

Plunger Pumps

DIRECT DRIVE, HOLLOW SHAFT, 316 STAINLESS STEEL MANIFOLD Electric Motor, 5/8", 56C Face

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM	SHAFT
	GPM	LPM	PSI	BAR		
2SF05SEEL	0.5	1.9	1200	83	1725	5/8"
2SF10SEEL	1.0	3.8	1200	83	1725	5/8"
2SF15SEEL	1.5	5.7	1200	83	1725	5/8"
2SF22SEEL	2.2	8.4	1200	83	1725	5/8"
2SFQ25SEEL	2.5	9.5	1200	83	1725	5/8"
2SFQ29SEEL	2.85	10.8	1200	83	1725	5/8"
2SFQ35SEEL	3.5	13.3	1200	83	1725	5/8"
2SFQ42SEEL	4.2	15.9	1000	69	1725	5/8"

$$\text{Electric Brake Hp} = \frac{\text{gpm} \times \text{psi}}{1460}$$



Model 2SF22SEEL

DIRECT DRIVE, HOLLOW SHAFT GEARBOX, BRASS MANIFOLD Engine, 3/4" and 1"

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM ENGINE	SHAFT	HP Typical Gas Engine*
	GPM	LPM	PSI	BAR			
740G1	2.8	10.6	5000	345	3465	1"	13
3CP1120G	3.5	13.3	2200	152	3600	3/4"	8
760G1	3.5	13.3	5000	345	3465	1"	16
5CP3160CSSG1	4.0	15.2	3500	241	3320	1"	13
5CP3120CSSG1	4.5	17.0	3500	241	3353	1"	16
60G1	4.5	17.0	4000	276	3450	1"	18
700G1	4.5	17.0	5000	345	3465	1"	20
5CP3150CSSG1	5.0	19.0	3000	207	3450	1"	13
5CP5135CSSG1	5.8	21.9	3500	241	3450	1"	13
5CP5140CSSG1	6.2	23.4	3000	207	3450	1"	18
5CP6120CSSG1	7.2	27.2	1500	103	3450	1"	8
5CP6180CSSG1	8.0	30.4	1500	103	3450	1"	11
56G1	8.0	30.4	2500	172	3600	1"	16
56HSG1	8.0	30.4	3000	207	3600	1"	22
5CP6190G1	9.7	36.7	1200	83	3450	1"	11
7CP6110CSG1	10.0	38.0	2000	138	3400	1"	18
7CP6160CSG1	10.0	38.0	2500	172	3400	1"	22
7CP6170G1	12.0	45.4	1800	124	3264	1"	16

Note: All 1" Gearboxes are also available in 1 1/2" size (G118)

*Consult engine manufacturer for actual torque available at required speed.



Model 56G1



Model 5CP3120CSSG1

DIRECT DRIVE, HOLLOW SHAFT GEARBOX, 316 STAINLESS STEEL MANIFOLD Engine, 3/4" and 1"

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM ENGINE	SHAFT	HP Typical Gas Engine*
	GPM	LPM	PSI	BAR			
3CP1241G	3.0	11.4	2000	138	3600	3/4"	5
3CP1211G	3.8	14.4	1500	103	3400	3/4"	5
5CPQ6241CSG1	4.0	15.2	2000	138	3600	1"	8
781G1	4.5	17.0	5000	345	3465	1"	20
5CPQ6251G1	5.0	19.0	2000	138	3600	1"	9
5CPQ6221G1	7.4	28.0	1200	83	3600	1"	8
7CP6111CSG1	10.0	38.0	2000	138	3400	1"	18

Note: All 1" Gearboxes are also available in 1 1/2" size. (G118). *Consult engine manufacturer for actual torque available at required speed.



