



**DIRECT
VENT**

Product
Catalogue

SYMBOLS:

 - quantity per pack and its type (details: always under the dimensions table).

 - tolerance of the indicated dimensions.

IMPORTANT INFORMATION:

The pictures and drawings contained in this publication are contained for information purposes only and may differ slightly from the actual appearance.

The electronic version of the catalogue is continuously updated; the date and version of this publication can be found on the last page.

The terms and conditions for the placement and execution of Purchase Orders are defined in the General Terms and Conditions of Sale for Foreign Deliveries and Terms of Deliveries of the Products of Lindab Sp. z o.o. for Foreign Deliveries. Please read the documents before placing an Order.

This document is for illustrative purposes only and does not constitute an offer within the meaning of the Civil Code.

All measurements not separately indicated in this document within the provided technical parameters are presented in millimetres.

All detailed information on the Products, including their current levels of stock and technical parameters, is available at Lindab Sp. z o.o.



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About us

Direct Vent is manufacturer of high quality ventilation ducting products, delivering goods from two factories located in Poland and the Czech Republic. **Our Vision** is to become a supplier of first choice for Distributors and Wholesalers all among the Europe. **Our Mission** is to provide an alternative offer of standard, high quality ventilation products in reasonable prices.



**Recognizable
brand**



Composed of
two reputable
former brands
(Spiro & Centrum Klima)



**Trusted Business
Partner**
for over 185 clients



**High quality
products**
at reasonable price



Over 5000
ventilation products
in offer

Our strenghts

- **Trusted business partner** - confirmed by 185 distributors from all over the world
- **Solid Brand** - professionalism and reliability - appreciated by installers
- **High score of availability and short lead time**
- **Competitive prices**
- **Wide range of products** - standard ventilation fittings, grilles, diffusers, silencers and accessories
- **High quality Customer service** - one contact person to provide a full and comprehensive service





Our locations



Poland

Wieruchów, Warsaw

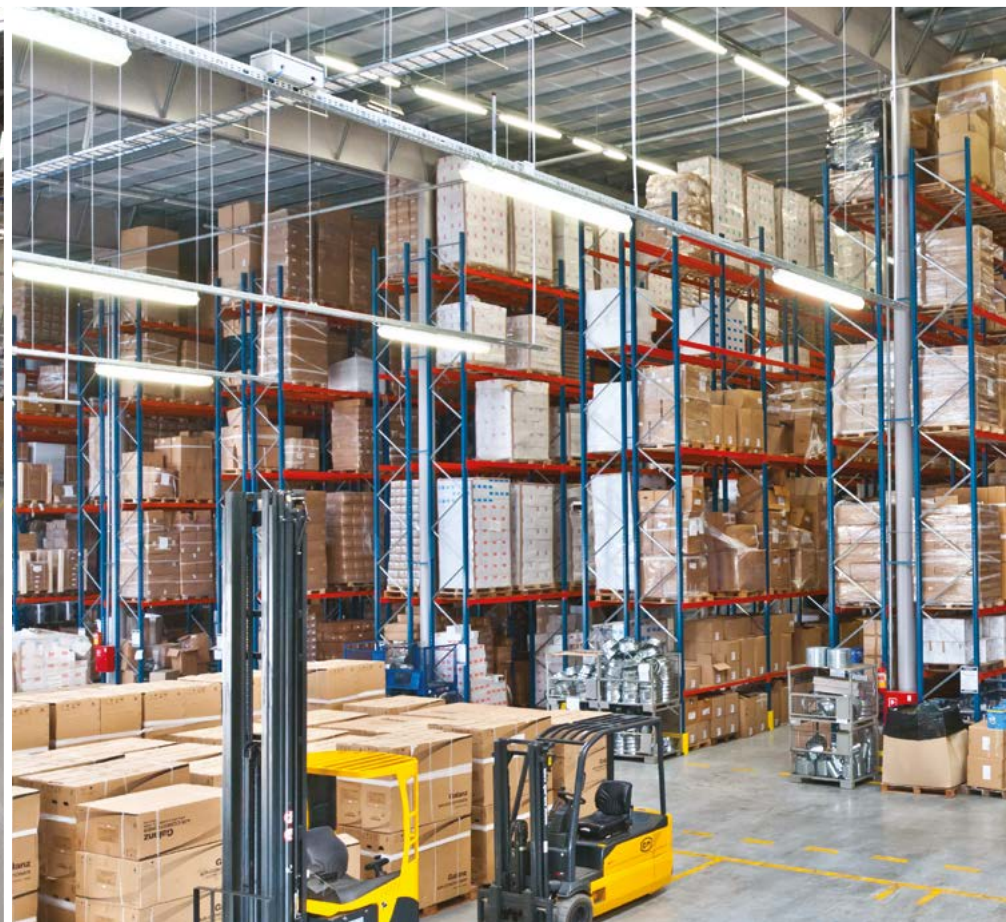
3 500 m²



Czechia

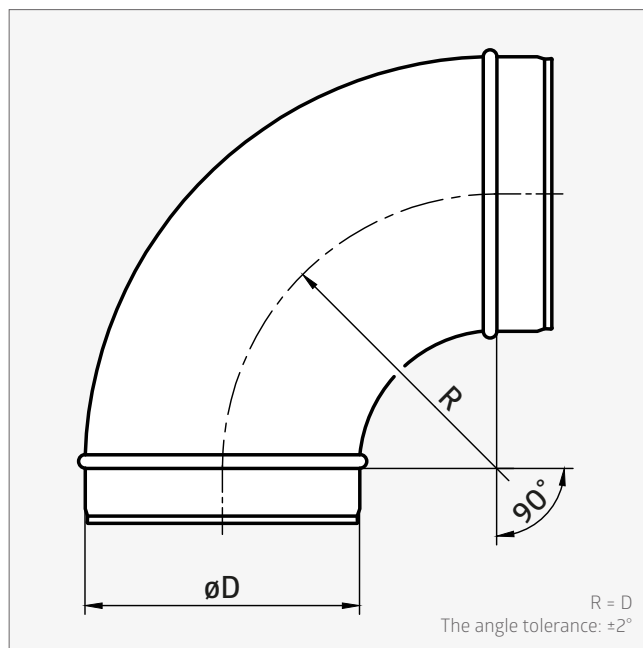
Karlovarska, Prague

10 000 m²





90° pressed bend **B / BL**



PRODUCT CHARACTERISTICS:

- pressed
- stitch welded
- returned edges
- gasket is positioned by returned edges (BL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (BL)

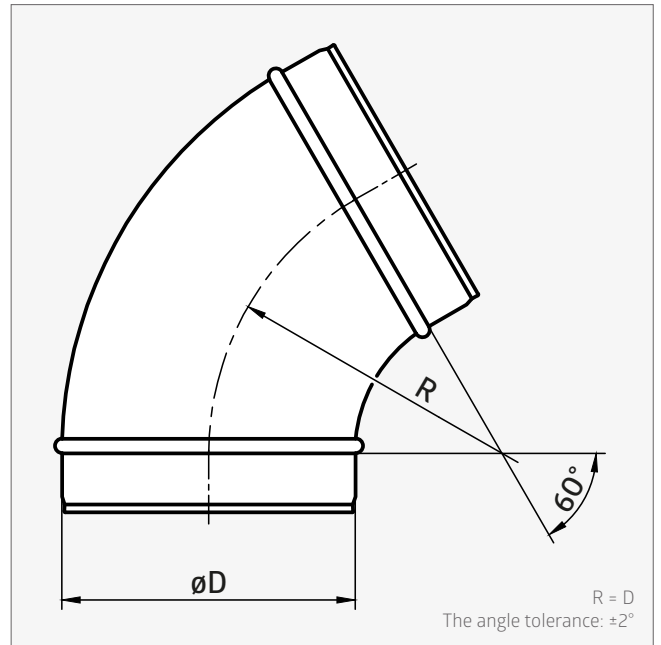
Part of a certified ventilation system **with increased airtightness class D.**

| øD [mm] | |
|------------|----------|
| 80 | 60 P6 |
| 100 | 110 P2 |
| 125 | 60 P2 |
| 150 | 75 P1 |
| 160 | 60 P1 |
| 180 | 45 P1 |
| 200 | 33 P1 |
| 250 | 18 P1 |

Packaging [pcs | type]



60° pressed bend **B / BL**



PRODUCT CHARACTERISTICS:

- pressed
- stitch welded
- returned edges
- gasket is positioned by returned edges (BL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (BL)

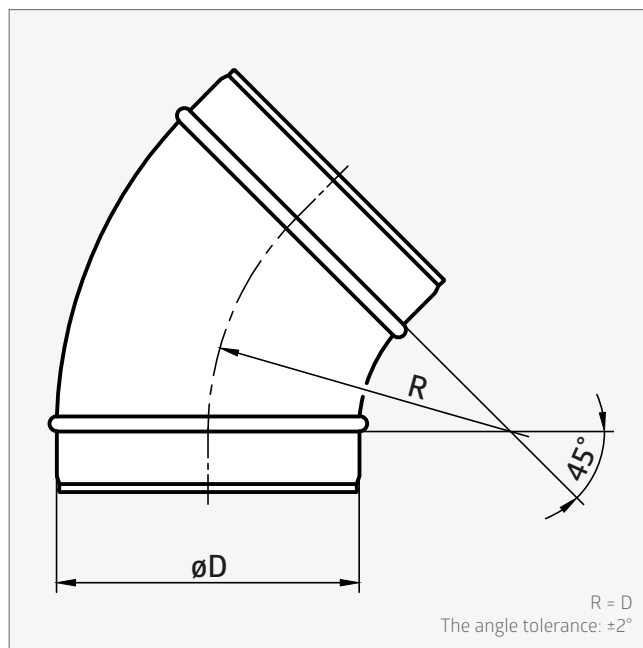
Part of a certified ventilation system **with increased airtightness class D.**

| øD [mm] | | |
|------------|---------|---------|
| | B | BL |
| 80 | 75 P6 | 75 P6 |
| 100 | 40 P6 | 40 P6 |
| 125 | 22 P6 | 22 P6 |
| 150 | 15 P6 | 20 P4 |
| 160 | 20 P4 | 20 P4 |
| 180 | 16 P4 | 16 P4 |
| 200 | 12 P4 | 12 P4 |

Packaging [pcs | type]



45° pressed bend **B / BL**



PRODUCT CHARACTERISTICS:

- pressed
- stitch welded
- returned edges
- gasket is positioned by returned edges (BL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (BL)

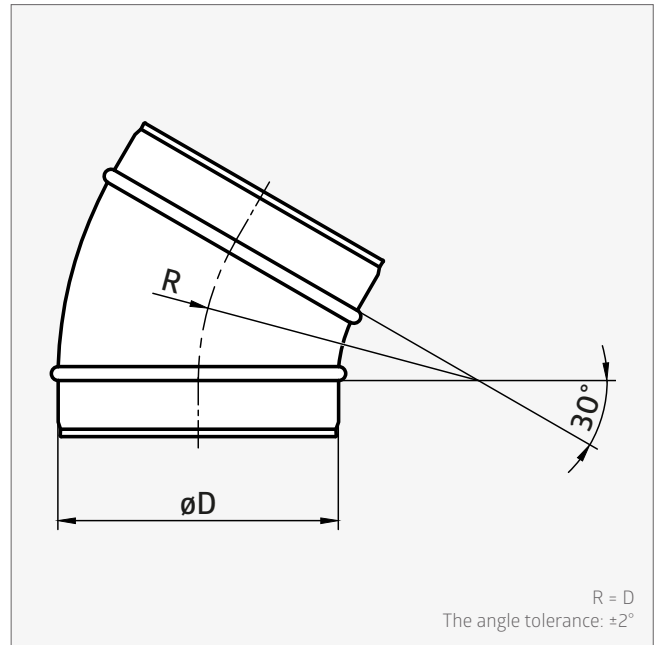
Part of a certified ventilation system **with increased airtightness class D.**

| $\varnothing D$ [mm] | |
|-------------------------|----------|
| 80 | 50 P12 |
| 100 | 90 P4 |
| 125 | 100 P2 |
| 150 | 60 P1 |
| 160 | 110 P1 |
| 180 | 80 P1 |
| 200 | 55 P1 |
| 250 | 30 P1 |

Packaging [pcs | type]



30° pressed bend **B / BL**




PRODUCT CHARACTERISTICS:

- pressed
- stitch welded
- returned edges
- gasket is positioned by returned edges (BL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (BL)

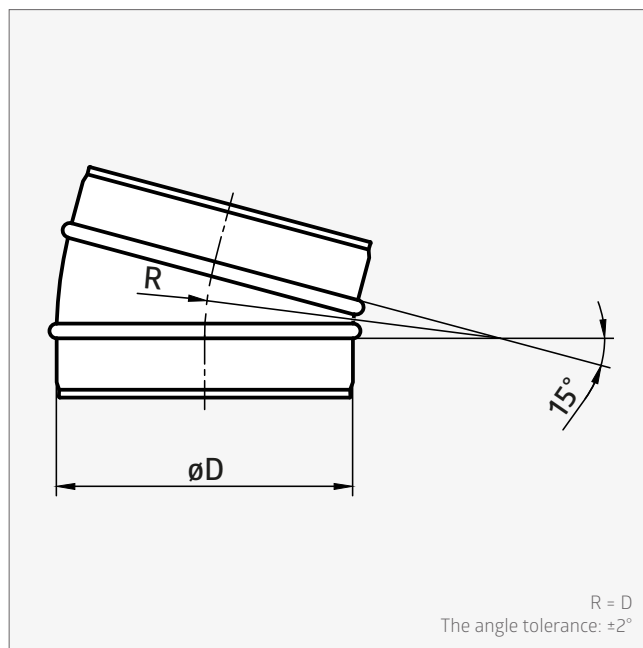
Part of a certified ventilation system **with increased airtightness class D.**

| øD [mm] |  |
|------------|---|
| 80 | 55 P12 |
| 100 | 75 P6 |
| 125 | 40 P6 |
| 150 | 25 P6 |
| 160 | 20 P6 |
| 180 | 16 P6 |
| 200 | 18 P4 |

 Packaging [pcs | type]



15° pressed bend **B / BL**



PRODUCT CHARACTERISTICS:

- pressed
- stitch welded
- returned edges
- gasket is positioned by returned edges (BL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (BL)

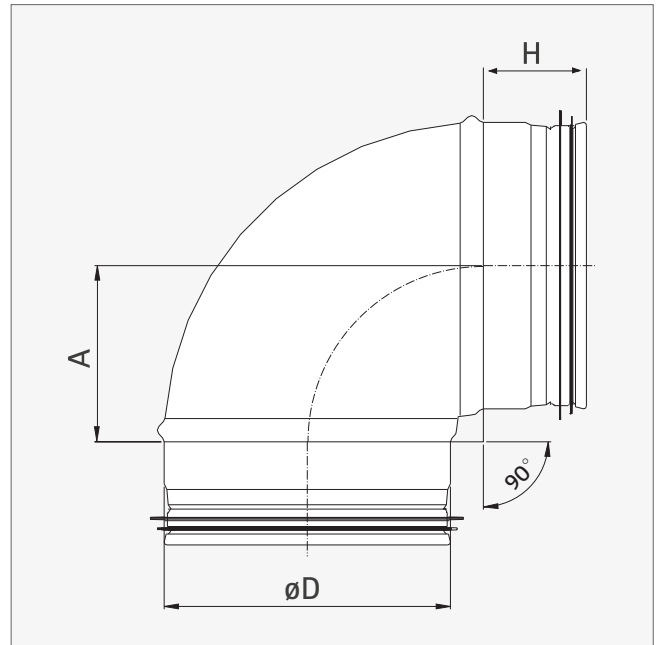
Part of a certified ventilation system **with increased airtightness class D.**

| $\varnothing D$ [mm] | |
|-------------------------|----------|
| 80 | 70 P12 |
| 100 | 50 P12 |
| 125 | 28 P12 |
| 150 | 16 P12 |
| 160 | 15 P12 |
| 180 | 25 P6 |
| 200 | 16 P6 |

Packaging [pcs | type]



90° short pressed bend **BKL90**




PRODUCT CHARACTERISTICS:

- pressed
- stitch welded
- returned edges
- gasket is positioned by returned edges

MATERIAL:

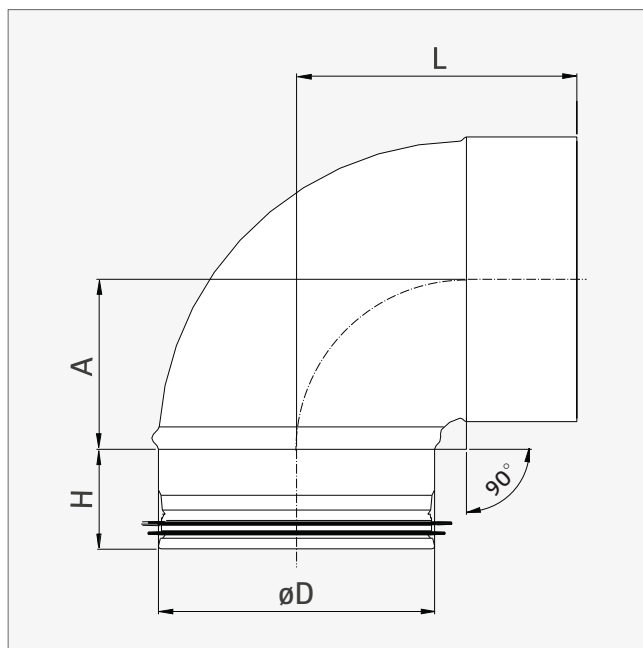
- galvanized steel
- EPDM rubber gasket

| ØD [mm] | A [mm] | H [mm] |  |
|------------|-----------|-----------|---|
| 100 | 62 | 38 | 50 P6 |
| 125 | 79 | 38 | 30 P6 |
| 160 | 94 | 38 | 15 P6 |

 Packaging [pcs | type]



90° short pressed bend **BKML90**



PRODUCT CHARACTERISTICS:

- pressed
- stitch welded
- returned edges
- one female end
- gasket is positioned by returned edges

MATERIAL:

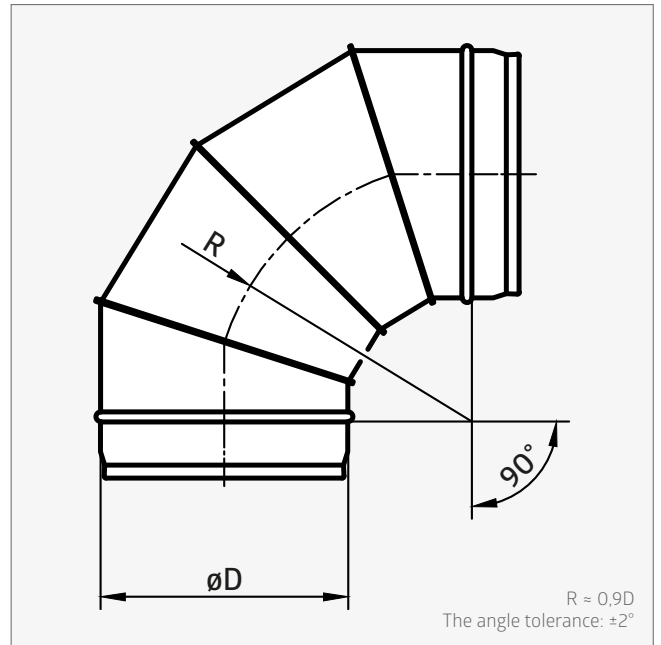
- galvanized steel
- EPDM rubber gasket

| ØD [mm] | L [mm] | A [mm] | H [mm] | |
|------------|--------|--------|--------|----------|
| 100 | 105 | 62 | 38 | 50 P12 |
| 125 | 120 | 79 | 38 | 25 P12 |
| 160 | 136 | 94 | 38 | 15 P12 |

Packaging [pcs | type]



90° segmented bend **BF(E) / BFL**






PRODUCT CHARACTERISTICS:

- segments connected with lock
- stitch welded
- produced with returned (BF) or sharp edges (BFE)
- gasket is positioned by returned edges (BFL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (BFL)

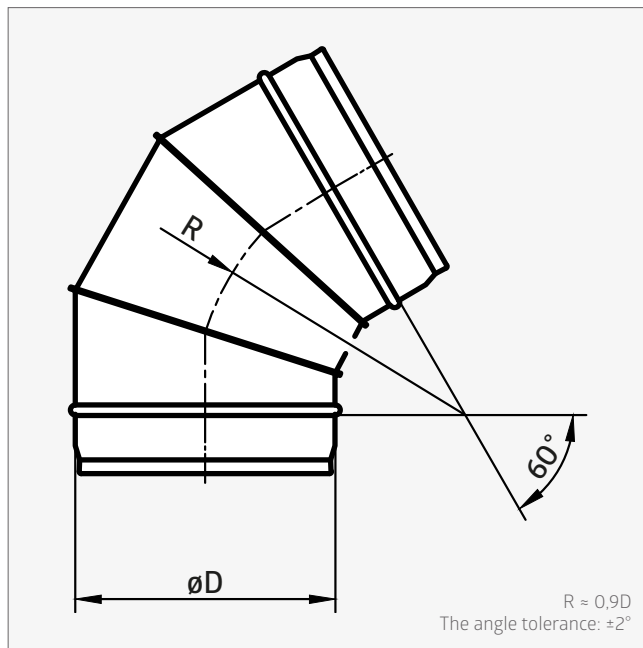
Part of a certified ventilation system **with increased airtightness class D.**

| $\varnothing D$ [mm] |  | $\varnothing D$ [mm] |  | $\varnothing D$ [mm] |  |
|-------------------------|---|-------------------------|---|-------------------------|---|
| 224 | 20 P1 | 400 | 4 P1 | 710 | |
| 250* | 18 P1 | 450 | | 800 | |
| 280 | 6 P1 | 500 | | 900 | |
| 300 | 9 P1 | 560 | | 1000 | |
| 315* | 8 P1 | 600 | | 1250 | |
| 355 | 6 P1 | 630 | | | |

 Packaging [pcs | type] * only BF / BFL



60° segmented bend **BF(E) / BFL**




PRODUCT CHARACTERISTICS:


- segments connected with lock
- stitch welded
- produced with returned (BF) or sharp edges (BFE)
- gasket is positioned by returned edges (BFL)


MATERIAL:

- galvanized steel
- EPDM rubber gasket (BFL)

Part of a certified ventilation system **with increased airtightness class D.**

| øD [mm] |  |
|---------|---|
| 224 | 6 P4 |
| 250* | 10 P2 |
| 280 | |
| 300 | 2 P6 |
| 315* | 12 P1 |
| 355 | 10 P1 |

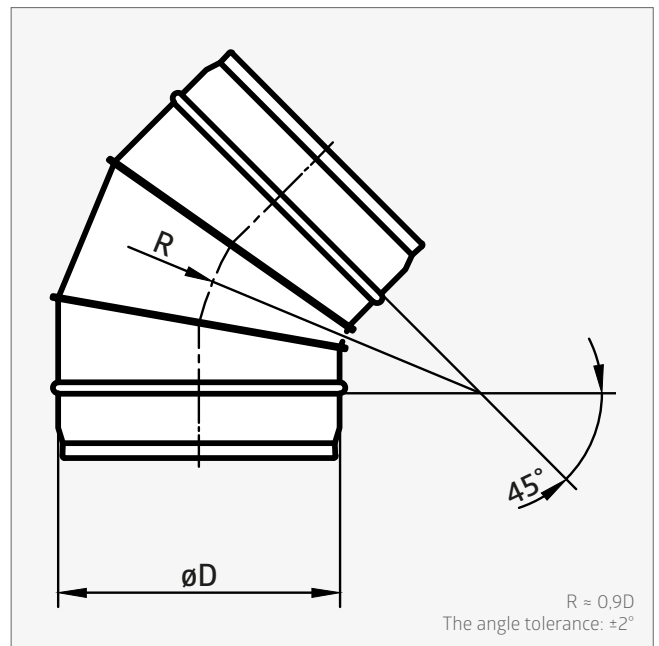
| øD [mm] |  |
|---------|---|
| 400 | 5 P1 |
| 450 | |
| 500 | |
| 560 | |
| 600 | |
| 630 | |

| øD [mm] |  |
|---------|---|
| 710 | |
| 800 | |
| 900 | |
| 1000 | |
| 1250 | |

 Packaging [pcs | type] * only BF / BFL



45° segmented bend **BF(E) / BFL**






PRODUCT CHARACTERISTICS:

- segments connected with lock
- stitch welded
- produced with returned (BF) or sharp edges (BFE)
- gasket is positioned by returned edges (BFL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (BFL)

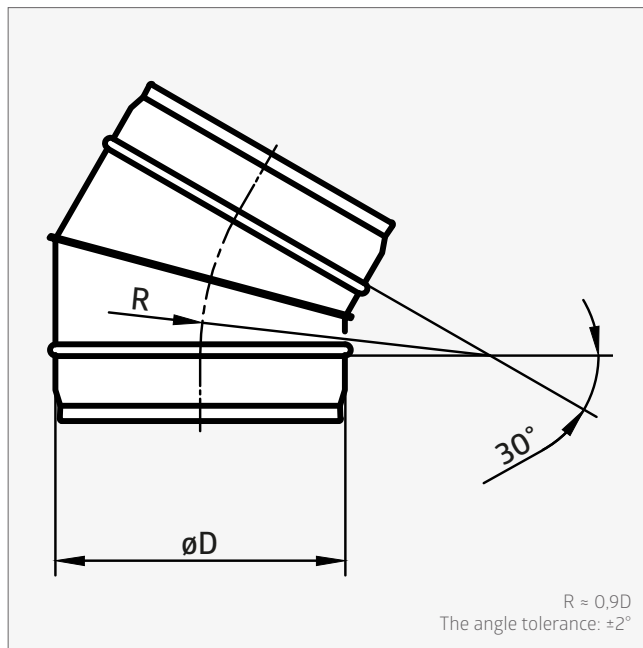
Part of a certified ventilation system **with increased airtightness class D.**

| øD [mm] |  | øD [mm] |  | øD [mm] |  |
|---------|---|---------|---|---------|---|
| 224 | 18 P2 | 400 | 8 P1 | 710 | |
| 250* | 30 P1 | 450 | | 800 | |
| 280 | 24 P1 | 500 | | 900 | |
| 300 | 18 P1 | 560 | | 1000 | |
| 315* | 16 P1 | 600 | | 1250 | |
| 355 | 12 P1 | 630 | | | |

 Packaging [pcs | type] * only BF / BFL



30° segmented bend **BF(E) / BFL**



PRODUCT CHARACTERISTICS:

- segments connected with lock
- stitch welded
- produced with returned (BF) or sharp edges (BFE)
- gasket is positioned by returned edges (BFL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (BFL)

Part of a certified ventilation system **with increased airtightness class D.**

| øD [mm] | |
|---------|---------|
| 224 | 12 P4 |
| 250 | 36 P1 |
| 280 | |
| 300 | 10 P2 |
| 315 | 18 P1 |
| 355 | 8 P2 |

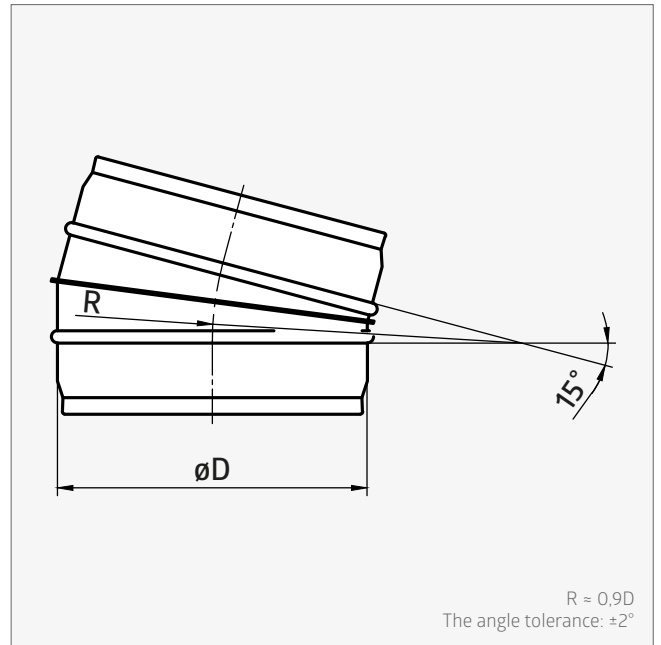
| øD [mm] | |
|---------|---------|
| 400 | 13 P1 |
| 450 | |
| 500 | |
| 560 | |
| 600 | |
| 630 | |

| øD [mm] | |
|---------|--|
| 710 | |
| 800 | |
| 900 | |
| 1000 | |
| 1250 | |

Packaging [pcs | type] * only BF / BFL



15° segmented bend **BF(E) / BFL**




PRODUCT CHARACTERISTICS:


- segments connected with lock
- stitch welded
- produced with returned (BF) or sharp edges (BFE)
- gasket is positioned by returned edges (BFL)


MATERIAL:

- galvanized steel
- EPDM rubber gasket (BFL)

Part of a certified ventilation system **with increased airtightness class D.**

| øD [mm] |  |
|---------|---|
| 224 | |
| 250 | 24 P2 |
| 280 | 7 P6 |
| 300 | 16 P2 |
| 315 | 28 P1 |
| 355 | 25 P1 |

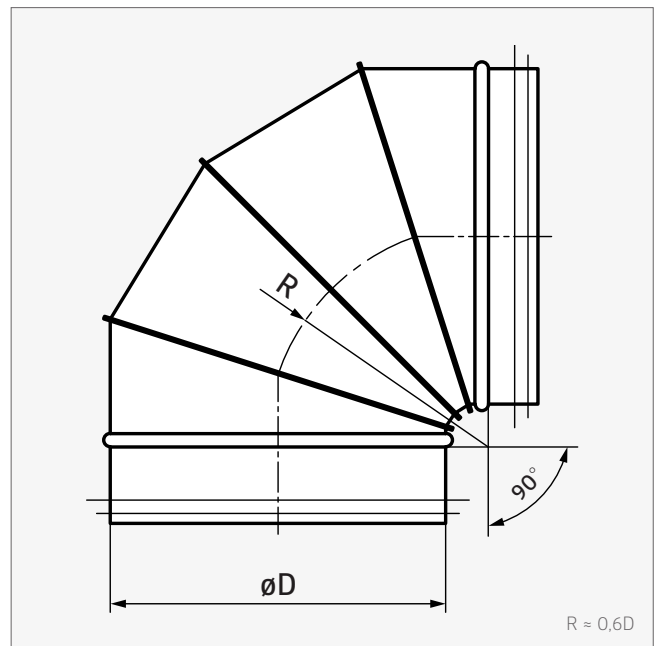
| øD [mm] |  |
|---------|---|
| 400 | 18 P1 |
| 450 | |
| 500 | |
| 560 | |
| 600 | |
| 630 | |

| øD [mm] |  |
|---------|---|
| 710 | |
| 800 | |
| 900 | |
| 1000 | |
| 1250 | |

 Packaging [pcs | type] * only **BF / BFL**



90° short segmented bend **BFKL90**



PRODUCT CHARACTERISTICS:

- segments connected with lock
- stitch welded
- short installation length
- gasket is positioned by returned edges

MATERIAL:

- galvanized steel
- EPDM rubber gasket

| $\varnothing D$ [mm] | |
|-------------------------|---------|
| 224 | |
| 250 | 24 P1 |
| 280 | |
| 300 | |
| 315 | 12 P1 |

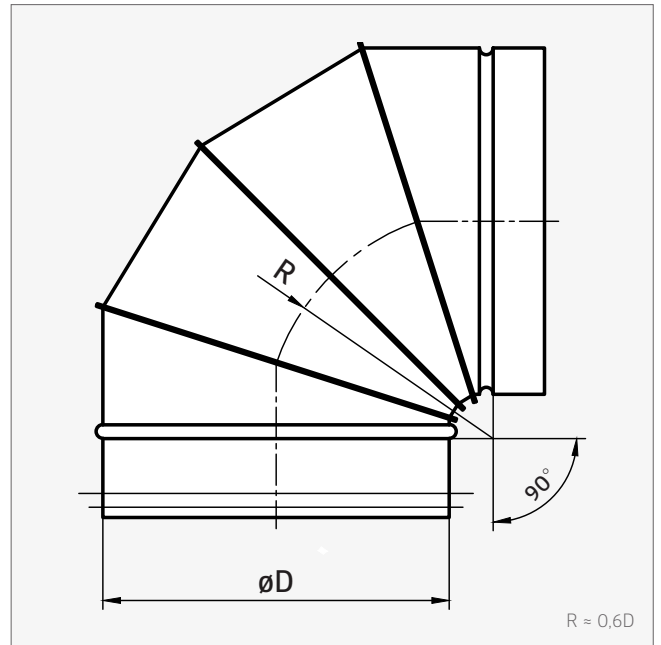
| $\varnothing D$ [mm] | |
|-------------------------|--------|
| 355 | |
| 400 | 5 P1 |
| 450 | |
| 500 | |
| 560 | |

| $\varnothing D$ [mm] | |
|-------------------------|--|
| 630 | |
| 710 | |
| 800 | |
| 900 | |
| 1000 | |

Packaging [pcs | type]



90° short segmented bend **BFKML90**





PRODUCT CHARACTERISTICS:


- segments connected with lock
- stitch welded
- short installation length
- one female end
- gasket is positioned by returned edges

MATERIAL:

- galvanized steel
- EPDM rubber gasket

| øD [mm] |  |
|------------|---|
| 224 | |
| 250 | 24 P1 |
| 280 | |
| 300 | |
| 315 | 12 P1 |

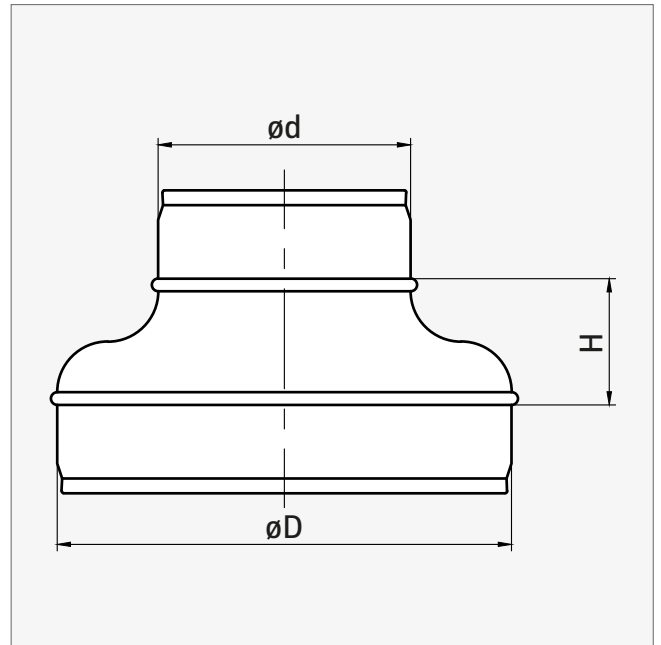
| øD [mm] |  |
|------------|---|
| 355 | |
| 400 | 5 P1 |
| 450 | |
| 500 | |
| 560 | |

| øD [mm] |  |
|-------------|---|
| 630 | |
| 710 | |
| 800 | |
| 900 | |
| 1000 | |

 Packaging [pcs | type]



Pressed reducer **RC / RCPL**




PRODUCT CHARACTERISTICS:


- pressed
- single element
- gasket is positioned by returned edges (RCPL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (RCPL)

Part of a certified ventilation system **with increased airtightness class D.**

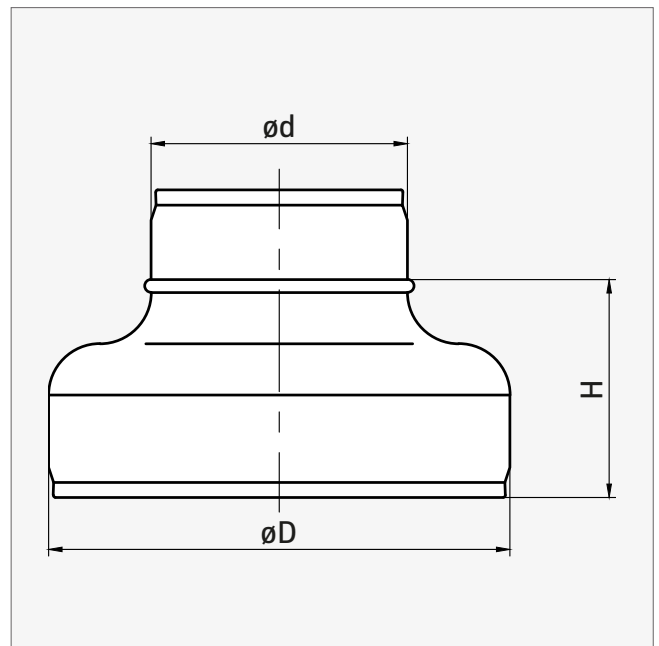
| øD [mm] | ød [mm] | H [mm] |  | |
|---------|---------|--------|---|-----------|
| | | | RC | RCPL |
| 100 | 80 | 26 | 96 P12 | 112 P12 |
| 125 | 80 | 36 | 63 P12 | 63 P12 |
| 125 | 100 | 27 | 63 P12 | 63 P12 |
| 150 | 100 | 36 | 42 P12 | 42 P12 |
| 150 | 125 | 31 | 42 P12 | 42 P12 |
| 160 | 80 | 55 | 30 P12 | 30 P12 |
| 160 | 100 | 46 | 35 P12 | 35 P12 |
| 160 | 125 | 35 | 35 P12 | 35 P12 |
| 160 | 150 | 22 | 35 P12 | 35 P12 |
| 180 | 100 | 55 | 28 P12 | 28 P12 |
| 180 | 125 | 40 | 28 P12 | 28 P12 |
| 180 | 150 | 27 | 28 P12 | 28 P12 |
| 180 | 160 | 20 | 28 P12 | 28 P12 |
| 200 | 100 | 46 | 28 P12 | 28 P12 |
| 200 | 125 | 55 | 24 P12 | 24 P12 |
| 200 | 150 | 37 | 28 P12 | 28 P12 |
| 200 | 160 | 39 | 28 P12 | 28 P12 |

| øD [mm] | ød [mm] | H [mm] |  | |
|---------|---------|--------|---|----------|
| | | | RC | RCPL |
| 200 | 180 | 26 | 28 P12 | 28 P12 |
| 224 | 150 | 48 | 34 P6 | 28 P4 |
| 224 | 160 | 44 | 32 P6 | 28 P4 |
| 224 | 200 | 24 | 30 P6 | 30 P6 |
| 250 | 125 | 70 | 28 P4 | 28 P4 |
| 250 | 150 | 62 | 30 P4 | 30 P4 |
| 250 | 160 | 60 | 30 P4 | 30 P4 |
| 250 | 180 | 47 | 30 P4 | 28 P4 |
| 250 | 200 | 42 | 30 P4 | 30 P4 |
| 250 | 224 | 29 | 28 P4 | 28 P4 |
| 300 | 200 | 59 | 20 P4 | 20 P4 |
| 300 | 250 | 34 | 22 P4 | 22 P4 |
| 315 | 160 | 91 | 16 P4 | 14 P4 |
| 315 | 200 | 74 | 16 P4 | 16 P4 |
| 315 | 250 | 50 | 16 P4 | 16 P4 |
| 355 | 250 | 69 | | |
| 355 | 315 | 33 | | |

 Packaging [pcs | type]



Pressed male-female reducer **RCF / RCFPL**





PRODUCT CHARACTERISTICS:

- female-male version
- pressed
- single element
- gasket is positioned by returned edges (RCFPL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (RCFPL)

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | H [mm] |  |
|-------------------------|-------------------------|-----------|---|
| 100 | 80 | 61 | 45 P24 |
| 125 | 80 | 73 | 72 P12 |
| 125 | 100 | 64 | 72 P12 |
| 150 | 100 | 78 | |
| 150 | 125 | 66 | 48 P12 |
| 160 | 100 | 83 | 35 P12 |
| 160 | 125 | 71 | 35 P12 |
| 200 | 100 | 84 | 28 P12 |

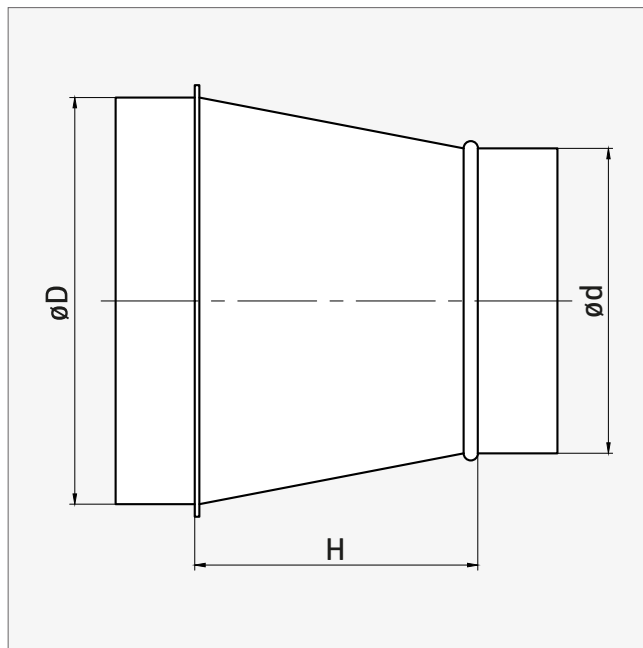
| $\varnothing D$ [mm] | $\varnothing d$ [mm] | H [mm] |  |
|-------------------------|-------------------------|-----------|---|
| 200 | 125 | 90 | 28 P12 |
| 200 | 150 | 75 | 28 P12 |
| 200 | 160 | 73 | 28 P12 |
| 250 | 160 | 117 | 30 P4 |
| 250 | 200 | 103 | 30 P4 |
| 315 | 160 | 153 | 18 P4 |
| 315 | 200 | 134 | 16 / 20* P4 |
| 315 | 250 | 108 | 18 P4 |

 Packaging [pcs | type]

* RCF / RCFPL



Symmetric hand made reducer **RCLE / RCLL**




PRODUCT CHARACTERISTICS:


- segments connected with lock
- stitch welded
- gasket is positioned by returned edges (RCLL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (RCLL)


Part of a certified ventilation system **with increased airtightness class D.**


| øD [mm] | ød [mm] | H [mm] |  | |
|---------|---------|--------|---|---------|
| | | | RCLE | RCLL |
| 125 | 80 | 60 | | |
| 125 | 100 | 60 | | |
| 140 | 80 | 60 | | |
| 140 | 100 | 60 | | 30 P12 |
| 140 | 125 | 60 | | 30 P12 |
| 150 | 80 | 60 | 75 P6 | 70 P6 |
| 150 | 100 | 60 | | |
| 150 | 125 | 60 | | |
| 150 | 140 | 60 | | 60 P4 |
| 160 | 80 | 60 | | |
| 160 | 100 | 60 | | |
| 160 | 125 | 60 | | |
| 160 | 140 | 60 | | |
| 160 | 150 | 60 | | |
| 180 | 80 | 60 | 50 P6 | |
| 180 | 100 | 60 | | |
| 180 | 125 | 60 | | |

| øD [mm] | ød [mm] | H [mm] |  | |
|---------|---------|--------|---|----------|
| | | | RCLE | RCLL |
| 180 | 140 | 60 | | 20 P12 |
| 180 | 150 | 60 | | |
| 180 | 160 | 60 | | |
| 200 | 100 | 80 | | |
| 200 | 125 | 60 | | |
| 200 | 140 | 60 | | 34 P6 |
| 200 | 150 | 60 | | 34 P6 |
| 200 | 160 | 60 | | |
| 200 | 180 | 60 | | |
| 224 | 100 | 80 | | |
| 224 | 125 | 60 | 10 P12 | 28 P4 |
| 224 | 140 | 60 | | |
| 224 | 150 | 60 | | |
| 224 | 160 | 60 | | 39 P4 |
| 224 | 180 | 60 | | |
| 224 | 200 | 60 | | |
| 250 | 80 | 80 | 25 P4 | |

 Packaging [pcs | type]




| øD [mm] | ød [mm] | H [mm] |  | |
|------------|------------|-----------|---|---------|
| | | | RCLE | RCLL |
| 250 | 100 | 80 | 35 P4 | 13 P6 |
| 250 | 125 | 80 | | 23 P4 |
| 250 | 140 | 80 | | |
| 250 | 150 | 80 | | 21 P4 |
| 250 | 160 | 80 | | 13 P6 |
| 250 | 180 | 60 | 20 P6 | |
| 250 | 200 | 60 | | 13 P6 |
| 250 | 224 | 60 | | 56 P2 |
| 280 | 100 | 100 | | |
| 280 | 125 | 100 | | |
| 280 | 140 | 80 | | |
| 280 | 150 | 80 | | |
| 280 | 160 | 80 | | |
| 280 | 180 | 80 | | |
| 280 | 200 | 80 | | 20 P4 |
| 280 | 224 | 60 | | |
| 280 | 250 | 60 | 14 P6 | |
| 300 | 100 | 100 | | |
| 300 | 125 | 100 | | |
| 300 | 140 | 100 | | |
| 300 | 150 | 80 | 50 P2 | |
| 300 | 160 | 80 | | 11 P6 |
| 300 | 180 | 80 | | |
| 300 | 200 | 80 | | |
| 300 | 224 | 60 | | 10 P6 |
| 300 | 250 | 60 | 24 P4 | 16 P4 |
| 300 | 280 | 60 | 28 P4 | |
| 315 | 100 | 100 | 45 P2 | 11 P6 |
| 315 | 125 | 100 | 45 P2 | 15 P4 |
| 315 | 140 | 100 | | |
| 315 | 150 | 100 | 46 P2 | |
| 315 | 160 | 100 | 20 P4 | 11 P6 |
| 315 | 180 | 80 | | |
| 315 | 200 | 80 | | 14 P4 |
| 315 | 224 | 60 | | |
| 315 | 250 | 60 | 45 P2 | 30 P2 |
| 315 | 280 | 60 | 45 P2 | 16 P4 |
| 315 | 300 | 60 | 56 P2 | 13 P4 |
| 355 | 150 | 100 | 50 P1 | 14 P4 |
| 355 | 160 | 100 | | |
| 355 | 180 | 80 | | |
| 355 | 200 | 80 | 19 P4 | 28 P2 |
| 355 | 224 | 80 | | |
| 355 | 250 | 80 | 19 P4 | 24 P2 |

| øD [mm] | ød [mm] | H [mm] |  | |
|------------|------------|-----------|---|---------|
| | | | RCLE | RCLL |
| 355 | 280 | 60 | | |
| 355 | 300 | 60 | 38 P2 | 14 P4 |
| 355 | 315 | 60 | 40 P2 | 26 P2 |
| 400 | 160 | 100 | | |
| 400 | 180 | 100 | | |
| 400 | 200 | 100 | 30 P2 | 18 P2 |
| 400 | 224 | 100 | | |
| 400 | 250 | 100 | 28 P2 | 16 P2 |
| 400 | 280 | 80 | | |
| 400 | 300 | 80 | 34 P2 | 16 P2 |
| 400 | 315 | 70 | 30 P2 | 20 P2 |
| 400 | 355 | 60 | 28 P2 | 18 P2 |
| 450 | 160 | 100 | | |
| 450 | 180 | 100 | | |
| 450 | 200 | 100 | | 10 P2 |
| 450 | 224 | 100 | | |
| 450 | 250 | 100 | 16 P2 | 10 P2 |
| 450 | 280 | 100 | | |
| 450 | 300 | 100 | 16 P2 | |
| 450 | 315 | 100 | 16 P2 | 10 P2 |
| 450 | 355 | 80 | 15 P2 | 10 P2 |
| 450 | 400 | 60 | 17 P2 | 24 P1 |
| 500 | 200 | 150 | 15 P2 | |
| 500 | 224 | 100 | | |
| 500 | 250 | 100 | 15 P2 | 18 P1 |
| 500 | 280 | 100 | | |
| 500 | 300 | 100 | 14 P2 | 10 P2 |
| 500 | 315 | 100 | 15 P2 | 10 P2 |
| 500 | 355 | 100 | 15 P2 | 10 P2 |
| 500 | 400 | 80 | 15 P2 | 20 P1 |
| 500 | 450 | 60 | 15 P2 | 20 P1 |
| 560 | 200 | 150 | | |
| 560 | 224 | 100 | | |
| 560 | 250 | 100 | | |
| 560 | 280 | 100 | | |
| 560 | 300 | 100 | | |
| 560 | 315 | 100 | 13 P2 | |
| 560 | 355 | 100 | 12 P2 | |
| 560 | 400 | 100 | 13 P2 | 18 P1 |
| 560 | 450 | 80 | 13 P2 | 16 P1 |
| 560 | 500 | 60 | 14 P2 | 18 P1 |
| 600 | 400 | 100 | | |
| 600 | 450 | 100 | | |
| 600 | 500 | 80 | | |

 Packaging [pcs | type]

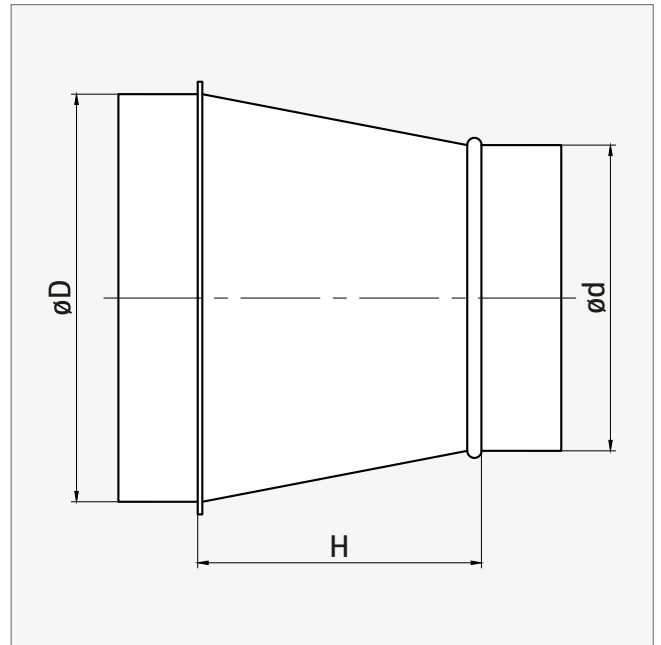


Round fittings

| øD [mm] | ød [mm] | H [mm] |  | |
|------------|------------|-----------|---|---------|
| | | | RCLE | RCLL |
| 600 | 560 | 60 | | |
| 630 | 200 | 150 | | |
| 630 | 224 | 150 | | |
| 630 | 250 | 150 | | |
| 630 | 280 | 150 | | |
| 630 | 300 | 150 | | |
| 630 | 315 | 150 | | |
| 630 | 355 | 150 | 17 P1 | |
| 630 | 400 | 100 | 17 P1 | 13 P1 |
| 630 | 450 | 100 | 17 P1 | 13 P1 |
| 630 | 500 | 100 | 17 P1 | 13 P1 |
| 630 | 560 | 80 | 18 P1 | 13 P1 |
| 710 | 355 | 150 | | |
| 710 | 400 | 100 | | |
| 710 | 450 | 100 | | |
| 710 | 500 | 100 | 13 P1 | |
| 710 | 560 | 100 | | |
| 710 | 600 | 100 | | |
| 710 | 630 | 100 | | |
| 800 | 315 | 200 | | |
| 800 | 355 | 180 | | |
| 800 | 400 | 150 | | |
| 800 | 450 | 150 | | |
| 800 | 500 | 100 | | |
| 800 | 560 | 100 | | |
| 800 | 600 | 80 | | |
| 800 | 630 | 80 | | |
| 800 | 710 | 80 | | |
| 900 | 500 | 150 | | |
| 900 | 560 | 150 | | |
| 900 | 600 | 100 | | |
| 900 | 630 | 80 | | |
| 900 | 710 | 80 | | |
| 900 | 800 | 80 | | |
| 1000 | 500 | 220 | | |
| 1000 | 560 | 180 | | |
| 1000 | 600 | 170 | | |
| 1000 | 630 | 150 | | |
| 1000 | 710 | 100 | | |
| 1000 | 800 | 100 | | |
| 1000 | 900 | 80 | | |



Symmetric hand made reducer **RCFLE / RCFL**



PRODUCT CHARACTERISTICS:

- female-male version
- segments connected with lock
- stitch welded
- gasket is positioned by returned edges (RCFLL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (RCFLL)

| øD [mm] | ød [mm] | L [mm] |
|---------|---------|--------|
| 125 | 80 | 60 |
| 125 | 100 | 60 |
| 140 | 80 | 60 |
| 140 | 100 | 60 |
| 140 | 125 | 60 |
| 150 | 80 | 60 |
| 150 | 100 | 60 |
| 150 | 125 | 60 |
| 150 | 140 | 60 |
| 160 | 80 | 60 |
| 160 | 100 | 60 |
| 160 | 125 | 60 |
| 160 | 140 | 60 |
| 160 | 150 | 60 |
| 180 | 80 | 60 |
| 180 | 100 | 60 |
| 180 | 125 | 60 |

| øD [mm] | ød [mm] | L [mm] |
|---------|---------|--------|
| 180 | 140 | 60 |
| 180 | 150 | 60 |
| 180 | 160 | 60 |
| 200 | 100 | 80 |
| 200 | 125 | 60 |
| 200 | 140 | 60 |
| 200 | 150 | 60 |
| 200 | 160 | 60 |
| 200 | 180 | 60 |
| 224 | 100 | 80 |
| 224 | 125 | 60 |
| 224 | 140 | 60 |
| 224 | 150 | 60 |
| 224 | 160 | 60 |
| 224 | 180 | 60 |
| 224 | 200 | 60 |
| 250 | 80 | 80 |

| øD [mm] | ød [mm] | L [mm] |
|---------|---------|--------|
| 250 | 100 | 80 |
| 250 | 125 | 80 |
| 250 | 140 | 80 |
| 250 | 150 | 80 |
| 250 | 160 | 80 |
| 250 | 180 | 60 |
| 250 | 200 | 60 |
| 250 | 224 | 60 |
| 280 | 100 | 100 |
| 280 | 125 | 100 |
| 280 | 140 | 80 |
| 280 | 150 | 80 |
| 280 | 160 | 80 |
| 280 | 180 | 80 |
| 280 | 200 | 80 |
| 280 | 224 | 60 |
| 280 | 250 | 60 |

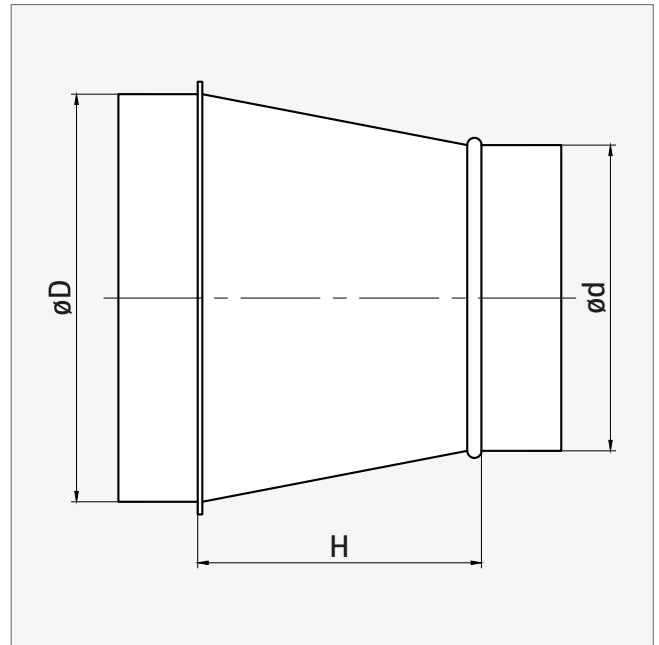


Round fittings

| øD [mm] | ød [mm] | H [mm] | øD [mm] | ød [mm] | H [mm] | øD [mm] | ød [mm] | H [mm] |
|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|-------------------------|
| 300 | 100 | 100 | 400 | 355 | 60 | 630 | 300 | 150 |
| 300 | 125 | 100 | 450 | 160 | 100 | 630 | 315 | 150 |
| 300 | 140 | 100 | 450 | 180 | 100 | 630 | 355 | 150 |
| 300 | 150 | 80 | 450 | 200 | 100 | 630 | 400 | 100 |
| 300 | 160 | 80 | 450 | 224 | 100 | 630 | 450 | 100 |
| 300 | 180 | 80 | 450 | 250 | 100 | 630 | 500 | 100 |
| 300 | 200 | 80 | 450 | 280 | 100 | 630 | 560 | 80 |
| 300 | 224 | 60 | 450 | 300 | 100 | 710 | 355 | 150 |
| 300 | 250 | 60 | 450 | 315 | 100 | 710 | 400 | 100 |
| 300 | 280 | 60 | 450 | 355 | 80 | 710 | 450 | 100 |
| 315 | 100 | 100 | 450 | 400 | 60 | 710 | 500 | 100 |
| 315 | 125 | 100 | 500 | 200 | 150 | 710 | 560 | 100 |
| 315 | 140 | 100 | 500 | 224 | 100 | 710 | 600 | 100 |
| 315 | 150 | 100 | 500 | 250 | 100 | 710 | 630 | 100 |
| 315 | 160 | 100 | 500 | 280 | 100 | 800 | 315 | 200 |
| 315 | 180 | 80 | 500 | 300 | 100 | 800 | 355 | 180 |
| 315 | 200 | 80 | 500 | 315 | 100 | 800 | 400 | 150 |
| 315 | 224 | 60 | 500 | 355 | 100 | 800 | 450 | 150 |
| 315 | 250 | 60 | 500 | 400 | 80 | 800 | 500 | 100 |
| 315 | 280 | 60 | 500 | 450 | 60 | 800 | 560 | 100 |
| 315 | 300 | 60 | 560 | 200 | 150 | 800 | 600 | 80 |
| 355 | 150 | 100 | 560 | 224 | 100 | 800 | 630 | 80 |
| 355 | 160 | 100 | 560 | 250 | 100 | 800 | 710 | 80 |
| 355 | 180 | 80 | 560 | 280 | 100 | 900 | 500 | 150 |
| 355 | 200 | 80 | 560 | 300 | 100 | 900 | 560 | 150 |
| 355 | 224 | 80 | 560 | 315 | 100 | 900 | 600 | 100 |
| 355 | 250 | 80 | 560 | 355 | 100 | 900 | 630 | 80 |
| 355 | 280 | 60 | 560 | 400 | 100 | 900 | 710 | 80 |
| 355 | 300 | 60 | 560 | 450 | 80 | 900 | 800 | 80 |
| 355 | 315 | 60 | 560 | 500 | 60 | 1000 | 500 | 220 |
| 400 | 160 | 100 | 600 | 400 | 100 | 1000 | 560 | 180 |
| 400 | 180 | 100 | 600 | 450 | 100 | 1000 | 600 | 170 |
| 400 | 200 | 100 | 600 | 500 | 80 | 1000 | 630 | 150 |
| 400 | 224 | 100 | 600 | 560 | 60 | 1000 | 710 | 100 |
| 400 | 250 | 100 | 630 | 200 | 150 | 1000 | 800 | 100 |
| 400 | 280 | 80 | 630 | 224 | 150 | 1000 | 900 | 80 |
| 400 | 300 | 80 | 630 | 250 | 150 | | | |
| 400 | 315 | 70 | 630 | 280 | 150 | | | |



Symmetric hand made reducer **RCFFL**



PRODUCT CHARACTERISTICS:

- female-female version
- segments connected with lock
- stitch welded

MATERIAL:

- galvanized steel

| øD [mm] | ød [mm] | L [mm] |
|---------|---------|--------|
| 125 | 80 | 60 |
| 125 | 100 | 60 |
| 140 | 80 | 60 |
| 140 | 100 | 60 |
| 140 | 125 | 60 |
| 150 | 80 | 60 |
| 150 | 100 | 60 |
| 150 | 125 | 60 |
| 150 | 140 | 60 |
| 160 | 80 | 60 |
| 160 | 100 | 60 |
| 160 | 125 | 60 |
| 160 | 140 | 60 |
| 160 | 150 | 60 |
| 180 | 80 | 60 |
| 180 | 100 | 60 |
| 180 | 125 | 60 |

| øD [mm] | ød [mm] | L [mm] |
|---------|---------|--------|
| 180 | 140 | 60 |
| 180 | 150 | 60 |
| 180 | 160 | 60 |
| 200 | 100 | 80 |
| 200 | 125 | 60 |
| 200 | 140 | 60 |
| 200 | 150 | 60 |
| 200 | 160 | 60 |
| 200 | 180 | 60 |
| 224 | 100 | 80 |
| 224 | 125 | 60 |
| 224 | 140 | 60 |
| 224 | 150 | 60 |
| 224 | 160 | 60 |
| 224 | 180 | 60 |
| 224 | 200 | 60 |
| 250 | 80 | 80 |

| øD [mm] | ød [mm] | L [mm] |
|---------|---------|--------|
| 250 | 100 | 80 |
| 250 | 125 | 80 |
| 250 | 140 | 80 |
| 250 | 150 | 80 |
| 250 | 160 | 80 |
| 250 | 180 | 60 |
| 250 | 200 | 60 |
| 250 | 224 | 60 |
| 280 | 100 | 100 |
| 280 | 125 | 100 |
| 280 | 140 | 80 |
| 280 | 150 | 80 |
| 280 | 160 | 80 |
| 280 | 180 | 80 |
| 280 | 200 | 80 |
| 280 | 224 | 60 |
| 280 | 250 | 60 |

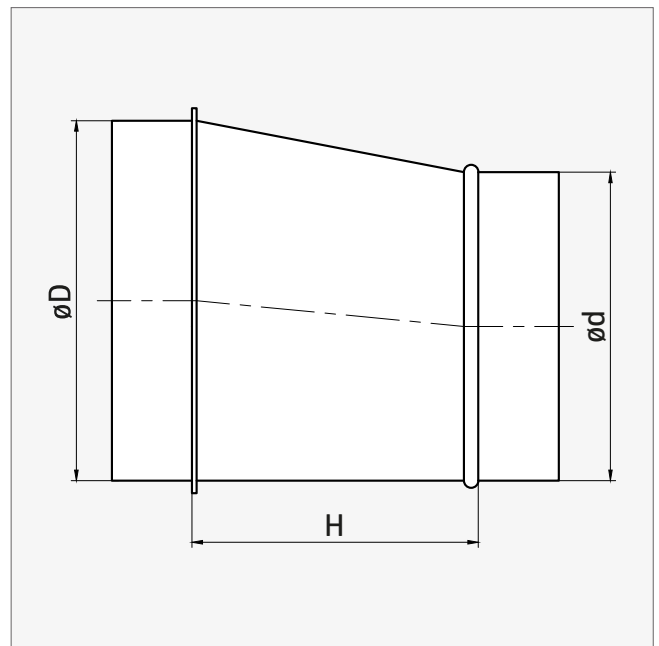


Round fittings

| øD [mm] | ød [mm] | H [mm] | øD [mm] | ød [mm] | H [mm] | øD [mm] | ød [mm] | H [mm] |
|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|-------------------------|
| 300 | 100 | 100 | 450 | 280 | 100 | 710 | 600 | 100 |
| 300 | 125 | 100 | 450 | 300 | 100 | 710 | 630 | 100 |
| 300 | 140 | 100 | 450 | 315 | 100 | 800 | 315 | 200 |
| 300 | 150 | 80 | 450 | 355 | 80 | 800 | 355 | 180 |
| 300 | 160 | 80 | 450 | 400 | 60 | 800 | 400 | 150 |
| 300 | 180 | 80 | 500 | 200 | 150 | 800 | 450 | 150 |
| 300 | 200 | 80 | 500 | 224 | 100 | 800 | 500 | 100 |
| 300 | 224 | 60 | 500 | 250 | 100 | 800 | 560 | 100 |
| 300 | 250 | 60 | 500 | 280 | 100 | 800 | 600 | 80 |
| 300 | 280 | 60 | 500 | 300 | 100 | 800 | 630 | 80 |
| 315 | 100 | 100 | 500 | 315 | 100 | 800 | 710 | 80 |
| 315 | 125 | 100 | 500 | 355 | 100 | 900 | 500 | 150 |
| 315 | 140 | 100 | 500 | 400 | 80 | 900 | 560 | 150 |
| 315 | 150 | 100 | 500 | 450 | 60 | 900 | 600 | 100 |
| 315 | 160 | 100 | 560 | 200 | 150 | 900 | 630 | 80 |
| 315 | 180 | 80 | 560 | 224 | 100 | 900 | 710 | 80 |
| 315 | 200 | 80 | 560 | 250 | 100 | 900 | 800 | 80 |
| 315 | 224 | 60 | 560 | 280 | 100 | 1000 | 500 | 220 |
| 315 | 250 | 60 | 560 | 300 | 100 | 1000 | 560 | 180 |
| 315 | 280 | 60 | 560 | 315 | 100 | 1000 | 600 | 170 |
| 315 | 300 | 60 | 560 | 355 | 100 | 1000 | 630 | 150 |
| 355 | 150 | 100 | 560 | 400 | 100 | 1000 | 710 | 100 |
| 355 | 160 | 100 | 560 | 450 | 80 | 1000 | 800 | 100 |
| 355 | 180 | 80 | 560 | 500 | 60 | 1000 | 900 | 80 |
| 355 | 200 | 80 | 600 | 400 | 100 | | | |
| 355 | 224 | 80 | 600 | 450 | 100 | | | |
| 355 | 250 | 80 | 600 | 500 | 80 | | | |
| 355 | 280 | 60 | 600 | 560 | 60 | | | |
| 355 | 300 | 60 | 630 | 200 | 150 | | | |
| 355 | 315 | 60 | 630 | 224 | 150 | | | |
| 400 | 160 | 100 | 630 | 250 | 150 | | | |
| 400 | 180 | 100 | 630 | 280 | 150 | | | |
| 400 | 200 | 100 | 630 | 300 | 150 | | | |
| 400 | 224 | 100 | 630 | 315 | 150 | | | |
| 400 | 250 | 100 | 630 | 355 | 150 | | | |
| 400 | 280 | 80 | 630 | 400 | 100 | | | |
| 400 | 300 | 80 | 630 | 450 | 100 | | | |
| 400 | 315 | 70 | 630 | 500 | 100 | | | |
| 400 | 355 | 60 | 630 | 560 | 80 | | | |
| 450 | 160 | 100 | 710 | 355 | 150 | | | |
| 450 | 180 | 100 | 710 | 400 | 100 | | | |
| 450 | 200 | 100 | 710 | 450 | 100 | | | |
| 450 | 224 | 100 | 710 | 500 | 100 | | | |
| 450 | 250 | 100 | 710 | 560 | 100 | | | |



Eccentric hand made reducer **RLE / RLL**



PRODUCT CHARACTERISTICS:

- segments connected with lock
- stitch welded
- gasket is positioned by returned edges (RLL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (RLL)

Part of a certified ventilation system **with increased airtightness class D.**

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | H [mm] |
|-------------------------|-------------------------|-----------|
| 100 | 80 | 100 |
| 125 | 80 | 95 |
| 125 | 100 | 50 |
| 140 | 80 | 90 |
| 140 | 100 | 70 |
| 140 | 125 | 50 |
| 150 | 80 | 105 |
| 150 | 100 | 80 |
| 150 | 125 | 70 |
| 150 | 140 | 50 |
| 160 | 80 | 120 |
| 160 | 100 | 100 |
| 160 | 125 | 70 |
| 160 | 140 | 60 |
| 160 | 150 | 40 |
| 180 | 100 | 120 |
| 180 | 125 | 100 |

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | H [mm] |
|-------------------------|-------------------------|-----------|
| 180 | 140 | 80 |
| 180 | 150 | 60 |
| 180 | 160 | 50 |
| 200 | 100 | 150 |
| 200 | 125 | 120 |
| 200 | 140 | 100 |
| 200 | 150 | 80 |
| 200 | 160 | 60 |
| 200 | 180 | 50 |
| 224 | 100 | 190 |
| 224 | 125 | 160 |
| 224 | 140 | 130 |
| 224 | 150 | 120 |
| 224 | 160 | 100 |
| 224 | 180 | 80 |
| 224 | 200 | 60 |
| 250 | 100 | 225 |

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | H [mm] |
|-------------------------|-------------------------|-----------|
| 250 | 125 | 200 |
| 250 | 140 | 170 |
| 250 | 150 | 150 |
| 250 | 160 | 130 |
| 250 | 180 | 100 |
| 250 | 200 | 80 |
| 250 | 224 | 60 |
| 280 | 140 | 200 |
| 280 | 150 | 190 |
| 280 | 160 | 180 |
| 280 | 180 | 150 |
| 280 | 200 | 120 |
| 280 | 224 | 90 |
| 280 | 250 | 60 |
| 300 | 160 | 210 |
| 300 | 180 | 180 |
| 300 | 200 | 150 |

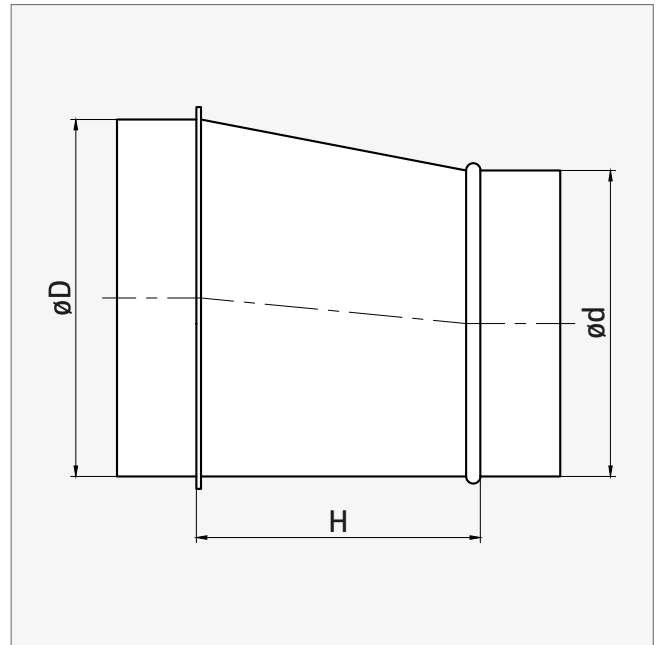


Round fittings

| øD [mm] | ød [mm] | H [mm] | øD [mm] | ød [mm] | H [mm] |
|--------------------|--------------------|-------------------|--------------------|--------------------|-------------------|
| 300 | 224 | 120 | 600 | 500 | 160 |
| 300 | 250 | 90 | 600 | 560 | 100 |
| 300 | 280 | 60 | 630 | 250 | 485 |
| 315 | 100 | 310 | 630 | 315 | 400 |
| 315 | 125 | 260 | 630 | 355 | 350 |
| 315 | 160 | 230 | 630 | 400 | 290 |
| 315 | 180 | 200 | 630 | 450 | 240 |
| 315 | 200 | 170 | 630 | 500 | 180 |
| 315 | 224 | 140 | 630 | 560 | 110 |
| 315 | 250 | 100 | 710 | 355 | 460 |
| 315 | 280 | 60 | 710 | 400 | 400 |
| 315 | 300 | 50 | 710 | 450 | 340 |
| 355 | 180 | 260 | 710 | 500 | 270 |
| 355 | 200 | 230 | 710 | 560 | 195 |
| 355 | 224 | 190 | 710 | 630 | 130 |
| 355 | 250 | 160 | 800 | 400 | 510 |
| 355 | 315 | 80 | 800 | 450 | 450 |
| 400 | 200 | 300 | 800 | 500 | 380 |
| 400 | 224 | 260 | 800 | 560 | 310 |
| 400 | 250 | 220 | 800 | 630 | 220 |
| 400 | 315 | 140 | 800 | 710 | 150 |
| 400 | 355 | 80 | 900 | 450 | 580 |
| 450 | 200 | 300 | 900 | 500 | 520 |
| 450 | 224 | 270 | 900 | 560 | 430 |
| 450 | 250 | 240 | 900 | 630 | 350 |
| 450 | 315 | 160 | 900 | 710 | 260 |
| 450 | 355 | 120 | 900 | 800 | 160 |
| 450 | 400 | 80 | 1000 | 500 | 660 |
| 500 | 250 | 300 | 1000 | 560 | 570 |
| 500 | 315 | 230 | 1000 | 600 | 510 |
| 500 | 355 | 180 | 1000 | 630 | 470 |
| 500 | 400 | 130 | 1000 | 710 | 370 |
| 500 | 450 | 80 | 1000 | 800 | 260 |
| 560 | 250 | 370 | 1000 | 900 | 160 |
| 560 | 315 | 320 | | | |
| 560 | 355 | 280 | | | |
| 560 | 400 | 220 | | | |
| 560 | 450 | 170 | | | |
| 560 | 500 | 100 | | | |
| 600 | 250 | 470 | | | |
| 600 | 315 | 380 | | | |
| 600 | 355 | 340 | | | |
| 600 | 400 | 280 | | | |
| 600 | 450 | 220 | | | |



Eccentric hand made reducer **RFLE / RFL**



PRODUCT CHARACTERISTICS:

- female-male version
- segments connected with lock
- stitch welded
- gasket is positioned by returned edges (RFL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (RFL)

Part of a certified ventilation system **with increased airtightness class D.**

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | H [mm] |
|-------------------------|-------------------------|-----------|
| 100 | 80 | 100 |
| 125 | 80 | 95 |
| 125 | 100 | 50 |
| 140 | 80 | 90 |
| 140 | 100 | 70 |
| 140 | 125 | 50 |
| 150 | 80 | 105 |
| 150 | 100 | 80 |
| 150 | 125 | 70 |
| 150 | 140 | 50 |
| 160 | 80 | 120 |
| 160 | 100 | 100 |
| 160 | 125 | 70 |
| 160 | 140 | 60 |
| 160 | 150 | 40 |
| 180 | 100 | 120 |
| 180 | 125 | 100 |

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | H [mm] |
|-------------------------|-------------------------|-----------|
| 180 | 140 | 80 |
| 180 | 150 | 60 |
| 180 | 160 | 50 |
| 200 | 100 | 150 |
| 200 | 125 | 120 |
| 200 | 140 | 100 |
| 200 | 150 | 80 |
| 200 | 160 | 60 |
| 200 | 180 | 50 |
| 224 | 100 | 190 |
| 224 | 125 | 160 |
| 224 | 140 | 130 |
| 224 | 150 | 120 |
| 224 | 160 | 100 |
| 224 | 180 | 80 |
| 224 | 200 | 60 |
| 250 | 100 | 225 |

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | H [mm] |
|-------------------------|-------------------------|-----------|
| 250 | 125 | 200 |
| 250 | 140 | 170 |
| 250 | 150 | 150 |
| 250 | 160 | 130 |
| 250 | 180 | 100 |
| 250 | 200 | 80 |
| 250 | 224 | 60 |
| 280 | 140 | 200 |
| 280 | 150 | 190 |
| 280 | 160 | 180 |
| 280 | 180 | 150 |
| 280 | 200 | 120 |
| 280 | 224 | 90 |
| 280 | 250 | 60 |
| 300 | 160 | 210 |
| 300 | 180 | 180 |
| 300 | 200 | 150 |

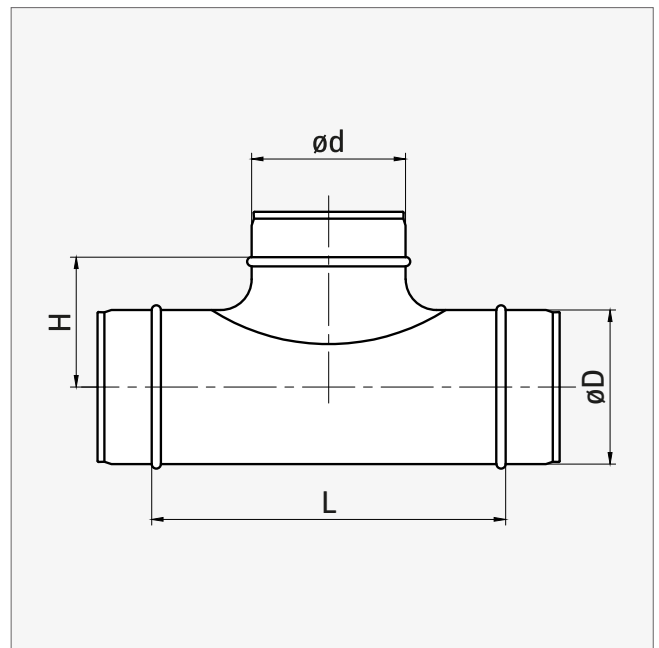


Round fittings

| øD [mm] | ød [mm] | H [mm] | øD [mm] | ød [mm] | H [mm] |
|--------------------|--------------------|-------------------|--------------------|--------------------|-------------------|
| 300 | 224 | 120 | 600 | 500 | 160 |
| 300 | 250 | 90 | 600 | 560 | 100 |
| 300 | 280 | 60 | 630 | 250 | 485 |
| 315 | 100 | 310 | 630 | 315 | 400 |
| 315 | 125 | 260 | 630 | 355 | 350 |
| 315 | 160 | 230 | 630 | 400 | 290 |
| 315 | 180 | 200 | 630 | 450 | 240 |
| 315 | 200 | 170 | 630 | 500 | 180 |
| 315 | 224 | 140 | 630 | 560 | 110 |
| 315 | 250 | 100 | 710 | 355 | 460 |
| 315 | 280 | 60 | 710 | 400 | 400 |
| 315 | 300 | 50 | 710 | 450 | 340 |
| 355 | 180 | 260 | 710 | 500 | 270 |
| 355 | 200 | 230 | 710 | 560 | 195 |
| 355 | 224 | 190 | 710 | 630 | 130 |
| 355 | 250 | 160 | 800 | 400 | 510 |
| 355 | 315 | 80 | 800 | 450 | 450 |
| 400 | 200 | 300 | 800 | 500 | 380 |
| 400 | 224 | 260 | 800 | 560 | 310 |
| 400 | 250 | 220 | 800 | 630 | 220 |
| 400 | 315 | 140 | 800 | 710 | 150 |
| 400 | 355 | 80 | 900 | 450 | 580 |
| 450 | 200 | 300 | 900 | 500 | 520 |
| 450 | 224 | 270 | 900 | 560 | 430 |
| 450 | 250 | 240 | 900 | 630 | 350 |
| 450 | 315 | 160 | 900 | 710 | 260 |
| 450 | 355 | 120 | 900 | 800 | 160 |
| 450 | 400 | 80 | 1000 | 500 | 660 |
| 500 | 250 | 300 | 1000 | 560 | 570 |
| 500 | 315 | 230 | 1000 | 600 | 510 |
| 500 | 355 | 180 | 1000 | 630 | 470 |
| 500 | 400 | 130 | 1000 | 710 | 370 |
| 500 | 450 | 80 | 1000 | 800 | 260 |
| 560 | 250 | 370 | 1000 | 900 | 160 |
| 560 | 315 | 320 | | | |
| 560 | 355 | 280 | | | |
| 560 | 400 | 220 | | | |
| 560 | 450 | 170 | | | |
| 560 | 500 | 100 | | | |
| 600 | 250 | 470 | | | |
| 600 | 315 | 380 | | | |
| 600 | 355 | 340 | | | |
| 600 | 400 | 280 | | | |
| 600 | 450 | 220 | | | |



T-piece with pressed saddle **TCP(E) / TCPL**





PRODUCT CHARACTERISTICS:

- stitch welded
- take-off is fitted with button locks
- produced with returned (TCP) or sharp edges (TCPE)
- gasket is positioned by returned edges (TCPL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (TCPL)

Part of a certified ventilation system **with increased airtightness class D.**

| øD [mm] | ød [mm] | TCPE | | | TCP / TCPL | | |
|---------|---------|--------|--------|---|------------|--------|---|
| | | L [mm] | H [mm] |  | L [mm] | H [mm] |  |
| 80 | 80 | 130 | 56 | 52 P6 | 175 | 56 | 39 P6 |
| 140 | 80 | 130 | 86 | | 165 | 88 | 27 P4 |
| 140 | 100 | 160 | 88 | | 205 | 91 | 46 P2 |
| 140 | 125 | 180 | 88 | | 235 | 96 | 32 P2 |
| 150 | 80 | | | | 170 | 93 | 24 P4 |
| 150 | 100 | | | | 205 | 96 | 40 P2 |
| 150 | 125 | | | | 240 | 101 | 30 P2 |
| 150 | 150 | | | | 265 | 101 | 30 P2 |
| 160 | 80 | | | | 170 | 98 | 42 P2 |
| 160 | 150 | | | | 265 | 106 | 24 P2 |
| 180 | 80 | 120 | 106 | | 120 | 108 | 42 P2 |
| 180 | 100 | 150 | 108 | 30 P2 | 150 | 111 | 30 P2 |
| 180 | 125 | 170 | 108 | 30 P2 | 190 | 116 | 28 P2 |
| 180 | 150 | 210 | 112 | 29 P2 | 275 | 116 | 39 P1 |
| 180 | 160 | 220 | 112 | 20 P2 | 276 | 121 | 20 P2 |

 Packaging [pcs | type]  L, H: +5 mm




Round fittings

| øD [mm] | ød [mm] | TCPE | | | TCP / TCPL | | |
|------------|------------|--------|--------|---------|------------|--------|---------|
| | | L [mm] | H [mm] | | L [mm] | H [mm] | |
| 200 | 80 | | | | 165 | 118 | 27 P2 |
| 200 | 100 | | | | 200 | 121 | 24 P2 |
| 200 | 125 | | | | 240 | 126 | 18 P2 |
| 200 | 150 | | | | 265 | 116 | 18 P2 |
| 224 | 80 | 130 | 129 | 24 P2 | 130 | 131 | |
| 224 | 100 | 140 | 131 | 20 P2 | 150 | 133 | |
| 224 | 125 | 170 | 131 | 40 P1 | 180 | 138 | 40 P1 |
| 224 | 150 | 210 | 135 | | 275 | 138 | |
| 224 | 160 | 220 | 135 | 26 P1 | 285 | 143 | |
| 224 | 200 | 270 | 139 | | 325 | 143 | |
| 250 | 80 | | | | 170 | 143 | 26 P1 |
| 250 | 100 | | | | 205 | 146 | 28 P1 |
| 250 | 125 | | | | 245 | 151 | 24 P1 |
| 250 | 150 | | | | 265 | 151 | 24 P1 |
| 250 | 160 | | | | 290 | 156 | 19 P1 |
| 250 | 200 | | | | 320 | 156 | 18 P1 |
| 280 | 80 | 130 | 156 | | 126 | 158 | |
| 280 | 100 | 150 | 158 | 39 P1 | 146 | 161 | |
| 280 | 125 | 170 | 158 | | 186 | 166 | 24 P1 |
| 280 | 150 | 210 | 162 | | 206 | 166 | |
| 280 | 160 | 230 | 162 | 19 P1 | 216 | 171 | 19 P1 |
| 280 | 200 | 280 | 166 | | 320 | 171 | 17 P1 |
| 280 | 250 | 330 | 166 | 14 P1 | 370 | 171 | |
| 300 | 80 | 130 | 166 | | 126 | 168 | |
| 300 | 100 | 150 | 168 | | 156 | 171 | |
| 300 | 125 | 170 | 168 | | 186 | 176 | |
| 300 | 150 | 210 | 172 | | 216 | 176 | |
| 300 | 160 | 220 | 172 | | 216 | 181 | |
| 300 | 200 | 280 | 176 | 14 P1 | 276 | 181 | |
| 300 | 250 | 340 | 176 | 12 P1 | 370 | 181 | |
| 315 | 80 | | | | 170 | 176 | 16 P1 |
| 315 | 100 | | | | 200 | 179 | 16 P1 |
| 315 | 125 | | | | 240 | 184 | 16 P1 |
| 315 | 150 | | | | 255 | 184 | |
| 315 | 160 | | | | 290 | 189 | 13 P1 |
| 315 | 200 | | | | 337 | 189 | 12 P1 |
| 315 | 250 | | | | 395 | 189 | 8 P1 |
| 355 | 100 | 150 | 196 | | 150 | 199 | |
| 355 | 125 | 185 | 196 | | 186 | 204 | 18 P1 |
| 355 | 150 | 220 | 200 | | 216 | 204 | |
| 355 | 160 | 220 | 200 | 12 P1 | 216 | 209 | 12 P1 |
| 355 | 200 | 280 | 204 | | 280 | 209 | 12 P1 |
| 355 | 250 | 340 | 209 | 10 P1 | 341 | 209 | 12 P1 |
| 355 | 315 | 404 | 209 | | 406 | 209 | 7 P1 |

Packaging [pcs | type]

