

Motor and Relief Valve sold separately.

O.E.M. Stainless Steel Direct-Drive Plunger Pump

Models 2SF05SEEL
2SF10SEEL, 2SF15SEEL
2SF25SEEL, 2SF29SEEL
2SF35SEEL

FEATURES

- Triplex design provides smoother liquid flow.
- Unique spring loaded Inlet Valves and flow through ceramic plungers assure smooth, consistent liquid flow through pump.
- 316L Stainless Steel Manifolds for strength and corrosion resistance.
- OPTIONAL Stainless Steel Unloader for system pressure control and pump protection.
- Ultra compact, lightweight direct-drive design.

COMMON SPECIFICATIONS

| | | |
|--|-------------------|--------------------|
| Inlet Pressure Range | Flooded to 60 PSI | (Flooded to 4 BAR) |
| Shaft Diameter | .5/8" | (15.9 mm) |
| Bore..... | 0.709" | (18 mm) |
| Maximum Liquid Temperature | 160°F | (71°C) |
| Above 130°F call CAT PUMPS for inlet conditions and elastomer recommendations. | | |
| Crankcase Capacity | 12.0 oz. | (0.36 L) |
| Inlet Port (1)..... | 3/8" NPTF | (3/8" NPTF) |
| Discharge Ports (2)..... | 3/8" NPTF | (3/8" NPTF) |
| By-Pass Port (1) | 1/4" NPTF | (1/4" NPTF) |
| Weight (Pump Only) | 10.6 lbs. | (4.8 kg) |
| Dimensions (Pump Only)..... | 8.3x7.5x6.3" | (213x191x160 mm) |

⚠ WARNING

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

SPECIFICATIONS

U.S. Measure

Metric Measure

MODEL 2SF05SEEL

| | | |
|-------------------------------|--------------|------------|
| Flow..... | 0.5 GPM | (1.9 L/M) |
| Discharge Pressure Range..... | 100-1200 PSI | (7-85 BAR) |
| RPM | 1725 RPM | (1725 RPM) |
| Stroke..... | 0.067" | (1.7 mm) |

MODEL 2SF10SEEL

| | | |
|-------------------------------|--------------|------------|
| Flow..... | 1.0 GPM | (3.8 L/M) |
| Discharge Pressure Range..... | 100-1200 PSI | (7-85 BAR) |
| RPM | 1725 RPM | (1725 RPM) |
| Stroke..... | 0.122" | (3.1 mm) |

MODEL 2SF15SEEL

| | | |
|-------------------------------|--------------|------------|
| Flow..... | 1.5 GPM | (5.7 L/M) |
| Discharge Pressure Range..... | 100-1200 PSI | (7-85 BAR) |
| RPM | 1725 RPM | (1725 RPM) |
| Stroke..... | 0.177" | (4.5 mm) |

MODEL 2SF25SEEL

| | | |
|-------------------------------|--------------|------------|
| Flow..... | 2.5 GPM | (9.5 L/M) |
| Discharge Pressure Range..... | 100-1200 PSI | (7-85 BAR) |
| RPM | 1725 RPM | (1725 RPM) |
| Stroke..... | 0.278" | (7.3 mm) |

MODEL 2SF29SEEL

| | | |
|-------------------------------|--------------|------------|
| Flow..... | 2.85 GPM | (10.8 L/M) |
| Discharge Pressure Range..... | 100-1200 PSI | (7-85 BAR) |
| RPM | 1725 RPM | (1725 RPM) |
| Stroke..... | 0.335" | (8.5 mm) |

