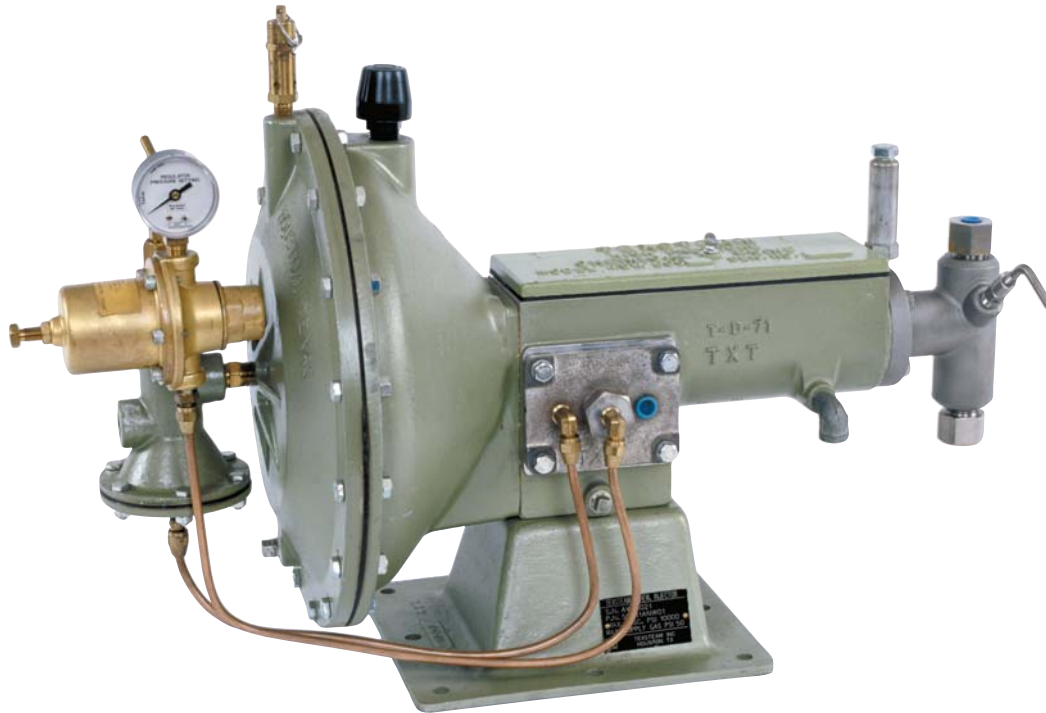




series 5000

AIR OR GAS DRIVEN INJECTORS

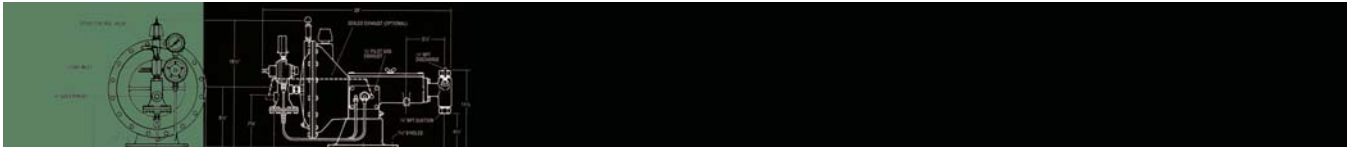


DESCRIPTION

Texsteam Series 5000 chemical injectors are positive displacement units powered by integral gas/air motor. These pumps fill the requirements of a broad range of applications because of their ability to achieve high discharge pressures (up to 12,000 psi) and wide volume ranges. A horizontal plunger and vertical check valve arrangement assure high operating efficiency. The standard pump head has a Ductile Iron body and stainless steel trim. Stainless steel heads are available for high corrosive applications. A built-in priming valve facilitates pump head priming, enables the operator to easily check pump operation, and offers a sample-catching device. The pump frame and body castings are high-strength aluminum. The operating mechanism strokes in oil and is gasket sealed to protect against dust and other atmospheric influences. A standard equipment safety valve offers protection against accidental overpressure of the main diaphragm. The adjustable packing is equipped with a lantern ring and a grease jack for lubricating the plunger and packing to insure long life.

APPLICATIONS

- Introducing detergents in air-gas drilling operations
- Blending foaming agents in water laden gas wells
- High pressure addition of fluid compounds in blending and chemical processing.
- Introduction of de-salting agents, de-emulsifiers, inhibitors and flocculants in crude oil and gas streams
- High and low pressure lubrication systems
- Methanol and alcohol injection in gas systems to prevent freezing
- General high pressure injection applications
- Fluid blending of extreme pressures within varied, controlled processes
- Hydrostatic testing
- Glycol circulation
- Water treatment



PERFORMANCE DATA

| Model # | Plunger Size | Operating Ratio Gas*/Fluid | Maximum Pressure Pressure (PSIG) | | Maximum Volume | | | |
|---------|--------------|----------------------------|----------------------------------|--------------|----------------|-----|------------|-----|
| | | | Hard Packing | Soft Packing | Intermittent | | Continuous | |
| | | | | | GPH | GPD | GPH | GPD |
| 5002 | 1/4" | 1000/1 | 12,000 | 3000 | 0.83 | 20 | 0.67 | 16 |
| 5003 | 3/8" | 497/1 | 12,000 | 3000 | 2.33 | 56 | 1.79 | 43 |
| 5005 | 1/2" | 264/1 | 12,000 | 3000 | 4.38 | 105 | 3.54 | 85 |
| 5004 | 3/4" | 115/1 | 5,000 | 3000 | 7.42 | 190 | 6.67 | 160 |
| 5006 | 1" | 66/1 | N/A | 3000 | 16.66 | 400 | 13.33 | 320 |
| 5007 | 1-1/4" | 42/1 | N/A | 2000 | 26.04 | 625 | 20.83 | 500 |

Stroke Length - Long: 1 1/4" ; Short: 1/2"

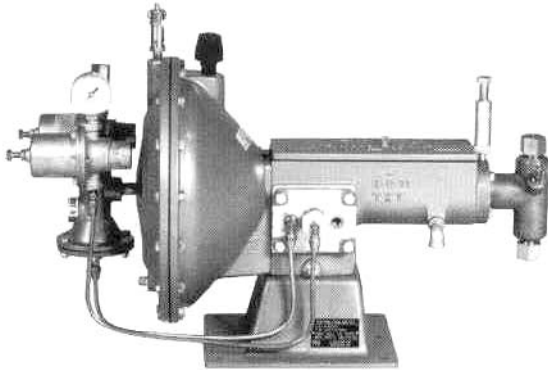
*Maximum Power Gas Pressure: 50 PSI
Specify a TB-0040 & TA-0129 inlet regulator and gauge when the inlet air/gas pressure is over 50 psig.

