



35 Frame Plunger Pump

Standard Brass Model

3535

Stainless Steel Model

3531

Nickel Aluminum Bronze Model

3537

FEATURES

Superior Design

- Triplex plunger design gives smoother fluid flow.
- V-Packings are completely lubricated and cooled by the fluid being pumped.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Lubricated Lo-Pressure Seals provide 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, 316 Stainless Steel or Nickel Aluminum Bronze manifolds for strength and corrosion resistance.
- 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-Packings 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 means 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
Volume	36 GPM	(140 L/M)
Discharge Pressure	100 to 1200 PSI	(7 to 85 BAR)
Maximum Inlet Pressure	Flooded to 70 PSI	(Flooded to 4.9 BAR)
RPM	800 RPM	(800 RPM)
Bore.....	1.575"	(40 mm)
Stroke.....	1.890"	(48 mm)
Crankcase Capacity.....	4.2 Qts.	(4 L)
Maximum Fluid Temperature	160°F	(71°C)
Inlet Ports (2)	1-1/2" NPT	(1-1/2 NPT)
Discharge Ports (2).....	1" NPT	(1" NPT)
Pulley Mounting	Either Side	(Either Side)
Shaft Diameter	1.378"	(35 mm)
Weight.....	139 lbs.	(63 kg)
Dimensions	24.15" x 18.11" x 11.42"	(613.5 x 460 x 290 mm)

HORSEPOWER REQUIREMENTS

FLOW		PRESSURE			RPM	DRIVE
U.S. GPM	L/M	PSI 800	PSI 1000	PSI 1200		
		BAR 55	BAR 70	BAR 85		Consult CAT PUMPS for Pump and Motor Pulley Sizes
36	140	19.8	24.7	29.7	800	
30	114	16.5	20.6	24.7	667	
25	95	13.7	17.2	20.6	556	

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

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.	$\frac{\text{GPM x PSI}}{1460}$	=	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.

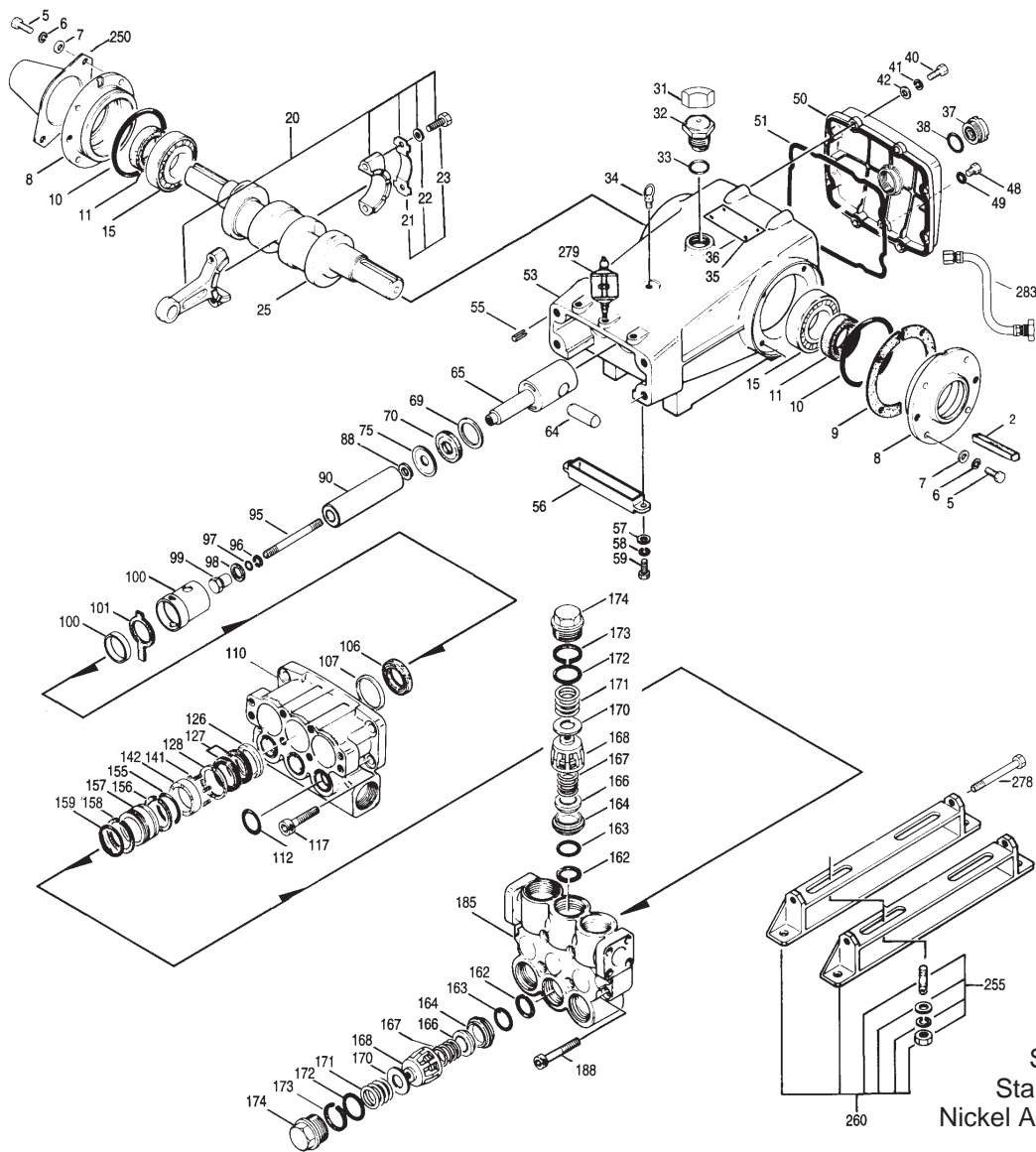
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PARTS LIST

