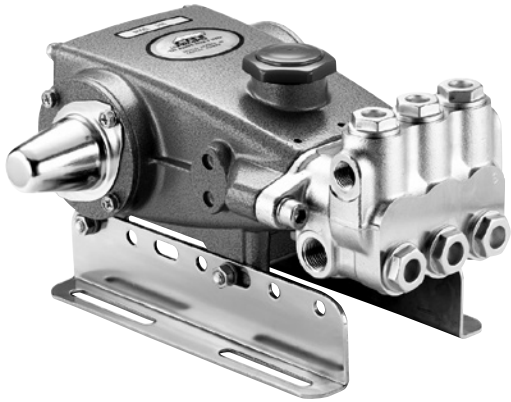


DATA SHEET

5 FRAME PLUNGER PUMPS



Sleeved Models: 310S, 340S, 350S



Model 310S Shown
(Rails and Shaft Protector Sold Separately)

FEATURES

- Triplex design offers high efficiency and low pulsation.
- Durable high pressure seals are lubricated and cooled by pumped liquid.
- Pre-set Lo-Pressure Seals provide secondary protection against external leaks and require no packing adjustment.
- Alternate crankshaft strokes offers flexibility with belt, clutch or direct-drive installation.
- Precision press-fit, 304 Stainless Steel inserts in the sealing areas and valve chambers of the manifold to eliminate washouts and extend pump life.
- Standard NBR seals with alternative options for temperature and chemical compatibility
 - FPM – .0110
 - EPDM – .0220
 - High Temp, 190°F – .3000

COMMON SPECIFICATIONS

	U.S.	Metric
Bore	0.787"	20 mm
Standard Liquid Temperature	160°F	71°C
Above 130°F call Cat Pumps for inlet conditions and elastomer recommendations.		
Crankcase Capacity	18 oz.	0.55 l
Inlet Ports (2)	1/2" NPT(F)	1/2" NPT(F)
Discharge Ports (2)	3/8" NPT(F)	3/8" NPT(F)
Shaft Diameter	0.787"	20 mm
Weight	19.8 lbs.	9 kg
Dimensions	11.73 x 10.0 x 5.24"	298 x 254 x 133 mm

SPECIFICATIONS

	U.S. Measure	Metric Measure
310S Belt Drive		
Flow	4.0 gpm	15 lpm
Pressure Range	100 to 2200 psi	7 to 152 bar
Pump RPM	950 rpm	950 rpm
Inlet Pressure Range	-5 to 60 psi	-0.35 to 4 bar
Stroke	0.709"	18 mm

340S Direct Drive		
Flow	4.0 gpm	15 lpm
Pressure Range	100 to 1800 psi	7 to 124 bar
Pump RPM	1725 rpm	1725 rpm
Inlet Pressure Range	Flooded to 60 psi	Flooded to 4 bar
Stroke	0.394"	10 mm

350S Direct Drive		
Flow	5.0 gpm	19 lpm
Pressure Range	100 to 1500 psi	7 to 103 bar
Pump RPM	1725 rpm	1725 rpm
Inlet Pressure Range	Flooded to 60 psi	Flooded to 4 bar
Stroke	0.472"	12 mm

ALTERNATE SPECIFICATIONS

	U.S. Measure	Metric Measure
310S		
Flow	5.0 gpm	19 lpm
Pressure Range	100 to 1500 psi	7 to 103 bar
Pump RPM	1190 rpm	1190 rpm

ELECTRIC HORSEPOWER REQUIREMENTS

MODELS	FLOW		PRESSURE					MOTOR PULLEY SIZE	
			psi 1200	psi 1500	psi 1800	psi 2000	psi 2200	Using 1725 RPM Motor & Std. 8" Pump Pulley	
	U.S. gpm	lpm	bar 82	bar 103	bar 124	bar 138	bar 152	RPM	Pulley O.D.
310S	4.0	15	3.3	4.1	5.0	5.5	6.0	950	4.4
Alternate	5.0	19	4.1	5.1	N/A	N/A	N/A	1190	5.5
340S	4.0	15	3.3	4.1	5.0	N/A	N/A	1725	Direct Drive
350S	5.0	19	4.1	5.1	N/A	N/A	N/A	1725	Direct Drive

