

DATA SHEET

8 FRAME BLOCK-STYLE PLUNGER PUMP



**Stainless Steel
Flushed Models:**

781KM, 784KM



Model 781KM Shown
(Mounting rails sold separately)

FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable V-Packings are lubricated and cooled by the liquid being pumped.
- Pre-set Lo-Pressure Seals provide secondary protection against external leaks and require no packing adjustment.
- Special high-density, polished, concentric plungers provide a true wear surface and extended seal life.
- Standard NBR seals with alternative options for temperature and chemical compatibility.

SPECIFICATIONS

	U.S. Measure	Metric Measure
Flow (781KM)	4.7 gpm	17.8 lpm
Flow (784KM)	2.9 gpm	11.0 lpm
Pressure Range	100 to 5000 psi	6.9 to 345 bar
Pump RPM*	1750 rpm	1750 rpm
Inlet Pressure Range	Flooded to 800 psi	Flooded to 55 bar
Max. Liquid Temp. (NBR)	160° F	71° C

Alternate seals available for high temperature up to 180°F

Bore	0.551"	14 mm
Stroke (Model 781KM)	0.945"	24 mm
Stroke (Model 784KM)	0.591"	15 mm
Crankcase Capacity	25 oz.	0.75 l
Inlet Ports (2)	1/2" NPT(F)	1/2" NPT(F)
Flushing Ports (2)**	1/8" NPT(F)	1/8" NPT(F)
Discharge Port (2)	3/8" NPT(F)	3/8" NPT(F)
Shaft Diameter - Single End	0.945"	24 mm
Weight	48.1 lbs.	21.8 kg
Dimensions	13.15 x 9.25 x 6.06"	334 x 235 x 154 mm

*Pump minimum is 100 RPM.

**Flushed K Models: Special ported inlet manifold permits an external flush liquid providing cooling for hi-temp liquids and lubrication for low lubricity liquids.

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)
HT	.3000	180° F	(82° C)
STHT	.3400	180° F	(82° C)

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

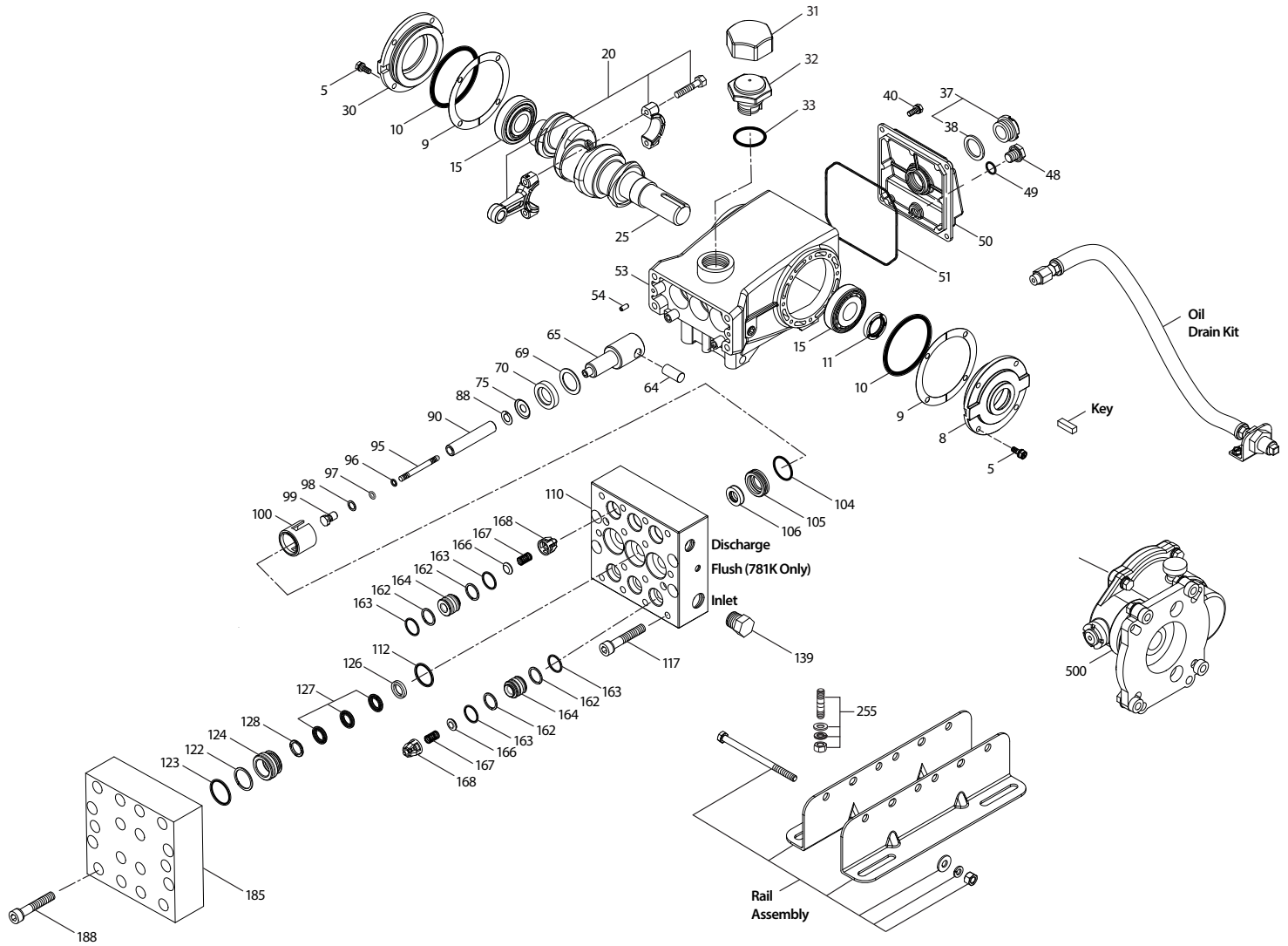
DETERMINING THE PUMP R.P.M.	Rated gpm	=	"Desired" gpm
	Rated rpm	=	"Desired" rpm
DETERMINING THE REQUIRED H.P.	Hp (Electric Brake)	=	$\frac{\text{gpm} \times \text{psi}}{1460}$
DETERMINING MOTOR PULLEY SIZE	$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}}$	=	$\frac{\text{Pump Pulley O.D.}}{\text{Motor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

