

# DATA SHEET

## 5CP PLUNGER PUMPS



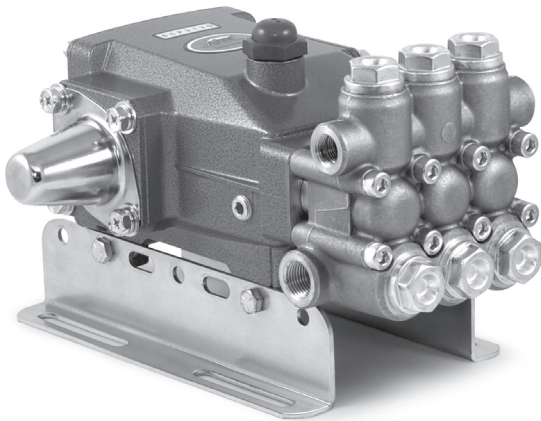
The Pumps with Nine Lives

**Brass Models: 5CP3120, 5CP3120CSS**  
**Gearbox Model: 5CP3120CSSG1**



**PIJTERSEN**

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Model 5CP3120 Shown  
 (Shaft protector and mounting rails sold separately)

### FEATURES

- Industrial triplex design offers reliability and versatility.
- Compact direct-drive mount to motor using bell housing and flexible coupling (NEMA or IEC available).
- Gearbox model available with 1" and 1-1/8" hollow shaft to fit a wide variety of engines.
- Optional belt-drive for precision flow setting.
- Press-in seal cases and interchangeable valve assemblies for easy servicing.
- Standard NBR seals with alternative options for temperature and chemical compatibility.

### COMMON SPECIFICATIONS

	U.S.	Metric
Inlet Pressure Range	-2.5 to 60 psi	-2 to 4 bar
Max. Liquid Temp. (NBR)	160° F	71° C
<b>Alternative seals available for high temp up to 190° F</b>		
Bore	0.630"	16 mm
Crankcase Capacity	17 oz.	0.50 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

### SPECIFICATIONS

#### U.S. Measure

#### Metric Measure

#### MODELS 5CP3120, 5CP3120CSS

Flow	4.5 gpm	17 lpm
Pressure Range	100 - 3500 psi	6.9 - 241 bar
Pump RPM*	1645 rpm	1645 rpm
Stroke	0.709"	18 mm
Weight	19.9 lbs.	9 kg
Dimensions (5CP3120)	10.90 x 10.0 x 5.79"	277 x 254 x 147 mm
Dimensions (5CP3120CSS)	10.90 x 8.58 x 5.79"	277 x 218 x 147 mm

### ALTERNATE SPECIFICATIONS

#### MODELS 5CP3120, 5CP3120CSS

Flow	4.8 gpm	18 lpm
Pressure Range	100 - 3000 psi	6.9 - 207 bar
Pump RPM*	1750 rpm	1750 rpm
Stroke	0.709"	18 mm
Weight	19.9 lbs.	9 kg
Dimensions	10.89 x 10.0 x 5.78"	277 x 254 x 147 mm

#### MODEL 5CP3120CSSG1

Flow	4.5 gpm	17 lpm
Pressure Range	100 - 3500 psi	6.9 - 241 bar
Engine RPM	3353 rpm	3353 rpm
Stroke	0.709"	18 mm
Weight	26.5 lbs.	12 kg
Dimensions	11.18 x 11.48 x 6.42"	284 x 291 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 Reference Document 99TCH002 for inlet conditions and RPM at high temperature.

