

DATA SHEET

38 FRAME BLOCK-STYLE PLUNGER PUMPS

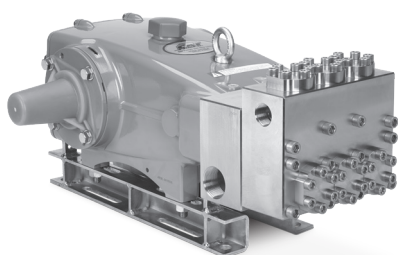


**Stainless Steel
Models:**

3801, 3811

**Stainless Steel
Flushed Models:**

3801K, 3811K



Model 3801 Shown
(Shaft protector included and mounting rails sold separately)

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Advanced connecting rod and plunger rod materials optimize drive-end operation for continuous-duty applications.
- V-packings and low-pressure seals are completely lubricated and cooled by pumped liquid, greatly increasing service life.
- Models 3801K and 3811K offer an external flush for higher temperature or low-lubricity liquids.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

COMMON SPECIFICATIONS

	U.S.	Metric
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Max. Liquid Temp. (NBR)	160° F	71° C
Alternative seals available for higher temperatures up to 200° F		
Stroke	1.890"	48 mm
Crankcase Capacity	4.2 qts	4 l
Inlet Ports (2)	1½" NPT(F)	1½" NPT(F)
Flush Ports (2)	½" NPT(F)	½" NPT(F)
Discharge Ports (2)	1" NPT(F)	1" NPT(F)
Shaft Diameter	1.378"	35 mm
Pulley Mounting	Either Side	Either Side
Weight	170 lbs	77 kg
Dimensions	24.80 x 18.11 x 9.72"	630 x 460 x 247 mm

SPECIFICATIONS

U.S. Measure

Metric Measure

3801, 3801K

Flow	10.0 gpm	38 lpm
Pressure Range	100–5000 psi	6.9–345 bar
Pump RPM*	915 rpm	915 rpm
Bore	0.787"	20 mm

3811, 3811K

Flow	14 gpm	53 lpm
Pressure Range	100–3000 psi	6.9–210 bar
Pump RPM*	800 rpm	800 rpm
Bore	0.984"	25 mm

*Pump is minimum 100 RPM

ALTERNATIVE SEAL CONFIGURATION

MATERIAL	SUFFIX CODE	MAXIMUM TEMPERATURE	
NBR	—	160° F	(71° C)
FPM	.0110	180° F	(82° C)
EPDM	.0220	160° F	(71° C)
FFKM	.0770	200° F	(93° C)

