systemair

Handbook

BOR-R

Residential Supply Diffuser

Table of Contents

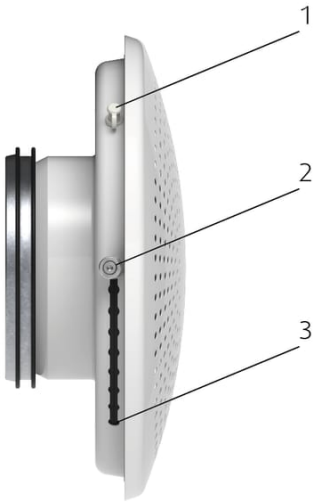
Description

BOR-R is a residential diffuser. The product is intended for air supply. The product is equipped for air flow adjustment and commissioning measurement. The product is installed on rear walls of offices, hotels, residential rooms etc., or as a part of VAV system

Design

BOR-R is manufactured from galvanized steel. The product consists of a body, an adjustment mechanism and a perforated front plate. The front plate is powder painted to RAL9003 (signal white). Other RAL colors are available upon request.

Product parts

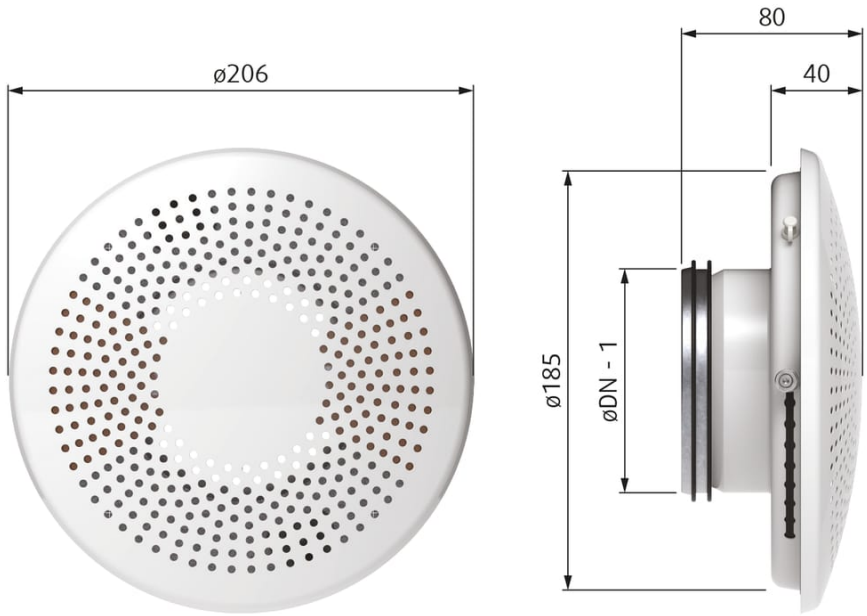


1 ΔP measurement pin

2 Adjustment knob parked in position 1. To move the knob pull it radially out of the body and slide pulled into other position, then release to park it .

3 Adjustment position 9

Dimensions



NOTE: BOR-R-100: ø = 99 mm; BOR-R-125: ø = 124 mm

Ordering Codes

BOR-R

Connection size (mm)

100

125

Surface finish

SW Signal white (RAL9003, gloss 30%)

RALXXXX Other RAL colour

Example of the Ordering Code

BOR-R-100-SW

BOR-R diffuser, connection size 100 mm, in signal white colour (RAL 9003)

Quick Selection

Air flow volume q_v at different A-weighted sound power levels L_{WA}

Item	25 dB(A)		30 dB(A)		35 dB(A)	
	m^3/h	l/s	m^3/h	l/s	m^3/h	l/s
BOR-R-100-SW	54	15	64	18	75	21
BOR-R-125-SW	67	19	87	24	111	31

NOTE: The working points were measured with open adjustment damper. (Position 1)

Air flow volume q_v at different A-weighted sound pressure levels L_{pA} with $10m^2$ absorbtion area

Item	20 dB(A)		25 dB(A)		30 dB(A)	
	m^3/h	l/s	m^3/h	l/s	m^3/h	l/s
BOR-R-100-SW	52	14	62	17	73	20
BOR-R-125-SW	64	18	83	23	106	29

NOTE: The working points were measured with open adjustment damper. (Position 1)

