

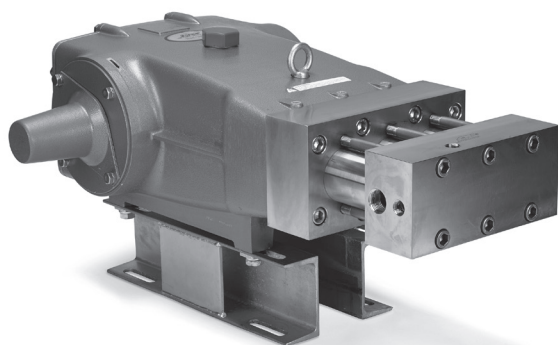
# DATA SHEET

## 68 FRAME BLOCK-STYLE PLUNGER PUMP



**Stainless Steel  
Model:**

**6810**



### SPECIFICATIONS

|                                                                                | U.S. Measure           | Metric Measure     |
|--------------------------------------------------------------------------------|------------------------|--------------------|
| Flow                                                                           | 10 gpm                 | 38 lpm             |
| Pressure Range                                                                 | 100 – 10,000 psi       | 6.9 – 689 bar      |
| Pump RPM*                                                                      | 600 rpm                | 600 rpm            |
| Inlet Pressure Range                                                           | Flooded – 50 psi       | Flooded – 3.4 bar  |
| Max. Liquid Temperature                                                        | 140° F                 | 60° C              |
| Above 130°F call Cat Pumps for inlet conditions and elastomer recommendations. |                        |                    |
| Bore                                                                           | 0.827"                 | 21 mm              |
| Stroke                                                                         | 2.579"                 | 65.5 mm            |
| Crankcase Capacity                                                             | 10 Qts.                | 9.46 L             |
| Inlet Ports (2)                                                                | 1" NPT(F)              | 1" NPT(F)          |
| Discharge Ports (3)                                                            | ½" NPT(F)              | ½" NPT(F)          |
| Pulley Mounting                                                                | Either Side            | Either Side        |
| Shaft Diameter                                                                 | 1.772"                 | 45 mm              |
| Weight                                                                         | 377.4 lbs.             | 171.5 kg           |
| Dimensions                                                                     | 31.75 x 24.02 x 11.12" | 806 x 610 x 282 mm |

\*Pump minimum is 100 RPM.

### FEATURES

- Triplex plunger design delivers high efficiency and low pulsation.
- V-Packings and low pressure seals are completely lubricated and cooled by pumped liquid.
- Low upswept volume maximizes volumetric efficiency.
- Special high-density, polished, concentric ceramic plungers provide a true wear surface and extended seal life.
- Wet-end is easily serviced without entering crankcase.

### ELECTRIC HORSEPOWER REQUIREMENTS

| FLOW |     | PRESSURE    |             |               | PUMP RPM |
|------|-----|-------------|-------------|---------------|----------|
|      |     | psi<br>5000 | psi<br>7500 | psi<br>10,000 |          |
| gpm  | lpm | bar<br>345  | bar<br>517  | bar<br>689    |          |
| 10   | 38  | 34.2        | 51.4        | 68.5          | 600      |
| 5    | 19  | 17.1        | 25.7        | 34.2          | 300      |

#### DETERMINING THE PUMP R.P.M.

$$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$$

#### DETERMINING THE REQUIRED H.P.

$$\frac{\text{HP}}{\text{(Electric Brake)}} = \frac{\text{gpm} \times \text{psi}}{1460}$$

