

DATA SHEET

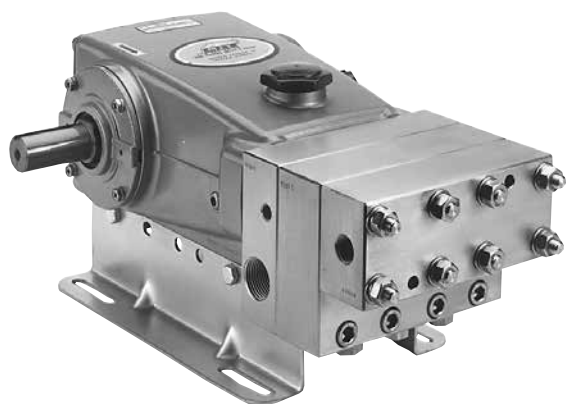
18 FRAME BLOCK-STYLE PLUNGER PUMPS



The Pumps with Nine Lives

**Stainless Steel
Model:**

1861KM



Model 1861KM Shown
(Mounting rails sold separately)

FEATURES

- Triplex plunger design delivers high efficiency and low pulsation.
- Durable dual V-Packings are lubricated and cooled by pumped liquid.
- Pre-set Lo-Pressure Seals provide secondary protection against external leaks and require no packing adjustment.
- Special high-density, polished, concentric plungers provide a true wear surface and extended seal life.
- Specially formulated seals and V-Packings offer unmatched performance and extended life.
- Wet-end easily serviced without entering crankcase.

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow	10 gpm	38 lpm
Pressure Range	100 to 3000 psi	6.9 to 207 bar
Pump RPM*	1429 rpm	1429 rpm
Inlet Pressure Range	+10 to 800 psi	0.69 to 55 bar
Max. Liquid Temperature	160° F	71° C
Above 130°F call Cat Pumps for inlet conditions and elastomer recommendations.		
Bore	0.787"	20 mm
Stroke	1.181"	30 mm
Crankcase Capacity	42 oz.	1.26 l
Inlet Ports (2)	1" NPT(F)	1" NPT(F)
Flushing Ports (2)**	1/4" NPT(F)	1/4" NPT(F)
Discharge Ports (2)	1/2" NPT(F)	1/2" NPT(F)
Shaft Diameter	1.181"	30 mm
Pulley Mounting	Either Side	Either Side
Weight	67 lbs.	30.4 kg
Dimensions	17.40 x 12.99 x 6.41"	442 x 330 x 163 mm

*Pump minimum is 100 RPM.

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

ELECTRIC HORSEPOWER REQUIREMENTS

FLOW		PRESSURE						RPM
		psi 1500	psi 1800	psi 2000	psi 2200	psi 2500	psi 3000	
gpm	lpm	bar 103	bar 124	bar 138	bar 152	bar 172	bar 207	
10.0	38	10.3	12.4	13.7	15.1	17.2	20.5	1429

DETERMINING THE PUMP R.P.M. $\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$

DETERMINING THE REQUIRED H.P. $\frac{\text{Hp (Electric Brake)}}{1460} = \frac{\text{gpm} \times \text{psi}}{1460}$

