DATA SHEET
7 FRAME PLUNGER PUMPS

Brass Model: 70
Gearbox Model: 70G1

SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>U.S. Measure</th>
<th>Metric Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow</td>
<td>4.5 gpm</td>
<td>17 lpm</td>
</tr>
<tr>
<td>Pressure Range</td>
<td>100 to 5000 psi</td>
<td>7 to 345 bar</td>
</tr>
<tr>
<td>Pump RPM</td>
<td>1700 rpm</td>
<td>1700 rpm</td>
</tr>
<tr>
<td>Engine RPM (70G1)</td>
<td>3465 rpm</td>
<td>3465 rpm</td>
</tr>
<tr>
<td>Inlet Pressure Range</td>
<td>Flooded to 60 psi</td>
<td>Flooded to 4 bar</td>
</tr>
<tr>
<td>Bore</td>
<td>0.551&quot;</td>
<td>14 mm</td>
</tr>
<tr>
<td>Stroke</td>
<td>0.945&quot;</td>
<td>24 mm</td>
</tr>
<tr>
<td>Max. Liquid Temperature</td>
<td>160° F</td>
<td>71° C</td>
</tr>
</tbody>
</table>

Above 130°F call Cat Pumps for inlet conditions and elastomer recommendations.

Crankcase Capacity: 25 oz. 0.75 l
Inlet Ports (2): 1/2" NPT(F) 1/2" NPT(F)
Discharge Ports (2): 3/8" NPT(F) 3/8" NPT(F)
Shaft Diameter - Single End: 0.945" 24 mm
Weight w/o Gearbox: 36.2 lbs. 16.4 kg
Dimensions: 14.21 x 9.21 x 6.69" 361 x 234 x 170 mm
Dimensions w/ Gearbox: 14.21 x 10.75 x 8.19" 361 x 273 x 208 mm

See Gearbox Data Sheet for additional information.

FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable V-Packings are lubricated and cooled by the liquid being pumped.
- Pre-set Lo-Pressure Seals provide secondary protection against external leaks and require no packing adjustment.
- Special high-density, polished, concentric plungers provide a true wear surface and extended seal life.

DETERMINING

THE PUMP R.P.M.

\[ \text{Rated rpm} = \frac{\text{"Desired" rpm}}{ \text{Electric Brake} } \]

THE REQUIRED H.P.

\[ \text{H. P. Required} = \frac{1460 \times \text{gpm} \times \text{psi}}{\text{Pump Pulley O.D.}} \]

DETERMINING

THE MOTOR PULLEY SIZE

\[ \text{Motor rpm} = \frac{\text{Pump rpm}}{ \text{Pump Pulley O.D.} } \]