#### 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

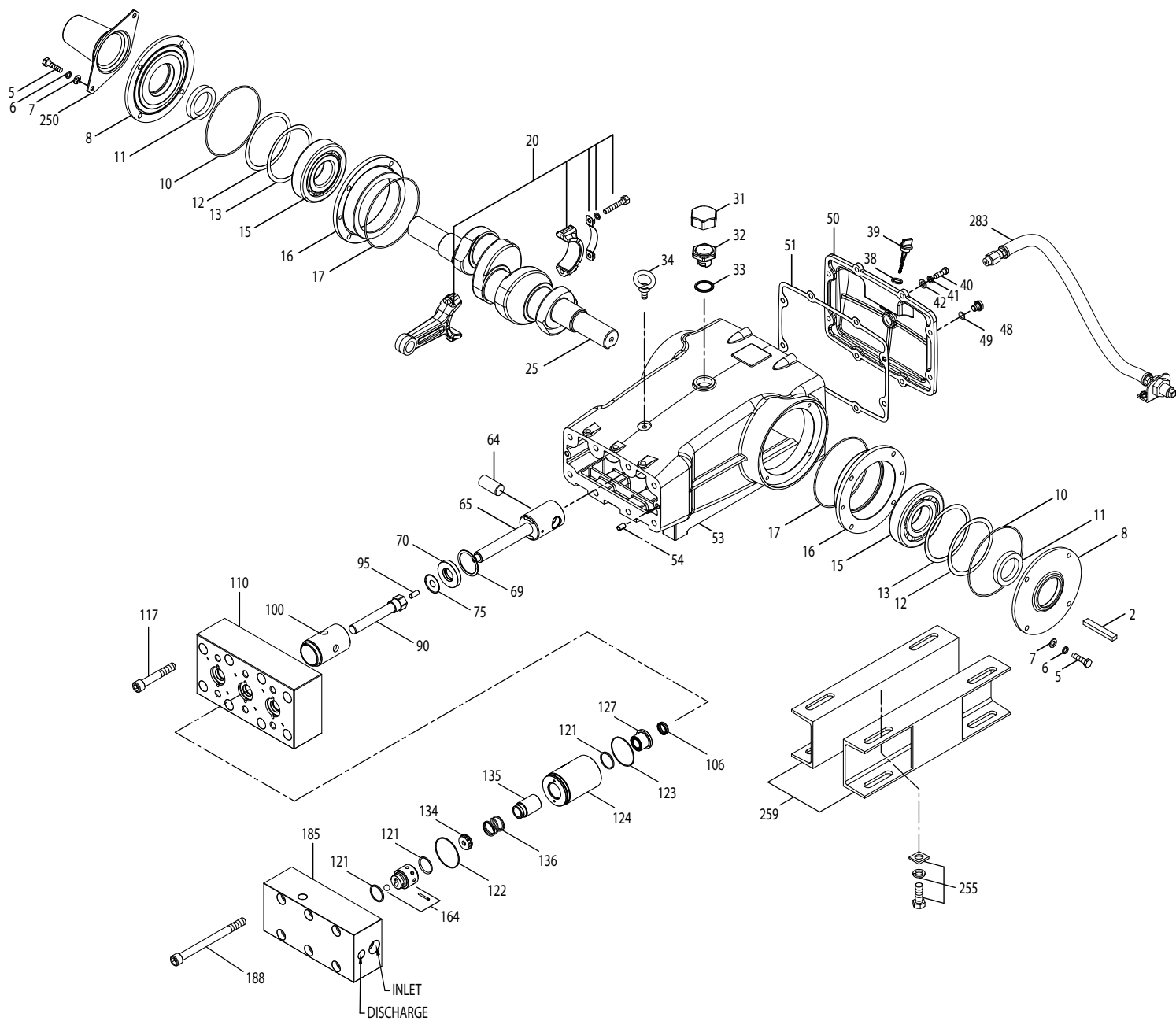
| ITEM | PART NUMBER | MATL   | DESCRIPTION                                                                                            | QTY |
|------|-------------|--------|--------------------------------------------------------------------------------------------------------|-----|
| 2    | 43048       | STL    | Key (M14 x 9 x 90)                                                                                     | 1   |
| 5    | 89728       | S      | Screw, HH (M10 x 40) (See Tech Bulletin 074)                                                           | 8   |
| 6    | 15847       | S      | Lockwasher (M10)                                                                                       | 8   |
| 7    | 19934       | S      | Washer, Flat (M10)                                                                                     | 8   |
| 8    | 29443       | AL     | Cover, Bearing, Outer (See Tech Bulletin 118)                                                          | 2   |
| 10   | 29444       | NBR    | O-Ring, Bearing Cover – 70D                                                                            | 2   |
| 11   | 11443       | NBR    | Seal, Oil, Crankshaft – 70D                                                                            | 2   |
| 12   | 126594      | STCP R | Washer, Shim (M120 x 0.3)                                                                              | 0-2 |
| 13   | 126595      | STCP R | Washer, Shim (M120 x 0.5)                                                                              | 0-2 |
| 15   | 29441       | STL    | Bearing, Roller                                                                                        | 2   |
| 16   | 29442       | STL    | Cover, Bearing, Inner                                                                                  | 2   |
| 17   | 29444       | NBR    | O-Ring, Bearing Cover – 70D                                                                            | 2   |
| 20   | 126612      | BBHS   | Assembly, Connecting Rod (Includes: 21, 22) (See Tech Bulletin 074)                                    | 3   |
| 21   | 126560      | STCP R | Washer, Locking                                                                                        | 3   |
| 22   | 126593      | STCP R | Washer, Shim (M10.5 x 1.5)                                                                             | 6   |
| 25   | 29440       | FCM    | Crankshaft, Dual Shaft                                                                                 | 1   |
| 31   | 828710      | PE     | Protector, Oil Cap w/Foam Gasket                                                                       | 1   |
| 32   | 43211       | ABS    | Cap, Oil Filler                                                                                        | 1   |
| 33   | 14177       | NBR    | O-Ring, Filler Cap – 70D                                                                               | 1   |
| 34   | 126743      | STCP R | Bolt, Eye (M12) (For Lifting Pump Only)                                                                | 1   |
| 38   | 129343      | RBR    | Gasket, Flat Flex                                                                                      | 1   |
| 39   | 27769       | ABS    | Stick, Dip, Blue                                                                                       | 1   |
| 40   | 89627       | S      | Screw, HH (M10 x 30) (See Tech Bulletin 074)                                                           | 8   |
| 41   | 15847       | S      | Lockwasher (M10)                                                                                       | 8   |
| 42   | 19934       | S      | Washer, Flat (M10)                                                                                     | 8   |
| 48   | 25625       | STCP   | Plug, Drain (1/4" x 19BSP)                                                                             | 1   |
| 49   | 23170       | NBR    | O-Ring, Drain Plug – 70D                                                                               | 1   |
| 50   | 29438       | AL     | Cover, Rear (See Tech Bulletin 118)                                                                    | 1   |
| 51   | 129386      | NBR    | Gasket, Rear Cover                                                                                     | 1   |
| 53   | 45303       | AL     | Crankcase (Includes: 34, 54) (See Tech Bulletin 118)                                                   | 1   |
| 54   | 43282       | S      | Pin, Guide                                                                                             | 2   |
