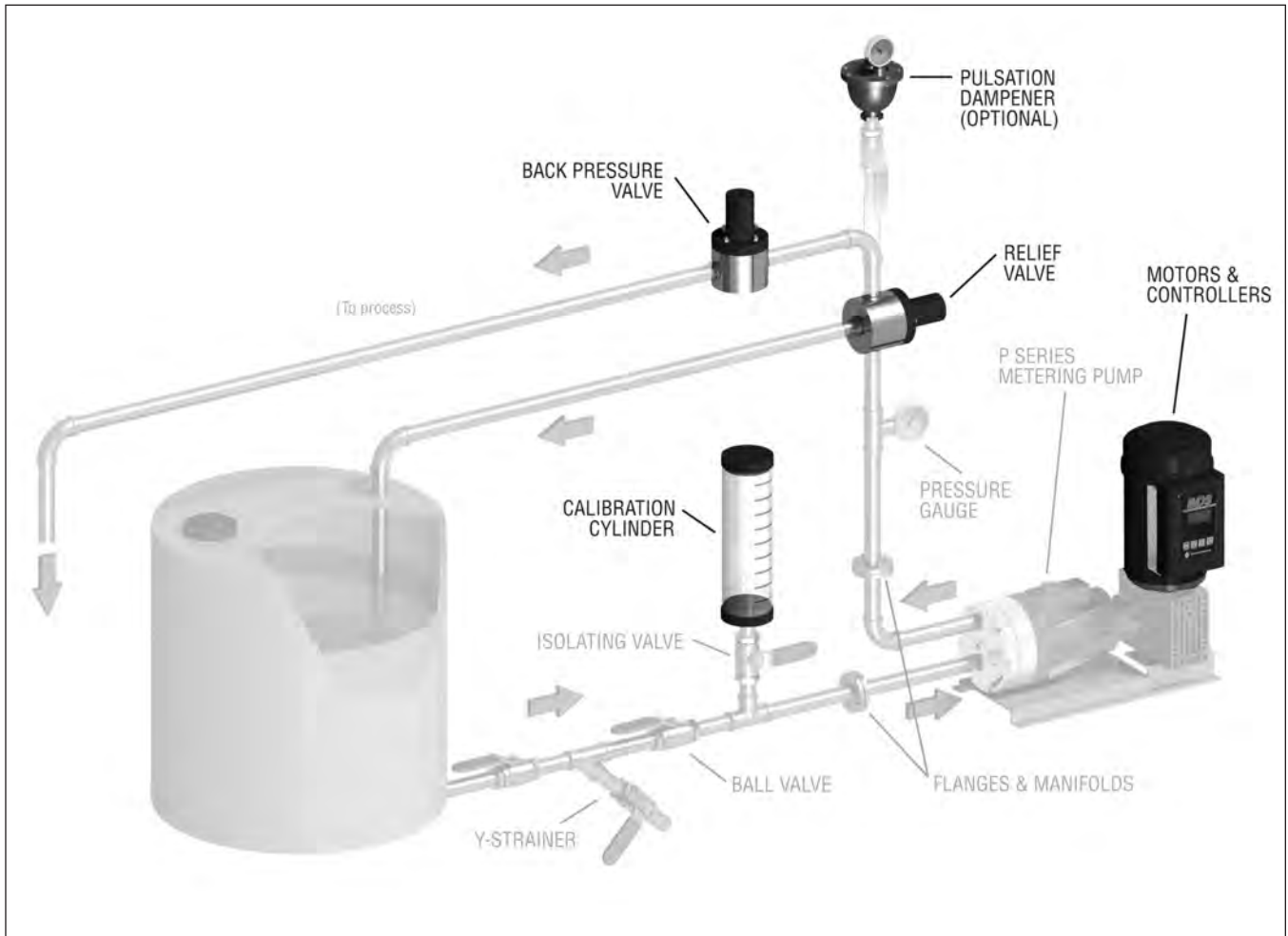


Hydra·Cell[®]

METERING SOLUTIONS™

Selection Guide for P Series Pump Accessories & Options



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Calibration Cylinders

The calibration cylinder verifies the flow rate of your Hydra-Cell P Series pump, providing a visual indicator that your system is operating within the required parameters for performance and accuracy.

