

DATA SHEET

38 FRAME BLOCK-STYLE PLUNGER PUMPS

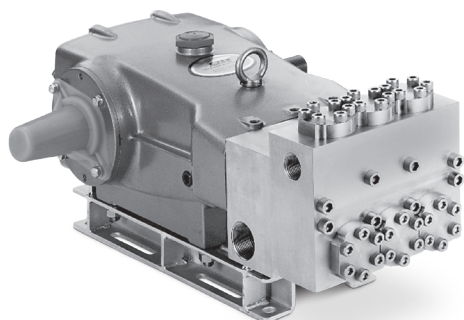


**Stainless Steel
Models:**

3801, 3811

**Stainless Steel
Flushed Models:**

3801K, 3811K



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

FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable dual V-Packings are lubricated and cooled by pumped liquid.
- Pre-set low-pressure seals provide secondary protection against external leaks and require no packing adjustments.
- Special flushed inlet manifold on models 3801K and 3811K permits external flush for added cooling with high-temperature liquids or lubrication with low-lubricity liquids.
- Standard NBR seals with alternative options for temperature and 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)	1 ½" NPT(F)	1 ½" NPT(F)
Flush Ports (2)	½" NPT(F)	½" NPT(F)
Discharge Ports (2)	1" NPT(F)	1" NPT(F)
Pulley Mounting	Either Side	Either Side
Shaft Diameter	1.378"	35 mm
Weight	170 lbs.	77 kg
Dimensions	24.72 x 18.11 x 9.37"	628 x 460 x 238 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)
IPFE	.0770	200° F (93° C)

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

DETERMINING THE PUMP R.P.M.	Rated gpm	=	"Desired" gpm
	Rated rpm	=	"Desired" rpm
DETERMINING THE REQUIRED H.P.	HP (Electric Brake)	=	$\frac{\text{gpm} \times \text{psi}}{1460}$
	DETERMINING MOTOR PULLEY SIZE	$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}}$	= $\frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$

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, 125)	8
8	134604	ALE	134604	ALE	134604	ALE	134604	ALE	Cover, Bearing (See Tech Bulletin 118, 125)	2
9	815279	FBR	815279	FBR	815279	FBR	815279	FBR	Shim, Split 2-Piece (See Tech Bulletin 125)	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	121467	TNM	121467	TNM	121467	TNM	121467	TNM	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 (1/4" x 19BSP)	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 (See Tech Bulletin 118)	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: 34, 54) (See Tech Bulletin 118, 125)	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	100488	NBR	100488	NBR	100488	NBR	Seal, Oil, Crankcase	3
	44739	FPM	44739	FPM	44739	FPM	44739	FPM	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) (M25 x 145)	3
95	89779	S	89779	S	89778	SS	89778	SS	Stud, Plunger Retainer (M7 x 123) (M10 x 135)	3
96	20184	PTFE	20184	PTFE	20189	PTFE	20189	PTFE	Back-up 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) (M10) (See Tech Bulletin 074)	3
100	814279	PVDF	814279	PVDF	814279	PVDF	814279	PVDF	Retainer, Seal (See Tech Bulletin 105)	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, LPS with SS-Spring	3
107	44074	SS	44074	SS	44089	SS	44089	SS	Washer, LPS	3
110	701286	SS	—	—	701286	SS	—	—	Manifold, Inlet, Block-Style	1
	—	—	701408	SS	—	—	701408	SS	Manifold, Inlet, Block-Style, Flushed (1/2" Inlet Port) 3801K, 3811K	1
111	701116	SS	701116	SS	701116	SS	701116	SS	Plug, Inlet (1 1/2" 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	Back-up 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 (1/4" NPT)	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	Back-up-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	Back-up 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	Back-up 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, Block-Style	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 2 - Screws, Lockwashers and Washers (Included with Pump) (See Tech Bulletin 125)	1

