

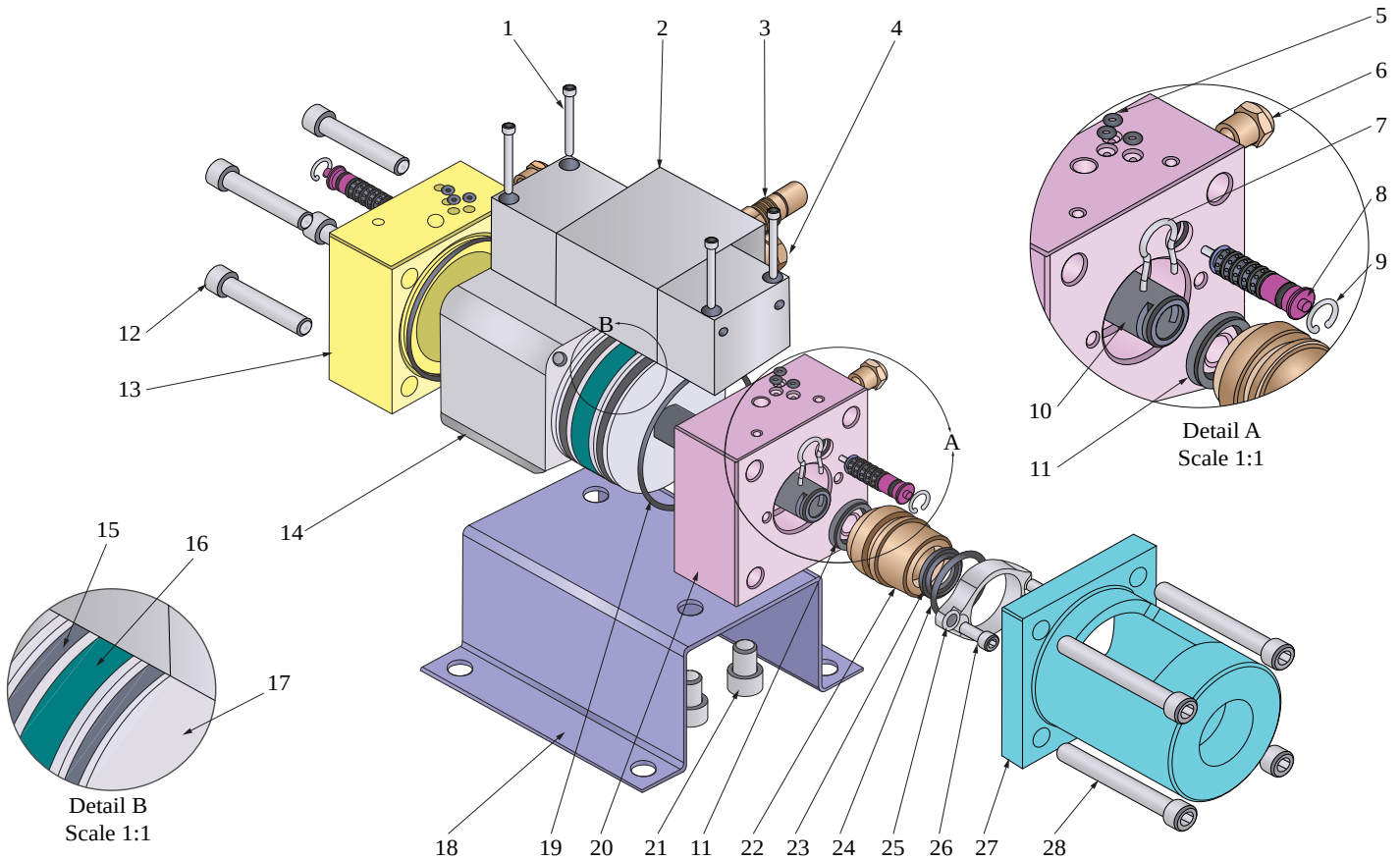
***FLOMORE***

*Different By Design*

***MPC  
Series  
Injector***



# ***MPC Series Injector***



## ***Installation & Operating Instructions***

1. Remove the pump from the shipping container and inspect for damage.
2. Connect the chemical supply line or piping to the suction port. The pump suction port connection is 1/4" NPT. A shut off valve should be in the supply line.
3. Connect tubing or piping to the discharge port. **Install** an inline check valve at point of injection.
4. Loosen the brass lock nut on the fluid end and rotate slightly to assure clearance to the speed control valve.
5. Install a shut off valve in the air/gas supply line.
6. Run a 1/4" line from the shut off valve, install in port #1 (Item #15) of the switching valve.
7. Supply pressure no **less** than 30 PSIG but no **greater** than 145 PSIG. Install filter and lubricator for best results.
8. Open chemical supply line and gas or air supply line.
9. Open the speed control valve (Item #20) to start pump action.
10. Open the bleeder valve on the fluid head about a quarter turn and allow fluid to discharge until free of bubbles, then close.
11. Regulate pumping volume by adjusting the speed control valve for 1/2 SPM to 60 SPM, once your rate is determined turn lock nut down.

