# Valve – Supply and exhaust air AIRY

## Description

The valve is designed for installation at a wall or in a ceiling.
It can be used for new-build and for replacement.
Its smart grip function ensures an easy installation.
Its unique sound data ensure an optimum sound level.

The valve consists of two parts; the valve body (AIRYB) and the flat front plate (AIRYFP).
The valve body is fixed to the duct system or a valve socket via flexible spring wings.
The front plate is attached to the valve body via springs.

There are 5 standard front plate shapes:
ROUN – a circle,
BOW – a square with sligthly bulged edges,
SQUA – a square,
ELLI – an super ellipse.
RECT – a rectangle,
Special shapes are possible on request.

It is recommended that the valve is mounted in the frame ILVRU.
The product will also fit in the valve frames VRGU, VRGM, VRFU, VRFM and the products BU GJUT, and TCPU GJUT.
The valve body has to cover the brim of the product it is fitted into. Therefor the maximum diameter of the brim for Ø100 is 133,5 mm, for Ø125 is 152,5 mm and for Ø160 is 187,5 mm.

Can be equipped with a blanking – off sector plate for 2 or 3 way air flow.

## Maintenance

The visible parts can be wiped off with a damp cloth.

## Order code

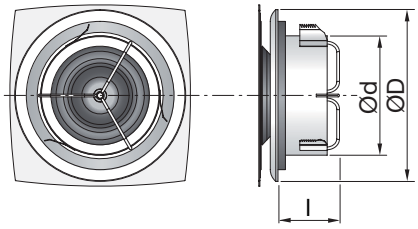
**Product** **AIRYB** **aaa** **bbb**
AIRYB
**Connection dim. Ød**
Ød nom = 100, 125, 160 mm
**Colour**
RAL 9003, RAL 9010

Example: AIRYB - 125 - 9003

**Product** **AIRYFP** **aaa** **bbb** **ccc**
AIRYFP
**Connection dim. Ød**
Ød nom = 100, 125, 160 mm
**Type**
BOW, ELLI, RECT, ROUN, SQUA
**Colour**
RAL 9003, RAL 9010

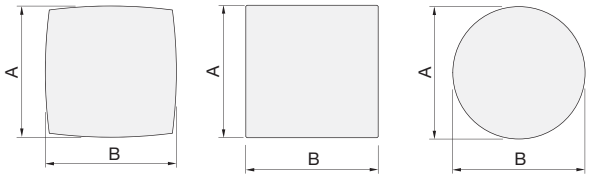
Example: AIRYFP - 125 - ELLI - 9003

## Dimensions

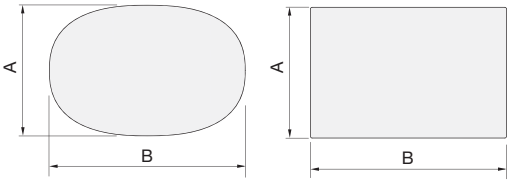



| Ød nom | Ød [mm] | ØD [mm] | l [mm] | m [kg] |
|---|---|---|---|---|
| 100 | 90 | 137,5 | 54 | 0,13 |
| 125 | 114 | 156 | 57 | 0,18 |
| 160 | 149 | 191 | 57 | 0,28 |

AIRYFP BOW AIRYFP SQUA AIRYFP ROUN




AIRYFP ELLI AIRYFP RECT




| Ød nom | A [mm] | B [mm] | Type | m [kg] |
|---|---|---|---|---|
| 100 | 140 | 140 | BOW | 0,17 |
| 100 | 140 | 210 | ELLI | 0,21 |
| 100 | 140 | 140 | ROUN | 0,13 |
| 100 | 140 | 210 | RECT | 0,24 |
| 100 | 140 | 140 | SQUA | 0,17 |
| 125 | 165 | 165 | BOW | 0,22 |
| 125 | 165 | 248 | ELLI | 0,29 |
| 125 | 165 | 165 | ROUN | 0,18 |
| 125 | 165 | 248 | RECT | 0,33 |
| 125 | 165 | 165 | SQUA | 0,23 |
| 160 | 210 | 210 | BOW | 0,34 |
| 160 | 210 | 315 | ELLI | 0,44 |
| 160 | 210 | 210 | ROUN | 0,28 |
| 160 | 210 | 315 | RECT | 0,53 |
| 160 | 210 | 210 | SQUA | 0,35 |

## Materials and finish

Material: Galvanized sheet metal.
Colour: White RAL 9003, gloss 30 or white RAL 9010, gloss 30.

