

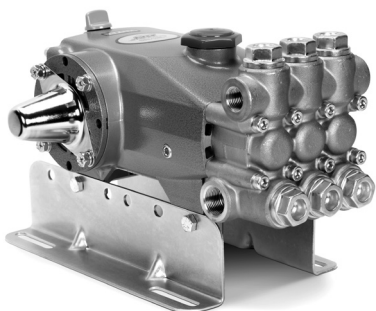
# DATA SHEET

## 7CP PLUNGER PUMPS



**Brass Models:** **7CP6110CS, 7CP6170**

**Brass Gearbox Models:** **7CP6110CSG1, 7CP6170G1, 7CP6170G118**



Model 7CP6170 Shown  
(Mounting rails and shaft protector sold separately)

### FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Belt-driven option provides precise flow settings.
- Gearbox models available with 1" or 1½" hollow shaft to fit most engines.
- Direct-drive option offers a compact footprint for electric motors with a NEMA or IEC frame, or SAE hydraulic motors with a bell housing/flexible coupler assembly.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

### COMMON SPECIFICATIONS

|                                                                         | U.S.                  | Metric               |
|-------------------------------------------------------------------------|-----------------------|----------------------|
| Inlet Pressure Range                                                    | Flooded to 70 psi     | Flooded to 4.8 bar   |
| Max. Liquid Temperature (NBR)                                           | 140° F                | 60° C                |
| <b>Alternative seals available for higher temperatures up to 190° F</b> |                       |                      |
| Bore                                                                    | 0.866"                | 22 mm                |
| Crankcase Capacity                                                      | 38 oz                 | 1.15 l               |
| Inlet Ports (2)                                                         | ¾" NPT(F)             | ¾" NPT(F)            |
| Discharge Ports (2)                                                     | ½" NPT(F)             | ½" NPT(F)            |
| Shaft Diameter                                                          | 0.945"                | 24 mm                |
| Weight (7CP6110CS, 7CP6170)                                             | 30.8 lbs              | 14 kg                |
| Weight (Gearbox Models)                                                 | 38.8 lbs              | 17.6 kg              |
| Dimensions (7CP6110CS)                                                  | 13.48 x 9.55 x 6.83"  | 343 x 242.5 x 174 mm |
| Dimensions (7CP6170)                                                    | 13.48 x 11.14 x 6.83" | 343 x 283 x 174 mm   |
| Dimensions (Gearbox Models)                                             | 13.48 x 12.31 x 6.83" | 343 x 313 x 174 mm   |

### SPECIFICATIONS

|                               | U.S. Measure | Metric Measure |
|-------------------------------|--------------|----------------|
| <b>7CP6110CS</b>              |              |                |
| Flow                          | 10.5 gpm     | 40 lpm         |
| Pressure Range                | 100–2000 psi | 6.9–138 bar    |
| Pump RPM*                     | 1750 rpm     | 1750 rpm       |
| Stroke                        | 0.854"       | 21.7 mm        |
| <b>7CP6170</b>                |              |                |
| Flow                          | 11 gpm       | 41.6 lpm       |
| Pressure Range                | 100–2000 psi | 6.9–138 bar    |
| Pump RPM*                     | 1450 rpm     | 1450 rpm       |
| Stroke                        | 1.024"       | 26 mm          |
| <b>7CP6110CSG1</b>            |              |                |
| Flow                          | 10.0 gpm     | 38.0 lpm       |
| Pressure Range                | 100–2000 psi | 6.9–138 bar    |
| Engine RPM                    | 3400 rpm     | 3400 rpm       |
| Stroke                        | 0.854"       | 21.7 mm        |
| <b>7CP6170G1, 7CP6170G118</b> |              |                |
| Flow                          | 12.0 gpm     | 45.4 lpm       |
| Pressure Range                | 100–1800 psi | 6.9–124 bar    |
| Engine RPM                    | 3264 rpm     | 3264 rpm       |
| Stroke                        | 1.024"       | 26 mm          |

\*Pump minimum is 100 RPM.

