

DATA SHEET

68 FRAME BLOCK-STYLE PLUNGER PUMP

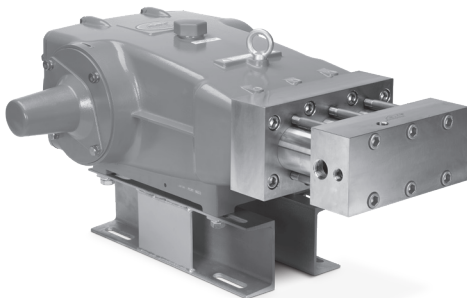


The Pumps with Nine Lives

**Stainless Steel
with Bronze
Model:** **6810**

Manifolds and cylinders are 17-4SS stainless steel. Valve assemblies are made with 304 and 455 stainless steel components. Internal packing assembly includes bronze cylinder supports and UHMW V-packings.

See Parts List to confirm material compatibility with the fluid pumped before use.



FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- V-packings and low-pressure seals are completely lubricated and cooled, greatly increase service life.
- Special UHMW V-packings with bronze cylinder supports provide extra stability at high-pressure and extend seal life.
- Low upswept volume maximizes volumetric efficiency.
- Special high-density, polished, concentric ceramic plungers assemblies provide a true wear surface and extended seal life.
- Wet-end is easily serviced without entering crankcase.

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow	10 gpm	38 lpm
Pressure Range	100–10,000 psi	6.9–689 bar
Pump RPM*	600 rpm	600 rpm
Inlet Pressure Range	Flooded to 50 psi	Flooded to 3.5 bar
Max. Liquid Temp. (NBR)	140° F	60° C
Above 130° F call Cat Pumps for inlet conditions and elastomer recommendations.		
Bore	0.827"	21 mm
Stroke	2.579"	65.5 mm
Crankcase Capacity	10 qts	9.46 l
Inlet Ports (2)	1" NPT(F)	1" NPT(F)
Discharge Ports (3)	½" NPT(F)	½" NPT(F)
Pulley Mounting	Either Side	Either Side
Shaft Diameter	1.772"	45 mm
Weight	376 lbs	170 kg
Dimensions	31.89 x 24.02 x 11.12"	810 x 610 x 282 mm

*Pump minimum is 100 RPM.

DETERMINING THE PUMP RPM

$$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{Desired gpm}}{\text{Desired rpm}}$$

DETERMINING THE REQUIRED HP

$$\text{hp (Electric Brake)} = \frac{\text{gpm} \times \text{psi}}{1460}$$

DETERMINING MOTOR PULLEY SIZE

$$\frac{\text{Motor Pulley OD}}{\text{Pump rpm}} = \frac{\text{Pump Pulley OD}}{\text{Motor rpm}}$$

