

68 Frame Block-Style Stainless Steel Plunger Pump

Standard Models 6811, 6821

Flushed Models 6811K, 6821K

FEATURES

Superior Design

- Triplex plunger design provides smoother liquid 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 liquid being pumped.

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

Quality Materials

- Precision design 316 stainless steel valves and seats are hardened and polished for ultimate seating and extended valve life.
- 316 SSL block-style manifolds for strength and corrosion resistance.
- Special concentric, high-density, polished, solid ceramic plungers provide a true wear surface and 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 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

MODELS 6811, 6811K

Flow15.0 GPM (57 L/M)
 Pressure Range100 to 5000 PSI (7 to 345 BAR)
 RPM600 RPM (600 RPM)
 Bore0.984" (25 mm)

Alternate Specifications

Flow15.0 GPM (57 L/M)
 Pressure Range**100 to 7000 PSI (7 to 485 BAR)

**Frequent cycle duty with dump gun only.

Continuous duty with Regulator, Relief Valve or Rupture Disk.

MODELS 6821, 6821K

Flow25.0 GPM (95 L/M)
 Pressure Range100 to 3000 PSI (7 to 210 BAR)
 RPM615 RPM (615 RPM)
 Bore1.260" (32 mm)

COMMON SPECIFICATIONS

Inlet Pressure Range*Flooded to 50 PSI (Flooded to 3.5 BAR)
 Stroke2.579" (65.5 mm)
 Crankcase Capacity10 Qts. (9.46 L)
 Maximum Liquid Temperature140°F (60°C)
 Above 130°F call CAT PUMPS for inlet conditions and elastomer recommendations.
 Inlet Ports (2)1-1/2" NPTF (1-1/2" NPTF)
 Flushing Ports (2)1/2" NPTF (1/2" NPTF)
 Discharge Ports (2)1" NPTF (1" NPTF)
 Shaft Diameter1.772" (45 mm)
 Weight355 lbs. (161 kg)
 Dimensions29.5 x 24.33 x 11.98" (750 x 618 x 305 mm)

*"K" Models have special inlet ports for cooling, flushing and containment of hazardous liquids. Contact CAT PUMPS for additional information.

ELECTRIC HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE					RPM
			PSI 2000	PSI 2500	PSI 3000	PSI 4000	PSI 5000	
	U.S. GPM	L/M	BAR 140	BAR 175	BAR 210	BAR 275	BAR 345	
6811	15	57	N/A	N/A	30.9	41.1	51.5	600
6811K	12	45	N/A	N/A	24.7	32.9	41.1	496
	10	38	N/A	N/A	20.6	27.4	34.3	390
6821	25	95	34.3	42.8	51.4	N/A	N/A	615
6821K	20	76	27.4	34.3	41.1	N/A	N/A	492
	15	57	20.5	25.7	30.9	N/A	N/A	369

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. $\frac{\text{GPM x PSI}}{1460} = \text{Electric Brake H. P. Required}$

DETERMINING MOTOR PULLEY SIZE $\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

