

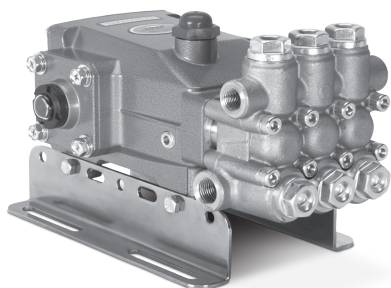
DATA SHEET

5CP PLUNGER PUMPS



Brass Models: **5CP3105CSS, 5CP3110CSS, 5CP3160CSS**

Brass Gearbox Model: **5CP3160CSSG1**



Model 5CP3110CSS Shown
(Mounting rails sold separately)

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Belt-driven option provide precise flow setting.
- Gearbox model available with 1" and 1½" hollow shaft fits a wide variety of engines.
- Direct-driven 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
Pump RPM*	1750 rpm	1750 rpm
Inlet Pressure Range	-2.5 to 60 psi	-.2 to 4.1 bar
Max. Liquid Temp. (NBR)	160° F	71° C
Alternative seals available for higher temperatures up to 190° F		
Bore	0.630"	16 mm
Crankcase Capacity	17 oz	0.50 l
Inlet Ports (2)	½" NPT(F)	½" NPT (F)
Discharge Ports (2)	¾" NPT (F)	¾" NPT (F)
Shaft Diameter	0.787"	20 mm
Weight	19.9 lbs	9 kg
Dimensions	10.90 x 8.90 x 5.75"	277 x 226 x 146 mm

SPECIFICATIONS

U.S. Measure

Metric Measure

5CP3105CSS

Flow	2.5 gpm	9.5 lpm
Pressure Range	100–3500 psi	6.9–241 bar
Stroke	0.393"	10 mm

5CP3110CSS

Flow	3.6 gpm	13.6 lpm
Pressure Range	100–3500 psi	6.9–241 bar
Stroke	0.557"	14 mm

5CP3160CSS

Flow	4.3 gpm	16.3 lpm
Pressure Range	100–3500 psi	6.9–241 bar
Stroke	0.650"	16.5 mm

5CP3160CSSG1

Flow	4.0 gpm	15.0 lpm
Pressure Range	100–3500 psi	6.9–241 bar
Engine RPM	3320 rpm	3320 rpm
Stroke	0.650"	16.5 mm
Weight	26.5 lbs	12 kg
Dimensions	11.39 x 10.62 x 6.42"	289.5 x 270 x 163 mm

*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)
STHT	.3400	190° F (88° 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