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

PARTS LIST

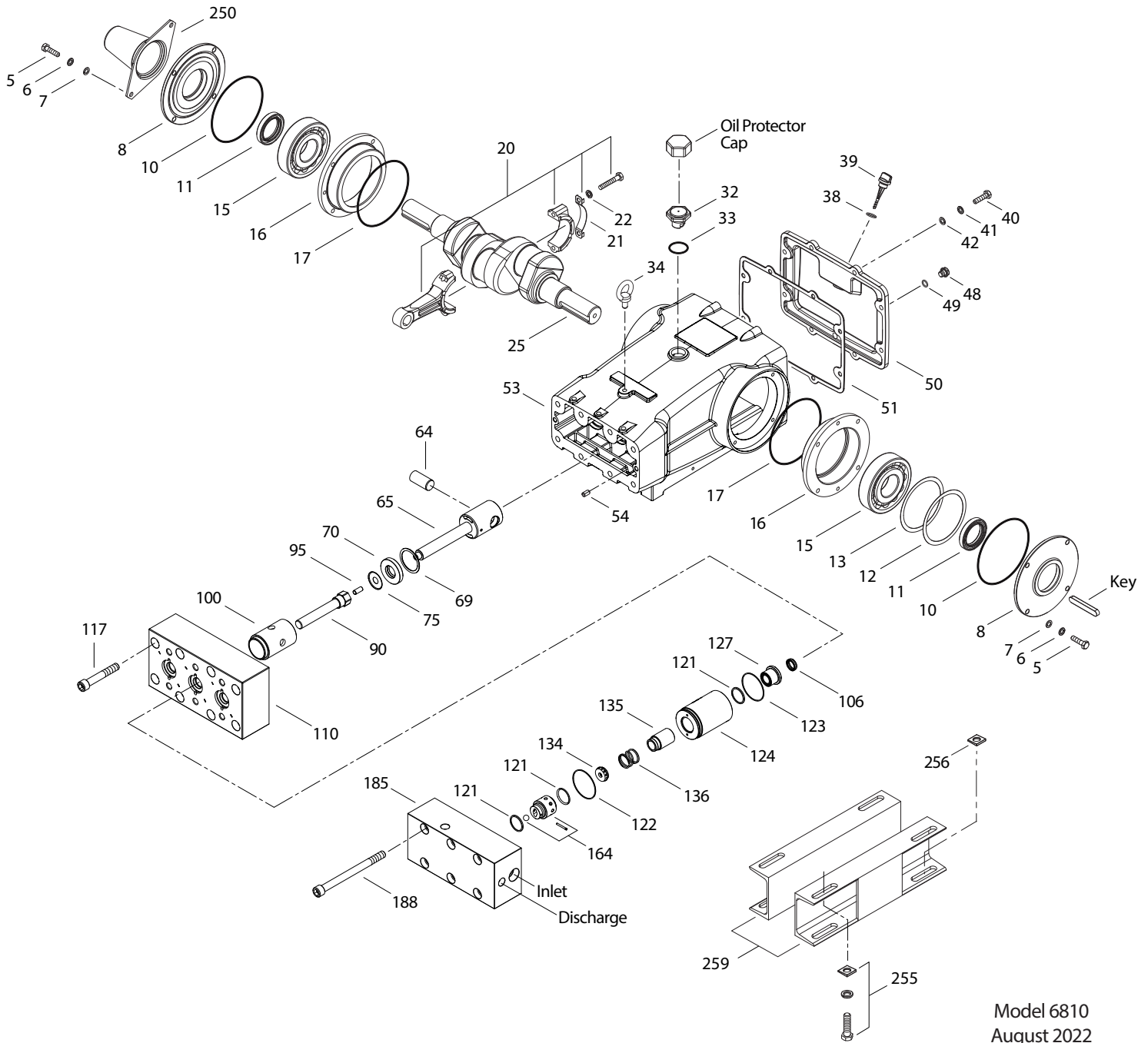
ITEM	PART NUMBER	MATL	DESCRIPTION	QTY
5	89728	S	Screw, HH (M10 x 40) (See Tech Bulletin 074)	8
6	15847	S	Lockwasher (M10)	8
7	19934	S	Washer, Flat (M10)	8
8	29443	ALE	Cover, Bearing, Outer (See Tech Bulletin 118)	2
10	29444	NBR	O-Ring, Bearing Cover-70D	2
11	11443	NBR	Seal, Oil, Crankshaft	2
12	126594	STCP R	Washer, Shim (M120 x 0.3)	0-2
13	126595	STCP R	Washer, Shim (M120 x 0.5)	0-2
15	29441	STL	Bearing, Roller	2
16	29442	STL	Cover, Bearing, Inner	2
17	29444	NBR	O-Ring, Bearing Cover-70D	2
20	126612	BBHS	Assembly, Connecting Rod (Includes: 21, 22) (See Tech Bulletin 074)	3
21	126560	STCP R	Washer, Locking	3
22	126593	STCP R	Washer, Shim (M10.5 x 1.5)	6
25	29440	FCM	Crankshaft, Dual End (M65.5)	1
32	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	O-Ring, Filler Cap-70D	1
34	126743	STCP R	Bolt, Eye (M12) (For Lifting Pump Only)	1
38	129343	RBR	Gasket, Flat Flex	1
39	27769	ABS	Stick, Dip, Blue	1
40	89627	S	Screw, HH (M10 x 30) (See Tech Bulletin 074)	8
41	15847	S	Lockwasher (M10)	8
42	19934	S	Washer, Flat (M10)	8
48	25625	STCP	Plug, Drain (1/4" x 19 BSP)	1
49	23170	NBR	O-Ring, Drain Plug-70D	1
50	29438	ALE	Cover, Rear (See Tech Bulletin 118)	1
