

DATA SHEET

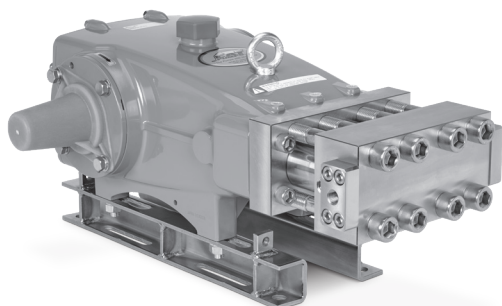
38 FRAME BLOCK-STYLE PLUNGER PUMP



Stainless Steel 3810 Model:

Manifolds are 304 stainless steel. Cylinders are 17-4SS stainless steel. Valve assemblies are made with 304 and 17-4SS stainless steel components. Internal packing assembly includes acetal male adapters, PTFE female adapters and V-packings.

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



Model 3810 Shown
(Shaft protector included; mounting rails sold separately)

FEATURES

- Block-style 304 stainless steel manifolds deliver high structural strength and corrosion resistance for demanding industrial applications.
- PTFE and acetal packing assemblies provide added stability at high pressure while extending seal life.
- Matched connecting rods and oversized bearings increase load capacity and significantly extend bearing life.
- Special high-density, polished, concentric plungers provide a true wear surface and extended seal life.
- V-packings and low-pressure seals are completely lubricated and cooled by pumped liquid, greatly increasing service life.
- A low-unswept-volume design maximizes volumetric efficiency, reduces energy consumption, and delivers consistent flow.
- Pump comes standard with NBR seals.

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow	6 gpm	22.7 lpm
Pressure Range	100–10,000 psi	6.9–689 bar
Pump RPM*	870 rpm	870 rpm
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Max. Liquid Temp. (NBR)	140° F	60° C
Bore	0.630"	16 mm
Stroke	1.890"	48 mm
Crankcase Capacity	4.2 qts	4 l
Inlets Ports (2)	½" NPT(F)	½" NPT(F)
Discharge Ports (2)	⅜" NPT(F)	⅜" NPT(F)
Shaft Diameter	1.378"	35 mm
Pulley Mounting	Either Side	Either Side
Weight	119 lbs	54 kg
Dimensions	24.30 x 18.11 x 9.78"	617 x 460 x 248 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