***Note: Horizontal head or heads must have suction ports pointing down.***

# ***MPC Series Injector***

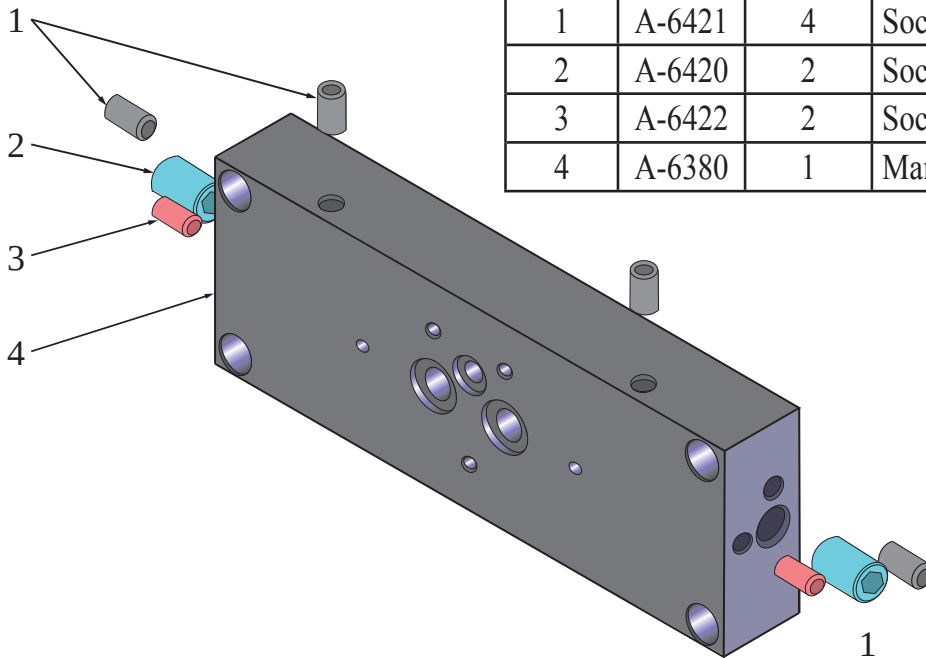
## ***Parts List***

| <i><b>Item #</b></i> | <i><b>Part #</b></i> | <i><b># Req'd</b></i> | <i><b>Description</b></i> | <i><b>Material</b></i> |
|----------------------|----------------------|-----------------------|---------------------------|------------------------|
| 1                    | A-6701               | 1                     | Valve Manifold            | Aluminum               |
| 2                    | A-6423               | 4                     | Valve Manifold Screw      | Steel                  |
| 3                    | Included in Item #1  | 1                     | Speed Control Knob        | Brass                  |
| 4                    | A-6426               | 1                     | Exhaust Muffler           | Brass                  |
| 5                    | A-6401               | 6                     | O'Ring                    | Buna 70                |
| 6                    | A-6425               | 2                     | 1/8" Muffler              | Brass                  |
| 7                    | A-5953               | 1                     | Wire Clip                 | Steel                  |
| 8                    | A-6509               | 1                     | Plug                      | Aluminum               |
| 9                    | A-6511               | 2                     | Internal Retaining Ring   | Steel                  |
| 10                   | A6513.1              | 1                     | Rod                       | Stainless Steel        |
| 11                   | A-6519               | 1                     | Rod Seal                  | Carboxilated Nitrile   |
| 12                   | A-6410               | 4                     | Cap Screw                 | Stainless Steel        |
| 13                   | A-6527               | 1                     | End Cap                   | Aluminum               |
| 14                   | A-6515               | 1                     | Cylinder                  | Aluminum               |
| 15                   | A-6522               | 2                     | O'Ring                    | Buna 70                |
| 16                   | A-6523               | 1                     | Wear Band                 | Graphite Filled Teflon |
| 17                   | A-6513.2             | 1                     | Piston                    | Aluminum               |
| 18                   | A-6351               | 1                     | Base                      | Stainless Steel        |
| 19                   | A-6520               | 2                     | O'Ring                    | Buna 70                |
| 20                   | A-6526               | 1                     | End Cap                   | Aluminum               |
| 21                   | A-6413               | 4                     | Cap Screw                 | 18-8 Stainless Steel   |
| 22                   | A-6514               | 1                     | Bushing                   | Steel                  |
| 23                   | A-6517               | 1                     | Rod Wiper                 | Polyurethane           |
| 24                   | A-6518               | 1                     | O'Ring                    | Buna 70                |
| 25                   | A6516                | 1                     | Wiper Flange              | Aluminum               |
| 26                   | A-6412               | 2                     | Cap Screw                 | 18-8 Stainless Steel   |
| 27                   | C-2114               | 1                     | Yoke                      | Cast Aluminum          |
| 28                   | A-6414               | 4                     | Cap Screw                 | 18-8 Stainless Steel   |

