Damper

with a hermetically enclosed release mechanism

WBE-K90-18017
Test certificate Z-41.3-619

Resistance class K90-18017

Ordering example:
WBE-W-K90-18017/100/MS-E

Accessories (optional)
MS-E - electrical limit switch
RT - tee for cleaning
SNP-S - male sleeve connection
NP - male-male connector

NW 100, 125, 160 and 200 (NW 80 only for the insertion into WFR)

W = installation into walls, optionally with a mounting frame type:
ER, **ER-I**, **ER-T** - steel mounting frame for the embedding with mortar (wet mounting)
WS - steel mounting frame with a fastening plate and dowels, without the embedding with mortar (dry mounting)
WP - steel mounting frame with a square fastening plate, without the embedding with mortar (dry mounting)
WP-Z - as above, however for the installation of classified or system-tested shafts, optionally with a connecting collar, type ÜG
- without a mounting frame for the insertion into spirally wound ducting

D = Floor installation along with ceiling sleeve

Essential advantages

- The WBE dampers ideally fulfill the functioning of a K90-18017 resistance class damper.
- The dampers can be mounted into walls and floors..
- No special fixing arrangements are required (i.e. saving of time and high economy).
- The dampers are allowed to be used in ventilation systems in accordance with DIN 18017-3 for supply and exhaust air inside and outside of F90/F30 shaft partition walls, L90/L30 classified of system-tested shafts with or without embedding with mortar (wet and dry installation).
- The dampers are allowed to be used in domestic kitchens.
- Ventilation hoods (hoods without an own fan), which are part of a central ventilation system in accordance with DIN 18017-3, are allowed to be connected to these dampers.

Essential features

1/ Safety classification.
- Official classification:
  Resistance class K90-18017
- 72 °C release temperature
- Maximum sealing between the body and the blades

2/ Low noise level
- Insignificant reduction of cross-sectional area
- The damper can be combined with a disk valve without disturbing the through-flow of air (ideal relation between the air volume and noise level).

3/ Sizes available
- NW 80 (only for the insertion into spirally wound ducting)
  NW 100
  NW 125
  NW 160
  NW 200

with a hermetically enclosed release mechanism

DEUTSCHES INSTITUT FÜR BAUTECHNIK

Anstalt des öffentlichen Rechts

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GeschZ.: III 12-1.41.3-1/00

Allgemeine bauaufsichtliche Zulassung

Zulassungsnummer: Z-41.3-619

Antragsteller: Strulik GmbH
Neesbacher Straße 13
65597 Hünfelden-Dauborn

Zulassungsgegenstand: Absperrvorrichtungen gegen Brandübertragung in Lüftungsleitungen entsprechend DIN 18 017, Typ WBE K90-18 017

Geltungsdauer bis: 15. Februar 2005

Der oben genannte Zulassungsgegenstand wird hiermit allgemein bauaufsichtlich zugelassen. Diese allgemeine bauaufsichtliche Zulassung umfasst sieben Seiten und drei Anlagen.

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Installation example inside and outside of shaft walls

Please note:
For dampers in front of shaft wall (max. 6 m), spirally wound ducting or flexible steel ducts shall be used.

***Note:**
Plastic sewer pipes or lines, which are inside the service shaft, shall be secured under fire-proofing aspects in the area of the floor penetration (with R90 fire protection collar and cable partition).

Technical description

A = max. 1000 cm^2

$L_{max.} \leq 6$ m

x ≤ 1,5 m
Suspension device, permissible tensile load max. 6 N/mm^2

y = F30 or F90 shaft wall
L30 or L90 duct
F30 = minimum wall thickness 24 mm
F90 = minimum wall thickness 40 mm
or system-tested components*

= Symbol for the WBE damper

= Symbol for the steel or plastic disk valve or exhaust air automaton

Ⓣ = Partition that does not have a fire resistance time or not present

= Symbol for a damper in accordance with DIN 4102-6 or in accordance with EN 1366-2

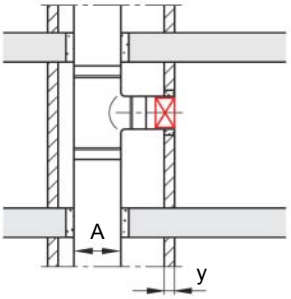
(!) = A K90-18017 damper is not allowed to be installed

