

DATA SHEET

3CP PLUNGER PUMPS

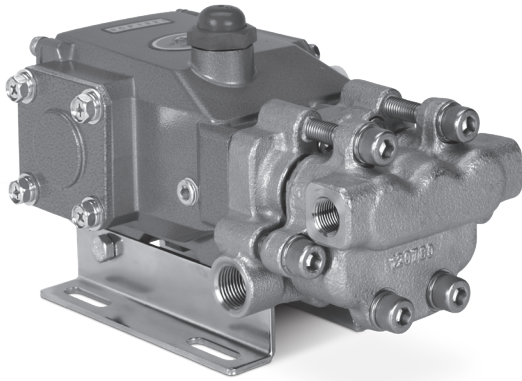


**Stainless Steel
Model:**

3CP1211CS

**Gearbox
Model:**

3CP1211G



Model 3CP1211CS Shown
(Rails sold separately)

FEATURES

- 316 Stainless Steel wet end.
- Various Drive configurations including direct drive bell housing to electric motor, belt drive to engine or motor, and direct drive to hydraulic motor.
- Standard NBR seals with alternative options for temperature and chemical compatibility.

COMMON SPECIFICATIONS

	U.S.	Metric
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Max. Liquid Temp. (NBR)	160° F	71° C
Alternative seals available for high temp up to 200° F		
Bore	0.708"	18 mm
Crankcase Capacity	12 oz.	0.35 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	0.650"	16.5mm
Pulley Mounting	Right Side	Right Side
Weight	14.84 lbs.	6.7 kg
Dimensions	9.69 x 6.72 x 5.53"	246 x 170 x 136mm

SPECIFICATIONS

U.S. Measure

Metric Measure

3CP1211CS Direct Drive

Flow	5.0 gpm	19 lpm
Pressure Range	100 - 1700 psi	6.9 - 117 bar
Pump RPM*	1750 rpm	1750 rpm
Stroke	0.590"	15 mm

*Pump minimum is 100 RPM.

3CP1211G Gearbox

Flow	3.8 gpm	14.4 lpm
Pressure Range	100 - 1500 psi	6.9 - 103 bar
Engine RPM	3400 rpm	3400 rpm
Stroke	0.590"	15 mm

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)
IPFE	.0770	200° F (93° 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.

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

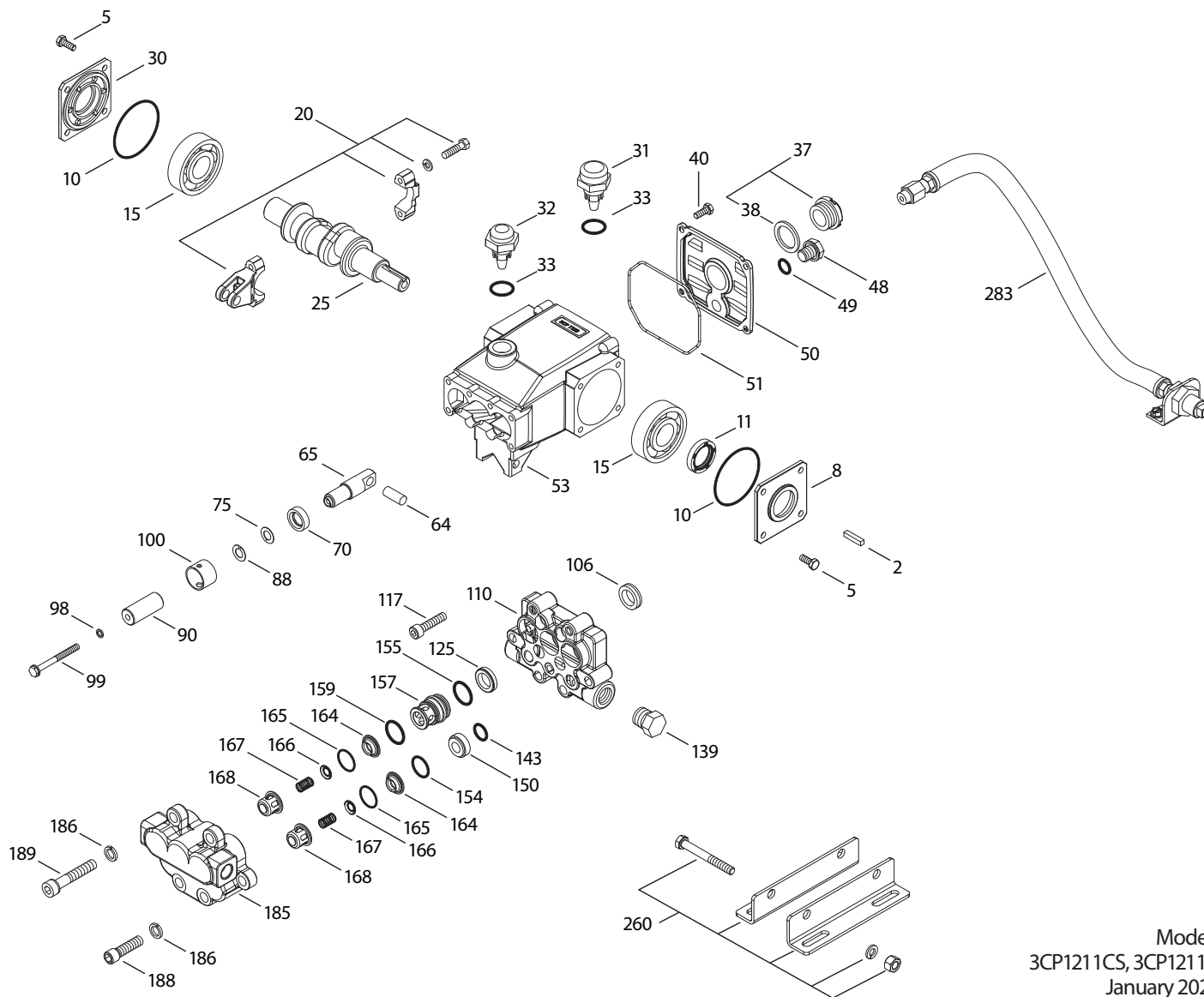
$$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

