

18 Frame Block-Style Stainless Steel Plunger Pump

**Standard
Model**

1851

**Flushed
Model**

1851K

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 the Lo-Pressure Seals, providing protection against high temperature and contaminating pumped fluids.

Quality Materials

- All 316 stainless steel valves are heat treated and seats are roller burnished for a positive seal and extended valve life.
- 316 stainless steel 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.
- Chrome-moly crankshaft gives unmatched strength and surface hardness.
- Oversized crankshaft bearings with greater loading 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.

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

STANDARD SPECIFICATIONS

	U.S. Measure	Metric Measure
Volume	10 GPM	(38 L/M)
Discharge Pressure	100 to 2200 PSI	(7 to 152 BAR)
RPM	958 RPM	(958 RPM)
Inlet Pressure	-5 to 60 PSI	(-0.35 to 4 BAR)
Maximum Fluid Temperature	160°F	(71°C)

ALTERNATE SPECIFICATIONS

Volume	★ 12 GPM	(45 L/M)
Discharge Pressure	★ 100 to 1800 PSI	(7 to 125 BAR)
RPM	★ 1150 RPM	(1150 RPM)
Inlet Pressure - ★ C.A.T. Required	★ 20 to 50 PSI	(1.4 to 3.5 BAR)
Maximum Fluid Temperature	★ 100°F	(38°C)

COMMON SPECIFICATIONS

Bore	0.945"	(24 mm)
Stroke	1.180"	(30 mm)
Crankcase Capacity	42 oz.	(1.26 L)
Inlet Ports (2)	3/4" NPT	(3/4" NPT)
Discharge Ports (2)	1/2" NPT	(1/2" NPT)
Pulley Mounting	Either Side	(Either Side)
Shaft Diameter	1.180"	(30 mm)
Weight	67 lbs.	(30.4 kg)
Dimensions	18.37" x 12.99" x 6.49"	(450 x 330 x 165 mm)

HORSEPOWER REQUIREMENTS

FLOW		PRESSURE				MOTOR PULLEY SIZE	
U.S. GPM	L/M	PSI 1500	PSI 1800	PSI 2000	PSI 2200	Using 1725 RPM Motor & Std. 9.75" Pump Pulley	
		BAR 105	BAR 125	BAR 140	BAR 152	RPM	Pulley O.D.
12.0	45	12.4	14.8	N/A	N/A	1150	6.5
10.0	38	10.3	12.4	13.7	15.1	958	5.4
9.0	34	9.3	11.1	12.4	13.6	836	4.9
8.0	30	8.2	9.9	11.0	12.1	766	4.3

