VSC-N – through wall valve circular







Туре	D	Α	в	С	Е
	[mm]	[mm]	[mm]	[mm]	[mm]
VSC-N 100	100	202	25	50	92
VSC-N 125	125	252	25	50	110
VSC-N 160	160	302	25	50	138

Technical parameters

The VSC-N is a circular through-wall valve, designed to be installed directly on the wall. VSC-N consists of two circular face panels with sound insulation, which are mounted on both sides of the wall. This solution provides an excellent sound attenuation value. The panels can be connected by a perforated wall element, which is not included and must be ordered separately.

- · neutral design
- · front panels with silencers

Maintenance

The face panels can be removed to allow cleaning of the valve internals. The visible parts of the valve can be cleaned in the normal way (with a duster).

Materials and surfaces

Installation brackets - galvanised steel Front panels - galvanised steel Standard finish - powder coated Standard colour - RAL 9010

Example of order execution

wall valve

type size



Additional illustration



schematic sketch of the ventilation of a flat in residential construction using supply and passage elements

Example of calculation

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If through-wall valves are sized, it is necessary to determine the drop in sound insulation properties of the wall. For this calculation, the wall area must be known, as well as the sound insulation value R. The drop in sound insulation is a function of the value of Dn,e of the valve. Dn,e is the R-value appropriate to the valve and is determined for a transmission area of 10 m2 in accordance with ISO 140-10. The Dn,e value can be recalculated for other transmission areas using the table below.

Area [m ²]	10	2	1
Correction [dB]	0	-7	-10

The diagram below shows the decrease in the value of the wall impermeability when using through-wall valves in the specified octave bands.

Flow

The flow rate q (I/s) and (m³/h), the total pressure drop Pt [Pa] and the noise level $L_{\rm we}$ [dB(A)] are determined for valves on both sides of the wall.



VSC-N is a pass-through element suitable for central ventilation systems with CRxB-N fans or for decentral systems equipped with e.g. SILENT ECO fans

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Characteristics



For a rough estimate it is possible for calculus. use directly the ${\sf R}_{\sf w}$ value of the wall

51 dB		
43 dB	$R_w - D_{n,e} = 8 dB$	
20 m ²		
1	20 m ² / 1 = 20 m ²	
Resulting reduction R _w (walls):		
R _{res} value for wall with valve		
	51 dB 43 dB 20 m ² 1 R _w (walls): ith valve	

Normalized difference in D_{n,e} levels



The calculation can also be done using a general formula:

$$R_{res} = 10 \text{ x Log } \left(\frac{S}{(10 \text{ m}^2 \text{ x } 10^{-0.1 \times D_{os}}) + (S \text{ x } 10^{-0.1 \times R_o})} \right)$$

Where it is:

 $\mathbf{R}_{\mbox{\tiny res}}$ — the resulting reduced value for the wall with the valve

S – wall area

 $D_{n,e} - D_{n,e}$ value of the valve

R_w - R-value of the wall without valve

Туре	D _{n,e,w}				
	porous wall with 120 mm insulation	porous wall with 35–70 mm insulation	solid wall without insulation		
VSC-N 100	43	42	35		
VSC-N 125	43	41	34		
VSC-N 160	42	40	35		

D_{new} - weighted normalised difference of levels

Perforated wall element VSCZ





valve installation into the wall



installation of the valve in the wall using a perforated VSCZ wall element

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