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

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

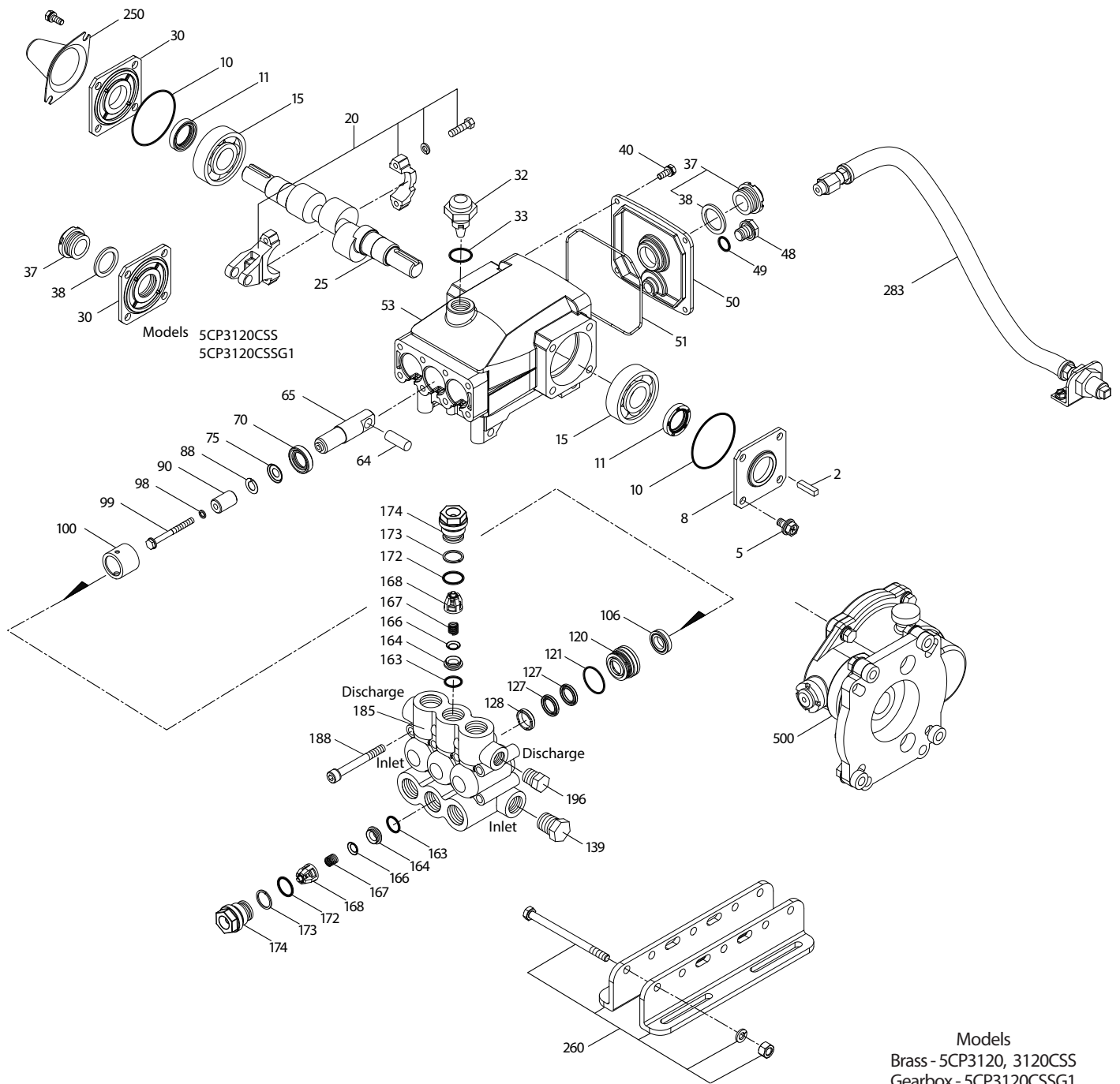
$$\text{DETERMINING MOTOR PULLEY SIZE} \quad \frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