| 64   | 29481       | CM     | Pin, Crosshead                                                                                         | 3   |
| 65   | 48735       | SSZZ   | Rod, Plunger                                                                                           | 3   |
| 69   | 126588      | STCP R | Washer, Oil Seal                                                                                       | 3   |
| 70   | 29454       | NBR    | Seal, Oil Crankcase – 80D                                                                              | 3   |
| 75   | 43865       | S      | Slinger, Barrier                                                                                       | 3   |
| 90   | 76347       | CC     | Assembly, Plunger (M21)                                                                                | 3   |
| 95   | 76344       | S      | Stud (M10 x 22)                                                                                        | 3   |
| 100  | 76585       | D      | Retainer, Seal                                                                                         | 3   |
| 106  | 76313       | ST4    | Seal, LPS                                                                                              | 3   |
| 110  | 76348       | S      | Block, Housing                                                                                         | 1   |
| 117  | 76358       | S      | Screw, HSH (M16 x 100) (See Tech Bulletin 074)                                                         | 8   |
| 121  | 76318       | PTFE   | Ring, Cylinder Sealing                                                                                 | 9   |
| 122  | 76327       | NBR    | O-Ring, Front Cylinder                                                                                 | 3   |
| 123  | 76317       | NBR    | O-Ring, Rear Cylinder                                                                                  | 3   |
| 124  | 76321       | S      | Cylinder                                                                                               | 3   |
| 127  | 76314       | UHMW   | Assembly, V-Packing w/BZ Cylinder Support                                                              | 3   |
| 134  | 76359       | S      | Valve, Inlet                                                                                           | 3   |
| 135  | 76322       | D      | Retainer, Spring                                                                                       | 3   |
| 136  | 76324       | S      | Spring                                                                                                 | 3   |
| 164  | 76337       | S      | Seat, Ball Assembly w/Ceramic Ball                                                                     | 3   |
| 185  | 76388       | S      | Manifold, Inlet/Discharge, Block Style                                                                 | 1   |
| 188  | 76377       | S      | Screw, HSH (M16 x 200) (See Tech Bulletin 074)                                                         | 6   |
| 250  | 29445       | AL     | Protector, Shaft (See Tech Bulletin 118)                                                               | 1   |
| 255  | 33243       | STZP   | Kit, Mount (Included w/Pump) (See Tech Bulletin 074)                                                   | 2   |
| 259  | 126604      | STCP R | Rail, Box (Included w/Pump)                                                                            | 2   |
| 275  | 990014      | STL    | Hub, "B", M45 w/Keyway (See Tech Bulletin 003)                                                         | 1   |
| 283  | 34314       | —      | Kit, Oil Drain (3/8" x 48")                                                                            | 1   |
| 290  | 6124        | —      | Gasket, Liquid (3 oz.)                                                                                 | 1   |
| 299  | 996810      | S      | Head, Complete, Block-Style w/NBR O-Rings                                                              | 1   |
| 300  | 76966       | NBR*   | Kit, Seal (Includes: 106,121,122, 123,127)                                                             | 1   |
| 310  | 76967       | S      | Kit, Valve (Includes: 121,122, 123,134, 136, 164)                                                      | 1   |
| —    | 819010      | F      | Assembly, Crankcase, Cast Iron Conversion                                                              | 1   |
| —    | 6105        | —      | Oil, Twin Pack (Two-2.5 Gal) ISO-68 Hydraulic (Fill to specified crankcase capacity prior to start-up) | 1   |
| —    | 6119        | —      | Lubricant, Anti-seize (2 oz.) (See Tech Bulletin 095)                                                  | 1   |

