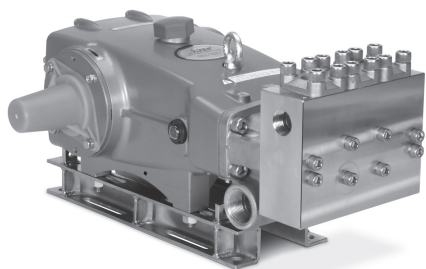


# DATA SHEET

## 35 FRAME PLUNGER PUMP



**Model: 3560**



Model 3560 Shown  
(Shaft protector included; mounting rails sold separately)

### FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- V-packings and low-pressure seals are completely lubricated and cooled by pumped liquid, greatly increasing service life.
- Special high-density, polished concentric plungers provide a true wear surface and extended seal life.
- Wet-end easily serviced without entering crankcase.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

### SPECIFICATIONS

|                               | U.S. Measure   | Metric Measure  |
|-------------------------------|----------------|-----------------|
| Flow                          | 20 gpm         | 76 lpm          |
| Pressure Range                | 100–4000 psi   | 6.9–275 bar     |
| Pump RPM*                     | 1160 rpm       | 1160 rpm        |
| Inlet Pressure Range          | Flooded–70 psi | Flooded–4.8 bar |
| Max. Liquid Temperature (NBR) | 160° F         | 71° C           |

### Alternative seals available for higher temperatures up to 190° F

|                     |                       |                    |
|---------------------|-----------------------|--------------------|
| Bore                | 0.984"                | 25 mm              |
| Stroke              | 1.890"                | 48 mm              |
| Crankcase Capacity  | 4.2 qts               | 4 l                |
| Inlets Ports (2)    | 1½" NPT(F)            | 1½" NPT(F)         |
| Discharge Ports (2) | 1" NPT(F)             | 1" NPT(F)          |
| Pulley Mounting     | Either Side           | Either Side        |
| Shaft Diameter      | 1.378"                | 35 mm              |
| Weight              | 142 lbs               | 64.4 kg            |
| Dimensions          | 23.54 x 18.11 x 9.88" | 598 x 460 x 251 mm |

\*Pump minimum is 100 RPM.

### ALTERNATE SPECIFICATIONS

|                | U.S. Measure | Metric Measure |
|----------------|--------------|----------------|
| Flow           | 25 gpm       | 95 lpm         |
| Pressure Range | 100–3000 psi | 6.9–210 bar    |
| Pump RPM *     | 1450 rpm     | 1450 rpm       |

### ALTERNATIVE SEAL CONFIGURATION

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

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

### DETERMINING THE PUMP RPM

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

### DETERMINING THE REQUIRED HP

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

### DETERMINING MOTOR PULLEY SIZE

$$\frac{\text{Motor Pulley OD}}{\text{Pump rpm}} = \frac{\text{Pump Pulley OD}}{\text{Motor rpm}}$$

