



7 Frame Plunger Pump

Model

70

FEATURES

Superior Design

- Triplex plunger design gives smoother fluid flow.
- Lo-Pressure Seals and V-Packings are completely lubricated and cooled by the fluid being pumped.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Lubricated low pressure seal provides double protection against external leakage.
- Oil bath crankcase assures optimum lubrication.
- Close tolerance concentricity of the ceramic plunger maximizes seal life.

Quality Materials

- All stainless steel valves are heat treated and seats are roller burnished for a positive seal and extended valve life.
- Forged brass manifold is strong and corrosion resistant.
- Special concentric, high density, polished, graphite impregnated, solid ceramic plungers are abrasion resistant and result in extended seal life.
- Specially formulated, CAT PUMP exclusive, V-Packing offers unmatched performance and seal life.
- Die cast aluminum crankcase provides high strength, minimum weight and precision tolerance control.
- Chrome-moly crankshaft gives unmatched strength and surface hardness.
- Oversized crankshaft bearings mean longer bearing life.

Easy Maintenance

- Wet end is easily serviced without entering crankcase, requiring less time and effort.
- Valve assemblies are accessible without disturbing piping, for quick service.
- Preset packings mean no packing gland adjustment is necessary, reducing maintenance costs.

SPECIFICATIONS

	U.S. Measure	Metric Measure
MODEL 70 AND 70G1		
Flow	4.5 GPM	(17 L/M)
Pressure Range.....	100 to 5000 PSI	(7 to 345 BAR)
Inlet Pressure	Flooded to 40 PSI	(Flooded to 2.8 BAR)
RPM	1700 RPM	(1700 RPM)
Bore.....	0.551"	(14 mm)
Stroke.....	0.945"	(24 mm)
Crankcase Capacity	25 oz.	(0.75 L)
Max Fluid Temperature	160°F	(71°C)
Inlet Ports (2)	1/2" NPT	(1/2" NPT)
Discharge Ports (2).....	3/8" NPT	(3/8" NPT)
Shaft Diameter - Single End.....	0.945"	(24 mm)
Weight.....	38 lbs.	(17.2 kg)
Dimensions.....	14.02 x 8.20 x 6.54"	(356 x 208 x 166 mm)
Dimensions w/Gearbox	14.02 x 10.75 x 8.19"	(356 x 273 x 208 mm)
See Gearbox Data Sheet for additional information.		

HORSEPOWER REQUIREMENTS

FLOW		PRESSURE				MOTOR PULLEY SIZE Using 1725 RPM Motor & Std. Pump Pulley O.D.	
		PSI 3000	PSI 3500	PSI 4000	PSI 5000		
U.S. GPM	L/M	BAR 210	BAR 245	BAR 275	BAR 345	RPM	Pulley O.D.
4.5	17	9.3	10.8	12.3	15.4	1700	9.5
4.0	15	8.3	9.5	11.0	13.7	1511	8.5

See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 03.

$$\frac{\text{DETERMINING THE PUMP R.P.M.}}{\text{Rated G.P.M.}} = \frac{\text{"Desired" G.P.M.}}{\text{Rated R.P.M.}}$$

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

$$\frac{\text{DETERMINING MOTOR PULLEY SIZE}}{\text{Motor Pulley O.D.}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$$

Note: Consult engine manufacturer when using gas or diesel engine.
Refer to pump Service Manual for important Inlet Condition Check-List, Start-up Procedure, Tech Bulletins and Pump Maintenance information.

"Customer confidence is our greatest asset"

PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY
● 2	30067	STL	Key (M8x7.5x25)	1 ●
5	92519	STZP	Screw, Sems HHC, Bearing Case (M6x16)	4/8
8	43466	AL	Cover, Bearing	1
9	43261		Shim, Adjusting, Bearing Case, 2 Pc.	1
10	12393	NBR	O-Ring, Bearing Cover	2
11	43222	NBR	Seal, Oil, Crankshaft	1
15	43221	STL	Bearing	2
20	46555	HS	Rod, Connecting	3
25	46554	FCM	Crankshaft, Single End	1
30	44967	AL	Cover, Blind Bearing	1
31	828710		Protector, Oil Cap	1
32	44666		Cap, Oil Filler, Domed	1
33	14177	NBR	O-Ring, Oil Filler Cap	1
37	43987		Gauge, Oil, Bubble	1
38	44428	NBR	Gasket, Flat Flex., Oil Gauge	1
40	92520	STZP	Screw, Sems HHC, Cover (M6x20)	4
48	25625	STZP	Plug, Drain (1/4")	1
49	23170	NBR	O-Ring, Drain Plug	1
50	46509	AL	Cover, Rear	1
51	44836	NBR	O-Ring, Cover	1
● 53	44555	AL	Crankcase (M10)	1 ●
56	43240	POP	Pan, Oil	1
64	43237	S	Pin, Plunger Rod	3
65	44234	CPZZ	Rod, Plunger, Short	3
69	43227	STZP	Washer, Oil Seal	3
70	43228	NBR	Seal, Oil, Crankcase	3
75	43328	S	Slinger, Barrier	3
88	45697	S	Washer, Keyhole (M18)	3
89	46556	BB	Adapter, Plunger	3
90	45890	CC	Plunger	3
95	89649	ZP	Stud, Plunger Retainer (M6x70)	3
96	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	O-Ring, Plunger Retainer	3
98	45891	CU	Gasket, Plunger Retainer	3
99	46504	S	Retainer, Plunger (M5)	3
100	45686	PVDF	Retainer, Seal, Rear	3
	45687	PVDF	Retainer, Seal, Adapter	3
101	43571		Wick, Long Tab	3
106	45188	NBR	Seal, LPS w/S-Spg	3
120	46566	BB	Case, Seal	3
121	20285	NBR	O-Ring, Seal Case	3
126	45896	BB	Adapter, Female	3
127	45895	NBR	V-Packing	9
128	46567	BB	Adapter, Male	3
139	43448	BB	Plug, Inlet Manifold (1/2" NPT)	1
162	20937	PTFE	Back-up-Ring, Spiral, Seat	6
163	17547	NBR	O-Ring, Seat	6
164	46560	S	Seat	6
166	46562	S	Valve	6
167	43750	S	Spring	6
168	44565	PVDF	Retainer, Spring	6
172	145952	NBR	O-Ring, Valve Plug	6
173	46692	PTFE	Back-up-Ring, Spiral, Valve Plug	6
174	46581	BB	Plug, Valve, Extended	6
185	46558	FBB	Head, Manifold (M10)	1
187	46868	S	Stud, Manifold (M10x35)	4
194	45550	STZP	Nut, Flanged (M10)	4
255	30243		Kit, Direct Mount	1
260	30645		Assy, Angle Rail A- U.S. (30635, 30900, 30910, 30920)	1
	30611		Assy, Angle Rail B- U.S. (28499, 30900, 30910, 30920)	1
265	30660		Kit, Complete Mounting - U.S. (30645, 33000, 30206, 43256, 30067)	1
● 269	30206		Pulley (9.75") [See Drive Packages Tech Bulletin 003]	1 ●
● 274	33000		Hub (M24)	1 ●
● 283	34334		Kit, Oil Drain	1 ●
300	33799	NBR	Kit, Seal (Incls: 85,97,106,127)	1
310	33822	NBR	Kit, Valve (Incls: 162,163,164,166,167,168,172,173)	2
350	30696		Tool, Valve Seat Removal	1
351	43257		Tool, Seal Case Removal	1
352	44050		Tool, Oil Gauge Removal	1

