



3 Frame Plunger Pump Models 230 240, 270

FEATURES

Superior Design

- Triplex plunger design gives smoother liquid flow.
- Hi-Pressure Seals are completely lubricated and cooled by the liquid 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.
- Optional Belt Drive or Motorized versions offer system flexibility.

Quality Materials

- Precision design 304 stainless steel valves and seats are hardened and polished for ultimate seating and extended valve life.
- 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, 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 capacity mean longer bearing life.

Easy Maintenance

- Wet-end is easily serviced without entering crankcase, requiring less time and effort.
- Preset packings mean no packing gland adjustment is necessary, reducing maintenance costs.

⚠ WARNING

All systems require both a primary pressure regulating device (i.e., regulator, unloader) and a secondary pressure safety relief device (i.e., pop-off valve, safety valve). Failure to install such relief devices could result in personal injury or damage to the pump or to system components. CAT PUMPS does not assume any liability or responsibility for the operation of a customer's high pressure system.

SPECIFICATIONS

	U.S. Measure	Metric Measure
MODEL 230		
Flow	2.3 GPM	(8.7 L/M)
Pressure Range	100 to 1500 PSI	(7 to 105 BAR)
RPM	1725 RPM	(1725 RPM)
Stroke	0.276"	(7 mm)
MODEL 240		
Flow	3.6 GPM	(13.6 L/M)
Pressure Range	100 to 1200 PSI	(7 to 85 BAR)
RPM	1725 RPM	(1725 RPM)
Stroke	0.433"	(11 mm)
MODEL 270		
Flow	3.5 GPM	(13.2 L/M)
Pressure Range	100 to 1500 PSI	(7 to 105 BAR)
RPM	1420 RPM	(1420 RPM)
Stroke	0.512"	(13 mm)
Alternate Specifications		
Flow*	4.25 GPM	(16 L/M)
Pressure Range	100 to 1000 PSI	(7 to 70 BAR)
RPM	1725 RPM	(1725 RPM)
Stroke	0.512"	(13 mm)

*This specification for intermittent, freshwater duty.

COMMON SPECIFICATIONS

Bore	0.709"	(18 mm)
Inlet Pressure Range	Flooded to 60 PSI	(Flooded to 4 BAR)
Crankcase Capacity	15 oz.	(.45 L)
Maximum Liquid Temperature	160°F	(71°C)
Above 130°F call CAT PUMPS for inlet conditions and elastomer recommendations.		
Inlet Ports (2)	1/2" NPTF	(1/2" NPTF)
Discharge Ports (2)	3/8" NPTF	(3/8" NPTF)
Pulley Mounting	Either Side	(Either Side)
Shaft Diameter	0.650"	(16.5 mm)
Weight	13.9 lbs.	(6.3 kg)
Dimensions	10.22 x 8.78 x 5.30"	(259.5 x 223 x 134.5 mm)

HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE			MOTOR PULLEY SIZE Using 1725 RPM Motor & Std. 5.0" Pump Pulley O.D.	
	U.S. GPM	L/M	PSI 1000 BAR 70	PSI 1200 BAR 85	PSI 1500 BAR 105	RPM	Pulley O.D.
270	4.0	15.0	2.8	N/A	N/A	1623	4.7
	3.5	13.2	2.4	2.9	3.6	1450	4.1
	3.0	11.4	2.1	2.5	3.1	1218	3.5
230	2.3	8.7	1.6	1.9	2.4	1725	Direct Drive
240	3.6	13.6	2.5	3.0	N/A	1725	Direct Drive
270	4.25	16	2.9	N/A	N/A	1725	Direct Drive