MODEL 2SF35SEEL

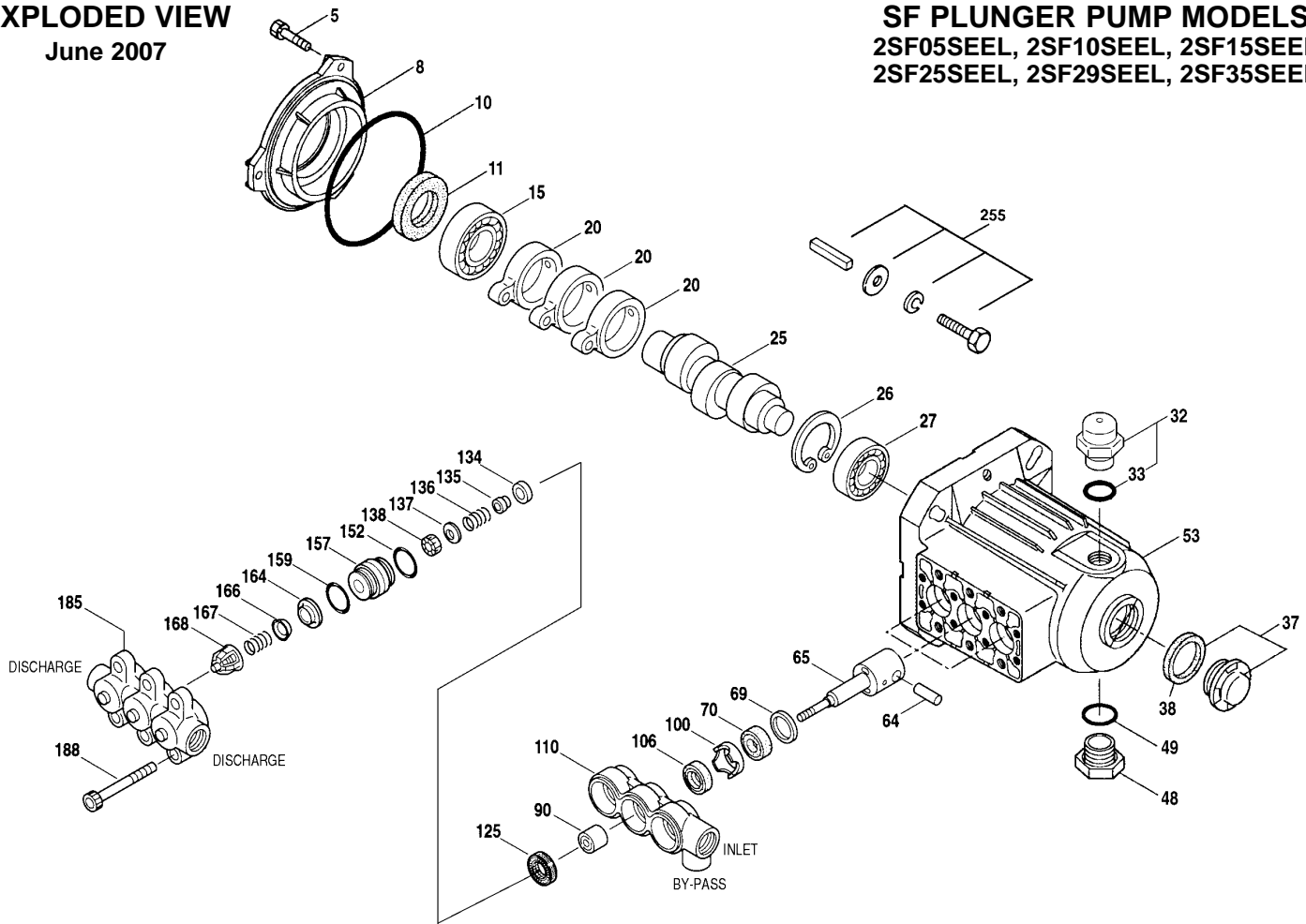
| | | |
|-------------------------------|--------------|------------|
| Flow..... | 3.5 GPM | (13.2 L/M) |
| Discharge Pressure Range..... | 100-1200 PSI | (7-85 BAR) |
| RPM | 1725 RPM | (1725 RPM) |
| Stroke..... | 0.402" | (10.2 mm) |

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

“Customer confidence is our greatest asset”