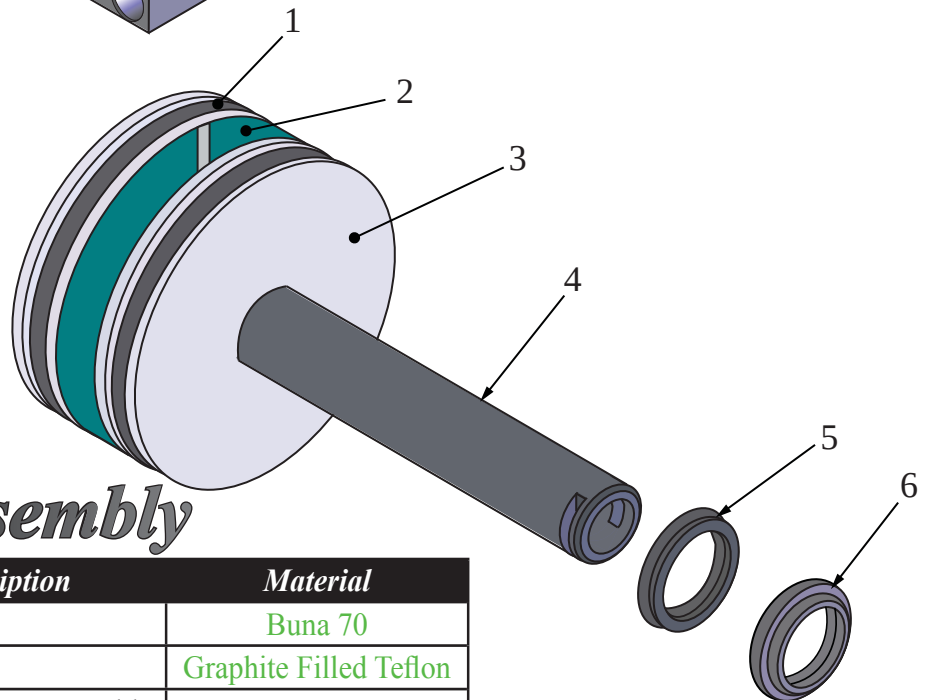
*\*Recommended Spare Parts*

# MPC Series Assemblies

## Manifold Assembly



| Item # | Part # | # Req'd. | Description                 | Material        |
|--------|--------|----------|-----------------------------|-----------------|
| 1      | A-6421 | 4        | Socket Set Screw, Cup Point | Stainless Steel |
| 2      | A-6420 | 2        | Socket Set Screw, Cup Point | Stainless Steel |
| 3      | A-6422 | 2        | Socket Set Screw, Cup Point | Stainless Steel |
| 4      | A-6380 | 1        | Manifold                    | Aluminum        |



