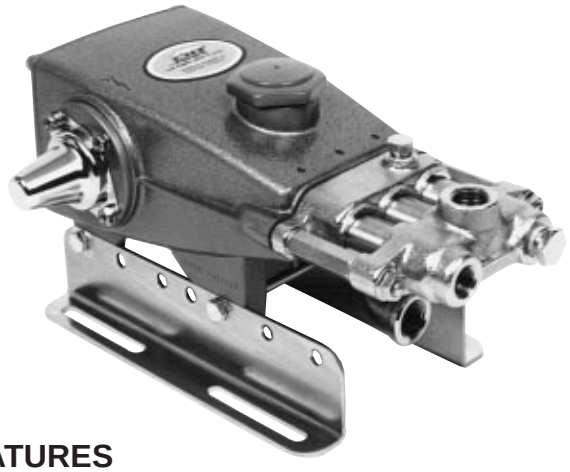
HOME



4 Frame Piston Pump

Models 333 430

FEATURES

Superior Design

- Triplex UniFlo design provides continuous forward fluid flow for smooth operation.
- Wetted cups and floating pistons are lubricated and cooled by pumped fluid for long cup life.
- Mechanically actuated inlet valves give strong lift and easy prime.
- 304 stainless steel discharge valves for wear resistance.
- Oil bath crankcase assures optimum lubrication.
- 100% wetted seal design allows pumped fluid to cool and lubricate for longer life.

Quality Materials

- Cylinder and sleeve wear surfaces are hard chrome plated 304 stainless steel for maximum durability and abrasion resistance.
- Chrome plated, brass manifolds and optional stainless steel manifolds are strong and corrosion resistant.
- Heavy duty connecting rods are made of high quality Zamak offering superior bearing quality strength.
- Chrome-moly crankshaft gives unmatched strength and surface hardness.
- Oversized crankshaft bearings with greater loading capacity mean longer bearing life.

Easy Maintenance

- Stepped stainless steel piston rod with chrome-plated, stainless steel sleeve allows easy replacement from front of pump.
- All wet-end wear parts are easily serviced without entering crankcase, requiring less time and effort.
- Wear parts are available in convenient kits.
- Routine lubrication checks are the only maintenance required on this precision built pump.

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.

SPECIFICATIONS

	U.S. Measure	Metric Measure
MODEL 333		
Volume	4.0 GPM	(15 L/M)
Discharge Pressure	100 to 1200 PSI	(7 to 85 BAR)
RPM	1070 RPM	(1070 RPM)
Bore	0.709"	(18 mm)
MODEL 430		
Volume	5.0 GPM	(19 L/M)
Discharge Pressure	100 to 1000 PSI	(7 to 70 BAR)
RPM	1040 RPM	(1040 RPM)
Bore	0.787"	(20 mm)
COMMON SPECIFICATIONS		
Stroke	0.768"	(19.5 mm)
Crankcase Capacity	21 oz.	(0.6 L)
Maximum Fluid Temperature	160°	(71°C)
Max. Inlet Pressure	–8.5 to +40 PSI	(–0.6 to +2.8 BAR)
Inlet Ports (1)	1/2" NPT	(1/2" NPT)
Injection Port (1)	1/4" NPT	(1/4" NPT)
Discharge Ports (2)	3/8" NPT	(3/8" NPT)
(1)	1/2" NPT	(1/2" NPT)
Pulley Mounting	Either Side	(Either Side)
Shaft Diameter	0.650"	(16.5 mm)
Weight	17.7 lbs.	(8.0 kg)
Dimensions	12.8" x 8.8" x 5.4"	(326 x 223 x 137mm)