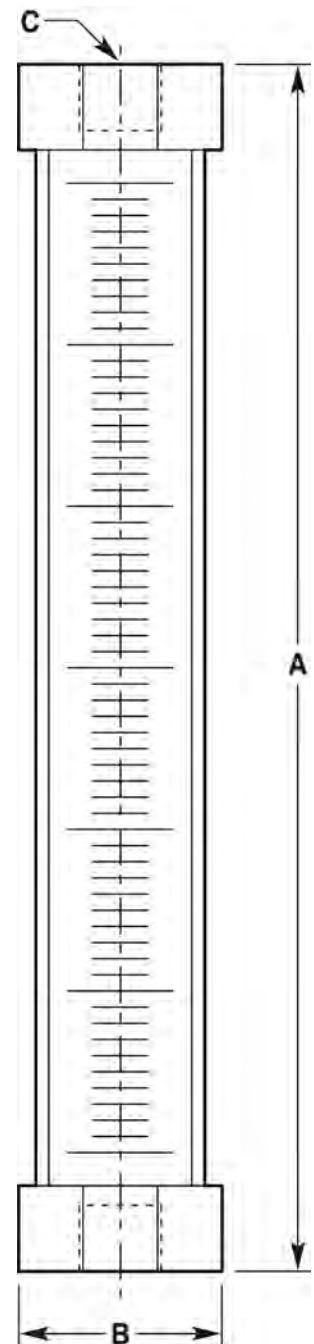
Available in PVC and glass, calibration cylinders are selected based on cylinder capacity needed (GPH or LPH) as determined by the maximum shaft RPM of your pump. Models are available for both NPT and BSPT ports.

Selection Process

1. Size the appropriate P Series pump to the application (refer to pump specifications for complete information).
2. Use the application RPM to select the appropriate cylinder from the chart below.

Cylinder Size				
mL	200	1000	2000	10000
Maximum Cylinder Capacity				
GPH	6.4	32	64	320
LPH	24	120	240	1200
Pump Model	Maximum Pump Shaft RPM			
P100	200	1000	1750	-
P200	75	300	600	1750
P300	75	300	600	1750
P400	30	110	210	1000
P500	-	60	115	600
P600	-	30	60	275

Port C	Cylinder Size (mL)	Part Number		Dimensions - in (mm)			
		NPT Ports	BSPT Ports	A		B	
PVC Cylinders							
1/2"	200	111-001	111-001-B	19.0	(482.6)	1.5	(38.1)
3/4"	1000	111-003	111-003-B	22.0	(558.8)	2.5	(63.5)
1"	2000	111-004	111-004-B	20.0	(508.0)	3.7	(94.0)
2"	10000	111-006	111-006-B	26.0	(660.4)	7.25	(184.2)
Glass Cylinders							
1/2"	200	111-011	111-011-B	21.0	(533.4)	2.5	(63.5)
3/4"	1000	111-013	111-013-B	27.0	(685.8)	3.5	(88.9)
1"	2000	111-014	111-014-B	27.0	(685.8)	5.0	(127.0)



Back Pressure & Pressure Relief Valves

Back pressure valves help ensure that your Hydra-Cell P Series pump provides accurate and predictable flow.

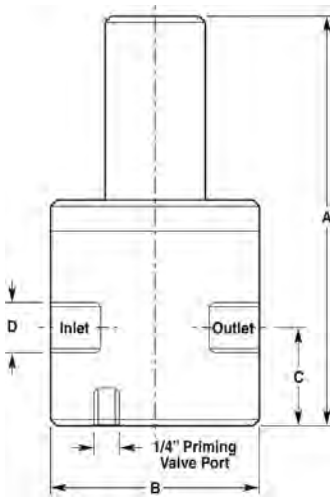
Pressure relief valves protect your pump and system from over-pressure situations.

