

CHEM PROLINE® PULSATION DAMPENER



FEATURES:

- Large inlet improves response
- Inlet screen protects bladder with minimal flow obstruction
- Dual seal channels protect against air and system leaks
- Top quality thermoplastics and elastomers resist chemical attack, protect system purity
- No wetted metal parts
- Up to 150psi working pressure (excluding pressure spikes)

DESCRIPTION:

PDS is available in a 10 cubic inch capacity with a 1" (32mm) Chem Proline® spigot process connection, with available reducers for a 3/4" (25mm) or 1/2" (20mm) spigot connection. Black HDPE body & connection are Chem Proline® material, using Borealis Borsafe HE3490-LS-H; inlet screen, dome top and clamp ring are Geon PVC. All models: bladder material is EPDM or FKM. Air inlet valve and gauge isolation valve (non-wetted) are brass. Fasteners are stainless steel. For other material or connection requirements, please consult factory.

PULSATION DAMPENER PART NUMBERS:

Size		Elastomer	Part Number
inch	mm		
1/2	20	FKM	582300005
1/2	20	EPDM	582310005
3/4	25	FKM	582300007
3/4	25	EPDM	582310007
1	32	FKM	582300010
1	32	EPDM	582310010

BENEFICIAL USES:

- Pulsation dampener smooths pump flow
- Surge suppressor absorbs shocks and vibrations
- Water hammer arrestor eliminates dangerous pressure spikes from quick closing valves
- Inlet stabilizer enhances pump performance and longevity
- Accumulator releases stored fluid during unwanted pressure drops
- Expansion tank protects system from thermal volume increases

HOW IT WORKS:

Pulsation Dampener and Surge Suppressor will steady a pulsing flow caused by diaphragm pumps, piston pumps, peristaltic pumps and other quick flow interrupting equipment. When used properly, quick pulsating flows will be greatly reduced preventing a number of flow control problems.

Pulsation dampening provides the added benefit of smoothing the output supplied by many types of pumps, especially double diaphragm pumps. The PDS will steady a vibrating pointer of a pressure gauge or flow meter under flowing conditions. This provides a steady, uninterrupted supply to points of use, which will greatly enhance system productivity, prolong pump life, and prevent splashing and foaming.

When Water Hammer Arrestor is used properly, water hammer will be greatly reduced and prevent pipe vibration and leaking connections, damage to valves and filters, ruptured tanks and other equipment damage, as per the Plumbing and Drainage Institute Standard PDI-WH 201.

Inlet Stabilizer ensures a continuous supply of liquid to the pump, reducing strain on the pump and greatly improving efficiency and eliminating cavitation.

Accumulator liquid and pressure can be held for unexpected power outages or other system failures, and then used to complete a cycle, retained for backflush during scheduled maintenance, or any other requirements when the regular process is off or interrupted.

Thermal Expansion Tank The PDS can be used as a simple expansion tank in many applications where anticipated expansion would be less than the stated capacity of the unit.

Important: Please note that Chem Proline® pulsation dampener is designed to operate as a pressurized vessel. Proper precaution should be taken to ensure safe installation and operation; read the installation instructions carefully prior to use. The unit should be charged with regulated compressed air or nitrogen only. Oxygen must

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HOW IT WORKS (CONT.)

