Disc Valves

Type LVS
for supply and extract air
Description
Type LVS disc valves are suitable for all types of ventilation systems. They have been redesigned and thus satisfy the highest standards for comfort criteria. Depending on the application, different constructions for supply (type Z-LVS) and extract air (type LVS) are available.

By rotating the central disc, the air volume flow rate can be changed. This results in changes to acoustic and pressure drop figures.

Construction
This disc valves consist of the valve ring and central disc. To guarantee a perfect seat, the valve ring is fitted with a peripheral sealing strip.

The air volume flow rate is adjusted by rotating the central disc which alters the size of the gap. The central disc is held in position with a locknut.

Material
Face sections made of sheet steel with electrostatic powder coating (similar to RAL 9010, coating thickness 60 µm), threaded spindle and nut made of galvanised steel, installation subframe made of galvanised sheet steel.
### Dimensions

#### Quick selection table (for nomenclature see page 4)

<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
<th>( \dot{V} ) in m³/h</th>
<th>( \dot{V} ) in l/s</th>
<th>( \Delta p ) in Pa</th>
<th>( L_{eq} ) in dB(A)</th>
<th>L in m</th>
</tr>
</thead>
<tbody>
<tr>
<td>LVS</td>
<td>100</td>
<td>115</td>
<td>32</td>
<td>130</td>
<td>40</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>125</td>
<td>180</td>
<td>50</td>
<td>135</td>
<td>40</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>160</td>
<td>260</td>
<td>72</td>
<td>125</td>
<td>40</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td>350</td>
<td>97</td>
<td>110</td>
<td>40</td>
<td>–</td>
</tr>
<tr>
<td>Z-LVS</td>
<td>100</td>
<td>100</td>
<td>28</td>
<td>37</td>
<td>40</td>
<td>1.7</td>
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<tr>
<td></td>
<td>125</td>
<td>155</td>
<td>43</td>
<td>77</td>
<td>40</td>
<td>2.5</td>
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<tr>
<td></td>
<td>160</td>
<td>235</td>
<td>65</td>
<td>90</td>
<td>40</td>
<td>4.0</td>
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<tr>
<td></td>
<td>200</td>
<td>290</td>
<td>81</td>
<td>90</td>
<td>40</td>
<td>4.6</td>
</tr>
</tbody>
</table>

* Dimension E must be adjusted according to the line used!

#### Installation Details

The LVS and Z-LVS units are supplied with subframe. A bayonet fixing is used to locate the unit in the subframe.

**Installation subframe for LVS and Z-LVS**

Mounting the installation subframe with screws through the holes provided in the flange.
**Nomenclature**

- $V$ in l/s or m³/h: Volume flow rate per disc valve
- $L$ in m: Throw distance related to $V = 0.2$ m/s
- $s$ in mm: Gap size
- $\bar{V}_L$ in m/s: Time average air velocity at the wall
- $\Delta p_t$ in Pa: Total pressure drop
- $L_{WA}$ in dB(A): A-weighted sound power level
- $L_{WNC}$: NC rating of sound power level
- $L_{WNR}$: $L_{WNR} = L_{WNC} + 3$
- $L_{pA}, L_{pNC}$: $A$ weighting or NC rating respectively of room sound pressure level $L_{pA} = L_{WA} - 8$ dB $L_{pNC} = L_{WNC} - 8$ dB

**Diagram:**

Definition of the throw distance

1. Throw distance Size 100
2. Throw distance Size 125
3. Throw distance Size 160
4. Throw distance Size 200
Example

Data given:
- Z-LVS / Size 125
- Volume flow per disc valve $V = 40 \text{l/s}$
- Gap size $s = 12 \text{ mm}$

Diagram 10:
- Sound power level and Pressure drop
  - $L_{WA} = 37 \text{ dB(A)}$ ($L_{LNC} = 32 \text{ NC}$)
  - $\Delta p_t = 65 \text{ Pa}$

Diagram 2:
- Throw distance
  - $L = 2.4 \text{ m}$

At a distance of $L = 2.4 \text{ m}$, the time average air velocity $v_L = 0.2 \text{ m/s}$.
### Order Details

**Specification Text**
Circular disc valves, suitable for supply and extract air, comprising valve ring with peripheral seal, central disc with threaded spindle and lock nut and installation subframe with volume flow rate adjustment by rotating the central disc.

**Material**
Face sections sheet steel with electrostatic powder coating (colour similar to RAL 9010, thickness 60 µm), galvanised steel threaded spindle and lock nut, installation subframe galvanised sheet steel.

**Order Example**
Make: TROX  
Type: LVS / 125 / G1

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**Order Code**

![Order Code Diagram]

1) If not stated, installation subframe (G1) will be supplied