

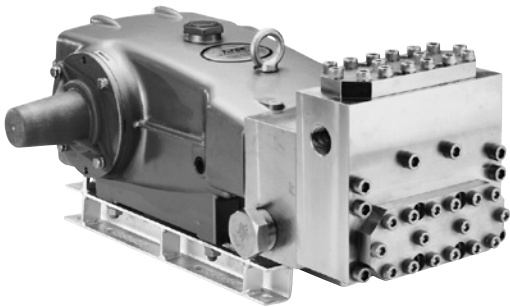
DATA SHEET

38 FRAME BLOCK-STYLE PLUNGER PUMP



Standard Model: 3831

Flushed Model: 3831K



Model 3831 Shown
(Shaft protector included and mounting rails not included)

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow	36 gpm	136 lpm
Pressure Range	100 to 1200 psi	6.9 to 83 bar
Pump RPM*	800 rpm	800 rpm
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Max. Liquid Temp. (NBR)	160° F	71° C

Alternative seals available for high temp up to 180° F

Bore	1.575"	40 mm
Stroke	1.890"	48 mm
Crankcase Capacity	4.2 Qts.	4 l
Inlet Ports (2)	1-1/2" NPT(F)	1-1/2" NPT(F)
Flush Ports (2) "K"	1/2" NPT(F)	1/2" NPT(F)
Discharge Ports (2)	1" NPT(F)	1" NPT(F)
Shaft Diameter	1.378"	35 mm
Pulley Mounting	Either Side	Either Side
Weight	167 lbs.	75 kg
Dimensions	24.4 x 18.11 x 9.37"	620 x 460 x 238 mm

*Pump minimum is 100 RPM.

FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable dual V-Packings are lubricated and cooled by pumped liquid.
- Special flushed inlet manifold on model 3831K permits external flush for added cooling with high temperature liquids and lubrication with low lubricity liquids.
- Standard NBR seals with alternative options for temperature and chemical compatibility.

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)

See Reference Document 99REF017 for inlet conditions and RPM at high temperature.

$$\text{DETERMINING THE PUMP R.P.M.} = \frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$$

$$\text{DETERMINING THE REQUIRED H.P.} = \frac{\text{Hp (Electric Brake)}}{1460} = \frac{\text{gpm x psi}}{1460}$$

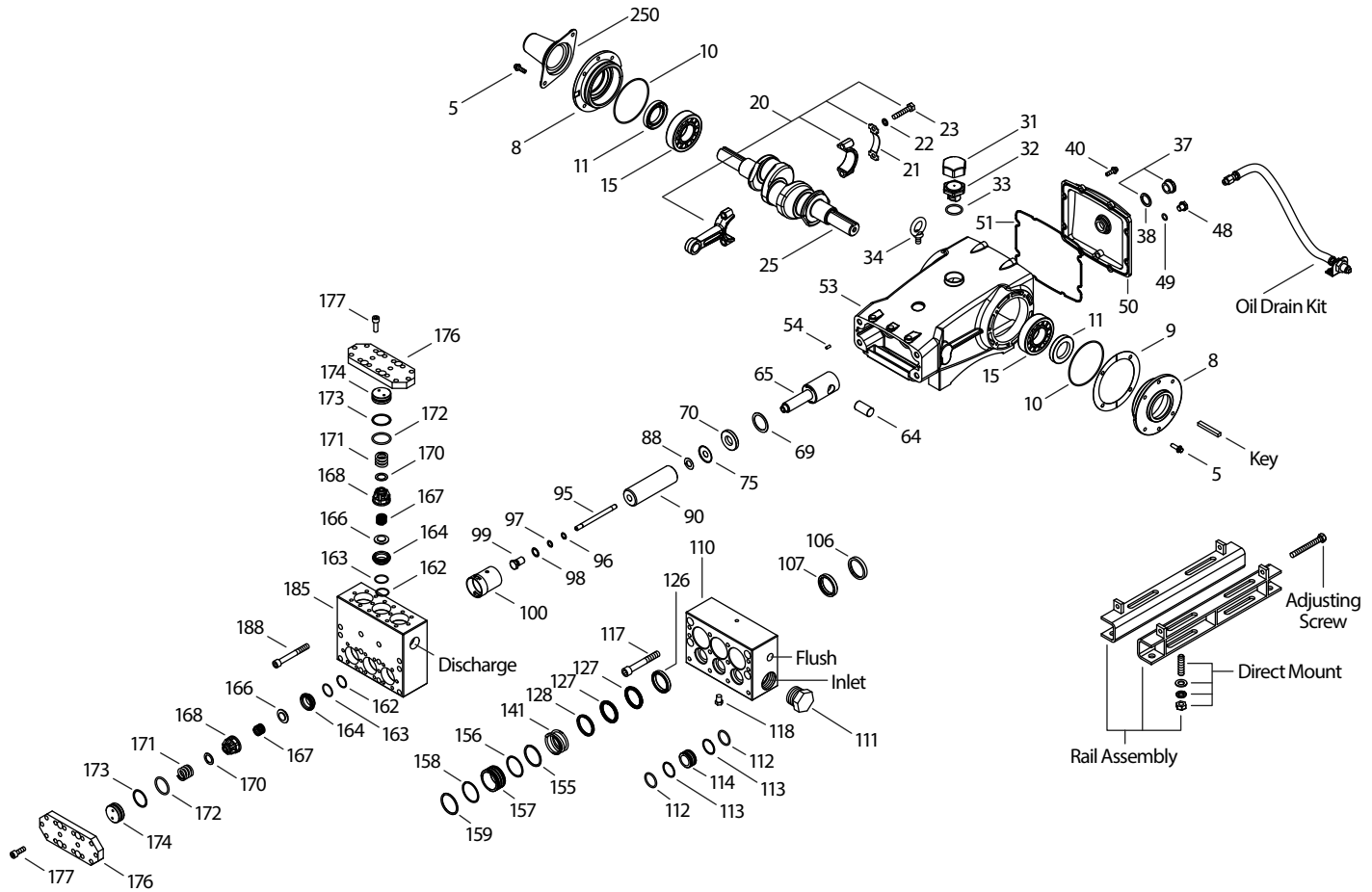
$$\text{DETERMINING MOTOR PULLEY SIZE} = \frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

