79  | 0.35          | 4.03   | 8.88  |
| *NPL-1500X100                     | 100         | 3.94 |                    |       | 21,200                 | 4,770 | 285    | 11.22   | 185   | 7.28  | 0.39          | 4.26   | 9.39  |
| NPL-1500X112.5                    | 112.5       | 4.43 |                    |       | 21,400                 | 4,810 | 310    | 12.20   | 197.5 | 7.78  | 0.43          | 4.49   | 9.90  |
| *NPL-1500X125                     | 125         | 4.92 |                    |       | 21,500                 | 4,830 | 335    | 13.19   | 210   | 8.27  | 0.47          | 4.71   | 10.38 |
| NPL-1500X137.5                    | 137.5       | 5.41 |                    |       | 22,000                 | 4,950 | 360    | 14.17   | 222.5 | 8.76  | 0.49          | 4.94   | 10.89 |
| NPL-1500X150                      | 150         | 5.91 |                    |       | 22,000                 | 4,950 | 385    | 15.16   | 235   | 9.25  | 0.52          | 5.17   | 11.40 |
| *NPL-1500X160                     | 160         | 6.30 |                    |       | 22,100                 | 4,970 | 405    | 15.95   | 245   | 9.65  | 0.56          | 5.36   | 11.82 |
| NPL-1500X175                      | 175         | 6.89 |                    |       | 22,100                 | 4,970 | 435    | 17.13   | 260   | 10.24 | 0.60          | 5.63   | 12.41 |
| NPL-1500X200                      | 200         | 7.87 |                    |       | 22,100                 | 4,970 | 485    | 19.09   | 285   | 11.22 | 0.68          | 6.09   | 13.43 |
| NPL-1500X225                      | 225         | 8.86 |                    |       | 22,200                 | 4,990 | 535    | 21.06   | 310   | 12.20 | 0.76          | 6.55   | 14.44 |
| NPL-1500X250                      | 250         | 9.84 |                    |       | 22,200                 | 4,990 | 585    | 23.03   | 335   | 13.19 | 0.84          | 7.01   | 15.45 |

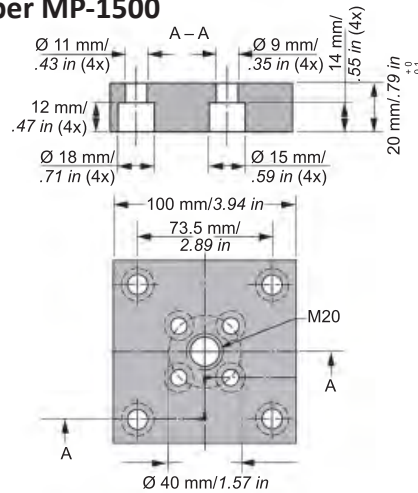
\* Recommended stroke lengths for optimal delivery