$$\frac{\text{Hp (Electric Brake)}}{1460} = \frac{\text{gpm x psi}}{1460}$$

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 NUMBER		DESCRIPTION		QTY	
	5CP3105CSS	MATL	5CP3160CSS	MATL		
	5CP3110CSS		5CP3160CSSG1			
5	126542	STCP R	126542	STCP R	Screw, HHC, Sems (M8x16) (See Tech Bulletin 074)	8
8	46910	AL	46910	AL	Cover, Bearing	1
10	14028	NBR	14028	NBR	O-Ring, Bearing Cover	2
11	43222	NBR	43222	NBR	Seal, Oil, Crankshaft	1
15	14480	STL	14480	STL	Bearing, Ball	2
20	48742	TNM	48742	TNM	Rod, Connecting Assembly (See Tech Bulletin 074)	3
25	48203	FCM	—	—	Crankshaft, Single-End (M10) (Model 5CP3105CSS)	1
	49872	FCM	—	—	Crankshaft, Single-End (M14) (Model 5CP3110CSS)	1
	—	—	48368	FCM	Crankshaft, Single-End (M16.5) (Models 5CP3160CSS, 5CP3160CSSG1)	1
30	49776	AL	49776	AL	Cover, Bearing	1
32	46798	—	46798	—	Cap, Oil Filler, Domed	1
33	14179	NBR	14179	NBR	O-Ring, Oil Filler Cap	1
37	92241	PC	92241	PC	Gauge, Oil, Bubble with Gasket (See Tech Bulletin 074)	2
38	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge	2
40	125824	STCP R	125824	STCP R	Screw, HHC, Sems (M6 x 16) (See Tech Bulletin 074)	4
48	25625	STCP	25625	STCP	Plug, Drain (¼" x 19 BSP)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug	1
50	46940	AL	46940	AL	Cover, Rear	1
51	14044	NBR	14044	NBR	O-Ring, Rear Cover	1
53	48617	AL	48617	AL	Crankcase	1
64	46746	CM	46746	CM	Pin, Crosshead	3
65	48458	BBNP	48458	BBNP	Rod, Plunger	3
70	46838	NBR	46838	NBR	Seal, Oil, Crankcase	3
75	43900	S	43900	S	Slinger, Barrier	3
88	45697	S	45697	S	Washer, Keyhole (M18 x 10)	3
90	46884	CC	46884	CC	Plunger (M16 x 50)	3
98	46730	NBR	46730	NBR	Washer, Seal	3
99	† 48201	SS	† 48201	SS	Retainer, Plunger with Stud (M6) (See Tech Bulletin 074)	3
100	46749	PVDF	46749	PVDF	Retainer, Seal	3
106	43316	NBR	43316	NBR	Seal, Low-Pressure with S-Spring	3
120	46888	BB	46888	BB	Case, Seal	3
121	13978	NBR	13978	NBR	O-Ring, Seal Case	3
127	43319	SNG	43319	SNG	V-Packing	6
128	46618	NY	46618	NY	Adapter, Male	3
163	17547	NBR	17547	NBR	O-Ring, Seat	6
164	45790	S	45790	S	Seat	6
166	46429	S	46429	S	Valve	6
167	43750	S	43750	S	Spring	6
168	† 44565	PVDF	† 44565	PVDF	Retainer, Spring	6
172	142807	NBR	142807	NBR	O-Ring, Valve Plug	6
173	48365	D	48365	D	Backup Ring, Valve Plug	6
174	45900	BB	45900	BB	Plug, Valve (See Tech Bulletin 074)	6
185	46886	FBB	46886	FBB	Manifold, Head	1
188	126513	STCP R	126513	STCP R	Screw, HSH (M8 x 70) (See Tech Bulletin 074)	8
500	—	—	8076	—	Gearbox, 1" Shaft (See Individual Data Sheet)	1