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

PARTS LIST

ITEM	PN	MATL	PN	MATL	DESCRIPTION	QTY
	3831		3831K			
5	96049	S	96049	S	Screw, HH Sems (M10x25) (See Tech Bulletin 125) [06/18]	8
8	134604	AL	134604	AL	Cover, Bearing (See Tech Bulletin 118, 125) [06/18]	2
9	815279	FBR	815279	FBR	Shim, Split 2-Pc (See Tech Bulletin 125) [06/18]	4
10	12398	NBR	12398	NBR	O-Ring, Bearing Cover - 70D	2
11	13296	NBR	13296	NBR	Seal, Oil, Crankshaft	2
15	29326	STL	29326	STL	Bearing, Roller	2
20	121467	TNM	121467	TNM	Rod, Connecting Assy (Incls: 21,22,23)	3
21	126749	STCP R	126749	STCP R	Washer, Locking (M10)	3
22	126593	STCP R	126593	STCP R	Washer, Flat (M10)	6
23	122045	STZP	122045	STZP	Screw, HH (M10x55)	6
25	29325	FCM	29325	FCM	Crankshaft, Dual End (M48)	1
31	828710	PE	828710	PE	Protector, Oil Cap w/Foam Gasket	1
32	43211	ABS	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	14177	NBR	O-Ring, Oil Filler Cap - 70D	1
34	126743	STCP R	126743	STCP R	Bolt, Eye (M12x1.75) (For Lifting Pump Only)	1
37	92241	—	92241	—	Gauge, Oil Bubble w/Gasket	1
38	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	125753	S	125753	S	Screw, HH Sems (M8x25)	8
48	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	45936	AL	45936	AL	Cover, Rear (See Tech Bulletin 118)	1
51	16612	NBR	16612	NBR	O-Ring, Cover - 70D	1
53	134784	AL	134784	AL	Crankcase Assy (Incls: 34, 54) (See Tech Bulletin 118, 125) [06/18]	1
54	27488	S	27488	S	Pins, Guide	2
56	27790	POP	27790	POP	Pan, Oil	1
59	92538	S	92538	S	Screw, HH Sems (M6x16)	2
64	43864	CM	43864	CM	Pin, Crosshead	3
65	45116	SSZZ	45116	SSZZ	Rod, Plunger	3
69	126587	STCP R	126587	STCP R	Washer, Oil Seal	3
70	100488	NBRS	100488	NBRS	Seal, Oil, Crankcase	3
75	43865	S	43865	S	Slinger, Barrier	3
88	45676	S	45676	S	Washer, Keyhole (M16)	3
90	43921	CC	43921	CC	Plunger (M40x145)	3
95	89778	SS	89778	SS	Stud, Plunger Retainer (M10x135)	3
96	20189	PTFE	20189	PTFE	Back-up-Ring, Plunger Retainer	3
97	11345	NBR	11345	NBR	O-Ring, Plunger Retainer - 70D	3
98	44085	SS	44085	SS	Gasket, Plunger Retainer	3
99	44084	SS	44084	SS	Retainer, Plunger (M10)	3
100	814279	PVDF	814279	PVDF	Retainer, Seal, 2-Pc	3
101	44112	—	44112	—	Wick, Long Tab	3
106	44113	NBR	44113	NBR	Seal, LPS w/SS-Spg	3
107	45381	SS	45381	SS	Washer, LPS Seal	3
110	701286	SSL	—	—	Manifold, Inlet, Block-Style	1
—	—	—	701408	SSL	<i>Manifold, Inlet, Block-Style, Flushed</i>	1
111	701116	SS	701116	SS	Plug, Inlet [1-1/2" NPT(M)]	1