HORSEPOWER REQUIREMENTS

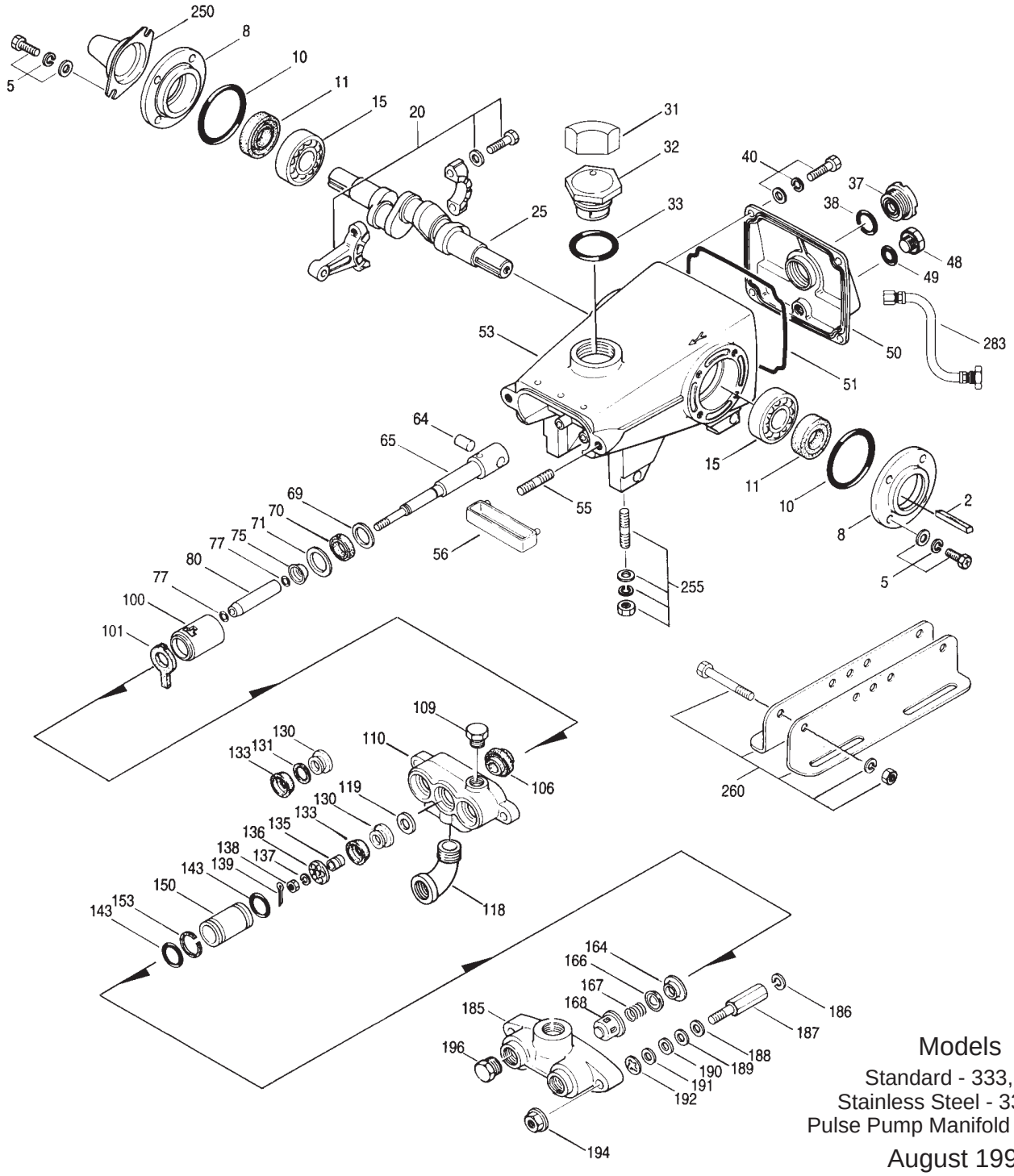
MODEL	FLOW		PRESSURE			MOTOR PULLEY SIZE	
			PSI 800	PSI 1000	PSI 1200	Using 1725 RPM Motor & Std. 8" Pump Pulley O.D.	
	U.S. GPM	L/M	BAR 55	BAR 70	BAR 85	RPM	Pulley O.D.
333	4.0	15	2.2	2.8	3.3	1070	5.0
	3.0	11	1.6	2.1	2.5	803	3.8
	2.0	7.6	1.1	1.4	1.6	535	2.5
430	5.0	19	2.7	3.4	N/A	1040	5.1
	4.0	15	2.2	2.8	N/A	832	4.1
	3.0	11	1.6	2.1	N/A	624	3.1