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

DETERMINING THE REQUIRED H.P. $\frac{\text{gpm} \times \text{psi}}{1460} = \frac{\text{Electric Brake}}{\text{H. P. Required}}$

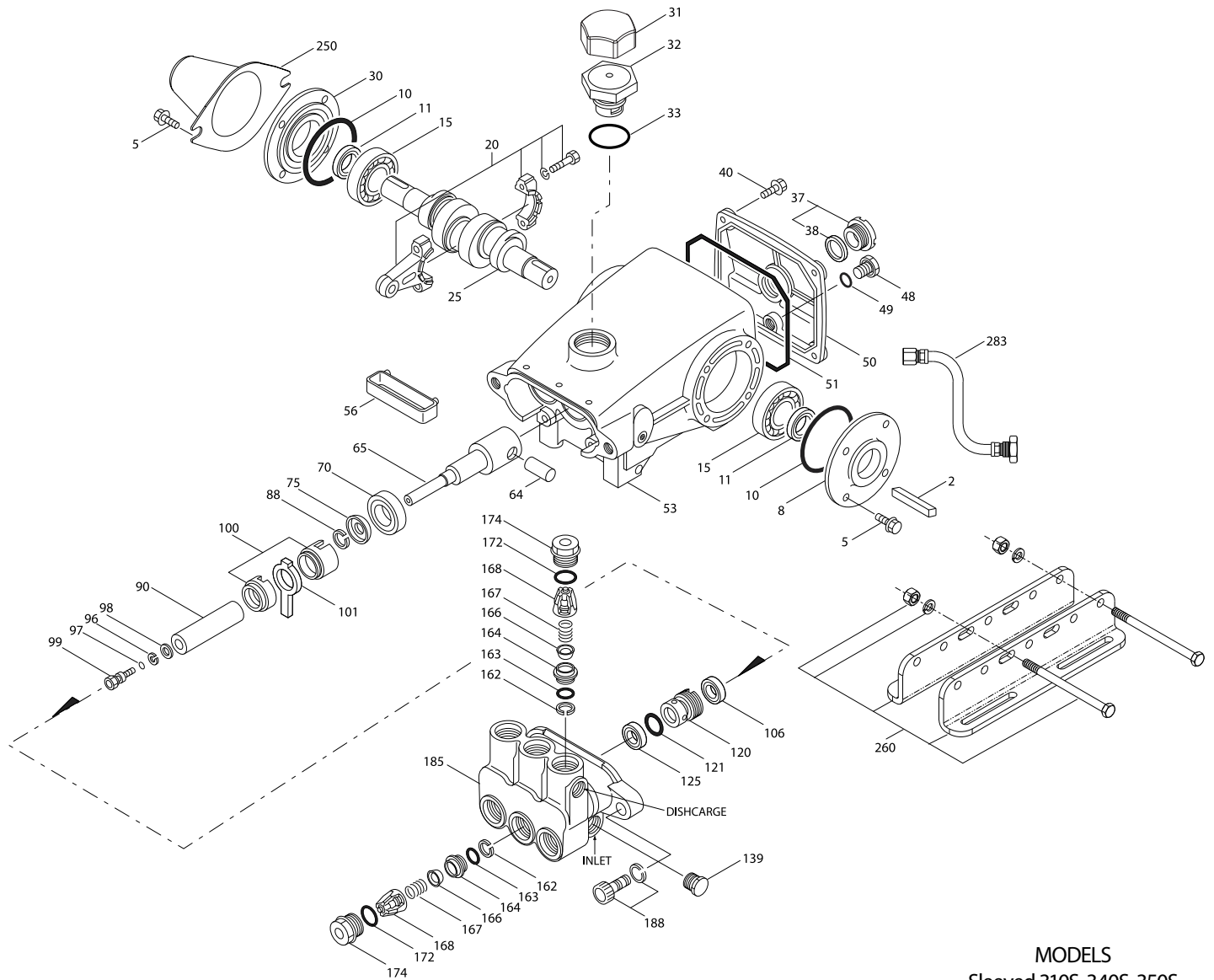
DETERMINING MOTOR PULLEY SIZE $\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$

See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003. Refer to pump **Service Manual** for repair procedure and additional technical information.

