

DATA SHEET

15 FRAME PLUNGER PUMPS



**Brass
Model**

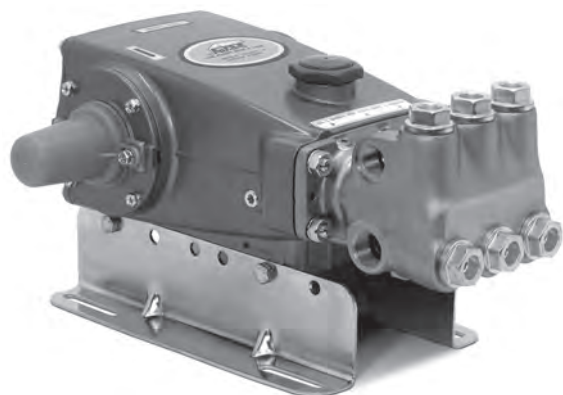
660

**Stainless Steel
Model**

661D

**Stainless Steel
Flushed Model**

661C



Model 660 Shown
(Mounting rails sold separately)

| SPECIFICATIONS | U.S. Measure | Metric Measure |
|--|-----------------------|------------------------|
| Flow | 10 gpm | 38 lpm |
| Pressure Range | 100 to 3000 psi | 6.9 to 207 bar |
| Pump RPM* | 1429 rpm | 1429 rpm |
| Inlet Pressure Range | Flooded to 60 psi | Flooded to 4.1 bar |
| Max. Liquid Temp. (NBR) | 160° F | 71° C |
| Alternate seals available for high temperature up to 200° F | | |
| Bore | 0.787" | 20 mm |
| Stroke | 1.181" | 30 mm |
| Crankcase Capacity | 42 oz. | 1.26 l |
| Inlet Ports (2) | 3/4" NPT(F) | 3/4" NPT(F) |
| Flushing Ports (2) (661C) | 1/8" NPT(F) | 1/8" NPT(F) |
| Discharge Ports (2) | 1/2" NPT(F) | 1/2" NPT(F) |
| Pulley Mounting | Either Side | Either Side |
| Shaft Diameter | 1.181" | 30 mm |
| Weight | 44 lbs. | 19.9 kg |
| Dimensions | 16.28 x 12.99 x 6.44" | 413.5 x 330 x 163.5 mm |

*Pump minimum is 100 RPM.

FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable V-Packings are lubricated and cooled by the liquid being pumped.
- Pre-set Lo-Pressure Seals provide secondary protection against external leaks and require no packing adjustment.
- Special high-density, polished, concentric plungers provide a true wear surface and extended seal life.
- Special ported manifold (Model 661C) permits an external flush liquid providing cooling for hi-temp liquids and lubrication for low lubricity liquids.
- Standard NBR seals with alternative options for temperature and chemical compatibility.

ALTERNATIVE SEAL CONFIGURATION

| MATERIAL | SUFFIX CODE | MAXIMUM TEMPERATURE |
|----------|-------------|---------------------|
| NBR | — | 160° F (71° C) |
| FPM | .0110 | 180° F (82° C) |
| EPDM | .0220 | 160° F (71° C) |
| IPFE | .0770 | 200° F (93° C) |
| HT | .3000 | 180° F (82° C) |
| STHT | .3400 | 180° F (82° C) |

See Reference Document 99REF017 for inlet conditions and RPM at high temperature.

| | | | |
|--|--|--|--|
| DETERMINING THE PUMP R.P.M. | Rated gpm | = | "Desired" gpm |
| | Rated rpm | = | "Desired" rpm |
| DETERMINING THE REQUIRED H.P. | Hp (Electric Brake) | = | $\frac{\text{gpm} \times \text{psi}}{1460}$ |
| | DETERMINING MOTOR PULLEY SIZE | $\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}}$ | = $\frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$ |

Refer to pump **Service Manual** for repair procedure and additional technical information.