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

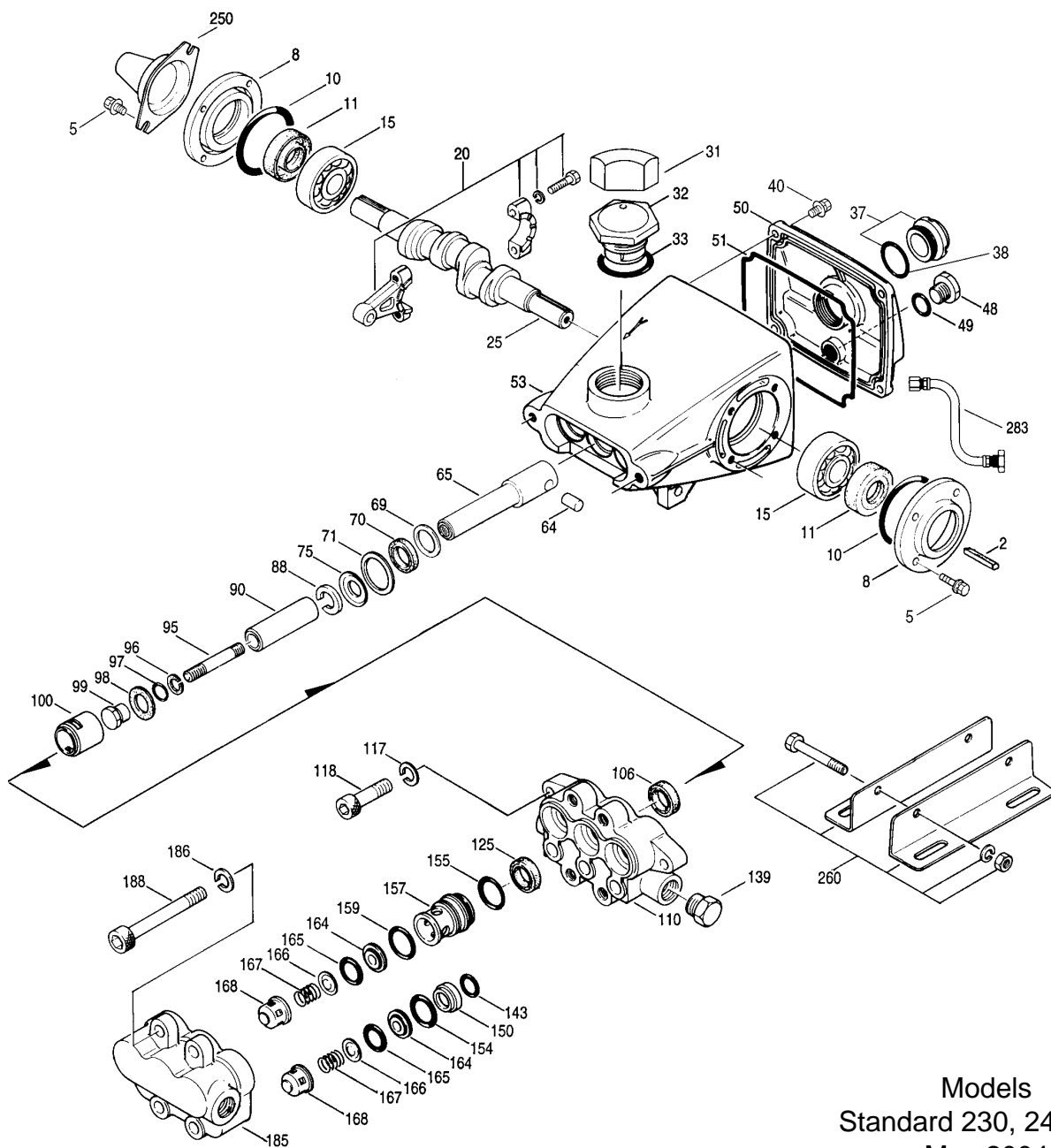
See complete Drive Packages [Inclds: Pulleys, Belts, Hubs, Key] Tech Bulletin 003.
Refer to pump Service Manual for repair procedure and additional technical information.

"Customer confidence is our greatest asset"