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

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	P/N	MATL	DESCRIPTION	QTY
5	96049	S	Screw, HHC Sems (M10 x 25) (See Tech Bulletin 074)	8
8	134604	ALE	Cover, Bearing	2
9	815279	FBR	Shim, Split, 2-Piece	2
10	12398	NBR	O-Ring, Cover, Bearing	2
11	13296	NBR	Seal, Oil, Crankshaft	2
12	855049	S	Shim, Split, 2-Piece	2
15	29326	STL	Bearing, Roller	2
20	126725	BZ	Rod, Connecting (Includes: 21, 22, 23) (See Tech Bulletin 074)	3
21	126749	STCP R	Washer, Locking (M10)	3
22	126593	STCP R	Washer, Flat (M10)	6
23	122045	STZP	Screw, HH (M10 x 55)	6
25	29325	FCM	Crankshaft, Dual-End (M48)	1
31	828710	PE	Protector, Oil Cap with Foam Gasket	1
32	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	O-Ring, Oil Filler Cap	1
34	126743	STCP R	Bolt, Eye (M12 x 1.75) (For Lifting Pump Only)	1
37	92241	PC	Gauge, Oil, Bubble with Gasket	1
38	44428	NBR	Gasket, Flat, Oil Gauge	1
40	125753	S	Screw, HHC Sems (M8 x 25) (See Tech Bulletin 074)	8
48	25625	STCP	Plug, Drain (¼" x 19 BSP)	1
49	23170	NBR	O-Ring, Drain Plug	1
50	45936	ALE	Cover, Crankcase	1
51	16612	NBR	O-Ring, Crankcase	1
53	134784	ALE	Crankcase Assembly (Includes: 54)	1
54	27488	S	Pin, Guide	2
64	43864	CM	Pin, Crosshead	3
65	670267	SHB	Rod, Plunger	3
69	126587	STCP R	Washer, Oil Seal	3
70	100488	NBRS	Seal, Oil, Crankcase	3
75	670272	NBR	Slinger, Barrier	3
90	670269	CC	Assembly, Plunger (M16 x 84) with 304SS M22 Threaded End	3
100	44119	PPG	Retainer, Seal, Rear	3
102	670273	D	Retainer, Seal, Front	3
106	43316	NBR	Seal, Low-Pressure with SS-Spring	3
110	670274	S	Block, Housing	1
117	670376	S	Screw, HSH (M14 x 60) (See Tech Bulletin 074)	4
118	670276	S	Plug	6
119	13917	NBR	O-Ring, Plug	6
123	12391	NBR	O-Ring, Cylinder	9
124	670275	SFSS	Cylinder	3
126	670277	PTFE	Adapter, Female	3
127	670278	PTFE	V-Packing	3
128	670279	D	Adapter, Male	3
141	670280	S	Spring, Coil, Packing	3
160	670290	PFFE	Ring, Sealing, Seat, Rear	3
161	670289	PTFE	Ring, Sealing, Seat, Front	3
162	14010	NBR	O-Ring, Seat	3
163	670286	SFSS	Valve, Discharge	3
164	670285	SFSS	Seat, Inlet/Discharge	3
165	43750	S	Spring, Discharge	3
166	670283	SFSS	Valve, Inlet	3
167	670282	S	Spring, Inlet	3
168	670281	D	Retainer, Spring, Inlet	3
169	670287	PVDF	Retainer, Spring, Discharge	3
172	14205	PTFE	Ring, Sealing, Flange	2
174	670288	S	Flange, Discharge (⅜" NPT)	2
175	49044	S	Screw, HSH (M10 x 25) (See Tech Bulletin 074)	8
185	670284	S	Manifold, Block (Inlet/Discharge)	1
188	670291	S	Screw, HSH (M20 x 160) (See Tech Bulletin 074)	8
250	855042	POP	Protector, Shaft with 2 Screws, Lockwashers and Washers	1

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 BZ=Bronze CC=Ceramic CM=Chrome-Moly D=Acetal

FBR=Fiber FCM=Forged Chrome-Moly NBR=Medium Nitrile (Buna-N) NBRS=Buna, Silicone Free PC=Poly Carbonate PE=Polyethylene

