

DATA SHEET

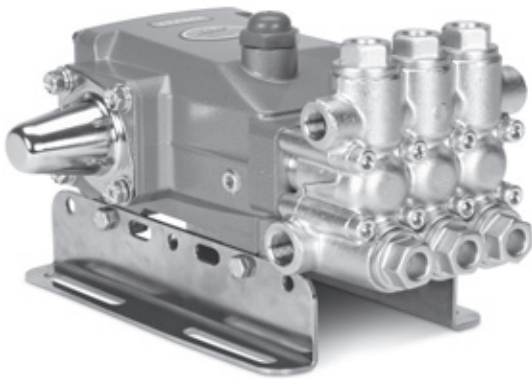
5CP PLUNGER PUMPS



The Pumps with Nine Lives

Brass Models: 5CP6180CSS, 5CP6190

Gearbox Model: 5CP6190G1



Model 5CP6190 Shown
(Rails and shaft protector sold separately)

FEATURES

- Industrial high performance design offers reliability and versatility.
- Ultra-compact footprint enhances direct-drive pump-motor unit with bell housing and flexible coupling mount.
- Optional direct-drive motor and gearbox requirements.
- Press-in seal cases and interchangeable valve assemblies for easy servicing.
- 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
Inlet Pressure Range	Flooded to 60 psi	Flooded to 4.1 bar
Max. Liquid Temperature	160°F	71°C
Above 130°F call Cat Pumps for inlet conditions and elastomer recommendations.		
Crankcase Capacity	17 oz.	0.51 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
Dimensions (Pump Only)	11.01 x 10.0 x 5.82"	279 x 254 x 148 mm
Dimensions (w/ Gearbox)	11.01 x 12.4 x 6.40"	279 x 315 x 162 mm

SPECIFICATIONS

	U.S. Measure	Metric Measure
5CP6180CSS		
Flow	8.2 gpm	31 lpm
Pressure Range	100 - 1500 psi	6.9 - 103 bar
Pump RPM*	1750 rpm	1750 rpm
Bore	0.866"	22 mm
Stroke	0.650"	16.5 mm
Weight	19.9 lbs.	9 kg
5CP6190		
Flow	10.0 gpm	38 lpm
Pressure Range	100 - 1200 psi	6.9 - 83 bar
Pump RPM*	1750 rpm	1750 rpm
Bore	0.866"	22 mm
Stroke	0.787"	20 mm
Weight	19.9 lbs.	9 kg
5CP6190G1		
Flow	8.7 gpm	33 lpm
Pressure Range	100 - 1200 psi	6.9 - 83 bar
Pump RPM	1570 rpm	1570 rpm
Engine RPM	3200 rpm	3200 rpm
Weight	26.5 lbs.	12 kg

ALTERNATE SPECIFICATIONS

	U.S. Measure	Metric Measure
5CP6190		
Flow	8.0 gpm	30.3 lpm
Pressure Range	100 - 1450 psi	6.9 - 100 bar
Pump RPM*	1450 rpm	1450 rpm

*Pump minimum is 100 RPM.

ELECTRIC HORSEPOWER REQUIREMENTS

MODELS	FLOW		PRESSURE				RPM
			psi	psi	psi	psi	
			900	1200	1450	1600	
	gpm	lpm	bar	bar	bar	bar	
			62	83	100	110	
5CP6180CSS	8.2	31	5.1	6.7	8.1	N/A	1750
5CP6190	10	38	6.2	8.2	N/A	N/A	1750
5CP6190G1	8.7	33	Consult Engine Manufacturer				1570
5CP6190ALT	8.0	30.3	4.9	6.6	7.9	N/A	1450

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.