ITEM	PART NUMBER		DESCRIPTION		QTY			
● 2	3535	MATL	3531	MATL	3537	MATL	Key (M10x6x32)	1
● 5	30055	STL	30055	STL	30055	STL	Key (M10x8x70)	1
6	34021	STL	34021	STL	34021	STL	Screw, Sems HHC (M8x25)	8
7	92508	STZP	—	—	—	—	Screw, HH (M8x25)	8
8	—	—	89277	SS	89277	SS	Lockwasher, Split (M8)	8
9	—	—	15846	S	15846	S	Washer (M8)	8
10	—	—	13534	SS	13534	SS	Cover, Bearing	2
11	44542	AL	44542	AL	44542	AL	Cover, Bearing (Use w/701137,39,40,45,46)	2
12	701138	F	701138	F	701138	F	Shim, Split Bearing Cover	4
13	44543	—	44543	—	44543	—	O-Ring, Bearing Cover	2
14	12398	NBR	12398	NBR	12398	NBR	Seal, Oil, Crankshaft	2
15	13296	NBR	13296	NBR	13296	NBR	Bearing	2
16	29326	STL	29326	STL	29326	STL	Rod, Connecting Assy (Incls: 44941,43641,88155)	3
17	46611	HS	46611	HS	46611	HS	Locking Washer (M10)	3
18	44940	STZP	44940	STZP	44940	STZP	Washer (M10)	6
19	43641	STL	43641	STL	43641	STL	Screw, HH (M10x60F)	3
20	88155	STL	88155	STL	88155	STL	Crankshaft, Dual End	1
21	29325	FCM	29325	FCM	29325	FCM	Protector, Oil Cap	1
22	828710	—	828710	—	828710	—	Cap, Oil Filler	1
23	43211	—	43211	—	43211	—	O-Ring, Oil Filler Cap - 70	1
24	14177	NBR	14177	NBR	14177	NBR	Bolt, Eye (M12x1.75)	1
25	44319	STZP	44319	STZP	44319	STZP	Rivet, Serial Plate (Use w/701137,38,39,40,46)	4
26	701145	AL	701145	AL	701145	AL	Name Plate (Use w/701137,38,39,40,45)	1
27	701146	AL	701146	AL	701146	AL	Gauge, Oil, Bubble	1
28	43987	—	43987	—	43987	—	Gasket, Flat	1
29	44428	NBR	44428	NBR	44428	NBR	Screw, Sems HHC (M8x25)	8
30	92508	STZP	—	—	—	—	Screw, Hex Head (M8x25)	8
31	—	—	89277	SS	89277	SS	Lockwasher, Split (M8)	8
32	—	—	15846	S	15846	S	Washer (M8)	8
33	—	—	13534	SS	13534	SS	Plug, Drain (1/4"x11)	1
34	25625	STCP	25625	STCP	25625	STCP	O-Ring, Drain Plug	1
35	23170	NBR	23170	NBR	23170	NBR	Cover, Crankcase	1
36	45936	AL	45936	AL	45936	AL	Cover, Crankcase (Use w/701137,38,40,45,46)	1
37	701139	F	701139	F	701139	F	O-Ring, Crankcase Cover	1
38	16612	NBR	16612	NBR	16612	NBR	Crankcase (Use w/701138,39,40,45,46)	1
39	44559	AL	44559	AL	44559	AL	Pins, Guide	2
40	701137	F	701137	F	701137	F	Pan, Oil	1
41	27488	S	27488	S	27488	S	Washer (M6)	2
42	27790	POP	27790	POP	27790	POP	Lockwasher, Split (M6)	2
43	—	—	19933	S	19933	S	Screw, HH (M6x10)	2
44	—	—	15849	S	15849	S	Screw, Sems HHC (M6x16)	2
45	—	—	89618	S	89618	S	Pin, Rist	3
46	92519	STZP	—	—	—	—	Rod, Plunger	3
47	43864	S	43864	S	43864	S	Washer, Oil Seal	3
48	† 45116	SSZZ	† 45116	SSZZ	† 45116	SSZZ	Seal, Oil, Crankcase	3
49	29338	S	29338	S	29338	S	Slinger, Barrier	3
50	100488	NBR	100488	NBR	100488	NBR	Washer, Keyhole (M16)	3
51	44739	FPM	44739	FPM	44739	FPM	Plunger (M77)	3