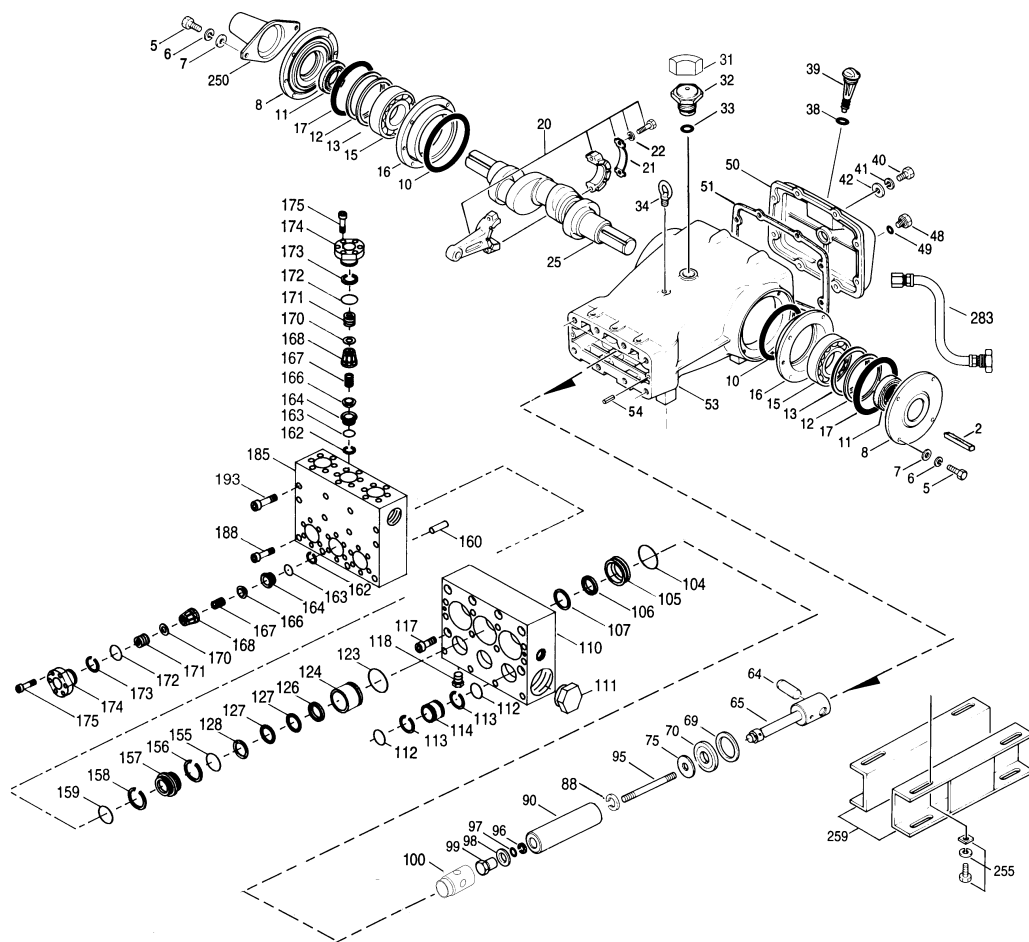
See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003. Refer to pump **Service Manual** for repair procedure, additional technical information and **pump warranty**.

"Customer confidence is our greatest asset"