PARTS LIST

ITEM	PART NUMBER			DESCRIPTION	QTY
	230 MATL	240 MATL	270 MATL		
2	30047	30047	30047	Key (M5x5x24)	1
5	92519	92519	92519	Screw, Sems HHC (M6x16)	8
8	27950	27950	27950	Cover, Bearing	2
10	26536	26536	26536	O-Ring, Oil Seal Case - 70D	2
11	24159	24159	24159	Seal, Oil	2
15	14487	14487	14487	Bearing, Ball	2
20	48867	48867	48867	Rod, Connecting Assembly [09/02]	3
25	44917 FCM	44193 FCM	43897 FCM	Crankshaft, Dual End	1
31	828710	828710	828710	Protector, Oil Cap	1
32	43211	43211	43211	Cap, Oil Filler	1
33	14177	14177	14177	O-Ring, Oil Filler Cap - 70D	1
37	92241	92241	92241	Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	44428	44428	Gasket, Flat, Oil Gauge - 80D	1
40	92520	92520	92520	Screw, Sems HHC (M6x20)	6
48	25625	25625	25625	Plug, Drain (1/4"x19BSP)	1
49	23170	23170	23170	O-Ring, Drain Plug - 70D	1
50	43339	43339	43339	Cover, Rear	1
51	43340	43340	43340	O-Ring, Rear Cover	1
53	44657	44657	44657	Crankcase (4 Screw, Large Cap)	1
64	16948	16948	16948	Pin, Crosshead	3
65	45114	45114	45114	Rod, Plunger	3
69	20017	20017	20017	Washer, Oil Seal	3
70	25301	25301	25301	Seal, Oil, Crankcase - 80D	3
71	26854	26854	26854	Washer, Oil Seal	3
75	43900	43900	43900	Slinger, Barrier	3
88	45697	45697	45697	Washer, Keyhole (M18)	3
90	43901	43901	43901	Plunger (M18x43)	3
95	89652	89652	89652	Stud, Plunger Retainer (M6x43)	3
96	43235	43235	43235	Back-up-Ring, Plunger Retainer	3
97	17399	17399	17399	O-Ring, Plunger Retainer - 80D	3
	14160	14160	14160	O-Ring, Plunger Retainer - 80D	3
	◆ 46204	◆ 46204	◆ 46204	O-Ring, Plunger Retainer - 70D	3
98	45891	45891	45891	Gasket, Plunger Retainer (M12.5)	3
99	46504	46504	46504	Retainer, Plunger (M6)	3
100	28597	28597	28597	Retainer, Seal	3
106	43243	43243	43243	Seal, LPS w/S-Spg	3
	44926	44926	44926	Seal, LPS w/SS-Spg	3
	◆ 46651	◆ 46651	◆ 46651	Seal, LPS w/SS-Spg	3
110	43902	43902	43902	Manifold, Inlet	1
117	12503	12503	12503	Lockwasher (M10)	2
118	87931	87931	87931	Screw, HSH (M10x35)	2
125	43245	43245	43245	Seal, HPS w/S	3
	44925	44925	44925	Seal, HPS w/SS	3
	46652	46652	46652	Seal, HPS w/SS	3
139	22179	22179	22179	Plug, Inlet (1/2" NPT)	1
143	17547	17547	17547	O-Ring, Inlet Valve Adapter, Rear - 85D	3
	11685	11685	11685	O-Ring, Inlet Valve Adapter, Rear - 85D	3
	◆ 46648	◆ 46648	◆ 46648	O-Ring, Inlet Valve Adapter, Rear - 70D	3
150	43904	43904	43904	Adapter, Inlet Valve	3
154	43893	43893	43893	O-Ring, Inlet Valve Adapter, Front - 80D	3
	44927	44927	44927	O-Ring, Inlet Valve Adapter, Front	3
	◆ 46649	◆ 46649	◆ 46649	O-Ring, Inlet Valve Adapter, Front - 80D	3
155	26089	26089	26089	O-Ring, Discharge Valve Adapter, Rear - 80D	3
	11377	11377	11377	O-Ring, Discharge Valve Adapter, Rear - 80D	3
	◆ 46647	◆ 46647	◆ 46647	O-Ring, Discharge Valve Adapter, Rear - 80D	3
157	43905	43905	43905	Adapter, Discharge Valve	3
159	26089	26089	26089	O-Ring, Discharge Valve Adapter, Front - 80D	3
	11377	11377	11377	O-Ring, Discharge Valve Adapter, Front - 80D	3
	◆ 46647	◆ 46647	◆ 46647	O-Ring, Discharge Valve Adapter, Front - 80D	3
164	44002	44002	44002	Seat	6
165	44001	44001	44001	O-Ring, Seat - 80D	6
	44928	44928	44928	O-Ring, Seat - 80D	6
	◆ 46650	◆ 46650	◆ 46650	O-Ring, Seat - 80D	6
166	43723	43723	43723	Valve	6
167	43750	43750	43750	Spring	6
168	43907	43907	43907	Retainer, Spring	6
185	43903	43903	43903	Manifold, Discharge	1
186	12503	12503	12503	Lockwasher (M10)	4
188	87933	87933	87933	Screw, HSH (M10x55)	4
250	25130	25130	25130	Protector, Shaft	1
260	30612	30612	30612	Rail, Angle Assy (Incls: 26246, 30901, 30910, 30920)	1
265	30651	30651	30651	Kit, Mounting (Incls: 30612, 30032, 30047, 25130)	1
270	30246	30246	30246	Assy, Pulley (Incls: 30032, 30047)	1
				[See Drive Packages, Tech Bulletin 003]	
277	34121	34121	34121	Bell Housing Assy (56C-145FR, 2.0 HP)	1
	34126	34126	34126	Bell Housing Assy (182TC-184TC, 3.0 HP)	1
278	8215	8215	8215	Flexible Coupling Assy (M16.5 to 5/8")	1
	8225	8225	8225	Flexible Coupling Assy (M16.5 to 1-1/8")	1
283	34334	34334	34334	Kit, Oil Drain	1

