

DATA SHEET

15 FRAME PLUNGER PUMPS

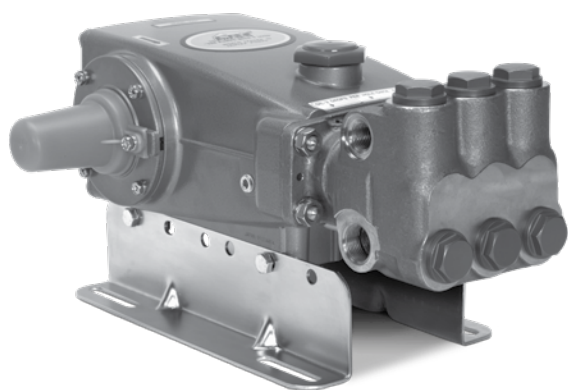


Stainless Steel
1051

SS Flushed
1051C

Duplex SS
1051D

Nickel Aluminum Bronze
1057



Model 1051 Shown
(Rails and shaft protector sold separately)

FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable dual V-Packings are lubricated and cooled by pumped liquid.
- Pre-set Lo-Pressure Seals provide secondary protection against external leaks and require no packing adjustments.
- Special flushed inlet manifold on model 1051C permits external flush for added cooling with high temperature liquids and lubrication with low lubricity liquids.
- Standard NBR seals with alternative options for temperature and chemical compatibility.

COMMON SPECIFICATIONS

| | U.S. | Metric |
|-------------------------|-----------------------|--------------------|
| Bore | 0.945" | 24 mm |
| Stroke | 1.181" | 30 mm |
| Crankcase Capacity | 42 oz. | 1.26 l |
| Inlet Ports (2) | 3/4" NPT(F) | 3/4" NPT (F) |
| Flush Ports (2) (1051C) | 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. | 20 kg |
| Dimensions | 16.28 x 12.99 x 6.44" | 414 x 330 x 164 mm |

STANDARD SPECIFICATIONS

| | U.S. | Metric |
|-------------------------|-----------------|------------------|
| Flow | 10 gpm | 38 lpm |
| Pressure Range | 100 to 2200 psi | 7 to 155 bar |
| Pump RPM* | 958 rpm | 958 rpm |
| Inlet Pressure Range | -5 to 60 psi | -0.35 to 4.1 bar |
| Max. Liquid Temp. (NBR) | 160°F | 71°C |

*Pump minimum is 100 RPM.

Alternative seals available for high temp up to 200° F

ALTERNATE SPECIFICATIONS

| | U.S. | Metric |
|-------------------------|-----------------|----------------|
| Flow | 12 gpm | 45 lpm |
| Pressure Range | 100 to 1800 psi | 7 to 125 bar |
| Pump RPM* | 1150 rpm | 1150 rpm |
| Inlet Pressure Range | 20 to 60 psi | 1.4 to 4.1 bar |
| Max. Liquid Temp. (NBR) | 100°F | 38°C |

*Pump minimum is 100 RPM.

Alternative seals available for high temp up to 200° F

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 | 200° F (93° C) |

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

$$\text{DETERMINING THE PUMP R.P.M.} \quad \frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$$

$$\text{DETERMINING THE REQUIRED H.P.} \quad \frac{\text{Hp (Electric Brake)}}{1460} = \frac{\text{gpm x psi}}{1460}$$

$$\text{DETERMINING MOTOR PULLEY SIZE} \quad \frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

