



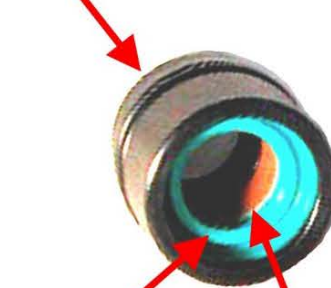
N-FORCER®

MINI-Forcer MF19 & MF25 Series



Cylinders are rebuildable.

Rod Wiper



Seal

Garloc Material Bearing

Our Mini Cylinder (1"/25mm) MF25 & MF19 (3/4"/19mm) Series are available in all standard strokes. Also available in (1-1/4"/32mm) stroke

Offered in a Bottom Threaded Mount (BTM) or Bottom Flange Mount (BSFM or FM), as well as "drop in" and standard top mount.

Bottom Threaded Mount and Bottom Flange can be hosed, the Threaded Mount can be threaded in a block for use as manifold by adding an oring.

Special heights and strokes are available. Rebuild kits are available or factory rebuild is available.



Made in the U.S.A.

www.n-forcer.com

Die, Mold & Automation Components, Inc.

N-Forcer

14400 Henn St. Dearborn MI, 48126

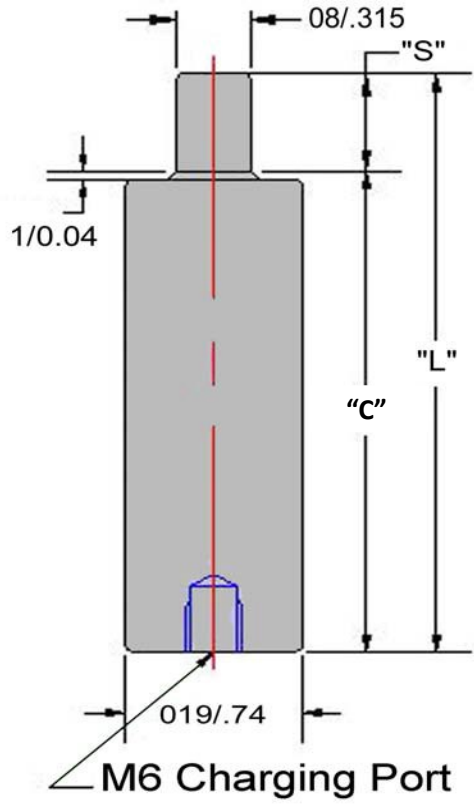
Ph: 313.581.6510 Web: www.n-forcer.com

Email: Customerservice@n-forcer.com



N-FORCER® Mini-Forcer MF19 Series - Standard

All MF19 Cylinders are rebuildable & available with multiple charging pressures.



| Variable Force on Contact | | | |
|---------------------------|---------------------|----------------|---------------------|
| Pressure (psi) | Force (lb.-f) | Pressure (bar) | Force (daN) |
| 2560 | 200 | 177 | 89 |
| 2200 | 172 | 150 | 75 |
| 2000 | 156 | 125 | 63 |
| 1750 | 137 | 100 | 50 |
| 1500 | 117 | 75 | 38 |
| 1000 | 78 | 50 | 25 |
| 500 | 39 | 34 | 17 |
| $P=(F/.078)$ | $F=(P \times .078)$ | $P=(F/0.50)$ | $P=(F \times 0.50)$ |

| Order Number | "S" Maximum Stroke | "L" | "C" |
|--------------|--------------------|----------------|---------------|
| MF19-007 | 7 0.28 | 56.0 2.20 | 49.0 1.93 |
| MF19-010 | 10 0.39 | 62.0 2.44 | 52.1 2.05 |
| MF19-012 | 12.7 0.50 | 67.4 2.65 | 54.6 2.15 |
| MF19-015 | 15.0 0.59 | 72.0 2.83 | 56.9 2.24 |
| MF19-025 | 25.0 0.98 | 92.0 3.62 | 67.0 2.64 |
| MF19-032 | 32.0 1.26 | 106.0 4.17 | 74.0 2.91 |
| MF19-038 | 38.1 1.50 | 118.2 4.65 | 80.1 3.15 |
| MF19-050 | 50.0 1.97 | 142.0 5.59 | 92.0 3.62 |
| MF19-063 | 63.5 2.50 | 172.0 6.77 | 108.5 4.27 |
| MF19-080 | 80.0 3.15 | 205.0 8.07 | 125.0 4.92 |
| MF19-100 | 100.0 3.94 | 245.0 9.65 | 145.0 5.71 |
| MF19-125 | 125.0 4.92 | 295.0 11.61 | 170.0 6.69 |

| Order Force by Color Code | | | |
|---------------------------|---|---------------------------|------------------------|
| Color Coding | Initial Force Lb. daN | Final Force Lb. daN | Pressure Psi Bar |
| Yellow - YW | 200 89 | 260 166 | 2560 177 |
| Red - RD | 150 67 | 195 87 | 1920 132 |
| Blue - BL | 100 44 | 130 58 | 1280 88 |
| Green - GR | 50 22 | 65 29 | 640 44 |
| Black - BK | Customer Specified, Non-Standard Pressure | | |

Ordering Example: MF19-025-(Color)

- MF19-025 is the part number
- (Color) is the required charging pressure.