51	129386	NBR	Gasket, Rear Cover	1
53	133667	ALE	Crankcase (Includes: 34, 54) (See Tech Bulletin 118)	1
54	43282	S	Pin, Guide	2
64	29481	CM	Pin, Crosshead	3
65	48735	SSZZ	Rod, Plunger	3
69	126588	STCP R	Washer, Oil Seal	3
70	29454	NBR	Seal, Oil Crankcase	3
75	43865	S	Slinger, Barrier	3
90	76347	CC	Assembly, Plunger (M21)	3
95	76344	S	Stud (M10 x 22)	3
100	76585	D	Retainer, Seal	3
106	76313	ST4	Seal, Low-Pressure with S-Spring	3
110	76348	SFSS	Block, Housing	1
117	76358	S	Screw, HSH (M16 x 100) (See Tech Bulletin 074)	8
121	76318	PTFE	Ring, Cylinder Sealing	9
122	76327	NBR	O-Ring, Front Cylinder	3
123	76317	NBR	O-Ring, Rear Cylinder	3
124	76321	SFSS	Cylinder	3
127	76314	UHMW	Assembly, V-Packing with Bronze Cylinder Support	3
134	76359	S455	Valve, Inlet	3
135	76322	D	Retainer, Spring	3
136	76324	S	Spring	3
164	76337	SFSS	Seat, Ball Assembly with Ceramic Ball	3
185	76388	SFSS	Manifold, Inlet/Discharge, Block Style	1
188	76377	S	Screw, HSH (M16 x 200) (See Tech Bulletin 074)	6
250	29445	ALE	Protector, Shaft (See Tech Bulletin 118)	1
255	33243	STZP	Mount, Direct (See Tech Bulletin 074)	1
256	29649	STCP	Washer, Slant (M16) (To Shim and Align Mounting Bolts [Not Included] Through the Box Rail and Mounting Base)	4
259	126604	STCP R	Rail, Box	2