52	43865	S	43865	S	43865	S	Stud, Plunger Retainer (M10x122)	3
53	45676	SS	45676	SS	45676	SS	Back-up-Ring, Plunger Retainer	3
54	43921	CC	43921	CC	43921	CC	O-Ring, Plunger Retainer	3
55	89778	SS	89778	SS	89778	SS	O-Ring, Plunger Retainer	3
56	20189	PTFE	20189	PTFE	20189	PTFE	O-Ring, Plunger Retainer	3
57	11345	NBR	11345	NBR	11345	NBR	O-Ring, Plunger Retainer	3
58	11375	FPM	11375	FPM	11375	FPM	O-Ring, Plunger Retainer	3
59	◆ 701490	EPDM	◆ 701490	EPDM	◆ 701490	EPDM	Gasket, Retainer	3
60	44085	SS	44085	SS	44085	SS	Retainer, Plunger (M10)	3
61	44084	SS	44084	SS	44084	SS	Retainer, Seal, 2 Pc.	3
62	814279	PVDF	814279	PVDF	814279	PVDF	Wick, Long Tab	3
63	44112	—	44112	—	44112	—	Seal, LPS w/SS-Spg	3
64	44113	NBR	44113	NBR	44113	NBR	Seal, LPS w/SS-Spg	3
65	44740	FPM	44740	FPM	44740	FPM	Seal, LPS w/SS-Spg	3
66	◆ 46955	EPDM	◆ 46955	EPDM	◆ 46955	EPDM	Spacer, Lo-Pressure Seal	3
67	43925	BB	45381	SS	44115	NAB	Manifold, Inlet	1
68	46392	FBB	45365	SS	45124	N	O-Ring, Inlet Manifold	3
69	11379	NBR	11379	NBR	11379	NBR	O-Ring, Inlet Manifold	3
70	14183	FPM	14183	FPM	14183	FPM	O-Ring, Inlet Manifold	3
71	◆ 701491	EPDM	◆ 701491	EPDM	◆ 701491	EPDM	Screw, HSH (M14x40)	4
72	44606	STZP	44585	SS	44585	SS	Adapter, Female	3
73	43926	BB	48391	D	† 45367	SS	V-Packing, White	6
74	44609	PTFE	44609	PTFE	44609	PTFE	V-Packing	6
75	44741	FPM	44741	FPM	44741	FPM	V-Packing	6
76	◆ 44609	EPDM	◆ 44609	EPDM	◆ 44609	EPDM	V-Packing	6
77	43928	BB	45368	SS	† 45368	SS	Adapter, Male	3
78	45113	SS	45113	SS	45113	SS	Springs, Coil	6/18
79	46352	BB	45382	SS	† 45382	SS	Spacer, w/Coil Springs	3
80	18697	NBR	18697	NBR	18697	NBR	O-Ring, V-Packing-Spacer	3
81	20137	FPM	20137	FPM	20137	FPM	O-Ring, V-Packing-Spacer	3
82	◆ 701492	EPDM	◆ 701492	EPDM	◆ 701492	EPDM	O-Ring, V-Packing-Spacer	3
83	48362	D	48362	D	48362	D	Back-up-Ring, Spacer	3
84	45369	SS	45369	SS	† 45369	SS	Spacer, V-Packing	3
85	20464	PTFE	20464	PTFE	20464	PTFE	Back-up-Ring, V-Packing-Spacer	3
86	18697	NBR	18697	NBR	18697	NBR	O-Ring, V-Packing-Spacer	3
87	20137	FPM	20137	FPM	20137	FPM	O-Ring, V-Packing-Spacer	3
88	◆ 701492	EPDM	◆ 701492	EPDM	◆ 701492	EPDM	O-Ring, V-Packing-Spacer	3
89	48363	D	48363	D	48363	D	Back-up-Ring, Valve Seat	6
90	26142	NBR	26142	NBR	26142	NBR	O-Ring, Seat	6
91	14330	FPM	14330	FPM	14330	FPM	O-Ring, Seat	6
92	◆ 701493	EPDM	◆ 701493	EPDM	◆ 701493	EPDM	O-Ring, Seat	6
93	44727	S	44612	SS	44612	SS	Seat, Stepped	6
94	43932	S	44108	SS	44108	SS	Valve	6
95	44109	SS	44109	SS	44109	SS	Spring	6
96	44728	PVDF	44728	PVDF	44728	PVDF	Retainer, Spring	6
97	44729	SS	44729	SS	44729	SS	Washer, Spring Retainer	6
98	44644	SS	44644	SS	44644	SS	Coil Spring (70kg), Valve Plug	6