Mounts Are Ordered Separately (see next Page)

--All MF-19's are Pressure Adjustable--
To increase pressure a charged nitrogen tank must be used.

To Increase Pressure: Connect nitrogen to charging port at bottom of gas spring and charge to correct pressure. 2560 PSI is maximum charge pressure.

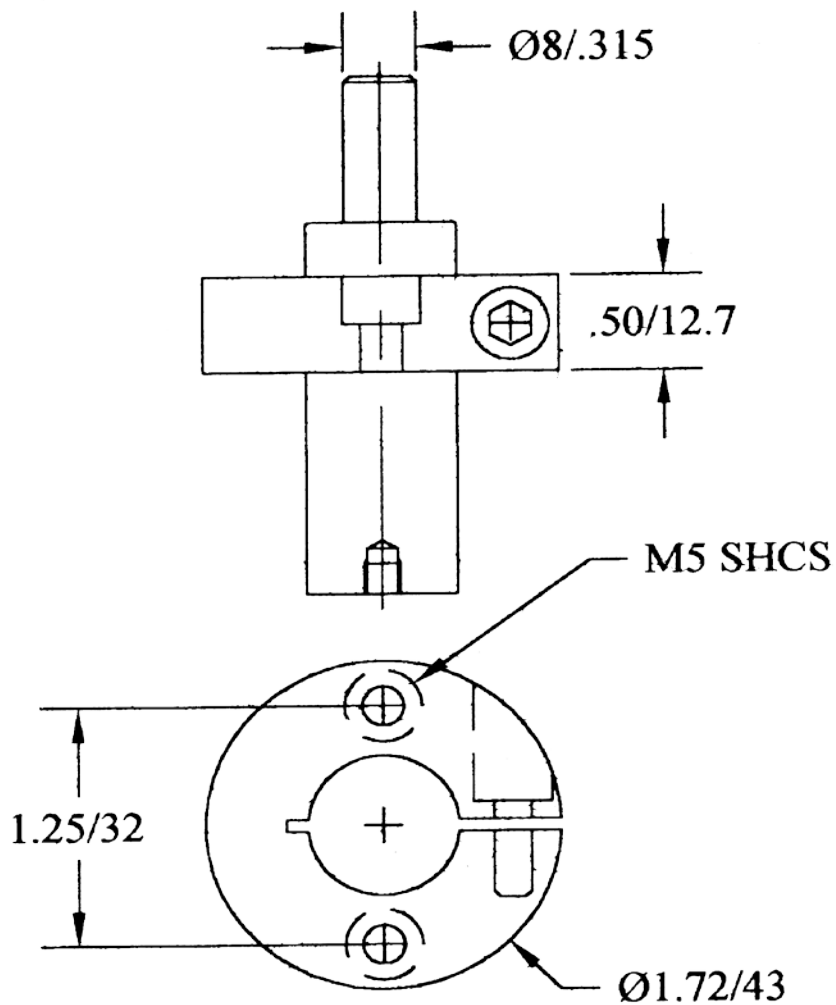
To Decrease Pressure: Insert 3mm Hex Key into tapped hole in bottom of gas spring. Turn clockwise (maximum of 3 turns), making sure opening is away from your face and body. After all pressure is exhausted, turn the screw in the bottom of the gas spring **counterclockwise** until tight. You can now recharge the gas spring to a lower pressure.

N-FORCER® Mini-Forcer



Optional Mount for MF19 Mount Part Number is BNF19

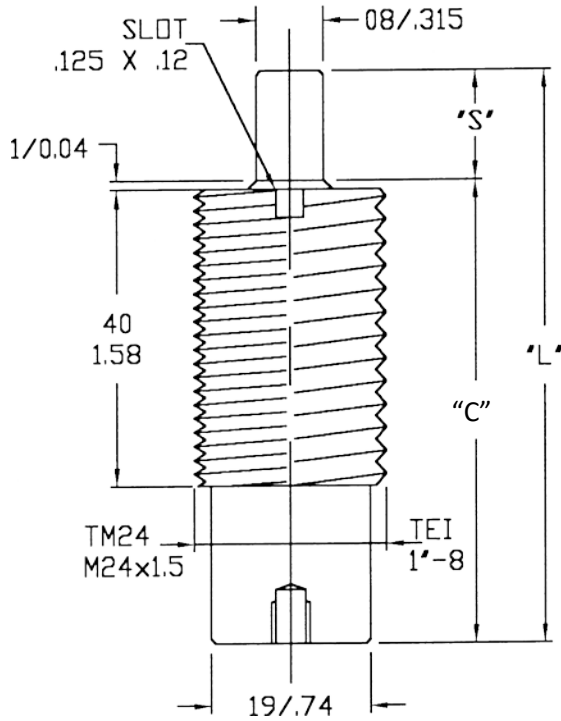
The cylinder can be mounted from 3 different locations, but the bottom should be supported when either of the two top locations are utilized.