Model 7CP6111CSG1

Plunger Pumps

DIRECT DRIVE, SOLID SHAFT, BRASS MANIFOLD Electric Motor - Bell Housing



Model 3CP1120



Model 5CP3160CSS

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM	SHAFT
	GPM	LPM	PSI	BAR		
5CP4110CSS	2.2	8.4	4000	276	1750	20 mm
3CP1130	2.4	9.1	2200	138	1725	16.5 mm
5CP3105CSS	2.5	9.5	3500	241	1750	20 mm
5CP4112CSS	2.7	10.3	4000	276	1750	20 mm
740	2.9	11.0	5000	345	1750	24 mm
5CP4114CSS	3.2	12.1	4000	276	1750	20 mm
3CP1140	3.6	13.7	2200	152	1725	16.5 mm
5CP3110CSS	3.6	13.7	3500	241	1750	20 mm
760	3.6	13.6	5000	345	1750	24 MM
5CP4116CSS	3.8	14.4	4000	276	1750	20 mm
5CP2140WCS	4.0	15.2	2500	172	1725	20 mm
3CP1120	4.2	16.0	2200	152	1725	16.5 mm
5CP4118CSS	4.2	16.0	4000	276	1750	20 mm
5CP3160CSS	4.3	16.3	3500	241	1750	20 mm
5CP4120CSS	4.5	17.0	4000	276	1750	20 mm
60	4.7	17.9	4000	276	1750	24 mm
700	4.7	17.9	5000	345	1750	24 mm
5CP3120CSS	4.8	18.2	3000	207	1750	20 mm
5CP2150W	5.0	19.0	2000	138	1725	20 mm
5CP3150CSS	5.2	19.8	3000	207	1750	20 mm
5CP5120	6.0	22.8	2500	172	1750	20 mm
5CP5135CSS	6.0	22.8	3500	241	1750	20 mm
5CP5140CSS	6.4	24.3	3000	207	1750	20 mm
5CP6120	7.4	28.1	1200	83	1725	20 mm
56	8.0	30.4	2500	172	1760	24 mm
56HS	8.0	30.4	3000	207	1760	24 mm
5CP6180CSS	8.2	31.0	1500	103	1750	20 MM
5CP6190	10.0	38.0	1200	83	1750	20 mm
7CP6110CS	10.5	39.9	2000	138	1750	24 mm
7CP6160CS	10.6	40.1	2500	172	1750	24 mm

$$\text{Electric Brake Hp} = \frac{\text{gpm} \times \text{psi}}{1460}$$

DIRECT DRIVE, SOLID SHAFT, 316 STAINLESS STEEL MANIFOLD Electric Motor - Bell Housing



Model 3CP1231

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM	SHAFT
	GPM	LPM	PSI	BAR		
3CP1231	2.3	8.7	2000	138	1725	16.5 mm
784	2.9	11.0	5000	345	1750	24 mm
3CP1241	3.6	13.7	2000	138	1725	16.5 mm
786	3.6	13.7	5000	345	1750	24 mm
5CPQ6241CS	4.0	15.2	2000	138	1725	20 mm
3CP1221	4.2	16.0	2000	138	1725	16.5 mm
781	4.7	17.8	5000	345	1750	24 mm
3CP1211CS	5.0	19.0	1700	117	1750	16.5 mm
5CPQ6251	5.0	19.0	2000	138	1725	20 mm
5CPQ6261CSS	5.5	20.9	2000	138	1725	20 mm
5CPQ6271CSS	6.6	25.1	1800	124	1725	20 mm
5CPQ6221	7.4	28.0	1200	83	1725	20 mm
7CP6111CS	10.5	39.9	2000	138	1750	24 mm

DIRECT DRIVE, SOLID SHAFT, NICKEL ALUMINUM BRONZE MANIFOLD Electric Motor - Bell Housing



Model 277

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM	SHAFT
	GPM	LPM	PSI	BAR		
237	2.3	8.7	1500	103	1725	16.5 mm
247	3.6	13.7	1200	83	1725	16.5 mm
277	4.2	16.0	1000	69	1725	16.5 mm
347	4.0	15.2	1800	124	1725	20 mm
357	5.0	19.0	1500	103	1725	20 mm