112	701794	NBR	701794	NBR	O-Ring, Inlet Spacer - 70D	6
113	701319	PTFE	701319	PTFE	Back-up-Ring, Inlet Spacer	6
114	701317	SS	701317	SS	Spacer, Inlet	3
117	701252	SS	701252	SS	Screw, HSH (M14x100)	4
118	701077	SS	—	—	Plug [1/4" NPT(M)]	1
126	45367	SS	45367	SS	Adapter, Female	3
127	44609	STG	44609	STG	V-Packing	6
128	45368	SS	45368	SS	Adapter, Male	3
141	49519	SS	49519	SS	Springs, Coil	3
155	48860	NBR	48860	NBR	O-Ring, V-Packing Spacer - 90D	3
156	48362	D	48362	D	Back-up-Ring, V-Packing Spacer	3
157	49520	SS	49520	SS	Spacer, V-Packing	3
158	48362	D	48362	D	Back-up-Ring, V-Packing Spacer	3
159	48860	NBR	48860	NBR	O-Ring, V-Packing Spacer - 90D	3
162	48363	D	48363	D	Back-up-Ring, Seat	6
163	26142	NBR	26142	NBR	O-Ring, Seat - 80D	6
164	44612	SS	44612	SS	Seat, Stepped	6
166	44108	SS	44108	SS	Valve	6
167	44109	SS	44109	SS	Spring	6
168	44728	PVDF	44728	PVDF	Retainer, Spring	6
170	44729	SS	44729	SS	Washer, Spring Retainer	6
171	44644	SS	44644	SS	Spring, Coil (70kg), Valve Plug	6
172	89827	NBR	89827	NBR	O-Ring, Valve Plug - 90D	6
173	48364	D	48364	D	Back-up-Ring, Valve Plug	6
174	701278	SS	701278	SS	Plug, Valve	6
176	701316	SS	701316	SS	Cover, Valve	2
177	87951	S	87951	S	Screw, HSH (M10x30)	32

EXPLODED VIEW



Models
Standard - 3831
Flushed - 3831K
September 2018

ITEM	PN	MATL	PN	MATL	DESCRIPTION	QTY
	3831		3831K			
185	701315	SSL	701315	SSL	Manifold, Discharge, Block-Style	1
188	701279	S	701279	S	Screw, HSH (M12x100)	12
196	701342	SS	701342	SS	Plug, Discharge (1" NPT) Not Shown	1
250	855042	NY	855042	NY	Protector, Shaft w/2 Screws, Lockwashers and Washers (Incl w/Pump) (See Tech Bulletin 125) [06/18]	1

OPTIONAL PARTS AND ACCESSORIES

PN	DESCRIPTION	QTY
701698	Kit, Seal - Standard	1
34017	Kit, Valve, Preassembled - Standard	2
92674	Mount, Rail Assy	1
34039	Assy, Direct Mount	1
80540	Screw, HH (M12x100) (Rail Adjusting Screw)	1
30278	Oiler (1 oz.) Not Shown	3
34314	Kit, Oil Drain (3/8" X 48")	1
990663	Assembly, Flushing, 5 gal., 115V, 1.1 Amp, 1/2" NPT (3831K)	1

SERVICE PARTS

PN	DESCRIPTION	QTY
6100	Oil, Case (12-21 oz. Bottles) ISO-68 Hydraulic	1
34021	Key (M10x8x70)	1
6119	Lubricant, Anti-seize (2 oz.)	1
6124	Gasket, Liquid (3 oz.)	1
901400	Head, Complete, w/NBR Seals and O-Ring (3831)	1
901404	Head, Complete, Flushed w/NBR Seals and O-Ring (3831K)	1
819000	Assembly, Crankcase, Cast Iron Conversion	1

Bold print part numbers are unique to a particular pump model. Italics are optional items. [] Date of latest production change.