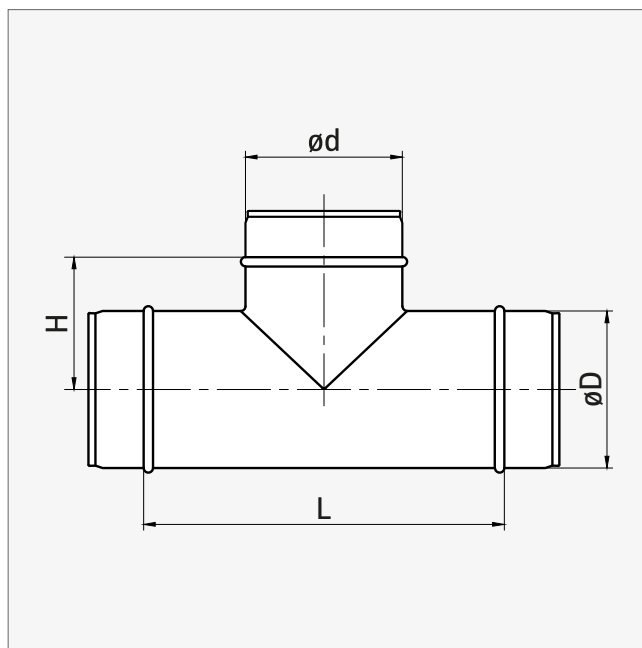
L, h1: ±5 mm



| øD [mm] | ød [mm] | TCPE | | | TCP / TCPL | | |
|------------|------------|--------|--------|---|------------|--------|---|
| | | L [mm] | H [mm] |  | L [mm] | H [mm] |  |
| 400 | 100 | 150 | 218 | | 161 | 221 | 6 P2 |
| 400 | 125 | 185 | 218 | | 191 | 226 | 4 P2 |
| 400 | 160 | 220 | 222 | | 206 | 231 | 4 P2 |
| 400 | 200 | 280 | 226 | 8 P1 | 266 | 231 | 8 P1 |
| 400 | 250 | 340 | 226 | | 336 | 231 | 4 P1 |
| 400 | 315 | 420 | 231 | | 386 | 231 | 4 P1 |
| 450 | 100 | 160 | 243 | | 156 | 246 | |
| 450 | 125 | 185 | 243 | | 186 | 251 | |
| 450 | 160 | 220 | 243 | | 216 | 256 | |
| 500 | 100 | 160 | 268 | | 156 | 271 | |
| 500 | 125 | 185 | 268 | | 186 | 276 | |
| 500 | 160 | 220 | 268 | | 216 | 281 | |



T-piece with hand made saddle **TCPE / TCPL**





PRODUCT CHARACTERISTICS:

- stitch welded
- take-off is fitted with button locks
- gasket is positioned by returned edges (TCPL)


MATERIAL:

- galvanized steel
- EPDM rubber gasket (TCPL)



Part of a certified ventilation system **with increased airtightness class D.**

| ϕD [mm] | ϕd [mm] | TCPE | | | TCPL | | |
|------------------|------------------|--------|--------|---|--------|--------|---|
| | | L [mm] | H [mm] |  | L [mm] | H [mm] |  |
| 140 | 140 | 190 | 95 | | 176 | 90 | |
| 150 | 140 | 190 | 100 | | 176 | 95 | |
| 160 | 140 | 190 | 105 | | 186 | 100 | |
| 180 | 140 | 180 | 115 | | 176 | 110 | |
| 180 | 180 | 220 | 115 | 35 P1 | 216 | 110 | 36 P1 |
| 200 | 140 | 180 | 125 | | 186 | 120 | 27 P2 |
| 200 | 180 | 220 | 125 | | 226 | 120 | 34 P1 |
| 224 | 140 | 190 | 138 | | 176 | 132 | 21 P2 |
| 224 | 180 | 230 | 138 | | 261 | 132 | |
| 224 | 224 | 275 | 138 | 22 P1 | 261 | 132 | 22 P1 |
| 250 | 140 | 190 | 150 | | 181 | 145 | 24 P1 |
| 250 | 180 | 230 | 150 | | 216 | 145 | 22 P1 |
| 250 | 224 | 275 | 150 | | 256 | 145 | |
| 280 | 140 | 190 | 165 | | 176 | 160 | |
| 280 | 180 | 230 | 165 | | 216 | 160 | |

 Packaging [pcs | type]

 L, H: +5 mm





| øD [mm] | ød [mm] | TCPE | | | TCPL | | |
|------------|------------|--------|--------|---|--------|--------|---|
| | | L [mm] | H [mm] |  | L [mm] | H [mm] |  |
| 280 | 224 | 275 | 165 | | 261 | 160 | |
| 280 | 280 | 330 | 165 | 10 P1 | 316 | 158 | 14 P1 |
| 300 | 140 | 190 | 175 | | 176 | 170 | |
| 300 | 180 | 230 | 175 | 14 P1 | 216 | 170 | |
| 300 | 224 | 275 | 175 | | 261 | 170 | |
| 300 | 280 | 330 | 175 | | 316 | 168 | |
| 300 | 300 | 380 | 175 | 10 P1 | 366 | 168 | 10 P1 |
| 315 | 140 | 190 | 183 | | 176 | 178 | |
| 315 | 180 | 230 | 183 | 21 P1 | 261 | 176 | 14 P1 |
| 315 | 224 | 275 | 183 | | 316 | 178 | |
| 315 | 280 | 330 | 183 | 10 P1 | 366 | 176 | |
| 355 | 140 | 190 | 203 | | 176 | 198 | |
| 355 | 180 | 230 | 203 | | 216 | 198 | |
| 355 | 224 | 275 | 203 | | 261 | 198 | |
| 355 | 280 | 330 | 203 | | 316 | 196 | |
| 355 | 300 | 350 | 203 | | 336 | 196 | |
| 355 | 355 | 405 | 203 | 8 P1 | 391 | 201 | 8 P1 |
| 400 | 140 | 190 | 225 | | 176 | 220 | |
| 400 | 150 | 200 | 225 | | 186 | 220 | |
| 400 | 180 | 230 | 225 | | 216 | 220 | |
| 400 | 224 | 275 | 225 | | 261 | 220 | |
| 400 | 280 | 330 | 225 | | 316 | 218 | |
| 400 | 300 | 350 | 225 | | 336 | 218 | |
| 400 | 355 | 405 | 225 | | 391 | 223 | 4 P1 |
| 400 | 400 | 450 | 225 | | 436 | 223 | 4 P1 |
| 450 | 140 | 190 | 250 | | 176 | 245 | |
| 450 | 150 | 200 | 250 | | 186 | 245 | |
| 450 | 180 | 230 | 250 | | 216 | 245 | |
| 450 | 200 | 250 | 250 | | 236 | 245 | 6 P1 |
| 450 | 224 | 275 | 250 | | 261 | 245 | |
| 450 | 250 | 300 | 250 | | 286 | 251 | 4 P1 |
| 450 | 280 | 330 | 250 | | 316 | 243 | |
| 450 | 300 | 350 | 250 | | 336 | 243 | |
| 450 | 315 | 365 | 250 | | 351 | 251 | |
| 450 | 355 | 405 | 250 | | 391 | 248 | |
| 450 | 400 | 450 | 250 | | 436 | 248 | |
| 450 | 450 | 500 | 255 | | 486 | 248 | |
| 500 | 140 | 190 | 275 | | 176 | 270 | |
| 500 | 150 | 200 | 275 | | 186 | 270 | |
| 500 | 180 | 230 | 275 | | 216 | 270 | |
| 500 | 200 | 250 | 275 | | 236 | 270 | |
| 500 | 224 | 275 | 275 | | 261 | 270 | |
| 500 | 250 | 300 | 275 | | 286 | 276 | 4 P1 |
| 500 | 280 | 330 | 275 | | 316 | 268 | |

 Packaging [pcs | type]  L, H: ±5 mm

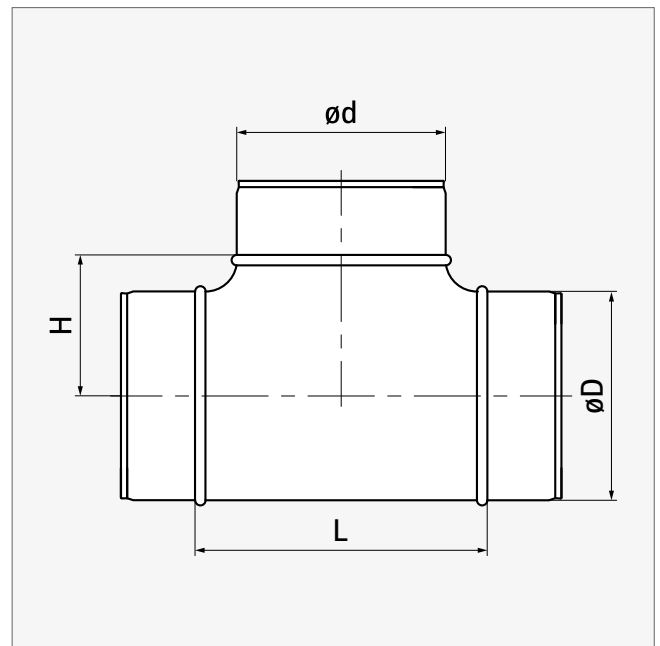


Round fittings

| øD [mm] | ød [mm] | TCPE | | | TCPL | | |
|------------|------------|--------|--------|---|--------|--------|---|
| | | L [mm] | H [mm] |  | L [mm] | H [mm] |  |
| 500 | 300 | 350 | 275 | | 336 | 268 | |
| 500 | 315 | 365 | 275 | | 351 | 276 | 2 P1 |
| 500 | 355 | 405 | 275 | | 391 | 273 | |
| 500 | 400 | 450 | 275 | | 436 | 273 | 2 P1 |
| 500 | 450 | 500 | 280 | | 486 | 273 | |
| 500 | 500 | 550 | 280 | | 536 | 273 | |
| 560 | 200 | 250 | 305 | | 246 | 300 | |
| 560 | 315 | 365 | 305 | | 361 | 306 | |
| 560 | 400 | 450 | 305 | | 446 | 303 | |
| 560 | 450 | 500 | 310 | | 496 | 303 | |
| 560 | 500 | 550 | 310 | | 546 | 303 | |
| 560 | 560 | 610 | 310 | | 606 | 308 | |
| 630 | 100 | 150 | 345 | | 146 | 333 | |
| 630 | 125 | 175 | 340 | | 171 | 333 | |
| 630 | 140 | 190 | 340 | | 186 | 335 | |
| 630 | 150 | 200 | 340 | | 196 | 335 | |
| 630 | 160 | 210 | 340 | | 206 | 335 | |
| 630 | 180 | 230 | 340 | | 226 | 335 | |
| 630 | 200 | 250 | 340 | | 246 | 335 | |
| 630 | 224 | 275 | 340 | | 271 | 335 | |
| 630 | 250 | 300 | 340 | | 296 | 341 | |
| 630 | 280 | 330 | 340 | | 326 | 333 | |
| 630 | 300 | 350 | 340 | | 346 | 333 | |
| 630 | 315 | 365 | 340 | | 361 | 341 | |
| 630 | 355 | 405 | 340 | | 401 | 338 | |
| 630 | 400 | 450 | 340 | | 446 | 338 | |
| 630 | 450 | 500 | 345 | | 496 | 338 | |
| 630 | 500 | 550 | 345 | | 546 | 338 | |
| 630 | 560 | 610 | 345 | | 606 | 343 | |
| 630 | 630 | 680 | 345 | | 676 | 343 | |
| 710 | 315 | 365 | 380 | | 483 | 381 | |
| 710 | 400 | 450 | 380 | | 568 | 378 | |
| 710 | 500 | 550 | 385 | | 668 | 378 | |
| 710 | 630 | 680 | 385 | | 798 | 383 | |
| 710 | 710 | 760 | 385 | | 878 | 429 | |
| 800 | 315 | 365 | 425 | | 483 | 426 | |
| 800 | 400 | 450 | 425 | | 568 | 423 | |
| 800 | 450 | 500 | 430 | | 618 | 423 | |
| 800 | 500 | 560 | 430 | | 668 | 423 | |
| 800 | 630 | 680 | 430 | | 798 | 428 | |
| 800 | 710 | 760 | 430 | | 878 | 474 | |
| 800 | 800 | 850 | 430 | | 968 | 474 | |



Pressed T-piece **TSHF / TSHFL**



PRODUCT CHARACTERISTICS:

- take-off is made of fully pressed upper part
- lower pressure drop
- aesthetic look
- produced with returned edges

MATERIAL:

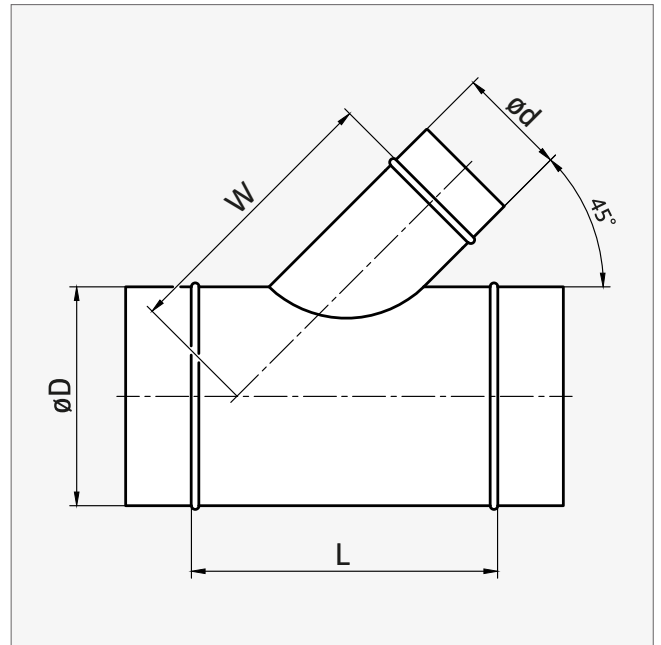
- galvanized steel
- EPDM rubber gasket (TSHFL)

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | L [mm] | H [mm] | |
|-------------------------|-------------------------|-----------|-----------|---------|
| 100 | 80 | 95 | 55 | 45 P6 |
| 100 | 100 | 127 | 58 | 47 P4 |
| 125 | 80 | 95 | 68 | 46 P4 |
| 125 | 100 | 127 | 71 | 35 P4 |
| 125 | 125 | 162 | 79 | 60 P2 |
| 160 | 100 | 127 | 88 | 52 P2 |
| 160 | 125 | 162 | 96 | 39 P2 |
| 160 | 160 | 207 | 101 | 30 P2 |
| 200 | 160 | 207 | 121 | 24 P2 |
| 200 | 200 | 247 | 121 | 36 P1 |
| 250 | 250 | 297 | 147 | 18 P1 |
| 315 | 315 | 362 | 180 | 10 P1 |

Packaging [pcs | type] L, H: +5 mm



45° T-piece TVE 45 / TVL 45





PRODUCT CHARACTERISTICS:


- stitch welded
- take-off is fitted with button locks
- produced with returned (TV 45) or sharp edges (TVE 45)
- gasket is positioned by returned edges (TVL 45)

MATERIAL:



- galvanized steel
- EPDM rubber gasket (TVL 45)

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | TVE 45 | | | TV 45 / TVL 45 | | |
|-------------------------|-------------------------|--------|--------|---|----------------|--------|---|
| | | L [mm] | W [mm] |  | L [mm] | W [mm] |  |
| 80 | 80 | 181 | 129 | | 193 | 137 | |
| 100 | 80 | 181 | 143 | | 193 | 151 | |
| 100 | 100 | 209 | 153 | 25 P4 | 221 | 161 | 25 P4 |
| 125 | 80 | 181 | 160 | 15 P6 | 193 | 168 | 12 P6 |
| 125 | 100 | 209 | 170 | 20 P4 | 221 | 178 | |
| 125 | 125 | 245 | 183 | 35 P2 | 257 | 191 | 16 P4 |
| 140 | 80 | 181 | 171 | | 193 | 179 | |
| 140 | 100 | 209 | 181 | | 221 | 189 | |
| 140 | 125 | 245 | 193 | | 257 | 201 | |
| 140 | 140 | 266 | 201 | | 278 | 209 | |
| 150 | 80 | 181 | 178 | | 193 | 186 | |
| 150 | 100 | 209 | 188 | | 221 | 196 | |
| 150 | 125 | 245 | 201 | 25 P2 | 257 | 209 | |
| 150 | 140 | 266 | 208 | | 278 | 216 | |
| 150 | 150 | 280 | 213 | 20 P2 | 292 | 221 | 8 P4 |
| 160 | 80 | 181 | 185 | | 193 | 193 | |
| 160 | 100 | 209 | 195 | 25 P2 | 221 | 203 | |
| 160 | 125 | 245 | 208 | 22 P2 | 257 | 216 | 10 P4 |

 Packaging [pcs | type]

 L, W: ±5 mm





| øD [mm] | ød [mm] | TVE 45 | | | TV 45 / TVL 45 | | |
|------------|------------|--------|--------|---|----------------|--------|---|
| | | L [mm] | W [mm] |  | L [mm] | W [mm] |  |
| 160 | 140 | 266 | 215 | | 278 | 223 | |
| 160 | 150 | 280 | 220 | | 292 | 228 | |
| 160 | 160 | 294 | 225 | 18 P2 | 306 | 233 | 16 P2 |
| 180 | 80 | 181 | 199 | | 193 | 207 | |
| 180 | 100 | 209 | 209 | | 221 | 217 | |
| 180 | 125 | 245 | 222 | | 257 | 230 | 8 P4 |
| 180 | 140 | 266 | 229 | | 278 | 237 | |
| 180 | 150 | 280 | 234 | | 292 | 242 | |
| 180 | 160 | 294 | 239 | | 306 | 247 | |
| 180 | 180 | 323 | 249 | | 335 | 257 | |
| 200 | 80 | 181 | 213 | | 193 | 221 | |
| 200 | 100 | 209 | 223 | 10 P4 | 221 | 231 | 16 P2 |
| 200 | 125 | 245 | 236 | 8 P4 | 257 | 244 | |
| 200 | 140 | 266 | 243 | | 278 | 251 | |
| 200 | 150 | 280 | 248 | | 292 | 256 | 12 P2 |
| 200 | 160 | 294 | 253 | 14 P2 | 306 | 261 | 11 P2 |
| 200 | 180 | 323 | 263 | | 335 | 271 | |
| 200 | 200 | 351 | 273 | 17 P1 | 363 | 281 | 9 P2 |
| 224 | 80 | 181 | 230 | | 193 | 238 | |
| 224 | 100 | 209 | 240 | | 221 | 248 | |
| 224 | 125 | 245 | 253 | | 257 | 261 | |
| 224 | 140 | 266 | 260 | | 278 | 268 | |
| 224 | 150 | 280 | 265 | | 292 | 273 | |
| 224 | 160 | 294 | 270 | | 306 | 278 | |
| 224 | 180 | 323 | 280 | | 335 | 288 | |
| 224 | 200 | 351 | 290 | | 363 | 298 | |
| 224 | 224 | 385 | 302 | | 397 | 310 | |
| 250 | 100 | 209 | 259 | | 221 | 267 | |
| 250 | 125 | 245 | 271 | | 257 | 279 | |
| 250 | 140 | 266 | 279 | | 278 | 287 | |
| 250 | 150 | 280 | 284 | | 292 | 292 | 17 P1 |
| 250 | 160 | 294 | 289 | 18 P1 | 306 | 297 | |
| 250 | 180 | 323 | 299 | | 335 | 307 | |
| 250 | 200 | 351 | 309 | | 363 | 317 | |
| 250 | 224 | 385 | 321 | | 397 | 329 | |
| 250 | 250 | 422 | 334 | 12 P1 | 434 | 342 | |
| 280 | 100 | 209 | 280 | | 221 | 288 | |
| 280 | 125 | 245 | 292 | | 257 | 300 | |
| 280 | 140 | 266 | 300 | | 278 | 308 | |
| 280 | 150 | 280 | 305 | | 292 | 313 | |
| 280 | 160 | 294 | 310 | | 306 | 318 | |
| 280 | 180 | 323 | 320 | | 335 | 328 | |
| 280 | 200 | 351 | 330 | | 363 | 338 | |
| 280 | 224 | 385 | 342 | | 397 | 350 | |
| 280 | 250 | 422 | 355 | | 434 | 363 | |
| 280 | 280 | 464 | 370 | | 476 | 378 | |


 Packaging [pcs | type]  L, W: ±5 mm





Round fittings

| øD [mm] | ød [mm] | TVE 45 | | | TV 45 / TVL 45 | | |
|------------|------------|--------|--------|---|----------------|--------|---|
| | | L [mm] | W [mm] |  | L [mm] | W [mm] |  |
| 300 | 100 | 209 | 294 | | 221 | 302 | |
| 300 | 125 | 245 | 307 | | 257 | 315 | |
| 300 | 140 | 266 | 314 | | 278 | 322 | |
| 300 | 150 | 280 | 319 | | 292 | 327 | |
| 300 | 160 | 294 | 324 | | 306 | 332 | |
| 300 | 180 | 323 | 334 | | 335 | 342 | |
| 300 | 200 | 351 | 344 | | 363 | 352 | |
| 300 | 224 | 385 | 356 | | 397 | 364 | |
| 300 | 250 | 422 | 369 | | 434 | 377 | |
| 300 | 280 | 464 | 384 | | 476 | 392 | |
| 300 | 300 | 492 | 394 | | 504 | 402 | 5 P1 |
| 315 | 100 | 209 | 305 | | 221 | 313 | |
| 315 | 125 | 245 | 317 | | 257 | 325 | |
| 315 | 140 | 266 | 325 | | 278 | 333 | |
| 315 | 150 | 280 | 330 | | 292 | 338 | |
| 315 | 160 | 294 | 335 | | 306 | 343 | |
| 315 | 180 | 323 | 345 | | 335 | 353 | |
| 315 | 200 | 351 | 355 | | 363 | 363 | 8 P1 |
| 315 | 224 | 385 | 367 | | 397 | 375 | |
| 315 | 250 | 422 | 380 | | 434 | 388 | 5 P1 |
| 315 | 280 | 464 | 395 | | 476 | 403 | |
| 315 | 300 | 492 | 405 | | 504 | 413 | |
| 315 | 315 | 513 | 412 | 5 P1 | 525 | 420 | 5 P1 |
| 355 | 125 | 245 | 346 | | 257 | 354 | |
| 355 | 140 | 266 | 353 | | 278 | 361 | |
| 355 | 150 | 280 | 358 | | 292 | 366 | |
| 355 | 160 | 294 | 363 | | 306 | 371 | |
| 355 | 180 | 323 | 373 | | 335 | 381 | |
| 355 | 200 | 351 | 383 | | 363 | 391 | |
| 355 | 224 | 385 | 395 | | 397 | 403 | |
| 355 | 250 | 422 | 408 | | 434 | 416 | |
| 355 | 280 | 464 | 423 | | 476 | 431 | |
| 355 | 300 | 492 | 433 | | 504 | 441 | |
| 355 | 315 | 513 | 441 | | 525 | 449 | |
| 355 | 355 | 570 | 461 | 4 P1 | 582 | 469 | |
| 400 | 125 | 245 | 377 | | 257 | 385 | |
| 400 | 140 | 266 | 385 | | 278 | 393 | |
| 400 | 150 | 280 | 390 | | 292 | 398 | |
| 400 | 160 | 294 | 395 | | 306 | 403 | |
| 400 | 180 | 323 | 405 | | 335 | 413 | |
| 400 | 200 | 351 | 415 | | 363 | 423 | |
| 400 | 224 | 385 | 427 | | 397 | 435 | |
| 400 | 250 | 422 | 440 | | 434 | 448 | |
| 400 | 280 | 464 | 455 | | 476 | 463 | |
| 400 | 300 | 492 | 465 | | 504 | 473 | |
| 400 | 315 | 513 | 472 | | 525 | 480 | |

 Packaging [pcs | type]

 L, W: ±5 mm



| øD [mm] | ød [mm] | TVE 45 | | | TV 45 / TVL 45 | | |
|------------|------------|--------|--------|---|----------------|--------|---|
| | | L [mm] | W [mm] |  | L [mm] | W [mm] |  |
| 400 | 355 | 570 | 492 | | 582 | 500 | |
| 400 | 400 | 634 | 515 | | 646 | 523 | |
| 450 | 160 | 304 | 430 | | 306 | 438 | |
| 450 | 180 | 333 | 440 | | 335 | 448 | |
| 450 | 200 | 361 | 450 | | 363 | 458 | |
| 450 | 224 | 395 | 462 | | 397 | 470 | |
| 450 | 250 | 432 | 475 | | 434 | 483 | |
| 450 | 280 | 474 | 490 | | 476 | 498 | |
| 450 | 300 | 502 | 500 | | 504 | 508 | |
| 450 | 315 | 523 | 508 | | 525 | 516 | |
| 450 | 355 | 580 | 528 | | 582 | 536 | |
| 450 | 400 | 644 | 550 | | 646 | 558 | |
| 450 | 450 | 714 | 585 | | 716 | 583 | |
| 500 | 200 | 361 | 486 | | 363 | 494 | |
| 500 | 224 | 395 | 498 | | 397 | 506 | |
| 500 | 250 | 432 | 511 | | 434 | 519 | |
| 500 | 280 | 474 | 526 | | 476 | 534 | |
| 500 | 300 | 502 | 536 | | 504 | 544 | |
| 500 | 315 | 523 | 543 | | 525 | 551 | |
| 500 | 355 | 580 | 563 | | 582 | 571 | |
| 500 | 400 | 644 | 586 | | 646 | 594 | |
| 500 | 450 | 714 | 621 | | 716 | 619 | |
| 500 | 500 | 785 | 646 | | 787 | 644 | |
| 560 | 200 | 361 | 528 | | 363 | 536 | |
| 560 | 224 | 395 | 540 | | 397 | 548 | |
| 560 | 250 | 432 | 553 | | 434 | 561 | |
| 560 | 280 | 474 | 568 | | 476 | 576 | |
| 560 | 300 | 502 | 578 | | 504 | 586 | |
| 560 | 315 | 523 | 585 | | 525 | 593 | |
| 560 | 355 | 580 | 605 | | 582 | 613 | |
| 560 | 400 | 644 | 628 | | 646 | 636 | |
| 560 | 450 | 714 | 663 | | 716 | 661 | |
| 560 | 500 | 785 | 688 | | 787 | 686 | |
| 560 | 560 | 870 | 708 | | 872 | 716 | |
| 630 | 200 | 361 | 577 | | 363 | 585 | |
| 630 | 224 | 395 | 589 | | 397 | 597 | |
| 630 | 250 | 432 | 602 | | 434 | 610 | |
| 630 | 280 | 474 | 617 | | 476 | 625 | |
| 630 | 300 | 502 | 627 | | 504 | 635 | |
| 630 | 315 | 523 | 635 | | 525 | 643 | |
| 630 | 355 | 580 | 655 | | 582 | 663 | |
| 630 | 400 | 644 | 677 | | 646 | 685 | |
| 630 | 450 | 714 | 712 | | 716 | 710 | |
| 630 | 500 | 785 | 737 | | 787 | 735 | |
| 630 | 560 | 870 | 757 | | 872 | 765 | |
| 630 | 630 | 969 | 792 | | 971 | 800 | |

 Packaging [pcs | type]  L, W: ±5 mm



T-piece with damper **TSHFL-DTL / TSHFL-DTBL**



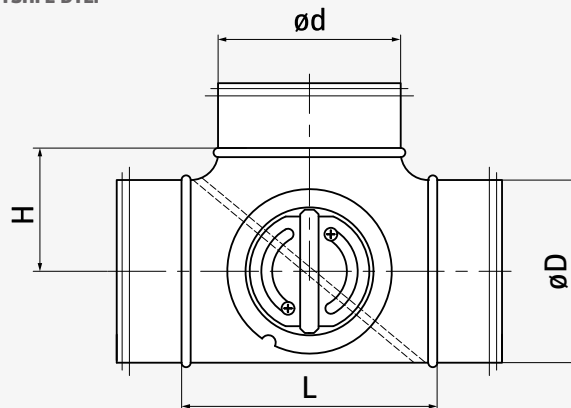
PRODUCT CHARACTERISTICS:

- T-pieces made of fully pressed upper part
- fusion welded (linear weld)
- aesthetic look
- flanges are clamped on the gasket
- gasket is positioned by returned edges

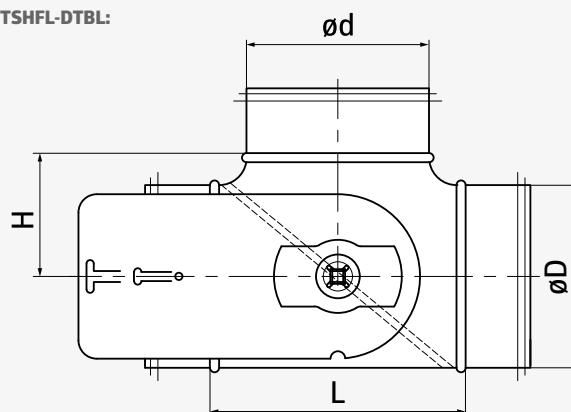
PRODUCT VERSIONS:

- **TSHFL-DTL:** T-piece with gasket and air-tight single-blade damper, SPIRO type damper mechanism
- **TSHFL-DTBL:** T-piece with gasket and air-tight single-blade damper, version for actuator assembly

TSHFL-DTL:



TSHFL-DTBL:



MATERIAL:

- galvanized steel
- EPDM rubber gasket

Note: pressure loss diagram - see page 251

| øD [mm] | ød [mm] | L [mm] | H [mm] | | |
|------------|------------|-----------|-----------|-----------|------------|
| | | | | TSHFL-DTL | TSHFL-DTBL |
| 100 | 100 | 127 | 58 | 10 P12 | |
| 125 | 125 | 162 | 79 | 7 P12 | |
| 160 | 160 | 207 | 101 | 10 P4 | 10 P4 |
| 200 | 200 | 247 | 121 | 6 P4 | 12 P2 |
| 250 | 250 | 297 | 147 | 3 P4 | 3 P4 |
| 315 | 315 | 362 | 180 | | 4 P2 |

Packaging [pcs | type]

L: -5 mm



Twin bend 45° YVE 45 / YVL 45

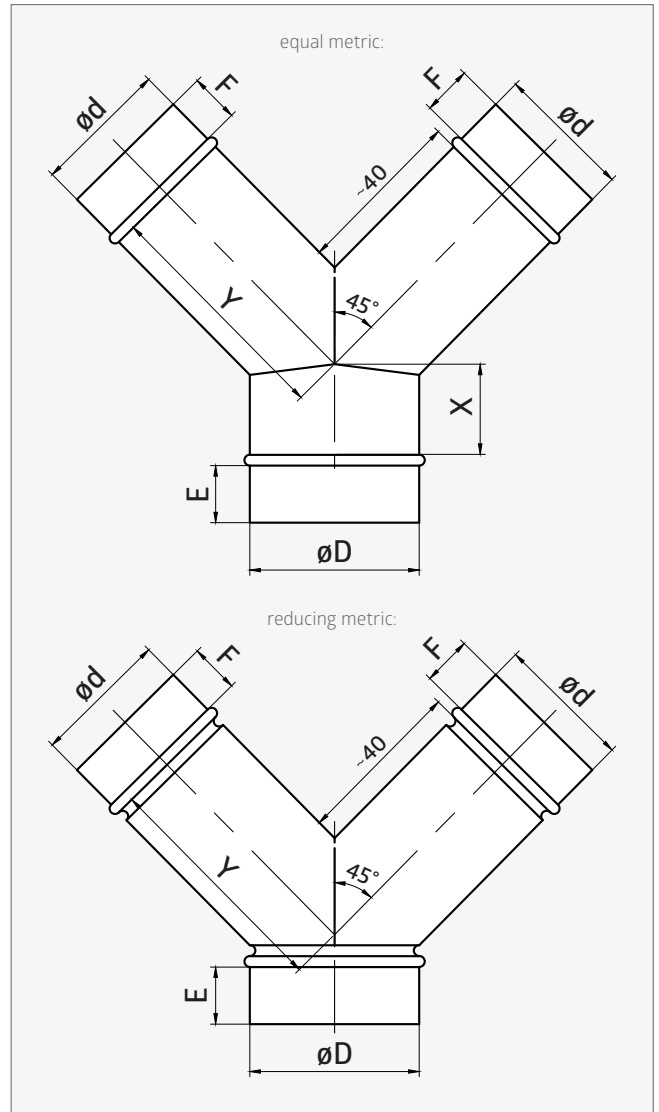


PRODUCT CHARACTERISTICS:

- stitch and spot welded
- gasket is positioned by returned edges (YVL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (YVL)





| øD [mm] | ød [mm] | YVE 45 | | | | | YVL 45 | | | | |
|---------|---------|--------|--------|--------|--------|---------|--------|--------|--------|--------|---------|
| | | E [mm] | F [mm] | X [mm] | Y [mm] | Icon | E [mm] | F [mm] | X [mm] | Y [mm] | Icon |
| 80 | 80 | 40 | 40 | 49 | 72 | 27 P6 | 38 | 38 | 57 | 80 | 27 P6 |
| 100 | 100 | 40 | 40 | 53 | 82 | 33 P4 | 38 | 38 | 60 | 90 | 18 P4 |
| 125 | 100 | 40 | 40 | x | 95 | 30 P4 | 38 | 38 | x | 95 | |
| 125 | 125 | 40 | 40 | 59 | 94 | 18 P4 | 38 | 38 | 66 | 103 | |
| 150 | 100 | 40 | 40 | x | 95 | | 38 | 38 | x | 95 | 17 P6 |
| 150 | 125 | 40 | 40 | x | 110 | | 38 | 38 | x | 110 | |
| 150 | 150 | 40 | 40 | 63 | 108 | 25 P2 | 38 | 38 | 71 | 115 | 10 P4 |
| 160 | 100 | 40 | 40 | x | 90 | 16 P6 | 38 | 38 | x | 90 | |
| 160 | 125 | 40 | 40 | x | 110 | 19 P4 | 38 | 38 | x | 110 | 10 P6 |
| 160 | 150 | 40 | 40 | x | 130 | | 38 | 38 | x | 130 | |
| 160 | 160 | 40 | 40 | 66 | 112 | 20 P2 | 38 | 38 | 73 | 120 | 22 P2 |

Icon Packaging [pcs | type] I X, Y: +5 mm



Round fittings

| øD [mm] | ød [mm] | YVE 45 | | | | | YVL 45 | | | | |
|------------|------------|--------|--------|--------|--------|---|--------|--------|--------|--------|---|
| | | E [mm] | F [mm] | X [mm] | Y [mm] |  | E [mm] | F [mm] | X [mm] | Y [mm] |  |
| 200 | 125 | 40 | 40 | × | 100 | 20 P4 | 38 | 38 | × | 100 | |
| 200 | 160 | 40 | 40 | × | 130 | 25 P2 | 38 | 38 | × | 130 | 11 P4 |
| 200 | 200 | 40 | 40 | 74 | 132 | 12 P2 | 38 | 38 | 81 | 140 | 26 P1 |
| 250 | 200 | 40 | 40 | × | 150 | 12 P2 | 57 | 38 | × | 150 | |
| 250 | 250 | 40 | 40 | 85 | 157 | 18 P1 | 57 | 57 | 92 | 165 | 5 P2 |
| 300 | 300 | 40 | 40 | 95 | 182 | 8 P1 | | | | | |
| 315 | 200 | 40 | 40 | × | 140 | 14 P2 | 57 | 38 | × | 140 | 6 P4 |
| 315 | 250 | 40 | 40 | × | 180 | 8 P2 | 57 | 57 | × | 180 | |
| 315 | 315 | 40 | 40 | 98 | 190 | 8 P1 | 57 | 57 | 105 | 198 | |
| 355 | 250 | 40 | 40 | × | 175 | 12 P1 | 57 | 57 | × | 175 | |
| 355 | 355 | 40 | 40 | 107 | 210 | 6 P1 | 57 | 57 | 114 | 218 | |
| 400 | 280 | 40 | 40 | × | 190 | | 66 | 57 | × | 190 | |
| 400 | 400 | 40 | 40 | 116 | 233 | 4 P1 | 66 | 66 | 123 | 240 | |
| 450 | 450 | 50 | 50 | 126 | 257 | | 68 | 68 | 134 | 265 | |
| 500 | 500 | 50 | 50 | 137 | 283 | 2 P1 | 68 | 68 | 144 | 290 | |
| 560 | 560 | 60 | 60 | 149 | 312 | | 68 | 68 | 156 | 320 | |
| 630 | 630 | 60 | 60 | 183 | 347 | | 68 | 68 | 171 | 355 | |



Twin bend 22,5° YVE 22,5 / YVL 22,5

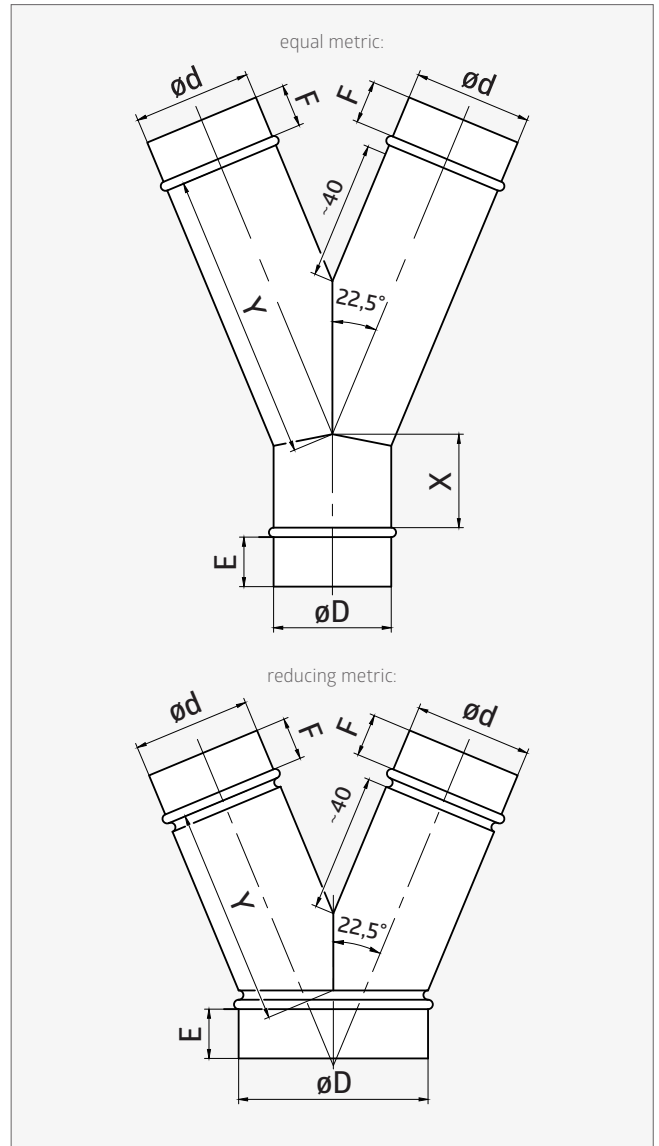


PRODUCT CHARACTERISTICS:

- stitch and spot welded
- gasket is positioned by returned edges (YVL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (YVL)



| $\varnothing D$ [mm] | $\varnothing d$ [mm] | YVE 22,5 | | | | YVL 22,5 | | | |
|-------------------------|-------------------------|----------|--------|--------|--------|----------|--------|--------|--------|
| | | E [mm] | F [mm] | X [mm] | Y [mm] | E [mm] | F [mm] | X [mm] | Y [mm] |
| 80 | 80 | 40 | 40 | 40 | 118 | 38 | 38 | 47 | 128 |
| 100 | 100 | 40 | 40 | 40 | 141 | 38 | 38 | 50 | 150 |
| 125 | 100 | 35 | 35 | - | 113 | 38 | 38 | - | 113 |
| 125 | 125 | 40 | 40 | 42 | 169 | 38 | 38 | 53 | 177 |
| 150 | 100 | 35 | 35 | - | 116 | 38 | 38 | - | 116 |
| 150 | 125 | 35 | 35 | - | 134 | 38 | 38 | - | 134 |
| 150 | 150 | 40 | 40 | 48 | 197 | 38 | 38 | 55 | 206 |
| 160 | 100 | 35 | 35 | - | 102 | 38 | 38 | - | 102 |
| 160 | 125 | 35 | 35 | - | 132 | 38 | 38 | - | 132 |
| 160 | 150 | 35 | 35 | - | 159 | 38 | 38 | - | 159 |
| 160 | 160 | 40 | 40 | 49 | 208 | 38 | 38 | 56 | 217 |

I X, Y: +5 mm



Round fittings

| øD [mm] | ød [mm] | YVE 22,5 | | | | YVL 22,5 | | | |
|------------|------------|----------|--------|--------|--------|----------|--------|--------|--------|
| | | E [mm] | F [mm] | X [mm] | Y [mm] | E [mm] | F [mm] | X [mm] | Y [mm] |
| 200 | 125 | 35 | 35 | - | 119 | 38 | 38 | - | 119 |
| 200 | 160 | 35 | 35 | - | 159 | 38 | 38 | - | 159 |
| 200 | 200 | 40 | 40 | 53 | 253 | 38 | 38 | 60 | 261 |
| 250 | 200 | 35 | 35 | - | 190 | 52 | 38 | - | 190 |
| 250 | 250 | 40 | 40 | 58 | 308 | 52 | 52 | 65 | 317 |
| 300 | 300 | 40 | 40 | 64 | 363 | | | | |
| 315 | 200 | 35 | 35 | - | 196 | 52 | 38 | - | 196 |
| 315 | 250 | 35 | 35 | - | 227 | 52 | 52 | - | 227 |
| 315 | 315 | 40 | 40 | 64 | 380 | 52 | 52 | 71 | 389 |
| 355 | 250 | 35 | 35 | - | 213 | 52 | 52 | - | 213 |
| 355 | 355 | 40 | 40 | 68 | 424 | 52 | 52 | 75 | 432 |
| 400 | 280 | 35 | 35 | - | 235 | 66 | 52 | - | 235 |
| 400 | 400 | 40 | 40 | 73 | 474 | 66 | 66 | 80 | 483 |



X-piece **XCE / XCL**



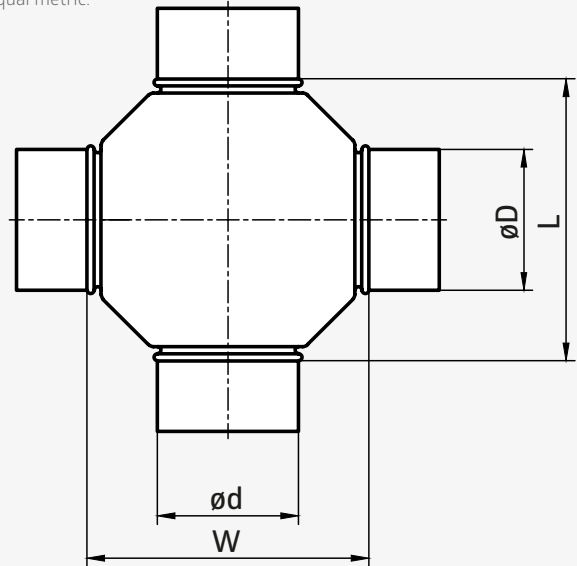
PRODUCT CHARACTERISTICS:

- stitch welded
- take-off is fitted with button locks
- gasket is positioned by returned edges (XCL)

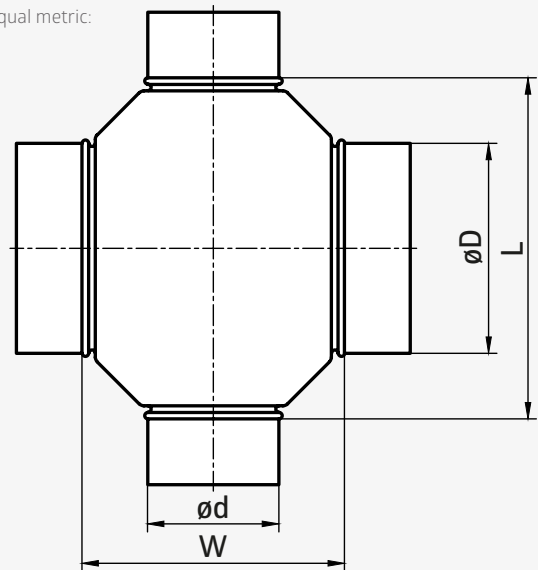
MATERIAL:

- galvanized steel
- EPDM rubber gasket (XCL)

equal metric:



unequal metric:



| $\varnothing D$ [mm] | $\varnothing d$ [mm] | W [mm] | L [mm] |
|-------------------------|-------------------------|-----------|-----------|
| 100 | 80 | 160 | 180 |
| 100 | 100 | 195 | 195 |
| 125 | 80 | 160 | 205 |
| 125 | 100 | 180 | 205 |
| 125 | 125 | 220 | 220 |
| 140 | 80 | 160 | 220 |
| 140 | 100 | 180 | 220 |
| 140 | 125 | 205 | 220 |
| 140 | 140 | 235 | 235 |

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | W [mm] | L [mm] |
|-------------------------|-------------------------|-----------|-----------|
| 150 | 80 | 160 | 230 |
| 150 | 100 | 180 | 230 |
| 150 | 125 | 205 | 230 |
| 150 | 140 | 220 | 230 |
| 150 | 150 | 245 | 245 |
| 160 | 80 | 160 | 240 |
| 160 | 100 | 180 | 240 |
| 160 | 125 | 205 | 240 |
| 160 | 140 | 220 | 240 |



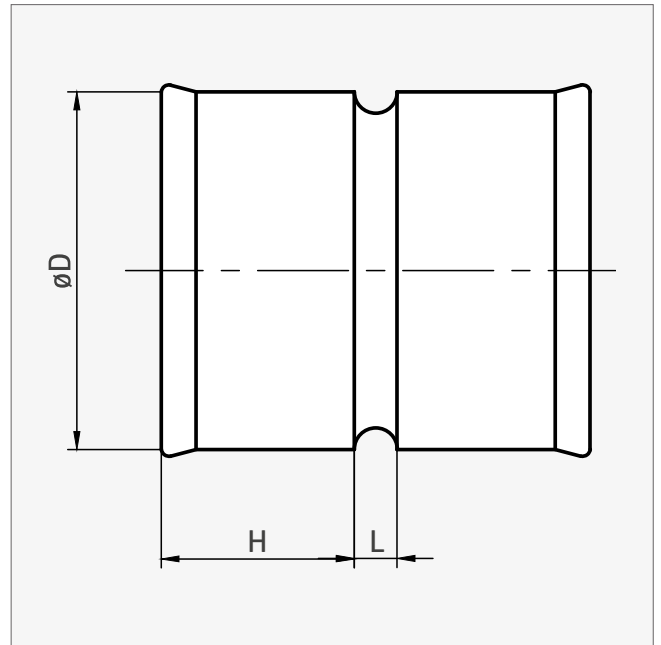
Round fittings

| øD [mm] | ød [mm] | W [mm] | L [mm] |
|--------------------|--------------------|-------------------|-------------------|
| 160 | 150 | 230 | 240 |
| 160 | 160 | 255 | 255 |
| 180 | 100 | 180 | 260 |
| 180 | 125 | 205 | 260 |
| 180 | 140 | 220 | 260 |
| 180 | 150 | 230 | 260 |
| 180 | 160 | 240 | 260 |
| 180 | 180 | 275 | 275 |
| 200 | 100 | 180 | 280 |
| 200 | 125 | 205 | 280 |
| 200 | 140 | 220 | 280 |
| 200 | 150 | 230 | 280 |
| 200 | 160 | 240 | 280 |
| 200 | 180 | 260 | 280 |
| 200 | 200 | 295 | 295 |
| 224 | 224 | 319 | 319 |

| øD [mm] | ød [mm] | W [mm] | L [mm] |
|--------------------|--------------------|-------------------|-------------------|
| 250 | 100 | 180 | 330 |
| 250 | 200 | 280 | 330 |
| 250 | 250 | 345 | 345 |
| 300 | 300 | 395 | 395 |
| 315 | 200 | 280 | 395 |
| 315 | 250 | 330 | 395 |
| 315 | 315 | 410 | 410 |
| 355 | 355 | 450 | 450 |
| 400 | 100 | 180 | 480 |
| 400 | 125 | 205 | 480 |
| 400 | 140 | 220 | 480 |
| 400 | 150 | 230 | 480 |
| 400 | 160 | 240 | 480 |
| 400 | 250 | 330 | 480 |
| 400 | 400 | 495 | 495 |



Female coupling **MF(E)**




PRODUCT CHARACTERISTICS:


- stitch welded
- produced with returned (MF) or sharp edges (MFE)

MATERIAL:

- galvanized steel

Part of a certified ventilation system **with increased airtightness class D.**

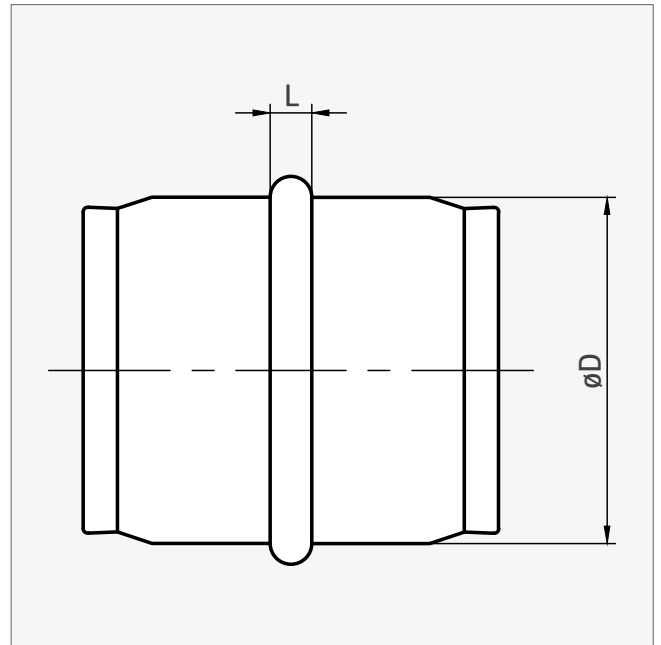
| øD [mm] | H [mm] | L [mm] |  |
|---------|--------|--------|---|
| 80 | 40 | 5 | |
| 100 | 38 | 5 | 55 P12 |
| 125 | 38 | 5 | 40 P12 |
| 140 | 40 | 5 | |
| 150 | 38 | 5 | 55 P6 |
| 160 | 38 | 5 | 40 P6 |
| 180 | 40 | 5 | |
| 200 | 38 | 5 | 45 P4 |
| 224 | 40 | 5 | |
| 250 | 57 | 7 | 40 P2 |
| 280* | 61 | 5 | 30 P2 |
| 300* | 61 | 5 | 30 P2 |
| 315 | 57 | 7 | 26 P2 |

| øD [mm] | H [mm] | L [mm] |  |
|---------|--------|--------|---|
| 355* | 61 | 8 | 20 P2 |
| 400* | 78 | 8 | 24 P2 |
| 450* | 45 | 8 | 30 P1 |
| 500* | 45 | 8 | 30 P1 |
| 560* | 55 | 8 | 21 P1 |
| 600* | 70 | 8 | 17 P1 |
| 630* | 70 | 10 | 16 P1 |
| 710* | 70 | 10 | 15 P1 |
| 800* | 70 | 10 | 10 P1 |
| 900* | 70 | 10 | |
| 1000* | 70 | 10 | |
| 1120* | 70 | 10 | |
| 1250* | 70 | 10 | |

 Packaging [pcs | type] * only MFE version



Male coupling **NP(E) / NPL**




PRODUCT CHARACTERISTICS:


- stitch welded
- produced with returned (NP/NPL) or sharp edges (NPE)
- gasket is positioned by returned edges (NPL)


MATERIAL:

- galvanized steel
- EPDM rubber gasket (NPL)

Part of a certified ventilation system **with increased airtightness class D.**

| NP / NPL | | |
|----------|--------|---|
| øD [mm] | L [mm] |  |
| 80 | 6 | 90 P12 |
| 100 | 6 | 55 P12 |
| 125 | 6 | 40 P12 |
| 140 | 6 | 28 P12 |
| 150 | 6 | 55 P6 |
| 160 | 6 | 40 P6 |
| 180 | 6 | 55 P4 |
| 200 | 6 | 45 P4 |
| 224 | 6 | 20 P6 |
| 250 | 7 | 40 P2 |
| 280 | 7 | 30 P2 |
| 300 | 7 | 30 P2 |

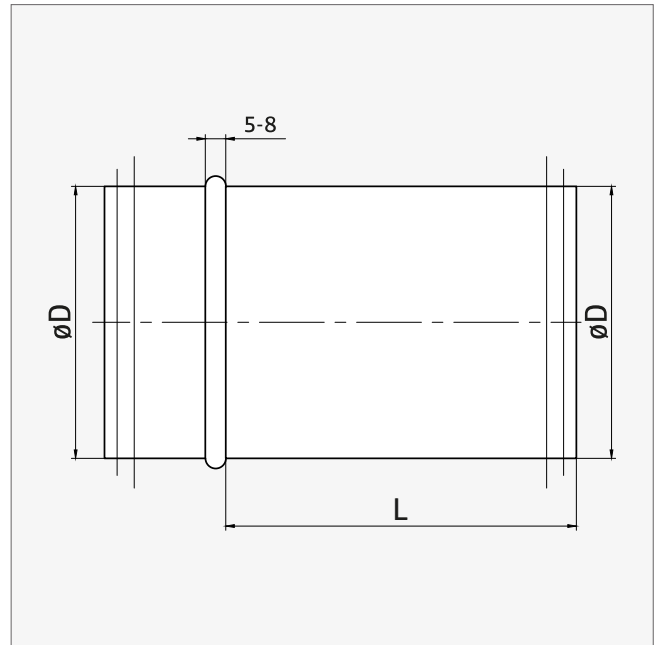
| NP / NPL | | |
|----------|--------|---|
| øD [mm] | L [mm] |  |
| 315 | 7 | 26 P2 |
| 355 | 7 | 20 P2 |
| 400 | 9 | 24 P1 |
| 450 | 9 | 24 P1 |
| 500 | 9 | 24 P1 |
| 560 | 11 | 21 P1 |
| 630 | 11 | 16 P1 |
| 710 | 11 | 15 P1 |
| 800 | 11 | 10 P1 |
| 900 | 11 | |
| 1000 | 15 | |
| 1250 | 15 | |

| NPE | | |
|---------|--------|---|
| øD [mm] | L [mm] |  |
| 450 | 8 | 30 P1 |
| 500 | 8 | 30 P1 |
| 560 | 8 | 21 P1 |
| 600 | 8 | 17 P1 |
| 630 | 10 | 16 P1 |
| 710 | 10 | 15 P1 |
| 800 | 10 | 10 P1 |
| 900 | 10 | |
| 1000 | 10 | |
| 1120 | 10 | |
| 1250 | 10 | |

 Packaging [pcs | type]



Slide-in coupling **SNPL**





PRODUCT CHARACTERISTICS:


- eliminates the need of accurate length cutting of ducts
- makes it possible to use a duct, that was cut to a too short length
- available in three standard lengths L: 150, 300 and 500 mm

MATERIAL:

- galvanized steel
- EPDM rubber gasket

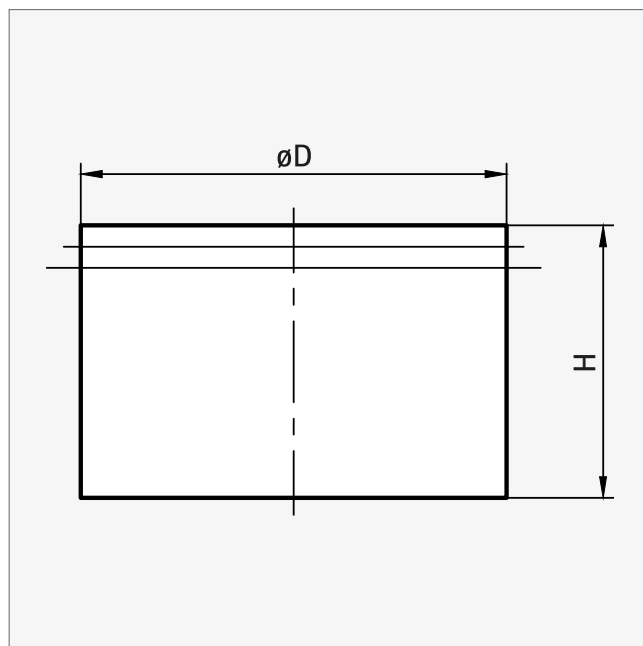
| øD [mm] |  | | |
|------------|---|------------|------------|
| | L = 150 mm | L = 300 mm | L = 500 mm |
| 80 | | | |
| 100 | 21 P12 | 13 P12 | 12 P6 |
| 125 | 36 P6 | 18 P6 | 15 P4 |
| 140 | 24 P6 | | |
| 150 | 20 P6 | | |
| 160 | 28 P4 | 16 P4 | |
| 180 | 16 P6 | | |
| 200 | 16 P4 | 20 P2 | |
| 224 | | | |
| 250 | 18 P2 | | |

| øD [mm] |  | | |
|------------|---|------------|------------|
| | L = 150 mm | L = 300 mm | L = 500 mm |
| 280 | | | |
| 300 | | | |
| 315 | | 16 P1 | |
| 355 | | | |
| 400 | | | |
| 450 | | 6 P1 | |
| 500 | | | |
| 560 | | | |
| 630 | | | |

 Packaging [pcs | type]





Male connector **SSST**



MATERIAL:

- galvanized steel
- EPDM rubber gasket

| øD [mm] | H [mm] |  |
|------------|-----------|---|
| 80 | 53 | 100 P12 |
| 100 | 53 | 150 P6 |
| 125 | 53 | 100 P6 |
| 140 | 53 | 100 P4 |
| 150 | 53 | 100 P4 |
| 160 | 53 | 100 P4 |
| 180 | 53 | 55 P6 |
| 200 | 53 | 65 P4 |
| 224 | 53 | 50 P4 |
| 250 | 67 | 70 P2 |
| 280 | 67 | 30 P4 |
| 300 | 67 | 30 P4 |

| øD [mm] | H [mm] |  |
|-------------|-----------|--|
| 315 | 67 | 50 P2 |
| 355 | 67 | 45 P2 |
| 400 | 81 | 75 P1 |
| 450 | 83 | 50 P1 |
| 500 | 83 | 50 P1 |
| 560 | 83 | 50 P1 |
| 630 | 83 | 35 P1 |
| 710 | 103 | 25 P1 |
| 800 | 103 | 15 P1 |
| 900 | 103 | |
| 1000 | 115 | |
| 1250 | 115 | |

 Packaging [pcs | type]



Pressed duct end cap **EP / ESL / ESLH**

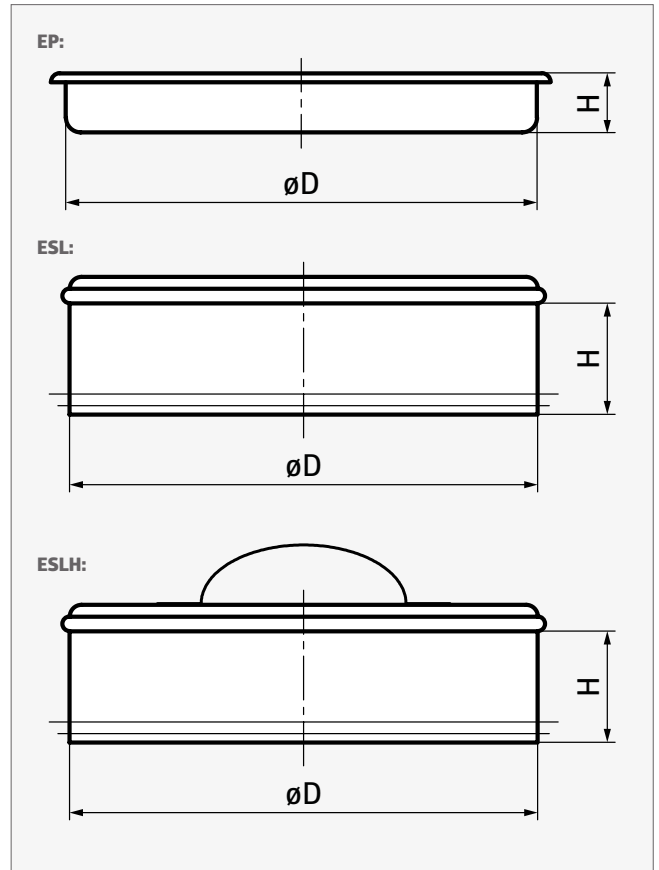




PRODUCT CHARACTERISTICS:



- pressed
- single element (EP)
- handle mounted by point embossing (ESLH)
- can be used for both ducts and fittings (EP)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (ESL, ESLH)



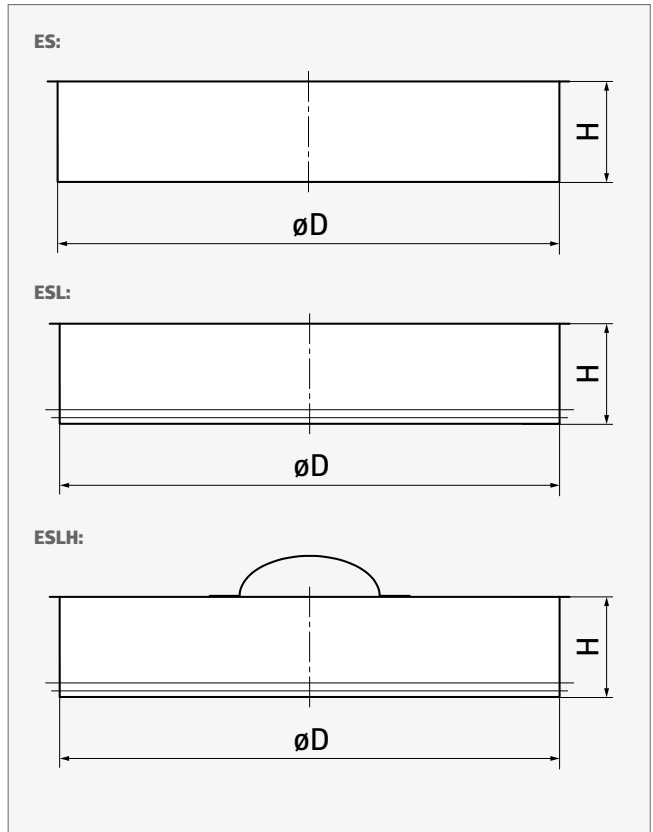
| $\varnothing D$ [mm] | EP | | ESL / ESLH | |
|-------------------------|--------|---|------------|---|
| | H [mm] |  | H1 [mm] |  |
| 80 | 20 | 150 P24 | 38 | 80 P24 |
| 100 | 20 | 100 P24 | 38 | 110 P12 |
| 125 | 20 | 70 P24 | 38 | 72 P12 |
| 140 | 20 | 65 P24 | 38 | |
| 150 | 20 | 50 P24 | 38 | 50 P12 |
| 160 | 20 | 50 P24 | 38 | 40 P12 |
| 180 | 20 | 40 P24 | 38 | 30 P12 |
| 200 | 20 | 30 P24 | 38 | 50 P6 |

| $\varnothing D$ [mm] | EP | | ESL / ESLH | |
|-------------------------|--------|---|------------|---|
| | H [mm] |  | H1 [mm] |  |
| 224 | 20 | 30 P24 | 38 | |
| 250 | 20 | 20 P24 | 57 | 25 P6 |
| 300 | 20 | 25 P24 | 57 | |
| 315 | 20 | 20 P24 | 57 | 16 P6 |
| 355 | 20 | 15 P24 | | |
| 400 | 20 | 15 P24 | | |
| 500 | 20 | 100 P1 | | |

 Packaging [pcs | type]



Hand made duct end cap **ES / ESL / ESLH**



PRODUCT CHARACTERISTICS:

- hand made (ES)
- single element (ES)
- handle mounted by point embossing (ESLH)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (ESL, ESLH)

| ES | |
|---------|--------|
| øD [mm] | H [mm] |
| 80 | 40 |
| 100 | 40 |
| 125 | 40 |
| 140 | 40 |
| 150 | 40 |
| 160 | 40 |
| 180 | 40 |
| 200 | 40 |
| 224 | 40 |
| 250 | 50 |
| 280 | 50 |
| 300 | 50 |
| 315 | 50 |

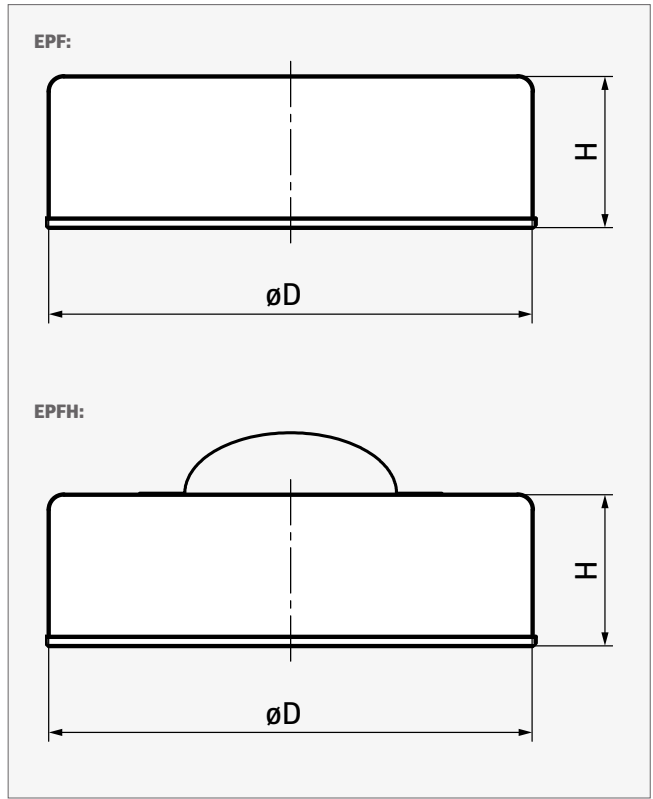
| ES | |
|---------|--------|
| øD [mm] | H [mm] |
| 355 | 50 |
| 400 | 50 |
| 450 | 50 |
| 500 | 65 |
| 560 | 65 |
| 600 | 70 |
| 630 | 70 |
| 650 | 70 |
| 710 | 80 |
| 800 | 80 |
| 900 | 80 |
| 1000 | 100 |
| 1120 | 100 |

| ESL/ESLH | | |
|----------|--------|---------|
| øD [mm] | H [mm] | |
| 280 | 57 | 18 P6 |
| 355 | 57 | 13 P6 |
| 400 | 71 | 26 P2 |
| 450 | 73 | 16 P2 |
| 500 | 73 | 30 P1 |
| 560 | 73 | 30 P1 |
| 600 | 73 | |
| 630 | 73 | 20 P1 |
| 650 | 73 | |
| 710 | 90 | |
| 800 | 90 | |
| 900 | 90 | |
| 1000 | 105 | |
| 1120 | 105 | |

Packaging [pcs | type] H: ±5 mm



Pressed fitting end cap **EPF / EPFH**




PRODUCT CHARACTERISTICS:


- pressed
- single element (EPF)
- handle mounted by point embossing (EPFH)

MATERIAL:

- galvanized steel

Part of a certified ventilation system **with increased airtightness class D.**

| $\varnothing D$ [mm] | H [mm] |  |
|-------------------------|-----------|---|
| 80 | 40 | 75 P24 |
| 100 | 40 | 55 P24 |
| 125 | 40 | 80 P12 |
| 140 | 40 | 60 P12 |
| 150 | 40 | 55 P12 |
| 160 | 40 | 45 P12 |
| 180 | 40 | 40 P12 |
| 200 | 40 | 40 P12 |
| 224 | 40 | 40 P12 |
| 250 | 60 | 30 P4 |
| 300 | 60 | |
| 315 | 60 | 22 P6 |
| 355 | 60 | 25 P4 |
| 400 | 80 | 35 P4 |

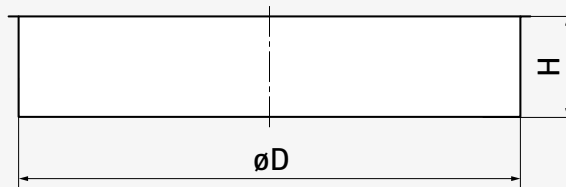
 Packaging [pcs | type]



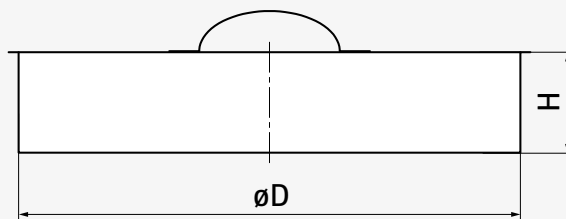
Hand made fitting end cap **EPF / EPFH**



EPF:



EPFH:



PRODUCT CHARACTERISTICS:

- hand made
- single element (EPF)
- handle mounted by point embossing (EPFH)

MATERIAL:

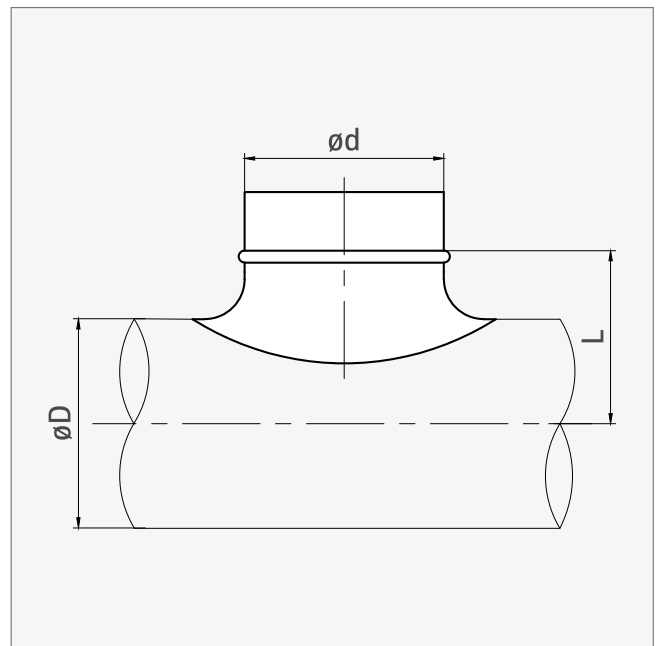
- galvanized steel

| øD [mm] | H [mm] | |
|------------|-----------|---------|
| 280 | 50 | |
| 450 | 50 | 25 P2 |
| 500 | 65 | 30 P1 |
| 560 | 65 | 15 P2 |
| 600 | 70 | |
| 630 | 70 | 20 P1 |
| 650 | 70 | |
| 710 | 80 | 20 P1 |
| 800 | 80 | |
| 900 | 80 | |
| 1000 | 100 | |
| 1120 | 100 | |

H: ±5 mm



Pressed saddle **PSE / PSL**





PRODUCT CHARACTERISTICS:

- pressed
- single element
- produced with sharp edges (PSE)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (PSL)

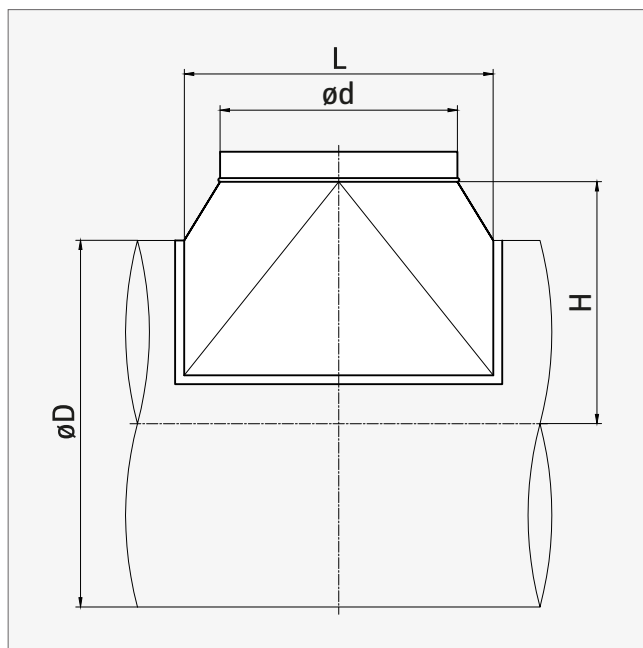
| øD [mm] | ød [mm] | L [mm] |  |
|---------|---------|--------|---|
| 80 | 80 | 52 | 30 P24 |
| 100 | 80 | 60 | 60 P12 |
| 100 | 100 | 65 | 75 P6 |
| 125 | 80 | 75 | 60 P12 |
| 125 | 100 | 78 | 80 P6 |
| 125 | 125 | 83 | 40 P6 |
| 150 | 150 | 95 | 25 P6 |
| 160 | 80 | 92 | 70 P12 |
| 160 | 100 | 95 | 80 P6 |
| 160 | 125 | 100 | 45 P6 |
| 160 | 160 | 105 | 20 P6 |
| 200 | 80 | 112 | 70 P12 |
| 200 | 100 | 115 | 90 P6 |
| 200 | 125 | 115 | 45 P6 |
| 200 | 150 | 120 | 30 P6 |
| 200 | 160 | 125 | 20 P6 |
| 200 | 200 | 125 | 32 P4 |
| 250 | 80 | 137 | 34 P24 |
| 250 | 100 | 140 | 90 P6 |
| 250 | 125 | 145 | 50 P6 |

| øD [mm] | ød [mm] | L [mm] |  |
|---------|---------|--------|---|
| 250 | 150 | 145 | 35 P6 |
| 250 | 160 | 150 | 25 P6 |
| 250 | 200 | 150 | 32 P4 |
| 250 | 250 | 150 | 15 P4 |
| 315 | 100 | 173 | 90 P6 |
| 315 | 125 | 178 | 54 P6 |
| 315 | 150 | 178 | 35 P6 |
| 315 | 160 | 182 | 25 P6 |
| 315 | 200 | 182 | 32 P4 |
| 315 | 250 | 182 | 16 P4 |
| 315 | 315 | 182 | 42 P1 |
| 400 | 100 | 215 | |
| 400 | 160 | 225 | 30 P6 |
| 400 | 200 | 225 | 42 P4 |
| 400 | 250 | 225 | 18 P4 |
| 400 | 315 | 225 | 40 P1 |
| 500 | 100 | 265 | 40 P12 |
| 500 | 125 | 270 | 50 P6 |
| 500 | 160 | 275 | 30 P6 |

 Packaging [pcs | type]



Hand made saddle **TSTC / TSTCL**



PRODUCT CHARACTERISTICS:

- hand made
- stitch welded
- gasket is positioned by returned edges (TSTCL)
- **for ød ≥ 710 mm - see page 66**

MATERIAL:

- galvanized steel
- EPDM rubber gasket (TSTCL)

| øD [mm] | ød [mm] | L [mm] | H [mm] |
|---------|---------|--------|--------|
| 400 | 200 | 270 | 270 |
| 450 | 200 | 270 | 310 |
| 500 | 200 | 270 | 330 |
| 560 | 200 | 270 | 360 |
| 630 | 200 | 270 | 390 |
| 710 | 200 | 270 | 430 |
| 400 | 250 | 335 | 270 |
| 450 | 250 | 335 | 310 |
| 500 | 250 | 335 | 330 |
| 560 | 250 | 335 | 360 |
| 630 | 250 | 335 | 390 |
| 710 | 250 | 335 | 430 |
| 800 | 250 | 335 | 480 |
| 355 | 315 | 410 | 260 |
| 400 | 315 | 410 | 270 |

| øD [mm] | ød [mm] | L [mm] | H [mm] |
|---------|---------|--------|--------|
| 450 | 315 | 410 | 310 |
| 500 | 315 | 410 | 330 |
| 560 | 315 | 410 | 360 |
| 630 | 315 | 410 | 390 |
| 710 | 315 | 410 | 440 |
| 800 | 315 | 410 | 480 |
| 900 | 315 | 410 | 525 |
| 1000 | 315 | 410 | 575 |
| 1120 | 315 | 410 | 650 |
| 1250 | 315 | 410 | 715 |
| 355 | 355 | 460 | 260 |
| 400 | 355 | 460 | 285 |
| 450 | 355 | 460 | 310 |
| 500 | 355 | 460 | 330 |
| 560 | 355 | 460 | 360 |

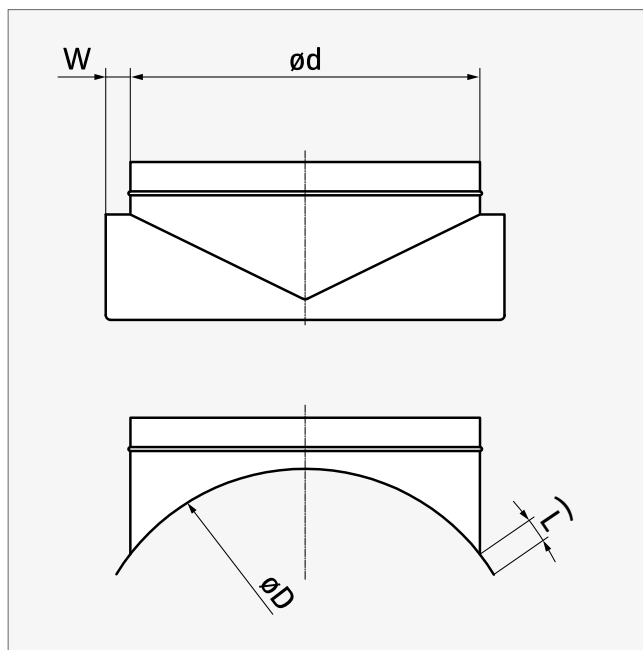
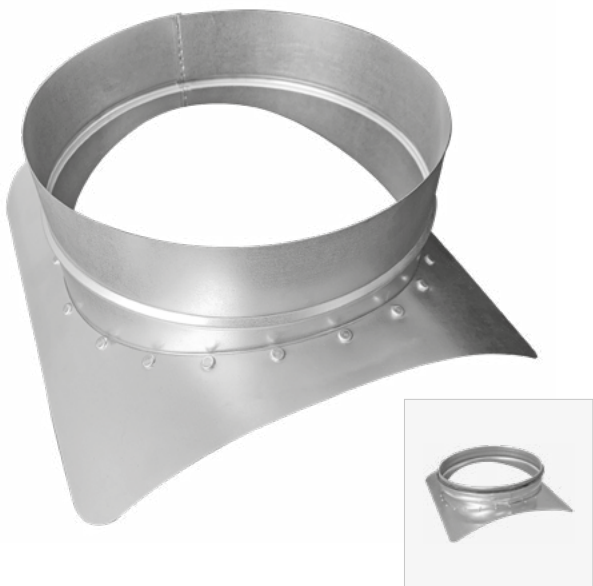


| øD [mm] | ød [mm] | L [mm] | H [mm] |
|------------|------------|-----------|-----------|
| 630 | 355 | 460 | 400 |
| 710 | 355 | 460 | 440 |
| 800 | 355 | 460 | 485 |
| 900 | 355 | 460 | 535 |
| 1000 | 355 | 460 | 585 |
| 1120 | 355 | 460 | 650 |
| 1250 | 355 | 460 | 715 |
| 400 | 400 | 505 | 285 |
| 450 | 400 | 505 | 310 |
| 500 | 400 | 505 | 330 |
| 560 | 400 | 505 | 360 |
| 630 | 400 | 505 | 400 |
| 710 | 400 | 505 | 440 |
| 800 | 400 | 480 | 460 |
| 900 | 400 | 505 | 535 |
| 1000 | 400 | 505 | 585 |
| 1120 | 400 | 505 | 650 |
| 1250 | 400 | 505 | 715 |
| 450 | 450 | 555 | 310 |
| 500 | 450 | 555 | 330 |
| 560 | 450 | 555 | 360 |
| 630 | 450 | 555 | 400 |
| 710 | 450 | 555 | 440 |
| 800 | 450 | 555 | 480 |
| 900 | 450 | 555 | 535 |
| 1000 | 450 | 555 | 585 |
| 1120 | 450 | 555 | 650 |
| 1250 | 450 | 555 | 715 |
| 500 | 500 | 610 | 350 |
| 560 | 500 | 610 | 370 |
| 630 | 500 | 610 | 400 |
| 710 | 500 | 610 | 440 |
| 800 | 500 | 610 | 480 |
| 900 | 500 | 610 | 540 |
| 1000 | 500 | 610 | 590 |
| 1120 | 500 | 610 | 650 |
| 1250 | 500 | 610 | 715 |
| 560 | 560 | 670 | 370 |
| 630 | 560 | 670 | 400 |
| 710 | 560 | 670 | 440 |
| 800 | 560 | 670 | 500 |
| 900 | 560 | 670 | 540 |
| 1000 | 560 | 670 | 590 |
| 1120 | 560 | 670 | 650 |

| øD [mm] | ød [mm] | L [mm] | H [mm] |
|------------|------------|-----------|-----------|
| 1250 | 560 | 670 | 715 |
| 630 | 630 | 740 | 400 |
| 710 | 630 | 740 | 440 |
| 800 | 630 | 740 | 500 |
| 900 | 630 | 740 | 540 |
| 1000 | 630 | 740 | 590 |
| 1120 | 630 | 740 | 650 |
| 1250 | 630 | 740 | 715 |



Hand made saddle **TSTCLS**



PRODUCT CHARACTERISTICS:

- hand made
- stitch welded
- gasket is positioned by returned edges (TSTCLS)
- take-off is fitted with button locks
- **for $\varnothing d < 710$ mm - see page 64**

MATERIAL:

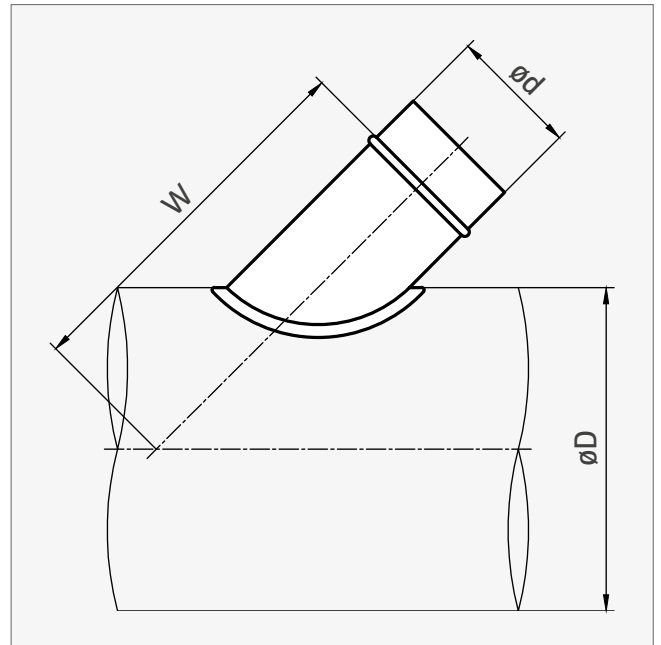
- galvanized steel
- EPDM rubber gasket (TSTCLS)

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | L [mm] | W [mm] |
|-------------------------|-------------------------|-----------|-----------|
| 710 | 710 | 30 | 50 |
| 800 | 710 | 30 | 50 |
| 800 | 800 | 30 | 50 |
| 900 | 710 | 30 | 50 |
| 900 | 800 | 30 | 50 |
| 900 | 900 | 30 | 50 |
| 1000 | 710 | 30 | 50 |
| 1000 | 800 | 30 | 50 |
| 1000 | 900 | 30 | 50 |
| 1000 | 1000 | 30 | 50 |
| 1120 | 710 | 30 | 50 |

| $\varnothing D$ [mm] | $\varnothing d$ [mm] | L [mm] | W [mm] |
|-------------------------|-------------------------|-----------|-----------|
| 1120 | 800 | 30 | 50 |
| 1120 | 900 | 30 | 50 |
| 1120 | 1000 | 30 | 50 |
| 1120 | 1120 | 30 | 50 |
| 1250 | 710 | 30 | 50 |
| 1250 | 800 | 30 | 50 |
| 1250 | 900 | 30 | 50 |
| 1250 | 1000 | 30 | 50 |
| 1250 | 1120 | 30 | 50 |
| 1250 | 1250 | 30 | 50 |



45° collar saddle **PSVE 45 / PSVL 45**





PRODUCT CHARACTERISTICS:


- single element

MATERIAL:

- galvanized steel
- EPDM rubber gasket (PSVL 45)



| øD [mm] | ød [mm] | PSVE 45 | | PSVL 45 | |
|---------|---------|---------|---|---------|----------|
| | | W [mm] |  Pcs | W [mm] | L [mm] |
| 80 | 80 | 129 | 35 P12 | 137 | |
| 100 | 80 | 143 | | 151 | |
| 100 | 100 | 153 | | 161 | 20 P12 |
| 125 | 80 | 160 | 35 P12 | 168 | |
| 125 | 100 | 170 | 60 P6 | 178 | 20 P12 |
| 125 | 125 | 183 | 30 P6 | 191 | 30 P6 |
| 140 | 80 | 171 | | 179 | |
| 140 | 100 | 181 | | 189 | |
| 140 | 125 | 193 | | 201 | |
| 140 | 140 | 201 | | 209 | |
| 150 | 80 | 178 | | 186 | |
| 150 | 100 | 188 | | 196 | |
| 150 | 125 | 201 | | 209 | |
| 150 | 140 | 208 | | 216 | |

| øD [mm] | ød [mm] | PSVE 45 | | PSVL 45 | |
|---------|---------|---------|---|---------|---------|
| | | W [mm] |  Pcs | W [mm] | L [mm] |
| 150 | 150 | 213 | | 221 | 20 P6 |
| 160 | 80 | 185 | 35 P12 | 193 | |
| 160 | 100 | 195 | 60 P6 | 203 | |
| 160 | 125 | 208 | 50 P4 | 216 | 30 P6 |
| 160 | 140 | 215 | | 223 | |
| 160 | 150 | 220 | | 228 | |
| 160 | 160 | 225 | 20 P6 | 233 | 20 P6 |
| 180 | 80 | 199 | | 207 | |
| 180 | 100 | 209 | | 217 | |
| 180 | 125 | 222 | | 230 | |
| 180 | 140 | 229 | | 237 | |
| 180 | 150 | 234 | | 242 | |
| 180 | 160 | 239 | | 247 | |
| 180 | 180 | 249 | | 257 | |

 Packaging [pcs | type]