$$\text{Electric Brake Hp} = \frac{\text{gpm} \times \text{psi}}{1460}$$

Plunger Pumps

Direct-Drive Mounting Components

BELL HOUSING ASSEMBLY, NEMA AND SAE

PUMP SERIES	MODELS	ELECTRIC MOTOR		HYDRAULIC MOTOR	
		MOTOR FRAME	BELL HOUSING ASSY	SAE TYPE*	BELL HOUSING ASSEMBLY
3CP Series	All 3CP Models	56C - 145TC	76056.3CP	A2	76SAEA2.3CP
		182/184TC	76184.3CP	B2	76SAEB2.3CP
		213/215TC	76215.3CP	B4	76SAEB4.3CP
3FR Series	230 - 270, 231, 241, 271, 237, 247	56C - 145TC	76056.3FR	A2	76SAEA2.3FR
		182/184TC	76184.3FR	B2	76SAEB2.3FR
		213/215TC	76215.3FR	B4	76SAEB4.3FR
5CP Series	All 5CP Models	56C - 145TC	76056.5CP	A2	76SAEA2.5CP
		182/184TC	76184.5CP	B2	76SAEB2.5CP
		213/215TC	76215.5CP	B4	76SAEB4.5CP
		254/256TC	76256.5CP		
5FR Series	340, 350, 341, 351, 347, 357	56C - 145TC	76056.5FR	A2	76SAEA2.5FR
		182/184TC	76184.5FR	B2	76SAEB2.5FR
		213/215TC	76215.5FR	B4	76SAEB4.5FR
		182/184TC	76184.7CP	A2	76SAEA2.7CP
7CP Series	All 7CP Models	213/215TC	76215.7CP	B2	76SAEB2.7CP
		254/256TC	76256.7CP	B4	76SAEB4.7CP
		182/184TC	76184.7FR	A2	76SAEA2.7FR
7FR/8FR Series	56-60, 700-760, 781-786	213/215TC	76215.7FR	B2	76SAEB2.7FR
		254/256TC	76256.7FR	B4	76SAEB4.7FR
		213/215TC	76215.15FR	B2	76SAEB2.15FR
15FR Series	All 15FR Models	254/256TC	76256.15FR	B4	76SAEB4.15FR
		284/286TC	76286.15FR		
35FR Series	All 35FR Models			C2/C4	76SAEC.35FR

Bell housing assemblies include mounting hardware and flange

*SAE Type: A2 = SAE "A" 2 Bolt, 3.25" Pilot, B2 = SAE "B" 2 Bolt, 4" Pilot, B4 = SAE "B" 4 Bolt, 4" Pilot, C2 = SAE "C" 2 Bolt, 5" Pilot,

C4 = SAE "C" 4 Bolt, 5" Pilot

IEC Bell housing available upon request.



Bell Housing Series (Electric)



Bell Housing Assembly (Hydraulic)

FLEXIBLE COUPLER ASSEMBLY, NEMA AND SAE

PUMP SERIES	MOTOR FRAME	FLEX COUPLER ASSY	TORQUE RATING	SAE TYPE*	FLEX COUPLER ASSY	SHAFT TO SHAFT	TORQUE RATING
3CP & 3FR	56C	8215	27 ft/lbs	A2	8271	16.5 mm x 3/8"	115 ft/lbs
	145TC	8210	27 ft/lbs	B2	8272	16.5 mm x 3/8"	115 ft/lbs
	182/184TC	8220	27 ft/lbs	B4	8272	16.5 mm x 3/8"	115 ft/lbs
	182/184TC	8225	174 ft/lbs				
	213/215TC	8270	92 ft/lbs				
5CP & 5FR	56C	8261	74 ft/lbs	A2	8273	20 mm x 5/8"	115 ft/lbs
	145TC	8260	74 ft/lbs	B2	8274	20 mm x 5/8"	115 ft/lbs
	182/184TC	8230	74 ft/lbs	B4	8274	20 mm x 5/8"	115 ft/lbs
	213/215TC	8275	92 ft/lbs				
	254/256TC	8217	150 ft/lbs				
7CP & 7FR	56C	8218	74 ft/lbs				
	182/184TC	8370	74 ft/lbs	A2	8371	24 mm x 5/8"	145 ft/lbs
	213/215TC	8375	74 ft/lbs	B2	8372	24 mm x 3/8"	145 ft/lbs
	254/256TC	8380	150 ft/lbs	B4	8372	24 mm x 3/8"	145 ft/lbs
	213/215TC	8388	150 ft/lbs	B2/B4	8387	30mm x 3/8"	92 ft/lbs
15FR	254/256TC	8382	150 ft/lbs				
	284/286TC	8383	225 ft/lbs				
35FR				C2/C4	997872	35mm x 1 1/4"	350 ft/lbs
				C2/C4	999368	35mm x 1 3/8"	350 ft/lbs
				C2/C4	994403	35mm x 1 1/2"	350 ft/lbs
				C2/C4	999180	35mm x 1 5/8"	350 ft/lbs
				C2/C4	999206	35mm x 1 7/8"	350 ft/lbs

*SAE Type: A2 = SAE "A" 2 Bolt, 3.25" Pilot, B2 = SAE "B" 2 Bolt, 4" Pilot, B4 = SAE "B" 4 Bolt, 4" Pilot, C2 = SAE "C" 2 Bolt, 5" Pilot,

C4 = SAE "C" 4 Bolt, 5" Pilot

IEC Flexible Coupler Assembly available upon request.