EXPLODED VIEW



Models
Standard 230, 240, 270
May 2004

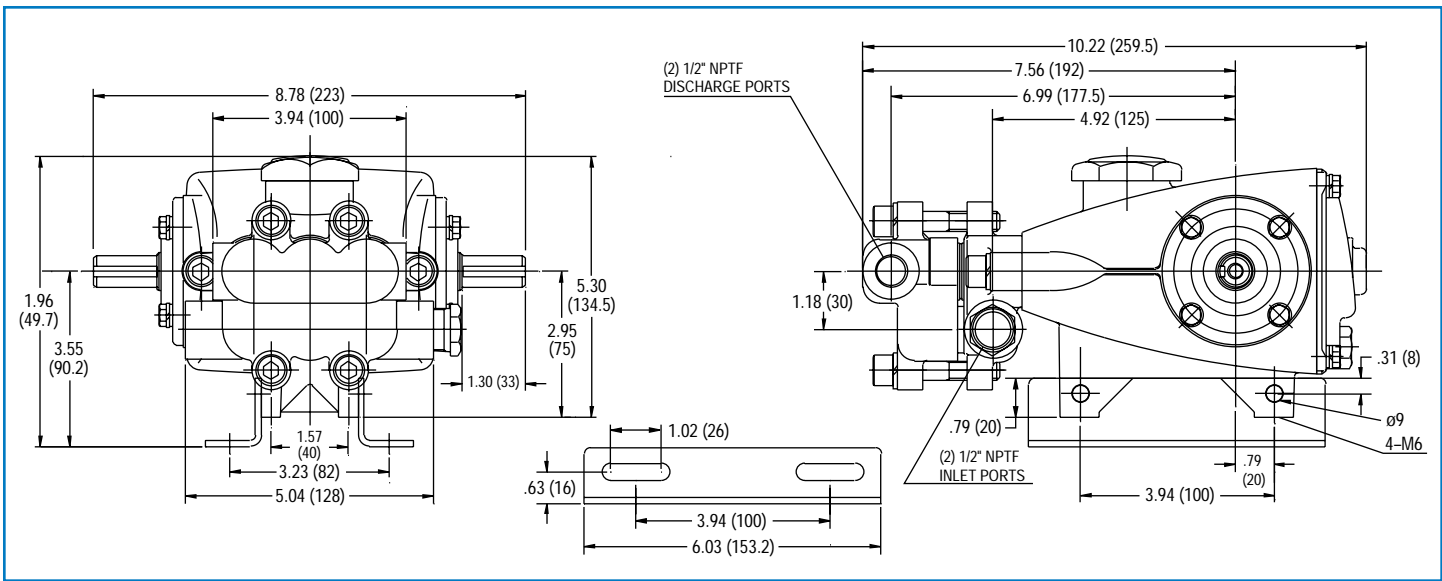
	230 MATL	240 MATL	270 MATL		
298	34961 STZP	34961 STZP	34961 STZP	Clutch Assy, Single Groove, 16.5mm, 12VDC	1
	34964 STZP	34964 STZP	34964 STZP	Clutch Assy, Dual Groove, 16.5mm, 12VDC	1
299	814611 BB	814611 BB	814611 BB	Head, Complete	1
300	30914 NBR	30914 NBR	30914 NBR	Kit, Seal (Incls: 97,106,125,143,154,155,159,165)	1
	33609 FPM	33609 FPM	33609 FPM	Kit, Seal (Incls: 97,106,125,143,154,155,159,165)	1
	◆ 33914 EPDM*	◆ 33914 EPDM*	◆ 33914 EPDM*	Kit, Seal (Incls: 97,106,125,143,154,155,159,165)	1
	33915 HT	33915 HT	33915 HT	Kit, Seal (Incls: 97,106,125,143,154,155,159,165) Hi-Temp	1
310	30915 NBR	30915 NBR	30915 NBR	Kit, Valve (Incls: 143,154,159,164,165,166,167,168)	1
	31214 FPM	31214 FPM	31214 FPM	Kit, Valve (Incls: 143,154,159,164,165,166,167,168)	1
	◆ 31215 EPDM	◆ 31215 EPDM	◆ 31215 EPDM	Kit, Valve (Incls: 143,154,159,164,165,166,167,168)	1
350	30696 STZP	30696 STZP	30696 STZP	Plier, Reverse	1
—	—	—	—	BD Motors (See Individual Data Sheet)	
—	—	—	—	Gearbox (See Individual Data Sheet)	
—	6107	6107	6107	Oil, Bottle (21 oz.) ISO 68 Multi-viscosity Hydraulic (Fill to specified crankcase capacity prior to start-up)	1

