

68 Frame Block-Style Stainless Steel Plunger Pump

Standard Models 6811, 6821

Flushed Models 6811K, 6821K

FEATURES

Superior Design

- Triplex plunger design gives smoother fluid flow.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Oil bath crankcase assures optimum lubrication.
- Close tolerance concentricity of the ceramic plunger maximizes seal life.
- **Standard Models:** Lo-Pressure Seals and V-Packings are completely lubricated and cooled by the fluid being pumped.

Flushed Models: Special ported inlet manifold permits fluid to cool or flush between V-Packings and Lo-Pressure Seals providing protection against high temperatures or contaminating pumped fluids.

Quality Materials

- All stainless steel valves are heat treated and seats are roller burnished for a positive seal and extended valve life.
- 316 SSL block-style 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.
- Optional Cast Iron crankcase for hazardous environments.
- 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.
- 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

MODEL 6811, 6811K	U.S. Measure	Metric Measure
Flow	15.0 GPM	(57 L/M)
Discharge Pressure	100 to 5000 PSI	(7 to 345 BAR)
RPM	600 RPM	(600 RPM)
Bore.....	0.984"	(25 mm)
Inlet Ports (2) ★	1-1/2" NPTF	(1-1/2" NPTF)
Flushing Ports (2)	1/2" NPTF	(1/2" NPTF)
Outlet Ports (2)	1" NPTF	(1" NPTF)

Alternate Specifications

Flow	15.0 GPM	(57 L/M)
Discharge Pressure ★	7000 PSI	(485 BAR)

★ Frequent cycle duty with dump gun only. Continuous duty with Safety Valve or Rupture Disk.

MODEL 6821, 6821K

Flow	25.0 GPM	(95 L/M)
Discharge Pressure	100 to 3000 PSI	(7 to 210 BAR)
RPM	615 RPM	(615 RPM)
Bore.....	1.260"	(32 mm)
Inlet Ports (2)	1-1/2" NPTF	(1-1/2" NPTF)
Flushing Ports (2)	1/2" NPTF	(1/2" NPTF)
Outlet Ports (2)	1" NPTF	(1" NPTF)

COMMON SPECIFICATIONS

Inlet Pressure ★	Flooded to 50 PSI	(Flooded to 3.5 BAR)
Stroke	2.579"	(65.5 mm)
Crankcase Capacity.....	10 Qts.	(9.46 L)
Max. Fluid Temperature.....	140°F	(60°C)
Shaft Diameter	1.772"	(45 mm)
Weight.....	355 lbs.	(161 kg)
Dimensions.....	29.5" x 24.3" x 15.95"	(750 x 618 x 405 mm)

HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE					RPM
	U.S. GPM	L/M	PSI 2000 BAR 140	PSI 2500 BAR 175	PSI 3000 BAR 210	PSI 4000 BAR 275	PSI 5000 BAR 345	
6811	15	57	N/A	N/A	30.9	41.2	51.5	600
6811K	12	45	N/A	N/A	24.7	32.9	41.2	496
	10	38	N/A	N/A	20.6	27.5	34.3	390
6821	25	95	34.3	42.9	55.1	N/A	N/A	615
6821K	20	76	27.7	34.3	41.2	N/A	N/A	492
	15	57	26.5	25.7	30.9	N/A	N/A	369