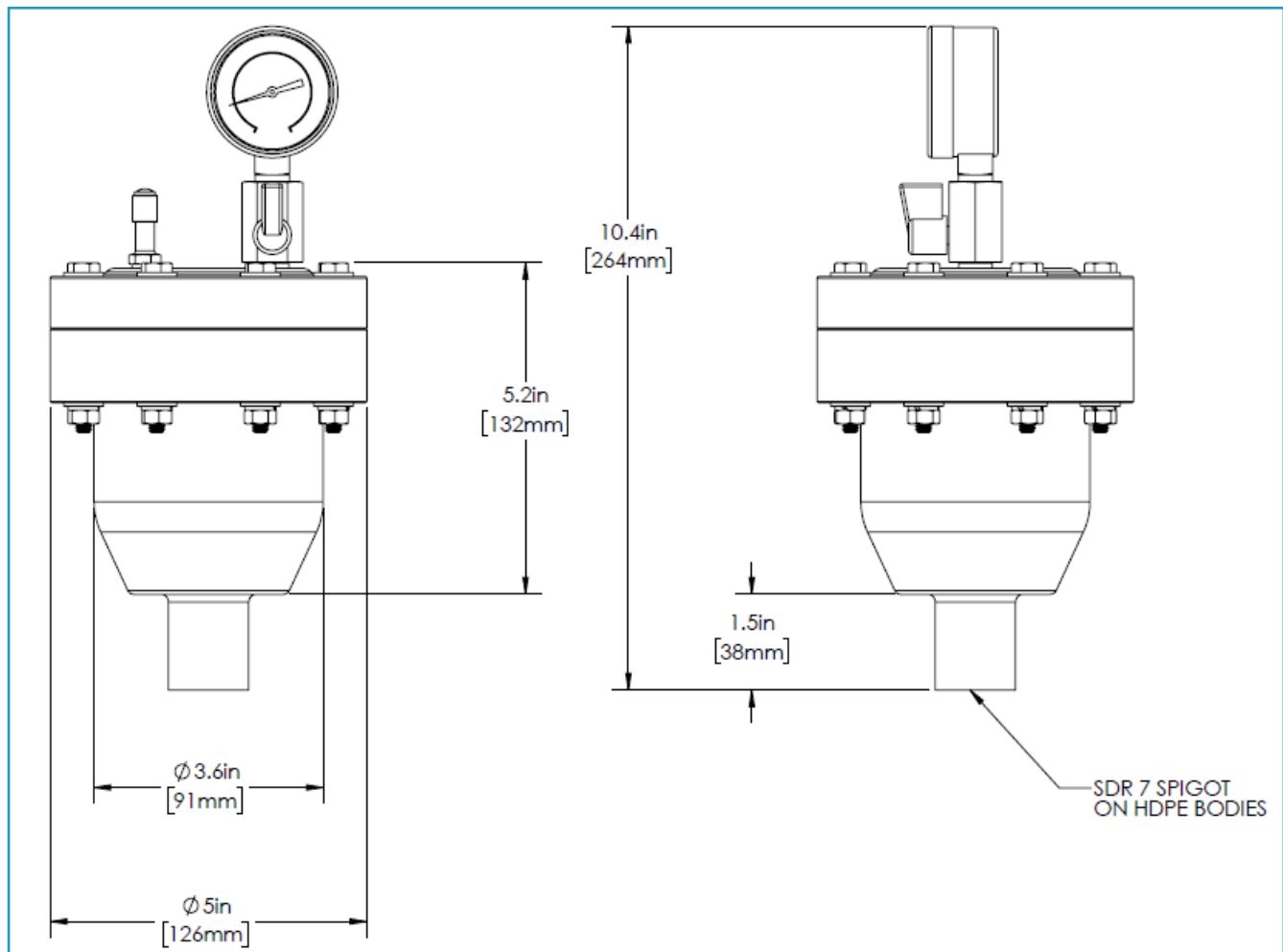
must not be used. The gauge isolation valve should be closed prior to opening the system connection valve. Failure to observe all precautions could result in system failure, leaks, explosion, property damage, personal injury and/or fatalities.

INSTALLATION NOTES:

