



# 15 Frame Plunger Pump

**Standard Brass Model**

**1050**

**Stainless Steel Model**

**1051**

**Nickel Aluminum Bronze Model**

**1057**

## 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.
- Brass, 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.
- Optional FPM and EPDM elastomers for special compatibility.
- Specially formulated, CAT PUMP exclusive, Hi-Pressure Seal 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 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.

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

### STANDARD SPECIFICATIONS

	U.S. Measure	Metric Measure
Volume .....	10 GPM	(38 L/M)
Discharge Pressure .....	100 to 2200 PSI	(7 to 155 BAR)
RPM .....	958 RPM	(958 RPM)
Maximum Inlet Pressure .....	-5 to 60 PSI	(-0.35 to 4 BAR)
Maximum Fluid Temperature .....	160°F	(71°C)

### ALTERNATE SPECIFICATIONS

Volume .....	★ 12 GPM	(45 L/M)
Discharge Pressure .....	★ 100 to 1800 PSI	(7 to 125 BAR)
RPM .....	★ 1150 RPM	(1150 RPM)
Maximum Inlet Pressure - ★ C.A.T. Required .....	★ 20 to 60 PSI	(1.4 to 4 BAR)
Maximum Fluid Temperature .....	★ 100°F	(38°C)

### COMMON SPECIFICATIONS

Bore .....	0.945"	(24 mm)
Stroke .....	1.180"	(30 mm)
Crankcase Capacity .....	42 oz.	(1.26 L)
Inlet Ports (2) .....	3/4" NPT	(3/4" NPT)
Discharge Ports (2) .....	1/2" NPT	(1/2" NPT)
Pulley Mounting .....	Either Side	(Either Side)
Shaft Diameter .....	1.180"	(30 mm)
Weight .....	44 lbs.	(19.9 kg)
Dimensions .....	15.83" x 12.99" x 6.46"	(402 x 330 x 164 mm)

## HORSEPOWER REQUIREMENTS

FLOW		PRESSURE			MOTOR PULLEY SIZE	
		PSI 1800	PSI 2000	PSI 2200	Using 1725 RPM Motor & Std. 9.75" Pump Pulley	
U.S. GPM	L/M	BAR 125	BAR 140	BAR 155	RPM	Pulley O.D.
12.0	45	14.8	N/A	N/A	1150	6.5
10.0	38	12.4	13.7	15.1	958	5.4
9.0	34	11.1	12.4	13.6	836	4.9