PARTS LIST

| ITEM | PART NUMBER | MATL | PART NUMBER | MATL | DESCRIPTION | QTY |
|------|---------------|--------|------------------|--------|--|-----|
| | 660 | | 661C/661D | | | |
| 5 | 126540 | STCP R | 49651 | S | Screw, HHC Sems (M8x20) (See Tech Bulletin 128) | 8 |
| 8 | 134805 | ALE | 134805 | ALE | Cover, Bearing (See Tech Bulletin 118, 128) | 2 |
| 9 | 855043 | FBR | 855043 | FBR | Split Shim, Bearing Cover, 2 Pc. (See Tech Bulletin 128) | 2 |
| 10 | 11340 | NBR | 11340 | NBR | O-Ring, Bearing Case - 70D | 2 |
| 11 | 43495 | NBR | 43495 | NBR | Seal, Oil, Crankshaft - 70D | 2 |
| 12 | 855044 | S | 855044 | S | Split Shim, Bearing Cover, 2 Pc. (See Tech Bulletin 128) | 2 |
| 15 | 39060 | STL | 39060 | STL | Bearing, Roller | 2 |
| 20 | 48600 | TNM | 48600 | TNM | Rod Assy, Connecting [11/00] | 3 |
| 25 | 43494 | FCM | 43494 | FCM | Crankshaft - Dual End (M30) | 1 |
| 31 | 828710 | PE | 828710 | PE | Protector, Oil Cap w/Foam Gasket | 1 |
| 32 | 43211 | ABS | 43211 | ABS | Cap, Oil Filler | 1 |
| 33 | 14177 | NBR | 14177 | NBR | O-Ring, Filler Cap - 70D | 1 |
| 37 | 92241 | PC | 92241 | PC | Gauge, Oil, Bubble w/Gasket - 80D | 1 |
| 38 | 44428 | NBR | 44428 | NBR | Gasket, Flat, Oil Gauge - 80D | 1 |
| 40 | 126541 | STCP R | 92542 | S | Screw, HHC Sems (M6x20) | 4 |
| 48 | 25625 | STCP | 25625 | STCP | Plug, Drain (1/4"x19BSP) | 1 |
| 49 | 23170 | NBR | 23170 | NBR | O-Ring, Drain Plug - 70D | 1 |
| 50 | 133576 | ALE | 133576 | ALE | Cover, Rear (See Tech Bulletin 118, 128) | 1 |
| 51 | 44834 | NBR | 44834 | NBR | O-Ring, Rear Cover - 70D | 1 |
| 53 | 134836 | ALE | 134848 | ALE | Crankcase (Incls: 54, 55) (See Tech Bulletin 118, 128) | 1 |
| 54 | 27488 | S | 27488 | S | Pin, Guide | 2 |
| 55 | 126545 | STCP R | 44005 | S | Stud (M10x45) (See Tech Bulletin 128) | 4 |
| 56 | 44664 | POP | 44664 | POP | Pan, Oil | 1 |
| 64 | 43507 | CM | 43507 | CM | Pin, Crosshead | 3 |
| 65 | 48228 | SHS | — | — | Rod, Plunger, Long | 3 |
| | — | — | 48892 | SSHB | Rod, Plunger, Short [3/02] | 3 |
| 69 | 126592 | STCP R | 126592 | STCP R | Washer, Seal | 3 |