<table>
<thead>
<tr>
<th>ITEM NUMBER</th>
<th>MATL</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>STL</td>
<td>Key (M8x7.5x25)</td>
<td>1</td>
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<tr>
<td>5</td>
<td>STCP R</td>
<td>Screw, HHC Sems (M6x16)</td>
<td>8</td>
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<tr>
<td>8</td>
<td>AL</td>
<td>Cover, Bearing</td>
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<tr>
<td>9</td>
<td>FBR</td>
<td>Shim, Split, 2 Pc.</td>
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<tr>
<td>10</td>
<td>NBR</td>
<td>O-Ring, Bearing Cover</td>
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<td>11</td>
<td>NBR</td>
<td>Seal, Oil, Crankshaft - 70D</td>
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<td>15</td>
<td>STL</td>
<td>Bearing, Roller</td>
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<tr>
<td>20</td>
<td>TNM</td>
<td>Rod, Connecting [6/02]</td>
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<tr>
<td>25</td>
<td>FCM</td>
<td>Crankshaft, Single End</td>
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<td>31</td>
<td>R</td>
<td>Protector, Oil Cap w/Foam Gasket</td>
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<td>32</td>
<td>RTP</td>
<td>Cap, Oil Filler, Domed</td>
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<td>O-Ring, Oil Filler Cap - 70D</td>
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<td>37</td>
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<td>Gauge, Oil, Bubble w/Gasket - 80D</td>
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<td>38</td>
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<td>Gasket, Flat, Oil Gauge - 80D</td>
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<td>56</td>
<td>POP</td>
<td>Pan, Oil</td>
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<td>64</td>
<td>CM</td>
<td>Pin, Crosshead</td>
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<td>65</td>
<td>SHS</td>
<td>Rod, Plunger, Short [5/02]</td>
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<td>69</td>
<td>STCP R</td>
<td>Washer, Oil Seal</td>
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<td>70</td>
<td>NBR</td>
<td>Seal, Oil, Crankcase</td>
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<td>75</td>
<td>S</td>
<td>Slinger, Barrier</td>
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<td>88</td>
<td>S</td>
<td>Washer, Keyhole (M18x10)</td>
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<tr>
<td>89</td>
<td>BB</td>
<td>Spacer</td>
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<td>90</td>
<td>CC</td>
<td>Plunger (M14x72)</td>
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<td>Back-up-Ring, Plunger Retainer</td>
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<td>CU</td>
<td>Gasket, Plunger Retainer</td>
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<td>Retainer, Plunger (M6)</td>
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<td>100</td>
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<td>Retainer, Seal, 2-Pc (See Tech Bulletin 105)</td>
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<td>Wick, Long Tab</td>
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<td>11693</td>
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<td>126</td>
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<td>127</td>
<td>SNG</td>
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<td>V-Pack</td>
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<td>BB</td>
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<td>128</td>
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<td>Adapter, Male</td>
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<tr>
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<td>BB</td>
<td>Plug, Inlet Manifold (1/2” NPTM)</td>
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<td>162</td>
<td>PTFE</td>
<td>Back-up-Ring, Spiral, Seat</td>
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<tr>
<td>163</td>
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<td>O-Ring, Seat - 85D</td>
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<td>164</td>
<td>S</td>
<td>Seat</td>
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<td>165</td>
<td>S</td>
<td>Valve</td>
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<td>167</td>
<td>S</td>
<td>Spring</td>
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<td>168</td>
<td>PVDF</td>
<td>Retainer, Spring</td>
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<td>172</td>
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<td>O-Ring, Valve Plug -70D</td>
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<td>17932</td>
<td>FPM</td>
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<td>PTFE</td>
<td>Back-up-Ring, Spiral, Valve Plug</td>
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<tr>
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<td>BB</td>
<td>Plug, Valve, Extended</td>
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<td>FBB</td>
<td>Head, Manifold (M10)</td>
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<tr>
<td>187</td>
<td>S</td>
<td>Stud, Manifold (M10x35)</td>
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<td>STCP R</td>
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<td>STCP R</td>
<td>Mount, Direct</td>
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<td>260</td>
<td>STCP R</td>
<td>Assy, Angle Rail A</td>
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<td>30645</td>
<td>STCP R</td>
<td>Assy, Angle Rail B</td>
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<td>—</td>
<td>Mount Assy (Incl: 30645, 33000, 32020, 42256, 30646)</td>
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<td>30206</td>
<td>F</td>
<td>Pulley (10&quot;) AB (See Tech Bulletin 003)</td>
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</tr>
<tr>
<td>33000</td>
<td>STL</td>
<td>Hub (M24), H Series (See Tech Bulletin 003)</td>
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</tr>
</tbody>
</table>
**Material Codes (Not Part of Part Number):**
- AL = Aluminum
- BB = Brass
- CC = Ceramic
- CM = Chrome-Moly
- CU = Copper
- FI = Cast Iron
- FBB = Forged Brass
- FBR = Fiber
- FCM = Forged Chrome-moly
- FPM = Fluorocarbon
- NBR = Medium Nitrile (Buna-N)
- POP = Polypropylene
- PTFE = Pure Polytetrafluoroethylene
- PVDF = Polyvinylidene Fluoride
- RTP = Reinforced Composite
- S = 304SS
- SFTA = Special Blend PTFE Tan
- SNG = Special Blend (Buna)
- ST4 = Special PTFE 4
- ST5 = Steel
- STCP = Steel/Chrome Plated
- STZP = Steel/Zinc Plated
- TNM = Special High Strength

**ITEM** | **PART NUMBER** | **MATL** | **DESCRIPTION** | **QTY**
--- | --- | --- | --- | ---
283 | 34334 | — | Kit, Oil Drain (3/8"x 24") (See individual Data Sheet) | 1
76334 | — | — | Kit, Oil Indicator (3/8"x 24") (See individual Data Sheet) | 1
299 | 814840 | FBB | Head, Complete | 1
300 | 33799 | NBR | Kit, Seal (Inclds: 97, 101, 106, 121, 127) | 1
31799 | FPM | Kit, Seal (Inclds: 97, 101, 106, 121, 127) | 1
310 | 33822 | NBR | Kit, Valve (Inclds: 162, 163, 164, 166, 167, 168, 172, 173) | 2
31722 | FPM | Kit, Valve (Inclds: 162, 163, 164, 166, 167, 168, 172, 173) | 2
350 | 30996 | STZP | Pliers, Reverse | 1
351 | 43257 | STZP | Tool, Seal Case Removal | 1
352 | 44050 | STZP | Tool, Oil Gauge Removal | 1
500 | 8071 | — | Gearbox, 1" (See 8051-8078 Data Sheet) | 1
6107 | — | — | Oil, Bottle (21 oz.) ISO 68 Hydraulic (Fill to specified crankcase capacity prior to start-up) | 1

**Bold Part Numbers are unique to a particular pump model.** Italic are optional items. [ ] Date of latest production change. R Components comply with RoHS Directive.

Refer to Tech Bulletins 002, 003, 024, 036, 051, 054, 061, 064, 067, 074, 083 and 105 for additional information.

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- TNM = Special High Strength

**Models:**
- 70, 70G1

**June 2016**
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.

**Models 70, 70G1**

1. Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.

2. **Manifolds** are a high tensile strength forged brass for long term, continuous duty.

3. 100% wet seal design adds to service life by allowing pumped liquids to cool and lubricate on both sides.

4. Stainless steel **valves**, **seats** and **springs** provide corrosion-resistance, ultimate seating and extended life.

5. Specially formulated, Cat Pump exclusive, **V-Packings** offer unmatched performance and seal life.