

PULSATION DAMPENERS



Protect Pumping Systems from Vibrations and Pressure Fluctuations

A Pulsation Dampener is an accumulator with a set pre-charge of nitrogen that absorbs system pressure shocks and minimises pulsations, pipe vibration, water hammering and pressure fluctuations. By minimising pulsation in the system, components such as pumps, regulators, solenoids, sensors, etc., will see decreased wear and experience longer life. Pulsation dampeners are fitted directly onto the discharge manifold or plumbed immediately downstream of the pump.

Cat Pumps offers a wide assortment of pulsation dampeners to meet the demands of any application. The bladders are pre-charged with clean, dry nitrogen to eliminate moisture and extend the life of the pulsation dampener.

Typical Usage:

Used when a smooth output flow and pressure is required.

Benefits:

- Pressurised bladder absorbs impact from pressure spikes, providing smooth flow.
- Protects downstream components (e.g., regulator, unloader, relief valve).
- Reduces water hammer.
- Improved performance at low pump RPM.

Product Range:

- Flow Rate: 45–265 L/min
- Pressure: 100–500* bar

Available Materials:

- Outer Housing
 - Carbon Steel
 - 316 Stainless Steel
- Bladders
 - Medium Nitrile (NBR)
 - Fluorocarbon (FPM)

* For higher pressures a repairable type is available, please consult Cat Pumps (U.K.) Ltd.

Specifications

MODEL	MAX FLOW RATE LPM	MAX PRESSURE BAR	MAX OPERATING TEMP °C	VOLUME LITERS	BLADDER MATERIAL	PORT INLET
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CARBON STEEL

1621A	45	210	80	0.16	NBR	½" NPT (M)
703400	45	210	80	0.16	NBR	¾" NPT (M)

STAINLESS STEEL WETTED PARTS WITH EPOXY COATED CARBON STEEL GAS REGION

1621S200	45	200	80	0.16	NBR	½" NPT (M)
703404	45	200	80	0.16	NBR	¾" NPT (M)
703402	45	200	80	0.16	NBR	¾" NPT (M)
703414	150	200	80	0.72	NBR	1" NPT (M)
20100	265	100	80	2	NBR	1 ¼" NPT (M)

STAINLESS STEEL WETTED PARTS AND GAS REGION

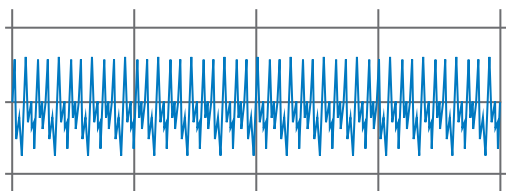
703407	45	180	80	0.16	NBR	¾" NPT (M)
1621SS180	45	180	80	0.16	NBR	½" NPT (M)
703408	45	180	80	0.16	FPM	½" NPT (M)
35120SS	60	160	80	0.32	NBR	½" NPT (M)
704740	60	160	80	0.32	NBR	¾" NPT (M)
7210SS	150	140	80	0.72	NBR	1" NPT (M)
7210SS.01	150	140	80	0.72	FPM	1" NPT (M)
20100SS	265	100	80	2	NBR	1 ¼" NPT (M)

NBR = Nitrile Rubber, FPM = Fluorocarbon, 316 Stainless Steel = DIN EN 1.4751, Carbon Steel = DIN EN 1.0976

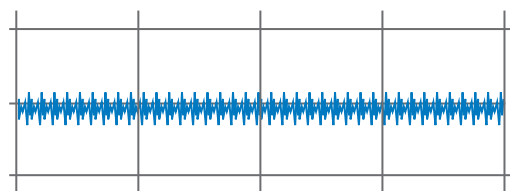
TECH TIP

Due to the design of positive displacement pumps, small pressure spikes are caused during each rotation. In certain operations, these spikes can cause accelerated wear or damage to the pump or downstream components. The installation of a pulsation dampener is the best practice to reduce pressure fluctuations.

Pump without Pulsation Dampener



Pump with Pulsation Dampener



NOTE: Fluctuation comparison shown is an illustrative representation. Actual results will vary based on model and application.

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