| 70 | 43500 | NBR | 43500 | NBR | Seal, Oil, Crankcase - 80D | 3 |
| 75 | 43506 | S | 43506 | S | Slinger, Barrier | 3 |
| 88 | 45675 | S | 45675 | S | Washer, Keyhole | 3 |
| 89 | 43505 | BB | 45880 | SS | Spacer, Plunger | 3 |
| 90 | 43300 | CC | 43300 | CC | Plunger (M20x77) | 3 |
| 95 | — | — | 89651 | SS | Stud, Plunger Retainer (M6x70) | 3 |
| 96 | 43235 | PTFE | 43235 | PTFE | Back-up-Ring, Plunger Retainer | 3 |
| 97 | 17399 | NBR | 17399 | NBR | O-Ring, Plunger Retainer - 80D | 3 |
| 98 | 45891 | CU | 44041 | SS | Gasket, Plunger Retainer | 3 |
| 99 | — | — | 44031 | SS | Retainer, Plunger (M6) | 3 |
| | 104360 | S | — | — | Retainer w/stud, Plunger (M5) | 3 |
| 100 | 855001 | POP | 855001 | POP | Retainer, Seal, 2-Pc. (See Tech Bulletin #098) | 3 |
| 101 | 43508 | — | 43508 | — | Wick, Long Tab | 3 |
| 106 | † 44071 | NBR | † 44071 | NBR | Seal, LPS w/SS-Spg | 3 |
| 120 | 49291 | BB | 49284 | SSNP | Case, Seal [07/05] | 3 |
| 121 | 14762 | NBR | 14762 | NBR | O-Ring, Seal Case - 70D | 3 |
| 126 | 43515 | BB | 49152 | PTFE | Adapter, Female [01/04] | 3 |
| 127 | † 44607 | STG | † 44607 | STG | V-Packing | 6 |
| 128 | 43517 | BB | 44165 | SS | Adapter, Male | 3 |
| 139 | 20326 | BBCP | 44382 | SS | Plug, Inlet [3/4" NPT(M)] | 1 |
| 162 | 43248 | PTFE | 43248 | PTFE | Back-up-Ring, Seat | 6 |
| 163 | 43249 | NBR | 43249 | NBR | O-Ring, Seat - 80D | 6 |
| 164 | 43722 | S | 44037 | SS | Seat | 6 |
| 166 | 43721 | S | 48793 | SS | Valve | 6 |
| 167 | 43751 | S | 44039 | SS | Spring | 6 |
| 168 | 44564 | PVDF | 44564 | PVDF | Retainer, Spring | 6 |
| 172 | 17617 | NBR | 17617 | NBR | O-Ring, Valve Plug - 90D | 6 |
| 174 | 43850 | BB | 49293 | SS | Plug, Valve | 6 |
| 185 | 45975 | NAB | 48780 | SSD | Head, Manifold | 1 |
| | — | — | 49338 | SS | Head, Manifold Flushed (1/8" Flushing Port) 661C Only | 1 |
| 192 | 126231 | STCP R | 15847 | S | Lockwasher (M10) | 4 |
| 194 | 126522 | STCP R | 81258 | S | Nut, Hex (M10) | 4 |
| 250 | 855046 | NY | — | NY | Protector, Shaft w/Two Screws (See Tech Bulletin 128) | 1 |
| | — | — | 855047 | NY | Protector, Shaft w/Two SS Screws (See Tech Bulletin 128) | 1 |

