

O.E.M. 5 Frame Plunger Pump

Models **30,31** **34,35**

FEATURES

Superior Design

- Triplex plunger design gives smoother fluid flow.
- Hi-Pressure Seals are completely lubricated and cooled by the fluid being pumped.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Lubricated Lo-Pressure Seal provides double protection against external leakage.
- Oil bath crankcase assures optimum lubrication.
- Close tolerance concentricity of the ceramic plunger maximizes seal life.
- Convenient direct drive gearbox or electric motor options.

Quality Materials

- All stainless steel valves are heat treated and seats are roller burnished for a positive seal and extended valve life.
- Forged brass manifolds for strength and corrosion resistance.
- Special hardened, polished surface of solid ceramic plunger is abrasion resistant and results in extended seal life.
- Specially formulated, CAT PUMP exclusive, Hi-Pressure Seals offer 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 with greater loading capacity 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.

DETERMINING THE PUMP R.P.M.	$\frac{\text{Rated G.P.M.}}{\text{Rated R.P.M.}}$	=	$\frac{\text{"Desired" G.P.M.}}{\text{"Desired" R.P.M.}}$
DETERMINING THE REQUIRED H.P.	$\frac{\text{GPM} \times \text{PSI}}{1460}$	=	Electric Brake H. P. Required
DETERMINING MOTOR PULLEY SIZE	$\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}}$	=	$\frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

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.

SPECIFICATIONS

	U.S. Measure	Metric Measure
MODEL 30 Direct Drive		
Volume	3.2 GPM	(12 L/M)
Discharge Pressure	100 to 2200 PSI	(7 to 155 BAR)
RPM	1725 RPM	(1725 RPM)
Max. Inlet Pressure	Flooded to 60 PSI	(Flooded to 4 BAR)
Stroke	0.315"	(8 mm)
MODEL 31 Standard		
Volume	4.0 GPM	(15 L/M)
Discharge Pressure	100 to 2000 PSI	(7 to 140 BAR)
RPM	950 RPM	(950 RPM)
Max. Inlet Pressure	-5 to 60 PSI	(-0.35 to 4 BAR)
Stroke	0.709"	(18 mm)
MODEL 34 Direct Drive or Gearbox		
Volume	4.0 GPM	(15 L/M)
Discharge Pressure	100 to 2000 PSI	(7 to 140 BAR)
RPM	1725 RPM	(1725 RPM)
Max. Inlet Pressure	Flooded to 60 PSI	(Flooded to 4 BAR)
Stroke	0.394"	(10 mm)
MODEL 35 Direct Drive or Gearbox		
Volume	5.0 GPM	(19 L/M)
Discharge Pressure	100 to 1500 PSI	(7 to 105 BAR)
RPM	1725 RPM	(1725 RPM)
Max. Inlet Pressure	Flooded to 60 PSI	(Flooded to 4 BAR)
Stroke	0.472"	(12 mm)

COMMON SPECIFICATIONS

Bore	0.787"	(20 mm)
Crankcase Capacity	18 oz.	(0.55 L)
Maximum 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	0.787"	(20 mm)
Weight	19.8 lbs.	(9 kg)
Dimensions	11.5" x 8.35" x 5.28"	(292 x 212 x 134 mm)

HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE				MOTOR PULLEY SIZE	
	U.S. GPM	L/M	PSI 1200	PSI 1500	PSI 2000	PSI 2200	RPM	Pulley O.D.
31	5.0	19	4.1	5.2	N/A	N/A	1190	5.5
	4.5	17	3.7	4.6	6.2	6.8	1070	5.0
	4.0	15	3.3	4.1	5.5	6.0	950	4.4
30	3.2	12	2.6	3.3	4.4	4.9	1725	Direct Drive
34	4.0	15	3.3	4.1	5.5	N/A	1725	Direct Drive
35	5.0	19	4.1	5.2	N/A	N/A	1725	Direct Drive

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

"Customer confidence is our greatest asset"