Available in a choice of wetted materials with PTFE diaphragms, pressure valves are selected according to the valve port size needed for the appropriate maximum flow (GPH or LPH) of your Hydra-Cell P Series pump. Models are available for both NPT and BSTP ports.

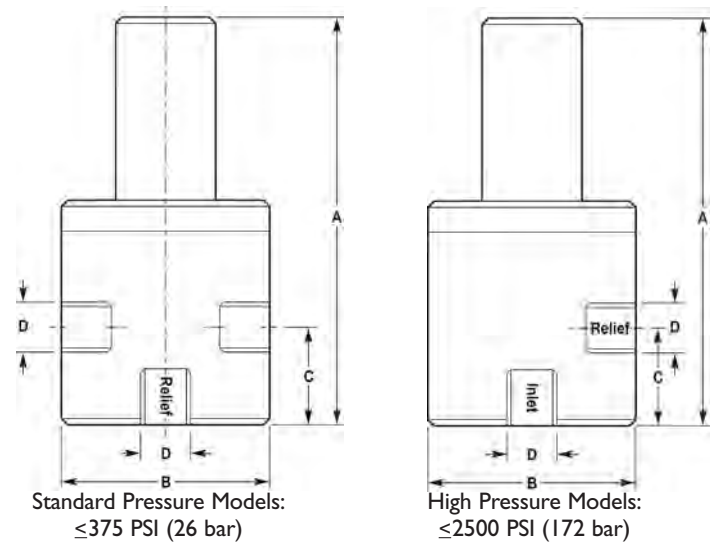


Dimensions

Back Pressure Valve



Pressure Relief Valve



Material	Port D	A		B		C	
		in	mm	in	mm	in	mm
Polypropylene/PVDF	3/8"	3.9	99.1	2.35	59.7	0.75	19.1
	1/2"	4.6	116.8	2.35	59.7	1.125	28.6
	3/4"	5.85	148.6	3.5	88.9	1.25	31.8
	1" Std Flo	5.85	148.6	3.5	88.9	1.25	31.8
	1" HiFlo	7.5	190.5	4.5	114.3	1.13	28.7
	2"	9.0	228.6	5.0	127.0	2.1	53.3
316 SST	1/4" High Pressure	4.6	116.8	2.375	60.3	0.75	19.1
	3/8"	3.5	88.9	2.35	59.7	0.75	19.1
	3/8" High Pressure	4.6	116.8	2.375	60.3	0.75	19.1
	1/2"	4.2	106.7	2.35	59.7	1.125	28.6
	1/2" High Pressure	4.6	116.8	2.375	60.3	1.1	27.9
	3/4"	5.85	148.6	3.5	88.9	1.25	31.8
	1" Std Flo	5.85	148.6	3.5	88.9	1.25	31.8
	1" HiFlo	7.5	190.5	4.5	114.3	1.13	28.7
	1" High Pressure	5.9	149.9	3.5	88.9	1.25	31.8
	2"	9.0	228.6	5.0	127.0	2.1	53.3
Hastelloy C	1/4" High Pressure	4.6	116.8	2.375	60.3	0.75	19.1
	3/8"	3.5	88.9	2.375	60.3	0.75	19.1
	3/8" High Pressure	4.6	116.8	2.375	60.3	0.75	19.1
	1/2"	4.2	106.7	2.375	60.3	1.125	28.6
	1/2" High Pressure	4.6	116.8	2.375	60.3	1.1	27.9
	3/4"	5.85	148.6	3.5	88.9	1.25	31.8
	1" Std Flo	5.5	139.7	3.5	88.9	1.25	31.8
	1" HiFlo	7.5	190.5	4.5	114.3	1.13	28.7
	1" High Pressure	5.9	149.9	3.5	88.9	1.25	31.8
	2"	9.0	228.6	5.0	127.0	2.1	53.3

Pressure Valves Selection Process

1. Use the chart at right to determine the valve port size with the appropriate Maximum Flow GPH (LPH) to match the P Series pump selected.