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

PARTS LIST

ITEM	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
2	781KM 30067	STL	784KM 30067	STL	Key (M8x7.5x25)	1
5	92538	S	92538	S	Screw, HHC, Sems (M6x16)	8
8	133571	ALE	133571	ALE	Cover, Bearing (See Tech Bulletin 118, 123)	1
9	815280	FBR	815280	FBR	Split Shim, 2 Pc.	1/2
10	12393	NBR	12393	NBR	O-Ring, Bearing Cover	2
11	43222	NBR	43222	NBR	Seal, Oil, Crankshaft	1
15	43221	STL	43221	STL	Bearing, Roller	2
20	768863	AL	768863	ALE	Rod Assy, Connecting	3
25	119234	FCM	44591	FCM	Crankshaft - Single End	1
30	133572	ALE	133572	AL	Cover, Blind Bearing (See Tech Bulletin 118, 123)	1
31	828710	PE	828710	PE	Protector, Oil Cap w/Foam Gasket	1
32	44666	RTP	44666	RTP	Cap, Oil Filler, Domed	1
33	14177	NBR	14177	NBR	O-Ring, Filler Cap - 70D	1
37	92241	—	92241	—	Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	NBR	44428	NBR	Gasket, Flat Flex., Oil Gauge - 80D	1
40	92538	S	92538	S	Screw, HHC, Sems (M6x16) (See Tech Bulletin 106)	4
48	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	133569	ALE	133569	ALE	Cover, Rear (See Tech Bulletin 118, 123)	1
51	14047	NBR	14047	NBR	O-Ring, Rear Cover - 70D (See Tech Bulletin 106)	1
53	133593	ALE	133593	ALE	Crankcase w/Guide Pins (See Tech Bulletin 118, 123)	1
54	27488	S	27488	S	Pin, Guide	2
64	763237	SS	763237	SS	Pin, Crosshead	3
65	768913	AL	768913	AL	Rod, Plunger, Short	3
69	126589	STCP R	126589	STCP R	Washer, Oil Seal	3
70	43228	NBR	43228	NBR	Seal, Oil, Crankcase	3
75	43328	S	43328	S	Slinger, Barrier	3
88	45697	S	45697	S	Washer, Keyhole (M18)	3
90	45890	CC	45890	CC	Plunger (M14x72)	3
95	89653	SS	89653	SS	Stud, Plunger Retainer (M6x58)	3
96	43235	PTFE	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	17399	NBR	O-Ring, Plunger Retainer - 80D	3
	14160	FPM	14160	FPM	O-Ring, Plunger Retainer - 80D	3
	◆ 46204	EPDM	◆ 46204	EPDM	O-Ring, Plunger Retainer - 70D	3
	701715	IPFE	701715	IPFE	O-Ring, Plunger Retainer	3
98	44041	SS	44041	SS	Gasket, Plunger Retainer	3
99	49665	SS	49665	SS	Retainer, Plunger (M6)	3
100	995686	PVDF	995686	PVDF	Retainer, Seal (See Tech Bulletin 105)	3
104	701734	NBR	701734	NBR	O-Ring, Inlet Adapter - 70D	3
	701912	FPM	701912	FPM	O-Ring, Inlet Adapter - 75D	3
	◆ 703297	EPDM	◆ 703297	EPDM	O-Ring, Inlet Adapter - 70D	3
	702774	IPFE	702774	IPFE	O-Ring, Inlet Adapter	3
105	701587	SS	701587	SS	Adapter, Inlet	3
106	48821	NBR	48821	NBR	Seal, LPS w/SS-Spg	3
	◆ 49466	EPDM	◆ 49466	EPDM	Seal, LPS w/SS-Spg	3
	704649	ST4	704649	ST4	Seal, LPS w/NIH-Spg	3
110	49241	SS	49241	SS	Manifold, Inlet/Discharge, Block-Style Flushed (1/8" Flushed Port)	1
112	701595	NBR	701595	NBR	O-Ring, V.P. Spacer - 70D	3
	701913	FPM	701913	FPM	O-Ring, V.P. Spacer - 75D	3
	◆ 703298	EPDM	◆ 703298	EPDM	O-Ring, V.P. Spacer - 70D	3
	702496	IPFE	702496	IPFE	O-Ring, V.P. Spacer	3
117	87952	S	87952	S	Screw, HSH (M10x55)	4
122	701598	PTFE	701598	PTFE	Back-Up Ring, V.P. Cylinder	3
123	701596	NBR	701596	NBR	O-Ring, V.P. Cylinder - 70D	3
	701914	FPM	701914	FPM	O-Ring, V.P. Cylinder - 75D	3
	◆ 703318	EPDM	◆ 703318	EPDM	O-Ring, V.P. Cylinder	3
	702769	IPFE	702769	IPFE	O-Ring, V.P. Cylinder	3
124	701589	SS	701589	SS	Cylinder V.P.	3
126	701682	SS	701682	SS	Adapter, Female	3
127	45895	SNG	45895	SNG	V-Packing	9
	704666	ST4	704666	ST4	V-Packing	9
	701791	SFTA	701791	SFTA	V-Packing	9
128	701683	SS	701683	SS	Adapter, Male	3
139	45156	SS	45156	SS	Plug, Inlet/Discharge Manifold [1/2" NPT(M)]	1
162	701599	PTFE	701599	PTFE	Back-up-Ring, Valve Seat	12
163	701597	NBR	701597	NBR	O-Ring, Seat - 70D	12
	701915	FPM	701915	FPM	O-Ring, Seat - 75D	12
	◆ 703180	EPDM	◆ 703180	EPDM	O-Ring, Seat	12
164	701591	SS	701591	SS	Seat	6
166	701751	SS	701751	SS	Valve	6
167	44056	SS	44056	SS	Spring	6
168	44565	PVDF	44565	PVDF	Retainer, Spring	6
185	49214	SS	49214	SS	Manifold, Valve, Block-Style	1
188	87952	S	87952	S	Scew, HSH, (M10x55)	14
255	30243	STZP	30243	STZP	Kit, Direct Mount	1
260	30645	STZP R	30645	STZP R	Mount, Rail, Assy (2.95 x 11.81)	1