PARTS LIST

ITEM	PART NUMBER							DESCRIPTION	QTY	
	30	MATL	31	MATL	34	MATL	35	MATL		
2	30057	STL	30057	STL	30057	STL	30057	STL	Key (M6x6)	1
5	92519	STZP	92519	STZP	92519	STZP	92519	STZP	Screw, Sems HHC (M6x16)	8
8	43745	AL	43745	AL	43745	AL	43745	AL	Cover, Bearing, - O.E.M.	1
10	43343	NBR	43343	NBR	43343	NBR	43343	NBR	O-Ring, Bearing Case	2
11	43222	NBR	43222	NBR	43222	NBR	43222	NBR	Seal, Oil, Crankshaft	1
15	14480	STL	14480	STL	14480	STL	14480	STL	Bearing, Ball	2
20	43345	ZZ	43345	ZZ	43345	ZZ	43345	ZZ	Rod, Connecting, Assy	3
25	44923	FCM	45911	FCM	44945	FCM	44270	FCM	Crankshaft - Single End	1
30	44944	AL	44944	AL	44944	AL	44944	AL	Cover, Blind Shaft, - O.E.M.	1
32	43211		43211		43211		43211		Cap, Oil Filler	1
	44666	RTP	—		44666	RTP	44666	RTP	Cap, Oil Filler, Domed - Gearbox Models	1
33	14177	NBR	14177	NBR	14177	NBR	14177	NBR	O-Ring, Filler Cap	1
37	43987		43987		43987		43987		Gauge, Oil, Bubble	1
38	44428	NBR	44428	NBR	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge	1
40	92520	STZP	92520	STZP	92520	STZP	92520	STZP	Screw, Sems HHC (M6x20)	4
48	25625	BBCP	25625	BBCP	25625	BBCP	25625	BBCP	Plug, Drain (1/4"x11)	1
49	23170	NBR	23170	NBR	23170	NBR	23170	NBR	O-Ring, Drain Plug	1
50	44222	AL	44222	AL	44222	AL	44222	AL	Cover, Crankcase, - O.E.M.	1
51	43340	NBR	43340	NBR	43340	NBR	43340	NBR	O-Ring, Crankcase Cover	1
53	44221	AL	44221	AL	44221	AL	44221	AL	Crankcase - O.E.M.	1
56	43355	POP	43355	POP	43355	POP	43355	POP	Pan, Oil	1
64	43351	S	43351	S	43351	S	43351	S	Pin, Rist	3
65	45908	SZZ	45908	SZZ	45908	SZZ	45908	SZZ	Rod, Plunger, - O.E.M., Short	3
70	43228	NBR	43228	NBR	43228	NBR	43228	NBR	Seal, Oil, Crankcase	3
75	43328	S	43328	S	43328	S	43328	S	Slinger, Barrier	3
88	45697	S	45697	S	45697	S	45697	S	Washer, Keyhole (M18)	3
90	43367	CC	43367	CC	43367	CC	43367	CC	Plunger (M71)	3
95	89648	STZP	89648	STZP	89648	STZP	89648	STZP	Stud, Plunger Retainer (M6x64.5)	3
96	43235	PTFE	43235	PTFE	43235	PTFE	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	17399	NBR	17399	NBR	17399	NBR	O-Ring, Plunger Retainer	3
	14160	FPM	14160	FPM	14160	FPM	14160	FPM	O-Ring, Plunger Retainer	3
98	45891	CU	45891	CU	45891	CU	45891	CU	Gasket	3
99	46504	S	46504	S	46504	S	46504	S	Retainer, Plunger	3
100	45681	PVDF	45681	PVDF	45681	PVDF	45681	PVDF	Retainer, Seal - Rear	3
	45682	PVDF	45682	PVDF	45682	PVDF	45682	PVDF	Retainer, Seal, Adapter	3
101	43302		43302		43302		43302		Wick - Long Tab	3
106	43305	NBR	43305	NBR	43305	NBR	43305	NBR	LPS w/S-Spg	3
	45153	FPM	45153	FPM	45153	FPM	45153	FPM	LPS w/S-Spg	3