Technical Parameters

Legend

$L_{0,2}$ (m) Air throw length with terminal velocity 0,2 m/s

L_x (m) Air throw length calculated for specific terminal velocity

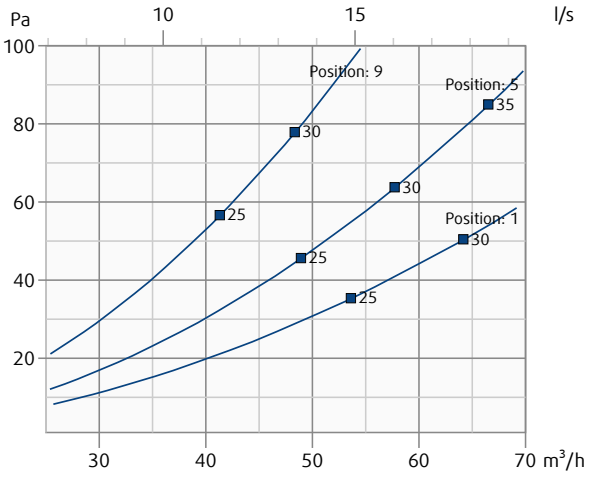
x (m/s) Terminal velocity in range of 0,1 m/s ... 1 m/s

Calculation of Air Throw for Different Terminal Velocities

$L_x = L_{0,2} \cdot 0,2/x$

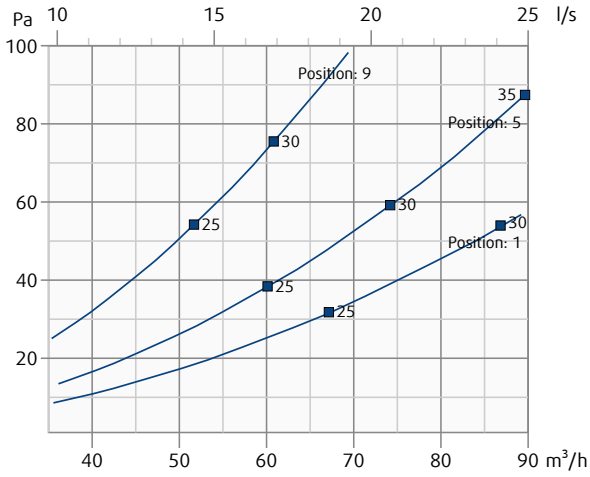
BOR-R-100-SW

Pressure drop & A-weighted sound power level in dB(A)



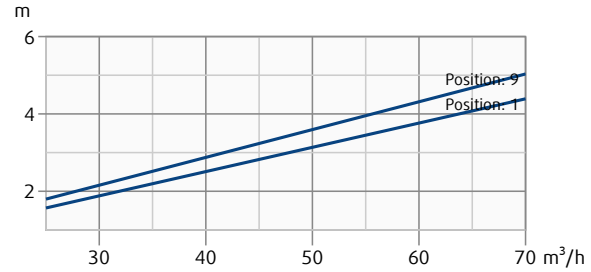
BOR-R-125-SW

Pressure drop & A-weighted sound power level in dB(A)



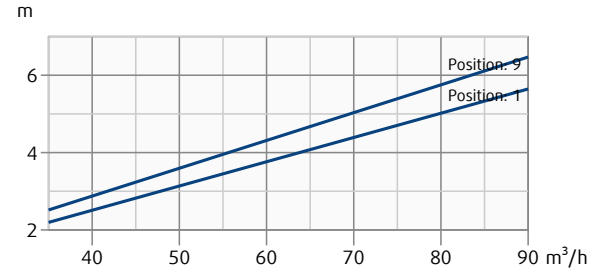
BOR-R-100-SW

Throw length (terminal velocity 0.2 m/s)



