

DATA SHEET

15 FRAME PLUNGER PUMPS

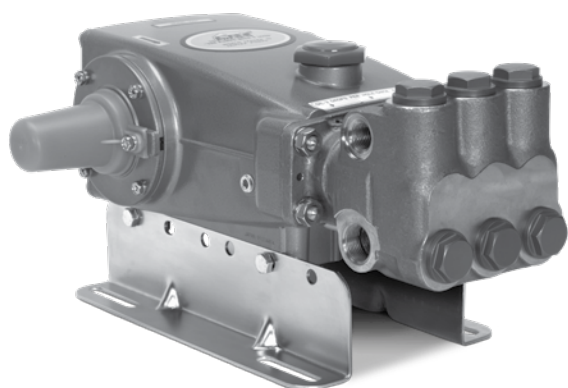


Stainless Steel
1051

SS Flushed
1051C

Duplex SS
1051D

Nickel Aluminum Bronze
1057



Model 1051 Shown
(Rails and shaft protector sold separately)

FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable dual V-Packings are lubricated and cooled by pumped liquid.
- Pre-set Lo-Pressure Seals provide secondary protection against external leaks and require no packing adjustments.
- Special flushed inlet manifold on model 1051C 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.

COMMON SPECIFICATIONS

	U.S.	Metric
Bore	0.945"	24 mm
Stroke	1.181"	30 mm
Crankcase Capacity	42 oz.	1.26 l
Inlet Ports (2)	3/4" NPT(F)	3/4" NPT (F)
Flush Ports (2) (1051C)	1/8" NPT (F)	1/8" NPT (F)
Discharge Ports (2)	1/2" NPT (F)	1/2" NPT (F)
Pulley Mounting	Either Side	Either Side
Shaft Diameter	1.181"	30 mm
Weight	44 lbs.	20 kg
Dimensions	16.28 x 12.99 x 6.44"	414 x 330 x 164 mm

STANDARD SPECIFICATIONS

	U.S.	Metric
Flow	10 gpm	38 lpm
Pressure Range	100 to 2200 psi	7 to 155 bar
Pump RPM*	958 rpm	958 rpm
Inlet Pressure Range	-5 to 60 psi	-0.35 to 4.1 bar
Max. Liquid Temp. (NBR)	160°F	71°C

*Pump minimum is 100 RPM.

Alternative seals available for high temp up to 200° F

ALTERNATE SPECIFICATIONS

	U.S.	Metric
Flow	12 gpm	45 lpm
Pressure Range	100 to 1800 psi	7 to 125 bar
Pump RPM*	1150 rpm	1150 rpm
Inlet Pressure Range	20 to 60 psi	1.4 to 4.1 bar
Max. Liquid Temp. (NBR)	100°F	38°C

*Pump minimum is 100 RPM.

Alternative seals available for high temp up to 200° F

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	200° F (93° C)