\*\* At full charge

**Note:** All flanges ordered separately.

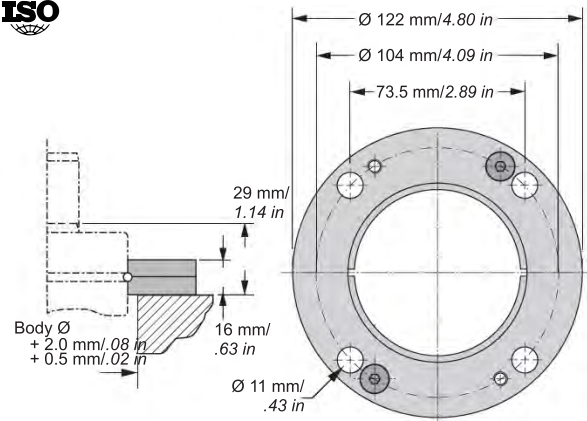
### Mounting Options

#### MP - Bottom Mounting Plate Order Number MP-1500

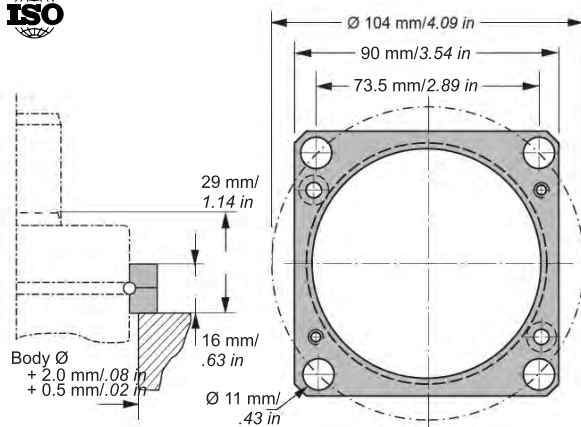


**Note:** Comes complete with screws to mount gas spring.

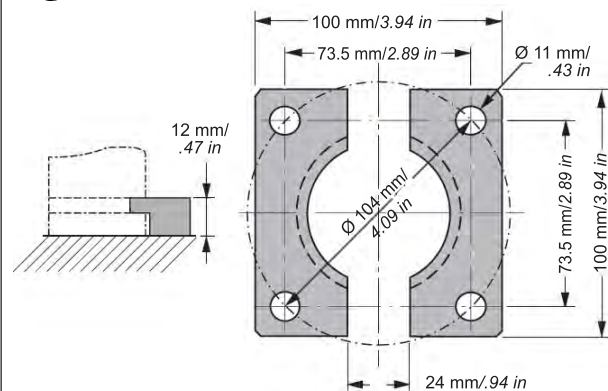
#### FC - Circular Flange Order Number FC-1500



#### FCS - Upper Square Flange Order Number FCS-1500



#### FFC - Lower Square Flange Order Number FFC-1500

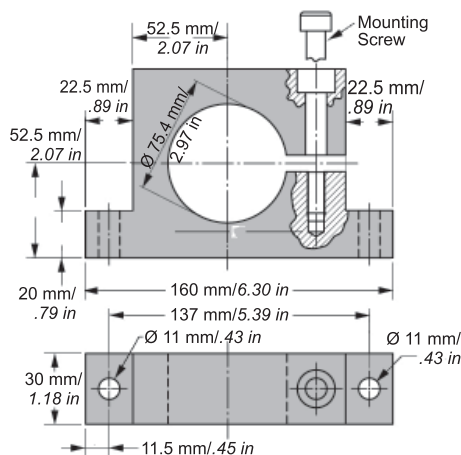


#### S - Support Mount Order Number S-1500



**Note:** Support S is designed to be used in combination with flanges mounted in the U or C groove.

The mounting screw (M10) should be tightened with torque 52 Nm.