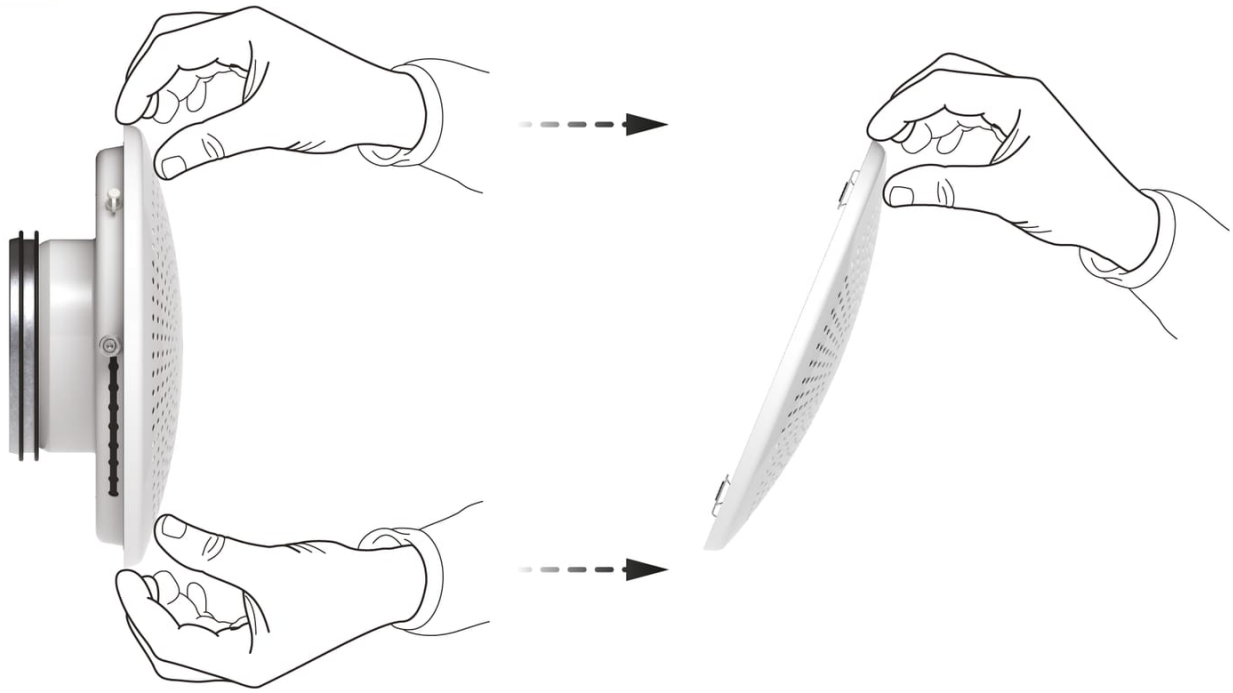
BOR-R-125-SW

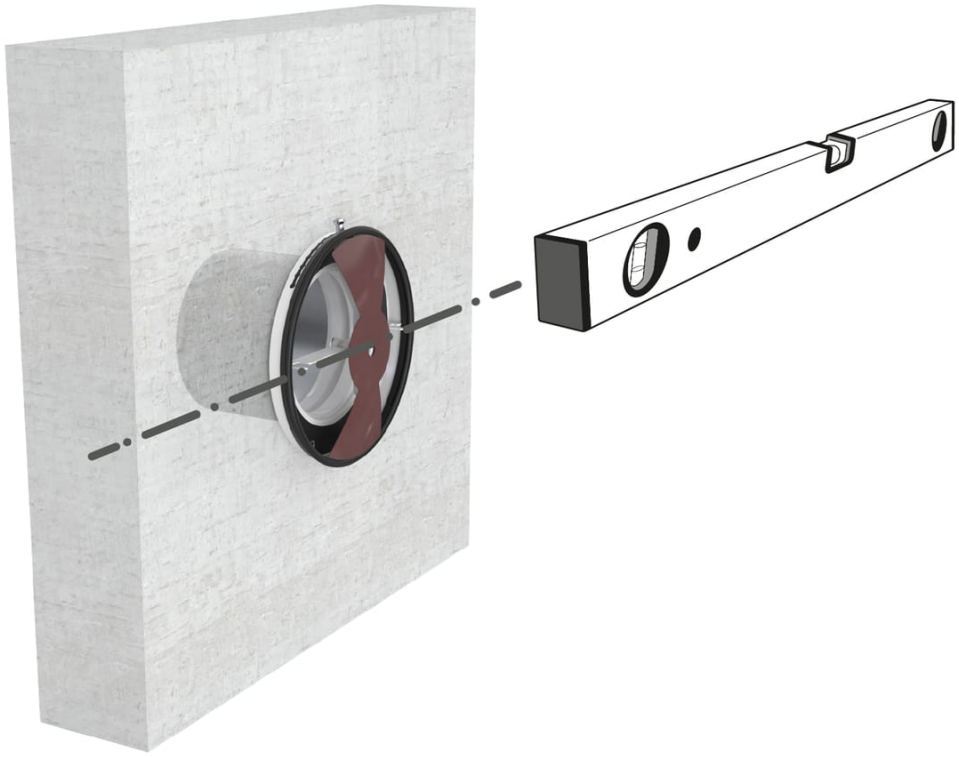
Throw length (terminal velocity 0.2 m/s)



Installation

1.





