

Neles™ attenuator plate for noise reduction of gas and steam flow

Q2-Plate™

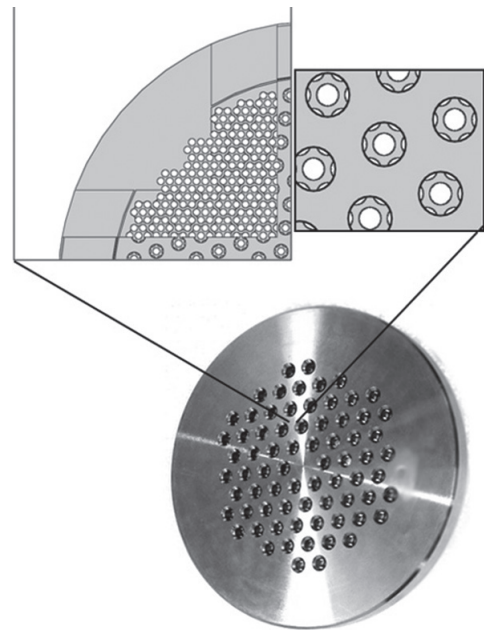
The noise created by throttling gas or steam can be effectively reduced by mounting a Neles Q2-Plate attenuator downstream of the control valve.

The Q2-Plate is a fixed resistor 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 Q2-Plate. Q2-Plate is the new generation noise attenuation solution with new level of performance.

Benefits

- Improved noise attenuation through unique hole geometry.
- Compact design and short face to face length.
- One piece solid pressure boundary.
- Large hole diameter compared to conventional low noise devices.
- Minimal pipe changes required when mounting into existing systems.
- Q2- plate is available with three different C_v option per nominal size.
- Accurate prediction of flow and noise conditions through Neles Nelprof™ program.



Capacity Cv

DN/Inch	C_v high	C_v medium	C_v low
50 / 2"	42	31	22
80 / 3"	78	59	40
100 / 4"	149	114	78
150 / 6"	334	253	172
200 / 8"	628	478	331
250 / 10"	1022	764	515
300 / 12"	1464	1099	733
350 / 14"	1876	1430	962
400 / 16"	2476	1856	1253
450 / 18"	3151	2387	1620
500 / 20"	3829	2899	1973
600 / 24"	5753	4336	2959
700 / 28"	7976	6005	4096
750 / 30"	9641	6572	4369
800 / 32"	10905	7417	4947
900 / 36"	13108	10196	6139

Q2- Plate is available with three different capacity options

General data

Connections	Wafer style body. Can be mounted between flanges.
Flow direction	Flow and noise calculations valid for flow direction indicated by arrow.
Materials	Stainless steel
Pressure/temperature rating	ASME 150, 300, 600 PN 10 ... 100, JIS 10K - 30K

Dimensions

Plate size	Pressure ratings	Face-to-face dimensions in mm
DN 50 / 02"	ASME 300-600, PN10-40, JIS30K	17
DN 80 / 03"	ASME 300-600, PN10-40, JIS30K	17
DN 100 / 04"	ASME 150 & 300, PN25-40, JIS30K	22
DN 100 / 04"	ASME 600	26
DN 150 / 06"	ASME 150 & 300, PN10-16, JIS10K	27
DN 150 / 06"	ASME 600, PN25-40	32
DN 200 / 08"	ASME 150 & 300, PN10-40, JIS10K-20K	32
DN 200 / 08"	ASME 600	48
DN 250 / 10 "	ASME 150 & 300, PN10-25, JIS10K	32
DN 250 / 10 "	ASME 600	55
DN 300 / 12"	ASME 150 & 300, PN16-40, JIS16K-20K	37
DN 300 / 12"	ASME 600	60
DN 350 / 14"	ASME 150, PN16, JIS16K-20K	40
DN 350 / 14"	ASME 300	50
DN 350 / 14"	ASME 600	66
DN 400 / 16"	PN10-16	33
DN 400 / 16"	ASME 150, PN25	40
DN 400 / 16"	ASME 300	44
DN 400 / 16"	ASME 600	74
DN 450 / 18"	ASME 150	50
DN 500 / 20"	ASME 150	54
DN 500 / 16"	ASME 600	68
DN 600 / 24"	ASME 150	62
DN 600 / 24"	ASME 300	78
DN 700 / 28"	ASME 150	68
DN 700 / 28"	ASME 300	92
DN 800 / 32"	ASME 150	76
DN 900 / 36"	ASME 150	87

Mounting

Option. Between flanges

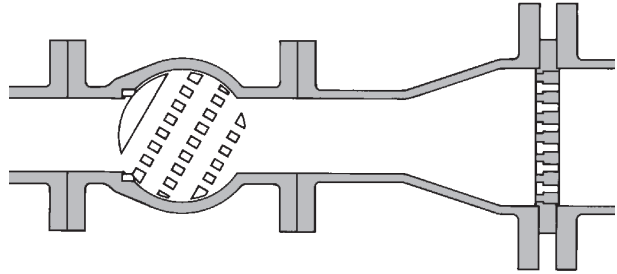


Plate can be installed between valve outlet and pipe flange or between flanges at inlet or outlet of an expander. Typical installation at expander outlet is shown above.

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.

Sizing and noise prediction

Control valve sizing and noise prediction are made easy with the Neles Nelprof™ program software tool. Simply enter the flow data into the program and Nelprof will calculate the optimum valve and Q2-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.

How to order

Example: The following example is for a Q2 plate, with ASME Class 150, 6-inch size, ASTM A351 gr CF8M material, low capacity, version A.

1	2	3	4	5	6	7
Q2	G	C	06	A	L	A

1. Sign	Plate type
Q2	Q2-plate

2. Sign	Application
G	Gas

3. Sign	Pressure class*
C	ASME class 150
D	ASME class 300
F	ASME class 600

4. Sign	Size
	2IN to 36IN

5. Sign	Material
A	ASTM A351 gr CF8M

6. Sign	Cv**
L	Low Cv
M	Med Cv
H	High Cv

7. Sign	Version
A	A

* PN Pressure class also available.

**Capacity must be verified using Nelprof's result.

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