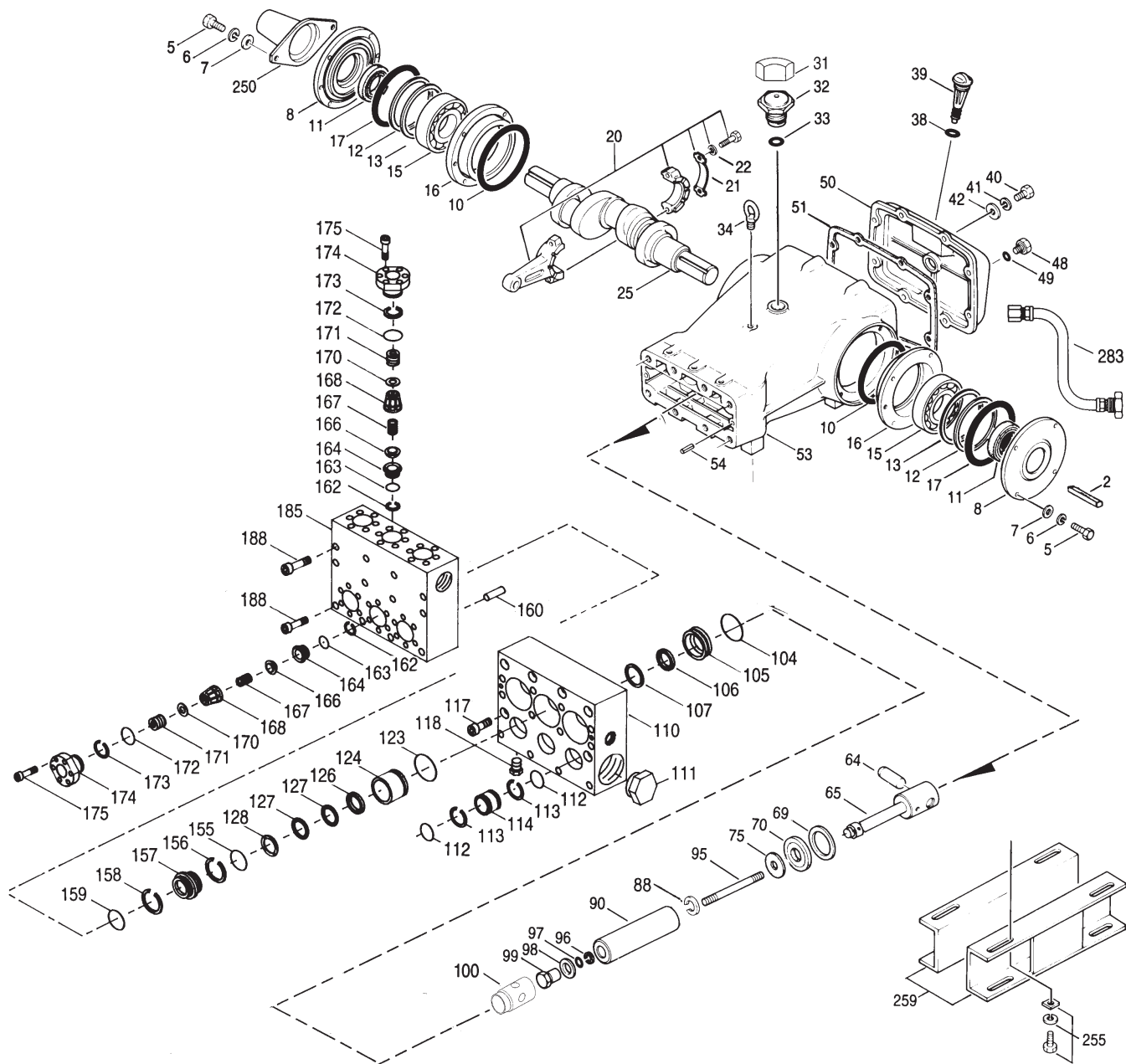
See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 03.

"Customer confidence is our greatest asset"