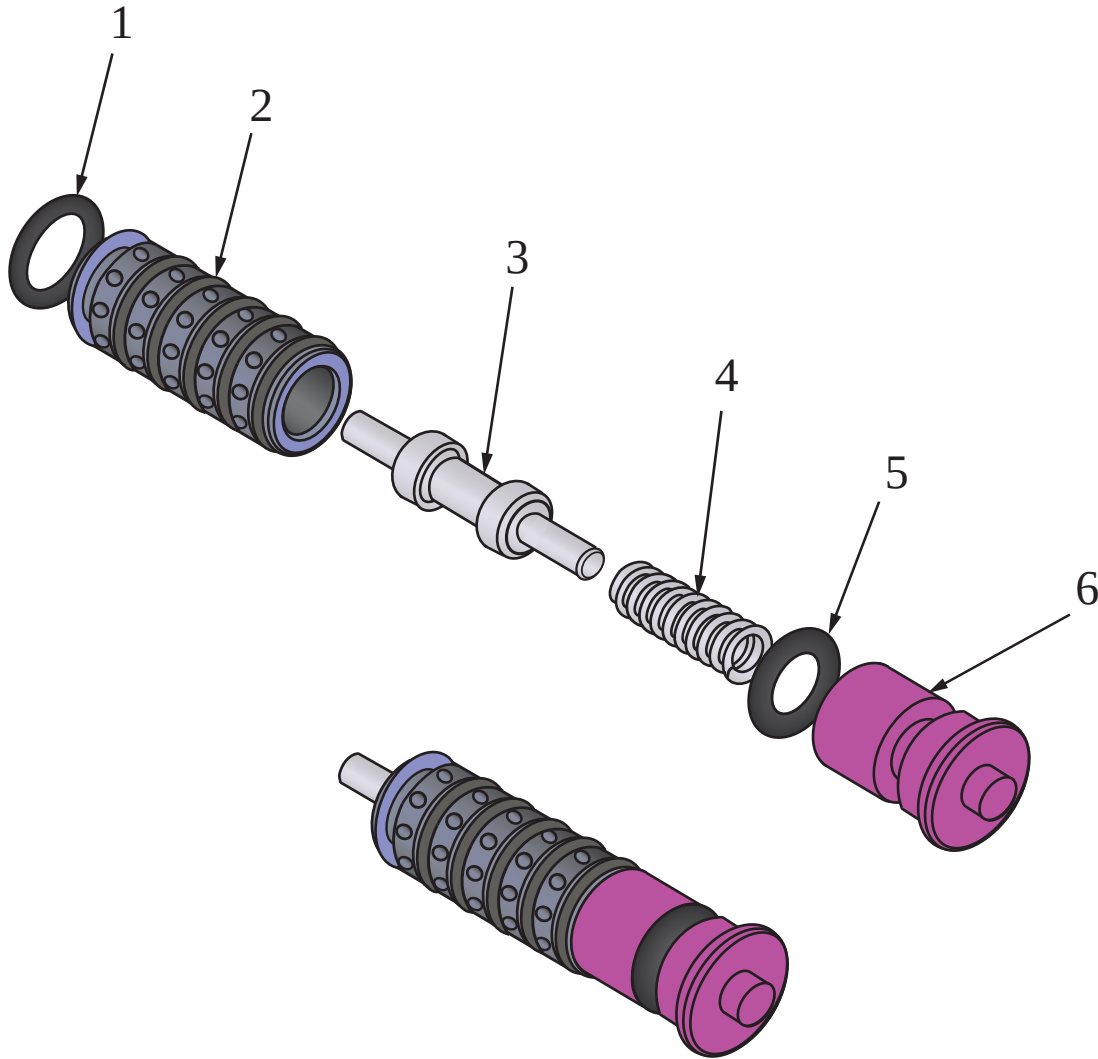
## A-6513 Piston Assembly

| Item # | Part #   | # Req'd. | Description             | Material               |
|--------|----------|----------|-------------------------|------------------------|
| 1      | A-6522   | 2        | O'Ring                  | Buna 70                |
| 2      | A-6523   | 1        | Wear Band               | Graphite Filled Teflon |
| 3&4    | A-6513   | 1        | Rod and Piston Assembly | ♦                      |
| 3      | A-6513.2 | 1        | Piston                  | Aluminum               |
| 4      | A-6513.1 | 1        | Rod                     | Stainless Steel        |
| 5      | A-6519   | 1        | Rod Seal                | Carboxilated Nitrile   |
| 6      | A-6517   | 1        | Rod Wiper               | Polyurethane           |

\*Recommended Spare Parts



# ***MPC Series Assemblies***



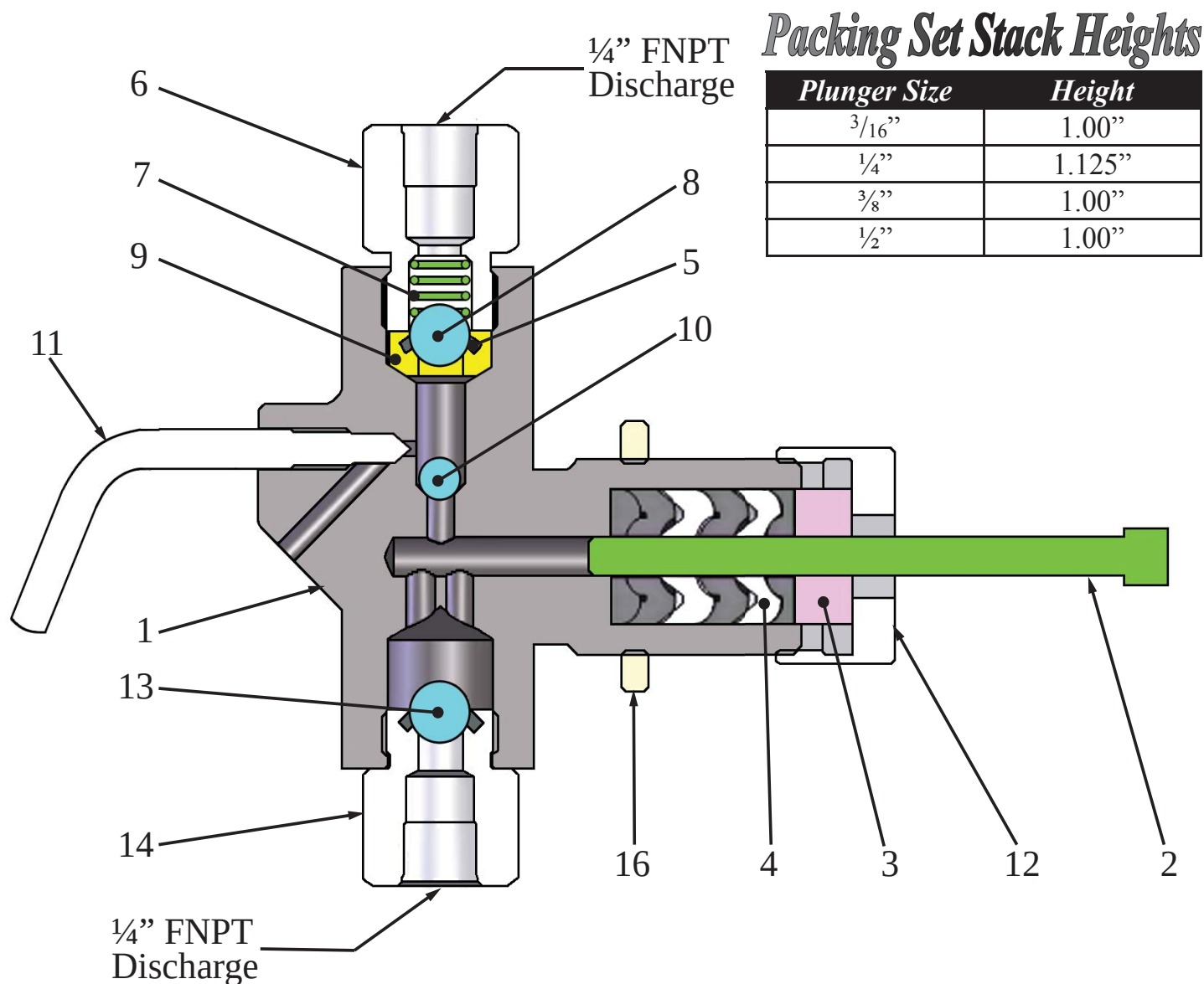
## ***A-6379 Spool & Sleeve Assembly***

| <i><b>Item #</b></i> | <i><b>Part #</b></i> | <i><b># Req'd.</b></i> | <i><b>Description</b></i> | <i><b>Material</b></i> |
|----------------------|----------------------|------------------------|---------------------------|------------------------|
| 1                    | A-6400               | 6                      | O'Ring                    | Buna 70                |
| 2                    | A-6379.2             | 1                      | Sleeve                    | 316 Stainless Steel    |
| 3                    | A-6379.1             | 1                      | Spool                     | 316 Stainless Steel    |
| 4                    | A-6512               | 1                      | Spring                    | 302 Stainless Steel    |
| 5                    | A-6402               | 1                      | O'Ring                    | Buna 70                |
| 6                    | A-6509               | 1                      | Plug                      | Aluminum               |