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

DETERMINING MOTOR PULLEY SIZE

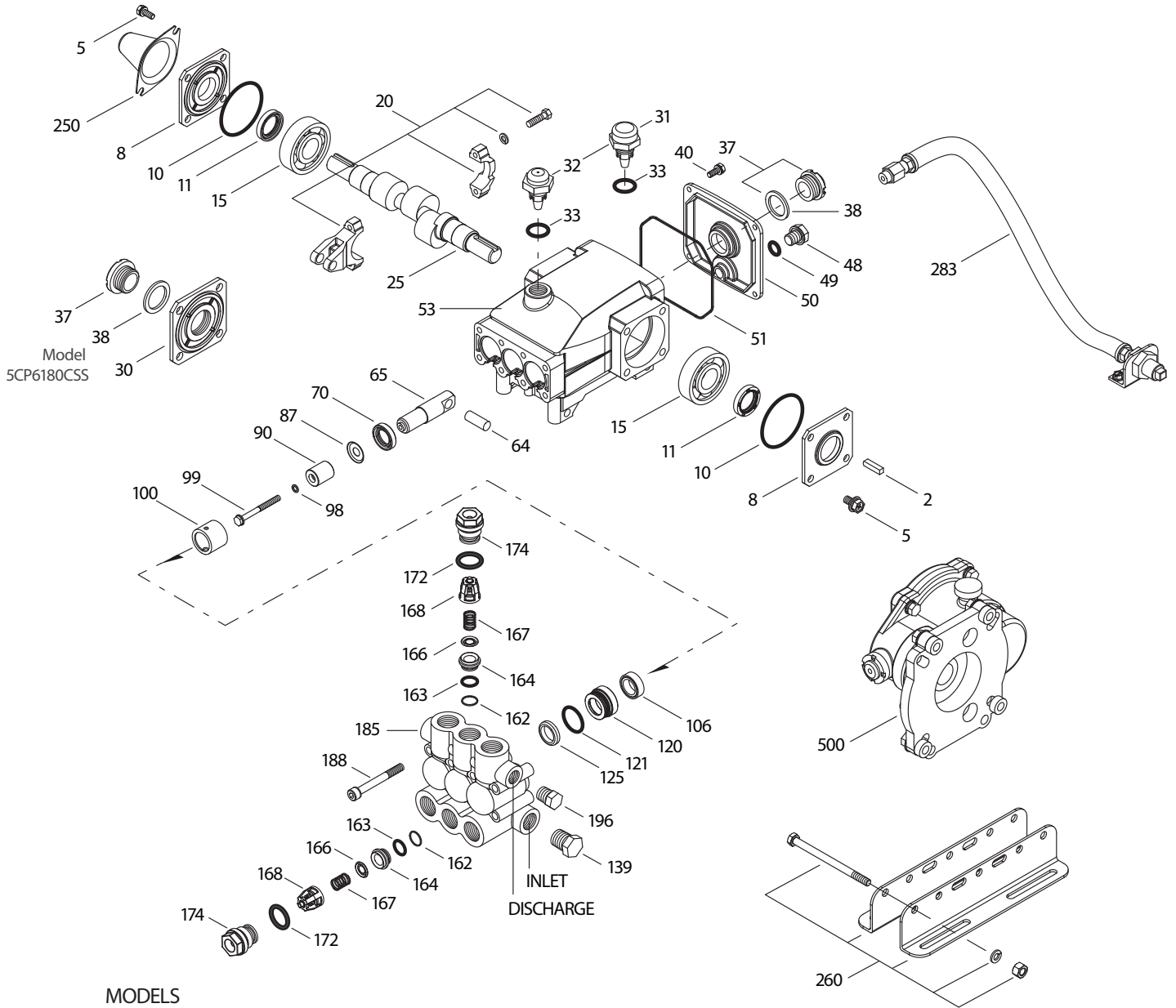
$$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

See complete Drive Packages [Includes: pulleys, belts, hubs, key] Tech Bulletin 003. Refer to pump **Service Manual** for repair procedure and additional technical information.