Replace as a set

EXPLODED VIEW



Models
 Standard - 3535
 Stainless Steel - 3531
 Nickel Aluminum Bronze - 3537
 July 1998

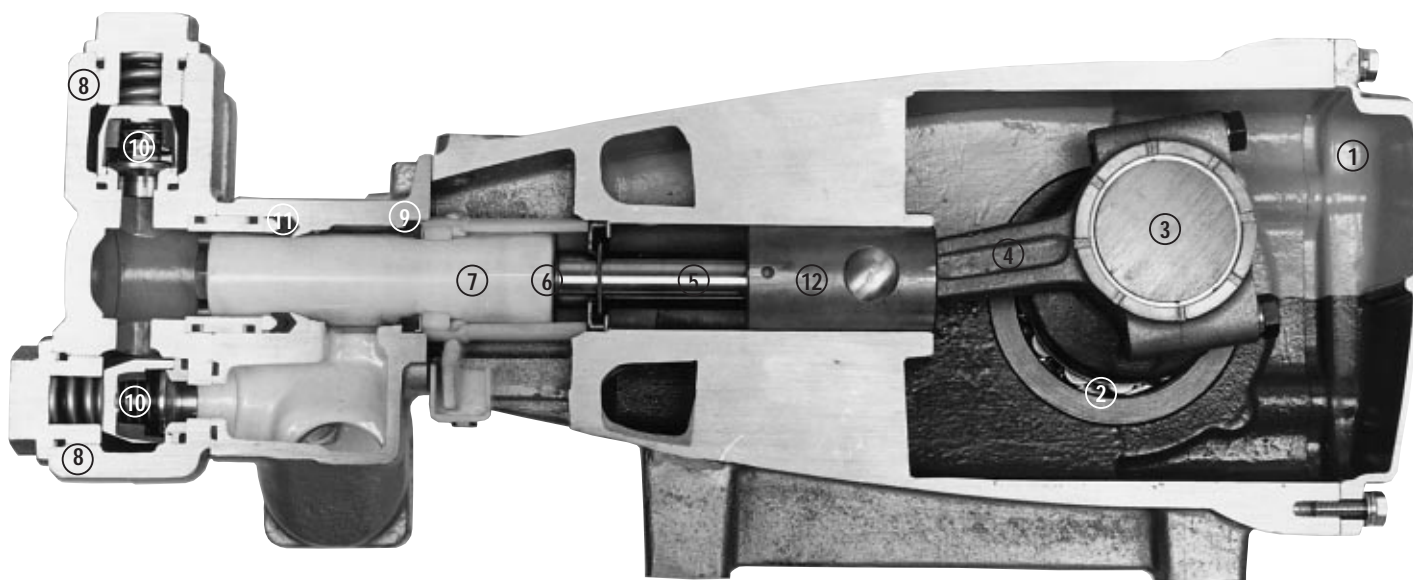
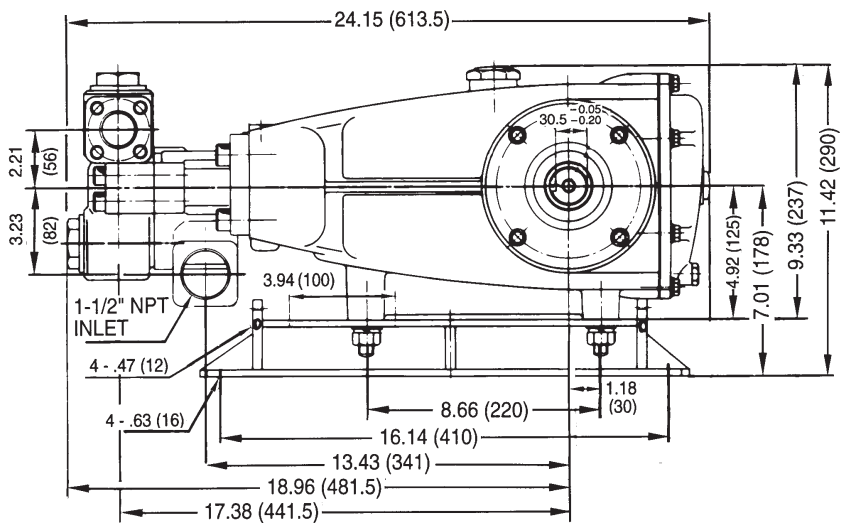
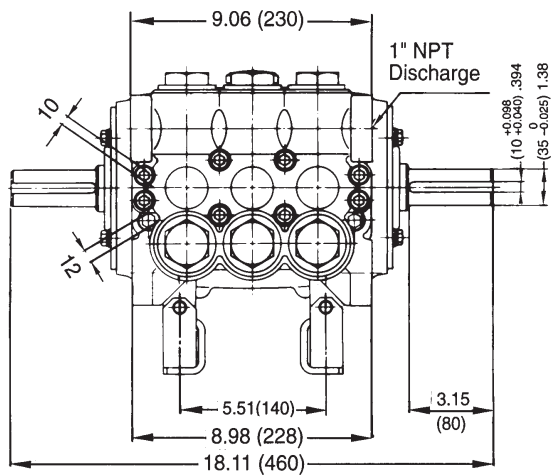
172	89827	NBR	89827	NBR	89827	NBR	O-Ring, Valve Plug - 90	6
	11747	V	11747	V	11747	V	O-Ring, Valve Plug - 90	6
	◆ 701494	EPDM	◆ 701494	EPDM	◆ 701494	EPDM	O-Ring, Valve Plug - 90	6
173	48364	D	48364	D	48364	D	Back-up-Ring, Valve Plug	6
174	46444	FBB	45373	SS	44643	NAB	Plug, Valve	6
● 185	46394	FBB	46326	SS	46335	NAB	Manifold, Discharge	1
188	89980	STZP	89981	SS	89981	SS	Screw, HSH (M12x70)	8
● 250	44516	NY	44516	NY	44516	NY	Protector, Shaft w/2 89283 screws (Included with pump)	1
●	701140	F	701140	F	701140	F	Protector, Shaft (Use w/701137,38,39,45,46)	1
● 255	34039	SS	34039	SS	34039	SS	Kit, Stud Mount	1
● 260	92674	STZP	92674	STZP	92674	STZP	Mounting, Box Assy	1
● 275	—	—	—	—	—	—	Pulley, Hub & Key [See complete Drive Packages, Tech Bulletin 03]	1
● 278	80540	ZP	80540	ZP	80540	ZP	Screw, HH (M12x100)	1