*\*Recommended Spare Parts*

# ***Injector Heads***

## ***For Horizontal Pumps***



## *Plunger Packing Maximum Discharge Pressure*

| <i>Material</i> | <i>Pressure (PSIG)</i> |             |             |             |
|-----------------|------------------------|-------------|-------------|-------------|
|                 | <i>3/16"</i>           | <i>1/4"</i> | <i>3/8"</i> | <i>1/2"</i> |
| <b>Buna-N</b>   | 1500                   | 1500        | 1500        | 1500        |
| <b>Hard</b>     | 6000                   | 6000        | 6000        | 3500        |
| <b>Viton</b>    | 3500                   | 3500        | 3500        | 3500        |
| <b>Teflon</b>   | 1500                   | 1500        | 1500        | 1500        |

# ***Injector Heads***

## ***For Horizontal Pumps***

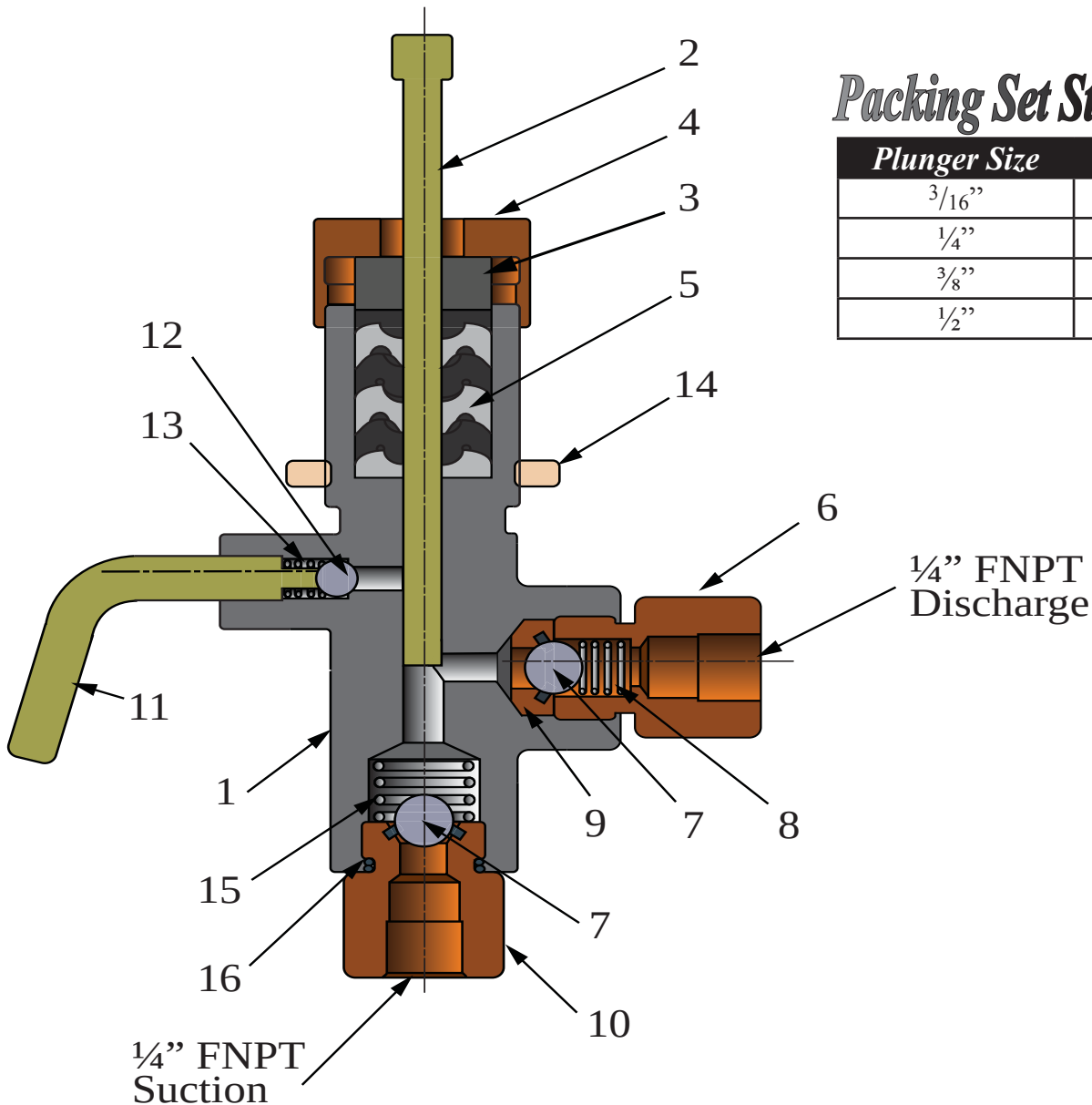
### ***Parts List***

| Item # | Part #           |                 |                 |                 | Description                                                                | Material            |
|--------|------------------|-----------------|-----------------|-----------------|----------------------------------------------------------------------------|---------------------|
|        | $\frac{3}{16}$ " | $\frac{1}{4}$ " | $\frac{3}{8}$ " | $\frac{1}{2}$ " |                                                                            |                     |
| ◆      | B-1299           | B-0755          | B-0756          | B-0732          | Head Assembly                                                              | ◆                   |
| 1      | C-2040           | C-0291          | C-0425          | C-0349          | Body                                                                       | Stainless Steel     |
| 2      | A-7000           | A-7004          | A-7002          | A-7003          | Plunger                                                                    | 17-4 pH             |
| 3      | A-4332           | A-1463          | A-0957          | A-1219          | Plunger Packing Gland                                                      | 303 Stainless Steel |
| 4      | A-3969           | A-1461          | A-1456          | A-0959          | Plunger Packing<br>(see table on Page 6 for maximum<br>discharge pressure) | Buna-N              |
|        | ◆                | A-2295          | A-1875          | A-1874          |                                                                            | Hard                |
|        | A-3967           | A-4102          | A-4101          | A-4103          |                                                                            | Viton               |
|        | A-3966           | A-1642          | A-1234          | A-1012          |                                                                            | Teflon              |
| 5      | A-0479           |                 |                 |                 | O'Ring, Suction & Discharge<br>(included in items 9 & 14)                  | Buna-N              |
|        | A-2580           |                 |                 |                 |                                                                            | Viton               |
| 6      | A-1496           |                 |                 |                 | Top Bushing                                                                | 302 Stainless Steel |
| 7      | A-0077           |                 |                 |                 | Ball Check Spring                                                          | 316 Stainless Steel |
| 8      | A-0054           |                 |                 |                 | $\frac{3}{8}$ " Large Top Ball                                             | 316 Stainless Steel |