2. Use the charts below to select the appropriate Back Pressure Valve (page 4) and Pressure Relief Valve (page 5).

		Valve Port Size "D"							
		StdFlo		HiFlo		High Pressure			
		3/8"	1/2"	3/4"	1"	1"	2"	1/4"-3/8"-1/2"	1"
Maximum Flow									
GPH	120	210	480	480	1050	2220	700	1200	
LPH	450	800	1800	1800	3975	8400	2650	4543	

Back Pressure Valve Selection

Port "D"	Wetted Materials*	Pressure Adjustment Range		Maximum Temperature		Model Number	
		PSI	Bar	°F	°C	NPT Ports	BSPT Ports
3/8"	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-101	111-101-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-103	111-103-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-106	111-106-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-110	111-110-B
	316 SST	50 - 350	3.5 - 24	300	149	111-107	111-107-B
	Hastelloy C	50 - 350	3.5 - 24	300	149	111-111	111-111-B
1/2"	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-121	111-121-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-123	111-123-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-126	111-126-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-130	111-130-B
	316 SST	50 - 350	3.5 - 24	300	149	111-127	111-127-B
	Hastelloy C	50 - 350	3.5 - 24	300	149	111-131	111-131-B
3/4"	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-341	111-341-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-343	111-343-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-346	111-346-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-350	111-350-B
1" StdFlo	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-261	111-261-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-263	111-263-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-266	111-266-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-270	111-270-B
	316 SST	50 - 350	3.5 - 24	300	149	111-267	111-267-B
	Hastelloy C	50 - 350	3.5 - 24	300	149	111-271	111-271-B
1" HiFlo	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-361	111-361-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-363	111-363-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-366	111-366-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-370	111-370-B
2"	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-281	111-281-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-283	111-283-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-286	111-286-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-290	111-290-B
	316 SST	50 - 350	3.5 - 24	300	149	111-287	111-287-B
	Hastelloy C	50 - 350	3.5 - 24	300	149	111-291	111-291-B

* Diaphragm material is PTFE on all models. Other materials available on request.

Pressure Relief Valve Selection

Port "D"	Wetted Materials*	Pressure Adjustment Range		Maximum Temperature		Model Number	
		PSI	Bar	°F	°C	NPT Ports	BSPT Ports
1/4" High Pressure	316 SST	200 - 2000	13.8 - 138	300	149	111-800	111-800-B
	Hastelloy C	200 - 2000	13.8 - 138	300	149	111-804	111-804-B
3/8"	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-401	111-401-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-403	111-403-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-406	111-406-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-410	111-410-B
	316 SST	50 - 350	3.5 - 24	300	149	111-407	111-407-B
	Hastelloy C	50 - 350	3.5 - 24	300	149	111-411	111-411-B
3/8" High Pressure	316 SST	200 - 2000	13.8 - 138	300	149	111-706	111-706-B
	Hastelloy C	200 - 2000	13.8 - 138	300	149	111-710	111-710-B
1/2"	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-421	111-421-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-423	111-423-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-426	111-426-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-430	111-430-B
	316 SST	50 - 350	3.5 - 24	300	149	111-427	111-427-B
	Hastelloy C	50 - 350	3.5 - 24	300	149	111-431	111-431-B
1/2" High Pressure	316 SST	200 - 2000	13.8 - 138	300	149	111-726	111-726-B
	Hastelloy C	200 - 2000	13.8 - 138	300	149	111-730	111-730-B
3/4"	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-641	111-641-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-643	111-643-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-646	111-646-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-650	111-650-B
3/4" High Pressure	316 SST	200 - 2000	13.8 - 138	300	149	111-746	111-746-B
	Hastelloy C	200 - 2000	13.8 - 138	300	149	111-750	111-750-B
1" StdFlo	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-561	111-561-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-563	111-563-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-566	111-566-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-570	111-570-B
	316 SST	50 - 350	3.5 - 24	300	149	111-567	111-567-B
	Hastelloy C	50 - 350	3.5 - 24	300	149	111-571	111-571-B
1" High Pressure	316 SST	200 - 2000	13.8 - 138	300	149	111-766	111-766-B
	Hastelloy C	200 - 2000	13.8 - 138	300	149	111-770	111-770-B
1" HiFlo	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-661	111-661-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-663	111-663-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-666	111-666-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-670	111-670-B
2"	Polypropylene	10 - 150	0.7 - 10.3	140	60	111-581	111-581-B
	PVDF	10 - 150	0.7 - 10.3	140	60	111-583	111-583-B
	316 SST	10 - 150	0.7 - 10.3	300	149	111-586	111-586-B
	Hastelloy C	10 - 150	0.7 - 10.3	300	149	111-590	111-590-B
	316 SST	50 - 350	3.5 - 24	300	149	111-587	111-587-B
	Hastelloy C	50 - 350	3.5 - 24	300	149	111-591	111-591-B