### ALTERNATE SPECIFICATIONS

|                | U.S. Measure | Metric Measure |
|----------------|--------------|----------------|
| <b>7CP6170</b> |              |                |
| Flow           | 12.0 gpm     | 45.4 lpm       |
| Pressure Range | 100–1800 psi | 6.9–124 bar    |
| Pump RPM*      | 1600 rpm     | 1600 rpm       |

### ALTERNATIVE SEAL CONFIGURATION

| MATERIAL | SUFFIX CODE | MAXIMUM TEMPERATURE |
|----------|-------------|---------------------|
| NBR      | —           | 140° F (60° C)      |
| FPM      | .0110       | 180° F (82° C)      |
| EPDM     | .0220       | 160° F (71° C)      |
| HT       | .3000       | 180° F (82° C)      |
| STHT     | .3400       | 190° F (88° C)      |

See **Tech Bulletin 002** for inlet conditions and RPM at high temperature.

## PARTS LIST

| ITEM | P/N           | MATL   | DESCRIPTION                                                           | QTY |
|------|---------------|--------|-----------------------------------------------------------------------|-----|
| 5    | 126540        | STCP R | Screw, HHC Sems (M8 x 20) (See Tech Bulletin 074)                     | 8   |
| 8    | 131405        | ALE    | Cover, Bearing                                                        | 1/2 |
| 9    | 49503         | FBR    | Shim, Split, 2-Piece, Outer                                           | 0–6 |
| 10   | 12393         | NBR    | O-Ring, Bearing Cover–70D                                             | 2   |
| 11   | 49190         | NBR    | Seal, Oil Crankshaft                                                  | 1/2 |
| 12   | 49504         | S      | Shim, Split, 2-Piece, Inner                                           | 0–4 |
| 15   | 63479         | STL    | Bearing, Roller                                                       | 2   |
| 20   | 48727         | TNM    | Rod, Connecting Assembly (See Tech Bulletin 074)                      | 3   |
| 25   | <b>49498</b>  | FCM    | Crankshaft, Single-End (M21.7) (7CP6110CS, 7CP6110CSG1)               | 1   |
|      | <b>49649</b>  | FCM    | Crankshaft, Single-End (M26) (7CP6170G1, 7CP6170G118)                 | 1   |
|      | <b>46963</b>  | FCM    | Crankshaft, Dual-End (M26) (7CP6170)                                  | 1   |
| 30   | <b>131407</b> | ALE    | Cover, Blind Bearing (7CP6110CS, 7CP6110CSG1, 7CP6170G1, 7CP6170G118) | 1   |
| 32   | 43211         | ABS    | Cap, Oil Filler                                                       | 1   |
| 33   | 14177         | NBR    | O-Ring, Oil Filler Cap–70D                                            | 1   |
| 36   | 129343        | RBR    | Gasket, Flat                                                          | 1   |
| 37   | 92241         | PC     | Gauge, Oil, Bubble with Gasket–80D (See Tech Bulletin 074)            | 1   |
| 38   | 44428         | NBR    | Gasket, Flat, Oil Gauge–80D                                           | 1   |
| 39   | 49948         | ABS    | Dip Stick (White)                                                     | 1   |
| 40   | 125824        | STCP R | Screw, HHC Sems (M6 x 16) (See Tech Bulletin 074)                     | 4   |
| 48   | 25625         | STCP   | Plug, Drain (¼" x 19 BSP)                                             | 1   |
| 49   | 23170         | NBR    | O-Ring, Drain Plug–70D                                                | 1   |
| 50   | 131403        | ALE    | Cover, Rear                                                           | 1   |
| 51   | 14030         | NBR    | O-Ring, Rear Cover–70D                                                | 1   |
| 53   | 131400        | ALE    | Crankcase                                                             | 1   |
| 64   | 46969         | CM     | Pin, Crosshead                                                        | 3   |
| 65   | 46968         | BBNP   | Rod, Plunger                                                          | 3   |
| 70   | 48281         | NBR    | Seal, Oil Crankcase                                                   | 3   |
| 75   | 43328         | S      | Slinger, Barrier                                                      | 3   |
| 90   | 48559         | CC     | Plunger, Ceramic (M22 x 55)                                           | 3   |
| 95   | 126555        | STCP R | Stud, Plunger Retainer (M6 x 50)                                      | 3   |
| 96   | 43235         | PTFE   | Backup Ring, Plunger Retainer                                         | 3   |
| 97   | 17399         | NBR    | O-Ring, Plunger Retainer–80D                                          | 3   |
| 98   | 45891         | CU     | Gasket                                                                | 3   |
| 99   | 46504         | S      | Retainer, Plunger (M6) (See Tech Bulletin 074)                        | 3   |
| 100  | 46964         | NY     | Retainer, Seal                                                        | 3   |
| 106  | 49644         | NBR    | Seal, Low-Pressure with SS-Spring                                     | 3   |
| 120  | 48279         | BB     | Case, Seal                                                            | 3   |
| 121  | 13984         | NBR    | O-Ring, Seal Case–70D                                                 | 3   |
| 127  | 48278         | STG    | V-Packing                                                             | 6   |
| 128  | 48280         | BB     | Adapter, Male                                                         | 3   |
| 162  | 43248         | PTFE   | Backup Ring, Seat                                                     | 6   |
| 163  | 43249         | NBR    | O-Ring, Seat–80D                                                      | 6   |
| 164  | 44718         | S      | Seat                                                                  | 6   |
| 166  | 43721         | S      | Valve                                                                 | 6   |
| 167  | 43751         | S      | Spring                                                                | 6   |
| 168  | 44564         | PVDF   | Retainer, Spring                                                      | 6   |
| 172  | 17617         | NBR    | O-Ring, Valve Plug–90D                                                | 6   |
| 174  | 43850         | BB     | Plug, Valve (See Tech Bulletin 074)                                   | 6   |
| 185  | 48274         | FBB    | Head, Manifold                                                        | 1   |
| 188  | 126513        | STCP R | Screw, HSH (M8 x 70) (See Tech Bulletin 074)                          | 8   |
| 500  | <b>8081</b>   | —      | Gearbox 1" Shaft (See Individual Data Sheet)                          | 1   |
|      | <b>8072</b>   | —      | Gearbox 1½" Shaft (See Individual Data Sheet)                         | 1   |