## Advanced Safety Features



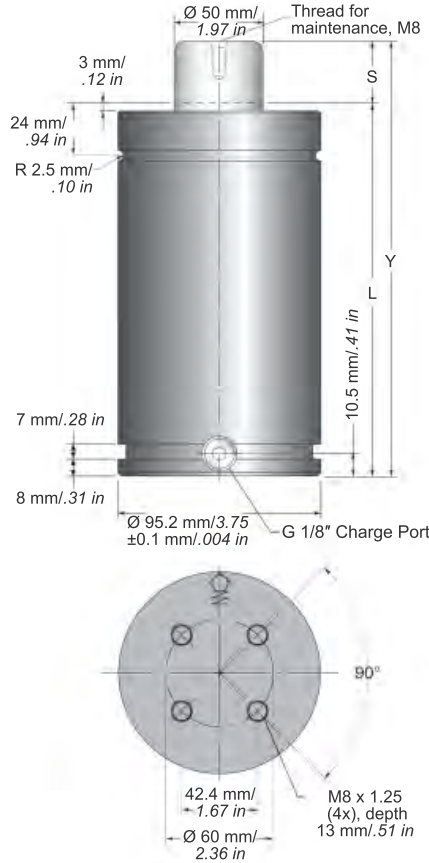
Overload Protection



Overpressure Protection



Overstroke Protection



## NPL-3000 Dimensional Information

| Order Number<br>Model X<br>Stroke | Stroke<br>S |      | Contact<br>Force** |       | Full Stroke<br>Force** |        | Y            |               | L     |       | Gas<br>Volume | Weight |       |
|-----------------------------------|-------------|------|--------------------|-------|------------------------|--------|--------------|---------------|-------|-------|---------------|--------|-------|
|                                   | mm          | in   | N                  | lbf   | N                      | lbf    | ± 0.25<br>mm | ± 0.010<br>in | mm    | in    | ℓ             | kg     | lbs   |
|                                   |             |      |                    |       |                        |        |              |               |       |       |               |        |       |
| NPL-3000X12.5                     | 12.5        | .49  | 30,000             | 6,750 | 38,700                 | 8,710  | 120          | 4.72          | 107.5 | 4.23  | 0.14          | 4.84   | 10.67 |
| *NPL-3000X25                      | 25          | .98  |                    |       | 41,800                 | 9,400  | 145          | 5.71          | 120   | 4.72  | 0.21          | 5.24   | 11.55 |
| NPL-3000X37.5                     | 37.5        | 1.48 |                    |       | 43,500                 | 9,770  | 170          | 6.69          | 132.5 | 5.22  | 0.27          | 5.64   | 12.43 |
| *NPL-3000X50                      | 50          | 1.97 |                    |       | 44,400                 | 9,980  | 195          | 7.68          | 145   | 5.71  | 0.33          | 6.03   | 13.29 |
| NPL-3000X62.5                     | 62.5        | 2.46 |                    |       | 45,100                 | 10,130 | 220          | 8.66          | 157.5 | 6.20  | 0.40          | 6.43   | 14.18 |
| NPL-3000X75                       | 75          | 2.95 |                    |       | 45,500                 | 10,230 | 245          | 9.65          | 170   | 6.69  | 0.46          | 6.83   | 15.06 |
| *NPL-3000X80                      | 80          | 3.15 |                    |       | 45,600                 | 10,260 | 255          | 10.04         | 175   | 6.89  | 0.48          | 7.12   | 15.70 |
| NPL-3000X87.5                     | 87.5        | 3.44 |                    |       | 45,800                 | 10,300 | 270          | 10.63         | 182.5 | 7.19  | 0.52          | 7.23   | 15.94 |
| *NPL-3000X100                     | 100         | 3.94 |                    |       | 46,100                 | 10,360 | 295          | 11.61         | 195   | 7.68  | 0.58          | 7.62   | 16.80 |
| NPL-3000X112.5                    | 112.5       | 4.43 |                    |       | 46,300                 | 10,410 | 320          | 12.60         | 207.5 | 8.17  | 0.65          | 8.02   | 17.68 |
| *NPL-3000X125                     | 125         | 4.92 |                    |       | 46,500                 | 10,450 | 345          | 13.58         | 220   | 8.66  | 0.71          | 8.41   | 18.54 |
| NPL-3000X137.5                    | 137.5       | 5.41 |                    |       | 46,600                 | 10,490 | 370          | 14.57         | 232.5 | 9.15  | 0.77          | 8.84   | 19.49 |
| NPL-3000X150                      | 150         | 5.91 |                    |       | 46,800                 | 10,510 | 395          | 15.55         | 245   | 9.65  | 0.84          | 9.21   | 20.30 |
| *NPL-3000X160                     | 160         | 6.30 |                    |       | 46,900                 | 10,530 | 415          | 16.34         | 255   | 10.04 | 0.89          | 9.53   | 21.01 |
| NPL-3000X175                      | 175         | 6.89 |                    |       | 47,000                 | 10,560 | 445          | 17.52         | 270   | 10.63 | 0.96          | 10.00  | 22.05 |
| NPL-3000X200                      | 200         | 7.87 |                    |       | 47,100                 | 10,590 | 495          | 19.49         | 295   | 11.61 | 1.09          | 10.79  | 23.79 |
| NPL-3000X225                      | 225         | 8.86 |                    |       | 47,200                 | 10,620 | 545          | 21.46         | 320   | 12.60 | 1.21          | 11.59  | 25.55 |
| NPL-3000X250                      | 250         | 9.84 |                    |       | 47,300                 | 10,640 | 595          | 23.43         | 345   | 13.58 | 1.34          | 12.38  | 27.29 |

\* Recommended stroke lengths for optimal delivery

\*\* At full charge

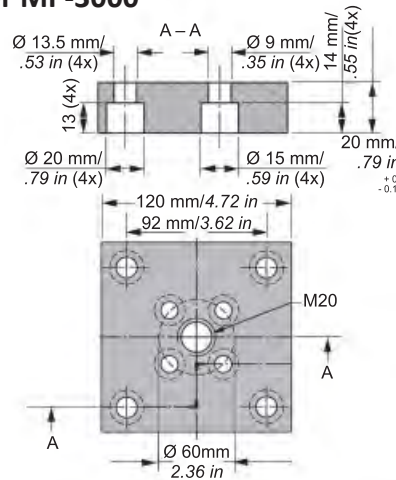
**Note:** All flanges ordered separately.

### Mounting Options

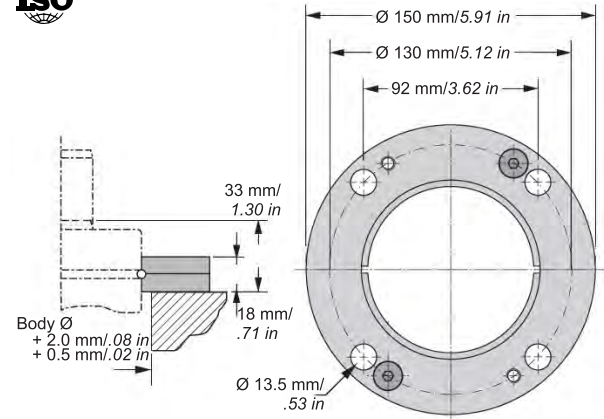
#### MP - Bottom Mounting Plate Order Number MP-3000