MODELS AVAILABLE

All models available trimmed for sour gas as an option

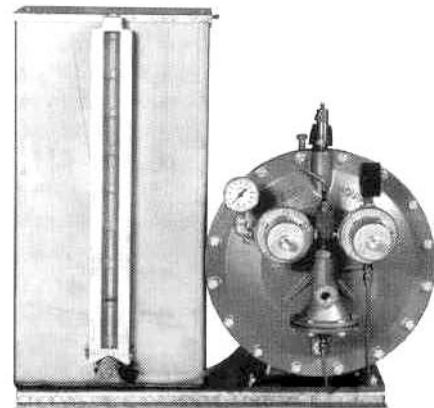
Basic Power Unit

is available with six different plungers.
Shipping Weight: 63 lbs.



Pump with 10 Gallon Stainless Steel Reservoir

Shipping Weight: 96 lbs.



To add a 5 gallon tank, gauge, and base to the Basic Power Unit, order the following Parts:

| | | | |
|-----------|----------------|------------|------------|
| 1-TA-0664 | 5 gal. tank | 1-TA-0141 | Base Screw |
| 1-TB-0871 | Gauge | 4-TA-0143 | Bolt |
| 1-TA-3189 | Suction Tubing | 5-TA-0144 | Nut |
| 1-TB-0204 | Base | 10-TA-0300 | Washer |
| 1-TA-3116 | ELL | 5-TA-0425 | Lockwasher |

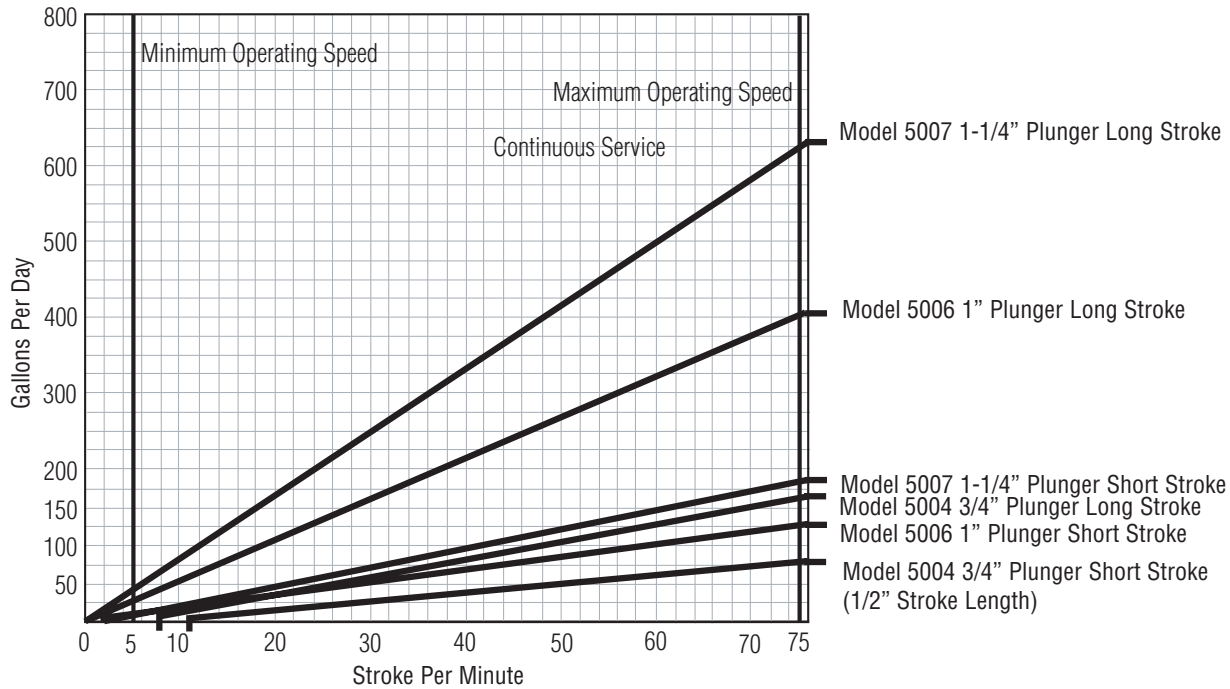
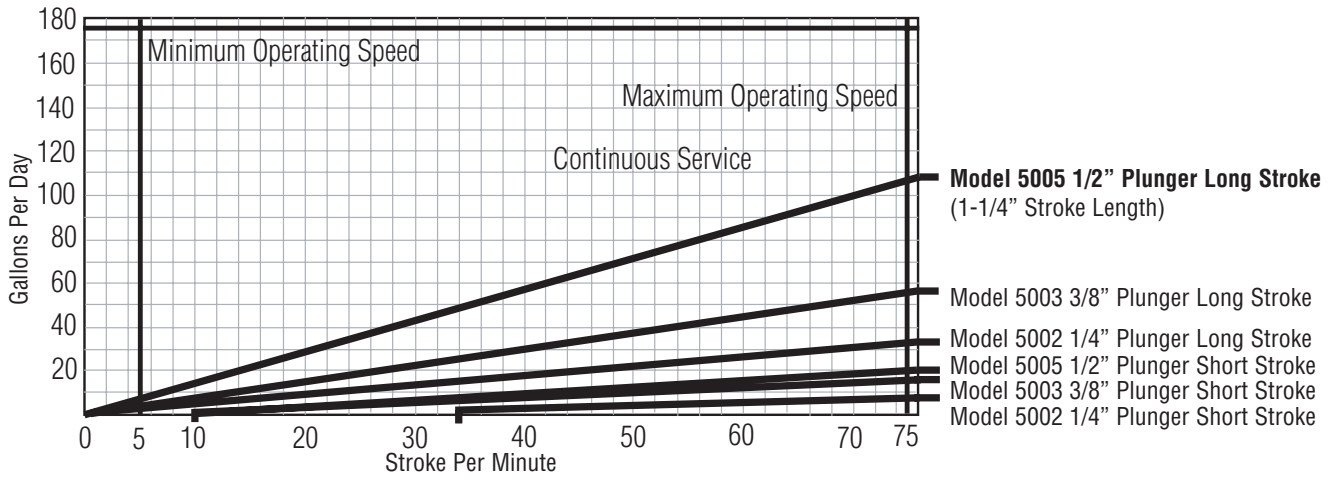
Drum Gauges Available:

TB-1128 Carbon Steel
TB-1129 304SS

AIR OR GAS DRIVEN INJECTORS

series **5000**

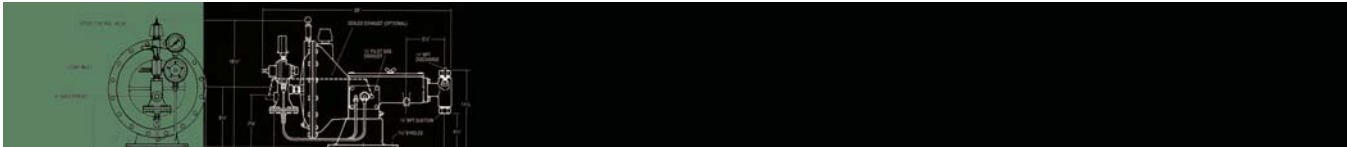
VOLUME & PUMP



GAS CONSUMPTION CHART (Standard Cubic Feet of Gas Required to Pump One Gallon)

