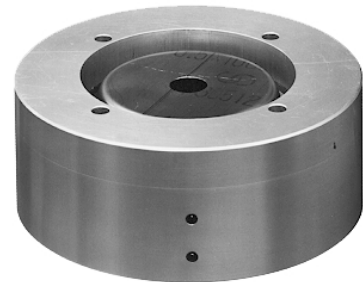


Z200/...

Damping Device for Magnetic Valves



Description The damping device is used to increase the closing time of magnetic valves. Closing time depends on valve type.

Product Numbers

Table 1.

Product Number	Damping				Data Sheet
	Z200/25	Z200/32	Z200/50	Z200/100	
M2H...FY...N	—	1/2 – 1"	1-1/4 – 1-1/2	2"	CA1N4348E-P25
M3B...GY *	—	1/2 – 1"	1-1/4 – 2"	—	CA1N4459E-P25
M3K...FX...N *	—	1/2 – 1"	1-1/4 – 2"	—	—
M3P...FY *	—	—	—	3 – 4"	CA1N4454E-P25

* when used as a straight-through valve

Ordering

When placing an order, specify quantity, product number and description.

Technical Design

The closing time depends on the valve type and are given in the relevant magnetic valves data sheets.

Closing time

Application for damping

The damping device is necessary on straight-through valves for water and other liquids if:

A. $p_0 + (0.8 \cdot L_1 \cdot \sqrt{\Delta p_v}) \geq p_s$

B. $p_0 - \Delta p_v + 1 - (0.8 \cdot L_2 \cdot \sqrt{\Delta p_v}) \leq p_{\min}$

C. $\Delta p_v + (0.8 \cdot [L_1 + L_2] \cdot \sqrt{\Delta p_v}) \leq p_d$

**Technical Design,
 cont'd.**

- p_0 = Working pressure [bar]
- p_s = Admissible pressure [bar]
- p_d = Construction pressure [bar]
- p_{min} = Pressure [bar] corresponding to the pressure/temperature curve for saturated water vapor and the evaporation curves for other media
- Δp_v = Pressure differential across valve [bar]
- L_1, L_2 = Pipe length [m] upstream and downstream of valves depending on whether the valve is installed upstream or downstream of exchanger.

In principle, damping is not necessary for :

- Valves for gaseous media (steam)
- Valves with a three-way function

P_d – Maximum admissible construction pressure [bar]

Valve ranges	Line Size (in Inches)								
	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4
M3P...FY	—	—	—	—	—	—	—	10	10
Others	15.6	14	12.5	12.5	12.5	12.5	—	—	—

- The calculations are approximations and are based on the least favorable layout conditions.
- They apply providing the valve size corresponds with pipe size and the maximum density of the medium does not exceed 0.04 lb/in³.
- If the pipes are one size larger than the valve, L_1 or L_2 should be multiplied by the factor 0.6.

Installation

Installation instructions are enclosed with the Z200/... damping devices.

Application Examples

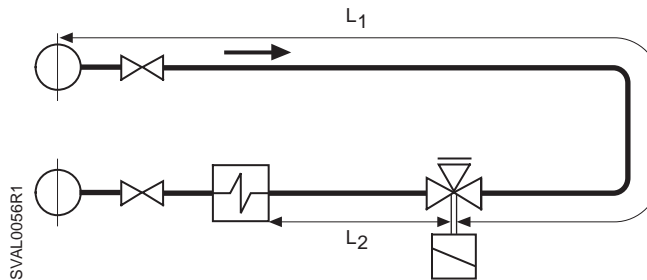


Figure 1. Valve Upstream of Exchanger.

**Application
 Examples, cont'd.**

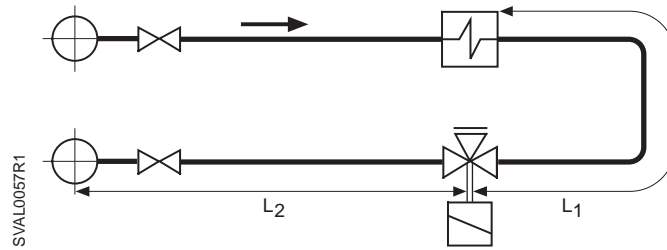


Figure 2. Valve Downstream of Exchanger.

Dimensions

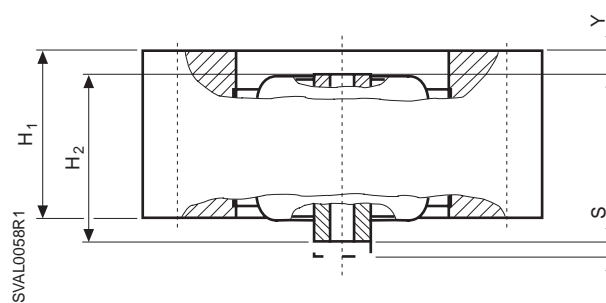


Figure 3.. Dimensions in Inches.

Damping Type	Overall Height H ₁ [in]	Spindle Length H ₂ [in]	Adjustment Range Y [in]	Stroke S [in]
Z200/100	1.97	1.97	0.48	0.28

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