PARTS LIST

ITEM	6811	MATL	6811K	MATL	6821	MATL	6821K	MATL	DESCRIPTION	QTY
2	43048	STL	43048	STL	43048	STL	43048	STL	Key (M14x9x90)	1
5	89728	S	89728	S	89728	S	89728	S	Screw, HH (M10x40)	8
6	15847	S	15847	S	15847	S	15847	S	Lockwasher (M10)	8
7	19934	S	19934	S	19934	S	19934	S	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 - 70D	2
11	11443	NBR	11443	NBR	11443	NBR	11443	NBR	Seal, Oil, Crankshaft - 70D	2
12	43642	STZP	43642	STZP	43642	STZP	43642	STZP	Washer, Shim (M120x0.3)	0-2
13	126594	STCP R	126594	STCP R	126594	STCP R	126594	STCP R	Washer, Shim (M120x0.3)	0-2
	43643	STZP	43643	STZP	43643	STZP	43643	STZP	Washer, Shim (M120x0.5)	0-2
	126595	STCP R	126595	STCP R	126595	STCP R	126595	STCP R	Washer, Shim (M120x0.5)	0-2
15	29441	STL	29441	STL	29441	STL	29441	STL	Bearing, Roller	2
16	29442	STL	29442	STL	29442	STL	29442	STL	Cover, Bearing - Inner	2
17	29444	NBR	29444	NBR	29444	NBR	29444	NBR	O-Ring, Bearing Cover - 70D	2
20	126612	BBHS	126612	BBHS	126612	BBHS	126612	BBHS	Assembly, Connecting Rod (Incls: 21, 22)	3
21	44941	STZP	44941	STZP	44941	STZP	44941	STZP	Washer, Locking	3
22	126560	STCP R	126560	STCP R	126560	STCP R	126560	STCP R	Washer, Locking	3
	43641	STZP	43641	STZP	43641	STZP	43641	STZP	Washer, Shim (M10.5x1.5)	6
	126593	STCP R	126593	STCP R	126593	STCP R	126593	STCP R	Washer, Shim (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 w/Foam Gasket	1
32	43211	ABS	43211	ABS	43211	ABS	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	14177	NBR	14177	NBR	14177	NBR	O-Ring, Filler Cap - 70D	1
34	126743	STCP R	126743	STCP R	126743	STCP R	126743	STCP R	Bolt, Eye (M12) (For Lifting Pump Only)	1
38	11338	NBR	11338	NBR	11338	NBR	11338	NBR	O-Ring, Dip Stick - 70D	1
39	27769	ABS	27769	ABS	27769	ABS	27769	ABS	Stick, Dip	1
40	89627	S	89627	S	89627	S	89627	S	Screw, HH (M10x30)	8
41	15847	S	15847	S	15847	S	15847	S	Lockwasher (M10)	8
42	19934	S	19934	S	19934	S	19934	S	Washer, Flat (M10)	8
48	25625	STCP	25625	STCP	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	29438	AL	29438	AL	29438	AL	29438	AL	Cover, Rear	1
51	29439	NBR	29439	NBR	29439	NBR	29439	NBR	Gasket, Rear Cover	1
53	45303	AL	45303	AL	45303	AL	45303	AL	Crankcase (Incls: 34, 54)	1
54	43282	S	43282	S	43282	S	43282	S	Pin, Guide	2
64	29481	CM	29481	CM	29481	CM	29481	CM	Pin, Crosshead	3
65	48735	SSZZ	48735	SSZZ	48735	SSZZ	48735	SSZZ	Rod, Plunger	3
69	126588	STCP R	126588	STCP R	126588	STCP R	126588	STCP R	Washer, Oil Seal	3
70	29454	NBR	29454	NBR	29454	NBR	29454	NBR	Seal, Oil Crankcase - 80D	3
75	43865	S	43865	S	43865	S	43865	S	Slinger Barrier	3
88	45676	S	45676	S	45676	S	45676	S	Washer, Keyhole (M16)	3
90	43866	CC	43866	CC	43957	CC	43957	CC	Plunger (M12x145) (M32x145)	3
95	89778	SS	89778	SS	89778	SS	89778	SS	Stud, Plunger Retainer (M10x135)	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 - 70D	3
	11375	FPM	11375	FPM	11375	FPM	11375	FPM	O-Ring, Plunger Retainer	3