For inlet regulator sizing, double the requirement indicated

| Injection Press in PSI | 50 | 100 | 150 | 200 | 250 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1500 | 2000 | 3000 | 3500 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 | 10000 |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1/4" Piston Long Stroke 5002 | 280 | 281.2 | 282.4 | 283.6 | 284.8 | 286 | 289 | 292 | 294.6 | 297.2 | 300 | 303 | 306 | 318 | 330 | 356 | 368 | 380 | 404 | 428 | 452 | 476 | 500 | 522 |
| 1/4" Piston Short Stroke | 700 | 703 | 706 | 707 | 709 | 712 | 720 | 724 | 731 | 737 | 741 | 748 | 756 | 779 | 802 | 854 | 872 | 897 | 937 | 984 | 1017 | 1057 | 1090 | 1122 |
| 3/8" Piston Long Stroke 5003 | 140 | 140.6 | 141.2 | 141.8 | 142.4 | 143 | 144.5 | 146 | 147.3 | 148.8 | 150 | 151.5 | 153 | 159 | 165 | 178 | 184 | 190 | 202 | 214 | 226 | 238 | 250 | 262 |
| 3/8" Piston Short Stroke | 355 | 355.6 | 356.2 | 356.8 | 357.4 | 358 | 359.5 | 361 | 362.3 | 363.6 | 365 | 366.5 | 368 | 374 | 380 | 393 | 399 | 405 | 417 | 429 | 441 | 453 | 465 | 477 |
| 1/2" Piston Long Stroke 5005 | 80.6 | 81.2 | 81.8 | 82.4 | 83 | 83.6 | 84.8 | 86 | 87.2 | 88.4 | 89.6 | 90.8 | 92 | 98 | 104 | 116 | 122 | 128 | 140 | 152 | 164 | 176 | 188 | 200 |
| 1/2" Piston Short Stroke | 200.6 | 201.1 | 201.8 | 202.4 | 203 | 203.6 | 204.8 | 206 | 207 | 208.4 | 209.6 | 210.8 | 212 | 218 | 224 | 236 | 242 | 248 | 260 | 272 | 284 | 296 | 308 | 320 |
| 3/4" Piston Long Stroke 5004 | 36 | 37 | 38 | 39 | 40 | 41 | 43 | 45 | 47.3 | 49.4 | 51.3 | 52.8 | 55.6 | 66 | 76.2 | 97 | 107 | 114 | 121 | | | | | |
| 3/4" Piston Short Stroke | 89 | 91 | 92 | 94 | 95 | 96 | 99 | 101 | 105 | 109 | 111 | 113 | 117 | 132 | 145 | 172 | 183 | 190 | 191 | | | | | |
| 1" Piston Long Stroke 5006 | 20.6 | 21.2 | 21.8 | 22.4 | 23 | 23.6 | 24.8 | 26 | 27.2 | 28.4 | 29.6 | 30.8 | 32 | 38 | 44 | 56 | 62 | | | | | | | |
| 1" Piston Short Stroke | 50.6 | 51.2 | 51.8 | 52.4 | 53 | 53.6 | 54.8 | 56 | 57.2 | 58.4 | 59.6 | 60.8 | 62 | 68 | 74 | 86 | | | | | | | | |
| 1 1/4" Piston Long Stroke 5007 | 13.6 | 14.2 | 14.8 | 15.4 | 16 | 16.6 | 17.8 | 19 | 20.2 | 21.4 | 22.6 | 23.8 | 25 | 31 | 37 | 49 | | | | | | | | |
| 1 1/4" Piston Short Stroke | 32.6 | 33.2 | 33.8 | 34.4 | 35 | 35.6 | 36.8 | 38 | 39.2 | 40.4 | 41.6 | 42.8 | 44 | 50 | 56 | | | | | | | | | |



INSTALLATION AND OPERATING INSTRUCTIONS

1. After removing pump from carton, inspect for possible damage in transit from factory. If the pump has been damaged, file claim with the carrier.
2. **Bolt holes** are provided for mounting. See drawing for dimensions on page 5.
3. **Connect the suction line to pump head.**
 - a. When a reservoir is furnished with the pump, the suction line is already connected. Fill the reservoir and open (all the way) the TB-871 sight feed shutoff assembly. It is important to have the TB-871 valve open all the way when the pump is in operation because the TB-871 valve seals-off in the open position and prevents air from entering the suction line through the valve. A dual strainer is furnished as part of this unit.
 - b. When a power unit model (less tanks) is purchased, a strainer should be piped into the suction line to prevent sand, rust or other particles, which score the plunger or possibly foul the check valves, from entering the pump head. Textsteam manufactures the TB-21 sight feed assembly which can be used with the 3/8" and 1/2" plungers only. A TA-75 street ell and TA-674 nipple is required to pipe the TB-21 sight feed into the bottom bushing of the pump head. The TB-21 should be installed as shown on page 6. The inlet connections on the pump head and the sight feed are 1/4" FPT.
4. **Connect the discharge line.** The top connection on the pump head is the fluid discharge and has a female 1/4" pipe thread connection. A line check should be installed in the discharge line as close to the point of injection as possible. For pumps with ifs" plunger, Textsteam offers a 1/4" line check either in brass (TA-676) or stainless steel (TA-675) which will withstand working pressures of 3000 and 6000 psi respectively. For other plunger sizes, 1/2", 1" and 1-1/4", Textsteam offers the TB-283 stainless steel line check which withstands pressures up to 6000 psi. When installing these check valves note the arrow on the body which indicates the direction of flow.
5. **Connect the power gas line.**
 - a. First blow power gas line clean to remove any loose rust particles, slag, sand, etc.
 - b. Consider the pressure requirements of the pump. If the gas supply exceeds 50 psi (consider erratic pressure), the supply should be equipped with a regulator to reduce the gas pressure to 50 psi. If the main air or gas supply to the pump is over 50 psig, it must be reduced to 50 pounds. This can be done by installing another TB-40 regulator and TA-129 gauge (available as optional components for field installation). The maximum allowable inlet pressure to a TB-40 regulator for installing in the main gas supply is 1500 psig.
 - c. The TA-131 safety valve is for protection of the TB-10 diaphragm and is set at 50 psi. Pressure on the diaphragm should not in any case exceed 50 psi.
 - d. Tie in gas line into TA-22 inlet valve.
6. **Lubrication (30 wt. non-detergent oil - 3 quarts)**
 - a. Remove the cover plate TB-4 and fill the chamber next to diaphragm with oil. Only on pumps with 1-1/4" plungers are both the chambers filled with oil. The model 5007 requires oil in the packing gland chamber in order to lubricate the plunger.
 - b. Insert stick lubricant into the TA-558 grease jack. Textsteam has available and recommends P/N TA-3179 for most fluids. No lubrication is required if the pump is equipped with teflon packing and chrome-plated plunger. In this case the connection for the grease jack should be plugged with a 1/8" pipe plug.
7. Adjust for desired volume by considering pump speed (see charts) and position of Item 47 pin. Different volumes can be achieved by short and long stroke setting (see charts). The pump is assembled with Item 47 plunger travel adjusting pin inserted in the hole of the plunger nearest the plunger packing gland nut. This is the position of longest stroke. To shorten the stroke, place the pin in the other hole. (See Page 6.)
8. Start the pump by slowly opening the TA-22 inlet valve. Prime the pump head by opening the TA-123 priming valve. After the pump discharges fluid without bubbles, close the priming valve for normal operation. At this point make a visual check of the plunger drip and using a flat blade screwdriver slowly tighten the gland nut to prevent excess drippage and waste of chemicals. Do not over-tighten plunger packing. It may be necessary to readjust the packing the next day. A slight leak during the break-in period is beneficial. Sufficient time should be allowed to let the packing 'seat-in.' **DO NOT ADJUST PACKING UNDER PRESSURE.** If low volumes are being pumped, the pump head the fluid discharge line and all other fittings up to the line check should be thoroughly purged of all air bubbles.