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

PARTS LIST

ITEM	PART NUMBER	DESCRIPTION	QTY
	3CP1211CS		
	3CP1211G	MATL	
2	30047	STL Key (M5x5x24)	1
5	92538	S Screw, HHC Sems (M6x16)	8
8	46901	AL Cover, Bearing	1
10	14028	NBR O-Ring, Cover, Bearing - 70D	2
11	43222	NBR Seal, Oil, Crankshaft	1
15	14480	STL Bearing, Ball	2
20	48730	TNM Rod Assembly, Connecting	3
25	48805	FCM Crankshaft	1
30	48259	AL Cover, Bearing Blind	1
31	127409	— Cap, Vented w/ O-ring (Rain Cap)	1
32	46798	RTP Cap, Oil Filler	1
33	14179	NBR O-Ring, Oil Filler Cap - 70D	1
37	92241	PC Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	NBR Gasket, Flat, Oil Gauge - 80D	1
40	92538	S Screw, HHC Sems (M6x16)	4
48	25625	STCP Plug, Drain (1/4"x19 BSP)	1
49	23170	NBR O-Ring, Drain Plug - 70D	1
50	46939	AL Cover, Rear	1
51	14041	NBR O-Ring, Rear, Cover - 70D	1
53	48644	AL Crankcase	1
64	46615	CM Pin, Crosshead	3
65	48807	BBNP Rod, Plunger	3
70	46839	NBR Seal, Oil, Crankcase	3
75	48809	S Slinger, Barrier, Flat	3
88	45697	S Washer, Keyhole (M18x10)	3
90	46976	CC Plunger (M18x43)	3
97	76729	SS Washer, Flat (Not shown, use with 76730)	3
98	46730	NBR Washer, Seal - 90D	3
	48394	FPM Washer, Seal - 90D	3
	◆ 48432	EPDM Washer, Seal	3
	76730	PTFE Ring, Sealing	3
99	† 48201	SS Retainer, Plunger	3
100	46541	PVDF Retainer, Seal	3
106	44053	NBR Seal, LPS w/SS-Spg	3
	44926	FPM Seal, LPS w/SS-Spg	3
	76243	ST2 Seal, LPS w/S-Spg	3
	◆ 46651	EPDM Seal, LPS w/SS-Spg	3
110	48556	SS Manifold, Inlet	1
117	119034	S Screw, HSH (M8x35)	4
125	44652	SNG Seal, HPS w/SS	3
	44925	FPM Seal, HPS w/SS	3
	46652	HT Seal, HPS w/SS, 2-PC w/S-Support	3
	76052	ST4 Seal, HPS w/S	3
139	45156	SS Plug, Inlet, [1/2"-14 NPT(M)]	1
143	17547	NBR O-Ring, Adapter, Valve, Rear - 85D	3
	11685	FPM O-Ring, Adapter, Valve, Rear - 85D	3
	◆ 46648	EPDM O-Ring, Adapter, Valve, Rear - 70D	3
	703308	IPFE O-Ring, Adapter, Valve, Rear - 85D	3
150	44060	SS Adapter, Inlet Valve	3
154	43893	NBR O-Ring, Adapter, Valve, Front - 80D	3
	44927	FPM O-Ring, Adapter, Valve, Front	3
	◆ 46649	EPDM O-Ring, Adapter, Valve, Front - 80D	3
	703307	IPFE O-Ring, Adapter, Valve, Front - 80D	3
155	26089	NBR O-Ring, Adapter, Valve, Rear - 80D	3
	11377	FPM O-Ring, Adapter, Valve, Rear - 80D	3
	◆ 46647	EPDM O-Ring, Adapter, Valve, Rear - 80D	3
	703244	IPFE O-Ring, Adapter, Valve, Rear - 75D	3
157	48810	SS Adapter, Discharge Valve	3
159	26089	NBR O-Ring, Adapter, Valve, Front - 80D	3
	11377	FPM O-Ring, Adapter, Valve, Front - 80D	3
	◆ 46647	EPDM O-Ring, Adapter, Valve, Front - 80D	3
	703244	IPFE O-Ring, Adapter, Valve, Front - 75D	3
164	44058	SS Seat	6
165	44001	NBR O-Ring, Seat - 80D	6
	44928	FPM O-Ring, Seat - 80D	6
	◆ 46650	EPDM O-Ring, Seat - 80D	6
166	44057	SS Valve	6
167	44056	SS Spring	6
168	44055	SS Retainer, Spring	6
185	48558	SS Manifold, Discharge	1
186	15847	S Lockwasher (M10)	6
188	87950	S Screw, HSH (M10x35)	2
189	87952	S Screw, HSH (M10x55)	4