“Customer confidence is our greatest asset”

PARTS LIST

ITEM	PART NUMBER 333	MATL	430	MATL	DESCRIPTION	QTY
2	*30047*	*STL*	*30047*	*STL*	*Key (M5x5x24)*	*1*
5	92519	STZP	92519	STZP	Screw, Sems HHC (M6x16)	8
8	27950	AL	27950	AL	Cover, Bearing	2
10	26536	NBR	26536	NBR	O-Ring, Bearing Cover - 70	2
11	24159	NBR	24159	NBR	Seal, Oil	2
15	14487	STL	14487	STL	Bearing, Ball	2
20	24139	ZZ	24139	ZZ	Rod, Connecting	3
25	43163	FCM	43163	FCM	Crankshaft, Dual End, Tapped (M8x1.25)	1
31	*828710*		*828710*		*Protector, Oil Cap*	*1*
32	43211		43211		Cap, Oil Filler	1
33	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap -70	1
37	43987		43987		Gauge, Oil Bubble	1
38	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge - 80	1
40	92520	STZP	92520	STZP	Screw, Sems HHC (M6x20)	4
48	25625	STCP	25625	STCP	Plug, Drain (1/4" NPT)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug	1
50	43339	AL	43339	AL	Cover, Crankcase	1
51	43340	NBR	43340	NBR	O-Ring, Crankcase Cover	1
53	43735	AL	43735	AL	Crankcase	1
55	14137	STCP	14137	STCP	Stud (M8x41.4)	2
56	*27712*	*POP*	*27712*	*POP*	*Pan, Oil (use with Blue-Dot Seals and Wick)*	*1*
64	16948	S	16948	S	Pin, Rist	3
65	27981	SZZ	27981	SZZ	Rod, Piston	3
69	20017	STZP	20017	STZP	Washer, Oil Seal	3
70	25301	NBR	25301	NBR	Seal, Oil, Crankcase - 80	3
71	26854	S	26854	S	Washer, Oil Seal	3
75	25327	S	25327	S	Slinger, Barrier	3
77	25392	NBR	25392	NBR	O-Ring, Sleeve	6
	28771	*FPM*	*28771*	*FPM*	*O-Ring, Sleeve*	*6*
	28772	*PTFE*	*28772*	*PTFE*	*O-Ring, Sleeve*	*6*
80	25299	SCP	25299	SCP	Sleeve	3
	28460	*S*	*28460*	*S*	*Sleeve*	*3*
100	27710	PVDF	27710	PVDF	Retainer, Seal	3
101	*27711*		*27711*		*Wick, Long Tab (use with Blue-Dot Seals and Oil Pan)*	*3*
106	30315	NBR	30315	NBR	Seal, Prrrrrm-A-Lube	3
	30325	*FPM*	*30325*	*FPM*	*Seal, Prrrrrm-A-Lube*	*3*
	25153	*NBR*	*25153*	*NBR*	*Seal, Blue-Dot (use with Wick and Oil Pan)*	*3*
109	22177	BBCP	22177	BBCP	Plug (1/4" NPT)	1
110	25128	BBCP	25128	BBCP	Manifold, Inlet	1
●	*25635*	*SS*	*25635*	*SS*	*Manifold, Inlet (331, 431)*	*1* ●
118	22160	BBCP	22160	BBCP	Elbow, Street (1/2" NPT)	1
119	**28339**	**S**	**27004**	**S**	Valve, Inlet	3
130	**43784**	**S**	**22021**	**S**	Piston	3