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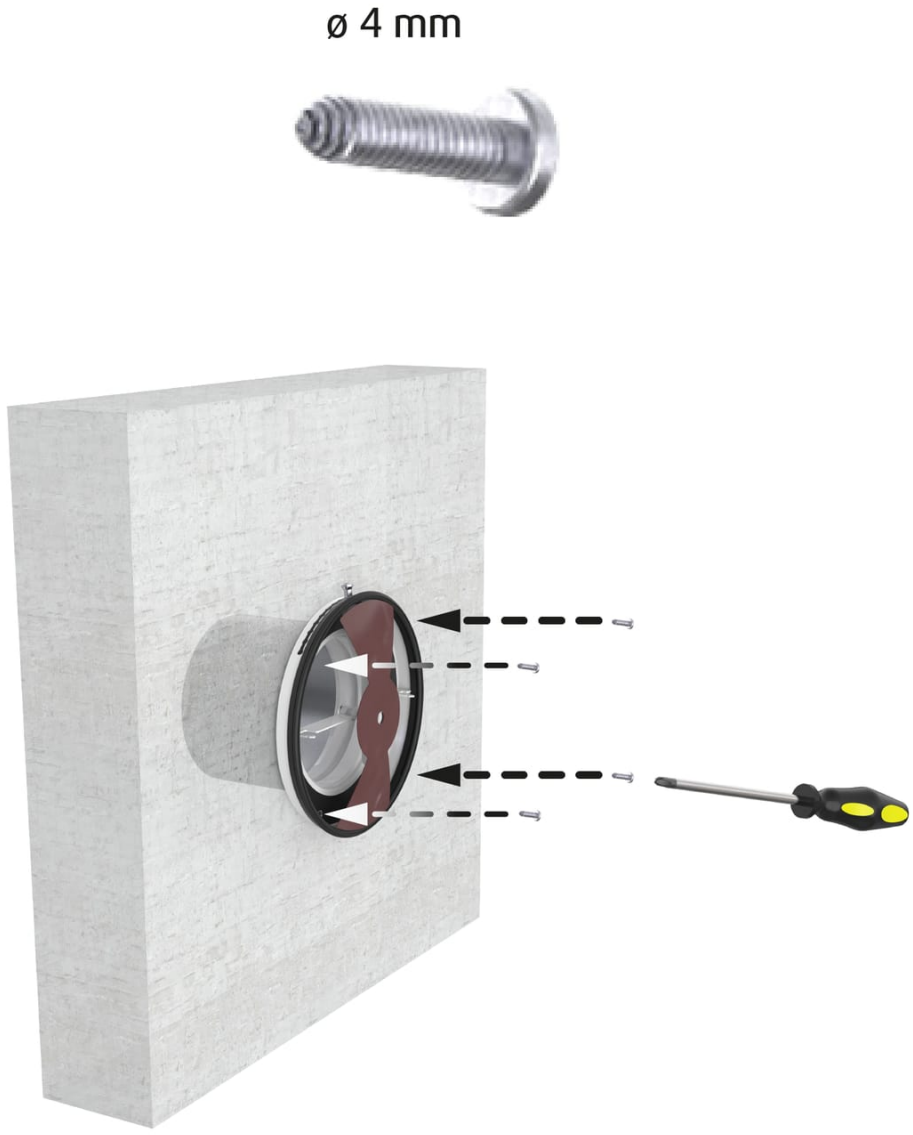