Special colours are available on request.
The front plate can be ordered in stainless steel.
It is also possible to paint the front plate with standard wall paint or to cover it with wallpaper.

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## Technical data

### Capacity
Air flow $q_v$ [l/s] and [$m^3$/h], total pressure $\Delta p_t$ [Pa], throw $l_{0.2}$ [m] and sound power level $L_{WA}$ [dB(A)] can be seen in the graphs.

### Frequency-related sound power level
The sound power level in the frequency band is defined as $L_{WA}$+$K_{ok}$. $K_{ok}$ values are specified in charts beneath the graphs on the following pages.

### Sound attenuation
Sound attenuation of the diffusers ΔL from duct to room, including end reflection, see table below.

| Ød nom | Centre frequency [Hz] 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
|---|---|---|---|---|---|---|---|---|
| 100 | 22 | 18 | 13 | 11 | 9 | 8 | 7 | 8 |
| 125 | 20 | 16 | 11 | 9 | 9 | 7 | 6 | 5 |
| 160 | 18 | 14 | 10 | 9 | 9 | 7 | 6 | 6 |

### Balancing
Balancing data is contained in a separate brochure.

## Blanking off sector plate

### Correction for sound and throw
When using blanking off sector in Airy calculate correction factor C and use this factor to read corrected sound- and throw data:

C = (($\alpha$ / 360)+1)

Corrected flow to use for reading data in diagrams = C × $q_v$

### Example
AIRY-125

| | |
|---|---|
| Sector plate $\alpha$: | 120° |
| Airflow $q_v$: | 20 l/s |
| Required pressure drop $\Delta p_t$: | 50 Pa |

C = ((120 / 360)+1) = 1,33

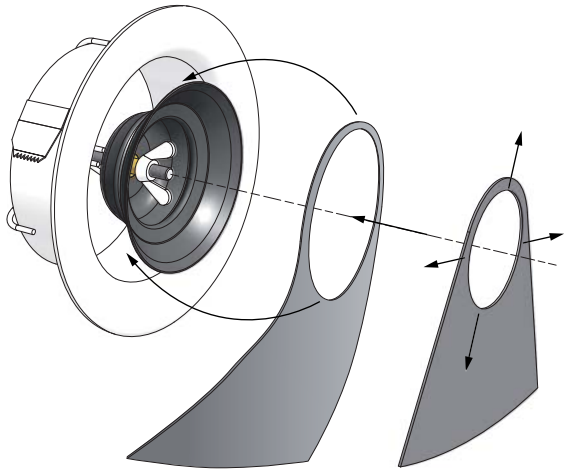
Corrected flow to use for reading data in diagrams = 1,33 × 20 l/s = 27 l/s

*Corrected data:*

| | |
|---|---|
| Sound power level Lwa: | 30 dB(A) |
| Slot setting for 50 Pa : | 12 mm |
| Throw $l_{02}$ (12 mm. slot): | 2,6 m |

## Accessories

### Blanking – of sector plate



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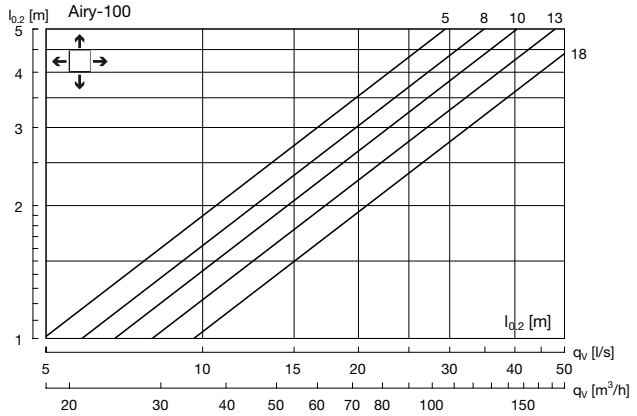
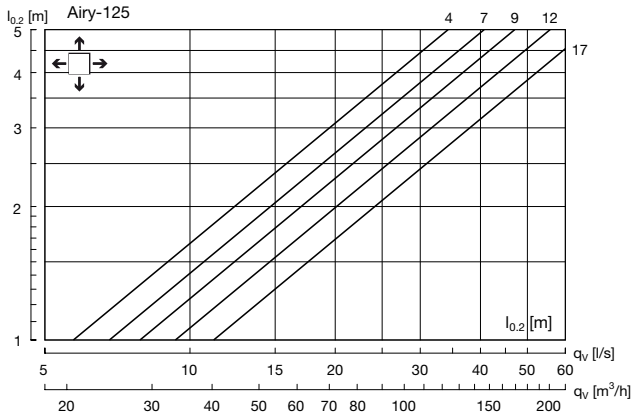
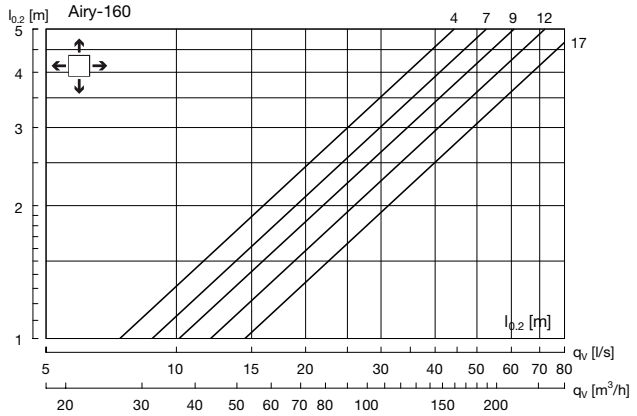
## Technical data