131	**43719**	**PTFE**	—		Back-up-Ring, Bac-Cup	3
133	**43717**	**FPM**	**43172**	**FPM**	Cup, Piston	3
133	**43826**	**FPM**	—		Assy, Bac-Cup (Inclds: 130,131,133) 333 only	3
133	**28955**	**NBR**	—		Cup, Piston, Machined	3
133	**29088**	**NBR**	**29089**	**NBR**	Cup, V-Hot	3
135	27983	S	27983	S	Spacer, Piston	3
136	27002	S	27002	S	Retainer, Piston	3
137	27006	S	27006	S	Washer, Conical (M6)	3
138	27000	S	27000	S	Nut, Slotted (M6)	3
139	14158	S	14158	S	Cotterpin (M1.6x10)	3
143	23172	NBR	23172	NBR	O-Ring, Cylinder - 70	6
	11377	*FPM*	*11377*	*FPM*	*O-Ring, Cylinder*	*6*
	26961	*PTFE*	*26961*	*PTFE*	*O-Ring, Cylinder*	*6*
150	**25660**	**SCP**	**24285**	**SCP**	Cylinder	3
	29013	***S***	***29044***	***S***	*Cylinder*	*3*
153	**21985**	**PTFE**	—		Back-up-Ring, Cylinder	3
164	43434	S	43434	S	Seat, Q.V.	3
	29487	*S*	*29487*	*S*	*Seat, F.V.*	*3*
166	43723	S	43723	S	Valve, Q.V.	3
	22842	*S*	*22842*	*S*	*Valve, F.V.*	*3*
167	43360	S	43360	S	Spring, Q.V.	3
	22031	*S*	*22031*	*S*	*Spring, F.V.*	*3*
168	43442	S	43442	S	Retainer, Spring, Q.V.	3
	22841	*S*	*22841*	*S*	*Retainer, Spring, F.V.*	*3*
185	24459	BBCP	24459	BBCP	Manifold, Discharge	1
●	*25634*	*SS*	*25634*	*SS*	*Manifold, Discharge (331, 431)*	*1* ●
	6400	*BB*	*6400*	*BB*	*Manifold, Pulse Pump (335, 435)*	*1*
	6300	*SS*	*6300*	*SS*	*Pump, Pulse (335, 435)*	*1*
186	15845	STZP	15845	STZP	Lockwasher, Split (M8)	2
187	25337	BBCP	25337	BBCP	Bolt, Cylinder	2
188	43425	STZP	43425	STZP	Washer, Shim (13MMODxM8x2)	2/4
189	22902	STZP	22902	STZP	Washer, Shim (13MMODxM8x1)	2/4
190	13533	STZP	13533	STZP	Washer, Shim (13MMODxM8x0.5)	2/4
191	43258	STZP	43258	STZP	Washer, Shim (13MMODxM8x0.3)	2/4
192	26676	STZP	26676	STZP	Washer, Retaining (M8)	2
194	101804	STZP	101804	STZP	Nut, Hex Flange (M8)	2
196	22187	BBCP	22187	BBCP	Plug (3/8" NPT)	1
250	*25130*	*STCP*	*25130*	*STCP*	*Protector, Shaft*	*1*
255	*30243*	*STZP*	*30243*	*STZP*	*Kit, Direct Mount (Inclds: 12489,15845,81109,85631)*	*1*
260	*30611*	*STZP*	*30611*	*STZP*	*Assy, Angle Rail (Inclds: 28499,30900,30920,30910)*	*1*
265	*30652*		*30652*		*Kit, Mounting (Inclds: 30611,30048,30047,25130)*	*1*
270	*30244*	*STL*	*30244*	*STL*	*Assy, Pulley (Inclds: 30048,30047)*	*1*

