# Overflow unit

# OLC

## Description

OLC is a circular overflow unit for installation directly into a wall. OLC consists of two sound-attenuating baffles, which are mounted on both sides of the wall.

- Discrete design
- Sound-attenuating baffles

## Maintenance

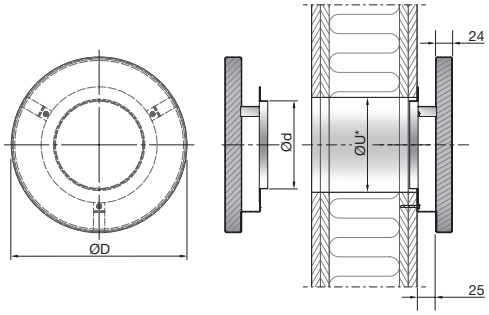
The sound attenuation baffles on both sides of the wall can be removed to enable cleaning of internal parts. The visible parts of the unit can be wiped with a damp cloth.

## Order code

| | | |
|---|---|---|
| **Product** | **OLC** | **aaa** |
| **Type** | | |
| OLC | | |
| **Size** | | |
| 100, 125, 160 mm | | |

Example: OLC - 125

## Dimensions




| OLC Size (Ød) | ØD [mm] | *ØU | m [kg] |
|---|---|---|---|
| 100 | 200 | 108-110 | 0.8 |
| 125 | 250 | 133-135 | 1.0 |
| 160 | 300 | 168-170 | 1.2 |

*ØU = Cutout dimension in wall = Ød + 10 mm

## Quick selection

| OLC Size Ød | $\Delta p_t$ = 10 [Pa] | | $\Delta p_t$ = 15 [Pa] | | $\Delta p_t$ = 20 [Pa] | | *$D_{n,e,w}$ |
|---|---|---|---|---|---|---|---|
| | [l/s] | [$m^3$/h] | [l/s] | [$m^3$/h] | [l/s] | [$m^3$/h] | [dB] |
| 100 | 19 | 68 | 24 | 86 | 27 | 97 | 49 |
| 125 | 28 | 101 | 34 | 122 | 39 | 140 | 47 |
| 160 | 40 | 144 | 49 | 176 | 56 | 202 | 44 |

* Values valid for cavity wall with 95 mm insulation.

## Materials and finish

| | |
|---|---|
| Installation bracket: | Galvanised steel |
| Front plate: | Galvanised steel |
| Standard finish: | Powder-coated |
| Standard colour: | RAL 9010 or 9003, Gloss 30 |

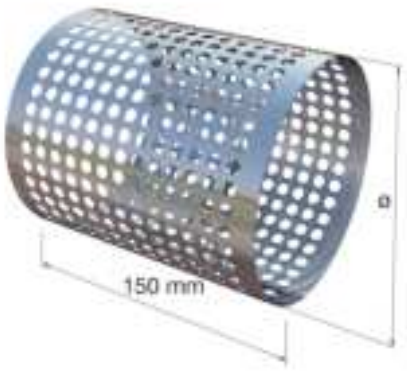
The OLC is available in other colours. Please contact Lindab's sales department for further information.

# Overflow unit

# OLC

## Accessories

## OLCZ - Perforated wall sleeve




### Order code

| | | |
|---|---|---|
| **Product** | **OLCZ** | **aaa** |
| **Type** | | |
| OLCZ | | |
| **Size** | | |
| Ø100, 125, 160 mm | | |

Example: OLCZ - 160

## OLC installed in wall

## OLC with OLCZ installed in wall

OLCZ optional accessory.

For further information, see OLC installation instruction.

# Overflow unit

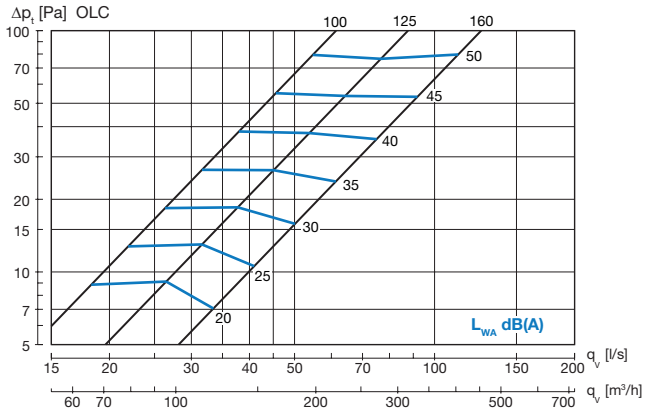
# OLC

## Technical data

## Capacity

Air flow rate $q_v$ [l/s] and [m³/h], total pressure loss $\Delta p_t$ [Pa] and sound power level $L_{WA}$ [dB(A)] are specified for a OLC unit on both sides of the wall.

## Dimensioning diagram




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

Weighted value ($D_{n,e,w}$) evaluated according to ISO 717-1

**Cavity wall with 95 mm insulation**

| Size | Centre frequency [Hz] | | | | | |
|---|---|---|---|---|---|---|
| [mm] | 125 | 250 | 500 | 1K | 2K | *$D_{n,e,w}$ |
| 100 | 32 | 46 | 46 | 48 | 54 | 49 |
| 125 | 34 | 43 | 43 | 46 | 51 | 47 |
| 160 | 34 | 40 | 40 | 44 | 50 | 44 |

**Cavity wall with 70 mm insulation**

| Size | Centre frequency [Hz] | | | | | |
|---|---|---|---|---|---|---|
| [mm] | 125 | 250 | 500 | 1K | 2K | *$D_{n,e,w}$ |
| 100 | 30 | 40 | 38 | 42 | 50 | 43 |
| 125 | 30 | 37 | 37 | 42 | 49 | 43 |
| 160 | 30 | 34 | 34 | 40 | 50 | 41 |

**Solid wall without insulation**

| Size | Centre frequency [Hz] | | | | | |
|---|---|---|---|---|---|---|
| [mm] | 125 | 250 | 500 | 1K | 2K | *$D_{n,e,w}$ |
| 100 | 24 | 24 | 23 | 32 | 40 | 31 |
| 125 | 23 | 24 | 23 | 33 | 40 | 31 |
| 160 | 24 | 24 | 23 | 32 | 39 | 30 |

# Overflow unit

# OLC

## 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 unit's $D_{n,e}$ value. $D_{n,e}$ is the unit'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 of the sound reduction index of the wall, for a given octave band value ($D_{n,e}$ ) or weighted value ( $D_{n,e,w}$ ).

As a rough estimate the calculation can be performed directly using the wall´s Rw value and the weighted elementnormalized level difference $D_{n,e,w}$ of the unit.

## Example:

**(See diagram below) :**

| | | |
|---|---|---|
| $R_w$ (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 Units: | 1 | 20 $m^2$/1 = 20 $m^2$ |

| | |
|---|---|
| Indicated reduction of $R_w$ (wall): | 5 dB |
| $R_w$ value for wall with unit: | ~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 unit's $D_{n,e}$ value.
- $R_{wall}$ is the wall's R value without unit.