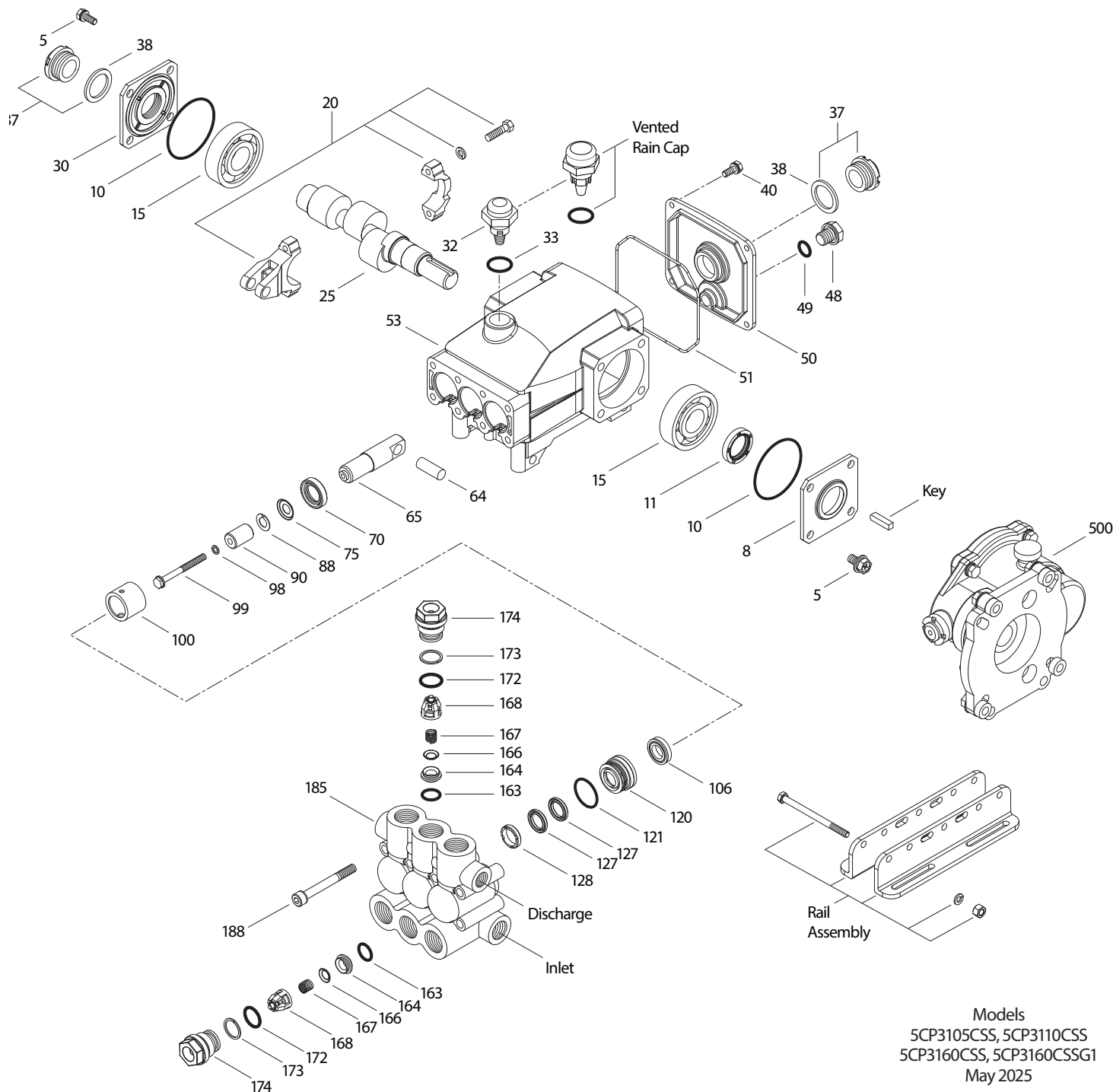
Bold print part numbers are unique to a particular pump model. † Production parts are different than repair parts.

R Components comply with RoHS Directive. For additional technical information see www.catpumps.com/literature/tech-bulletins.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated BBNP=Brass/Nickel Plated CC=Ceramic CM=Chrome-moly D=Acetal EPDM=Ethylene Propylene Diene Monomer FBB=Forged Brass FCM=Forged Chrome-moly FPM=Fluorocarbon HT=Hi-Temp (EPDM Alternative) NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Polycarbonate PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SNG=Special Blend (Buna) SFG=Special Blend (FPM) STG=Special Blend PTFE White ST2=Special Blend PTFE Grey STCP=Steel/Chrome Plated STHT=Special PTFE High Temp STL=Steel STZP=Steel/Zinc Plated TNM=Special High Strength