EXPLODED VIEW

June 2007



SF PLUNGER PUMP MODELS

2SF05SEEL, 2SF10SEEL, 2SF15SEEL
2SF25SEEL, 2SF29SEEL, 2SF35SEEL

PARTS LIST

| ITEM | P/N | MATL | DESCRIPTION | MODEL USED | QTY | ITEM | P/N | MATL | DESCRIPTION | MODEL USED | QTY |
|------|--------|--------|------------------------------------|------------|-----|--------|----------|-----------------------------|---|------------|-----|
| 5 | 547445 | S | Screw, HHC Sems (M6x14) [3/03] | All | 3 | 137 | 88575 | SS | Washer, Conical (M6) | All | 3 |
| 8 | 547153 | AL | Cover, Bearing [3/03] | All | 1 | 138 | 543692 | SS | Nut (M6) | All | 3 |
| 10 | 14041 | NBR | O-Ring, Bearing Cover - 70D [3/03] | All | 1 | 152 | † 26089 | NBR | O-Ring, Adapter Spacer, Inner - 80D | All | 3 |
| 11 | 55337 | NBR | Seal, Oil, Crankshaft - 70D [3/03] | All | 1 | | 11377 | FPM | O-Ring, Adapter Spacer, Inner - 80D | All | 3 |
| 15 | 14488 | STL | Bearing, Ball - Inner | All | 1 | 157 | 544700 | SS | Spacer, Discharge Valve | All | 3 |
| 20 | 547046 | TNM | Rod, Connecting | All | 3 | 159 | † 26089 | NBR | O-Ring, Adapter Spacer, Outer - 80D | All | 3 |
| 25 | 543135 | FCM | Crankshaft, 1.7mm | 05SEEL | 1 | | 11377 | FPM | O-Ring, Adapter Spacer, Outer - 80D | All | 3 |
| | 46109 | FCM | Crankshaft, 3.1mm | 10SEEL | 1 | 164 | 544293 | SS | Seat | All | 3 |
| | 44931 | FCM | Crankshaft, 4.5mm | 15SEEL | 1 | 166 | 543669 | SS | Valve | All | 3 |
| | 544693 | FCM | Crankshaft, 7.3mm | 25SEEL | 1 | 167 | 543700 | SS | Spring | All | 3 |
| | 45426 | FCM | Crankshaft, 8.5mm | 29SEEL | 1 | 168 | 44565 | PVDF | Retainer, Spring | All | 3 |
| | 544694 | FCM | Crankshaft, 10.2mm | 35SEEL | 1 | 185 | 547705 | SSL | Manifold, Discharge | All | 1 |
| 26 | 12385 | STL | Ring, Retaining, Bearing | All | 1 | 188 | 544701 | S | Screw, HSH (M8x80) | All | 6 |
| 27 | 15710 | STL | Bearing, Ball - Outer | All | 1 | 255 | 30517 | STZP | Assy, Bolt Mount | All | 1 |
| 32 | 547961 | RTP | Cap, Oil Filler w/O-Ring | All | 1 | 30980 | STZP R | Washer, Flat (3/8") | All | 4 | |
| 33 | 14179 | NBR | O-Ring, Oil Filler Cap - 70D | All | 2 | 30921 | STZP R | Lockwasher (3/8") | All | 4 | |
| 37 | 92241 | — | Gauge, Oil w/Gasket - 80D | All | 1 | 34100 | STZP | Screw, HH (3/8"-16x1-3/8") | All | 4 | |