CAUTION:

The TB-40 regulator (Item 2, Pg. 6) mounted on the pump as a standard component **DOES NOT REDUCE THE MAIN AIR OR GAS SUPPLY PRESSURE** down to 50 psig, which is the maximum allowable for operating the Series 5000 pump. It is factory-set at 12 psi to prevent over-pressuring the TB-37 master valve (Item 6, page 6).

If the main air or gas supply to the pump is over 50 psig, it must be reduced to 50 lbs. This can be done by installing another TB-40 regulator and TA-129 gauge (available as optional components for field installation.) The maximum allowable inlet pressure to a TB-40 regulator for installing in the main gas supply is 1500 psig.

MAINTENANCE INSTRUCTIONS FOR INSPECTION OR REPLACEMENT OF POWER EQUIPMENT

Inspection of TB-40 Pressure Regulator

Loosen TA-402 lock nut, hack out TA-217 regulator screw, remove the five TA-223 body screws and lift off TA-3110 bonnet. Lift out and inspect TA-3133 adjusting spring disc and TA-2111 adjusting spring. Unscrew TA-220 lock nut and lift out TA-3135 adjusting spring plate, TA-211 diaphragm, TA-210 body gasket and TA-213 diaphragm nut gasket. To inspect other parts, unscrew TA-209 cap, lift out TA-212 cap gasket. At this point TA-222 seat block pin must be removed with punch. When pin is removed, TA-214 valve seat assembly (reversible) and TA-219 orifice screw can be removed.

Now the TA-208 valve seat block yoke can be lifted out through other side of TC-29 body. Check TA-519 inlet filter screen for obstructions. Reset regulator at 12 psi.

TB-37 Master Valve Assembly

Remove the six TA-163 cap screws, remove TA-1 housing cap and inspect TA-1329 diaphragms. After removing the diaphragms, the TA-197 stem may be removed. To inspect TA-202 valve spring, TA-196 valve disc and TA-201 lower valve seat, unscrew TA-200 upper valve seat.

Inspecting TB-9 Pilot Valve Assembly

Unscrew TA-906 disc retainer, lift out TA-77 valve spring, TA-579 washer and TA-4668 valve disc. Close inspection of the valve disc sealing surface and drive socket slot is necessary. Very close inspection of the drive pin should be made, if ends are worn, the valve disc should be replaced. If TB-1 Body and TA-4668 valve disc are badly scored, replace. Realignment of the valve disc is important. Refer to positioning diagram on page 7.

Replacement of TB-10 Diaphragms, TA-25 Spring and Related Parts

Remove TB-40 regulator, TA-22 valve, and TB-37 master valve. Remove 16 TA-142 bolts. The cover is under tension. Care should be exercised when removing the last TA-142 bolts. Two C-clamps or 5/16" x 2 (slightly longer than TA-142 bolts) would be very helpful for this work.