Round fittings

| øD [mm] | ød [mm] | PSVE 45 | | PSVL 45 | | øD [mm] | ød [mm] | PSVE 45 | | PSVL 45 | |
|------------|------------|---------|---|---------|---------|------------|------------|---------|---|---------|---------|
| | | W [mm] |  | W [mm] | L [mm] | | | W [mm] |  | W [mm] | L [mm] |
| 200 | 80 | 213 | | 221 | | 300 | 250 | 369 | | 377 | 8 P4 |
| 200 | 100 | 223 | 50 P6 | 231 | 30 P6 | 300 | 280 | 384 | | 392 | |
| 200 | 125 | 236 | 50 P4 | 244 | 30 P6 | 300 | 300 | 394 | | 402 | 9 P2 |
| 200 | 140 | 243 | | 251 | | 315 | 100 | 305 | 25 P12 | 313 | |
| 200 | 150 | 248 | | 256 | 20 P6 | 315 | 125 | 317 | 35 P6 | 325 | |
| 200 | 160 | 253 | 20 P6 | 261 | 20 P6 | 315 | 140 | 325 | | 333 | |
| 200 | 180 | 263 | | 271 | | 315 | 150 | 330 | | 338 | |
| 200 | 200 | 273 | 40 P2 | 281 | 20 P4 | 315 | 160 | 335 | 20 P6 | 343 | |
| 224 | 80 | 230 | | 238 | | 315 | 180 | 345 | | 353 | |
| 224 | 100 | 240 | | 248 | | 315 | 200 | 355 | 40 P2 | 363 | 20 P4 |
| 224 | 125 | 253 | | 261 | | 315 | 224 | 367 | | 375 | |
| 224 | 140 | 260 | | 268 | | 315 | 250 | 380 | 25 P2 | 388 | 10 P4 |
| 224 | 150 | 265 | | 273 | | 315 | 280 | 395 | | 403 | |
| 224 | 160 | 270 | | 278 | | 315 | 300 | 405 | | 413 | |
| 224 | 180 | 280 | | 288 | | 315 | 315 | 412 | | 420 | 10 P2 |
| 224 | 200 | 290 | | 298 | | 355 | 125 | 346 | | 354 | 30 P6 |
| 224 | 224 | 302 | | 310 | | 355 | 140 | 353 | | 361 | |
| 250 | 100 | 259 | 25 P12 | 267 | 30 P6 | 355 | 150 | 358 | | 366 | 15 P6 |
| 250 | 125 | 271 | 50 P4 | 279 | 30 P6 | 355 | 160 | 363 | 36 P4 | 371 | 20 P6 |
| 250 | 140 | 279 | | 287 | | 355 | 180 | 373 | | 381 | |
| 250 | 150 | 284 | | 292 | 30 P4 | 355 | 200 | 383 | 20 P4 | 391 | 20 P4 |
| 250 | 160 | 289 | 20 P6 | 297 | 20 P6 | 355 | 224 | 395 | | 403 | |
| 250 | 180 | 299 | | 307 | | 355 | 250 | 408 | | 416 | 15 P2 |
| 250 | 200 | 309 | 45 P2 | 317 | 20 P4 | 355 | 280 | 423 | | 431 | |
| 250 | 224 | 321 | | 329 | | 355 | 300 | 433 | | 441 | |
| 250 | 250 | 334 | 25 P2 | 342 | 15 P2 | 355 | 315 | 441 | | 449 | |
| 280 | 100 | 280 | | 288 | | 355 | 355 | 461 | | 469 | |
| 280 | 125 | 292 | | 300 | | 400 | 125 | 377 | | 385 | |
| 280 | 140 | 300 | | 308 | | 400 | 140 | 385 | | 393 | |
| 280 | 150 | 305 | | 313 | | 400 | 150 | 390 | | 398 | |
| 280 | 160 | 310 | | 318 | | 400 | 160 | 395 | | 403 | |
| 280 | 180 | 320 | | 328 | | 400 | 180 | 405 | | 413 | |
| 280 | 200 | 330 | | 338 | | 400 | 200 | 415 | | 423 | 20 P4 |
| 280 | 224 | 342 | | 350 | | 400 | 224 | 427 | | 435 | |
| 280 | 250 | 355 | | 363 | | 400 | 250 | 440 | 10 P4 | 448 | 20 P2 |
| 280 | 280 | 370 | | 378 | | 400 | 280 | 455 | | 463 | |
| 300 | 100 | 294 | | 302 | | 400 | 300 | 465 | | 473 | |
| 300 | 125 | 307 | | 315 | | 400 | 315 | 472 | 30 P1 | 480 | 10 P2 |
| 300 | 140 | 314 | | 322 | | 400 | 355 | 492 | | 500 | |
| 300 | 150 | 319 | | 327 | 18 P6 | 400 | 400 | 515 | | 523 | |
| 300 | 160 | 324 | | 332 | | 450 | 160 | 430 | | 438 | |
| 300 | 180 | 334 | | 342 | | 450 | 180 | 440 | | 448 | |
| 300 | 200 | 344 | | 352 | 10 P6 | 450 | 200 | 450 | | 458 | |
| 300 | 224 | 356 | | 364 | | | | | | | |

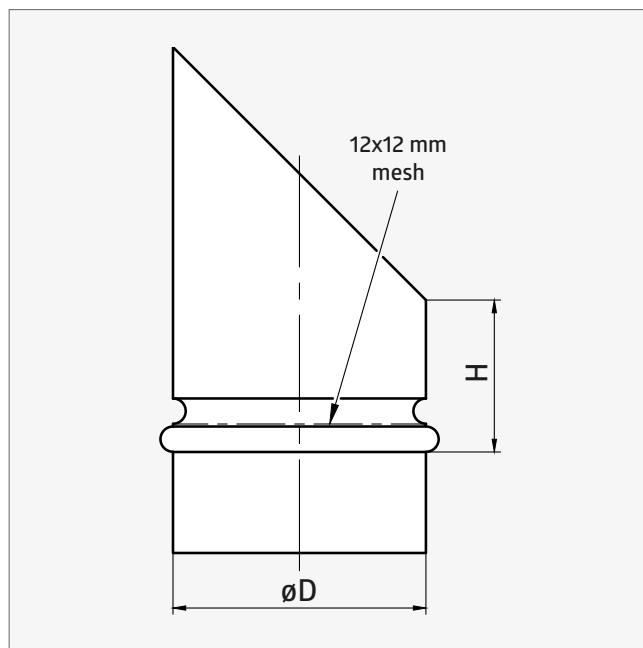
 Packaging [pcs | type]



| øD [mm] | ød [mm] | PSVE 45 | | PSVL 45 | |
|------------|------------|---------|---|---------|---------|
| | | W [mm] |  | W [mm] | L [mm] |
| 450 | 224 | 462 | | 470 | |
| 450 | 250 | 475 | | 483 | 20 P2 |
| 450 | 280 | 490 | | 498 | |
| 450 | 300 | 500 | | 508 | |
| 450 | 315 | 508 | | 516 | |
| 450 | 355 | 528 | | 536 | |
| 450 | 400 | 550 | | 558 | |
| 450 | 450 | 585 | | 583 | |
| 500 | 200 | 486 | | 494 | |
| 500 | 224 | 498 | | 506 | |
| 500 | 250 | 511 | | 519 | 20 P2 |
| 500 | 280 | 526 | | 534 | |
| 500 | 300 | 536 | | 544 | |
| 500 | 315 | 543 | | 551 | |
| 500 | 355 | 563 | | 571 | |
| 500 | 400 | 586 | | 594 | |
| 500 | 450 | 621 | | 619 | |
| 500 | 500 | 646 | | 644 | |
| 560 | 200 | 528 | | 536 | |
| 560 | 224 | 540 | | 548 | |
| 560 | 250 | 553 | | 561 | |
| 560 | 280 | 568 | | 576 | |
| 560 | 300 | 578 | | 586 | |
| 560 | 315 | 585 | | 593 | |
| 560 | 355 | 605 | | 613 | |
| 560 | 400 | 628 | | 636 | |
| 560 | 450 | 663 | | 661 | 3 P2 |
| 560 | 500 | 688 | | 686 | |
| 560 | 560 | 708 | | 716 | |
| 630 | 200 | 577 | | 585 | |
| 630 | 224 | 589 | | 597 | |
| 630 | 250 | 602 | | 610 | |
| 630 | 280 | 617 | | 625 | |
| 630 | 300 | 627 | | 635 | |
| 630 | 315 | 635 | | 643 | |
| 630 | 355 | 655 | | 663 | |
| 630 | 400 | 677 | | 685 | |
| 630 | 450 | 712 | | 710 | |
| 630 | 500 | 737 | | 735 | |
| 630 | 560 | 757 | | 765 | |
| 630 | 630 | 792 | | 800 | |



Angle take-off with mesh **AV(E) / AVL**




PRODUCT CHARACTERISTICS:

- mesh mounted by spot welding
- stitch welded
- produced with returned (AV/AVL) or sharp edges (AVE)
- gasket is positioned by returned edges (AVL)

MATERIAL:

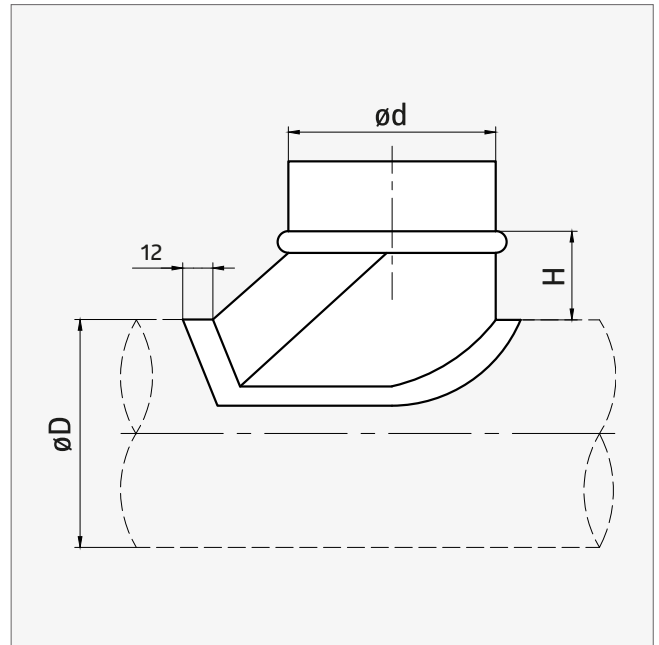
- galvanized steel
- 12×12 mm mesh
- EPDM rubber gasket (AVL)

| øD [mm] | H [mm] |  | |
|------------|-----------|---|----------|
| | | AVE | AV / AVL |
| 80 | 60 | | |
| 100 | 60 | 65 P4 | 30 P12 |
| 125 | 60 | 50 P4 | 27 P12 |
| 140 | 60 | 30 P4 | |
| 150 | 60 | 30 P4 | 10 P12 |
| 160 | 60 | 60 P2 | 10 P12 |
| 180 | 60 | 50 P2 | |
| 200 | 60 | 50 P2 | 12 P6 |
| 224 | 60 | 30 P2 | |
| 250 | 60 | 30 P2 | 5 P6 |
| 280 | 60 | 28 P1 | |
| 315 | 60 | 28 P1 | 5 P6 |
| 355 | 60 | 24 P1 | 4 P6 |
| 400 | 50 | 15 P1 | 4 P4 |
| 450 | 50 | 9 P1 | |
| 500 | 50 | 8 P1 | |
| 560 | 60 | 6 P1 | |
| 630 | 60 | 4 P1 | |

 Packaging [pcs | type]



Curved boot **CBE / CBL**





PRODUCT CHARACTERISTICS:

- metal embossing
- installed on circular duct
- gasket is positioned by returned edges (CBL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (CBL)


| øD [mm] | ød [mm] | H [mm] |  | |
|------------|------------|-----------|---|----------|
| | | | CBE | CBL |
| 100 | 100 | 55 | 25 P12 | |
| 125 | 100 | 55 | 25 P12 | |
| 150 | 100 | 55 | 25 P12 | |
| 160 | 100 | 55 | 25 P12 | |
| 200 | 100 | 55 | 25 P12 | |
| 250 | 100 | 55 | 25 P12 | |
| 300 | 100 | 55 | 25 P12 | 25 P12 |
| 315 | 100 | 55 | 25 P12 | |
| 355 | 100 | 55 | 25 P12 | |
| 400 | 100 | 55 | 25 P12 | |
| 450 | 100 | 55 | 25 P12 | |
| 500 | 100 | 55 | 25 P12 | |


| øD [mm] | ød [mm] | H [mm] |  | |
|------------|------------|-----------|---|-----|
| | | | CBE | CBL |
| 560 | 100 | 55 | 25 P12 | |
| 630 | 100 | 55 | 25 P12 | |
| 125 | 125 | 70 | 25 P6 | |
| 150 | 125 | 70 | 25 P6 | |
| 160 | 125 | 70 | 25 P6 | |
| 180 | 125 | 70 | 25 P6 | |
| 200 | 125 | 70 | 25 P6 | |
| 250 | 125 | 70 | 25 P6 | |
| 300 | 125 | 70 | 25 P6 | |
| 315 | 125 | 70 | 25 P6 | |
| 355 | 125 | 70 | 25 P6 | |
| 400 | 125 | 70 | 25 P6 | |


 Packaging [pcs | type]



Round fittings

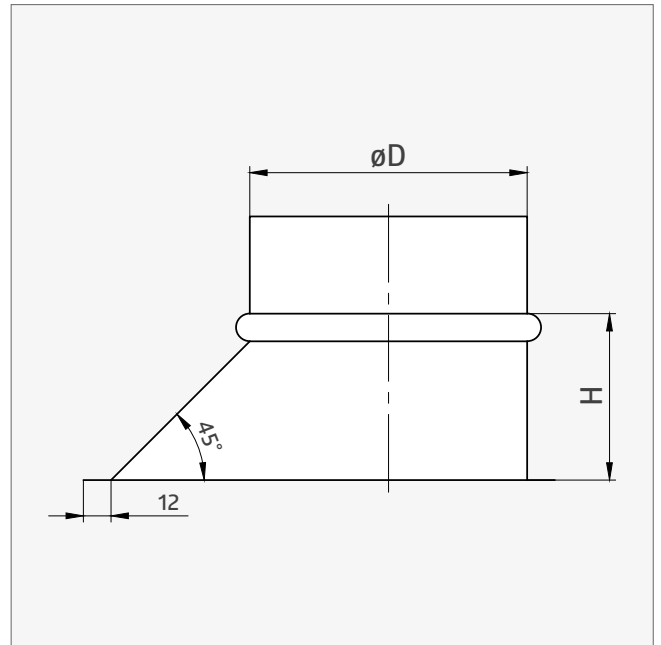
| øD [mm] | ød [mm] | H [mm] |  | |
|------------|------------|-----------|---|---------|
| | | | CBE | CBL |
| 450 | 125 | 70 | 25 P6 | |
| 500 | 125 | 70 | 25 P6 | |
| 150 | 150 | 80 | 25 P6 | 25 P6 |
| 160 | 150 | 80 | 25 P6 | |
| 180 | 150 | 80 | 25 P6 | |
| 200 | 150 | 80 | 25 P6 | 30 P6 |
| 250 | 150 | 80 | 25 P6 | 25 P6 |
| 300 | 150 | 80 | 25 P6 | 20 P6 |
| 315 | 150 | 80 | 25 P6 | |
| 355 | 150 | 80 | 25 P6 | |
| 400 | 150 | 80 | 25 P6 | |
| 450 | 150 | 80 | 25 P6 | |
| 500 | 150 | 80 | 25 P6 | |
| 560 | 150 | 80 | 25 P6 | |
| 630 | 150 | 80 | 25 P6 | |
| 160 | 160 | 85 | 25 P6 | |
| 180 | 160 | 85 | 25 P6 | |
| 200 | 160 | 85 | 25 P6 | |
| 250 | 160 | 85 | 25 P6 | |
| 300 | 160 | 85 | 25 P6 | |
| 315 | 160 | 85 | 25 P6 | |
| 355 | 160 | 85 | 25 P6 | |
| 400 | 160 | 85 | 25 P6 | |
| 450 | 160 | 85 | 25 P6 | |
| 500 | 160 | 85 | 25 P6 | |
| 560 | 160 | 85 | | |
| 180 | 180 | 95 | | |
| 200 | 180 | 95 | 25 P4 | |
| 250 | 180 | 95 | 25 P4 | |
| 200 | 200 | 105 | 25 P4 | |
| 250 | 200 | 105 | 25 P4 | 25 P4 |
| 300 | 200 | 105 | 25 P4 | 25 P4 |
| 315 | 200 | 105 | 25 P4 | |
| 355 | 200 | 105 | 25 P4 | 15 P6 |
| 400 | 200 | 105 | 25 P4 | |
| 450 | 200 | 105 | 15 P6 | |
| 500 | 200 | 105 | 15 P4 | |
| 560 | 200 | 105 | | |
| 630 | 200 | 105 | 15 P6 | |
| 224 | 224 | 105 | 15 P4 | |
| 250 | 224 | 105 | 15 P4 | |
| 300 | 224 | 105 | 15 P4 | |
| 355 | 224 | 105 | 15 P4 | |
| 400 | 224 | 105 | 15 P4 | |

| øD [mm] | ød [mm] | H [mm] |  | |
|------------|------------|-----------|---|---------|
| | | | CBE | CBL |
| 450 | 224 | 105 | 15 P4 | |
| 250 | 250 | 130 | 15 P4 | |
| 300 | 250 | 130 | 15 P4 | 18 P4 |
| 315 | 250 | 130 | 15 P4 | |
| 355 | 250 | 130 | 15 P4 | |
| 400 | 250 | 130 | 15 P4 | |
| 450 | 250 | 130 | 15 P4 | |
| 500 | 250 | 130 | 15 P4 | |
| 560 | 250 | 130 | 20 P4 | |
| 300 | 300 | 155 | 10 P2 | |
| 315 | 300 | 155 | 15 P2 | |
| 355 | 300 | 155 | 10 P2 | |
| 400 | 300 | 155 | 10 P4 | |
| 450 | 300 | 155 | 10 P2 | |
| 500 | 300 | 155 | 10 P2 | |
| 560 | 300 | 155 | 10 P2 | |
| 315 | 315 | 165 | 10 P2 | |
| 355 | 315 | 165 | 10 P2 | |
| 400 | 315 | 165 | 10 P2 | |
| 450 | 315 | 165 | 18 P2 | |
| 500 | 315 | 165 | 10 P2 | |
| 560 | 315 | 165 | 10 P2 | |
| 630 | 315 | 165 | 10 P4 | |
| 710 | 315 | 165 | | |
| 800 | 315 | 165 | | |
| 900 | 315 | 165 | | |
| 355 | 355 | 185 | 10 P2 | |
| 400 | 355 | 185 | 10 P2 | |
| 450 | 355 | 185 | 10 P2 | |
| 500 | 355 | 185 | 10 P2 | |
| 560 | 355 | 185 | 10 P2 | |
| 630 | 355 | 185 | 10 P2 | |
| 400 | 400 | 205 | 10 P1 | |
| 450 | 400 | 205 | | |
| 500 | 400 | 205 | | |
| 560 | 400 | 205 | | |
| 450 | 450 | 205 | | |
| 500 | 450 | 205 | | |
| 560 | 450 | 205 | | |
| 630 | 450 | 205 | | |
| 500 | 500 | 205 | | |
| 560 | 500 | 205 | | |
| 630 | 500 | 205 | | |
| 630 | 630 | 205 | | |

 Packaging [pcs | type]



Flat shoe **FBE / FBL**




PRODUCT CHARACTERISTICS:

- stitch welded
- installed on rectangular duct
- gasket is positioned by returned edges (FBL)

MATERIAL:

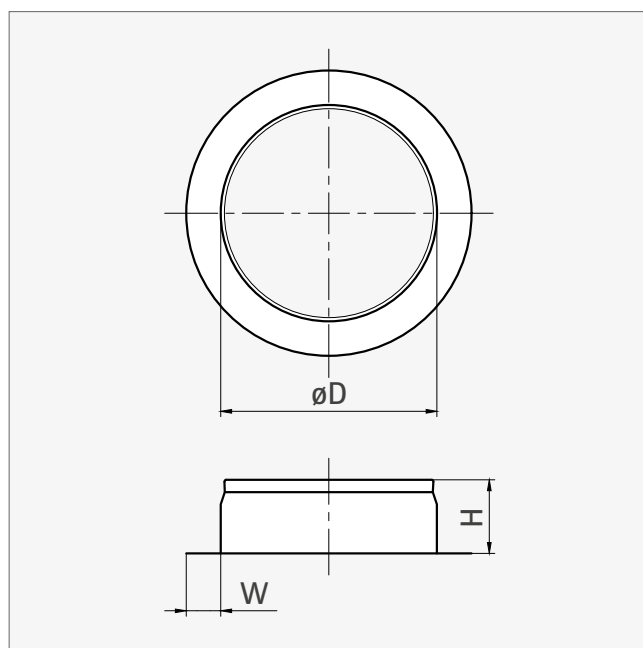
- galvanized steel
- EPDM rubber gasket (FBL)

| øD [mm] | H [mm] |  | |
|------------|-----------|---|----------|
| | | FBE | FBL |
| 80 | 70 | 35 P12 | 25 P12 |
| 100 | 70 | 100 P4 | |
| 125 | 80 | 100 P2 | |
| 150 | 80 | 100 P2 | 20 P6 |
| 160 | 85 | 75 P2 | |
| 180 | 85 | 70 P2 | |
| 200 | 85 | 60 P2 | 20 P4 |
| 224 | 95 | | |
| 250 | 105 | 80 P1 | 10 P6 |
| 280 | 105 | | |
| 300 | 160 | 50 P1 | 10 P4 |
| 315 | 160 | 40 P1 | 10 P2 |
| 355 | 160 | 40 P1 | |
| 400 | 160 | 30 P1 | 7 P2 |
| 450 | 170 | 10 P2 | |
| 500 | 170 | 9 P2 | |
| 560 | 195 | 10 P1 | |

 Packaging [pcs | type]



Flat take-off IL(E) / ILL



PRODUCT CHARACTERISTICS:

- stitch welded
- produced with returned (IL) or sharp edges (ILE)
- gasket is positioned by returned edges (ILL)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (ILL)

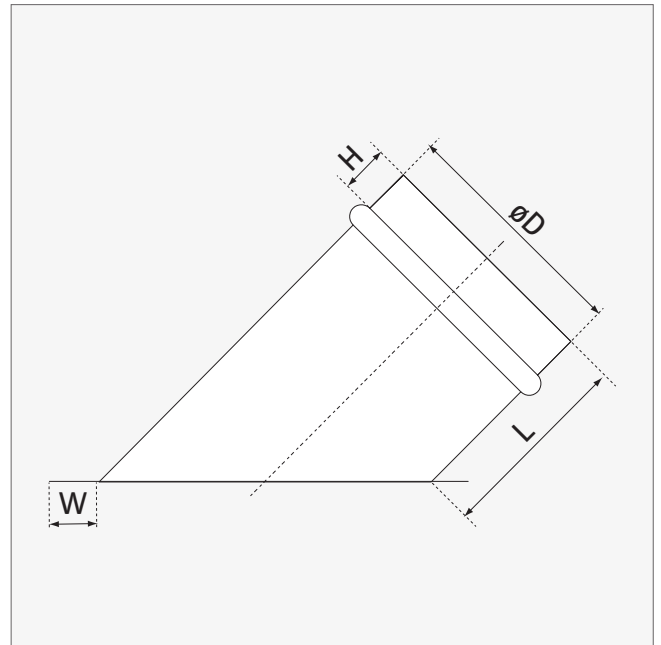
| $\varnothing D$ [mm] | W [mm] | ILE | | IL / ILL | |
|-------------------------|-----------|--------|-----------|----------|-----------|
| | | H [mm] | | H [mm] | |
| 80 | 10 | 50 | 100 P12 | 43 | 100 P12 |
| 100 | 10 | | | 43 | 150 P6 |
| 125 | 10 | | | 43 | 100 P6 |
| 140 | 15 | 45 | 70 P6 | 38 | 70 P6 |
| 150 | 15 | | | 38 | 70 P6 |
| 160 | 15 | | | 38 | 100 P6 |
| 180 | 15 | 45 | 50 P6 | 38 | 50 P6 |
| 200 | 15 | | | 38 | 75 P4 |
| 224 | 15 | 45 | 60 P4 | 38 | 60 P4 |
| 250 | 15 | | | 52 | 40 P4 |
| 280 | 15 | 54 | 40 P4 | 52 | 20 P6 |
| 300 | 15 | 54 | 30 P4 | 52 | 20 P6 |
| 315 | 15 | | | 52 | 30 P4 |
| 350 | 15 | 54 | 28 P4 | | |

| $\varnothing D$ [mm] | W [mm] | ILE | | IL / ILL | |
|-------------------------|-----------|--------|---------|----------|---------|
| | | H [mm] | | H [mm] | |
| 355 | 15 | 54 | 28 P4 | 52 | 28 P4 |
| 400 | 15 | 54 | 35 P2 | 66 | 30 P2 |
| 450 | 15 | 54 | 30 P2 | 68 | 30 P2 |
| 500 | 15 | 60 | 60 P1 | 68 | 25 P2 |
| 560 | 15 | 60 | 50 P1 | 68 | 20 P2 |
| 600 | 15 | 60 | | | |
| 630 | 15 | 65 | 40 P1 | 68 | 34 P1 |
| 710 | 15 | 65 | 30 P1 | 88 | 20 P1 |
| 800 | 15 | 85 | | 88 | 14 P1 |
| 900 | 15 | 85 | | 88 | |
| 1000 | 15 | 85 | | 103 | |
| 1120 | 15 | 85 | | | |
| 1250 | 15 | 85 | | 103 | |

Packaging [pcs | type]



45° flat take-off ILE 45 / ILL 45





PRODUCT CHARACTERISTICS:

- used as 45° rectangular duct take-off
- stitch welded
- gasket is positioned by returned edges (ILL 45)

MATERIAL:



- galvanized steel
- EPDM rubber gasket (ILL 45)

| øD [mm] | L [mm] | W [mm] | ILE 45 | | ILL 45 | |
|------------|-----------|-----------|--------|---|--------|---|
| | | | H [mm] |  | H [mm] |  |
| 80 | 60 | 10 | 45 | 60 P12 | 38 | |
| 100 | 58 | 10 | 45 | 70 P6 | 38 | 25 P12 |
| 125 | 58 | 10 | 45 | 40 P6 | 38 | 25 P6 |
| 140 | 58 | 12 | 45 | | 38 | |
| 150 | 58 | 12 | 45 | | 38 | |
| 160 | 58 | 12 | 45 | 35 P4 | 38 | |
| 180 | 58 | 12 | 45 | | 38 | |
| 200 | 58 | 12 | 45 | 50 P2 | 38 | 40 P2 |

 Packaging [pcs | type]

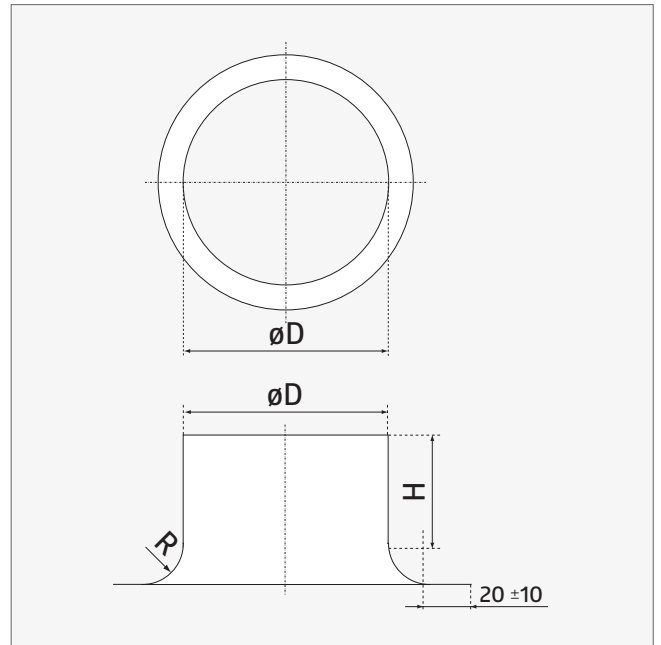


Round fittings

| øD [mm] | L [mm] | W [mm] | ILE 45 | | ILL 45 | |
|------------|-----------|-----------|--------|---|--------|---|
| | | | H [mm] |  | H [mm] |  |
| 224 | 58 | 12 | 45 | | 38 | |
| 250 | 58 | 12 | 45 | 60 P1 | 52 | 20 P2 |
| 280 | 58 | 12 | 45 | | 52 | |
| 300 | 58 | 12 | 45 | | 52 | 24 P1 |
| 315 | 58 | 12 | 45 | 36 P1 | 52 | 12 P2 |
| 355 | 58 | 12 | 45 | 30 P1 | 52 | |
| 400 | 78 | 12 | 45 | | 66 | |
| 450 | 88 | 12 | 55 | | 68 | |
| 500 | 88 | 12 | 55 | | 68 | |
| 560 | 88 | 12 | 65 | | 68 | |
| 630 | 88 | 12 | 65 | | 68 | |



Take-off with radius **ILR / ILRL**




PRODUCT CHARACTERISTICS:

- pressed
- single element

MATERIAL:

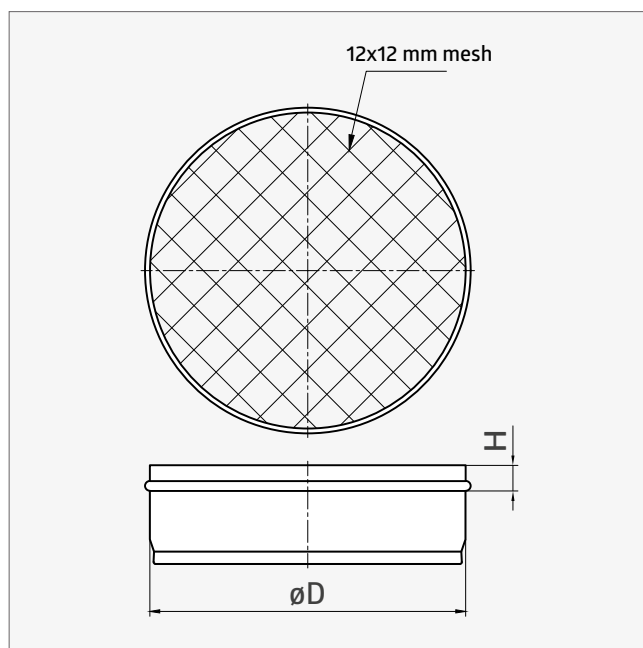
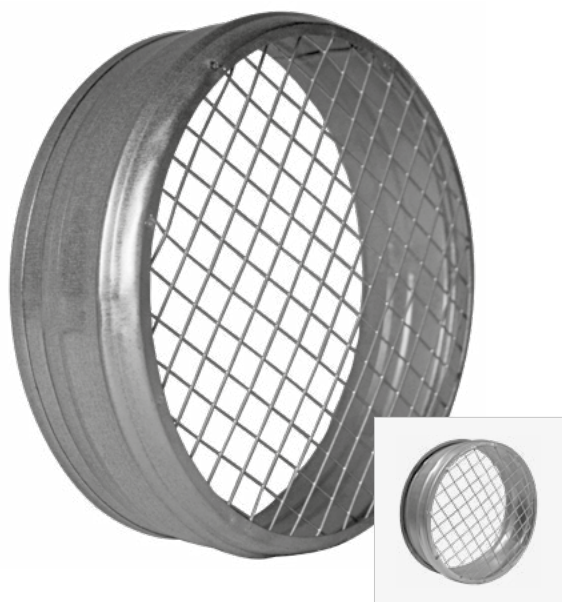
- galvanized steel
- EPDM rubber gasket (ILRL)

| øD [mm] | H [mm] | R [mm] |  |
|------------|--------|--------|---|
| 80 | 45 | 12 | 40 P24 |
| 100 | 45 | 15 | 50 P12 |
| 125 | 45 | 20 | 70 P6 |
| 150 | 45 | 20 | 55 P6 |
| 160 | 45 | 25 | 42 P6 |
| 200 | 45 | 25 | 30 P6 |
| 250 | 45 | 25 | 18 P6 |
| 315 | 45 | 25 | 18 P6 |

 Packaging [pcs | type]



Take-off with mesh **ESN(E) / ESNL**







PRODUCT CHARACTERISTICS:

- mesh mounted by spot welding
- stitch welded
- produced with returned (ESN) or sharp edges (ESNE)
- gasket is positioned by returned edges (ESNL)

MATERIAL:

- galvanized steel
- 12x12 mm galvanized steel mesh
- EPDM rubber gasket (ESNL)

| øD [mm] | ESNE | | ESN / ESNL | |
|------------|--------|---|------------|---|
| | H [mm] |  | H [mm] |  |
| 80 | | | 8 | 80 P12 |
| 100 | | | 8 | 80 P12 |
| 125 | | | 8 | 63 P12 |
| 140 | | | 8 | |
| 150 | | | 8 | 35 P12 |
| 160 | | | 8 | 35 P12 |
| 180 | | | 8 | 35 P12 |
| 200 | | | 8 | 20 P12 |
| 224 | | | 8 | 35 P6 |
| 250 | | | 8 | 20 P6 |
| 280 | 10 | 40 P12 | 8 | |
| 315 | | | 8 | 16 P6 |

| øD [mm] | ESNE | | ESN / ESNL | |
|------------|--------|---|------------|---|
| | H [mm] |  | H [mm] |  |
| 350 | 13 | | 8 | |
| 355 | 13 | 20 P6 | 8 | 20 P4 |
| 400 | 13 | 20 P4 | 8 | 15 P4 |
| 450 | 13 | 40 P2 | 8 | |
| 500 | 13 | 25 P2 | 8 | 18 P2 |
| 560 | 15 | 25 P2 | 8 | |
| 600 | 15 | | 8 | |
| 630 | 15 | 10 P2 | 8 | |
| 710 | 15 | 10 P2 | 8 | |
| 800 | 15 | | 8 | |
| 900 | 15 | | 8 | |
| 1000 | 15 | | 8 | |

 Packaging [pcs | type]



Flexible double-layer pipe **ROD-VENT-VA**



PRODUCT CHARACTERISTICS:

- by introducing a layer of macromolecular plastic into the pipe structure, it was possible to drastically increase the smoothness of the inner wall, meaning that the tendency for the accumulation of impurities as well as condensed moisture inside the grooves was minimised
- the smoother inner layer ensures a much freer airflow, as it does not create resistance and, therefore, noise
- improved mechanical properties of pipes, which have a greater resistance to static loads, increased flexibility
- the use of suitable stabilisers at the manufacturing stage has improved the ageing resistance of the pipes, i.e. the material properties do not change over time
- an option to choose an appropriate duct diameter, ensuring adequate flow capacity and, at the same time, adjusting its size to enable it to be installed in the ceiling or wall
- suitable design for flexibility and strength
- properties: antibacterial, antistatic and antifungal

MATERIAL:

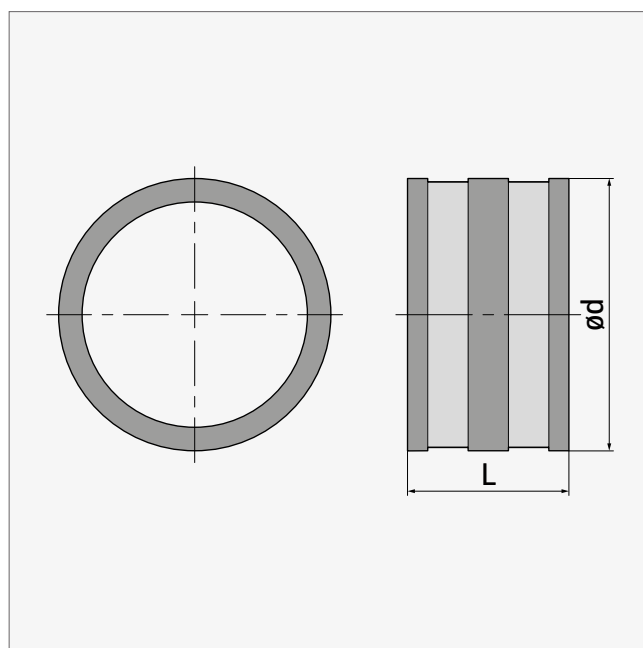
- the inner layer is made of zinc compounds with unique antibacterial and antifungal properties
- HDPE

| | $\varnothing D$ [mm] | L [m] | n | R_c [N] |
|-----------------------|-------------------------|----------|---|--------------|
| ROD-VENT-VA-75 | 75 | 50 | 2 | 450 |

$\varnothing D$: diameter L: length n: number of layers R_c : compression resistance



Pipe connector **MRW**



PRODUCT CHARACTERISTICS:

- connection of a manifold pipe
- cleverly designed to keep the system tight where we need to connect the two ends of the pipe
- a revolutionary pipe mounting system compatible with the rest of the system
- quick and easy fitting of the duct with connectors without the need for additional seals

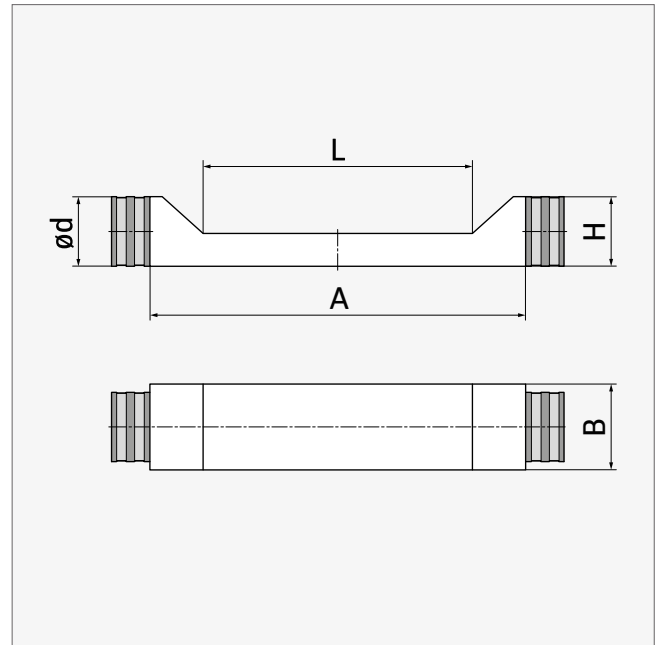
MATERIAL:

- EPDM

| $\varnothing D$ [mm] | L [mm] |
|-------------------------|-----------|
| 75 | 48 |



Bypass box **SOSR**



PRODUCT CHARACTERISTICS:

- system bypass, designed to enable manifold pipes to be crossed without altering installation height
- cleverly designed to keep the system tight where we need to connect the two ends of the pipe
- a revolutionary pipe mounting system compatible with the rest of the system
- quick and easy fitting of the duct with connectors without the need for additional seals

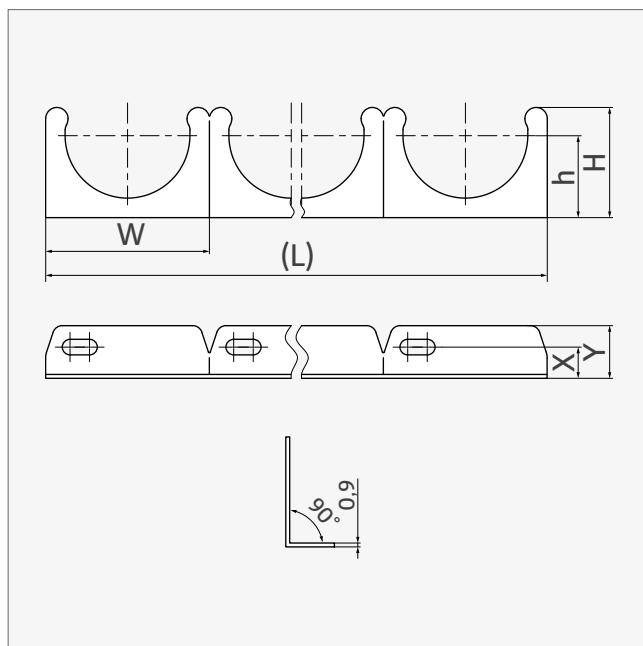
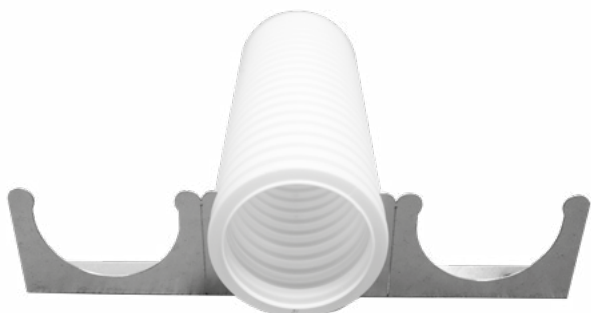
MATERIAL:

- galvanized steel
- EPDM

| $\varnothing d$ [mm] | A [mm] | B [mm] | H [mm] | L [mm] |
|-------------------------|-----------|-----------|-----------|-----------|
| 75 | 460 | 105 | 85 | 330 |



Duct clamp **MPR**



PRODUCT CHARACTERISTICS:

- allows the attachment of a flexible duct to the wall or ceiling
- max. 8 ducts (can be disconnected in any way)

MATERIAL:

- galvanized steel

| $\varnothing D$ [mm] | h [mm] | H [mm] | X [mm] | Y [mm] | W [mm] | L [mm] |
|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 75 | 42 | 57 | 16 | 27 | 84 | 673 |



Mineral oil **OW 200**



OW 200 is a highly efficient lubricant and preservative. It is used for lubricating of all machine parts and precision mechanisms. The oil reduces friction, scrapes, squeaks and preserves exposed components. It prevents the product from sticking to rubber or plastic moulds. When applied, it forms a durable and tightly adherent coating. By using mineral oil, we can enjoy long-lasting and trouble-free operation of the mechanisms.

SPECIAL PROPERTIES:

- reduces friction and squeaks
- preserves rubber and plastic parts
- displaces water
- facilitates slippage
- perfect for precision mechanisms

DIRECTIONS FOR USE:

- shake before use
- apply to rubber, plastic and metal parts with friction or adhesion problems

INTENDED USE:

- industries: chemical, pharmaceutical, cosmetic, food, woodworking, textile, telecommunications, plastics processing, in systems with precision components

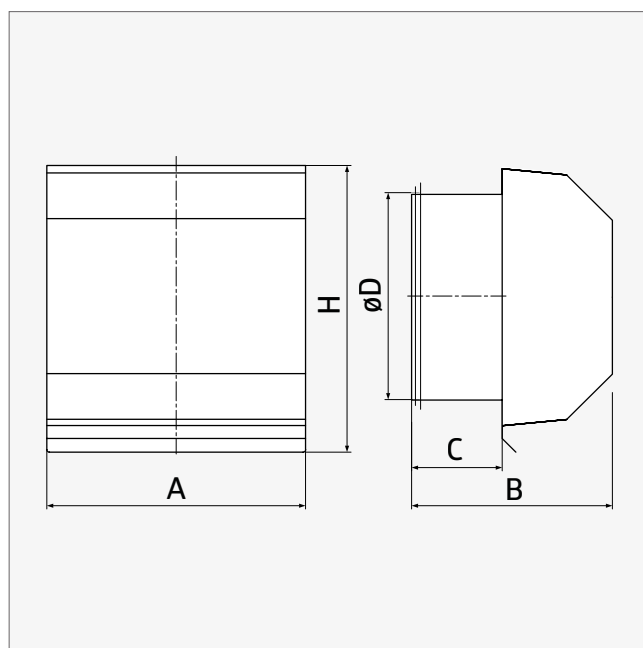
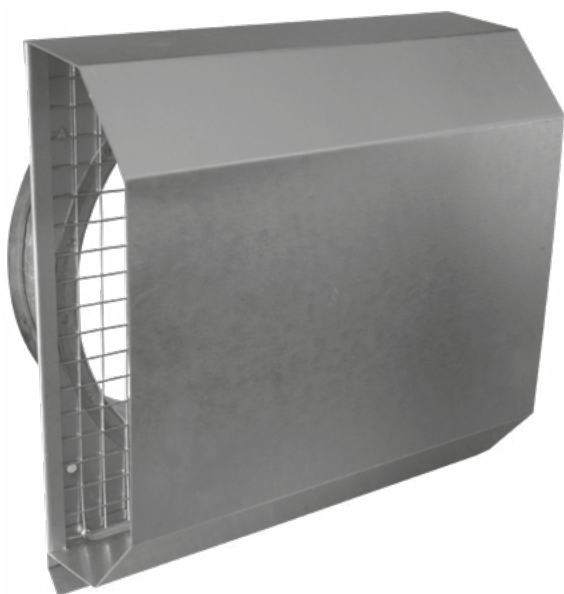
STORAGE:

- pressurised container, protect from sunlight and do not expose to temperatures exceeding 50°C
- product can be stored for 36 months in the above conditions

| | |
|-------------------|-------------------------|
| Colour: | clear to yellow |
| Odour: | odourless |
| Density: | 0,852 g/cm ³ |
| Packaging: | 500 ml |



Angled air intake / exhaust with gasket **CWKL**



PRODUCT CHARACTERISTICS:

- used as the termination of the forced ventilation system on the air intake and exhaust side
- the trapezoidal front design protects the system from dragging rain or snow into the system
- the galvanised grid further prevents birds and coarser impurities from entering the system
- fitted with a drip cap to prevent water leaking down the elevation of the building
- a gasket at the joint guarantees a tight connection to the ventilation system
- mounting holes allow the air intake/exhauster to be permanently connected to the building structure

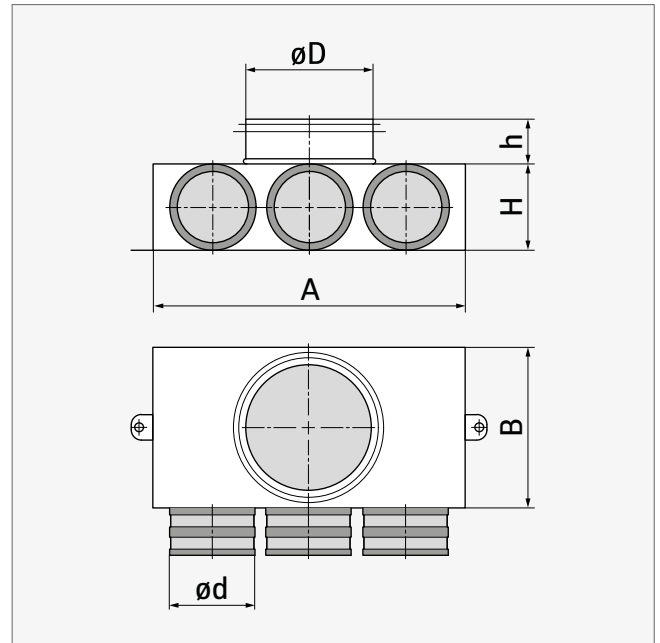
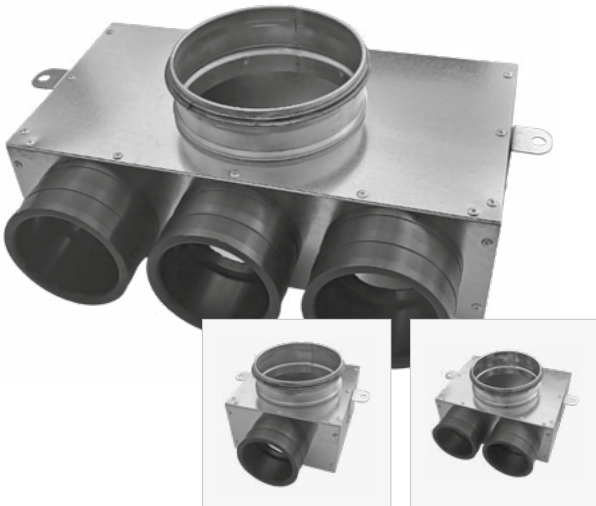
MATERIAL:

- galvanized steel
- EPDM rubber gasket
- 12×12 mm mesh

| øD [mm] | A [mm] | B [mm] | C [mm] | H [mm] |
|---------|--------|--------|--------|--------|
| 160 | 200 | 155 | ~70 | 222 |
| 200 | 240 | 155 | ~70 | 262 |
| 250 | 290 | 155 | ~70 | 312 |
| 315 | 355 | 155 | ~70 | 377 |



Plenum box **SR-T**



PRODUCT CHARACTERISTICS:

- clever design of the internal components to minimise air resistance
- 20 mm wide swivel mounting brackets, which can be fixed on 2 sides of the box
- EPDM rubber connectors
- quick and easy fitting of the duct with connectors without the need for additional seals
- 45 mm coupling with seal
- sheet metal connection via rivets

MATERIAL:

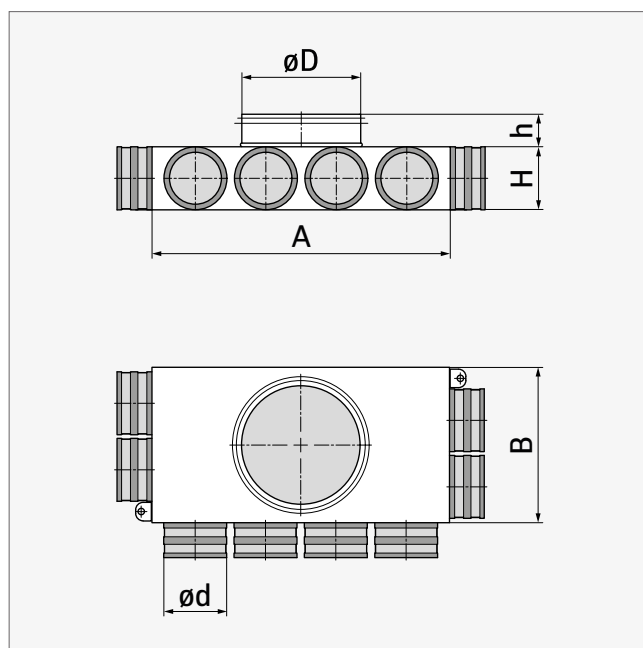
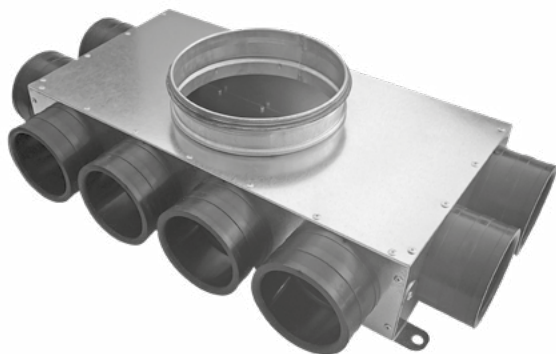
- galvanized steel
- EPDM rubber connectors
- rubber gasket
- mounting brackets made of galvanized steel

| | n* | $\varnothing D$ [mm] | $\varnothing d$ [mm] | A [mm] | B [mm] | H [mm] | h [mm] |
|---------------------|----|-------------------------|-------------------------|-----------|-----------|-----------|-----------|
| SR-T1 75/125 | 1 | 125 | 75 | 160 | 160 | 85 | 45 |
| SR-T2 75/125 | 2 | 125 | 75 | 210 | 160 | 85 | 45 |
| SR-T3 75/125 | 3 | 125 | 75 | 305 | 160 | 85 | 45 |

* number of connectors



Single-row plenum box **SR-RKJ**



PRODUCT CHARACTERISTICS:

- clever design of the internal components to minimise air resistance
- 45 mm long connection fitted with a gasket
- sheet metal connection via rivets
- quick and easy fitting of the duct with connectors without the need for additional seals
- EPDM rubber connectors
- 20 mm wide swivel mounting brackets

MATERIAL:

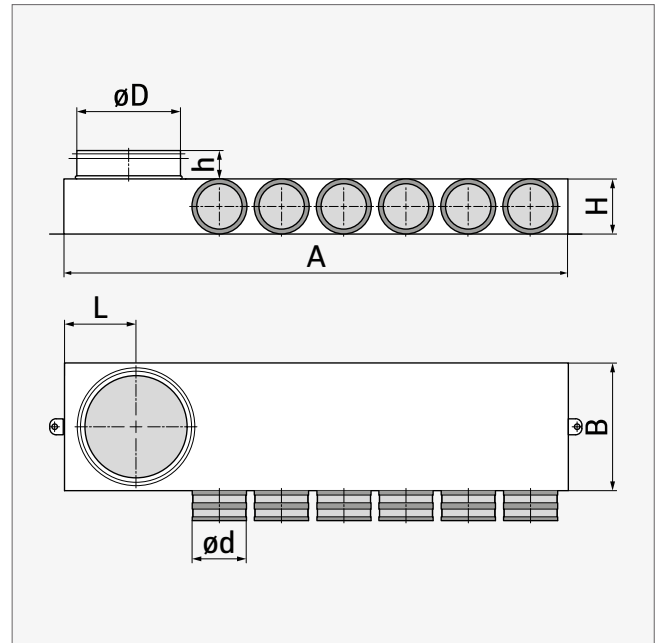
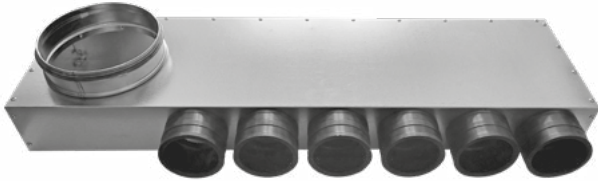
- galvanized steel
- EPDM rubber connectors
- rubber gasket
- mounting brackets made of galvanized steel

| | n* | $\varnothing D$ [mm] | $\varnothing d$ [mm] | A [mm] | B [mm] | H [mm] | h [mm] |
|------------------------|------------|-------------------------|-------------------------|-----------|-----------|-----------|-----------|
| SR-RKJ8 75/160 | 8 (2-4-2) | 160 | 75 | 400 | 210 | 85 | 45 |
| SR-RKJ10 75/200 | 10 (2-6-2) | 200 | 75 | 590 | 240 | 85 | 45 |
| SR-RKJ12 75/200 | 12 (3-6-3) | 200 | 75 | 590 | 307 | 85 | 45 |

* number of connectors



Corner plenum box, left-sided **SR-RKN.L**



PRODUCT CHARACTERISTICS:

- clever design of the internal components to minimise air resistance
- 45 mm long connection fitted with a gasket
- sheet metal connection via rivets
- quick and easy fitting of the duct with connectors without the need for additional seals
- EPDM rubber connectors
- 20 mm wide swivel mounting brackets, which can be fixed on 2 sides of the box
- left-sided version

MATERIAL:

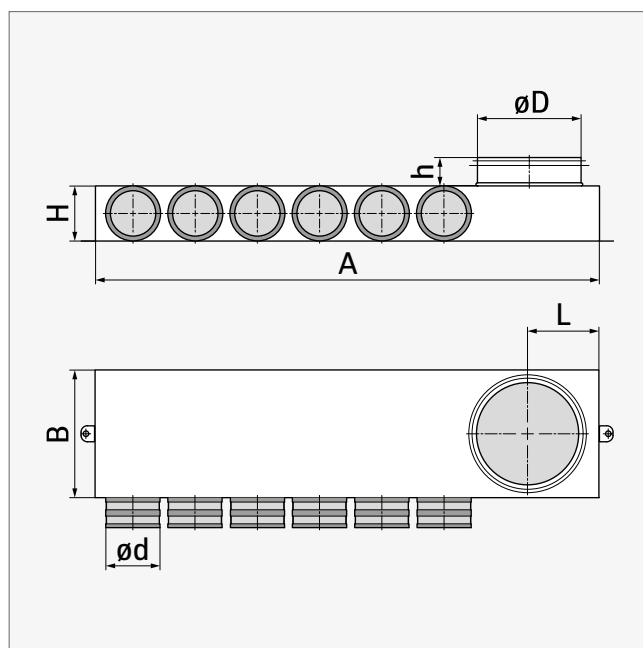
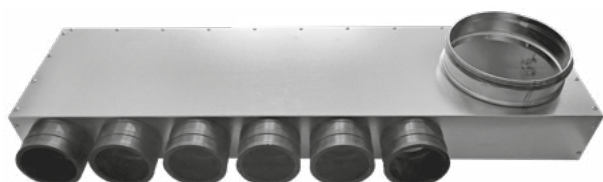
- galvanized steel
- EPDM rubber connectors
- rubber gasket
- mounting brackets made of galvanized steel

| | n* | $\varnothing D$ [mm] | $\varnothing d$ [mm] | A [mm] | B [mm] | H [mm] | h [mm] | L [mm] |
|--------------------------|----|-------------------------|-------------------------|-----------|-----------|-----------|-----------|-----------|
| SR-RKN6.L 75/160 | 6 | 160 | 75 | 768 | 200 | 85 | 45 | 100 |
| SR-RKN8.L 75/160 | 8 | 160 | 75 | 958 | 200 | 85 | 45 | 100 |
| SR-RKN10.L 75/160 | 10 | 160 | 75 | 1148 | 200 | 85 | 45 | 100 |

* number of connectors



Corner plenum box, right-sided **SR-RKN.P**



PRODUCT CHARACTERISTICS:

- clever design of the internal components to minimise air resistance
- 45 mm long connection fitted with a gasket
- sheet metal connection via rivets
- quick and easy fitting of the duct with connectors without the need for additional seals
- EPDM rubber connectors
- 20 mm wide swivel mounting brackets, which can be fixed on 2 sides of the box
- right-sided version

MATERIAL:

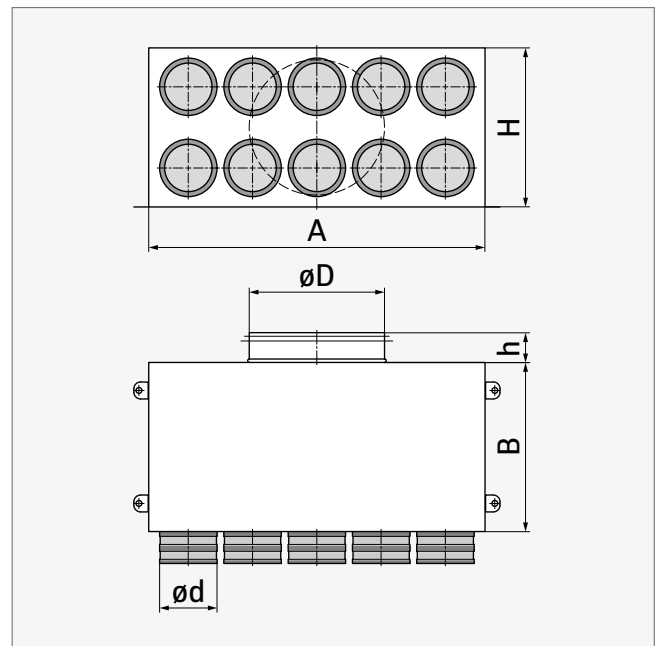
- galvanized steel
- EPDM rubber connectors
- rubber gasket
- mounting brackets made of galvanized steel

| | n* | øD [mm] | ød [mm] | A [mm] | B [mm] | H [mm] | h [mm] | L [mm] |
|--------------------------|----|---------|---------|--------|--------|--------|--------|--------|
| SR-RKN6.P 75/160 | 6 | 160 | 75 | 768 | 200 | 85 | 45 | 100 |
| SR-RKN8.P 75/160 | 8 | 160 | 75 | 958 | 200 | 85 | 45 | 100 |
| SR-RKN10.P 75/160 | 10 | 160 | 75 | 1148 | 200 | 85 | 45 | 100 |

* number of connectors



Double-row plenum box **SR-RPD**



PRODUCT CHARACTERISTICS:

- 45 mm long connection fitted with a gasket
- sheet metal connection via rivets
- quick and easy fitting of the duct with connectors without the need for additional seals
- EPDM rubber connectors
- 20 mm wide swivel mounting brackets, which can be fixed on 2 sides of the box

MATERIAL:

- galvanized steel
- EPDM rubber connectors
- rubber gasket
- mounting brackets made of galvanized steel

| | n* | ØD [mm] | Ød [mm] | A [mm] | B [mm] | H [mm] | h [mm] |
|------------------------|----------|------------|------------|-----------|-----------|-----------|-----------|
| SR-RPD8 75/160 | 8 (2×4) | 160 | 75 | 400 | 250 | 235 | 45 |
| SR-RPD10 75/200 | 10 (2×5) | 200 | 75 | 495 | 250 | 235 | 45 |
| SR-RPD12 75/200 | 12 (2×6) | 200 | 75 | 590 | 250 | 235 | 45 |

* number of connectors



Non-insulated aluminum flexible duct **AF012**



PRODUCT CHARACTERISTICS:

- standard 10 m long ducts fitted into 0,5 m cardboard boxes
- low transportation and storage cost
- easy assembly
- no need to use special tools for cutting or fixing
- PN-EN 13180:2004 norm compliant

Note: duct characteristics - see page 247



DESIGN:

- three-layer laminate with polyester
- extremely resistant to mechanical damage
- the duct is reinforced with a steel spiral wire (lead 24 mm)

USE

This duct has been designed to transport air in both AC and ventilation duct systems. Attenuates system's vibration. Reduces the need to use fittings.

| | |
|-------------------------------------|--------------------|
| Spiral lead: | 24 mm |
| Diameter range: | 83-635 mm |
| Operating temperature range: | from -30 to +140°C |
| Maximum air speed: | 30 m/s |
| Maximum operating pressure: | 2500 Pa |
| Standard length: | 10 m |
| Cardboard package: | 0,5 m |

| øD [mm] |  | øD [mm] |  |
|------------|---|------------|---|
| 82 | 352 pal | 305 | 36 pal |
| 102 | 360 pal | 317 | 36 pal |
| 127 | 240 pal | 356 | 30 pal |
| 152 | 168 pal | 406 | 20 pal |
| 162 | 132 pal | 457 | 10 pal |
| 203 | 100 pal | 508 | 10 pal |
| 229 | | 630 | |
| 254 | 64 pal | | |

 Packaging [pcs | type] **øD:** duct diameter **pal:** pallet



Insulated aluminum flexible duct **AF013 / AF019**

AF013:**AF019:**

PRODUCT CHARACTERISTICS:

- standard 10 m long ducts fitted into 1 m cardboard boxes
- low transportation and storage cost
- easy assembly
- no need to use special tools for cutting or fixing
- PN-EN 13180:2004 norm compliant

Note: duct characteristics - see page 247



DESIGN

Internal layer of the AF013 / AF019 duct is made of lightly perforated AF012 duct. Insulation material is mineral wool, while the external cover is made of three-layer laminate reinforced by carbon fiber. AF013 duct has additional steam insulation foil between the internal duct and insulation layer made of polyester.

USE

Flexible duct with thermal insulation and sound attenuation is designed especially to transport air in ventilation and AC systems. Thanks to perforation of the internal duct, the noise generated by installation is reduced. Reduces system's vibrations. Reduces the need to use fittings.

| | |
|--|---------------------|
| Internal duct: | AF012 |
| Insulation 20 kg/m³: | 25 mm mineral wool |
| External cover: | aluminum, polyester |
| Diameter range: | 83-635 mm |
| Operating temperature range: | from -30 to +140°C |
| Maximum air speed: | 30 m/s |
| Maximum operating pressure: | 2000 Pa |
| Standard length: | 10 m |
| Cardboard package: | 1 m |

| øD [mm] |  | øD [mm] |  |
|------------|---|------------|---|
| 82 | 72 pal | 305 | 15 pal |
| 102 | 72 pal | 317 | 15 pal |
| 127 | 66 pal | 356 | 10 pal |
| 152 | 50 pal | 406 | 8 pal |
| 162 | 45 pal | 458 | |
| 203 | 32 pal | 508 | 6 pal |
| 229 | 28 pal | 630 | |
| 254 | 18 pal | | |

 Packaging [pcs | type] øD: duct diameter pal: pallet



Insulated aluminum flexible duct **MOizo**



PRODUCT CHARACTERISTICS:

- completely non-combustible flexible aluminum duct
- internal layer does not contain any polyester
- thanks to thicker aluminum layer the duct's stiffness, hardness and durability are increased as compared to a traditional flexible duct
- standard 10 m long ducts are individually fitted into 1 m cardboard boxes
- low transportation and storage cost
- easy assembly
- no need to use special tools for cutting or fixing
- PN-EN 13180:2004 norm compliant

Note: duct characteristics - see page 247



| | |
|-------------------------------------|--------------------------------|
| Internal duct: | M0 (non perforated) |
| Insulation 20 kg/m³: | 25 mm mineral wool |
| External cover: | reinforced aluminum, polyester |
| Diameter range: | 102-315 mm* |
| Operating temperature range: | from -30 to +250°C |
| Maximum air speed: | 30 m/s |
| Maximum operating pressure: | 3000 Pa |
| Standard length: | 5** / 10 m |
| Cardboard package: | 1 m |

DESIGN

The internal layer of MOizo duct (insulated) is made of non-perforated M0 duct. Two layer aluminum foil glued with non-flammable glue. Fused steel wire spiral with 24 mm lead. Insulation material is mineral wool and the external cover is made of multi layer laminated aluminum reinforced with carbon fibre.

USE

This flexible and thermally insulated duct has been especially designed for ventilation and AC market. Thanks to its thermal resistance, it can also be used to transport warm air of temperature up to +250°C from fireplaces. Attenuates system's vibration. Reduces the need to use fittings and provides thermal insulation.

| øD [mm] |  | øD [mm] |  |
|------------|---|------------|---|
| 102 | 108 pal | 229 | |
| 127 | 80 pal | 254 | 21 pal |
| 152 | 63 pal | 305 | |
| 163 | 45 pal | 315 | |
| 203 | 32 pal | | |

 Packaging [pcs | type] * other diameters on request ** only for ø102-162 mm øD: duct diameter pal: pallet



Semi-rigid aluminum duct **S-Flex®**



DESIGN

S-Flex® is a product used in construction of ventilation and air conditioning installations. Due to its high mechanical durability, the product proves indispensable also in the installations of industrial facilities. Perfected technical parameters, high flexibility and special design enable to install ducts without the necessity to use special tools or fittings.

S-Flex® semi-flexible duct in diameters 315 and 400 mm is only available in lengths of 3,000 mm.

Note: duct characteristics - see page 247

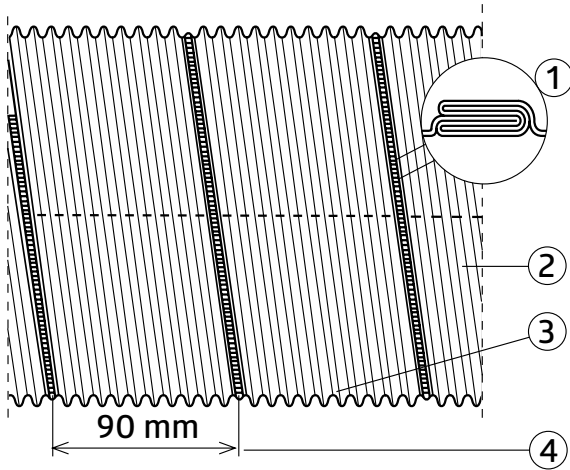
| | |
|-------------------------------------|---|
| Material: | aluminum |
| Diameter range: | 80-400 mm |
| Operating temperature range: | from -30 to +280°C |
| Maximum air speed: | 25 m/s |
| Maximum operating pressure: | 2000 Pa |
| Standard length: | 3 m |
| Compressed duct length: | 0,8 m (at maximum compression 0,6 m) |

Packaging [pcs | type] **∅D:** duct diameter **L:** duct length

USE

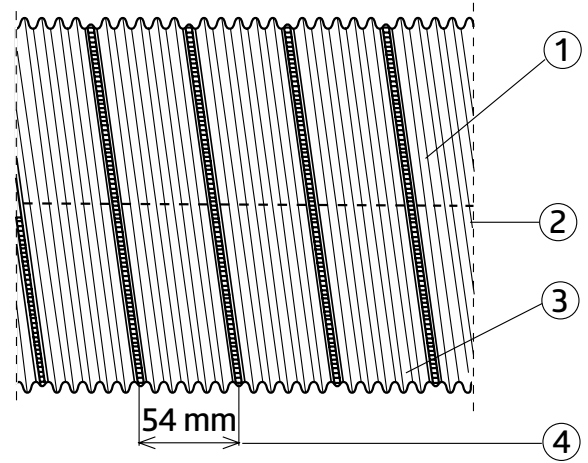
Due to a wide range of possible uses, this product can be used in AC and ventilation systems as well as for other industrial purposes.

| ∅D [mm] | L = 3000 mm | L = 5000 mm |
|------------|-------------|-------------|
| | | |
| 80 | 54 P2 | 72 P1 |
| 100 | 40 P2 | 52 P1 |
| 125 | 53 P1 | 30 P1 |
| 150 | 38 P1 | 23 P1 |
| 160 | 32 P1 | 20 P1 |
| 180 | 12 P2 | 16 P1 |
| 200 | 20 P1 | 12 P1 |
| 250 | 13 P1 | 9 P1 |
| 315 | 5 P1 | |
| 400 | 3 P1 | |



S-FLEX® DUCT

1. High-quality durable interlock seam.
2. Aluminum tape thickness: 0,09 mm.
3. 10 compression grooves.
4. S-Flex® duct is manufactured from wide (90mm) aluminum tape. Thanks to this the number of seams is limited by 40%, the duct is more flexible and durable and easy to compress.

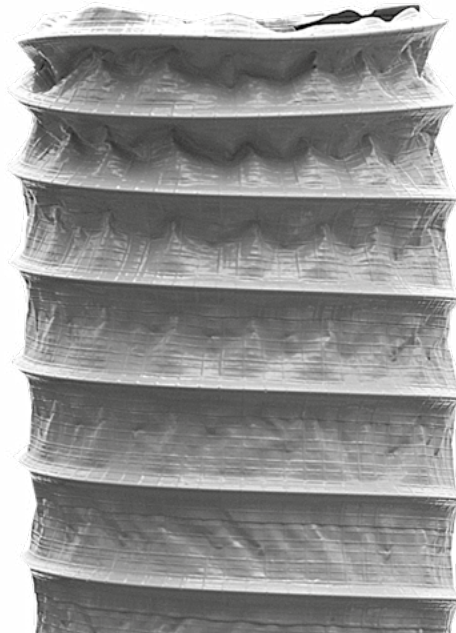


TRADITIONAL DUCT

1. Non-durable seam.
2. Material thickness below 0,10 mm.
3. 5 compression grooves.
4. A traditional duct is manufactured from a narrow 54 mm wide aluminum tape. It means more seams (up to 55 seams on 3 m standard length), making the duct less flexible, more prone to damages and less compress.



PVC flexible duct **POLYFLEX**



PRODUCT CHARACTERISTICS:

- standard 10 m long ducts are individually fitted into 0,5 m cardboard boxes
- low transportation and storage cost
- easy assembly
- no need to use special tools for cutting or fixing
- smooth internal surface
- extremely resistant to mechanical damage
- PN-EN 13180:2004 norm compliant

Note: duct characteristics - see page 247



DESIGN:

- 140 micrometers thick multilayer reinforced PVC
- fused steel wire spiral with 24 mm lead
- colour: gray

USE

This duct is designed to be installed in low and medium pressure ventilation and AC systems. Attenuates system's vibration. Reduces the need to use fittings. This duct is characterized by high flexibility and durability in case of multiple reshaping and relocations.

| | |
|-------------------------------------|-------------------|
| Spiral lead: | 24 mm |
| Diameter range: | 102-356 mm* |
| Operating temperature range: | from -30 to +75°C |
| Maximum air speed: | 30 m/s |
| Maximum operating pressure: | 3000 Pa |
| Standard length: | 10 m |
| Cardboard package: | 0,5 m |

| øD [mm] |  | øD [mm] |  |
|------------|---|------------|---|
| 102 | 260 pal | 229 | |
| 127 | 150 pal | 254 | 48 pal |
| 152 | 130 pal | 305 | 24 pal |
| 162 | 130 pal | 315 | 24 pal |
| 203 | 70 pal | 356 | 15 pal |

 Packaging [pcs | type] * other diameters on request øD: duct diameter pal: pallet



PVC laminated aluminum flexible duct **COMBIFLEX**



PRODUCT CHARACTERISTICS:

- high mechanical durability and resistance to high temperatures
- standard 10 m long ducts are individually fitted into 0.75 m cardboard boxes
- low transportation and storage cost
- easy assembly
- no need to use special tools for cutting or fixing
- PN-EN 13180:2004 norm compliant

Note: duct characteristics - see page 247



DESIGN:

- multilayer aluminum and polyester laminate
- 70 micrometers thick PVC coating
- fused steel wire spiral with 24 mm lead

USE

COMBIFLEX duct is designed to transport air in duct systems. Thanks to the internal aluminum coating, COMBIFLEX is resistant to high temperatures. The external PVC coating ensures mechanical durability. This duct is characterized by high flexibility and durability in case of multiple reshaping and relocations.

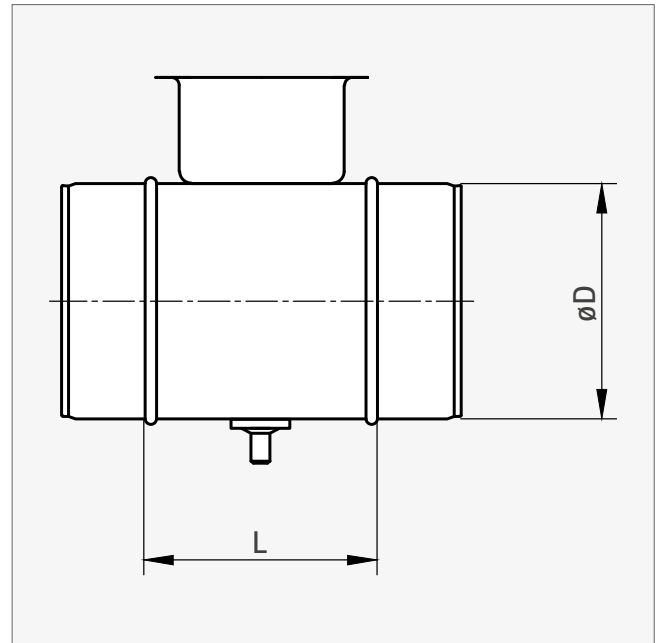
| | |
|-------------------------------------|--------------------|
| Spiral lead: | 24 mm |
| Diameter range: | 102-457 mm |
| Operating temperature range: | from -30 to +125°C |
| Maximum air speed: | 30 m/s |
| Maximum operating pressure: | 3000 Pa |
| Standard length: | 10 m |
| Cardboard package: | 0,75 m |

| øD [mm] |  | øD [mm] |  |
|------------|---|------------|---|
| 102 | 252 pal | 305 | 42 pal |
| 127 | 150 pal | 317 | 35 pal |
| 152 | 117 pal | 356 | |
| 163 | 117 pal | 406 | |
| 203 | 70 pal | 457 | |
| 254 | 48 pal | | |

 Packaging [pcs | type] **øD:** duct diameter **pal:** pallet



Circular duct damper **DS(E) / DSL**



PRODUCT CHARACTERISTICS:

- stitch welded
- standard version - with SPIRO mechanism
- produced with returned (DS) or sharp edges (DSE)
- gasket is positioned by returned edges (DSL)
- from a diameter of 500 mm we recommend the use of an multi-blade damper with round ending **DSL-PW** (see page 102)

MATERIAL:

- galvanized steel
- EPDM rubber gasket (DSL)

Part of a certified ventilation system **with increased airtightness class D.**

Note: pressure loss diagram - see page 250

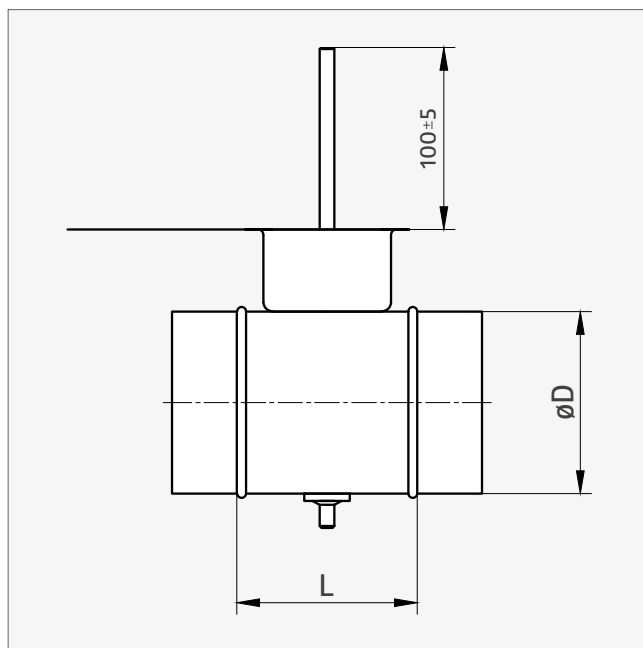
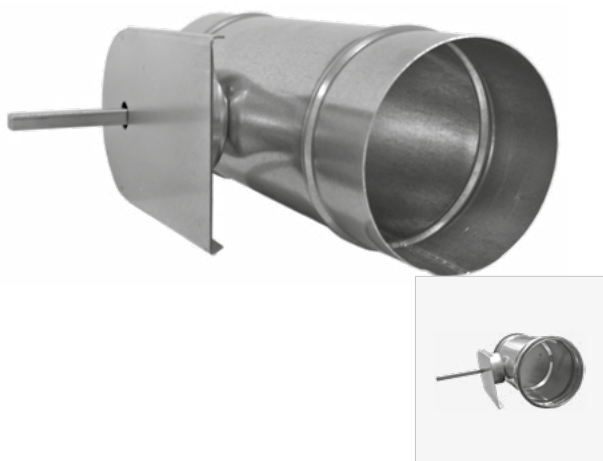
| øD [mm] | DSE | | DS / DSL | |
|------------|--------|--|----------|----------|
| | L [mm] | | L [mm] | |
| 80 | | | 94 | 24 P12 |
| 100 | | | 94 | 40 P6 |
| 125 | | | 94 | 27 P6 |
| 140 | | | 94 | 32 P4 |
| 150 | | | 94 | 30 P4 |
| 160 | | | 94 | 24 P4 |
| 180 | | | 94 | 20 P4 |
| 200 | | | 94 | 36 P2 |
| 224 | | | 94 | 30 P2 |
| 250 | | | 98 | 36 P1 |
| 280 | | | 98 | 12 P2 |
| 300 | | | 98 | 12 P2 |

| øD [mm] | DSE | | DS / DSL | |
|------------|--------|---------|----------|---------|
| | L [mm] | | L [mm] | |
| 315 | | | 98 | 25 P1 |
| 350 | 104 | | | |
| 355 | | | 98 | 20 P1 |
| 400 | 120 | 15 P1 | 120 | 15 P1 |
| 450 | 120 | 10 P1 | 120 | 10 P1 |
| 500 | 120 | 10 P1 | 120 | 9 P1 |
| 560 | 120 | 6 P1 | 120 | 4 P2 |
| 600 | 120 | | | |
| 630 | 120 | 5 P1 | 120 | 5 P1 |
| 710 | 120 | 5 P1 | 120 | 4 P1 |
| 800 | 120 | | 120 | 3 P1 |

Packaging [pcs | type] L: ±5 mm



Circular duct damper for actuator **DSB(E) / DSBL**



PRODUCT CHARACTERISTICS:



- stitch welded
- version for actuator
- produced with returned (DSB) or sharp edges (DSBE)
- gasket is positioned by returned edges (DSBL)
- from a diameter of 500 mm we recommend the use of an multi-blade damper with round ending **DSL-PW-SI** (see page 102)



MATERIAL:

- galvanized steel
- EPDM rubber gasket (DSBL)


Part of a certified ventilation system **with increased airtightness class D.**

Note: pressure loss diagram - see page 250

| øD [mm] | DSBE | | DSB / DSBL | |
|---------|--------|---|------------|---|
| | L [mm] |  | L [mm] |  |
| 80 | | | 94 | 16 P12 |
| 100 | | | 94 | 12 P12 |
| 125 | | | 94 | 24 P6 |
| 140 | | | 94 | |
| 150 | | | 94 | 16 P6 |
| 160 | | | 94 | 16 P6 |
| 180 | | | 94 | |
| 200 | | | 94 | 16 P4 |
| 224 | | | 94 | |
| 250 | | | 98 | 36 P1 |
| 280 | | | 98 | 12 P2 |
| 300 | | | 98 | 12 P2 |

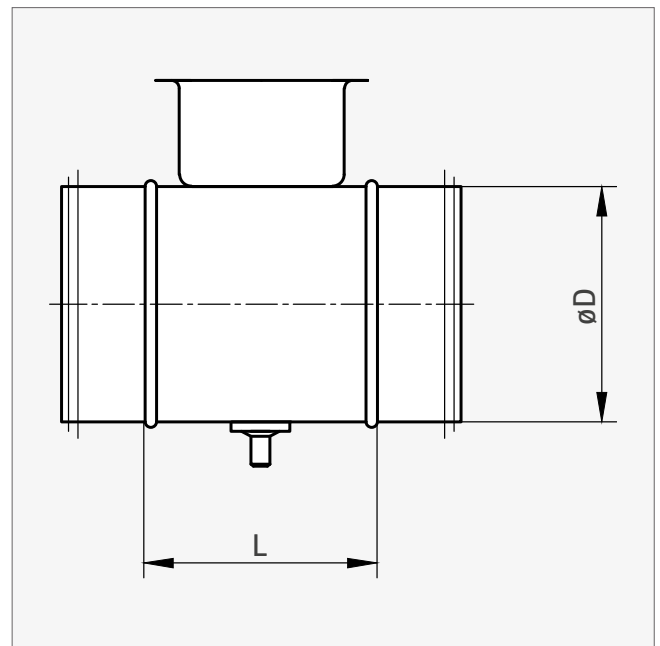
| øD [mm] | DSBE | | DSB / DSBL | |
|---------|--------|---|------------|---|
| | L [mm] |  | L [mm] |  |
| 315 | | | 98 | 21 P1 |
| 350 | 104 | | | |
| 355 | | | 98 | 8 P2 |
| 400 | 120 | 6 P2 | 120 | 6 P2 |
| 450 | 120 | | 120 | |
| 500 | 120 | | 120 | 8 P1 |
| 560 | 120 | | 120 | |
| 600 | 120 | | | |
| 630 | 120 | | 120 | 5 P1 |
| 710 | 120 | | 120 | |
| 800 | 120 | | 120 | |

 Packaging [pcs | type]

 L: ±5 mm



Airtight circular duct damper **DTL / DTBL**




PRODUCT CHARACTERISTICS:



- stitch welded
- uses SPIRO mechanism (DTL) or for actuator (DTBL)


MATERIAL:

- galvanized steel
- EPDM rubber gasket
- blade rubber gasket for air-tight dampers

Part of a certified ventilation system **with increased airtightness class D.**

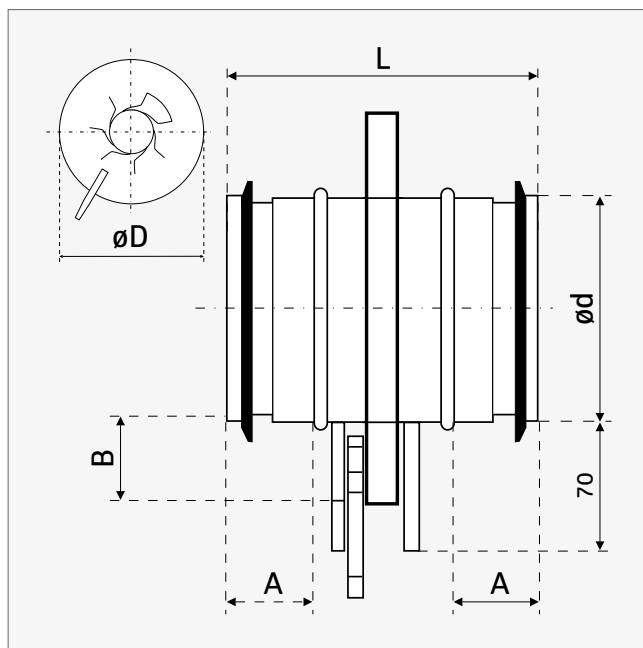
| øD [mm] | L [mm] |  | |
|------------|-----------|---|----------|
| | | DTL | DTBL |
| 80 | 94 | 24 P12 | 16 P12 |
| 100 | 94 | 40 P6 | 12 P12 |
| 125 | 94 | 27 P6 | 20 P6 |
| 140 | 94 | | |
| 150 | 94 | 30 P4 | 16 P6 |
| 160 | 94 | 24 P4 | 16 P6 |
| 180 | 94 | 20 P4 | |
| 200 | 94 | 36 P2 | 16 P4 |
| 224 | 94 | 30 P2 | |
| 250 | 98 | 36 P1 | 36 P1 |
| 280 | 98 | 12 P2 | |

 Packaging [pcs | type]  L: ±5 mm

| øD [mm] | L [mm] |  | |
|------------|-----------|---|---------|
| | | DTL | DTBL |
| 300 | 98 | 12 P2 | 12 P2 |
| 315 | 98 | 25 P1 | 21 P1 |
| 355 | 98 | 20 P1 | 8 P2 |
| 400 | 120 | 15 P1 | 6 P2 |
| 450 | 120 | 10 P1 | 9 P1 |
| 500 | 120 | 9 P1 | 8 P1 |
| 560 | 120 | | |
| 630 | 120 | 5 P1 | 5 P1 |
| 710 | 120 | | |
| 800 | 120 | 3 P1 | |



IRIS damper **IRIS**



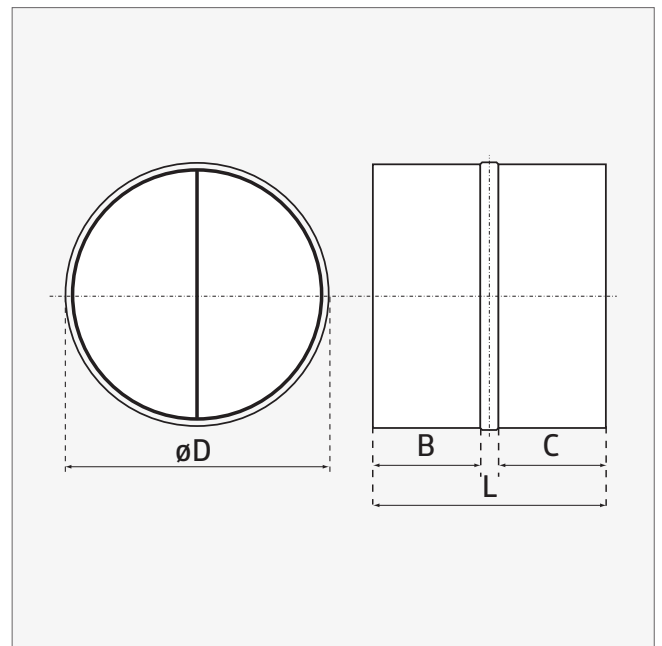
With IRIS damper, the intensity of air flow may be smoothly adjusted. Adjustment is done with a handle located on the damper which changes the diameter of the opening in the damping orifice. The damper is supplied with two endings which may be used to connect instruments measuring intensity of air flow. The damper is also supplied with a gasket, which tightens connection with the system.