| 38 | 44428 | NBR | Gasket, Flat, Oil Gauge - 80D | All | 1 | 126543 | STZP R | Screw, HH (3/8"-16x1-3/8") | All | 4 | |
| 48 | 44842 | NY | Plug, Drain | All | 1 | 6106 | — | Lubricant, Antiseize | All | 1 | |
| 49 | 14179 | NBR | O-Ring, Drain Plug - 70D | All | 1 | 30050 | STL | Key (3/16"x3/16"x1-1/4" HD) | All | 1 | |
| 53 | 547285 | AL | Crankcase [3/03] | All | 1 | 283 | 990394 | — | Kit, Oil Drain (Not Shown) | All | 1 |
| 64 | 16948 | CM | Pin, Crosshead | All | 3 | 285 | 80228 | STL | Screw (M8-1.25x80) (Motor Removal) | All | 2 |
| 65 | 544695 | SSZZ | Rod, Plunger | All | 3 | 300 | 34973 | NBR | Kit, Seal (Incls: 106, 125, 152, 159) | All | 1 |
| 69 | 126259 | STCP R | Washer, Oil Seal | All | 3 | | 33453 | FPM | Kit, Seal (Incls: 106, 125, 152, 159) | All | 1 |
| 70 | 25461 | NBR | Seal, Oil Crankcase | All | 3 | 310 | 34972 | NBR | Kit, Valve (Incls: 152, 159, 164, 166, 167, 168) | All | 1 |
| 90 | 544697 | CC | Plunger, Ceramic (M18x18) | All | 3 | | 33454 | FPM | Kit, Valve (Incls: 152, 159, 164, 166, 167, 168) | All | 1 |
| 100 | 44869 | PVDF | Retainer, Seal | All | 3 | 311 | 39668 | NBR | Kit, Inlet Valve (Incls: 134-138, 152, 159) | All | 1 |
| 106 | 547683 | NBR | Seal, LPS w/SS-Spg | All | 3 | | 34974 | NBR | Kit, Inlet Valve (Incls: 134-138, 152, 159) | All | 1 |
| | 545192 | FPM | Seal, LPS w/SS-Spg | All | 3 | | 33460 | FPM | Kit, Inlet Valve (Incls: 134-138, 152, 159) | All | 1 |
| 110 | 547704 | SSL | Manifold, Inlet | All | 1 | 352 | 44050 | STZP | Tool, Oil Gauge Removal | All | 1 |
| 125 | 44652 | SNG | Seal, HPS w/SS | All | 3 | 400 | 7501 | SS | Unloader (See Indiv. Data Sheet) | All | 1 |
| | 46652 | HT | Seal, Hi-Temp, 2-Pc w/S-Support | All | 3 | | 7501.100 | SS | Relief Valve (See Indiv. Data Sheet) | All | 1 |
| 134 | 543691 | SS | Valve, Inlet [4/02] | All | 3 | — | 6107 | — | Oil, Bottle (21 oz) ISO 68 Multi-Viscosity Hydraulic (Fill to specified crankcase capacity prior to start-up) | All | 1 |
| | 33873 | NY | Valve, Inlet (Hi-Temp) [4/02] | All | 3 | — | 6575 | — | Plunger Pump Service DVD | All | 1 |
| 135 | 543689 | SS | Spacer | All | 3 | — | 6119 | — | Lubricant, Antiseize (1 oz.) | All | 1 |
| 136 | 543690 | SS | Spring, Inlet Valve | All | 3 | | | | | | |