PARTS LIST

ITEM	PART NUMBERS	DESCRIPTION	QTY
	310S, 340S 350S	MATL	
2	30057	STL Key (M6x6x25)	1
5	125824	STCP R Screw, HHC, Sems (M6x16)	8
8	43344	AL Cover, Bearing	2/1/2
10	43343	NBR O-Ring, Bearing Cover - 70D	2
11	43222	NBR Seal, Oil, Crankshaft	2/1/2
15	14480	STL Bearing, Ball	2
20	45883	HS Rod, Connecting Assy [09/05]	3
25	43342	FCM Crankshaft, Dual End - M18, 310S	1
	44945	FCM Crankshaft, Single End - M10, 340S	1
	43838	FCM Crankshaft, Dual End - M12, 350S	1
30	44949	AL Cover, Blind Shaft - 340S	1
31	828710	— Protector, Oil Cap w/Foam Gasket	1
32	43211	ABS Cap, Oil Filler	1
33	14177	NBR O-Ring, Filler Cap - 70D	1
37	92241	— Gauge, Oil, Bubble w/Gasket	1
38	44428	NBR Gasket, Flat, Oil Gauge - 80D	1
40	126541	STCP R Screw, HHC, Sems (M6x20)	4
48	25625	STCP Plug, Drain (1/4"x19 BSP)	1
49	23170	NBR O-Ring, Drain Plug - 70D	1
50	48772	AL Cover, Rear [10/01] (See Tech Bulletin 090)	1
51	48773	NBR O-Ring, Rear Cover [10/01] (See Tech Bulletin 090)	1
53	48769	AL Crankcase [05/02] (See Tech Bulletin 090)	1
56	43355	POP Pan, Oil	1
64	43351	CM Pin, Crosshead	3
65	43365	ZZCP Rod, Plunger	3
70	43228	NBR Seal, Oil, Crankcase	3
75	43328	S Slinger, Barrier	3
88	45697	S Washer, Keyhole (M18 x 10)	3
90	43367	CC Plunger (M20x72)	3
96	43235	PTFE Back-up-Ring, Plunger Retainer	3
97	17399	NBR O-Ring, Plunger Retainer - 80D	3
	14160	FPM O-Ring, Plunger Retainer - 80D	3
	◆ 46204	EPDM O-Ring, Plunger Retainer - 70D	3
98	45891	CU Gasket	3
99	104360	S Retainer, Plunger w/Stud	3
100	45688	PVDF Retainer, Seal, 2-Pc [04/06] (See Tech Bulletin 105)	3
101	43302	— Wick, Long Tab	3
106	43305	NBR Seal, LPS w/S-Spg	3
	45153	FPM Seal, LPS w/SS-Spg	3
	◆ 48429	EPDM Seal, LPS w/SS-Spg	3
	76305	ST2 Seal, LPS w/S-Spg	3
120	45679	BB Case, Seal	3
121	14200	NBR O-Ring, Seal Case - 70D	3
	11719	FPM O-Ring, Seal Case	3
	◆ 48907	EPDM O-Ring, Seal Case	3
125	43307	SNG Seal, HPS w/S	3
	44936	FPM Seal, HPS w/SS	3
	46667	HT Seal, HPS "Hi-Temp", 2-Pc w/S-Support	3
139	22179	BBCP Plug, Inlet [1/2" NPT(M)]	1
162	48361	D Back-up-Ring, Seat	6
163	43358	NBR O-Ring, Seat - 70D	6
	44938	FPM O-Ring, Seat - 70D	6
	◆ 48908	EPDM O-Ring, Seat	6
164	43725	S Seat	6
166	43723	S Valve	6
167	43750	S Spring, Valve	6
168	44565	PVDF Retainer, Valve Spring	6
172	17615	NBR O-Ring, Valve Plug - 75D	6
	15855	FPM O-Ring, Valve Plug -70D	6
	◆ 48431	EPDM O-Ring, Valve Plug -75D	6
174	43849	BBCP Plug, Valve	6
185	46278	BBCP Head, Manifold	1
188	126520	STCP R Screw, HSH, Sems (M10x35)	2
250	118672	STCP Protector, Shaft (Belt Drive Only)	1
255	30243	STZP Mount, Direct (Belt Drive Only)	1
260	30611	STZP Mounting, Angle Rail (Belt Drive Only)	1
265	30659	— Mount, Assy (Incls: 30611, 30633, 118672) (Belt Drive Only)	1
270	30633	STL Assy, Pulley & Key (Incls: 30058, 30057) (Belt Drive Only)	1
275	30944	STL Assy, Hub & Key (Incls: 30057, 30945) (Belt Drive Only)	1