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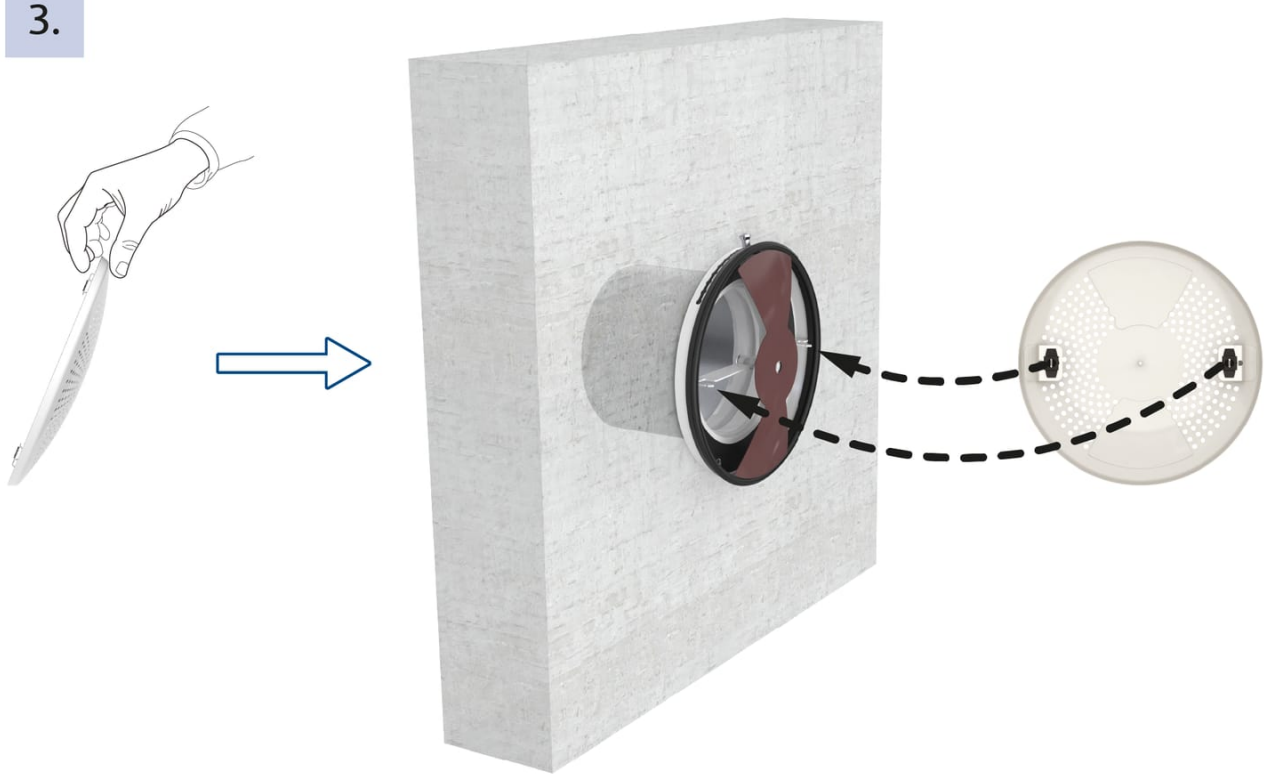