* Diaphragm material is PTFE on all models. Other materials available on request.

Pulsation Dampeners

Pulsation dampeners protect your pumping system and its components by removing virtually all hydraulic shock and vibration resulting from the reciprocating stroking action of a positive displacement pump.

Available in a variety of housing construction and bladder materials to cover different applications, pulsation dampeners are selected based on the size dampener (in cubic inches) needed to match your Hydra-Cell P Series pump model and discharge pulsation.



Selection Process

Determine application

- Discharge pulsation (< 1000 psig or > 1000 psig)
- Inlet stabilization
 - High inlet pressure (>30 psig); or
 - Low inlet pressure (suction lift / <30 psig positive pressure)

Select dampener size (cu. in. volume)

Based on the P Series pump model and application, select the appropriate cubic inch size from the chart at right.

Air Control Pump Model	Application			
	Discharge Pulsation		Inlet Stabilization	
	Chargeable <1000 psig	Chargeable >1000 psig	Chargeable >30 psig	J-Style <30 psig
P100	4 Cu. In.	12 Cu. In.	4 Cu. In.	10 Cu. In.
P200	4 Cu. In.	12 Cu. In.	4 Cu. In.	10 Cu. In.
P300	4 Cu. In.	12 Cu. In.	4 Cu. In.	10 Cu. In.
P400	4 Cu. In.	N/A	4 Cu. In.	10 Cu. In.
P500	4 Cu. In.	12 Cu. In.	10 Cu. In.	10 Cu. In.
P600	10 Cu. In.	N/A	N/A	10 Cu. In.

Select dampener model

Use the appropriate dampener size chart in this bulletin to select the specific model with the desired housing materials, bladder material, pressure and temperature performance. (Contact Wanner Engineering for special order units with other construction materials and temperature limits.)

Bladder Options

Bladder Material	Application Recommendations
Buna-N	Good flex life; use with petroleum, solvents, and oil-based fluids
Neoprene	Good abrasion resistance and flex; use with moderate chemicals
EPDM	Good for extreme cold; good chemical resistance with ketones, caustics
Viton	Good for hot and aggressive fluids; use with aromatics, solvents, acids, and oils
PTFE	Bellows design, excellent flex life; use with highly aggressive fluids

4-Cubic-Inch Dampeners

4-cubic-inch: Metallic Construction

Bladder	Maximum PSI	Temperature °F (°C)		Construction Material		
		Minimum	Maximum	CS Part #	SST Part #	Hastelloy C Part #
Buna-N	1000	10 (-12)	190 (88)	110-040	110-060	110-090
Neoprene	1000	0 (-18)	200 (93)	110-042	110-062	110-092
EPDM	1000	-40 (-40)	280 (140)	110-043	110-063	110-093
Viton	1000	-10 (-23)	350 (177)	110-045	110-065	110-095
PTFE	600	40 (5)	250 (121)	110-048	110-068	110-098

4-cubic-inch: Polypropylene Construction

Bladder	Maximum PSI	Temperature °F (°C)		Part #
		Minimum	Maximum	
Buna-N	150	32 (0)	175 (79)	110-000
Neoprene	150	32 (0)	175 (79)	110-002
EPDM	150	32 (0)	175 (79)	110-003
Viton	150	32 (0)	175 (79)	110-005
PTFE	150	40 (5)	175 (79)	110-008