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

## PARTS LIST

| ITEM | P/N     | MATL   | DESCRIPTION                                                                                          | QTY |
|------|---------|--------|------------------------------------------------------------------------------------------------------|-----|
| 5    | 96049   | S      | Screw, HHC, Sems (M10 x 25) (See Tech Bulletins 074, 125)                                            | 8   |
| 8    | 134604  | ALE    | Cover, Bearing (See Tech Bulletins 118, 125)                                                         | 2   |
| 9    | 815279  | FBR    | Shim, Split, 2-Piece (See Tech Bulletin 125)                                                         | 0-2 |
| 10   | 12398   | NBR    | O-Ring, Bearing Cover-70D                                                                            | 2   |
| 11   | 13296   | NBR    | Seal, Oil, Crankshaft                                                                                | 0-2 |
| 12   | 855049  | S      | Shim, Split, 2-Piece                                                                                 | 2   |
| 15   | 29326   | STL    | Bearing, Roller                                                                                      | 2   |
| 20   | 121467  | TNM    | Rod, Connecting Assembly (Includes: 21, 22, 23) (See Tech Bulletin 074)                              | 3   |
| 21   | 126749  | STCP R | Washer, Locking (M10)                                                                                | 3   |
| 22   | 126593  | STCP R | Washer, Flat (M10)                                                                                   | 6   |
| 23   | 122045  | STZP   | Screw, HH (M10 x 55)                                                                                 | 6   |
| 25   | 29325   | FCM    | Crankshaft, Dual End (M48)                                                                           | 1   |
| 31   | 828710  | PE     | Protector, Oil Cap with Foam Gasket                                                                  | 1   |
| 32   | 43211   | ABS    | Cap, Oil Filler                                                                                      | 1   |
| 33   | 14177   | NBR    | O-Ring, Oil Filler Cap-70D                                                                           | 1   |
| 34   | 126743  | STCP R | Bolt, Eye (M12 x 1.75) (For Lifting Pump Only)                                                       | 1   |
| 37   | 92241   | PC     | Gauge, Oil, Bubble with Gasket                                                                       | 2   |
| 38   | 44428   | NBR    | Gasket, Flat, Oil Gauge-80D                                                                          | 2   |
| 40   | 125753  | S      | Screw, HHC, Sems (M8 x 25) (See Tech Bulletin 074)                                                   | 8   |
| 48   | 25625   | STCP   | Plug, Drain (¼" x 19 BSP)                                                                            | 1   |
| 49   | 23170   | NBR    | O-Ring, Drain Plug-70D                                                                               | 1   |
| 50   | 45936   | ALE    | Cover, Crankcase (See Tech Bulletin 118)                                                             | 1   |
| 51   | 16612   | NBR    | O-Ring, Crankcase-70D                                                                                | 1   |
| 53   | 134786  | ALE    | Crankcase Assembly (Includes: 54) (See Tech Bulletins 118, 125)                                      | 1   |
| 54   | 27488   | S      | Pins, Guide                                                                                          | 2   |
| 56   | 27790   | POP    | Pan, Oil                                                                                             | 1   |
| 59   | 92538   | S      | Screw, HHC, Sems (M6 x 16)                                                                           | 2   |
| 64   | 43864   | CM     | Pin, Crosshead                                                                                       | 3   |
| 65   | 49076   | SHB    | Rod, Plunger                                                                                         | 3   |
| 69   | 126587  | STCP R | Washer, Oil Seal                                                                                     | 3   |
| 70   | 100488  | NBR    | Seal, Oil, Crankcase                                                                                 | 3   |
| 75   | 110669  | S      | Slinger, Barrier                                                                                     | 3   |
| 88   | 110670  | S      | Washer, Keyhole (M16)                                                                                | 3   |
| 90   | 48535   | CC     | Plunger (M25 x 110)                                                                                  | 3   |
| 95   | 126549  | STCP R | Stud, Plunger Retainer (M7 x 103)                                                                    | 3   |
| 96   | 20184   | PTFE   | Backup Ring, Plunger Retainer                                                                        | 3   |
| 97   | 14190   | NBR    | O-Ring, Plunger Retainer-70D                                                                         | 3   |
| 98   | 44069   | SS     | Gasket, Retainer                                                                                     | 3   |
| 99   | 44068   | SS     | Retainer, Plunger (M7) (See Tech Bulletin 074)                                                       | 3   |
| 100  | 855017  | —      | Retainer, Seal 2-Piece (See Tech Bulletin 105)                                                       | 3   |
| 101  | 44096   | —      | Wick, Long Tab                                                                                       | 3   |
| 106  | 44086   | NBR    | Seal, Low-Pressure, with SS-Spring                                                                   | 3   |
| 110  | 49759   | FBB    | Manifold, Inlet (08/10)                                                                              | 1   |
| 112  | 11379   | NBR    | O-Ring, Inlet Manifold-70D                                                                           | 3   |
| 117  | 44585   | S      | Screw, HSH (M14 x 40) (See Tech Bulletin 074)                                                        | 4   |
| 126  | 48538   | BB     | Adapter, Female                                                                                      | 3   |
| 127  | † 44610 | STG    | V-Packing                                                                                            | 6   |
| 128  | 48539   | BB     | Adapter, Male                                                                                        | 3   |
| 155  | 17629   | NBR    | O-Ring, Spacer V-Packing-80D                                                                         | 6   |
| 156  | 28243   | PTFE   | Backup Ring, Spacer V-Packing                                                                        | 6   |
| 157  | 49082   | BB     | Spacer, V-Packing                                                                                    | 3   |
| 160  | 49092   | NBR    | O-Ring, Seat, Inlet-80D                                                                              | 3   |
| 161  | 49091   | S      | Seat, Inlet                                                                                          | 3   |
| 162  | 49088   | PTFE   | Backup Ring, Discharge Seat                                                                          | 3   |
| 163  | 49087   | NBR    | O-Ring, Seat, Discharge-70D                                                                          | 3   |
| 164  | 49086   | S      | Seat, Discharge                                                                                      | 3   |
| 165  | 49090   | PVDF   | Retainer, Spring, Inlet                                                                              | 3   |
| 166  | 49089   | S      | Valve                                                                                                | 6   |
| 167  | 44109   | SS     | Spring                                                                                               | 6   |
| 168  | 49085   | PVDF   | Retainer, Spring, Discharge                                                                          | 3   |
| 172  | 18690   | NBR    | O-Ring, Valve Plug-70D                                                                               | 3   |
| 173  | 20369   | PTFE   | Backup Ring, Valve Plug                                                                              | 3   |
| 174  | 49093   | BB     | Plug, Valve                                                                                          | 3   |
| 175  | 550176  | S      | Screw, HSH (M14 x 35) (See Tech Bulletin 074)                                                        | 12  |
| 185  | 49084   | SS     | Manifold, Discharge                                                                                  | 1   |
| 188  | 49045   | S      | Screw, HSH (M12 x 95) (See Tech Bulletin 074)                                                        | 8   |
| 250  | 855042  | NY     | Protector, Shaft with 2-Screws, Lockwashers and Washers (Included with Pump) (See Tech Bulletin 125) | 1   |