Italics are optional items. [] Date of latest production change. † Production parts are different than repair parts. R Components comply with RoHS Directive.

See Tech Bulletins 002, 036, 043, 055, 064, 070, 073, 074, 091, 092 and 095 for additional information.

NOTE: Discard Key that may come standard with most motors and engines and use only the key included in Bolt kit.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum CC=Ceramic CM=Chrome-Moly FCM=Forged Chrome-moly FPM=Fluorocarbon HT=Hi-Temp (EPDM Alternative)

NBR=Medium Nitrile (Buna-N) NY=Nylon PVDF=Polyvinylidene Fluoride RTP=Reinforced Composite S=304SS SNG=Special Blend (Buna)

SS=316SS SSL=316SS/Low Carbon SSZZ=316SS/Zamag STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength

MOTOR SPECIFICATIONS

Model 8059

| | |
|------------------------------------|--------------------|
| Horsepower..... | 0.75 |
| Shaft Diameter..... | 5/8" |
| Max. Volts..... | 115/208-230 |
| FULL LOAD AMPS..... | 10.4/5.4-5.2 |
| RPM..... | 1725 |
| Weight..... | 35 lbs. |
| Phase..... | Single |
| Frame Size..... | 56-C TEFC |
| Hertz..... | 60 |
| Service Factor..... | 1.15 |
| Max. Ambient Temp..... | 104°F |
| Capacitor Start..... | Yes |
| Thermal Overload-Manual Reset..... | Yes |
| U.L. Construction Reference..... | E44549 |
| U.L. Insulation Reference..... | E37878 |
| CSA Reference..... | LR4642 |

Model 8062

| | |
|------------------------------------|----------------|
| Horsepower..... | 2.0 |
| Shaft Diameter..... | 5/8" |
| Max. Volts..... | 115/230 |
| FULL LOAD AMPS..... | 17.0/8.5 |
| RPM..... | 1725 |
| Weight..... | 45.65 lbs. |
| Phase..... | Single |
| Frame Size..... | 56-C TEFC |
| Hertz..... | 60 |
| Service Factor..... | 1.15 |
| Max. Ambient Temp..... | 104°F |
| Capacitor Start..... | Yes |
| Thermal Overload-Manual Reset..... | Yes |
| U.L. Construction Reference..... | E44549 |
| U.L. Insulation Reference..... | E37878 |
| CSA Reference..... | LR4642 |

Model 8060

| | |
|------------------------------------|----------------|
| Horsepower..... | 1.5 |
| Shaft Diameter..... | 5/8" |
| Max. Volts..... | 115/230 |
| FULL LOAD AMPS..... | 14.0/7.0 |
| RPM..... | 1725 |
| Weight..... | 42 lbs. |
| Phase..... | Single |
| Frame Size..... | 56-C TEFC |
| Hertz..... | 60 |
| Service Factor..... | 1.20 |
| Max. Ambient Temp..... | 104°F |
| Capacitor Start..... | Yes |
| Thermal Overload-Manual Reset..... | Yes |
| U.L. Construction Reference..... | E44549 |
| U.L. Insulation Reference..... | E37878 |
| CSA Reference..... | LR4642 |

Model 8062.050

| | |
|------------------------------------|-------------|
| Horsepower..... | 1.75 |
| Shaft Diameter..... | 5/8" |
| Max. Volts..... | 220 |
| FULL LOAD AMPS..... | 17.0/8.5 |
| RPM..... | 1425 |
| Weight..... | 45.65 lbs. |
| Phase..... | Single |
| Frame Size..... | 56-C TEFC |
| Hertz..... | 50 |
| Service Factor..... | 1.00 |
| Max. Ambient Temp..... | 104°F |
| Capacitor Start..... | Yes |
| Thermal Overload-Manual Reset..... | Yes |
| U.L. Construction Reference..... | E44549 |
| U.L. Insulation Reference..... | E37878 |
| CSA Reference..... | LR4642 |

Model 8060.050

| | |
|------------------------------------|----------------|
| Horsepower..... | 1.5 |
| Shaft Diameter..... | 5/8" |
| Max. Volts..... | 110/220 |
| FULL LOAD AMPS..... | 18.2/9.1 |
| RPM..... | 1425 |
| Weight..... | 42 lbs. |
| Phase..... | Single |
| Frame Size..... | 56-C TEFC |
| Hertz..... | 50 |
| Service Factor..... | 1.00 |
| Max. Ambient Temp..... | 104°F |
| Capacitor Start..... | Yes |
| Thermal Overload-Manual Reset..... | Yes |
| U.L. Construction Reference..... | E44549 |
| U.L. Insulation Reference..... | E37878 |
| CSA Reference..... | LR4642 |

