

Neles™ Attenuator for noise reduction of gas and steam flow

A-plate™

The noise created by throttling gas or steam can be effectively reduced by mounting a Neles A-Plate attenuator downstream of the control valve. The A-Plate is a fixed restriction which divides the pressure drop between the valve and the plate to minimize the noise generated.

Noise attenuation is achieved by the specific hole geometry of the attenuator plate, which is the result of intensive computational and experimental studies.

When used in conjunction with patented Q-Trim™, an attenuation of up to 25 dBA can be achieved.



Benefits

- Improved attenuation through unique hole geometry.
- Compact design.
- Rigid, solid construction, no separate parts to break out.
- Large hole diameter compared to conventional low noise devices.
- Minimal pipe changes required when mounting into existing systems.
- Accurate prediction of flow and noise conditions through Neles Nelprof™ program.

Flow coefficients

Plate size * DN/Inch	C _v	Plate size * DN/Inch	C _v
25/1"	7	250/10"	700
40/1.5"	18	300/12"	1120
50/2"	31	350/14"	1520
65/2.5"	48	400/16"	1990
80/3"	70	450/18"	2520
100/4"	124	500/20"	3110
125/5"	194	600/24"	4480
150/6"	280	700/28"	6100
200/8"	498	800/32"	7960

* Larger sizes available on request.

General data

Connections	Option 1 threaded directly into a Finetrol™ or Top5™ valve body. Option 2 wafer style. Can be mounted between flanges.
Flow direction	Flow and noise calculations valid for flow direction indicated by arrow.
Materials	Stainless steel / Carbon steel
Pressure/temperature rating	ASME 150, 300, 600 PN 10 ... 100
Smallest hole size	5 mm (0.2 inch)

Dimensions

Plate size	Pressure ratings	Face-to-face dimensions in mm
DN 25 / 01"	ASME 300-600, PN10-40, JIS10K 20K	15
DN 40 / 1.5"	ASME 150-600, PN10-40	15
DN 50 / 02"	ASME 300-600, PN10-40, JIS30K	15
DN 80 / 03"	ASME 300-600, PN10-40, JIS30K	15
DN 100 / 04"	ASME 300	20
DN 100 / 04"	ASME 150, PN25-40, JIS30K	20
DN 125 / 05"	ASME 150	25
DN 150 / 06"	PN10-16, JIS10K	25
DN 150 / 06"	ASME 300, JIS30K	25
DN 150 / 06"	ASME 150, PN25-40	20
DN 200 / 08"	PN25, JIS16K-20K	28
DN 200 / 08"	ASME 150, PN10-16	28
DN 200 / 08"	ASME 300	28
DN 200 / 08"	ASME 600	28
DN 250 / 10"	PN10-16	30
DN 250 / 10"	ASME150, PN25	30
DN 300 / 12"	ASME 150, PN25, JIS16K-20K	30
DN 300 / 12"	ASME 300, PN40, JIS30K	30
DN 350 / 14"	ASME 150, PN16, JIS16K-20K	35
DN 400 / 16"	PN10-16	28
DN 400 / 16"	PN16	28
DN 400 / 16"	ASME 150, PN25	40
DN 400 / 16"	ASME 300	40
DN 450 / 18"	ASME 150	50
DN 500 / 20"	PN10	50
DN 500 / 20"	ASME 150	50
DN 600 / 24"	ASME 150	60
DN 700 / 28"	PN10-16	42
DN 800 / 32"	ASME 300	100

Sizing and noise prediction

Control valve sizing and noise prediction are made easy with the Neles Nelprof software tool. Simply enter the flow data into the program and Nelprof will calculate the optimum valve and A-plate size as well as the estimated noise level.

The "Flow Control Manual" and "Control Valve Sizing Coefficients" are also available within the software. These two books in electronic form provide details on control valve sizing, flow calculations and valves in Nelprof.

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Valmet Flow Control Oy

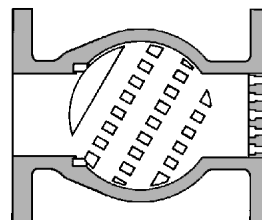
Vanha Porvoontie 229, 01380 Vantaa, Finland.

Tel. +358 10 417 5000.

www.valmet.com/flowcontrol

Mountings

Option 1. Into the valve body



The A-plate can be mounted directly into the body of a control valve.

Option 2. Between flanges

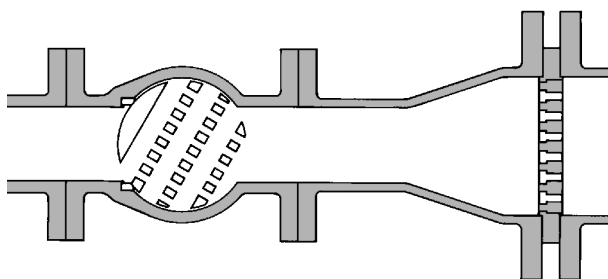


Plate can be installed between valve outlet and pipe flange or between flanges at inlet or outlet of an expander. Typical installation at expander outlet is shown above.

Note:

- (1) The plate can be installed directly between valve outlet and pipe flange for all valve types except butterfly and segment valves.
- (2) The distance between plate and valve outlet should be one to six times valve nominal diameter when plate is used with butterfly or segment valve.
- (3) The distance between two plates in series should be two to six times plate nominal diameter.

How to order

Option 1.

Into the valve body

See Bulletin 1T520 for Top5 valves.

Option 2.

Between flanges

Simply order an "A-Plate" and specify the size and flange connection.