



# Poppet valve TV0



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Poppet Valve TVO

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## Poppet valve TVO

### Description

The round poppet valve TVO, for return air, has an aerodynamically shaped valve cone, which gives it good properties with respect to noise level, pressure loss and air volume. The air diffuser is designed for ceiling or wall mounting and available in sizes for duct connections of between Ø 100 - Ø 200 mm. Its design and a Moltoprene seal prevent soiling of ceiling and walls. The air diffuser is made of polypropylene, a recyclable plastic that withstands temperatures of up to 100°C. This material is also resistant to the majority of chemicals in low concentrations. As standard, the poppet valve is delivered in white colour and with a galvanised mounting ring.

The air diffuser can be wiped off with a mild cleaning agent.

### Construction

Mounting ring

- Galvanised sheet steel

Front frame

- polypropylene, colour similar to RAL 9003 (signal white)

Threaded spindle

- steel

Quantity adjustment plate

- polypropylene, colour similar to RAL 9003 (signal white)

### Accessories

Panelled cover plate (-PA)

- sheet steel with integrated mounting ring made of sheet steel painted to RAL 9003 (signal white)

Saddle bracket (-SA)

- Galvanised sheet steel with integrated mounting ring of galvanised sheet steel.

### Fastening

Valve fastening

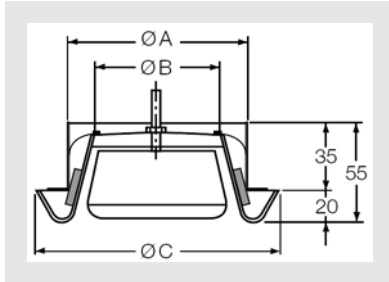
- On the mounting ring with spring fastening (standard)

## Poppet valve TVO

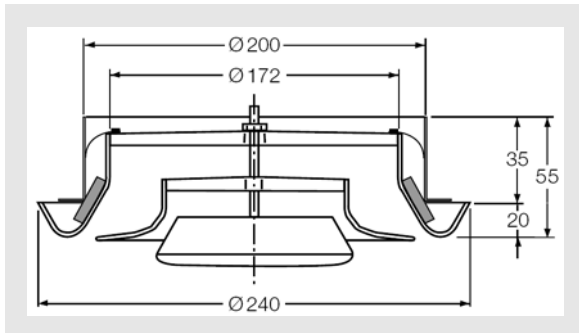
### Models and dimensions

#### Dimensions

TVO-A-100/125/150/160-...



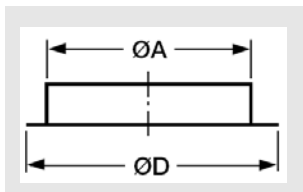
TVO-A-200-...



#### Available sizes TVO-A-...

| NW  | øA  | øB  | øC  | Weight (kg) |
|-----|-----|-----|-----|-------------|
| 100 | 100 | 70  | 145 | 0,12        |
| 125 | 125 | 95  | 160 | 0,15        |
| 150 | 160 | 115 | 195 | 0,20        |
| 160 |     |     |     |             |
| 200 | 200 | 172 | 240 | 0,34        |