● Industrial discount. *Italics are optional items.*

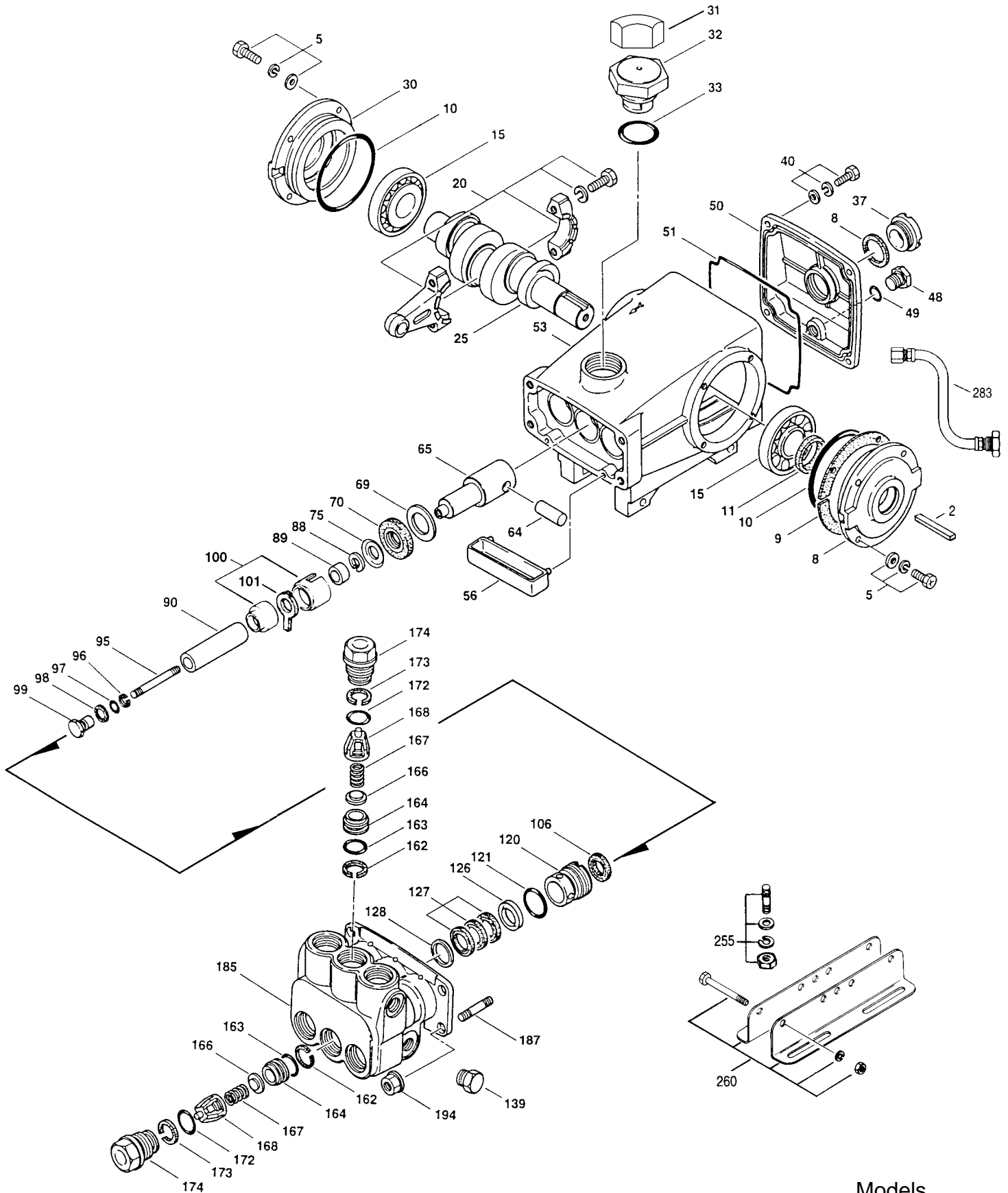
Refer to Tech Bulletins 24, 43, 51, 54, 58, 61, 64 and 67 for additional information. See 8051-8078 Gearbox data sheet for optional gearbox drive.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass CC=Ceramic CPZZ=Chrome Plated/Steel - Zamak CU=Copper

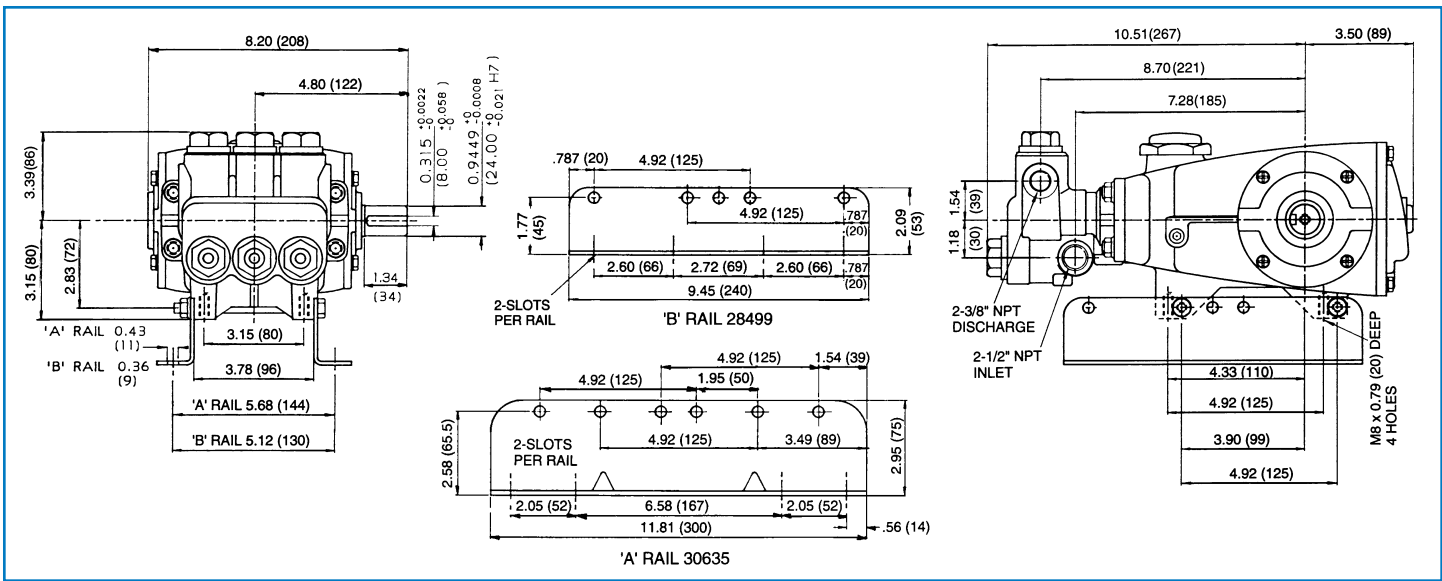
FBB=Forged Brass FCM=Forged Chrome-moly HS=High Strength NBR=Medium Nitrile (Buna-N) POP=Polypropylene