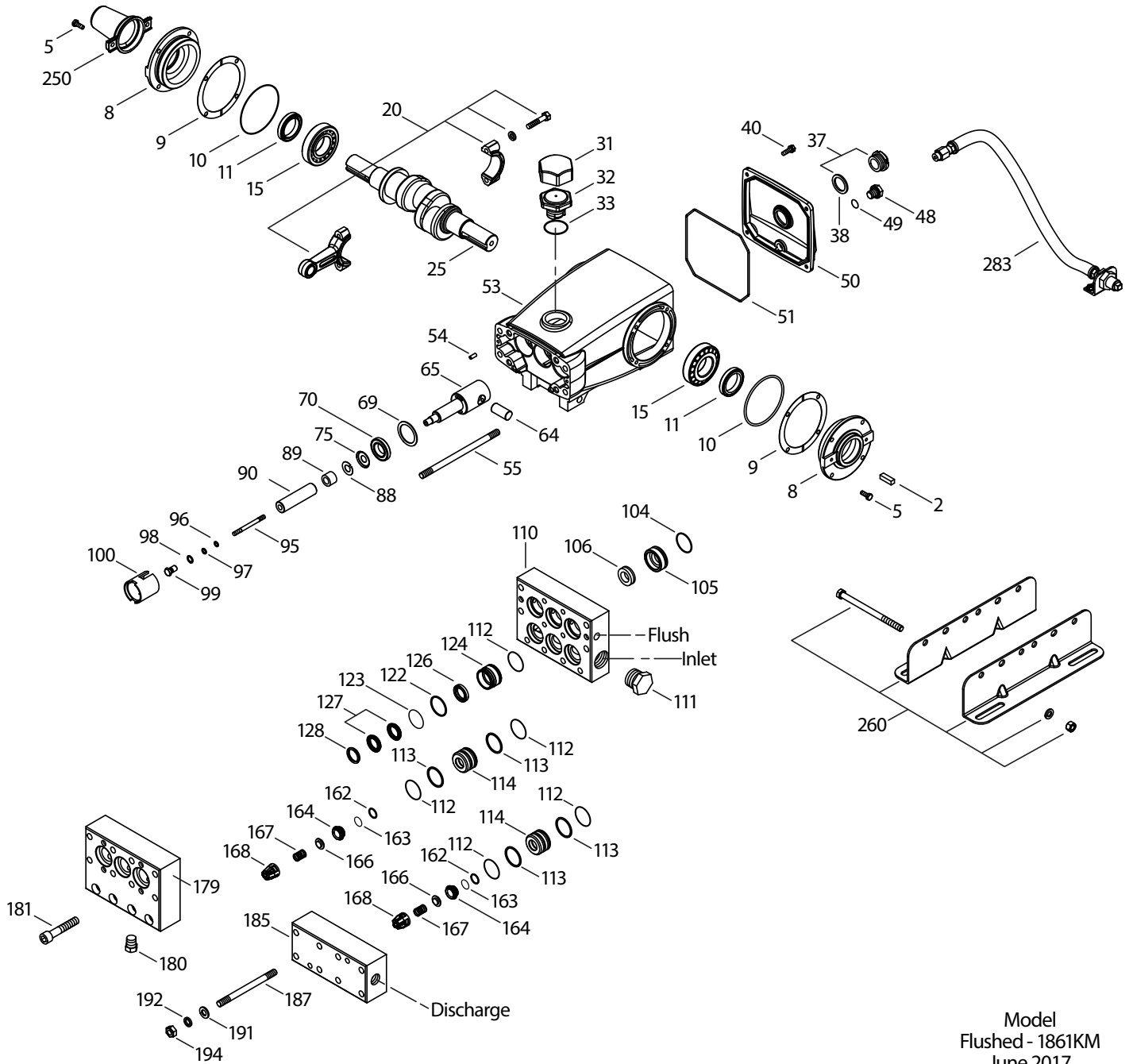
DETERMINING MOTOR PULLEY SIZE $\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$

See complete Drive Packages (Includes: pulleys, belts, hubs, key) Tech Bulletin 003.
Refer to pump **Service Manual** for repair procedure and additional technical information.