Flex Coupler Series

Plunger Pumps

SOLID SHAFT, BRASS MANIFOLD



Model 1810



Model 310



Model 700



Model 5CP2120W

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM	SHAFT
	GPM	LPM	PSI	BAR		
5CP4110CSS	2.2	8.4	4000	276	1750	20 mm
3CP1130	2.4	9.1	2200	138	1725	16.5 mm
5CP3105CSS	2.5	9.5	3500	241	1750	20 mm
5CP4112CSS	2.7	10.3	4000	276	1750	20 mm
740	2.9	11.0	5000	345	1750	24 mm
1810**	3.0	11.4	10000	689	1500	30 mm
5CP4114CSS	3.2	12.1	4000	276	1750	20 mm
3CP1140	3.6	13.7	2200	152	1725	16.5 mm
5CP3110CSS	3.6	13.7	3500	241	1750	20 mm
760	3.6	13.7	5000	345	1750	24 mm
5CP4116CSS	3.8	14.4	4000	276	1750	20 mm
310	4.0	15.2	2200	152	950	20 mm
5CP2120W	4.0	15.2	2500	172	950	20 mm
5CP2140WCS	4.0	15.2	2500	172	1725	20 mm
3CP1120	4.2	16.0	2200	152	1725	16.5 mm
5CP4118CSS	4.2	16.0	4000	276	1750	20 mm
5CP3160CSS	4.3	16.3	3500	241	1750	20 mm
5CP3120CSS	4.5	17.0	3500	241	1645	20 mm
57	4.5	17.0	4000	276	1285	24 mm
5CP4120CSS	4.5	17.0	4000	276	1750	20 mm
60	4.7	17.9	4000	276	1750	24 mm
700	4.7	17.9	5000	345	1750	24 mm
5CP3120CSS	4.8	18.2	3000	207	1750	20 mm
310	5.0	19.0	1500	103	1190	20 mm
5CP2150W	5.0	19.0	2000	138	1725	20 mm
530	5.0	19.0	2500	172	1100	24 mm
5CP5120	5.0	19.0	3000	207	1415	20 mm
5CP3150CSS	5.2	19.7	3000	207	1750	20 mm
56	5.5	20.9	3500	241	1210	24 mm
5CP5140CSS	5.5	20.9	3500	241	1500	20 mm

** 17 - 4SS Stainless Manifolds

$$\text{Electric Brake Hp} = \frac{\text{gpm} \times \text{psi}}{1460}$$

Selecting a Power Source

Positive displacement pumps can use a variety of different power sources, including electric motors, gas or diesel engines, hydraulic and pneumatic motors. Note: system power sources must be sized with adequate horsepower to handle the maximum system flow and pressure required.

Commonly Used Formulas

$$\text{Required Electric Brake HP}^* = \frac{\text{gpm} \times \text{psi}}{1460}$$

$$\text{Hydraulic Torque (ft. lbs.) Required} = 3.6 \times \frac{\text{gpm} \times \text{psi}}{\text{rpm}}$$

*Standard 85% Overall Efficiency

Plunger Pumps

SOLID SHAFT, BRASS MANIFOLD

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM	SHAFT
	GPM	LPM	PSI	BAR		
5CP6120	6.0	22.8	1600	110	1400	20 mm
5CP5120	6.0	22.8	2500	172	1750	20 mm
5CP5135CSS	6.0	22.8	3500	241	1750	20 mm
1570	6.0	22.8	6000	414	1350	30 mm
5CP5140CSS	6.4	24.3	3000	207	1750	20 mm
5CP6180CSS	6.9	26.1	1500	103	1450	20 mm
650	7.0	26.6	3000	207	1000	30 mm
5CP6120	7.4	28.1	1200	83	1725	20 mm
5CP6190	8.0	30.4	1450	100	1450	20 mm
56	8.0	30.4	2500	172	1760	24 mm
56HS	8.0	30.4	3000	207	1760	24 mm
5CP6180CSS	8.2	31.0	1500	103	1750	20 mm
1560	9.0	34.0	4000	276	1280	30 mm
5CP6190	10.0	38.0	1200	83	1750	20 mm
1050	10.0	38.0	2200	152	958	30 mm
660	10.0	38.0	3000	207	1429	30 mm
3550	10.0	38.0	6000	414	940	35 mm
6810**	10.0	38.0	10000	689	600	45 mm
7CP6110CS	10.5	39.9	2000	138	1725	24 mm
7CP6160CS	10.6	40.1	2500	172	1750	24 mm
7CP6170	11.0	41.6	2000	138	1450	24 mm
1050	12.0	45.4	1800	124	1150	30 mm
7CP6170	12.0	45.4	1800	124	1600	24 mm
1580	12.0	45.4	3000	207	1180	30 mm
1530	15.6	59.3	1500	103	1450	30 mm
1540E	18.0	68.4	1200	83	1100	30 mm
2510	20.0	76.0	2000	138	1450	30 mm
3560	20.0	76.0	4000	276	1160	35 mm
2530	25.0	95.0	1200	83	1025	30 mm
3520	25.0	95.0	2000	138	870	35 mm
3560	25.0	95.0	3000	207	1450	35 mm
3570*	30.0	113.6	3000	207	1080	35 mm
3535	36.0	136.2	1200	83	800	35 mm
3535HS*	40.0	152.0	2000	138	888	35 mm
6835	40.0	152.0	3000	207	625	45 mm
3545	45.0	171.0	1000	69	765	35 mm
3545HS*	50.0	189.3	1500	103	850	35 mm
67070	50.0	189.3	2000	138	653	45 mm
6760	60.0	228.0	1200	83	520	45 mm
67070*	65.0	246.0	2000	138	850	45 mm
6775	75.0	285.0	1200	83	650	45 mm