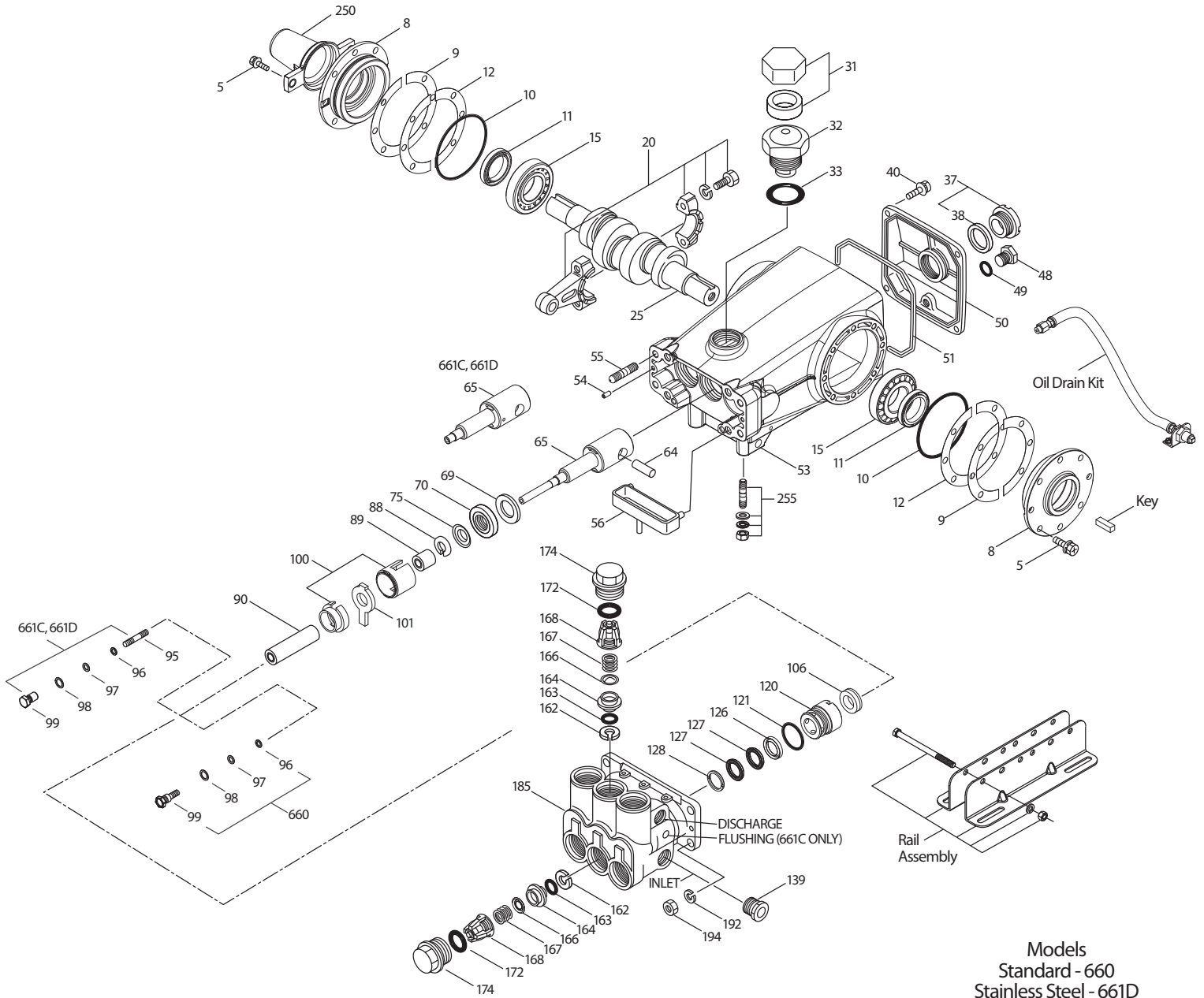
Bold print part numbers are unique to a particular pump model. Italics are optional items. ♦ Silicone oil/grease required. † Production parts different from service parts.