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

PARTS LIST

| ITEM | DESCRIPTION | | | | QTY | |
|------|---------------|--------|--------------|--------|--|-----|
| | 1051/C/D | MATL | 1057 | MATL | | |
| 5 | 92538 | S | 92538 | S | Screw, HHC Sems (M6x16) | 8 |
| 8 | 43496 | AL | 43496 | AL | Cover, Bearing (See Tech Bulletin 118) | 2 |
| 9 | 815281 | FBR | 815281 | FBR | Shim, Split, Bearing Cover 2-Pc | 2/4 |
| | 814800 | S | 814800 | S | Shim, Split, Bearing Cover 2-Pc | 0/4 |
| 10 | 11340 | NBR | 11340 | NBR | O-Ring, Bearing Cover - 70D | 2 |
| 11 | 43495 | NBR | 43495 | NBR | Seal, Oil, Crankshaft - 70D | 2 |
| 15 | 39060 | STL | 39060 | STL | Bearing, Roller | 2 |
| 20 | 48600 | TNM | 48600 | TNM | Rod, Connecting Assembly [10/01] | 3 |
| 25 | 43494 | FCM | 43494 | FCM | Crankshaft, Dual End | 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 | — | 92241 | — | Gauge, Oil, Bubble w/Gasket - 80D | 1 |
| 38 | 44428 | NBR | 44428 | NBR | Gasket, Flat, Oil Gauge - 80D | 1 |
| 40 | 92542 | S | 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 | 49276 | ALE | 49276 | ALE | Cover, Rear (See Tech Bulletin 118) | 1 |
| 51 | 44834 | NBR | 44834 | NBR | O-Ring, Rear Cover - 70D | 1 |
| 53 | 115471 | AL | 115471 | AL | Crankcase w/Guide Pins (See Tech Bulletin 118) | 1 |
| 54 | 27488 | S | 27488 | S | Pin, Guide | 2 |
| 56 | 44664 | POP | 44664 | POP | Pan, Oil | 1 |
| 64 | 43507 | CM | 43507 | CM | Pin, Crosshead | 3 |
| 65 | 48892 | SSHB | 45258 | SSZZ | Rod, Plunger | 3 |
| 69 | 126592 | STCP R | 126592 | STCP R | Washer, Oil 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 | 45879 | SS | 45879 | SS | Collar, Spacer | 3 |
| 90 | 43552 | CC | 43552 | CC | Plunger (M24x77) | 3 |
| 95 | 89651 | SS | 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 | 44041 | SS | 44041 | SS | Gasket, Plunger Retainer | 3 |
| 99 | 44031 | SS | 44031 | SS | Retainer, Plunger (M6) | 3 |
| 100 | 855001 | POP | 855001 | POP | Retainer, Seal 2-Pc [07/05] (See Tech Bulletin 098) | 3 |
| 101 | 43554 | — | 43554 | — | Wick, Long Tab | 3 |
| 106 | 44035 | NBR | 44035 | NBR | Seal, LPS w/SS-Spg | 3 |
| 120 | 49286 | SSNP | 49286 | SSNP | Case, Seal [07/05] | 3 |
| 121 | 14762 | NBR | 14762 | NBR | O-Ring, Seal Case - 70D | 3 |
| 126 | 48389 | D | 48389 | D | Adapter, Female (See Tech Bulletin 087) | 3 |
| | 45073 | SS | 45073 | SS | Adapter, Female | 3 |
| 127 | 103692 | STG | 103692 | STG | V-Packing | 6 |
| 128 | 45074 | SS | 45074 | SS | Adapter, Male | 3 |
| 139 | 44382 | SS | 44562 | NAB | Plug, Inlet [3/4" NPT(M)] | 1 |
| 162 | 43248 | PTFE | 43248 | PTFE | Back-up-Ring, Valve Seat | 6 |
| 163 | 43249 | NBR | 43249 | NBR | O-Ring, Seat - 80D | 6 |
| 164 | 44037 | SS | 44037 | SS | Seat | 6 |
| 166 | 48793 | SS | 48793 | SS | Valve | 6 |
| 167 | 44039 | SS | 44039 | SS | Spring, Valve | 6 |
| 168 | 44564 | PVDF | 44564 | PVDF | Retainer, Spring | 6 |
| 171 | — | — | 44832 | S | Coil Spring, Valve Plug | 6 |
| 172 | 17617 | NBR | 17617 | NBR | O-Ring, Valve Plug - 90D | 6 |
| 174 | 49293 | SS | 44831 | NAB | Plug, Valve | 6 |
| 185 | 134823 | SS | 46706 | NAB | Head, Manifold [8/18] | 1 |
| | 49188 | SS | — | — | Head, Manifold, Flushed (1/8" Flushed Port) 1051C Only | 1 |
| | 134824 | SSD | — | — | Head, Manifold (1051D Only) [8/18] | 1 |
| 187 | 44005 | S | 44005 | S | Stud, Manifold (M10x45) | 4 |
| 192 | 15847 | S | 15847 | S | Lockwasher (M10) | 4 |
| 194 | 81258 | S | 81258 | S | Nut, Hex (M10) | 4 |