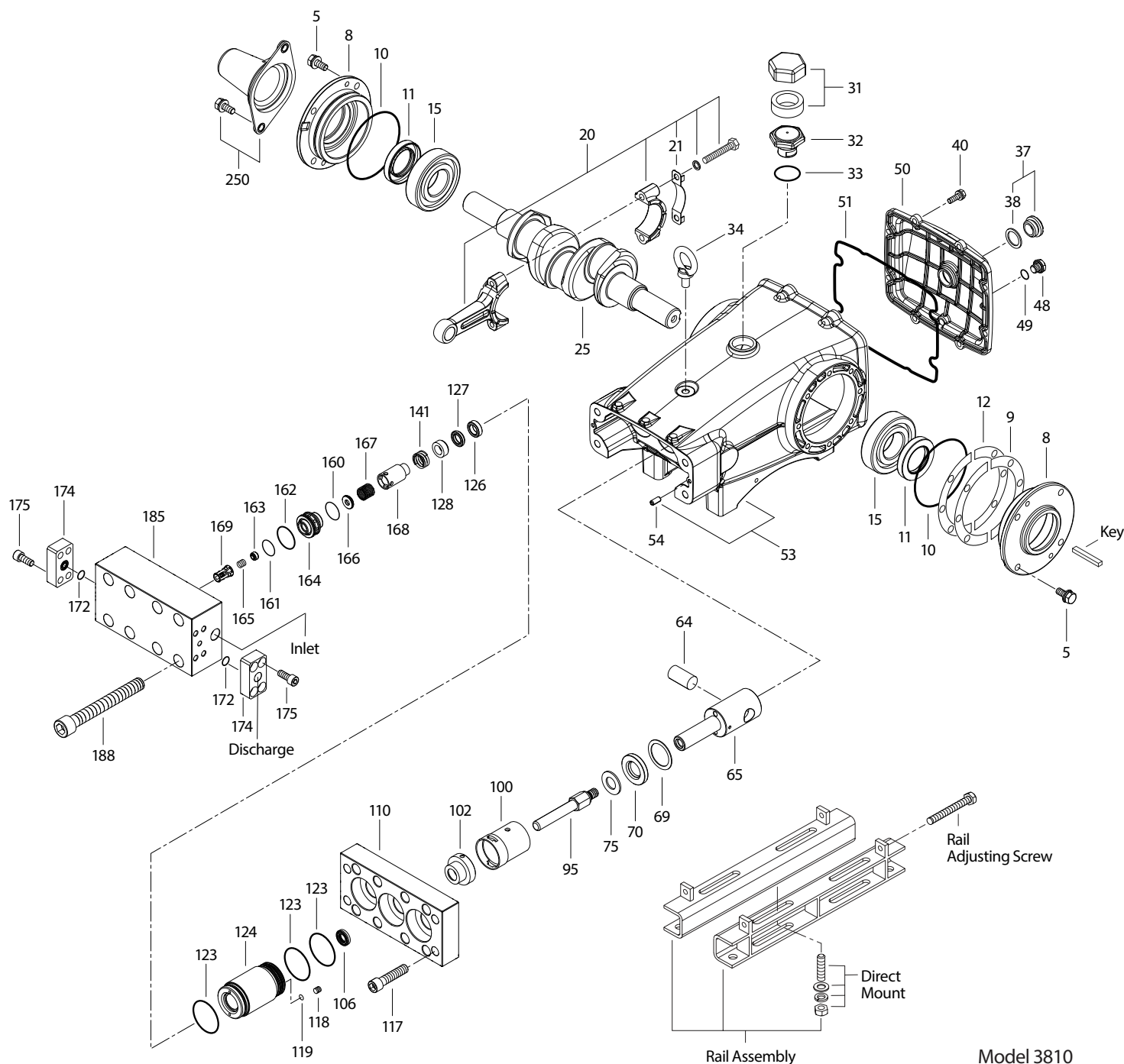
POP=Polypropylene PPG=Glass Fitted Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS

SFSS=17-4SS SHB=304SS/High Strength Brass STCP=Steel/Chrome Plated STL=Steel

STZP=Steel/Zinc Plated ZP=Zinc Plated

Optional Parts and Accessories and Service Parts listed on page 3. Standard Seal and Valve Kits listed on page 4.