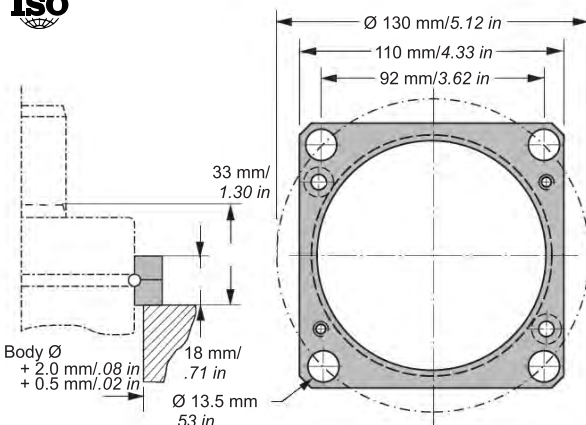
**Note:** Comes complete with screws to mount gas spring.



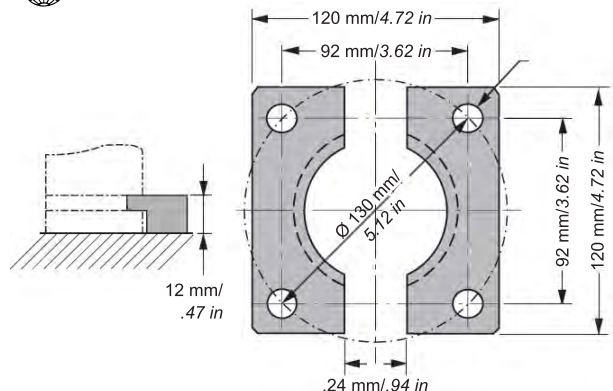
#### FC - Circular Flange Order Number FC-3000



#### FCS - Upper Square Flange Order Number FCS-3000



#### FFC - Lower Square Flange Order Number FFC-3000

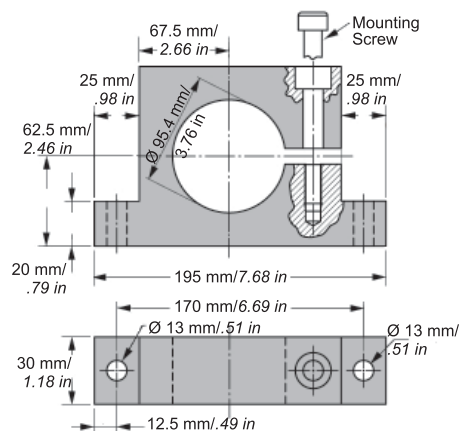


#### S - Support Mount Order Number S-3000



**Note:** Support S is designed to be used in combination with flanges mounted in the U or C groove.

The mounting screw (M12) should be tightened with torque 91 Nm.