|        | A-0064           |                 |                 |                 |                                                                            | Hastelloy           |
| 9      | B-0737           |                 |                 |                 | Top Seat Assembly Buna-N O'Ring                                            | 303 Stainless Steel |
|        | ◆                | A-0806          |                 |                 | Top Seat Assembly Metal-to-Metal                                           | 303 Stainless Steel |
| 10     | ◆                | A-0126          |                 |                 | $\frac{1}{4}$ " Small Top Ball                                             | 316 Stainless Steel |
| 11     | A-4027           | A-1497          |                 |                 | Priming Valve                                                              | 303 Stainless Steel |
| 12     | A-4104           |                 |                 |                 | Plunger Packing Gland Nut                                                  | 303 Stainless Steel |
| 13     | A-0054           |                 |                 |                 | $\frac{3}{8}$ " Suction Ball                                               | 316 Stainless Steel |
|        | A-0064           |                 |                 |                 |                                                                            | Hastelloy           |
|        | ◆                | A-0053          |                 |                 | $\frac{1}{2}$ " Suction Ball<br>(use with A-0771 only)                     | 316 Stainless Steel |
| 14     | B-1216           | B-0736          |                 |                 | Bottom Seat (with Buna-N O'Ring)                                           | 303 Stainless Steel |
|        | ◆                | A-0771          |                 |                 | Bottom Seat Bushing Metal-to-Metal<br>(use with A-0053 only)               | 303 Stainless Steel |
| 15     | A-4394           | ◆               |                 |                 | Gasket                                                                     | 304 Stainless Steel |
| 16     | A-0225           |                 |                 |                 | Locknut                                                                    | Aluminum            |

*\*Recommended Spare Parts*

# ***Injector Heads***

## ***For Verticle Pumps***



### ***Packing Set Stack Heights***

| <i><b>Plunger Size</b></i> | <i><b>Height</b></i> |
|----------------------------|----------------------|
| $\frac{3}{16}$ "           | 1.00"                |
| $\frac{1}{4}$ "            | 1.125"               |
| $\frac{3}{8}$ "            | 1.00"                |
| $\frac{1}{2}$ "            | 1.00"                |

### ***Plunger Packing Maximum Discharge Pressure***

| <i><b>Material</b></i> | <i><b>Pressure (PSIG)</b></i> |                 |                 |                 |
|------------------------|-------------------------------|-----------------|-----------------|-----------------|
|                        | $\frac{3}{16}$ "              | $\frac{1}{4}$ " | $\frac{3}{8}$ " | $\frac{1}{2}$ " |
| <b>Buna-N</b>          | 1500                          | 1500            | 1500            | 1500            |
| <b>Hard</b>            | 6000                          | 6000            | 6000            | 3500            |
| <b>Viton</b>           | 3500                          | 3500            | 3500            | 3500            |
| <b>Teflon</b>          | 1500                          | 1500            | 1500            | 1500            |