N-FORCER® Mini Forcer



Mini-Forcer - MF19 THREADED



| Variable Force on Contact | | | |
|---------------------------|---------------------|----------------|---------------------|
| Pressure (psi) | Force (lb.-f) | Pressure (bar) | Force (daN) |
| 2560 | 200 | 177 | 89 |
| 2200 | 172 | 150 | 75 |
| 2000 | 156 | 125 | 63 |
| 1750 | 137 | 100 | 50 |
| 1500 | 117 | 75 | 38 |
| 1000 | 78 | 50 | 25 |
| 500 | 39 | 34 | 17 |
| $P=(F / .078)$ | $F=(P \times .078)$ | $P=(F / .50)$ | $P=(F \times 0.50)$ |

| Order Number | "S" Maximum Stroke | "L" | "C" |
|--------------|--------------------|----------------|---------------|
| MF19-007 | 7 0.28 | 56.0 2.20 | 49.0 1.93 |
| MF19-010 | 10 0.39 | 62.0 2.44 | 52.0 2.05 |
| MF19-012 | 12.7 0.50 | 67.3 2.65 | 54.6 2.15 |
| MF19-015 | 15.0 0.59 | 71.9 2.83 | 56.9 2.24 |
| MF19-025 | 25.0 0.98 | 92.0 3.62 | 67.0 2.64 |
| MF19-032 | 32.0 1.26 | 106.0 4.17 | 74.0 2.91 |
| MF19-038 | 38.1 1.50 | 118.2 4.65 | 80.1 3.15 |
| MF19-050 | 50.0 1.97 | 142.0 5.59 | 92.0 3.62 |
| MF19-063 | 63.5 2.50 | 172.0 6.77 | 108.5 4.27 |
| MF19-080 | 80.0 3.15 | 205.0 8.07 | 125.0 4.92 |
| MF19-100 | 100.0 3.94 | 245.0 9.65 | 145.0 5.71 |
| MF19-125 | 125.0 4.92 | 295.0 11.61 | 170.0 6.69 |

| Order Force by Color Code | | | |
|---------------------------|---|---------------------|------------------|
| Color Coding | Initial Force Lb. daN | Final Force Lb. daN | Pressure Psi Bar |
| Yellow - YW | 200 89 | 260 166 | 2560 177 |
| Red - RD | 150 67 | 195 87 | 1920 132 |
| Blue - BL | 100 44 | 130 58 | 1280 88 |
| Green - GR | 50 22 | 65 29 | 640 44 |
| Black - BK | Customer Specified, Non-Standard Pressure | | |

Ordering Example: MF19-025-(TM or TE)-(Color)

1. MF19-025 is the part number
2. TM is for Metric - TE is for English Thread
3. (Color) is the required charging pressure.

Matching nuts and install tools are ordered separately. See page 6.

--All MF-19's are Pressure Adjustable--
To increase pressure a charged nitrogen tank must be used.

To Increase Pressure: Connect nitrogen to charging port at bottom of gas spring and charge to correct pressure.
To Decrease Pressure: Insert 3mm Hex Key into tapped hole in bottom of gas spring. Turn clockwise (maximum of 3 turns), making sure opening is away from your face and body. After all pressure is exhausted, turn the screw in the bottom of the gas spring **counterclockwise** until tight. You can now recharge the gas spring to a lower pressure.

