

DATA SHEET

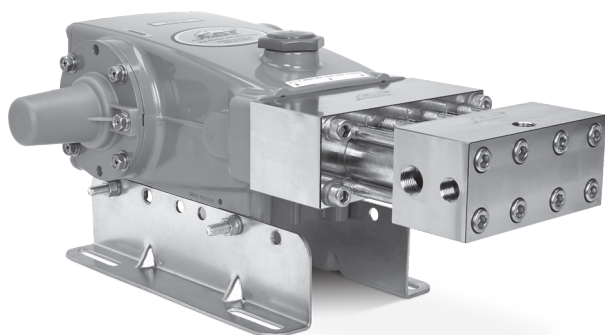
18 FRAME BLOCK-STYLE PLUNGER PUMPS



The Pumps with Nine Lives

Stainless Steel Model: 1810

Stainless Steel Flushed Model: 1810K



Model 1810 Shown
(Mounting rails sold separately)

FEATURES

- Triplex plunger design delivers high-efficiency and low pulsation.
- V-Packings and low-pressure seals are completely lubricated and cooled by pumped liquid.
- Special UHMW or PTFE supported V-Packings contribute to high-pressure stability, chemical compatibility and extended life.
- Low upswept volume maximizes volumetric efficiency.
- Model 1810 offers external flush for higher-temperature or low-lubricity liquids.
- Special high-density, polished, concentric ceramic plungers provide a true wear surface and extended seal life.

SPECIFICATIONS	U.S. Measure	Metric Measure
Flow	3.0 gpm	11.4 lpm
Pressure Range	100–10,000 psi	6.9–689 bar
Pump RPM*	1500 rpm	1500 rpm
Inlet Pressure Range	Flooded to 60 psi	Flooded to 4.1 bar
Max. Liquid Temp. (NBR)	160° F	71° C
Alternative seals available for higher temperatures up to 200°F		
Bore	0.433"	11 mm
Stroke	1.181"	30 mm
Crankcase Capacity	42 oz	1.26 l
Inlet Ports (2)	½" NPT(F)	½" NPT(F)
Flushing Ports (2) "C"	¼" NPT(F)	¼" NPT(F)
Discharge Ports (3)	⅜" NPT(F)	⅜" NPT(F)
Pulley Mounting	Either Side	Either Side
Shaft Diameter	1.181"	30 mm
Weight	60 lbs.	27.2 kg
Dimensions	19.53 x 12.99 x 6.44"	496 x 330 x 164 mm

*Pump minimum is 100 RPM.

ALTERNATIVE SEAL CONFIGURATION

MATERIAL	SUFFIX CODE	MAXIMUM TEMPERATURE
NBR	—	160° F (71° C)
FPM	.0110	180° F (82° C)
PTFE	.0710	200° F (93° C)

See **Tech Bulletin 002** for inlet conditions and RPM at high-temperature.

DETERMINING THE PUMP RPM	Rated gpm	=	Desired gpm
	Rated rpm	=	Desired rpm
DETERMINING THE REQUIRED HP	hp	=	gpm x psi
	(Electric Brake)	=	1460
DETERMINING MOTOR PULLEY SIZE	Motor Pulley OD	=	Pump Pulley OD
	Pump rpm	=	Motor rpm

Refer to pump **Service Manual** for repair procedure and additional technical information.