PARTS LIST

ITEM	PART NUMBERS	MATL	DESCRIPTION	QTY
2	30057	STL	Key (M6x6x25)	1
5	126542	STCP R	Screw, HHC, Sems (M8x16)	8
8	46910	AL	Cover, Bearing	2 - 1
10	14028	NBR	O-Ring, Bearing Cover - 70D	2
11	43222	NBR	Seal, Oil, Crankshaft - 70D	2 - 1
15	14480	STL	Bearing, Ball	2
20	48742	TNM	Rod, Connecting Assy [10/01]	3
25	48646	FCM	Crankshaft, Dual End M20 - 5CP6190, 5CP6190G1	1
	48368	FCM	Crankshaft, Single End M16.5 - 5CP6180CSS	1
30	49776	AL	Cover, Cover Bearing	1
31	127409	—	Cap, Vented w/O-Ring (Rain Cap)	1
32	46798	—	Cap, Oil Filler, Domed	1
33	14179	NBR	O-Ring, Oil Filler Cap - 70D	1
37	92241	—	Gauge, Oil, Bubble w/Gasket - 80D	1-2
38	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1-2
40	125824	STCP R	Screw, HHC, Sems (M6x16)	4
48	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	O-Ring, Drain Plug - 70D	1
50	46940	AL	Cover, Rear	1
51	14044	NBR	O-Ring, Rear Cover	1
53	48617	AL	Crankcase	1
64	46746	CM	Pin, Crosshead	3
65	48647	BBNP	Rod, Plunger	3
70	46838	NBR	Seal, Oil, Crankcase - 70D	3
87	48648	S	Washer, Flat (M10x24)	3
90	121391	CC	Plunger (M22x50)	3
98	46730	NBR	Washer, Seal - 90D	3
	48394	FPM	Washer, Seal - 90D	3
	◆ 48432	EPDM	Washer, Seal	3
99	† 48201	SS	Retainer, Plunger w/Stud (M6)	3
100	46749	PVDF	Retainer, Seal	3
106	49644	NBR	Seal, LPS w/SS-Spg	3
	49704	FPM	Seal, LPS w/SS-Spg	3
	◆ 48650	EPDM	Seal, LPS w/SS-Spg	3
	76704	ST	Seal, LPS w/S-Spg	3
120	121394	BB	Case, Seal	3
121	13980	NBR	O-Ring, Seal Case-70D	3
	14330	FPM	O-Ring, Seal Case	3
	◆ 49731	EPDM	O-Ring, Seal Case	3
125	121395	SNG	Seal, HPS w/S	3
	122188	STG	Seal, HPS w/S	3
139	22179	BBCP	Plug, Inlet [1/2" NPT(M)]	1
162	43248	PTFE	Back-up-Ring, Seat	6
163	43249	NBR	O-Ring, Seat - 80D	6
	44383	FPM	O-Ring, Seat -70D	6
	◆ 46206	EPDM	O-Ring, Seat - 70D	6
164	44718	S	Seat	6
166	43721	S	Valve	6
167	43751	S	Spring	6
168	44564	PVDF	Retainer, Spring	6
172	17617	NBR	O-Ring, Valve Plug -90D	6
	11691	FPM	O-Ring, Valve Plug - 90D	6
	◆ 46207	EPDM	O-Ring, Valve Plug -70D	6
174	125214	BBCP	Plug, Valve	6
185	49760	BBCP	Manifold, Head	1
188	126513	STCP R	Screw, HSH (M8x70)	8
196	22187	BBCP	Plug, Discharge [3/8" NPT(M)]	1
250	118672	STCP	Protector, Shaft	1
255	30243	STZP	Mount, Direct	1
260	30611	STZP R	Mount, Rail, Assy	1
	30637	STZP	Mount, Angle Assy-Retro Fit (See Tech Bulletin 078)	1
265	—	—	Kit, Complete Mounting (Incls: 30611, 30633, 118672) (Belt Drive Only)	1
275	30944	STL	Assembly, Hub & Key (Incls. 30945, 30057)	1
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	818460	BBCP	Head, Complete w/NBR Seals and O-Rings	1

EXPLODED VIEW



MODELS
5CP6180CSS, 5CP6190, 5CP6190G1
July 2017

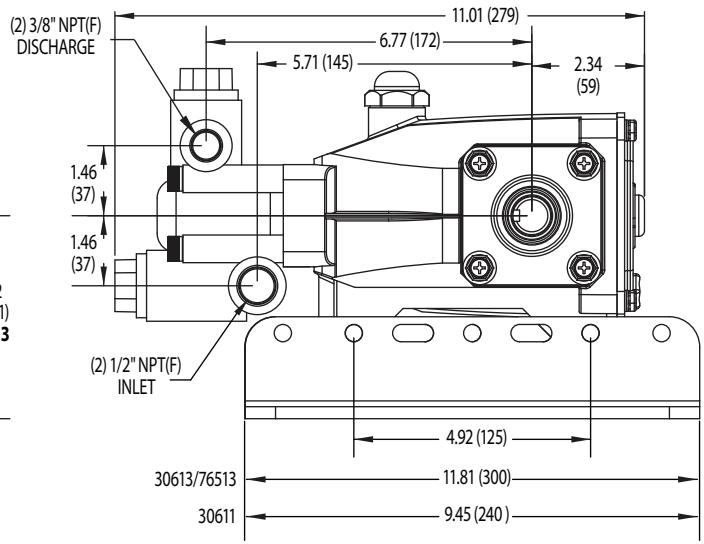
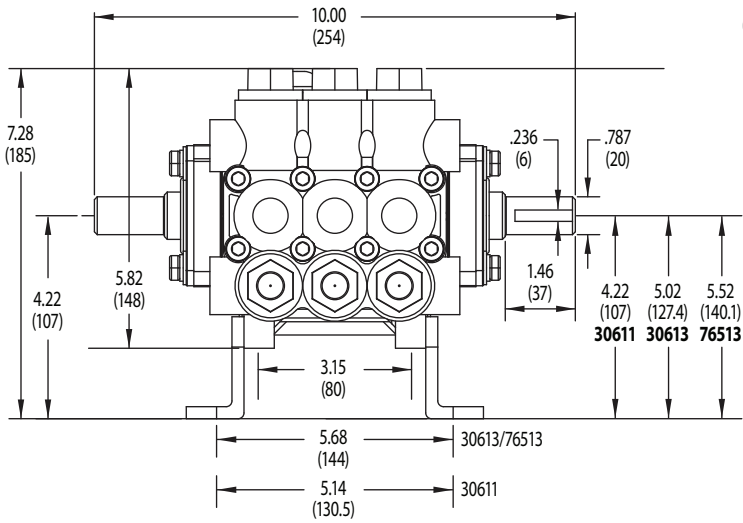
ITEM	PART NUMBERS	MATL	DESCRIPTION	QTY
300	76620	NBR	Kit, Seal (Incls: 98,106,121,125) Standard	1
	76610	FPM	Kit, Seal (Incls: 98,106,121,125) .0110	1
	◆ 76650	EPDM	Kit, Seal (Incls: 98,106,121,125) .0220	1
	76616	HT	Kit, Seal (Incls: 98, 106, 121, 125) .3000	1
310	34920	NBR	Kit, Valve Preassembled (Incls: 162,163,164,166-168,172) Standard	2
	31256	FPM	Kit, Valve Preassembled (Incls: 162,163,164,166-168,172) .0110	2
	◆ 31253	EPDM	Kit, Valve Preassembled (Incls: 162,163,164,166-168,172) .0220	2
350	30696	STZP	Pliers, Reverse	1
500	8076	—	Gearbox (See Individual Data Sheet)	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.* [] Date of latest production change.