N-FORCER® Mini Forcer

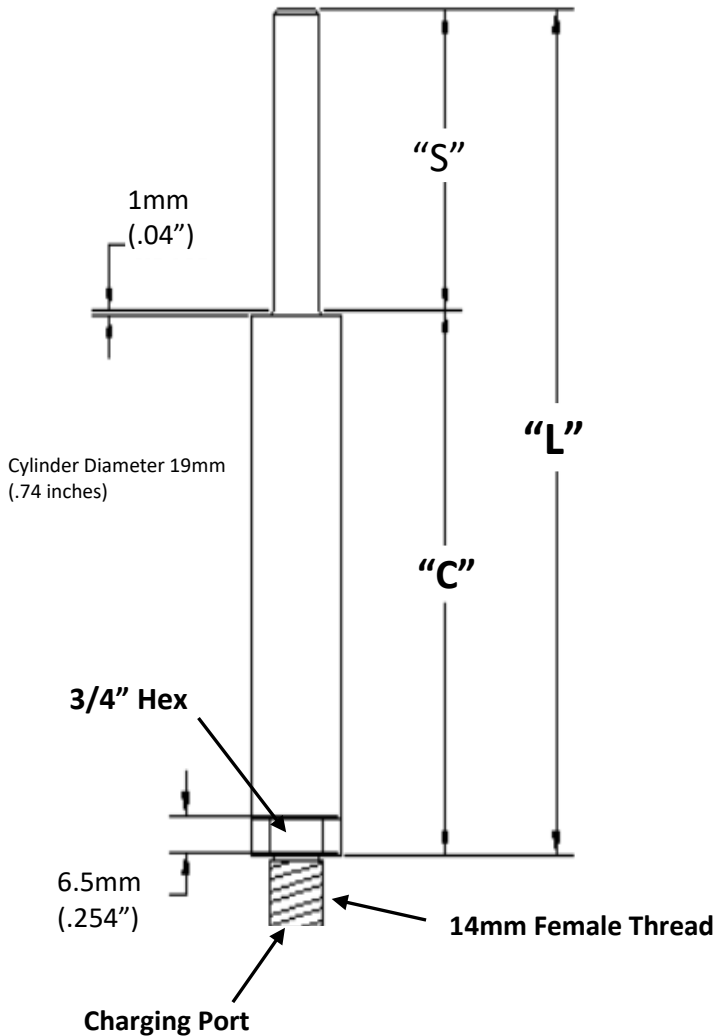


MF19 Threaded Bottom 14mm Male Thread



| Order Force by Color Code | | | |
|---------------------------|---|---------------------------|------------------------|
| Color Coding | Initial Force Lb. daN | Final Force Lb. daN | Pressure Psi Bar |
| Yellow - YW | 200 89 | 260 166 | 2560 177 |
| Red - RD | 150 67 | 195 87 | 1920 132 |
| Blue - BL | 100 44 | 130 58 | 1280 88 |
| Green - GR | 50 22 | 65 29 | 640 44 |
| Black - BK | Customer Specified, Non-Standard Pressure | | |

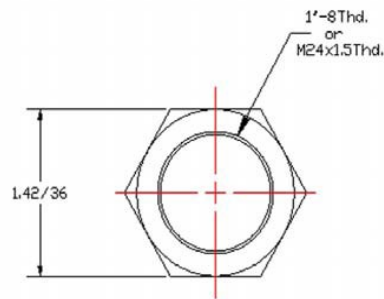
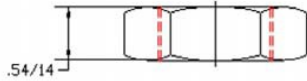
| Order Number | Maximum Stroke "S" | "L" | "C" |
|--------------|--------------------|-------|-------|
| MF19-007-BTM | 7.00 | 60.0 | 53.0 |
| | 0.28 | 2.36 | 2.09 |
| MF19-010-BTM | 10.00 | 66.0 | 56.0 |
| | 0.39 | 2.60 | 2.21 |
| MF19-012-BTM | 12.70 | 71.4 | 58.7 |
| | 0.50 | 2.81 | 2.31 |
| MF19-015-BTM | 15.00 | 76.0 | 61.0 |
| | 0.59 | 2.99 | 2.40 |
| MF19-025-BTM | 25.00 | 96.0 | 71.0 |
| | 0.98 | 3.78 | 2.80 |
| MF19-032-BTM | 32.00 | 110.0 | 78.0 |
| | 1.26 | 4.34 | 3.08 |
| MF19-038-BTM | 38.10 | 122.2 | 84.1 |
| | 1.50 | 4.81 | 3.31 |
| MF19-050-BTM | 50.00 | 146.0 | 96.0 |
| | 1.97 | 5.75 | 3.78 |
| MF19-063-BTM | 63.50 | 175.9 | 112.4 |
| | 2.50 | 6.93 | 4.43 |
| MF19-080-BTM | 80.00 | 209.0 | 129.0 |
| | 3.15 | 8.23 | 5.08 |
| MF19-100-BTM | 100.00 | 249.0 | 149.0 |
| | 3.94 | 9.81 | 5.87 |
| MF19-125-BTM | 125.00 | 298.9 | 173.9 |
| | 4.92 | 11.77 | 6.85 |



N-FORCER® Mini-Forcer



MF19 Threaded Nuts



Part #: 1"-8 Nut
Part #: M24 x 1.5 Nut



N-FORCER® MF19 Theaded Tool Installer

REPAIR KITS

1 Kit repairs 6 cylinders

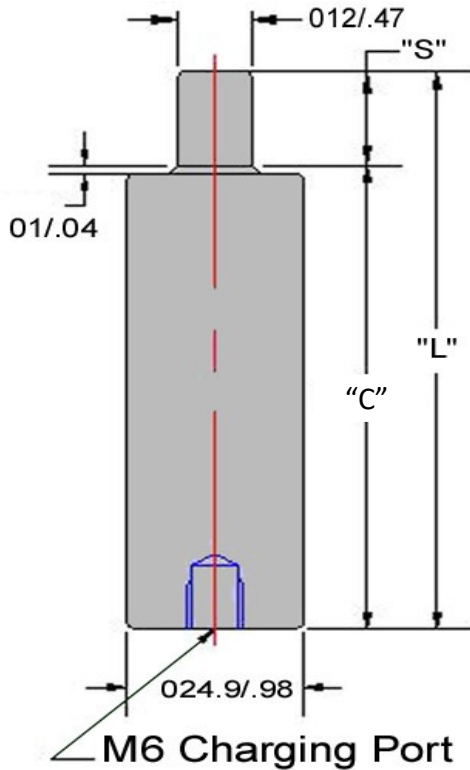


- 1x Bottle of Oil
- 6x Cartridges
- 6x Charging Caps
- 6x Retaining Rings
- 6x ID Color Rings