* Intermittent duty only – operating pump at stated flow and pressure for no more than 50% of time in any given hour.

** 304 Stainless Manifolds

$$\text{Electric Brake Hp} = \frac{\text{gpm} \times \text{psi}}{1460}$$

Selecting a Drive

A variety of different drive options are offered by Cat Pumps. Most systems are belt-driven by a pulley or clutch, but there are also direct-drive options such as direct coupled, gearbox or hollow shaft direct drive.

Commonly Used Formulas

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

$$\text{Pump Pulley}^* \times \frac{\text{Pump rpm}}{\text{Motor/Engine rpm}} = \text{Motor Pulley}^*$$

*Pitch Diameter



Model 1570



Model 660



Model 1540E



Model 3535

Plunger Pumps

SOLID SHAFT, 316 STAINLESS STEEL MANIFOLD



Model 311



Model 1051



Model 2531



Model 6811

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM	SHAFT
	GPM	LPM	PSI	BAR		
3CP1231	2.3	8.7	2000	138	1725	16.5 mm
784	2.9	11.0	5000	345	1750	24 mm
3CP1241	3.6	13.7	2000	138	1725	16.5 mm
786	3.6	13.7	5000	345	1750	24 mm
341	4.0	15.2	1800	124	1725	20 mm
5CPQ6241CS	4.0	15.2	2000	138	1725	20 mm
311	4.0	15.2	2200	152	950	20 mm
3CP1221	4.2	16.0	2000	138	1725	16.5 mm
781	4.7	17.9	5000	345	1750	24 mm
351	5.0	19.0	1500	103	1725	20 mm
3CP1211CS	5.0	19.0	1700	117	1750	16.5 mm
5CPQ6251	5.0	19.0	2000	138	1725	20 mm
5CPQ6221	6.0	22.8	2000	138	1400	20 mm
5CPQ6221	7.4	28.0	1200	83	1725	20 mm
1051	10.0	38.0	2200	152	958	30 mm
3501	10.0	38.0	5000	345	915	35 mm
7CP6111CS	10.5	39.9	2000	138	1725	24 mm
7CP6171CS	10.5	39.9	2000	138	1450	24 mm
1051	12.0	45.4	1800	124	1150	30 mm
3511	14.0	53.2	3000	207	800	35 mm
6811	15.0	57.0	5000	345	600	45 mm
6801	15.0	57.0	7000	483	600	45 mm
1531	15.6	59.0	1500	103	1450	30 mm
1541	18.0	68.4	1200	83	1100	30 mm
2511	20.0	76.0	1500	103	1450	30 mm
2531	25.0	95.0	1200	83	1025	30 mm
3521DHS	25.0	95.0	2000	138	870	35 mm
6821	25.0	95.0	3000	207	615	45 mm
3531D	36.0	136.2	1200	83	800	35 mm
3531DHS*	40.0	152.0	2000	138	888	35 mm
6831	40.0	152.0	2300	159	625	45 mm
3541D	45.0	171.0	1000	69	765	35 mm
6841	48.0	182.4	2000	138	615	45 mm
3541DHS*	50.0	189.3	1500	103	850	35 mm
6761	60.0	228.0	1200	83	520	45 mm

* Intermittent duty only – operating pump at stated flow and pressure for no more than 50% of time in any given hour.

$$\text{Electric Brake Hp} = \frac{\text{gpm} \times \text{psi}}{1460}$$