## Advanced Safety Features



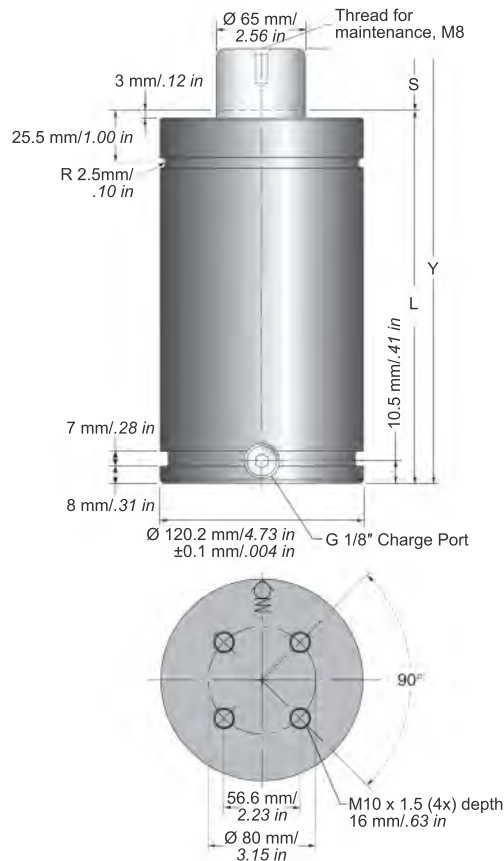
Overload Protection



Overpressure Protection



Overstroke Protection



## NPL-5000 Dimensional Information

| Order Number<br>Model X<br>Stroke | Stroke<br>S |      | Contact<br>Force** |        | Full Stroke<br>Force** |        | Y      |         | L     |       | Gas<br>Volume | Weight |       |
|-----------------------------------|-------------|------|--------------------|--------|------------------------|--------|--------|---------|-------|-------|---------------|--------|-------|
|                                   |             |      |                    |        |                        |        | ± 0.25 | ± 0.010 |       |       |               |        |       |
|                                   | mm          | in   | N                  | lbf    | N                      | lbf    | mm     | in      | mm    | in    | ℓ             | kg     | lbs   |
| *NPL-5000X25                      | 25          | .98  | 50,000             | 11,240 | 80,100                 | 18,000 | 152.5  | 6.00    | 127.5 | 5.02  | 0.2           | 9.04   | 19.93 |
| NPL-5000X37.5                     | 37.5        | 1.48 |                    |        | 81,900                 | 18,410 | 177.5  | 6.99    | 140   | 5.51  | 0.3           | 9.70   | 21.38 |
| *NPL-5000X50                      | 50          | 1.97 |                    |        | 82,800                 | 18,620 | 202.5  | 7.97    | 152.5 | 6.00  | 0.4           | 10.35  | 22.82 |
| NPL-5000X62.5                     | 62.5        | 2.46 |                    |        | 83,500                 | 18,760 | 227.5  | 8.96    | 165   | 6.50  | 0.5           | 11.01  | 24.27 |
| NPL-5000X75                       | 75          | 2.95 |                    |        | 83,800                 | 18,850 | 252.5  | 9.94    | 177.5 | 6.99  | 0.6           | 11.67  | 25.73 |
| *NPL-5000X80                      | 80          | 3.15 |                    |        | 84,000                 | 18,870 | 262.5  | 10.33   | 182.5 | 7.19  | 0.7           | 11.93  | 26.30 |
| NPL-5000X87.5                     | 87.5        | 3.44 |                    |        | 84,100                 | 18,920 | 277.5  | 10.93   | 190   | 7.48  | 0.7           | 12.32  | 27.16 |
| *NPL-5000X100                     | 100         | 3.94 |                    |        | 84,400                 | 18,970 | 302.5  | 11.91   | 202.5 | 7.97  | 0.8           | 12.98  | 28.62 |
| NPL-5000X112.5                    | 112.5       | 4.43 |                    |        | 84,500                 | 19,000 | 327.5  | 12.89   | 215   | 8.46  | 0.9           | 13.64  | 30.07 |
| *NPL-5000X125                     | 125         | 4.92 |                    |        | 84,700                 | 19,040 | 352.5  | 13.88   | 227.5 | 8.96  | 1.0           | 14.30  | 31.53 |
| NPL-5000X137.5                    | 137.5       | 5.41 |                    |        | 84,800                 | 19,070 | 377.5  | 14.86   | 240   | 9.45  | 1.1           | 14.96  | 32.98 |
| NPL-5000X150                      | 150         | 5.91 |                    |        | 84,900                 | 19,090 | 402.5  | 15.85   | 252.5 | 9.94  | 1.2           | 15.62  | 34.44 |
| *NPL-5000X160                     | 160         | 6.30 |                    |        | 85,000                 | 19,100 | 422.5  | 16.63   | 262.5 | 10.33 | 1.3           | 16.14  | 35.58 |
| NPL-5000X175                      | 175         | 6.89 |                    |        | 85,100                 | 19,130 | 452.5  | 17.81   | 277.5 | 10.93 | 1.4           | 16.94  | 37.35 |
| NPL-5000X200                      | 200         | 7.87 |                    |        | 85,200                 | 19,160 | 502.5  | 19.78   | 302.5 | 11.91 | 1.6           | 18.25  | 40.23 |
| NPL-5000X225                      | 225         | 8.86 |                    |        | 85,300                 | 19,180 | 552.5  | 21.75   | 327.5 | 12.89 | 1.8           | 19.57  | 43.14 |
| NPL-5000X250                      | 250         | 9.84 |                    |        | 85,400                 | 19,190 | 602.5  | 23.72   | 352.5 | 13.88 | 2.0           | 20.89  | 46.05 |

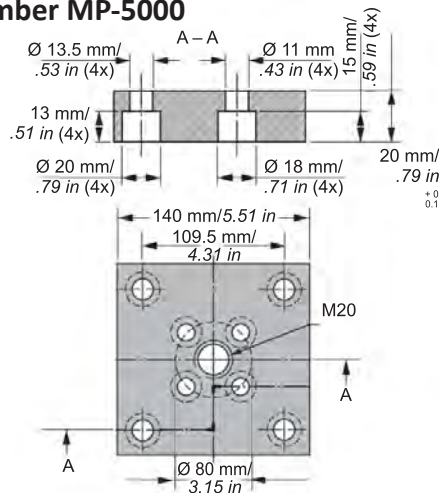
\* Recommended stroke lengths for optimal delivery