*Italics are optional items.*

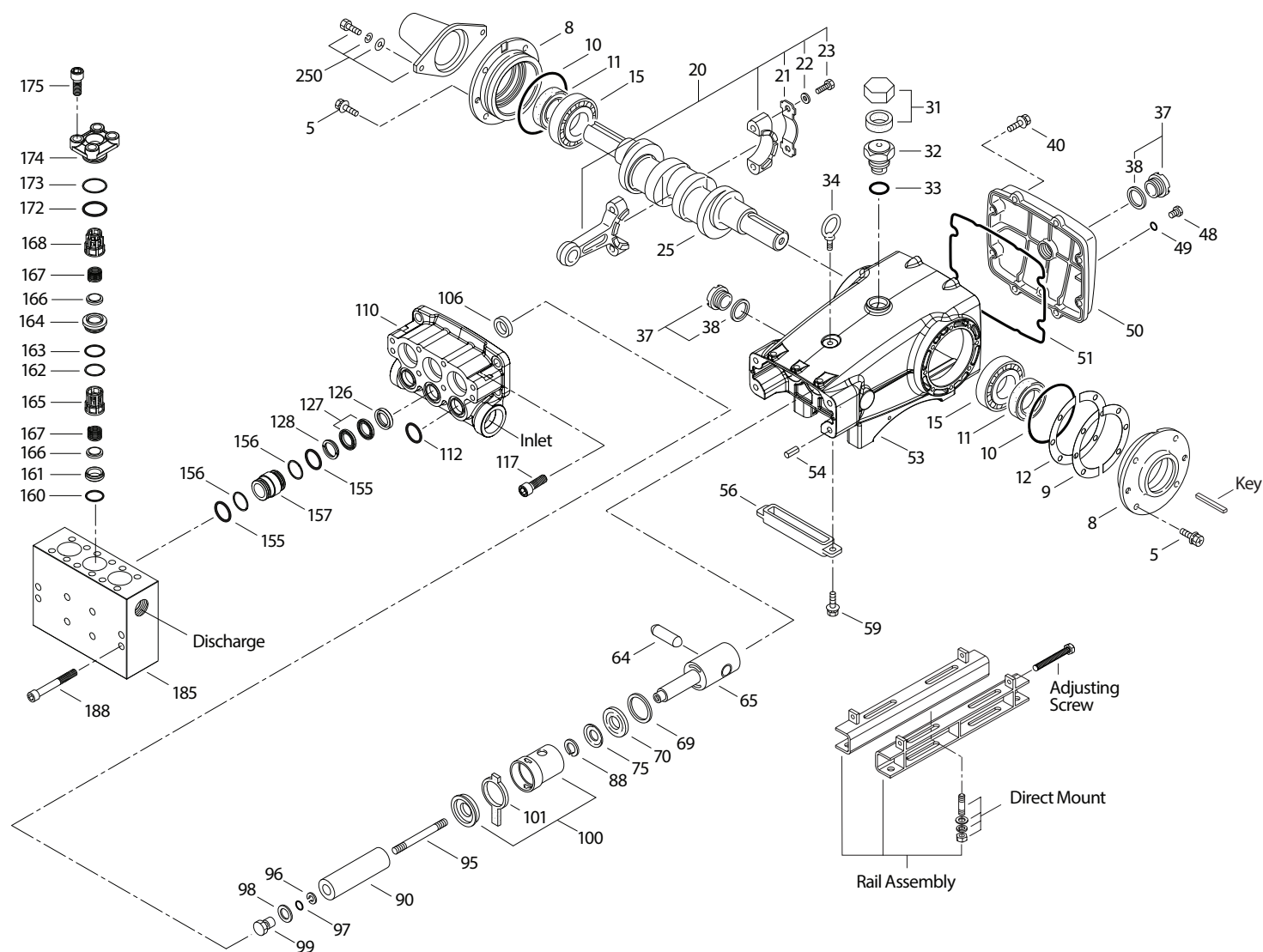
\*Review material codes for individual items (STG generally may be used as alternate). R Components comply with RoHS Directive.

