

General Description

Models 5710-5730 metering pumps are of hydraulically actuated non-lost motion (amplitude modulated) diaphragm design. The unique method of actuation by means of a rotating plunger provides smoother, quieter operation. The design characteristics minimize back lash and shock loads to the process system.

Models 5710-5730 are among the longest lasting pumps in the industry. These pumps will provide reliability in the heaviest workload environments, such as mining, nuclear plants, power plants and refineries/petroleum applications. These pumps meet API 675 standards.

Performance

Models 5710, 5720, 5730 offer maximum capacities from 4.1 gph (max. pressure of 4000 psig) to 350 gph (max. pressure of 250 psig). The stroking length can be manually or automatically adjusted from 0-100%. The pumps are available with up to five stroking speeds. All models may be duplexed.

While the pump is running or stopped, the stroke length may be manually adjusted from 0 to 100% by using the micrometer control. Internally, this moves a shift ring. The unique spring loaded rotating plunger is always extending or compressing. It displaces hydraulic fluid through the hollow center of the drive shaft and flexes the diaphragm for a smooth reliable performance. Repetitive accuracy is $\pm 1\%$.

Oversized main bearings support the drive shaft across a very short span, maximizing mechanical efficiency and ensuring long pump life.

An independent speed reducer allows for two separate oil reservoirs to match the requirements for both the hydraulic system using low viscosity oil and the gear drive using lubricating gear oil.

Materials of Construction

Model 5710-5730 can be supplied with Alloy 20, Hastelloy C, 316 Stainless Steel or Polypropylene (max. 150 psig) wetted ends. All diaphragms and seals are available in PTFE, suited for the most demanding chemical duty applications.

A rugged cast iron housing contains a high performance rotating plunger submersed in an oil reservoir. The plunger is the only reciprocating part in the entire hydraulic drive mechanism.



Features

- A micrometer stroke length adjustment allows for accurate capacity control of 0-100%
- Maximum operating pressure up to 4000 psig
- Power supply: 120 VAC single phase or 230/460 VAC 3-phase TE or XP motor
- Built-in pressure relief valve
- Compact design offers high capacity per square foot of space
- Double ball check valves
- High mechanical efficiency reduces power requirements

Optional Features

- Electronic or pneumatic capacity control
- Double diaphragm system
- High suction lift head allows for up to 16 ft. suction lift

Applications

- | | |
|------------------|--------------|
| ■ Nuclear power | ■ Paper mill |
| ■ Petro-chemical | ■ Corrosives |

Technical Data

Model			5710								
Plunger Diameter (in.)			19/32"					1 1/16"			
Speed (SPM)			58	88	117	175	233	58	88	117	175
Capacity per Head at 100 psig (gph)			4.1	6.2	8.3	12.5	16.5	13.3	20.0	26.7	40
¼ Hp	Simplex model maximum capacity and pressure per head@ ¼ Hp	gph @ psig	3.3 2000	5.4 1460	7.4 1145	11.6 800	15.7 600	12.6 625	19.3 445	26.0 360	39.4 250
	Duplex model maximum capacity and pressure per head@ ¼Hp	gph @ psig	3.7 1000	5.8 730	7.9 570	12.1 400	16.2 300	13.0 315	19.7 230	26.5 180	39.9 125
½ Hp	Simplex model maximum capacity and pressure per head@ ½ Hp	gph @ psig	2.5 4000	4.3 3210	6.3 2520	10.5 1700	14.5 1320	11.6 1380	18.2 1000	24.9 780	38.2 550
	Duplex model maximum capacity and pressure per head@ ½ Hp	gph @ psig	3.2 2200	5.3 1605	7.3 1265	11.5 880	15.6 660	12.5 690	19.2 500	25.9 395	39.3 275
1 Hp	Simplex model maximum capacity and pressure per head@ 1 Hp	gph @ psig	-	3.8 4000	5.1 4000	8.1 3600	12.1 2765	10.1 2500	16.0 2100	22.6 1645	35.8 1150
	Duplex model maximum capacity and pressure per head@ 1 Hp	gph @ psig	2.5 4000	4.2 3360	6.3 2500	10.3 1840	14.4 1380	11.7 1280	18.1 1050	24.8 820	38.1 575
1 ½ Hp	Simplex model maximum capacity and pressure per head @ 1 ½ Hp	gph @ psig	-	-	-	7.6 4000	11.7 3000	-	15.2 2500	20.3 2500	33.4 1750
	Duplex model maximum capacity and pressure per head @ 1 ½ Hp	gph @ psig	-	4.1 3500	5.5 3500	9.1 2800	13.2 2100	10.9 1900	17.0 1625	23.6 1250	36.9 875
Suction + Discharge Connections			½"					¾"			
Stroke Length			1"								
Suction lift (ft. H₂O)			4 (16 ft. with high suction head)								
Motor			NEMA 56C frame								
Max. Temp. (°F)			180 ° (316SS, Alloy 20, Hastelloy C) 120 ° (PP)								
Weight (including motor)	Simplex	140 lbs.									
	Duplex	190 lbs.									