\*\* At full charge

**Note:** All flanges ordered separately.

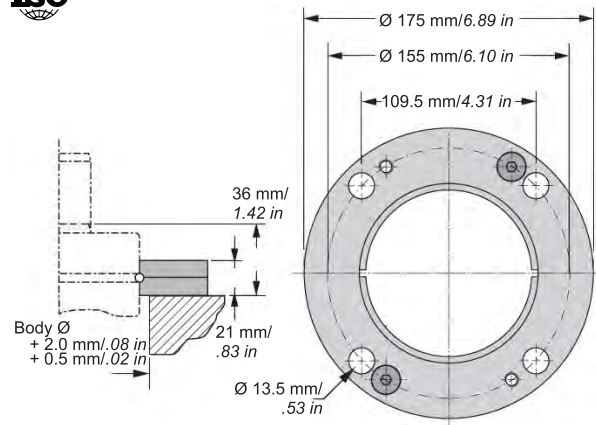
**Mounting Options**

**MP - Bottom Mounting Plate**  
Order Number MP-5000

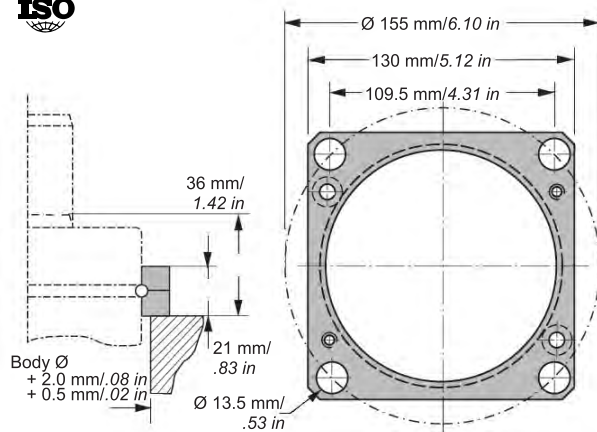


**Note:** Comes complete with screws to mount gas spring.

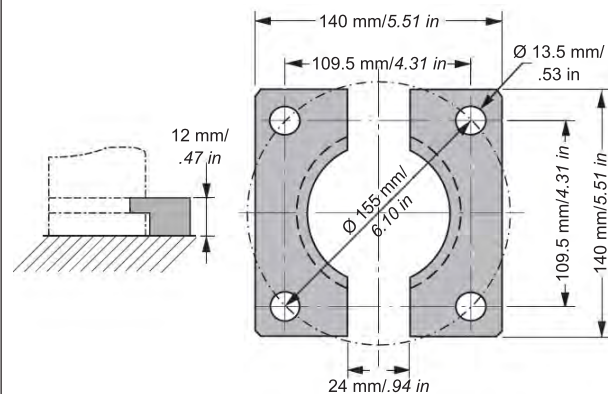
**FC - Circular Flange**  
Order Number FC-5000



**FCS - Upper Square Flange**  
Order Number FCS-5000



**FFC - Lower Square Flange**  
Order Number FFC-5000

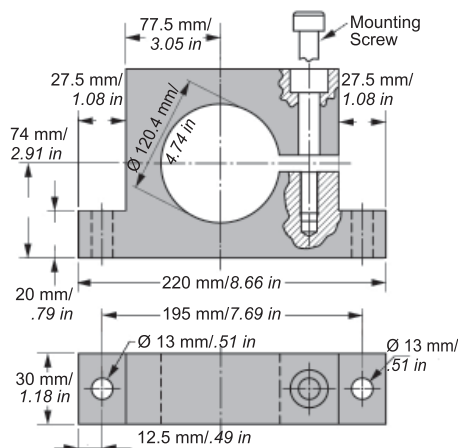


**S - Support Mount**  
Order Number S-5000



**Note:** Support S is designed to be used in combination with flanges mounted in the U or C groove.

The mounting screw (M12) should be tightened with torque 91 Nm.