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

R Components comply with RoHS Directive. For additional technical information see [www.catpumps.com/literature/tech-bulletins](http://www.catpumps.com/literature/tech-bulletins).

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic ALE=Aluminum Epoxy BB=Brass BBNP=Brass/Nickel Plated CC=Ceramic

CM=Chrome-moly CU=Copper EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBB=Forged Brass FBR=Fiber

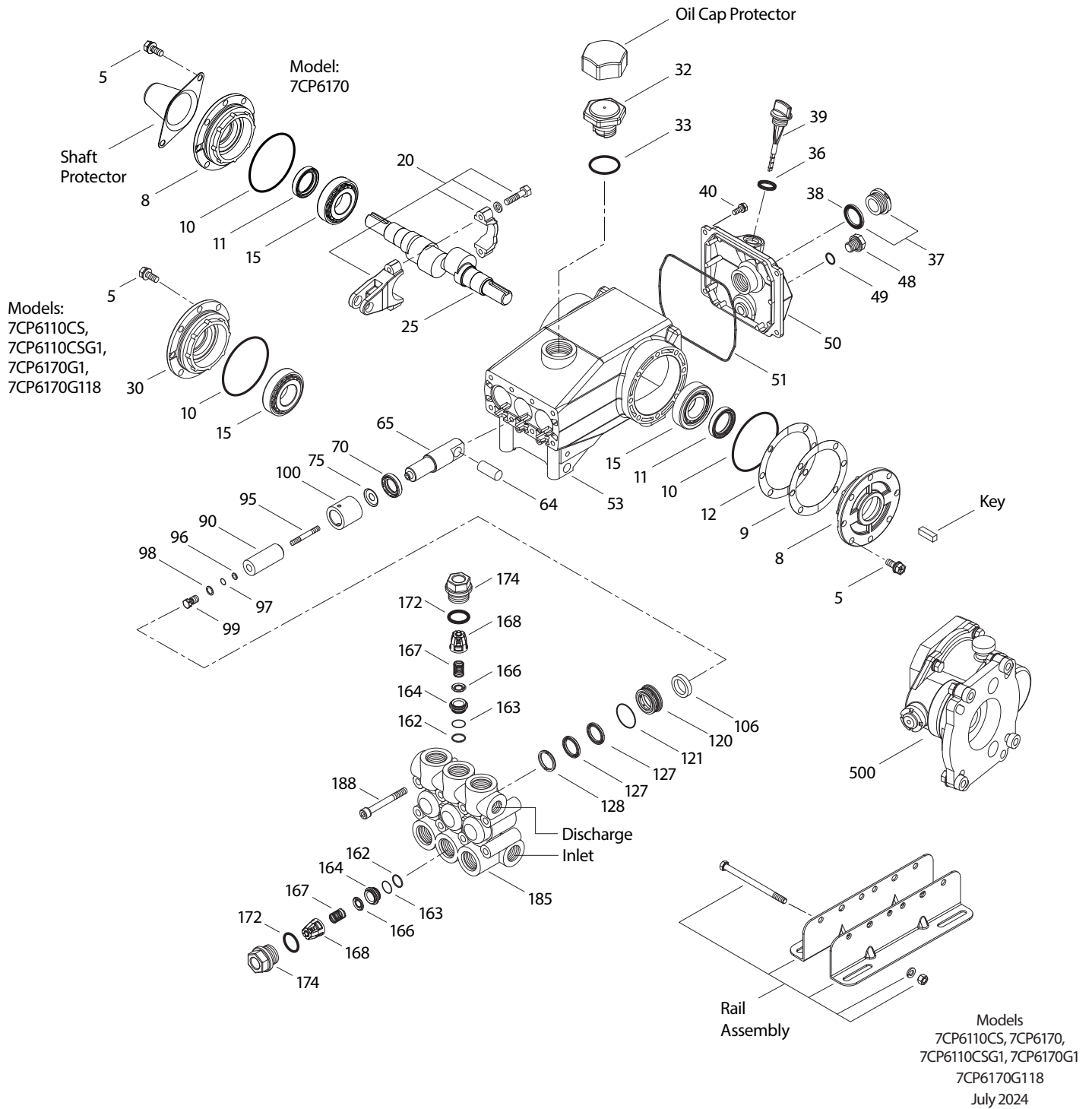
FCM=Forged Chrome-moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Poly Carbonate

PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride RBR=Rubber S=304SS ST= Special PTFE

STG=Special Blend PTFE White STHT=Special PTFE High Temp STL=Steel STCP=Steel/Chrome Plated

STZP=Steel/Zinc Plated TNM=Special High Strength

## EXPLODED VIEW

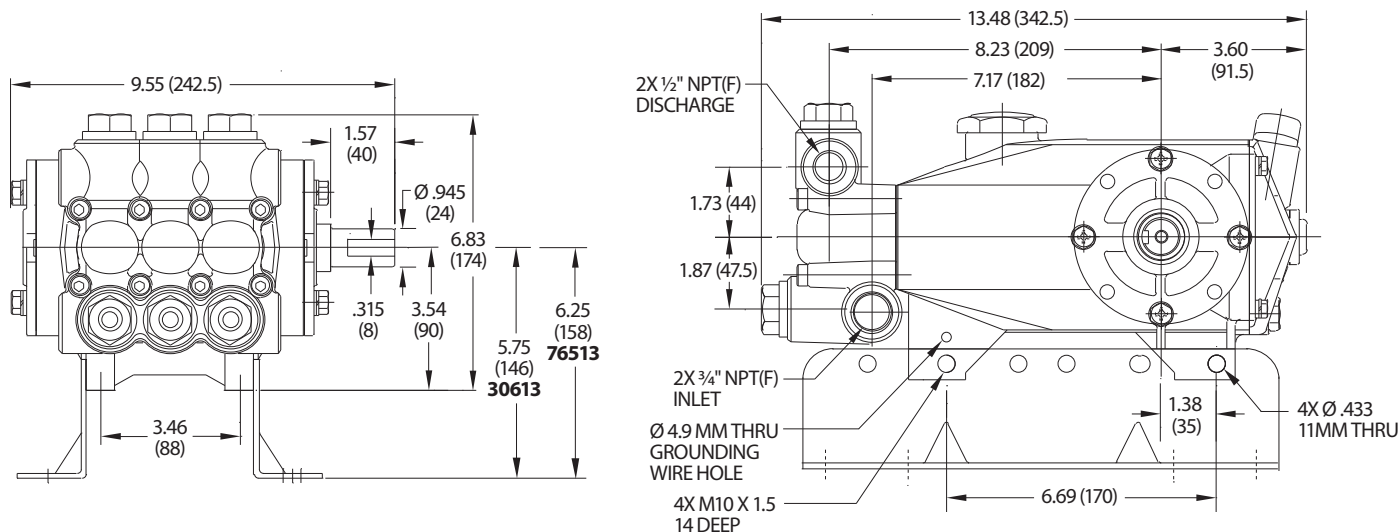


### OPTIONAL PARTS AND ACCESSORIES

| PART   | DESCRIPTION                                   | QTY |
|--------|-----------------------------------------------|-----|
| 30067  | Key (M8 x 7.5 x 25)                           | 1   |
| 30613  | Rail Assembly (5.75" See Dimensional Drawing) | 1   |
| 76513  | Rail Assembly (6.25" See Dimensional Drawing) | 1   |
| 120220 | Protector, Shaft (Model 7CP6170)              | 1   |
| 828710 | Protector, Oil Cap                            | 1   |
| 34334  | Kit, Oil Drain (3/8" x 24") (Not Shown)       | 1   |
| 30206  | Pulley, 10", 2 Groove "H" (Not Shown)         | 1   |
| 33000  | Hub, "H", 24 mm (Not Shown)                   | 1   |