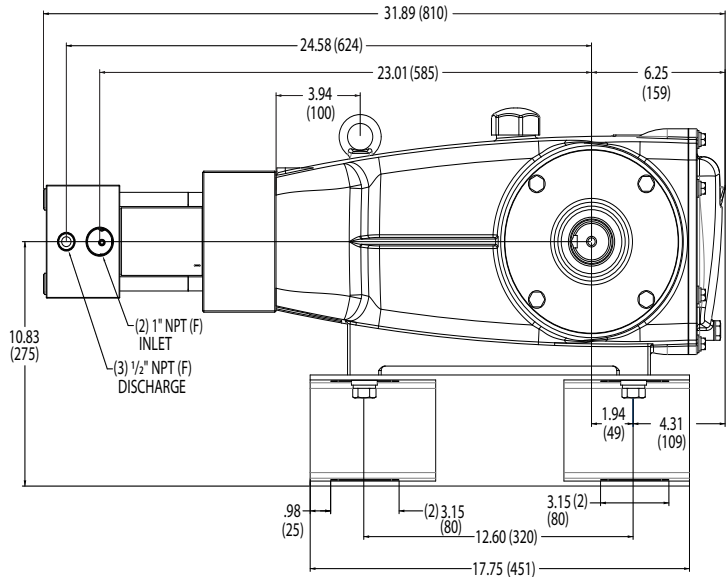
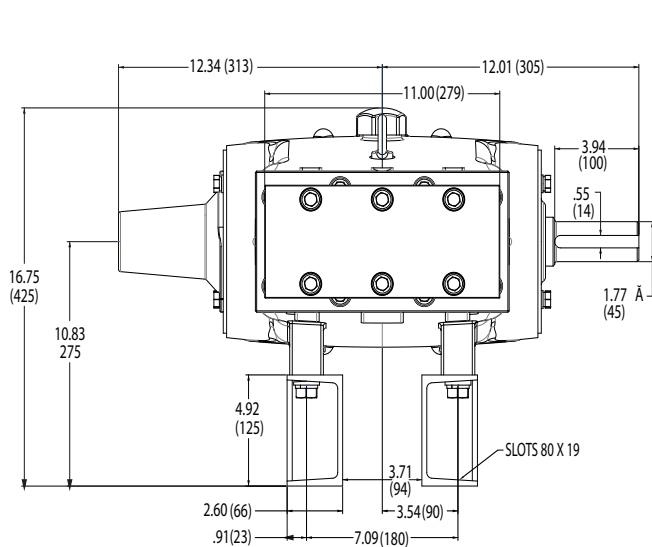
*Italics are optional items.* R Components comply with RoHS Directive. \*Review individual parts in each kit for material code identification.

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 AL=Aluminum BBHS=Brass/High Strength CC=Ceramic CM=Chrome-Moly D=Acetal F=Cast Iron FCM=Forged Chrome-Moly  
 NBR=Medium Nitrile (Buna-N) PE=Polyethylene PTFE=Pure Polytetrafluoroethylene RBR=Rubber S=304SS SSZZ=316SS/Zamak ST4=Special PTFE 4 STCP=Steel/Chrome Plated  
 STL=Steel STZP=Steel/Zinc Plated UHMW=Ultra High Molecular Polyethylene

# EXPLODED VIEW





#### ⚠ 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/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 on-line at [www.catpumps.com/literature/cat-pumps-limited-warranty](http://www.catpumps.com/literature/cat-pumps-limited-warranty)