	701490	EPDM	701490	EPDM	701490	EPDM	701490	EPDM	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	703084	D	703084	D	703084	D	703084	D	Retainer, Seal	3
104	43875	NBR	43875	NBR	43875	NBR	43875	NBR	O-Ring, Adapter, Inlet - 70D	3
	44826	FPM	44826	FPM	44826	FPM	44826	FPM	O-Ring, Adapter, Inlet - 70D	3
	701656	EPDM	701656	EPDM	701656	EPDM	701656	EPDM	O-Ring, Adapter, Inlet - 70D	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
	701944	SFTA*	701944	SFTA*	48244	EPDM	48244	EPDM	Seal, LPS, w/SS-Spg	3
107	44089	SS	44089	SS	44101	SS	44101	SS	Washer, LPS	3
110	701321	SSL	701321	SSL	701321	SSL	701321	SSL	Manifold Inlet, Block-Style	1
	701116	SS	701116	SS	701116	SS	701116	SS	Manifold Inlet, Block-Style, Flushed	1
111	701632	NBR	701632	NBR	701632	NBR	701632	NBR	Plug, Inlet Manifold (1-1/2" NPTM)	1
112	701328	FPM	701328	FPM	701328	FPM	701328	FPM	O-Ring, Spacer	6
	701973	EPDM	701973	EPDM	701973	EPDM	701973	EPDM	O-Ring, Spacer	6
	701329	PTFE	701329	PTFE	701329	PTFE	701329	PTFE	Back-up-Ring, Spacer	6
113	701327	SS	701327	SS	701327	SS	701327	SS	Spacer, Inlet	3
114	89694	S	89694	S	89694	S	89694	S	Screw, HSH (M16x110)	8
117	701077	SS	701077	SS	701077	SS	701077	SS	Plug (1/4" NPTM)	3
118	12391	NBR	12391	NBR	12391	NBR	12391	NBR	O-Ring, V-Packing Cylinder - 70D	3
123	13266	FPM	13266	FPM	13266	FPM	13266	FPM	O-Ring, V-Packing Cylinder - 70D	3
	701657	EPDM	701657	EPDM	701657	EPDM	701657	EPDM	O-Ring, V-Packing Cylinder - 70D	3
124	701324	SSL	701324	SSL	701330	SSL	701330	SSL	Cylinder, V-Packing	3
126	701325	SS	701325	SS	48390	D	48390	D	Adapter, Female	3
	44610	STG*	44610	STG*	45564	SS	45564	SS	Adapter, Female	3
127	701326	SS	701326	SS	44608	STG*	44608	STG*	V-Packing	6
128	11379	NBR	11379	NBR	45565	SS	45565	SS	Adapter, Male	3
155	14183	FPM	14183	FPM	48861	NBR	48861	NBR	O-Ring, Spacer, Inner - 90D	3
	701491	EPDM	701491	EPDM	11748	FPM	11748	FPM	O-Ring, Spacer, Inner	3
	28243	PTFE	28243	PTFE	48371	D	48371	D	O-Ring, Spacer, Inner - 70D	3
156	701294	SS	701294	SS	48371	D	48371	D	Back-up-Ring, Spacer, Inner	3
157	28243	PTFE	28243	PTFE	45674	SS	45674	SS	Spacer, V-Packing	3
158	11379	NBR	11379	NBR	48362	D	48362	D	Back-up-Ring, Spacer, Outer	3
159	14183	FPM	14183	FPM	48860	NBR	48860	NBR	O-Ring, Spacer, Outer - 90D	3
	701491	EPDM	701491	EPDM	20137	FPM	20137	FPM	O-Ring, Spacer, Outer	3
	44756	S	44756	S	701492	EPDM	701492	EPDM	O-Ring, Spacer, Outer - 70D	3
160	21985	PTFE	21985	PTFE	44756	S	44756	S	Pin, Guide	2
162	26089	NBR	26089	NBR	21985	PTFE	21985	PTFE	Back-up-Ring, Seat	12/6
163	11377	FPM	11377	FPM	26089	NBR	26089	NBR	O-Ring, Seat - 80D	12/6
	46647	EPDM	46647	EPDM	11377	FPM	11377	FPM	O-Ring, Seat - 80D	12/6
164	44080	SS	44080	SS	44080	SS	44080	SS	O-Ring, Seat - 80D	12/6
166	44081	SS	44081	SS	44080	SS	44080	SS	Seat	6
167	44082	SS	44082	SS	44081	SS	44081	SS	Valve	6
168	44735	PVDF	44735	PVDF	44082	SS	44082	SS	Spring	6
	44735	PVDF	44735	PVDF	44735	PVDF	44735	PVDF	Retainer, Spring	6