EXPLODED VIEW



Models

Standard - 333, 430
Stainless Steel - 331, 431
Pulse Pump Manifold - 335, 435

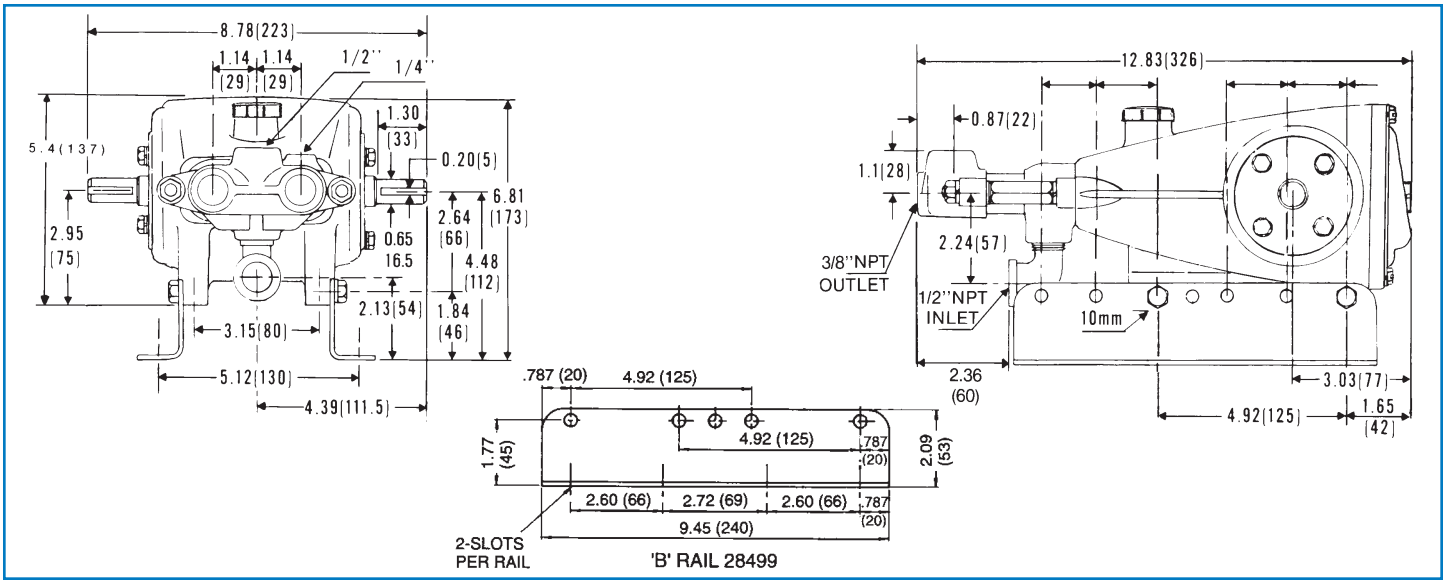
August 1998

●	*283*	*34334*		*34334*		*Kit, Oil Drain*	*1* ●
	300	***30239***	***NBR***	—		*Kit, Cup (Incldes: 133,139,143,153)*	*1*
		—		***30023***	***FPM***	*Kit, Cup (Incldes: 133,139,143)*	*1*
	301	***30841***	***FPM***	—		*Kit, Bac-Cup (Incldes: 133,139,143)*	*1*
	302	***30240***	***NBR***	—		*Kit, Piston (Incldes: 119,133,135-139,143,153)*	*1*
		—		***30210***	***NBR***	*Kit, Piston (Incldes: 119,130,133,135-139,143)*	*1*
		30842	***FPM***	—		*Kit, Bac-Cup Piston (Incldes: 119,133,135-139,143,153)*	*1*
	305	*30312*	*NBR*	*30312*	*NBR*	*Kit, Sleeve & Prrrrrm-A-Lube Seal (Incldes: 75,77,80,106,139)*	*1*
		30230	*NBR*	*30230*	*NBR*	*Kit, Sleeve & Blue-Dot Seal (Incldes: 75,77,80,101,106,139)*	*1*
	306	*30305*	*NBR*	*30305*	*NBR*	*Kit, Prrrrrm-A-Lube Seal (Incldes: 106,139)*	*1*
		30229	*NBR*	*30229*	*NBR*	*Kit, Blue-Dot Seal (Incldes: 101,106,139)*	*1*
	310	*30686*	*S*	*30686*	*S*	*Kit, Valve - Q.V. (Incldes: 143,164,166,167,168)*	*1*
		30024	*S*	*30024*	*S*	*Kit, Valve - F.V. (Incldes: 143,164,166,167,168)*	*1*