279	30278	—	30278	—	30278	—	Oiler (1 oz.)	3
281	30967	—	30967	—	30967	—	Glass, Oiler	3
282	10069	—	10069	—	10069	—	Gasket, Oiler	3
● 283	34334	—	34334	—	34334	—	Kit, Oil Drain	1
290	6108	—	6108	—	6108	—	Gasket, Liquid (1.5 oz.)	1
● 299	814821	FBB	814544	SS	814522	NAB	Complete Head	1
300	31040	NBR	31040	NBR	31040	NBR	Kit, Seal (Incls: 97,106,112,127,155,156,159)	1
	33055	FPM	33055	FPM	33055	FPM	Kit, Seal (Incls: 97,106,112,127,155,156,159)	1
	◆ 33262	EPDM	◆ 33262	EPDM	◆ 33262	EPDM	Kit, Seal (Incls: 97,106,112,127,155,156,159)	1
310	34235	NBR	34017	NBR	34017	NBR	Kit, Valve (Incls: 162,163,164,166,167,168,170,172,173)	2
	31255	FPM	31255	FPM	31255	FPM	Kit, Valve (Incls: 162,163,164,166,167,168,170,172,173)	2
	◆ 31252	EPDM	◆ 31252	EPDM	◆ 31252	EPDM	Kit, Valve (Incls: 162,163,164,166,167,168,170,172,173)	2
● —	—	—	—	—	—	—	C.A.T. (For R.O. or Industrial Applications)	1
● —	—	—	—	—	—	—	Adapter (2 per C.A.T.) (See Data Sheet for complete selection)	2
—	6565.3	—	6565.3	—	6565.3	—	Video, Plunger Pump Service - Section 3	1

