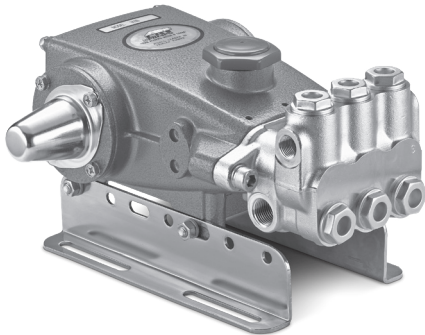


DATA SHEET

5 FRAME PLUNGER PUMPS



Brass Models: 310S, 340S, 350S



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

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Durable high-pressure seals are lubricated and cooled by pumped liquid.
- Pre-set low-pressure seals provide secondary protection against external leaks and require no packing adjustment.
- Direct-drive option offers a compact footprint for direct-drive motors with a NEMA or IEC frame, or SAE hydraulic motors with a bell housing/flexible coupler assembly.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

COMMON

SPECIFICATIONS	U.S.	Metric
Bore	0.787"	20 mm
Standard Liquid Temperature	160° F	71° C
Alternative seals available for higher temperature up to 180° F		
Crankcase Capacity	18 oz	0.55 l
Inlet Ports (2)	½" NPT(F)	½" NPT(F)
Discharge Ports (2)	⅜" NPT(F)	⅜" NPT(F)
Shaft Diameter	0.787"	20 mm
Weight	19.8 lbs	9 kg
Dimensions (Models 310S, 350S)	11.71 x 10.0 x 5.24"	298 x 254 x 133 mm
Dimensions (Model 340S)	11.71 x 8.26 x 5.24"	298 x 210 x 133 mm

SPECIFICATIONS

	U.S. Measure	Metric Measure
310S Belt Drive		
Flow	4.0 gpm	15 lpm
Pressure Range	100–2200 psi	7–152 bar
Pump RPM*	950 rpm	950 rpm
Inlet Pressure Range	-5–60 psi	-0.35–4 bar
Stroke	0.709"	18 mm
340S Direct Drive		
Flow	4.0 gpm	15 lpm
Pressure Range	100–1800 psi	7–124 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	100–1500 psi	7–103 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	100–1500 psi	7–103 bar
Pump RPM*	1190 rpm	1190 rpm

*Pump minimum is 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)
HT	.3000	180° F	(82° C)

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

DETERMINING THE PUMP RPM

$$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{Desired gpm}}{\text{Desired rpm}}$$

DETERMINING THE REQUIRED HP

$$\text{hp (Electric Brake)} = \frac{\text{gpm} \times \text{psi}}{1460}$$

DETERMINING MOTOR PULLEY SIZE

$$\frac{\text{Motor Pulley OD}}{\text{Pump rpm}} = \frac{\text{Pump Pulley OD}}{\text{Motor rpm}}$$

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

PARTS LIST

ITEM	PART NUMBERS		DESCRIPTION	QTY
	310S, 340S, 350S	MATL		
5	125824	STCP R	Screw, HHC, Sems (M6 x 16) (See Tech Bulletin 074)	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 Assembly (See Tech Bulletin 074)	3
25	43342	FCM	Crankshaft, Dual-End (M18), Model 310S	1
	44945	FCM	Crankshaft, Single-End (M10), Model 340S	1
	43838	FCM	Crankshaft, Dual-End (M12), Model 350S	1
30	44949	AL	Cover, Blind Shaft, Model 340S	1
32	43211	ABS	Cap, Oil Filler	1
33	14177	NBR	O-Ring, Filler Cap-70D	1
37	92241	PC	Gauge, Oil, Bubble with Gasket (See Tech Bulletin 074)	1
38	44428	NBR	Gasket, Flat, Oil Gauge-80D	1
40	126541	STCP R	Screw, HHC, Sems (M6 x 20) (See Tech Bulletin 074)	4
48	25625	STCP	Plug, Drain (1/4" x 19 BSP)	1
49	23170	NBR	O-Ring, Drain Plug-70D	1
50	48772	AL	Cover, Rear	1
51	48773	NBR	O-Ring, Rear Cover	1
53	48769	AL	Crankcase	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 (M20 x 72)	3
96	43235	PTFE	Backup Ring, Plunger Retainer	3
97	17399	NBR	O-Ring, Plunger Retainer-80D	3
98	45891	CU	Gasket	3
99	104360	S	Retainer, Plunger with Stud (See Tech Bulletin 074)	3
100	45688	PVDF	Retainer, Seal, 2-Piece	3
101	43302	—	Wick, Long Tab	3
106	43305	NBR	Seal, Low-Pressure with S-Spring	3
120	45679	BB	Case, Seal	3
121	14200	NBR	O-Ring, Seal Case-70D	3
125	43307	SNG	Seal, High-Pressure with S-Support	3
139	22179	BBCP	Plug, Inlet (1/2" NPT[M])	1
162	48361	D	Backup Ring, Seat	6
163	43358	NBR	O-Ring, Seat-70D	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
174	43849	BBCP	Plug, Valve (See Tech Bulletin 074)	6
185	46278	BBCP	Head, Manifold	1
188	126520	STCP R	Screw, HSH, Sems (M10 x 35) (See Tech Bulletin 074)	2

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

Italics are optional items. R Components comply with RoHS Directive. [] Date of latest production change.