Bold print part numbers are unique to a particular pump model. Italics are optional items.

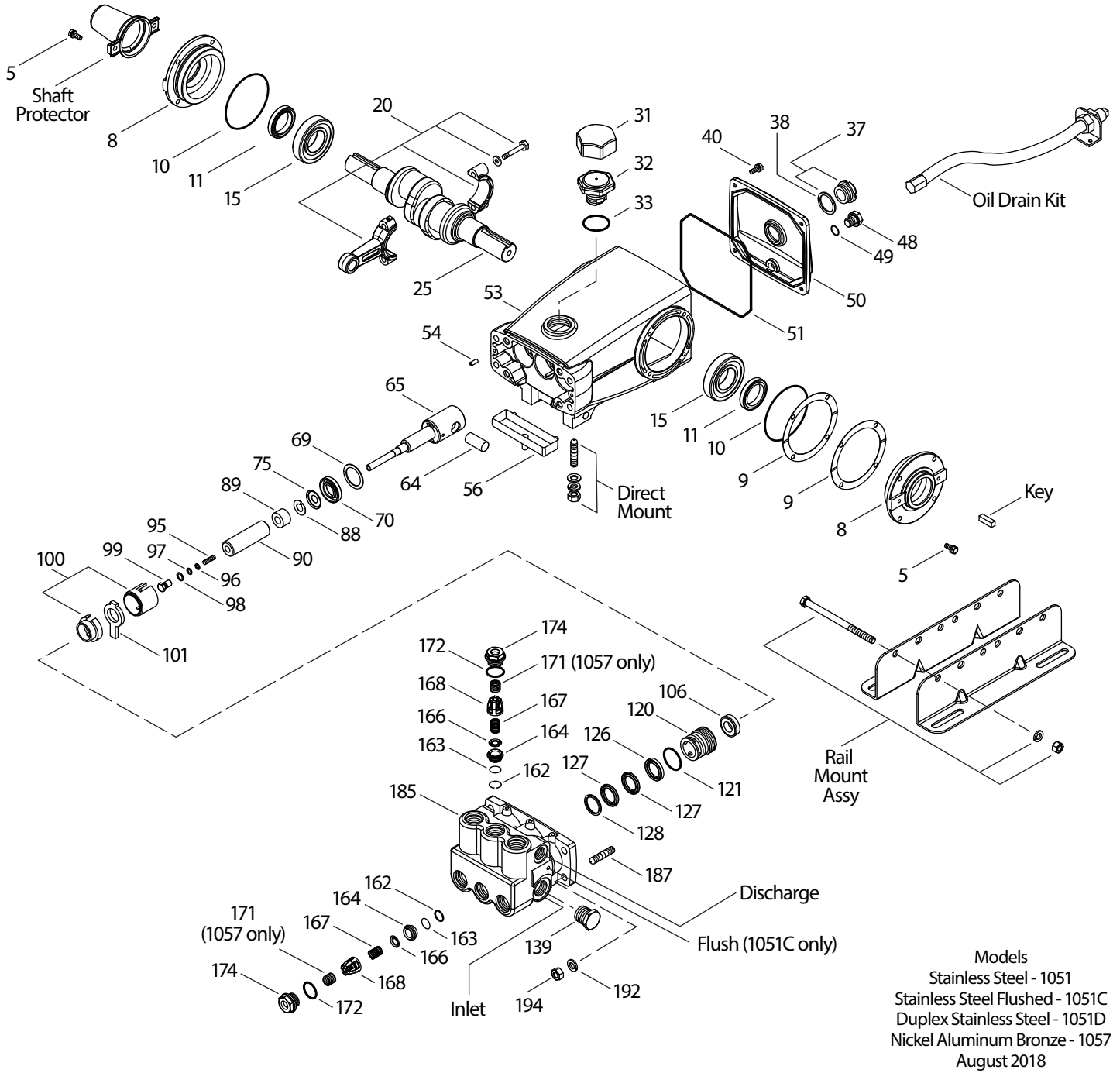
[] Date of latest production change. R components comply with RoHS Directive.