Note: pressure loss diagrams - see page 252

| | ød [mm] | øD [mm] | L [mm] | A [mm] | B [mm] |
|------------|-------------------|-------------------|------------------|------------------|------------------|
| 100 | 99 | 165 | 110 | 30 | 32 |
| 125 | 124 | 210 | 110 | 30 | 42 |
| 150 | 149 | 230 | 120 | 30 | 35 |
| 160 | 159 | 230 | 110 | 30 | 35 |
| 200 | 199 | 285 | 110 | 30 | 42 |
| 250 | 249 | 335 | 135 | 40 | 42 |
| 300 | 299 | 410 | 140 | 35 | 42 |
| 315 | 314 | 410 | 135 | 40 | 47 |
| 400 | 398 | 525 | 190 | 60 | 62 |
| 500 | 500 | 400 | 165 | 70 | 60 |
| 630 | 630 | 800 | 170 | 70 | 90 |
| 800 | 800 | 1020 | 280 | 130 | 105 |



Back draft damper **RSK**




PRODUCT CHARACTERISTICS:

- damper wings (swinging) closed by a spring
- can be mounted in any position


MATERIAL:

- galvanized steel
- polyurethane foam (gasket)
- aluminum (wings)

Note: pressure loss diagram - see page 251

| $\varnothing D$ [mm] | L [mm] | B [mm] | C [mm] |  |
|-------------------------|-----------|-----------|-----------|---|
| 100 | 88 | 38 | 38 | 100 |
| 125 | 88 | 38 | 38 | 64 |
| 150 | 88 | 38 | 38 | 36 |
| 160 | 88 | 38 | 38 | 36 |
| 200 | 88 | 38 | 38 | 19 |

 Packaging [pcs]

| $\varnothing D$ [mm] | L [mm] | B [mm] | C [mm] |  |
|-------------------------|-----------|-----------|-----------|---|
| 250 | 128 | 59 | 59 | 12 |
| 315 | 128 | 59 | 59 | 9 |
| 355 | 197 | 75 | 75 | 6 |
| 400 | 197 | 75 | 75 | 6 |



Multi-blade damper with round ending **DSL-PW / DSL-PW-SI**



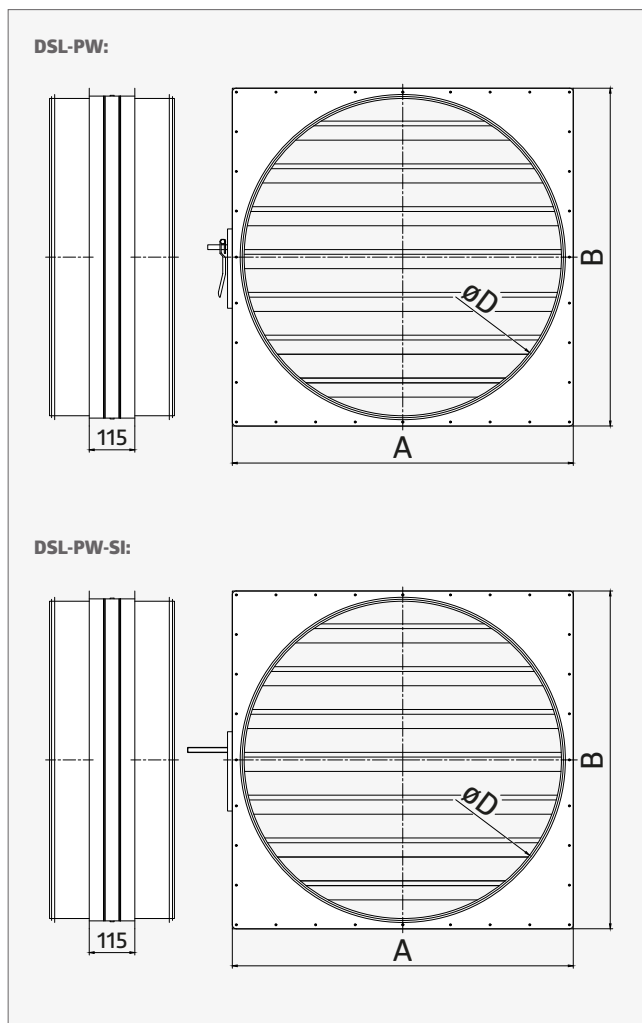
PRODUCT CHARACTERISTICS:

- recommended for dampers with a diameter ≥ 500 mm
- damper mechanism is completely covered inside the side profile
- operating temperature range: from -20 to $+80^{\circ}\text{C}$

MATERIAL:

- aluminum (frame + louver slats)
- PA material (driving cogs)
- EPDM rubber (gasket)
- galvanized steel (cover plates)

| $\varnothing D$ [mm] | A [mm] | B [mm] |
|-------------------------|-----------|-----------|
| 500 | 560 | 552 |
| 560 | 620 | 600 |
| 630 | 690 | 670 |
| 710 | 770 | 750 |
| 800 | 860 | 852 |
| 900 | 960 | 952 |
| 1000 | 1060 | 1052 |
| 1250 | 1310 | 1290 |



DESIGN:

- manually operated or actuator powered version

TYPES:

- **DSL-PW** - multi-leaf damper with manual mechanism with round ending
- **DSL-PW-SI** - actuator powered multi-leaf damper (12x12 mm axle) with round ending



Multi-blade rectangular damper **PW / PW-SI**



PRODUCT CHARACTERISTICS:

- damper mechanism is completely covered inside the side profile
- due to transportation limits, one of the dimensions (A or B) cannot exceed 2000 mm
- operating temperature range: from -20 to +80°C

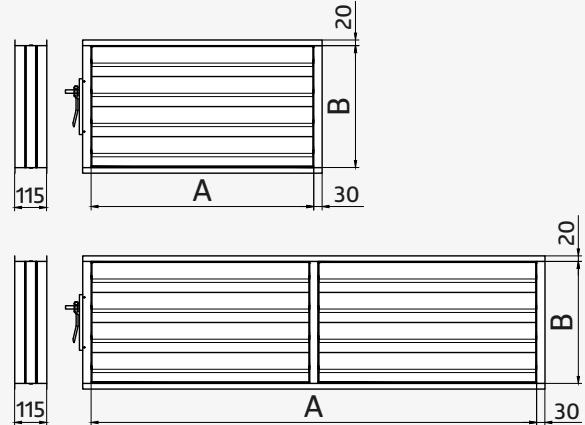
DESIGN:

- manually operated or actuator powered version
- $A \geq 1300$ mm - produced as divided damper
- $B \geq 1600$ mm - equipped with additional handle

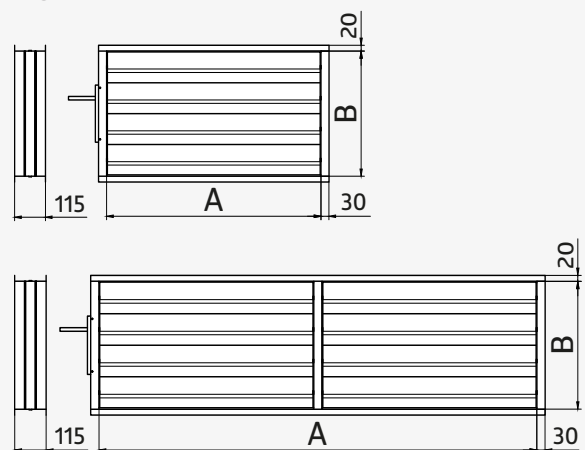
MATERIAL:

- aluminum (profiles + louver)
- PA material (driving cogs)
- EPDM rubber (gaskets)

PW:



PW-SI:



Note: pressure loss diagram - see page 250

TYPES:

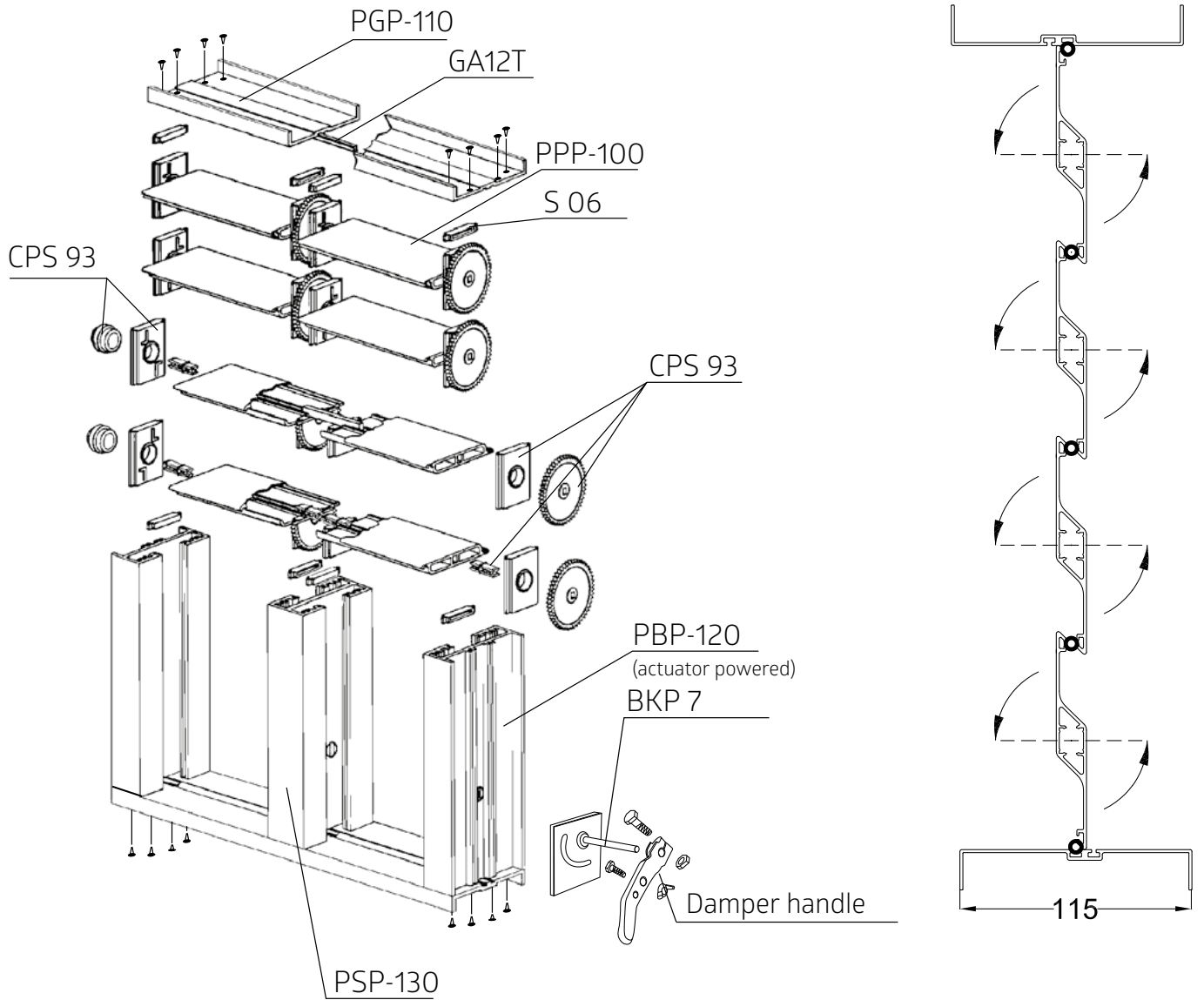
- **PW** - multi-leaf damper with manual mechanism
- **PW-SI** - actuator powered multi-leaf damper (12×12 mm axle)

| A [mm] | B [mm] |
|------------|------------|
| 200 - 2000 | 200 - 2000 |

In case of orders of full dimensions B, e.g. 200, 300, 400, etc., the actual size will be increased by 12 mm.

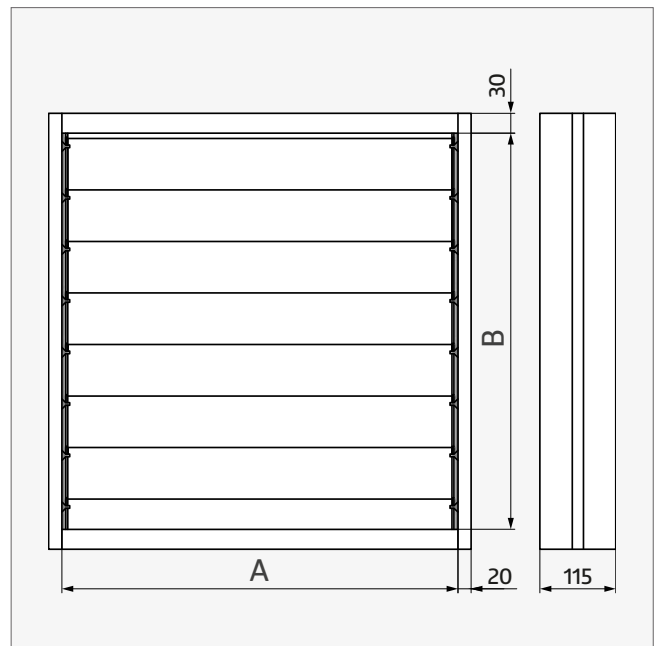


ASSEMBLY DRAWING:





Automatic aluminium duct damper **PSK**



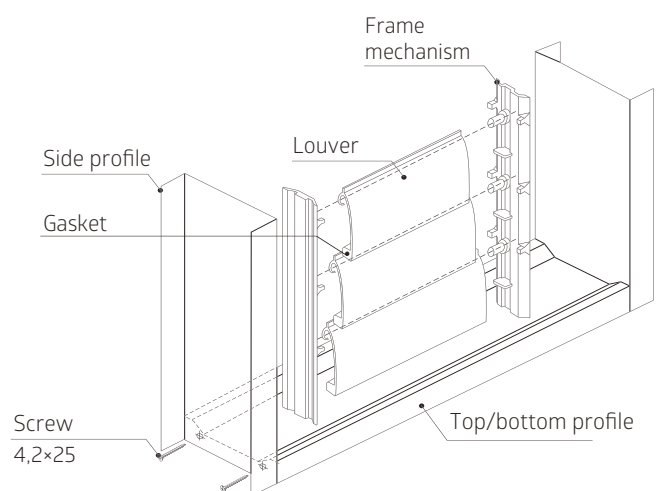
Automatic dampers are produced in duct and wall mounted versions. Przepustnica kanałowa służy jako przepustnica regulacyjna. The louvers are equipped with attenuating gaskets, which prevent their edges from hitting against one another during standard operation. Thanks to that, the louvers do not make additional noise during operation. The dampers are entirely made of aluminum profiles (light and resistant to environment). Max. operating temperature: +80°C.

Note: pressure loss diagram - see page 250

MATERIAL:

- aluminum (frame and louver)
- plastic (louver drives)
- attenuating gasket

ASSEMBLY DRAWING:

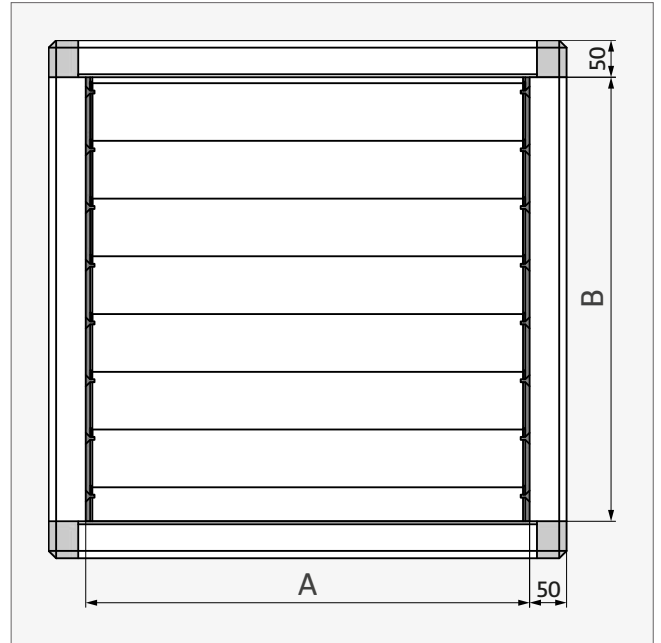


| A [mm] | B [mm] |
|------------|------------|
| 200 - 1600 | 200 - 2000 |

Dampers that fall within the specified dimensions (A and B) are available on request.



Automatic aluminium duct damper **PSS**



Automatic dampers are produced in duct and wall mounted versions. Wall mounted version of the damper operates as an exhauster. The louvers are equipped with attenuating gaskets, which prevent their edges from hitting against one another during standard operation. Thanks to that, the louvers do not make additional noise during operation. The dampers are entirely made of aluminum profiles (light and resistant to environment). Max. operating temperature: +80°C.

MATERIAL:

- aluminum (frame and louver)
- plastic (louver drives)
- attenuating gasket

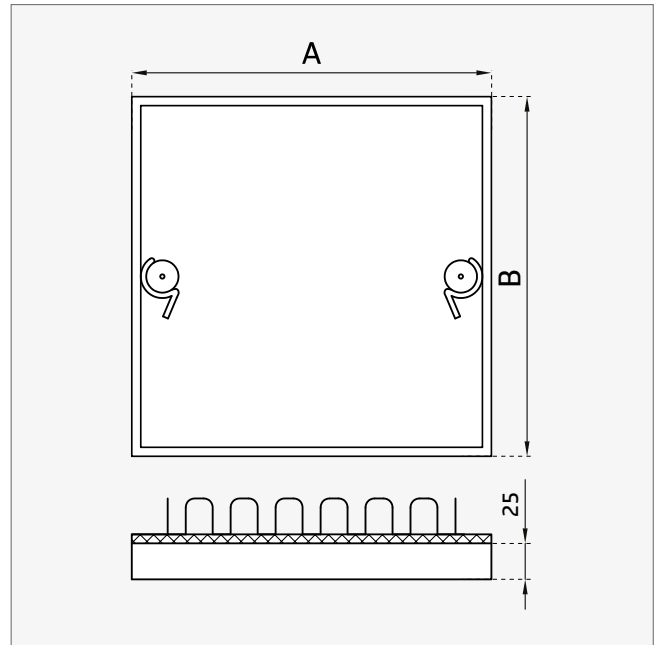
Note: pressure loss diagram - see page 250

| A [mm] | B [mm] |
|------------|------------|
| 200 - 1600 | 200 - 2000 |

Dampers that fall within the specified dimensions (A and B) are available on request.



Insulated access door for rectangular duct **RD**



The range of RD series access doors is designed to provide rapid access to smoke, fire and volume control dampers or other devices installed inside ductwork or associated plant. All door panels are of double wall construction, filled with a 25 mm thick high density insulation.

PRODUCT CHARACTERISTICS:

- suitable for high, medium and low pressure applications
- comprehensive range of available sizes
- equipped with progressive action camlocks
- thermally and acoustically insulated
- fast and simple to install
- fitted with sealing gaskets
- product equipped with a connecting cord

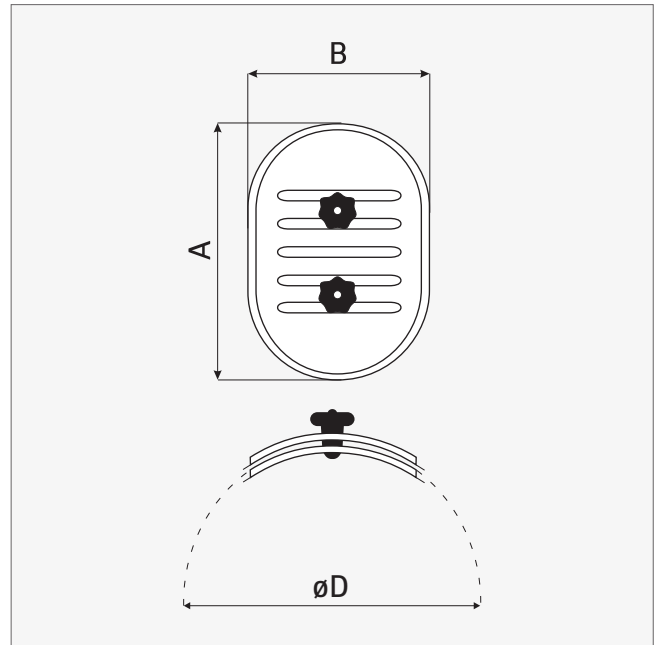
| | A × B [mm] | O* [mm] |
|--------------|----------------------|-------------------|
| RD 15 | 150 × 150 | 120 × 120 |
| RD 20 | 200 × 200 | 170 × 170 |
| RD 21 | 200 × 125 | 170 × 95 |
| RD 25 | 250 × 250 | 220 × 220 |
| RD 30 | 300 × 300 | 270 × 270 |
| RD 31 | 300 × 150 | 270 × 120 |
| RD 32 | 300 × 200 | 270 × 170 |
| RD 35 | 350 × 350 | 320 × 320 |
| RD 40 | 400 × 400 | 370 × 370 |
| RD 42 | 400 × 200 | 370 × 170 |

| | A × B [mm] | O* [mm] |
|---------------|----------------------|-------------------|
| RD 425 | 400 × 250 | 370 × 220 |
| RD 43 | 450 × 300 | 420 × 270 |
| RD 44 | 400 × 300 | 370 × 270 |
| RD 45 | 450 × 450 | 420 × 420 |
| RD 50 | 500 × 500 | 470 × 470 |
| RD 63 | 600 × 300 | 570 × 270 |
| RD 64 | 600 × 400 | 570 × 370 |
| RD 65 | 600 × 450 | 570 × 420 |
| RD 66 | 600 × 600 | 570 × 570 |

* duct opening size



Curved access door for round duct **KR**





PRODUCT CHARACTERISTICS:

- suitable for assembly on round ducts
- easily accessible access door panel for cleaning ducts
- easy installation
- template is included, which allows cutting suitable size of opening in round duct

MATERIAL:

- galvanized steel
- rubber gasket

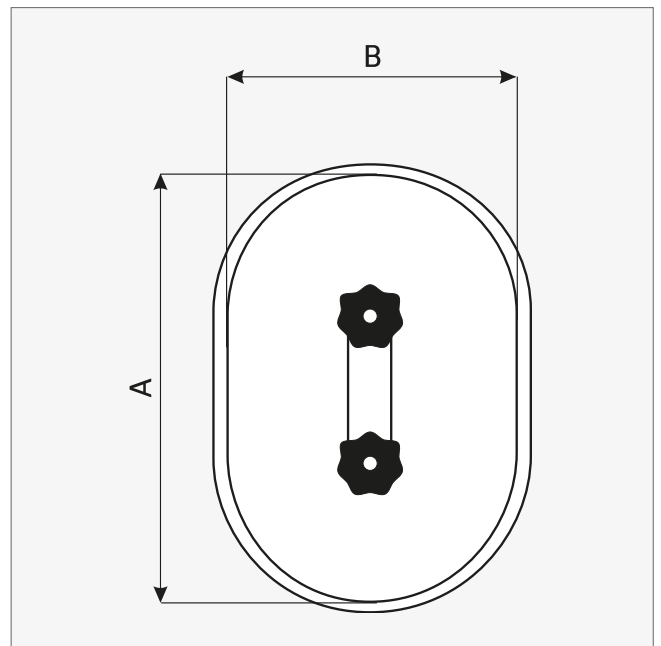
| øD [mm] | A [mm] | B [mm] |  |
|---------|--------|--------|---|
| 100 | 180 | 80 | 10 |
| 125 | 180 | 80 | 10 |
| 160 | 250 | 150 | 5 |
| 200 | 250 | 150 | 5 |
| 250 | 250 | 150 | 5 |
| 315 | 250 | 150 | 5 |
| 355 | 250 | 150 | 5 |
| 400 | 250 | 150 | 5 |

| øD [mm] | A [mm] | B [mm] |  |
|---------|--------|--------|---|
| 400 | 400 | 300 | 5 |
| 450 | 400 | 300 | 5 |
| 500 | 400 | 300 | 5 |
| 560 | 400 | 300 | 5 |
| 630 | 400 | 300 | 5 |
| 710 | 400 | 300 | 5 |
| 800 | 400 | 300 | 5 |

 Packaging [pcs]



Flat access door for rectangular duct **FAD**




All doors have gasket, thanks to which fitting of a door on duct is sufficiently tight. Special template facilitates mounting.

PRODUCT CHARACTERISTICS:

- suitable for assembly on rectangular ducts
- easily accessible access door panel for cleaning ducts
- easy installation

MATERIAL:

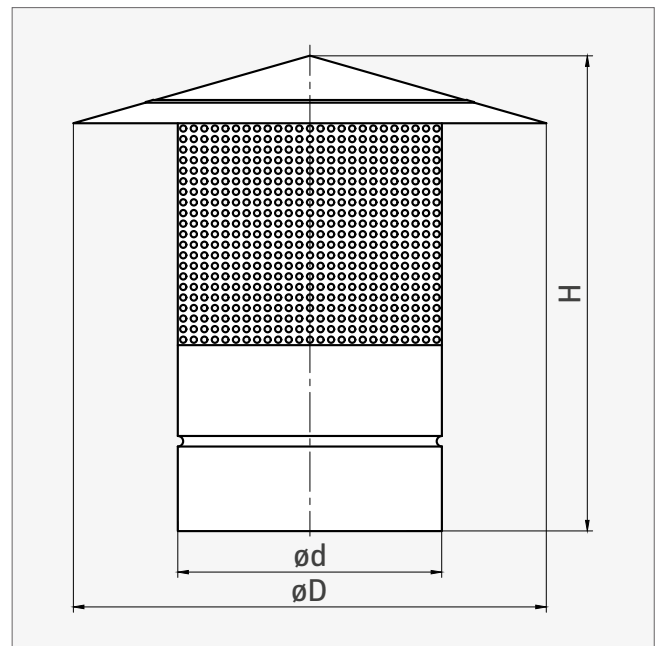
- galvanized steel
- rubber gasket

| $\varnothing D$ [mm] | B [mm] |  |
|-------------------------|-----------|---|
| 180 | 80 | 10 |
| 200 | 100 | 10 |
| 250 | 150 | 5 |
| 300 | 200 | 5 |
| 400 | 200 | 5 |
| 400 | 300 | 5 |
| 500 | 400 | 5 |
| 600 | 450 | 5 |

 Packaging [pcs]



Roof air intake **K**




PRODUCT CHARACTERISTICS:

- inlet/outlet additionally secured with perforated steel
- as a standard manufactured on pipe connection

MATERIAL:

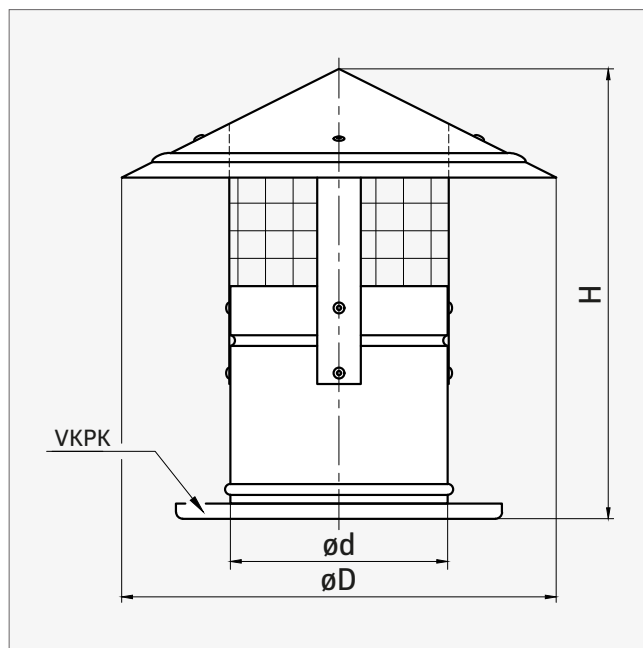
- galvanized steel

| ød [mm] | øD [mm] | H [mm] |  |
|------------|---------|--------|---|
| 100 | 200 | 220 | 16 P6 |
| 125 | 224 | 225 | 15 P4 |
| 140 | 250 | 225 | |
| 150 | 280 | 230 | 18 P2 |
| 160 | 280 | 230 | 18 P2 |
| 180 | 355 | 230 | |
| 200 | 355 | 235 | 15 P2 |
| 224 | 400 | 240 | |
| 250 | 450 | 255 | 5 P2 |
| 300 | 560 | 315 | 6 P1 |
| 315 | 560 | 315 | |
| 355 | 710 | 320 | |
| 400 | 710 | 345 | 4 P1 |
| 450 | 800 | 400 | |
| 500 | 900 | 410 | 2 P1 |
| 560 | 1000 | 475 | |
| 630 | 1120 | 480 | |

 Packaging [pcs | type]



Roof round air intake **CDO**




PRODUCT CHARACTERISTICS:

- inlet is protected with 12×12 mm galvanized steel mesh
- as a standard - produced with VKPK flange
- as an option - can be produced with male coupling end (H+100 mm)

MATERIAL:

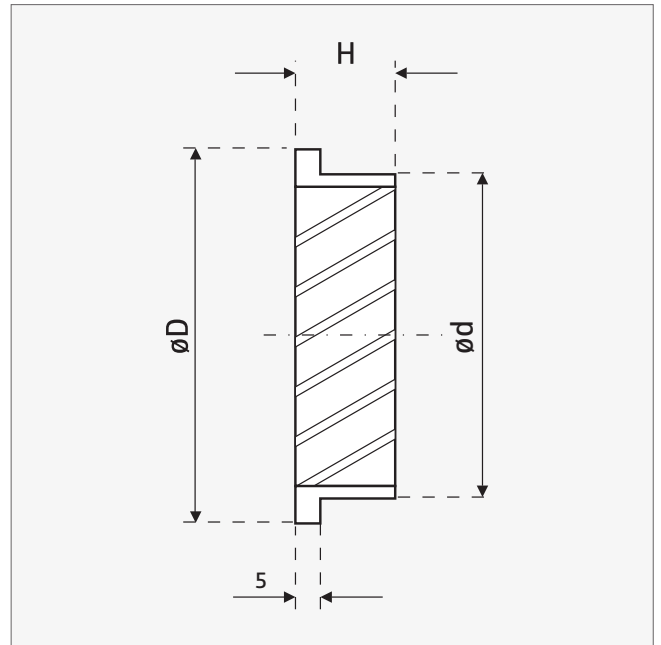
- galvanized steel
- 12×12 mm galvanized steel mesh

| ød [mm] | øD [mm] | H [mm] |  |
|---------|---------|--------|---|
| 100 | 200 | 200 | 16 P6 |
| 125 | 260 | 250 | 12 P4 |
| 150 | 265 | 300 | |
| 160 | 265 | 320 | |
| 200 | 270 | 400 | 24 P1 |
| 250 | 375 | 500 | 6 P1 |
| 315 | 425 | 630 | |
| 355 | 540 | 710 | |
| 400 | 615 | 800 | |
| 450* | 630 | 900 | |
| 500 | 750 | 1000 | |
| 560 | 890 | 1120 | |
| 630 | 910 | 1260 | |

 Packaging [pcs | type]  øD, H: ±5 mm * only male or female coupling version



Cast aluminum external wall grille **KWO-AL**



PRODUCT CHARACTERISTICS:

- KWO-AL may work as intake or exhauster
- non-painted
- insect protection net installed from inside

MATERIAL:

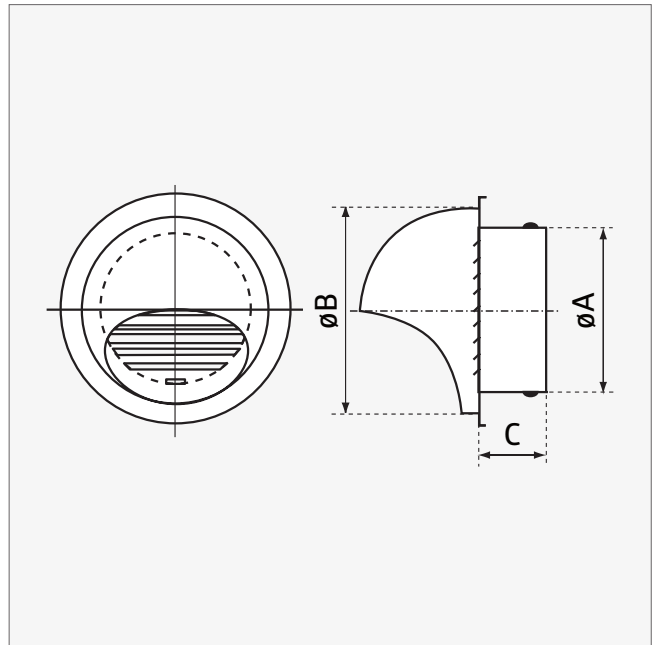
- cast aluminum
- 12×12 mm mesh

| ød [mm] | øD [mm] | H [mm] | |
|------------|---------|--------|-----|
| 100 | 125,0 | 20 | 165 |
| 125 | 150,0 | 20 | 108 |
| 150 | 180,0 | 20 | 72 |
| 160 | 185,0 | 20 | 72 |
| 200 | 225,0 | 20 | 52 |
| 250 | 275,0 | 20 | 28 |
| 315 | 350,0 | 20 | 20 |
| 400 | 435,0 | 35 | 8 |
| 500 | 543,5 | 38 | 5 |

Packaging [pcs]



Round air intake / exhauster **VLA**




PRODUCT CHARACTERISTICS:

- VLA may work as air intake or exhauster
- made of CrNi steel - no corrosion
- non-painted
- cover provides protection against weather conditions
- high quality and modern design
- fast and easy installation

MATERIAL:

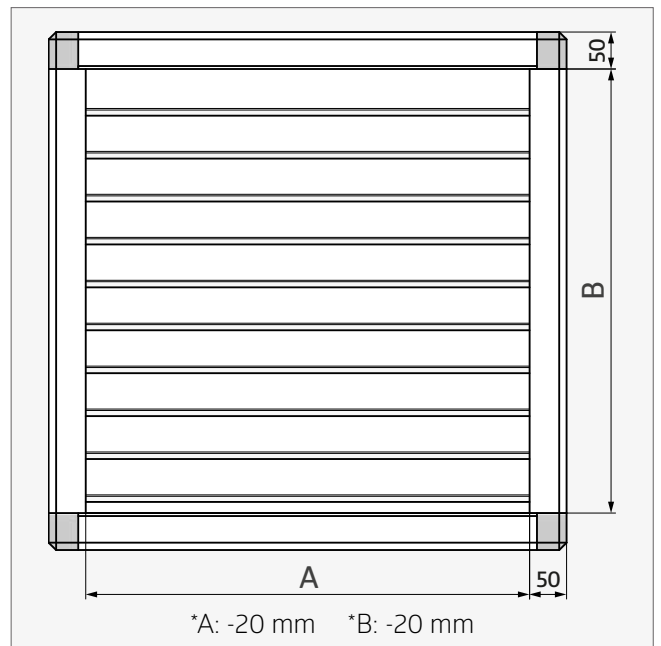
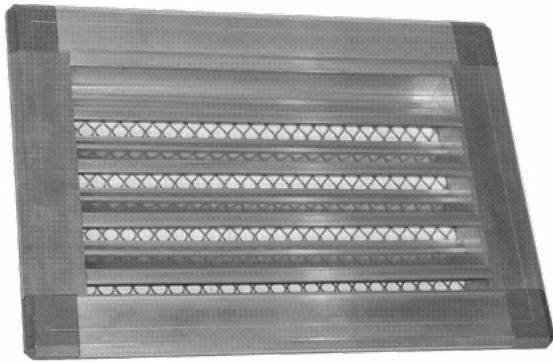
- stainless steel 1.4301
- EPDM rubber gasket (ø100 - ø200)

| | øD [mm] | øA [mm] | øB [mm] | C [mm] |  |
|----------------|------------|------------|------------|-----------|---|
| VLA-100 | 100 | 97,0 | 133,0 | 52,0 | 36 |
| VLA-125 | 125 | 120,0 | 165,0 | 52,0 | 18 |
| VLA-150 | 150 | 145,0 | 192,0 | 62,0 | 12 |
| VLA-160 | 160 | 155,0 | 192,0 | 62,0 | 12 |
| VLA-200 | 200 | 195,0 | 253,0 | 62,0 | 12 |
| VLA-250 | 250 | 244,5 | 283,5 | 66,5 | 12 |

 Packaging [pcs]



Anodized aluminum rectangular air intake / exhauster **CWA**



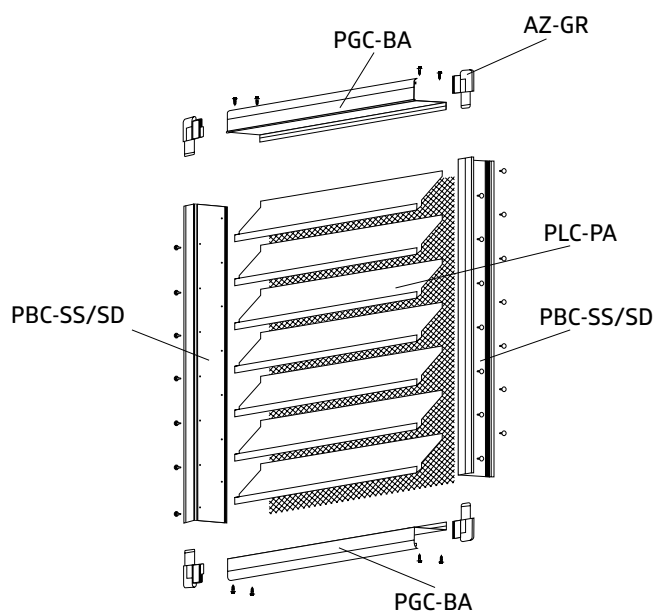
PRODUCT CHARACTERISTICS:

- used to draw fresh air (suction side) into the room or to extract used air from the room (discharge side)
- minimum air intake height B = 200 mm
- maximum air intake size A × B = 3,000 × 2,000 mm
- larger sizes available on request

MATERIAL:

- anodized aluminum
- aluminum profiles system
- galvanized mesh

ASSEMBLY DRAWING:



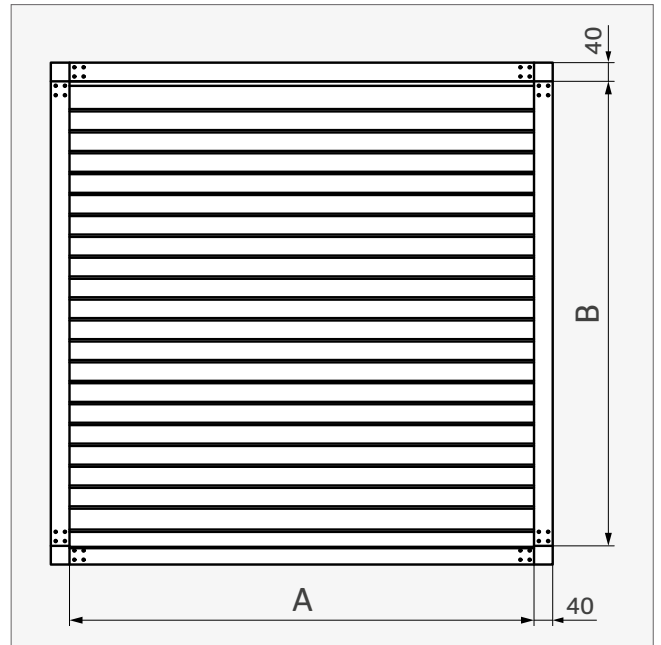
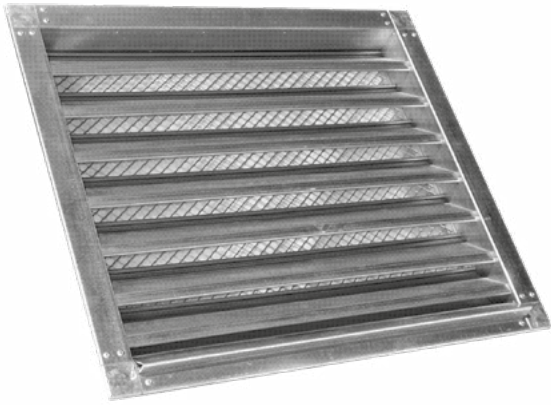
Note: pressure loss diagrams - see page 249

| A [mm] | B [mm] |
|------------|------------|
| 200 - 3000 | 200 - 2000 |

* size of the air intake assembly hole



Galvanized steel rectangular air intake/exhauster **CW**



PRODUCT CHARACTERISTICS:

- suitable for powder coating
- the louvre is fixed at an angle of 41° (±2°)
- minimum air intake height B = 200 mm
- maximum air intake size A × B = 3,000 × 2,000 mm
- larger sizes available on request

MATERIAL:

- galvanized steel
- steel profiles system
- 12×12 mm galvanized steel mesh

Note: pressure loss diagrams - see page 248

| A [mm] | B [mm] |
|------------|------------|
| 200 - 3000 | 200 - 2000 |

* size of the air intake assembly hole



Pressed aluminum wall grille **ELB**



PRODUCT CHARACTERISTICS:

- may work as intake or exhauster
- entirely made of aluminum - no corrosion
- non-painted
- insect protection net installed from inside

MATERIAL:

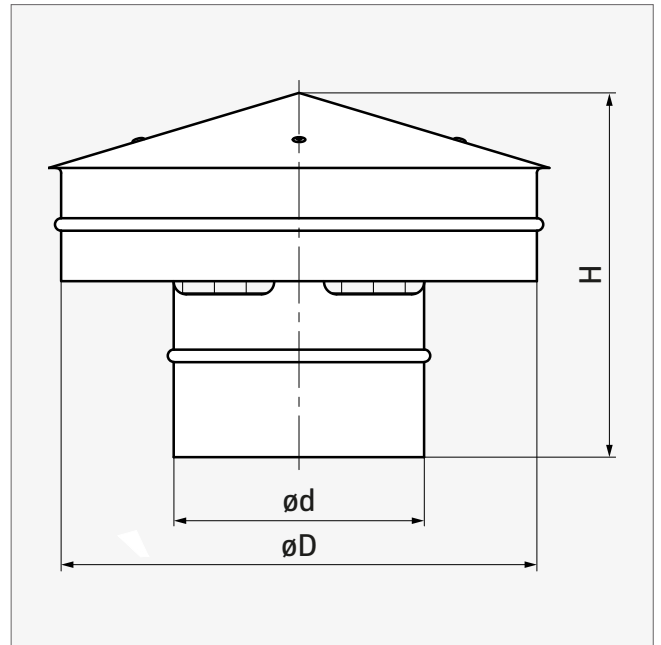
- pressed aluminum

| øA [mm] | øB [mm] | L [mm] | |
|-------------------|-------------------|------------------|----|
| 100 | 125 | 50 | 60 |
| 125 | 150 | 50 | 60 |
| 150 | 175 | 50 | 60 |
| 160 | 188 | 50 | 60 |
| 200 | 225 | 50 | 15 |
| 250 | 275 | 50 | 13 |
| 315 | 340 | 50 | 13 |

Packaging [pcs]



Ventilation cap **VH**




PRODUCT CHARACTERISTICS:

- manufactured with male coupling
- inlet is protected with mesh

MATERIAL:

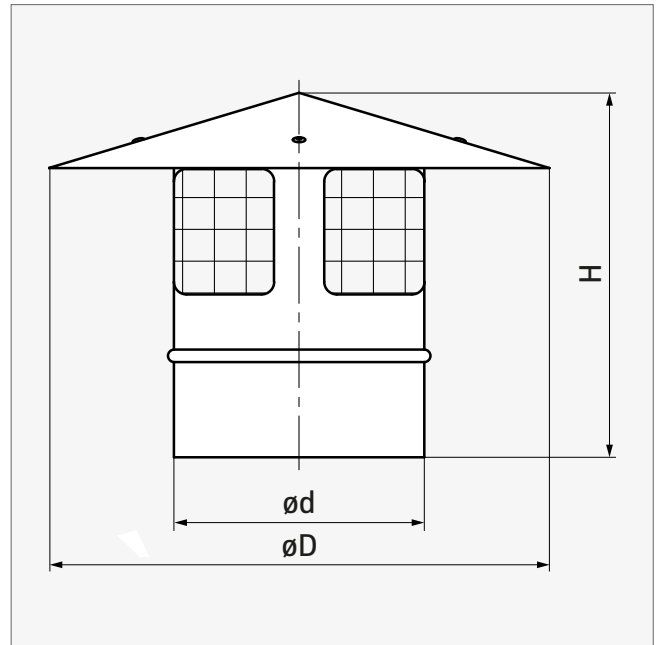
- galvanized steel
- 12×12 mm galvanized steel mesh

| ød [mm] | H [mm] | øD [mm] |  |
|------------|--------|---------|---|
| 80 | 135 | 200 | |
| 100 | 145 | 200 | 24 P4 |
| 125 | 160 | 224 | 15 P4 |
| 140 | 170 | 250 | 24 P6 |
| 150 | 180 | 280 | 8 P4 |
| 160 | 185 | 280 | 20 P2 |
| 180 | 205 | 355 | 12 P2 |
| 200 | 215 | 355 | 12 P2 |
| 224 | 230 | 400 | 9 P1 |
| 250 | 270 | 450 | 9 P1 |
| 280 | 300 | 560 | 6 P1 |
| 300 | 310 | 560 | 6 P1 |
| 315 | 330 | 560 | 6 P1 |
| 355 | 370 | 710 | 3 P1 |
| 400 | 410 | 710 | 3 P1 |
| 450 | 445 | 800 | 2 P1 |
| 500 | 485 | 900 | |
| 560 | 590 | 1000 | |
| 630 | 640 | 1120 | |
| 710 | 715 | 1250 | |
| 800 | 785 | 1400 | |

 Packaging [pcs | type]  øD, H: ±5 mm



Ventilation cap **VH-S**




PRODUCT CHARACTERISTICS:

- manufactured with male coupling
- outlet is protected with galvanized steel mesh

MATERIAL:

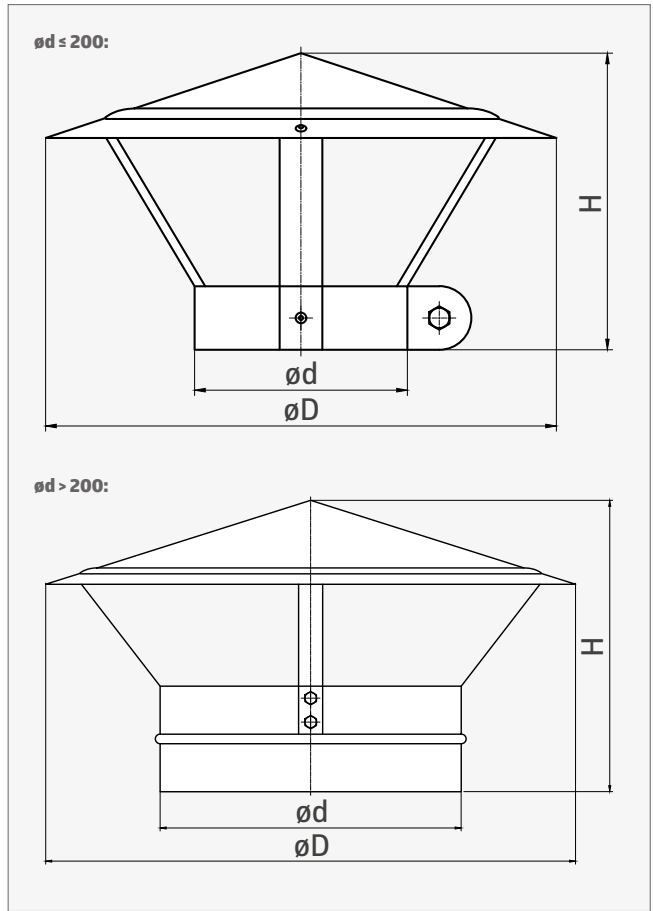
- galvanized steel
- 12×12 mm galvanized steel mesh

| ød [mm] | H [mm] | øD [mm] |  |
|---------|--------|---------|---|
| 80 | 135 | 200 | |
| 100 | 145 | 200 | 20 P6 |
| 125 | 160 | 224 | 20 P4 |
| 140 | 170 | 250 | |
| 150 | 180 | 280 | |
| 160 | 185 | 280 | 24 P2 |
| 180 | 205 | 355 | |
| 200 | 215 | 355 | 24 P1 |
| 224 | 230 | 400 | |
| 250 | 270 | 450 | 12 P1 |
| 280 | 300 | 560 | |
| 300 | 310 | 560 | |
| 315 | 330 | 560 | 6 P1 |
| 355 | 370 | 710 | 3 P1 |
| 400 | 410 | 710 | |
| 450 | 445 | 800 | |
| 500 | 485 | 900 | |
| 560 | 590 | 1000 | |
| 630 | 640 | 1120 | |
| 710 | 715 | 1250 | |
| 800 | 785 | 1400 | |

 Packaging [pcs | type]



Ventilation cap KV





PRODUCT CHARACTERISTICS:

- up to $\varnothing 200$ - clamp connection, above $\varnothing 200$ - male coupling end
- duct outlet cover

MATERIAL:

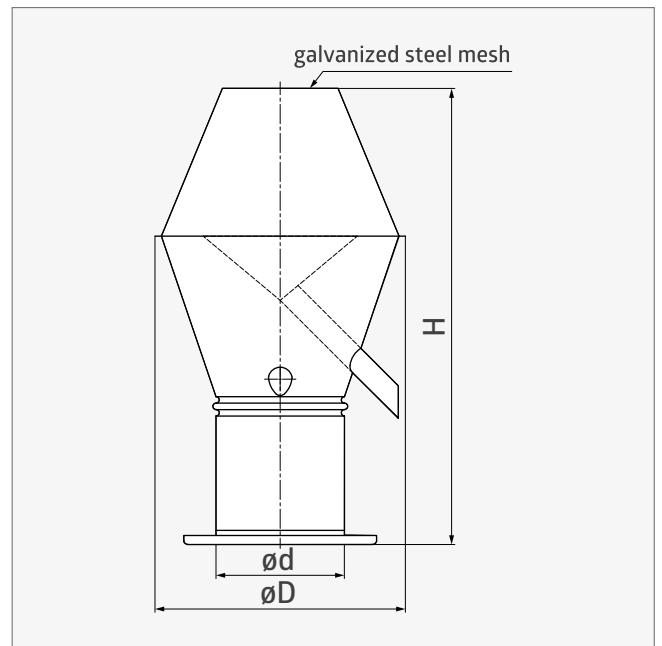
- galvanized steel

| | $\varnothing d$ [mm] | $\varnothing D$ [mm] | H [mm] |  |
|---------------|-------------------------|-------------------------|-----------|---|
| KV 100 | 92-98* | 240 | 140 | |
| KV 125 | 125-130* | 310 | 155 | |
| KV 140 | 135-139* | 310 | 160 | |
| KV 150 | 148-154* | 310 | 160 | |
| KV 160 | 157-160* | 310 | 160 | 10 P4 |
| KV 180 | 175-180* | 310 | 165 | |
| KV 200 | 190-200* | 360 | 175 | 8 P4 |
| KV 250 | 250 | 440 | 243 | 12 P1 |
| KV 300 | 300 | 550 | 308 | |
| KV 315 | 315 | 580 | 313 | 3 P2 |
| KV 355 | 355 | 640 | 338 | 5 P1 |
| KV 400 | 400 | 720 | 375 | |
| KV 450 | 450 | 720 | 390 | |
| KV 500 | 500 | 720 | 400 | |
| KV 630 | 630 | 950 | 470 | |

 Packaging [pcs | type] * adjustment range



Round air intake / exhauster HF





PRODUCT CHARACTERISTICS:

- outlet is protected with galvanized steel mesh
- produced with VKPK flange
- equipped with water drip pipe

MATERIAL:

- galvanized steel
- 12×12 mm galvanized steel mesh

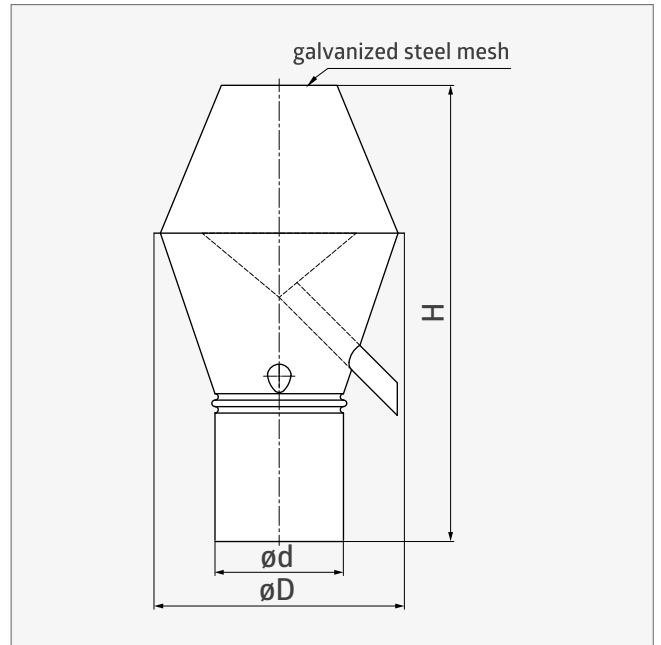
| ød [mm] | øD [mm] | H [mm] |  |
|---------|---------|--------|---|
| 100 | 195 | 365 | 12 P4 |
| 125 | 240 | 375 | 8 P4 |
| 150 | 295 | 485 | 7 P2 |
| 160 | 295 | 485 | 7 P2 |
| 200 | 365 | 540 | 6 P1 |
| 250 | 435 | 630 | 5 P1 |

| ød [mm] | øD [mm] | H [mm] |  |
|---------|---------|--------|---|
| 315 | 560 | 765 | 2 P1 |
| 355 | 615 | 810 | 2 P1 |
| 400 | 695 | 1000 | 1 P1 |
| 500 | 870 | 1140 | |
| 560 | 965 | 1250 | |
| 630 | 1175 | 1370 | |

 Packaging [pcs | type]  øD, H: ±5 mm



Round air intake / exhauster **HN**





PRODUCT CHARACTERISTICS:

- outlet is protected with galvanized steel mesh
- produced to fit outside the duct (standard)
- equipped with water drip pipe
- as an option - male or female coupling version

MATERIAL:

- galvanized steel
- 12×12 mm galvanized steel mesh

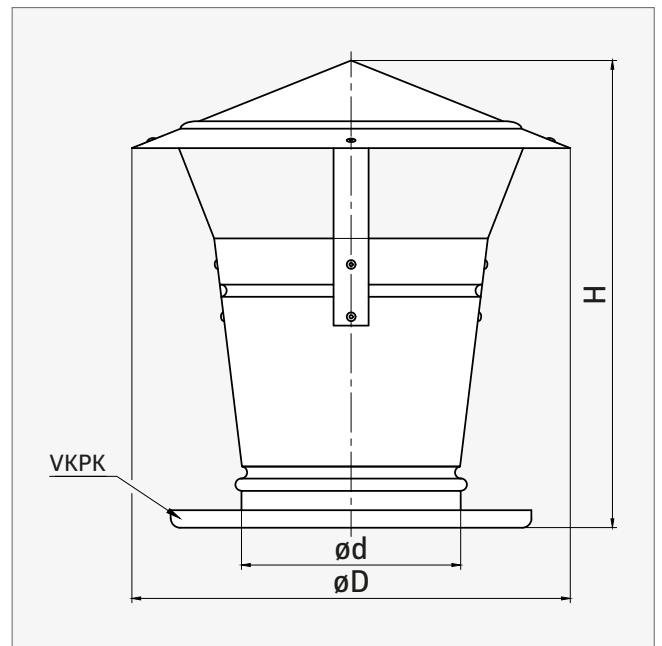
| ød [mm] | øD [mm] | H [mm] |  |
|------------|---------|--------|---|
| 100 | 195 | 355 | 12 P4 |
| 125 | 240 | 365 | 8 P4 |
| 140 | 240 | 400 | 7 P2 |
| 150 | 295 | 475 | 7 P2 |
| 160 | 295 | 475 | 7 P2 |
| 180 | 310 | 495 | 6 P1 |
| 200 | 365 | 530 | 6 P1 |
| 224 | 365 | 545 | 5 P1 |
| 250 | 435 | 620 | 5 P1 |
| 280 | 470 | 660 | 2 P1 |
| 300 | 550 | 755 | 2 P1 |

| ød [mm] | øD [mm] | H [mm] |  |
|------------|---------|--------|---|
| 315 | 560 | 755 | 2 P1 |
| 355 | 615 | 800 | 2 P1 |
| 400 | 695 | 990 | 1 P1 |
| 450 | 785 | 1085 | 1 P1 |
| 500 | 870 | 1130 | |
| 560 | 965 | 1240 | |
| 600 | 1070 | 1230 | |
| 630 | 1175 | 1360 | |
| 710 | 1255 | 1440 | |
| 800 | 1340 | 1540 | |

 Packaging [pcs | type]  øD, H: ±5 mm



Round air exhauster type C **WDO-C**





PRODUCT CHARACTERISTICS:

- used as a terminal part of ventilation system
- special design protects the system against weather conditions
- as a standard - produced with VKPK flange
- as an option - male or female coupling version

MATERIAL:

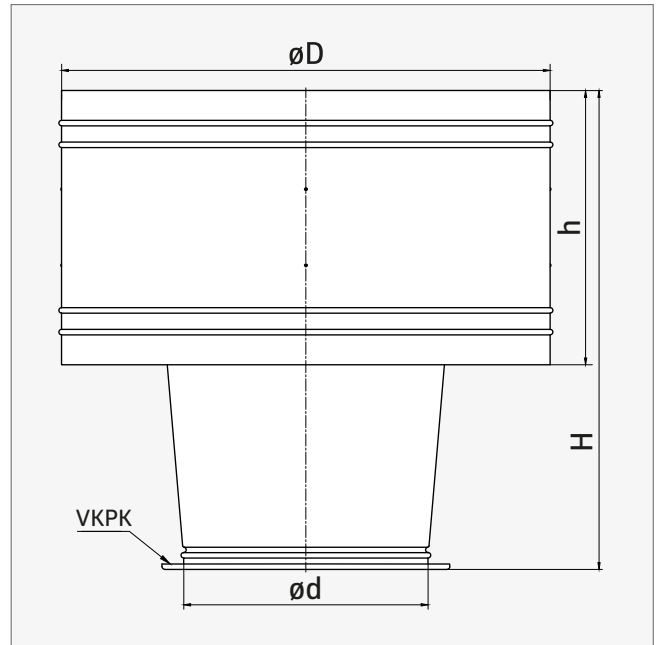
- galvanized steel

| ød [mm] | H [mm] | øD [mm] |  |
|-------------|--------|---------|---|
| 100 | 225 | 200 | 5 P12 |
| 125 | 248 | 250 | 9 P4 |
| 150 | 314 | 300 | |
| 160 | 324 | 320 | 4 P4 |
| 200 | 409 | 400 | 4 P2 |
| 250 | 500 | 500 | 2 P2 |
| 315 | 630 | 630 | 2 P1 |
| 355 | 702 | 710 | |
| 400 | 792 | 800 | |
| 450* | 886 | 900 | |
| 500 | 982 | 1000 | |
| 560 | 1106 | 1120 | |
| 630 | 1243 | 1260 | |

 Packaging [pcs | type] * only male or female coupling version



Round gravity ventilator **WDC**





PRODUCT CHARACTERISTICS:

- as a standard - produced with VKPK flange
- as an option - male or female coupling version

MATERIAL:

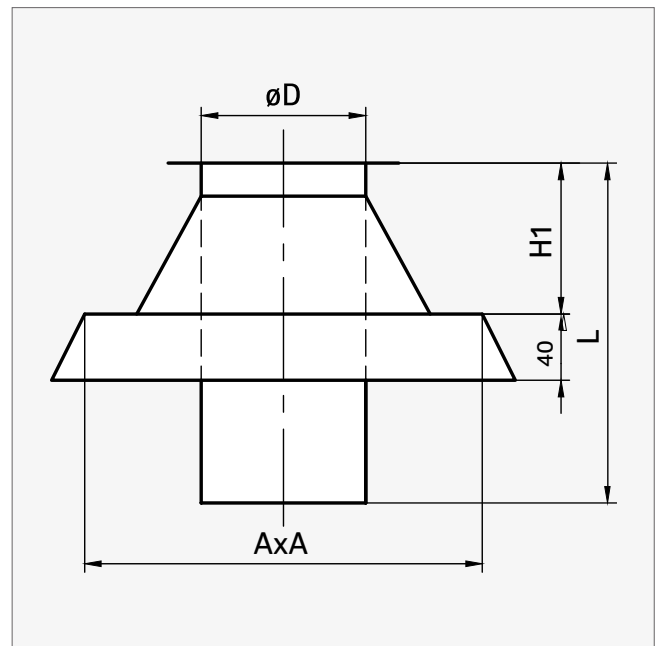
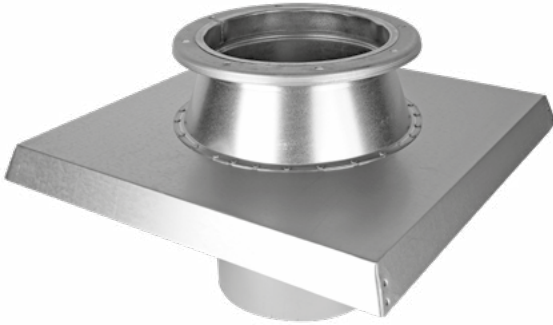
- galvanized steel

| ød [mm] | H [mm] | h [mm] | øD [mm] |  |
|-------------|--------|--------|---------|---|
| 100 | 280 | 150 | 200 | 6 P6 |
| 125 | 304 | 170 | 250 | 6 P4 |
| 150 | 362 | 195 | 300 | 2 P6 |
| 160 | 377 | 210 | 320 | 2 P6 |
| 200 | 425 | 270 | 400 | 3 P2 |
| 250 | 538 | 286 | 500 | 3 P1 |
| 315 | 665 | 370 | 630 | 2 P2 |
| 355 | 683 | 395 | 710 | |
| 400 | 811 | 435 | 800 | |
| 450* | - | 505 | 900 | |
| 500 | 1041 | 595 | 1000 | |
| 560 | 1086 | 650 | 1120 | |
| 630 | 1236 | 685 | 1260 | |
| 710* | - | 820 | 1420 | |

 Packaging [pcs | type] * only male or female coupling version



Roof base PD-B-I



PRODUCT CHARACTERISTICS:

- uses VKPK flange (standard)
- for the installation of the roof base on a pitched roof the use of a plate is required, which must be ordered separately to the set (see: page 130)

MATERIAL:

- galvanized steel

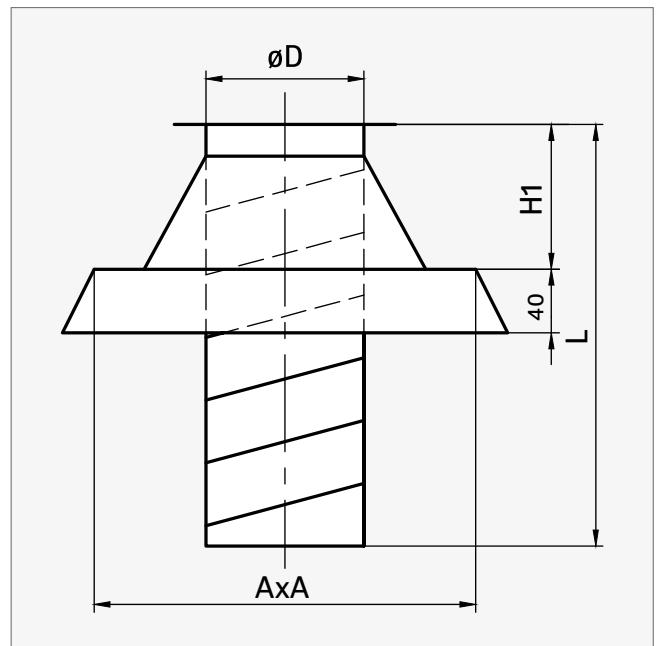
| $\varnothing D$ [mm] | $A \times A$ [mm] | $H1$ [mm] | L [mm] | |
|-------------------------|----------------------|--------------|-------------|---------|
| 100 | 310 | 85 | 300 | 6 P4 |
| 125 | 320 | 105 | 300 | 7 P2 |
| 150 | 360 | 90 | 300 | 12 P1 |
| 160 | 380 | 85 | 300 | 12 P1 |
| 200 | 430 | 100 | 300 | 12 P1 |
| 250 | 490 | 110 | 300 | 7 P1 |
| 315 | 570 | 130 | 300 | 5 P1 |
| 355 | 605 | 150 | 300 | |
| 400 | 670 | 165 | 300 | |
| 500 | 800 | 180 | 300 | |
| 560 | 880 | 190 | 300 | |
| 630 | 960 | 225 | 300 | |

Packaging [pcs | type]

$L, H1: \pm 10 \text{ mm}$



Roof base **PD-B-II**




PRODUCT CHARACTERISTICS:

- uses VKPK flange (standard)
- for the installation of the roof base on a pitched roof the use of a plate is required, which must be ordered separately to the set (see: page 130)

MATERIAL:

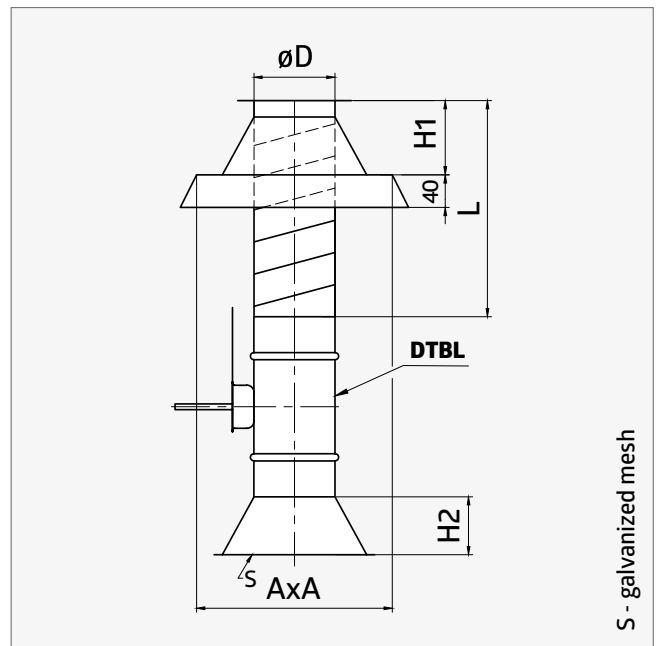
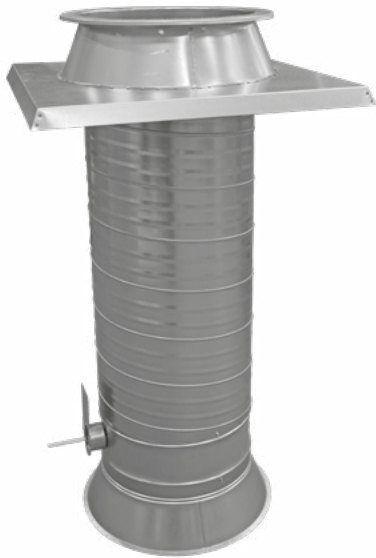
- galvanized steel

| $\varnothing D$ [mm] | $A \times A$ [mm] | H1 [mm] | L [mm] |  |
|-------------------------|----------------------|------------|-----------|---|
| 100 | 310 | 85 | 1000 | 10 P1 |
| 125 | 320 | 105 | 1000 | |
| 150 | 360 | 90 | 1000 | |
| 160 | 380 | 85 | 1000 | |
| 200 | 430 | 100 | 1000 | 4 P1 |
| 250 | 490 | 110 | 1000 | |
| 315 | 570 | 130 | 1000 | |
| 355 | 605 | 150 | 1000 | |
| 400 | 670 | 165 | 1000 | |
| 500 | 800 | 180 | 1000 | |
| 560 | 880 | 190 | 1000 | |
| 630 | 960 | 225 | 1000 | |

 Packaging [pcs | type]  L, H1: ±10 mm



Roof base PD-B-III



S - galvanized mesh

PRODUCT CHARACTERISTICS:

- version with standard damper for actuator with gasket (DTBL)
- for the installation of the roof base on a pitched roof the use of a plate is required, which must be ordered separately to the set (see: page 130)

MATERIAL:

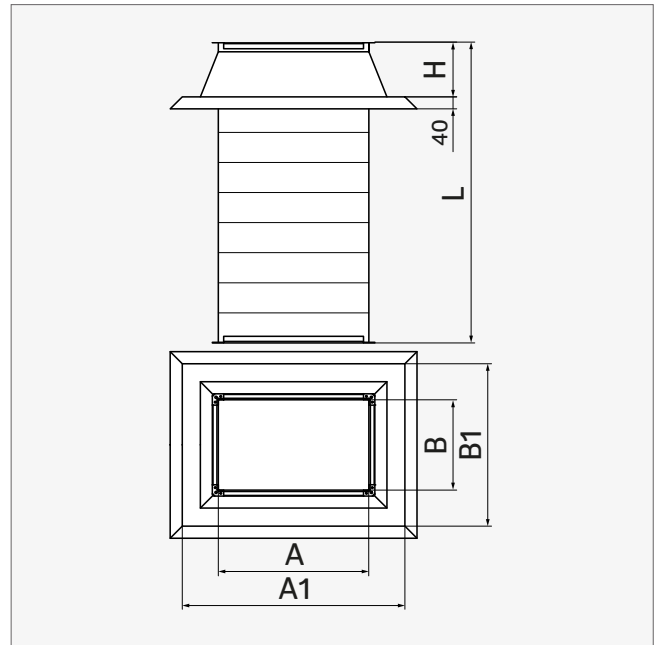
- galvanized steel
- galvanized mesh

| øD [mm] | AxA [mm] | H1 [mm] | H2 [mm] | L [mm] |
|---------|----------|---------|---------|--------|
| 100 | 310 | 85 | 55 | 1000 |
| 125 | 320 | 105 | 75 | 1000 |
| 150 | 360 | 90 | 60 | 1000 |
| 160 | 380 | 85 | 55 | 1000 |
| 200 | 430 | 100 | 70 | 1000 |
| 250 | 490 | 110 | 80 | 1000 |
| 315 | 570 | 130 | 100 | 1000 |
| 355 | 605 | 150 | 120 | 1000 |
| 400 | 670 | 165 | 135 | 1000 |
| 500 | 800 | 180 | 150 | 1000 |
| 560 | 880 | 190 | 160 | 1000 |
| 630 | 960 | 225 | 195 | 1000 |

L, H1, H2: ±10 mm



Rectangular roof base, type A **PD-P**



PRODUCT CHARACTERISTICS:

- standard length $L = 1,000$ mm
- connection frames are made of DW duct sections and H corners
- customised dimensions available on request

MATERIAL:

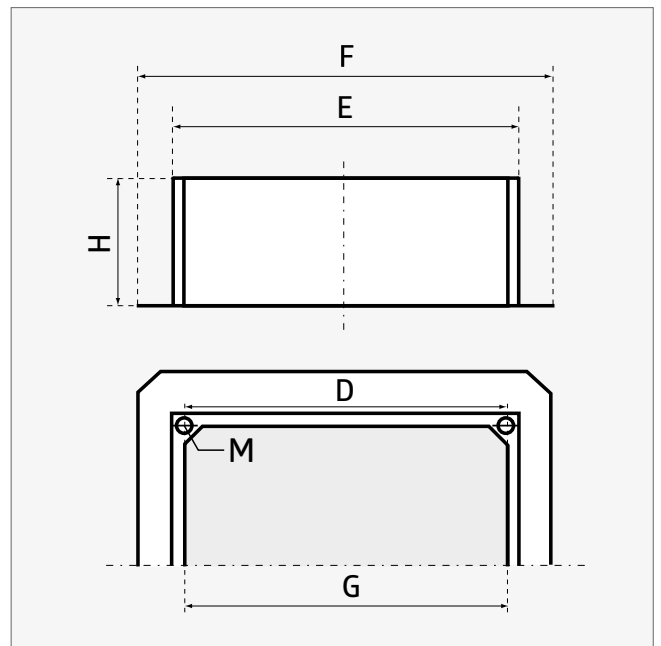
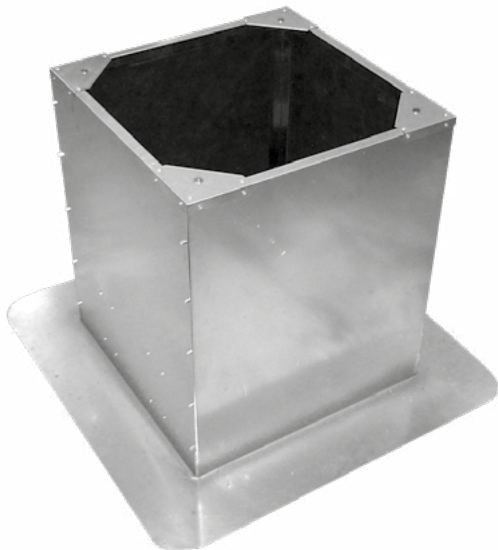
- galvanized steel

| A×B [mm] | A1 [mm] | B1 [mm] | H [mm] |
|--------------------|-------------------|-------------------|------------------|
| 250×250 | 450 | 450 | 120 |
| 250×400 | 450 | 600 | 135 |
| 250×630 | 470 | 850 | 135 |
| 300×300 | 500 | 500 | 120 |
| 400×400 | 600 | 600 | 120 |
| 400×630 | 620 | 850 | 135 |
| 500×500 | 740 | 740 | 150 |
| 630×630 | 870 | 870 | 150 |
| 630×1000 | 900 | 1270 | 170 |
| 800×800 | 1040 | 1040 | 150 |
| 1000×1000 | 1300 | 1300 | 190 |

I ±5 mm



Rectangular roof base **PD-S**



PRODUCT CHARACTERISTICS:

- supporting element for roof fans, air intakes and exhausters
- suitable for mounting the following types of fans:
Systemair: DVS, DHS, DVSI, DVN, DVNI, DVC
Rosenberg: DV, DH, DVS, DVWN, DVWNS, DV-G
- H straight ducts of any length available on request

MATERIAL:

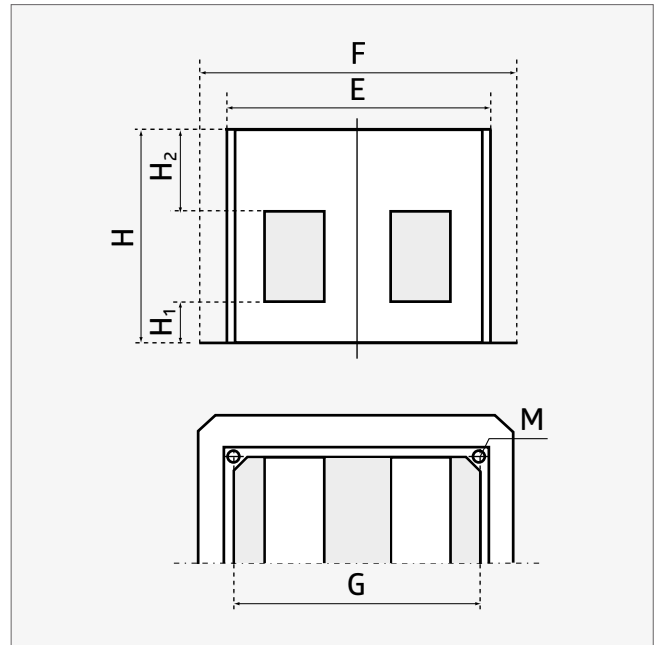
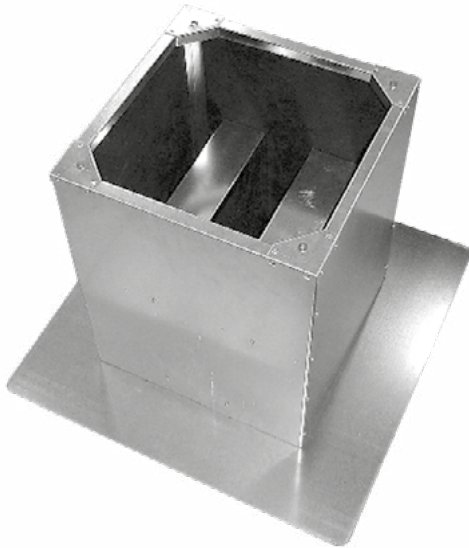
- galvanized steel
- mineral wool 20 mm

| | D [mm] | E [mm] | F [mm] | G [mm] | H [mm] | M* |
|--------------------|------------------|------------------|------------------|------------------|------------------|-----------|
| 190/225 | 245 | 294 | 571 | 254 | 300 | M6 |
| 280/310/311 | 330 | 395 | 657 | 355 | 300 | M6 |
| 355/400 | 450 | 555 | 817 | 515 | 300 | M10 |
| 450/499/500 | 535 | 625 | 877 | 585 | 300 | M10 |
| 560/630 | 750 | 895 | 1147 | 855 | 300 | M10 |
| 710 | 840 | 985 | 1300 | 945 | 300 | M10 |
| 800/900 | 1050 | 1205 | 1540 | 1165 | 300 | M10 |

I G: ±5 mm * mounting hole



Rectangular damping roof base **PD-ST**



PRODUCT CHARACTERISTICS:

- supporting element for roof fans, air intakes and exhausters
- for applications with increased acoustic performance requirements
- sound reduction at 250 Hz averages 8 dB
- the sound-absorbing material is resistant to abrasion up to 20 m/s
- suitable for mounting the following types of fans:
Systemair: DVS, DHS, DVSI, DVN, DVNI, DVC
Rosenberg: DV, DH, DVS, DVWN, DVWNS, DV-G
- H straight ducts of any length available on request

MATERIAL:

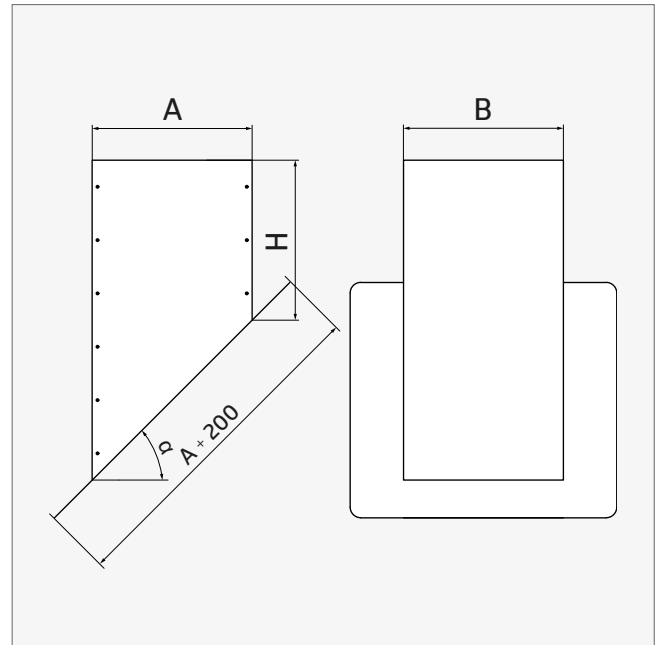
- galvanized steel
- mineral wool 20 mm

| | D [mm] | E [mm] | F [mm] | G [mm] | H [mm] | H₁ [mm] | H₂ [mm] | M* |
|--------------------|------------------|------------------|------------------|------------------|------------------|------------------------------|------------------------------|-----------|
| 190/225 | 245 | 294 | 571 | 254 | 600 | 150 | 150 | M6 |
| 280/310/311 | 330 | 395 | 657 | 355 | 700 | 150 | 180 | M6 |
| 355/400 | 450 | 555 | 817 | 515 | 900 | 200 | 250 | M10 |
| 450/499/500 | 535 | 625 | 877 | 585 | 900 | 200 | 250 | M10 |
| 560/630 | 750 | 895 | 1147 | 855 | 1070 | 200 | 250 | M10 |
| 710 | 840 | 985 | 1300 | 945 | 1160 | 200 | 250 | M10 |
| 800/900 | 1050 | 1205 | 1540 | 1165 | 930 | 200 | 250 | M10 |

I G: ±5 mm * mounting hole



Plate for roof bases **KSP**



PRODUCT CHARACTERISTICS:

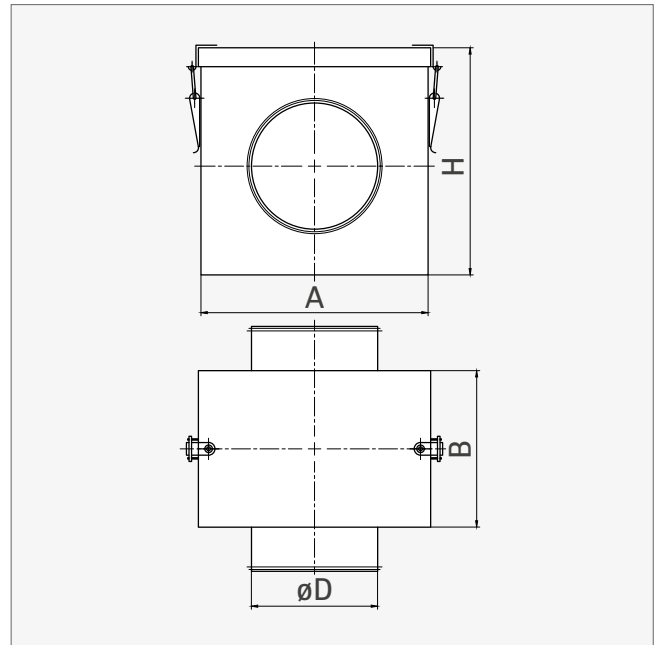
- used primarily for PD-B-I, PD-B-II, PD-B-III roof bases
- H = 500 mm (standard)
- version with 20 mm damping wool - on request

MATERIAL:

- galvanized steel

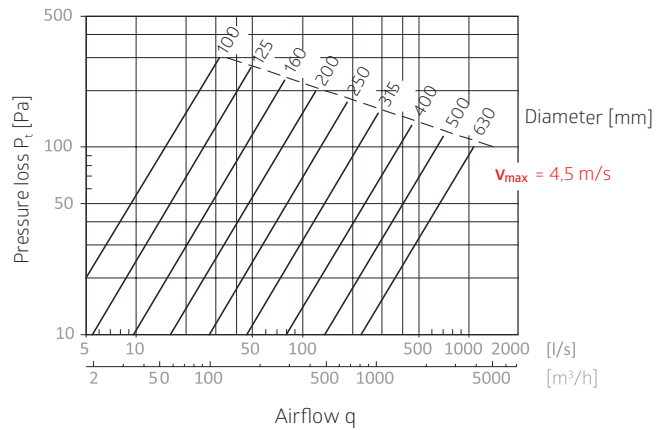



Round duct filter **FKO**



Duct filters are designed to be installed in round duct systems of standard diameters (100 – 500 mm). Casing is made of galvanized steel, connectors are equipped with rubber gaskets and the filter cartridge (EU5 class) is secured with galvanized steel mesh.

The filter is used for initial filtration of air intake.

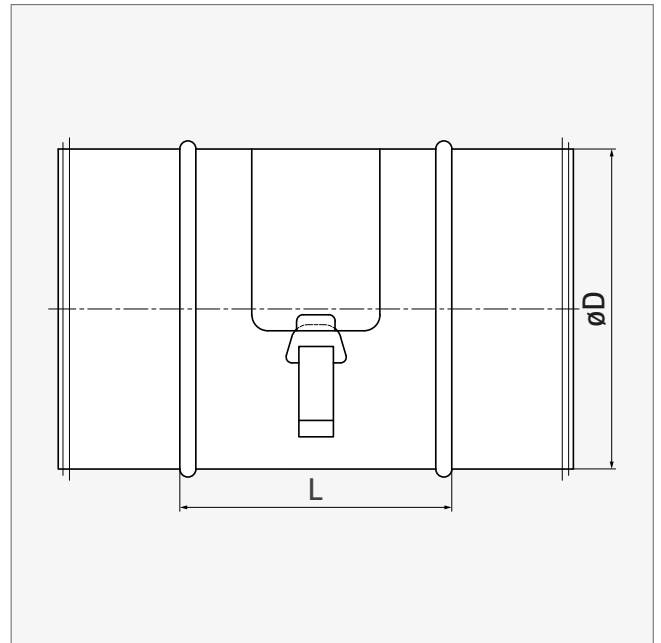


| $\varnothing D$ [mm] | A / H [mm] | B [mm] |  |
|-------------------------|---------------|-----------|---|
| 100 | 180 | 120 | 24 P4 |
| 125 | 180 | 120 | 24 P4 |
| 140 | 180 | 120 | |
| 150 | 210 | 120 | 24 P2 |
| 160 | 210 | 120 | 24 P2 |
| 180 | 250 | 120 | |
| 200 | 250 | 120 | 24 P2 |
| 224 | 300 | 120 | |
| 250 | 300 | 120 | 10 P2 |
| 300 | 360 | 120 | 8 P2 |
| 315 | 370 | 120 | 8 P2 |
| 355 | 410 | 120 | 9 P1 |
| 400 | 460 | 120 | 9 P1 |
| 450 | 510 | 120 | |
| 500 | 560 | 120 | 3 P2 |

 Packaging [pcs | type]



Round duct filter **OFK**



OFK round duct filter is used for initial filtration of flowing air in round duct systems. Filtering element is EU5 class insert secured with galvanized steel mesh. Casing is made of galvanized steel, with gaskets on both ends. Construction ensures easy and fast assembly.