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

## PARTS LIST

ITEM	PART NUMBER		DESCRIPTION		QTY	
	<b>5CP3120CSS</b>					
	<b>5CP3120</b>	<b>MATL</b>	<b>5CP3120CSSG1</b>	<b>MATL</b>		
2	30057	STL	30057	STL	Key (M6x6x25)	1
5	126542	STCP R	126542	STCP R	Screw, HHC, Sems (M8x16)	8 - 8 - 4
8	46910	AL	46910	AL	Cover, Bearing	2 - 1 - 0
10	14028	NBR	14028	NBR	O-Ring, Bearing Cover - 70D	2 - 2 - 1
11	43222	NBR	43222	NBR	Seal, Oil, Crankshaft - 70D	2 - 1 - 0
15	14480	STL	14480	STL	Bearing, Ball	2 - 2 - 2
20	48742	TNM	48742	TNM	Rod, Connecting Assy [10/01]	3
25	<b>46928</b>	FCM	—	—	Crankshaft, Dual End, M18 - 5CP3120	1
	—	—	<b>48233</b>	FCM	Crankshaft, Single End, M18 - 5CP3120CSS, 5CP3120CSSG1	1
30	—	—	<b>49776</b>	AL	Cover, Bearing - 5CP3120CSS, 5CP3120CSSG1 [After 12/10]	1
	—	—	<b>48224</b>	AL	Cover, Bearing Blind - 5CP3120G1 [Prior to 12/10]	1
32	46798	—	46798	—	Cap, Oil Filler, Domed	1
33	14179	NBR	14179	NBR	O-Ring, Oil Filler Cap - 70D	1
37	92241	PC	92241	PC	Gauge, Oil, Bubble w/Gasket - 80D	1 - 2 - 2
38	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1 - 2 - 2
40	125824	STCP R	125824	STCP R	Screw, HHC, Sems (M6x16)	4
48	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	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 - 70D	3
75	43900	S	43900	S	Slinger, Barrier	3
88	45697	S	45697	S	Washer, Keyhole (M18x10)	3
90	46884	CC	46884	CC	Plunger (M16x50)	3
98	46730	NBR	46730	NBR	Washer, Seal - 90D	3
	48394	FPM	48394	FPM	Washer, Seal - 90D	3
	◆ 48432	EPDM	◆ 48432	EPDM	Washer, Seal	3
99	† 48201	SS	† 48201	SS	Retainer, Plunger w/Stud (M6)	3
100	46749	PVDF	46749	PVDF	Retainer, Seal	3
106	43316	NBR	43316	NBR	Seal, LPS w/S-Spg	3
	106660	FPM	106660	FPM	Seal, LPS w/S-Spg	3
	◆ 49134	EPDM	◆ 49134	EPDM	Seal, LPS w/S-Spg	3
	76316	ST2	76316	ST2	Seal, LPS w/S-Spg	3
120	46888	BB	46888	BB	Case, Seal (Press-in-style)	3
121	13978	NBR	13978	NBR	O-Ring, Seal Case - 70D	3
	14329	FPM	14329	FPM	O-Ring, Seal Case	3
	◆ 48904	EPDM	◆ 48904	EPDM	O-Ring, Seal Case	3
127	43319	SNG	43319	SNG	V-Packing	6
	46287	HT	46287	HT	V-Packing	6
128	46618	NY	46618	NY	Adapter, Male	3
139	22179	BBCP	22179	BBCP	Plug, Inlet [1/2"NPT(M)]	1
163	17547	NBR	17547	NBR	O-Ring, Seat - 85D	6
	11685	FPM	11685	FPM	O-Ring, Seat - 85D	6
	◆ 46648	EPDM	◆ 46648	EPDM	O-Ring, Seat - 70D	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	17549	NBR	17549	NBR	O-Ring, Valve Plug - 70D	6
	26996	FPM	26996	FPM	O-Ring, Valve Plug - 70D	6
	◆ 49133	EPDM	◆ 49133	EPDM	O-Ring, Valve Plug	6
173	48365	D	48365	D	Back-up-Ring, Valve Plug	6
174	45900	BB	45900	BB	Plug, Valve	6
185	46886	FBB	46886	FBB	Manifold, Head	1
188	126513	STCP R	126513	STCP R	Screw, HSH (M8x70)	8
196	22187	BBCP	22187	BBCP	Plug, Discharge [3/8"NPT(M)]	1
250	<b>118672</b>	STCP	—	—	Protector, Shaft	1
255	30243	STZP	30243	STZP	Mount, Direct	1
260	30611	STZP R	30611	STZP R	Mount, Rail, Assy (4.22")	1
	30613	STZP R	30613	STZP R	Mount, Rail, Assy (5.02")	1
	76513	STZP R	76513	STZP R	Mount, Rail, Assy (5.52")	1
265	30659	—	—	—	Kit, Complete Mounting (Incls: 30611, 30633, 118672) (Belt Drive Only)	1
283	34334	—	34334	—	Kit, Oil Drain (3/8" x 24") (See Individual Data Sheet)	1
299	814843	FBB	814843	FBB	Head, Complete w/NBRSeals and O-Rings	1
300	33629	NBR	33629	NBR	Kit, Seal (Incls: 98,106,121,127,128) <b>Standard</b>	1
	31340	FPM*	31340	FPM*	Kit, Seal (Incls: 98,106,121,127,128) <b>.0110</b>	1
	◆ 31730	EPDM*	◆ 31730	EPDM*	Kit, Seal (Incls: 98,106,121,127,128) <b>.0220</b>	1
	31665	HT	31665	HT	Kit, Seal (Incls: 98,106,121,127,128) <b>.3000</b>	1
	76556	STHT	76556	STHT	Kit, Seal (Incls: 98,106,120,121,127,128) <b>.3400</b>	1