**Advanced  
Safety Features**



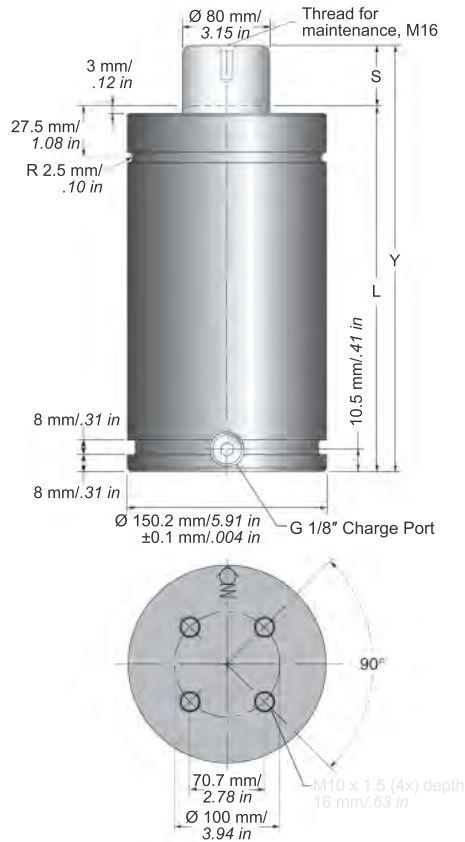
Overload  
Protection



Overpressure  
Protection



Overstroke  
Protection



**NPL-7500 Dimensional Information**

| Order Number<br>Model X<br>Stroke | Stroke<br>S |      | Contact<br>Force** |        | Full Stroke<br>Force** |        | Y            |               | L     |       | Gas<br>Volume | Weight |       |
|-----------------------------------|-------------|------|--------------------|--------|------------------------|--------|--------------|---------------|-------|-------|---------------|--------|-------|
|                                   | mm          | in   | N                  | lbf    | N                      | lbf    | ± 0.25<br>mm | ± 0.010<br>in | mm    | in    | ℓ             | kg     | lbs   |
|                                   |             |      |                    |        |                        |        |              |               |       |       |               |        |       |
| *NPL-7500X25                      | 25          | .98  | 75,000             | 16,860 | 99,900                 | 22,450 | 155          | 6.10          | 130   | 5.12  | 0.6           | 13.6   | 29.98 |
| NPL-7500X37.5                     | 37.5        | 1.48 |                    |        | 104,100                | 23,400 | 180          | 7.09          | 142.5 | 5.61  | 0.7           | 14.5   | 31.97 |
| *NPL-7500X50                      | 50          | 1.97 |                    |        | 106,800                | 24,010 | 205          | 8.07          | 155   | 6.10  | 0.9           | 15.4   | 33.95 |
| NPL-7500X62.5                     | 62.5        | 2.46 |                    |        | 108,700                | 24,440 | 230          | 9.06          | 167.5 | 6.59  | 1.0           | 16.3   | 35.94 |
| NPL-7500X75                       | 75          | 2.95 |                    |        | 110,100                | 24,750 | 255          | 10.04         | 180   | 7.09  | 1.3           | 17.2   | 37.92 |
| *NPL-7500X80                      | 80          | 3.15 |                    |        | 115,600                | 25,990 | 265          | 10.43         | 185   | 7.28  | 1.4           | 17.5   | 38.58 |
| NPL-7500X87.5                     | 87.5        | 3.44 |                    |        | 111,200                | 25,000 | 280          | 11.02         | 192.5 | 7.58  | 1.6           | 18.0   | 39.68 |
| *NPL-7500X100                     | 100         | 3.94 |                    |        | 112,000                | 25,180 | 305          | 12.01         | 205   | 8.07  | 1.8           | 18.9   | 41.67 |
| NPL-7500X112.5                    | 112.5       | 4.43 |                    |        | 112,700                | 25,340 | 330          | 12.99         | 217.5 | 8.56  | 1.9           | 19.8   | 43.65 |
| *NPL-7500X125                     | 125         | 4.92 |                    |        | 113,300                | 25,470 | 355          | 13.98         | 230   | 9.06  | 2.1           | 20.7   | 45.64 |
| NPL-7500X137.5                    | 137.5       | 5.41 |                    |        | 113,700                | 25,560 | 380          | 14.96         | 242.5 | 9.55  | 2.3           | 21.6   | 47.62 |
| NPL-7500X150                      | 150         | 5.91 |                    |        | 114,100                | 25,650 | 405          | 15.94         | 255   | 10.04 | 2.4           | 22.5   | 49.60 |
| *NPL-7500X160                     | 160         | 6.30 |                    |        | 114,400                | 25,720 | 425          | 16.73         | 265   | 10.43 | 2.6           | 23.2   | 51.15 |
| NPL-7500X175                      | 175         | 6.89 |                    |        | 114,800                | 25,810 | 453          | 17.83         | 280   | 11.02 | 3.0           | 24.3   | 53.57 |
| NPL-7500X200                      | 200         | 7.87 |                    |        | 115,300                | 25,920 | 505          | 19.88         | 305   | 12.01 | 3.3           | 26.1   | 57.54 |
| NPL-7500X225                      | 225         | 8.86 |                    |        | 115,700                | 26,010 | 555          | 21.85         | 330   | 12.99 | 3.3           | 27.8   | 61.29 |
| NPL-7500X250                      | 250         | 9.84 |                    |        | 116,000                | 26,080 | 605          | 23.82         | 355   | 13.98 | 3.6           | 29.6   | 65.26 |