120	45679	BB	45679	BB	45679	BB	45679	BB	Case, Seal	3
121	14200	NBR	14200	NBR	14200	NBR	14200	NBR	O-Ring, Seal Case	3
	11719	FPM	11719	FPM	11719	FPM	11719	FPM	O-Ring, Seal Case	3
125	43307	NBR	43307	NBR	43307	NBR	43307	NBR	HPS w/S	3
	44936	FPM	44936	FPM	44936	FPM	44936	FPM	HPS w/SS	3
	46667	HT	46667	HT	46667	HT	46667	HT	HPS w/S, Hi-Temp	3
139	22179	BBCP	22179	BBCP	22179	BBCP	22179	BBCP	Plug, Inlet (1/2" NPT)	1
162	43357	PTFE	43357	PTFE	43357	PTFE	43357	PTFE	Back-up-Ring, Seat	6
163	43358	NBR	43358	NBR	43358	NBR	43358	NBR	O-Ring, Seat	6
	44938	FPM	44938	FPM	44938	FPM	44938	FPM	O-Ring, Seat	6
164	43725	S	43725	S	43725	S	43725	S	Seat	6
166	43723	S	43723	S	43723	S	43723	S	Valve	6
167	43750	S	43750	S	43750	S	43750	S	Spring	6
168	44565	PVDF	44565	PVDF	44565	PVDF	44565	PVDF	Retainer, Spring	6
172	17615	NBR	17615	NBR	17615	NBR	17615	NBR	O-Ring, Valve Plug	6
	15855	FPM	15855	FPM	15855	FPM	15855	FPM	O-Ring, Valve Plug	6
174	44202	BB	44202	BB	44202	BB	44202	BB	Plug, Valve - O.E.M.	6
185	45062	BB	45062	BB	45062	BB	45062	BB	Head, Manifold - O.E.M.	1
186	12503	STZP	12503	STZP	12503	STZP	12503	STZP	Lockwasher, Split (M10)	2
188	87931	STZP	87931	STZP	87931	STZP	87931	STZP	Screw, HSH (M10x35)	2
196	43633	BB	43633	BB	43633	BB	43633	BB	Plug, Discharge, (3/8" NPT)	1
255	—		30243	STZP	—		—		Mount Kit, Direct (Belt Drive Only)	1
260	—		30611	STZP	—		—		Rail Mounting, Angle - B - (28499,30900,30910,30920)	1
265	—		30659		—		—		Kit, Complete Mounting (30611,30633, 30944,109692)	1
270	—		30633	STL	—		—		Pulley & Key Assy (30058,30057)	1
275	—		30944	STL	—		—		Hub & Key Assy (M20 w/M6 Keyway)	1
									[See complete Drive Packages Tech Bulletin 03]	
277	34131	AL	34131	AL	34131	AL	34131	AL	Housing, Bell (182TC-184TC)	1
278	34418	AL	34418	AL	34418	AL	34418	AL	Flexible Coupling & Key (M20 to 1-1/8")	1
283	34334		34334		34334		34334		Kit, Oil Drain	1
299	812208	FBB	812208	FBB	812208	FBB	812208	FBB	Head, Complete	1
300	30623	NBR	30623	NBR	30623	NBR	30623	NBR	Kit, Seal (Incls: 97,101,106,121,125)	1
	34155	FPM	34155	FPM	34155	FPM	34155	FPM	Kit, Seal (Incls: 97,101,106,121,125)	1
	33623	HT	33623	HT	33623	HT	33623	HT	Kit, Seal (Incls: 97,101,106,121,125)	1
310	30821	S	30821	S	30821	S	30821	S	Kit, Valve (Incls: 162,163,164,166,167,168,172)	2
350	30696	STZP	30696	STZP	30696	STZP	30696	STZP	Valve Seat Removal Tool	1
351	33004	STZP	33004	STZP	33004	STZP	33004	STZP	Seal Case Socket, 1/2" Drive	1
—	6565.1		6565.1		6565.1		6565.1		Plunger Pump Service Video	1