For additional technical information see www.catpumps.com/literature/tech-bulletins. 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

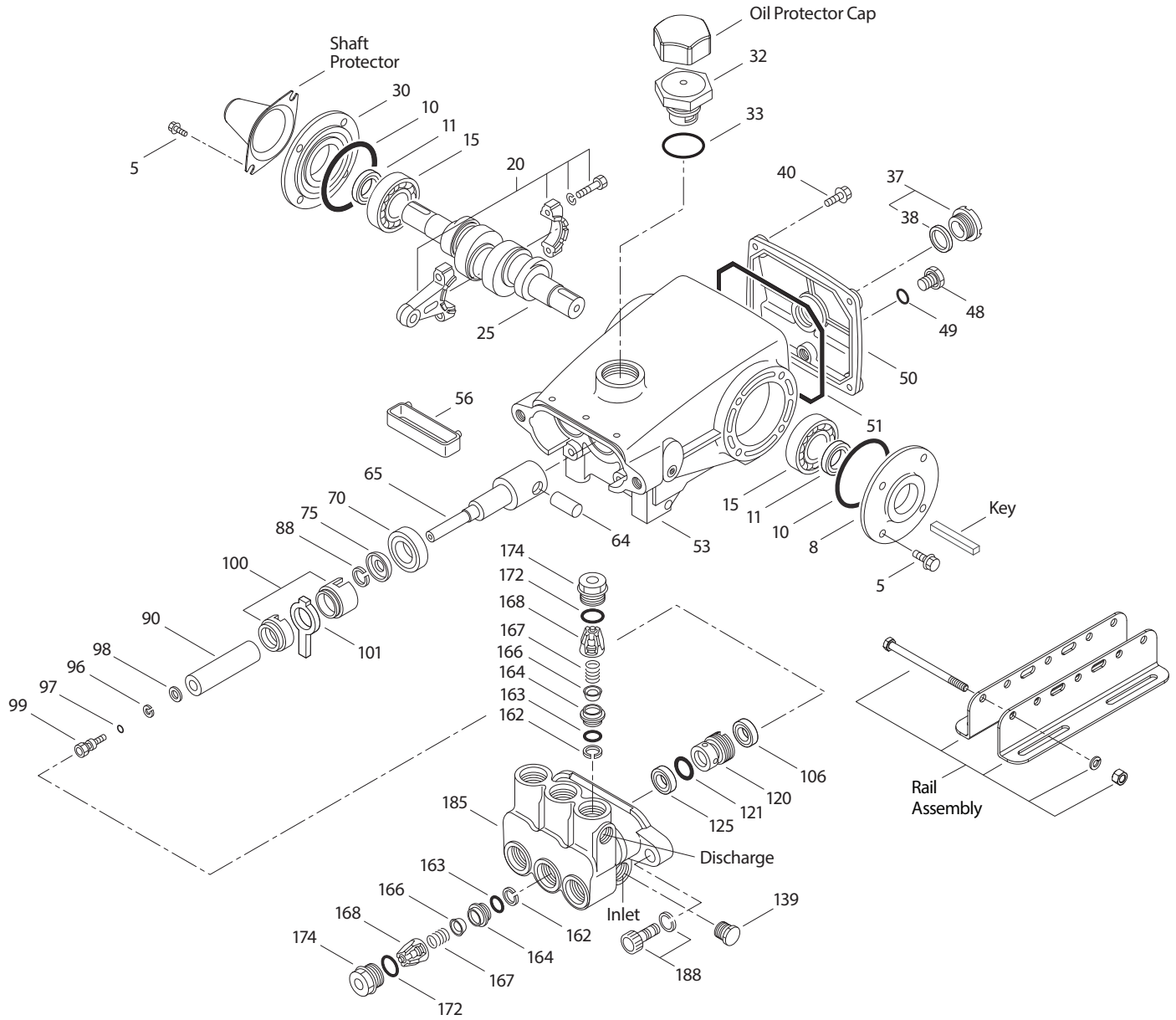
FCM=Forged Chrome-moly FPM=Fluorocarbon HS=High Strength HT=High Temp (EPDM Alternative) NBR=Medium Nitrile (Buna-N) PC=Polycarbonate

POP=Polypropylene PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SNG=Special Blend (Buna) ST2=Special PTFE 2

STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated ZZCP=Chrome Plated/Steel - Zamak

Optional Parts and Accessories and Service Parts listed on page 3. Standard and optional Seal and Valve Kits listed on page 4.