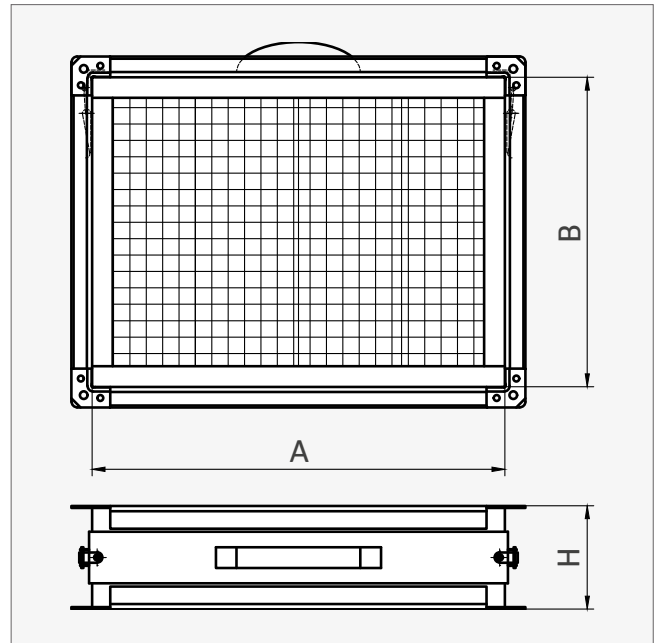
| øD [mm] | L [mm] | |
|-------------------|------------------|----------|
| 100 | 80 | 24 P12 |
| 125 | 80 | 16 P12 |
| 150 | 80 | 10 P12 |
| 160 | 80 | 20 P6 |
| 200 | 80 | 20 P4 |
| 250 | 95 | 12 P4 |
| 300 | 105 | 12 P2 |
| 315 | 105 | 12 P2 |
| 355 | 105 | 4 P6 |
| 400 | 105 | 6 P2 |
| 450 | 105 | 5 P2 |
| 500 | 105 | 5 P2 |

Packaging [pcs | type]

L: ±5 mm



Cassette duct filter **FS**



The cassette filter is used for air pre-treatment (filtering). The inner (filter) layer is made of EU5 grade material and rests on a galvanised mesh (12×12 mm mesh). The filter is made of sheet galvanized steel. The filter housing is fitted with a handle.

Cassette duct filters can be manufactured with the following dimensions:

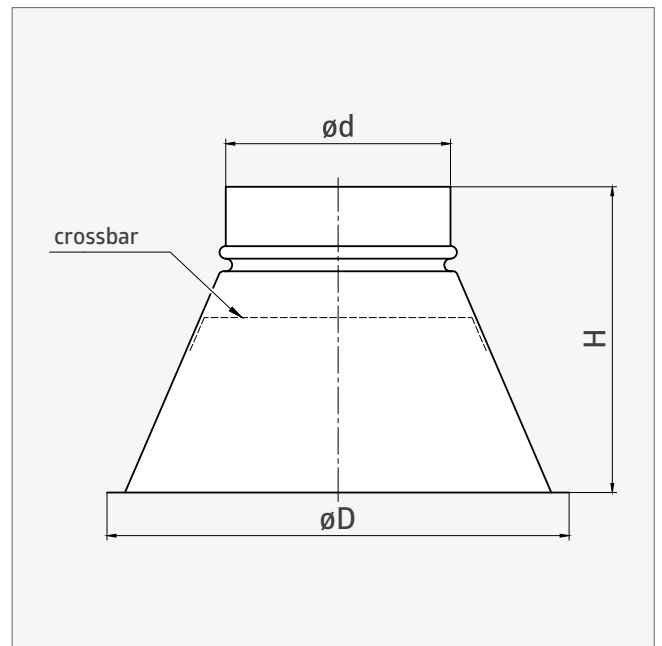
A = 200 - 1250 mm and B = 200 - 1250 mm.

The dimension H depending on the length of side A or B:

- **A or B ≤ 1000 mm:** H = 100 mm, frame size - P20
- **A or B > 1000 mm:** H = 120 mm, frame size - P30



Round joint **DSP**



PRODUCT CHARACTERISTICS:

- allows for quick and easy installation of the DS diffuser in the ceiling
- allows for connecting the diffuser to ventilation and air conditioning systems

MATERIAL:

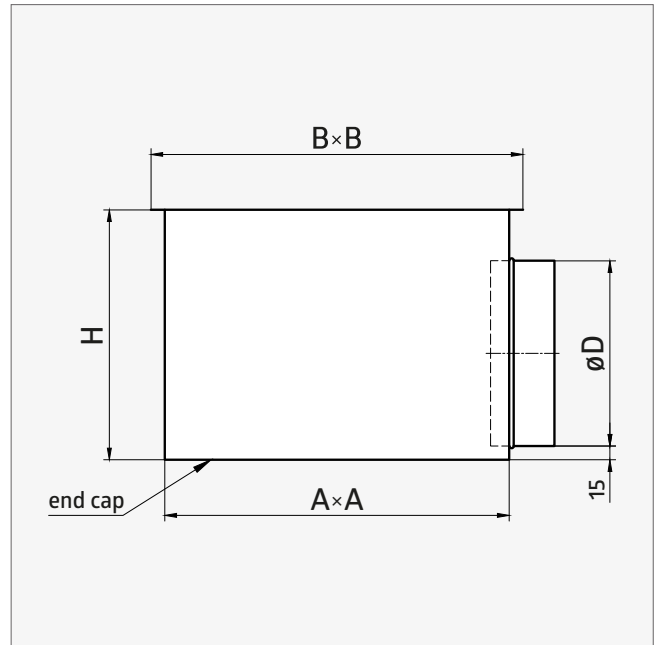
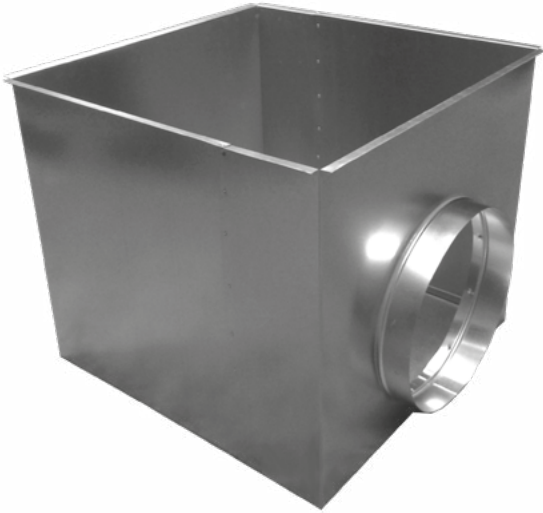
- galvanized steel

| WN* | $\varnothing d$ [mm] | H [mm] | $\varnothing D$ [mm] | |
|------------|-------------------------|-----------|-------------------------|---------|
| 150 | 150 | 140 | 257 | 15 P6 |
| 160 | 125 | 185 | 257 | |
| 160 | 160 | 140 | 257 | |
| 200 | 160 | 185 | 307 | |
| 200 | 200 | 140 | 307 | 10 P6 |
| 250 | 200 | 195 | 357 | 7 P4 |
| 250 | 250 | 140 | 357 | 10 P6 |
| 300 | 250 | 195 | 407 | |
| 300 | 300 | 140 | 407 | |
| 315 | 315 | 140 | 407 | |
| 350 | 350 | 140 | 457 | 13 P2 |

Packaging [pcs | type] * diffuser dimension



Plenum box **SR ASN**



PRODUCT CHARACTERISTICS:

- joints (spot ribbing), metal locks
- insulation: 6 mm rubber matt MST (SR-I/SR-I-P)
- built-in damper with Spiro mechanism (SR-P/SR-I-P)
- customised dimensions available on request
- **plenum box for use with ASN diffuser**

MATERIAL:

- galvanized steel

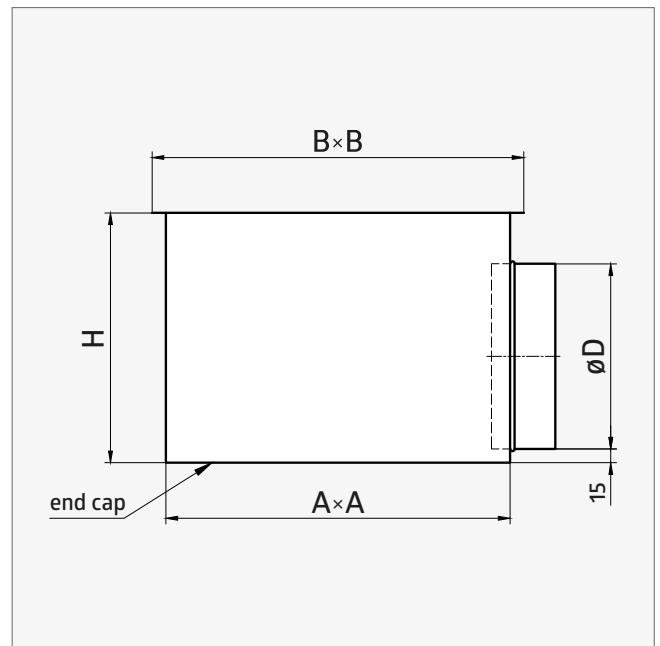
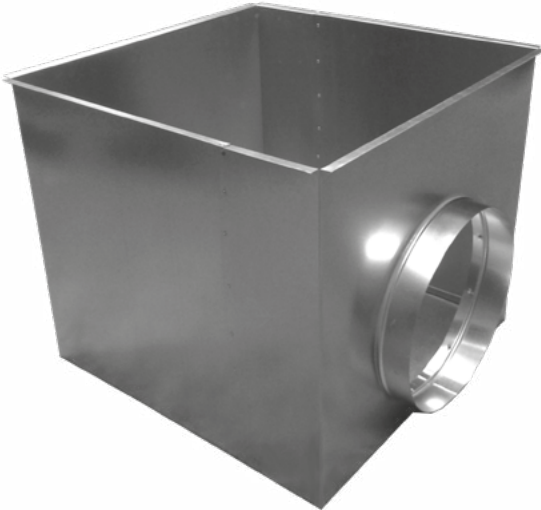
TYPES:

- box only: **SR ASN**
- box with a damper: **SR-PASN**
- box with acoustic insulation: **SR-IASN**
- box with a damper and insulation: **SR-I-PASN**

| | AxA [mm] | BxB [mm] | H [mm] | øD [mm] |
|----------------|--------------------|--------------------|------------------|-------------------|
| ASN 190 | 150×150 | 180×180 | 190 | 125 |
| ASN 245 | 204×204 | 234×234 | 230 | 160 |
| ASN 301 | 260×260 | 290×290 | 230 | 160 |
| ASN 357 | 316×316 | 346×346 | 230 | 160 |
| ASN 412 | 372×372 | 402×402 | 270 | 200 |
| ASN 469 | 428×428 | 458×458 | 270 | 200 |
| ASN 498 | 457×457 | 487×487 | 320 | 250 |
| ASN 598 | 557×557 | 587×587 | 320 | 250 |
| ASN 623 | 582×582 | 612×612 | 320 | 250 |



Plenum box **SR EG-C**



PRODUCT CHARACTERISTICS:

- joints (spot ribbing), metal locks
- insulation: 6 mm rubber matt MST (SR-I/SR-I-P)
- built-in damper with Spiro mechanism (SR-P/SR-I-P)
- **plenum box for use with EG-C grille (see: page 172)**

MATERIAL:

- galvanized steel

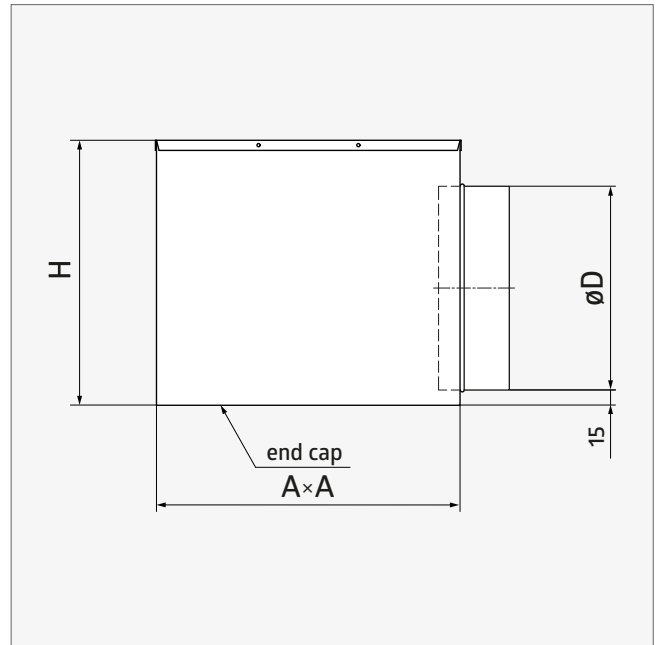
TYPES:

- box only: **SR EG-C**
- box with a damper: **SR-PEG-C**
- box with acoustic insulation: **SR-I EG-C**
- box with a damper and insulation: **SR-I-PEG-C**

| A×A [mm] | B×B [mm] | H [mm] | øD [mm] |
|--------------------|--------------------|------------------|-------------------|
| 565×565 | 595×595 | 310* | 250 |



Plenum box **SR HB40**



PRODUCT CHARACTERISTICS:

- joints (spot ribbing), metal locks
- safe returned edge on the box for greater rigidity
- safe returned edge on the connection saddle for easier connection
- guide holes for easy installation with a diffuser
- box heights facilitating installation in the ceiling void
- insulation: 6 mm rubber matt MST (SR-I/SR-I-P)
- built-in damper with Spiro mechanism (SR-P/SR-I-P)
- customised dimensions available on request
- **plenum box for use with HB40 diffuser**
(see: page 160)

MATERIAL:

- galvanized steel

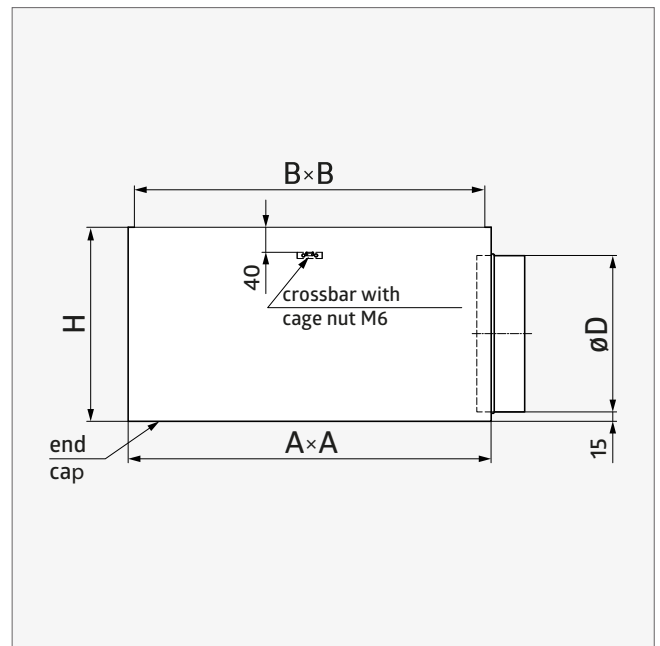
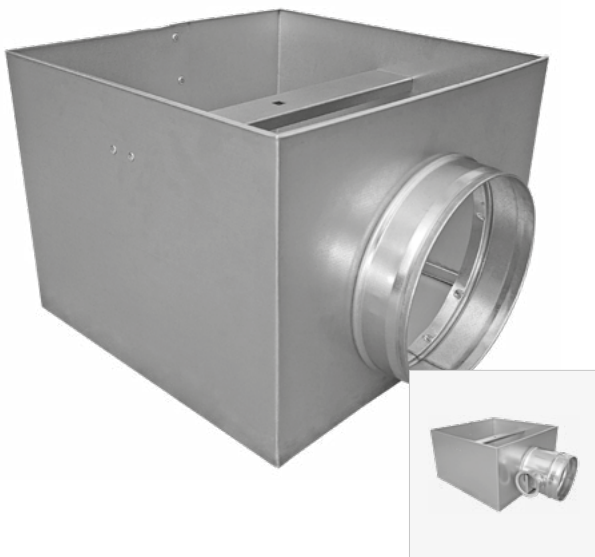
TYPES:

- box only: **SR HB40**
- box with a damper: **SR-P HB40**
- box with acoustic insulation: **SR-I HB40**
- box with a damper and insulation: **SR-I-P HB40**

| | øD [mm] | A×A [mm] | H [mm] |
|-----------------|------------|-------------|-----------|
| HB40 295 | 125 | 150×150 | 160 |
| HB40 370 | 160 | 225×225 | 195 |
| HB40 445 | 200 | 300×300 | 235 |
| HB40 520 | 200 | 375×375 | 235 |
| HB40 520 | 250 | 375×375 | 285 |
| HB40 595 | 200 | 450×450 | 235 |
| HB40 595 | 250 | 450×450 | 285 |



Plenum box **SR SD-B/C**



PRODUCT CHARACTERISTICS:

- joints (spot ribbing), metal locks
- safe returned edge on the box
- safe returned edge on the connection saddle
- box heights facilitating installation in the ceiling void
- insulation: 6 mm rubber matt MST (SR-I/SR-I-P)
- built-in damper with Spiro mechanism (SR-P/SR-I-P)
- customised dimensions available on request
- **plenum box for use with SD-B and SD-C diffuser (see: page 164 and 166)**

MATERIAL:

- galvanized steel

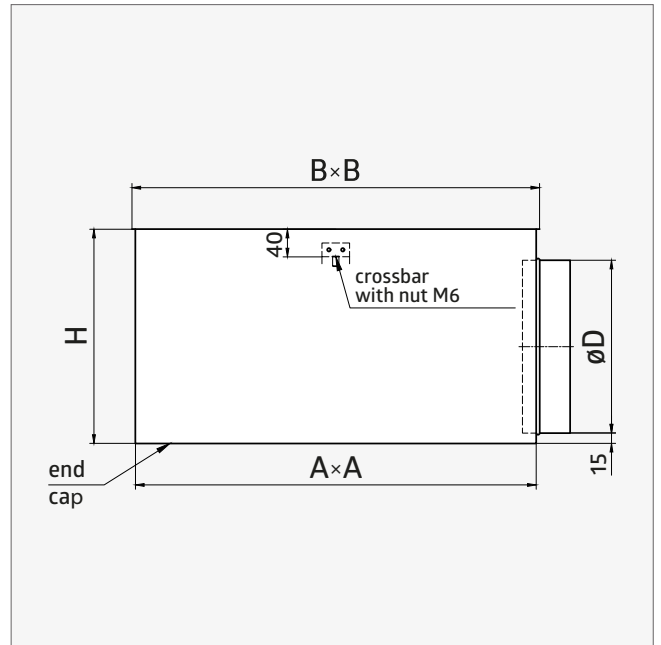
TYPES:

- box only: **SR SD-B/C**
- box with a damper: **SR-P SD-B/C**
- box with acoustic insulation: **SR-I SD-B/C**
- box with a damper and insulation: **SR-I-P SD-B/C**

| | A×A [mm] | B×B [mm] | H [mm] | ød [mm] |
|-------------------|--------------------|--------------------|------------------|-------------------|
| SD-B/C 300 | 290×290 | 286×286 | 220 | 160 |
| SD-B/C 400 | 386×386 | 370×370 | 220 | 160 |
| SD-B/C 500 | 480×480 | 460×460 | 260 | 200 |
| SD-B/C 600 | 590×590 | 580×580 | 310 | 250 |



Plenum box **SR SW**



PRODUCT CHARACTERISTICS:

- joints (spot ribbing), metal locks
- insulation: 6 mm rubber matt MST (SR-I/SR-I-P)
- built-in damper with Spiro mechanism (SR-P/SR-I-P)
- **plenum box for use with SW diffuser SW (see: page 162)**

MATERIAL:

- galvanized steel

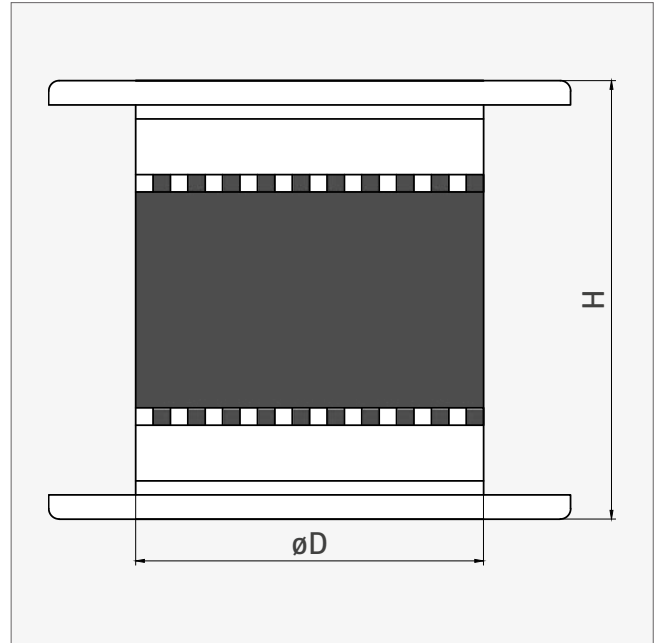
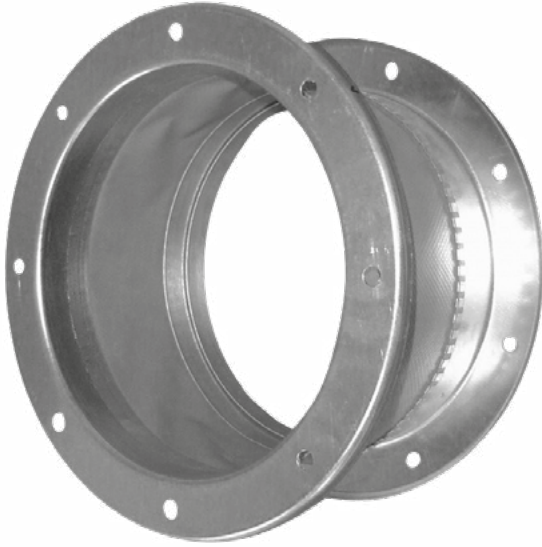
TYPES:

- box only: **SR SW**
- box with a damper: **SR-P SW**
- box with acoustic insulation: **SR-I SW**
- box with a damper and insulation: **SR-I-P SW**

| A×A [mm] | B×B [mm] | H [mm] | øD [mm] |
|----------------|-------------|-----------|------------|
| 580×580 | 590×590 | 310 | 250 |



Round flexible connector pipe **KEO-K**



PRODUCT CHARACTERISTICS:

- version with VKPK flange
- flexible connector XEV-50 35/60/35

MATERIAL:

- galvanized steel
- polyester (flexible connector)

USE:

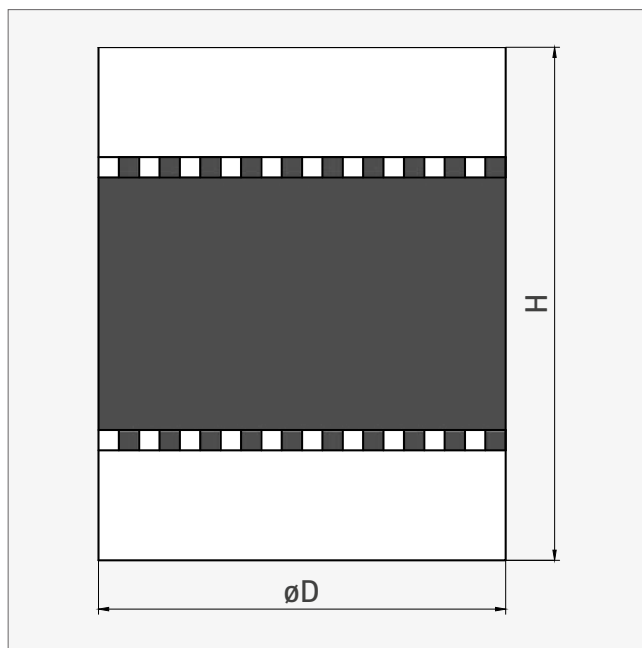
- in ventilation systems to eliminate vibrations transmitted from the unit to the ventilation.

| øD [mm] | H [mm] | øD [mm] | H [mm] |
|-------------------|------------------|-------------------|------------------|
| 100 | 120 | 315 | 120 |
| 125 | 120 | 355 | 120 |
| 150 | 120 | 400 | 120 |
| 160 | 120 | 500 | 120 |
| 200 | 120 | 560 | 120 |
| 250 | 120 | 630 | 120 |

I ±5 mm



Round flexible connector pipe **KEO**



PRODUCT CHARACTERISTICS:


- female version as a standard
- flexible connector XEV-50 35/60/35
- male version available upon request


MATERIAL:


- galvanized steel
- polyester (flexible connector)

USE:

- in ventilation systems to eliminate vibrations transmitted from the unit to the ventilation.

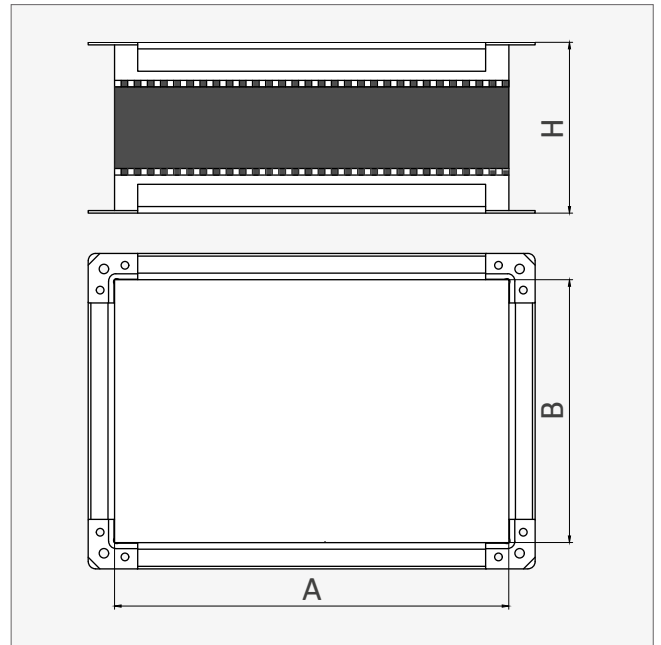
| øD [mm] | H [mm] |  |
|---------|--------|---|
| 80 | 130 | |
| 100 | 130 | 36 P12 |
| 125 | 130 | 27 P12 |
| 140 | 130 | |
| 150 | 130 | 15 P12 |
| 160 | 130 | 12 P12 |
| 180 | 130 | |
| 200 | 130 | 18 P6 |
| 224 | 130 | |
| 250 | 130 | 18 P4 |
| 280 | 130 | |

| øD [mm] | H [mm] |  |
|---------|--------|---|
| 300 | 130 | 10 P4 |
| 315 | 130 | 10 P4 |
| 355 | 130 | 10 P4 |
| 400 | 130 | 8 P4 |
| 450 | 130 | 10 P2 |
| 500 | 130 | |
| 560 | 130 | |
| 630 | 130 | |
| 710 | 130 | |
| 800 | 130 | |

 Packaging [pcs | type]  ±5 mm



Rectangular flexible connector pipe **KEP**



PRODUCT CHARACTERISTICS:

- available on request
- flexible connector XEV-50 35/60/35
- H = 130 mm

MATERIAL:

- galvanized steel
- polyester (flexible connector)

USE:

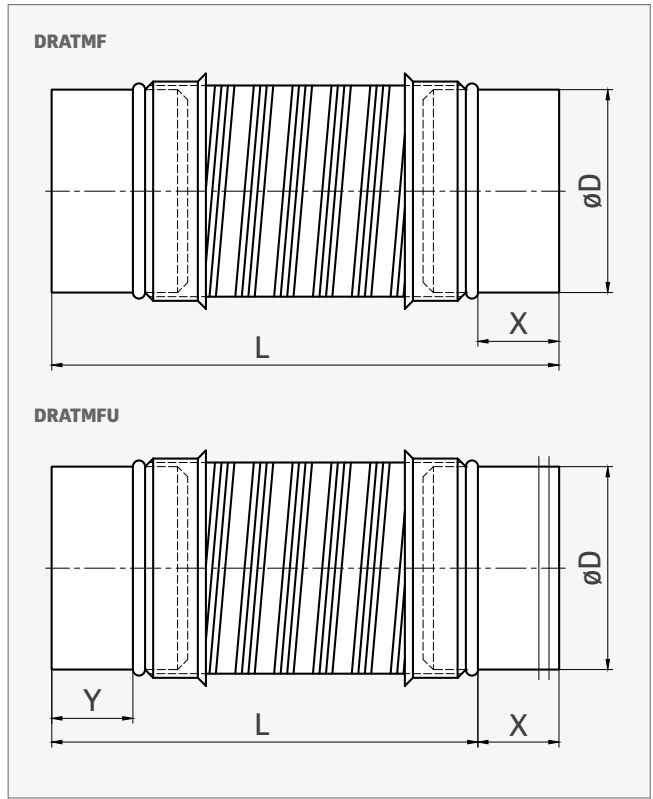
- in ventilation systems to eliminate vibrations transmitted by equipment



Flexible connector **DRATMF / DRATMFU**



Please note:
distribution limited by territory.



PRODUCT CHARACTERISTICS:

- for connecting the plenum box to the duct
- DRATMF - female coupling version
- DRATMFU - female coupling - male coupling with gasket version

MATERIAL:

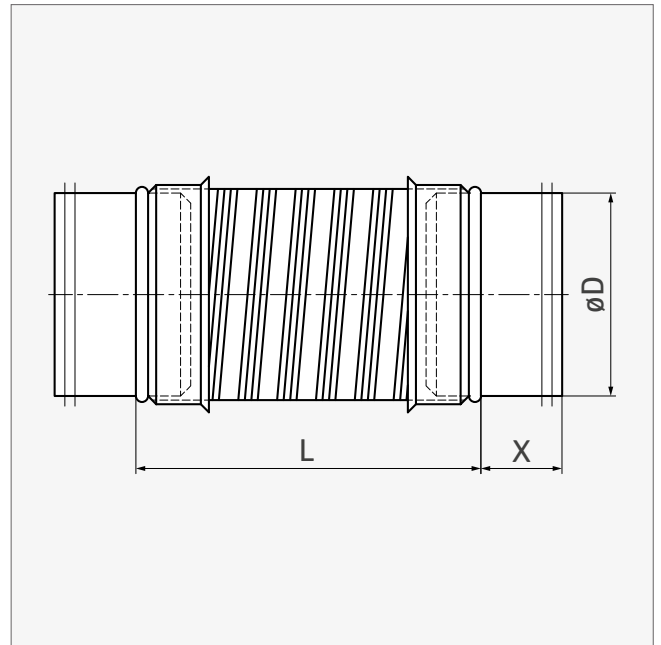
- galvanized steel
- aluminum
- EPDM rubber gasket (DRATMFU)

| øD [mm] | X = Y [mm] | | | |
|------------|------------|------------|-------------|-------------|
| | | L = 500 mm | L = 1000 mm | L = 1500 mm |
| 80 | 40 | 21 P12 | 16 P12 | 16 P6 |
| 100 | 40 | 14 P12 | 32 P4 | 21 P4 |
| 125 | 40 | 21 P6 | 22 P4 | 14 P4 |
| 160 | 40 | 18 P4 | 12 P4 | 17 P2 |
| 200 | 40 | 12 P4 | 18 P2 | 12 P2 |
| 250 | 60 | 12 P2 | 24 P1 | 12 P1 |
| 315 | 60 | 14 P1 | 13 P1 | 7 P1 |

Packaging [pcs | type]



Flexible connector **DRATU**




PRODUCT CHARACTERISTICS:

- for connecting the plenum box to the duct
- male coupling with gasket - male coupling with gasket version

MATERIAL:

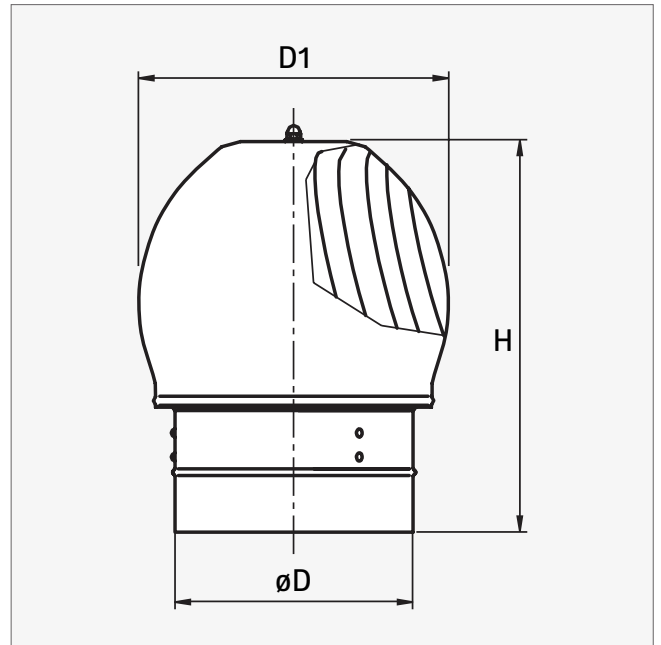
- galvanized steel
- aluminum
- EPDM rubber gasket

| øD [mm] | X [mm] |  | | |
|------------|-----------|---|-------------|-------------|
| | | L = 500 mm | L = 1000 mm | L = 1500 mm |
| 80 | 40 | 21 P12 | 16 P12 | 16 P6 |
| 100 | 40 | 14 P12 | 32 P4 | 21 P4 |
| 125 | 40 | 21 P6 | 22 P4 | 14 P4 |
| 160 | 40 | 18 P4 | 12 P4 | 17 P2 |
| 200 | 40 | 12 P4 | 18 P2 | 12 P2 |
| 250 | 60 | 12 P2 | 24 P1 | 12 P1 |
| 315 | 60 | 14 P1 | 13 P1 | 7 P1 |

 Packaging [pcs | type]



Chimney root **CENTROWENT**

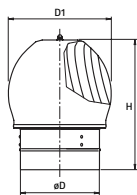


PRODUCT CHARACTERISTICS:

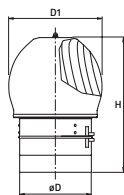
- collar made of galvanized steel
- quiet operation - rotor bearings
- easy cleaning - rotor fixed to axle with screw
- logistics - each piece in separate box

MATERIAL:

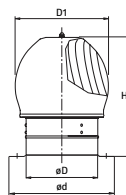
- CA - rotor made of aluminum
- CN - rotor and flange made of stainless steel



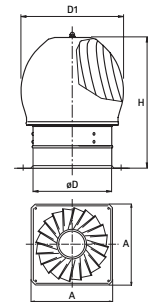
coupling



coupling, split



with flange



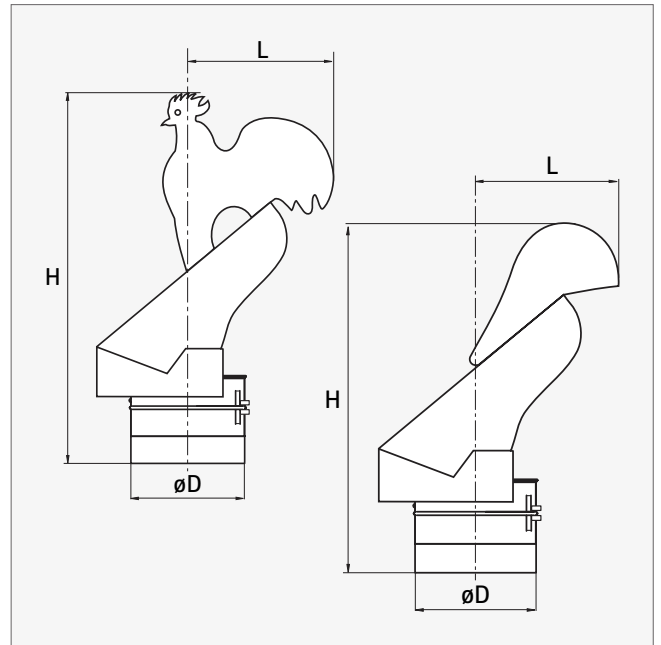
with base

| øD [mm] | coupling | | coupling, split | | with flange | | | with base | | |
|-------------|----------|---------------------|-----------------|---------------------|-------------|--------|---------------------|-----------|--------|---------------------|
| | H [mm] | D ₁ [mm] | H [mm] | D ₁ [mm] | ød [mm] | H [mm] | D ₁ [mm] | A [mm] | H [mm] | D ₁ [mm] |
| 130 | 193 | 195 | 313 | 195 | 190 | 193 | 195 | 333 | 193 | 195 |
| 150 | 217 | 225 | 337 | 225 | 210 | 217 | 225 | 333 | 217 | 225 |
| 160 | 222 | 240 | 342 | 240 | 220 | 222 | 240 | 333 | 222 | 240 |
| 200 | 283 | 300 | 409 | 300 | 260 | 283 | 300 | 333 | 283 | 300 |
| 250 | 365 | 360 | 475 | 360 | 310 | 365 | 360 | 390 | 365 | 360 |
| 300 | 412 | 430 | 532 | 430 | 360 | 412 | 430 | 440 | 412 | 430 |
| 315* | 433 | 452 | 553 | 452 | 375 | 433 | 452 | 460 | 433 | 452 |
| 400* | 540 | 550 | 640 | 550 | 460 | 540 | 550 | 540 | 540 | 550 |
| 450* | 540 | 610 | 660 | 610 | 510 | 540 | 610 | 590 | 540 | 610 |
| 500* | 650 | 675 | 720 | 675 | 560 | 650 | 675 | 640 | 650 | 675 |

* only CA



Chimney root **ROTOFLEX**



Rotating chimney root Rotoflex is designed for supporting the air exhaust in chimneys by generating underpressure. Root's top part always points the wind direction.

PRODUCT CHARACTERISTICS:

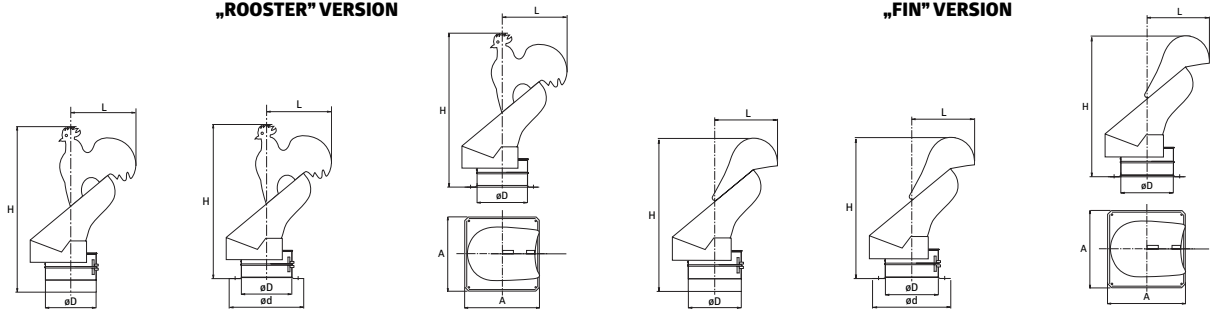
- collar made of galvanized steel
- quiet operation - rotor bearings
- logistics - each piece in separate box

MATERIAL:

- rotor and flange made of stainless steel

„ROOSTER” VERSION

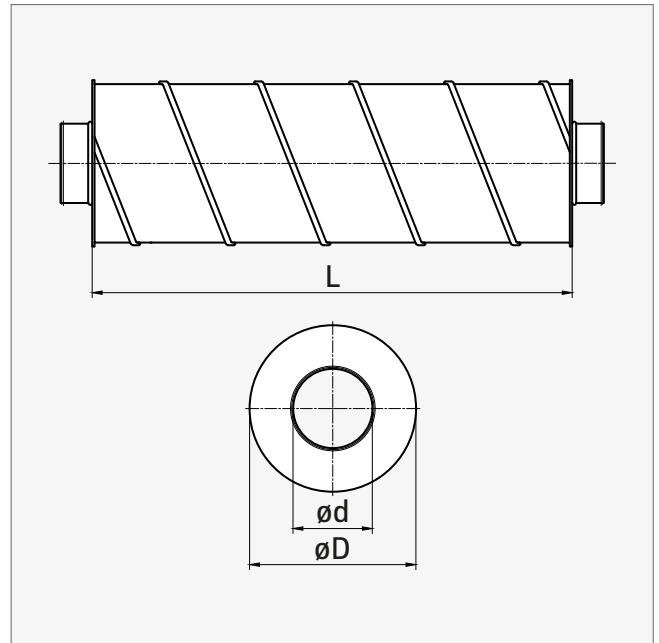
„FIN” VERSION



| øD [mm] | coupling, split | | „ROOSTER” VERSION | | | „FIN” VERSION | | | coupling, split | | „ROOSTER” VERSION | | | „FIN” VERSION | | |
|------------|-----------------|-----------|-------------------|-----------|-----------|---------------|-----------|-----------|-----------------|-----------|-------------------|-----------|-----------|---------------|-----------|-----------|
| | H [mm] | L [mm] | ød [mm] | H [mm] | L [mm] | A [mm] | H [mm] | L [mm] | H [mm] | L [mm] | ød [mm] | H [mm] | L [mm] | A [mm] | H [mm] | L [mm] |
| 130 | 516 | 172 | 190 | 438 | 172 | 333 | 438 | 172 | 438 | 150 | 190 | 350 | 150 | 333 | 350 | 150 |
| 150 | 576 | 179 | 210 | 496 | 179 | 333 | 496 | 179 | 486 | 173 | 210 | 406 | 173 | 333 | 406 | 173 |
| 180 | 607 | 230 | 240 | 607 | 230 | 333 | 607 | 230 | 579 | 208 | 240 | 499 | 208 | 333 | 499 | 208 |
| 200 | 724 | 264 | 260 | 724 | 264 | 333 | 724 | 264 | 604 | 231 | 260 | 524 | 231 | 333 | 524 | 231 |
| 250 | 822 | 305 | 310 | 644 | 305 | 333 | 644 | 305 | 672 | 263 | 310 | 592 | 263 | 333 | 592 | 263 |
| 300 | 967 | 366 | 360 | 896 | 366 | 390 | 896 | 366 | 787 | 316 | 360 | 707 | 316 | 390 | 707 | 316 |
| 350 | 1090 | 422 | 410 | 1010 | 422 | 450 | 1010 | 422 | 880 | 364 | 410 | 800 | 364 | 450 | 800 | 364 |



Circular silencer **SLL**



DESIGN:

- casing: spiral wound tube
- damping layer: mineral wool slate with a density of 35-50 kg/m³, protected on the duct installation side by a reinforced glass fibre fabric
- connection nozzles with gasket

USE:

- suppress the noise in ventilation and air conditioning duct systems

STANDARD LENGTHS L:

- 300, 600, 900, 1000 and 1200 mm

The silencers are acoustically tested **acc. to ISO 7235**.

| $\varnothing d$ [mm] | $\varnothing D$ [mm] | |
|-------------------------|----------------------|---------|
| | 50 mm* | 100 mm* |
| 80 | 180 | 280 |
| 100 | 200 | 315 |
| 125 | 200 | 315 |
| 140 | 250 | 355 |
| 150 | 250 | 355 |
| 160 | 250 | 355 |
| 180 | 280 | 400 |
| 200 | 315 | 400 |
| 224 | 315 | 400 |
| 250 | 355 | 450 |

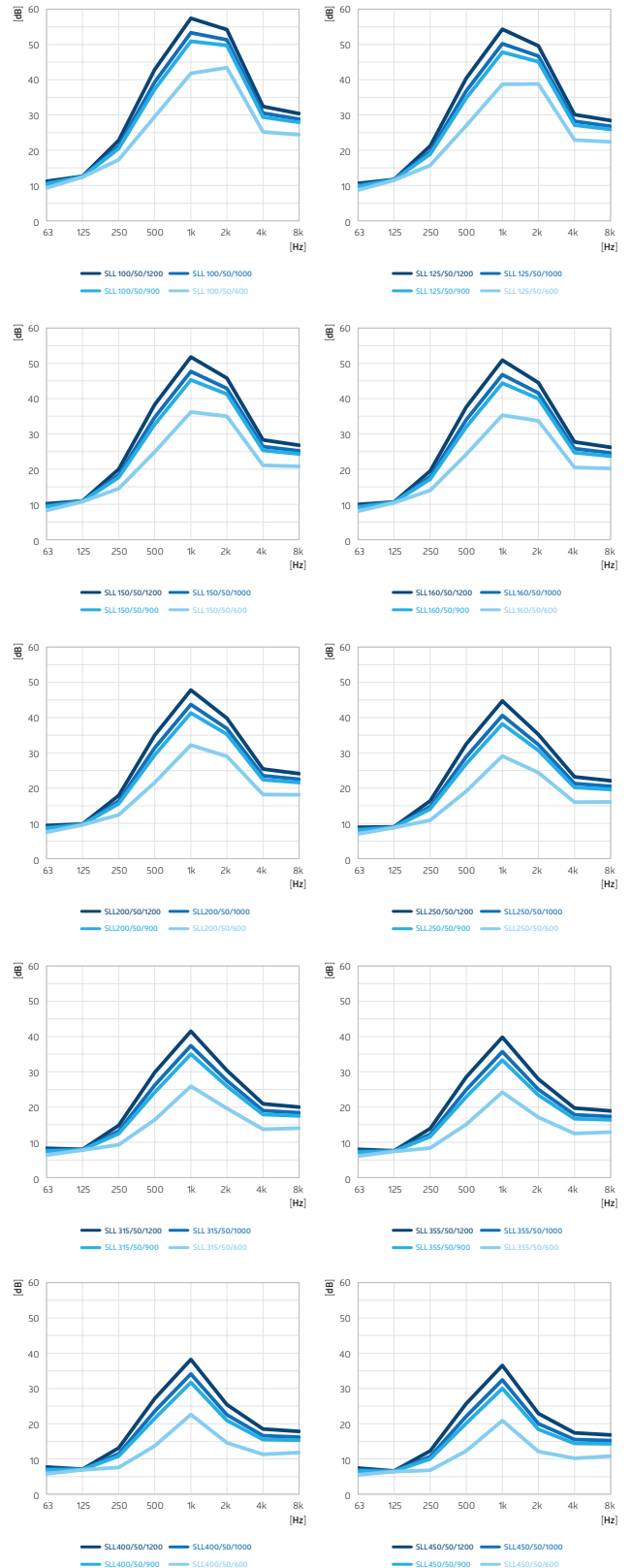
| $\varnothing d$ [mm] | $\varnothing D$ [mm] | |
|-------------------------|----------------------|---------|
| | 50 mm* | 100 mm* |
| 280 | 400 | 500 |
| 315 | 400 | 500 |
| 355 | 450 | 560 |
| 400 | 500 | 630 |
| 450 | 560 | 630 |
| 500 | 630 | 710 |
| 560 | 630 | 800 |
| 630 | 710 | 800 |
| 710 | 800 | 900 |
| 800 | 900 | 1000 |

* isolation thickness



ATTENUATION [DB] FOR FREQUENCY [HZ]:

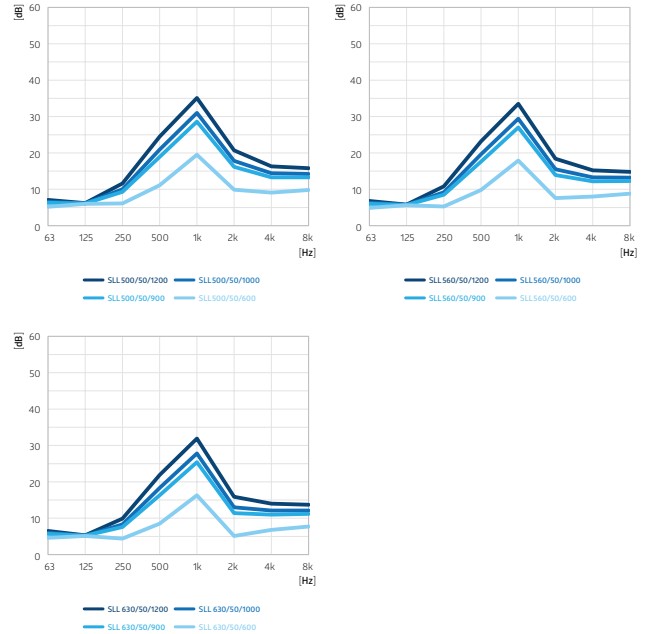
| | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
|------------------------|------|------|------|------|------|------|------|------|
| SLL 100/50/1200 | 11,2 | 12,6 | 22,8 | 42,9 | 57,4 | 54,2 | 32,4 | 30,4 |
| SLL 100/50/1000 | 10,7 | 12,5 | 21,2 | 39,3 | 53,3 | 51,3 | 30,5 | 28,8 |
| SLL 100/50/900 | 10,4 | 12,5 | 20,5 | 37,3 | 50,9 | 49,7 | 29,4 | 27,9 |
| SLL 100/50/600 | 9,3 | 12,4 | 17,3 | 29,5 | 41,8 | 43,4 | 25,2 | 24,4 |
| SLL 125/50/1200 | 10,6 | 11,7 | 21,2 | 40,4 | 54,3 | 49,6 | 30,1 | 28,4 |
| SLL 125/50/1000 | 10,1 | 11,6 | 19,6 | 36,8 | 50,2 | 46,7 | 28,2 | 26,8 |
| SLL 125/50/900 | 9,8 | 11,6 | 18,9 | 34,8 | 47,8 | 45,1 | 27,1 | 25,9 |
| SLL 125/50/600 | 8,7 | 11,5 | 15,7 | 27,0 | 38,7 | 38,8 | 22,9 | 22,4 |
| SLL 150/50/1200 | 10,2 | 11,0 | 20,0 | 38,3 | 51,8 | 45,8 | 28,3 | 26,8 |
| SLL 150/50/1000 | 9,7 | 10,9 | 18,4 | 34,7 | 47,7 | 42,9 | 26,4 | 25,2 |
| SLL 150/50/900 | 9,4 | 10,9 | 17,7 | 32,7 | 45,3 | 41,3 | 25,3 | 24,3 |
| SLL 150/50/600 | 8,3 | 10,8 | 14,5 | 24,9 | 36,2 | 35,0 | 21,1 | 20,8 |
| SLL 160/50/1200 | 10,0 | 10,7 | 19,5 | 37,6 | 50,9 | 44,5 | 27,7 | 26,2 |
| SLL 160/50/1000 | 9,5 | 10,6 | 17,9 | 34,0 | 46,8 | 41,6 | 25,8 | 24,6 |
| SLL 160/50/900 | 9,2 | 10,6 | 17,2 | 32,0 | 44,4 | 40,0 | 24,7 | 23,7 |
| SLL 160/50/600 | 8,1 | 10,5 | 14,0 | 24,2 | 35,3 | 33,7 | 20,5 | 20,2 |
| SLL 200/50/1200 | 9,4 | 9,8 | 17,9 | 35,0 | 47,8 | 39,8 | 25,4 | 24,1 |
| SLL 200/50/1000 | 8,9 | 9,7 | 16,3 | 31,4 | 43,7 | 36,9 | 23,5 | 22,5 |
| SLL 200/50/900 | 8,6 | 9,7 | 15,6 | 29,4 | 41,3 | 35,3 | 22,4 | 21,6 |
| SLL 200/50/600 | 7,5 | 9,6 | 12,4 | 21,6 | 32,2 | 29,0 | 18,2 | 18,1 |
| SLL 250/50/1200 | 8,9 | 9,0 | 16,4 | 32,5 | 44,7 | 35,2 | 23,2 | 22,1 |
| SLL 250/50/1000 | 8,4 | 8,9 | 14,8 | 28,9 | 40,6 | 32,3 | 21,3 | 20,5 |
| SLL 250/50/900 | 8,1 | 8,9 | 14,1 | 26,9 | 38,2 | 30,7 | 20,2 | 19,6 |
| SLL 250/50/600 | 7,0 | 8,8 | 10,9 | 19,1 | 29,1 | 24,4 | 16,0 | 16,1 |
| SLL 315/50/1200 | 8,3 | 8,0 | 14,8 | 29,8 | 41,5 | 30,4 | 20,9 | 20,0 |
| SLL 315/50/1000 | 7,8 | 7,9 | 13,2 | 26,2 | 37,4 | 27,5 | 19,0 | 18,4 |
| SLL 315/50/900 | 7,5 | 7,9 | 12,5 | 24,2 | 35,0 | 25,9 | 17,9 | 17,5 |
| SLL 315/50/600 | 6,4 | 7,8 | 9,3 | 16,4 | 25,9 | 19,6 | 13,7 | 14,0 |
| SLL 355/50/1200 | 8,0 | 7,6 | 13,9 | 28,5 | 39,8 | 27,9 | 19,7 | 18,9 |
| SLL 355/50/1000 | 7,5 | 7,5 | 12,3 | 24,9 | 35,7 | 25,0 | 17,8 | 17,3 |
| SLL 355/50/900 | 7,2 | 7,5 | 11,6 | 22,9 | 33,3 | 23,4 | 16,7 | 16,4 |
| SLL 355/50/600 | 6,1 | 7,4 | 8,4 | 15,1 | 24,2 | 17,1 | 12,5 | 12,9 |
| SLL 400/50/1200 | 7,7 | 7,1 | 13,1 | 27,1 | 38,2 | 25,4 | 18,5 | 17,8 |
| SLL 400/50/1000 | 7,2 | 7,0 | 11,5 | 23,5 | 34,1 | 22,5 | 16,6 | 16,2 |
| SLL 400/50/900 | 6,9 | 7,0 | 10,8 | 21,5 | 31,7 | 20,9 | 15,5 | 15,3 |
| SLL 400/50/600 | 5,8 | 6,9 | 7,6 | 13,7 | 22,6 | 14,6 | 11,3 | 11,8 |
| SLL 450/50/1200 | 7,4 | 6,6 | 12,3 | 25,7 | 36,5 | 22,9 | 17,4 | 16,8 |
| SLL 450/50/1000 | 6,9 | 6,5 | 10,7 | 22,1 | 32,4 | 20,0 | 15,5 | 15,2 |
| SLL 450/50/900 | 6,6 | 6,5 | 10,0 | 20,1 | 30,0 | 18,4 | 14,4 | 14,3 |
| SLL 450/50/600 | 5,5 | 6,4 | 6,8 | 12,3 | 20,9 | 12,1 | 10,2 | 10,8 |





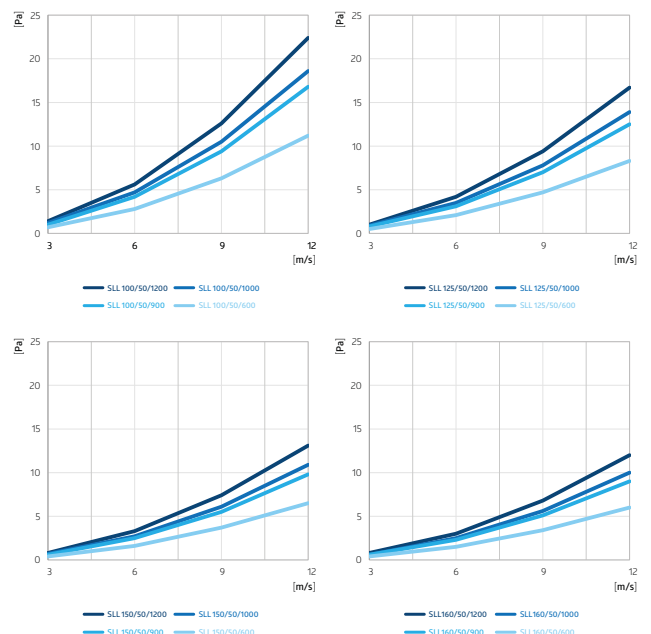
63 125 250 500 1k 2k 4k 8k

| | | | | | | | | |
|------------------------|-----|-----|------|------|------|------|------|------|
| SLL 500/50/1200 | 7,1 | 6,2 | 11,6 | 24,5 | 35,1 | 20,7 | 16,3 | 15,8 |
| SLL 500/50/1000 | 6,6 | 6,1 | 10,0 | 20,9 | 31,0 | 17,8 | 14,4 | 14,2 |
| SLL 500/50/900 | 6,3 | 6,1 | 9,3 | 18,9 | 28,6 | 16,2 | 13,3 | 13,3 |
| SLL 500/50/600 | 5,2 | 6,0 | 6,1 | 11,1 | 19,5 | 9,9 | 9,1 | 9,8 |
| SLL 560/50/1200 | 6,8 | 5,8 | 10,8 | 23,2 | 33,5 | 18,4 | 15,2 | 14,8 |
| SLL 560/50/1000 | 6,3 | 5,7 | 9,2 | 19,6 | 29,4 | 15,5 | 13,3 | 13,2 |
| SLL 560/50/900 | 6,0 | 5,7 | 8,5 | 17,6 | 27,0 | 13,9 | 12,2 | 12,3 |
| SLL 560/50/600 | 4,9 | 5,6 | 5,3 | 9,8 | 17,9 | 7,6 | 8,0 | 8,8 |
| SLL 630/50/1200 | 6,5 | 5,3 | 9,9 | 21,9 | 31,9 | 15,9 | 14,0 | 13,7 |
| SLL 630/50/1000 | 6,0 | 5,2 | 8,3 | 18,3 | 27,8 | 13,0 | 12,1 | 12,1 |
| SLL 630/50/900 | 5,7 | 5,2 | 7,6 | 16,3 | 25,4 | 11,4 | 11,0 | 11,2 |
| SLL 630/50/600 | 4,6 | 5,1 | 4,4 | 8,5 | 16,3 | 5,1 | 6,8 | 7,7 |



TOTAL PRESSURE LOSS (SC) AND TOTAL PRESSURE LOSS COEFFICIENT (WS):

| | SC* [Pa] | | | | WS** |
|------------------------|----------|-------|-------|--------|-------|
| | 3 m/s | 6 m/s | 9 m/s | 12 m/s | |
| SLL 100/50/1200 | 1,4 | 5,6 | 12,6 | 22,4 | 0,259 |
| SLL 100/50/1000 | 1,2 | 4,7 | 10,5 | 18,6 | 0,216 |
| SLL 100/50/900 | 1,0 | 4,2 | 9,4 | 16,8 | 0,194 |
| SLL 100/50/600 | 0,7 | 2,8 | 6,3 | 11,2 | 0,129 |
| SLL 125/50/1200 | 1,0 | 4,2 | 9,4 | 16,7 | 0,193 |
| SLL 125/50/1000 | 0,9 | 3,5 | 7,8 | 13,9 | 0,161 |
| SLL 125/50/900 | 0,8 | 3,1 | 7,0 | 12,5 | 0,145 |
| SLL 125/50/600 | 0,5 | 2,1 | 4,7 | 8,3 | 0,096 |
| SLL 150/50/1200 | 0,8 | 3,3 | 7,4 | 13,1 | 0,151 |
| SLL 150/50/1000 | 0,7 | 2,7 | 6,1 | 10,9 | 0,126 |
| SLL 150/50/900 | 0,6 | 2,5 | 5,5 | 9,8 | 0,114 |
| SLL 150/50/600 | 0,4 | 1,6 | 3,7 | 6,5 | 0,076 |
| SLL 160/50/1200 | 0,8 | 3,0 | 6,8 | 12,0 | 0,139 |
| SLL 160/50/1000 | 0,6 | 2,5 | 5,6 | 10,0 | 0,116 |
| SLL 160/50/900 | 0,6 | 2,3 | 5,1 | 9,0 | 0,104 |
| SLL 160/50/600 | 0,4 | 1,5 | 3,4 | 6,0 | 0,07 |

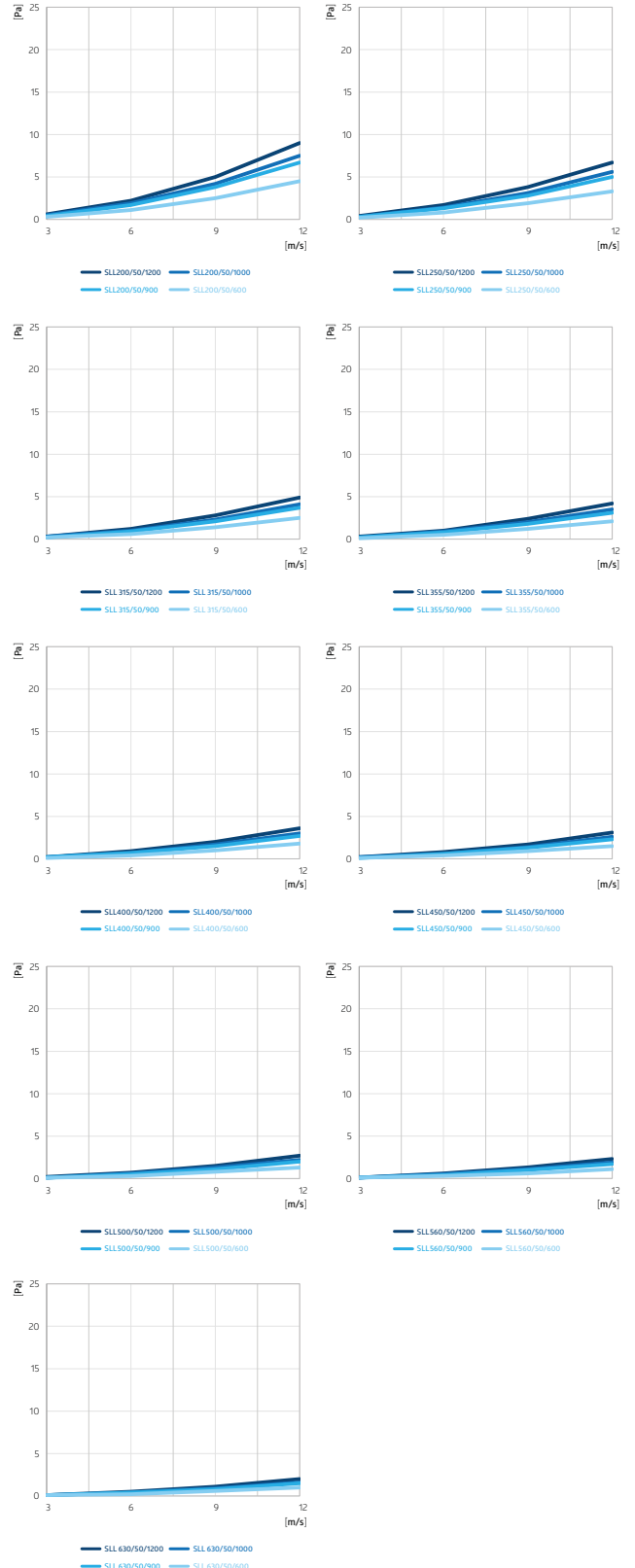


* total pressure loss ** total pressure loss coefficient



Silencers

| | SC* [Pa] | | | | WS** |
|------------------------|----------|-------|-------|--------|-------|
| | 3 m/s | 6 m/s | 9 m/s | 12 m/s | |
| SLL 200/50/1200 | 0,6 | 2,2 | 5,0 | 9,0 | 0,104 |
| SLL 200/50/1000 | 0,5 | 1,9 | 4,2 | 7,5 | 0,086 |
| SLL 200/50/900 | 0,4 | 1,7 | 3,8 | 6,7 | 0,078 |
| SLL 200/50/600 | 0,3 | 1,1 | 2,5 | 4,5 | 0,052 |
| SLL 250/50/1200 | 0,4 | 1,7 | 3,8 | 6,7 | 0,077 |
| SLL 250/50/1000 | 0,3 | 1,4 | 3,1 | 5,6 | 0,064 |
| SLL 250/50/900 | 0,3 | 1,3 | 2,8 | 5,0 | 0,058 |
| SLL 250/50/600 | 0,2 | 0,8 | 1,9 | 3,3 | 0,039 |
| SLL 315/50/1200 | 0,3 | 1,2 | 2,8 | 4,9 | 0,057 |
| SLL 315/50/1000 | 0,3 | 1,0 | 2,3 | 4,1 | 0,047 |
| SLL 315/50/900 | 0,2 | 0,9 | 2,1 | 3,7 | 0,043 |
| SLL 315/50/600 | 0,2 | 0,6 | 1,4 | 2,5 | 0,028 |
| SLL 355/50/1200 | 0,3 | 1,0 | 2,4 | 4,2 | 0,049 |
| SLL 355/50/1000 | 0,2 | 0,9 | 2,0 | 3,5 | 0,04 |
| SLL 355/50/900 | 0,2 | 0,8 | 1,8 | 3,1 | 0,036 |
| SLL 355/50/600 | 0,1 | 0,5 | 1,2 | 2,1 | 0,024 |
| SLL 400/50/1200 | 0,2 | 0,9 | 2,0 | 3,6 | 0,041 |
| SLL 400/50/1000 | 0,2 | 0,7 | 1,7 | 3,0 | 0,035 |
| SLL 400/50/900 | 0,2 | 0,7 | 1,5 | 2,7 | 0,031 |
| SLL 400/50/600 | 0,1 | 0,4 | 1,0 | 1,8 | 0,021 |
| SLL 450/50/1200 | 0,2 | 0,8 | 1,7 | 3,1 | 0,036 |
| SLL 450/50/1000 | 0,2 | 0,6 | 1,4 | 2,6 | 0,03 |
| SLL 450/50/900 | 0,1 | 0,6 | 1,3 | 2,3 | 0,027 |
| SLL 450/50/600 | 0,1 | 0,4 | 0,9 | 1,5 | 0,018 |
| SLL 500/50/1200 | 0,2 | 0,7 | 1,5 | 2,7 | 0,031 |
| SLL 500/50/1000 | 0,1 | 0,6 | 1,3 | 2,2 | 0,026 |
| SLL 500/50/900 | 0,1 | 0,5 | 1,1 | 2,0 | 0,023 |
| SLL 500/50/600 | 0,1 | 0,3 | 0,8 | 1,3 | 0,015 |
| SLL 560/50/1200 | 0,1 | 0,6 | 1,3 | 2,3 | 0,027 |
| SLL 560/50/1000 | 0,1 | 0,5 | 1,1 | 1,9 | 0,022 |
| SLL 560/50/900 | 0,1 | 0,4 | 1,0 | 1,7 | 0,02 |
| SLL 560/50/600 | 0,1 | 0,3 | 0,6 | 1,1 | 0,013 |
| SLL 630/50/1200 | 0,1 | 0,5 | 1,1 | 2,0 | 0,023 |
| SLL 630/50/1000 | 0,1 | 0,4 | 0,9 | 1,6 | 0,019 |
| SLL 630/50/900 | 0,1 | 0,4 | 0,8 | 1,5 | 0,017 |
| SLL 630/50/600 | 0,1 | 0,2 | 0,6 | 1,0 | 0,011 |



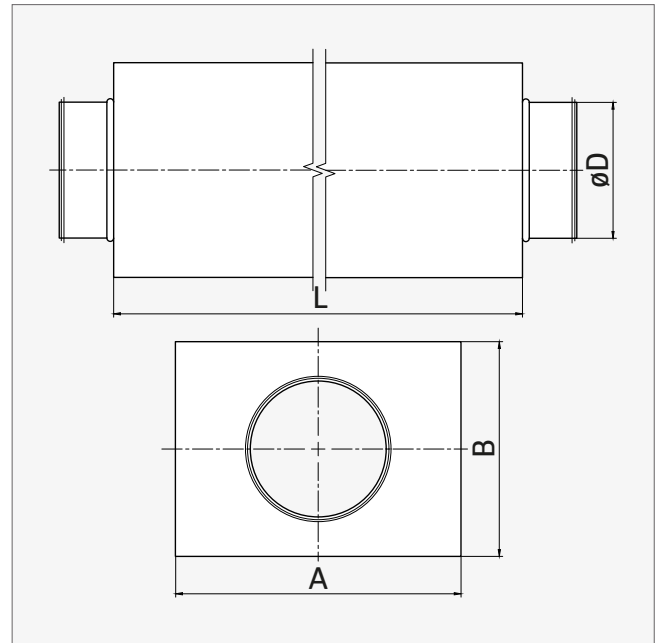
* total pressure loss ** total pressure loss coefficient



Rectangular silencer for circular ducts **SLL-R**



Please note:
distribution
limited by
territory.



DESIGN:

- damping layer:
mineral wool slate with a density of $\sim 55 \text{ kg/m}^3$
- connection nozzles with gasket

USE:

- noise reduction in ventilation and air-conditioning and vent ducts with circular cross-sections

STANDARD LENGTHS L:

- 300, 500, 600, 900 and 1000 mm

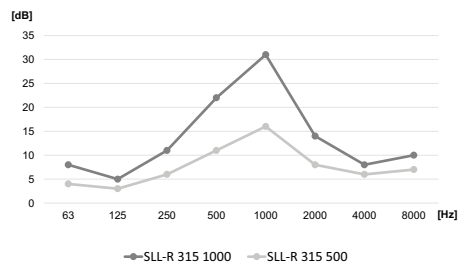
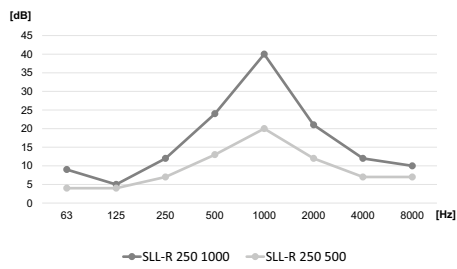
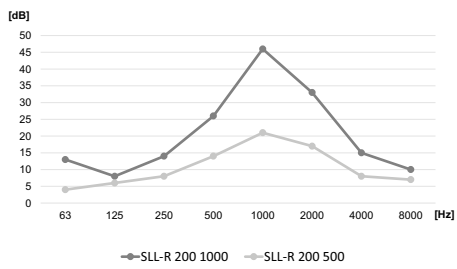
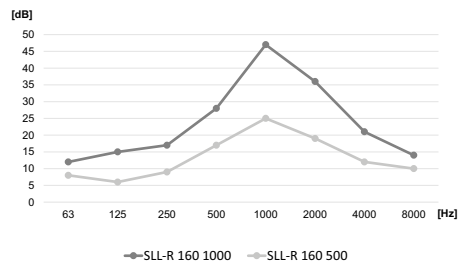
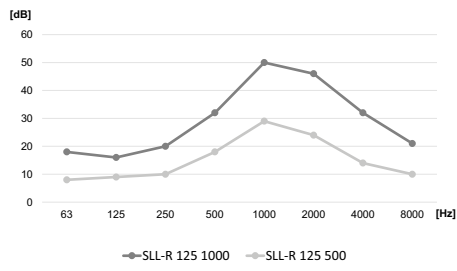
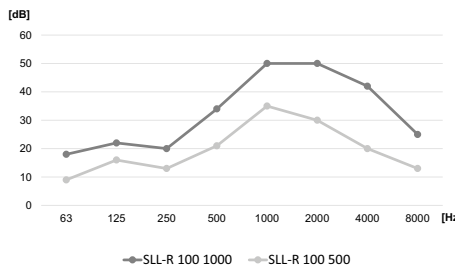
The silencers are acoustically tested **acc. to ISO 7235**.

| $\varnothing D$ [mm] | A [mm] | B [mm] |
|-------------------------|-----------|-----------|
| 100 | 210 | 156 |
| 125 | 239 | 179 |
| 160 | 276 | 216 |
| 200 | 328 | 252 |
| 250 | 390 | 306 |
| 315 | 448 | 370 |



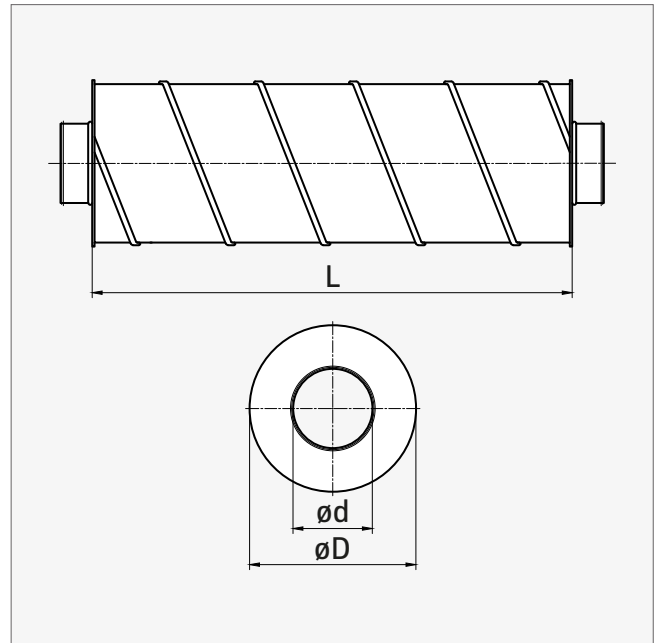
ATTENUATION [DB] FOR FREQUENCY [HZ]:

| | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
|-----------------------|----|-----|-----|-----|----|----|----|----|
| SLL-R 100 1000 | 18 | 22 | 20 | 34 | 50 | 50 | 42 | 25 |
| SLL-R 100 500 | 9 | 16 | 13 | 21 | 35 | 30 | 20 | 13 |
| SLL-R 125 1000 | 18 | 16 | 20 | 32 | 50 | 46 | 32 | 21 |
| SLL-R 125 500 | 8 | 9 | 10 | 18 | 29 | 24 | 14 | 10 |
| SLL-R 160 1000 | 12 | 15 | 17 | 28 | 47 | 36 | 21 | 14 |
| SLL-R 160 500 | 8 | 6 | 9 | 17 | 25 | 19 | 12 | 10 |
| SLL-R 200 1000 | 13 | 8 | 14 | 26 | 46 | 33 | 15 | 10 |
| SLL-R 200 500 | 4 | 6 | 8 | 14 | 21 | 17 | 8 | 7 |
| SLL-R 250 1000 | 9 | 5 | 12 | 24 | 40 | 21 | 12 | 10 |
| SLL-R 250 500 | 4 | 4 | 7 | 13 | 20 | 12 | 7 | 7 |
| SLL-R 315 1000 | 8 | 5 | 11 | 22 | 31 | 14 | 8 | 10 |
| SLL-R 315 500 | 4 | 3 | 6 | 11 | 16 | 8 | 6 | 7 |





Flexible circular silencer **SLL S-FLEX**



DESIGN:

- external cover made of semi-flexible aluminum duct S-Flex®
- damping layer of mineral wool with a density of 12 kg/m^3 , secured with perforated inner
- insulation thickness: 50 mm

USE:

- suppress noise in ventilation and air conditioning duct systems

STANDARD LENGTHS L:

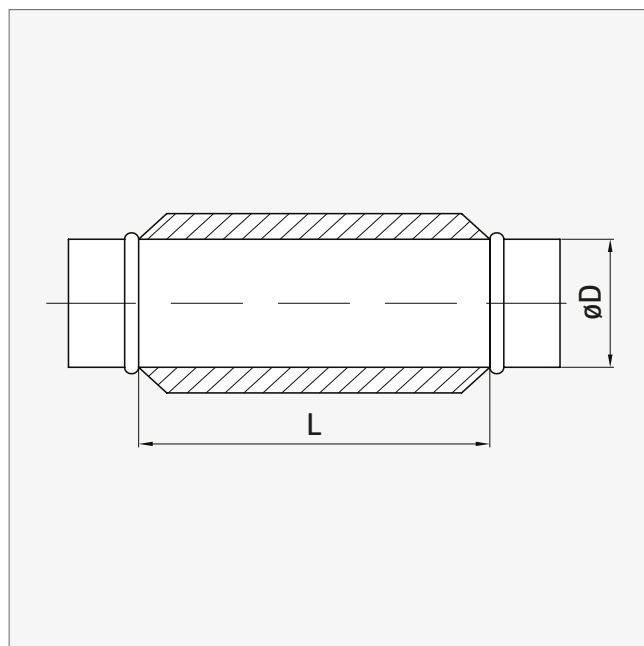
- 600, 900, 1000, 1200 and 1500 mm

| $\varnothing d$ [mm] | $\varnothing D$ [mm] |
|-------------------------|-------------------------|
| 80 | 180 |
| 100 | 200 |
| 125 | 250 |
| 140 | 250 |
| 150 | 250 |
| 160 | 250 |
| 180 | 315 |
| 200 | 315 |
| 250 | 400 |
| 315 | 400 |

I L: +5 mm



Flexible circular silencer **SLE AF019**



PRODUCT CHARACTERISTICS:

- ending in a collar
- lightweight, low floor load

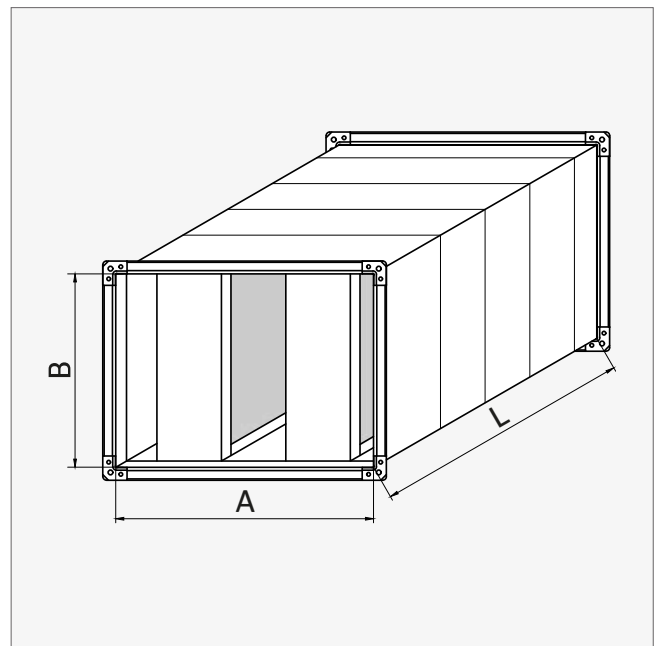
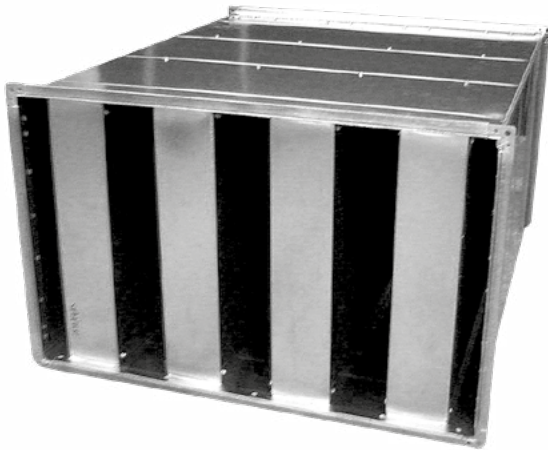
MATERIAL:

- galvanized steel
- insulated aluminum flexible duct AF019

| øD [mm] | L [mm] |
|-------------------|------------------|
| 100 | 500, 1000 |
| 125 | 500, 1000 |
| 160 | 500, 1000 |
| 200 | 500, 1000 |
| 250 | 500, 1000 |
| 315 | 500, 1000 |



Rectangular silencer **TAP**



DESIGN

The external cover is made of galvanised sheet steel. The connection frames are made of DW duct sections and H-corners. As a result, the silencer has sufficient rigidity and can be easily integrated into the duct system. The frames of the silencer noise insulation panels are made of galvanised sheet steel and are filled with sound-absorbing material - mineral wool. The glass fibre fabric that covers the outer side of the noise insulation panels tightly prevents the wool from penetrating into the duct system. The use of high-quality damping materials and the proper installation of the product guarantee high damping parameters.

USE:

- noise reduction in ventilation and air-conditioning and vent ducts

The silencers are acoustically tested **acc. to ISO 7235**.

| D = 100 mm | | D = 200 mm | | A or B [mm] | Profile | Corner |
|------------|----|------------|----|-------------|---------|--------|
| øB [mm] | n* | øB [mm] | n* | | | |
| 200 | 1 | 200 | - | ≤1000 | DW-20 | H-20 |
| 300-500 | 2 | 300-450 | 1 | 1001-2500 | DW-30 | H-30 |
| 550-700 | 3 | 500-700 | 2 | | | |
| 750-900 | 4 | 750-1000 | 3 | | | |
| 950-1100 | 5 | 1050-1300 | 4 | | | |
| 1150-1300 | 6 | 1350-1500 | 5 | | | |
| 1350-1500 | 7 | | | | | |

* number of noise insulation panels



Flexible circular silencer TAE



CONSTRUCTION:

- **inner core:** multilayer complex of aluminium and polyester
- **insulation:** a glass wool with 25 mm thick
- **outer core:** multilayer complex of aluminium and polyester
- aluminium tape

USE:

- designed for installation in ventilation and air conditioning systems to prevent condensation, loss of energy and to reduce noise

PROPERTIES:

- good flexibility
- good compression
- reduction of noise

| | |
|-------------------------------------|--------------------|
| Diameter range: | 82-406 mm |
| Operating temperature range: | from -30 to +140°C |
| Maximum air speed: | 25 m/s |
| Maximum operating pressure: | 2000 Pa |
| Standard length: | 1 m |
| Cardboard package: | 0,5 m |

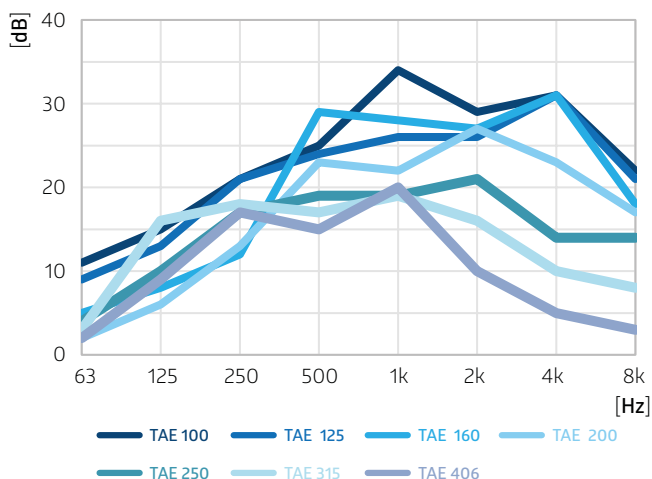
MATERIAL

TAE is a flexible sound attenuator, consisting of inner duct made from Alutex as basic duct, covered with thermal insulation of glass wool 25 mm thick. The external duct is made of Alutex duct. Both ends are taped to provide easy connection.