### SERVICE PARTS

| PART          | DESCRIPTION                                                                    | QTY |
|---------------|--------------------------------------------------------------------------------|-----|
| <b>76933</b>  | Kit, Seal-Standard NBR                                                         | 1   |
| <b>34920</b>  | Kit, Valve-Standard NBR                                                        | 2   |
| 6107          | Oil, Bottle (21 oz)<br>(Fill to Specific Crankcase Capacity Prior to Start-up) | 2   |
| 6124          | Gasket, Liquid (3 oz)                                                          | 1   |
| 30696         | Reverse Pliers (Not Shown)                                                     | 1   |
| <b>816764</b> | Head, Complete with NBR Seals and O-Rings                                      | 1   |



Model 7CP6110CS

## SEAL KITS One (1) seal kit required per pump

| PUMP MODELS                                                | NBR (STD)    | FPM (.0110)  | EPDM (.0220) ♦ | STHT (.3400) |
|------------------------------------------------------------|--------------|--------------|----------------|--------------|
| 7CP6110CS, 7CP6170,<br>7CP6110CSG1, 7CP6170G1, 7CP6170G118 | <b>76933</b> | <b>76950</b> | <b>31936*</b>  | <b>76068</b> |

| ITEM (Included in Seal Kits) |       |       |        |       | DESCRIPTION                       | QTY |
|------------------------------|-------|-------|--------|-------|-----------------------------------|-----|
| 97                           | 17399 | 14160 | 46204  | 17399 | O-Ring, Plunger Retainer          | 3   |
| 106                          | 49644 | 49704 | 48650  | 76704 | Seal, Low-Pressure with SS-Spring | 3   |
| 121                          | 13984 | 14333 | 701945 | 13984 | O-Ring, Seal Case                 | 3   |
| 127                          | 48278 | 48278 | 48278  | 48278 | V-Packing                         | 6   |

♦ Silicone oil/grease required

\*Review material codes for individual items (STG may be used as alternative)

## VALVE KITS Two (2) valve kits required per pump

| PUMP MODELS                                                | NBR (STD)    | FPM (.0110)  | EPDM (.0220) ♦ | STHT (.3400) |
|------------------------------------------------------------|--------------|--------------|----------------|--------------|
| 7CP6110CS, 7CP6170,<br>7CP6110CSG1, 7CP6170G1, 7CP6170G118 | <b>34920</b> | <b>31256</b> | <b>31253</b>   | <b>34920</b> |

| ITEM (Included in Valve Kits) |       |       |       |       | DESCRIPTION             | QTY |
|-------------------------------|-------|-------|-------|-------|-------------------------|-----|
| 162                           | 43248 | 43248 | 43248 | 43248 | Backup Ring, Valve Seat | 3   |
| 163                           | 43249 | 44383 | 46206 | 43249 | O-Ring, Valve Seat      | 3   |
| 164                           | 44718 | 44718 | 44718 | 44718 | Seat                    | 3   |
| 166                           | 43721 | 43721 | 43721 | 43721 | Valve                   | 3   |
| 167                           | 43751 | 43751 | 43751 | 43751 | Spring                  | 3   |
| 168                           | 44564 | 44564 | 44564 | 44564 | Retainer, Spring        | 3   |
| 172                           | 17617 | 11691 | 46207 | 17617 | O-Ring, Valve Plug      | 3   |

♦ Silicone oil/grease required

### ⚠ CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (e.g. regulator, unloader) and a secondary pressure relief device (e.g. 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/dynamic-literature/cautions-and-warnings](http://www.catpumps.com/dynamic-literature/cautions-and-warnings) or can be requested directly from Cat Pumps.

### WARRANTY

View the Limited Warranty online at [www.catpumps.com/literature/cat-pumps-limited-warranty](http://www.catpumps.com/literature/cat-pumps-limited-warranty)