*Review individual parts in each kit for material code identification.

View Tech Bulletins 024, 035, 036, 043, 046, 049, 052, 053, 072, 074, 083, 087, 089, 098 AND 118 for additional information.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum ALE=Aluminum Epoxy CC=Ceramic CM=Chrome-moly D=Acetal EPDM=Ethylene Propylene Diene Monomer
 FBR=Fiber FCM=Forged Chrome-moly FPM=Fluorocarbon HT=High Temp. IPFE=I-Perfluoroelastomer NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) PE=Polyethylene
 POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SSD= Duplex SS SSHB=316SS/High Strength Brass SSZZ=316SS/Zamak
 STCP=Steel/Chrome Plated STG=Special Blend PTFE White STHT=Special PTFE/High Temp SSNP=316SS/Nickel Plated STL=Steel TNM=Special High Strength

EXPLODED VIEW



Models
 Stainless Steel - 1051
 Stainless Steel Flushed - 1051C
 Duplex Stainless Steel - 1051D
 Nickel Aluminum Bronze - 1057
 August 2018

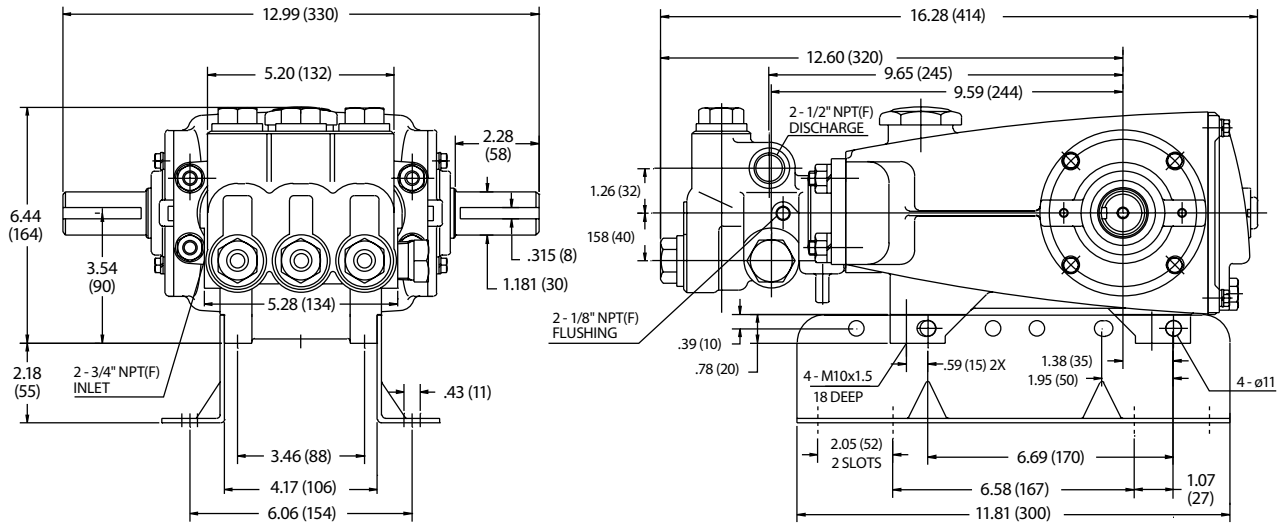
OPTIONAL PARTS AND ACCESSORIES

| PART | DESCRIPTION | QTY |
|--------|---|-----|
| 33916 | Seal Kit - Standard | 1 |
| 34387 | Valve Kit - Standard | 2 |
| 30764 | Protector, Shaft w/two screws | 1 |
| 30764S | Protector, Shaft w/two stainless steel screws | 1 |
| 30264 | Mount, Direct | 1 |
| 30613 | Mount, Rail, Assy (2.09 x 9.45) | 1 |
| 30059 | Hub, "H" 30mm (M8 Keyway) | 1 |
| 30661 | Mount, Assy (Incls: 30613, 30206, 30059, 30067, 30764) | 1 |
| 34334 | Kit, Oil Drain (3/8" x 24") (See Individual Data Sheet) | 1 |
| 30696 | Pliers, Reverse | 1 |

SERVICE PARTS

| PART | DESCRIPTION | QTY |
|---------------|---|-----|
| 33006 | Socket, Seal Case (1/2" drive) | 1 |
| 6107 | Oil, Bottle (21 oz) ISO 68 Hydraulic | 2 |
| 30067 | Key (M8 x 7.5 x 25) | 1 |
| 6119 | Lubricate, Antiseize (2 oz.) (See Tech Bulletin 095) Models 1051, 1051C, 1051D | 1 |
| 6124 | Gasket, Liquid (3 oz.) | 1 |
| 816771 | Head, Complete w/NBR seals and o-rings Model 1051 | 1 |