#### Mounting ring

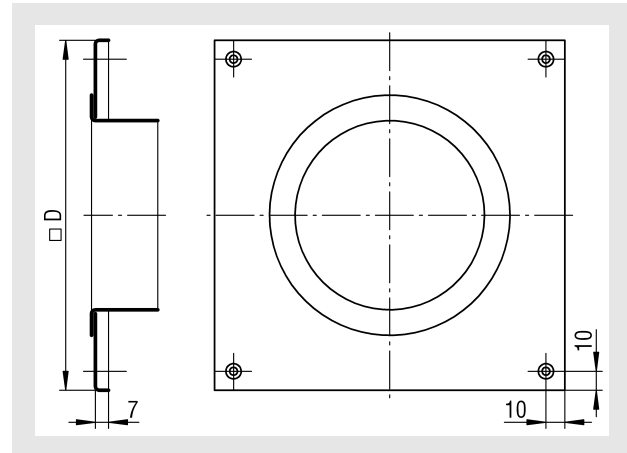


#### Available sizes of mounting ring

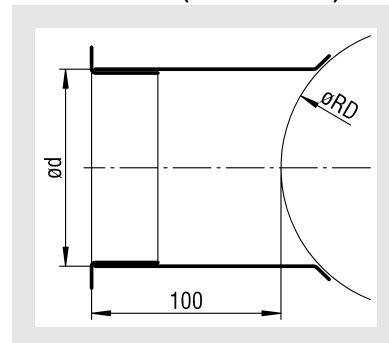
| NW  | øD  | øA  | Ceiling opening ø | Weight (kg) |
|-----|-----|-----|-------------------|-------------|
| 100 | 127 | 100 | 110               | 0,09        |
| 125 | 152 | 125 | 135               | 0,11        |
| 150 | 177 | 150 | 160               | 0,13        |
| 160 | 187 | 160 | 170               | 0,15        |
| 200 | 227 | 200 | 210               | 0,18        |

### Dimensions of accessories

#### Panelled cover plate (TVO-A-...-PA)



#### Saddle bracket (TVO-A-...-SA)



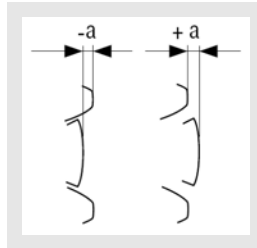
#### Available sizes TVO-A-...-PA/SA

| NW  | □D  | ød  | øRD |
|-----|-----|-----|-----|
| 100 | 185 | 102 | 150 |
| 125 | 210 | 127 | 175 |
| 150 | 285 | 152 | 200 |
| 160 | 285 | 162 | 200 |
| 200 | 285 | 202 | 250 |