# ***Injector Heads***

## ***For Verticle Pumps***

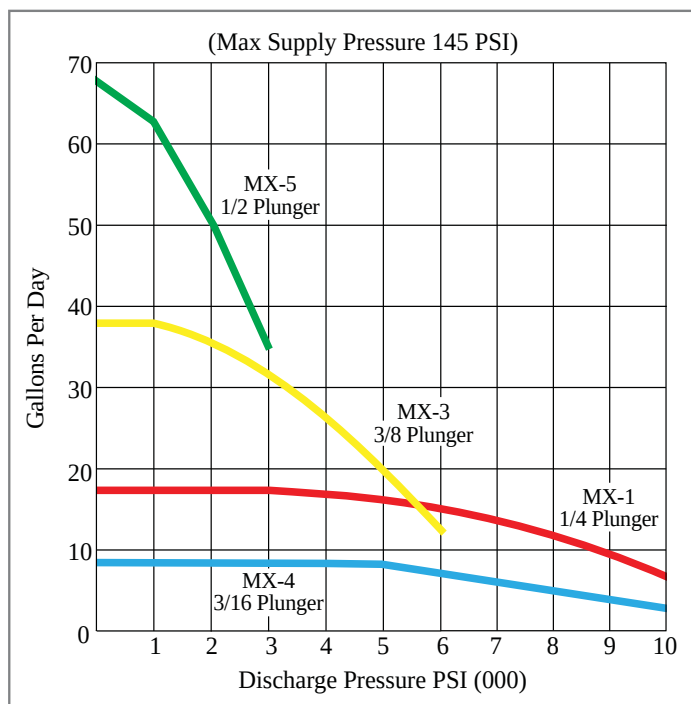
### ***Parts List***

| Item # | Part # |        |        |        | Description                                                               | Material            |
|--------|--------|--------|--------|--------|---------------------------------------------------------------------------|---------------------|
|        | 3/16"  | 1/4"   | 3/8"   | 1/2"   |                                                                           |                     |
| ◆      | C-2120 | C-2121 | C-2122 | C-2123 | Head Assembly                                                             | ◆                   |
| 1      | C-2115 | C-2116 | C-2117 | C-2118 | Body                                                                      | ◆                   |
| 2      | A-6268 | A-6269 | A-6270 | A-6271 | Plunger                                                                   | 17-4 pH             |
| 3      | A-4332 | A-1463 | A-0957 | A-1219 | Packing Gland                                                             | 303 Stainless Steel |
| 4      | A-4104 |        |        |        | Plunger Packing Gland Nut                                                 | 303 Stainless Steel |
| 5      | A-3969 | A-1461 | A-1456 | A-0959 | Plunger Packing<br>(see table above for maximum<br>discharge pressure)    | Buna-N              |
|        | ◆      | A-2295 | A-1875 | A-1874 |                                                                           | Hard                |
|        | A-3967 | A-4102 | A-4101 | A-4103 |                                                                           | Viton               |
|        | A-3966 | A-1642 | A-1234 | A-1012 |                                                                           | Teflon              |
| 6      | A-1496 |        |        |        | Top Bushing                                                               | 303 Stainless Steel |
| 7      | A-0054 |        |        |        | 3/8" Large Top Ball                                                       | 316 Stainless Steel |
| 8      | A-0077 |        |        |        | Ball Check Spring                                                         | 316 Stainless Steel |
| 9      | B-0737 |        |        |        | Top Seat Assembly<br>Buna-N O'Ring                                        | 303 Stainless Steel |
|        | ◆      | A-0806 |        |        | Top Seat Assembly<br>Metal-to-Metal                                       | 303 Stainless Steel |
| 10     | B-0736 |        |        |        | Bottom Seat Bushing<br>Buna-N O'Ring                                      | 303 Stainless Steel |
|        | ◆      | A-0771 |        |        | Bottom Seat Bushing<br>Metal-to-Metal<br>(Use with A-0053 1/2" Ball only) | 303 Stainless Steel |
| 11     | A-6272 |        |        |        | Priming Valve                                                             | 303 Stainless Steel |
| 12     | A-0126 |        |        |        | 1/4" Small Top Ball                                                       | 316 Stainless Steel |
| 13     | A-6274 |        |        |        | Priming Valve Spring                                                      | 316 Stainless Steel |
| 14     | A-0225 |        |        |        | Locknut                                                                   | Brass               |
| 15     | A-5378 |        |        |        | Spring Ball Cage                                                          | 316 Stainless Steel |
| 16     | ◆      |        |        |        | O'Ring                                                                    | Buna 70             |