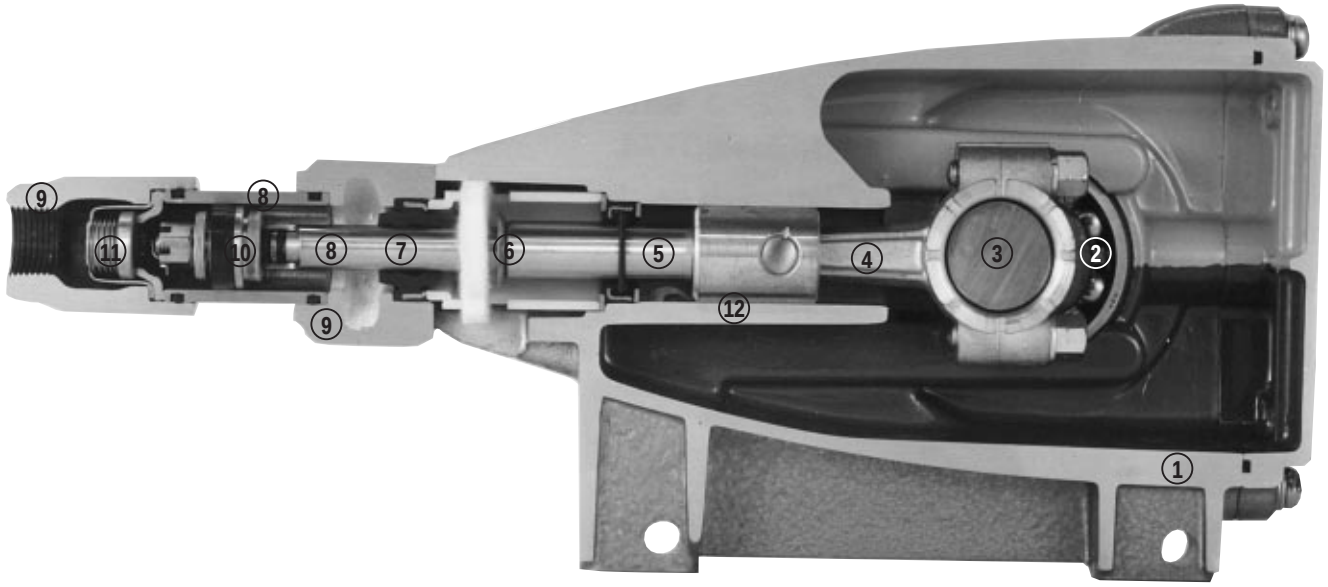
● Industrial discount. **Bold print part numbers are unique to a particular pump model.** *Italics are optional items.*

See Tech Bulletins 16, 17, 20, 24, 25, 26, 30, 34, 36, 37, 38, 43, 74 and 77 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated FCM=Forged Chrome-moly FPM=Fluorocarbon (Viton®) NBR=Medium Nitrile (Buna-N) POP=Polypropylene PTFE=Polytetrafluoroethylene (Teflon®) S=304SS SCP=304SS/Chrome Plated SS=316SS STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated SZZ=304SS/Zamak ZZ=Zamak



Models 333, 430



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 **piston rods** are high tensile strength 304 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 The **patented stepped piston rod** with hard chrome-plated stainless steel **sleeve** provides a durable wear surface and easy wet-end servicing.

8 The **cylinder** and **sleeve** wear surfaces are hard chrome-plated 304 stainless steel for longer service life.

9 **Manifolds** are of high tensile strength chrome-plated brass or 316 stainless steel for special corrosion resistance.

10 100% wet **cup/seal** design adds to service life by allowing pumped fluids to cool and lubricate the elastomers on both sides.

11 304 stainless steel **valves, seats, and springs** provide corrosion-resistance, positive seating and long 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 Aug 1998 8819

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