PARTS LIST

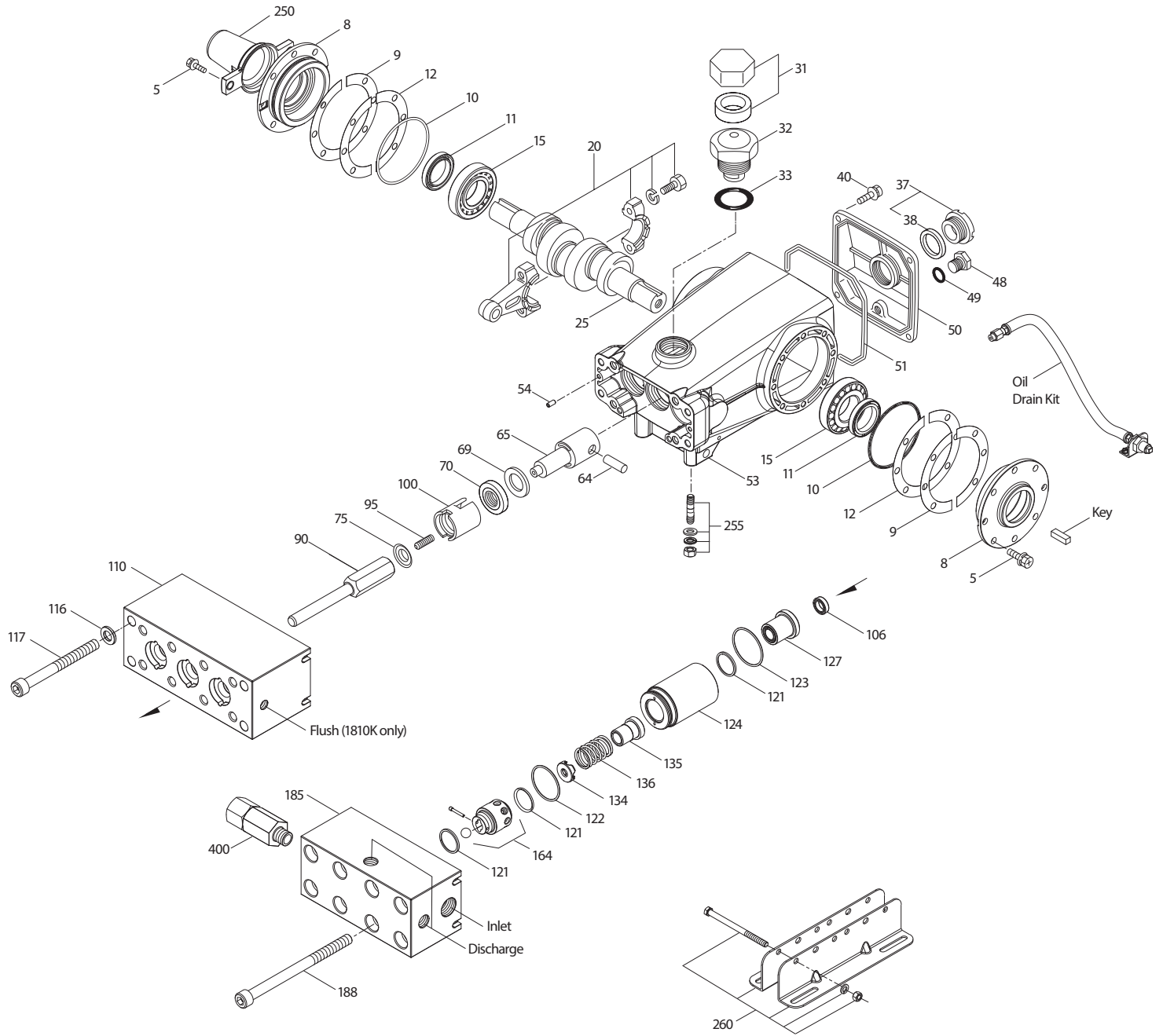
ITEM	PART NUMBER	MATL	DESCRIPTION	QTY
2	30067	STL	Key (M8 x 7.5 x 25)	1
5	49651	S	Screw, HHC Sems (M8 x 20) (See Tech Bulletin 074, 128)	8
8	134805	ALE	Cover, Bearing (See Tech Bulletin 118, 128)	2
9	855043	FBR	Split Shim, Bearing Cover, 2 Piece (See Tech Bulletin 128)	2
10	11340	NBR	O-Ring, Bearing Case-70D	2
11	43495	NBR	Seal, Oil, Crankshaft	2
12	855044	S	Split Shim, Bearing Cover, 2-Piece (See Tech Bulletin 128)	2
15	39060	STL	Bearing, Roller	2
20	48600	TNM	Rod Assembly, Connecting (See Tech Bulletin 074)	3
25	43494	FCM	Crankshaft - Dual End (M30)	1
31	828710	PE	Protector, Oil Cap with Foam Gasket	1
32	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	O-Ring, Filler Cap-70D	1
37	92241	PC	Gauge, Oil, Bubble with Gasket-80D (See Tech Bulletin 074)	1
38	44428	NBR	Gasket, Flat, Oil Gauge-80D	1
40	92542	S	Screw, HHC Sems (M6 x 20) (See Tech Bulletin 074)	4
48	25625	STCP	Plug, Drain (1/4" x 19 BSP)	1
49	23170	NBR	O-Ring, Drain Plug-70D	1
50	133576	ALE	Cover, Rear (See Tech Bulletin 118, 128)	1
51	44834	NBR	O-Ring, Rear Cover-70D	1
53	134889	ALE	Crankcase (Includes: 54) (See Tech Bulletin 118, 128)	1
54	27488	S	Pin, Guide	2
64	43507	CM	Pin, Crosshead	3
65	48892	SSHB	Rod, Plunger, Short	3
69	126592	STCP R	Washer, Seal	3
70	43500	NBR	Seal, Oil, Crankcase	3
75	43506	S	Slinger, Barrier	3
90	76595	CC	Assembly, Plunger, M11 x 80, with S Holder	3
95	31585	S	Stud, Plunger (M6 x 20)	3
100	995590	POP	Retainer, Seal	3
106	76111	ST2	Seal, LPS	3
110	76840	SFSS	Block, Housing	1
—	76850	SFSS	Block, Housing (Model 1810K)	1
116	31545	S	Washer, Flat (M10)	4
117	31695	S	Screw, HSH (M10 x 100) (See Tech Bulletin 074)	4
121	31565	PTFE	Ring, Cylinder Sealing	9
122	31485	NBR	O-Ring, Front Cylinder-70D	3
—	76113	FPM	O-Ring, Front Cylinder-70D	3
123	31475	NBR	O-Ring, Rear Cylinder-70D	3
—	31476	FPM	O-Ring, Rear Cylinder-70D	3
124	76490	SFSS	Cylinder	3
—	76495	SFSS	Cylinder (Model 1810K)	3
127	76310	UHMW	Assembly, V-Packing with BZ Cylinder Support	3
—	76431	PTFE	Assembly, V-Packing with BZ Cylinder Support	3
134	76350	S455	Valve, Inlet	3
135	76115	PET	Retainer, Inlet Spring	3
136	31575	S	Spring, Inlet Valve	3
164	76510	SFSS	Seat, Ball Assembly with Ceramic Ball	3
185	76885	SFSS	Manifold, Inlet/Discharge, Block-Style	1
188	31692	S	Screw, HSH (M10 x 140) (See Tech Bulletin 074)	8
250	855046	NY	Protector, Shaft with 2-SS Screws (See Tech Bulletin 128)	1
255	30264	STZP	Mount, Direct	1
260	30613	STZPR	Mount, Rail Assembly	1
—	990550	STZPR	Mount, Rail (Required on Diesel/Gas)	1
—	76513	STZPR	Mount, Rail Assembly	1
269	30206	F	Pulley (10") AB (See Tech Bulletin 003)	1
274	30059	STL	Hub, "H" (M30) (Keyway M8) (See Tech Bulletin 003)	1
283	34334	—	Kit, Oil Drain (3/8" x 24")	1
299	992810	SFSS	Head, Complete, with Plungers	1
—	992820	SFSS	Head, Complete, with Plungers (Model 1810K)	1
300	76810	NBR*	Kit, Seal (Includes: 106, 121, 122, 123, 127) - Standard	1
—	76811	FPM*	Kit, Seal (Includes: 106, 121, 122, 123, 127) - .0110	1
—	76827	PTFE*	Kit, Seal (Includes: 106, 121, 122, 123, 127) - .0710	1
310	76820	NBR	Kit, Valve (Includes: 121, 122, 123, 134, 136, 164) - Standard	1
—	76852	FPM	Kit, Valve (Includes: 121, 122, 123, 134, 136, 164) - .0110	1
400	9920	SS	Assembly, Rupture Disc (Secondary Pressure Control-Relief Valve) (Includes 3 discs)	1
—	76010	SS	Rupture Disc, 15K	1
—	6107	—	Oil, Bottle (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