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

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

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

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

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

PARTS LIST

ITEM	DESCRIPTION				QTY	
	1051/C/D	MATL	1057	MATL		
5	92538	S	92538	S	Screw, HHC Sems (M6x16)	8
8	43496	AL	43496	AL	Cover, Bearing (See Tech Bulletin 118)	2
9	815281	FBR	815281	FBR	Shim, Split, Bearing Cover 2-Pc	2/4
	814800	S	814800	S	Shim, Split, Bearing Cover 2-Pc	0/4
10	11340	NBR	11340	NBR	O-Ring, Bearing Cover - 70D	2
11	43495	NBR	43495	NBR	Seal, Oil, Crankshaft - 70D	2
15	39060	STL	39060	STL	Bearing, Roller	2
20	48600	TNM	48600	TNM	Rod, Connecting Assembly [10/01]	3
25	43494	FCM	43494	FCM	Crankshaft, Dual End	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, Filler Cap - 70D	1
37	92241	—	92241	—	Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	92542	S	92542	S	Screw, HHC Sems (M6x20)	4
48	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	49276	ALE	49276	ALE	Cover, Rear (See Tech Bulletin 118)	1
51	44834	NBR	44834	NBR	O-Ring, Rear Cover - 70D	1
53	115471	AL	115471	AL	Crankcase w/Guide Pins (See Tech Bulletin 118)	1
54	27488	S	27488	S	Pin, Guide	2
56	44664	POP	44664	POP	Pan, Oil	1
64	43507	CM	43507	CM	Pin, Crosshead	3
65	48892	SSHB	45258	SSZZ	Rod, Plunger	3
69	126592	STCP R	126592	STCP R	Washer, Oil Seal	3
70	43500	NBR	43500	NBR	Seal, Oil, Crankcase - 80D	3
75	43506	S	43506	S	Slinger, Barrier	3
88	45675	S	45675	S	Washer, Keyhole	3
89	45879	SS	45879	SS	Collar, Spacer	3
90	43552	CC	43552	CC	Plunger (M24x77)	3
95	89651	SS	89651	SS	Stud, Plunger Retainer (M6x70)	3
96	43235	PTFE	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	17399	NBR	O-Ring, Plunger Retainer - 80D	3
98	44041	SS	44041	SS	Gasket, Plunger Retainer	3
99	44031	SS	44031	SS	Retainer, Plunger (M6)	3
100	855001	POP	855001	POP	Retainer, Seal 2-Pc [07/05] (See Tech Bulletin 098)	3
101	43554	—	43554	—	Wick, Long Tab	3
106	44035	NBR	44035	NBR	Seal, LPS w/SS-Spg	3
120	49286	SSNP	49286	SSNP	Case, Seal [07/05]	3
121	14762	NBR	14762	NBR	O-Ring, Seal Case - 70D	3
126	48389	D	48389	D	Adapter, Female (See Tech Bulletin 087)	3
	45073	SS	45073	SS	Adapter, Female	3
127	103692	STG	103692	STG	V-Packing	6
128	45074	SS	45074	SS	Adapter, Male	3
139	44382	SS	44562	NAB	Plug, Inlet [3/4" NPT(M)]	1
162	43248	PTFE	43248	PTFE	Back-up-Ring, Valve Seat	6
163	43249	NBR	43249	NBR	O-Ring, Seat - 80D	6
164	44037	SS	44037	SS	Seat	6
166	48793	SS	48793	SS	Valve	6
167	44039	SS	44039	SS	Spring, Valve	6
168	44564	PVDF	44564	PVDF	Retainer, Spring	6
171	—	—	44832	S	Coil Spring, Valve Plug	6
172	17617	NBR	17617	NBR	O-Ring, Valve Plug - 90D	6
174	49293	SS	44831	NAB	Plug, Valve	6
185	134823	SS	46706	NAB	Head, Manifold [8/18]	1
	49188	SS	—	—	Head, Manifold, Flushed (1/8" Flushed Port) 1051C Only	1
	134824	SSD	—	—	Head, Manifold (1051D Only) [8/18]	1
187	44005	S	44005	S	Stud, Manifold (M10x45)	4
192	15847	S	15847	S	Lockwasher (M10)	4
194	81258	S	81258	S	Nut, Hex (M10)	4