[] Date of latest production change. R Components comply with RoHS Directive. *Review material codes for individual items (STG generally may be used as alternate).

See Tech Bulletins 024, 027, 035, 036, 043, 045, 048, 049, 052, 053, 062, 074, 083, 095, 098, 118 and 128 for additional information.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic ALE=Aluminum Epoxy BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-Moly CU=Copper EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBR=Fiber FCM=Forged Chrome-Moly FPM=Fluorocarbon IPFE=1-Perfluoroelastomer NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Poly Carbonate PE=Polyethylene POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SFTA=Special Blend PTFE Tan SFTB=Special Blend PTFE Black SHS=304SS/High Strength SS=316SS SSD=Duplex Stainless SSHB=316SS/High Strength Brass SSNP=316SS/Nickel Plated STCP=Steel/Chrome Plated STG=Special Blend PTFE White STL=Steel ST2=Special PTFE 2 STZP=Steel/Zinc Plated TNM=Special High Strength

EXPLODED VIEW



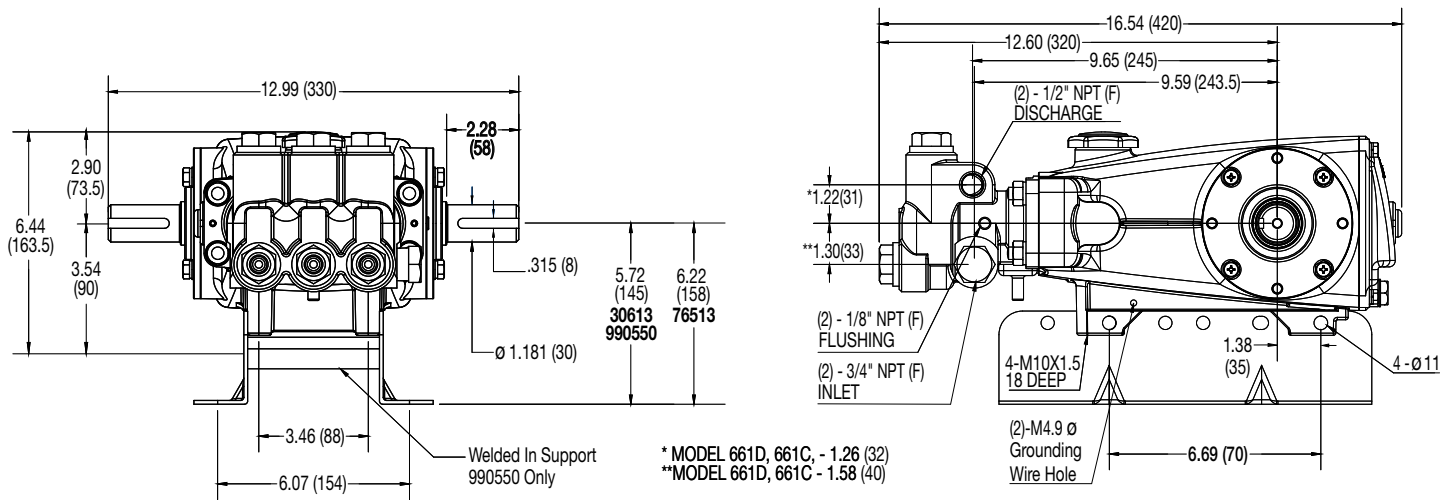
Models
 Standard - 660
 Stainless Steel - 661D
 Stainless Steel Flushed - 661C
 July 2019

OPTIONAL PARTS AND ACCESSORIES

| PART | DESCRIPTION | QTY |
|--------|---|-----|
| 30661 | Kit, Complete Mounting | 1 |
| 30067 | Key, (M8 x 7.5 x 25) | 1 |
| 30613 | Assy, Rail (See Dimensional Drawing) | 1 |
| 990550 | Assy, Rail for Diesel/Gas (See Dimensional Drawing) | 1 |
| 76513 | Assy, Rail (See Dimensional Drawing) | 1 |
| 30264 | Kit, Direct Mount | 1 |
| 30206 | Pulley, 10" (A/B) | 1 |
| 30059 | Hub, "H" (M30) | 1 |
| 34334 | Kit, Oil Drain (3/8" x 24") | 1 |

SERVICE PARTS

| PART | DESCRIPTION | QTY |
|---------------|---|-----|
| 30798 | Seal Kit - Standard NBR | 1 |
| 30820 | Valve Kit - Standard NBR | 2 |
| 6107 | Oil, Bottle (21 oz. bottle) | 2 |
| 6119 | Lubricant, Anti-Seize (2 oz) | 1 |
| 814561 | Head, Complete - W/NBR Seals and O-Rings (Model 660) | 1 |
| 816780 | Head, Complete - W/NBR Seals and O-Rings (Model 661D) | 1 |
| 818420 | Head, Complete - W/NBR Seals and O-Rings (Model 661C) | 1 |
| 30696 | Plier, Reverse | 1 |
| 33006 | Socket, Seal Case | 1 |