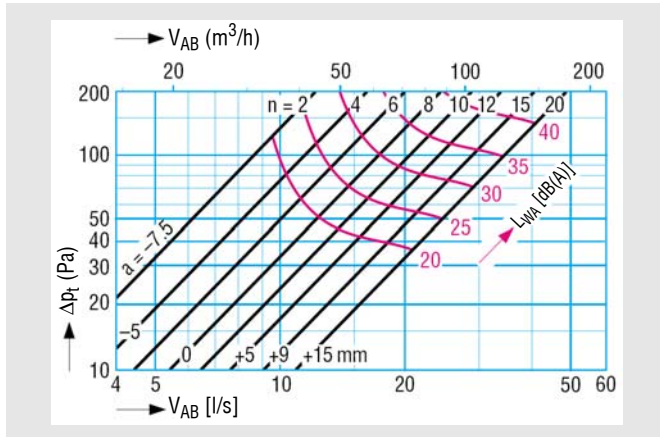
## Poppet valve TVO

### Technical data

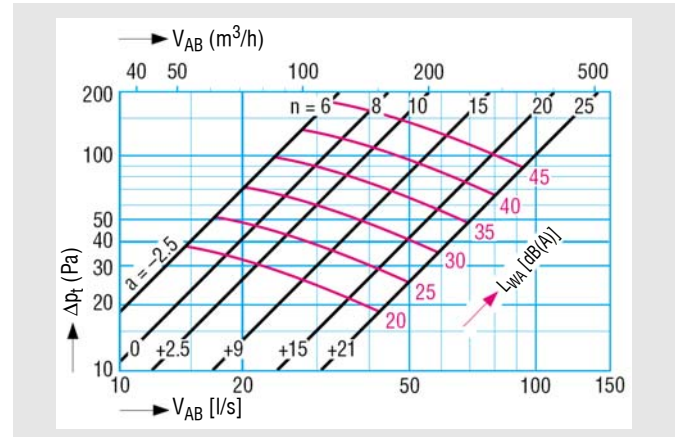
#### Pressure loss and noise level



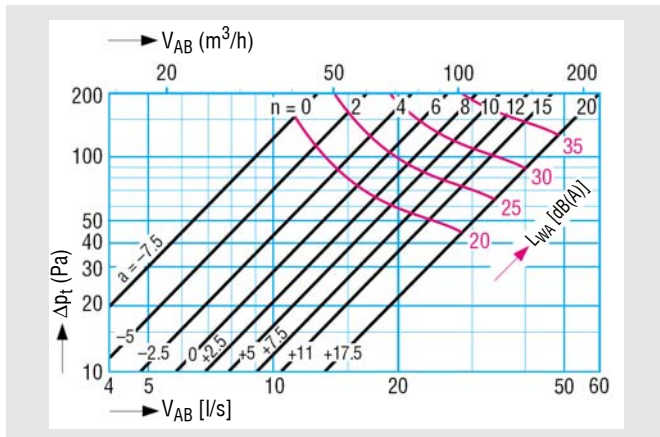
#### TVO-A-100-...



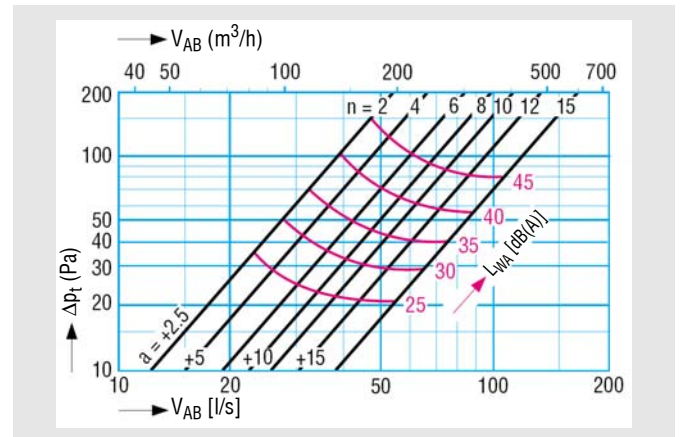
#### TVO-A-150/160-...



#### TVO-A-125-...



#### TVO-A-200-...



## Poppet valve TVO

### Sound power level $L_W$

| NW  | $L_W$ (dB) |     |     |     |      |      |      |      |
|-----|------------|-----|-----|-----|------|------|------|------|
|     | $f_m$ (Hz) |     |     |     |      |      |      |      |
|     | 63         | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 100 | -7         | -6  | -6  | -4  | -2   | -1   | -4   | -11  |
| 125 | -6         | -5  | -3  | -4  | -2   | -1   | -4   | -13  |
| 150 | 1          | 2   | 1   | -1  | 1    | -4   | -9   | -18  |
| 160 |            |     |     |     |      |      |      |      |
| 200 | 1          | 2   | 4   | 0   | -1   | -4   | -10  | -18  |

### Legend

|                              |   |                              |
|------------------------------|---|------------------------------|
| $V_{AB}$ (m <sup>3</sup> /h) | = | Return air volume            |
| $V_{AB}$ [l/s]               | = | Return air volume            |
| $\Delta p_t$ (Pa)            | = | Pressure loss                |
| $\Delta p_m$ (Pa)            | = | Pressure loss at the sensor  |
| $L_{WA}$ [dB(A)]             | = | A-weighted sound power level |
| $L_W$ (dB)                   | = | Sound power level            |
| $D_e$ (dB)                   | = | Insertion loss               |
| $f_m$ (Hz)                   | = | Octave centre frequency      |
| NW (mm)                      | = | Nominal value                |
| a (mm)                       | = | Gap in mm when loosening     |
| n (-)                        | = | Number of revolutions        |