(1) = Suspension in accordance with the provisions of classified ducts

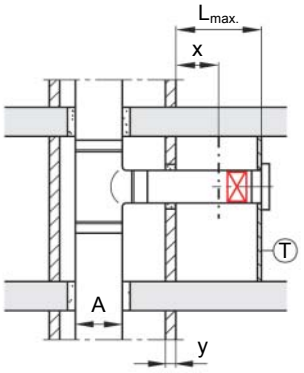
***see system components:**

HS 1-1 S **Page 35 to 42**
D.A.S. **Page 43 to 57**

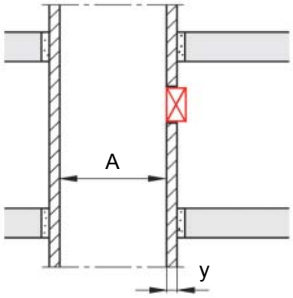
Installation into a service shaft with internal fire load*



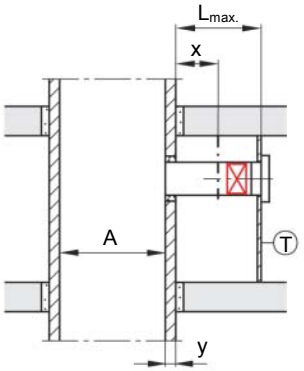
Installation outside of a service shaft with internal fire load*



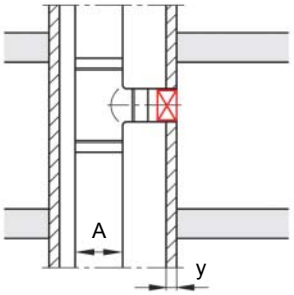
Installation into a classified or system-tested shaft



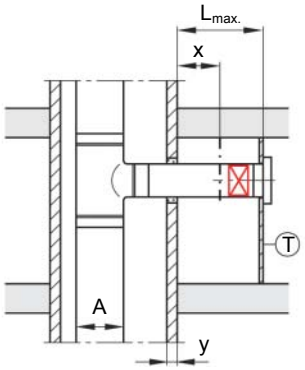
Installation outside of a classified or system-tested shaft



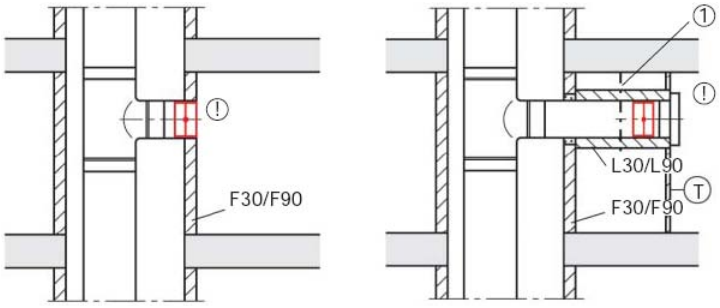
Installation into a service shaft without combustible materials



Installation outside of a service shaft without combustible materials



Installation inside and outside of classified service shafts (with combustible materials, e.g. electric cables or plastic ducts)



Damper

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WBE-K90-18017
Test certificate Z-41.3-619

Resistance class K90-18017

Installation example inside and outside of shaft walls

ER mounting frame

Towards the shaft wall, the mounting frame, type ER, is suitable for the direct connection with WFR, ALUFLEX ductwork or no connection.
Towards the room, e.g. cooker hoods (without built-in ventilator), exhaust air automatons, disk valves or extended ducting can be directly connected by means of a NP male-male connector.
Furthermore, the ER-I and ER-T mounting frames (see details of the mounting frames) are available, which are towards the shaft wall designed such that a sound-absorbing bend or tube turn can be inserted.
For the insertion into standard spirally wound ducting it is recommended that a rivet or a small sheet metal screw is used as a stop ⊗.
Note: The dampers can be used independent of the direction of airflow.