EXPLODED VIEW



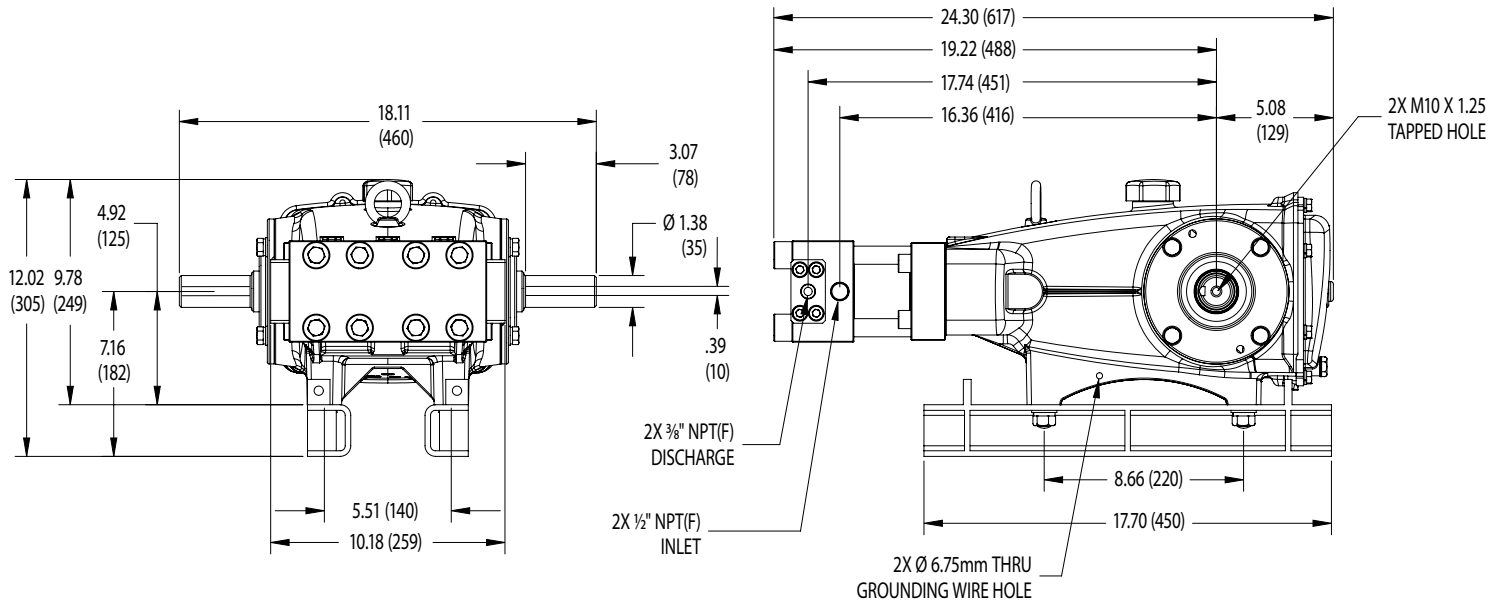
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OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
34021	Key (M10 x 8 x 70)	1
92674	Mount, Rail Assembly (STZP R) (Includes: 34018)	1
34018	Mount, Direct (STZP R)	1
990013	Hub, "B", 35 mm (STL) (Not Shown)	1
80540	Screwing, Adjusting (M12 x 100)	2
34314	Kit, Oil Drain (3/8" x 48") (Not Shown)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
997806	Kit, Seal – Standard NBR	1
997807	Kit, Valve – Standard NBR	1
6100	Oil, Case (12–21 oz bottle) (Fill to Specified Crankcase Capacity Prior to Start-up)	1
6124	Gasket, Liquid (3 oz)	1
32273	Crankcase Oil Seal Removal and Installation Kit (Not Shown) (Includes: Oil Seals, Guide Tool, Screws, Washers, Driver)	1
30696	Reverse Pliers (Not Shown)	1



SEAL KITS One (1) seal kit required per pump

PUMP MODEL	NBR (STD)
3810	997806*

ITEM (Included in Seal Kits)		DESCRIPTION	QTY
106	43316	Seal, Low-Pressure with SS-Spring	3
123	12391	O-Ring, Cylinder	9
126	670277	Adapter, Female	3
127	670278	V-Packing	3
128	670279	Adapter, Male	3

*Review material codes for individual items (PTFE may be used as an alternative)

VALVE KITS One (1) valve kit required per pump

PUMP MODEL	NBR (STD)
3810	997807

ITEM (Included in Valve Kits)		DESCRIPTION	QTY
160	670290	Ring, Sealing, Rear, Seat	3
161	670289	Ring, Sealing, Front, Seat	3
162	14010	O-Ring, Seat	3
163	670286	Valve, Discharge	3
164	670285	Seat, Inlet/Discharge	3
165	43750	Spring, Discharge	3
166	670283	Valve, Inlet	3
167	670282	Spring, Inlet	3
168	670281	Retaining, Spring, Inlet	3
169	670287	Retainer, Spring, Discharge	3
172	14205	Ring, Sealing, Flange	2

⚠ 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