● Industrial discount. **Bold print part numbers are unique to a particular pump model.** Italics are optional items.

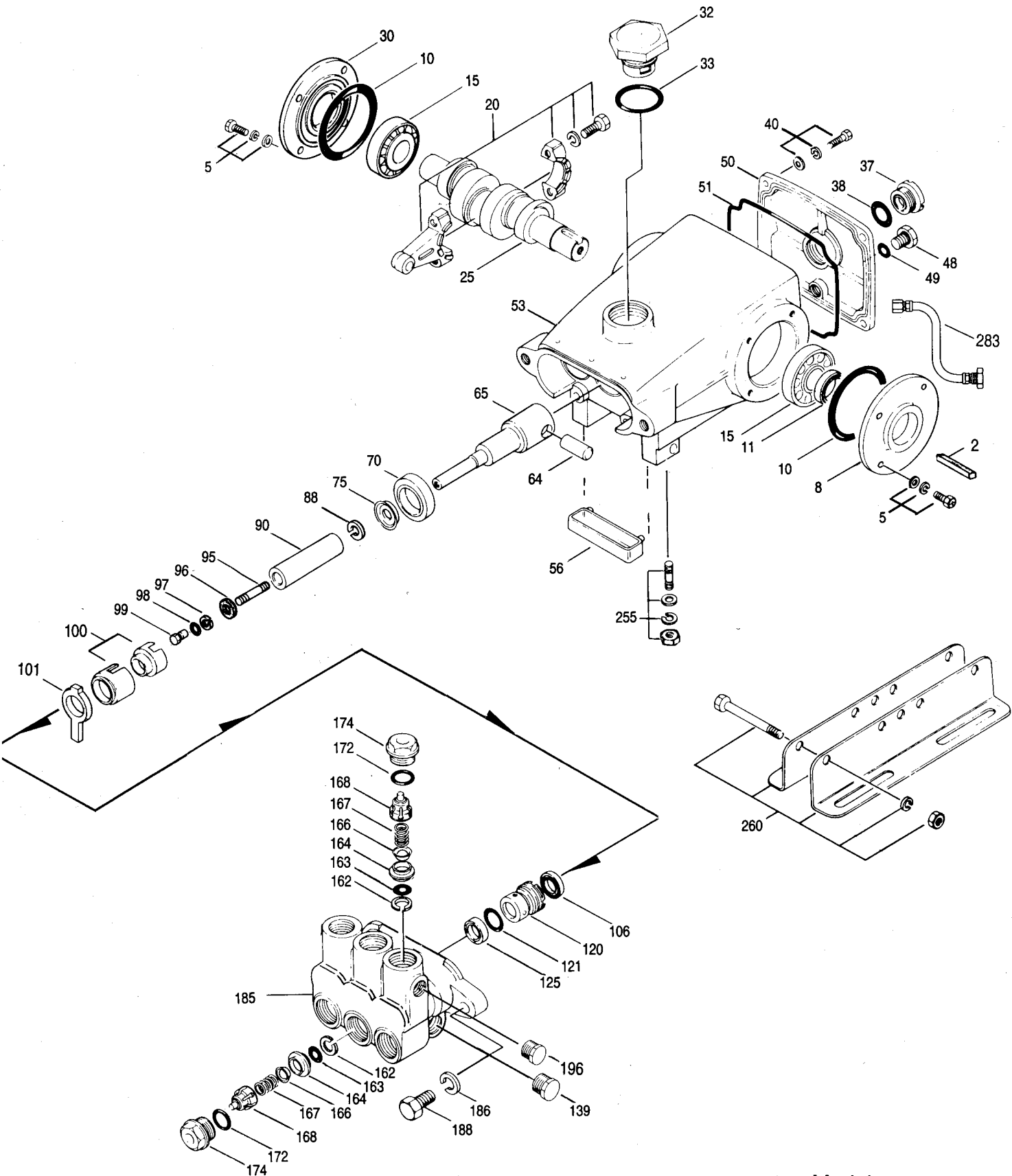
See Tech Bulletins 03, 24, 36, 74 and 77 for additional information.