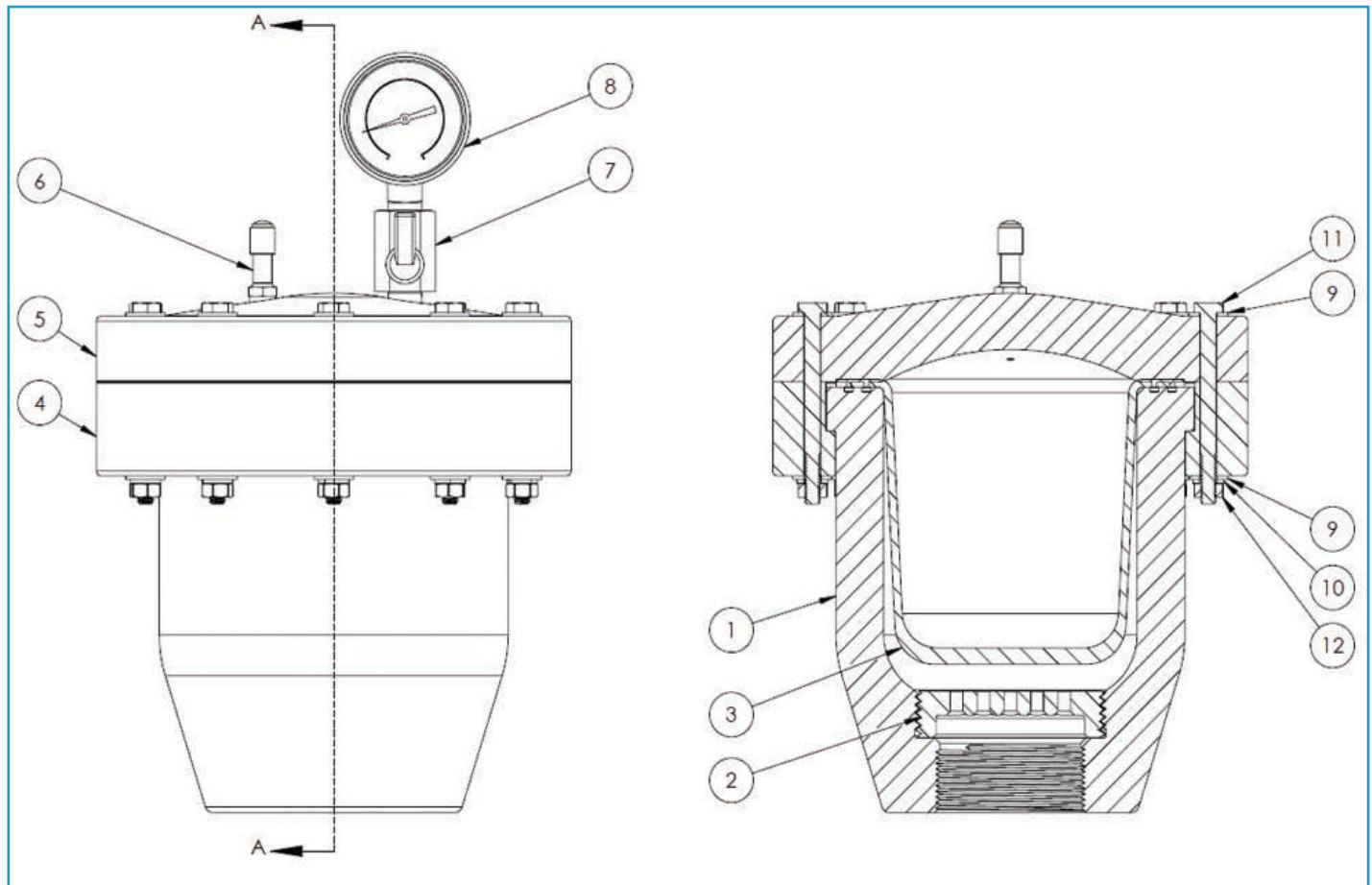
The sizing charts provided are general guidelines. If the dampening in a particular system is not sufficient, an additional or larger unit may be required to meet the requirements of a particular system. Pulsation dampeners have inlet ports larger than other competitors to transfer fluid and forces faster. This allows slightly smaller and lighter units to be used as opposed to larger and heavier ones.

In all cases, a blocking valve should be installed between the PDS unit and the piping tee; see instructions. Installation tee should be one pipe size larger than the system to facilitate pressure transfer, installed as close as possible to the application need.

DIMENSIONS:



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ITEM NO.	DESCRIPTION
1	BULB BODY
2	INLET SCREEN
3	BLADDER
4	CLAMP RING
5	DOMES TOP
6	AIR INLET VALVE, PDS
7	GAUGE ISOLATION VALVE, PDS
8	0-160 PSI PRESSURE GAUGE, LOWER MOUNT
9	STAINLESS FLAT WASHER
10	SS LOCKWASHER
11	SS CAP SCREW HEX HEAD
12	SS HEX NUT

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WATER HAMMER ARRESTOR SELECTION CHART

