Pressure control valve OLR

Description

OLR is a rectangular pressure control valve for installation directly onto a wall. OLR consists of two sound-attenuating baffles, which are mounted either side of the wall and connected by means of the accompanying perforated wall sleeve, which ensures excellent noise reduction.

- High capacity
- Sound-attenuating baffles
- Can be installed in wall thicknesses from 90-170 mm

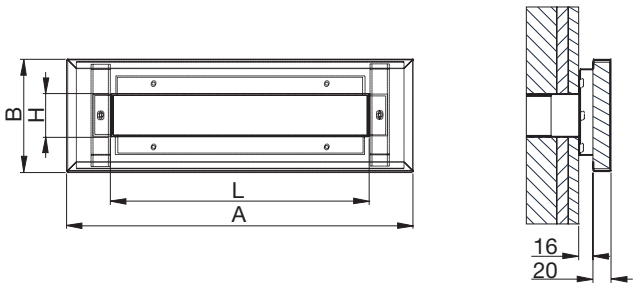
Maintenance

Front plate can be removed to enable cleaning of internal parts. The visible parts of the diffuser can be wiped with a damp cloth.

Order code

Product	OLR	aaa	A
Type			
Size			
Version			

Dimensions



Size	A mm	B mm	L mm	H mm
400	400	130	300	50
600	600	130	500	50
800	800	130	700	50
1000	1000	130	900	50

Hole dimension = L + 5 mm x H + 5 mm

Materials and finish

Installation bracket:	Galvanised steel
Front plate:	Galvanised steel
Standard finish:	Powder-coated
Standard colour:	RAL 9010, Gloss 30

The diffuser is available in other colours. Please contact Lindab's sales department for further information.

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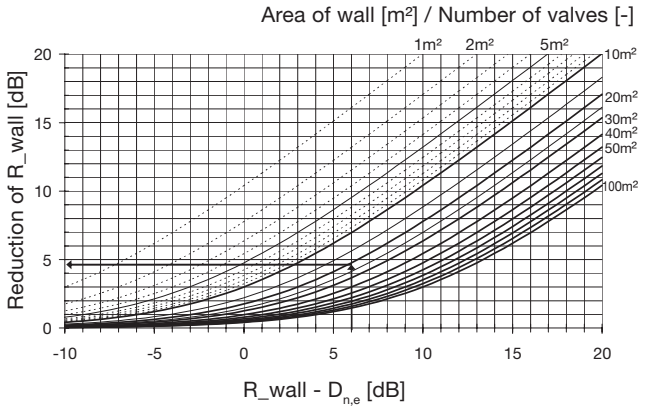
Technical data

Sample calculation

When dimensioning an overflow diffuser, calculate the decrease in the wall's noise-reducing properties. For these calculations, the area of the wall and sound reduction figure R must be known. This is adjusted in relation to the diffuser's $D_{n,e}$ value. $D_{n,e}$ is the diffuser's R value given at a transmission area of 10 m^2, as specified in ISO 140-10. The $D_{n,e}$ value can be converted into the R value for other transmission areas using the table below.

area [m^2]	10	2	1
correction [dB]	0	-7	-10

The diagram below indicates the decrease in the wall's reduction figure, based on the diffuser, in a given octave band:



As a rough estimate the calculation can be performed directly using the wall's R_w value.

Example:

R_w (wall)	50 dB	
$D_{n,e,w}$ (diffuser)	44 dB	$R_w - D_{n,e,w}$ = 6 dB
Area of wall	20 m^2	
Number of diffusers 1		20 m^2/1 = 20 m^2

Indicated reduction of R_w (wall):	5
R_w value for wall with diffuser	~50-5 = 45 dB

The calculation can also be performed using the following formula:

$$R_{res} = 10 \cdot \mathrm{Log} \frac{S_{wall}}{(10m^2 \cdot 10^{-0,1 \cdot D_{n,e}}) + (S_{wall} \cdot 10^{-0,1 \cdot R_{wall}})}$$

where:

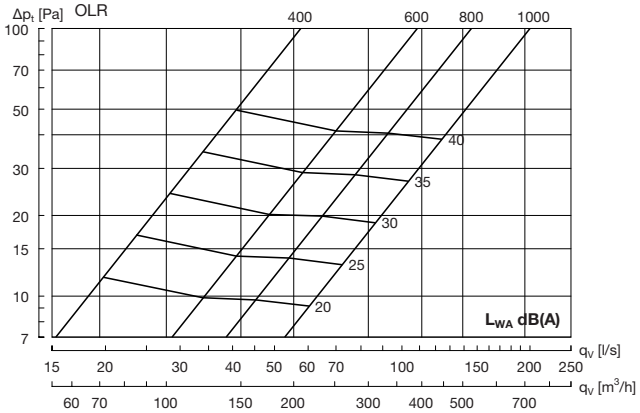
- R_{res} is the resulting reduction figure for wall and diffuser.
- S is wall area.
- $D_{n,e}$ is the diffuser's $D_{n,e}$ value.
- R_{wall} is the wall's R value without diffuser.

Technical data

Capacity

Volume flow q_v [l/s] and [m^3/h], total pressure drop Δp_t [Pa] and sound effect level L_{WA} [dB(A)] are specified for a diffuser on either side of the wall.

Dimensioning diagram



Element-normalised reduction figure $D_{n,e}$

Table 1: Cavity wall with 120 mm insulation.

	Centre frequency Hz					
Size	**125**	**250**	**500**	**1K**	**2K**	**Dn,e,w**
400	*31	37	41	46	55	46
600	*29	35	38	43	52	43
800	*28	34	37	42	51	42
1000	*26	33	36	41	50	41

Table 2: Cavity wall with 35-70 mm insulation.

	Centre frequency Hz					
Size	**125**	**250**	**500**	**1K**	**2K**	**Dn,e,w**
400	*31	37	39	42	52	44
600	*29	35	37	40	49	42
800	*28	34	35	39	48	40
1000	*26	33	34	38	47	39

Table 3: Positioning over a frame in a cavity wall with 70 mm insulation.

	Centre frequency Hz					
Size	**125**	**250**	**500**	**1K**	**2K**	**Dn,e,w**
400	*31	37	36	41	52	42
600	*29	35	33	39	49	39
800	*28	34	32	38	48	38
1000	*26	33	31	37	47	37

Table 4: Solid wall without insulation.

	Centre frequency Hz					
Size	**125**	**250**	**500**	**1K**	**2K**	**Dn,e,w**
400	*31	37	32	37	45	38
600	*29	35	30	35	43	36
800	*28	34	28	33	42	34
1000	*26	33	27	32	41	33

* minimum values