Models 660, 661C, 661D

SEAL KITS One (1) seal kit required per pump

| PUMP MODELS | NBR (STD) | FPM (.0110) | EPDM (.0220)◆ | IPFE (.0770) | STHT (.3400) |
|----------------|----------------|--------------|----------------|----------------|--------------|
| 660,661C, 661D | 30798 * | 31033 | 33919 * | 76195 * | 76056 |

| ITEM (Included in Seal Kits) | | | | | | DESCRIPTION | QTY |
|------------------------------|--------------------|--------------------|---------------------|---------------------|--------------------|-------------------------------|-----|
| 97 | 17399 | 14160 | 46204 | 701715 | 17399 | O-Ring, Plunger Retainer | 3 |
| 100 | 855001 | 855001 | 855001 | 855001 | 855001 | Retainer, Seal | 3 |
| 106 | 44071 ¹ | 44381 ² | 701974 ³ | 703179 ¹ | 76071 ¹ | Seal, LPS (see notes 1, 2, 3) | 3 |
| 121 | 14762 | 11737 | 46205 | 701851 | 14762 | O-Ring, Seal Case | 3 |
| 127 | 44607 | 44386 | 44607 | 44607 | 44607 | V-Packing | 6 |

◆ Silicone Oil/Grease required

* Review material codes for individual items (STG generally by be used as alternative)

¹ W/SS-SPG, ² W/S-SPG, ³ W/NIH-SPG

VALVE KITS Two (2) valve kits required per pump

| PUMP MODELS | NBR (STD) | FPM (.0110) | EPDM (.0220)◆ | IPFE (.0770) |
|-------------|--------------|--------------|---------------|--------------|
| 660 | 30820 | 31263 | 31259 | |
| 661C, 661D | 34387 | 30987 | 31258 | 76385 |

| ITEM (Included in Seal Kits) | | | | | DESCRIPTION | QTY |
|------------------------------|-------|-------|-------|--------|----------------------------|-----|
| 162 | 43248 | 43248 | 43248 | 43248 | Backup-Ring, Valve Seat | 6 |
| 163 | 43249 | 44383 | 46206 | 701852 | O-Ring, Valve Seat | 6 |
| 164 | 43722 | 43722 | 43722 | | Seat (Model 660) | 6 |
| | 44037 | 44037 | 44037 | 44037 | Seat (Models 661C, 661D) | 6 |
| 166 | 43721 | 43721 | 43721 | | Valve (Model 660) | 6 |
| | 48793 | 48793 | 48793 | 48793 | Valve (Models 661C, 661D) | 6 |
| 167 | 43751 | 43751 | 43751 | | Spring (Model 660) | 6 |
| | 44039 | 44039 | 44039 | 44039 | Spring (Models 661C, 661D) | 6 |
| 168 | 44564 | 44564 | 44564 | 44564 | Retainer, Spring | 6 |
| 172 | 17617 | 11691 | 46207 | 701853 | O-Ring, Valve Plug | 6 |

◆ Silicone Oil/Grease required

⚠ CAUTIONS AND WARNINGS

All High Pressure Systems require a primary pressure regulating device (i.e. regulator, unloader) and a secondary pressure relief device (i.e. pop-off valve, relief valve). Failure to install such relief devices could result in personal injury or damage to pump or property. Cat Pumps does not assume any liability or responsibility for the operation of a customer's high pressure system.

Read all CAUTIONS and WARNINGS before commencing service or operation of any high pressure system. The CAUTIONS and WARNINGS are included in each service manual and with each Accessory Data sheet. CAUTIONS and WARNINGS can also be viewed online at www.catpumps.com/cautions-warnings or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/warranty.