4-cubic-inch: PVDF Construction

Bladder	Maximum PSI	Temperature °F (°C)		Part #
		Minimum	Maximum	
Buna-N	150	10 (-12)	190 (88)	110-020
Neoprene	150	10 (-12)	200 (93)	110-022
EPDM	150	10 (-12)	250 (121)	110-023
Viton	150	10 (-12)	250 (121)	110-025
PTFE	150	40 (5)	250 (121)	110-028

Features:

- 1/2" FNPT inlet port (female)
- Wetted materials of construction
- Bolted fasteners
- Chargeable air control standard

10-Cubic-Inch Dampeners

10-cubic-inch: Metallic Construction

Bladder	Maximum PSI	Temperature °F (°C)		Construction Material		
		Minimum	Maximum	CS Part #	SST Part #	Hastelloy C Part #
Buna-N	1000	10 (-12)	190 (88)	110-240	110-260	110-290
Neoprene	1000	0 (-18)	200 (93)	110-242	110-262	110-292
EPDM	1000	-40 (-40)	280 (140)	110-243	110-263	110-293
Viton	1000	-10 (-23)	350 (177)	110-245	110-265	110-295
PTFE	150	40 (5)	250 (121)	110-248	110-268	110-298

10-cubic-inch: Polypropylene Construction

Bladder	Maximum PSI	Temperature °F (°C)		Part #
		Minimum	Maximum	
Buna-N	150	32 (0)	175 (79)	110-200
Neoprene	150	32 (0)	175 (79)	110-202
EPDM	150	32 (0)	175 (79)	110-203
Viton	150	32 (0)	175 (79)	110-205
PTFE	150	40 (5)	175 (79)	110-208

Features:

- 1/2" FNPT inlet port (female)
- Wetted materials of construction
- Bolted fasteners
- Chargeable air control standard
- Optional J-style air control

10-cubic-inch: PVDF Construction

Bladder	Maximum PSI	Temperature °F (°C)		Part #
		Minimum	Maximum	
Buna-N	150	10 (-12)	190 (88)	110-220
Neoprene	150	10 (-12)	200 (93)	110-222
EPDM	150	10 (-12)	250 (121)	110-223
Viton	150	10 (-12)	250 (121)	110-225
PTFE	150	40 (5)	250 (121)	110-228

12-Cubic-Inch Dampeners

12-cubic-inch: SST Construction

Bladder	Maximum PSI	Temperature °F (°C)		Part #
		Minimum	Maximum	
Buna-N	4000	10 (-12)	190 (88)	110-360
EPDM	4000	-40 (-40)	280 (140)	110-363
Viton	4000	-10 (-23)	350 (177)	110-365
PTFE	2000	40 (5)	250 (121)	110-368

Features:

- 1/2" FNPT inlet port (female)
- Wetted materials of construction
- Bolted fasteners - PTFE bladder
- Ring fasteners - Buna-N, EPDM & Viton bladders
- Chargeable air control standard

Inlet Stabilizers with J-Style Control

10-cubic-inch: PVC Construction

Bladder	Maximum PSI	Temperature °F (°C)		Part #
		Minimum	Maximum	
Buna-N	30	32 (0)	140 (60)	110-210-J
Neoprene	30	32 (0)	140 (60)	110-212-J
EPDM	30	32 (0)	140 (60)	110-213-J
Viton	30	32 (0)	140 (60)	110-215-J
PTFE	30	40 (5)	140 (60)	110-218-J

Motors & Controllers

Motors provide the rotary action that operates the gear reducer on a pump. A motor for a specific P Series pump model is selected based on the horsepower (HP), revolutions-per-minute (RPM) and turndown ratio required for the application (performance criteria) in GPH or LPH.

Controllers regulate the motor speed and strokes-per-minute, providing a flow that is proportional to the motor speed. P Series pumps use variable frequency drive (VFD) controllers that are selected based on the motor HP and whether single-phase or three-phase voltage input is required.