Model 8082

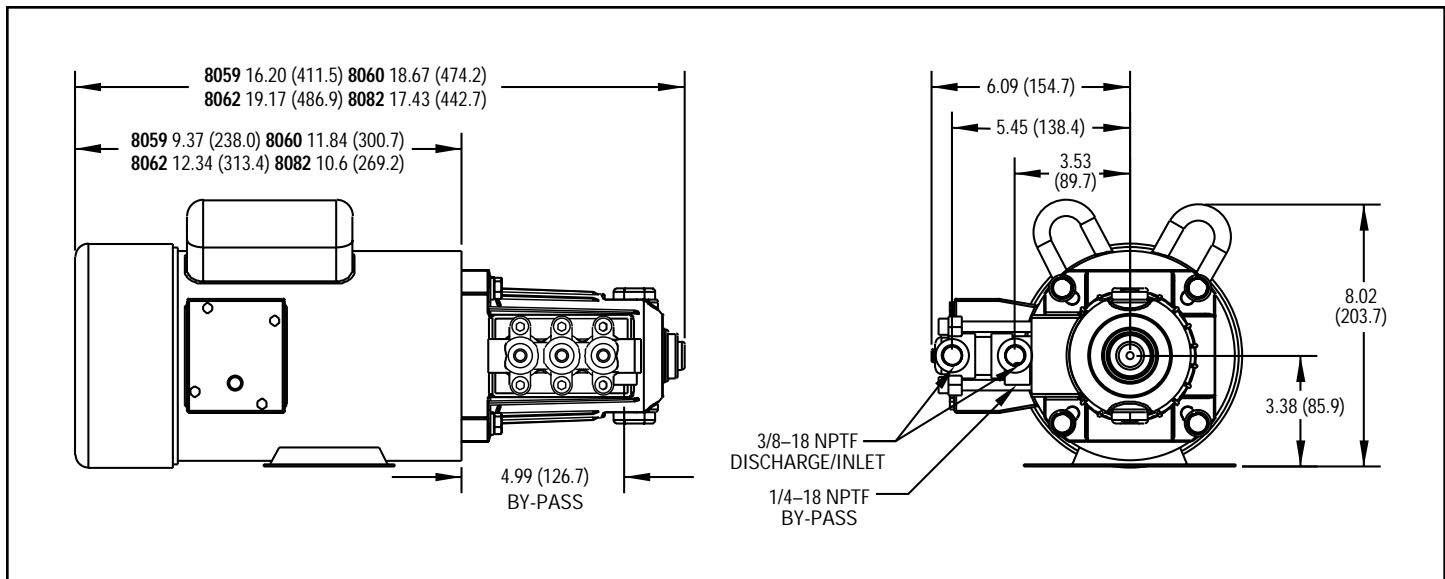
| | |
|------------------------|--------------------|
| Horsepower..... | 2 |
| Shaft Diameter..... | 5/8" |
| Max. Volts..... | 208-230/460 |
| FULL LOAD AMPS..... | 5.8/2.9 |
| RPM..... | 1725 |
| Weight..... | 40 lbs. |
| Phase..... | Three |
| Frame Size..... | 56HC TEFC |
| Hertz..... | 60 |
| Service Factor..... | 1.15 |
| Max. Ambient Temp..... | 104°F |

NOTE: Motor Start-Up AMPS may vary, then settle within FULL LOAD AMPS rating after initial run in time.