| 818333 | Head, Complete w/NBR seals and o-rings Model 1051C | 1 |
| 818442 | Head, Complete w/NBR seals and o-rings Model 1051D | 1 |
| 815261 | Head, Complete w/NBR seals and o-rings Model 1057 | 1 |

Optional seal and valve kits listed on Page 4.



SEAL KITS One (1) seal kit required per pump

| PUMP MODELS | NBR (STD) | FPM (.0110) | EPDM (.0220)◆ | IPFE (.0770) | STHT (.3400) |
|--------------------------|-----------|-------------|---------------|--------------|--------------|
| 1051, 1051C, 1051D, 1057 | 33916 | 30986 | 33913 | 76913 | 76062 |

| 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 2 - Piece | 3 |
| 106 | 44035 | 44388 | 46208 | 703243 | 76035 | Seal, LPS w/SS-Spg | 3 |
| 121 | 14762 | 11737 | 46205 | 701851 | 14762 | O-Ring, Seal Case | 3 |
| 127 | 103692 | 103692 | 103692 | 103692 | 103692 | V-Packing | 6 |

◆ Silicone oil/grease required

VALVE KITS Two (2) valve kits required per pump

| PUMP MODELS | NBR (STD) | FPM (.0110) | EPDM (.0220)◆ | IPFE (.0770) | STHT (.3400) |
|--------------------------|-----------|-------------|---------------|--------------|--------------|
| 1051, 1051C, 1051D, 1057 | 34387 | 30987 | 31258 | 76385 | 34387 |

| ITEM (Included in Valve Kits) | | | | | | DESCRIPTION | QTY |
|-------------------------------|-------|-------|-------|--------|-------|--------------------|-----|
| 162 | 43248 | 43248 | 43248 | 43248 | 43248 | Backup-Ring, Seat | 3 |
| 163 | 43249 | 44383 | 46206 | 701852 | 43249 | O-Ring, Seat | 3 |
| 164 | 44037 | 44037 | 44037 | 44037 | 44037 | Seat | 3 |
| 166 | 48793 | 48793 | 48793 | 48793 | 48793 | Valve | 3 |
| 167 | 44039 | 44039 | 44039 | 44039 | 44039 | Spring | 3 |
| 168 | 44564 | 44564 | 44564 | 44564 | 44564 | Retainer, Spring | 3 |
| 172 | 17617 | 11691 | 46207 | 701853 | 17617 | O-Ring, Valve Plug | 3 |

◆ 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.