EXPLODED VIEW



MODELS
Sleeved 310S, 340S, 350S
May 2015

ITEM	PART NUMBERS	DESCRIPTION	QTY
	310S, 340S	MATL	
	350S		
283	34334	Kit, Oil Drain (3/8" x 24") (See Individual Data Sheet)	1
	76334	Kit, Oil Indicator, (3/8" x 24) (See Individual Data Sheet)	1
299	816551	BBCP Head, Complete Standard	1
300	30623	NBR Kit, Seal (Incls: 97,101,106,121,125) Standard	1
	34155	FPM Kit, Seal (Incls: 97,101,106,121,125) .0110	1
	33623	HT Kit, Seal, "Hi-Temp" (Incls: 97,101,106,121,125) .3000	1
	◆ 31163	EPDM* Kit, Seal (Incls: 97,101,106,121,125) .0220	1
310	30821	NBR Kit, Valve, Preassembled (Incls: 162-164,166-168,172) Standard, .3000	2
	31821	FPM Kit, Valve, Preassembled (Incls: 162-164,166-168,172) .0110	2
	◆ 31162	EPDM Kit, Valve, Preassembled (Incls: 162-164,166-168,172) .0220	2
350	30696	STZP Plier, Reverse	1
351	33004	STZP Socket, Seal Case (1/2" Drive)	1
—	6107	Oil, Bottle (21 oz.) ISO-68 Hydraulic (Fill to specified crankcase capacity prior to start-up)	1

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

R Components comply with RoHS Directive. [] Date of latest production change. *Review individual parts in each kit for material code identification.