### Throw $l_{0.2}$

Throw $l_{0.2}$ [m] can be seen in the graphs for isothermal air, at a terminal velocity of 0,2 m/s.



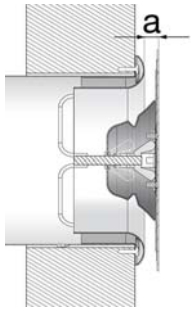



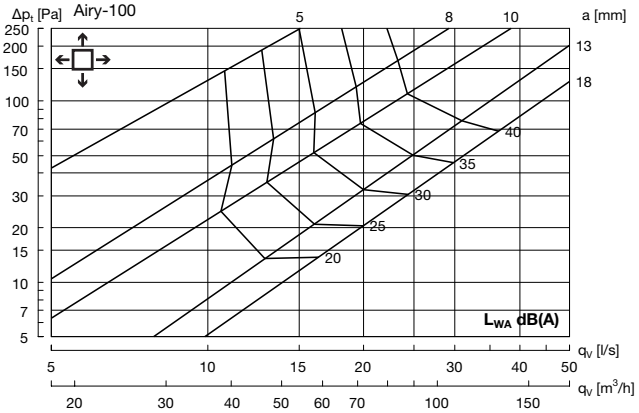



# Valve – Supply and exhaust air AIRY

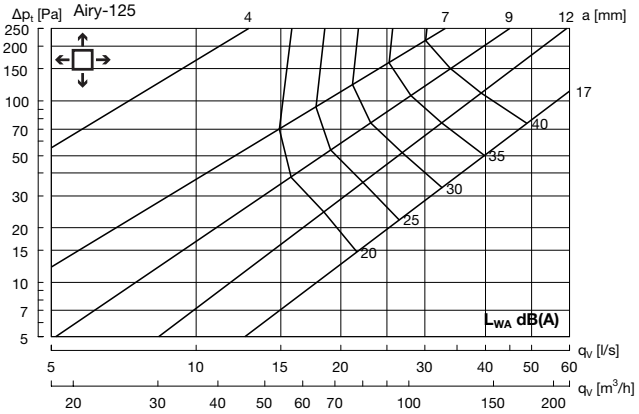
## Technical data

### Supply air

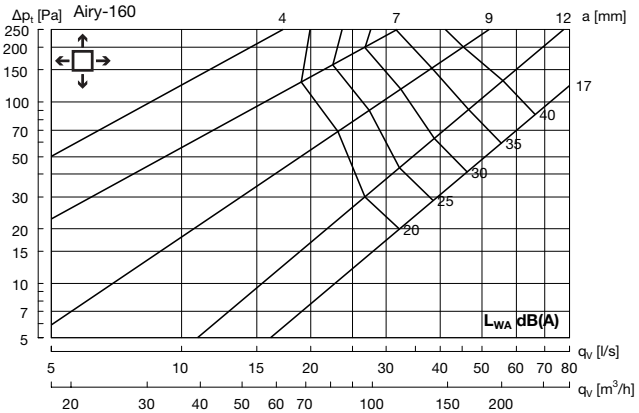



| Hz | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
|---|---|---|---|---|---|---|---|---|
| $K_{ok}$ | 0 | -6 | 0 | 1 | -7 | -13 | -17 | -21 |




| Hz | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
|---|---|---|---|---|---|---|---|---|
| $K_{ok}$ | 4 | -6 | -1 | 0 | -6 | -11 | -15 | -15 |

