

## 68 Frame Block-Style Stainless Steel Plunger Pump

**Standard Models** 6801, 6811

**Flushed Models** 6801K, 6811K

### FEATURES

#### Superior Design

- Triplex plunger design provides smoother liquid flow.
- 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 K Models:** Special ported inlet manifold permits an external flush liquid providing cooling for hi-temp liquids and lubrication for low lubricity liquids.

#### 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.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- 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 6801, 6801K

Flow ..... 15.0 GPM (57 L/M)  
 Pressure Range ..... 100 to 7000 PSI (7 to 485 BAR)  
 RPM ..... 600 RPM (600 RPM)  
 Bore ..... 0.984" (25 mm)

#### MODELS 6811, 6811K

Flow ..... 15.0 GPM (57 L/M)  
 Pressure Range ..... 100 to 5000 PSI (7 to 345 BAR)  
 RPM ..... 600 RPM (600 RPM)  
 Bore ..... 0.984" (25 mm)

#### COMMON SPECIFICATIONS

Inlet Pressure Range\* ..... Flooded to 50 PSI (Flooded to 3.5 BAR)  
 Stroke ..... 2.579" (65.5 mm)  
 Crankcase Capacity ..... 10 Qts. (9.46 L)  
 Maximum Liquid Temperature ..... 140°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 Diameter ..... 1.772" (45 mm)  
 Weight ..... 355 lbs. (161 kg)  
 Dimensions ..... 29.5 x 24.33 x 11.98" (750 x 618 x 305 mm)

\* Flushed K Models: Special ported inlet manifold permits an external flush liquid providing cooling for hi-temp liquids and lubrication for low lubricity liquids.

### ELECTRIC HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE					RPM
			PSI 3000	PSI 4000	PSI 5000	PSI 6000	PSI 7000	
	U.S. GPM	L/M	BAR 210	BAR 275	BAR 345	BAR 415	BAR 485	
6801 6801K	15	57	30.8	41.1	51.4	61.6	71.9	600
	12	45	24.7	32.9	41.1	49.3	57.5	480
	10	38	20.5	27.4	34.2	41.1	47.9	400
6811 6811K	15	57	30.8	41.1	51.4	N/A	N/A	600
	12	45	24.7	32.9	41.4	N/A	N/A	480
	10	38	20.5	27.4	43.2	N/A	N/A	400

**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**  $\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

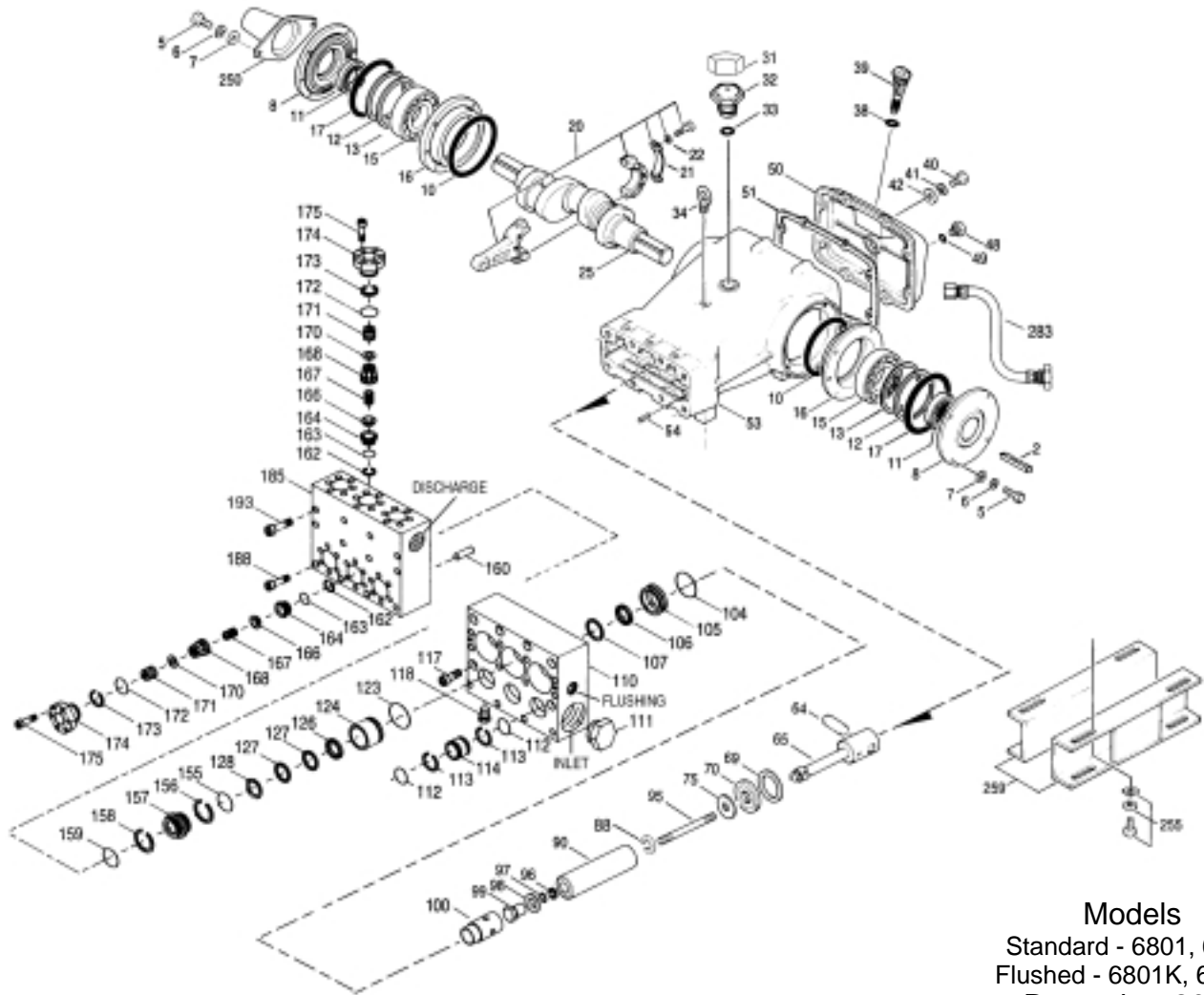
See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003.  
 Refer to pump **Service Manual** for repair procedure, additional technical information and **pump warranty**.