PARTS LIST

ITEM	PART NUMBER				DESCRIPTION	QTY				
	6811	MATL	6811K	MATL	6821	MATL	6821K	MATL		
● 2	43048	STL	43048	STL	43048	STL	43048	STL	Key (M14x9x90)	1
5	89728	SS	89728	SS	89728	SS	89728	SS	Screw, HH (M10x40)	8
6	15847	S	15847	S	15847	S	15847	S	Lockwasher, Split (M10)	8
7	19934	SS	19934	SS	19934	SS	19344	SS	Washer, Flat (M10)	8
8	29443	AL	29443	AL	29443	AL	29443	AL	Cover, Bearing - Outer	2
10	29444	NBR	29444	NBR	29444	NBR	29444	NBR	O-Ring, Bearing Cover	2
11	11443	NBR	11443	NBR	11443	NBR	11443	NBR	Seal, Oil, Crankshaft	2
12	43642	S	43642	S	43642	S	43642	S	Washer, Shim (M120x0.3)	0-2
13	43643	S	43643	S	43643	S	43643	S	Washer, Shim (M120x0.5)	0-2
15	29441	STL	29441	STL	29441	STL	29441	STL	Bearing, Roller	2
16	29442	AL	29442	AL	29442	AL	29442	AL	Cover, Bearing - Inner	2
17	29444	NBR	29444	NBR	29444	NBR	29444	NBR	O-Ring, Bearing Cover	2
20	46681	HS	46681	HS	46681	HS	46681	HS	Rod, Connecting Assy	3
21	44941	STZP	44941	STZP	44941	STZP	44941	STZP	Washer, Locking	3
22	43641	STL	43641	STL	43641	STL	43641	STL	Washer, Shim, Connecting Rod (M10.5x1.5)	6
25	29440	FCM	29440	FCM	29440	FCM	29440	FCM	Crankshaft, Dual Shaft	1
31	828710		828710		828710		828710		Protector, Oil Cap	1
32	43211		43211		43211		43211		Cap, Oil Filler	1
33	14177	NBR	14177	NBR	14177	NBR	14177	NBR	O-Ring, Filler Cap	1
34	29726	STZP	29726	STZP	29726	STZP	29726	STZP	Bolt, Eye	1
38	11338	NBR	11338	NBR	11338	NBR	11338	NBR	O-Ring, Dip Stick	1
39	27769	BB	27769	BB	27769	BB	27769	BB	Stick, Dip	1
40	89627	SS	89627	SS	89627	SS	89627	SS	Screw, HH (M10x30)	8
41	15847	S	15847	S	15847	S	15847	S	Lockwasher, Split (M10)	8
42	19934	SS	19934	SS	19934	SS	19934	SS	Washer, Flat (M10)	8
48	25625	STCP	25625	STCP	25625	STCP	25625	STCP	Plug, Drain (1/4"x11)	1
49	23170	NBR	23170	NBR	23170	NBR	23170	NBR	O-Ring, Drain Plug	1
50	29438	AL	29438	AL	29438	AL	29438	AL	Cover, Crankcase	1
51	29439	NBR	29439	NBR	29439	NBR	29439	NBR	Gasket, Crankcase Cover	1
● 53	43284	AL	43284	AL	43284	AL	43284	AL	Crankcase w/Guide Pins	1
54	43282	S	43282	S	43282	S	43282	S	Pin, Guide	2
64	29481	S	29481	S	29481	S	29481	S	Pin, Rist	3
65	701581	SSZZ	701581	SSZZ	701581	SSZZ	701581	SSZZ	Rod Plunger Assembly	3
69	29453	STZP	29453	STZP	29453	STZP	29453	STZP	Washer, Oil Seal	3
70	29454	NBR	29454	NBR	29454	NBR	29454	NBR	Seal, Oil Crankcase	3
75	43865	S	43865	S	43865	S	43865	S	Slinger Barrier	3
88	45676	SS	45676	SS	45676	SS	45676	SS	Washer, Keyhole (M16)	3
90	43866	CC	43866	CC	43957	CC	43957	CC	Plunger	3
95	89778	SS	89778	SS	89778	SS	89778	SS	Stud, Plunger Retainer (M10x122)	3
96	20189	PTFE	20189	PTFE	20189	PTFE	20189	PTFE	Back-up-Ring, Plunger Retainer	3
97	11345	NBR	11345	NBR	11345	NBR	11345	NBR	O-Ring, Plunger Retainer	3
	11375	FPM	11375	FPM	11375	FPM	11375	FPM	O-Ring, Plunger Retainer	3
98	44085	SS	44085	SS	44085	SS	44085	SS	Gasket, Plunger Retainer	3
99	44084	SS	44084	SS	44084	SS	44084	SS	Retainer, Plunger (M10)	3
100	701455	BB	701455	BB	701455	BB	701455	BB	Retainer, Seal	3
104	43875	NBR	43875	NBR	43875	NBR	43875	NBR	O-Ring, Adapter, Inlet	3