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

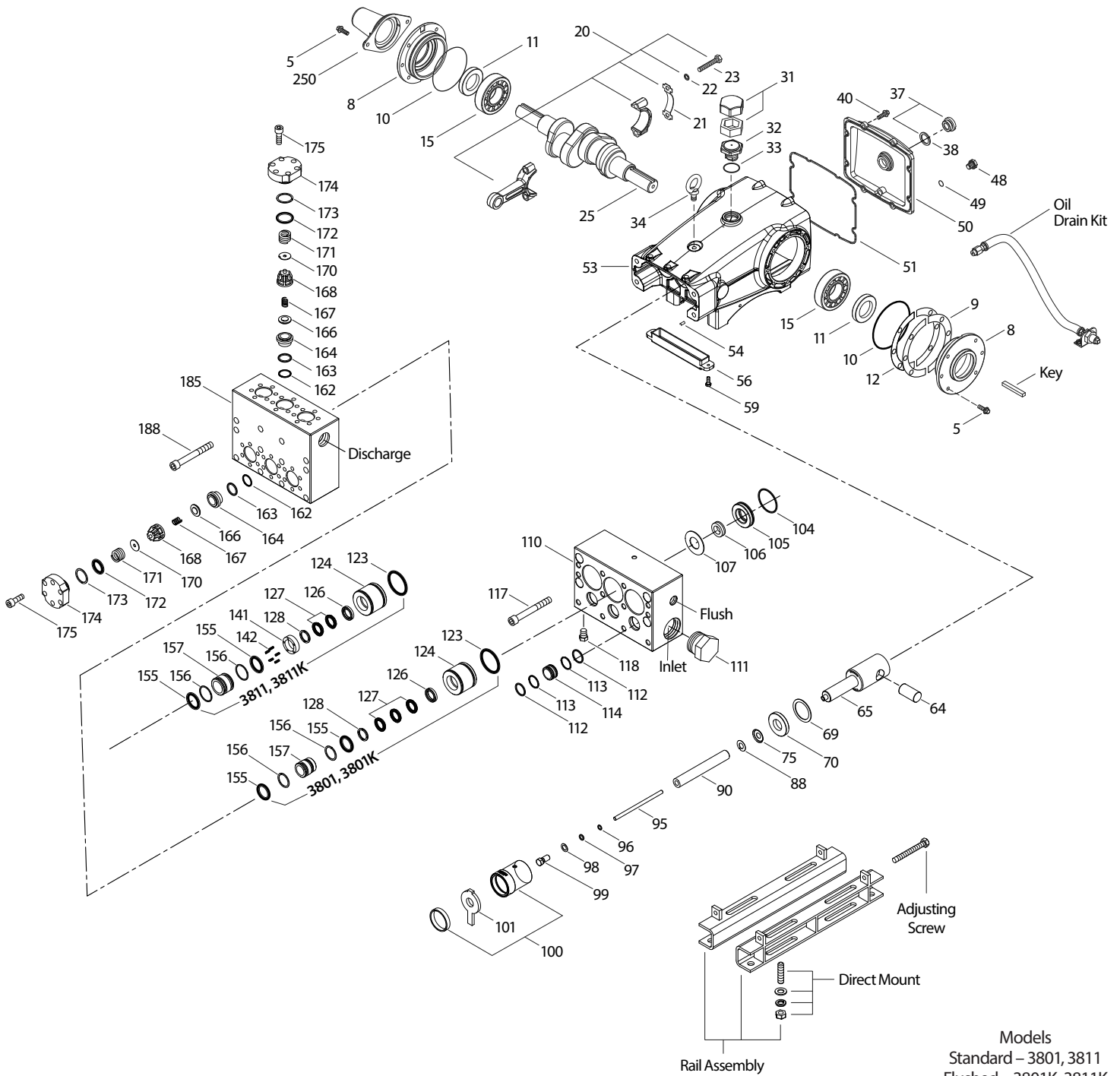
Italics are optional items. R Components comply with RoHS Directive.

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 FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NBRs=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 SSL=316SS/Low Carbon SSHB=316SS/High-Strength Brass SSZZ=316SS/Zamak STG=Special Blend PTFE White STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength ZP=Zinc Plated

Standard and optional Seal Kits and Valve Kits listed on pages 3 and 4. Optional Parts and Accessories and Service parts listed on Page 3.