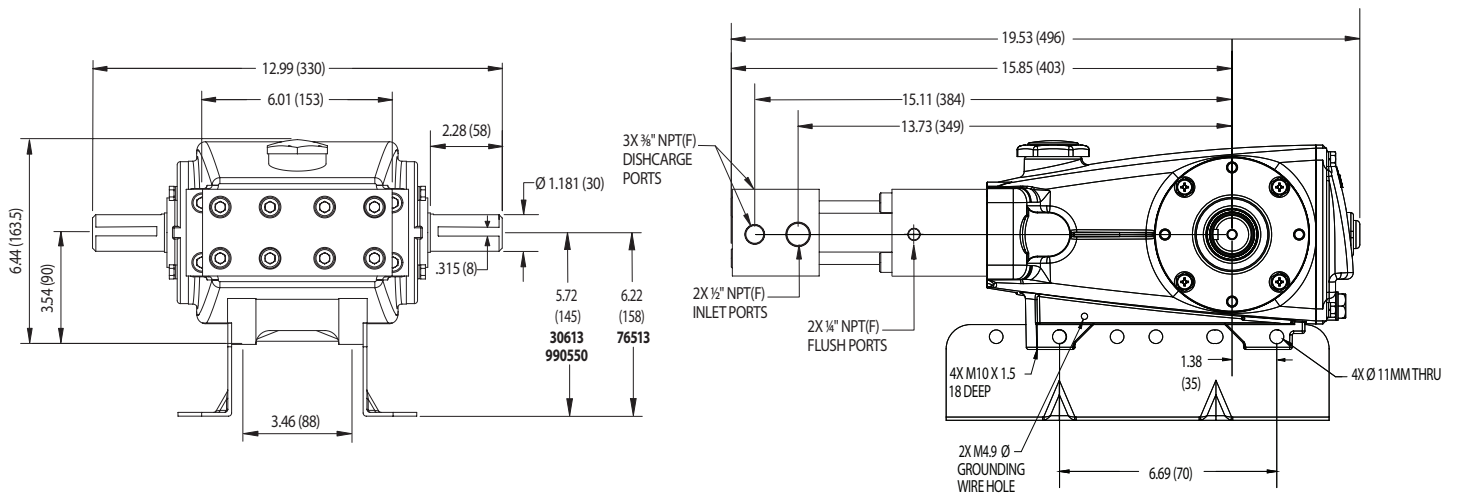
Bold Part numbers are unique to a particular pump model. Italics are optional items. R Components comply with RoHS Directive.