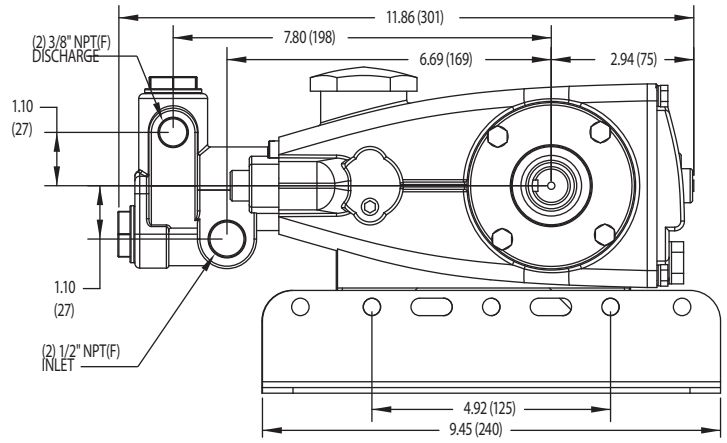
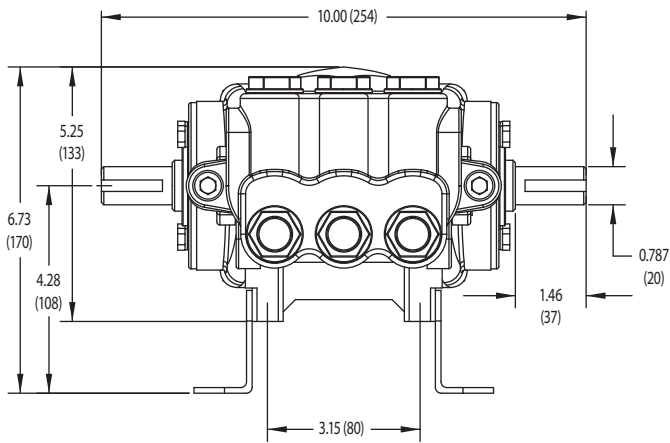
View Tech Bulletins 002, 003, 008, 024, 027, 032, 035, 036, 043, 045, 046, 049, 052, 053, 054, 073, 074, 077, 079, 083, 090, 105 for additional information.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated CC=Ceramic CM=Chrome-moly CU=Copper D=Acetal

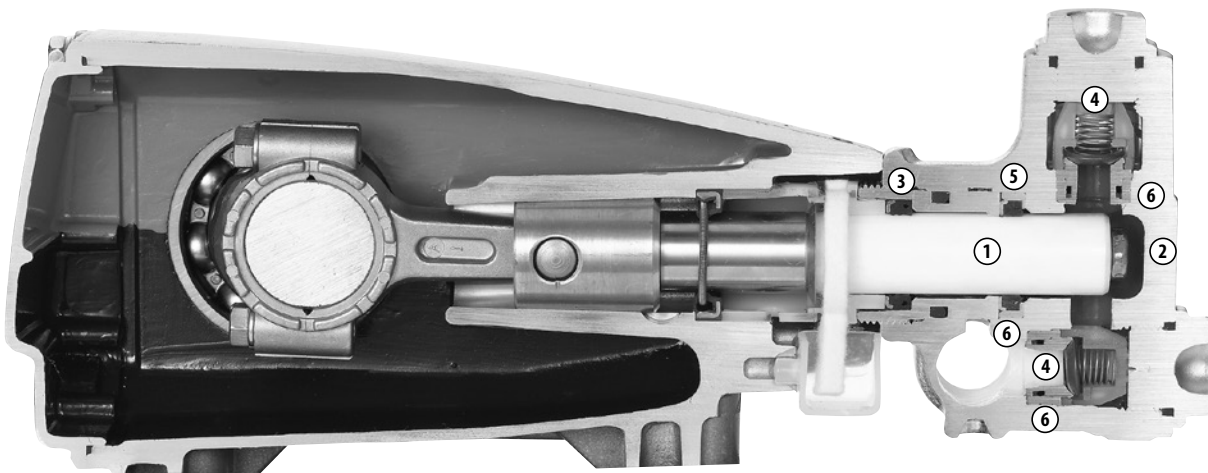
EPDM=Ethylene Propylene Diene Monomer FBB=Forged Brass FCM=Forged Chrome-moly FPM=Fluorocarbon HS=High Strength HT=High Temp (EPDM Alternative)

NBR=Medium Nitrile (Buna-N) POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SBCP=Special Brass/Chrome Plated

SNG=Special Blend (Buna) ST2=Special PTFE 2 STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated ZZCP=Chrome Plated/Steel - Zamak



Models 310S, 340S, 350S



1. Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
2. **Manifolds** are a high tensile strength forged brass for long life, continuous duty and compatibility.
3. 100% **wet seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides.
4. Stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.
5. Specially formulated, Cat Pumps exclusive, **Hi-Pressure Seals** offer unmatched performance and seal life.
6. Precision, press-fit, **304 stainless steel sleeves** in both the seal and valve chambers provide extended life.

⚠ 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.



CAT PUMPS

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