PTFE=Polytetrafluoroethylene (Teflon®) PVDF=Fluoroplastic (High Strength) S=304SS STL=Steel STZP=Steel/Zinc Plated ZP=Zinc Plated

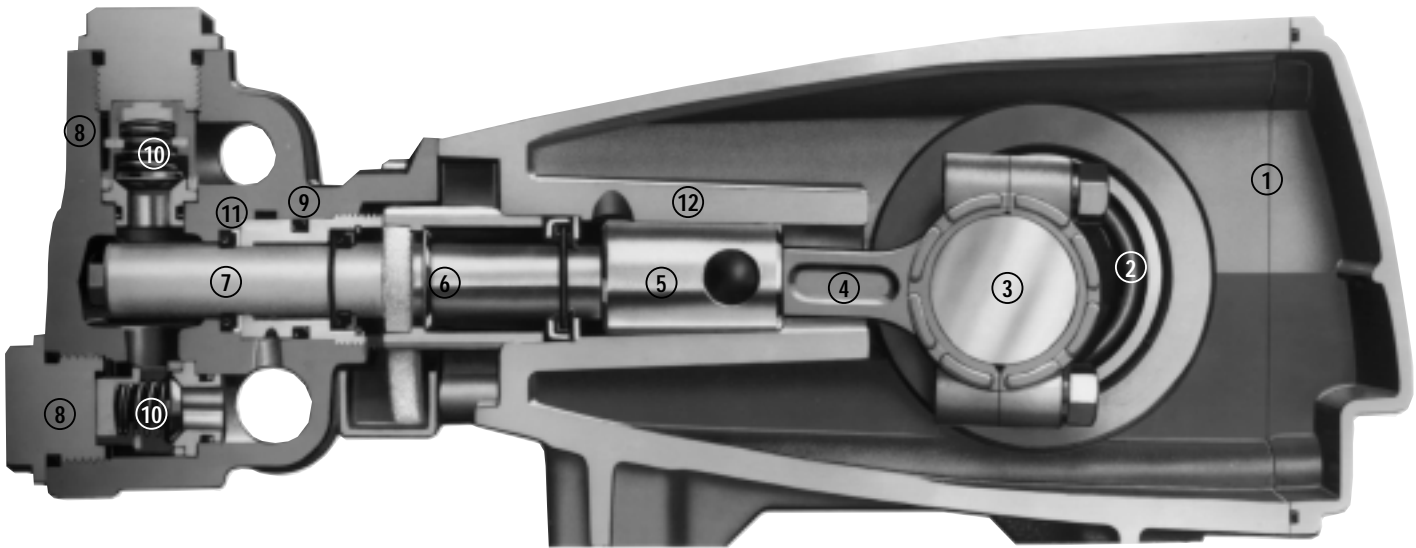
EXPLODED VIEW



Models
70, 70G1
June 1999



Models 70, 70G1



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| <p>1 Die cast aluminum crankcase means high strength, lightweight, and excellent tolerance control.</p> <p>2 Oversized crankshaft bearings provide extended bearing life and pump performance.</p> <p>3 Chrome-moly crankshaft provides unmatched strength and surface hardness for long life.</p> <p>4 Matched oversized high strength connecting rods are noted for strength and superior bearing quality.</p> | <p>5 Special high strength plunger rods with Zamak crossheads for longevity and corrosion resistance.</p> <p>6 The stainless steel slinger provides back-up protection for the crankcase seal, keeping pumped fluids out of the crankcase.</p> <p>7 Special concentric, high density, polished, graphite impregnated, solid ceramic plungers are abrasion resistant and result in extended seal life.</p> <p>8 Manifolds are a high tensile strength forged brass for long term, continuous duty.</p> | <p>9 100% wet seal design adds to service life by allowing pumped fluids to cool and lubricate on both sides.</p> <p>10 Stainless steel valves, seats and springs provide corrosion-resistance, positive seating and long life.</p> <p>11 Specially formulated, CAT PUMP exclusive, V-Packing offer unmatched performance and seal life.</p> <p>12 Crossheads are 360° supported for uncompromising alignment.</p> |
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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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