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

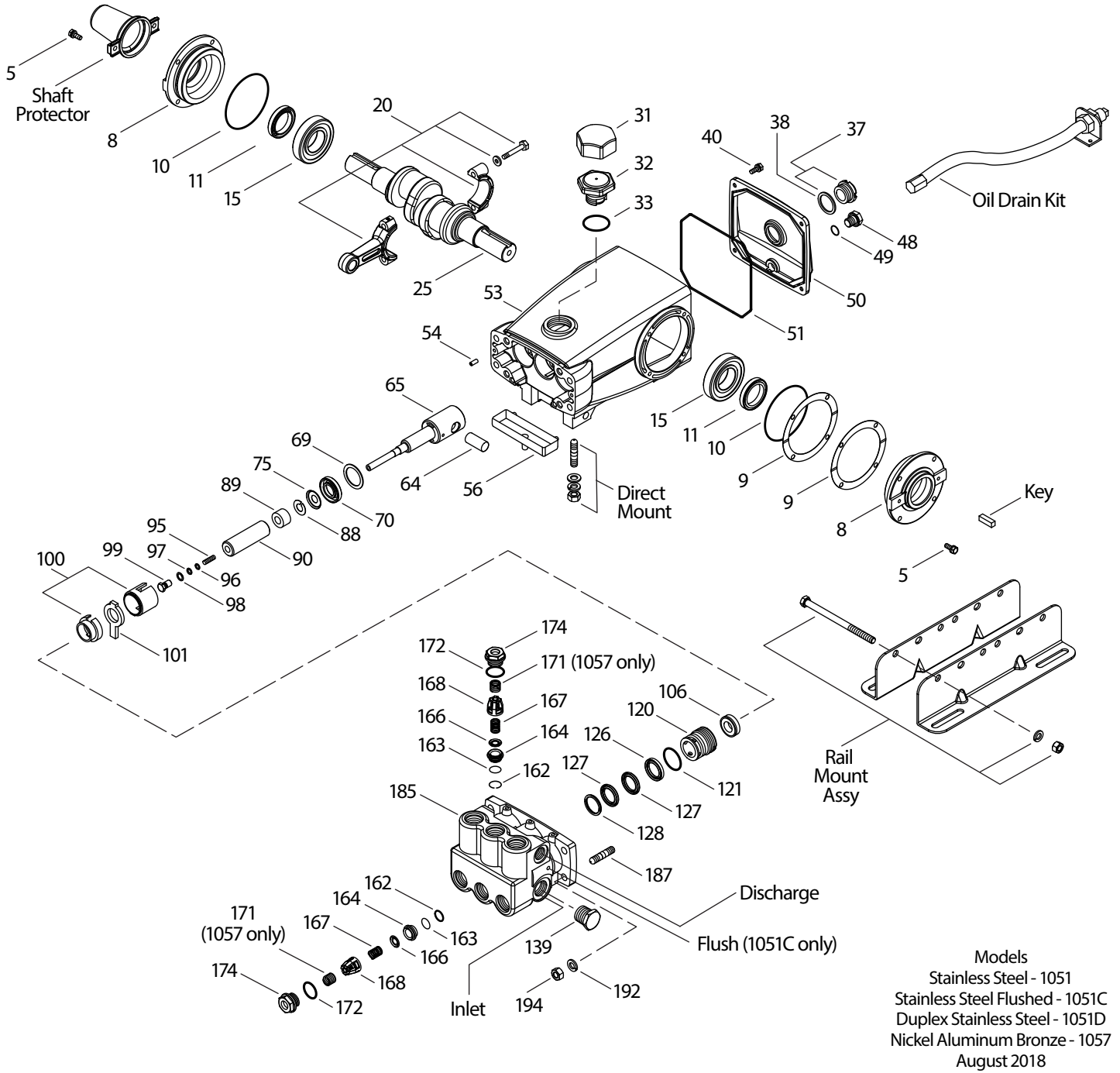
[] Date of latest production change. R components comply with RoHS Directive.

*Review individual parts in each kit for material code identification.

View Tech Bulletins 024, 035, 036, 043, 046, 049, 052, 053, 072, 074, 083, 087, 089, 098 AND 118 for additional information.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum ALE=Aluminum Epoxy CC=Ceramic CM=Chrome-moly D=Acetal EPDM=Ethylene Propylene Diene Monomer
 FBR=Fiber FCM=Forged Chrome-moly FPM=Fluorocarbon HT=High Temp. IPFE=I-Perfluoroelastomer NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) PE=Polyethylene
 POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SSD= Duplex SS SSHB=316SS/High Strength Brass SSZZ=316SS/Zamak
 STCP=Steel/Chrome Plated STG=Special Blend PTFE White STHT=Special PTFE/High Temp SSNP=316SS/Nickel Plated STL=Steel TNM=Special High Strength