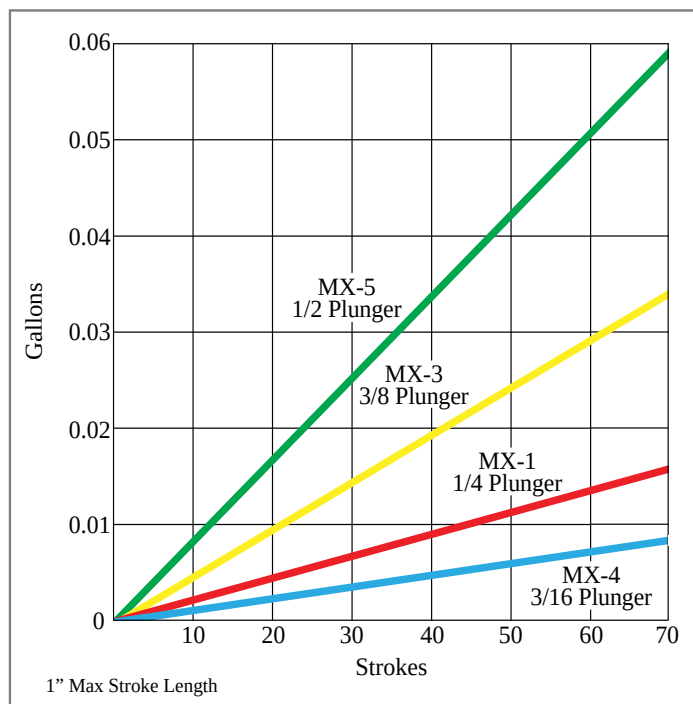
*\*Recommended Spare Parts*

# Performance Data

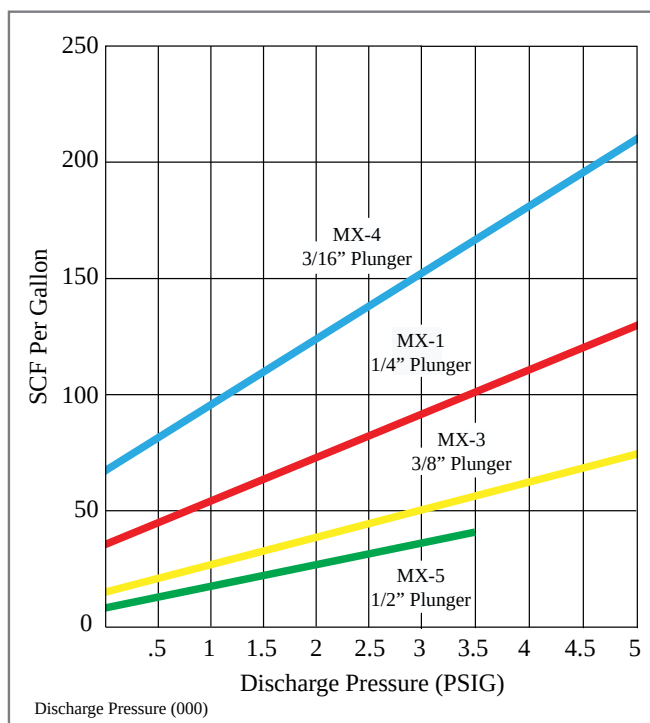
## MPC Series Capacity



## MPC Series Gas Consumption



## MPC Series Gallons Per Stroke

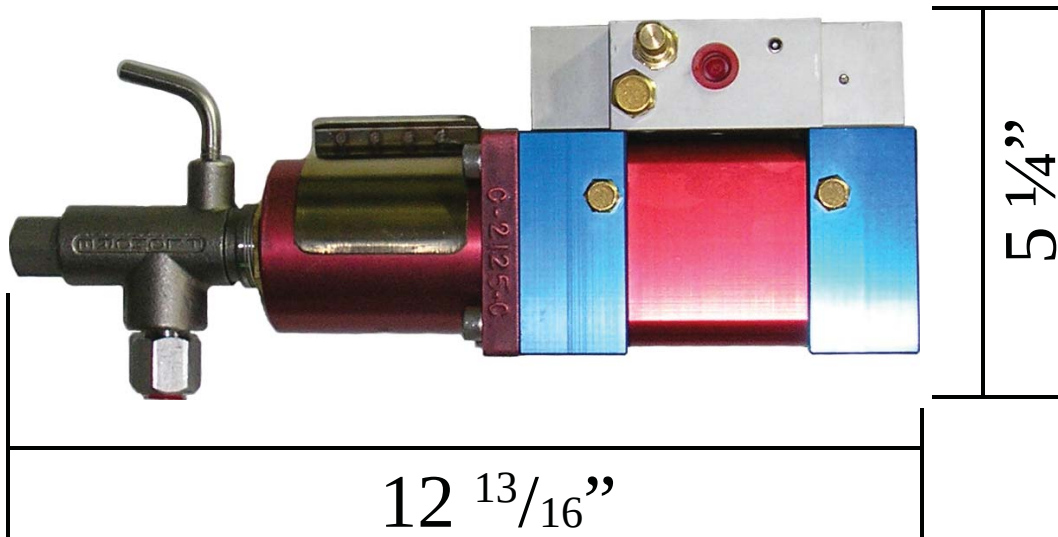


# *Performance Data*

## *Pressure Volume Range*

| <i>Model #</i> | <i>Plunger Diameter</i> | <i>Maximum Discharge</i> |             | <i>Volume</i>  |            |                |            |
|----------------|-------------------------|--------------------------|-------------|----------------|------------|----------------|------------|
|                |                         |                          |             | <i>Minimum</i> |            | <i>Maximum</i> |            |
|                |                         | <b>PSI</b>               | <b>BARS</b> | <b>GPD</b>     | <b>LPD</b> | <b>GPD</b>     | <b>LPD</b> |
| MPC-31V        | 3/16"                   | 10,000                   | 690         | 0.11           | 0.42       | 8.0            | 30.3       |
| MPC-32V        | 1/4"                    | 10,000                   | 690         | 0.2            | 0.75       | 14.5           | 54.9       |
| MPC-33V        | 3/8"                    | 6,000                    | 414         | 0.6            | 2.27       | 32.1           | 121.5      |
| MPC-35V        | 1/2"                    | 3,500                    | 241         | 1.1            | 4.16       | 62.0           | 234.7      |

## *Dimensions*



## *Conversion Factors*

| <i>Original Unit</i> | <i>Conversion Factor</i> | <i>Pressure</i> |
|----------------------|--------------------------|-----------------|
| kg/cm <sup>2</sup>   | x 14.2                   | = PSIG          |
| in/Hg                | x 0.49                   | = PSIG          |
| in of water          | x 0.036                  | = PSIG          |
| ft of water          | x 0.43                   | = PSIG          |
| atm (atmospheres)    | x 14.7                   | = PSIG          |
| kPa (kilo/Pascal)    | x 0.1450                 | = PSIG          |
| Mega Pa              | x 145.0                  | = PSIG          |



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