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

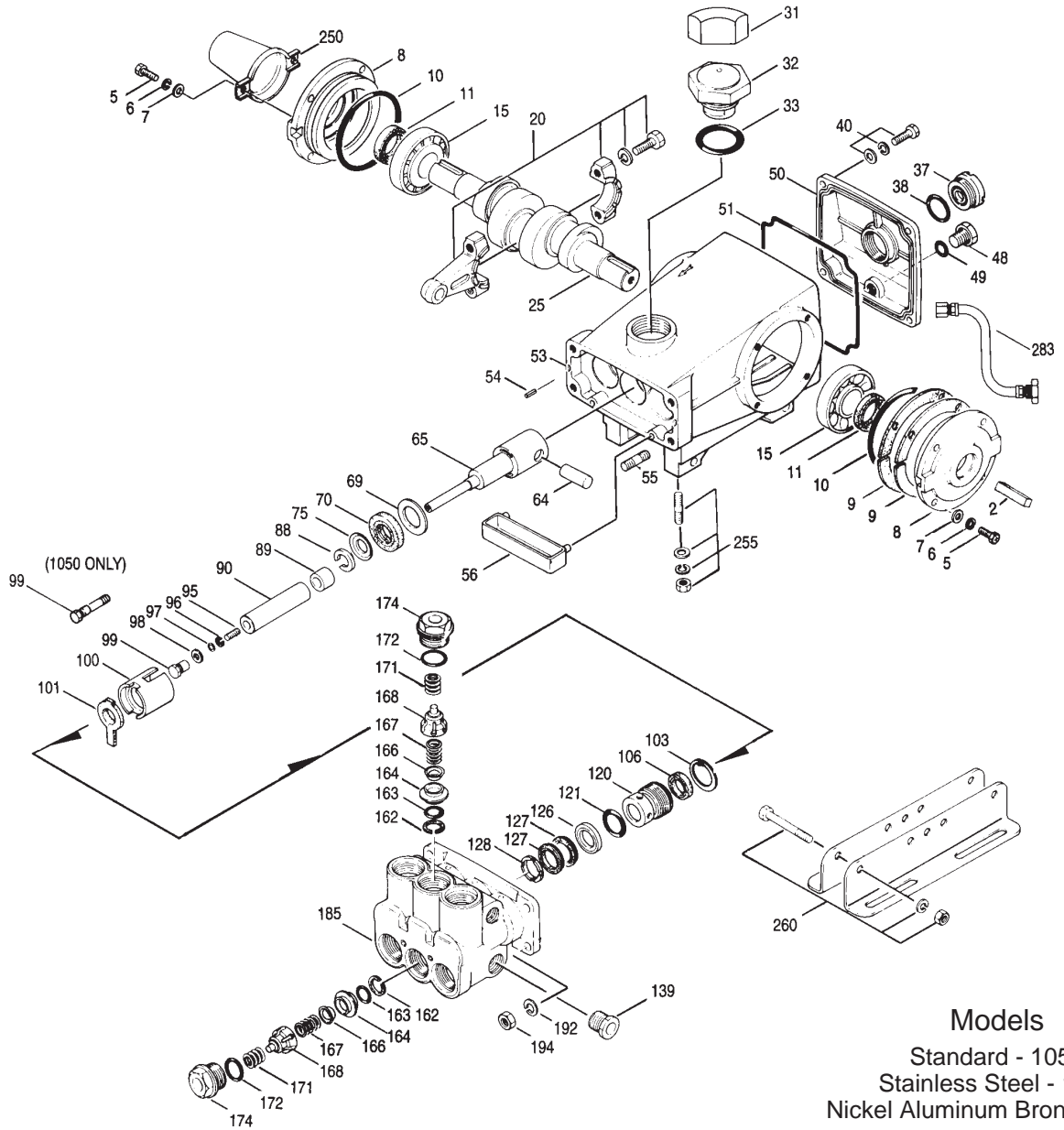
<b>DETERMINING THE PUMP R.P.M.</b>	Rated G.P.M.	=	"Desired" G.P.M.
	Rated R.P.M.	=	"Desired" R.P.M.
<b>DETERMINING THE REQUIRED H.P.</b>	GPM x PSI	=	Electric Brake H. P. Required
	1460	=	
<b>DETERMINING MOTOR PULLEY SIZE</b>	Motor Pulley O.D.	=	Pump Pulley O.D.
	Pump R.P.M.	=	Motor R.P.M.