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

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	PN	MATL	PN	MATL	PN	MATL	PN	MATL	DESCRIPTION	QTY
	3801		3801K		3811		3811K			
5	96049	S	96049	S	96049	S	96049	S	Screw, HH Sems (M10 x 25) (See Tech Bulletin 074)	8
8	134604	ALE	134604	ALE	134604	ALE	134604	ALE	Cover, Bearing	2
9	815279	FBR	815279	FBR	815279	FBR	815279	FBR	Shim, Split 2-Piece	0-2
10	12398	NBR	12398	NBR	12398	NBR	12398	NBR	O-Ring, Bearing Cover-70D	2
11	13296	NBR	13296	NBR	13296	NBR	13296	NBR	Seal, Oil, Crankshaft	2
12	855049	S	855049	S	855049	S	855049	S	Shim, Split 2-Piece	0-2
15	29326	STL	29326	STL	29326	STL	29326	STL	Bearing, Roller	2
20	126725	BZ R	126725	BZ R	126725	BZ R	126725	BZ R	Rod, Connecting Assembly (Includes: 21, 22, 23) (See Tech Bulletin 074)	3
21	126749	STCP R	126749	STCP R	126749	STCP R	126749	STCP R	Washer, Locking (M10)	3
22	126593	STCP R	126593	STCP R	126593	STCP R	126593	STCP R	Washer, Flat (M10)	6
23	122045	STZP	122045	STZP	122045	STZP	122045	STZP	Screw, HH (M10 x 55)	6
25	29325	FCM	29325	FCM	29325	FCM	29325	FCM	Crankshaft, Dual-End (M48)	1
31	828710	PE	828710	PE	828710	PE	828710	PE	Protector, Oil Cap with Foam Gasket	1
32	43211	ABS	43211	ABS	43211	ABS	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	14177	NBR	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap-70D	1
34	126743	STCP R	126743	STCP R	126743	STCP R	126743	STCP R	Bolt, Eye (M12 x 1.75) (For Lifting Pump Only)	1
37	92241	PC	92241	PC	92241	PC	92241	PC	Gauge, Oil, Bubble with Gasket-80D (See Tech Bulletin 074)	1
38	44428	NBR	44428	NBR	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge-80D	1
40	125753	S	125753	S	125753	S	125753	S	Screw, HH Sems (M8 x 25) (See Tech Bulletin 074)	8
48	25625	STCP	25625	STCP	25625	STCP	25625	STCP	Plug, Drain (¼" x 19 BSP)	1
49	23170	NBR	23170	NBR	23170	NBR	23170	NBR	O-Ring, Drain Plug-70D	1
50	45936	ALE	45936	ALE	45936	ALE	45936	ALE	Cover, Rear	1
51	16612	NBR	16612	NBR	16612	NBR	16612	NBR	O-Ring, Cover-70D	1
53	134784	ALE	134784	ALE	134784	ALE	134784	ALE	Crankcase Assembly (Includes: 54)	1
54	27488	S	27488	S	27488	S	27488	S	Pin, Guide	2
56	27790	POP	27790	POP	27790	POP	27790	POP	Pan, Oil	1
59	92538	S	92538	S	92538	S	92538	S	Screw, HHC Sems (M6 x 16)	2
64	43864	CM	43864	CM	43864	CM	43864	CM	Pin, Crosshead	3
65	45118	SSZZ	45118	SSZZ	45116	SSZZ	45116	SSZZ	Rod, Plunger	3
69	126587	STCP R	126587	STCP R	126587	STCP R	126587	STCP R	Washer, Oil Seal	3
70	100488	NBR S	100488	NBR S	100488	NBR S	100488	NBR S	Seal, Oil, Crankcase	3
75	43506	S	43506	S	43865	S	43865	S	Slinger, Barrier	3
88	45675	S	45675	S	45676	S	45676	S	Washer, Keyhole	3
90	43945	CC	43945	CC	43866	CC	43866	CC	Plunger (M20 x 145) (Models 3801, 3801K) (M25 x 145) (Models 3811, 3811K)	3
95	89779	S	89779	S	89778	SS	89778	SS	Stud, (M7 x 123) (Models 3801, 3801K) (M10 x 135) (Models 3811, 3811K)	3
96	20184	PTFE	20184	PTFE	20189	PTFE	20189	PTFE	Backup Ring, Plunger Retainer	3
97	14190	NBR	14190	NBR	11345	NBR	11345	NBR	O-Ring, Plunger Retainer-70D	3