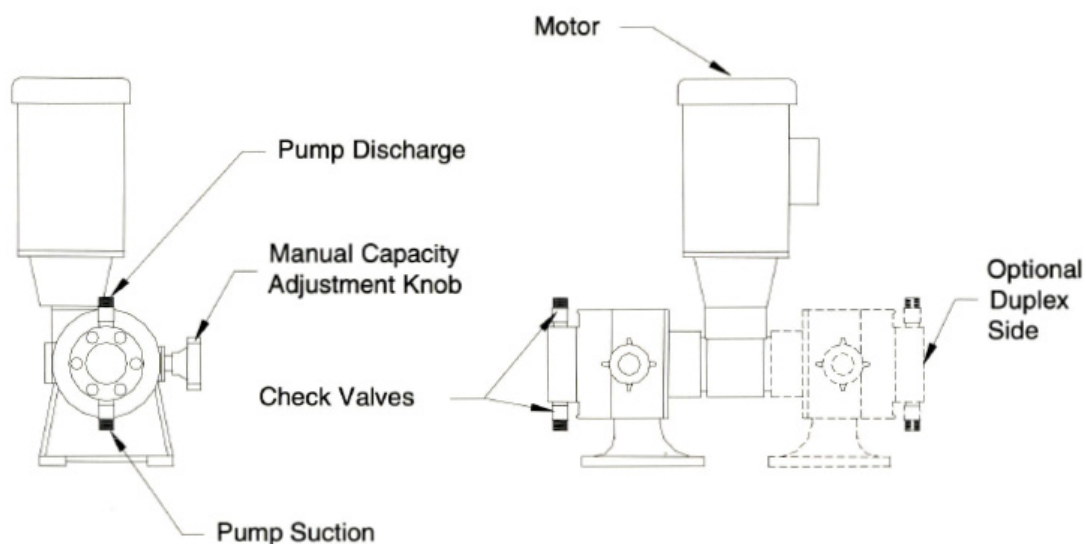
Note: Polypropylene construction is limited to a maximum operating pressure of 150 psig.
Check valves are single ball type.

Technical Data

Model			5720							
Plunger Diameter (in.)			1 3/16"				1 5/8"			
Speed (SPM)			58	88	117	175	58	88	117	175
Capacity per Head at 100 psig (gph)			22	34	45	67	42	64	85	128
1/2 Hp	Simplex model maximum capacity and pressure per head @ 1/2Hp	gph @ psig	20.6 750	32.4 560	43.4 450	65.6 310	40.7 410	62.8 290	83.5 275	127.1 170
	Duplex model maximum capacity and pressure per head @ 1/2 Hp	gph @ psig	21.4 375	33.4 280	44.4 225	66.6 155	41.6 205	63.7 145	84.7 135	128.2 85
1 Hp	Simplex model maximum capacity and pressure per head @ 1 Hp	gph @ psig	20.2 940	31.1 940	41.2 940	63.1 680	40.3 500	61.4 500	81.6 500	124.8 350
	Duplex model maximum capacity and pressure per head @ 1 Hp	gph @ psig	20.4 825	32.2 625	43.3 485	65.4 340	40.6 440	62.6 325	83.7 250	127.0 175
Suction + Discharge connections			1 1/4" M NPT (metal), 1" M NPT (PP)							
Stroke length (in.)			1 3/8"							
Suction lift (ft. H ₂ O)			0 (16ft. with high suction head)							
Motor			NEMA 56C frame							
Max. Temp. (°F)			180° (316SS, Alloy 20, Hastelloy C) 120° (PP)							
Weight (including motor)	Simplex		160 lbs.							
	Duplex		230 lbs.							

Note: Polypropylene construction is limited to a maximum operating pressure of 150 psig.
Check valves are single ball type.

Component Diagram for Models 5710-5730



Technical Data

Model			5730			
Plunger Diameter (in.)			2 ¼"			
Speed (SPM)			58	88	117	175
Capacity per Head at 100 psig (gph)			116	176	232	350
1 Hp	Simplex model maximum capacity and pressure per head @ 1 Hp	gph @ psig	113 330	174 240	230 190	349 130
	Duplex model maximum capacity and pressure per head @ 1 Hp	gph @ psig	115 165	176 120	232 95	351 65
1 ½ Hp	Simplex model maximum capacity and pressure per head @ 1 ½ Hp	gph @ psig	-	171 370	228 290	347 195
	Duplex model maximum capacity and pressure per head @ 1 ½ Hp	gph @ psig	-	175 185	231 145	350 100
2 Hp	Simplex model maximum capacity and pressure per head @ 2 Hp	gph @ psig	-	-	-	344 260
	Duplex model maximum capacity and pressure per head @ 2 Hp	gph @psig	-	-	-	349 130
Suction			1 ½" M NPT		2" M NPT	
Discharge			1 ½" M NPT		1 ½" M NPT	
Suction lift (ft. H ₂ O)			0 (16ft. with high suction head)			
Motor (Hp)			1, 1 ½, 2			
Stroke length (in.)			2"			
Max. Temp. (° F)			180° (316SS, Alloy 20, Hastelloy C) 120° (PP)			
Weight (incl. motor)	Simplex	500				
	Duplex	1040				

Notes: Polypropylene construction is limited to a maximum operating pressure of 150 psig. Check valves are single ball type. All motors are NEMA 56C frame. All Model 5730 pumps have a 2" stroke.