EXPLODED VIEW



Models
781KM, 784KM
May 2019

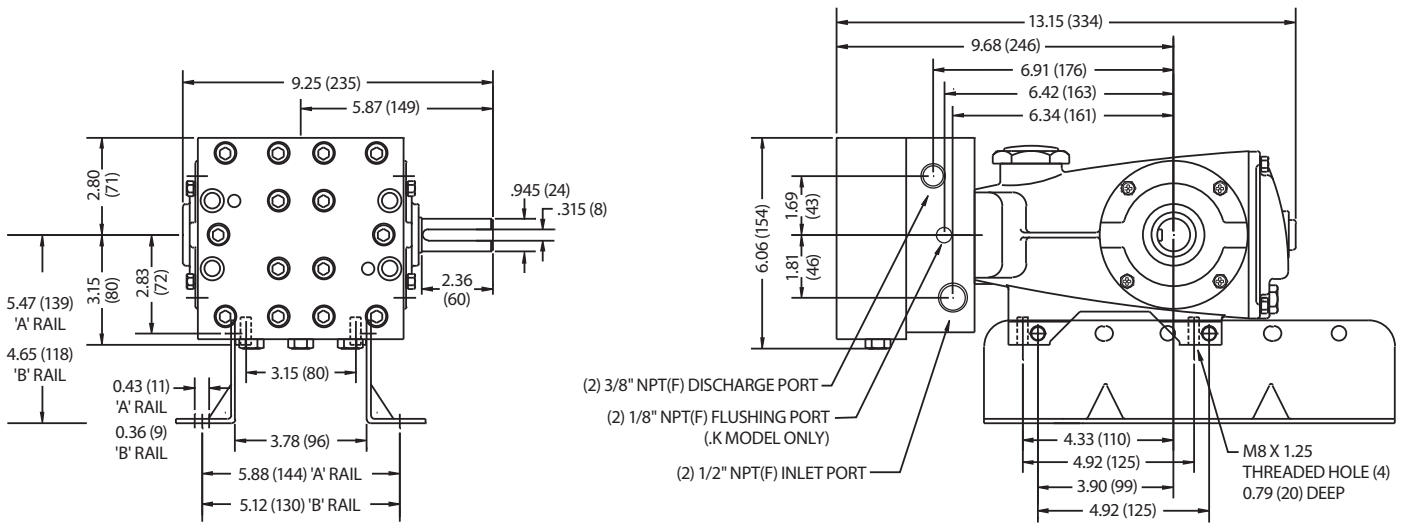
ITEM	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
	781KM	MATL	784KM	MATL		
	30611	STZPR	30611	STZPR	Mount, Rail, Assy (2.09 x 9.45)	1
265	30660	—	30660	—	Kit, Complete Mounting	1
274	33000	STL	33000	STL	Hub, (M24) H Series (See Tech Bulletin 003)	1
283	34334	—	34334	—	Kit, Oil Drain (3/8"x24")	1
299	811485	SS	811485	SS	Head, Complete, Block-Style, Flushed	1
300	701883	NBR	701883	NBR	Kit, Seal (Incls: 96,97,104,106,112,122,123,127) Standard	1
	701920	FPM*	701920	FPM*	Kit, Seal (Incls: 96,97,104,106,112,122,123,127) .0110	1
	◆ 76883	EPDM	◆ 76883	EPDM	Kit, Seal (Incls: 96,97,104,106,112,122,123,127) .0220	1
	702843	IPFE	702843	IPFE	Kit, Seal (Incls: 96,97,104,106,112,122,123,127) .0770	1
	702492	SFTA*	702492	SFTA*	Kit, Seal (Incls: 96,97,104,106,112,122,123,127) .4410	1
310	701884	NBR	701884	NBR	Kit, Valve (Incls: 162,163,164,166,167,168) Standard	2
	701921	FPM	701921	FPM	Kit, Valve (Incls: 162,163,164,166,167,168) .0110	2
	◆ 76884	EPDM	◆ 76884	EPDM	Kit, Valve (Incls: 162,163,164,166,167,168) .0220	2
	6107	—	6107	—	Oil, Bottle (21 oz.) ISO 68 Hydraulic (Fill to specified crankcase capacity prior to start-up)	1-2

Bold print numbers are unique to a particular pump model. *Italics are optional items.* ◆ Silicone oil/grease required.

[] Date of latest production change. R Components comply with RoHS Directive. *Review material codes for individual items (ST4 generally may be used as alternate). See Tech Bulletins 024, 035, 036, 043, 053, 054, 061, 064, 067, 074, 083, 095, 105, 106, 118 and 123 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum ALE=Aluminum Epoxy CC=Ceramic

EPDM=Ethylene Propylene Diene Monomer FBR=Fiber FCM=Forged Chrome-Moly FPM=Fluorocarbon IPFE=I-Perfluoroelastomer NBR=Medium Nitrile (Buna-N)
PE=Polyethylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride RTP=Reinforced Composite S=304SS SFTA=Special Blend PTFE Tan SNG=Special Blend (Buna)
SS=316SS STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated ST4=Special PTFE4



Models 781KM, 784KM

⚠ 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.