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

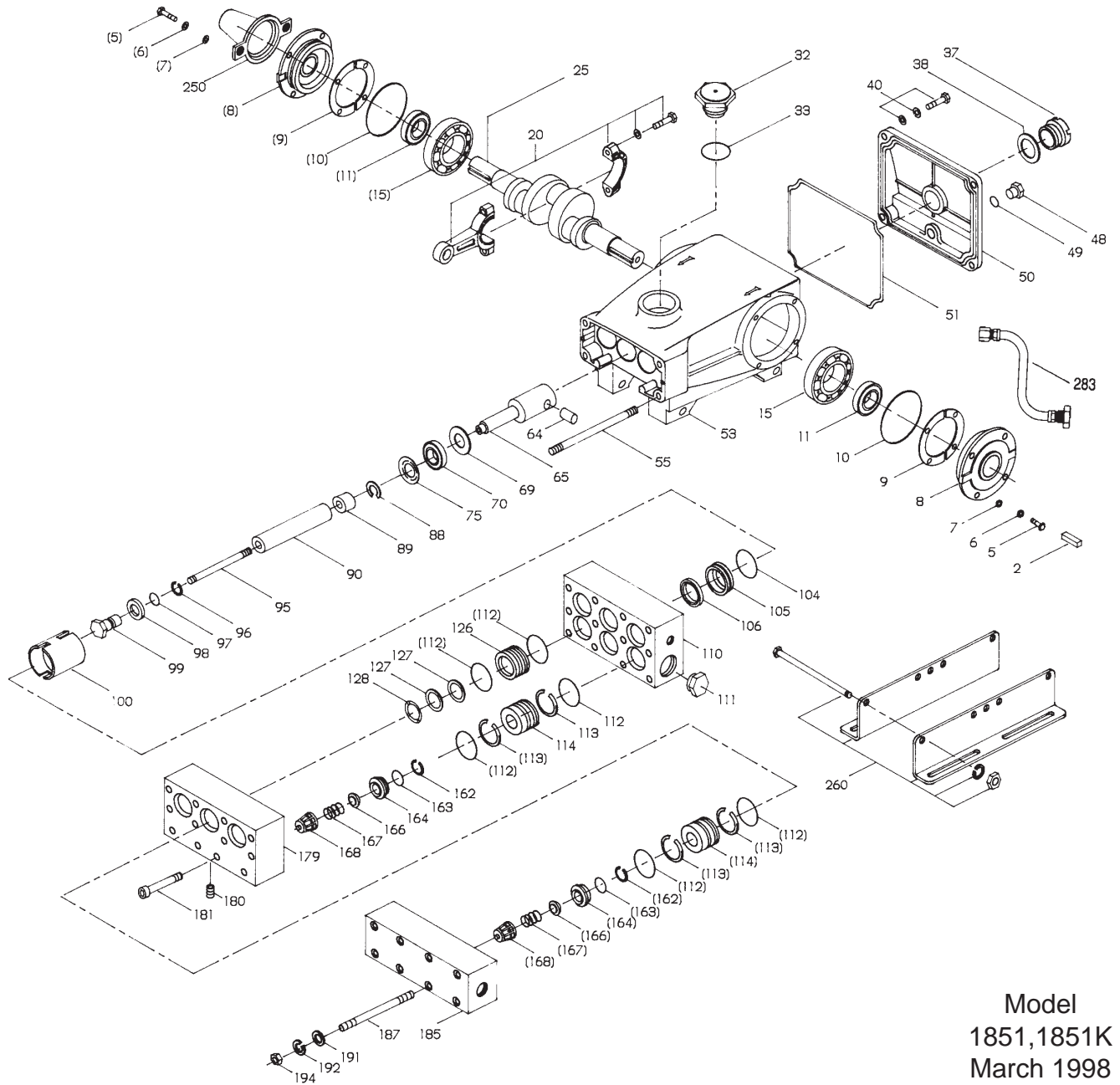
DETERMINING THE PUMP R.P.M.	Rated G.P.M.	=	"Desired" G.P.M.
	Rated R.P.M.	=	"Desired" R.P.M.
DETERMINING THE REQUIRED H.P.	GPM x PSI	=	Electric Brake H. P. Required
	1460	=	
DETERMINING MOTOR PULLEY SIZE	Motor Pulley O.D.	=	Pump Pulley O.D.
	Pump R.P.M.	=	Motor R.P.M.

"Customer confidence is our greatest asset"