● Industrial discount. **Bold print part numbers are unique to a particular pump model.** *Italics are optional items.* ◆ Silicone oil/grease required.
C.A.T. highly recommended for pressurized inlet, R.O. and Industrial applications.

See Tech Bulletins 03, 24, 35, 36, 40, 41, 43, 50, 52, 53, 69, 74 and 77 for additional information.

† Production Parts Nickel Aluminum Bronze, Replacement Parts are 316 Stainless Steel

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass CC=Ceramic D=Delryn® EPDM=Ethylene Propylene Diene Monomer F=Cast Iron
 FBB=Forged Brass FCM=Forged Chrome-moly FPM=Fluorocarbon (Viton®) HS=High Strength NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N)
 NY=Nylon POP=Polypropylene PTFE=Polytetrafluoroethylene (Teflon®) PVDF=Fluoroplastic (High Strength) S=304SS SS=316SS SSZZ=316SS/Zamak
 STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated ZP=Zinc Plated



- 1 Die cast aluminum **crankcase** means high strength, lightweight, 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 Special stainless steel **plunger rods** with high strength crossheads for longevity and corrosion resistance.
- 6 The stainless steel **slinger** provides back-up protection for the crankcase seal, keeping pumped fluids out of the crankcase.
- 7 Special concentric, high density, polished, graphite impregnated, solid ceramic **plungers** are abrasion resistant and result in extended seal life.
- 8 **Manifolds** are a high tensile strength forged brass, stainless steel or nickel aluminum bronze for long term, continuous duty.
- 9 100% wet **seal** design adds to service life by allowing pumped fluids to cool and lubricate on both sides.
- 10 Stainless steel **valves, seats and springs** provide corrosion-resistance, positive seating and long life.
- 11 Specially formulated, CAT PUMP exclusive, **V-Packings** offer unmatched performance and seal life.
- 12 **Crossheads** are 360° supported providing 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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