ALL FLOW RATES ARE FOR 5 FEET/SECOND

SCD. 80 PIPE DIA.	LENGTH OF PIPE (FEET)	FLOW RATE (GAL. / MIN.)	RECOMMENDED DAMPENER	
			60 PSI LINE PRESSURE	100 PSI LINE PRESSURE
1/4"	25	1.02	PDS010	PDS010
1/4"	50	1.02	PDS010	PDS010
1/4"	100	1.02	PDS010	PDS010
1/4"	200	1.02	PDS010	PDS010
3/8"	25	2.03	PDS010	PDS010
3/8"	50	2.03	PDS010	PDS010
3/8"	100	2.03	PDS010	PDS010
3/8"	200	2.03	PDS010	(2) PDS10
1/2"	25	3.41	PDS010	PDS010
1/2"	50	3.41	PDS010	PDS010
1/2"	100	3.41	PDS010	(2) PDS10
1/2"	200	3.41	PDS010	(2) PDS10
3/4"	25	6.42	PDS010	PDS010
3/4"	50	6.42	PDS010	(2) PDS10
3/4"	100	6.42	PDS010	(2) PDS10
3/4"	200	6.42	(2) PDS10	(2) PDS10
1"	25	10.7	PDS010	PDS010
1"	50	10.7	PDS010	(2) PDS10
1"	100	10.7	(2) PDS10	(2) PDS10
1"	200	10.7	(2) PDS10	(4) PDS10
1-1/2"	25	26.67	PDS010	(2) PDS10
1-1/2"	50	26.67	(2) PDS10	(2) PDS10
1-1/2"	100	26.67	(2) PDS10	(4) PDS10
1-1/2"	200	26.67	(4) PDS10	C.F.
2"	25	44.8	(2) PDS10	(2) PDS10
2"	50	44.8	(2) PDS10	(4) PDS10
2"	100	44.8	(4) PDS10	C.F.
2"	200	44.8	C.F.	C.F.

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PERISTALTIC PUMP

PIPE SIZE	(HOSE PUMP) GALLONS PER REVOLUTION	RECOMMENDED DAMPENER
1/4"	UP TO 0.010	PDS010
3/8"	UP TO 0.010	PDS010
1/2"	UP TO 0.010	PDS010
3/4"	UP TO 0.025	(2) PDS010
1"	UP TO 0.025	(2) PDS010
1-1/2"	UP TO 0.4	(4) PDS010
2"	UP TO 0.9	C.F.

AIR OPERATED DOUBLE DIAPHRAGM PUMP

PIPE SIZE	RECOMMENDED DAMPENER
1/4"	PDS010
3/8"	PDS010
1/2"	(2) PDS010
3/4"	(2) PDS010
1"	(2) PDS010
1-1/4"	(4) PDS010
1-1/2"	(4) PDS010
2"	C.F.

SINGLE ACTION PISTON METERING PUMP

PIPE SIZE	MINIMUM PUMP CYCLES PER MINUTE	MINIMUM REQUIRED BACK PRESSURE (PSI)	VOLUME PER STROKE (GALLONS)	RECOMMENDED DAMPENER
1/4"	40	27	0.03	PDS010
1/4"	40	35	0.037	PDS010
1/4"	30	30	0.024	PDS010
1/4"	20	20	0.062	(2) PDS010
1/4"	15	25	0.076	(2) PDS010
3/8"	40	25	0.075	(2) PDS010
3/8"	30	25	0.066	(2) PDS010
3/8"	20	30	0.086	(2) PDS010
1/2"	30	15	0.085	(2) PDS010
1/2"	30	12	0.09	(2) PDS010
1/2"	15	15	0.085	(2) PDS010
1/2"	6	8	0.085	(2) PDS010
3/4"	30	15	0.12	(2) PDS010
3/4"	30	12	0.2	(4) PDS010
3/4"	15	10	0.25	(4) PDS010
3/4"	6	15	0.32	(4) PDS010
1"	30	15	0.12	(2) PDS010
1"	15	10	0.25	(4) PDS010
1"	6	15	0.32	(4) PDS010
1-1/2"	24	15	0.19	(4) PDS010
1-1/2"	18	10	0.32	C.F.
1-1/2"	12	16	0.41	C.F.
2"	24	10	0.28	C.F.
2"	16	14	0.33	C.F.
2"	10	17	0.548	C.F.

NOTE THAT "MINIMUM PUMP CYCLES", "MINIMUM BACK PRESSURE", AND "VOLUME" RECOMMENDATIONS ARE FOR NEAR SMOOTH OUTLET FLOW CONDITIONS. AS A GENERAL RULE, THESE CHARTS WILL ELIMINATE APPROXIMATELY 75% OF TYPICAL PULSATIONS. FOR GREATER REDUCTIONS, USE THE FORMULA PROVIDED AT WWW.ASAHI-AMERICA.COM.

ALWAYS SET BLADDER PRELOAD PRESSURE AT 5 PSI LESS THAN LINE PRESSURE WHEN FLOWING.