*"Customer confidence is our greatest asset"*

# PARTS LIST

ITEM	PART NUMBER		PART NUMBER		PART NUMBER		DESCRIPTION	QTY
	1050	MATL	1051	MATL	1057	MATL		
● 2	30067	STL	30067	STL	30067	STL	Key (M8x7.5x25))	1 ●
5	92519	STZP	—	—	—	—	Screw, Sems HHC (M6x16)	8
5	—	—	89618	S	89618	S	Screw, (M6x16)	8
6	—	—	15849	S	15849	S	Lockwasher, Split (M6)	8
7	—	—	19933	S	19933	S	Washer (M6)	8
8	43496	AL	43496	AL	43496	AL	Cover, Bearing	2
9	43520	—	43520	—	43520	—	Shim, Bearing Cover	2/4
	45387	S	45387	S	45387	S	Shim, Split 2-Pc	0/4
10	11340	NBR	11340	NBR	11340	NBR	O-Ring, Bearing Cover	2
11	43495	NBR	43495	NBR	43495	NBR	Seal, Oil, Crankshaft	2
15	39060	STL	39060	STL	39060	STL	Bearing, Roller	2
20	43497	ZZ	43497	ZZ	43497	ZZ	Rod, Connecting Assembly	3
	45111	HS	45111	HS	45111	HS	Rod, Connecting Assembly	3
25	43494	FCM	43494	FCM	43494	FCM	Crankshaft, Dual End	1
31	828710	—	828710	—	828710	—	Protector, Oil Cap	1
32	43211	—	43211	—	43211	—	Cap, Oil Filler	1
33	14177	NBR	14177	NBR	14177	NBR	O-Ring, Filler Cap	1
37	43987	—	43987	—	43987	—	Gauge, Oil, Bubble	1
38	44428	NBR	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge	1
40	92520	STZP	92542	SS	92542	SS	Screw, Sems HHC (M6x20)	4
48	25625	STCP	25625	STCP	25625	STCP	Plug, Drain (1/4"x11)	1
49	23170	NBR	23170	NBR	23170	NBR	O-Ring, Drain Plug	1
50	43491	AL	43491	AL	43491	AL	Cover, Crankcase	1
51	43492	NBR	43492	NBR	43492	NBR	O-Ring, Crankcase Cover	1
● 53	43488	AL	43488	AL	43488	AL	Crankcase	1 ●
54	27488	S	27488	S	27488	S	Pin, Guide	2
55	14050	STZP	44005	S	44005	S	Stud, Manifold (M10x45)	4
56	44664	POP	44664	POP	44664	POP	Pan, Oil, w/Screws	1
64	43507	S	43507	S	43507	S	Pin, Rist	3
65	43501	SZZ	45258	SSZZ	45258	SSZZ	Rod, Plunger	3
69	43504	S	43504	S	43504	S	Washer, Oil Seal	3
70	43500	NBR	43500	NBR	43500	NBR	Seal, Oil, Crankcase	3
75	43506	S	43506	S	43506	S	Slinger, Barrier	3
88	45675	S	45675	S	45675	S	Washer, Keyhole	3
89	43553	BB	45879	SS	45879	SS	Collar, Spacer	3
90	43552	CC	43552	CC	43552	CC	Plunger (M77)	3
95	—	SS	89651	SS	89651	SS	Stud, Plunger Retainer (M6x70)	3
96	43235	PTFE	43235	PTFE	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	17399	NBR	17399	NBR	O-Ring, Plunger Retainer	3
	14160	FPM	14160	FPM	14160	FPM	O-Ring, Plunger Retainer	3
	◆ 46204	EPDM	◆ 46204	EPDM	◆ 46204	EPDM	O-Ring, Plunger Retainer	3
98	44041	SS	44041	SS	44041	SS	Gasket, Plunger Retainer	3
99	—	—	44031	SS	44031	SS	Retainer, Plunger	3
	104360	S	—	—	—	—	Retainer w/Stud	3
100	43509	PVDF	43509	PVDF	43509	PVDF	Retainer, Seal	3
101	43554	—	43554	—	43554	—	Wick, Long Tab	3
103	44036	SS	44036	SS	44036	SS	Ring, Retaining	3
106	44035	NBR	44035	NBR	44035	NBR	Seal, LPS w/SS-Spg	3
	44388	FPM	44388	FPM	44388	FPM	Seal, LPS w/SS-Spg	3
	◆ 46208	EPDM	◆ 46208	EPDM	◆ 46208	EPDM	Seal, LPS w/SS-Spg	3
120	43555	BB	48464	SSNP	48464	SSNP	Case, Seal	3
121	14762	NBR	14762	NBR	14762	NBR	O-Ring, Seal Case	3
	11737	FPM	11737	FPM	11737	FPM	O-Ring, Seal Case	3
	◆ 46205	EPDM	◆ 46205	EPDM	◆ 46205	EPDM	O-Ring, Seal Case	3
126	43558	BB	48389	D	48389	D	Adapter, Female	3
127	43559	NBR	103692	PTFE	103692	PTFE	V-Packing	6
	103692	FPM	103692	FPM	103692	FPM	V-Packing (Alternate)	6
	◆ 103692	EPDM	◆ 103692	EPDM	◆ 103692	EPDM	V-Packing (Alternate)	6
128	43560	BB	44032	SS	44032	SS	Adapter, Male	3
139	20326	BBCP	44382	SS	44562	NAB	Plug, Inlet (3/4" NPT)	1
162	43248	PTFE	43248	PTFE	43248	PTFE	Back-up-Ring, Valve Seat	6
163	43249	NBR	43249	NBR	43249	NBR	O-Ring, Seat	6
	44383	FPM	44383	FPM	44383	FPM	O-Ring, Seat	6
	◆ 46206	EPDM	◆ 46206	EPDM	◆ 46206	EPDM	O-Ring, Seat	6
164	44718	S	44037	SS	44037	SS	Seat	6
166	43721	S	44038	SS	44038	SS	Valve	6
167	43751	S	44039	SS	44039	SS	Spring, Valve	6
168	44564	PVDF	44564	PVDF	44564	PVDF	Retainer, Spring	6
171	—	—	—	—	44832	S	Coil Spring, Valve Plug	6
172	17617	NBR	17617	NBR	17617	NBR	O-Ring, Valve Plug	6
	11691	FPM	11691	FPM	11691	FPM	O-Ring, Valve Plug	6
	◆ 46207	EPDM	◆ 46207	EPDM	◆ 46207	EPDM	O-Ring, Valve Plug	6
174	43851	BBCP	48463	SSNP	44831	NAB	Plug, Valve	6
● 185	46704	BB	46705	SS	46706	NAB	Head, Manifold	1 ●
192	12503	STZP	15847	S	15847	S	Lockwasher, Split (M10)	4
194	81048	STZP	81258	S	81258	S	Nut, Hex (M10)	4