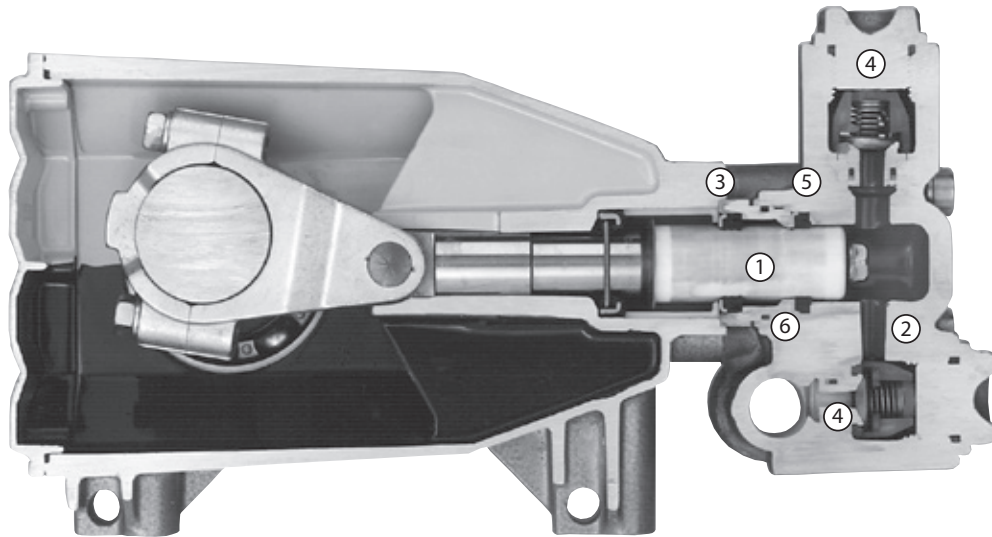
◆ Silicone oil/grease required. † Production parts are different than repair parts. R Components comply with RoHS Directive.

View Tech Bulletins 002, 003, 024, 036, 043, 053, 060, 061, 064, 073, 074, 078 and 083 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBCCP=Brass/Chrome Plated BBNP=Brass/Nickel Plated CC=Ceramic CM=Chrome-moly
EPDM=Ethylene Propylene Diene Monomer FCM=Forged Chrome-moly FPM=Fluorocarbon HT=High Temp NBR=Medium Nitrile (Buna-N) PTFE=Pure Polytetrafluoroethylene
PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SNG=Special Blend (Buna) ST=Special PTFE STG= Special Blend PTFE White STL=Steel STCP=Steel/Chrome Plated
STZP=Steel/Zinc Plated TNM=Special High Strength



Model 5CP6190



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 chrome plated forged brass for long term, continuous duty.
3. 100% wet seal design adds to service life by allowing pumped liquids to cool and lubricate on both sides of the seals.
4. Stainless steel valves, seats and springs provide corrosion-resistance, ultimate seating and extended life.
5. Specially formulated, Cat Pump exclusive, Lo-Pressure and Hi-Pressure Seals offer unmatched performance and seal life.
6. Press-in style seal case offers alignment and support for seals and "no tools" servicing.

⚠ 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.



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