For MF25 repair kit, PN: MF25-RK-(Color)
For MF19 repair kit, PN: MF19-RK-(Color)
Please select color of Yellow, Red, Blue, Green, or Black

N-FORCER® Mini-Forcer MF25 Series – Standard

Rebuildable cylinders and with multiple charging pressures.



| Variable Force on Contact | | | |
|---------------------------|---------------|---------------------|-------------|
| Pressure (psi) | Force (lb.-f) | Pressure (bar) | Force (daN) |
| 2560 | 450 | 177 | 201 |
| 2200 | 387 | 150 | 170 |
| 2000 | 351 | 125 | 142 |
| 1750 | 307 | 100 | 113 |
| 1500 | 264 | 75 | 85 |
| 1000 | 176 | 50 | 57 |
| 500 | 88 | 34 | 39 |
| P=FE .176 F=PX.1176 | | P=FE 1.13 P=FX 1.13 | |

| Order Number | "S" Maximum Stroke | "L" | "C" |
|--------------|--------------------|----------------|---------------|
| MF25-007 | 7.0 .27 | 56.0 2.20 | 49.0 1.93 |
| MF25-010 | 10.0 0.39 | 62.0 2.44 | 52.0 2.05 |
| MF25-012 | 12.7 0.50 | 67.4 2.65 | 54.7 2.15 |
| MF25-015 | 15.0 0.59 | 72.0 2.83 | 57.0 2.24 |
| MF25-016 | 16.0 0.625 | 74.0 2.91 | 58.0 2.28 |
| MF25-025 | 25.0 0.98 | 92.0 3.62 | 67.0 2.64 |
| MF25-032 | 32.0 1.26 | 106.0 4.17 | 74.0 2.91 |
| MF25-038 | 38.1 1.50 | 118.2 4.65 | 80.1 3.15 |
| MF25-050 | 50.0 1.97 | 142.0 5.59 | 92.0 3.62 |
| MF25-063 | 63.5 2.50 | 172.0 6.77 | 108.5 4.27 |
| MF25-080 | 80.0 3.15 | 205.0 8.07 | 125.0 4.92 |
| MF25-100 | 100.0 3.94 | 245.0 9.65 | 145.0 5.71 |
| MF25-125 | 125.0 4.92 | 295.0 11.61 | 170.0 6.69 |
| ** MF25-178 | 177.8 7.0 | 400.6 15.77 | 223.0 8.77 |

**

** Limited speed and stroke life.

| Order Force by Color Code | | | |
|---------------------------|---|---------------------|------------------|
| Color Coding | Initial Force Lbf daN | Final Force Lbf daN | Pressure Psi Bar |
| Yellow - YW | 450 lbf. 200 daN | 612 272 | 2560 177 |
| Red - RD | 337 150 | 459 204 | 1920 132 |
| Blue - BL | 225 100 | 305 136 | 1280 88 |
| Green - GR | 112 50 | 153 68 | 640 44 |
| Black - BK | Customer Specified, Non-Standard Pressure | | |

Ordering Example: MF25-025-(Color)

1. MF25-025 is the part number
2. (Color) is the required charging pressure.

Repair Kit: MF25-RK

For charging, use adaptor# FA1QD

Mounts Are Ordered Separately (see next Page)

--All MF-25's are Pressure Adjustable--
To increase pressure a charged nitrogen tank must be used.

To Increase Pressure: Connect nitrogen to charging port at bottom of gas spring and charge to correct pressure.

To Decrease Pressure: Insert 3mm Hex Key into tapped hole in bottom of gas spring. Turn clockwise (maximum of 3 turns), making sure opening is away from your face. After all pressure is exhausted, turn the screw in the bottom of the gas spring **counterclockwise** until tight. You can now recharge the gas spring to a lower pressure.