# EXPLODED VIEW

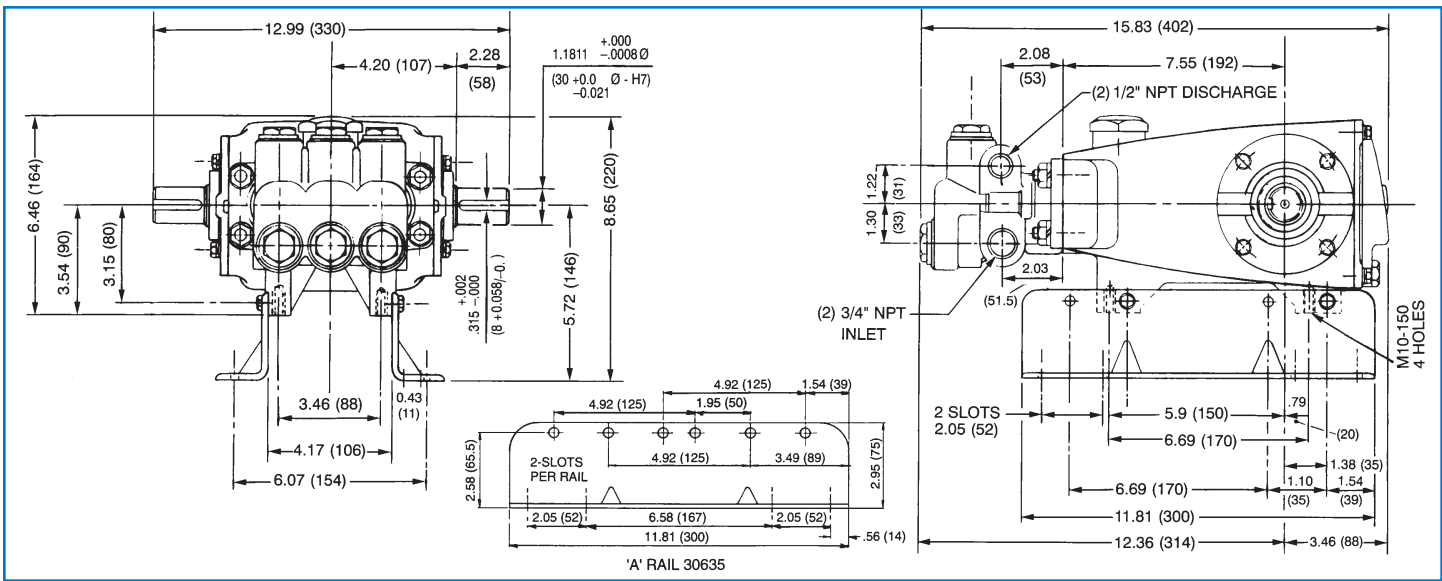


Models  
 Standard - 1050  
 Stainless Steel - 1051  
 Nickel Aluminum Bronze - 1057  
 September 1998

