

ACCU-PULSE Installation and Operation Instructions

Pump Discharge Installation: Chargeable Models

Step 1: Mounting Position

Mount ACCU-PULSE as close to the pump discharge as possible to absorb the pulse at its source. The pulsation dampener will optimally perform if mounted at the first 90 ° turn in the discharge piping. If using a flexible connector from the pump to your point of discharge, ACCU-PULSE should be hard piped to the pump discharge manifold, then continue with flexible tubing from dampener. Since pressure is equal in all directions, ACCU-PULSE can be installed in any position - vertically, horizontally, upside down. Hydramet does recommend a vertical position for better draining of the unit.

Limitations for horizontal and upside down mounting include high specific gravity, high viscosity, settling of heavy material or possible air entrapment.

Step 2: Air Line Connection

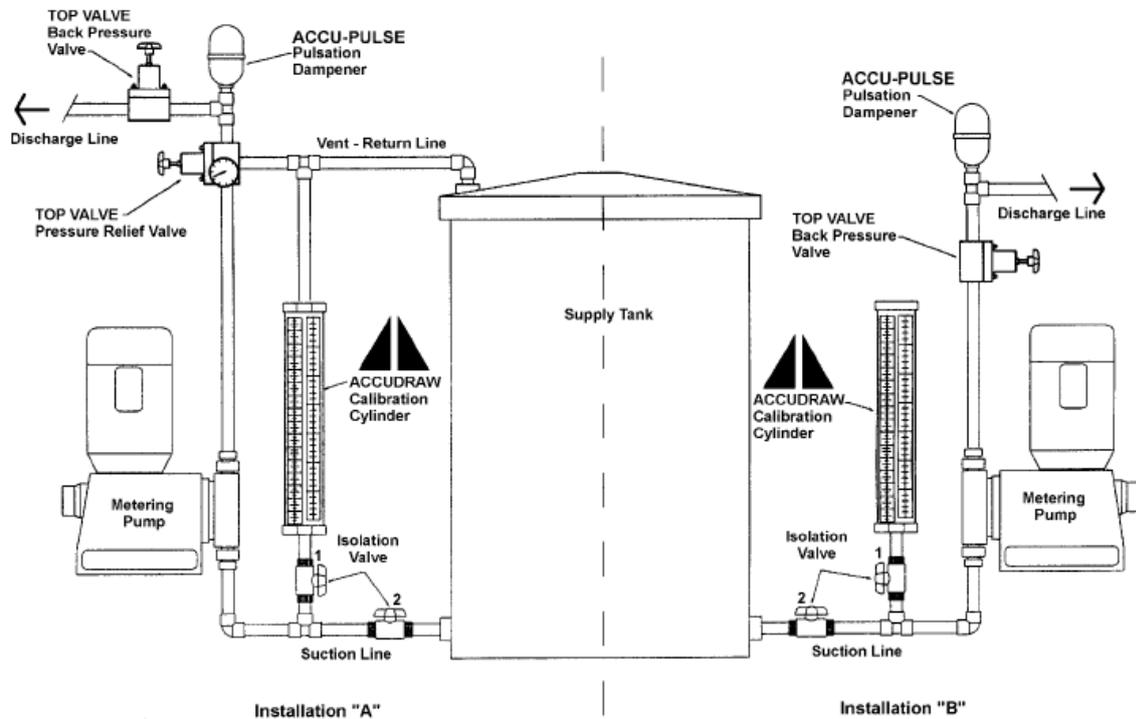
Chargeable models do not require an air line connection, the units must be charged with compressed air or nitrogen, using a hand pump, tank or compressor.

Step 3: Charging and Start Up

Prior to starting the pump, charge ACCU-PULSE with compressed air or nitrogen to approximately 70 to 85% of expected system pressure, to a maximum of 150 PSI for standard models; 300 PSI for metallic models. Start the pump to generate working or system pressure. Once working pressure is achieved, adjustment may be necessary; gradually increase or decrease the gas charge in the dampener by bleeding or filling through the gas valve. Allow the system to respond to each adjustment (this may take a minute or two) before continuing any further adjustments. Generally, pulsation is most effectively minimized when the gas charge is 80 to 85 % of system/pump discharge pressure. Pressure should be checked periodically. Recharge when necessary.

Typical Installations

The installations below are typical installation examples only. Consult your engineering department for the appropriate installation of your application or call the factory for advice.



ACCU-PULSE Safety Warnings

This dampener should only be installed and used by experienced and trained professional mechanics. Observe all safety warnings. Read all safety warnings and operating manuals before using or repairing this Pulsation Dampener (hereafter referred to as "dampener").