	44826	FPM	44826	FPM	44826	FPM	44826	FPM	O-Ring, Adapter, Inlet	3
105	701323	SS	701323	SS	45562	SS	45562	SS	Adapter, Inlet, LPS	3
106	44086	NBR	44086	NBR	44098	NBR	44098	NBR	Seal, LPS, w/SS-Spg	3
	45846	FPM	45846	FPM	44827	FPM	44827	FPM	Seal, LPS, w/SS-Spg	3
107	44089	SS	44089	SS	44101	SS	44101	SS	Washer, LPS	3
● 110	701321	SSL	—	701321	SSL	—	—	—	Manifold Inlet, Block-Style	1
	—	—	701322	SSL	—	—	701322	SSL	Manifold Inlet, Block-Style, Flushed	1
111	701116	SS	701116	SS	701116	SS	701116	SS	Plug, Inlet Manifold (1-1/2" NPT)	1
112	701632	NBR	701632	NBR	701632	NBR	701632	NBR	O-Ring, Spacer	6
	701328	FPM	701328	FPM	701328	FPM	701328	FPM	O-Ring, Spacer	6
113	701329	PTFE	701329	PTFE	701329	PTFE	701329	PTFE	Back-up-Ring, Spacer	6
114	701327	SS	701327	SS	701327	SS	701327	SS	Spacer, Inlet	6
117	89694	SS	89694	SS	89694	SS	89694	SS	Screw, HSH (M16x110)	8
118	701077	SS	701077	SS	701077	SS	701077	SS	Plug (1/4" NPT)	3
123	12391	NBR	12391	NBR	12391	NBR	12391	NBR	O-Ring, V-Packing Cylinder	3
	13266	FPM	13266	FPM	13266	FPM	13266	FPM	O-Ring, V-Packing Cylinder	3
124	701324	SS	701324	SS	701330	SS	701330	SS	Cylinder, V-Packing	3
126	701325	SS	701325	SS	45564	SS	45564	SS	Adapter, Female	3
127	44610	PTFE	44610	PTFE	44608	PTFE	44608	PTFE	V-Packing	6
128	701326	SS	701326	SS	45565	SS	45565	SS	Adapter, Male	3
155	11379	NBR	11379	NBR	25495	NBR	25495	NBR	O-Ring, Spacer, Inner	3
	14183	FPM	14183	FPM	11748	FPM	11748	FPM	O-Ring, Spacer, Inner	3
156	28243	PTFE	28243	PTFE	28242	PTFE	28242	PTFE	Back-up-Ring, Spacer, Inner	3
157	701294	SS	701294	SS	45674	SS	45674	SS	Spacer, V-Packing	3
158	28243	PTFE	28243	PTFE	20464	PTFE	20464	PTFE	Back-up-Ring, Spacer, Outer	3
159	11379	NBR	11379	NBR	18697	NBR	18697	NBR	O-Ring, Spacer, Outer	3
	14183	FPM	14183	FPM	20137	FPM	20137	FPM	O-Ring, Spacer, Outer	3
160	44756	SS	44756	SS	44756	SS	44756	SS	Pin, Guide (I.M., D.M.)	2
162	21985	PTFE	21985	PTFE	21985	PTFE	21985	PTFE	Back-up-Ring, Seat	12/6
163	26089	NBR	26089	NBR	26089	NBR	26089	NBR	O-Ring, Seat - 80	12/6
	11377	FPM	11377	FPM	11377	FPM	11377	FPM	O-Ring, Seat - 80	12/6
164	44080	SS	44080	SS	44080	SS	44080	SS	Seat	6
166	44081	SS	44081	SS	44081	SS	44081	SS	Valve	6
167	44082	SS	44082	SS	44082	SS	44082	SS	Spring	6
168	44735	PVDF	44735	PVDF	44735	PVDF	44735	PVDF	Retainer, Spring	6
170	44794	SS	44794	SS	44794	SS	44794	SS	Washer, Retainer	6
171	44793	SS	44793	SS	44793	SS	44793	SS	Spring, Coil Retainer	6
172	15853	NBR	15853	NBR	15853	NBR	15853	NBR	O-Ring, Valve Plug	6
	11720	FPM	11720	FPM	11720	FPM	11720	FPM	O-Ring, Valve Plug	6
173	20224	PTFE	20224	PTFE	20224	PTFE	20224	PTFE	Back-up-Ring, Valve Plug	6
174	701260	SS	701260	SS	701260	SS	701260	SS	Plug, Valve	6
175	87951	SS	87951	SS	87951	SS	87951	SS	Screw, HSH (M10x30)	36
● 185	701320	SSL	701320	SSL	701320	SSL	701320	SSL	Manifold, Discharge, Block-Style	1
188	701279	SS	701279	SS	701279	SS	701279	SS	Screw, HSH (M12x100), Lower	4
	89694	S	89694	S	89694	S	89694	S	Screw, HSH (M16x110), Upper	8