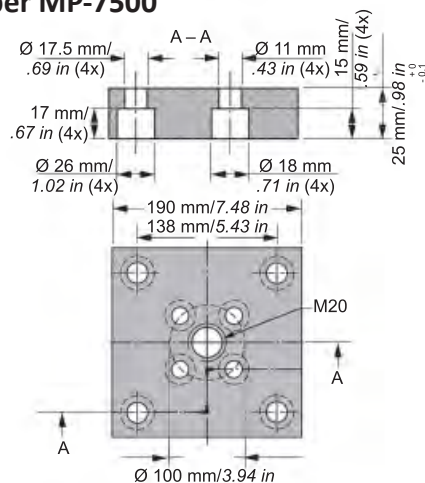
\* Recommended stroke lengths for optimal delivery

\*\* At full charge

**Note:** All flanges ordered separately.

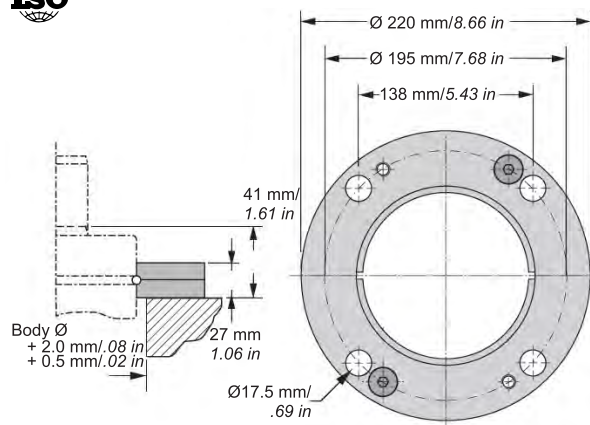
**Mounting Options**

**MP - Bottom Mounting Plate**  
Order Number MP-7500

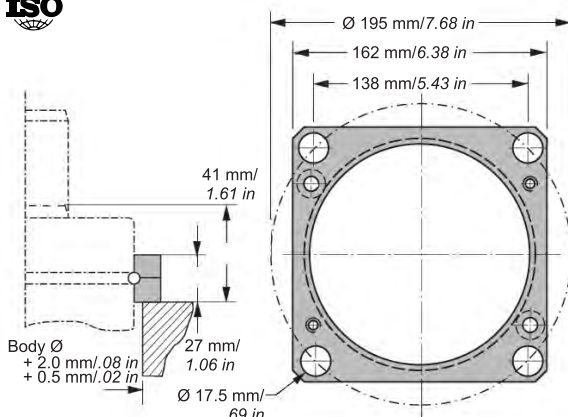


**Note:** Comes complete with screws to mount gas spring.

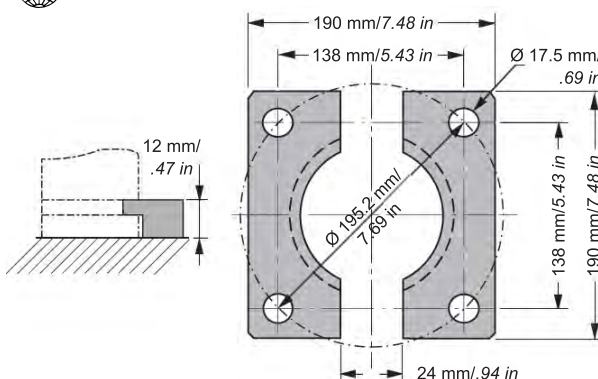
**FC - Circular Flange**  
Order Number FC-7500



**FCS - Upper Square Flange**  
Order Number FCS-7500



**FFC - Lower Square Flange**  
Order Number FFC-7500

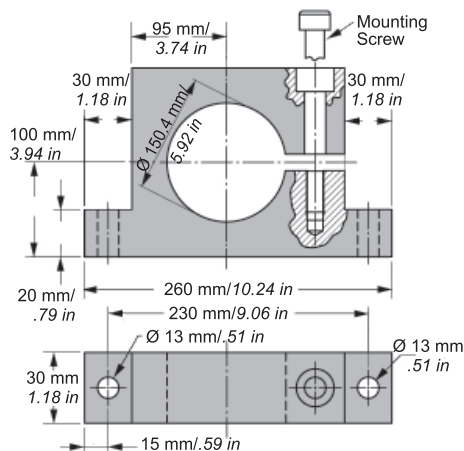


**S - Support Mount**  
Order Number S-7500



**Note:** Support S is designed to be used in combination with flanges mounted in the U or C groove.

The mounting screw (M12) should be tightened with torque 91 Nm.





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