PARTS LIST

ITEM	PART NUMBER	MATL	DESCRIPTION	QTY
2	30067	STL	Key (M8x7.5x25)	1
5	92538	S	Screw, HHC, Sems (M6x16)	8
8	43496	AL	Cover, Bearing (See Tech Bulletin 118)	2
9	815281	FBR	Shim, Split 2-Pc,	0/2
	814800	S	Shim, Split 2-Pc	0/2
10	11340	NBR	O-Ring, Bearing Cover - 70D	2
11	43495	NBR	Seal, Oil, Crankshaft - 70D	2
15	39060	STL	Bearing, Roller	2
20	768600	TNM	Rod, Connecting Assy	3
25	43494	FCM	Crankshaft, Dual End (M30)	1
31	828710	PE	Protector, Oil Cap w/Foam Gasket	1
32	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	O-Ring, Filler Cap - 70D	1
37	92241	—	Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	92542	S	Screw, HHC, Sems (M6x20)	4
48	25625	STCP	Plug, Drain (1/4"x19 BSP)	1
49	23170	NBR	O-Ring, Drain Plug - 70D	1
50	43491	AL	Cover, Rear (See Tech Bulletin 118)	1
51	44834	NBR	O-Ring, Rear Cover - 70D	1
53	115471	AL	Crankcase w/Guide Pins (See Tech Bulletin 118)	1
54	27488	S	Pin, Guide	2
55	701268	SS	Stud, Manifold (M10x180)	4
64	763507	CM	Pin, Crosshead	3
65	768892	SSHB	Rod, Plunger w/Set Screws	3
69	126592	STCP R	Washer, Seal, Flat	3
70	43500	NBR	Seal, Oil, Crankcase - 80D	3
75	43506	S	Slinger, Barrier	3
88	45675	S	Washer, Keyhole (M12)	3
89	45880	SS	Spacer, Collar	3
90	43300	CC	Plunger (M20x77)	3
95	89651	SS	Stud, Plunger Retainer (M6x70)	3
96	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	O-Ring, Plunger Retainer - 80D	3
98	44041	SS	Gasket, Plunger Retainer	3
99	44031	SS	Retainer, Plunger (M6)	3
100	43509	POP	Retainer, Seal	3
104	11379	NBR	O-Ring, Inlet Adapter - 70D	3
105	701270	SS	Adapter, LPS	3
106	44071	NBR	Seal, LPS w/SS-Spg	3
110	701309	SS	Manifold, Inlet, Block-Style, Flushed	1
111	701342	SS	Plug, Inlet [1"NPT(M)]	1
112	26969	NBR	O-Ring, Spacer - 70D	15
113	28204	PTFE	Back-up-Ring, Spacer	12
114	701272	SS	Adapter, Valve, IMDM	6
122	43519	PTFE	Back-up-Ring, Spacer	3
123	13984	NBR	O-Ring, Spacer- 70D	3
124	701271	SS	Cylinder, V-Packing	3
126	44164	SS	Adapter, Female	3
127	44607	STG	V-Packing	6
128	44165	SS	Adapter, Male	3
162	43248	PTFE	Back-up-Ring, Seat	6
163	43249	NBR	O-Ring, Seat - 80D	6
164	44037	SS	Seat	6
166	48793	SS	Valve	6
167	44039	SS	Spring, Valve	6
168	44564	PVDF	Retainer, Spring	6
179	701265	SS	Manifold, Valve Block, Block-Style	1
180	701078	SS	Plug [3/8"NPT(M)]	3
181	89628	S	Screw, HSH (M12x65)	4
185	701300	SS	Manifold, Discharge, Block-Style	1
187	701269	SS	Stud, Manifold (M10x132)	4
191	19934	S	Washer, Flat (M10)	8
192	15847	S	Lockwasher (M10)	8
194	81258	S	Nut (M10)	8

EXPLODED VIEW



Model
Flushed - 1861KM
June 2017

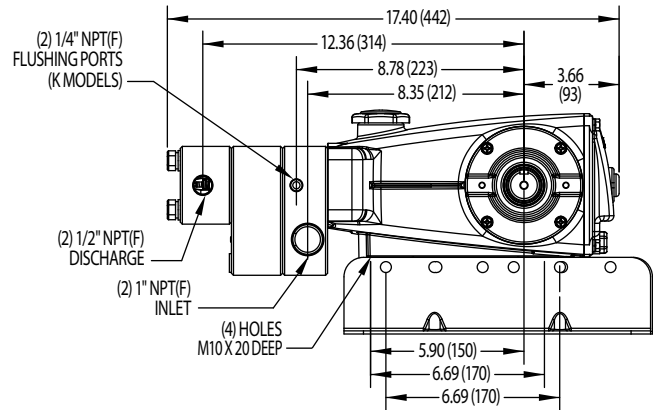
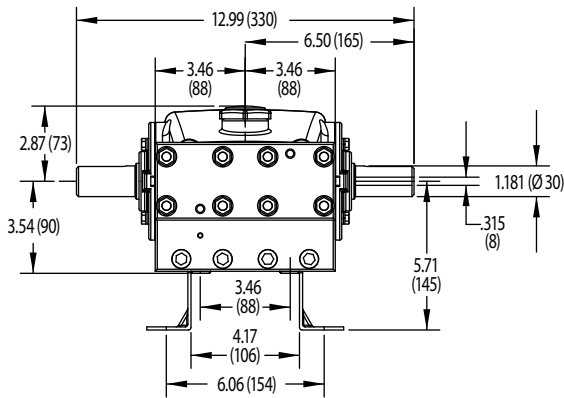
ITEM	PART NUMBER	MATL	DESCRIPTION	QTY
250	30764S	NY	Protector, Shaft w/2 SS Screws	1
260	30613	STZPR	Mount, Rail, Assy	1
290	6124	—	Gasket, Liquid (3 oz.)	1
299	901309	SS	Head, Complete, Block-Style, Flushed w/NBR Seals and O-Rings	1
300	701275	NBR*	Kit, Seal (Incls: 97, 104, 106, 112, 113, 122, 123, 127)	1
310	701695	NBR	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168)	2
370	990663	—	Assembly, Flushing, 5 gal, 115V, 1.1Amp, 1/2" NPT	1
—	6107	—	Oil Bottles 21 oz. ISO 68 Hydraulic (Fill to specified crankcase capacity prior to start-up)	2
—	6119	—	Lubricant, Antiseize (2 oz) (See Tech Bulletin 095)	1