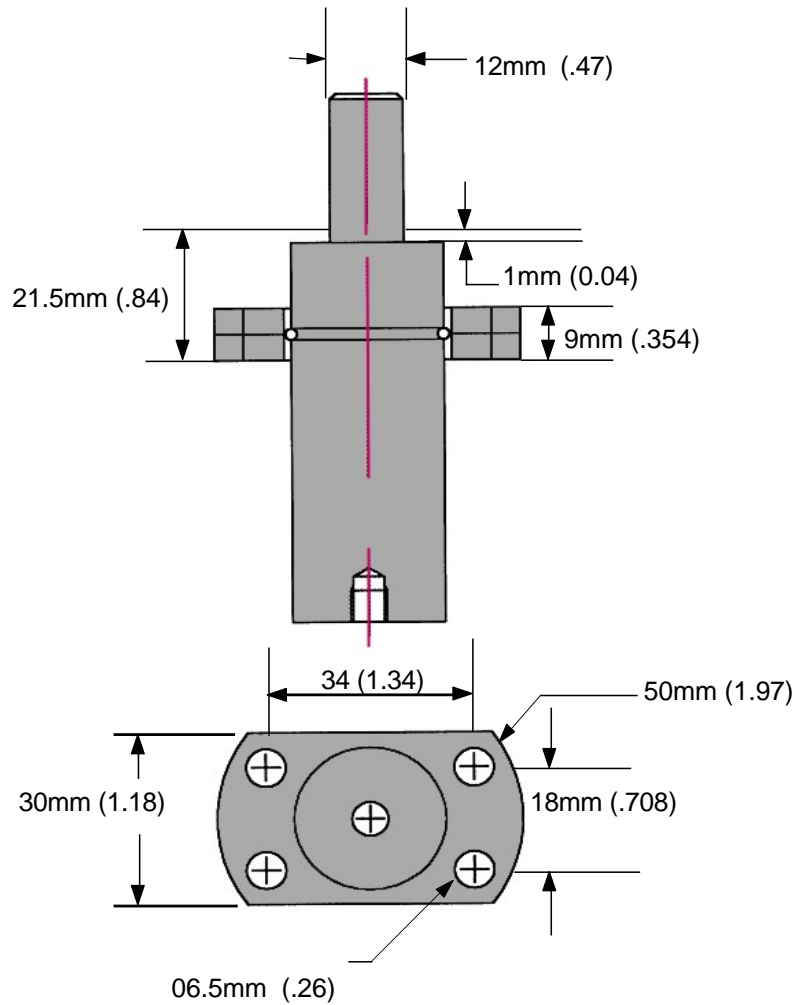
N-FORCER® Mini-Forcer

Optional Mount for MF 25.
Mount Part Number is BCF25



The bottom of the cylinder should be supported at all times. Do not use this mount as the main means of support.

This mount consists of two plates compressing around a snap ring. If purchased, a snap ring groove will be added to the cylinder tube. The snap ring will be installed before shipping, which will be difficult to remove once installed. The two mounting plates will have a small gap until compressed together at the time of installation.



N-FORCER® Mini-Forcer

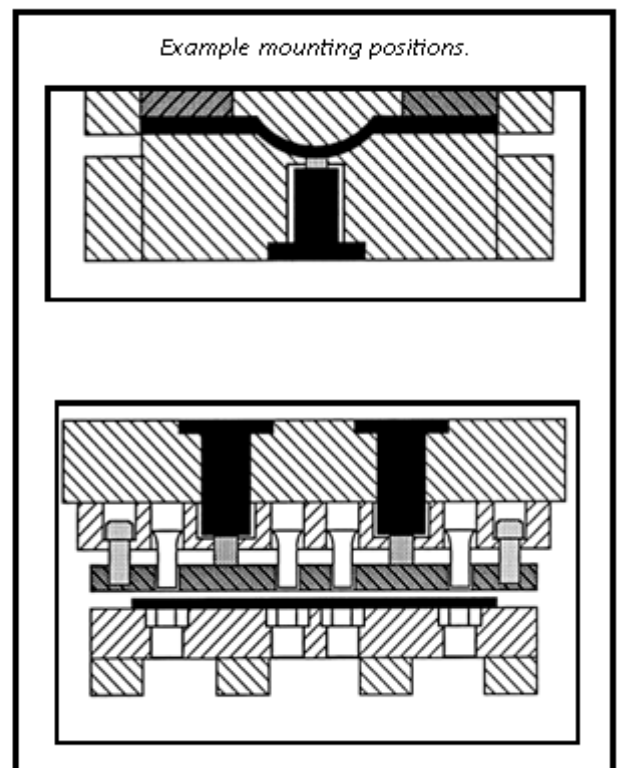
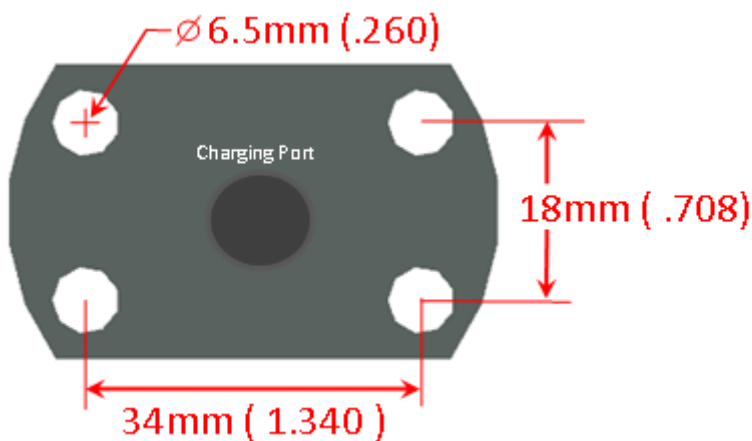


Optional Mount for MF25 series.

Mount Part Number is
“ **BSFM** ”

Add BSFM to end of part
number when ordering.