98	44069	SS	44069	SS	44085	SS	44085	SS	Gasket, Plunger Retainer	3
99	44068	SS	44068	SS	44084	SS	44084	SS	Retainer, Plunger (M7) (Models 3801, 3801K) (M10) (Models 3811, 3811K) (See Tech Bulletin 074)	3
100	814279	PVDF	814279	PVDF	814279	PVDF	814279	PVDF	Retainer, Seal	3
101	44095	—	44095	—	44096	—	44096	—	Wick	3
104	43875	NBR	43875	NBR	43875	NBR	43875	NBR	O-Ring, Inlet Adapter-70D	3
105	701344	SS	701344	SS	701323	SS	701323	SS	Adapter, Inlet	3
106	44071	NBR	44071	NBR	44086	NBR	44086	NBR	Seal, Low-Pressure with SS-Spring	3
107	44074	SS	44074	SS	44089	SS	44089	SS	Washer, Low-Pressure Seal	3
110	701286	SS	—	—	701286	SS	—	—	Manifold, Inlet	1
—	—	—	701408	SS	—	—	701408	SS	Manifold, Inlet, Flushed (Models 3801K, 3811K)	1
111	701116	SS	701116	SS	701116	SS	701116	SS	Plug, Inlet (1½" NPT)	1
112	701794	NBR	701794	NBR	701794	NBR	701794	NBR	O-Ring, Inlet Spacer-70D	6
113	701319	PTFE	701319	PTFE	701319	PTFE	701319	PTFE	Backup Ring, Inlet Spacer	6
114	701317	SS	701317	SS	701317	SS	701317	SS	Spacer, Inlet	3
117	701252	SS	701252	SS	701252	SS	701252	SS	Screw, HSH (M14 x 100) (See Tech Bulletin 074)	4
118	701077	SS	—	—	701077	SS	—	—	Plug (¼" NPT)	3
122	701367	SS	701367	SS	—	—	—	—	Spacer, Cylinder	3
123	12391	NBR	12391	NBR	12391	NBR	12391	NBR	O-Ring, V-Packing Cylinder-70D	3
124	701336	SS	701336	SS	701448	SS	701448	SS	Cylinder, V-Packing	3
126	44164	SS	44164	SS	701325	SS	701325	SS	Adapter, Female	3
127	44607	STG	44607	STG	44610	STG	44610	STG	V-Packing	9-6
128	44165	SS	44165	SS	701326	SS	701326	SS	Adapter, Male	3
141	—	—	—	—	45113	SS	45113	SS	Spring, Coil	15
142	—	—	—	—	701447	SS	701447	SS	Spacer with Coil Springs	3
155	17622	NBR	17622	NBR	11379	NBR	11379	NBR	O-Ring, V-Packing Spacer	6
156	28675	PTFE	28675	PTFE	28243	PTFE	28243	PTFE	Backup Ring, V-Packing Spacer	6
157	701352	SS	701352	SS	701385	SS	701385	SS	Spacer, V-Packing	3
162	21985	PTFE	21985	PTFE	21985	PTFE	21985	PTFE	Backup Ring, Seat	6
163	26089	NBR	26089	NBR	26089	NBR	26089	NBR	O-Ring, Seat-80D	6
164	44080	SS	44080	SS	44080	SS	44080	SS	Seat	6
166	44081	SS	44081	SS	44081	SS	44081	SS	Valve	6
167	44082	SS	44082	SS	44082	SS	44082	SS	Spring	6
168	44735	PVDF	44735	PVDF	44735	PVDF	44735	PVDF	Retainer, Spring	6
170	44794	SS	44794	SS	44794	SS	44794	SS	Washer, Spring Retainer	6
171	44793	SS	44793	SS	44793	SS	44793	SS	Spring, Coil, Valve Plug	6
172	15853	NBR	15853	NBR	15853	NBR	15853	NBR	O-Ring, Valve Plug-70D	6
173	20224	PTFE	20224	PTFE	20224	PTFE	20224	PTFE	Backup Ring, Valve Plug	6
174	701260	SS	701260	SS	701260	SS	701260	SS	Plug, Valve	6
175	87951	S	87951	S	87951	S	87951	S	Screw, HSH, Valve Plug (M10 x 30) (See Tech Bulletin 074)	36
185	701314	SS	701314	SS	701785	SS	701785	SS	Manifold, Discharge	1
188	701279	S	701279	S	701279	S	701279	S	Screw, HSH, (M12 x 100) (See Tech Bulletin 074)	12
196	701342	SS	701342	SS	701342	SS	701342	SS	Plug, Discharge (1" NPT) (Not Shown)	1
250	855042	NY	855042	NY	855042	NY	855042	NY	Protector, Shaft with Two (2) Screws, Lockwashers and Washers	1

