

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.

They control pulsations by allowing fluid to enter a wetted chamber of the dampener during the discharge stroke. This displaces a flexible bladder, which compresses gas in an air chamber, thus absorbing the shock. During the inlet stroke, liquid pressure decreases as the dampener gas expands, allowing fluid to re-enter the process line.

Bladders are available in Neoprene, Buna-N, EPDM, FKM, and PTFE (except where noted) to match Hydra-Cell pump diaphragm materials.

- Produces steady fluid flow up to 99% pulsation- and vibration-free
- Protects pipes, valves, fittings, meters, and in-line instrumentation from destructive pulsations, cavitation, and water hammer
- Creates steady and continuous flow when dosing, blending, or proportioning additives
- Ensures accuracy, longevity, and repeatability of in-line meters
- Enables uniform application of material in spraying and coating systems
- Reduces product agitation, foaming, splashing, and degradation of product

Since Hydra-Cell multiple-diaphragm model pumps provide smooth, virtually pulse-less linear flow, pulsation dampeners are recommended for F20 and P100 models, but are optional for all other models.

Selection Process

1. Determine discharge pulsation (<1000 psi or >1000 psi).
2. Determine inlet stabilization: high inlet pressure (>30 psi) or low inlet pressure (suction lift/<30 psi positive pressure).
3. Select dampener size based on cubic inches (volume).
4. Consult price list or selection guide for specific model based on choice of wetted end and diaphragm materials.

	Application			
	Discharge Pulsation		Inlet Stabilization	
Air Control Pump Model	Chargeable <1000 psi	Chargeable >1000 psi	Chargeable >30 psi	"J" Style <30 psi
F20 (P100)	4 cu. in.	12 cu. in.	4 cu. in.	10 cu. in.
F03 (P200)	4 cu. in.	12 cu. in.	4 cu. in.	10 cu. in.
D04 (P300)	4 cu. in.	12 cu. in.	4 cu. in.	10 cu. in.
D10 (P400)	4 cu. in.	12 cu. in.	4 cu. in.	10 cu. in.
D12	4 cu. in.	N/A	4 cu. in.	10 cu. in.
D15 (P500)	4 cu. in.	12 cu. in.	10 cu. in.	10 cu. in.
D17	4 cu. in.	12 cu. in.	10 cu. in.	10 cu. in.
P600	10 cu. in.	N/A	10 cu. in.	10 cu. in.
H25	36 cu. in.	N/A	36 cu. in.	85 cu. in.
D35	36 cu. in.	12 cu. in.	36 cu. in.	85 cu. in.

Note: These are minimum size recommendations. A larger size can always be used.

Pulsation Dampener Charging Kits

Part Number	Description
110-900	Charging kit to 999 psi (68.9 bar)
110-901	Charging kit from 1000 to 5000 psi (69 to 345 bar)

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4 Cubic Inch Dampeners: Inlet 1/2" (female)

Wetted	Bladder	Volume (Inch ³)	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
SST	Buna-N	4	1000	69	110-060	110-060-B
SST	Neoprene	4	1000	69	110-062	110-062-B
SST	EPDM	4	1000	69	110-063	110-063-B
SST	FKM	4	1000	69	110-065	110-065-B
SST	PTFE	4	600	41.4	110-068	110-068-B
Hastelloy C	Buna-N	4	1000	69	110-090	110-090-B
Hastelloy C	Neoprene	4	1000	69	110-092	110-092-B
Hastelloy C	EPDM	4	1000	69	110-093	110-093-B
Hastelloy C	FKM	4	1000	69	110-095	110-095-B
Hastelloy C	PTFE	4	600	41.4	110-098	110-098-B
Polypropylene	Buna-N	4	150	10.3	110-999	110-999-B
Polypropylene	Neoprene	4	150	10.3	110-101	110-101-B
Polypropylene	EPDM	4	150	10.3	110-104	110-104-B
Polypropylene	FKM	4	150	10.3	110-106	110-106-B
Polypropylene	PTFE	4	150	10.3	110-109	110-109-B
PVDF	Buna-N	4	150	10.3	110-020	110-020-B
PVDF	Neoprene	4	150	10.3	110-022	110-022-B
PVDF	EPDM	4	150	10.3	110-023	110-023-B
PVDF	FKM	4	150	10.3	110-026	110-026-B
PVDF	PTFE	4	150	10.3	110-028	110-028-B