PARTS LIST

ITEM	PART NUMBER				DESCRIPTION	QTY
	1851	MATL	1851K	MATL		
● 2	30067	STL	30067	STL	Key (M8x7.5x25)	1 ●
5	89618	S	89618	S	Screw, HH (M6x16)	8
6	15849	S	15849	S	Lockwasher, Split (M6)	8
7	19933	S	19933	S	Washer (M6)	8
8	43496	AL	43496	AL	Cover, Bearing	2
9	43520		43520		Shim, Split 2-Pc, Bearing Cover	2
	45387		45387		Shim, Split 2-Pc, Bearing Cover	2
10	11340	NBR	11340	NBR	O-Ring, Bearing Cover	2
11	43495	NBR	43495	NBR	Seal, Oil, Crankshaft	2
15	39060	STL	39060	STL	Bearing, Roller	2
20	43497	ZZ	43497	ZZ	Rod, Connecting Assembly	3
	45111	HS	45111	HS	Rod, Connecting Assembly	3
25	43494	FCM	43494	FCM	Crankshaft, Dual End	1
32	43211		43211		Cap, Oil Filler	1
33	14177	NBR	14177	NBR	O-Ring, Filler Cap	1
37	43987		43987		Gauge, Oil, Bubble	1
38	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge	1
40	92542	SS	92542	SS	Screw, Sems HHC (M6x20)	4
48	25625	BBCP	25625	BBCP	Plug, Drain (1/4"x11)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug	1
50	43491	AL	43491	AL	Cover, Crankcase	1
51	43492	NBR	43492	NBR	O-Ring, Crankcase Cover	1
● 53	43488	AL	43488	AL	Crankcase	1 ●
54	27488	S	27488	S	Pin, Guide	2
55	701268	SS	701268	SS	Stud, Manifold (M10x185)	4
64	43507	S	43507	S	Pin, Plunger Rod	3
65	45258	SSZZ	45258	SSZZ	Rod, Plunger	3
69	43504	S	43504	S	Washer, Seal, Flat	3
70	43500	NBR	43500	NBR	Seal, Oil, Crankcase	3
75	43506	S	43506	S	Slinger, Barrier	3
88	45675	SS	45675	SS	Washer, Keyhole (M12)	3
89	45879	SS	45879	SS	Collar, Spacer	3
90	43552	CC	43552	CC	Plunger (M77)	3
95	89651	SS	89651	SS	Stud, Plunger Retainer (M6x70)	3
96	43235	PTFE	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	17399	NBR	O-Ring, Plunger Retainer	3
	14160	FPM	14160	FPM	O-Ring, Plunger Retainer	3
	◆ 46204	EPDM	46204	EPDM	O-Ring, Plunger Retainer	3
98	44041	SS	44041	SS	Gasket, Plunger Retainer	3
99	44031	SS	44031	SS	Retainer, Plunger	3
100	43509	PVDF	43509	PVDF	Retainer, Seal	3
104	11379	NBR	11379	NBR	O-Ring, Inlet Adapter	3
	700134	FPM	700134	FPM	O-Ring, Inlet Adapter	3
	◆ 701491	EPDM	701491	EPDM	O-Ring, Inlet Adapter	3
105	701307	SS	701307	SS	Adapter, Inlet	3
106	44035	NBR	44035	NBR	LPS w/SS-Spg	3
	44388	FPM	44388	FPM	LPS w/SS-Spg	3
	◆ 46208	EPDM	46208	EPDM	LPS w/SS-Spg	3
● 110	701299	SSL	—	—	Manifold, Inlet, Block-Style	1 ●
●	—		701309	SSL	Manifold, Inlet, Block-Style, Flushed	1 ●
111	44382	SS	44382	SS	Plug, Inlet (3/4")	1
112	26969	NBR	26969	NBR	O-Ring, Spacer/Adapter - 70	18
	28459	FPM	28459	FPM	O-Ring, Spacer/Adapter	18
	◆ 701863	EPDM	701863	EPDM	O-Ring, Spacer/Adapter	18
113	28204	PTFE	28204	PTFE	Back-up-Ring, Spacer	12
114	701272	SS	701272	SS	Spacer, Inlet/Discharge Valve	6
126	701308	PTFE	701308	PTFE	Adapter, Female	3
127	103692	PTFE	103692	PTFE	V-Packing	6
128	44032	SS	44032	SS	Adapter, Male	3
162	43248	PTFE	43248	PTFE	Back-up-Ring, Seat	6
163	43249	NBR	43249	NBR	O-Ring, Seat	6
	44383	FPM	44383	FPM	O-Ring, Seat	6
	◆ 46206	EPDM	46206	EPDM	O-Ring, Seat	6
164	44037	SS	44037	SS	Seat	6
166	44038	SS	44038	SS	Valve	6
167	44039	SS	44039	SS	Spring, Valve	6
168	44564	PVDF	44564	PVDF	Retainer, Spring	6
179	701265	SS	701265	SS	Block, Manifold	1
180	701078	SS	701078	SS	Plug (3/8"NPT)	3
181	89628	SS	89628	SS	Screw, HSH (M12x65)	8
● 185	701300	SSL	701300	SSL	Manifold, Discharge, Block-Style	1 ●
187	701269	SS	701269	SS	Stud, Manifold (M10x140)	4
191	19934	SS	19934	SS	Washer, Flat (M10)	4
192	15847	S	15847	S	Lockwasher (M10)	4
194	81258	S	81258	S	Nut (M10)	4