EXPLODED VIEW



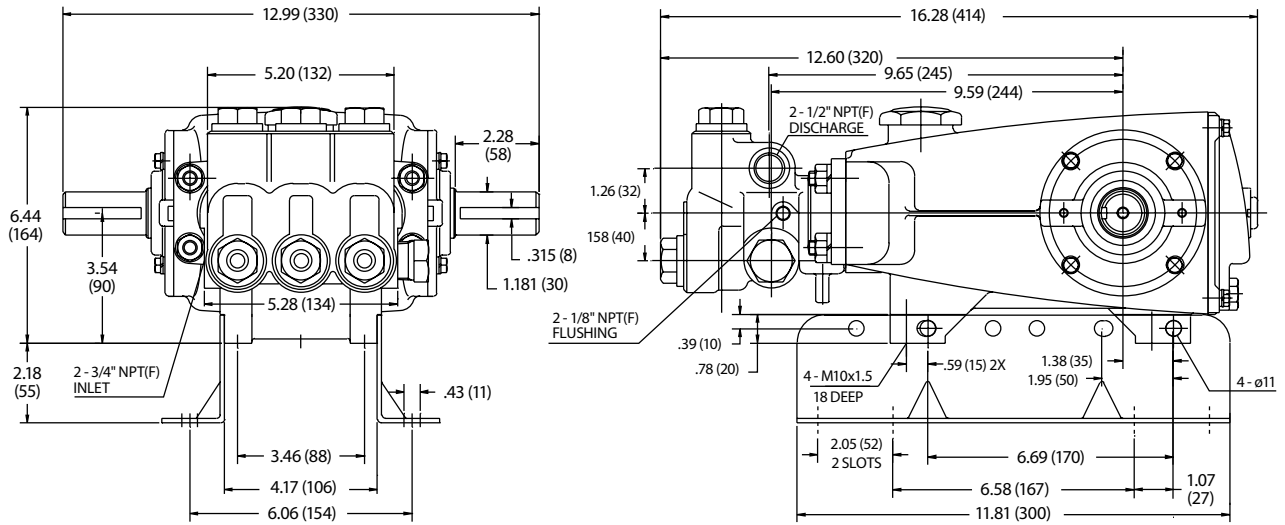
OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
33916	Seal Kit - Standard	1
34387	Valve Kit - Standard	2
30764	Protector, Shaft w/two screws	1
30764S	Protector, Shaft w/two stainless steel screws	1
30264	Mount, Direct	1
30613	Mount, Rail, Assy (2.09 x 9.45)	1
30059	Hub, "H" 30mm (M8 Keyway)	1
30661	Mount, Assy (Incls: 30613, 30206, 30059, 30067, 30764)	1
34334	Kit, Oil Drain (3/8" x 24") (See Individual Data Sheet)	1
30696	Pliers, Reverse	1

SERVICE PARTS

PART	DESCRIPTION	QTY
33006	Socket, Seal Case (1/2" drive)	1
6107	Oil, Bottle (21 oz) ISO 68 Hydraulic	2
30067	Key (M8 x 7.5 x 25)	1
6119	Lubricate, Antiseize (2 oz.) (See Tech Bulletin 095) Models 1051, 1051C, 1051D	1
6124	Gasket, Liquid (3 oz.)	1
816771	Head, Complete w/NBR seals and o-rings Model 1051	1
818333	Head, Complete w/NBR seals and o-rings Model 1051C	1
818442	Head, Complete w/NBR seals and o-rings Model 1051D	1
815261	Head, Complete w/NBR seals and o-rings Model 1057	1

Optional seal and valve kits listed on Page 4.



SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	IPFE (.0770)	STHT (.3400)
1051, 1051C, 1051D, 1057	33916	30986	33913	76913	76062

ITEM (Included in Seal Kits)						DESCRIPTION	QTY
97	17399	14160	46204	701715	17399	O-Ring, Plunger Retainer	3
100	855001	855001	855001	855001	855001	Retainer, Seal 2 - Piece	3
106	44035	44388	46208	703243	76035	Seal, LPS w/SS-Spg	3
121	14762	11737	46205	701851	14762	O-Ring, Seal Case	3
127	103692	103692	103692	103692	103692	V-Packing	6

◆ Silicone oil/grease required

VALVE KITS Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	IPFE (.0770)	STHT (.3400)
1051, 1051C, 1051D, 1057	34387	30987	31258	76385	34387

ITEM (Included in Valve Kits)						DESCRIPTION	QTY
162	43248	43248	43248	43248	43248	Backup-Ring, Seat	3
163	43249	44383	46206	701852	43249	O-Ring, Seat	3
164	44037	44037	44037	44037	44037	Seat	3
166	48793	48793	48793	48793	48793	Valve	3
167	44039	44039	44039	44039	44039	Spring	3
168	44564	44564	44564	44564	44564	Retainer, Spring	3
172	17617	11691	46207	701853	17617	O-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.