CLASSIFICATION:

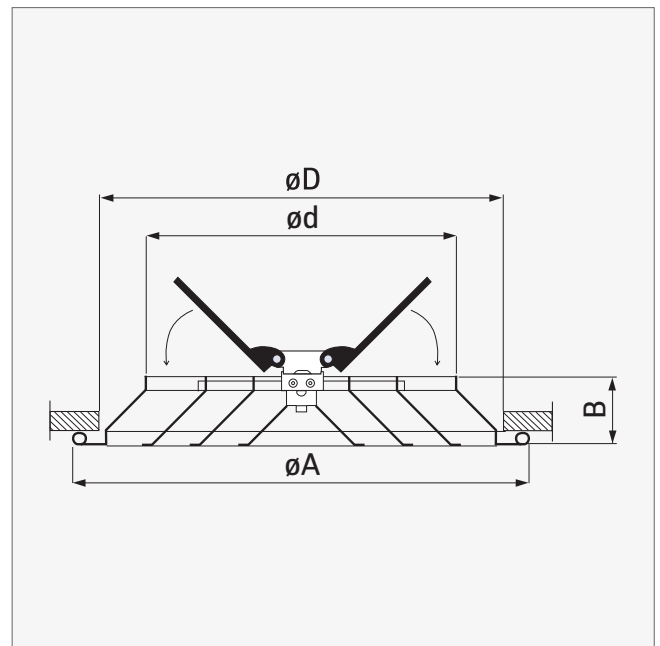
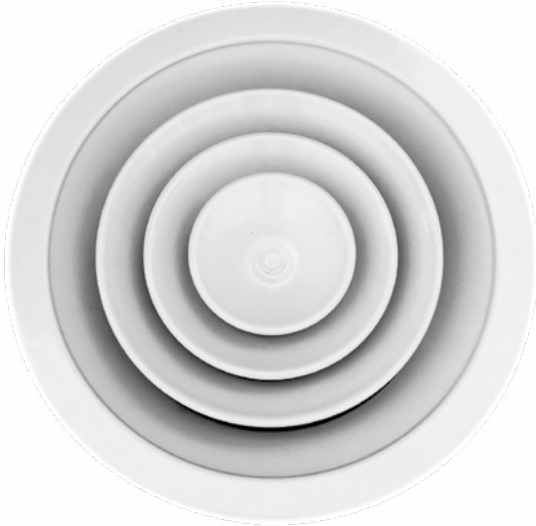
- EU (EN 13501-1) B-s2, d0

DAMPING DIAGRAM:





Round ceiling diffuser **DS**



PRODUCT CHARACTERISTICS:


- integrated damper
- powder-coated
- flat front
- lightweight even with large dimensions
- removable wing fences
- easy to install and adjust thanks to unique design
- suitable for supply/exhaust of warm or cold air
- suitable for systems with variable air volume

MATERIAL AND COLOUR:

- pressed aluminum (diffuser elements)
- plastic (damper)
- RAL 9003

ALSO AVAILABLE:

- DSP circular connector - see page 134

| | $\varnothing d$ [mm] | $\varnothing D$ [mm] | $\varnothing A$ [mm] | B [mm] |  |
|---------------|-------------------------|-------------------------|-------------------------|-------------|---|
| DS 150 | 148 | 225 | 257 | 52 | 4 |
| DS 200 | 203 | 275 | 309 | 52 | 4 |
| DS 250 | 249 | 325 | 362 | 52 | 4 |
| DS 300 | 298 | 398 | 415 | 52 | 4 |
| DS 350 | 348 | 444 | 459 | 52 | 4 |

 Packaging [pcs]



TECHNICAL PARAMETERS:

| Q [m³/s] | | DS 150 | DS 200 | DS 250 | DS 300 | DS 350 | Q [m³/s] | | DS 150 | DS 200 | DS 250 | DS 300 | DS 350 |
|---------------------------|----------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|---------------------------|----------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 100 | V [m/s] | 2,75 | 1,2 | 0,77 | 0,54 | 0,4 | 400 | V [m/s] | 10,99 | 4,78 | 3,1 | 2,15 | 1,61 |
| | Ps [Pa] | 7 | 3 | 2 | 2 | 2 | | Ps [Pa] | 82 | 17 | 8 | 5 | 4 |
| | T _{min} [m] | 0,5 | 0,33 | 0,27 | 0,22 | 0,19 | | T _{min} [m] | 1,99 | 1,31 | 1,06 | 0,88 | 0,76 |
| | T _{max} [m] | 0,92 | 0,7 | 0,61 | 0,55 | 0,51 | | T _{max} [m] | 2,91 | 2,01 | 1,67 | 1,43 | 1,28 |
| | NC [dB(A)] | <15 | <15 | <15 | <15 | <15 | | NC [dB(A)] | 45 | 32 | 21 | <15 | <15 |
| 150 | V [m/s] | 4,12 | 1,79 | 1,16 | 0,81 | 0,6 | 450 | V [m/s] | 12,37 | 5,38 | 3,49 | 2,42 | 1,81 |
| | Ps [Pa] | 13 | 4 | 3 | 2 | 2 | | Ps [Pa] | 103 | 21 | 10 | 6 | 4 |
| | T _{min} [m] | 0,75 | 0,49 | 0,4 | 0,33 | 0,29 | | T _{min} [m] | 2,24 | 1,48 | 1,19 | 0,99 | 0,86 |
| | T _{max} [m] | 1,25 | 0,92 | 0,79 | 0,7 | 0,64 | | T _{max} [m] | 3,24 | 2,23 | 1,84 | 1,58 | 1,4 |
| | NC [dB(A)] | <15 | <15 | <15 | <15 | <15 | | NC [dB(A)] | 48 | 35 | 25 | 16 | <15 |
| 200 | V [m/s] | 5,5 | 2,39 | 1,55 | 1,08 | 0,81 | 500 | V [m/s] | | 5,98 | 3,87 | 2,69 | 2,02 |
| | Ps [Pa] | 22 | 6 | 3 | 3 | 2 | | Ps [Pa] | | 26 | 12 | 7 | 5 |
| | T _{min} [m] | 1 | 0,66 | 0,53 | 0,44 | 0,38 | | T _{min} [m] | | 1,64 | 1,32 | 1,1 | 0,95 |
| | T _{max} [m] | 1,59 | 1,13 | 0,96 | 0,85 | 0,77 | | T _{max} [m] | | 2,45 | 2,02 | 1,73 | 1,53 |
| | NC [dB(A)] | <15 | <15 | <15 | <15 | <15 | | NC [dB(A)] | | 38 | 28 | 19 | <15 |
| 250 | V [m/s] | 6,87 | 2,99 | 1,94 | 1,35 | 1,01 | 600 | V [m/s] | | 7,17 | 4,65 | 3,23 | 2,42 |
| | Ps [Pa] | 33 | 8 | 4 | 3 | 3 | | Ps [Pa] | | 36 | 16 | 9 | 6 |
| | T _{min} [m] | 1,24 | 0,82 | 0,66 | 0,55 | 0,48 | | T _{min} [m] | | 1,97 | 1,59 | 1,32 | 1,14 |
| | T _{max} [m] | 1,92 | 1,35 | 1,14 | 0,99 | 0,89 | | T _{max} [m] | | 2,88 | 2,37 | 2,02 | 1,78 |
| | NC [dB(A)] | 32 | 18 | <15 | <15 | <15 | | NC [dB(A)] | | 43 | 33 | 24 | 17 |
| 300 | V [m/s] | 8,25 | 3,59 | 2,32 | 1,61 | 1,21 | 700 | V [m/s] | | 8,37 | 5,42 | 3,37 | 2,82 |
| | Ps [Pa] | 47 | 10 | 5 | 4 | 3 | | Ps [Pa] | | 48 | 21 | 11 | 7 |
| | T _{min} [m] | 1,49 | 0,99 | 0,99 | 0,66 | 0,57 | | T _{min} [m] | | 2,3 | 1,85 | 1,54 | 1,33 |
| | T _{max} [m] | 2,25 | 1,57 | 1,32 | 1,14 | 1,02 | | T _{max} [m] | | 3,32 | 2,72 | 2,31 | 2,04 |
| | NC [dB(A)] | 37 | 24 | <15 | <15 | <15 | | NC [dB(A)] | | 47 | 37 | 29 | 21 |
| 350 | V [m/s] | 9,62 | 4,18 | 2,71 | 1,88 | 1,41 | 800 | V [m/s] | | | 6,2 | 4,31 | 3,22 |
| | Ps [Pa] | 63 | 13 | 7 | 4 | 3 | | Ps [Pa] | | | 27 | 14 | 9 |
| | T _{min} [m] | 1,74 | 1,15 | 0,93 | 0,77 | 0,67 | | T _{min} [m] | | | 2,11 | 1,76 | 1,52 |
| | T _{max} [m] | 2,58 | 1,79 | 1,49 | 1,29 | 1,15 | | T _{max} [m] | | | 3,08 | 2,61 | 2,29 |
| | NC [dB(A)] | 41 | 28 | 18 | <15 | <15 | | NC [dB(A)] | | | 41 | 32 | 25 |



| Q [m³/s] | | DS 150 | DS 200 | DS 250 | DS 300 | DS 350 |
|-------------|----------------------|-----------|-----------|-----------|-----------|-----------|
| 900 | V [m/s] | | | 6,97 | 4,84 | 3,67 |
| | Ps [Pa] | | | 34 | 17 | 10 |
| | T _{min} [m] | | | 2,38 | 1,98 | 1,72 |
| | T _{max} [m] | | | 3,43 | 2,9 | 2,55 |
| | NC [dB(A)] | | | 44 | 36 | 29 |
| 1000 | V [m/s] | | | 7,75 | 5,38 | 4,03 |
| | Ps [Pa] | | | 41 | 21 | 13 |
| | T _{min} [m] | | | 2,64 | 2,2 | 1,91 |
| | T _{max} [m] | | | 3,78 | 3,19 | 2,8 |
| | NC [dB(A)] | | | 8,52 | 39 | 32 |
| 1100 | V [m/s] | | | 5,08 | 5,92 | 4,43 |
| | Ps [Pa] | | | 29 | 25 | 15 |
| | T _{min} [m] | | | 2,96 | 2,42 | 2,1 |
| | T _{max} [m] | | | 4,13 | 3,49 | 3,05 |
| | NC [dB(A)] | | | 50 | 41 | 34 |
| 1200 | V [m/s] | | | | 6,46 | 4,84 |
| | Ps [Pa] | | | | 29 | 17 |
| | T _{min} [m] | | | | 2,64 | 2,29 |
| | T _{max} [m] | | | | 3,78 | 3,31 |
| | NC [dB(A)] | | | | 44 | 37 |

| Q [m³/s] | | DS 150 | DS 200 | DS 250 | DS 300 | DS 350 |
|-------------|----------------------|-----------|-----------|-----------|-----------|-----------|
| 1300 | V [m/s] | | | | 7 | 5,24 |
| | Ps [Pa] | | | | 34 | 20 |
| | T _{min} [m] | | | | 2,86 | 2,48 |
| | T _{max} [m] | | | | 4,07 | 3,56 |
| | NC [dB(A)] | | | | 46 | 39 |
| 1500 | V [m/s] | | | | | 6,05 |
| | Ps [Pa] | | | | | 26 |
| | T _{min} [m] | | | | | 2,86 |
| | T _{max} [m] | | | | | 4,07 |
| | NC [dB(A)] | | | | | 43 |
| 1700 | V [m/s] | | | | | 6,85 |
| | Ps [Pa] | | | | | 33 |
| | T _{min} [m] | | | | | 3,24 |
| | T _{max} [m] | | | | | 4,58 |
| | NC [dB(A)] | | | | | 46 |
| 2000 | V [m/s] | | | | | 7,66 |
| | Ps [Pa] | | | | | 41 |
| | T _{min} [m] | | | | | 3,62 |
| | T _{max} [m] | | | | | 5,08 |
| | NC [dB(A)] | | | | | 50 |

V: speed

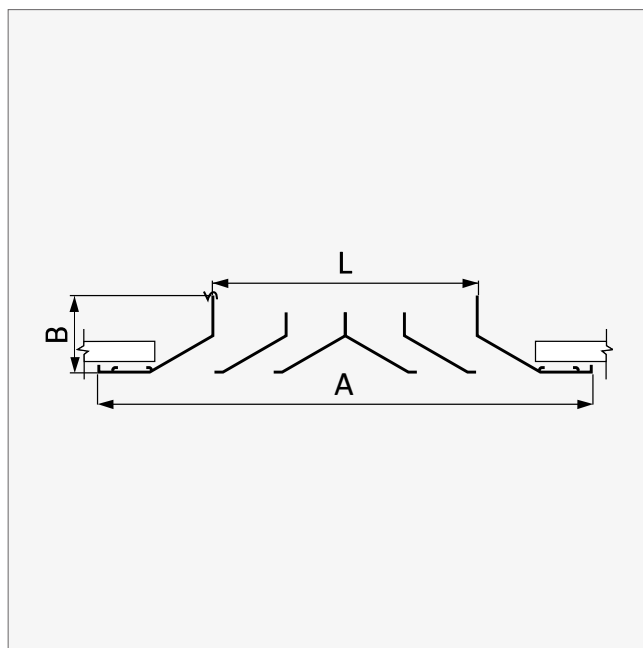
T: range given respectively for speeds: 0.50 m/s and 0.25 m/s

Ps: static pressure

NC: noise level with room attenuation assumed to be 10 dB



Four-way diffuser **HB40**




PRODUCT CHARACTERISTICS:

- made of pressed aluminum
- powder-coated
- lamellas set at 30° angle
- air flow distributed in four directions
- suitable for hot or cold air supply and exhaust
- light weight
- lamellas can be disassembled – easy access to diffuser's interior
- easy assembly

MATERIAL AND COLOUR:

- pressed aluminum
- RAL 9003

| A × A [mm] | L × L [mm] | B [mm] |  |
|----------------------|----------------------|------------------|---|
| 295 × 295 | 150 × 150 | 50 | 4 |
| 370 × 370 | 225 × 225 | 50 | 4 |
| 445 × 445 | 300 × 300 | 50 | 4 |
| 520 × 520 | 375 × 375 | 50 | 4 |
| 595 × 595 | 450 × 450 | 50 | 4 |

 Packaging [pcs]



TECHNICAL PARAMETERS:

| A × A [mm] | | | | | | | | |
|-----------------------------|-----------------------|---------|---------|---------|---------|---------|---------|----------|
| 295 × 295 | Q [m ³ /s] | 170 | 190 | 215 | 235 | 255 | 275 | 300 |
| | Ps [Pa] | 1,6-2,5 | 1,6-2,8 | 1,9-2,8 | 2,2-3,1 | 2,2-3,1 | 2,5-3,4 | 2,5-3,4 |
| | T [m] | 8 | 9 | 12 | 14 | 17 | 19 | 23 |
| | NC [dB(A)] | 15 | 16 | 17 | 19 | 20 | 21 | 22 |
| 370 × 370 | Q [m ³ /s] | 380 | 430 | 480 | 525 | 570 | 620 | 670 |
| | Ps [Pa] | 2,5-3,7 | 2,8-4,0 | 3,1-4,3 | 3,1-4,3 | 3,4-4,6 | 3,4-5,0 | 3,7-5,0 |
| | T [m] | 9 | 13 | 14 | 17 | 20 | 21 | 27 |
| | NC [dB(A)] | 18 | 19 | 21 | 22 | 24 | 25 | 26 |
| 445 × 445 | Q [m ³ /s] | 680 | 765 | 850 | 935 | 1020 | 1105 | 1190 |
| | Ps [Pa] | 3,4-5,0 | 3,7-5,6 | 4,0-5,9 | 4,3-6,2 | 4,3-6,5 | 4,6-6,8 | 5,0-7,1 |
| | T [m] | 10 | 12 | 16 | 19 | 22 | 23 | 30 |
| | NC [dB(A)] | 18 | 20 | 22 | 23 | 25 | 26 | 28 |
| 520 × 520 | Q [m ³ /s] | 1060 | 1200 | 1325 | 1460 | 1590 | 1725 | 1855 |
| | Ps [Pa] | 4,3-6,5 | 5,0-6,8 | 5,2-7,1 | 5,2-7,4 | 5,6-7,8 | 5,9-8,1 | 5,9-8,7 |
| | T [m] | 11 | 15 | 18 | 21 | 24 | 28 | 33 |
| | NC [dB(A)] | 19 | 21 | 23 | 25 | 27 | 28 | 30 |
| 595 × 595 | Q [m ³ /s] | 1530 | 1720 | 1915 | 2110 | 2300 | 2500 | 2680 |
| | Ps [Pa] | 6,5-7,8 | 6,2-8,1 | 6,2-8,7 | 6,5-9,0 | 6,5-9,3 | 6,8-9,9 | 7,1-10,2 |
| | T [m] | 12 | 15 | 18 | 22 | 26 | 29 | 34 |
| | NC [dB(A)] | 20 | 21 | 24 | 26 | 28 | 30 | 31 |

Q: efficiency

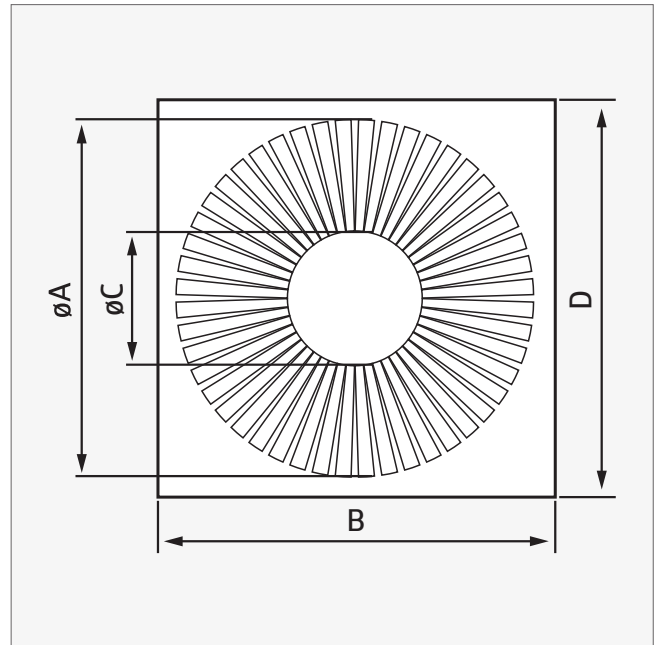
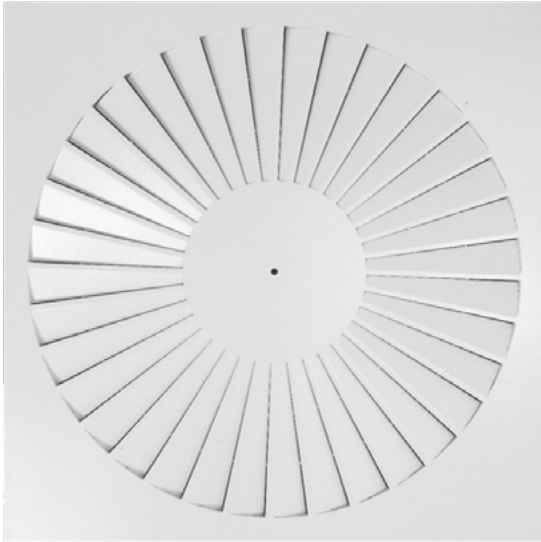
T: range given respectively for speeds: 0.50 m/s and 0.25 m/s

Ps: static pressure

NC: noise level with room attenuation assumed to be 10 dB



Swirl diffuser **SW**



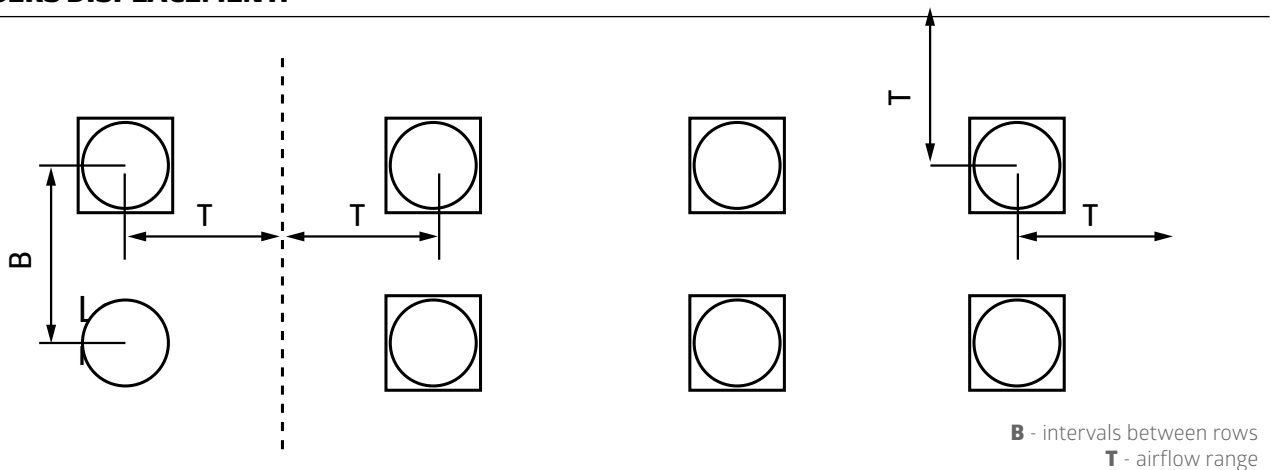
PRODUCT CHARACTERISTICS:

- even air distribution is provided by 36 radially located lamellas
- swirl air supply provides fast room temperature equalization
- powder-coated
- suitable for hot or cold air supply and exhaust
- dimension is suitable for standard suspended ceiling

MATERIAL AND COLOUR:

- pressed galvanized steel (diffuser elements)
- RAL 9003

DIFFUSERS DISPLACEMENT:



| | $\varnothing A$ [mm] | B [mm] | D [mm] | $\varnothing C$ [mm] | |
|-------------------|-------------------------|------------------|------------------|-------------------------|---|
| SW 595x595 | 540 | 595 | 595 | 200 | 5 |

Packaging [pcs]


TECHNICAL PARAMETERS:

| H | V | | Ps | NC | T[m]* | | | T[m]** |
|-----|-------|--------|----|----|--------|------|---------|--------|
| | [m] | [m³/s] | | | [m³/h] | [Pa] | [dB(A)] | |
| 2,7 | 0,050 | 180 | 3 | * | 0,7 | 0,7 | 0,7 | 0,7 |
| | 0,060 | 216 | 4 | * | 1,2 | 1,0 | 0,8 | 0,7 |
| | 0,070 | 252 | 5 | * | 1,4 | 1,2 | 1,0 | 0,9 |
| | 0,080 | 288 | 7 | * | 1,6 | 1,3 | 1,2 | 1,0 |
| | 0,090 | 324 | 8 | * | 1,7 | 1,4 | 1,3 | 1,2 |
| | 0,100 | 360 | 10 | * | 1,8 | 1,5 | 1,4 | 1,2 |
| | 0,125 | 450 | 16 | * | 1,9 | 1,7 | 1,5 | 1,4 |
| | 0,150 | 540 | 23 | 25 | 2,0 | 1,8 | 1,6 | 1,5 |
| | 0,175 | 630 | 31 | 29 | 2,2 | 1,9 | 1,8 | 1,7 |
| | 0,200 | 720 | 41 | 33 | 2,4 | 2,2 | 2,1 | 2,0 |
| 3,0 | 0,050 | 180 | 3 | * | 0,7 | 0,7 | 0,7 | 0,7 |
| | 0,060 | 216 | 4 | * | 0,7 | 0,7 | 0,7 | 0,7 |
| | 0,070 | 252 | 5 | * | 1,0 | 0,8 | 0,7 | 0,7 |
| | 0,080 | 288 | 7 | * | 1,3 | 1,1 | 0,9 | 0,8 |
| | 0,090 | 324 | 8 | * | 1,5 | 1,2 | 1,1 | 0,9 |
| | 0,100 | 360 | 10 | * | 1,6 | 1,3 | 1,2 | 1,0 |
| | 0,125 | 450 | 16 | * | 1,8 | 1,5 | 1,4 | 1,3 |
| | 0,150 | 540 | 23 | 25 | 1,9 | 1,7 | 1,5 | 1,4 |
| | 0,175 | 630 | 31 | 29 | 2,0 | 1,7 | 1,6 | 1,5 |
| | 0,200 | 720 | 41 | 33 | 2,1 | 1,8 | 1,7 | 1,6 |
| 3,6 | 0,050 | 180 | 3 | * | 0,7 | 0,7 | 0,7 | 0,7 |
| | 0,060 | 216 | 4 | * | 0,7 | 0,7 | 0,7 | 0,7 |
| | 0,070 | 252 | 5 | * | 0,7 | 0,7 | 0,7 | 0,7 |
| | 0,080 | 288 | 7 | * | 0,8 | 0,7 | 0,7 | 0,7 |
| | 0,090 | 324 | 8 | * | 0,8 | 0,7 | 0,7 | 0,7 |
| | 0,100 | 360 | 10 | * | 1,2 | 0,9 | 0,8 | 0,7 |
| | 0,125 | 450 | 16 | * | 1,5 | 1,2 | 1,1 | 1,0 |
| | 0,150 | 540 | 23 | 25 | 1,7 | 1,4 | 1,3 | 1,1 |
| | 0,175 | 630 | 31 | 29 | 1,8 | 1,6 | 1,4 | 1,3 |
| | 0,200 | 720 | 41 | 33 | 1,9 | 1,6 | 1,5 | 1,4 |

* If diffusers are located in two or more rows and B < 4 m

** If diffusers are located in two or more rows and B > 4 m

H: hanging height

V: air volume

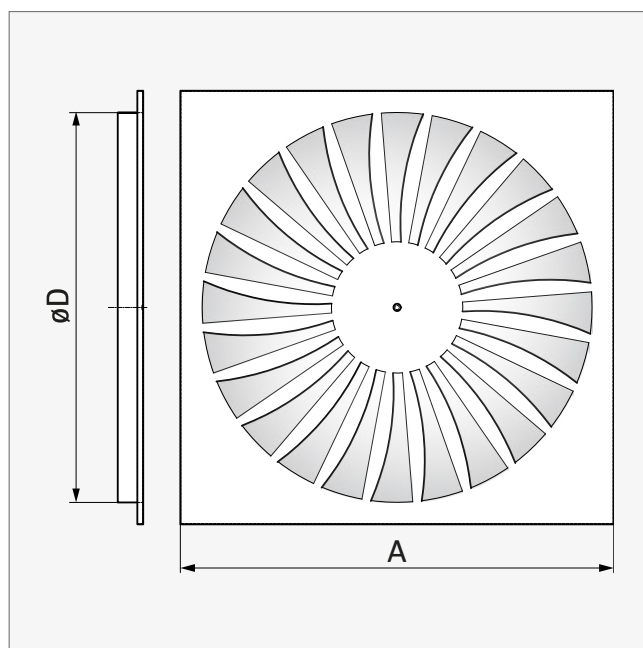
Ps: static pressure

NC: noise level with room attenuation assumed to be 10 dB

T: range given for speed of 0.25 m/s



Swirl diffuser SD-B



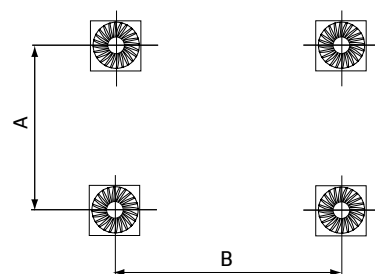
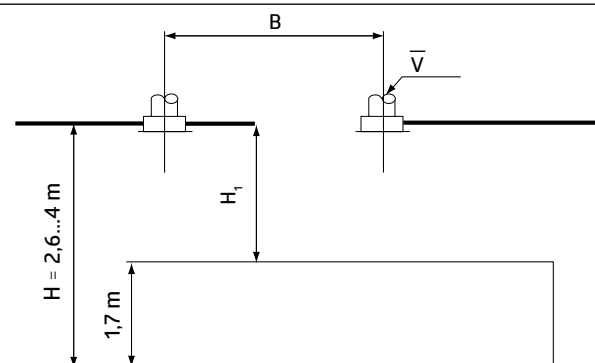
PRODUCT CHARACTERISTICS:


- fixed blades provide even air distribution
- swirl air supply provides fast room temperature equalization
- powder-coated
- suitable for hot or cold air supply and exhaust
- easy installation in standard suspended ceiling

MATERIAL AND COLOUR:

- pressed galvanized steel (diffuser elements)
- RAL 9003

DIFFUSERS DISPLACEMENT:



| | $\varnothing D$ [mm] | A [mm] |  |
|-----------------|-------------------------|-----------|---|
| SD-B 300 | 259 | 595 | 5 |
| SD-B 400 | 339 | 595 | 5 |
| SD-B 500 | 442 | 595 | 5 |
| SD-B 600 | 531 | 595 | 5 |

 Packaging [pcs]

V [m³/h] - air volume
 H_1 [m] - distance from the people area
 A, B [m] - interval between two diffusers



TECHNICAL PARAMETERS:

| H_1 [m] | V [m ³ /h] | 145 | 180 | 215 | 250 | 325 |
|------------|-----------------------|-------|-----|-----|-----|-----|
| | V [m ³ /h] | A [m] | | | | |
| 0,9 | 0,10 | 4,0 | 4,5 | 5,3 | 5,7 | 6,0 |
| | 0,15 | - | 3,7 | 4,4 | 5,0 | 5,6 |
| | 0,20 | - | - | - | 4,2 | 5,0 |
| | 0,25 | - | - | - | - | 4,5 |
| 1,2 | 0,10 | - | 3,8 | 4,6 | 5,3 | 5,7 |
| | 0,15 | - | - | - | 4,1 | 4,9 |
| | 0,20 | - | - | - | - | 4,0 |
| 1,6 | 0,10 | - | - | 3,0 | 4,4 | 5,2 |
| | 0,15 | - | - | - | - | 4,0 |
| 2,0 | 0,10 | - | - | - | 3,0 | 4,6 |

AIR EXHAUST:

| | Q [m ³ /h] | Ps [Pa] | NC [dB(A)] |
|---------------------|-----------------------|---------|------------|
| SD-B 300 | 150 | 16,0 | 20 |
| | 250 | 40,0 | 35 |
| | 350 | 80,0 | 44 |
| SD-B 400/500 | 250 | 8,0 | <20 |
| | 350 | 16,0 | 27 |
| | 500 | 36,0 | 40 |
| | 700 | 70,0 | 50 |
| | 900 | 120,0 | 55 |
| SD-B 600 | 350 | 8,5 | <20 |
| | 500 | 22,0 | 26 |
| | 700 | 38,0 | 35 |
| | 900 | 65,0 | 43 |

AIR SUPPLY:

| | Q [m ³ /h] | Ps [Pa] | NC [dB(A)] |
|-----------------|-----------------------|---------|------------|
| SD-B 300 | 100 | 6,5 | <20 |
| | 150 | 13,0 | 24 |
| | 250 | 35,0 | 37 |
| | 400 | 9,0 | 53 |
| | 500 | 140,0 | 65 |
| SD-B 400 | 150 | 4,5 | <20 |
| | 200 | 9,0 | <20 |
| | 300 | 18,0 | 28 |
| | 400 | 36,0 | 38 |
| | 500 | 50,0 | 44 |
| SD-B 500 | 180 | 4,5 | <20 |
| | 250 | 13,0 | <20 |
| | 350 | 35,0 | 27 |
| | 550 | 9,0 | 42 |
| | 700 | 140,0 | 47 |
| SD-B 600 | 300 | 6,0 | <20 |
| | 400 | 10,0 | 22 |
| | 600 | 20,0 | 32 |
| | 800 | 38,0 | 42 |
| | 1200 | 85,0 | 55 |

V: air volume

A: interval between two diffusers

V_{av}: mean speed of air flow between two diffuser up to distance H_1

H₁: distance between the ceiling and the people area

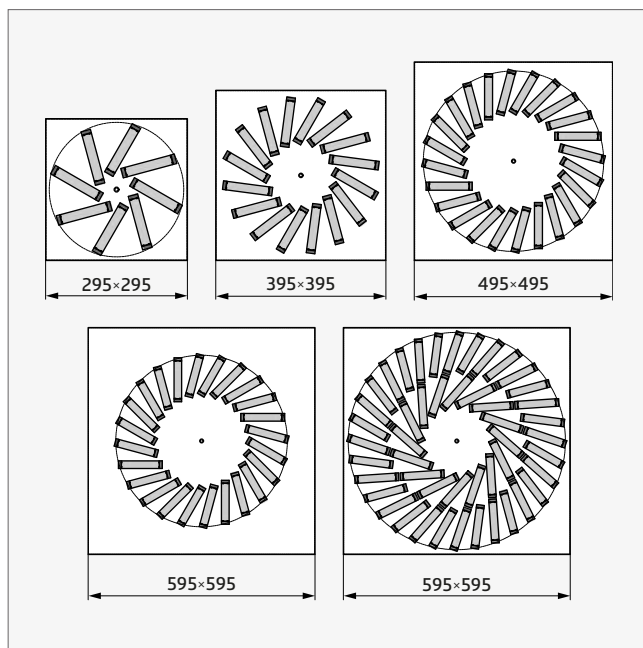
Q: air performance

Ps: static pressure

NC: noise level



Swirl diffuser SD-C



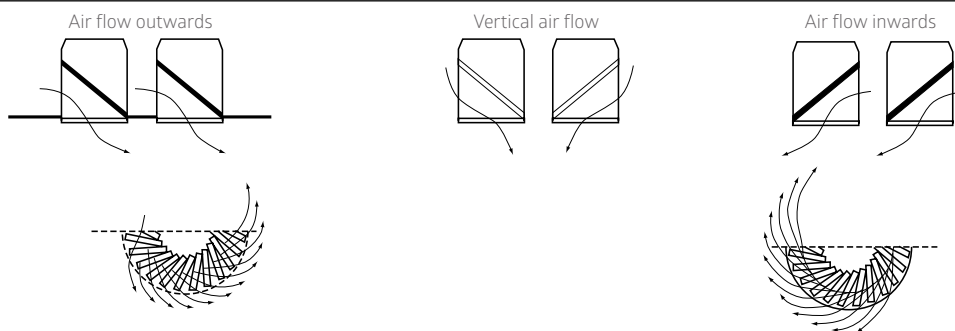
PRODUCT CHARACTERISTICS:

- adjustable lamellas are made of high quality plastic
- **8 to 48 adjustable lamellas disposed radially provide even air distribution**
- possibility to achieve up to 30 air exchanges
- powder-coated
- suitable for air supply and exhaust

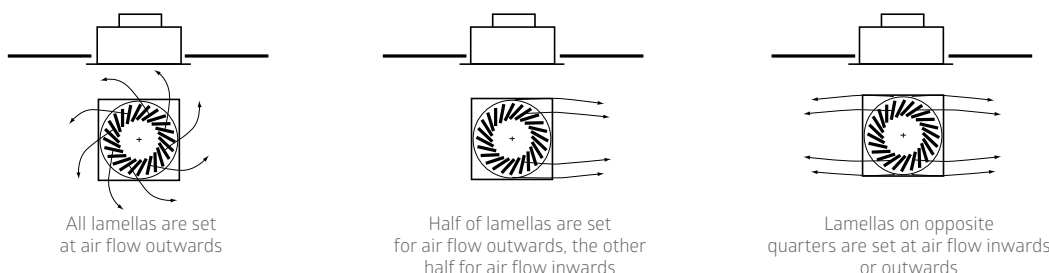
MATERIAL AND COLOUR:

- pressed galvanized steel (diffuser elements)
- RAL 9003

ADJUSTABLE LAMELLAS POSITION:

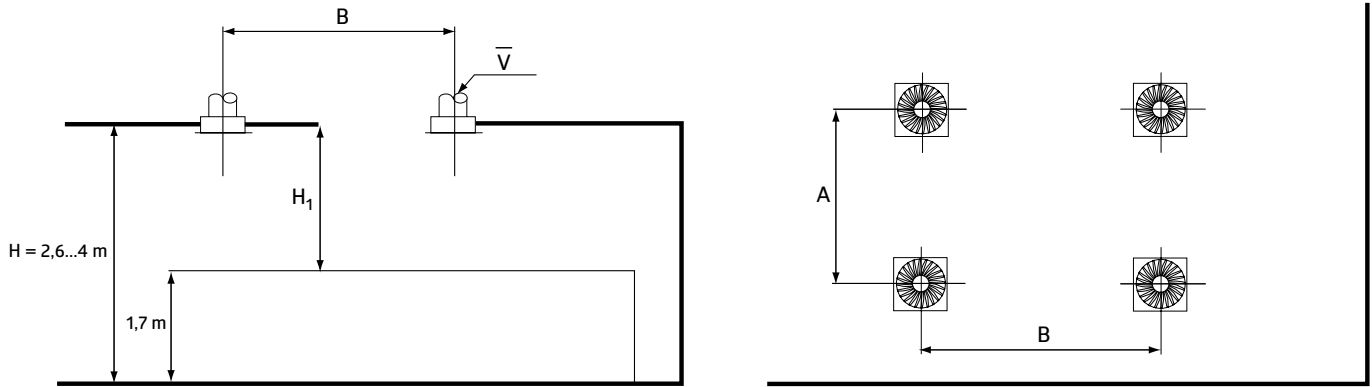


AIR FLOW DIRECTION FOR SIZES 295/8, 395/16, 495/24, 595/24:





DIFFUSERS DISPLACEMENT:



V [m³/h] - air volume **H1 [m]** - distance from the people area **A, B [m]** - interval between two diffusers

TECHNICAL PARAMETERS:

| n | V _{max} [m³/h] | V _{min} [m³/h] | NC _{max} [dB(A)] | NC _{min} [dB(A)] | A [m²] |
|----------------------|-------------------------|-------------------------|---------------------------|---------------------------|--------|
| SD-C 295 / 8 | 252 | 54 | 40 | <20 | 0,0070 |
| SD-C 395 / 16 | 396 | 108 | 40 | <20 | 0,0140 |
| SD-C 495 / 24 | 468 | 144 | 40 | <20 | 0,0210 |
| SD-C 595 / 24 | 684 | 216 | 40 | <20 | 0,0295 |
| SD-C 595 / 48 | 828 | 360 | 40 | <20 | 0,0390 |

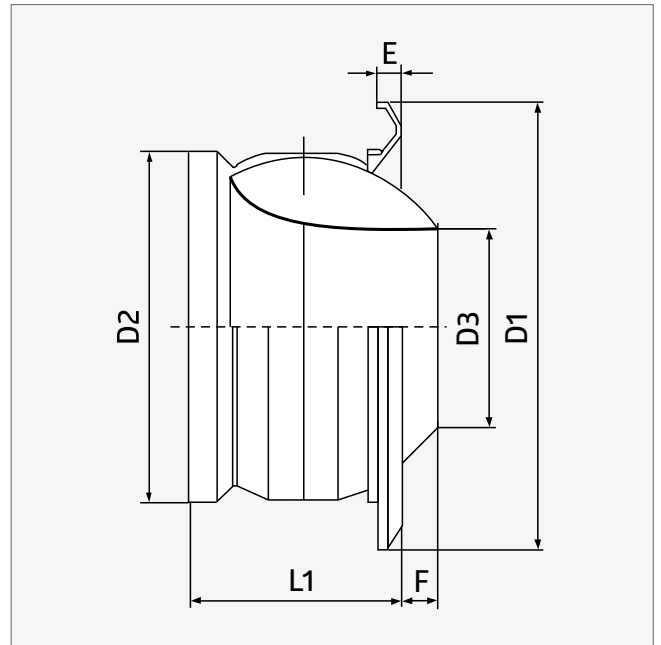
AIR SUPPLY:

| n | Q [m³/h] | Ps [Pa] | NC [dB(A)] | n | Q [m³/h] | Ps [Pa] | NC [dB(A)] |
|----------------------|----------|---------|------------|----------------------|----------|---------|------------|
| SD-C 295 / 8 | 108 | 10 | <20,0 | SD-C 595 / 24 | 288 | 6 | <20 |
| | 144 | 18 | 22,5 | | 360 | 8 | 22 |
| | 180 | 28 | 28,0 | | 450 | 13 | 27 |
| | 252 | 55 | 38,0 | | 540 | 19 | 34 |
| | 288 | 65 | 42,5 | | 720 | 30 | 41 |
| | 360 | 120 | 50,0 | | 900 | 40 | 45 |
| SD-C 395 / 16 | 180 | 9 | <20,0 | 1080 | 65 | 53 | |
| | 252 | 18 | 26,0 | 360 | 6 | 13 | |
| | 288 | 23 | 30,0 | 450 | 10 | 22 | |
| | 360 | 35 | 37,5 | 540 | 15 | 27 | |
| | 450 | 50 | 42,0 | 720 | 26 | 36 | |
| | 540 | 70 | 50,0 | 900 | 33 | 40 | |
| SD-C 495 / 24 | 252 | 10 | 15,0 | 1080 | 60 | 40 | |
| | 360 | 20 | 33,0 | SD-C 595 / 48 | 360 | 6 | 13 |
| | 450 | 28 | 37,0 | | 450 | 10 | 22 |
| | 540 | 45 | 43,0 | | 540 | 15 | 27 |
| | 630 | 60 | 47,0 | | 720 | 26 | 36 |
| | 720 | 70 | 70,0 | | 900 | 33 | 40 |
| | | | 1080 | | 60 | 40 | |

n: number of slots **A:** effective air flow area
V: air volume **Q:** air volume
NC: noise level **Ps:** pressure loss



Jet diffuser JNS




PRODUCT CHARACTERISTICS:

- application: industrial and public buildings
- range up to 30 m
- low noise level and high efficiency
- adjustable air flow direction
- painted

MATERIAL AND COLOUR:

- aluminum
- galvanized steel
- RAL 9003

| | D1 [mm] | D2 [mm] | D3 [mm] | E [mm] | F [mm] | L1 [mm] |  |
|----------------|------------|------------|------------|-----------|-----------|------------|---|
| JNS 100 | 139,4 | 97,4 | 45,0 | 15,4 | 3,5 | 72,0 | 4 |
| JNS 125 | 170,4 | 123,3 | 60,2 | 17,9 | 8,1 | 90,8 | 4 |
| JNS 160 | 210,0 | 157,9 | 80,0 | 21,0 | 9,7 | 110,5 | 4 |
| JNS 200 | 264,2 | 197,5 | 104,7 | 23,7 | 11,2 | 131,4 | 4 |
| JNS 250 | 315,4 | 247,0 | 128,1 | 28,9 | 17,1 | 182,5 | 4 |
| JNS 315 | 388,0 | 313,0 | 163,3 | 30,4 | 28,5 | 200,0 | 2 |
| JNS 400 | 495,0 | 397,0 | 210,3 | 35,0 | 30,7 | 250,0 | 1 |
| JNS 500 | 617,0 | 496,0 | 255,9 | 44,8 | 50,3 | 350,0 | 1 |

 Packaging [pcs]

APPLICABLE DUCT DIAMETER:

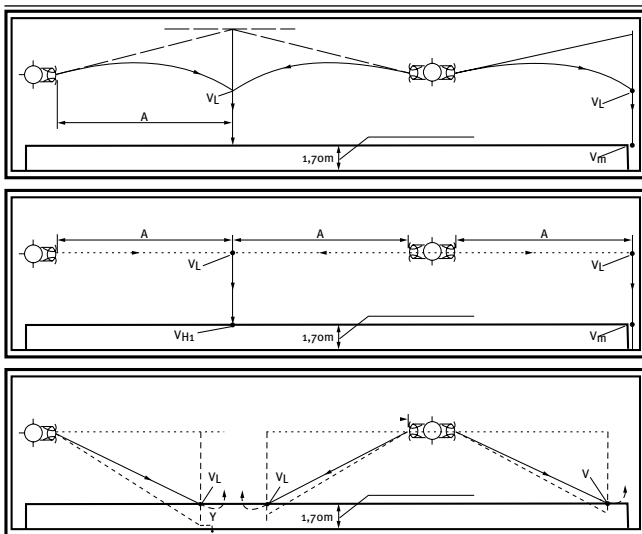
| | 200 | 250 | 315 | 500 | 630 | 800 | 1000 |
|----------------|-----|-----|-----|-----|-----|-----|------|
| JNS 100 | • | | | | | | |
| JNS 125 | | • | | | | | |
| JNS 160 | | | • | • | • | • | |
| JNS 200 | | | | • | • | • | |
| JNS 250 | | | | • | • | • | |
| JNS 315 | | | | • | • | • | |
| JNS 400 | | | | | • | • | |
| JNS 500 | | | | | | • | • |



| | z = 10 m | | | z = 20 m | | | z = 30 m | | | v_k [m/s] |
|----------------|----------|---------|------------|----------|---------|------------|----------|---------|------------|----------------|
| | V [m³/h] | Ps [Pa] | NC [db(A)] | V [m³/h] | Ps [Pa] | NC [db(A)] | V [m³/h] | Ps [Pa] | NC [db(A)] | |
| JNS 100 | - | - | - | 93.6 | 86 | 29 | 140 | 175 | 41 | 0,25 |
| JNS 125 | - | - | - | 122 | 71 | 25 | 180 | 136 | 36 | |
| JNS 160 | 82.8 | 11 | <20 | 165 | 26 | <20 | 250 | 98 | 35 | |
| JNS 200 | 104 | - | <20 | 220 | 29 | <20 | 306 | 67 | 27 | |
| JNS 250 | 133 | - | <20 | 272 | 8.3 | <20 | 382 | 34 | 22 | |
| JNS 315 | 180 | - | <20 | 350 | 11 | <20 | 540 | 36 | 20 | |
| JNS 400 | 234 | - | <20 | 465 | 8.0 | <20 | 702 | 13 | <20 | |
| JNS 500 | 275 | - | <20 | 525 | 6.5 | <20 | 865 | 8 | <20 | |
| JNS 100 | 93.6 | 86 | 29 | 187 | 300 | 50 | - | - | - | 0,50 |
| JNS 125 | 122 | 71 | 25 | 245 | 265 | 46 | - | - | - | |
| JNS 160 | 165 | 26 | <20 | 330 | 113 | 44 | 497 | 200 | 55 | |
| JNS 200 | 220 | 29 | <20 | 435 | 123 | 38 | 655 | 218 | 50 | |
| JNS 250 | 274 | 8.3 | <20 | 548 | 63 | 34 | 825 | 112 | 45 | |
| JNS 315 | 350 | 11 | <20 | 690 | 57 | 28 | 1055 | 104 | 40 | |
| JNS 400 | 464 | 8 | <20 | 930 | 32 | 20 | 1394 | 69 | 33 | |
| JNS 500 | 545 | 6 | <20 | 1252 | 24 | 15 | 1650 | 45 | 28 | |
| JNS 100 | 187 | 300 | 50 | - | - | - | - | - | - | 1,00 |
| JNS 125 | 245 | 265 | 46 | - | - | - | - | - | - | |
| JNS 160 | 330 | 113 | 44 | - | - | - | - | - | - | |
| JNS 200 | 435 | 123 | 38 | 870 | 312 | - | - | - | - | |
| JNS 250 | 548 | 63 | 34 | 1100 | 160 | 53 | - | - | - | |
| JNS 315 | 700 | 57 | 28 | 1400 | 150 | 48 | 2106 | 243 | - | |
| JNS 400 | 930 | 32 | 20 | 1860 | 123 | 42 | 2783 | 273 | 53 | |
| JNS 500 | 1151 | 26 | 14 | 2245 | 95 | 37 | 3280 | 296 | 49 | |

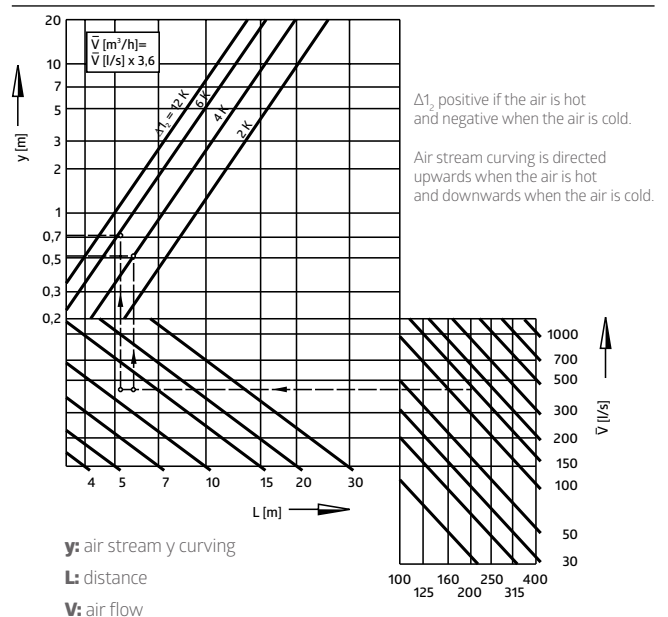
z: silencing range V: volume air stream Ps: pressure loss NC: noise level v_k : final air speed

SUPPLY:



A: horizontal distance between the nozzle and the point where two air streams meet
VL: axial velocity at the end of the jet
Vm: time average air velocity in the occupied zone
Y: deflection of jet due to temperature difference, relative to constant-temperature jet

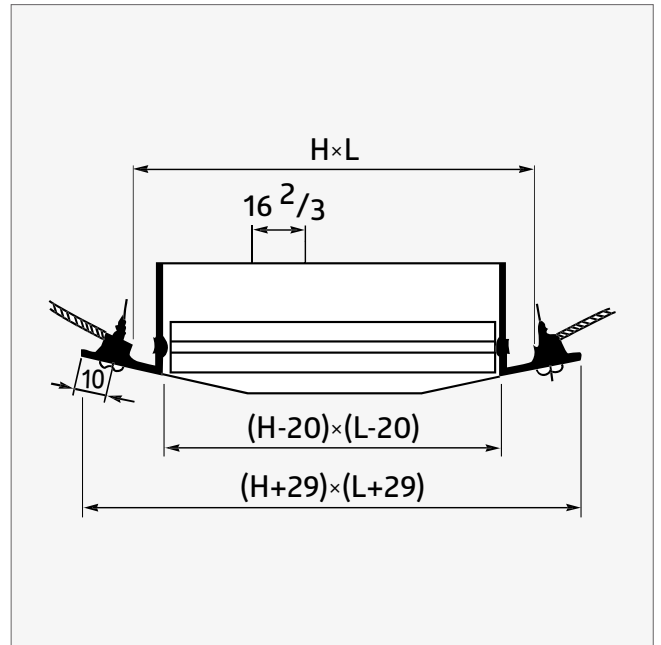
AIR STREAM CURVING:



y: air stream y curving
L: distance
V: air flow



Grille for round duct **SGD / DGD**



PRODUCT CHARACTERISTICS:

- grille installed directly on round duct without any additional accessories
- suitable for 150-1400 mm round ducts
- adjustable lamellas
- suitable for large rooms with visible ducting installations, i.e. warehouses, production halls, gyms
- single (**SGD**) or double deflection (**DGD**)

MATERIAL:

- galvanized steel

ALSO AVAILABLE:

- **PSDG** damper for **SGD / DGD** grille
- see page 171

| L x H [mm] | ød* [mm] | |
|------------------|------------|----|
| 425 x 75 | 150 - 400 | 10 |
| 525 x 75 | 150 - 400 | 10 |
| 625 x 75 | 150 - 400 | 10 |
| 425 x 125 | 315 - 900 | 10 |
| 525 x 125 | 315 - 900 | 10 |
| 625 x 125 | 315 - 900 | 10 |
| 425 x 225 | 600 - 1400 | 10 |
| 525 x 225 | 600 - 1400 | 10 |
| 625 x 225 | 600 - 1400 | 10 |

Packaging [pcs]

* duct diameter (min - max.)



Damper for SGD/DGD grille **PSGD**



PRODUCT CHARACTERISTICS:

- installed together with **SGD** or **DGD** grilles directly on the round duct
- manual damper adjustment
- easy and quick assembly/disassembly

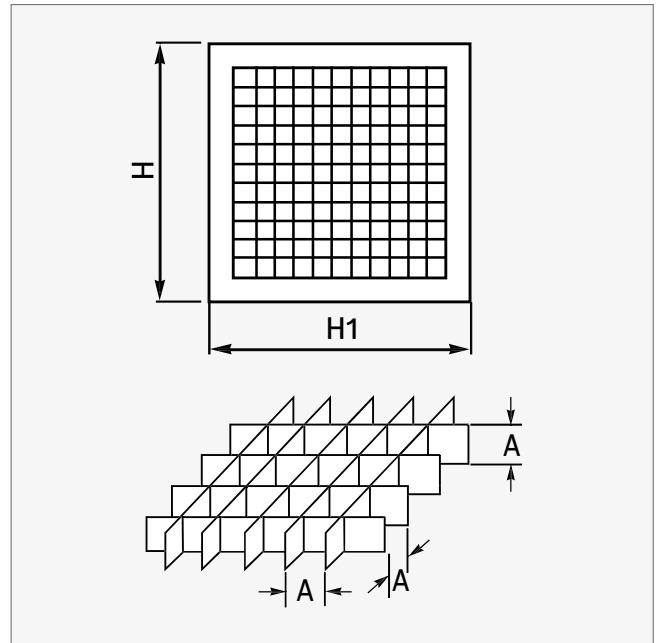
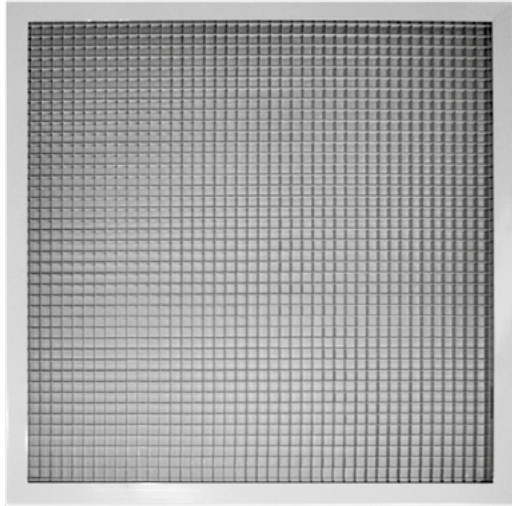
MATERIAL:

- galvanized steel

| L × H [mm] | D [mm] |
|-----------------------------|-------------------------|
| 425 × 75 | 43 |
| 525 × 75 | 43 |
| 625 × 75 | 43 |
| 425 × 125 | 52 |
| 525 × 125 | 52 |
| 625 × 125 | 52 |
| 425 × 225 | 61 |
| 525 × 225 | 61 |
| 625 × 225 | 61 |



Egg crate grille **EG-C**



PRODUCT CHARACTERISTICS:

- core size: 12,7 × 12,7 mm
- easy assembly: size suitable for standard suspended ceiling (595 × 595 mm)
- painted

MATERIAL AND COLOUR:

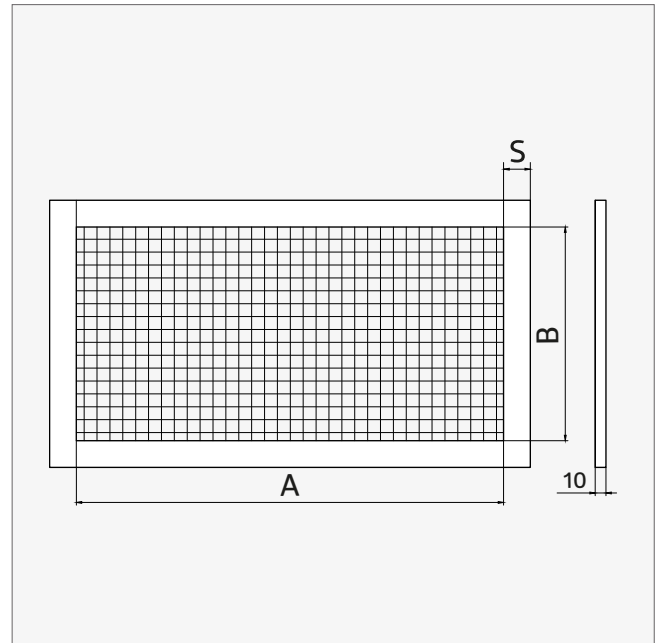
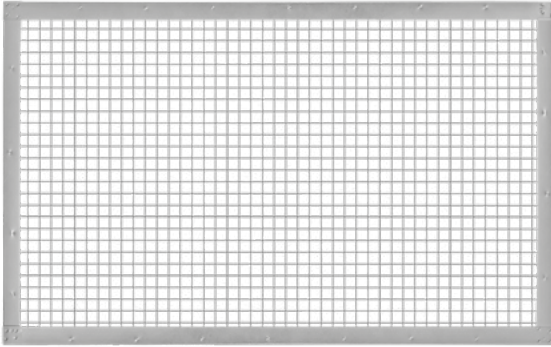
- aluminum
- RAL 9010

| H [mm] | H1 [mm] | A [mm] | |
|-----------|------------|-----------|----|
| 595 | 595 | 12,7 | 10 |

Packaging [pcs]



Al grille **KSS**

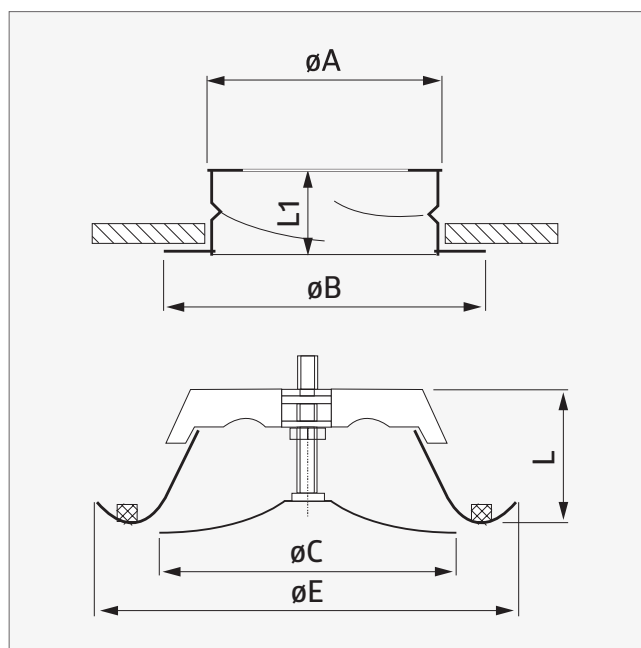


PRODUCT CHARACTERISTICS:

- steel mesh is fixed with spot welds
- it is possible to produce meshes with individually given dimensions:
 - H = 300 - 1500 mm
 - B = 300 - 1500 mm
- frame width (S):
 - B or H ≤ 999: 25 mm
 - 1000 ≤ B or H < 2499: 35 mm

MATERIAL AND COLOUR:

- galvanized steel
- 12×12 mm galvanized steel mesh

Supply air valve **SR-S****PRODUCT CHARACTERISTICS:**

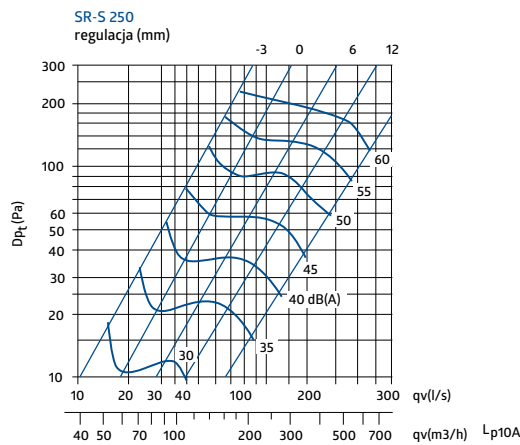
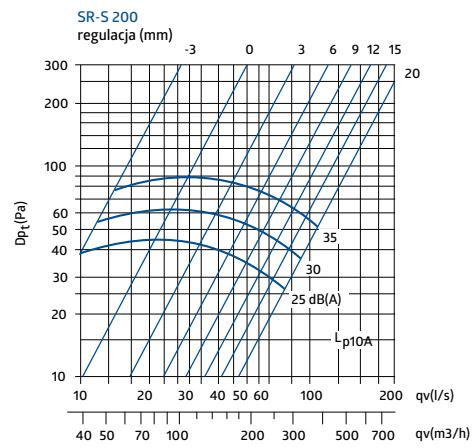
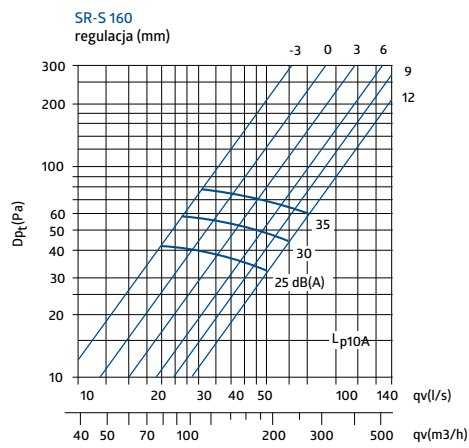
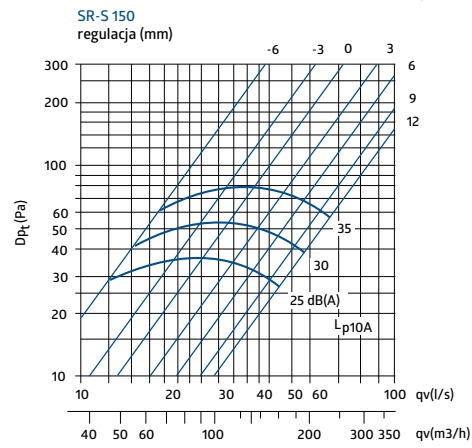
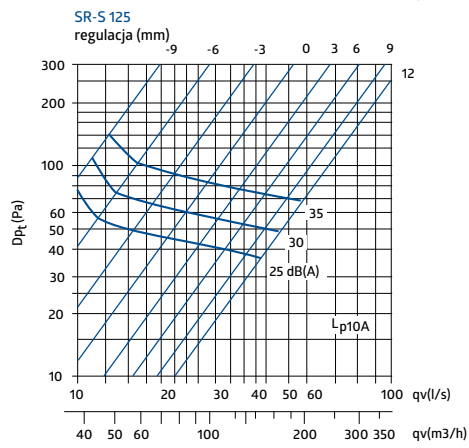
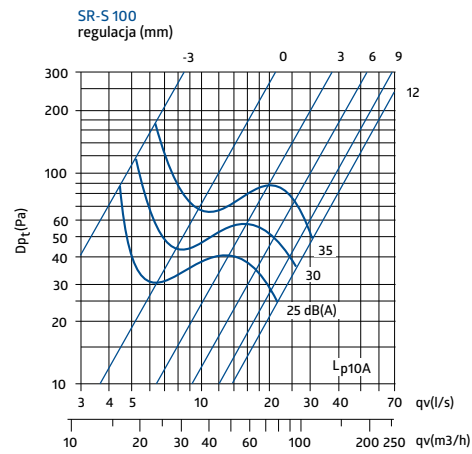
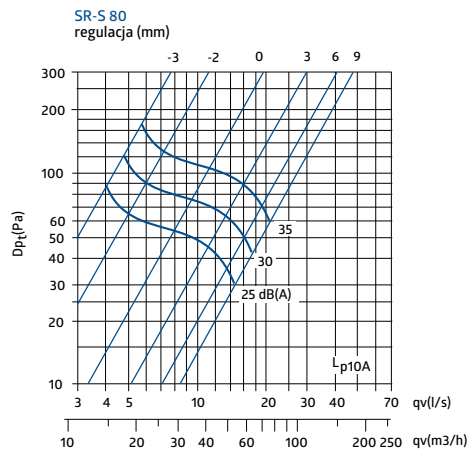
- supply air valve designed for ceiling mounting on ventilation ducts
- easy adjustment of air flow by rotating central part
- blocking nut allows for setting the minimum slot
- special design provides low noise level
- high quality and modern design
- fast and easy installation

MATERIAL AND COLOUR:

- galvanized steel
- RAL 9003

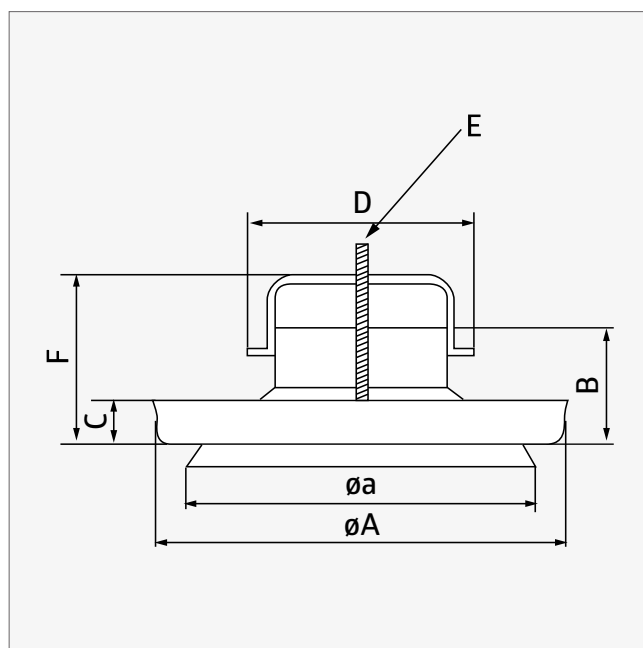
| | $\varnothing A$ [mm] | $\varnothing B$ [mm] | $\varnothing C$ [mm] | $\varnothing E$ [mm] | L [mm] | L1 [mm] | |
|-----------------|-------------------------|-------------------------|-------------------------|-------------------------|-----------|------------|---|
| SR-S 80 | 79,0 | 105,0 | 80,0 | 115,9 | 37,5 | 48,5 | 7 |
| SR-S 100 | 98,4 | 125,3 | 93,0 | 139,5 | 39,0 | 48,5 | 7 |
| SR-S 125 | 124,2 | 150,0 | 112,0 | 165,0 | 43,5 | 48,5 | 7 |
| SR-S 150 | 148,5 | 175,0 | 137,0 | 201,0 | 51,0 | 48,5 | 7 |
| SR-S 160 | 158,5 | 185,0 | 148,0 | 208,0 | 49,0 | 48,5 | 7 |
| SR-S 200 | 198,5 | 225,0 | 195,0 | 247,4 | 57,0 | 48,5 | 7 |
| SR-S 250 | 247,0 | 286,5 | 239,8 | 304,0 | 64,0 | 45,0 | 7 |

Packaging [pcs]





Supply air valve with gasket **SR-SX**




PRODUCT CHARACTERISTICS:

- supply air valve designed for ceiling mounting on ventilation ducts
- long mounting frame with gasket makes it easier to connect to ventilation system
- painted
- easy adjustment of air flow by rotating the central part
- blocking nut allows for setting the minimum slot
- special design provides low noise level
- high quality and modern design
- fast and easy installation

MATERIAL AND COLOUR:

- galvanized steel
- RAL 9010

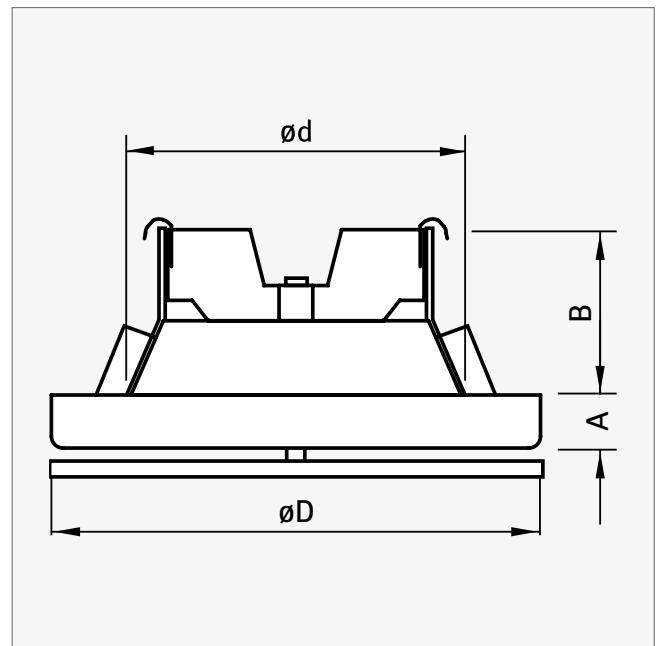
| | $\varnothing A$ [mm] | B [mm] | C [mm] | D [mm] | $\varnothing a$ [mm] | E [mm] | F [mm] |  |
|------------------|-------------------------|-----------|-----------|-----------|-------------------------|-----------|-----------|---|
| SR-SX 100 | 134,0 | 39,0 | 19,0 | 98,0 | 126,0 | M6×60 | 68,0 | 16 |
| SR-SX 125 | 170,5 | 43,5 | 19,0 | 124,0 | 163,0 | M8×70 | 79,0 | 18 |
| SR-SX 160 | 210,0 | 44,5 | 19,5 | 157,0 | 200,0 | M8×70 | 76,0 | 15 |

 Packaging [pcs]

 $\varnothing A, B, C, \varnothing a, E, F: \pm 5 \text{ mm}; D: \pm 3 \text{ mm}$



Damping supply air valve **SF-S**




PRODUCT CHARACTERISTICS:

- supply air valve designed for ceiling mounting on ventilation ducts
- attenuated with sound-absorbing material
- easy adjustment of air flow by rotating central part
- blocking nut allows for setting the minimum slot
- special design of rotary plate filled with attenuating material provides low noise level
- high quality and modern design
- valve can be installed directly on duct or plenum box
- fast and easy installation

MATERIAL AND COLOUR:

- galvanized steel
- RAL 9010

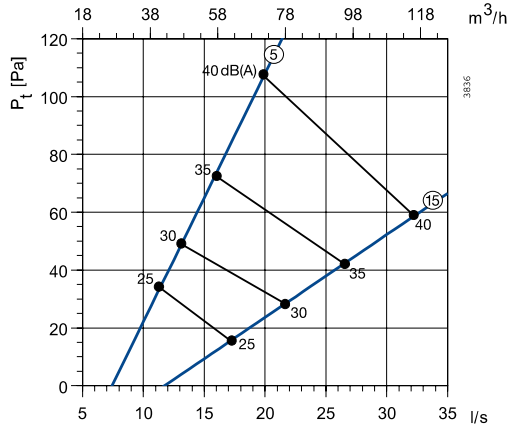
SOUND ATTENUATION ΔL [DB]:

| | $\varnothing D$ [mm] | $\varnothing d$ [mm] | A [mm] | B [mm] |  | f [Hz] | | | | | | | |
|-----------------|-------------------------|-------------------------|-----------|-----------|---|--------|-----|-----|-----|------|------|------|------|
| | | | | | | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| SF-S 100 | 135 | 100 | 15 | 45 | 7 | 22 | 17 | 13 | 10 | 2 | 2 | 7 | 8 |
| SF-S 125 | 160 | 125 | 15 | 45 | 7 | 18 | 16 | 12 | 8 | 3 | 3 | 7 | 8 |
| SF-S 160 | 191 | 160 | 15 | 45 | 7 | 18 | 15 | 11 | 9 | 4 | 5 | 7 | 9 |
| SF-S 200 | 238 | 200 | 18 | 45 | 7 | 16 | 13 | 9 | 7 | 5 | 5 | 8 | 8 |

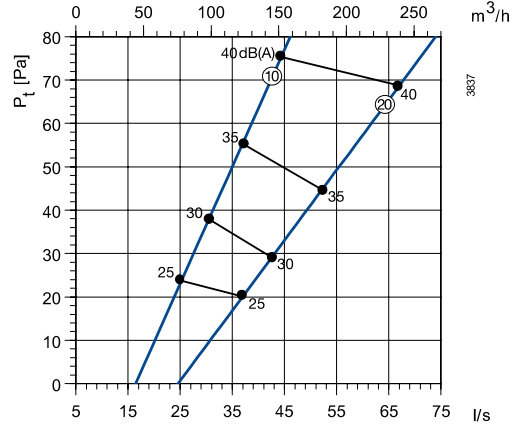
 Packaging [pcs]



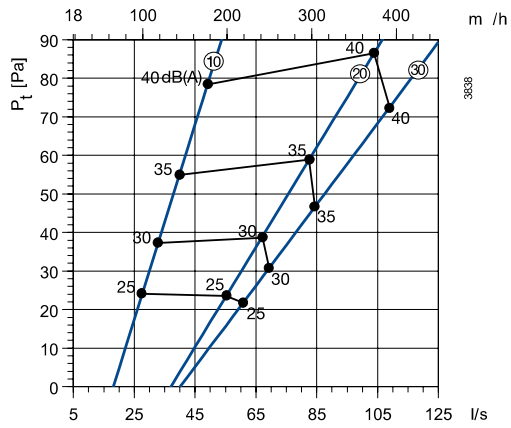
SF-S 100



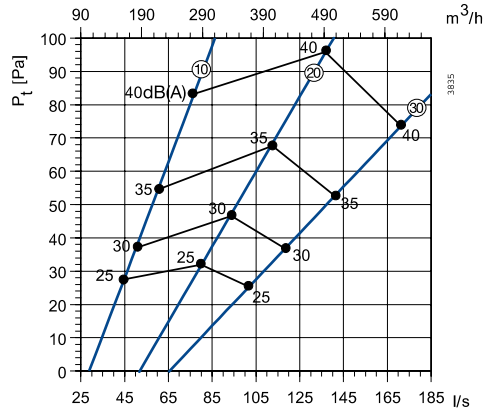
SF-S 125



SF-S 160

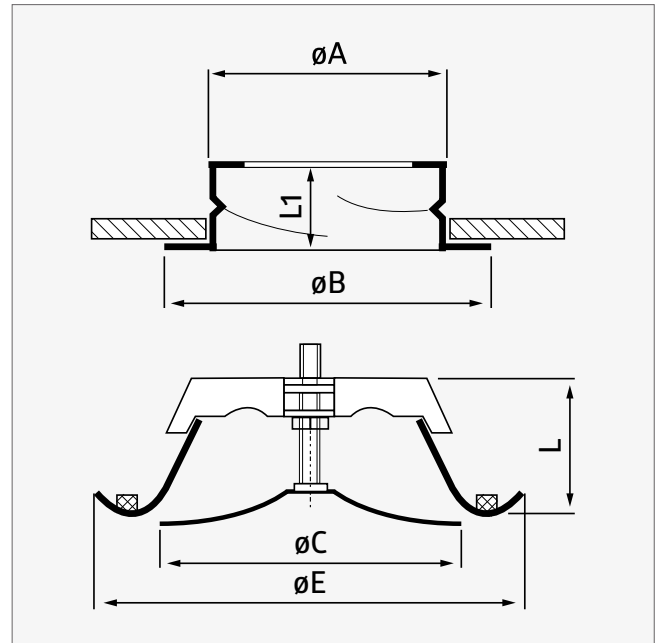


SF-S 200





Supply air valve (stainless steel) **SV-S**




PRODUCT CHARACTERISTICS:

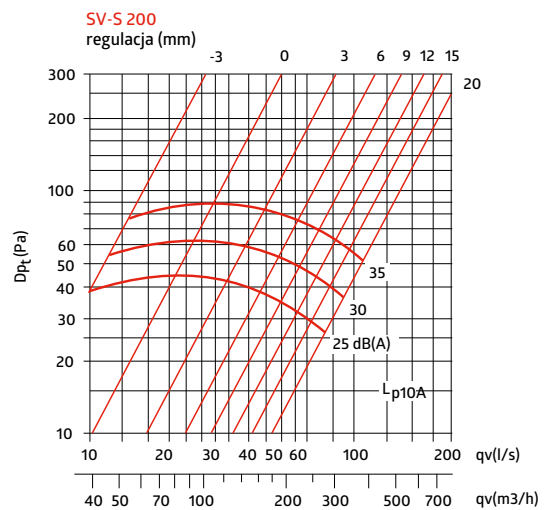
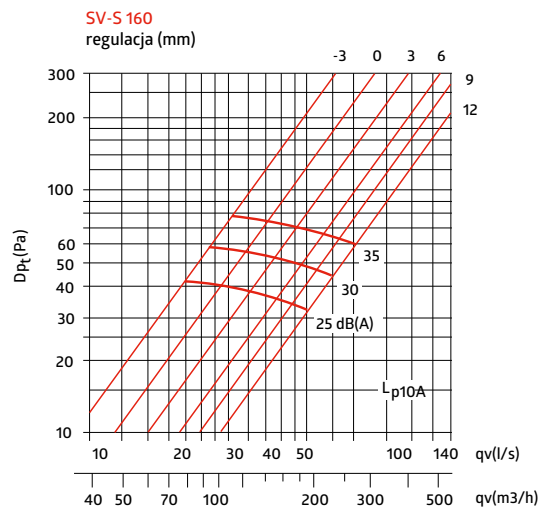
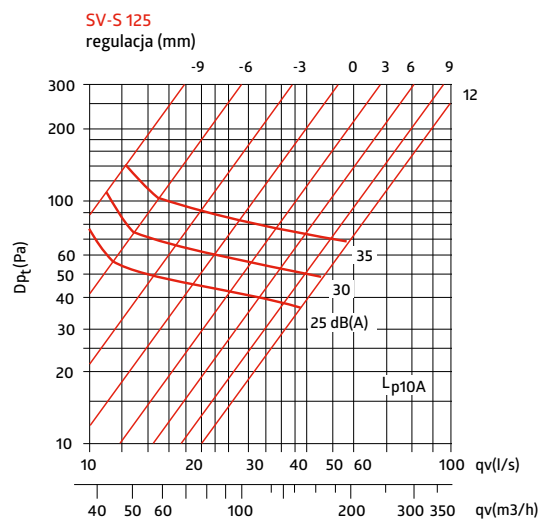
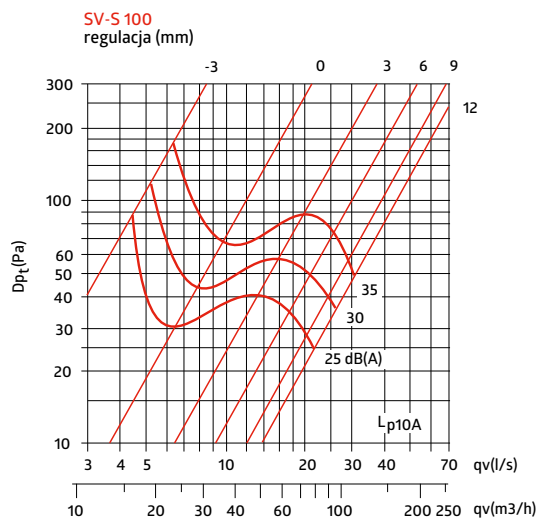
- supply air valve designed for ceiling mounting on ventilation ventilation ducts
- easy adjustment of air flow by rotating central part
- blocking nut allows for setting the minimum slot
- special design provides low noise level
- high quality and modern design
- long mounting frame with gasket makes it easier to connect to ventilation system
- easy installation in ventilation systems

MATERIAL:

- stainless steel AISI 304

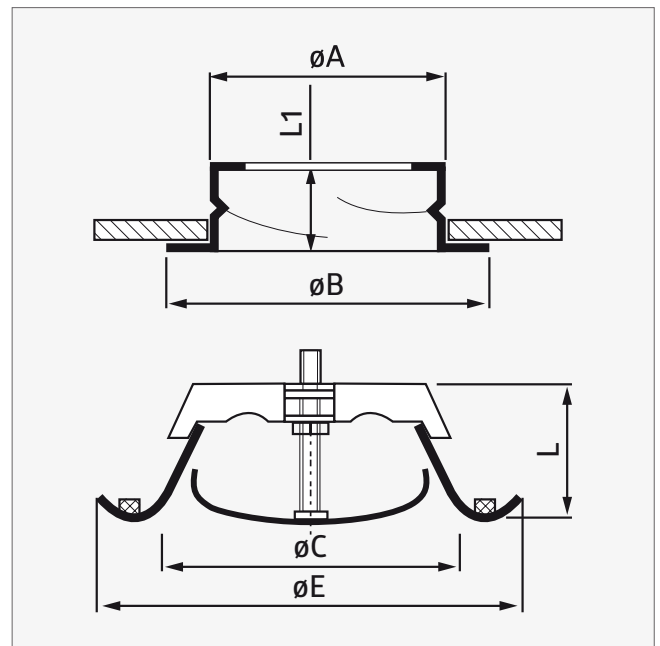
| | ϕA [mm] | ϕB [mm] | ϕC [mm] | ϕE [mm] | L [mm] | L1 [mm] |  |
|-----------------|------------------|------------------|------------------|------------------|-----------|------------|---|
| SV-S 100 | 98 | 125 | 95 | 137 | 55 | 50 | 7 |
| SV-S 125 | 123 | 150 | 115 | 164 | 60 | 50 | 7 |
| SV-S 160 | 159 | 185 | 148 | 212 | 60 | 50 | 7 |
| SV-S 200 | 198 | 225 | 203 | 248 | 60 | 50 | 7 |

 Packaging [pcs]





Exhaust air valve **SR-E**




PRODUCT CHARACTERISTICS:

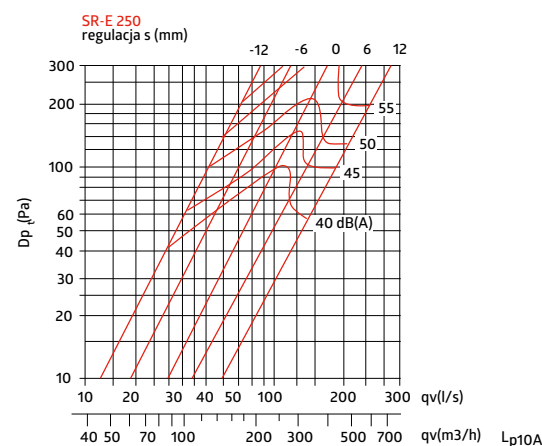
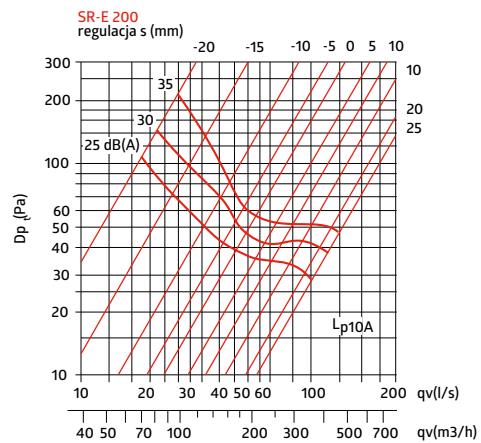
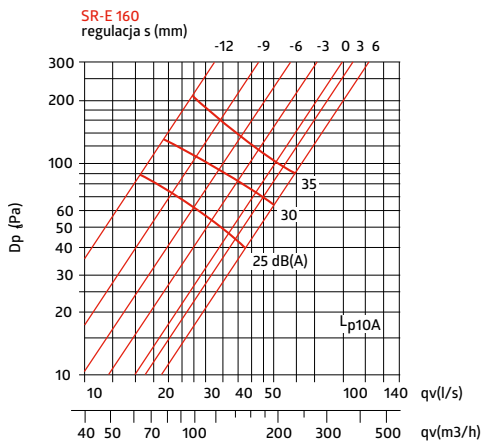
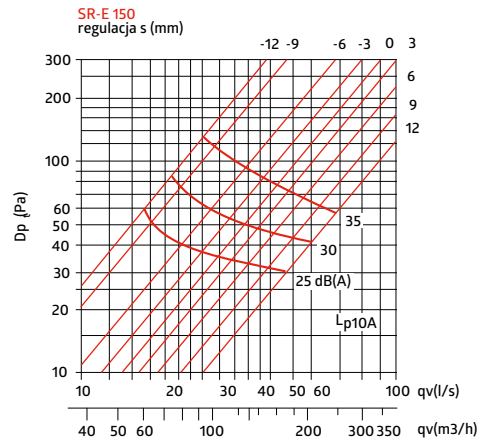
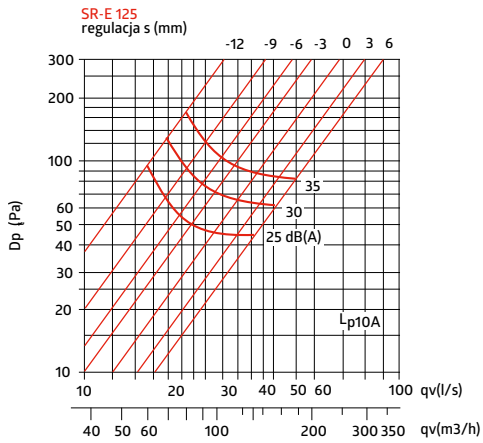
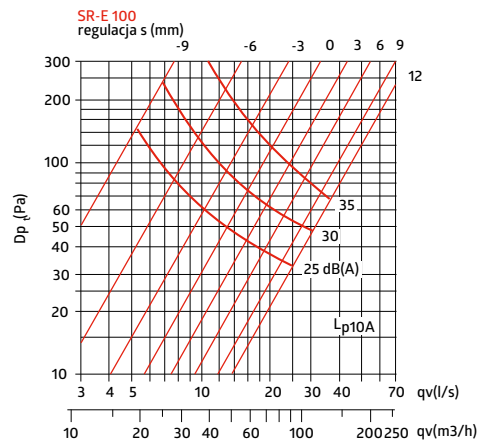
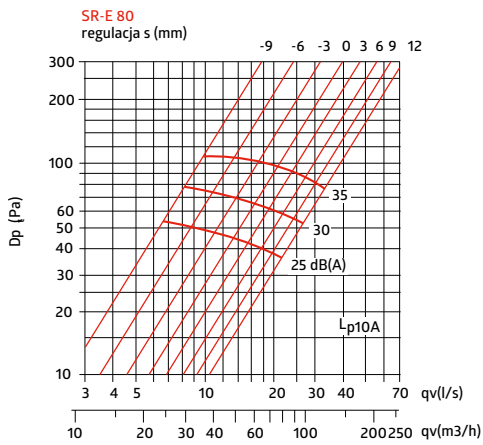
- exhaust air valve designed for ceiling mounting on ventilation ducts
- easy adjustment of air flow by rotating central part
- blocking nut allows for setting the minimum slot
- special design provides low noise level
- high quality and modern design
- fast and easy installation

MATERIAL AND COLOUR:

- galvanized steel
- RAL 9003

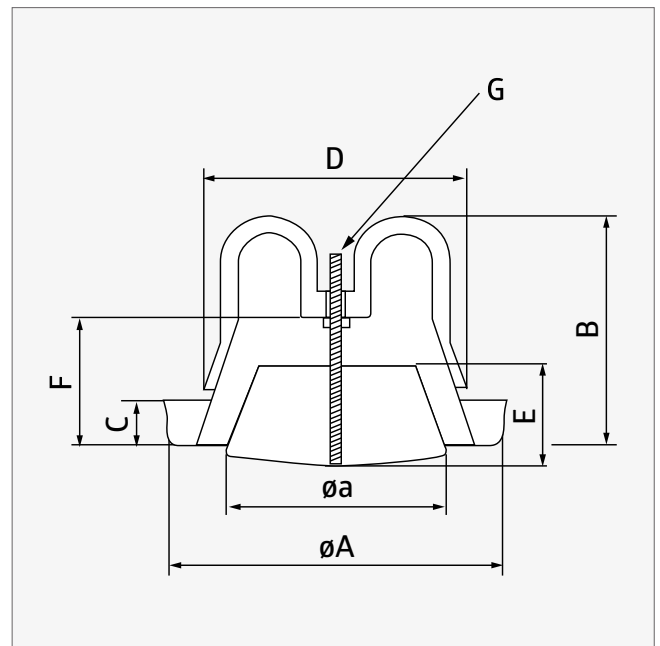
| | $\varnothing A$ [mm] | $\varnothing B$ [mm] | $\varnothing C$ [mm] | $\varnothing E$ [mm] | L [mm] | L1 [mm] |  |
|-----------------|-------------------------|-------------------------|-------------------------|-------------------------|-----------|------------|---|
| SR-E 80 | 79,0 | 105,0 | 59,0 | 115,9 | 37,5 | 48,5 | 7 |
| SR-E 100 | 98,4 | 125,3 | 74,0 | 139,5 | 39,0 | 48,5 | 7 |
| SR-E 125 | 124,2 | 150,0 | 98,0 | 165,0 | 43,5 | 48,5 | 7 |
| SR-E 150 | 148,5 | 175,0 | 119,7 | 201,0 | 51,0 | 48,5 | 7 |
| SR-E 160 | 158,5 | 185,0 | 129,0 | 208,0 | 49,0 | 48,5 | 7 |
| SR-E 200 | 198,5 | 225,0 | 157,0 | 247,4 | 57,0 | 48,5 | 7 |
| SR-E 250 | 247,0 | 286,5 | 207,7 | 304,0 | 64,0 | 45,0 | 7 |

 Packaging [pcs]





Exhaust air valve with gasket **SR-EX**



PRODUCT CHARACTERISTICS:

- exhaust air valve designed for ceiling mounting on ventilation ducts
- long mounting frame with gasket makes it easier to connect to the system
- painted
- easy adjustment of air flow by rotating central part
- blocking nut allows for setting the minimum slot
- special design provides low noise level
- high quality and modern design
- fast and easy installation