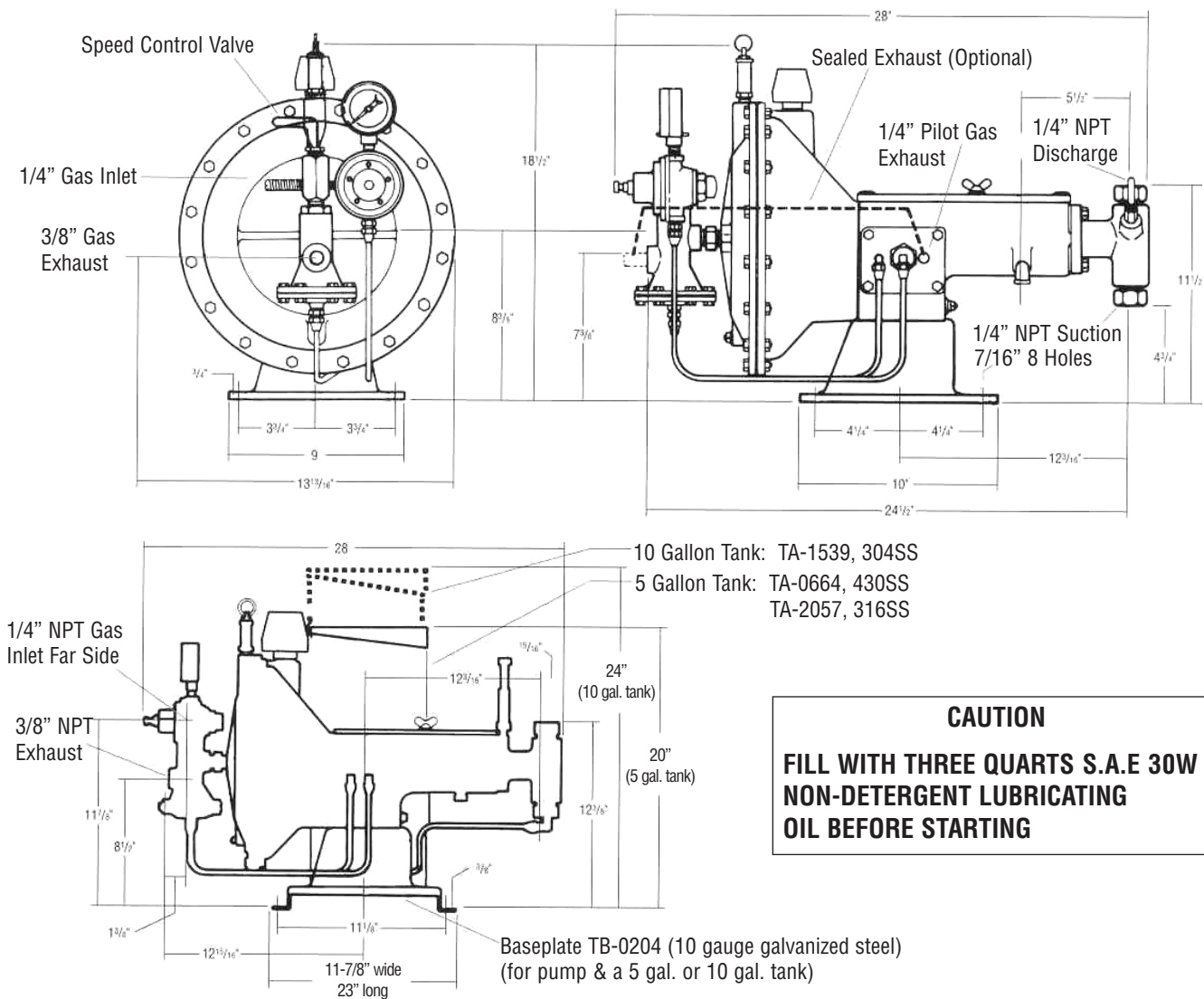
Troubleshooting

1. If pump stops with plunger in extreme discharge position and gas or air is being discharged from the TA-131 safety valve, or a constant discharge of gas or air is discharged when the safety valve lift ring is pulled, the TA-1329 diaphragm in the TB-37 master valve is burst.
2. If pump does not move forward and a constant discharge of gas or air is observed in the lubricating oil chamber then the TB-10 main diaphragms are ruptured.
3. Pump is operating but not pumping fluid.
 - a. Open bleeder valve to break air lock.
 - b. Check if sight feed shutoff assembly TA-101 is screwed in "out" position.
 - c. Check top and bottom halls and seats for leaking.

(REFER TO PARTS LIST ON PAGE 6 AND 7)

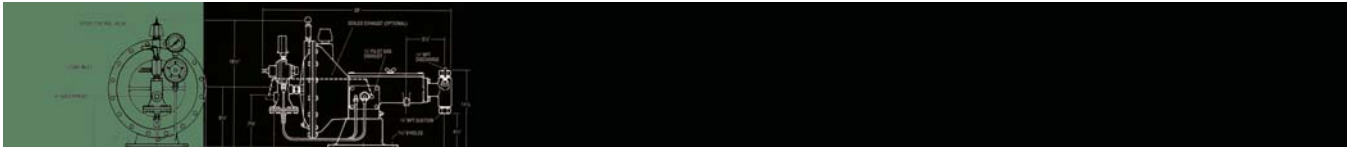
DIMENSIONS

Do Not Use For Construction. Request Certified Dimension Drawing From Factory If Needed.

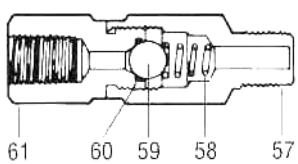
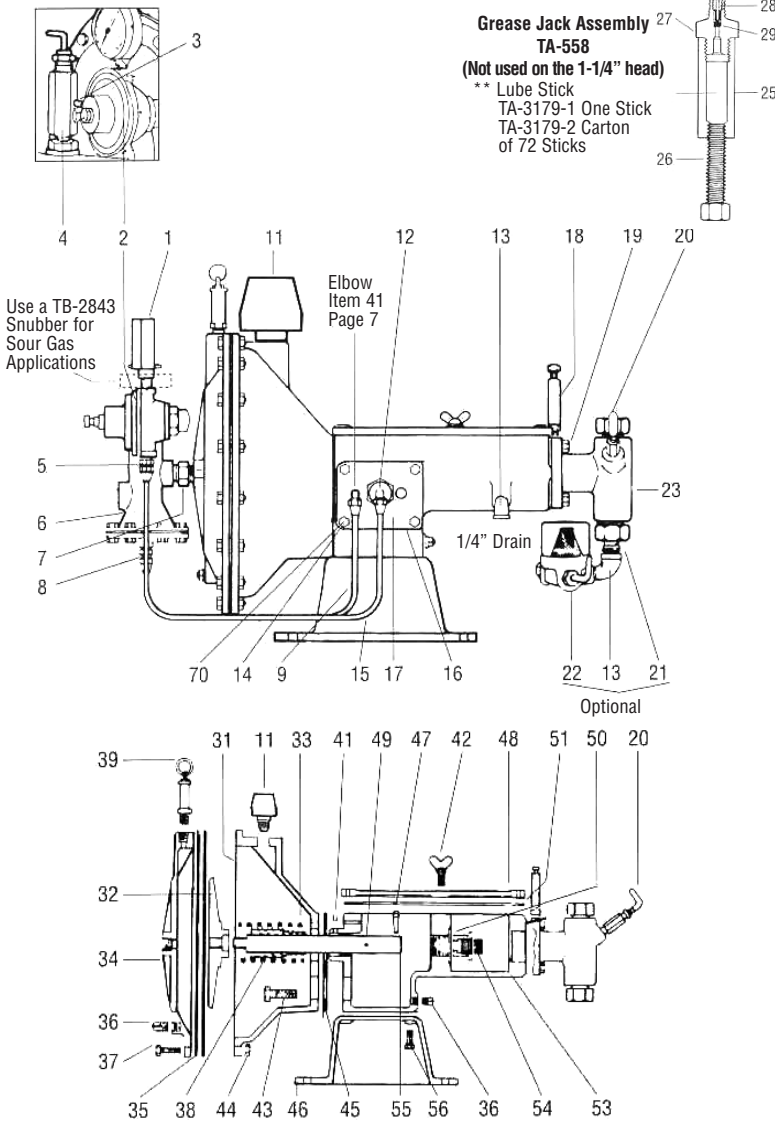


CAUTION

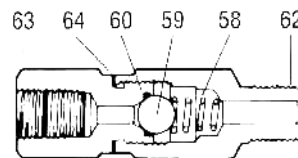
**FILL WITH THREE QUARTS S.A.E 30W
NON-DETERGENT LUBRICATING
OIL BEFORE STARTING**