EXPLODED VIEW



Models
 Standard - 6811, 6821
 Flushed - 6811K, 6821K
 March 2007

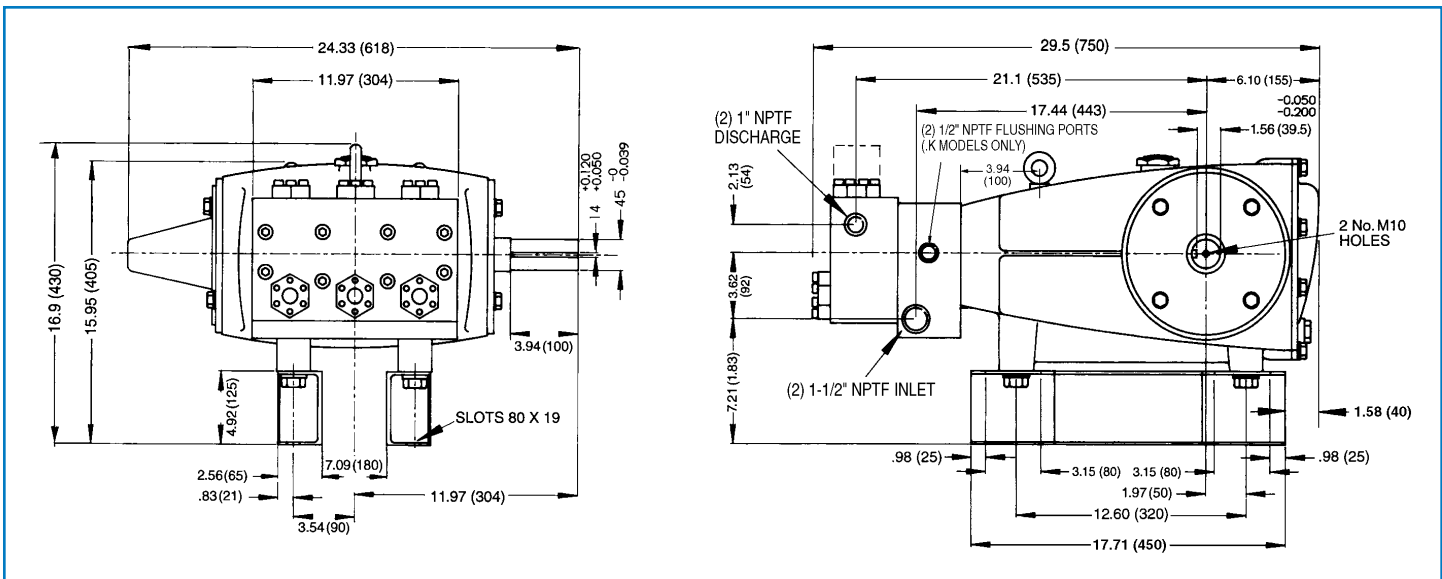
	6811	MATL	6811K	MATL	6821	MATL	6821K	MATL		
170	44794	SS	44794	SS	44794	SS	44794	SS	Washer, Retainer	6
171	44793	SS	44793	SS	44793	SS	44793	SS	Spring, Coil	6
172	15853	NBR	15853	NBR	15853	NBR	15853	NBR	O-Ring, Valve Plug - 70D	6
	11720	FPM	11720	FPM	11720	FPM	11720	FPM	O-Ring, Valve Plug - 70D	6
	◆ 701481	EPDM	◆ 701481	EPDM	◆ 701481	EPDM	◆ 701481	EPDM	O-Ring, Valve Plug - 70D	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	S	87951	S	87951	S	87951	S	Screw, HSH (M10x30)	36
185	701320	SSL	701320	SSL	701320	SSL	701320	SSL	Manifold, Discharge, Block-Style	1
188	701279	S	701279	S	701279	S	701279	S	Screw, HSH (M12x100), Lower	4
193	89694	S	89694	S	89694	S	89694	S	Screw, HSH (M16x110), Upper	8
250	29445	AL	29445	AL	29445	AL	29445	AL	Protector, Shaft	1
255	33243	STZP	33243	STZP	33243	STZP	33243	STZP	Kit, Mount (Included w/Pump)	2
259	29477	STZP	29477	STZP	29477	STZP	29477	STZP	Rail, Box (Included w/Pump)	2
275	990014	STL	990014	STL	990014	STL	990014	STL	Hub, "B"; (M45) (Keyway M14x9x90) [See Drive Packages Tech Bulletin 003]	1
283	34314	—	34314	—	34314	—	34314	—	Kit, Oil Drain	1
290	6124	—	6124	—	6124	—	6124	—	Gasket, Liquid (3 oz.) (Seal-Valve Service)	1
299	910000	SSL	—	—	910001	SSL	—	—	Head, Complete, Block-Style	1
	—	—	910005	SSL	—	—	910002	SSL	Head, Complete, Block-Style, Flushed	1
300	701648	NBR*	701648	NBR*	701649	NBR*	701649	NBR*	Kit, Seal (Incls: 97,104,106,112,113,123,127,155,156,158,159)	1
	33710	FPM*	33710	FPM*	33720	FPM*	33720	FPM*	Kit, Seal (Incls: 97,104,106,112,113,123,127,155,156,158,159)	1
	◆ 702353	EPDM	◆ 702353	EPDM	◆ 702352	EPDM	◆ 702352	EPDM	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, Valve (Incls: 162,163,164,166,167,168,170,172,173)	2
	701798	FPM	701798	FPM	701798	FPM	701798	FPM	Kit, Valve (Incls: 162,163,164,166,167,168,170,172,173)	2
	◆ 701799	EPDM	◆ 701799	EPDM	◆ 701799	EPDM	◆ 701799	EPDM	Kit, Valve (Incls: 162,163,164,166,167,168,170,172,173)	2
	819010	F	819010	F	819010	F	819010	F	Assembly, Crankcase, Cast Iron Conversion	1
370	—	—	990663	—	—	—	990663	—	Assembly, Flushing, 5 gal., 115V, 1.1 Amp, 1/2" NPT	1
	711500	SS	711500	SS	714500	SS	714500	SS	C.A.T. (For RO or Industrial Boosted Inlet Applications)	1
	711506	SS	711506	SS	714506	SS	714506	SS	Adapter (2 per C.A.T.) (See Data Sheet for complete selection)	2
	6575	—	6575	—	6575	—	6575	—	Plunger Pump Service DVD	1
	6105	—	6105	—	6105	—	6105	—	Oil, Twin Pack (Two-2.5 Gal) ISO 68 Multi-Viscosity Hydraulic	1
	—	—	—	—	—	—	—	—	Fill to specified crankcase capacity prior to start-up)	1
	6119	—	6119	—	6119	—	6119	—	Lubricant, Antiseize (1 oz.)	1

Bold print part numbers are unique to a particular pump model. Italics are optional items. ◆ Silicone oil/grease required. R Components comply with RoHS Directive.