General Safety

This dampener is not intended to be used as a stand alone machine. EU member states must note: Do not use this dampener before it is combined into another machine or assembly that complies with all relevant EU safety directives and that the assembler's CE mark is affixed on completion.

The internal dampener pressure will equal the maximum fluid pressure of the system in which it is installed.

Do not exceed maximum pressure as stated on dampener tag. If tag is missing, do not use this dampener without consulting distributor or factory for maximum pressure rating.

Always make sure safety shut off valves, regulators, pressure relief valves, gauges etc. are working properly before starting system or assembly.

Always wear protective gloves, safety glasses, etc. when working on or near this dampener.

Before starting a system or assembly, make certain the discharge point of the piping system is clear and safe, and all persons have been warned to stand clear.

Always wear safety glasses when installing, charging or repairing this dampener.

Do not put your face or body near dampener when the system assembly is operating or dampener is pressurized.

Do not operate a dampener that is leaking, damaged, corroded or otherwise unable to contain internal fluid, air or gas pressure.

Do not pump incompatible fluids through the dampener. Consult your distributor or the factory if you are not sure of the compatibility of the fluids with the dampener materials.

Dampeners are designed to operate with compressed air or nitrogen. Other compressed gases have not been tested and may be unsafe to use in dampeners.

Bleed all pressure from system and dampener before removing equipment from the system.

Always shut off air supply, bleed internal dampener pressure and shut isolation valve before performing maintenance or repair on dampener.

Static spark can cause an explosion resulting in severe injury or death. Ground dampeners and pumping system when pumping flammable fluids.

Equipment Misuse Hazard

General Safety:

Any misuse of this equipment such as over pressurization, modifying parts, incompatible chemicals, using worn or damage parts or using gases other than air or nitrogen to charge dampener is not recommended. Any of these circumstances could result in serious bodily injury, death, fire, explosion or property damage.

Over-Pressurization:

Never exceed the maximum operating pressure recommended for the dampener model being used. Maximum operating pressure is stated on tag. Pressure limits are stated at 20°C / 70°F.

Temperature Limits

Do not exceed the recommended operating temperatures for the shell and elastomer materials, independently. Excessive temperature will result in dampener failure. Temperature limits are stated at zero psig / bar.

Installation and Start Up Hazards:

Install dampener before charging or pressurizing. Do not start system or assembly without first charging or pressurizing dampener. Failure to charge may result in damage to the elastomeric bladder.

Temperature & Pressure Hazard:

Temperature and pressure reduce the strength and chemical resistance of plastic, metal and rubber.

Charging / Pressurization:

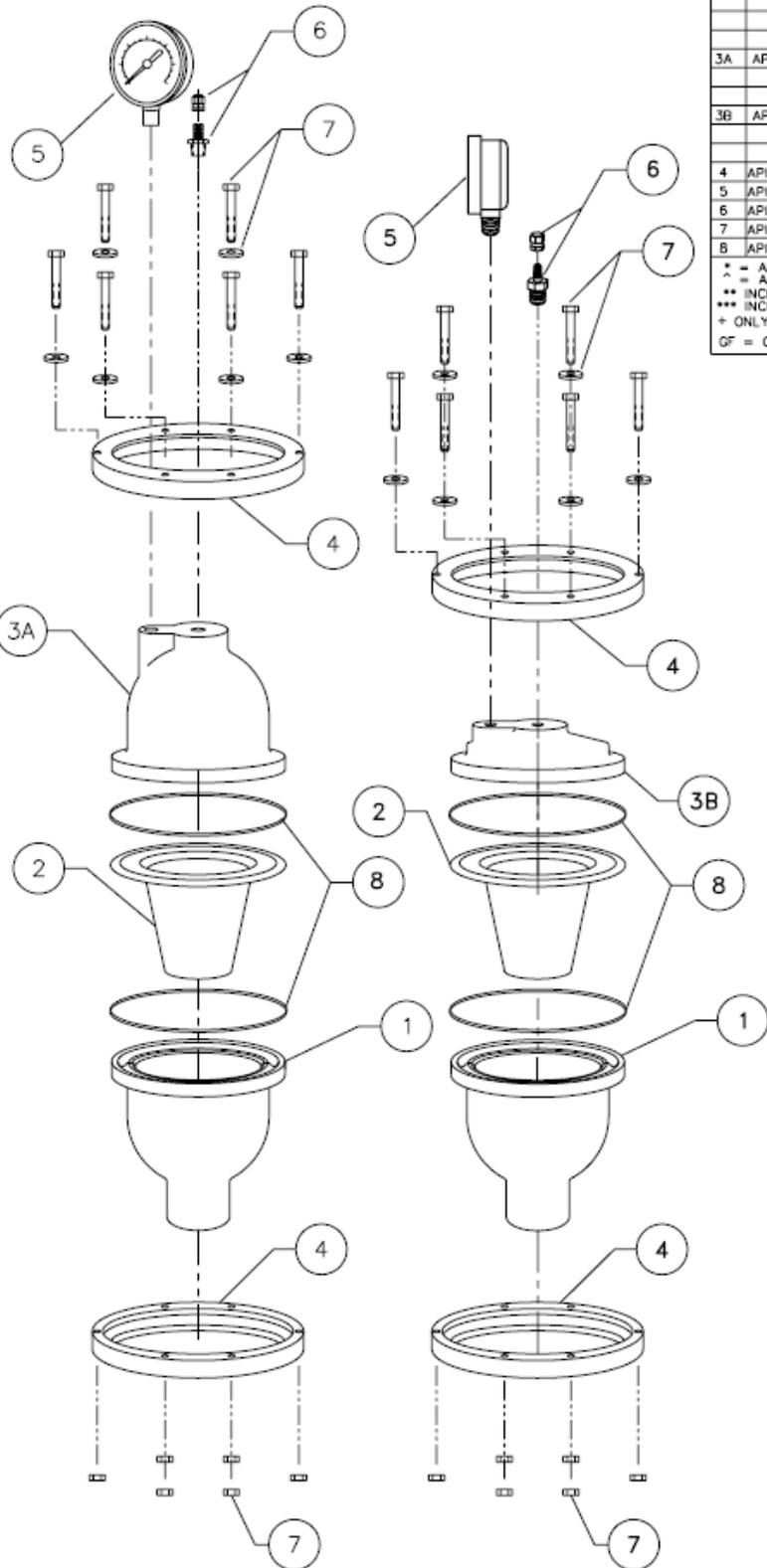
Charge or pressurize the dampener with compressed air or nitrogen only. **Do NOT use oxygen.**