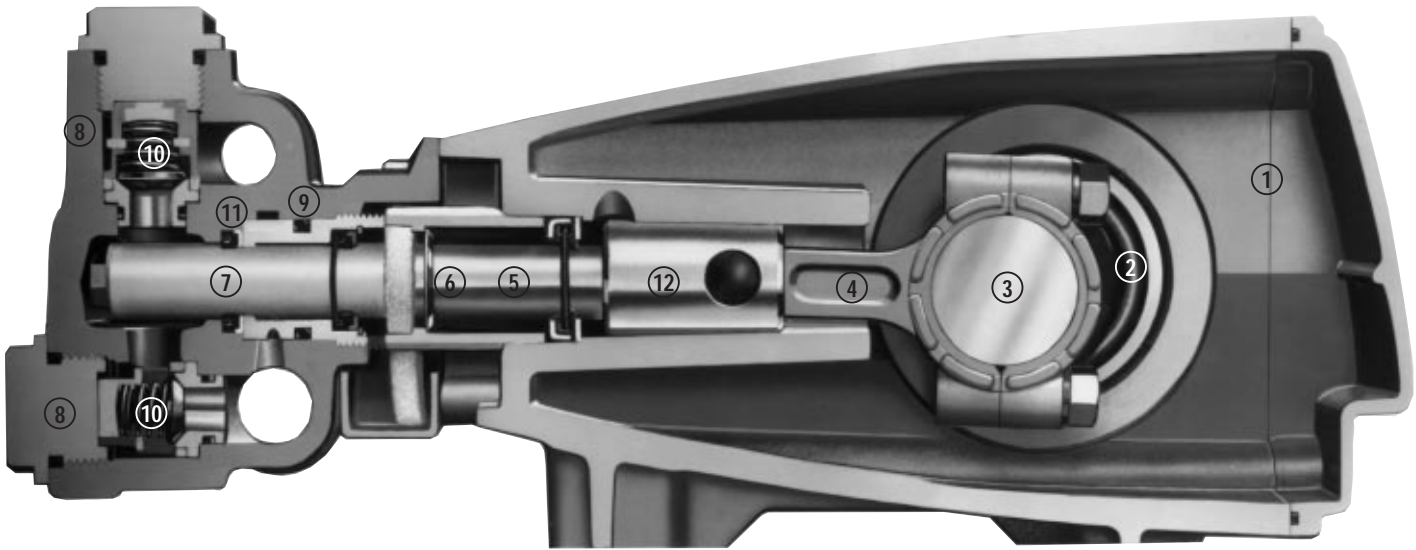
	<b>1050</b>	<b>MATL</b>	<b>1051</b>	<b>MATL</b>	<b>1057</b>	<b>MATL</b>		
250	30764	NY	30764	NY	30764	NY	Protector, Shaft w/2 Screws	1
255	30264	STZP	30264	STZP	30264	STZP	Mounting, Direct (Incls: 12490, 12503, 14050, 81048)	1
260	30613	STZP	30613	STZP	30613	STZP	Rail, Angle Assy, A (30635, 30903, 30921, 30912)	1
265	30661		30661		30661		Kit, Complete Mounting, U.S. (30613, 30206, 30059, 30067, 30764)	1
● 269	30206	F	30206	F	30206	F	Pulley (9.75") AB [See complete Drive Packages, Tech Bulletin 03]	1 ●
● 274	30059	STL	30059	STL	30059	STL	Hub, "H", M30 (Keyway M8) [See complete Drive Packages, Tech Bulletin 03]	1 ●
● 283	34334		34334		34334		Kit, Oil Drain	1 ●
290	—		<b>6108</b>		<b>6108</b>		Gasket, Liquid (1.5 oz.)	1
● 299	<b>814560</b>	<b>BBCP</b>	<b>812473</b>	<b>SS</b>	<b>815261</b>	<b>NAB</b>	Head, Complete	1 ●
300	30913	NBR	33916	NBR	33916	NBR	Kit, Seal (Incls: 97, 103, 106, 121, 127)	1
	30986	FPM	30986	FPM	30986	FPM	Kit, Seal (Incls: 97, 103, 106, 121, 127)	1
	◆ 33913	EPDM	◆ 33913	EPDM	◆ 33913	EPDM	Kit, Seal (Incls: 97, 103, 106, 121, 127)	1
310	<b>34920</b>	<b>NBR</b>	<b>34387</b>	<b>NBR</b>	<b>34387</b>	<b>NBR</b>	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172)	2
	<b>31256</b>	<b>FPM</b>	<b>30987</b>	<b>FPM</b>	<b>30987</b>	<b>FPM</b>	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172)	2
	◆ <b>31253</b>	<b>EPDM</b>	◆ <b>31258</b>	<b>EPDM</b>	◆ <b>31258</b>	<b>EPDM</b>	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172)	2
350	30696	STZP	30696	STZP	30696	STZP	Tool, Valve Seat Removal	1
351	43523	STZP	43523	STZP	43523	STZP	Tool, Seal Case Removal	1
—	6565.1		6565.1		6565.1		Service Video	1

● Industrial discount. **Bold print part numbers are unique to a particular pump model.** *Italics are optional items.* ◆ Silicone oil/grease required. See Tech Bulletins 03, 24, 27, 35, 36, 43, 45, 46, 48, 49, 52, 53, 72, 74 and 77 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic D=Delryn® EPDM=Ethylene Propylene Diene Monomer F=Cast Iron 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 SSNP=316SS/Nickel Plated STL=Steel STZP=Steel/Zinc Plated SZZ=304SS/Zamak ZZ=Zamak



Models 1050, 1051, 1057



- 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 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 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 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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