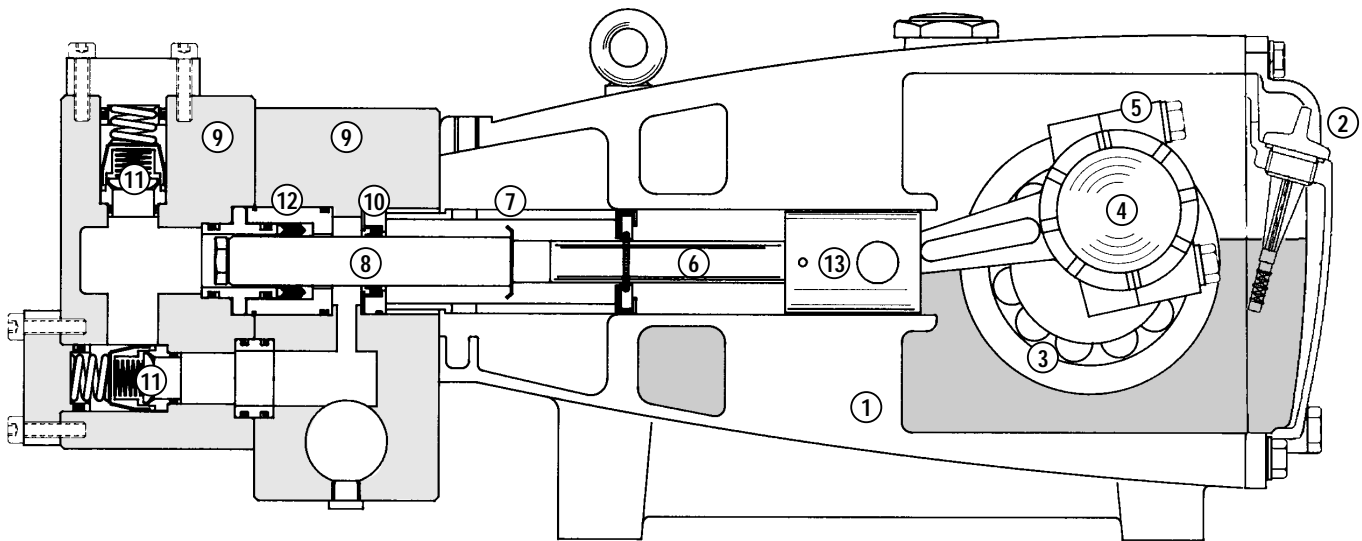
* Review material codes for individual items (STG generally may be used as alternate).

See Tech Bulletins 003, 024, 036, 074, 077, 083, 084 and 095 for additional information. **C.A.T. highly recommended for pressurized inlet, R.O. and Industrial applications.**

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BB=Brass BBHS=Brass/High Strength CC=Ceramic CM=Chrome-Moly
 D=Acetal EPDM=Ethylene Propylene Diene Monomer FCM=Forged Chrome-Moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N)
 PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SSL=316SS/Low Carbon SSZZ=316SS/Zamark
 STCP=Steel/Chrome Plated STG=Special Blend PTFE White STL=Steel STZP=Steel/Zinc Plated



Models 6811, 6811K, 6821, 6821K



- 1 Die cast aluminum **crankcase** means high strength, lightweight, and excellent tolerance control.
- 2 **Dipstick** offers top access for easy oil level check.
- 3 Oversized crankshaft **bearings** provide extended bearing life and pump performance.
- 4 Chrome-moly **crankshaft** provides unmatched strength and surface hardness for long life.
- 5 Matched oversized high strength **connecting rods** are noted for superior tensile strength and bearing quality.
- 6 Special stainless steel **plunger rods** with high strength crossheads for longevity and corrosion resistance.
- 7 The stainless steel **barrier slinger** provides back-up protection for the crankcase seal, keeping pumped liquids out of the crankcase.
- 8 Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
- 9 **Manifolds** are 316 SSL block-style for long-term, continuous-duty and corrosion resistance.
- 10 **Standard Models:** Lo-Pressure Seals and V-Packings are completely lubricated and cooled by the liquids being pumped.
- 10 Optional special ported **Flushed Inlet Manifold** permits external flush for lubricating and cooling seals when pumping liquids such as DI water, Hi-Temp or low lubricity.
- 11 316 stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.
- 12 Specially formulated, CAT PUMP exclusive, **V-Packings** offer unmatched performance and seal life.
- 13 **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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