EXPLODED VIEW



Block-Style Manifold Stainless Steel Models
6811, 6821, 6811K, 6821K
October 1998

	6811	MATL	6811K	MATL	6821	MATL	6821K	MATL		
● 250	29445	AL	29445	AL	29445	AL	29445	AL	Protector, Shaft	1
● 255	33243		33243		33243		33243		Kit, Mount (Included w/Pump)	2
● 259	29477	STZP	29477	STZP	29477	STZP	29477	STZP	Rail Box (Included w/Pump)	2
● 275	990014		990014		990014		990014		Hub, "B", M45 (Keyway M14x9)	1
									[See complete Drive Packages Tech Bulletin 03]	
● 283	34334		34334		34334		34334		Kit, Oil Drain	1
● 290	6108		6108		6108		6108		Liquid Gasket	1
● 299	910000	SSL	—		910001	SSL	—		Head, Complete, Block-Style	1
● 300	701648	NBR	701648	NBR	701649	NBR	701649	NBR	Head, Complete, Block-Style, Flushed	1
	33710	FPM	33710	FPM	33720	FPM	33720	FPM	Kit, Seal (Incls: 97,104,106,112,113,123,127,155,156,158,159)	1
● 310	34151	NBR	34151	NBR	34151	NBR	34151	NBR	Kit, Seal (Incls: 97,104,106,112,113,123,127,155,156,159)	1
	701798	FPM	701798	FPM	701798	FPM	701798	FPM	Kit, Valve (Incls: 162,163,164,166,167,168,170,172,173)	2
● 370	—		990663		—		990663		Kit, Valve (Incls: 162,163,164,166,167,168,170,172,173)	2
● —	—		—		—		—		Assembly, Flushing, 5 gal, 1 GPM, 3 PSI	1
● —	—		—		—		—		C.A.T. (Captive Acceleration Tube)	1
● —	—		—		—		—		Adapter (2 per C.A.T.) (See Data Sheet for complete selection)	2
—	6565.7		6565.7		6565.7		6565.7		Plunger Pump Service Video	1

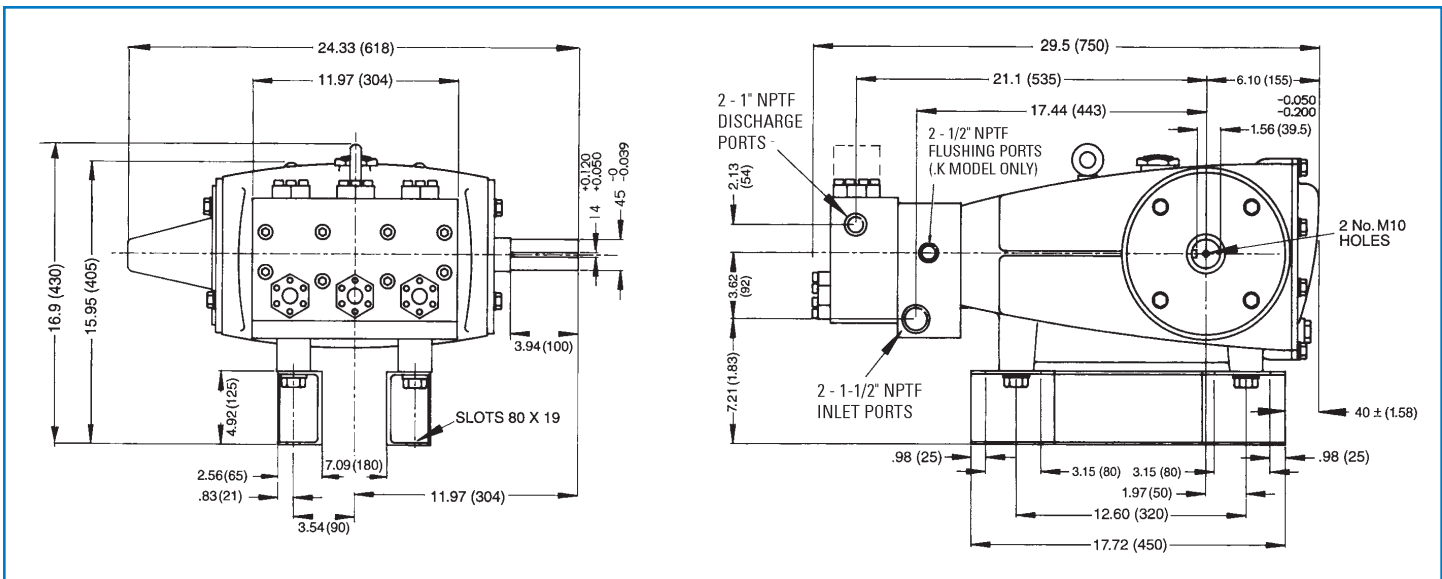
● Industrial discount. **Bold print part numbers are unique to a particular pump model.** *Italics are optional items.*

Pressurized Inlet and C.A.T. highly recommended for Hi-Temp, R.O. and industrial applications. See Tech Bulletin 03, 24, 36, 74 and 77 for additional information.