EXPLODED VIEW



Models
3CP1211CS, 3CP1211G
January 2020

ITEM	PART NUMBER	DESCRIPTION	QTY
3CP1211CS			
3CP1211G MATL			
260	30612	STZP Rail, Angle Assy (Belt Drive)	1
270	30246	STL Pulley & Key Assy (Incls: 30032, 30047) [See Tech Bulletin 003]	1
283	34334	— Kit, Oil Drain (3/8" x 24")	1
299	816719	SS Head, Complete w/NBR Seals and O-rings	1
300	33985	NBR Kit, Seal (Incls: 98,106,125,143,154,155,159) Std	1
	33309	FPM Kit, Seal (Incls: 98,106,125,143,154,155,159) .0110	1
	◆ 33944	EPDM* Kit, Seal (Incls: 98,106,125,143,154,155,159) .0220	1
	76136	HT Kit, Seal (Incls: 98,106,125,143,154,155,159) .3000	1
	76167	STHT Kit, Seal (Incls: 98,106,125,143,154,155,159) .3400	1
310	76985	IPFE Kit, Seal (Incls: 97,98,106,125,143,154,155,159) .0770	1
	30982	NBR Kit, Valve (Incls: 143,154,155,159,164,165,166,167,168) Std, .3000, .3400	1
	31216	FPM Kit, Valve (Incls: 143,154,155,159,164,165,166,167,168) .0110	1
	◆ 31217	EPDM Kit, Valve (Incls: 143,154,155,159,164,165,166,167,168) .0220	1
500	8075	— 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.* ◆ Silicone oil/grease required.

† Production parts are different than repair parts. R Components comply with RoHS Directive. [] Date of latest production change.

*Review individual parts in each kit for material code identification.