EXPLODED VIEW



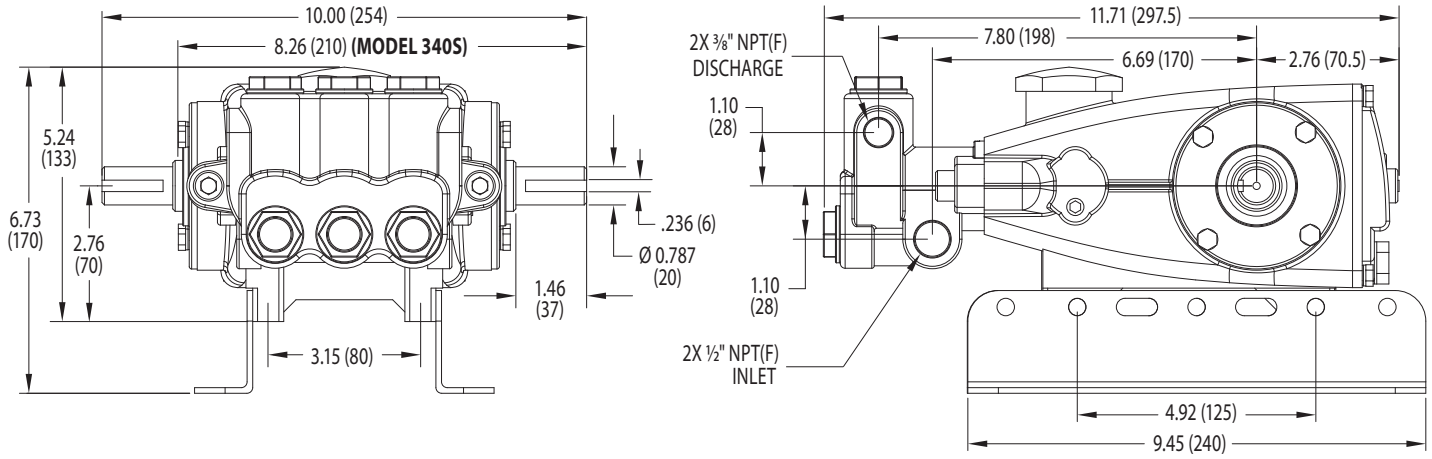
Models
Sleeved 310S, 340S, 350S
March 2024

OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
30057	Key (M6 x 6 x 25)	1
30659	Kit, Complete Mounting	1
30611	Mount, Rail Assembly (Belt Drive Only)	1
30243	Mount, Direct (Belt Drive Only)	1
118672	Protector, Shaft	1
828710	Protector, Oil Cap	1
30633	Assembly, Pulley & Key (Not Shown)	1
30944	Assembly, Hub & Key (Not Shown)	1
34334	Kit, Oil Drain (3/8" x 24") (Not Shown)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
30623	Kit, Seal – Standard NBR	1
30821	Kit, Valve – Standard NBR	2
6107	Oil, Bottle (21 oz) (Fill to Specified Crankcase Capacity Prior to Start-up)	1
30696	Reverse Pliers (Not Shown)	1
33004	Socket, Seal Case (1/2" Drive) (Not Shown)	1
816551	Head, Complete with NBR Seals and O-Rings (Models 310S, 340S, 350S)	1



Models 310S, 350S

SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	HT (.3000)
310S, 340S, 350S	30623	34155	31163*	33623

ITEM (Included in Seal Kits)					DESCRIPTION	QTY
97	17399	14160	46204	17399	O-Ring, Plunger Retainer	3
101	43302	43302	43302	43302	Wick, Long Tab	3
106	43305	—	—	43305	Seal, Low-Pressure with S-Spring	3
	—	45153	48429	—	Seal, Low-Pressure with SS-Spring	3
121	14200	11719	48907	14200	O-Ring, Seal Case	3
125	43307	—	—	—	Seal, High-Pressure with S-Support	3
	—	44936	46667	46667	Seal, High-Pressure with 2-Piece Support	3

♦ Silicone oil/grease required *Review material code for individual items (HT may be used as an alternative)

VALVE KITS Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	HT (.3000)
310S, 340S, 350S	30821	31821	31162	30821

ITEM (Included in Valve Kits)					DESCRIPTION	QTY
162	48361	48361	48361	48361	Backup Ring, Seat	3
163	43358	44938	48908	43358	O-Ring, Seat	3
164	43725	43725	43725	43725	Seat	3
166	43723	43723	43723	43723	Valve	3
167	43750	43750	43750	43750	Spring	3
168	44565	44565	44565	44565	Retainer, Spring	3
172	17615	15855	48431	17615	O-Ring, Valve Plug	3

♦ Silicone oil/grease required

⚠ CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (e.g. regulator, unloader) and a secondary pressure relief device (e.g. 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 online at www.catpumps.com/literature/cat-pumps-limited-warranty