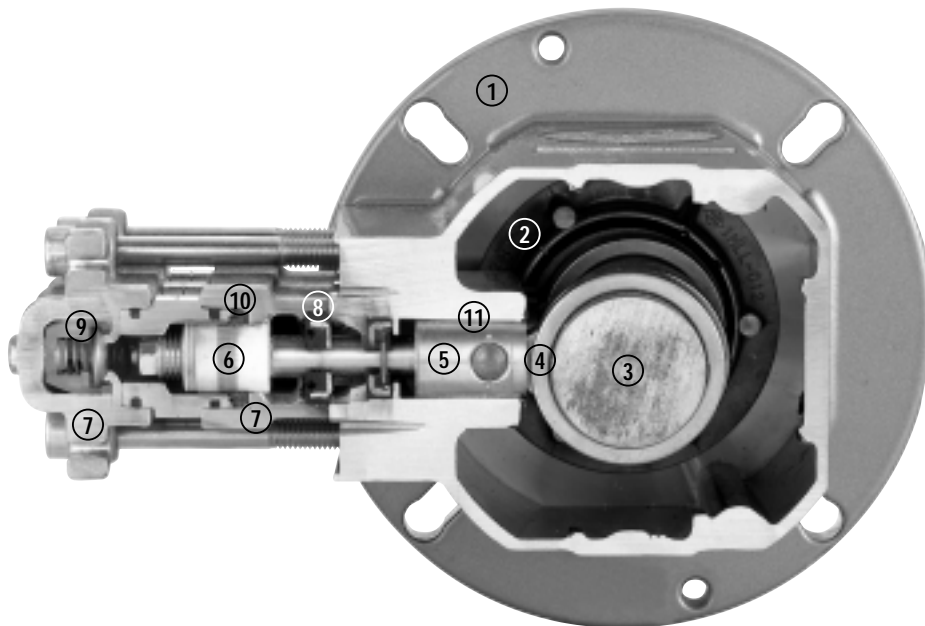
★ ★ **Before mounting pump on motor, apply P.N. 6106 Antiseize Lubricant to pump shaft.** ★ ★ Refer to Tech Bulletin 055 for instructions on removing pump from electric motor. For warranty consideration contact CAT PUMPS for the local **Authorized Service Center**. If you are uncertain as to the cause of failure (Pump or Motor), secure **Returned Goods Authorization number** and return complete assembly **PREPAID** to CAT PUMPS for evaluation.

| ELECTRIC HORSEPOWER REQUIREMENTS | | | | | |
|---|------------|--------------------|-----------|-----------|----------|
| FLOW | | PRESSURE PSI (BAR) | | | PUMP RPM |
| U.S. GPM | Metric L/M | 700 (50) | 1000 (70) | 1200 (85) | |
| 0.5 | 1.9 | .24 | .35 | .41 | 1725 |
| 1.0 | 3.8 | .47 | .68 | .82 | 1725 |
| 1.5 | 5.7 | .72 | 1.03 | 1.23 | 1725 |
| 2.5 | 9.5 | 1.19 | 1.71 | 2.05 | 1725 |
| 2.85 | 10.8 | 1.36 | 2.0 | 2.3 | 1725 |
| 3.5 | 13.2 | 1.67 | 2.39 | 2.87 | 1725 |

| DETERMINING THE REQUIRED H.P. | |
|---|-----------------------------------|
| $\frac{\text{GPM} \times \text{PSI}}{1460}$ | = Electric Brake H.P. Required |



Models 2SF05SEEL, 2SF10SEEL, 2SF15SEEL, 2SF25SEEL, 2SF29SEEL, 2SF35SEEL



- | | | |
|---|---|---|
| <p>1 Die cast flange-style aluminum crankcase provides high strength, lightweight, and excellent tolerance control.</p> <p>2 Heavy-duty dual crankshaft bearings provide extended drive-end life.</p> <p>3 Chrome-moly crankshaft provides unmatched strength and surface hardness for long life.</p> <p>4 Matched oversized TNM connecting rods noted for superior tensile strength and bearing quality.</p> | <p>5 Special high strength plunger rods with Zamak crossheads for longevity and corrosion resistant.</p> <p>6 Special concentric, high-density, polished, solid ceramic plungers provide a true wear surface and extended seal life.</p> <p>7 Manifolds are 316L stainless steel for long term continuous duty and corrosion resistance.</p> <p>8 100% wet seal design adds to service life by allowing pumped liquids to cool and lubricate on both sides.</p> | <p>9 Stainless steel valves, seats and springs provide corrosion-resistance, positive seating and long life.</p> <p>10 Unique design and specially formulated Hi-Pressure Seals offer unmatched performance and seal life.</p> <p>11 Crossheads are 360° supported for uncompromising alignment.</p> |
|---|---|---|

Products described hereon are covered by one or more of the following U.S. patents 3558244, 3652188, 3809508, 3920356, 3930756 and 5035580

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