EXPLODED VIEW



Model
1851,1851K
March 1998

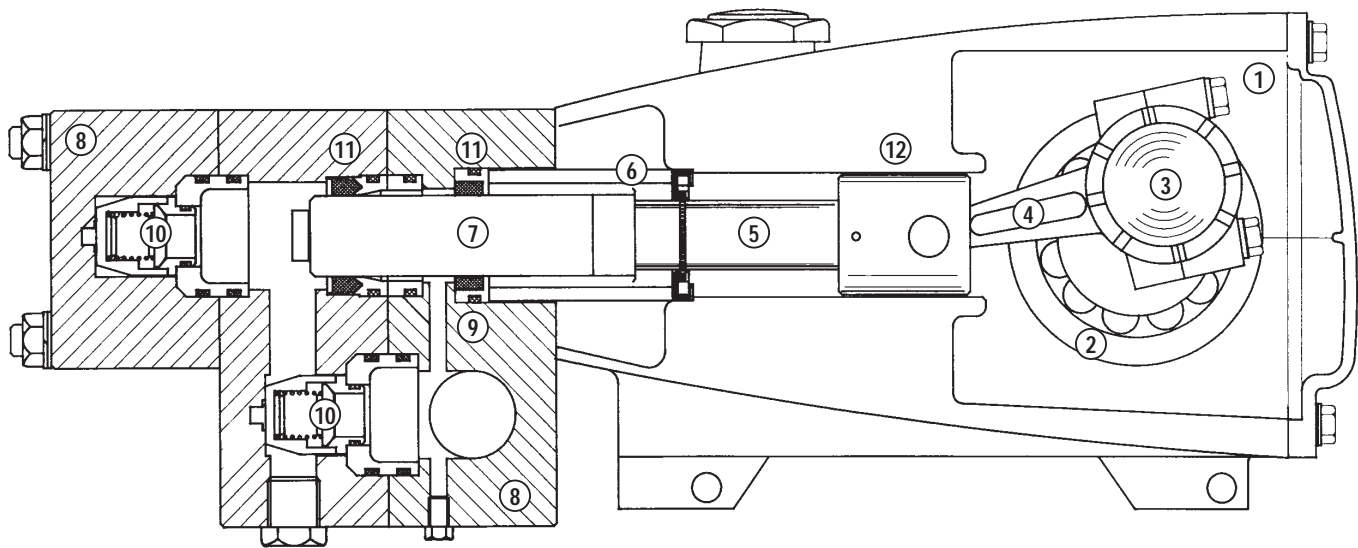
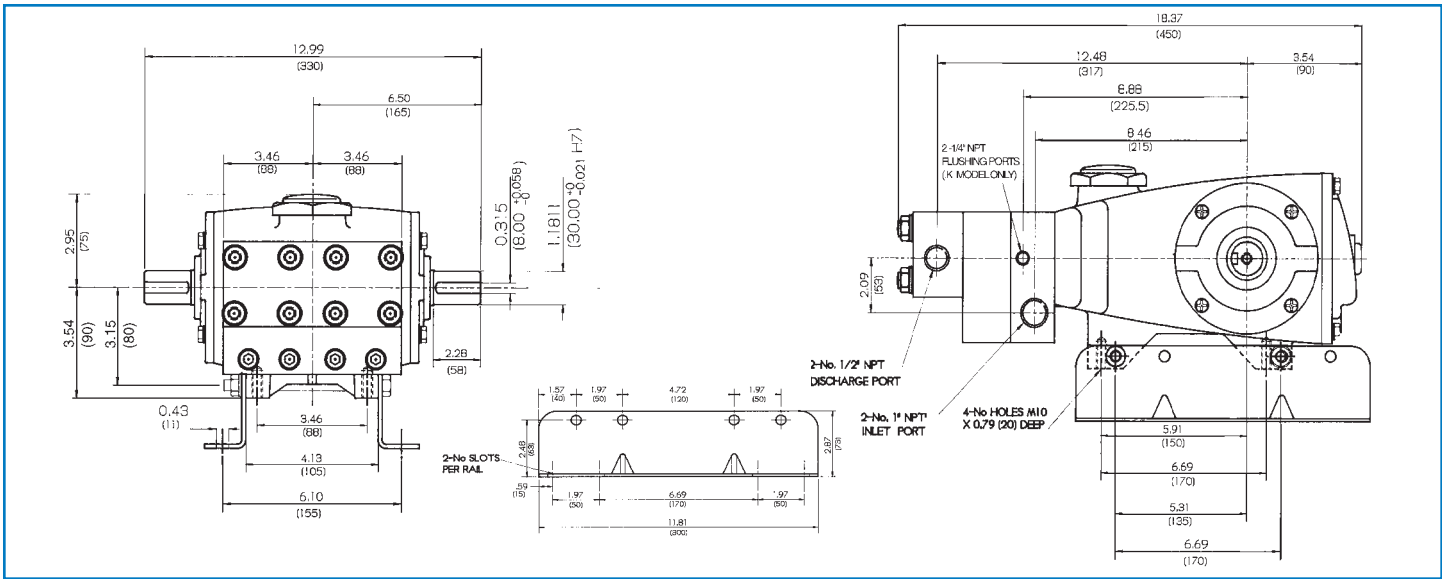
250	30764	NY	30764	NY	Protector, Shaft w/2 Screws	1
255	30264	STZP	30264	STZP	Mount, Direct (Incls: 12490,12503,14050,81048)	1
260	30613	STZP	30613	STZP	Mount, Rail, Assy - A - (30635,30903,30921,30912)	1
265	30661		30661		Kit, Complete Mounting - U.S. (30613,30206,30059,30067,30764)	1
● 269	30206	F	30206	F	Pulley, 9.75" AB [See complete Drive Packages, Tech Bulletin 03]	1 ●
● 274	30059	STL	30059	STL	Hub (M30-H Series) [See complete Drive Packages, Tech Bulletin 03]	1 ●
● 283	34334		34334		Kit, Oil Drain	1 ●
290	6108		6108		Gasket, Liquid - 1.5 oz.	1
● 299	901310	SSL	—		Head, Complete, Block-Style	1 ●
●	—		901311	SSL	Head, Complete, Block-Style, Flushed	1 ●
300	701691	NBR	701691	NBR	Kit, Seal (Incls: 97,104,106,112,113,127)	1
	701433	FPM	701433	FPM	Kit, Seal (Incls: 97,104,106,112,113,127)	1
	701803	EPDM	701803	EPDM	Kit, Seal (Incls: 97,104,106,112,113,127)	1
310	701695	NBR	701695	NBR	Kit, Valve (Incls: 112,113,162,163,164,166,167,168)	2
	701434	FPM	701434	FPM	Kit, Valve (Incls: 112,113,162,163,164,166,167,168)	2
	701802	EPDM	701802	EPDM	Kit, Valve (Incls: 112,113,162,163,164,166,167,168)	2
350	30696	STZP	30696	STZP	Tool, Valve Seat Removal	
● 370	—		990663		Assembly, Flushing	1 ●