Selection Process

1. Locate the Maximum Flow at Designated Pressure (GPH or LPH) for your application in the Performance table on the specification sheet of your P Series pump model (P100, P200, etc.).
2. This maximum flow rate corresponds to a color-coded rating of your Required Motor HP.
3. Using the charts on page 3 for either 1800 RPM or 3600 RPM, select the motor by matching the Required Motor HP with the correct turndown ratio of your pump. (For motor/controller combination, see chart on page 4.)
4. Using the charts on page 4, select the controller by matching the motor HP with the Input (Voltage/Phase) and Output (Voltage/Phase).

Notes:

- 56C motor frames require a gear reducer with a 56C flange (options 005, 007, 010, etc.).
- 143/145TC motor frames require a gear reducer with a 143/145TC flange (options A05, A07, A10, etc.).
- 182/184TC motor frames require a gear reducer with a 182/184TC flange (options B05, B07, B10, etc.).
- 213/215TC motor frames require a gear reducer with a 213/215TC flange (options C05, C07, C10, etc.).
- 254/256TC motor frame requires a gear reducer with a 254/256TC flanges (option D05; available for the P500 only).

Horsepower (HP) Guide for P Series Pumps*

HP	P100	P200	P300	P400	P500	P600
1/4	✓	✓	✓	✓	✓	✓
1/2	✓	✓	✓	✓	✓	✓
3/4	✓	✓	✓	✓	✓	✓
1	N/A	✓	✓	✓	✓	✓
1-1/2	N/A	N/A	✓	✓	✓	✓
2	N/A	N/A	✓	✓	✓	✓
3	N/A	N/A	✓	✓	✓	✓
5	N/A	N/A	N/A	N/A	✓	✓
7-1/2	N/A	N/A	N/A	N/A	✓	✓
10	N/A	N/A	N/A	N/A	✓	✓
15	N/A	N/A	N/A	N/A	✓	N/A

* For 1800 RPM and 3600 RPM

Motors (Three-Phase)

1800 RPM Inverter Duty

HP	Voltage	Turndown Ratio	Frame	Enclosure	Part Number	Weight (lbs.)
1/4	230	1000:1	56C	TENV	M25TE18-3P56C	18
1/2	230/460	1000:1	56C	TENV	M50TE18-3P56C	20
3/4	230/460	20:1	56C	TEFC	M75TE18-3P56C-P	21
1	230/460	20:1	56C	TEFC	M100TE18-3P56C-P	27
1	230/460	1000:1	143TC	TENV**	M100TN18R3P143TCA5	50
1-1/2	230/460	2:1	56C	TEFC	M15018-3P56C-P	29
1-1/2	230/460	4:1	145TC	TEFC	M150TE18R3P145TCA2	56
1-1/2	230/460	10:1	145TC	TEFC	M150TE18R3P145TCA3	38
1-1/2	230/460	1000:1	145TC	TENV**	M150TN18R3P145TCA5	48
2	230/460	4:1	56C	TEFC**	M200TE18R3P56CA2	41
2	230/460	4:1	145TC	TEFC	M200TE18R3P145TCA2	80
2	230/460	10:1	145TC	TEFC	M200TE18R3P145TCA3	44
2	230/460	20:1	145TC	TEFC**	M200TE18R3P145TCA4	51
3	230/460	4:1	182TC	TEFC	M300TE18R3P182TCA2	84
3	230/460	10:1	182TC	TEFC	M300TE18R3P182TCA3	125
3	230/460	20:1	182TC	TEFC**	M300TE18R3P182TCA4	86
5	230/460	4:1	184TC	TEFC	M500TE18R3P184TCA2	100
5	230/460	10:1	184TC	TEFC	M500TE18R3P184TCA3	125
5	230/460	20:1	184TC	TEFC**	M500TE18R3P184TCA4	88
7-1/2	230/460	4:1	213TC	TEFC	M750TE18R3P213TCA2	151
7-1/2	230/460	10:1	213TC	TEFC	M750TE18R3P213TCA3	185
7-1/2	230/460	20:1	213TC	TEFC**	M750TE18R3P213TCA4	98
10	230/460	4:1	215TC	TEFC	M1000TE18R3P215TCA2	178
10	230/460	10:1	215TC	TEFC	M1000TE18R3P215TCA3	185
10	230/460	20:1	215TC	TEFC**	M1000TE18R3P215TCA4	125
15	230/460	4:1	254TC	TEFC	M1500TE18R3P254TCA2	264
15	230/460	10:1	254TC	TEFC	M1500TE18R3P254TCA3	310
15	230/460	1000:1	254TC	TENV*	M1500TN18F3P254TCA5	250