### Insertion loss $D_e$

| NW  | $D_e$ (dB) |     |     |     |      |      |      |      |
|-----|------------|-----|-----|-----|------|------|------|------|
|     | $f_m$ (Hz) |     |     |     |      |      |      |      |
|     | 63         | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 100 | 22         | 21  | 15  | 13  | 11   | 10   | 6    | 9    |
| 125 | 21         | 19  | 13  | 11  | 10   | 10   | 7    | 9    |
| 150 | 20         | 16  | 12  | 10  | 9    | 10   | 8    | 8    |
| 160 |            |     |     |     |      |      |      |      |
| 200 | 17         | 12  | 7   | 5   | 4    | 4    | 7    | 5    |

### Setting k factor

The cone is tightened or loosened by the number of revolutions required to obtain the gap width in mm that corresponds to the desired pressure loss and the desired volumetric flow according to the diagram. To check the pressure loss, remove the plug at the front and introduce a suitable sensor into the test port.

$$V_{AB} = k \sqrt{\Delta p_m}$$

| NW  | a (mm) |      |      |      |      |      | k factor |
|-----|--------|------|------|------|------|------|----------|
|     | -7,5   | -5   | 0    | +5   | +10  | +15  |          |
| 100 | 0,83   | 1,09 | 1,46 | 2,00 | 2,28 | 2,69 |          |
| 125 | 0,85   | 1,11 | 1,63 | 2,15 | 2,41 | 3,45 |          |

| NW  | a (mm) |      |      |      |      |      | k factor |
|-----|--------|------|------|------|------|------|----------|
|     | -2,5   | 0    | +5   | +10  | +15  | +20  |          |
| 150 | 2,02   | 2,63 | 3,93 | 4,53 | 6,08 | 7,56 |          |
| 160 |        |      |      |      |      |      |          |
| 200 | -      | 3,47 | 4,61 | 5,97 | 6,60 | 7,66 |          |

## Poppet valve TVO

### TVO order code

| 01             | 02          | 03            | 04       | 05       | 06          |
|----------------|-------------|---------------|----------|----------|-------------|
| Type           | Type of air | Nominal width | Material | Mounting | Accessories |
| <b>Example</b> |             |               |          |          |             |
| TVO            | -A          | -100          | -KU      | -FM      | -00         |

All fields must be filled when ordering

Sample

TVO-A-100-KU-FM-00

Poppet valve type TVO with mounting ring I for exhaust air I  
nominal width 100 mm I plastic PP, colour similar to RAL 9003  
I with spring fastening I without accessories

#### Order details

##### 01 - Type

TVO = Poppet valve, type TVO with mounting ring

##### 02 - Type of air

A = for return air

##### 03 - Nominal width

100 = Nominal width 100 mm

125 = Nominal width 125 mm

150 = Nominal width 150 mm

160 = Nominal width 160 mm

200 = Nominal width 200 mm

##### 04 - Material

KU = plastic PP, colour similar to RAL 9003

##### 05 - Mounting

FM = Spring fastening (standard)

##### 06 - Accessories

00 = Without accessories (standard)

PA = panelled cover plate, made of steel, painted to RAL 9003 (mounting ring is firmly fitted to the panelled cover plate)

SA = Saddle bracket, made of galvanised sheet steel (mounting ring is firmly fitted to the saddle bracket)

## Poppet valve TV0

### Specification texts

Poppet valve for return air, comprising a round front frame made of plastic material colour similar to RAL 9003 (signal white) and circumferential cellular seal. With adjustable quantity control plate made of plastic material and similar to RAL 9003 (signal white) to control the air volume. For ceiling assembly or wall mounting. Counter nut to ensure the air volume setting and threaded spindle made of steel. Mounting ring made of galvanised sheet steel. Mounting with springs on front frame.

Product: SCHAKO **type TV0**

#### Accessories:

- Panelled cover plate (-PA) made of sheet steel, with integrated mounting ring, painted to RAL 9003 (signal white).
- Saddle bracket (-SA) with integrated mounted ring made of galvanised sheet steel.