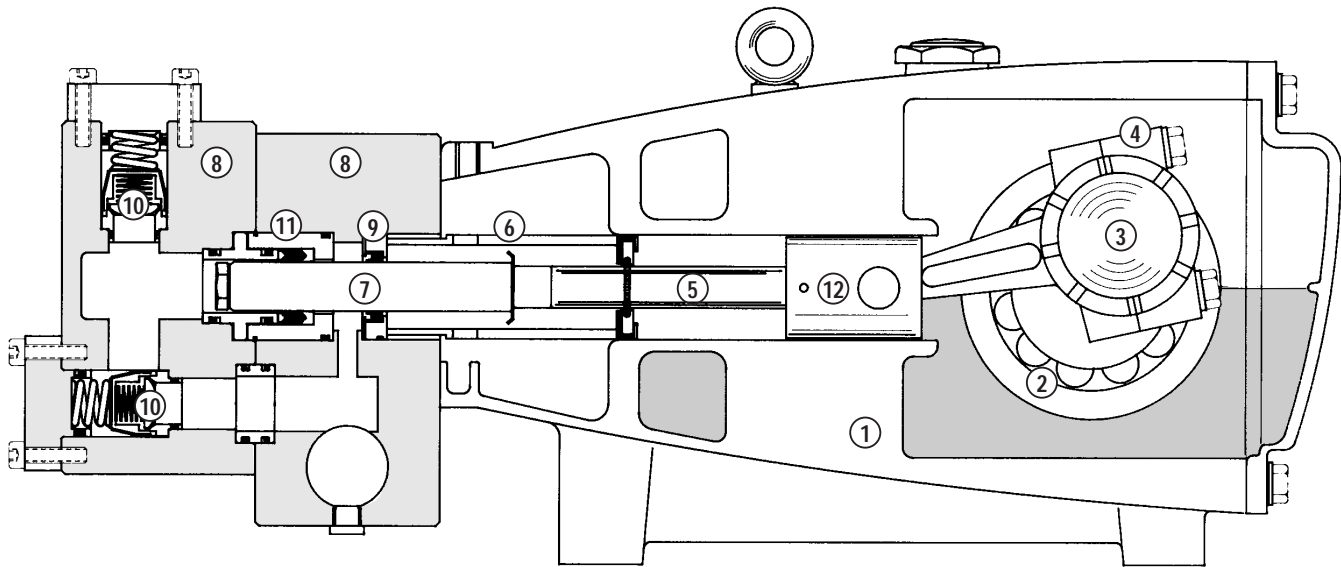
MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass CC=Ceramic FCM=Forged Chrome-moly

FPM=Fluorocarbon (Viton®) HS=High Strength NBR=Medium Nitrile (Buna-N) PTFE=Polytetrafluoroethylene (Teflon®) PVDF=Fluoroplastic (High Strength)

S=304SS SS=316SS SSL=316SS/Low Carbon SSZZ=316SS/Zamak STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated



Models 6811, 6811K, 6821, 6821K



- | | | |
|--|--|---|
| <p>1 Die cast aluminum crankcase means high strength, lightweight, and excellent tolerance control.</p> <p>2 Oversized crankshaft bearings provide extended bearing life and pump performance.</p> <p>3 Chrome-moly crankshaft provides unmatched strength and surface hardness for long life.</p> <p>4 Matched oversized high strength connecting rods are noted for superior strength and bearing quality.</p> <p>5 Special stainless steel plunger rods with high strength crossheads for longevity and corrosion resistance.</p> | <p>6 The stainless steel barrier slinger provides back-up protection for the crankcase seal, keeping pumped fluids out of the crankcase.</p> <p>7 Special concentric, high density, polished, graphite impregnated, solid ceramic plungers are abrasion resistant and result in extended seal life.</p> <p>8 Manifolds are 316 SSL block-style for long-term, continuous-duty and corrosion resistance.</p> <p>9 Standard Models: Lo-Pressure Seals and V-Packings are completely lubricated and cooled by the fluid being pumped.</p> | <p>9 Flushed Models: Special ported inlet manifold permits fluid to cool or flush between V-Packings and Lo-Pressure Seals providing protection against high temperatures or contaminating pumped fluids.</p> <p>10 Stainless steel valves, seats and springs provide corrosion-resistance, positive seating and long life.</p> <p>11 Specially formulated, CAT PUMP exclusive, V-Packings offer unmatched performance and seal life.</p> <p>12 Crossheads are 360° supported for uncompromising alignment.</p> |
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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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