R Components comply with RoHS Directive.

For additional technical information see www.catpumps.com/literature/tech-bulletins.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic ALE=Aluminum Epoxy BBHS=Brass/High Strength CC=Ceramic CM=Chrome-Moly D=Acetal F=Cast Iron
 FCM=Forged Chrome-Moly NBR=Medium Nitrile (Buna-N) PE=Polyethylene PTFE=Pure Polytetrafluoroethylene RBR=Rubber S=304SS SFSS=17-4SS
 SSZZ=316SS/Zamak ST4=Special PTFE 4 STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated S455=455 SS
 UHMW=Ultra High Molecular Polyethylene

EXPLODED VIEW



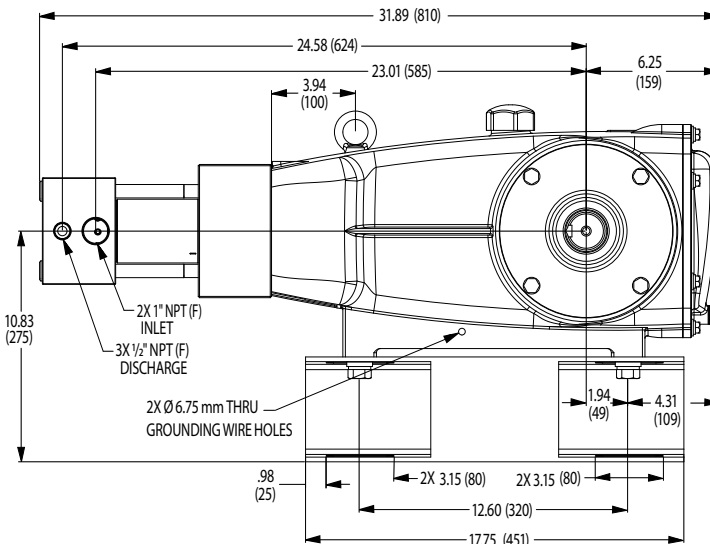
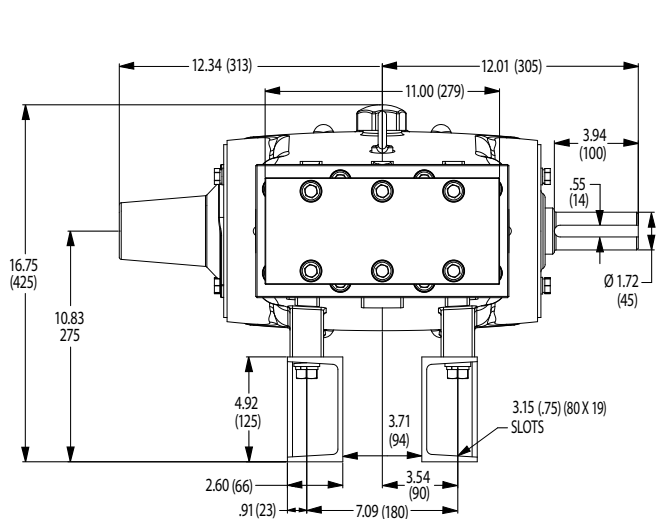
Model 6810
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OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
43048	Key (M14 x 9 x 90)	1
828710	Protector, Oil Cap	1
990014	Hub, "B", 45 mm (STL) (Not shown)	1
34314	Kit, Oil Drain (3/8" x 48") (Not shown)	1
88902	Stud (M16 x 277) (For Removal of DM & IM) (Not shown)	2
819010	Assembly, Crankcase, Cast Iron Conversion	1

SERVICE PARTS

PART	DESCRIPTION	QTY
76966	Kit, Seal – Standard NBR	1
76967	Kit, Valve – Standard NBR	1
6102	Oil, Jug (2.5 gal) ISO-68 Hydraulic (Fill to Specified Crankcase Capacity Prior to Start-up)	1
6124	Gasket, Liquid (3 oz)	1
6139	Lubricant, Anti-Seize (8 oz) (See Tech Bulletin 095)	1
996810	Head, Complete with NBR Seals and O-Rings	1



SEAL KITS One (1) seal kit required per pump

PUMP MODEL		NBR (STD)	
6810		76966*	
ITEM (Included in Seal Kits)	PART NUMBER	DESCRIPTION	QTY
106	76313	Seal, Low-Pressure with S-Spring	3
121	76318	Ring, Cylinder Sealing	9
122	76327	O-Ring, Front Cylinder	3
123	76317	O-Ring, Rear Cylinder	3
127	76314	Assembly, V-Packing with Bronze Cylinder Support	3

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

VALVE KITS One (1) valve kit required per pump

PUMP MODEL		NBR (STD)	
6810		76967	
ITEM (Included in Valve Kits)	PART NUMBER	DESCRIPTION	QTY
121	76318	Ring, Cylinder Sealing	9
122	76327	O-Ring, Front Cylinder	3
123	76317	O-Ring, Rear Cylinder	3
134	76359	Valve, Inlet	3
136	76324	Spring	3
164	76337	Seat, Ball Assembly with Ceramic Ball	3

⚠ CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (e.g. regulator, unloader) and a secondary pressure relief device (e.g. 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 online at www.catpumps.com/literature/cat-pumps-limited-warranty