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

EXPLODED VIEW



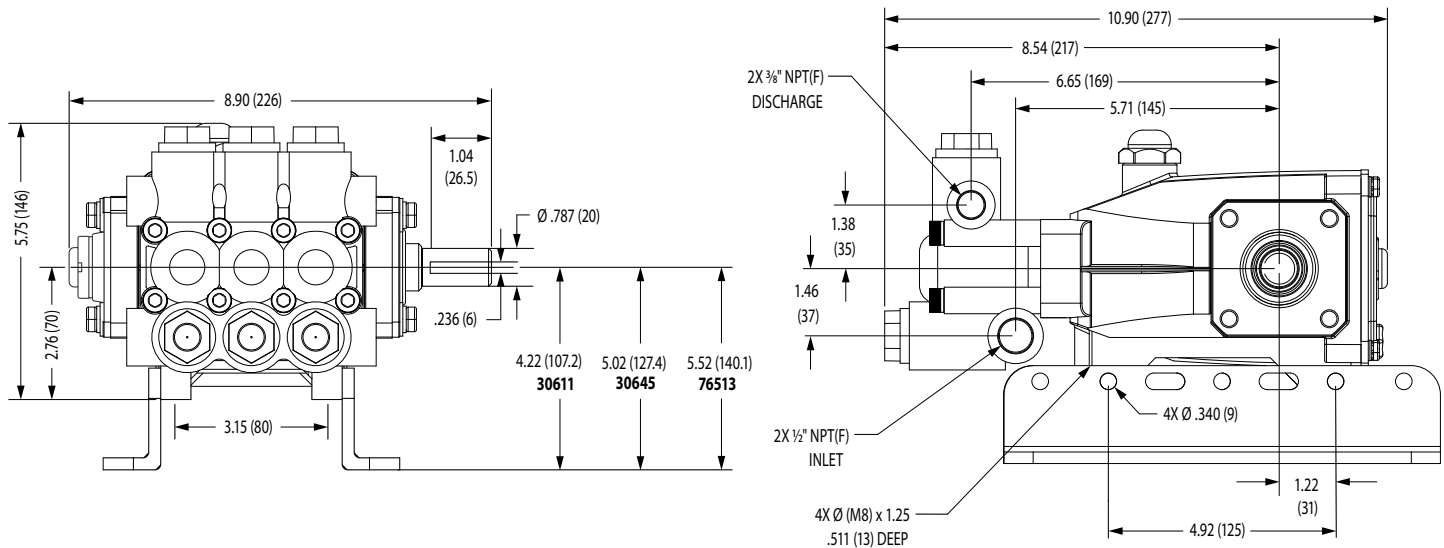
Models
5CP310SCSS, 5CP3110CSS
5CP3160CSS, 5CP3160CSSG1
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OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
30057	Key (M6 x 6 x 25)	1
30611	Assembly, Rail (4.22" – See Dimensional Drawing)	1
30645	Assembly, Rail (5.02" – See Dimensional Drawing)	1
76513	Assembly, Rail (5.52" – See Dimensional Drawing)	1
30637	Mount, Rail Assembly (Retro Fit – See Tech Bulletin 078)	1
30243	Mount, Direct	1
127409	Cap, Vented with O-Ring (Rain Cap)	1
34334	Kit, Oil Drain (3/8" x 24") (Not Shown)	1
22179	Plug, Inlet (1/2" NPT[M]) (Not Shown)	1
22187	Plug, Discharge (3/8" NPT[M]) (Not Shown)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
33629	Seal Kit – Standard NBR	1
33060	Valve Kit – Standard NBR	2
6107	Oil, Bottle (21 oz bottle) (Fill to Specified Crankcase Capacity Prior to Start-up)	1
6124	Gasket, Liquid (3 oz)	1
30696	Reverse Pliers (Not Shown)	1
814843	Head, Complete – with NBR Seals and O-Rings	1



Models 5CP3105CSS, 5CP3110CSS, 5CP3160CSS

SEAL KITS

One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	HT (.3000)	STHT (.3400)
5CP3105CSS, 5CP3110CSS, 5CP3160CSS, 5CP3160CSSG1	33629	31340 *	31730 *	31665	76556

ITEM (Included in Seal Kits)						DESCRIPTION	QTY
98	46730	48394	48432	46730	46730	Washer, Seal	3
106	43316	106660	49134	43316	76316	Seal, Low-Pressure with S-Spring	3
120	—	—	—	—	46888	Case, Seal	3
121	13978	14329	48904	13978	13978	O-Ring, Seal Case	3
127	43319	46287	46287	46287	46287	V-Packing	6
128	46618	46618	46618	46618	46618	Adapter, Male	3

* Review material codes for individual items (HT, SNG may be used as an alternative)

♦ Silicone oil/grease required

VALVE KITS

Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	HT (.3000)	STHT (.3400)
5CP3105CSS, 5CP3110CSS, 5CP3160CSS, 5CP3160CSSG1	33060	31345	31735	33060	33060

ITEM (Included in Valve Kits)						DESCRIPTION	QTY
163	17547	11685	46648	17547	17547	O-Ring, Seat	3
164	45790	45790	45790	45790	45790	Seat	3
166	46429	46429	46429	46429	46429	Valve	3
167	43750	43750	43750	43750	43750	Spring	3
168	44565	44565	44565	44565	44565	Retainer, Spring	3
172	142807	26996	49133	142807	142807	O-Ring, Valve Plug	3
173	48365	48365	48365	48365	48365	Backup 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