* With Feet ** With Removable Feet

3600 RPM Inverter Duty

HP	Voltage	Turndown Ratio	Frame	Enclosure	Part Number	Weight (lbs.)
1	230/460	2:1	56C	TEFC	M100TE36-3P56C	24
1-1/2	230/460	2:1	56C	TEFC	M150TE36-3P56C	25
2	230/460	2:1	56C	TEFC	M200TE36-3P56C	29
2	230/460	4:1	145TC	TEFC	M200TE36R3P145TCA2	56
3	230/460	2:1	56C	TEFC	M300TE363P56C	39
3	230/460	10:1	145TC	TEFC	M300TE36R3P145TCA3	40
3	230/460	4:1	182TC	TEFC	M300TE36R3P182TCA2	84
5	230/460	4:1	184TC	TEFC	M500TE36R3P184TCA2	100
5	230/460	10:1	184TC	TEFC	M500TE36R3P184TCA3	81
7-1/2	230/460	4:1	213TC	TEFC	M750TE36R3P213TCA2	151
7-1/2	230/460	10:1	213TC	TEFC	M750TE36R3P213TCA3	114
10	230/460	4:1	215TC	TEFC	M1000TE36R3P215TCA2	178
10	230/460	10:1	215TC	TEFC	M1000TE36R3P215TCA3	128
15	230/460	4:1	254TC	TEFC	M1500TE36F3P254TCA2	264

Motor/Controller Combination* (IP-55; Single-Phase)

2400 RPM

HP	Voltage	Turndown Ratio	Enclosure	Part Number	Weight (lbs.)
1/3	115/230	8:1	TEFC	MC33TE24-1P56C	24
1/2	115/230	8:1	TEFC	MC50TE24-1P56C	25
3/4	115/230	8:1	TEFC	MC75TE24-1P56C	29
1	115/230	8:1	TEFC	MC100TE24-1P56C	39

* With Feet

Controllers (NEMA 1)

Single-Phase

HP	Type	Input	Output	Part Number	Weight (lbs.)
		Voltage / Phase	Voltage / Phase		
1	Micro AC Inverter*	115 volt / 1-phase	230 volt / 3-phase	C100IP-1P3P-115	2.0
1/2	Sensorless Vector	230 volt / 1-phase	230 volt / 3-phase	C50N1-1P3P-230	2.2
1	Sensorless Vector	230 volt / 1-phase	230 volt / 3-phase	C100N1-1P3P-230	2.2
2	Sensorless Vector	230 volt / 1-phase	230 volt / 3-phase	C200N1-1P3P-230	4.4
3	Sensorless Vector	230 volt / 1-phase	230 volt / 3-phase	C300N1-1P3P-230	4.4

* IP-20

Three-Phase

HP	Type	Input	Output	Part Number	Weight (lbs.)
		Voltage / Phase	Voltage / Phase		
1/2	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	C50N1-3P3P-230	2.2
1	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	C100N1-3P3P-230	2.2
2	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	C200N1-3P3P-230	4.4
3	Sensorless Vector	230 volt / 3-phase	230 volt / 3-phase	C300N1-3P3P-230	4.4
1	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	C100N1-3P3P-460	2.2
2	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	C200N1-3P3P-460	2.2
3	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	C300N1-3P3P-460	4.4
5	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	C500N1-3P3P-460	4.4
7-1/2	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	C750N1-3P3P-460	14.0
10	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	C1000N1-3P3P-460	14.0
15	Sensorless Vector	460 volt / 3-phase	460 volt / 3-phase	C1500N1-3P3P-460	14.0

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