*See 8051-8078 Gearbox Gas Engine Drive and 8023ES-8029ES BD Electric Motor Drive data sheets for additional information.

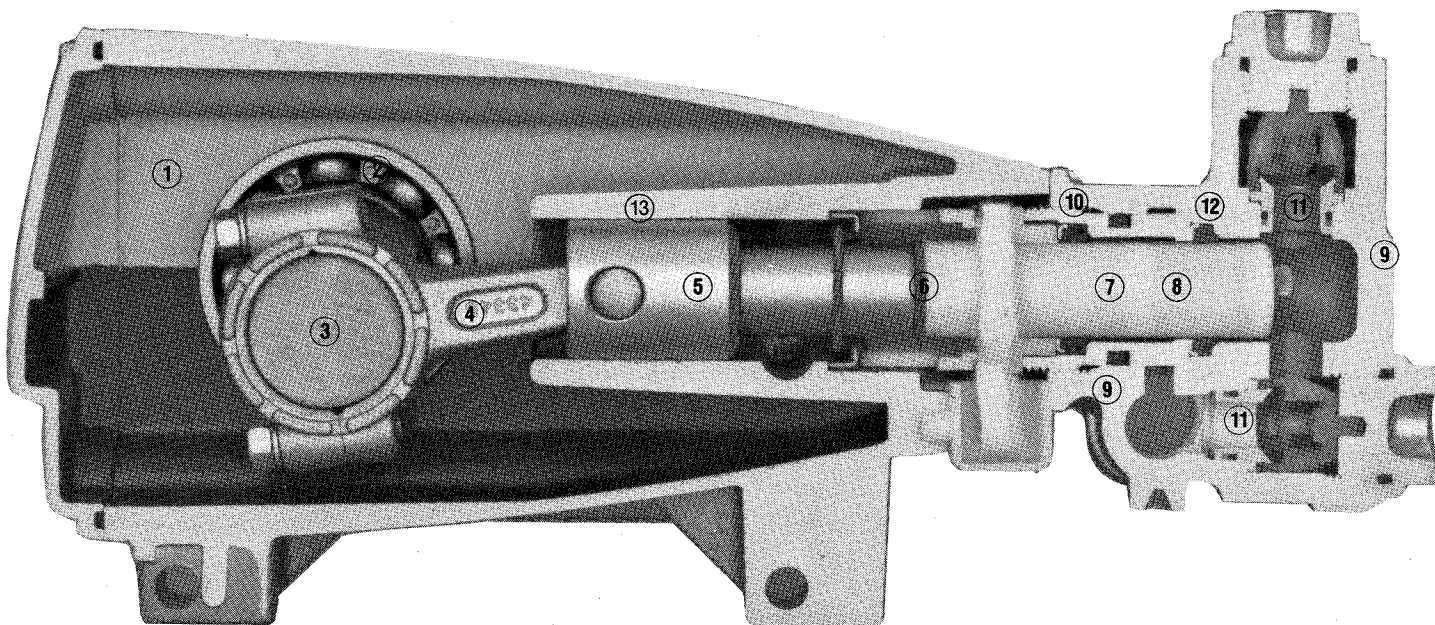
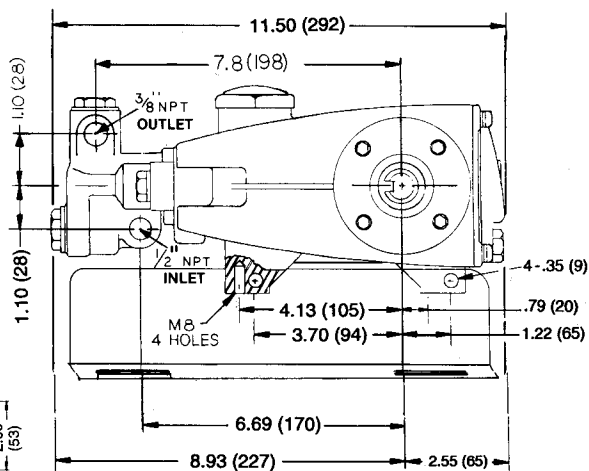
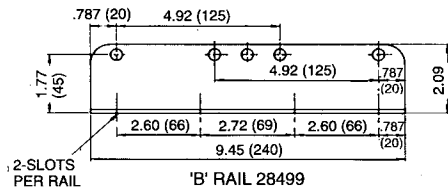
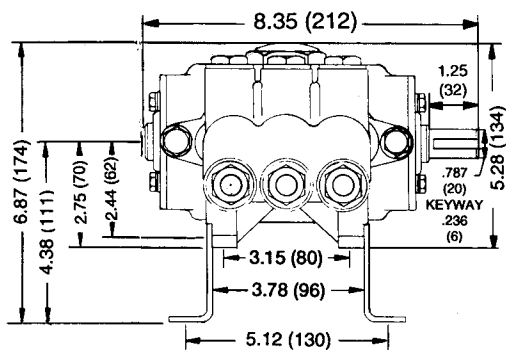
MATERIAL CODES (Not Part of Part Number)

AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CU=Copper FBB=Forged Brass FCM=Forged Chrome-moly FPM=Fluorocarbon (Viton)
HT=Hi-Temp NBR=Medium Nitrile (Buna-N) POP=Polypropylene PTFE=Polytetrafluoroethylene (Teflon) PVDF=Fluoroplastic (High Strength)
RTP=Reinforced Composite S=304SS SS=316SS STL=Steel STZP=Steel/Zinc Plated ZZ=Zamak

EXPLODED VIEW



Models
30, 31, 34, 35
January 1998



- 1 Die cast aluminum **crankcase** means high strength, light weight, and excellent tolerance control.
- 2 Oversized crankshaft **bearings** provide extended bearing life and pump performance.
- 3 Chrome-moly **crankshaft** provides unmatched strength and surface hardness for long life.
- 4 Matched oversized **connecting rods** are made of Zamak, a material noted for strength and superior bearing quality.
- 5 The **plunger rods** are high tensile strength stainless steel with Zamak crossheads.
- 6 The stainless steel **slinger** provides back-up protection for the crankcase seal, keeping pumped fluids out of the crankcase.
- 7 Precision-polished solid ceramic **plungers** provide maximum resistance to corrosion and abrasion.
- 8 The close tolerance concentricity of the ceramic **plunger** maximizes seal life.
- 9 **Manifolds** are a high tensile strength forged brass for long term, continuous duty.
- 10 100% **wet seal** design adds to service life by allowing pumped fluids to cool and lubricate on both sides.
- 11 Stainless steel **valves, seats and springs** provide corrosion-resistance, positive seating and long life.
- 12 Specially formulated, CAT PUMP exclusive, **Hi-Pressure Seals** offer unmatched performance and seal life.
- 13 **Crossheads** are 360° supported for uncompromising alignment.

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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World Headquarters CAT PUMPS

1681 - 94th Lane N.E. Minneapolis, MN 55449 - 4324
Phone (612) 780-5440 — FAX (612) 780-2958
e-mail: sales@catpumps.com
www.catpumps.com

International Inquiries FAX (612) 785-4443

e-mail: intl@catpumps.com



The Pump with "Nine Lives"

CAT PUMPS (U.K.) LTD.

1 Fleet Business Park, Sandy Lane, Church Crookham, Fleet
Hampshire GU13 0BF, England
Phone Fleet 44 1252-622031 — Fax 44 1252-626655

CAT PUMPS INTERNATIONAL N.V.

Gemzenstraat 2 Wilrijk, B 2610 Antwerp, Belgium
Phone 32-3-449.39.70 — Fax 32-3-449.39.76
e-mail: cat.pumps@belcom.be

CAT PUMPS DEUTSCHLAND GmbH

Buchwiese 2, D-65510 Idstein, Germany
Phone 49 6126-93030 — Fax 49 6126-93033