Bold print part numbers are unique to a particular pump model.

R Components comply with RoHS Directive. For additional technical information see www.catpumps.com/literature/tech-bulletins. See Service Bulletin 001.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic ALE=Aluminum Epoxy CC=Ceramic CM=Chrome-Moly D=Acetal EPDM=Ethylene Propylene Diene Monomer

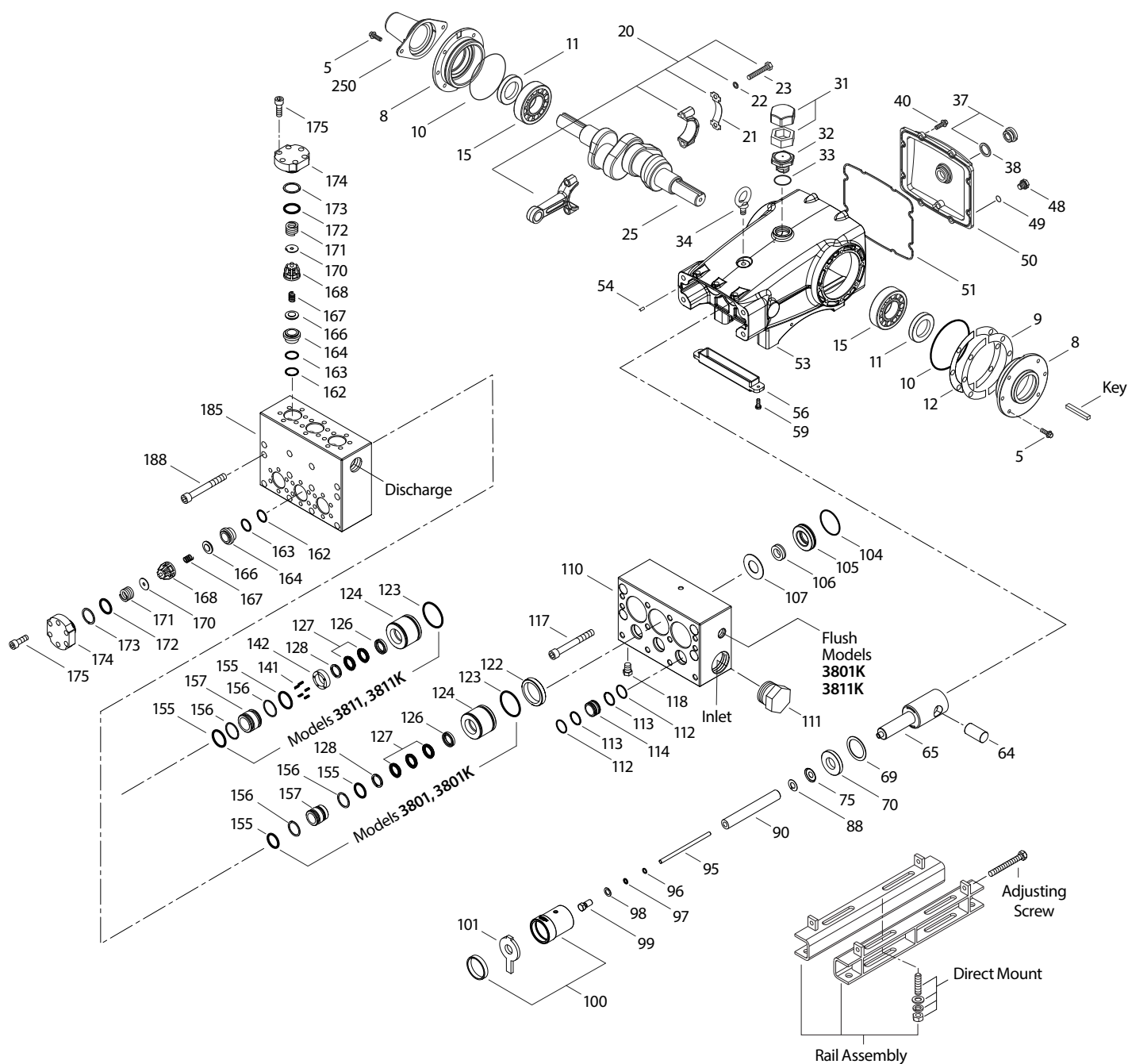
F=Cast Iron FBR=Fiber FCM=Forged Chrome-moly FFKM=Perfluoroelastomer FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NBR S=Buna, Silicone Free NY=Nylon

PC=Poly Carbonate PE=Polyethylene POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SFG=Special Blend FPM

SS=316SS SSZZ=316SS/Zamak STG=Special Blend PTFE White STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated ZP=Zinc Plated