*This mount will add 8mm (.314) to
the over all length of the assembly
to a standard MF25 gas spring.*



N-FORCER® Mini-Forcer



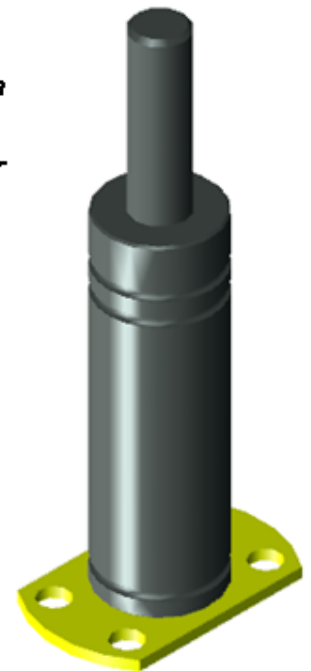
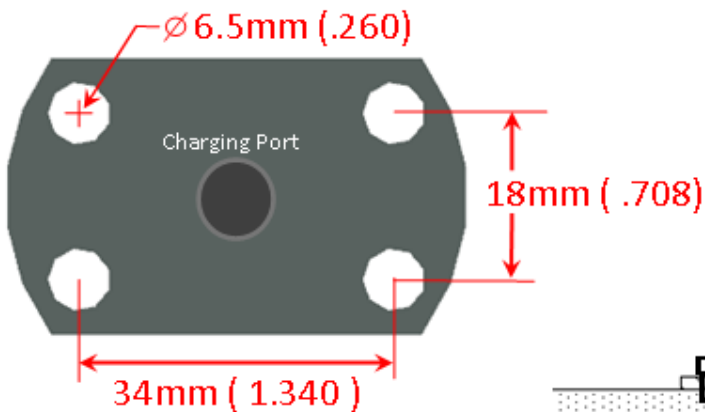
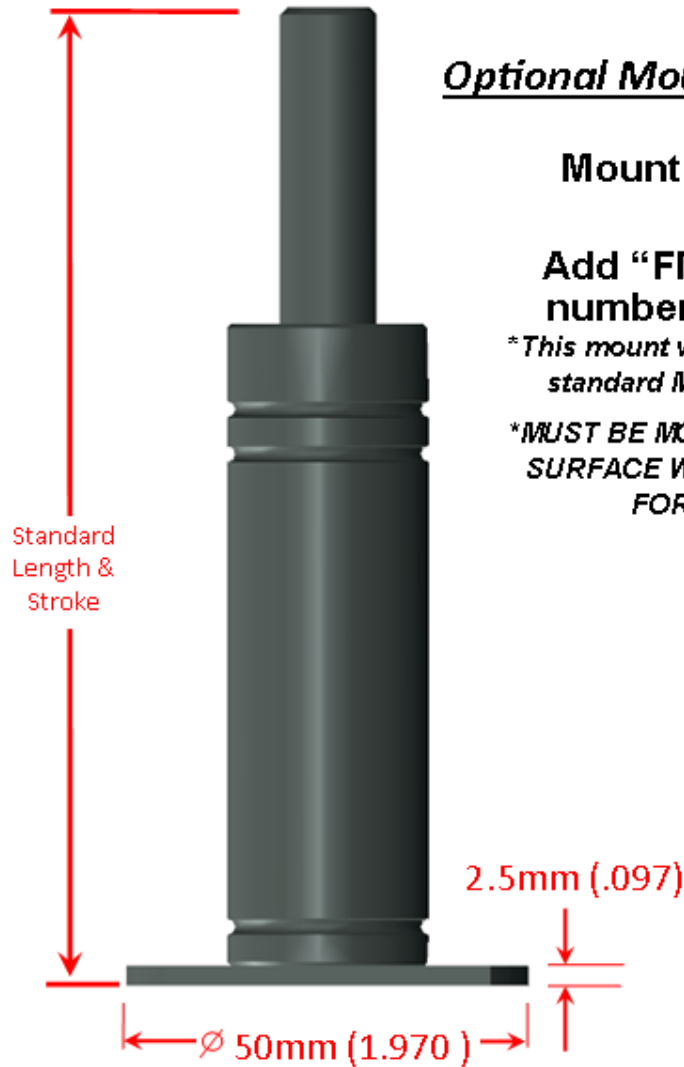
Optional Mount for MF25 series.

Mount Part Number is
“FM”

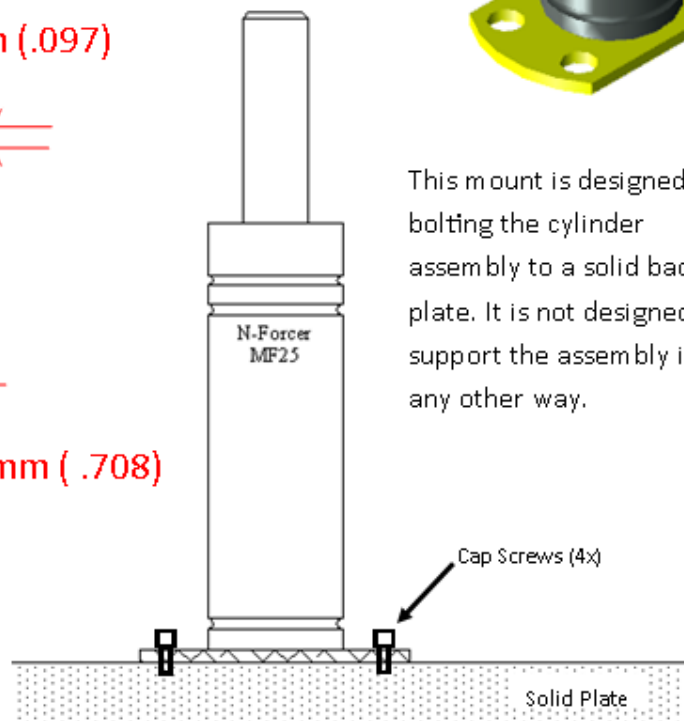
Add “FM” to end of part
number when ordering.