10 Cubic Inch Dampeners: Inlet 1/2" (female)

Wetted	Bladder	Volume (Inch ³)	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
SST	Buna-N	10	1000	69	110-260	110-260-B
SST	Neoprene	10	1000	69	110-262	110-262-B
SST	EPDM	10	1000	69	110-263	110-263-B
SST	FKM	10	1000	69	110-265	110-265-B
SST	PTFE	10	150	10.3	110-268	110-268-B
Hastelloy C	Buna-N	10	1000	69	110-290	110-290-B
Hastelloy C	Neoprene	10	1000	69	110-292	110-292-B
Hastelloy C	EPDM	10	1000	69	110-293	110-293-B
Hastelloy C	FKM	10	1000	69	110-295	110-295-B
Hastelloy C	PTFE	10	150	10.3	110-298	110-298-B
Polypropylene	Buna-N	10	150	10.3	110-100	110-100-B
Polypropylene	Neoprene	10	150	10.3	110-232	110-232-B
Polypropylene	EPDM	10	150	10.3	110-233	110-233-B
Polypropylene	FKM	10	150	10.3	110-105	110-105-B
Polypropylene	PTFE	10	150	10.3	110-108	110-108-B
PVDF	Buna-N	10	150	10.3	110-220	110-220-B
PVDF	Neoprene	10	150	10.3	110-222	110-222-B
PVDF	EPDM	10	150	10.3	110-223	110-223-B
PVDF	FKM	10	150	10.3	110-225	110-225-B
PVDF	PTFE	10	150	10.3	110-228	110-228-B

10 Cubic Inch Inlet Stabilizers with J-Style Control: Inlet 1/2" (female)

Wetted	Bladder	Volume (Inch ³)	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
CPVC	Buna-N	10	30	2	110-210-J	110-210-J-B
CPVC	Neoprene	10	30	2	110-212-J	110-212-J-B
CPVC	EPDM	10	30	2	110-213-J	110-213-J-B
CPVC	FKM	10	30	2	110-215-J	110-215-J-B
CPVC	PTFE	10	30	2	110-218-J	110-218-J-B

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12 Cubic Inch Dampeners: Inlet 1/2" (female)

Wetted	Bladder	Volume (Inch ³)	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
SST	Buna-N	12	4000	276	110-370	110-370-B
SST	EPDM	12	4000	276	110-373	110-373-B
SST	FKM	12	4000	276	110-375	110-375-B
SST	PTFE	12	2000	138	110-368	110-368-B

36 Cubic Inch Dampeners: Inlet 1/2" (female)

Wetted	Bladder	Volume (Inch ³)	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
SST	Buna-N	36	1000	69	110-660	110-660-B
SST	Neoprene	36	1000	69	110-662	110-662-B
SST	EPDM	36	1000	69	110-663	110-663-B
SST	FKM	36	1000	69	110-665	110-665-B
SST	PTFE	36	600	41.4	110-668	110-668-B
CS	Buna-N	36	1000	69	110-640	110-640-B
CS	Neoprene	36	1000	69	110-642	110-642-B
CS	EPDM	36	1000	69	110-643	110-643-B
CS	FKM	36	1000	69	110-645	110-645-B
CS	PTFE	36	600	41.4	110-648	110-648-B
Hastelloy C	Buna-N	36	1000	69	110-690	110-690-B
Hastelloy C	Neoprene	36	1000	69	110-692	110-692-B
Hastelloy C	EPDM	36	1000	69	110-693	110-693-B
Hastelloy C	FKM	36	1000	69	110-695	110-695-B
Hastelloy C	PTFE	36	600	41.4	110-698	110-698-B
Polypropylene	Buna-N	36	150	10.3	110-600	110-600-B
Polypropylene	Neoprene	36	150	10.3	110-602	110-602-B
Polypropylene	EPDM	36	150	10.3	110-603	110-603-B
Polypropylene	FKM	36	150	10.3	110-605	110-605-B
Polypropylene	PTFE	36	150	10.3	110-608	110-608-B
PVDF	Buna-N	36	150	10.3	110-620	110-620-B
PVDF	Neoprene	36	150	10.3	110-622	110-622-B
PVDF	EPDM	36	150	10.3	110-623	110-623-B
PVDF	FKM	36	150	10.3	110-625	110-625-B
PVDF	PTFE	36	150	10.3	110-628	110-628-B

85 Cubic Inch Dampeners with J-Style Control: Inlet 1" (female)

Wetted	Bladder	Volume (Inch ³)	Max Pressure		Part Number	
			psi	bar	NPT Ports	BSPT Ports
PVC	Buna-N	85	30	2	110-710-J	110-710-J-B
PVC	Neoprene	85	30	2	110-712-J	110-712-J-B
PVC	EPDM	85	30	2	110-713-J	110-713-J-B
PVC	FKM	85	30	2	110-715-J	110-715-J-B
PVC	PTFE	85	30	2	110-718-J	110-718-J-B

1155 Cubic Inch Dampeners (5 gallon): Inlet (ANSI flange) 3.0" 150 lbs.

Wetted	Bladder	Volume (Inch ³)	Max Pressure		Part Number
			psi	bar	
CS	Buna	1155	30	2	110-1155-B
CS	FKM	1155	30	2	110-1155-V