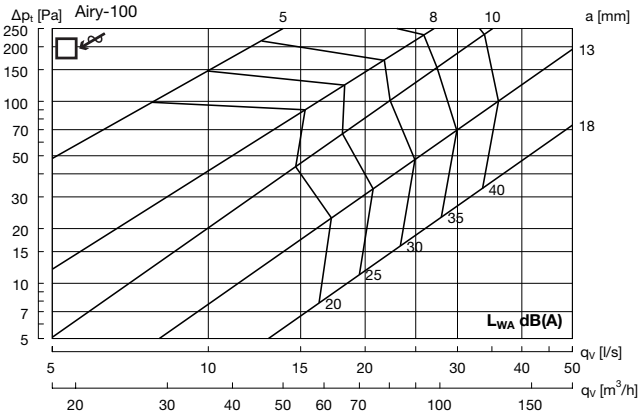



| Hz | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
|---|---|---|---|---|---|---|---|---|
| $K_{ok}$ | 4 | -4 | -1 | -1 | -6 | -10 | -13 | -13 |

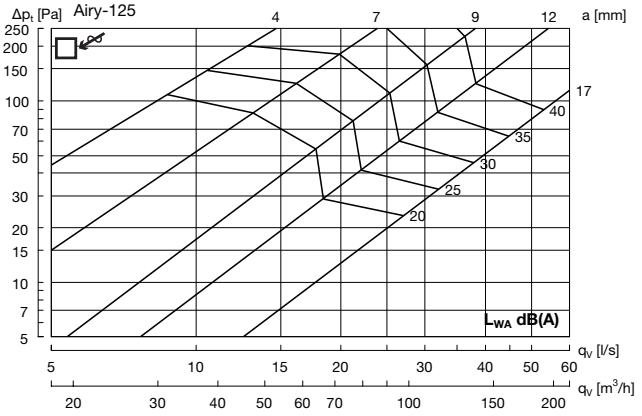
# Valve – Supply and exhaust air AIRY

## Technical data

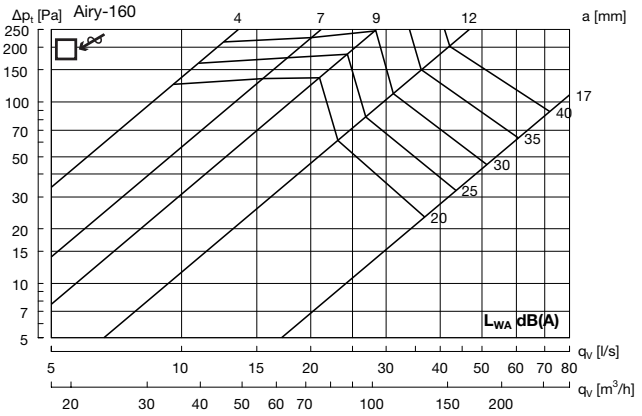
### Exhaust air



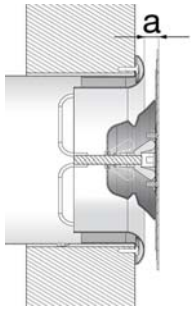

| Hz | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
|---|---|---|---|---|---|---|---|---|
| $K_{ok}$ | 8 | -11 | -3 | 0 | -7 | -9 | -15 | -15 |




| Hz | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
|---|---|---|---|---|---|---|---|---|
| $K_{ok}$ | 8 | -9 | -3 | -3 | -5 | -6 | -17 | -21 |




| Hz | 63 | 125 | 250 | 500 | 1K | 2K | 4K | 8K |
|---|---|---|---|---|---|---|---|---|
| $K_{ok}$ | 11 | -8 | -2 | -2 | -4 | -10 | -19 | -17 |



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## Airy with bend and T-piece

**Sound correction values:**
Add this value to the diagram for Airy when using T-piece or bend.

## Supply air

| Ød1 nom | TCPU | BKU | BU | BSU |
|---|---|---|---|---|
| 100 | 3 | 1 | 1 | 0 |
| 125 | 2 | 2 | 1 | 0 |
| 160 | 5 | 5 | 4 | 3 |

## Exhaust air

| Ød1 nom | TCPU | BKU | BU | BSU |
|---|---|---|---|---|
| 100 | 2 | 1 | 0 | 0 |
| 125 | 2 | 2 | 1 | 0 |
| 160 | 5 | 5 | 4 | 2 |

**TCPU**

**BKU**

**BU**

**BSU**