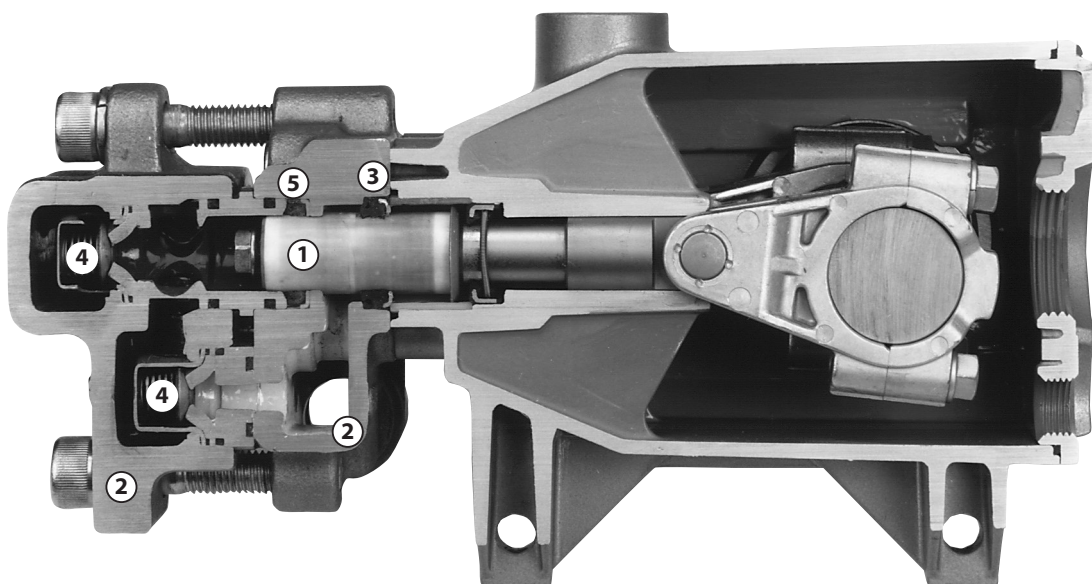
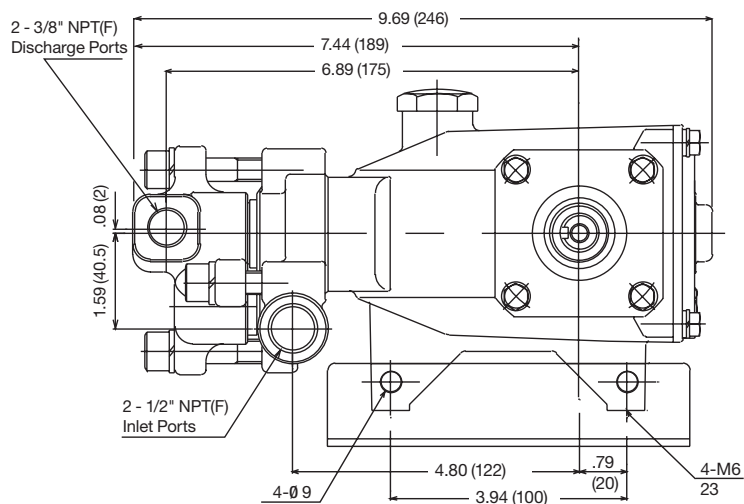
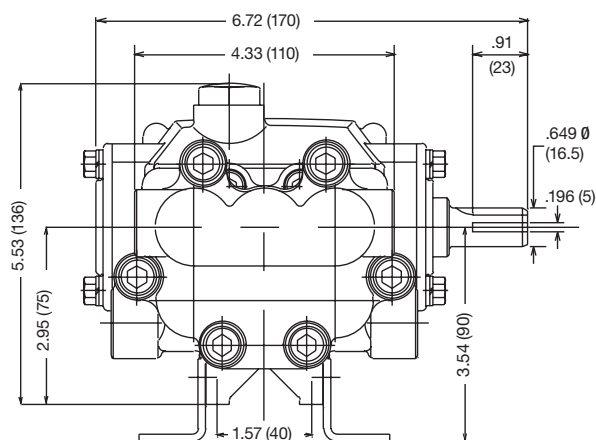
For additional technical information see www.catpumps.com/literature/tech-bulletins

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BBNP=Brass/Nickel Plated CC=Ceramic CM=Chrome-moly EPDM=Ethylene Propylene Diene Monomer

FCM=Forged Chrome-moly FPM=Fluorocarbon HS=High Strength HT=High-Temp (EPDM Alternative) IPFE=I-PerFluoroelastomer NBR=Medium Nitrile (Buna-N) PC=Poly Carbonate

PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride RTP=Reinforced Composite S=304SS SNG=Special Blend (Buna) SS=316SS ST2=Special PTFE 2 STL=SteelW770=Special Alloy

STHT=Special PTFE High Temp STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength



1. Special concentric, high-density, polished, solid ceramic plungers provide a true wear surface and extended seal life.
2. Manifolds are high tensile strength 316 stainless steel for liquid compatibility and long term, continuous duty.
3. 100% wet seal design adds to service life by allowing pumped liquids to cool and lubricate on both sides.
4. 316 stainless steel valves, seats and springs provide corrosion-resistance, ultimate seating and extended life.
5. Specially formulated, Cat Pumps exclusive, High-Pressure Seals offer unmatched performance and seal 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.