EXPLODED VIEW



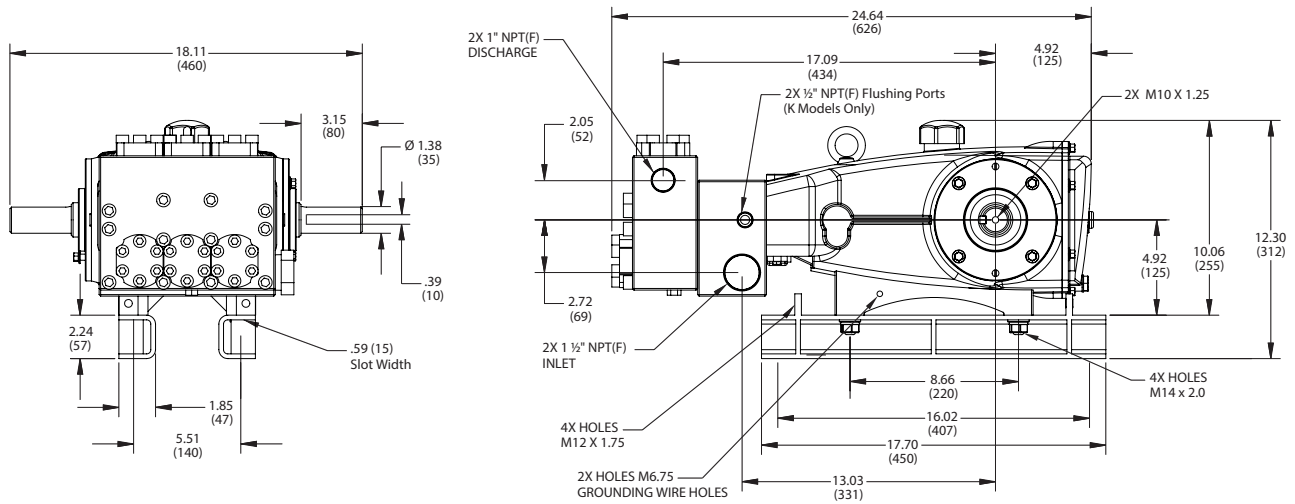
Models
 Standard – 3801, 3811
 Flushed – 3801K, 3811K
 September 2020

OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
34021	Key, (M10 x 8 x 70)	1
92674	Mount, Rail Assembly (STZP R)	1
76514	Mount, Rail Assembly (S)	1
34018	Mount, Direct (STZP R)	1
34039	Mount, Direct (S)	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	1
30696	Plier, Reverse	1
819000	Assembly, Crankcase, Cast Iron Conversion	1
990663	Assembly, Flushing, (3801K, 3811K)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
701786	Kit, Seal – Standard NBR (3801,3801K)	1
701793	Kit, Seal – Standard NBR (3811,3811K)	1
34151	Kit, Valve – Standard NBR	2
6100	Oil, Case (12–21 oz. Bottles) ISO-68 Hydraulic	1
6119	Lubricant, Anti-seize (2 oz.)	1
6124	Gasket, Liquid (3 oz.)	1
901388	Head, Complete – 3801 with NBR Seals and O-Ring	1
901370	Head, Complete – 3811 with NBR Seals and O-Ring	1
901389	Head, Complete – 3801K with NBR Seals and O-Ring	1
901371	Head, Complete – 3811K with NBR Seals and O-Ring	1



Models 3801, 3801K, 3811, 3811K

SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	IPFE (.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, LPS with SS-Spring (3801,3801K)	3
	44086	45846	701944	701944	Seal, LPS with SS-Spring (3811, 3811K)	3
112	701794	701318	701495	702969	O-Ring, Inlet Spacer	6
113	701319	701319	701319	701319	Back-up 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	28675	Back-up Ring, V-Packing Spacer (3801, 3801K)	6
	28243	28243	28243	28243	Back-up Ring, V-Packing Spacer (3811, 3811K)	6

◆ Silicone oil/grease required *Review material codes for individual items (STG generally maybe 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	34151	701798	701799	76171

ITEM (Included in Valve Kits)					DESCRIPTION	QTY
162	21985	21985	21985	21985	Back-up 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	Back-up Ring, Valve Plug	3

◆ Silicone oil/grease required

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