Dampener Bladder Failure:

Dampeners utilize an elastomeric membrane to separate system fluid from the air supply or gas charge. When this membrane ruptures, system fluid may be expelled from the air valve. Always perform preventive maintenance and replace elastomers before excessive wear occurs.

Maintenance Hazards:

Never over-tighten clamp bands. This may cause leakage of system fluid and damage to dampener shell.



ITEM	MODEL	PART#	DESCRIPTION	MATERIAL
1	APII/APIIF	311-27*^	WETTED HOUSING	PVC
		301-27*^	WETTED HOUSING	GF POLYPROPYLENE
		401-27*^	WETTED HOUSING	PVDF
2	APII/APIIF	301-25	BLADDER	NEOPRENE
		401-28	BLADDER	EPDM
		401-29	BLADDER	BUNA-N
		401-30	BLADDER	HYPALON
		401-25	BLADDER	VITON
		301-55	BLADDER	AFLAS
3A	APII	311-24	NONWETTED HOUSING	PVC
		301-24	NONWETTED HOUSING	GF POLYPROPYLENE
		301-24	NONWETTED HOUSING	GF POLYPROPYLENE
3B	APIIF	311-33	NONWETTED HOUSING	PVC
		301-33	NONWETTED HOUSING	GF POLYPROPYLENE
		301-33	NONWETTED HOUSING	GF POLYPROPYLENE
4	APII/APIIF	103-51***	RING BAND ASSEMBLY	GF NORYL
5	APII/APIIF	101-33	GAUGE	PLASTIC/BRASS
6	APII/APIIF	101-70	FILL VALVE	BRASS
7	APII/APIIF	103-51H	FASTENER ASSEMBLY	STAINLESS STEEL
8	APII/APIIF	301-G†	O'RING ASSY	TFE ENCAPSULATED VITON

* = ADD SUFFIX -3 FOR OPTIONAL 1" CONNECTIONS
 ^ = ADD SUFFIX T FOR OPTIONAL WETTED HOUSING WITH TEFLON BLADDERS
 ** INCLUDES ITEM 8
 *** INCLUDES ITEM 7
 † ONLY USED WITH TEFLON BLADDERS
 GF = GLASS FILLED

DO NOT COPY WITHOUT PRIOR WRITTEN APPROVAL FROM PRIMARY FLUID SYSTEMS. ACCEPTABILITY OF SPECIFICATIONS ARE THE CLIENT'S RESPONSIBILITY.

ACCUPULSE PULSATION DAMPENER - APII/APIIF Series
THERMOPLASTIC EXPLODED PARTS VIEW

SCALE	NTS	DISC	DRAWN BY	BRB
DATE	04 02 18	APPROVED	DWG NO.	REV.#
PROJECT			APII/APIIF-PLASTIC-Exploded	0