GENERAL ASSEMBLY

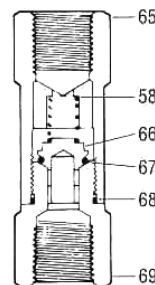


1/4" Brass Line Check (TA-676)
 3000 PSIG Maximum Pressure



1/4" Stainless Steel Line Check (303SS) (TA-675)
 6000 PSIG Maximum Pressure

1/2" Stainless Steel (303SS) Line Check (TB-283)
 6000 PSIG Maximum Pressure



PARTS LIST

| Item | Part No. | Name |
|------|-----------|---|
| 25 | TA-559 | Body |
| 26 | TA-560 | Screw |
| 27 | TA-561 | Base |
| 28 | TA-562 | Retainer |
| 29 | TA-564 | Ball |
| 1 | TA-1295 | Pressure Gauge 1-12 psi |
| 2 | TB-40 | Regulator |
| 3 | TA-4692 | Nipple 316SS |
| 4 | TA-22 | Inlet Gas Valve Assembly |
| 5 | TA-135 | Half Union, Steel Cad. P1. |
| 6 | TB-37 | Master Valve, Aluminum |
| 7 | TA-9 | Attachment Nipple, Brass |
| 8 | TA-137 | Half Union, Brass |
| 9 | TA-1494 | Line assembly from Pilot Valve to Master Valve (Copper) |
| 11 | TA-2599 | Air Filter |
| 12 | TA-132 | Elbow-Brass |
| 13 | TA-75 | Elbow |
| 14 | TA-143 | Cap Screw |
| 15 | TA-1493 | Line from Pilot Valve to Reg. |
| 16** | TA-58 | Gasket |
| 17 | TB-9 | Pilot Valve Assembly |
| 18 | * | Grease Jack |
| 19 | TA-4452 | Bolt 316SS |
| 20 | TA-123 | Priming Valve |
| 21 | TA-674 | Nipple (optional) |
| 22 | TB-21 | Strainer Sight Feed Assembly (Optional) |
| 23 | See pg. 8 | Standard Head Assembly |
| 31 | TD-434 | Housing, Aluminum |
| 32 | TB-2 | Disc |
| 33** | TA-25 | Spring |
| 34 | TC-1 | Cover, Aluminum |
| 35** | TB-10 | Diaphragm (2 Required Buna-N) |
| 36 | TA-138 | Drain Plug |
| 37 | TA-142 | Diaphragm Housing Bolts |
| 38 | TA-76 | Bushing |
| 39 | TA-131 | 1/4" Safety Valve Set 50# |
| 41 | TA-146 | Set Screw |
| 42 | TA-2970 | Wing Screw |
| 43 | TA-0143 | Bolt |
| 44 | TA-139 | Nut |
| 45 | TB-11 | Gasket |
| 46 | TC-4 | Base, Aluminum |
| 47 | TA-35 | Pin |
| 48 | TB-4 | Cover, Aluminum |
| 49 | TA-20 | Pin |
| 50 | TA-5906 | Stuffing Box |
| 51 | TB-36 | Gasket Buna-N 1/8" |
| 53 | TD-1 | Housing, Aluminum |
| 54** | TA-3230 | O-Ring, Buna-N |
| 55 | TB-3 | Thrust Rod |
| 56 | TA-143 | Screw |
| 57 | TA-677 | Outlet Body |
| 58** | TA-391 | Spring |
| 59** | TA-54 | Ball 3/8" 316SS |
| 60** | TA-479 | O-Ring Buna-N |
| | TA-2093 | O-Ring Viton |
| 61 | TA-678 | Inlet Body |
| 62 | TA-1296 | Outlet Body |
| 63 | TA-1297 | Inlet Body |
| 64 | TA-1574 | Washer, 304SS |
| 65 | TB-271 | Body |
| 66 | TA-1879 | Valve |
| 67** | TA-612 | O-Ring-Buna-N |
| | TA-2184 | O-Ring Viton |
| 68** | TA-1959 | O-Ring-Buna-N |
| | TA-3979 | O-Ring Viton |
| 69 | TA-1880 | Bushing |
| 70 | TA-0425 | Lock Washer, Steel Cad. P1. |

Use TA-2845 for Sour Gas

Use TA-2979 for Sour Gas

Use TB-770 for Sour Gas

Use TA-1256 for Sour Gas (304SS)

Use TA-3244 for Sour Gas CS Cad pl.

Use TA-1257 for Sour Gas (304SS)

Use TB-771 for Sour Gas

See Item 19, page 8.

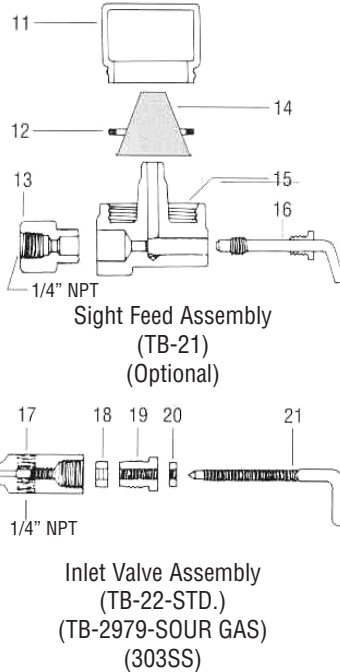
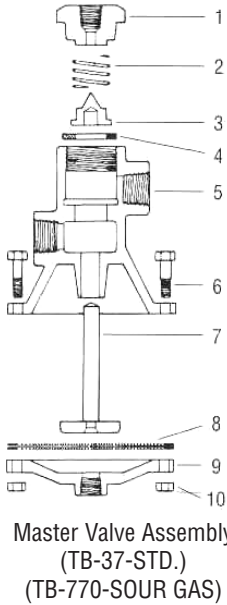
Use TA-2862 for Sour Gas (303SS)

*Furnished on all plungers except 1-1/4" Model 5007
 **Recommended spare parts

AIR OR GAS DRIVEN INJECTORS

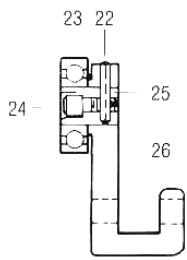
series **5000**

PARTS LIST

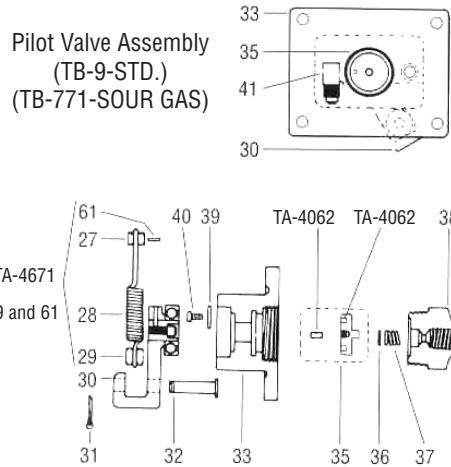


Flipper Arm Assembly
(TA-65)
Item 30

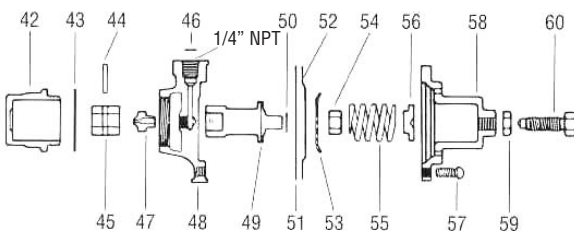
Pilot Valve Assembly
(TB-9-STD.)
(TB-771-SOUR GAS)