# EXPLODED VIEW



Models  
 Brass - 5CP3120, 3120CSS  
 Gearbox - 5CP3120CSSG1  
 October 2019

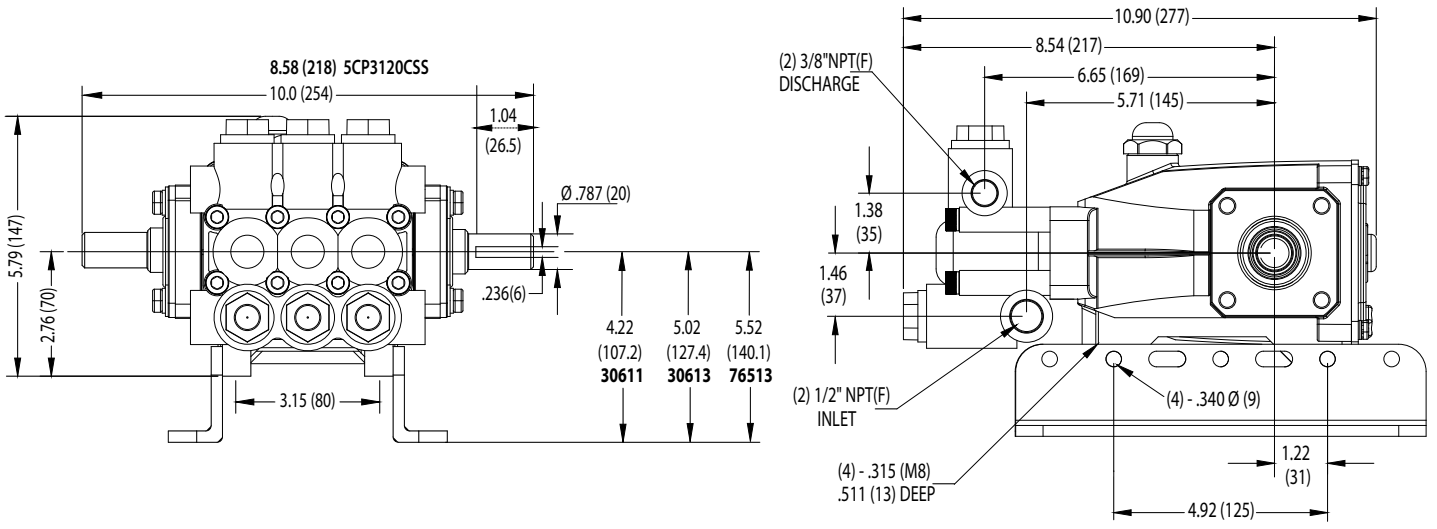
		5CP3120CSS		5CP3120CSSG1				
	5CP3120	MATL		MATL				
310	33060	NBR	33060	NBR	Kit, Valve Preassembled (Incls: 163,164,166-168,172,173)	<b>Standard</b>	.3000, .3400	2
	31345	FPM	31345	FPM	Kit, Valve Preassembled (Incls: 163,164,166-168,172,173)	<b>.0110</b>		2
	◆ 31735	EPDM	◆ 31735	EPDM	Kit, Valve Preassembled (Incls: 163,164,166-168,172,173)	<b>.0220</b>		2
500	—	—	<b>8076</b>	—	Gearbox (See Individual Data Sheet)			1
—	6107	—	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.* [ ] Date of latest production change. ◆ Silicone oil/grease required.

† Production parts are different than repair parts. R Components comply with RoHS Directive. \*Review individual parts in each kit for material code identification.

For additional technical information see [www.catpumps.com/literature/tech-bulletins](http://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) ST2=Special Blend PTFE Grey STHT=Special PTFE High Temp STL=Steel  
 STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength



Models 5CP3120, 5CP3120CSS

**⚠ 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](http://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](http://www.catpumps.com/warranty).



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