Italics are optional items. R Components comply with RoHS Directive. [] Date of latest production change.

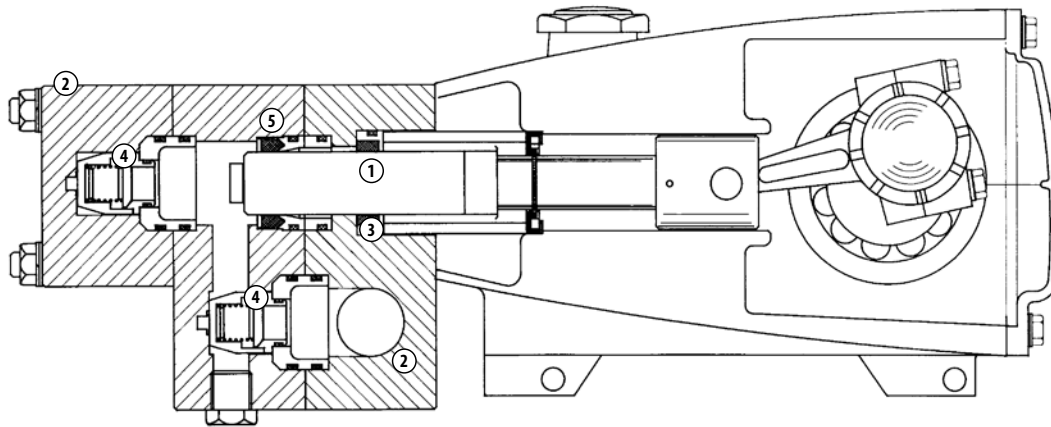
*Review individual parts in each kit for material code identification

View Tech Bulletins 002, 003, 024, 035, 036, 043, 074, 083, 089, 095 and 118 for additional information.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum CC=Ceramic CM=Chrome-Moly FBR=Fiber FCM=Forged Chrome-Moly NBR=Medium Nitrile (Buna-N) NY=Nylon PE=Polyethylene POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SSHB=316SS with High Strength Brass SS=316SS STCP=Steel/Chrome Plated STG=Special Blend PTFE White STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength



Model 1861KM



1. Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
2. **Manifolds** are 316 SS block-style for long term continuous duty and corrosion resistance.

3. **Flushed Model:** 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.
4. Stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.

5. Specially formulated, Cat Pump exclusive, **V-Packings** offer unmatched performance and seal life.

⚠ CAUTIONS AND WARNINGS

All High Pressure Systems require a primary pressure regulating device (i.e. regulator, unloader) and a secondary pressure relief device (i.e. pop-off valve, relief valve). Failure to install such relief devices could result in personal injury or damage to pump or property. Cat Pumps does not assume any liability or responsibility for the operation of a customer's high pressure system.

Read all CAUTIONS and WARNINGS before commencing service or operation of any high pressure system. The CAUTIONS and WARNINGS are included in each service manual and with each Accessory Data sheet. CAUTIONS and WARNINGS can also be viewed online at www.catpumps.com/cautions-warnings or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/warranty.



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