MATERIAL AND COLOUR:

- galvanized steel
- RAL 9010

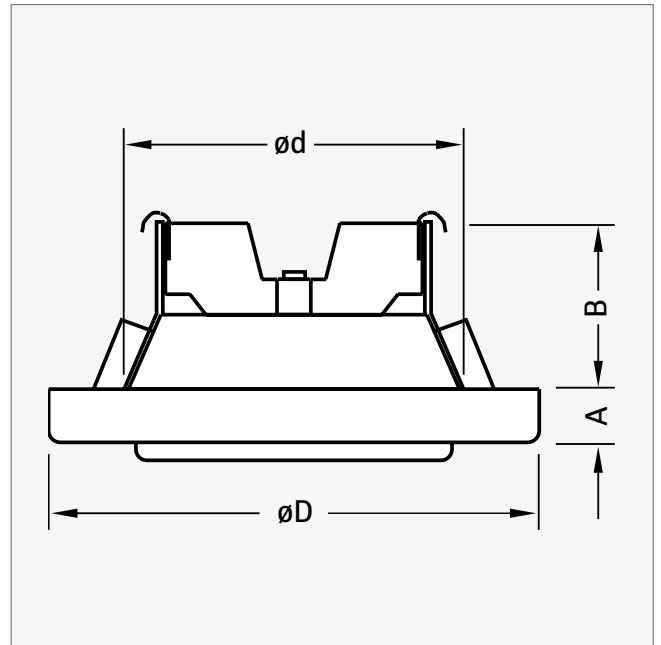
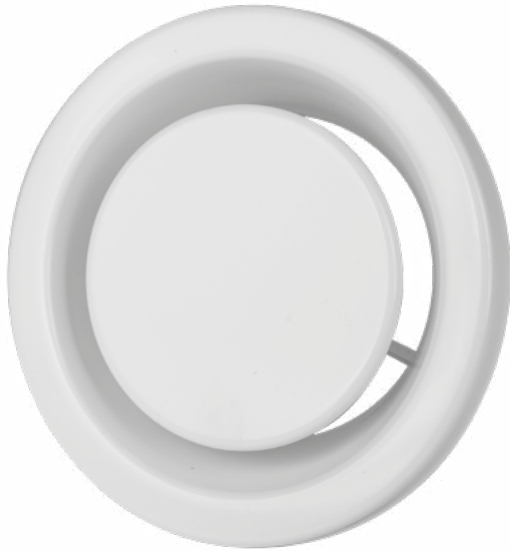
| | $\varnothing A$ [mm] | B [mm] | C [mm] | D [mm] | $\varnothing a$ [mm] | E [mm] | F [mm] | F [mm] | |
|------------------|-------------------------|-----------|-----------|-----------|-------------------------|-----------|-----------|-----------|----|
| SR-EX 100 | 130,0 | 87,0 | 20,0 | 98,0 | 88,0 | 38,5 | 51,5 | M6×80 | 22 |
| SR-EX 125 | 158,0 | 102,0 | 19,0 | 122,0 | 109,0 | 38,5 | 47,0 | M6×80 | 18 |
| SR-EX 160 | 188,5 | 104,0 | 19,0 | 158,5 | 131,0 | 38,0 | 47,0 | M8×80 | 14 |
| SR-EX 200 | 237,5 | 122,0 | 17,5 | 197,0 | 175,0 | 40,5 | 46,0 | M8×80 | 10 |

Packaging [pcs]

$\varnothing A, B, C, \varnothing a, E, F: +5 \text{ mm}; D: +3 \text{ mm}$



Exhaust air valve **SF-E**



PRODUCT CHARACTERISTICS:

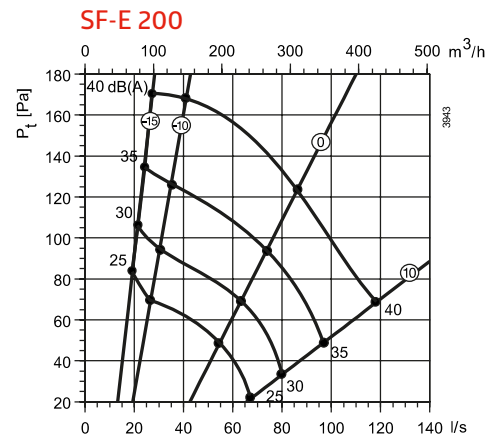
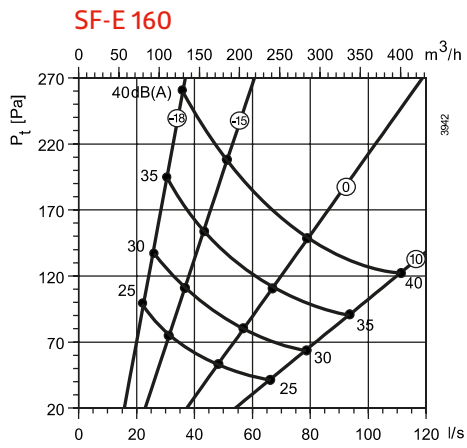
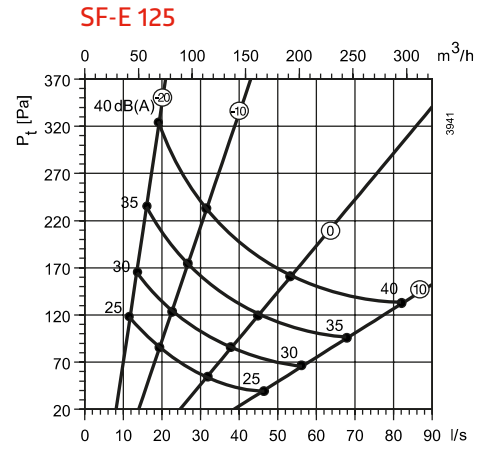
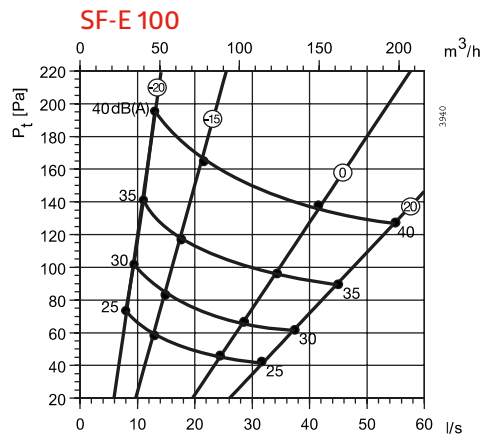
- exhaust air valve for ceiling or wall mounting
- easy adjustment of air flow by rotating central part
- blocking nut allows for setting the minimum slot
- special design provides low noise level
- high quality and modern design
- valve can be installed directly on duct
- fast and easy installation

MATERIAL AND COLOUR:

- galvanized steel
- RAL 9010

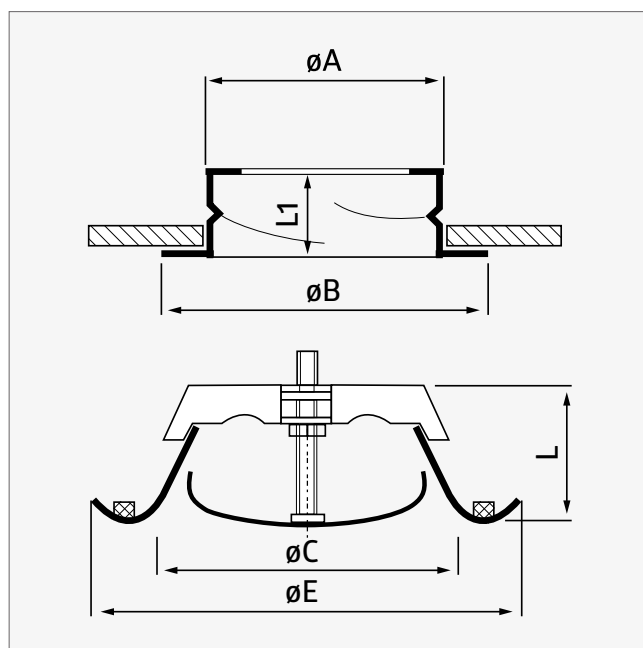
| | $\varnothing D$ [mm] | $\varnothing d$ [mm] | A [mm] | B [mm] | |
|-----------------|-------------------------|-------------------------|-----------|-----------|---|
| SF-E 100 | 135 | 100 | 15 | 45 | 7 |
| SF-E 125 | 160 | 125 | 15 | 45 | 7 |
| SF-E 160 | 191 | 149 | 15 | 45 | 7 |
| SF-E 200 | 238 | 200 | 18 | 45 | 7 |

Packaging [pcs]





Exhaust air valve (stainless steel) **EV-S**



PRODUCT CHARACTERISTICS:

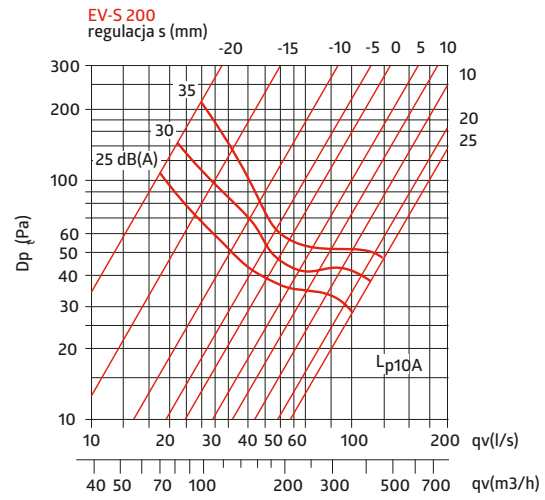
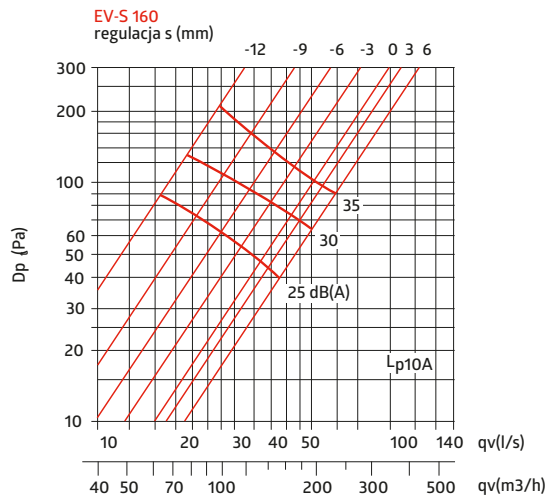
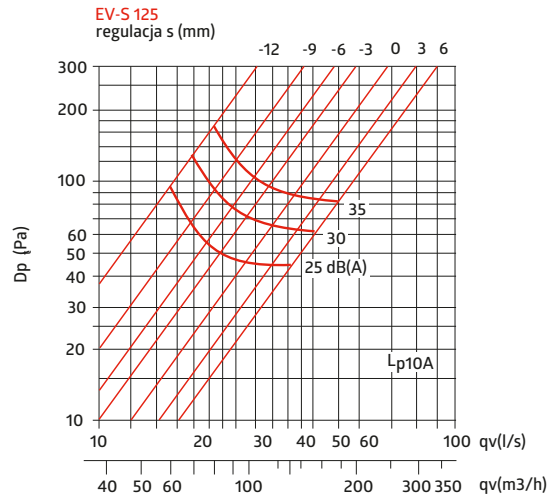
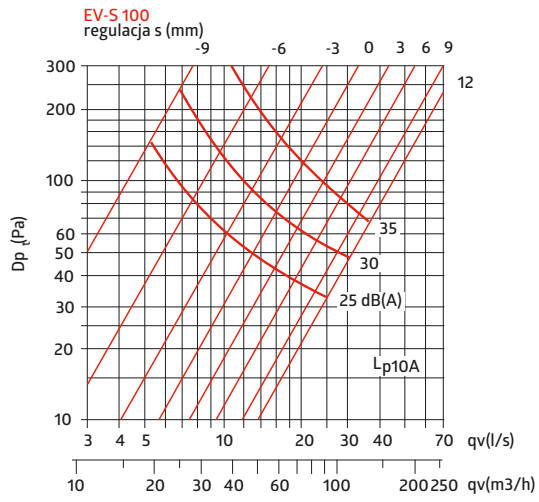
- exhaust air valve designed for ceiling mounting on ventilation ventilation ducts
- easy adjustment of air flow by rotating central part
- blocking nut allows for setting the minimum slot
- special design provides low noise level
- high quality and modern design
- long mounting frame with gasket makes it easier to connect to the system
- easy installation in ventilation systems

MATERIAL:

- stainless steel AISI 304

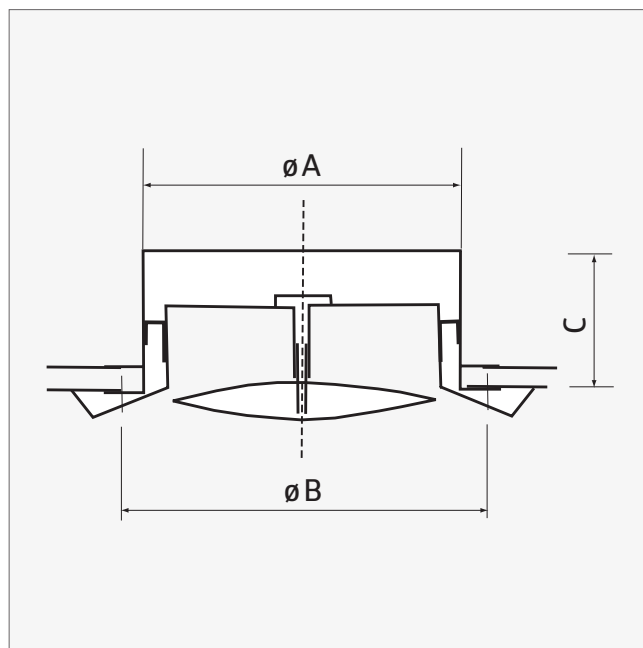
| | øA [mm] | øB [mm] | øC [mm] | øE [mm] | L [mm] | L1 [mm] |  |
|-----------------|------------|------------|------------|------------|-----------|------------|---|
| EV-S 100 | 98 | 125 | 95 | 137 | 55 | 50 | 7 |
| EV-S 125 | 123 | 150 | 115 | 164 | 60 | 50 | 7 |
| EV-S 160 | 159 | 176 | 138 | 212 | 60 | 50 | 7 |
| EV-S 200 | 198 | 225 | 203 | 248 | 60 | 50 | 7 |

 Packaging [pcs]





Plastic air valve **VP**




PRODUCT CHARACTERISTICS:

- can operate as supply or exhaust valve
- no corrosion occurrence
- non-painted
- easy adjustment of air flow by rotating central part
- blocking nut allows for setting the minimum slot
- special design provides low noise level
- high quality and modern design
- long mounting frame made of polypropylene
- fast installation thanks to adjustable metal plates

MATERIAL:

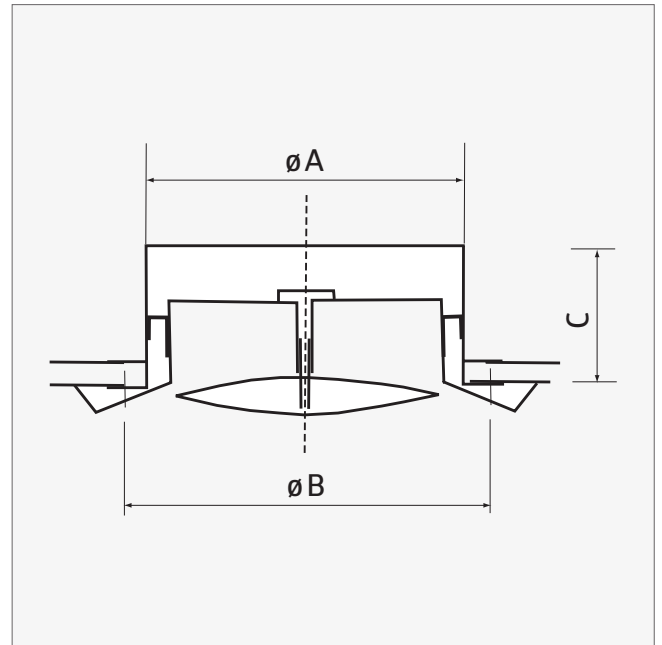
- polypropylene

| | øA [mm] | øB [mm] | C [mm] |  |
|---------------|-------------------|-------------------|------------------|---|
| VP 100 | 97 | 118 | 50 | 7 |
| VP 125 | 120 | 141 | 50 | 7 |
| VP 150 | 145 | 162 | 50 | 7 |
| VP 200 | 195 | 220 | 50 | 7 |





Air valve (CrNi steel) **VS**





PRODUCT CHARACTERISTICS:

- can operate as supply or exhaust valve
- no corrosion occurrence
- non-painted - polished surface
- easy adjustment of air flow by rotating central part
- blocking nut allows for setting the minimum slot
- special design provides low noise level
- high quality and modern design
- long mounting frame
- fast and easy installation

MATERIAL:

- CrNi steel
- stainless steel AISI 304 (mounting frame)

| | $\varnothing A$ [mm] | $\varnothing B$ [mm] | C [mm] |  |
|---------------|-------------------------|-------------------------|-----------|---|
| VS 100 | 97 | 118 | 52 | 7 |
| VS 125 | 120 | 141 | 52 | 7 |
| VS 160 | 155 | 172 | 62 | 7 |
| VS 200 | 195 | 228 | 74 | 7 |

 Packaging [pcs]



Mineral wool **VENTwool**



Mineral wool lamella mat covered on one side with reinforced aluminium foil. The mineral wool used has fibres perpendicular to the insulated surface (lamellar structure).

USE:

- thermal, anti-condensation and acoustic insulation of ventilation and air-conditioning ducts

TECHNICAL PARAMETERS:

- declared thermal conductivity (temperature 10°C): **0,038 W/mK** (λ_D / EN 12667)
- reaction to fire class: **incombustible** (A1 / EN 13501-1)
- max. service temperature: **250°C** (ST(+)/250 / EN 14706)
- water absorption (short-term): **≤1 kg/m²** (WS1 / EN 1609)
- thickness tolerance: **-3/+5 mm** (T4 / EN 823)
- product code: **MW - EN 14303 - T4 - ST(+)/250 - WS1**
- norm: **PN-EN 14303**
- Hygienic Certificate: **BK/K/0134/01/2018**
- Declaration of Performance (DoP): **DWU-2018-VLN**

| T [mm] | L [mm] | W [mm] | |
|------------|-----------|-----------|------------|
| 20 | 12 000 | 1000 | 12 / 300 |
| 30 | 8 000 | 1000 | 8 / 200 |
| 40 | 6 000 | 1000 | 6 / 150 |
| 50 | 5 000 | 1000 | 5 / 125 |
| 60 | 4 000 | 1000 | 4 / 100 |
| 80 | 3 000 | 1000 | 3 / 75 |
| 100 | 2 500 | 1000 | 2,5 / 62,5 |

Roll / pallet quantity [m²]

T: thickness **L:** length **W:** width



Self-adhesive mineral wool **VENTwool Plus**




Self-adhesive mineral wool lamella mat covered on one side with reinforced aluminium foil. The mineral wool used has fibres perpendicular to the insulated surface (lamellar structure). VENTwool Plus has a layer of pressure-sensitive adhesive applied to the mineral wool and protected by a film. The adhesive used ensures that the mat adheres firmly and permanently to the parts to be insulated.

USE:

- thermal, anti-condensation and acoustic insulation of ventilation and air-conditioning ducts

TECHNICAL PARAMETERS:

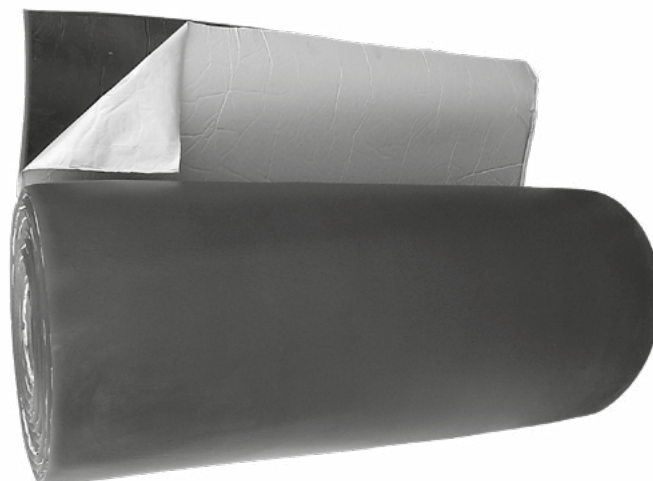
- declared thermal conductivity (temperature 10°C): **0,038 W/mK** (λ_D / EN 12667)
- reaction to fire class: **non ignitable** (B-s1,d0 / EN 13501-1)
- max. service temperature: **50°C** (ST(+)/50 / EN 14706)
- water absorption (short-term): **≤1 kg/m²** (WS1 / EN 1609)
- thickness tolerance: **-3/+5 mm** (T4 / EN 823)
- product code: **MW - EN 14303 - T4 - ST(+)/50 - WS1**
- norm: **PN-EN 14303**
- Hygienic Certificate: **BK/K/0134/01/2018**
- Declaration of Performance (DoP): **DWU-2018-VLP**

| T [mm] | L [mm] | W [mm] |  |
|------------------|------------------|------------------|---|
| 20 | 12 000 | 1000 | 12 / 300 |
| 30 | 8 000 | 1000 | 8 / 200 |
| 40 | 6 000 | 1000 | 6 / 150 |
| 50 | 5 000 | 1000 | 5 / 125 |
| 60* | 4 000 | 1000 | 4 / 100 |
| 80* | 3 000 | 1000 | 3 / 75 |
| 100* | 2 500 | 1000 | 2,5 / 62,5 |

 Roll / pallet quantity [m²] **T:** thickness **L:** length **W:** width * on request



Thermal insulation self-adhesive mat **MST**



Self-adhesive thermal insulation mats MST are made of synthetic rubber foam and rolled into 1 m wide rolls. Mats are used for thermal insulation and protection against condensate water of large diameter pipes, tanks and all types of fixtures in cooling, air conditioning, ventilation, heating, sanitary and special installations.

PRODUCT CHARACTERISTICS:

- **density** [kg/m³]: from 70 to 90
- **heat conductivity** [W/mK]:
λ = 0,031 (-20°C); λ = 0,034 (0°C); λ = 0,038 (+40°C)
- **thermal resistance** [°C]: from -50 to +110
- **steam dispersion resistance factor**: μ > 4500
- **water absorption** [%]: <5

| T [mm] | W [mm] | |
|-----------|-----------|----|
| 6 | 1 | 10 |
| 9 | 1 | 10 |
| 13 | 1 | 10 |
| 19 | 1 | 10 |

Roll quantity [m²] **T**: thickness **W**: width



Circular duct insulation **SLEEVE**



PRODUCT ADVANTAGES:

- low transportation and storage cost
- easy assembly
- no need to use special tools for cutting or fixing
- Polish Hygiene Certificate

USE:

- insulating circular pipes, e.g. SPIRO type

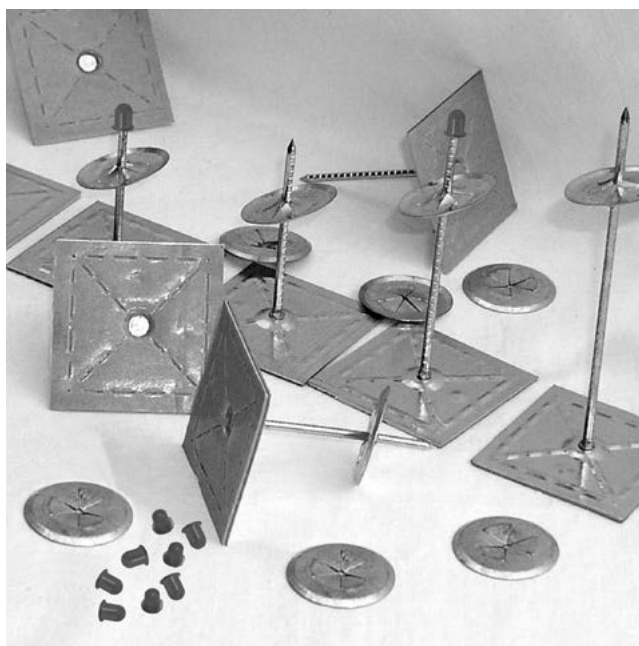
DESIGN:

- insulated with 25 mm thick mineral wool
- the external layer is made of aluminum-polyester laminate reinforced with fibre wire

| | |
|-------------------------------------|--------------------|
| Diameter range: | 102-356 mm |
| Operating temperature range: | from -30 to +140°C |
| Insulation thickness: | 25 mm |
| Standard length: | 10 m |
| Cardboard package: | roll |



Self-adhesive nails **GS**




Self-adhesive nails are used for manual fixing of insulation to ventilation duct walls using a foam self-adhesive layer, without the need for an electric welding machine. The set also includes KZ-2 metal clamping clips and KP protective caps covering the nail tip.

PRODUCT CHARACTERISTICS:

- nail with a diameter of approx. 2.8 mm, copper-coated or galvanised, grooved on the surface to prevent the clip from slipping off
- galvanised square base, 50 mm in diameter with a foam pad coated with acrylic adhesive
- galvanised clip, outer diameter: 31 mm
- protective cap suitable for weldable and self-adhesive nails

MATERIAL:

- sheet steel (nail + clip)
- plastic (cap)

| | L [mm] |  |
|---------------|-----------|---|
| GS 33 | 33 | 500 |
| GS 43 | 43 | 500 |
| GS 53 | 53 | 500 |
| GS 63 | 63 | 500 |
| GS 76 | 76 | 500 |
| GS 83 | 83 | 500 |
| GS 115 | 115 | 500 |

 Packaging [set]

L: length



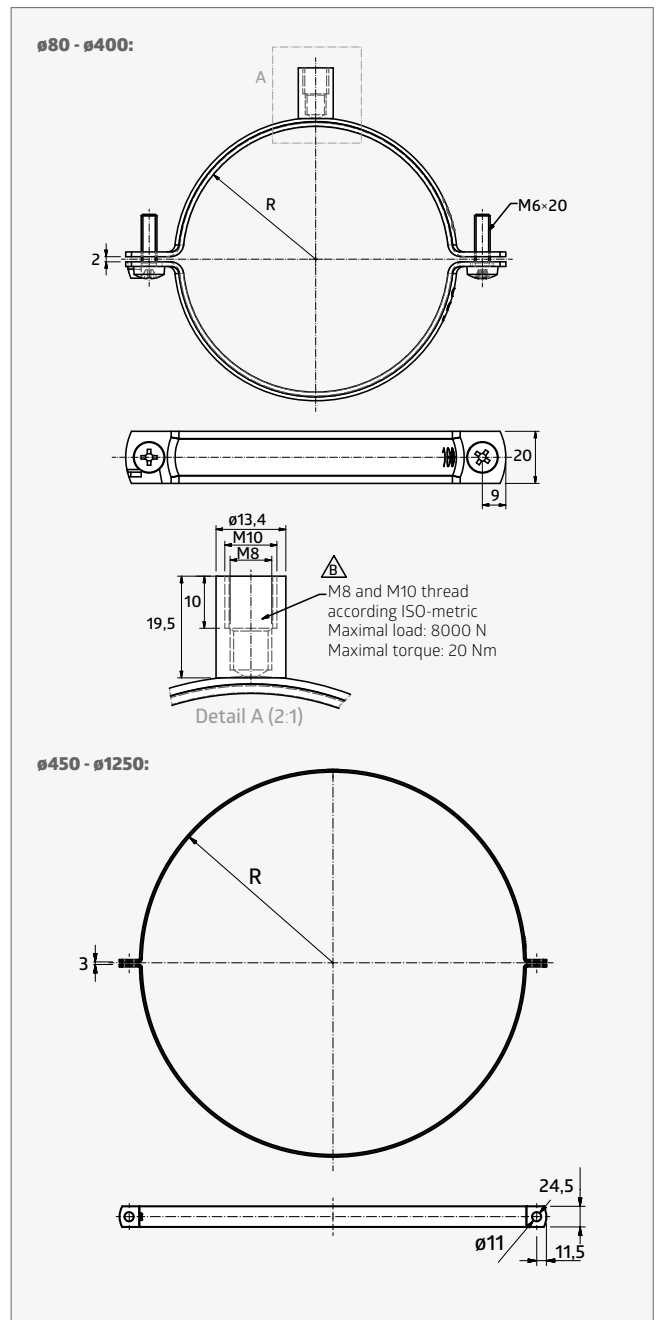
Pipe clip for round duct **OPO / OPOX**





Pipe clips are used to hang round duct systems (SPIRO type or B I). It ensures fast assembly thanks to easy system of locking and tightening. Version with gasket prevents transmission of vibrations from the system to building's structure. The stainless steel version may be used in systems with higher anti corrosion requirements.


DESIGN:

- shaped galvanized steel or stainless steel
- available with EPDM rubber shock absorber, which prevents transmission of vibrations (OPOX)
- supplied with M8 or M10 nut, which serves as the threaded rod handle (ø80 - ø400)



| øD (nom.) [mm] | G |  |
|----------------|--------|---|
| 80 | M8/M10 | 60 |
| 100 | M8/M10 | 60 |
| 125 | M8/M10 | 60 |
| 150 | M8/M10 | 60 |
| 160 | M8/M10 | 60 |
| 180 | M8/M10 | 60 |
| 200 | M8/M10 | 40 |
| 224 | M8/M10 | 40 |

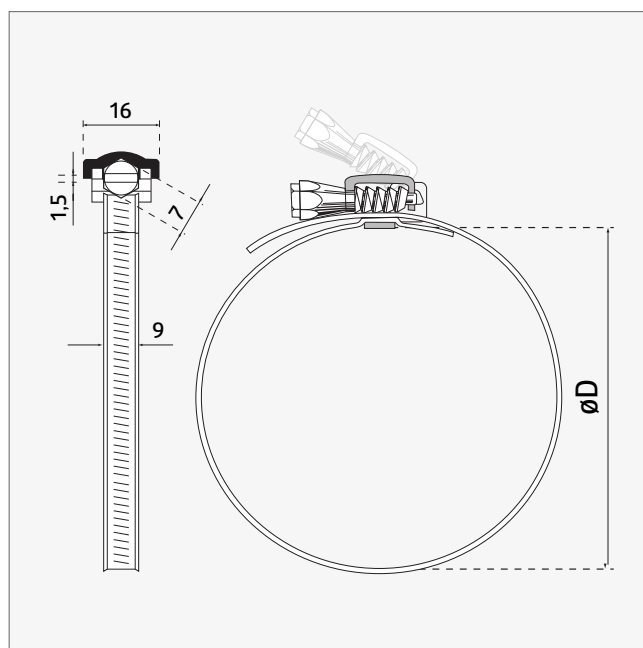
| øD (nom.) [mm] | G |  |
|----------------|--------|---|
| 250 | M8/M10 | 40 |
| 280 | M8/M10 | 40 |
| 300 | M8/M10 | 40 |
| 315 | M8/M10 | 30 |
| 355 | M8/M10 | 30 |
| 400 | M8/M10 | 30 |
| 450 | - | 40 |
| 500 | - | 30 |

| øD (nom.) [mm] | G |  |
|----------------|---|---|
| 560 | - | 24 |
| 630 | - | 20 |
| 710 | - | 18 |
| 800 | - | 18 |
| 900 | - | 18 |
| 1000 | - | 10 |
| 1250 | - | |

 Packaging [pcs] **G:** nut



Metal band clip **CM**



CM metal band clips are made of 9 mm wide stainless steel tape. Their properly shaped edges prevent damaging the ducts during assembly. May be used with any type of flexible ducts. Band clip is installed with special fast opening and closing CMC fastener.

| $\varnothing D$ [mm] | |
|-------------------------|-----|
| 60 - 110 | 200 |
| 60 - 135 | 200 |
| 60 - 165 | 200 |
| 60 - 215 | 200 |
| 60 - 270 | 200 |
| 60 - 325 | 200 |
| 60 - 525 | 200 |

Packaging [pcs]

$\varnothing D$: diameter range



Nylon band clip **CMN**



CMN nylon band clips are an economic alternative for metal bands, when installing flexible ducts. Thanks to their design and easy use, they are extremely easy to install, make the work much faster and hold the duct securely on connected pipe. Nylon bands can be used within the temperature range: -55°C to +100°C. They are available in lengths ranging from 550 mm to 1188 mm. If other lengths are required, bands can be easily connected without using any tools. To tighten nylon bands securely, it is recommended to use DIT-2 clamp tool.

DIMENSIONS AND PACKING:

- max. lengths: 550, 650, 800, 920 and 1188 mm
- width: 9 mm
- packaging: 100 pcs.

Supressing band **OM**



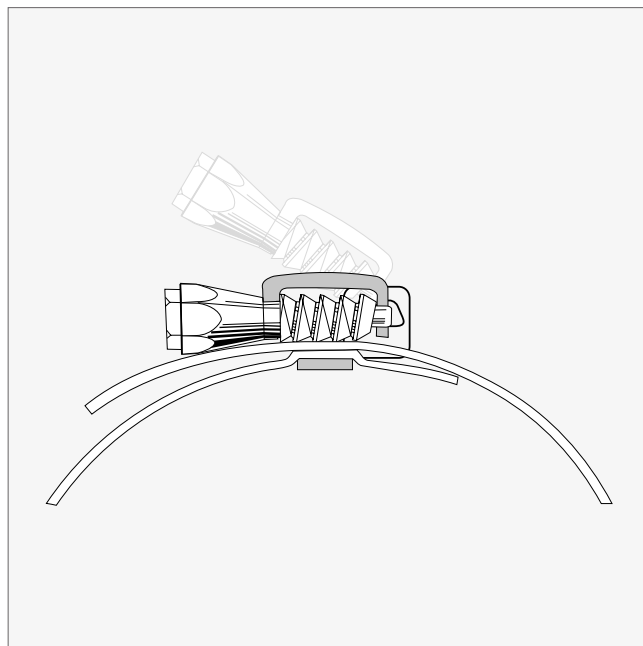
Supressing bands for fan installation in round duct systems.

DIMENSIONS AND PACKING:

- nominal diameters: 100 - 400 mm
- packaging: 30 pcs.



Tape for band clips **CMB** / Fasteners **CMC**



CMB is a 9 mm wide stainless steel tape. It is rolled and 30 meters long. Its properly shaped edges prevent damaging the ducts during assembly. The tape is dosed from handy plastic packages. It enables the user to install a clip band on any flexible duct diameter thanks to CMC fastener. The rolled CMB metal tape is an economic, convenient and fast way to create band clips.

CLIP FASTENER FOR BANDS CMC:

CMC fasteners are used to make band clips for any diameter of flexible duct using CMB tape. This solution allows to avoid the need of having many diameter bands in stock. Special design of CMC fastener allows for quick locking and unlocking, which makes assembly of band on a duct much easier.

CMB:

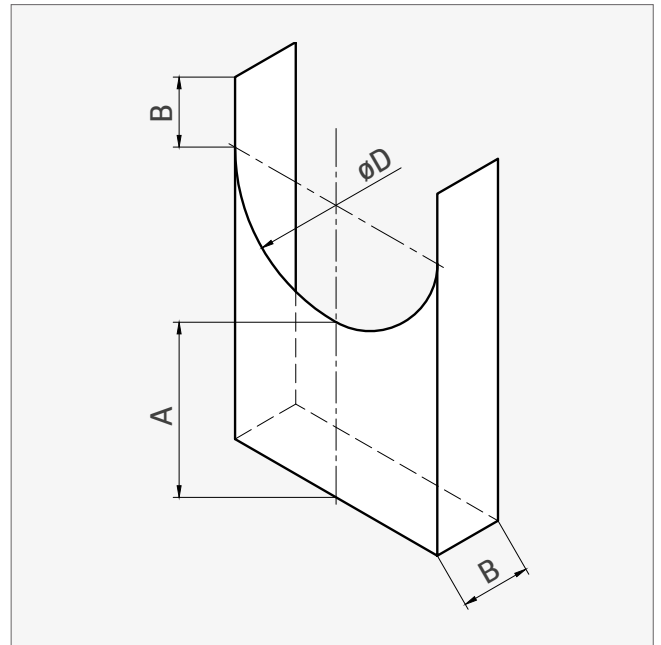
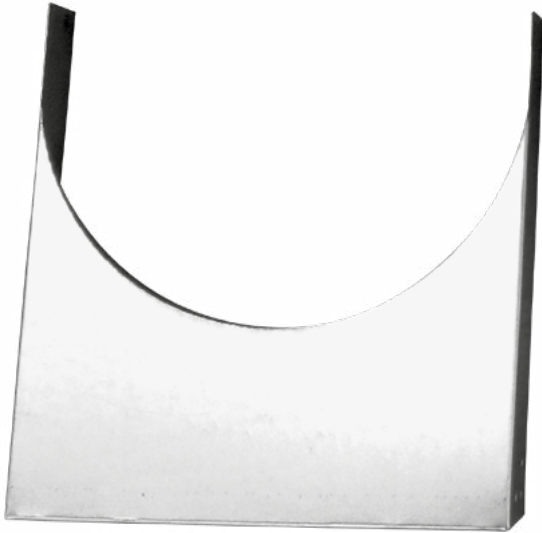
| | |
|-------------------|-----------------|
| Material: | stainless steel |
| Width: | 9 mm |
| Packaging: | 30 m / roll |
| Carton: | 50 rolls |

CMC:

| | |
|-------------|---------|
| Box: | 50 pcs. |
|-------------|---------|



Duct support **MDR**




USE:

- designed to attach duct on its joints
- mounting holes in the base

MATERIAL:

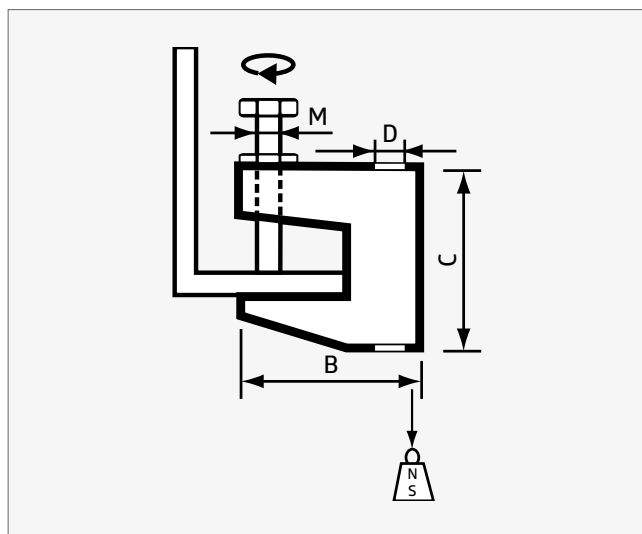
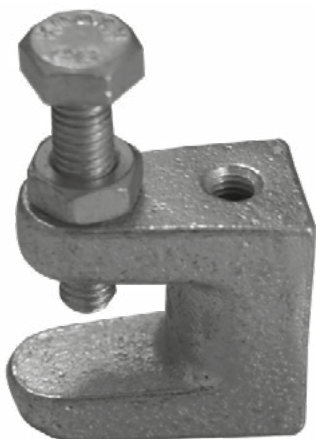
- galvanized steel

| øD [mm] | A [mm] | B [mm] |  |
|------------|--------|--------|---|
| 80 | 75 | 30 | |
| 100 | 75 | 30 | 180 P12 |
| 125 | 75 | 30 | 100 P12 |
| 140 | 75 | 30 | |
| 150 | 75 | 30 | |
| 160 | 75 | 30 | 100 P12 |
| 180 | 75 | 30 | |
| 200 | 75 | 30 | 100 P6 |
| 224 | 75 | 30 | |
| 250 | 75 | 30 | 100 P6 |
| 280 | 75 | 30 | |
| 300 | 75 | 30 | |
| 315 | 75 | 30 | 100 P4 |
| 355 | 75 | 30 | 50 P6 |
| 400 | 75 | 30 | |
| 450 | 75 | 30 | |
| 500 | 75 | 30 | 50 P4 |
| 560 | 75 | 30 | |
| 630 | 75 | 30 | 55 P2 |

 Packaging [pcs | type]



Beam clamp **DWK**

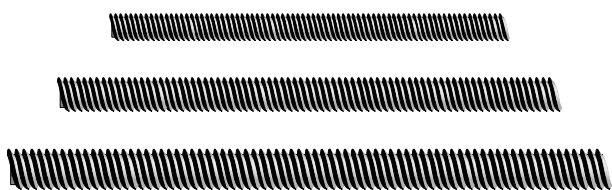


| | B [mm] | C [mm] | D [mm] | M | Ob [kg] |
|----------------|------------------|------------------|------------------|----------|-------------------|
| DWK-M8 | 38 | 35 | M8 | 10 | 112 |
| DWK-M10 | 45 | 42 | M10 | 10 | 245 |

TECHNICAL DATA:

- material: galvanized steel
- packaging: 100 pcs.

Threaded rod



GALVANIZED STEEL VERSION:

- M6*, M8 and M10
- lenght: 1 or 2 m

STAINLESS STEEL VERSION:

- M8 and M10
- lenght: 2 m

Ob: maximum load * only 2 m



Perforated suspension banding **DUH**



USE:

- for hanging circular ducts in duct system installations

MATERIAL:

- perforated galvanized steel tape

DIMENSIONS AND PACKING:

- 0,6 × 17 mm - 25 mb, packaging: 10 rolls
- 0,6 × 25 mm - 25 mb, packaging: 5 rolls

Anchor bush



SPREADING GALVANIZED STEEL:

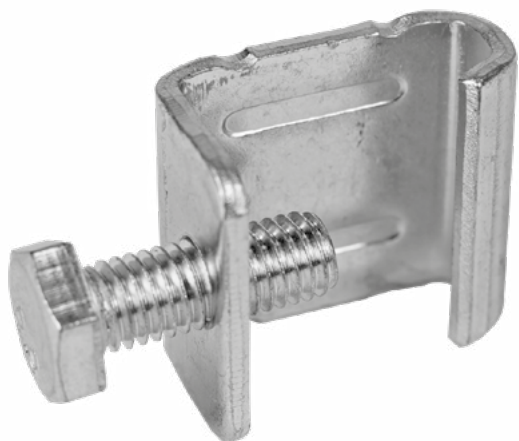
- M8 × 30 mm, packaging: 100 pcs.
- M10 × 40 mm, packaging: 50 pcs.

SPREADING BRASS:

- M8 × 28 mm
- M10 × 33 mm
- packaging: 50 or 100 pcs.

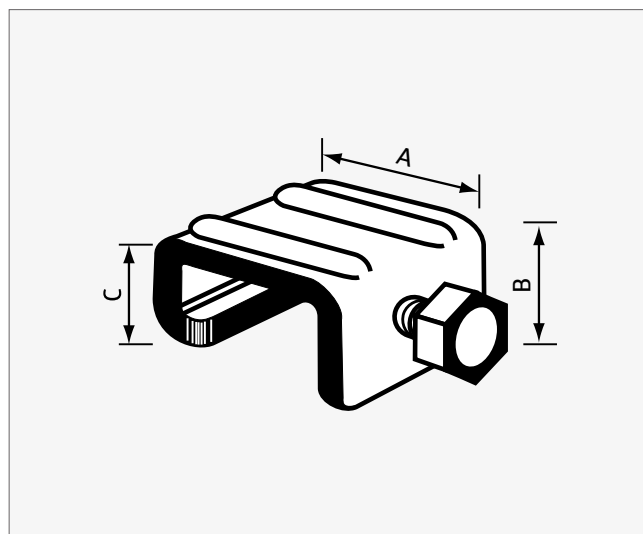


Ventilation duct clip



M8 × 25 mm screw for joining DW 20, DW 30 and DW 40 duct profiles and other systems.

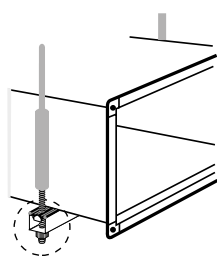
Product also available in acid-resistant steel version (1.4301 EN 10088-2).



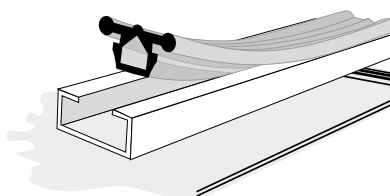
TECHNICAL DATA:

- dimensions: A = 32 mm, B = 19 mm, C = 13 mm
- thickness: 2,5 and 3,0 mm
- packaging: 300 pcs.

Shock absorbing rubber **RU-25**



EP 27

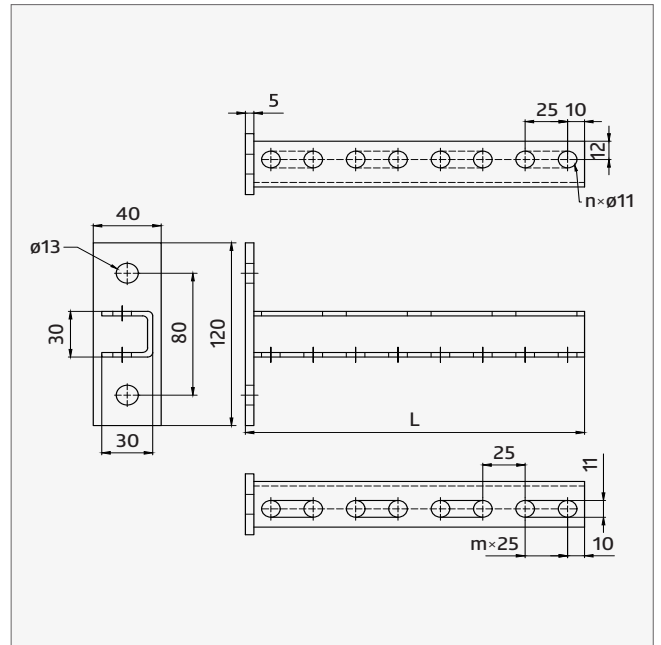


Para el perfil de montaje del sistema:

W 2, W 105, W 106 i W 107.



Type T console



USE:

- to be installed on walls, floors and ceilings as an assembly support

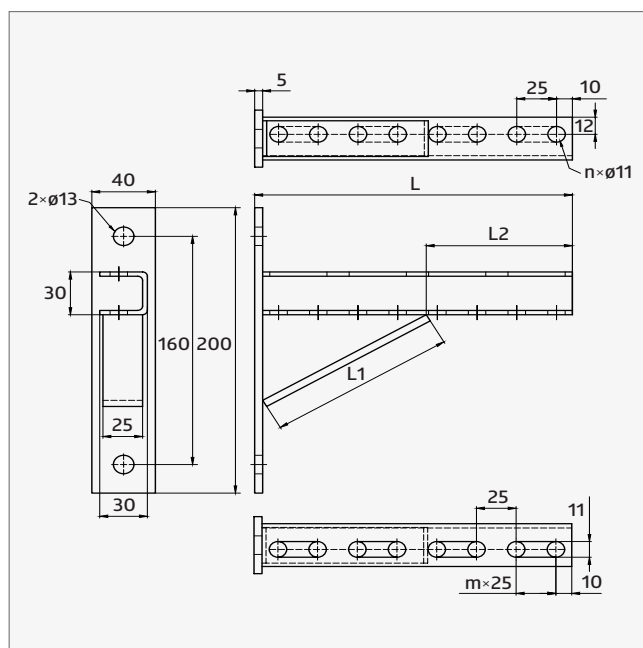
DESIGN:

- welded structure based on rectangular base
- galvanized surface

| L [mm] | n | m |
|-----------|----|----|
| 400 | 18 | 9 |
| 500 | 20 | 10 |
| 600 | 24 | 12 |



Type T console with support



USE:

- to be installed on walls, as an assembly support
- thanks to diagonal support bar it can carry increased loads

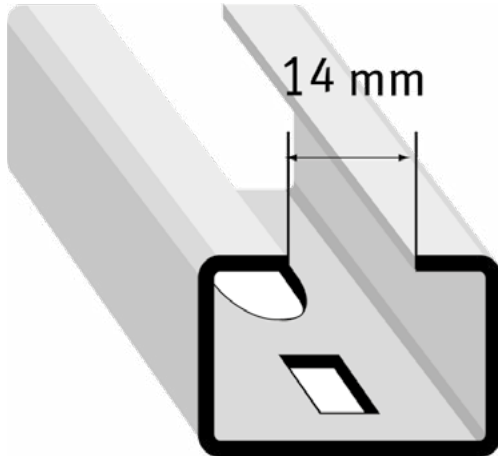
DESIGN:

- welded structure based on rectangular base
- galvanized surface

| L [mm] | n | m | L1 [mm] | L2 [mm] |
|--------|----|----|---------|---------|
| 500 | 20 | 10 | 215 | 295 |
| 600 | 24 | 12 | 215 | 400 |

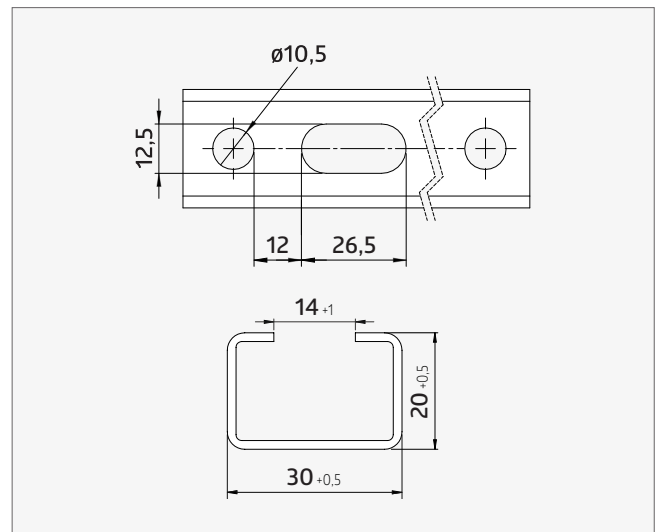


Support channel **W 105**



TECHNICAL DATA:

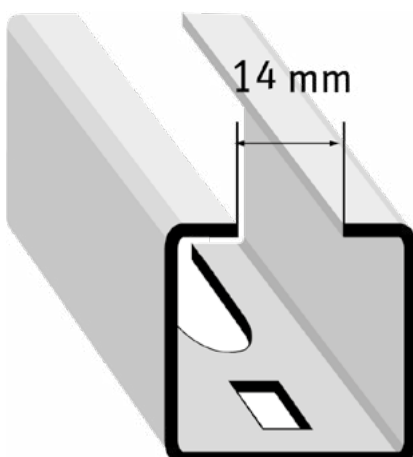
- material: galvanized steel
- metal thickness: 1,5 mm
- weight: 0,88 kg/m



DIMENSIONS AND PACKING:

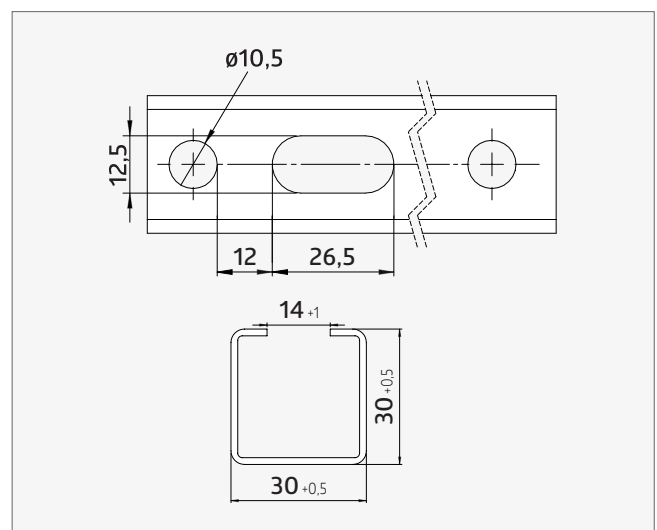
- width × height: 20 × 30 mm
- length: 2, 3 and 5 m
- packaging: 50 pcs.

Support channel **W 106**



TECHNICAL DATA:

- material: galvanized steel
- metal thickness: 1,5 mm
- weight: 1,14 kg/m

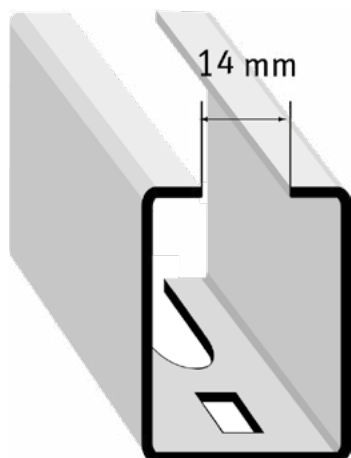


DIMENSIONS AND PACKING:

- width × height: 30 × 30 mm
- length: 2, 3 and 5 m
- packaging: 50 pcs.

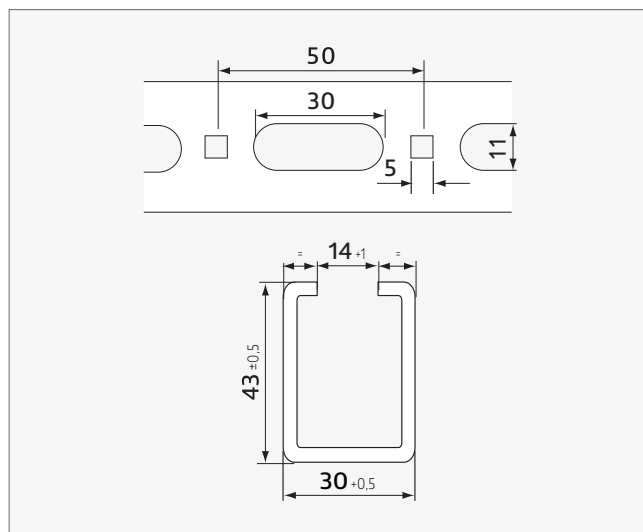


Support channel **W 107**



TECHNICAL DATA:

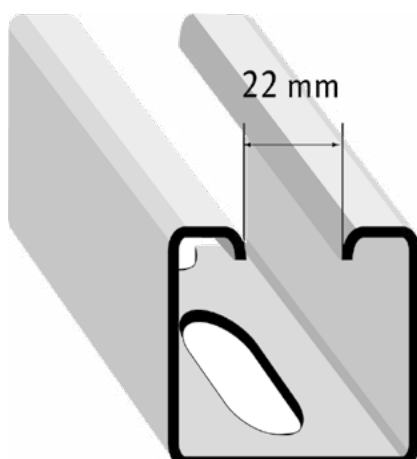
- material: galvanized steel
- metal thickness: 1,7 mm
- weight: 1,71 kg/m



DIMENSIONS AND PACKING:

- width × height: 41 × 41 mm
- length: 5 and 6 m
- packaging: 50 pcs.

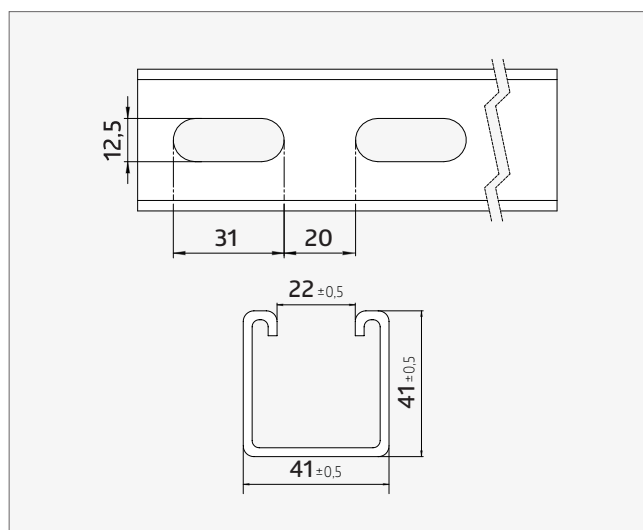
Support channel **W 41**



TECHNICAL DATA:

- material: galvanized steel
- metal thickness: 1,8* and 2,5** mm
- weight: 1,98 and 2,69 kg/m

* only 3 and 5 m ** only 5 and 6 m

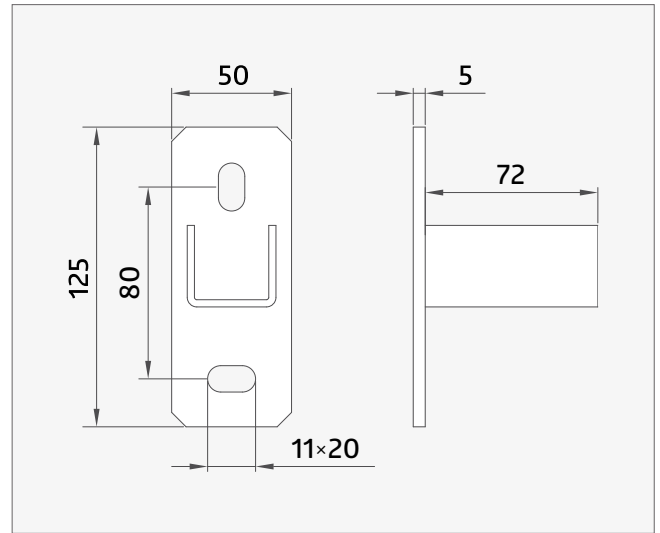


DIMENSIONS AND PACKING:

- width × height: 41 × 41 mm
- length: 3, 5 and 6 m
- packaging: 50 pcs.



Type B profile base



USE:

- to be installed on walls, floors and ceilings as an assembly support

DESIGN:

- welded structure based on rectangular base
- galvanized surface
- made of hollow sections



Self-drilling screws



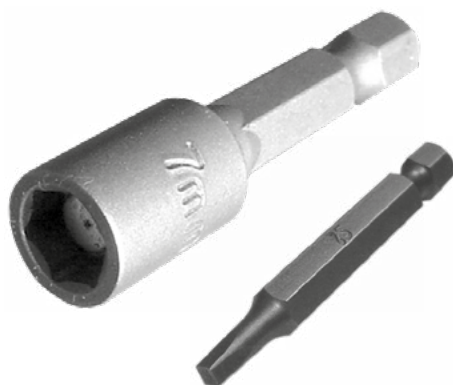
For quick mounting of suspensions, sheet-metal connections and for connecting mouldings in ventilation elements.

Equipped with 7 mm hexagonal head.

DIMENSIONS AND PACKING:

- 4,2 × 13 mm, 1000 pcs.
- 4,2 × 16 mm, 1000 pcs.
- 4,2 × 25 mm, 1000 pcs.

Terminal for self-drilling screws **DCC**



Magnetic tip can be used as a socket wrench together with an automatic screwdriver for hexagonal head 7 mm sheet metal screws.

Size: 7 mm.



Galvanized steel nut **NN**

**MATERIAL:**

- galvanized steel

DIMENSIONS AND PACKING:

- M8, packaging: 10 kg (ca. 2000 pcs.)
- M10, packaging: 10 kg (ca. 900 pcs.)

Connecting nut **LN**

**MATERIAL:**

- galvanized steel

DIMENSIONS:

- M8, length 24 mm
- M10, length 30 mm



Galvanized steel washer **WW**



MATERIAL:

- galvanized steel

DIMENSION AND PACKING:

- M8 / 24 mm, packaging: 10 kg (ca. 1500 pcs.)
- M10 / 20 mm, packaging: 10 kg (ca. 2700 pcs.)

Double-threaded screw **VDF**



MATERIAL:

- galvanized steel

USE:

- for direct fixing of brackets to walls and ceilings



Galvanized steel screw **BB**



MATERIAL:

- galvanized steel

DIMENSION AND PACKING:

- M8 × 25, packaging: 10 kg (ca. 700 pcs.)
- M10 × 25, packaging: 10 kg (ca. 400 pcs.)

Insulating aluminum tape



Single sided self-adhesive aluminum insulation tape. Used in production and assembly of air conditioning and ventilation devices, dust removal systems as well as heat engineering. To be applied on insulation bends and forks, on material and mineral wool or glass wool segment connections.

Ensures a coherent aluminum insulation layer which prevents water from penetrating the system. Hardly combustible according to DIN 4102-1-B1 standard.

TECHNICAL DATA:

- **carrier:** aluminum, thickness 0,03 mm
- **total thickness:** 0,075 mm
- **glue:** acryl
- **temperature range:** from -30 to +120°C
- **peel adhesion:** 20 N/25 mm
- **tensile strength:** 37,5 N/25 mm

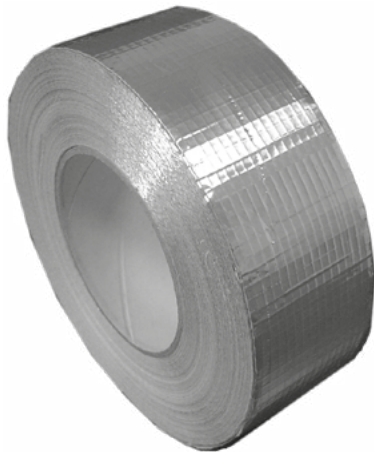
| W [mm] | L [m] | |
|-----------|----------|----|
| 100 | 50 | 12 |
| 75 | 50 | 16 |
| 50 | 50 | 24 |

Packaging [pcs]

W: width **L:** length



Reinforced insulating aluminum tape




Single sided self-adhesive aluminum tape reinforced with 5x5 mm carbon fibre mesh, laminated with polyethylene.

Higher mechanical durability as compared to plain tape. Widely used in technical assemblies.

TECHNICAL DATA:

- **carrier:** aluminum, thickness 0,03 mm
- **total thickness:** 0,15 mm
- **glue:** acryl
- **temperature range:** from -20 to +80°C
- **peel adhesion:** 25 N/25 mm

| W [mm] | L [m] |  |
|-----------|----------|---|
| 100 | 50 | 12 |
| 75 | 50 | 16 |
| 50 | 50 | 24 |


Metalized tape PP



Single sided self adhesive tape with aluminum dust. Used for tightening of air conditioning or central heating systems. Due to its' good adhesive properties and low side penetration by water and solvents, it is also widely used in other branches.

TECHNICAL DATA:

- **carrier:** aluminum dusted polypropylene
- **total thickness:** 0,05 mm
- **glue:** acryl
- **temperature range:** from -20 to +80°C
- **peel adhesion:** 25 N/25 mm

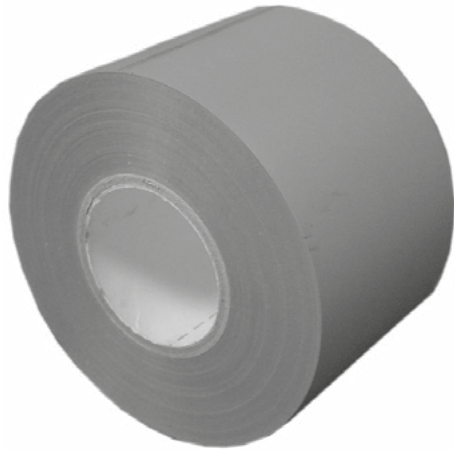
| W [mm] | L [m] |  |
|-----------|----------|---|
| 75 | 50 | 64 |
| 50 | 50 | 96 |

 Packaging [pcs]

W: width **L:** length



PVC smooth assembly tape



Soft tape made of vinyl polychlorade is designed for pipes and ducts (ventilation and heating) less exposed to weather conditions. It is elastic, which allows for relatively smooth surface after applying the tape.

TECHNICAL DATA:

- **carrier:** PVC foil
- **total thickness:** 0,08 mm
- **glue:** acryl
- **temperature range:** from -15 to +80°C
- **peel adhesion:** 4,9 N/25 mm
- **tensile strength:** 88,25 N/25 mm

| W [mm] | L [m] | |
|-----------|----------|----|
| 50 | 50 | 24 |

Universal repair tape



Single sided self adhesive tape is perfect for connecting insulations in air conditioning and ventilation systems. It is perfect for all types of repairs. Very good adhesive properties.

TECHNICAL DATA:

- **carrier:** polyethylene laminated with polyester-cotton fabric
- **total thickness:** 0,22 mm
- **glue:** acryl
- **temperature range:** from 0 to +80°C
- **peel adhesion:** >1,5 N/25 mm
- **tensile strength:** 8 N/cm

| W [mm] | L [m] | |
|-----------|----------|----|
| 50 | 50 | 24 |

Packaging [pcs] **W:** width **L:** length



White repair tape



Convenient to use, economical synthetic rubber-based DUCT tape with a fabric backing with a waterproof polyethylene coating, with manual peel-off possibility. The product has high initial adhesive strength and strong adhesion.

The white repair tape is most suitable for smooth and rough surfaces such as stainless steel, polyethene, glass or wood. It is used for repairing, sealing, fixing, securing and bonding.

STORAGE CONDITIONS:

- store in a cool, dry place away from sunlight and direct heat sources
- provided the storage conditions are observed, the product has a 12-month guarantee

TECHNICAL DATA:

- **carrier:** PE-coated fabric
- **total thickness:** 0,15 mm
- **glue:** synthetic rubber
- **mesh density:** 18 fibres
- **temperature range:** from -10 to +7°C
- **adhesion to steel:** 17,5 N/25mm
- **rolling ball test:** <1 cm

| W [mm] | L [m] | R [mm] | |
|-----------|----------|-----------|----|
| 48 | 45 | 76 | 24 |

Packaging [pcs] **W:** width **L:** length **R:** core diameter



Sealing compound **CARJOINT**



Flexible, waterproof, quick-drying neoprene compound offering excellent adhesion to all substrates, including metal and plastic, and high thermal resistance. Cures quickly after application, allowing you to process glued and sealed parts. Paintable once dry.

USE:

glueing and sealing of car body components, ventilation ducts etc.

PACKAGING AND COLOUR:

310 ml cartridge, aluminum grey

SHELF LIFE:

12 months in factory-sealed packaging, in a cool and dry place, at +5 to +25°C

| | |
|-------------------------------------|-------------------------------------|
| Base: | polychloroprene rubber (neoprene) |
| Curing system: | physical drying and crystallisation |
| Operating temperature range: | from -30 to +280°C |
| Consistency: | paste |
| Density: | ca. 1,26 g/cm ³ |
| Open time: | ca. 15 min |
| Thermal resistance: | from -30 to +120°C |
| Application temperature: | from +5 to +30°C |

DIRECTIONS FOR USE:

- the work surface must be clean, dry and free of dust, grease and traces of corrosion
- apply directly to one surface with a caulking gun in even beads spaced about 15 cm apart
- bond the glued materials, then put them apart for a short time within 30 seconds
- then bond them again and press tightly against each other
- paint only after the product has completely dried, if at all; we recommend preliminary compatibility testing due to the range of possible paint and varnish combinations
- clean fresh soiling with acetone or white spirit



Assembly foam **PE**



One-component tubular polyurethane foam for assembly, insulation, filling, sealing and soundproofing. Characterised by good adhesion to most materials. Once cured, the foam is resistant to both high and low temperatures.

The product is certified by the National Institute of Public Health-National Institute of Hygiene (NIZP-PZHi) and has technical approval issued by the Building Research Institute (ITB).

PACKAGING:

- 700 ml.

| | |
|--------------------------------|---|
| Structure after curing: | dense foam with approx. 70% of fine, closed cells |
| Surface temperature: | from 20°C |
| Thermal resistance: | from -40 to +90°C |
| Cuticle formation time: | 10-15 min |
| Cutting time: | 5-24h |
| Colour: | yellow |



Fireseal silicone **FP 402**



One-component, permanently elastic fire-resistant silicone sealant with a neutral curing system for construction seals in ventilation and air-conditioning engineering, as well as for the protection of linear joints (expansion joints) in the field of fire protection. Characterised by fire resistance in the event of a fire, it prevents the spread of fire, smoke and toxic gases through fire barrier joints.

| | |
|---------------------------------------|--|
| Base: | neutral silicone |
| Form: | ready-to-use compound |
| Squeeze rate: | 150 g/min. (at ø4 mm and 4 bar) |
| Application temperature: | from +5 to +40°C |
| Temp. resistance after curing: | from -40 to +120°C |
| Run-off resistance: | <2 mm (by ISO 7390) |
| Density: | 1,24 g/ml (by ISO 1183-1) |
| Skin formation: | ca. 7-8 minutes (at 23°C and 50% RH) |
| Curing rate: | ca. 2 mm/24h (at 23°C and 50% RH) |
| Permissible seal deformation: | 25% |
| Paintable: | No |
| Module 100%: | 0.40 N/mm ² (DIN 53504 S2) |
| Elongation at break: | max. 635% (DIN 53505/ISO 868) |
| Breaking strength: | max. 1.30 N/mm ² (DIN 53504 S2) |
| Shore A hardness: | 20 (DIN 53505/ISO 868) |
| Fire rating: | B1 (by DIN 4102-1) B-s1, d0 (by EN 13501-1) |

KEY BENEFITS:

- recommended for sealing joints in ventilation, smoke ducts and air conditioning
- tested in accordance with PN-EN 1366-4 (fire resistance tests for service installations - linear joint seals)
- as a stand-alone sealant for joints up to 30 mm wide and up to 40 mm wide when used with the Bostik FP 404 PU foam
- fire resistance: up to 4 hours
- permissible deformation capacity: ±25%
- convenient application and processing
- highly resistant to run-off and weather
- high vapour-tightness
- for indoor and outdoor use

PACKAGING:

- 310 ml
- 12 pcs./box



Acrylic silicone



Universal, single-component, permanently elastic silicone sealing compound based on polysiloxanes with an acetate curing system.

USE:

- elastic sealing of connections between building materials and finishing elements
- sealing of shop windows, storefronts, counters, showcases, advertising signs, advertising boards, advertising caissons, etc.
- glazing of windows (mainly in wooden frames)
- in the household for minor repair and hobby works
- sealing of boats, ships, cars, camper trailers

PACKAGING:

- 300 ml
- 12 pcs./box

CHARACTERISTICS:

- permanently flexible and durable in various climate conditions
- for indoor and outdoor applications
- very good adhesion to smooth surfaces: glass, ceramics, porcelain, varnished wood, glazed and enamelled surfaces
- resistant to atmospheric factors (UV radiation, moisture, temperature fluctuations from -50°C to +120°C)
- forms a smooth and glistening fugue
- easy to apply and form
- cannot be painted (for this purpose, use Den Braven Uni-Fix)



Alu-zinc spray **AlZn 600**



The mixture of zinc and aluminium provides excellent anti-corrosion protection. Aluzinc is used for all repairs of damaged galvanised parts, welded and cut areas. It is also used for repairs of hot-dip galvanised parts and in welding.

USE:

- for the finishing of exposed metal parts prone to corrosion

SPECIAL PROPERTIES:

- silver shade
- fast drying
- very good surface coverage and excellent adhesion to most metals
- does not run off the surface, forms a uniform aesthetic
- coating resistant to abrasion, weather and temp.
- does not contain lead, chromium or silicones
- excellent anti-corrosion protection

DIRECTIONS FOR USE:

- clean and degrease metal surface
- shake the container well before use for approx. 1 min
- then spray from a distance of 25 - 30 cm
- after about 15 - 20 min the coating is resistant to the touch
- the total drying time is approx. 24 hours
- the optimal operating temp. is 16-21°C
- after use, turn the container upside down and drain it until the valve is empty

STORAGE:

- pressurised container, protect from sunlight and do not expose to temp. exceeding 50°C
- product can be stored for 36 months in the above conditions

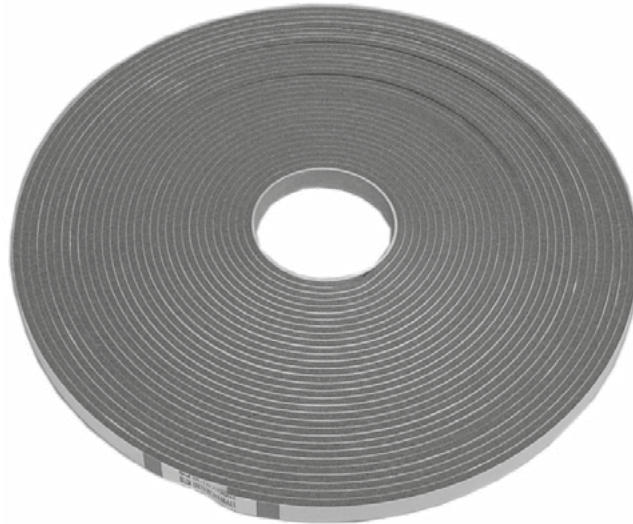
PACKAGING:

- aerosol 500 ml
- carton of 12 pcs.

| | |
|--------------------|-----------------------------|
| Odour: | varnish |
| Density: | 0,89-0,92 g/cm ³ |
| Pressure: | ca. 6 bar |
| Solubility: | non-water-soluble |



Self-adhesive seal **PES**



PRODUCT CHARACTERISTICS:

- **use:** for sealing connections of rectangular duct sections
- **material:** polyethylene foam with closed cells, physical reticulation
- **colour:** dark grey

DIMENSIONS AND PACKING:

- **width × thickness:** 10 × 4 mm, **length:** 20 m, **packaging / box:** 100 / 1000 m
- **width × thickness:** 15 × 4 mm, **length:** 20 m, **packaging / box:** 60 / 1200 m
- **width × thickness:** 12 × 6 mm, **length:** 12,5 m, **packaging / box:** 50 / 1000 m
- **width × thickness:** 10 × 7 mm, **length:** 10 m, **packaging / box:** 50 / 900 m



Temperature resistant seal **PEST**



PRODUCT CHARACTERISTICS:

- **material:** gasket is made of ceramic fiber which ensures its high temperature resistance, as well as lack of fumes in case of contact with fire
- **easy assembly:** glue applied on one side of the gasket
- **use:** for ventilation ducts with high fire and smoke safety requirements

DIMENSIONS AND PACKING:

- **width × thickness:** 10 × 4 mm, **length:** 10 m, **packaging:** 30 rolls
- **width × thickness:** 10 × 5 mm, **length:** 10 m, **packaging:** 30 rolls
- **width × thickness:** 10 × 6 mm, **length:** 10 m, **packaging:** 30 rolls
- **width × thickness:** 20 × 5 mm, **length:** 10 m, **packaging:** 15 rolls

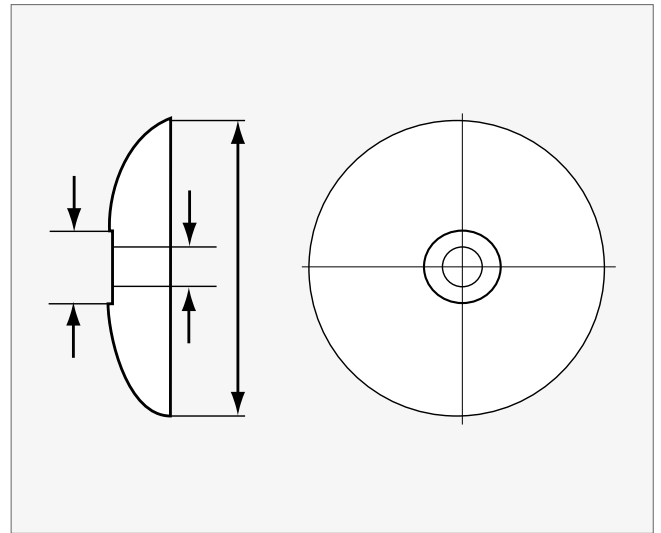
| | |
|---|----------------------------------|
| Adhesive: | acrylic dispersion, solvent-free |
| Adhesive carrier: | nonwoven web |
| Liner: | siliconized PE-foil |
| Colour: | white |
| Density: | 200 - 300 kg/m ³ |
| Fiber diameter: | 3,2 µm |
| Tensile strength: | ≥350 kPa |
| Classification temperature (max. service temperature): | 1100°C |
| Melting point: | >1330°C |



Stiffening disc **DU**



Used for stiffening of large diameter rectangular ducts. Prevents deformation of the duct, where the stiffening is installed. Made of 1-1,3 mm thick galvanized steel. Embossing for nut.



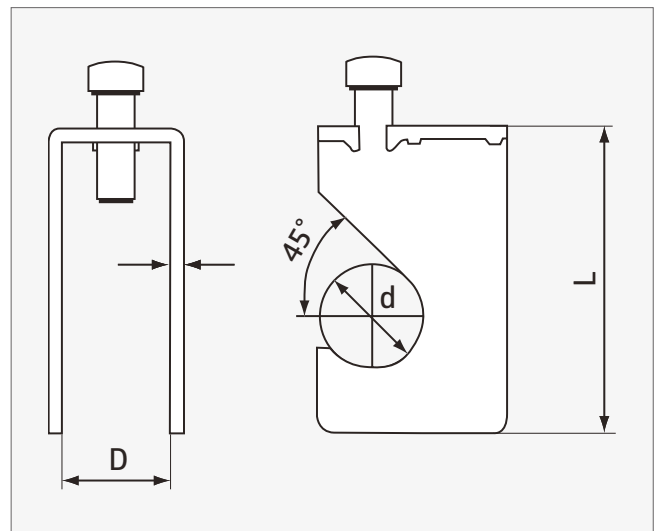
DIMENSIONS AND PACKING:

- diameter **D**: 74 mm
- packaging: 1000 pcs.

Stiffening steel cross **KUS**



Designed for cross connection of large diameters stiffening pipes. Made of 3 mm galvanized steel, which guarantees resistance to high temperatures necessary e.g. for smoke removing duct systems.

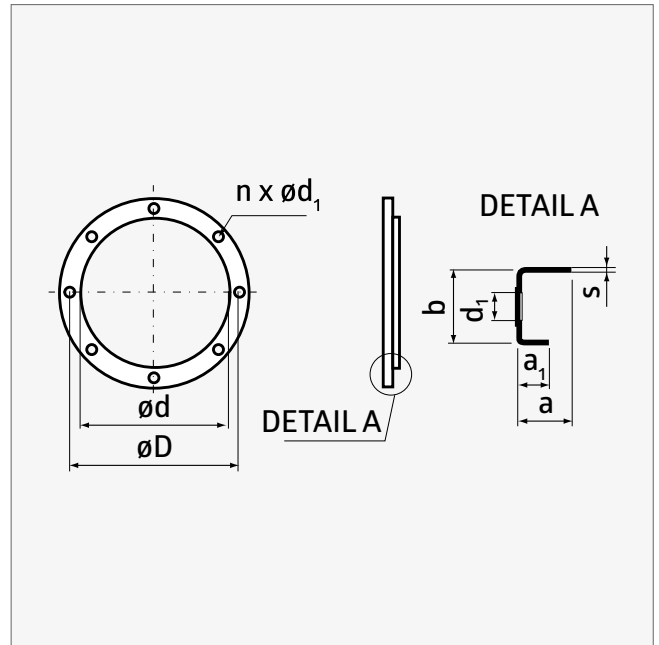


DIMENSIONS AND PACKING:

- **L**: 63 mm
- **D**: 17 mm
- packaging: 100 pcs.



Flange VKPK



Galvanized steel flanges are used to produce roof bases, air intakes, roof exhaust vents, etc.

| ød [mm] | od [mm] | S [mm] | D [mm] | b [mm] | a [mm] | a ₁ [mm] | ød ₁ [mm] | n |
|---------|---------|--------|--------|--------|--------|---------------------|----------------------|----|
| 80 | +0,50 | 1-1,5 | 110 | 25 | 11 | 7 | 7 | 4 |
| 100 | +0,50 | 1-1,5 | 130 | 25 | 11 | 7 | 7 | 4 |
| 110 | +0,50 | 1-1,5 | 140 | 25 | 11 | 7 | 7 | 4 |
| 125 | +0,50 | 1-1,5 | 155 | 25 | 18 | 7 | 7 | 4 |
| 140 | +0,50 | 1-1,5 | 170 | 25 | 18 | 7 | 7 | 8 |
| 150 | +0,50 | 1-1,5 | 181 | 25 | 20 | 7 | 9 | 8 |
| 160 | +1,00 | 1-1,5 | 195 | 30 | 20 | 10 | 9 | 8 |
| 180 | +1,00 | 1-1,5 | 215 | 30 | 20 | 10 | 9 | 8 |
| 200 | +1,00 | 1-1,5 | 235 | 30 | 21 | 9 | 9 | 8 |
| 250 | +1,00 | 1-1,5 | 285 | 30 | 20 | 10 | 9 | 8 |
| 315 | +1,00 | 1-1,5 | 350 | 30 | 20 | 10 | 9 | 12 |
| 355 | +1,00 | 1-1,5 | 390 | 30 | 20 | 10 | 9 | 12 |
| 400 | +1,00 | 1-1,5 | 445 | 30 | 20 | 10 | 9 | 12 |
| 500 | +1,00 | 1-1,5 | 545 | 40 | 20 | 10 | 9 | 16 |
| 560 | +1,00 | 1,5 | 605 | 40 | 30 | 11 | 12 | 16 |
| 630 | +1,00 | 1,5 | 680 | 45 | 30 | 11 | 12 | 16 |

ød: internal diameter
 od: diameter deviation
 S: thickness

D: spacing holes
 b: flange width
 a: flange length on larger diameter

a₁: flange length on smaller diameter
 ød₁: outlet diameter hole
 n: number of holes



Flexible connector **LE**



Flexible connector is used to prevent transmission of vibrations and noise along the duct system. Different types of connectors are available so that the user could choose the best solution for installation, fire protection and economy.

PROPERTIES:

- prevents transmission of vibrations and noise along the duct system
- air tight
- can be used in round, rectangular and oval duct systems
- easy to use and fabricate

| | |
|--------------------------------------|------------------------|
| Standard fabric material*: | PVC |
| Coverage: | Polyester |
| Coating: | hardly combustible PVC |
| Colour: | black |
| Operating temperatures range: | from -40 to +80°C |

* other materials available upon request

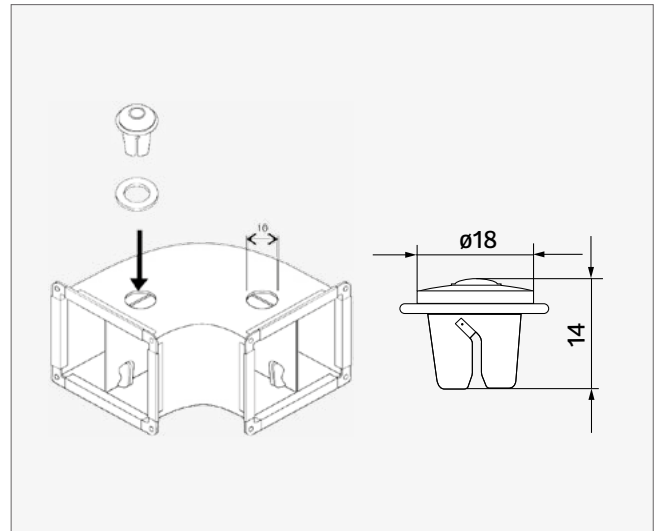
| | Metal | Fabric | Metal |
|-----------------------------|--|---------------|--------------|
| Standard dimensions: | 35 mm | 60 mm | 35 mm |
| | 45 mm | 60 mm | 45 mm |
| | 70 mm | 100 mm | 70 mm |
| Standard length: | 50 m, packed in separate cardboard box | | |
| Metal thickness: | 0,4 mm, galvanized | | |



Turning vane guides for rectangular ducts **LKK**



These guides allow the user to install turning vanes 0,4-1,13 mm thick in rectangular ducting fittings. Made of galvanized steel. Supplied with rubber gasket, which makes connection air tight.



PACKAGING:

- 1000 pcs.

Tightening compound **DW 601**



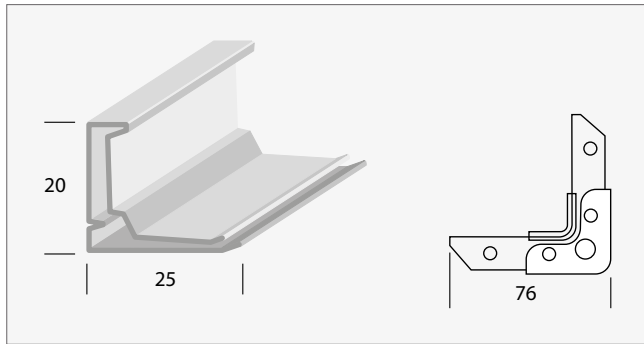
The DW 601 tightening compound is flexible, non-toxic, water-based, non-flammable. It is characterised by excellent adhesion to metals. It can be applied with a brush.

USE:

- sealing of ventilation ducts and fittings



Ductwork profiles **DW** and corners for ductwork profiles **H**

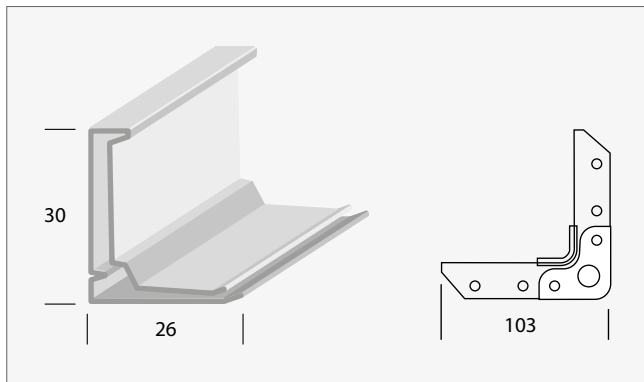


PROFILE DW 20

- metal thickness: 0,6 mm
- length: 5 m

CORNER H 20

- metal thickness: 2,0 mm
- packaging: 500 pcs.

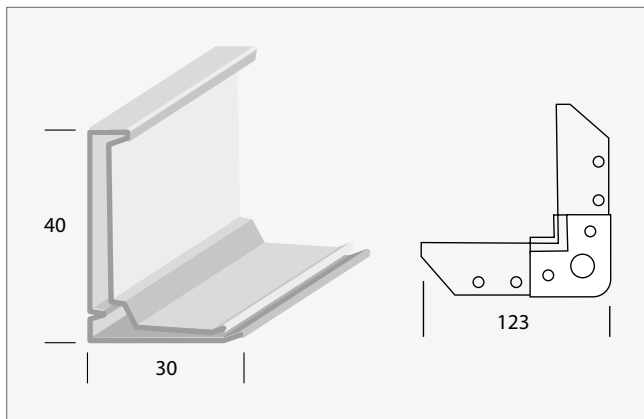


PROFILE DW 30

- metal thickness: 0,7 mm
- length: 5 m

CORNER H 30

- metal thickness: 2,5 mm
- packaging: 250 pcs.