† Production parts are different than repair parts. 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 BBSS=Brass/316SS CC=Ceramic  
CM=Chrome-Moly F=Cast Iron FBB=Forged Brass FBR=Fiber FCM=Forged Chrome-Moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N)  
NBRs=Buna, Silicone Free NY=Nylon PC=Poly Carbonate PE=Polyethylene POP=Polypropylene PTFE=Pure Polytetrafluoroethylene  
PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SHB=304SS/High Strength Brass STCP=Steel/Chrome Plated STG=Special Blend PTFE White  
STHT=Special PTFE High Temp STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength ZP=Zinc Plated

Optional Parts and Accessories and Service parts listed on Page 3. Standard and optional Seal and Valve Kits listed on page 4.

## EXPLODED VIEW



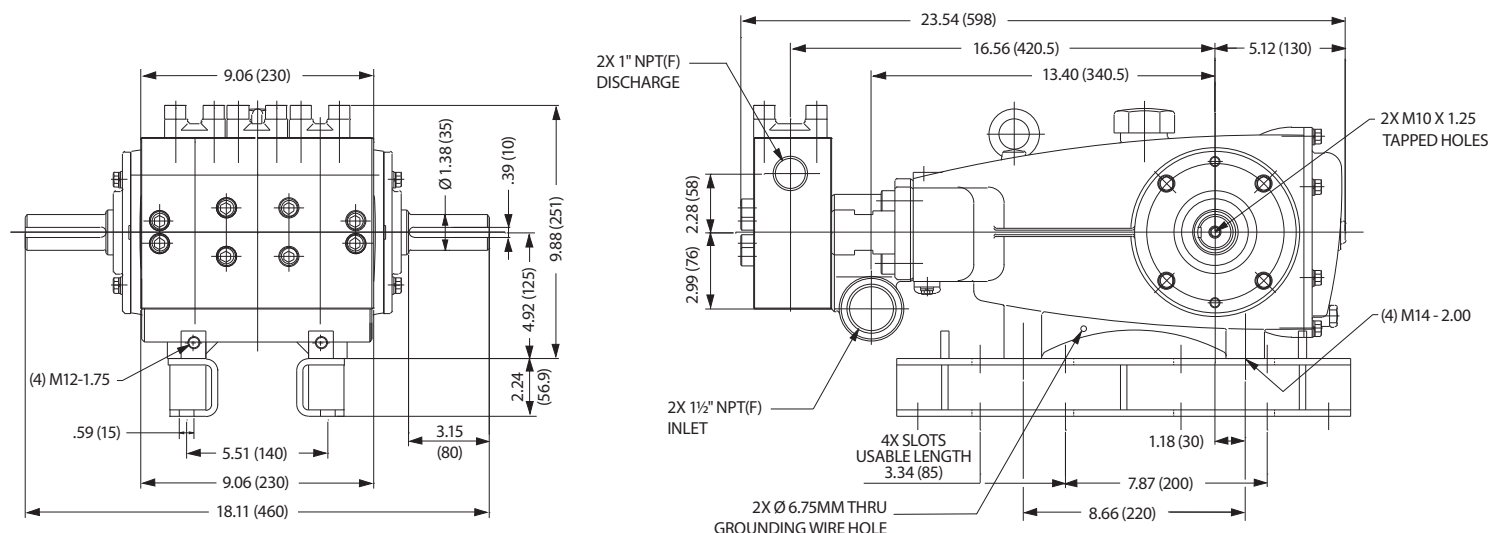
Model 3560  
January 2023

## OPTIONAL PARTS AND ACCESSORIES

| PART   | DESCRIPTION                                           | QTY |
|--------|-------------------------------------------------------|-----|
| 34021  | Key (M10 x 8 x 70)                                    | 1   |
| 92674  | Mount, Rail Assembly                                  | 1   |
| 34018  | Mount, Direct                                         | 1   |
| 990013 | Hub, "B", 35 mm (Not Shown)                           | 1   |
| 80540  | Screw, Adjusting (M12 x 100)                          | 2   |
| 34334  | Kit, Oil Drain ( $\frac{3}{8}$ " x 24") (Not Shown)   | 1   |
| 819000 | Assembly, Crankcase, Cast Iron Conversion (Not Shown) | 1   |

## SERVICE PARTS

| PART   | DESCRIPTION                                                                                | QTY |
|--------|--------------------------------------------------------------------------------------------|-----|
| 31280  | Kit, Seal – Standard NBR                                                                   | 1   |
| 31292  | Kit, Valve – Standard NBR                                                                  | 1   |
| 6100   | Oil, Case (12 - 21 oz bottles)<br>(Fill to Specified Crankcase Capacity Prior to Start-up) | 1   |
| 6124   | Gasket, Liquid (3 oz)                                                                      | 1   |
| 6139   | Lubricant, Anti-Seize (8 oz)                                                               | 1   |
| 816958 | Head, Complete with NBR Seals and O-Rings                                                  | 1   |



## SEAL KITS

One (1) seal kit required per pump

| PUMP MODELS | NBR (STD)      | FPM (0.0110)   | STHT (.3400)   |