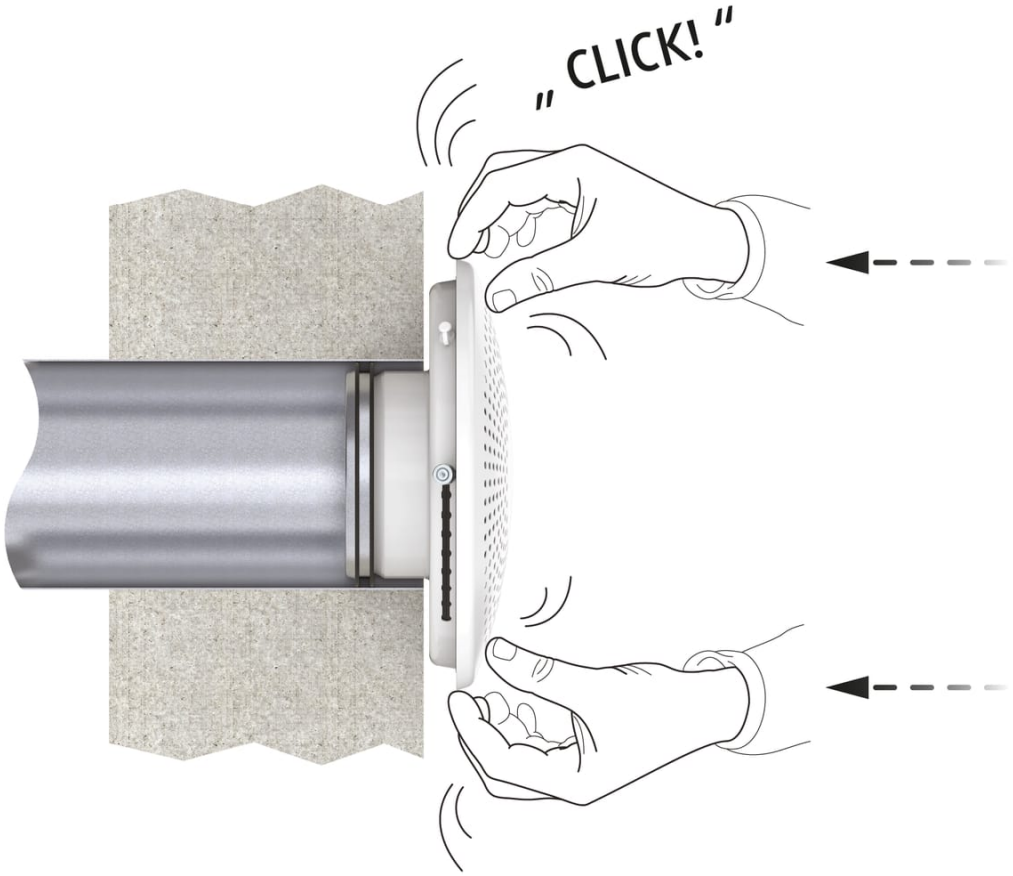

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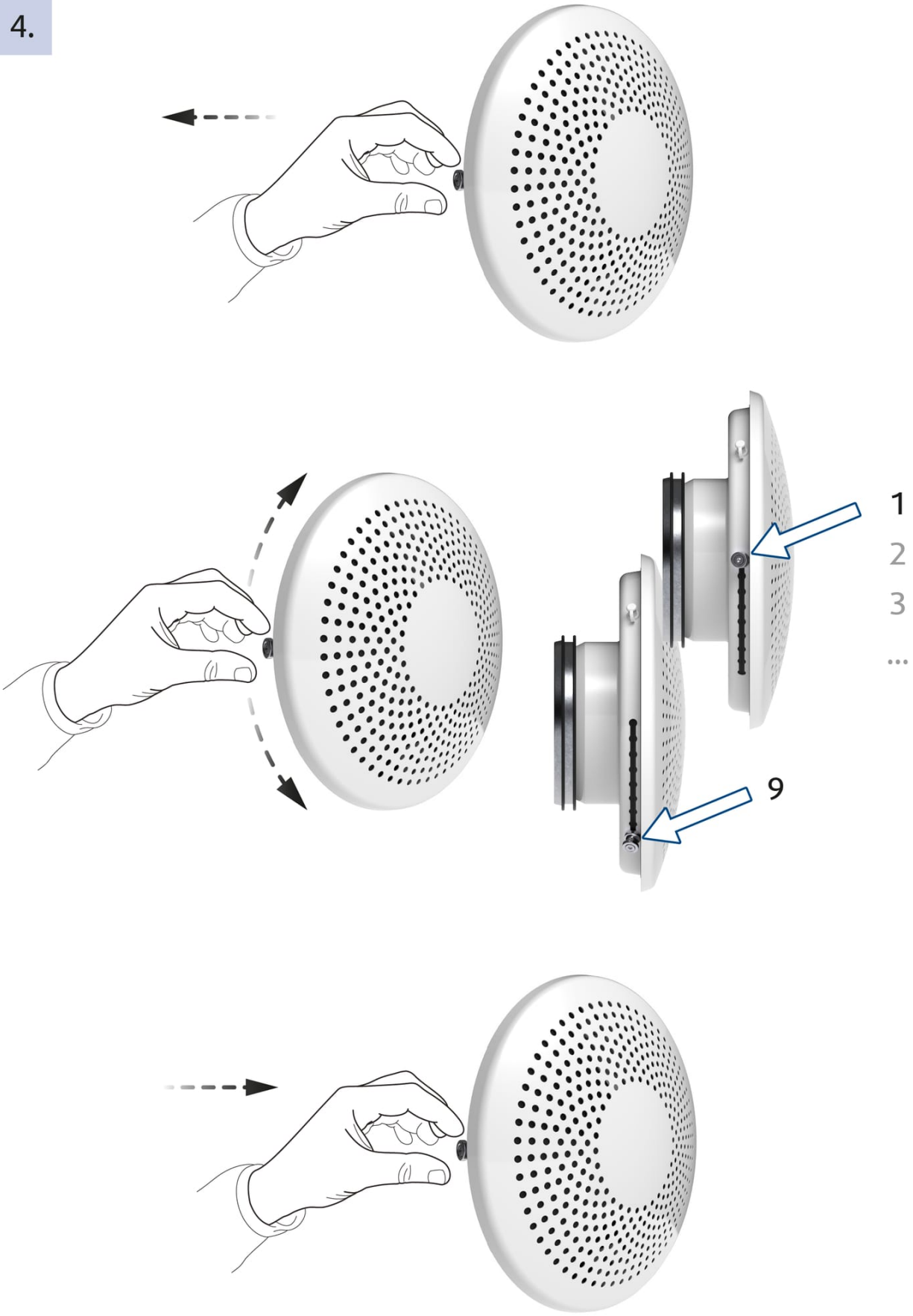
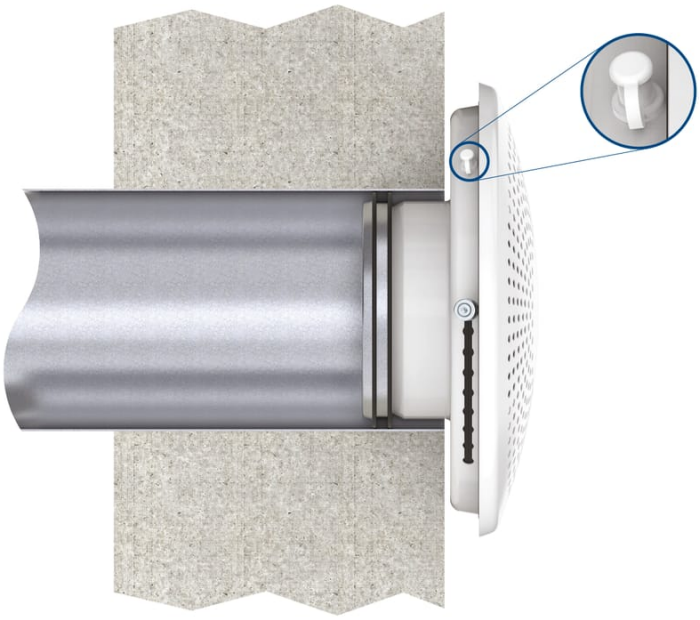





