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

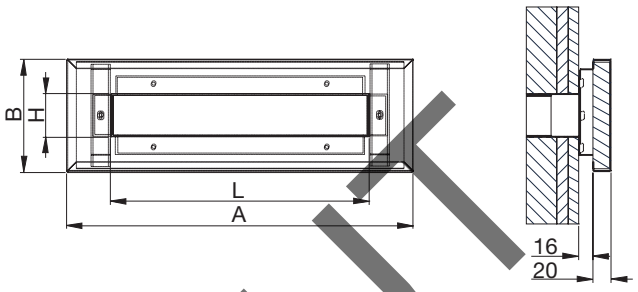
Maintenance

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 or 9003, Gloss 30

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

Pressure control valve OLR

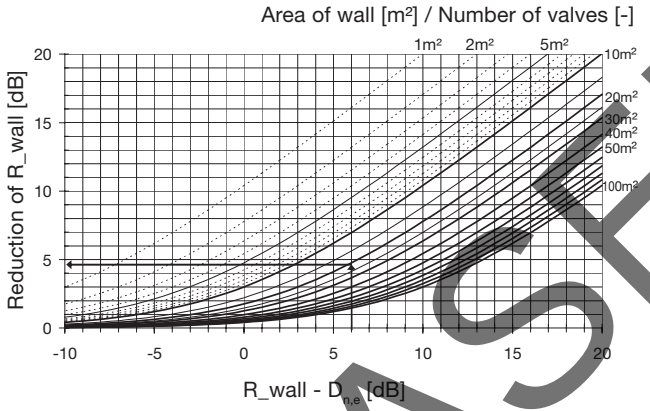
Technical data

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	1pcs. 20 m^2/1pcs. = 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:

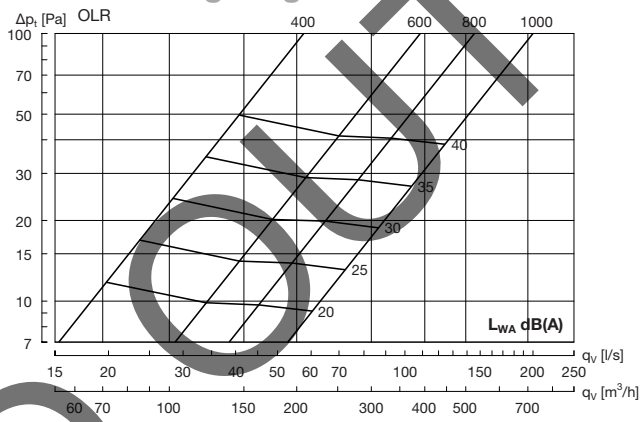
- R_{res} is the resulting reduction figure for wall and diffuser.
- S is wall area.
- $D_{n,e}$ is the diffuser's $D_{n,e}$ value.
- R_{wall} is the wall's R value without diffuser.

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.

Size	Centre frequency Hz					
	125	250	500	1K	2K	$D_{n,e,w}$
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.

Size	Centre frequency Hz					
	125	250	500	1K	2K	$D_{n,e,w}$
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.

Size	Centre frequency Hz					
	125	250	500	1K	2K	$D_{n,e,w}$
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.

Size	Centre frequency Hz					
	125	250	500	1K	2K	$D_{n,e,w}$
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