PROFILE DW 40

- metal thickness: 1,0 mm
- length: 5 m

CORNER H 40

- metal thickness: 3,0 mm
- packaging: 100 pcs.

Note: also available ductwork profiles with sealant.

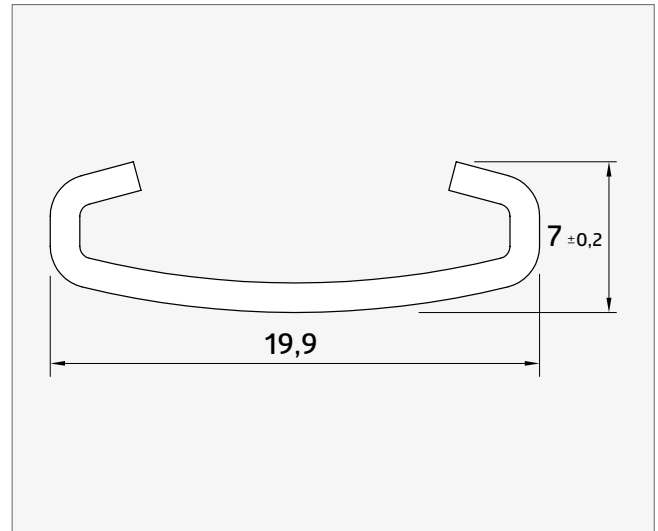


Ductwork slide profile **S-21**



TECHNICAL DATA:

- material: galvanized steel
- metal thickness: 1,5 mm



DIMENSIONS:

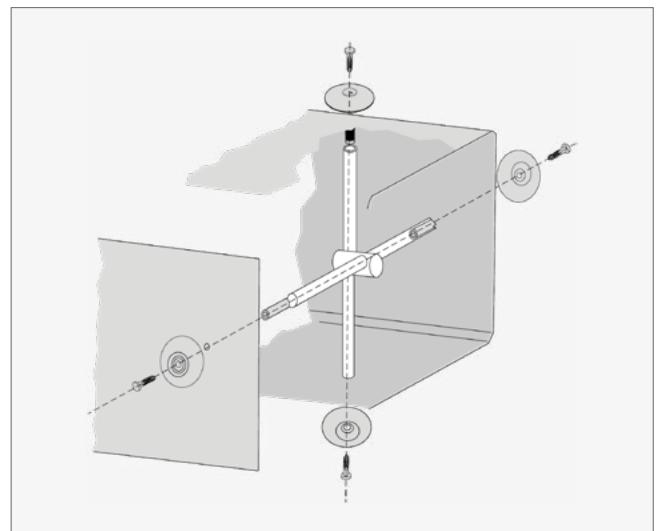
- standard length: 5 m

Stiffening aluminum pipe **RUO**



PRODUCT CHARACTERISTICS:

- use: for stiffening large diameter rectangular ducts
- wall thickness: ca. 2 mm



DIMENSIONS:

- 16 mm × 6 mb

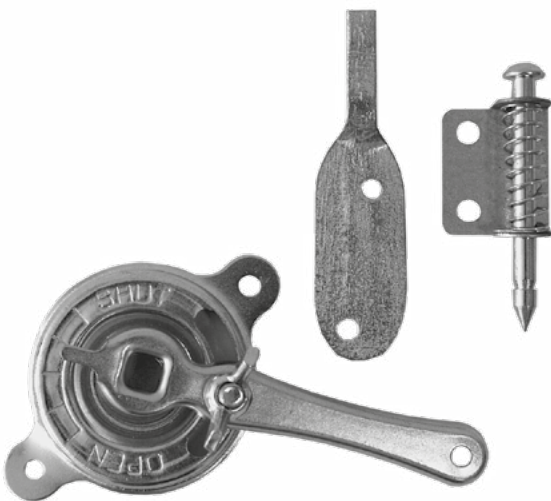


Damper mechanism **SPIRO**



Mechanism made of galvanized steel. It is adjusted with the bar located directly above the mechanism's rotation axis. The set includes bolts, pins and plastic bearing washers. Two screws blocking the damper's knob in the right position guarantee that the setting will not change.

Damper mechanism **KS145**

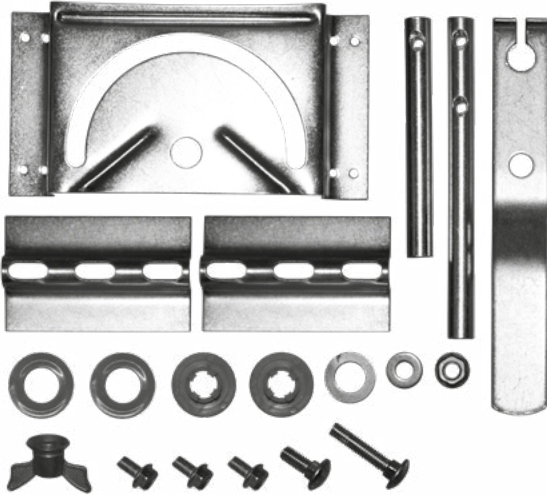


INCLUDED:

- 1/4" damper mechanism
- KP6 bolt with a spring
- KP8S square bolt



Damper mechanism MD



Can be mounted in all rectangular ducts.

Can also be used in circular ducts - diameters larger than 200 mm.

Damper mechanism KS385



MATERIAL:

- SPCC with zinc plating

USE:

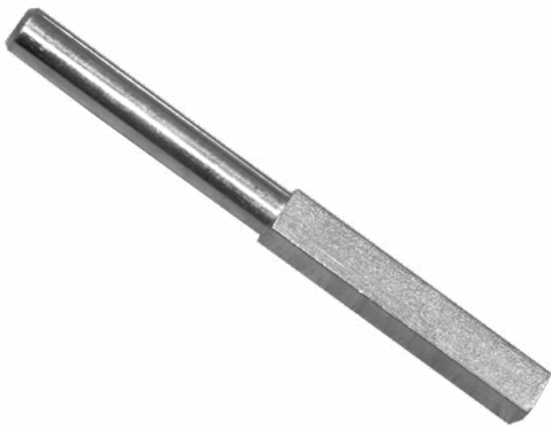
- for multi-blade dampers with round shaft of 12 mm (1/2") diameter

INCLUDED:

- quadrant
- handle
- wing nut
- washer
- bolt



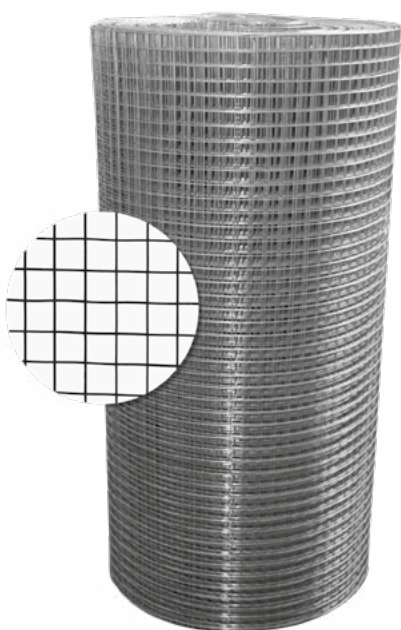
Multi-leaf damper stem **BKP7**



TECHNICAL DATA:

- **cross-section:** round / square
- **length:** 152 mm (76 / 76 mm)
- **dimension:** \varnothing 12 mm / 12×12 mm

Galvanized steel 12×12 mesh



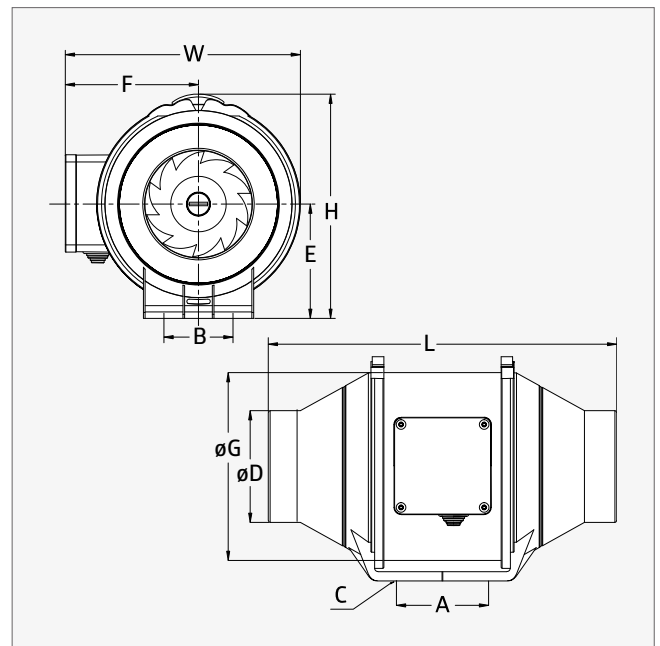
Mesh is made of galvanized 1 mm steel wire. It is sold in rolls to make handling and storage easy. Each roll contains 30 m² (1,5 m × 20 m).

USE

Zinc-plated mesh can be used extensively by manufacturers of ventilation accessories, such as air intakes and exhausters, diffusers, grilles, chimney accessories, etc.



Duct fan **CFD**



DESIGN

The CFD duct fan housing is made of highly durable polypropylene. The rotor of the unit, manufactured from ABS plastic, has been designed to ensure optimum airflow. The design of the unit's body allows it to be mounted horizontally as well as vertically.

The fans are equipped with a 2-speed motor powered by a single-phase 230 V/50 Hz current, which utilises ball bearings and features built-in overload protection.

CFD fan operating range: -20 to 60°C.

INTENDED USE

The unit can be used for supply and extract systems in residential and public buildings.

HSW-01 CONTROLLER

- gear selector (0 - I - II) for fans with single-phase two-speed motors
- power supply: 230 V
- equ: 10 A

| | A [mm] | B [mm] | C [mm] | øD [mm] | E [mm] | F [mm] | øG [mm] | L [mm] | W [mm] | H [mm] |
|--------------------|------------------|------------------|------------------|-------------------|------------------|------------------|-------------------|------------------|------------------|------------------|
| CFD 100 | 80 | 60 | ø4,5 | 97 | 99 | 116 | 163 | 302 | 204 | 195 |
| CFD 125 | 80 | 60 | ø4,5 | 123 | 99 | 116 | 163 | 257 | 204 | 195 |
| CFD 150/160 | 80 | 60 | ø5,0 | 147 | 109 | 127 | 187 | 313 | 227 | 208 |
| CFD 200 | 100 | 94 | ø5,5 | 197 | 125 | 137 | 205 | 302 | 249 | 237 |
| CFD 250 | 150 | 150 | ø8*11 | 247 | 150 | 174 | 261 | 383 | 310 | 286 |
| CFD 315 | 181 | 178 | ø8*11 | 312 | 187 | 216 | 325 | 446 | 386 | 357 |

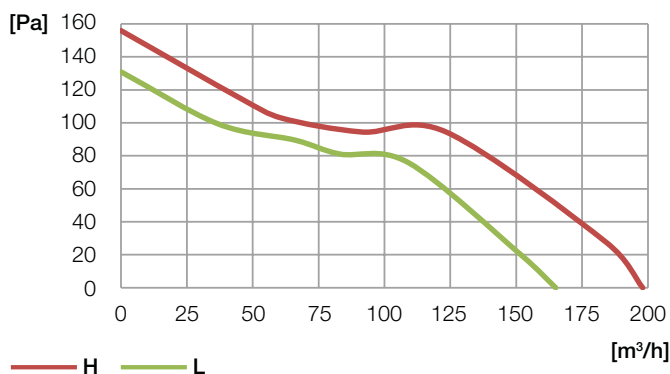


TECHNICAL DATA

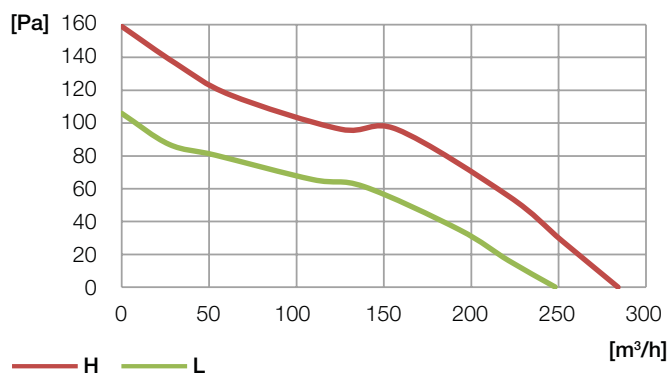
| | B | U [V] | f [Hz] | I [A] | P [W] | V [RPM] | Q [m³/h] | p [Pa] | p_a [dB(A)] | m [kg] |
|--------------------|----------|-----------------|------------------|-----------------|-----------------|-------------------|--------------------|------------------|---------------------------------|------------------|
| CFD 100 | H / L | 220~240 | 50 | 0,12 / 0,11 | 26 / 23 | 2200 / 1850 | 198 / 165 | 156 / 131 | 31 / 26 | 1,5 |
| CFD 125 | H / L | 220~240 | 50 | 0,14 / 0,13 | 33 / 28 | 2250 / 1850 | 284 / 248 | 159 / 106 | 31 / 26 | 1,5 |
| CFD 150/160 | H / L | 220~240 | 50 | 0,22 / 0,19 | 54 / 44 | 2550 / 1850 | 530 / 410 | 300 / 240 | 33 / 29 | 2,6 |
| CFD 200 | H / L | 220~240 | 50 | 0,53 / 0,52 | 128 / 123 | 2450 / 1950 | 840 / 690 | 352 / 274 | 63 / 55 | 4,9 |
| CFD 250 | H / L | 220~240 | 50 | 1,20 / 0,75 | 225 / 165 | 2450 / 1850 | 1405 / 1064 | 488 / 371 | 66 / 58 | 7,5 |
| CFD 315 | H / L | 220~240 | 50 | 1,90 / 1,40 | 390 / 275 | 2350 / 1650 | 2206 / 1750 | 693 / 435 | 69 / 61 | 11,0 |

B: gear U: voltage f: frequency I: current P: power V: speed Q: airflow p: air pressure p_a: noise F: net weight

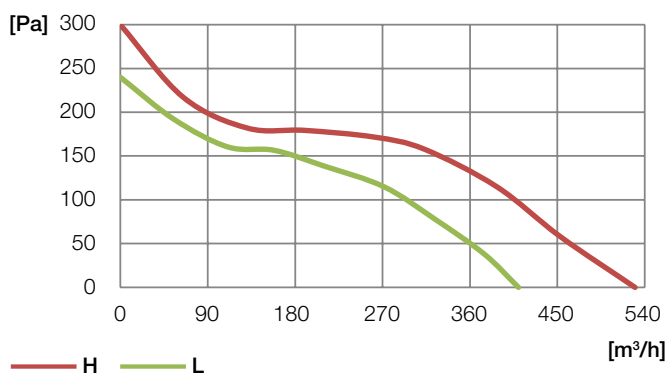
CFD 100



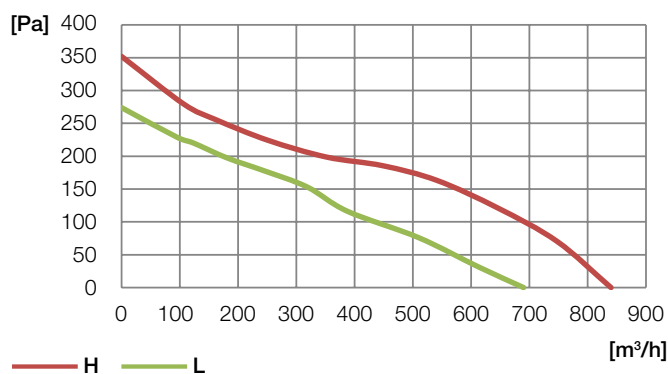
CFD 125



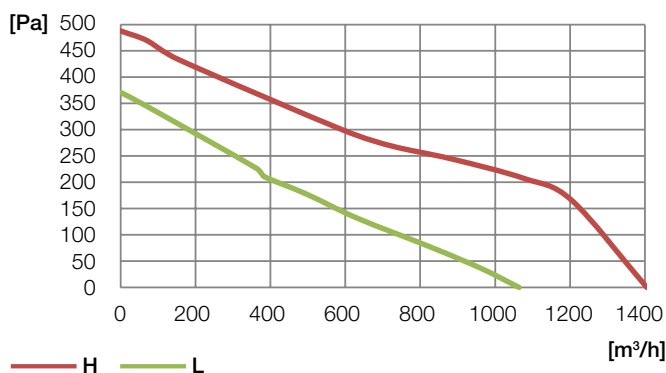
CFD 150/160



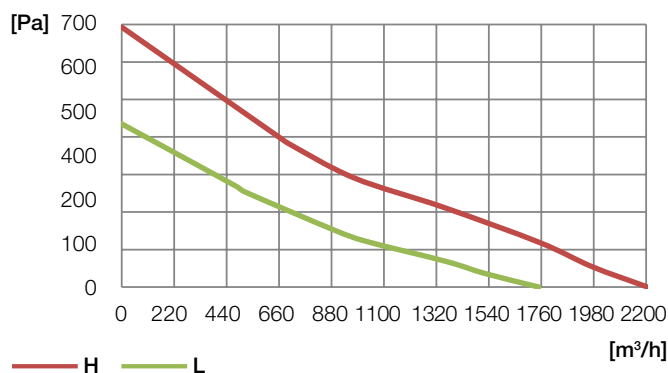
CFD 200



CFD 250

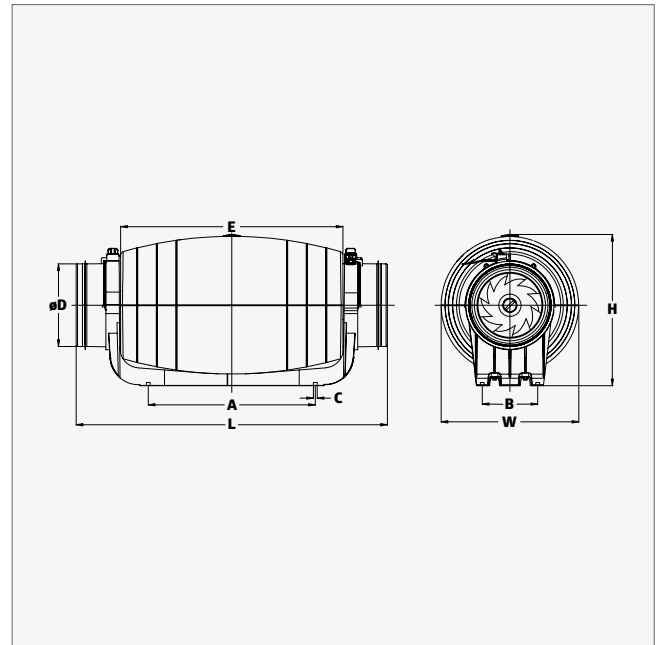


CFD 315





Duct fans **CFD SILENT**



DESIGN

The CFD duct fan housing is made of highly durable polypropylene. The rotor of the unit, manufactured from ABS plastic, has been designed to ensure optimum airflow. The design of the unit's body allows it to be mounted horizontally as well as vertically.

The fans are equipped with a 2-speed motor powered by a single-phase 230 V/50 Hz current, which utilises ball bearings and features built-in overload protection.

CFD Silent fan operating range: -20 to 60°C.

INTENDED USE

The unit can be used for supply and extract systems in residential and public buildings.

HSW-01 CONTROLLER

- gear selector (0 - I - II) for fans with single-phase two-speed motors
- power supply: 230 V
- maximum current: 10 A

| | A [mm] | B [mm] | C [mm] | øD [mm] | E [mm] | L [mm] | W [mm] | H [mm] |
|---------------------------|------------------|------------------|------------------|-------------------|------------------|------------------|------------------|------------------|
| CFD Silent 100/125 | 248 | 82 | ø5,5 | 97/123 | 330 | 580/462 | 205 | 225 |
| CFD Silent 150/160 | 251 | 95 | ø5,3 | 149/158 | 352 | 488 | 221 | 244 |
| CFD Silent 200 | 339 | 128 | ø5,6 | 198 | 436 | 567 | 262 | 301 |

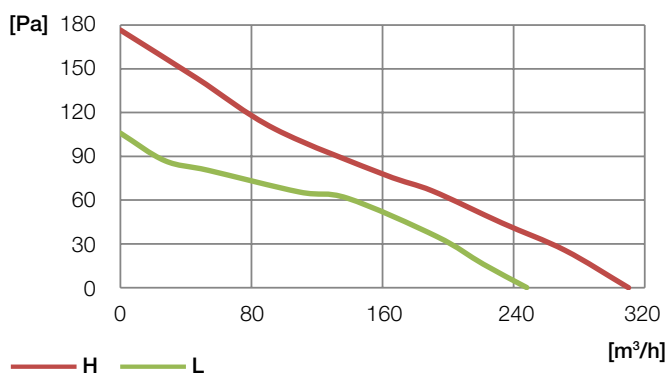


TECHNICAL DATA

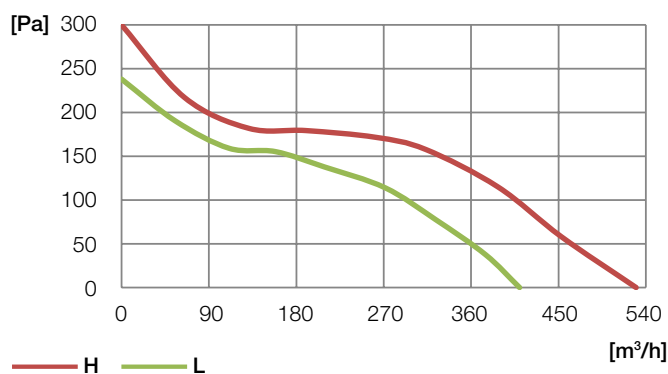
| | B | U [V] | f [Hz] | I [A] | P [W] | V [RPM] | Q [m³/h] | p [Pa] | p_a [dB(A)] | m [kg] |
|---------------------------|--------------|-----------------|------------------|-----------------|-----------------|-------------------|--------------------|------------------|---------------------------------|------------------|
| CFD Silent 100/125 | H / L | 220~240 | 50 | 0,14 / 0,13 | 33 / 28 | 2250 / 1850 | 284 / 248 | 159 / 106 | 25 / 22 | 2,8 |
| CFD Silent 150/160 | H / L | 220~240 | 50 | 0,25 / 0,20 | 50 / 43 | 2550 / 1850 | 530 / 410 | 300 / 240 | 31 / 26 | 4,0 |
| CFD Silent 200 | H / L | 220~240 | 50 | 0,57 / 0,52 | 128 / 123 | 2450 / 1950 | 840 / 690 | 352 / 274 | 35 / 29 | 5,9 |

B: gear **U:** voltage **f:** frequency **I:** current **P:** power **V:** speed **Q:** airflow **p:** air pressure **p_a:** noise **F:** net weight

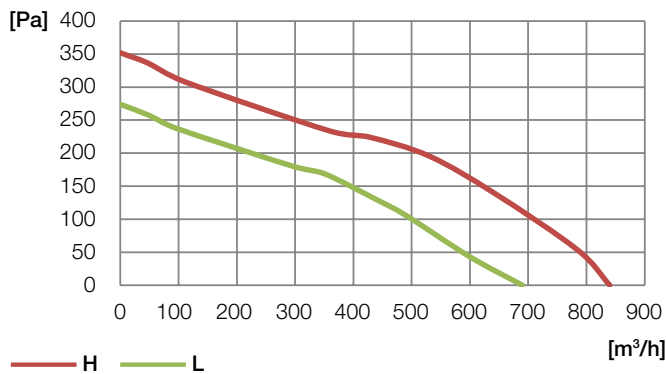
CFD SILENT 100/125



CFD SILENT 150/160

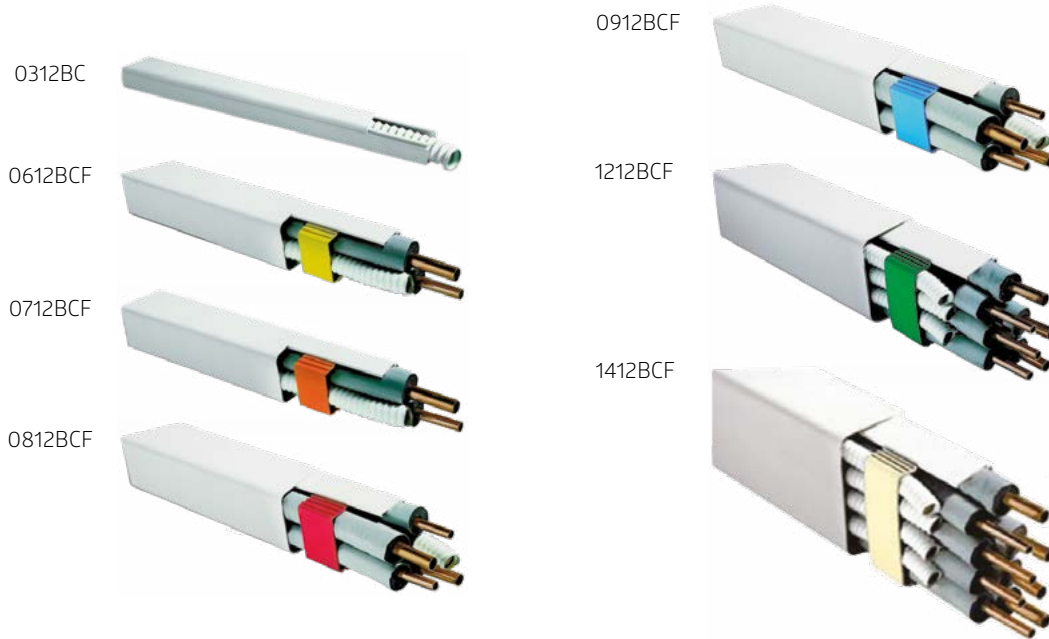


CFD SILENT 200





PVC assembly trays



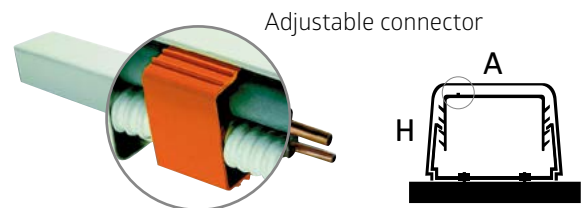
Assembly trays are used for the installation of the air conditioning system.







They allow for aesthetic masking of refrigeration and condensate drain lines.

COLOUR:

- RAL 9010 (Pure White)

INSTALLATION METHOD:



| | L [m] | A [mm] | H [mm] | Adjustable connector* | |
|----------------|----------|-----------|-----------|-----------------------|---|
| 0312BC | 2 | 25 | 25 | - | |
| 0612BCF | 2 | 60 | 45 | 0603ST |  |
| 0712BCF | 2 | 70 | 55 | 0703ST |  |
| 0812BCF | 2 | 80 | 60 | 0803ST |  |
| 0912BCF | 2 | 90 | 65 | 0903ST |  |
| 1212BCF | 2 | 110 | 75 | 1203ST |  |
| 1412BCF | 2 | 140 | 90 | 1403ST |  |

* code of a given adjustable connector and its colour L: length



PVC corner **AE / AI**



USE:

- aesthetically pleasing and easy way to connect straight sections of assembly trays

COLOUR:

- RAL 9010 (Pure White)

AVAILABLE DIMENSIONS*:

- 0306AE / 0305AI - 25 mm
- 0606AE / 0605AI - 60 mm
- 0706AE / 0705AI - 70 mm
- 0806AE / 0805AI - 80 mm
- 0906AE / 0905AI - 90 mm
- 1206AE / 1205AI - 110 mm

PVC bend **CP**



USE:

- aesthetically pleasing and easy way to connect straight sections of assembly trays

COLOUR:

- RAL 9010 (Pure White)

AVAILABLE DIMENSIONS:

- 0307CP - 25 mm
- 0607CP - 60 mm
- 0707CP - 70 mm
- 0807CP - 80 mm
- 0907CP - 90 mm
- 1207CP - 110 mm

* external corner / internal corner



PVC end cap **TT**



USE:

- aesthetically pleasing and easy way to connect straight sections of assembly trays

COLOUR:

- RAL 9010 (Pure White)

AVAILABLE DIMENSIONS:

- 0308TT - 25 mm
- 0608TT - 60 mm
- 0708TT - 70 mm
- 0808TT - 80 mm
- 0908TT - 90 mm

Wall side PVC bend **CM**



USE:

- aesthetically pleasing and easy way to connect straight sections of assembly trays

COLOUR:

- RAL 9010 (Pure White)

AVAILABLE DIMENSIONS:

- 0609CM - 60 mm
- 0709CM - 70 mm
- 0809CM - 80 mm
- 0909CM - 90 mm
- 1209CM - 110 mm



PVC thru-wall passage **PM**



USE:

- aesthetically pleasing and easy way to connect straight sections of assembly trays

COLOUR:

- RAL 9010 (Pure White)

AVAILABLE DIMENSIONS:

- 0610PM - 60 mm
- 0710PM - 70 mm
- 0810PM - 80 mm
- 0910PM - 90 mm
- 1210PM - 110 mm

PVC connecting band **GC**



USE:

- aesthetically pleasing and easy way to connect straight sections of assembly trays

COLOUR:

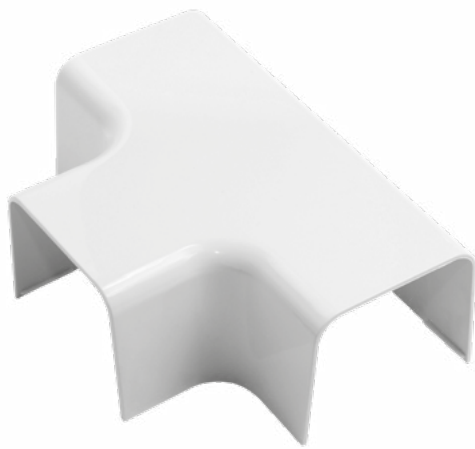
- RAL 9010 (Pure White)

AVAILABLE DIMENSIONS:

- 0304GC - 25 mm
- 0604GC - 60 mm
- 0704GC - 70 mm
- 0804GC - 80 mm
- 0904GC - 90 mm
- 1204GC - 110 mm



PVC T-piece **DT**



USE:

- aesthetically pleasing and easy way to connect straight sections of assembly trays

COLOUR:

- RAL 9010 (Pure White)

AVAILABLE DIMENSIONS:

- 0813DT - 80 mm
- 0913DT - 90 mm
- 1213DT - 110 mm

PVC connector **GF**



USE:

- aesthetically pleasing and easy way to connect straight sections of assembly trays

COLOUR:

- RAL 9010 (Pure White)

AVAILABLE DIMENSIONS:

- 0611GF - 60 mm
- 0811GF - 80 mm



Condenser fixing **SL**



PRODUCT CHARACTERISTICS:

- folded arms connected by 3 screws
- powder painted (RAL 9002)
- possible adjustment of spacing between the fixing shock absorbers
- a complete set ready for installation (installation plugs, screws, shock absorbers)

| | A [mm] | B [mm] | C [mm] | Ud [kg] | T [mm] |
|---------------|------------------|------------------|------------------|-------------------|------------------|
| SL-430 | 400 | 430 | 330 | 110 | 1,5 |

Condenser fixing with a crossbar and level **HL**



PRODUCT CHARACTERISTICS:

- crossbar with adjustable fastening
- folding arms, sliding connection, powder-painted (RAL 9002)
- possible adjustment of spacing between the fixing shock absorbers
- installation crossbar equipped with a level
- a complete set ready for installation (installation plugs, screws, shock absorbers)

| | A [mm] | B [mm] | C [mm] | D [mm] | Ud [kg] | T [mm] |
|---------------|------------------|------------------|------------------|------------------|-------------------|------------------|
| HL-450 | 375 | 450 | 365 | 780 | 150 | 1,5 |
| HL-550 | 375 | 550 | 375 | 780 | 160 | 1,5 |

A: height **B:** length of arms **C:** usable length of arms **D:** length of crossbar **Ud:** lifting capacity **T:** metal thickness



Condensate removal pump **MINI DROP**



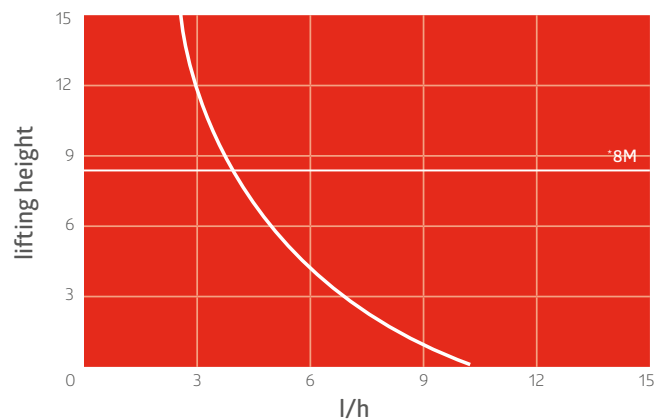
PRODUCT CHARACTERISTICS:

- the Mini Pump is designed to be installed: above the false ceiling where possible or in plastic conduit
- **dimensions (H × W × D):** 65 × 104 × 32 mm
- **weight:** 0,25 kg
- **outlet tube size:** 6 mm
- **power:** 230 V, 50-60 Hz
- **energy consumption:** 16 W
- 23dB(A) @ 1m
- **maximum lifting height:** 8 m
- **maximum suction height:** 1 m
- **maximum capacity:** 10 l/h (at a height 0 m)
- **maximum water temperature:** 40°C
- thermal protection
- **high-level condensate safety switch:** 3A potential-free contact - normally closed
- CE marked

INCLUDES:

- pump
- power cable
- reservoir
- inlet tube
- breather tube
- cable ties
- AV pad

EFFICIENCY:



* maximum lifting height



Pipe for drips **TU**



PRODUCT CHARACTERISTICS:

- simple and quick installation with no need to use special tools
- durable material resistant to external factors
- flexible construction
- reinforcing spiral preventing pipe crushing

| | øD [mm] | L [m] |
|---------------|------------|----------|
| 0016TU | 16 | 30 |
| 0018TU | 18 | 30 |
| 0020TU | 20 | 30 |

PVC holder **SP**



PRODUCT CHARACTERISTICS:

- supports made of PVC
- corrosion-resistant
- cellular structure eliminates the need to use shock-absorbing pads
- blanking plug **342TP** is also available

| | L [mm] | Ud [kg] |
|--------------|-----------|------------|
| 351SP | 350 | 200 |
| 451SP | 450 | 200 |

øD: diameter L: length Ud: lifting capacity



Insulated copper cooling pipes



A copper pipe made in accordance with UNI-EN 12735-1. Designed for the distribution of cooling media. Annealed in coils, sealed at ends to keep the internal surface clean and dry. Insulated with polyethylene, in compliance with UNI-EN 10376, free of CFC (chlorofl uorocarbons) and HFCF (hydrochlorofl uorocarbons), according to CEE/EU 2037/200 regulation.

The appropriate thickness of insulation prevents water condensation under normal working conditions: the temperature of liquid in the pipe at least 7°C, temperature inside the room 27°C, internal relative humidity lower or equal to 50%.

PRODUCT CHARACTERISTICS:

- **resistance to vapour diffusion** μ : = 6100
- **thermal conductivity 40°C**: $\lambda \leq 0,038$ W/m²K
- **density of insulation material**: 33,3 kg/m³
- **fire resistance rating** 1 acc. to D.M. 26/06/1984 as amended by the D.M. 03/09/2001
- **does not contain CFC** (chlorofl uorocarbons) and HFCF (hydrochlorofluorocarbons)
- **marked** in one-metre spacing

| øD [mm] | øD ["] | L [m] |
|--------------------------|-------------------------|------------------------|
| 6 | 1/4 | 25 |
| 9 | 3/8 | 25 |
| 12 | 1/2 | 25 |
| 16 | 5/8 | 25 |
| 19 | 3/4 | 25 |
| 22 | 7/8 | 25 |

øD: diameter L: length



Refrigerants



Refrigerants for air-conditioning and refrigeration equipment are chemical compounds or mixtures of several compounds the task of which is to participate in the exchange of heat between the environment and the components of the air-conditioning system. The refrigerant circulates in the system and due to thermodynamic changes - compression and expansion - it absorbs or releases heat. We offer refrigerants for domestic air conditioning, car air conditioning and refrigeration systems. The products have a safety card, a document authorising the use of agents in Poland.

On special request, it is possible to purchase the refrigerant in one tonne tanks.

R134A

is one of the most popular refrigerants. It is widely used in industrial and commercial installations and, for example, in automotive air conditioning. The new climate protection regulations mean that it will be phased out by other refrigerants.

Available in cylinders: 11.0 / 12.2 / 25.0 kg.

R407C

is a refrigerant widely used for, e.g., Split air conditioning units, heat pumps and chillers.

Available in cylinders: 11.0 / 25.0 kg.

R32

is a new generation, homogeneous refrigerant with very low environmental impact. It contributes to high performance and greater efficiency of the appliances in which it is used. It is suitable for household, commercial and industrial devices.

Available in a cylinder: 9.0 kg.

R410A

is a product widely used for, e.g., Split air-conditioning units. It is an environmentally friendly replacement for the phased-out refrigerant R22.

Available in cylinders: 9.8 / 11.0 / 25.0 kg.



Washing and disinfecting agent **NANOCLEAN AIR**



Ready-to-use preparation for cleaning and disinfection at the bactericidal and yeasticidal levels and for disinfection at the bactericidal, fungicidal, yeasticidal, virucidal and sporicidal levels of:

- air conditioning and ventilation systems in vehicles and private buildings, in the medical, food, industrial and institutional sectors, as well as in public facilities such as fitness centres, SPA salons, hairdressing salons, beauty salons, massage studios
- walls and floors, rooms, devices and equipment, all surfaces in the food, industrial, institutional and public sectors, as well as in fitness centres, SPA salons, hairdressing salons, beauty salons, massage studios
- walls and floors in rooms, devices and equipment and all surfaces (excluding medical devices) in the medical sector
- devices, equipment, all surfaces in contact with food in the medical, food and institutional sectors
- equipment, containers, dishes and kitchen utensils, surfaces and pipelines used for the production, transport, storage or consumption of food

CHEMICAL COMPOSITION*:

- 2-aminoethanol (ethanolamine): 2-5%
- didecyldimethylammonium chloride (DDAC): 2-5%
- potassium carbonate: 2-5%
- N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine: 2-5%
- propan-2-ol: 1-2%

AVAILABLE VERSIONS:

- lavender
- orchid
- unscented

VOLUME:

- 1 litre

* weight percentage



Concentrate for washing, cleaning and degreasing **FRIONETT ACTIV**



A refreshing agent for washing, cleaning and degreasing. Designed to eliminate bacteria and fungi, Frionett® Activ cleans, degreases and eliminates odour. Ideal for regular maintenance of air conditioning and refrigeration equipment. Used as a concentrate or diluted with water.

PRODUCT CHARACTERISTICS:

- effectively removes oils, grease, tobacco deposits, dust, tarnish and other dirt
- liquid concentrate - can be used diluted with water to save money
- acid-free and non-corrosive
- leaves a pleasant fragrance
- requires rinsing

DILUTION:

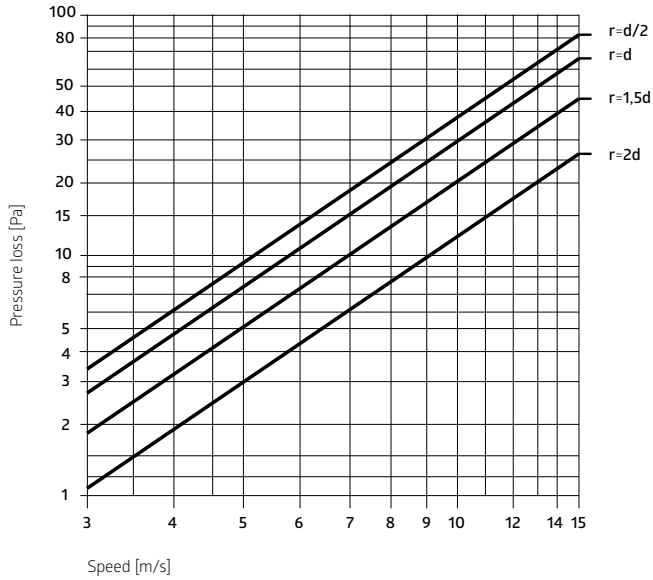
- for typical use of the preparation, it can be diluted in the 1:4 proportion
- 1 bottle gives 19 l of the preparation

VOLUME:

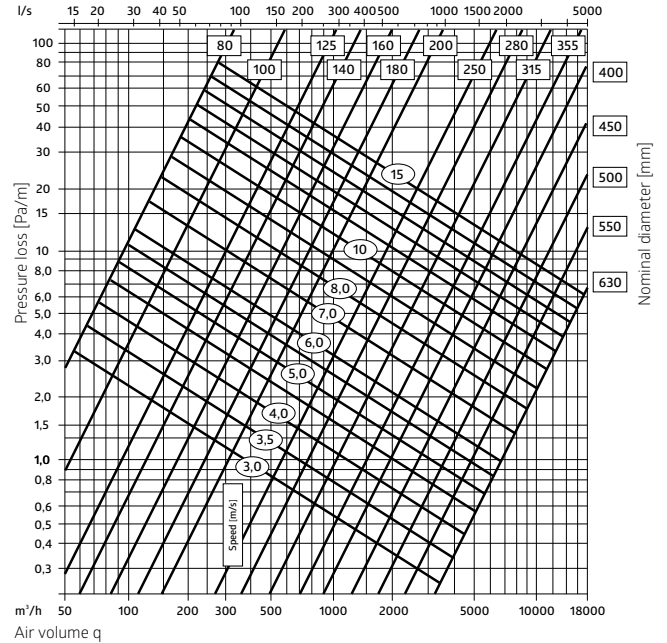
- 5 litres

Flexible duct specifications

AF012, AF013, AF019, M0izo, S-FLEX®, POLYFLEX AND COMBIFLEX:



Local pressure loss on bends and elbows - chart



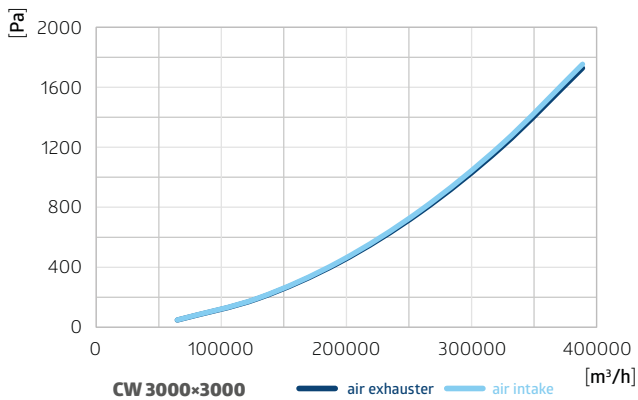
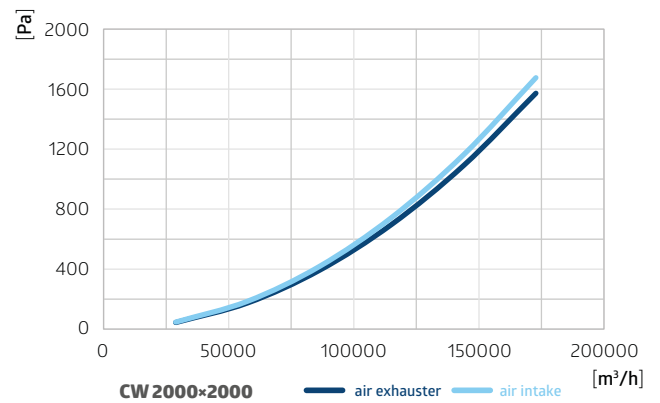
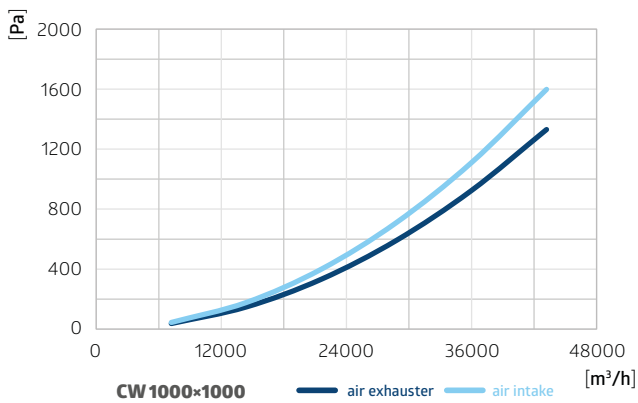
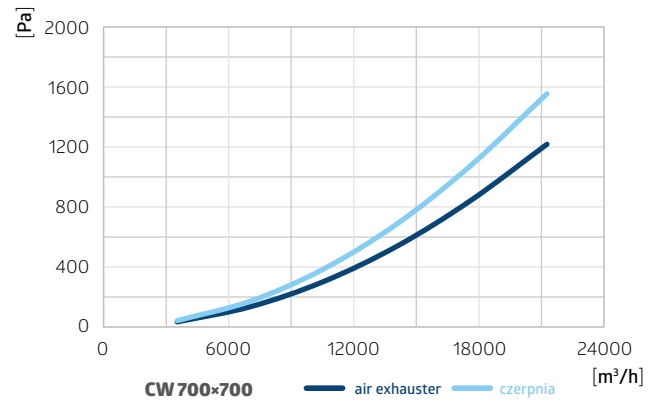
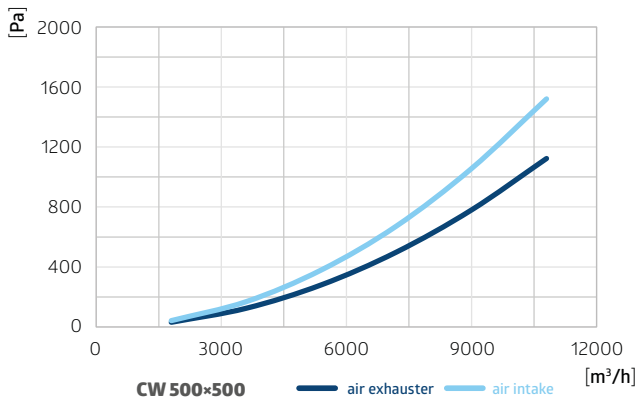
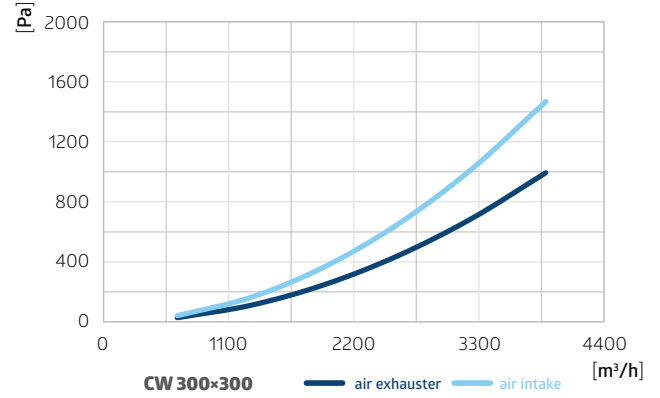
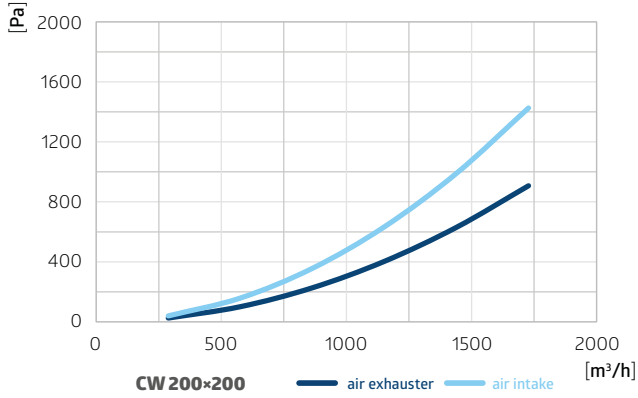
Linear pressure loss chart

NOISE ATTENUATION AF013 = 2000 mm:

| Frequency [Hz] | Reduction of the noise level through the ducts walls [dB(A)] | | Noise attenuation [dB(A)] | |
|----------------|--|----------|---------------------------|----------|
| | 1/3 okt. | 1/1 okt. | 1/3 okt. | 1/1 okt. |
| 100 | 16,1 | | 31,6 | |
| 125 | 19,7 | 18,4 | 28,5 | 29,1 |
| 160 | 21,0 | | 27,9 | |
| 200 | 18,8 | | 29,1 | |
| 250 | 17,5 | 15,2 | 31,6 | 31,5 |
| 315 | 12,3 | | 37,3 | |
| 400 | 13,9 | | 38,4 | |
| 500 | 11,1 | 10,8 | 39,0 | 38,9 |
| 630 | 8,8 | | 39,3 | |
| 800 | 9,5 | | 39,2 | |
| 1000 | 9,0 | 9,3 | 41,0 | 40,9 |
| 1250 | 9,3 | | 43,6 | |
| 1600 | 10,3 | | 44,3 | |
| 2000 | 11,1 | 11,1 | 48,2 | 46,7 |
| 2500 | 12,2 | | 49,5 | |
| 3150 | 13,9 | | 43,9 | |
| 4000 | 17,6 | 16,3 | 35,4 | 32,8 |
| 5000 | 19,3 | | 29,1 | |

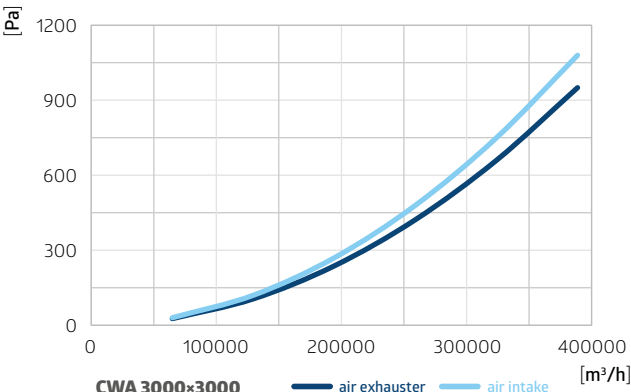
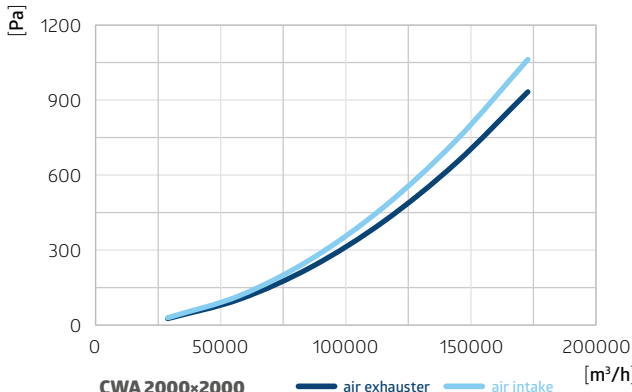
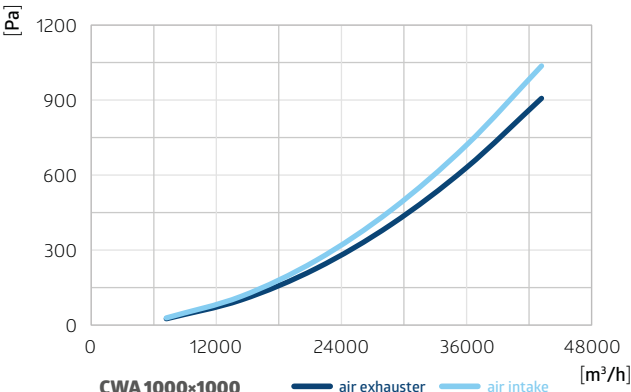
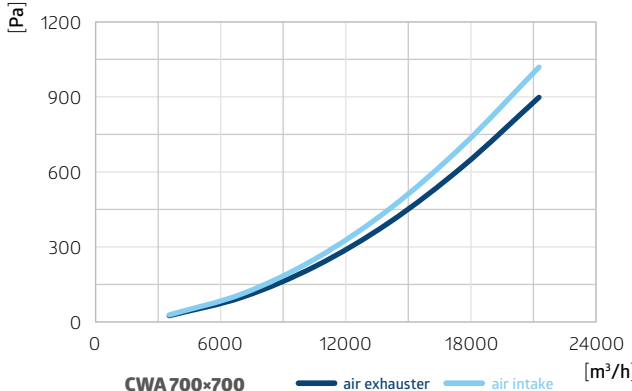
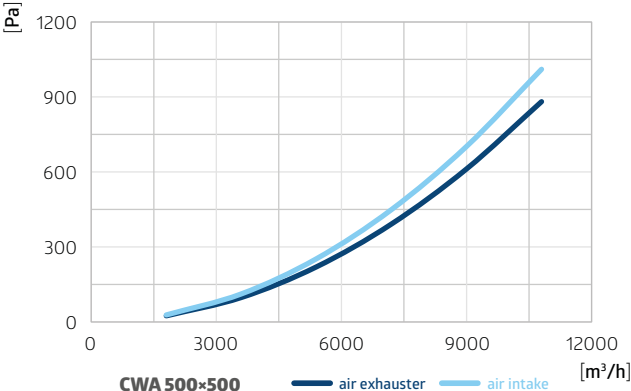
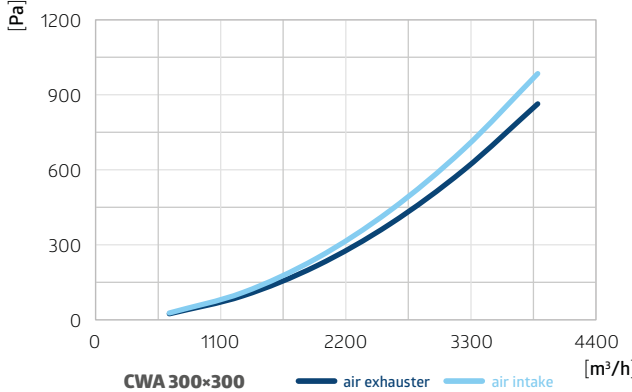
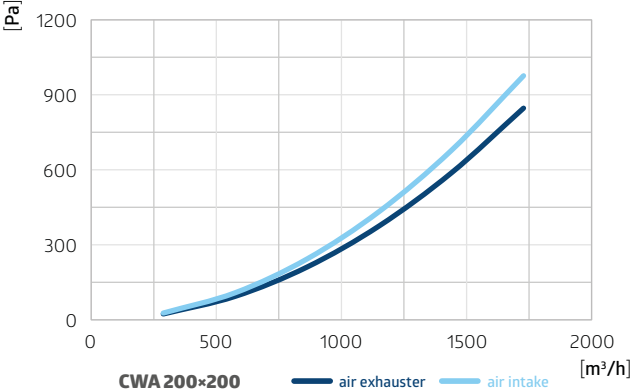
Pressure loss diagrams for selected products

CW

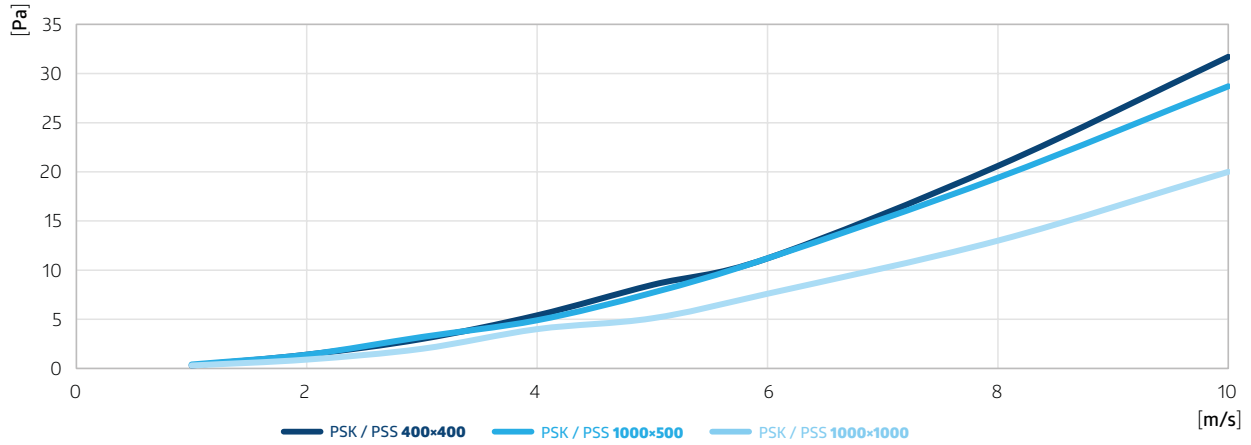




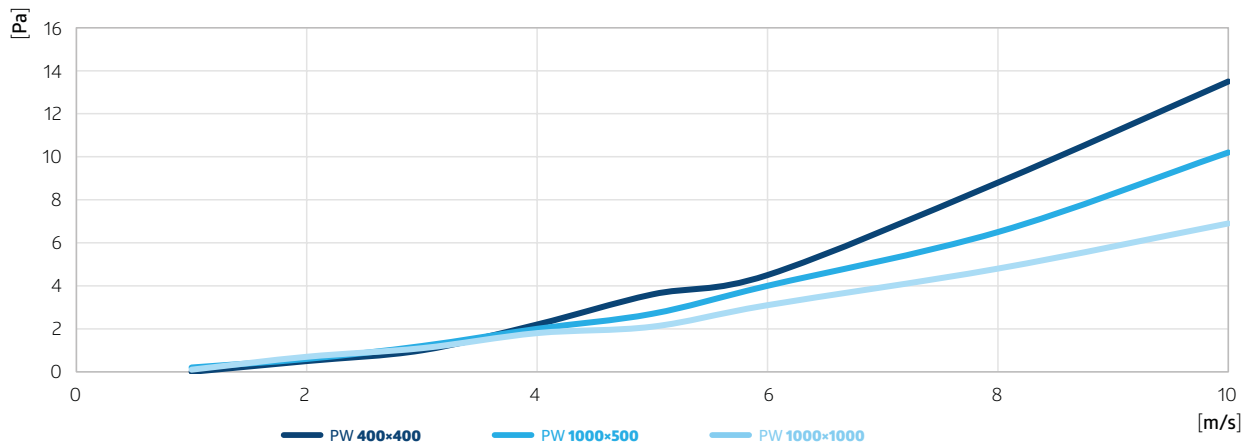
CWA



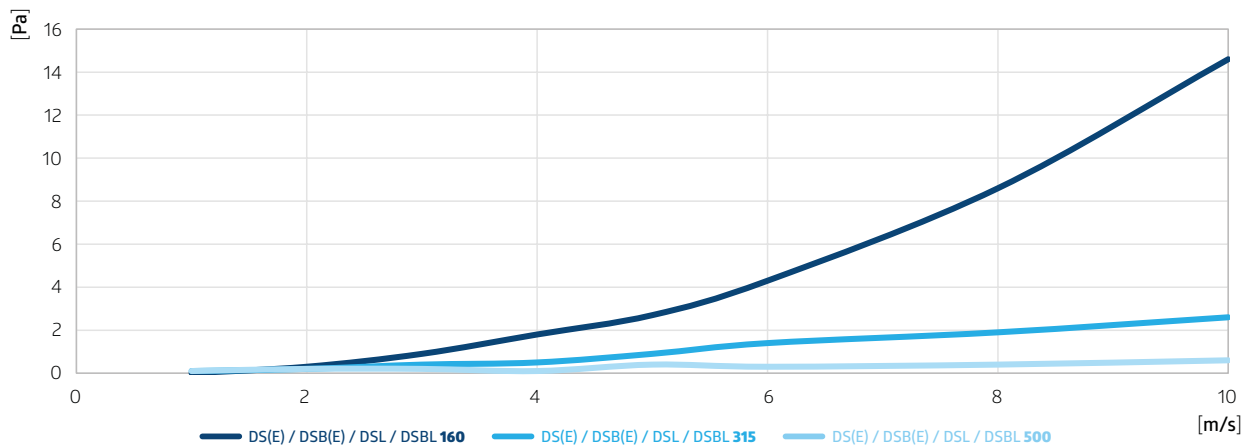
PSK / PSS*



PW*



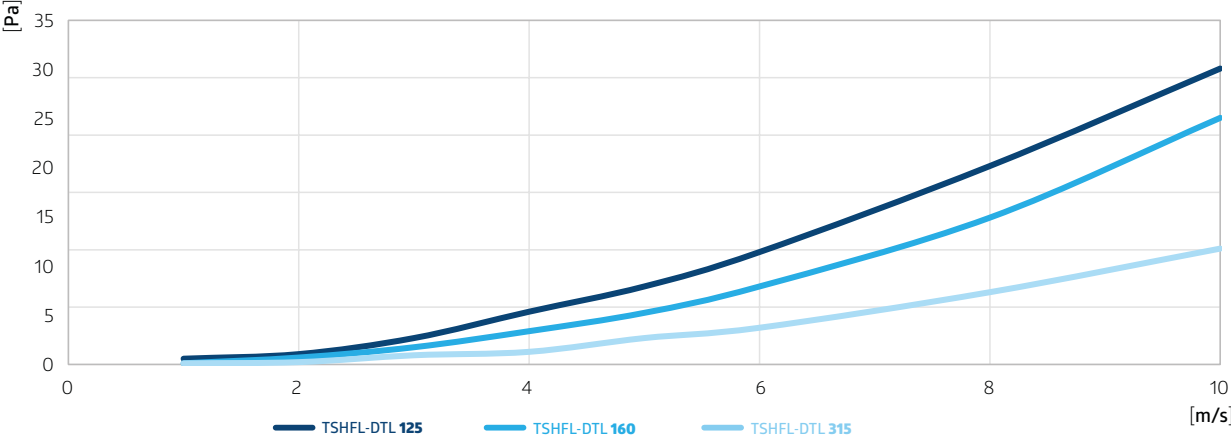
DS(E) / DSB(E) / DSL / DSBL



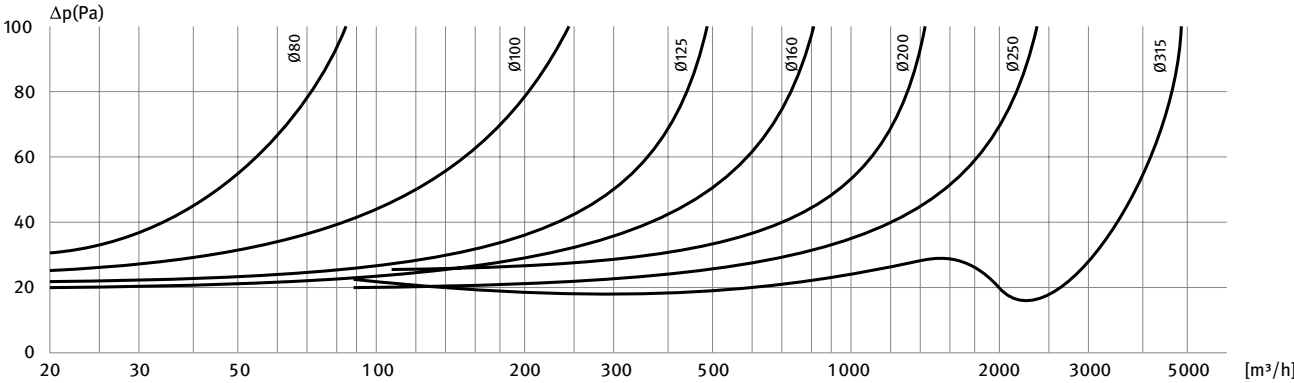
* For a 1,000x1,000 mm damper, the pressure drop values for speeds of 8 and 10 m/s were obtained by extrapolation.



TSHFL-DTL

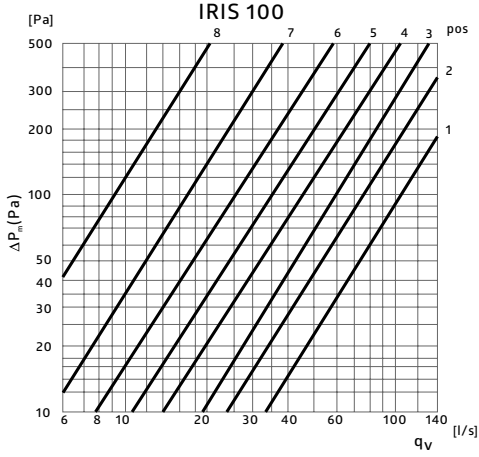


RSK

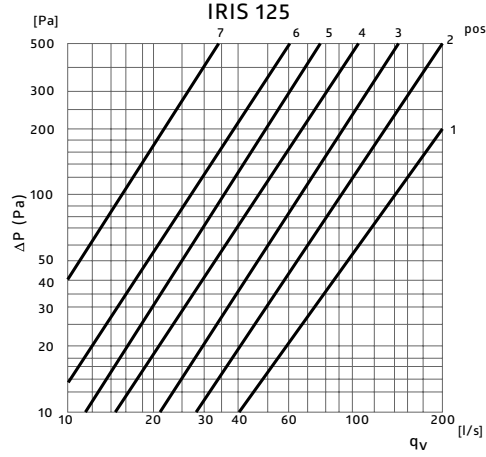




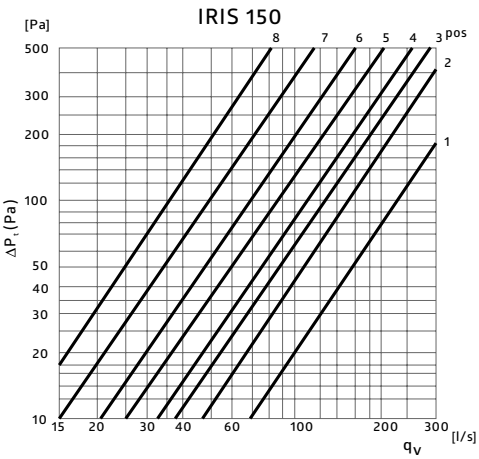
IRIS



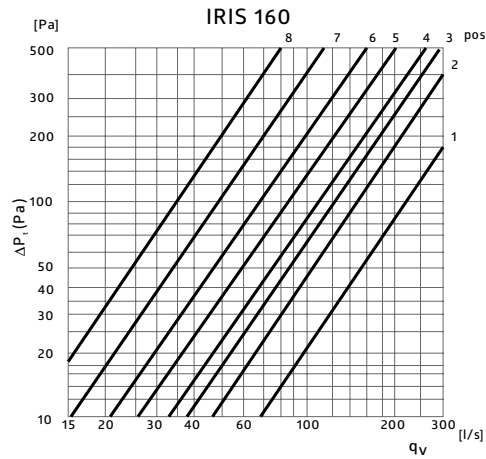
| pos | k |
|-----|------|
| 1 | 10,4 |
| 1,5 | 7,9 |
| 2 | 7,5 |
| 2,5 | 6,6 |
| 3 | 6,0 |
| 3,5 | 5,2 |
| 4 | 4,5 |
| 4,5 | 3,8 |
| 5 | 3,4 |
| 5,5 | 2,9 |
| 6 | 2,5 |
| 6,5 | 2,1 |
| 7 | 1,7 |
| 7,5 | 1,2 |
| 8 | 0,9 |



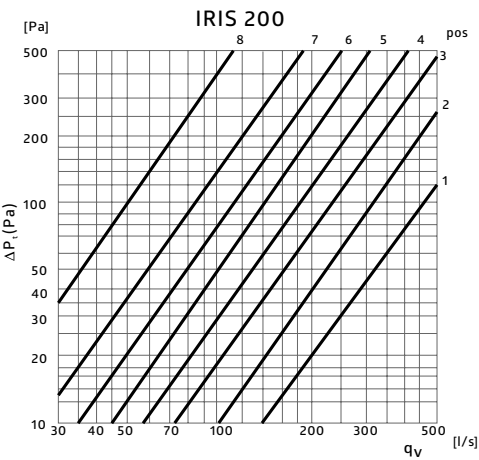
| pos | k |
|-----|------|
| 1 | 13,8 |
| 1,5 | 10,4 |
| 2 | 8,8 |
| 2,5 | 7,3 |
| 3 | 6,5 |
| 3,5 | 5,5 |
| 4 | 4,7 |
| 4,5 | 4,0 |
| 5 | 3,5 |
| 5,5 | 3,1 |
| 6 | 2,7 |
| 6,5 | 2,2 |
| 7 | 1,5 |



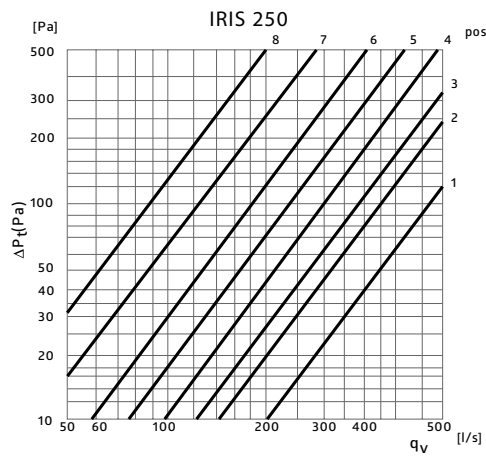
| pos | k |
|-----|------|
| 1 | 22,1 |
| 1,5 | 17,2 |
| 2 | 14,8 |
| 2,5 | 13,4 |
| 3 | 12,5 |
| 3,5 | 11,5 |
| 4 | 10,7 |
| 4,5 | 9,5 |
| 5 | 8,5 |
| 5,5 | 7,5 |
| 6 | 6,8 |
| 6,5 | 5,6 |
| 7 | 4,9 |
| 7,5 | 4,0 |
| 8 | 3,5 |



| pos | k |
|-----|------|
| 1 | 22,1 |
| 1,5 | 17,2 |
| 2 | 14,8 |
| 2,5 | 13,4 |
| 3 | 12,5 |
| 3,5 | 11,5 |
| 4 | 10,7 |
| 4,5 | 9,5 |
| 5 | 8,5 |
| 5,5 | 7,5 |
| 6 | 6,8 |
| 6,5 | 5,6 |
| 7 | 4,9 |
| 7,5 | 4,0 |
| 8 | 3,5 |

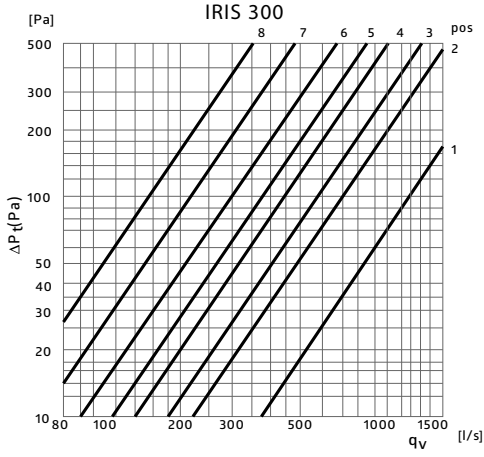


| pos | k |
|-----|------|
| 1 | 44,2 |
| 1,5 | 36,6 |
| 2 | 30,9 |
| 2,5 | 26,9 |
| 3 | 23,2 |
| 3,5 | 20,6 |
| 4 | 18,2 |
| 4,5 | 15,9 |
| 5 | 14,0 |
| 5,5 | 12,3 |
| 6 | 11,0 |
| 6,5 | 9,6 |
| 7 | 8,4 |
| 7,5 | 6,5 |
| 8 | 5,0 |

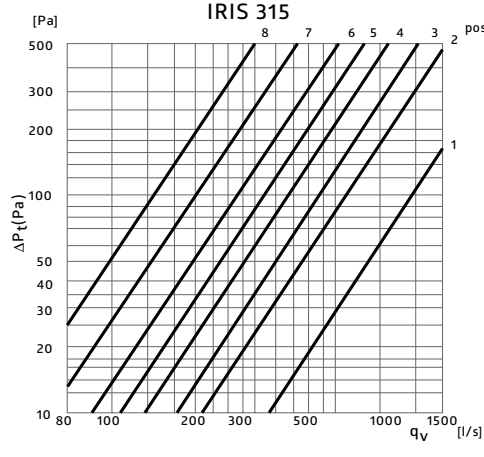


| pos | k |
|-----|------|
| 1 | 64,4 |
| 1,5 | 53,5 |
| 2 | 45,6 |
| 2,5 | 41,8 |
| 3 | 38,7 |
| 3,5 | 34,5 |
| 4 | 30,7 |
| 4,5 | 27,3 |
| 5 | 24,1 |
| 5,5 | 21,4 |
| 6 | 18,4 |
| 6,5 | 15,8 |
| 7 | 12,8 |
| 7,5 | 10,9 |
| 8 | 8,9 |

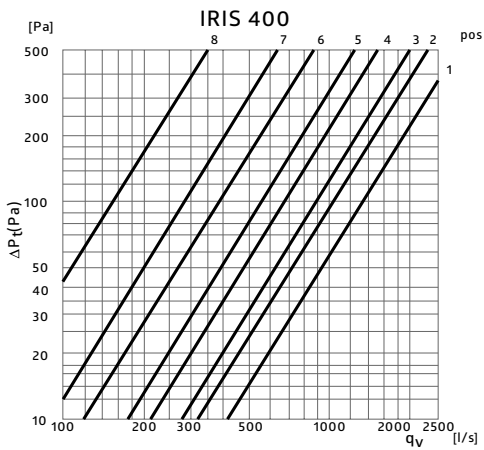
$$q_v = k \sqrt{\Delta p_m}$$



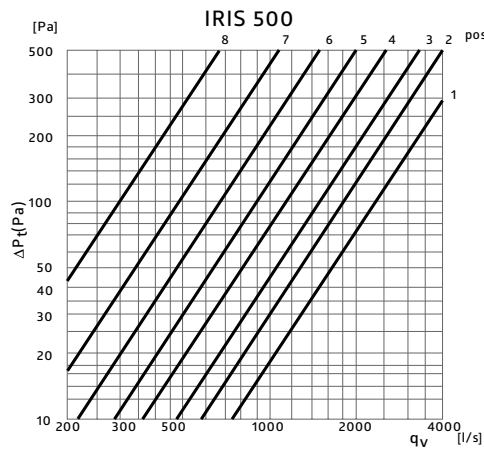
| pos | k |
|-----|-------|
| 1 | 118,0 |
| 1,5 | 88,3 |
| 2 | 70,0 |
| 2,5 | 64,5 |
| 3 | 58,7 |
| 3,5 | 53,0 |
| 4 | 45,1 |
| 4,5 | 42,4 |
| 5 | 37,0 |
| 5,5 | 33,3 |
| 6 | 30,0 |
| 6,5 | 25,9 |
| 7 | 21,8 |
| 7,5 | 19,0 |
| 8 | 15,8 |



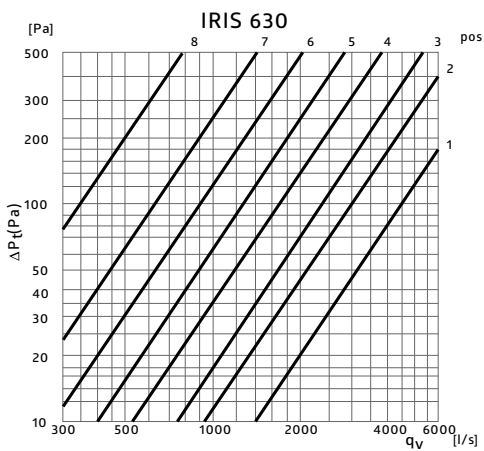
| pos | k |
|-----|-------|
| 1 | 118,0 |
| 1,5 | 88,3 |
| 2 | 70,0 |
| 2,5 | 64,5 |
| 3 | 58,7 |
| 3,5 | 53,0 |
| 4 | 45,1 |
| 4,5 | 42,4 |
| 5 | 37,0 |
| 5,5 | 33,3 |
| 6 | 30,0 |
| 6,5 | 25,9 |
| 7 | 21,8 |
| 7,5 | 19,0 |
| 8 | 15,8 |



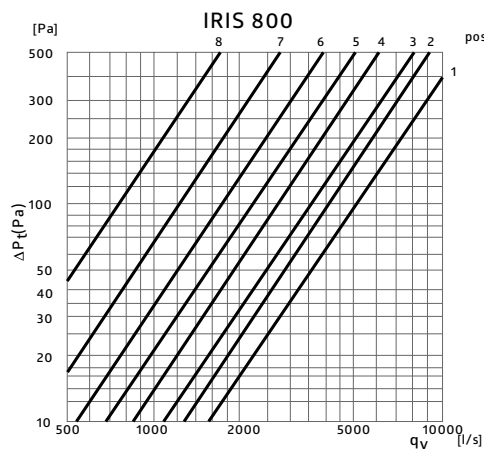
| pos | k |
|-----|-------|
| 1 | 131,0 |
| 2 | 102,0 |
| 3 | 88,3 |
| 4 | 67,3 |
| 5 | 52,7 |
| 6 | 38,5 |
| 7 | 28,4 |
| 8 | 15,5 |



| pos | k |
|-----|-------|
| 1 | 230,0 |
| 2 | 177,0 |
| 3 | 146,0 |
| 4 | 112,0 |
| 5 | 88,5 |
| 6 | 66,6 |
| 7 | 48,0 |
| 8 | 30,0 |



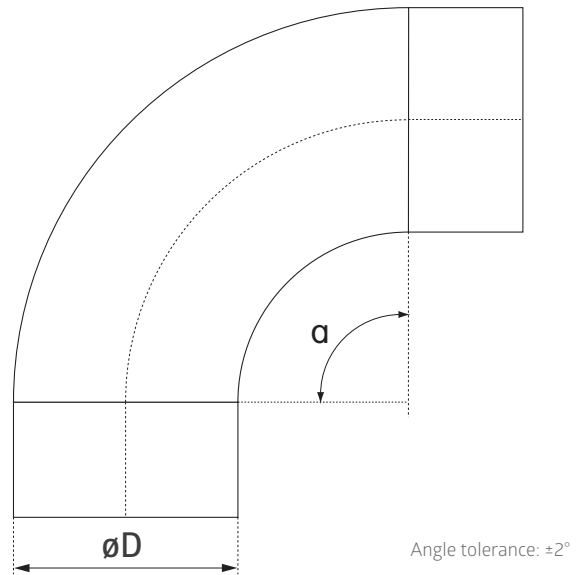
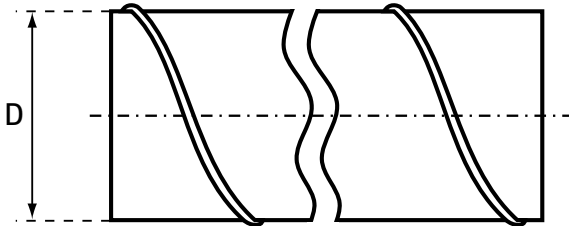
| pos | k |
|-----|-------|
| 1 | 451,0 |
| 2 | 297,0 |
| 3 | 238,0 |
| 4 | 169,0 |
| 5 | 127,0 |
| 6 | 91,6 |
| 7 | 62,8 |
| 8 | 35,1 |



| pos | k |
|-----|-------|
| 1 | 489,0 |
| 2 | 402,0 |
| 3 | 344,0 |
| 4 | 267,0 |
| 5 | 217,0 |
| 6 | 170,0 |
| 7 | 122,0 |
| 8 | 73,7 |

$$q_v = k \sqrt{\Delta p_m}$$

Tolerances



DIAMETER RANGE FOR DUCTS:

| D_{nom} [mm] | D_{min} [mm] | D_{max} [mm] |
|-------------------|-------------------|-------------------|
| 80 | 80,0 | 80,5 |
| 100 | 100,0 | 100,5 |
| 125 | 125,0 | 125,5 |
| 140 | 140,0 | 140,6 |
| 150 | 150,0 | 150,6 |
| 160 | 160,0 | 160,6 |
| 180 | 180,0 | 180,7 |
| 200 | 200,0 | 200,7 |
| 224 | 224,0 | 224,8 |
| 250 | 250,0 | 250,8 |
| 280 | 280,0 | 280,9 |
| 300 | 300,0 | 300,9 |
| 315 | 315,0 | 315,9 |
| 355 | 355,0 | 356,0 |
| 400 | 400,0 | 401,0 |
| 450 | 450,0 | 451,1 |
| 500 | 500,0 | 501,1 |
| 560 | 560,0 | 561,2 |
| 630 | 630,0 | 631,2 |
| 710 | 710,0 | 711,5 |
| 800 | 800,0 | 801,6 |
| 900 | 900,0 | 902,0 |
| 1000 | 1000,0 | 1002,0 |
| 1120 | 1120,0 | 1122,5 |
| 1250 | 1250,0 | 1252,5 |

DIAMETER RANGE FOR FITTINGS:

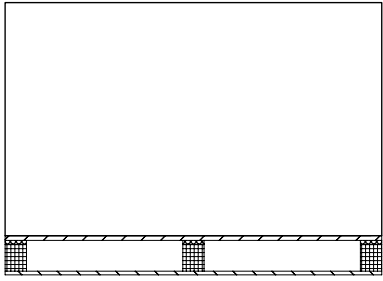
| D_{nom} [mm] | D_{min} [mm] | D_{max} [mm] |
|-------------------|-------------------|-------------------|
| 80 | 78,8 | 79,3 |
| 100 | 98,8 | 99,3 |
| 125 | 123,8 | 124,3 |
| 140 | 138,7 | 139,3 |
| 150 | 148,7 | 149,3 |
| 160 | 158,7 | 159,3 |
| 180 | 178,6 | 179,3 |
| 200 | 198,6 | 199,3 |
| 224 | 222,5 | 223,3 |
| 250 | 248,5 | 249,3 |
| 280 | 278,4 | 279,3 |
| 300 | 298,4 | 299,3 |
| 315 | 313,4 | 314,3 |
| 355 | 353,3 | 354,3 |
| 400 | 398,3 | 399,3 |
| 450 | 448,2 | 449,3 |
| 500 | 498,2 | 499,3 |
| 560 | 558,1 | 559,3 |
| 630 | 628,1 | 629,3 |
| 710 | 708,0 | 709,3 |
| 800 | 798,0 | 799,3 |
| 900 | 897,9 | 899,3 |
| 1000 | 997,9 | 999,3 |
| 1120 | 1117,8 | 1119,3 |
| 1250 | 1247,8 | 1249,3 |

PN-EN 1506.



Packaging measurements

P1

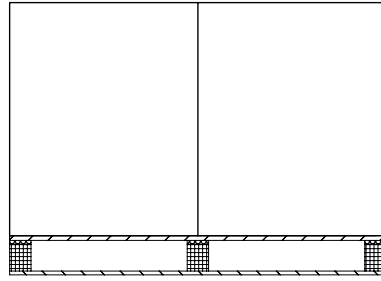


Side view

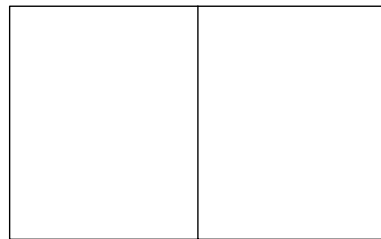


Top view

P2

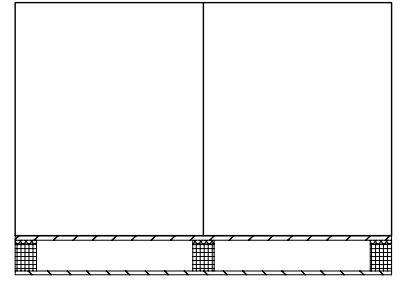


Side view

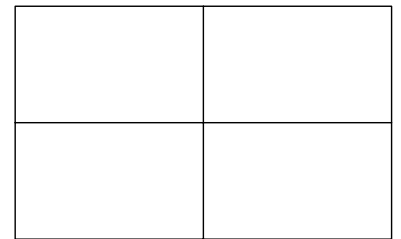


Top view

P4

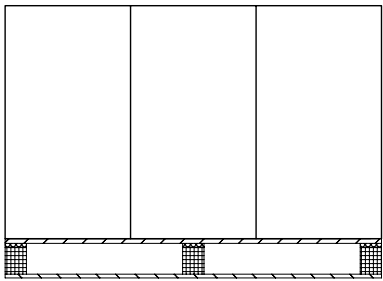


Side view

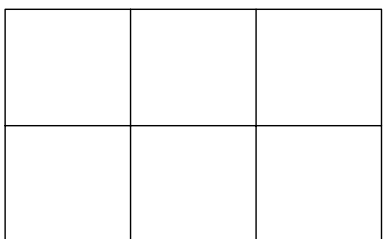


Top view

P6

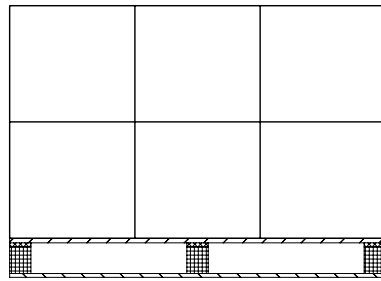


Side view

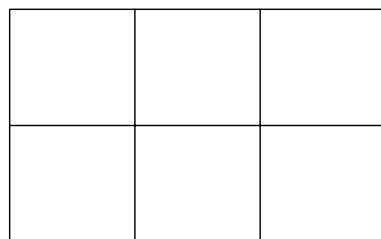


Top view


P12



Side view



Top view

| | L [mm] | W [mm] | H [mm] |  |
|------------|------------------|------------------|------------------|---|
| P1 | 1200 | 800 | 800 | 1 |
| P2 | 600 | 800 | 800 | 2 |
| P4 | 600 | 400 | 800 | 4 |
| P6 | 400 | 400 | 800 | 6 |
| P12 | 400 | 400 | 400 | 12 |

 Pack/pallet

L: length **W**: width **H**: height

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