|-------------|----------------|----------------|----------------|
| 3560        | <b>31280 *</b> | <b>31380 *</b> | <b>76376 *</b> |

| ITEM (Included in Seal Kits) |       |       |       | DESCRIPTION                        | QTY |
|------------------------------|-------|-------|-------|------------------------------------|-----|
| 97                           | 14190 | 14161 | 14190 | O-Ring, Plunger Retainer           | 3   |
| 106                          | 44086 | 45846 | 76086 | Seal, Low-Pressure, with SS-Spring | 3   |
| 112                          | 11379 | 14183 | 11379 | O-Ring, Inlet Manifold             | 3   |
| 127                          | 44610 | 44610 | 44610 | V-Packing                          | 6   |
| 155                          | 17629 | 14183 | 17629 | O-Ring, V-Packing Spacer           | 6   |
| 156                          | 28243 | 28243 | 28243 | Backup Ring, V-Packing Spacer      | 6   |

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

## VALVE KITS

One (1) valve kit required per pump

| PUMP MODELS | NBR (STD)    | FPM (0.0110) | STHT (.3400) |
|-------------|--------------|--------------|--------------|
| 3560        | <b>31292</b> | <b>31296</b> | <b>31292</b> |

| ITEM (Included in Valve Kits) |       |       |       | DESCRIPTION                 | QTY |
|-------------------------------|-------|-------|-------|-----------------------------|-----|
| 160                           | 49092 | 49155 | 49092 | O-Ring, Seat, Inlet         | 3   |
| 161                           | 49091 | 49091 | 49091 | Seat, Inlet                 | 3   |
| 162                           | 49088 | 49088 | 49088 | Backup Ring, Discharge Seat | 3   |
| 163                           | 49087 | 49154 | 49087 | O-Ring, Discharge Seat      | 3   |
| 164                           | 49086 | 49086 | 49086 | Seat, Discharge             | 3   |
| 165                           | 49090 | 49090 | 49090 | Retainer, Spring, Inlet     | 3   |
| 166                           | 49089 | 49089 | 49089 | Valve                       | 6   |
| 167                           | 44109 | 44109 | 44109 | Spring                      | 6   |
| 168                           | 49085 | 49085 | 49085 | Retainer, Spring, Discharge | 3   |
| 172                           | 18690 | 11744 | 18690 | O-Ring, Valve Plug          | 3   |
| 173                           | 20369 | 20369 | 20369 | Backup Ring, Valve Plug     | 3   |

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