*"Customer confidence is our greatest asset"*

# PARTS LIST

ITEM	PART NUMBER				DESCRIPTION	QTY				
	6801	MATL	6801K	MATL	6811	MATL	6811K	MATL		
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
	126594	STCP R	126594	STCP R	126594	STCP R	126594	STCP R	Washer, Shim (M120x0.3)	0-2
13	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	126560	STCP R	126560	STCP R	126560	STCP R	126560	STCP R	Washer, Locking	3
22	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	43866	CC	43866	CC	Plunger (M12x145)	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	701323	SS	701323	SS	Adapter, Inlet, LPS	3
106	44086	NBR	44086	NBR	44086	NBR	44086	NBR	Seal, LPS, w/SS-Spg	3
	45846	FPM	45846	FPM	45846	FPM	45846	FPM	Seal, LPS, w/SS-Spg	3
	701944	SFTA*	701944	SFTA*	701944	SFTA*	701944	SFTA*	Seal, LPS, w/SS-Spg	3
107	44089	SS	44089	SS	44089	SS	44089	SS	Washer, LPS	3
110	701321	SSL	701321	SSL	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" NPTM)	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
	701973	EPDM	701973	EPDM	701973	EPDM	701973	EPDM	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	S	89694	S	89694	S	89694	S	Screw, HSH (M16x110)	8
118	701077	SS	701077	SS	701077	SS	701077	SS	Plug (1/4" NPTM)	3
123	12391	NBR	12391	NBR	12391	NBR	12391	NBR	O-Ring, V-Packing Cylinder - 70D	3
	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	701324	SSL	701324	SSL	Cylinder, V-Packing	3
126	701325	SS	701325	SS	701325	SS	701325	SS	Adapter, Female	3
127	44610	STG*	44610	STG*	44610	STG*	44610	STG*	V-Packing	6
128	701326	SS	701326	SS	701326	SS	701326	SS	Adapter, Male	3
155	11379	NBR	11379	NBR	11379	NBR	11379	NBR	O-Ring, V-Packing Spacer, Inner - 70D	3
	14183	FPM	14183	FPM	14183	FPM	14183	FPM	O-Ring, V-Packing Spacer, Inner	3
	701491	EPDM	701491	EPDM	701491	EPDM	701491	EPDM	O-Ring, V-Packing Spacer, Inner - 70D	3
156	28243	PTFE	28243	PTFE	28243	PTFE	28243	PTFE	Back-up-Ring, Spacer, Inner	3
157	701294	SS	701294	SS	701294	SS	701294	SS	Spacer, V-Packing	3
158	28243	PTFE	28243	PTFE	28243	PTFE	28243	PTFE	Back-up-Ring, Spacer, Outer	3
159	11379	NBR	11379	NBR	11379	NBR	11379	NBR	O-Ring, V-Packing Spacer, Outer - 70D	3
	14183	FPM	14183	FPM	14183	FPM	14183	FPM	O-Ring, V-Packing Spacer, Outer	3
	701491	EPDM	701491	EPDM	701491	EPDM	701491	EPDM	O-Ring, V-Packing Spacer, Outer - 70D	3
160	44756	S	44756	S	44756	S	44756	S	Pin, Guide IMDM	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 - 80D	12/6
	11377	FPM	11377	FPM	11377	FPM	11377	FPM	O-Ring, Seat - 80D	12/6
	46647	EPDM	46647	EPDM	46647	EPDM	46647	EPDM	O-Ring, Seat - 80D	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