*Review individual parts in each kit for material code identification. For additional technical information see www.catpumps.com/literature/tech-bulletins.

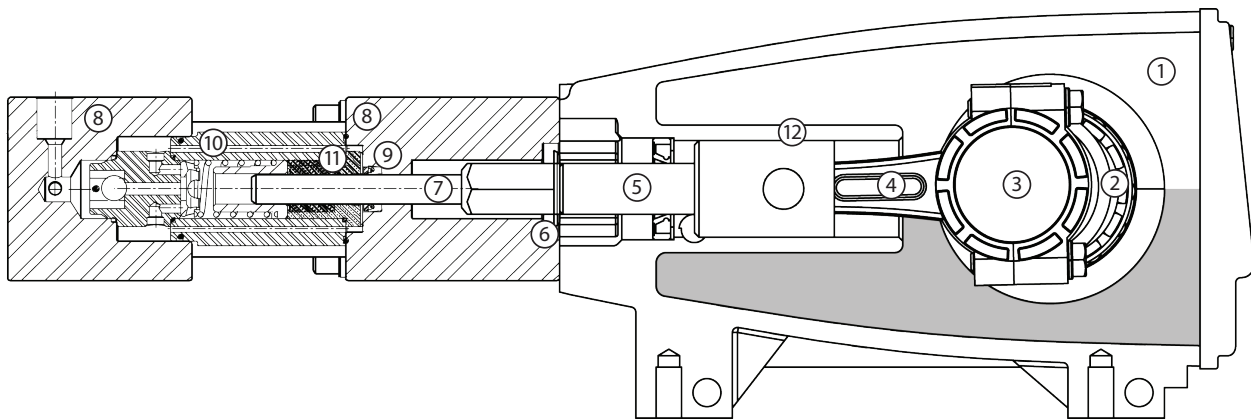
MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic ALE=Aluminum Epoxy CC=Ceramic CM=Chrome-Moly F=Cast Iron FBR=Fiber FCM=Forged Chrome-Moly FPM=Fluorocarbon
 NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Poly Carbonate PE=Polyethylene PET=Polyethylene Terephthalate POP=Polypropylene PTFE=Pure Polytetrafluoroethylene S455=455 SS S=304SS
 SFSS=17-4SS SSSB=316SS w/High Strength Brass SS=316SS ST=Polyetheretherketon ST2=Special PTFE STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated
 TNM=Special High Strength UHMW=Ultra High Molecular Weight Polyethylene

EXPLODED VIEW





Models 1810, 1810K



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 TNM **connecting rods** noted for superior tensile strength and bearing quality.
5. Special stainless steel high strength **plunger rods** for high load bearing and longevity.
6. The stainless steel **slinger** provides back-up protection for the crankcase seal, keeping pumped liquids out of the crankcase.
7. Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
8. **Manifolds** are a high tensile strength stainless steel for long term, continuous duty and corrosion resistance.
9. 100% wet **seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides.
10. Precision stainless steel **seat and ceramic ball** provide true sphericity and extended life.
11. Special UHMW or PTFE supported **V-Packings** for high pressure stability, chemical compatibility and extended life.
12. **Crossheads** are 360° supported for uncompromising alignment.

⚠ 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/dynamic-literature/cautions-and-warnings or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/literature/cat-pumps-limited-warranty

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