KIT: P/N TA-4671
Includes:
27, 28, 29 and 61



Pressure Regulator Assembly
(TB-40-STD.) 1500 PSIG max. inlet pressure
(TA-2845 SOUR GAS Configuration of TB-40 and TA-2845 is not identical)
300 PSIG max. inlet pressure

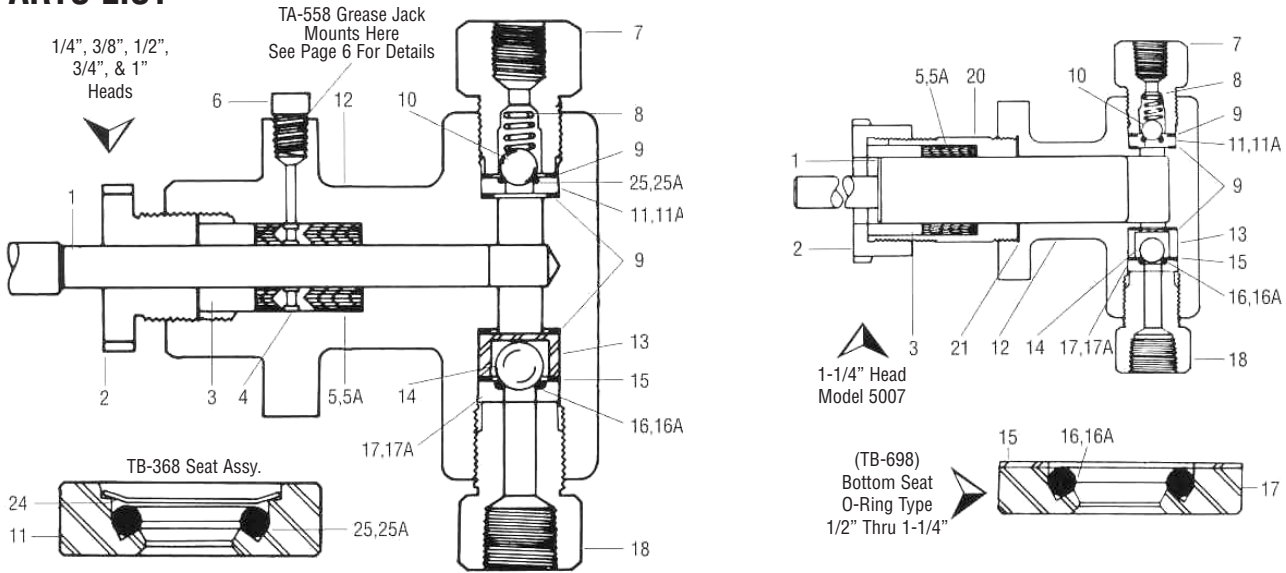


| ITEM | PART NO. | NAME |
|------|----------|---------------------------------|
| 1** | TA-200 | Upper Valve Seat |
| 2** | TA-202 | Valve Spring |
| 3** | TA-196 | Valve Disc |
| 4** | TA-201 | Lower Valve Seat |
| 5 | TC-3 | Housing, Aluminum |
| 6 | TA-163 | Cap Bolt |
| 7 | TA-197 | Stem Assembly |
| 8** | TA-1329 | Diaphragm |
| 9 | TA-1 | Housing Cap |
| 10 | TA-164 | Cap Nut |
| 11** | TA-98 | Bowl |
| 12** | TA-104 | Gasket |
| 13 | TA-866 | Bushing |
| 14 | TA-206 | Screen, 304SS-50 Mesh |
| 15 | TB-39 | Body, Aluminum |
| 16 | TA-101 | Shutoff Assembly |
| 17 | TA-10 | Body |
| 18** | TA-23 | Packing |
| 19 | TA-11 | Gland Nut |
| 20 | TA-195 | Nut |
| 21 | TA-13 | Valve Stem |
| 22 | TA-67 | Lock Pin |
| 23 | TA-457 | Bearing |
| 24 | TA-169 | Socket Cap Screw |
| 25 | TA-815 | Flipper Bearing Pin |
| 26 | TA-814 | Flipper Arm |
| 27** | TA-4601 | Top Spring Bushing |
| 28** | TA-4600 | Flipper Spring |
| 29** | TA-772 | Bottom Spring Bushing |
| 30 | TA-65 | Flipper Arm Assembly |
| 31 | TA-168 | Cotter Pin |
| 32 | TA-170 | Clevis Pin, Steel |
| 33 | TB-441 | Body C.I. |
| 35** | TA-4668 | Valve Disc & Drive Pin Assy, SS |
| 36** | TA-579 | Washer 316SS |
| 37** | TA-77 | Spring, SS |
| 38 | TA-906 | Disc Retainer Nut-CS Cad pl. |
| 39 | TA-167 | Washer |
| 40 | TA-166 | Cap Screw |
| 41 | TA-132 | Elbow, Brass |
| 42 | TA-209 | Cap |
| 43 | TA-212 | Cap Gasket |
| 44 | TA-222 | Seat Block Pin |
| 45** | TA-214 | Valve Seat Assembly |
| 46 | TA-519 | Filter Screen |
| 47 | TA-219 | Filter Screw |
| 48 | TC-29 | Body, Brass |
| 49 | TA-208 | Valve Seat Block Yoke |
| 50 | TA-213 | Diaphragm Nut Gasket |
| 51** | TA-210 | Body Gasket |
| 52** | TA-211 | Diaphragm |
| 53 | TA-3135 | Spring Plate |
| 54 | TA-220 | Lock Nut |
| 55 | TA-3111 | Spring |
| 56 | TA-3133 | Spring Disc |
| 57 | TA-223 | Body Screw |
| 58 | TA-3110 | Bonnet, Brass |
| 59 | TA-402 | Lock Nut |
| 60 | TA-217 | Adjusting Screw |
| 61 | TA-20 | Pin |