# EXPLODED VIEW



Models  
Standard - 6801, 6811  
Flushed - 6801K, 6811K  
December 2008

	<b>6801</b>	<b>MATL</b>	<b>6801K</b>	<b>MATL</b>	<b>6811</b>	<b>MATL</b>	<b>6811K</b>	<b>MATL</b>		
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	<b>703206</b>	<b>SSD</b>	<b>703206</b>	<b>SSD</b>	<b>701320</b>	<b>SSL</b>	<b>701320</b>	<b>SSL</b>	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 w/Keyway [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	<b>910008</b>	<b>SSD</b>	—	—	<b>910000</b>	<b>SSL</b>	—	—	Head, Complete, Block-Style	1
	—	—	<b>910009</b>	<b>SSD</b>	—	—	<b>910005</b>	<b>SSL</b>	Head, Complete, Block-Style, Flushed	1
300	701648	NBR*	701648	NBR*	701648	NBR*	701648	NBR*	Kit, Seal (Incls: 97,104,106,112,113,123,127,155,156,158,159)	1
	33710	FPM*	33710	FPM*	33710	FPM*	33710	FPM*	Kit, Seal (Incls: 97,104,106,112,113,123,127,155,156,158,159)	1
	◆ 702353	EPDM	◆ 702353	EPDM	◆ 702353	EPDM	◆ 702353	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	Assy, Crankcase, Cast Iron Conversion	1
370	—	—	<b>990663</b>	—	—	—	<b>990663</b>	—	Assembly, Flushing, 5 gal., 115V, 1.1 Amp, 1/2" NPT	1
—	711500	SS	711500	SS	714500	SS	714500	SS	C.A.T. (Inlet pressure stabilizer for RO and boosted 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 Hydraulic	1
—	—	—	—	—	—	—	—	—	(Fill to specified crankcase capacity prior to start-up)	
—	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).