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

EXPLODED VIEW



Models
3801, 3811
3801K, 3811K
October 2023

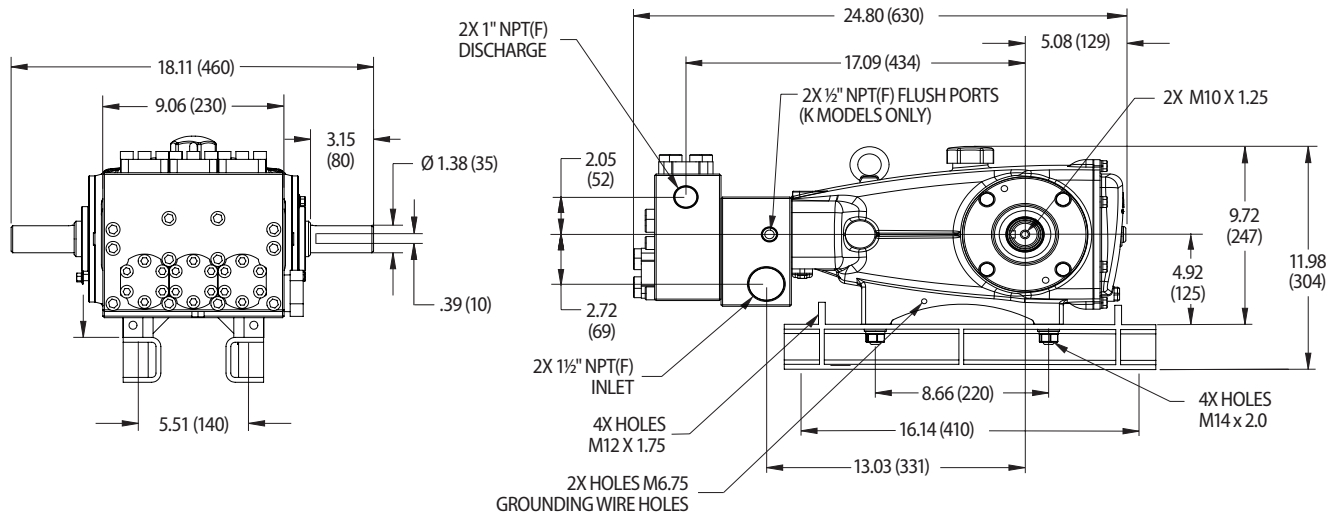
OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
34021	Key (M10 x 8 x 70)	1
76514	Mount, Rail Assembly (S) (Includes: 34039)	1
34039	Mount, Direct (S)	1
92674	Mount, Rail Assembly (STZP R) (Includes: 34018)	1
34018	Mount, Direct (STZP R)	1
990013	Hub, "B", 35mm (STL)	1
80540	Screw, Adjusting (M12 x 100)	2
30278	Oiler (1 oz) (Not Shown)	3
34314	Kit, Oil Drain (3/8" x 48") (Not Shown)	1
990663	Assembly, Flushing, 5 gal, 115V, 1.1 AMP, 1/2" NPT (Models 3801K, 3811K)	1
819000	Assembly, Crankcase, Cast Iron Conversion (Not Shown)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
701786	Kit, Seal – Standard NBR (Models 3801, 3801K)	1
701793	Kit, Seal – Standard NBR (Models 3811, 3811K)	1
34151	Kit, Valve – Standard NBR	2
6100	Oil, Case (12–21 oz bottles) (Fill to Specific Crankcase Capacity Prior to Start-up)	1
6139	Lubricant, Anti-seize (8 oz) (See Tech Bulletin 095)	1
6124	Gasket, Liquid (3 oz)	1
32273	Kit, Removal Tool + Crankcase Oil Seals (Not Shown)	1
901388	Head, Complete with NBR Seals and O-Rings (Model 3801)	1
901370	Head, Complete with NBR Seals and O-Rings (Model 3811)	1
901389	Head, Complete with NBR Seals and O-Rings (Model 3801K)	1
901371	Head, Complete with NBR Seals and O-Rings (Model 3811K)	1

Kits - NBR, FPM (.0110), EPDM (.0220), FFKM (.0770) listed on page 4.



Models 3801, 3801K, 3811, 3811K

SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	FFKM (.0770)
3801, 3801K	701786*	33251*	33141*	—
3811, 3811K	701793*	701802*	701803*	76793*

ITEM (Included in Seal Kits)					DESCRIPTION	QTY
97	14190	14161	48239	—	O-Ring, Plunger Retainer (3801, 3801K)	3
	11345	11375	701490	702961	O-Ring, Plunger Retainer (3811, 3811K)	3
104	43875	44826	701656	702977	O-Ring, Adapter	3
106	44071	44381	701974	—	Seal, Low-Pressure with SS-Spring (3801, 3801K)	3
	44086	45846	701944	701944	Seal, Low-Pressure with SS-Spring (3811, 3811K)	3
112	701794	701318	701495	702969	O-Ring, Inlet Spacer	6
113	701319	701319	701319	701319	Backup Ring, Inlet Spacer	6
123	12391	13266	701657	703481	O-Ring, V-Packing Cylinder	3
127	44607	44607	44607	—	V-Packing (3801, 3801K)	9
	44610	44610	44610	703050	V-Packing (3811, 3811K)	6
155	17622	11719	701654	—	O-Ring, V-Packing Spacer (3801, 3801K)	6
	11379	14183	701491	702705	O-Ring, V-Packing Spacer (3811, 3811K)	6
156	28675	28675	28675	—	Backup Ring, V-Packing Spacer (3801, 3801K)	6
	28243	28243	28243	28243	Backup Ring, V-Packing Spacer (3811, 3811K)	6

♦ Silicone oil/grease required *Review material codes for individual items (STG generally may be used as alternative)

VALVE KITS Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	IPFE (.0770)
3801, 3801K	34151	701798	701799	76171
3811, 3811K				

ITEM (Included in Valve Kits)					DESCRIPTION	QTY
162	21985	21985	21985	21985	Backup Ring, Valve Seat	3
163	26089	11377	46647	703244	O-Ring, Valve Seat	3
164	44080	44080	44080	44080	Seat	3
166	44081	44081	44081	44081	Valve	3
167	44082	44082	44082	44082	Spring	3
168	44735	44735	44735	44735	Retainer, Spring	3
170	44794	44794	44794	44794	Washer, Spring Retainer	3
172	15853	11720	701481	702974	O-Ring, Valve Plug	3
173	20224	20224	20224	20224	Backup Ring, Valve Plug	3

♦ Silicone oil/grease required

⚠ 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