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

C. A.T. highly recommended for pressurized inlet, R.O. and Industrial applications.

See Tech Bulletins 03, 24, 35, 36, 43, 74 and 77 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BBCP=Brass/Chrome Plated CC=Ceramic EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FCM=Forged Chrome-moly FPM=Fluorocarbon (Viton®) HS=High Strength NBR=Medium Nitrile (Buna-N) NY=Nylon PTFE=Polytetrafluoroethylene (Teflon®) PVDF=Fluoroplastic (High Strength) S=304SS SS=316SS SSL=316SS/Low Carbon SSZZ=316SS/Zamak STL=Steel STZP=Steel/Zinc Plated ZZ=Zamak



- 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 high strength **connecting rods** are noted for superior strength and bearing quality.
- 5 Special stainless steel **plunger rods** with high strength crossheads for longevity and corrosion resistance.
- 6 The stainless steel **slinger** provides back-up protection for the crankcase seal, keeping pumped fluids 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 316L stainless steel or for long term, continuous duty.
- 9 **Standard Models:** Lo-Pressure Seals and V-Packings are completely lubricated and cooled by the fluid being pumped.
- 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.
- 10 Stainless steel **valves, seats and springs** provide corrosion-resistance, positive seating and long life.
- 11 Specially formulated, CAT PUMP exclusive, **V-Packings** offer unmatched performance and seal life.
- 12 **Crossheads** are 360° supported providing 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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