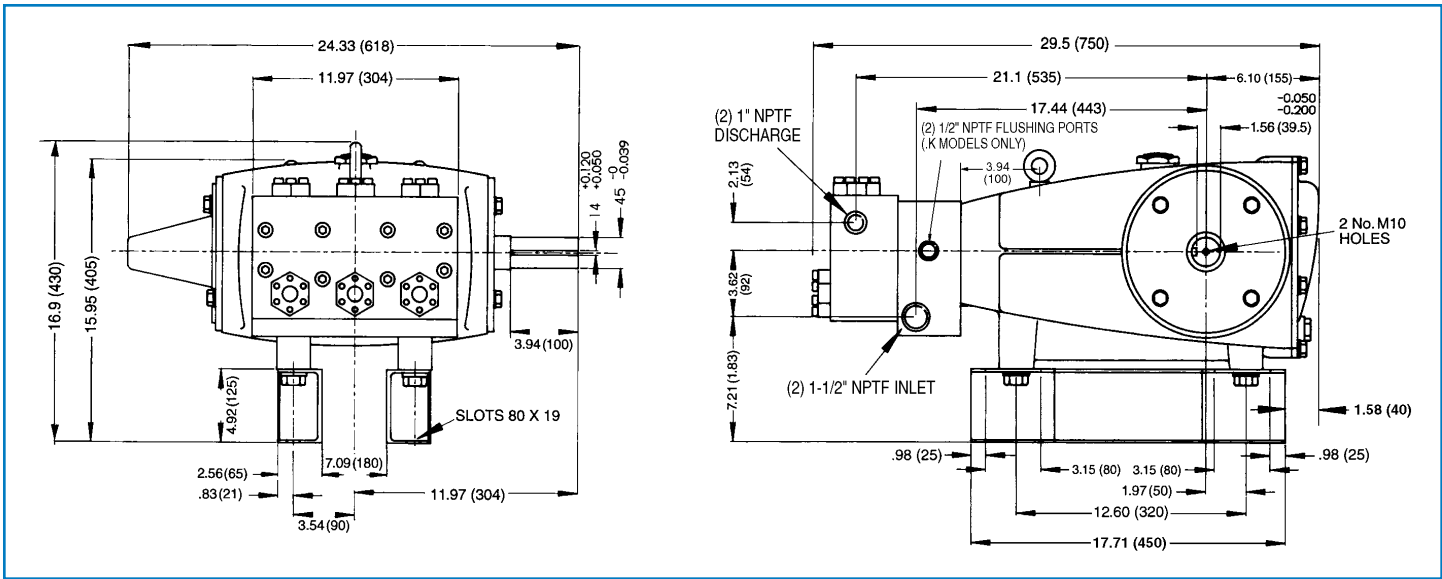
See Tech Bulletins 003, 024, 036, 074, 077, 083, 084, 087, 095 and 105 for additional information. **C.A.T. highly recommended for pressurized inlet, R.O. and Industrial applications.**

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BBHS=Brass/High Strength CC=Ceramic CM=Chrome-Moly

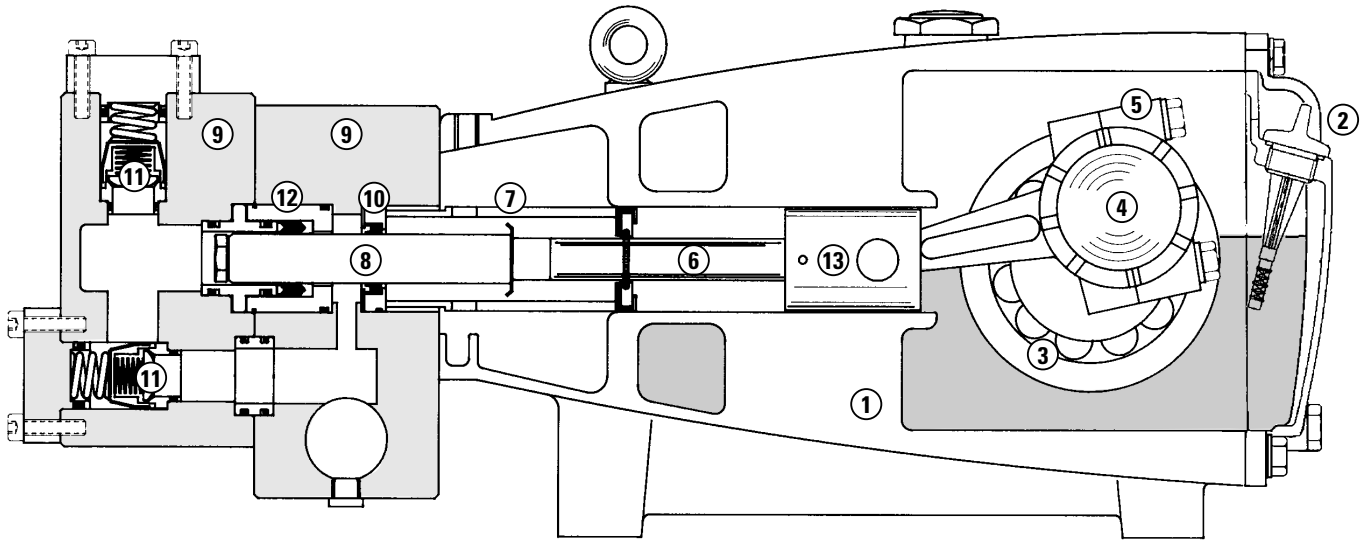
D=Acetal EPDM=Ethylene Propylene Diene Monomer FCM=Forged Chrome-Moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N)

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 6801, 6801K, 6811, 6811K



- 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 high strength **plunger rods** for high load bearing and longevity.
- 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 or Duplex 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.

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