Bold print part numbers are unique to a particular pump model. Italics are optional items. ◆ Silicone oil/grease required.

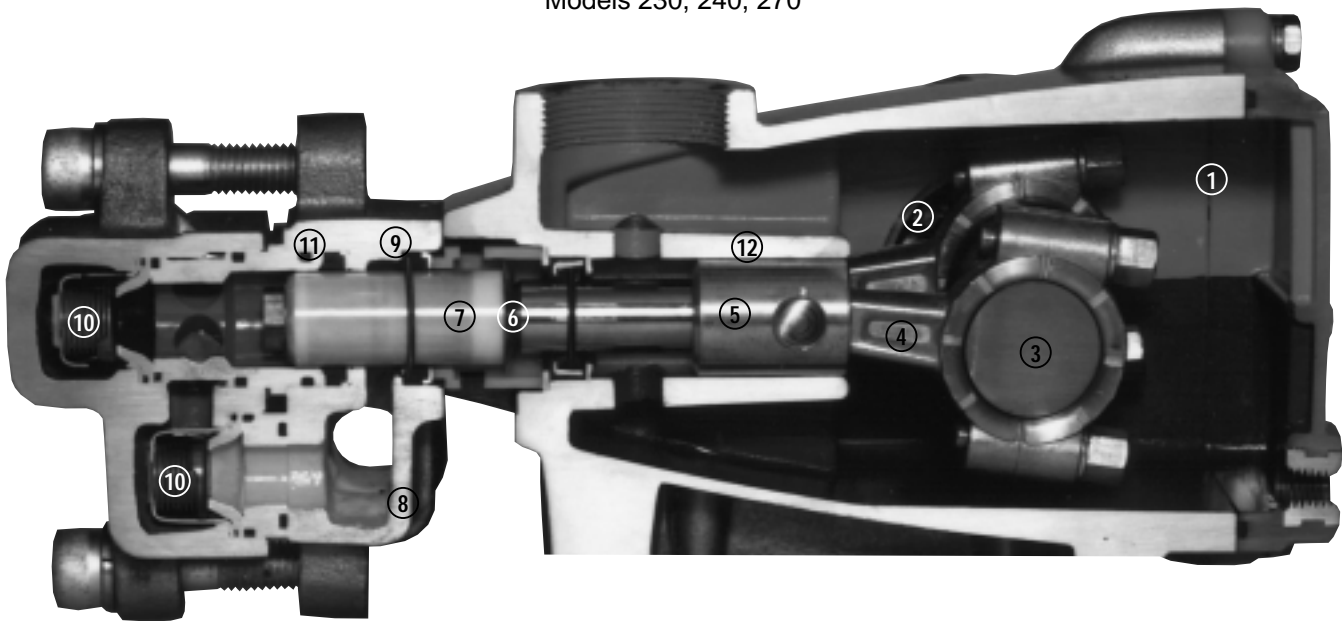
[] Date of latest production change. *Review material codes for individual items (HT generally may be used as alternate).

See Tech Bulletins 002, 003, 024, 035, 036, 043, 067, 073, 074, 077 and 083 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum ABS=ABS Plastic BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-Moly CU=Copper
EPDM=Ethylene Propylene Diene Monomer FCM=Forged Chrome-moly FPM=Fluorocarbon (Viton®) HT=Hi-Temp (EPDM Alternative)
NBR=Medium Nitrile (Buna-N) PTFE=Pure Teflon® PVDF=Fluoroplastic (High Strength) S=304SS SS=316SS SSZZ=316SS/Zamak
SNG=Special Blend (Buna) STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength



Models 230, 240, 270



- 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 TNM **connecting rods** noted for superior tensile strength and 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 liquids 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 for long term, continuous duty.

- 9 100% wet **seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides.
- 10 Stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.
- 11 Specially formulated, CAT PUMP exclusive, **Hi-Pressure Seals** 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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