** Recommended Spare Parts

PARTS LIST

INJECTOR HEADS



| Item No. | Plunger Size/Model # Material Specification | 1/4" 5002 | | 3/8" 5003 | | 1/2" 5004 | | 3/4" 5005 | | 1" 5006 | | 1 1/4" 5007 | |
|--------------------------------------|--|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|-------------------|---------------------|
| | | Ductile w/SS Trim | All Stainless Steel | Ductile w/SS Trim | All Stainless Steel | Ductile w/SS Trim | All Stainless Steel | Ductile w/SS Trim | All Stainless Steel | Ductile w/SS Trim | All Stainless Steel | Ductile w/SS Trim | All Stainless Steel |
| | Head Assembly | TC-1609 | TC-1611 | TC-85 | TC-148 | TC-68 | TC-139 | TC-335 | TC-337 | TC-19 | TC-137 | TC-48 | TC-134 |
| 1* | Plunger (Armaloy-17.4ph SS) | TA-2764 | TA-2764 | TA-743 | TA-743 | TA-32 | TA-32 | TA-2767 | TA-2767 | TA-158 | TA-158 | TA-408 | TA-408 |
| 2 | Packing Gland Nut, C.S. Cad. | TA-2765 | TA-2765 | TA-944 | TA-944 | TA-55 | TA-55 | TA-2768 | TA-2768 | TA-47 | TA-47 | TA-403 | TA-403 |
| 3 | Packing Gland 303 SS | TA-1463 | TA-1463 | TA-954 | TA-954 | TA-1219 | TA-1219 | TA-2769 | TA-2769 | TA-43 | TA-43 | TA-404 | TA-404 |
| 4 | Lantern Ring 303 SS | TA-2766 | TA-2766 | TA-742 | TA-742 | TA-447 | TA-447 | TA-2770 | TA-2770 | TA-448 | TA-448 | Not Req'd. | Not Req'd. |
| 5* | Packing, Buna-N (3,000 Max.) | TA-1461 | TA-1461 | TA-1456 | TA-1456 | TA-959 | TA-959 | TA-2771 | TA-2771 | TA-50 | TA-50 | TA-405 | TA-405 |
| 6 | Pipe Plug | TA-516 | TA-516 | TA-516 | TA-516 | TA-516 | TA-516 | TA-516 | TA-516 | TA-516 | TA-516 | Not Req'd. | Not Req'd. |
| 7 | Top Bushing 303 SS | TA-152 | TA-152 | TA-152 | TA-152 | TA-152 | TA-152 | TA-152 | TA-152 | TA-152 | TA-152 | TA-152 | TA-152 |
| 8* | Check Ball Spring 316 SS | TA-77 | TA-77 | TA-77 | TA-77 | TA-77 | TA-77 | TA-77 | TA-77 | TA-77 | TA-77 | TA-77 | TA-77 |
| 9* | Gasket 304 SS (3 req'd.) | TA-2350 | TA-2350 | TA-2350 | TA-2350 | TA-2350 | TA-2350 | TA-2350 | TA-2350 | TA-2350 | TA-2350 | TA-2350 | TA-2350 |
| 10* | Top Check Ball 3/8" 316 SS | TA-54 | TA-54 | TA-54 | TA-54 | TA-54 | TA-54 | TA-54 | TA-54 | TA-54 | TA-54 | TA-54 | TA-54 |
| 11* | Top Check Valve Seat Assy, 303 | TB-368 | TB-368 | TB-368 | TB-368 | TB-368 | TB-368 | TB-368 | TB-368 | TB-368 | TB-368 | TB-368 | TB-368 |
| 12 | Pump Head | TC-1608 | TC-1612 | TC-84 | TC-147 | TC-22 | TC-140 | TC-333 | TC-340 | TC-20 | TC-138 | TC-49 | TC-1982 |
| 13 | Ball Cage 17.4 ph SS | TA-444 | TA-444 | TA-444 | TA-444 | TA-444 | TA-444 | TA-444 | TA-444 | TA-444 | TA-444 | TA-444 | TA-444 |
| 14 | Bottom Check Ball 316SS | TA-54-3/8" | TA-54-3/8" | TA-54-3/8" | TA-54-3/8" | TA-53-1/2" | TA-53-1/2" | TA-53-1/2" | TA-53-1/2" | TA-53-1/2" | TA-53-1/2" | TA-53-1/2" | TA-53-1/2" |
| 15 | Gasket 304 SS | TA-2350 | TA-2350 | TA-2350 | TA-2350 | TA-2338 | TA-2338 | TA-2338 | TA-2338 | TA-2338 | TA-2338 | TA-2338 | TA-2338 |
| 16 | O-Ring (Buna-N) Bottom Seat | TA-2097 | TA-2097 | TA-2097 | TA-2097 | TA-612 | TA-612 | TA-612 | TA-612 | TA-612 | TA-612 | TA-612 | TA-612 |
| 17 | Bottom Check Valve Seat 303 | TB-368 | TB-368 | TB-368 | TB-368 | TB-698 | TB-698 | TB-698 | TB-698 | TB-698 | TB-698 | TB-698 | TB-698 |
| 18 | Bottom Bushing 303 SS | TA-153 | TA-153 | TA-153 | TA-153 | TA-153 | TA-153 | TA-153 | TA-153 | TA-153 | TA-153 | TA-153 | TA-153 |
| 19 | Priming Valve (not shown) | TA-123 | TA-123 | TA-123 | TA-123 | TA-123 | TA-123 | TA-123 | TA-123 | TA-123 | TA-123 | TA-123 | TA-123 |
| 20 | Adapter | | | | Not Req'd. | | | | Not Req'd. | | | TA-406 | N/A |
| 21* | Gasket | | | | Not Req'd. | | | | Not Req'd. | | | TA-521 | N/A |
| 24 | Retainer Ring (included in Item 11) | TA-3523 | TA-3523 | TA-3523 | TA-3523 | TA-3523 | TA-3523 | TA-3523 | TA-3523 | TA-3523 | TA-3523 | TA-3523 | TA-3523 |
| 25 | O-Ring (Buna-N) Top Seat (included in Item 11) | TA-2097 | TA-2097 | TA-2097 | TA-2097 | TA-2097 | TA-2097 | TA-2097 | TA-2097 | TA-2097 | TA-2097 | TA-2097 | TA-2097 |
| Alternative Parts for Service | | | | | | | | | | | | | |
| 5-A | Viton (3,000# Max.) | TA-4102 | TA-4102 | TA-4102 | TA-4102 | TA-4102 | TA-4102 | TA-4102 | TA-4102 | TA-4102 | TA-4102 | TA-4102 | TA-4102 |
| | Teflon (3,000# Max.) | TA-1642 | TA-1642 | TA-1642 | TA-1642 | TA-1642 | TA-1642 | TA-1642 | TA-1642 | TA-1642 | TA-1642 | TA-1642 | TA-1642 |
| | Hard* (3,000# Max and above.) | TA-2295 | TA-2295 | TA-2295 | TA-2295 | TA-2295 | TA-2295 | TA-2295 | TA-2295 | TA-2295 | TA-2295 | TA-2295 | TA-2295 |
| 16-A | Viton O-Ring | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 |
| 11-A* | TopSeat (metal to metal) 303 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 |
| 17-A* | Bottom Seat (metal to metal) 303 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 | TA-157 |
| 25-A | Viton O-Ring | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 | TA-2336 |

* Hard packing for 3000 psi and above service

**Recommended Spare Parts



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