† Production parts are different than replacement parts. R Components comply with RoHS Directive. * Review individual parts in each kit for material code identification.

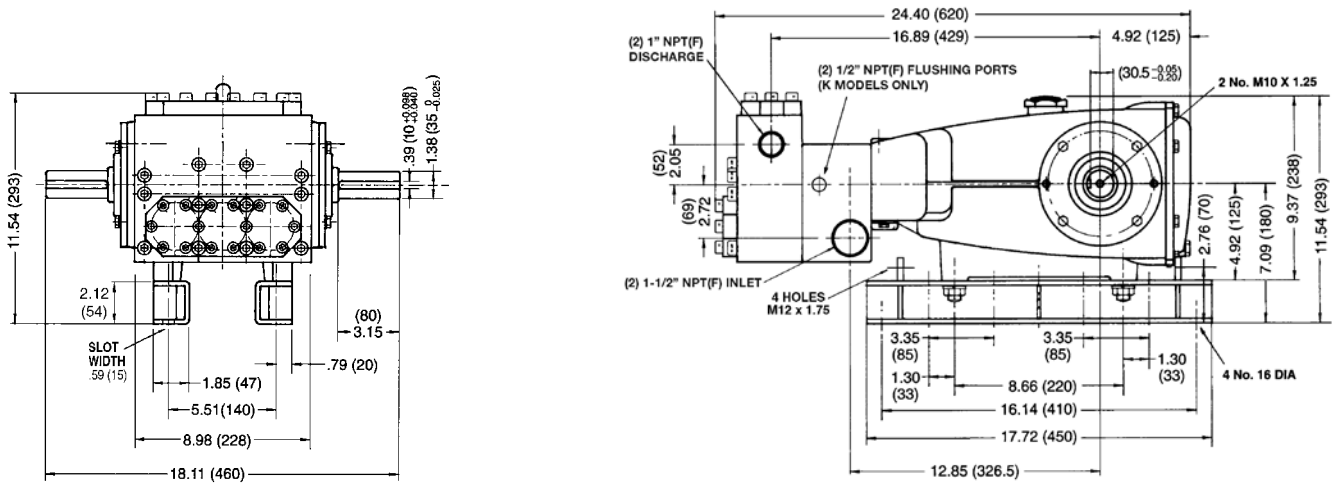
See Tech Bulletins 024, 035, 036, 041, 043, 053, 074, 083, 095, 105, 108, 114, 118, 125 and 127 for additional information. See Service Bulletin 001.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum 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) NBR5=Buna, Silicone Free NY=Nylon 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



Models 3831, 3831K

SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (0.0110)	EPDM (0.0220)◆
3831, 3831K	701698	33268	701797

ITEM (Included in Seal Kits)				DESCRIPTION	QTY
97	11345	11375	701490	O-Ring, Plunger Retainer	3
106	44113	44740	46955	Seal, LPS w/SS-Spg	3
112	701794	701318	701495	O-Ring, Inlet Spacer	6
113	701319	701319	701319	Backup-Ring, Inlet Spacer	6
127	44609	44741	44609	V-Packing	6
155	48860	20137	701492	O-Ring, V-Packing Spacer	3
156	48362	48362	48362	Backup-Ring, V-Packing Spacer	3
158	48362	48362	48362	Backup-Ring, V-Packing Spacer	3
159	48860	20137	701492	O-Ring, V-Packing Spacer	3

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

VALVE KITS Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (0.0110)	EPDM (0.0220)◆
3831, 3831K	34017	31955	31952

ITEM (Included in Valve Kits)				DESCRIPTION	QTY
162	48363	48363	48363	Backup-Ring, Valve Seat	3
163	26142	14330	701493	O-Ring, Valve Seat	3
164	44612	44612	44612	Seat, Stepped	3
166	44108	44108	44108	Valve	3
167	44109	44109	44109	Spring	3
168	44728	44728	44728	Retainer, Spring	3
170	44729	44729	44729	Washer, Spring Retainer	3
172	89827	11747	701494	O-Ring, Valve Plug	3
173	48364	48364	48364	Backup-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/cautions-warnings or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/warranty.