45
Pa

K-factor tables

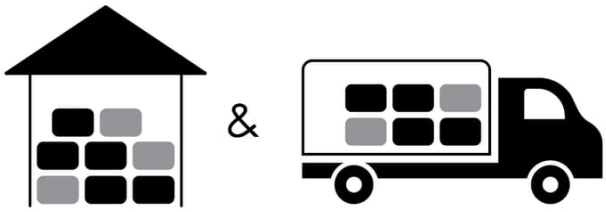
Pos.	1	2	3	4	5	6	7	8	9
DN	l/s								
100	2,61	2,48	2,35	2,21	2,08	1,95	1,81	1,68	1,55
125	3,33	3,16	3,00	2,83	2,66	2,49	2,32	2,15	1,99

$Q\ (l/s) = k \cdot \sqrt{\Delta p\ (Pa)}$

Pos.	1	2	3	4	5	6	7	8	9
DN	m^3/h								
100	9,40	8,93	8,45	7,97	7,49	7,01	6,53	6,06	5,58
125	12,00	11,39	10,79	10,18	9,57	8,97	8,36	7,76	7,15

$Q\ (m^3/h) = k \cdot \sqrt{\Delta p\ (Pa)}$

Transport, Storage and Operation



°C -40 °C ... +50 °C

% ≤ 95%

°C -20 °C ... +70 °C

% ≤ 95%

Supplement

Any deviations from the technical specifications contained herein and the terms should be discussed with the manufacturer. We reserve the right to make any changes to the product without prior notice, provided that these changes do not affect the quality of the product and the required parameters. Current information on all products is available on design.systemair.com.

Handbook_BOR_R_en-GB
design.systemair.com
www.systemair.com

Original instructions

2023-08-01

DOCUMENT VERSION 2