**This mount will not add any height to a
standard MF25 cylinder assembly.*

**MUST BE MOUNTED TO A RIGID FLAT
SURFACE WHICH WILL FULLY REIN-
FORCE THE MOUNT.*



This mount is designed for
bolting the cylinder
assembly to a solid backing
plate. It is not designed to
support the assembly in
any other way.



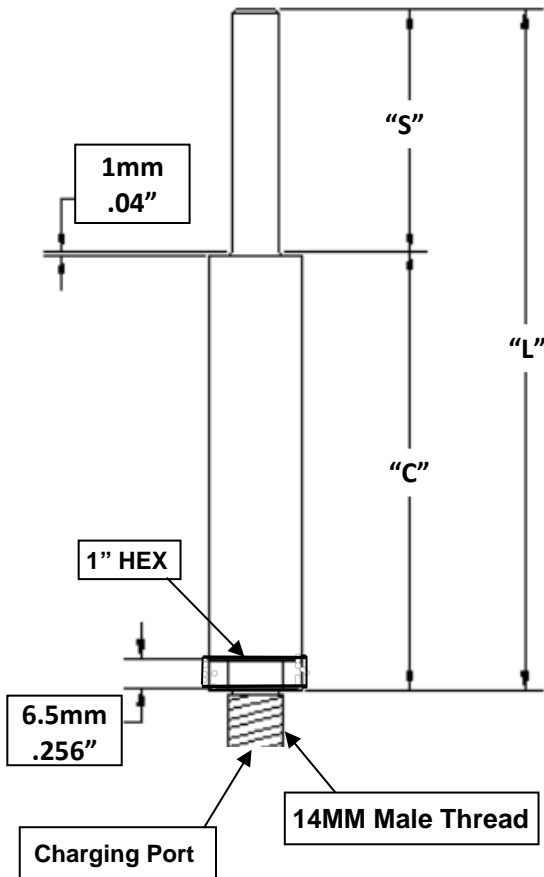


N-FORCER® Mini-Forcer Threaded MF25 bottom 14mm thread



| Order Force by Color Code | | | |
|---------------------------|---|---------------------------|------------------------|
| Color Coding | Initial Force Lb. daN | Final Force Lb. daN | Pressure Psi Bar |
| Yellow - YW | 200 89 | 260 166 | 2560 177 |
| Red - RD | 150 67 | 195 87 | 1920 132 |
| Blue - BL | 100 44 | 130 58 | 1280 88 |
| Green - GR | 50 22 | 65 29 | 640 44 |
| Black - BK | Customer Specified, Non-Standard Pressure | | |

| Max Stroke "S" | "L" | "C" |
|----------------|-------|-------|
| 7 | 60 | 53 |
| 0.27 | 2.36 | 2.09 |
| 10 | 66 | 56 |
| 0.39 | 2.60 | 2.21 |
| 12.7 | 71.4 | 58.7 |
| 0.5 | 2.81 | 2.31 |
| 15 | 76 | 61 |
| 0.59 | 2.99 | 2.40 |
| 16 | 78 | 62 |
| 0.625 | 3.07 | 2.44 |
| 25 | 96 | 71 |
| 0.98 | 3.78 | 2.80 |
| 32 | 110 | 78 |
| 1.26 | 4.33 | 3.07 |
| 38.1 | 122.2 | 84.1 |
| 1.5 | 4.81 | 3.31 |
| 50 | 146 | 96 |
| 1.97 | 5.75 | 3.78 |
| 63.5 | 176 | 112.5 |
| 2.5 | 6.93 | 4.43 |
| 80 | 209 | 129 |
| 3.15 | 8.23 | 5.08 |
| 100 | 249 | 149 |
| 3.94 | 9.81 | 5.87 |
| 125 | 299 | 174 |
| 4.92 | 11.77 | 6.85 |
| 177.8 | 404.6 | 227 |
| 7 | 15.93 | 8.93 |



FYI: This mount adds .160" (4mm) to the tube length "C" & thus the overall length "L" when compared to a standard MF25. This is shown in the chart above.

N-FORCER® Mini-Forcer



MF25 “LOCKING COLLAR”
The MF25 Locking Collar is adjustable
to any position on the O.D of The
Cylinder.

To order: Specify “BNF-25”