Dimensions

ØD = 80 mm, only for the insertion into standard spirally wound ducting

ØD = 100, 125, 160 and 200 for all fitting positions

Technical description

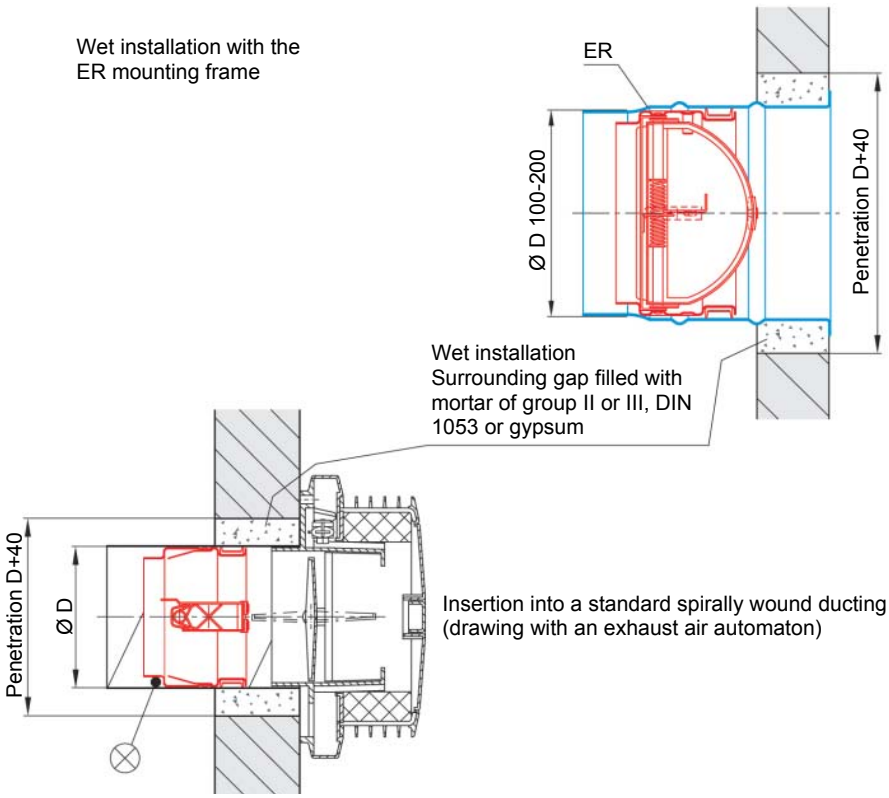
y = F30 = minimum wall thickness 24 mm
F90 = minimum wall thickness 40 mm

= Symbol for the WBE damper

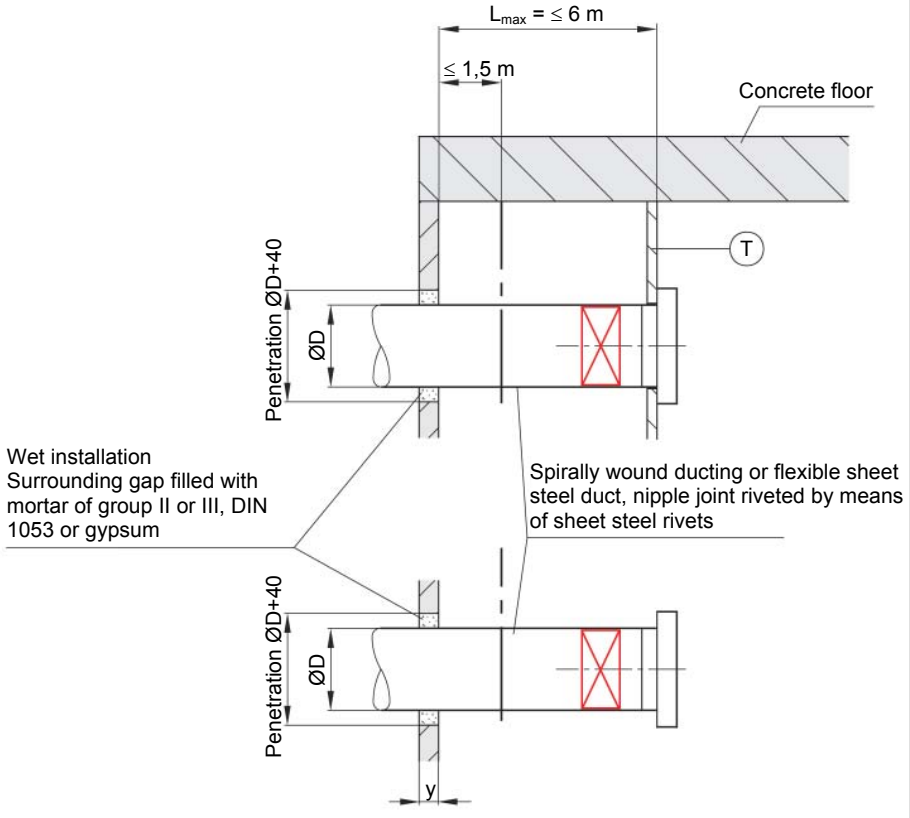
= Symbol for the steel or plastic disk valve or exhaust air automaton

Ⓣ = Partition that does not have a fire resistance time or not present

Installation inside of F90/F30 shaft partition walls, L90/L30 classified or system-tested shaft with a mortar embedding (WET INSTALLATION)



Installation inside of F90/F30 shaft partition walls, L90/L30 classified or system-tested shaft with a mortar embedding (WET INSTALLATION)



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Damper

with a hermetically enclosed release mechanism

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Resistance class K90-18017

Installation example inside and outside of shaft walls

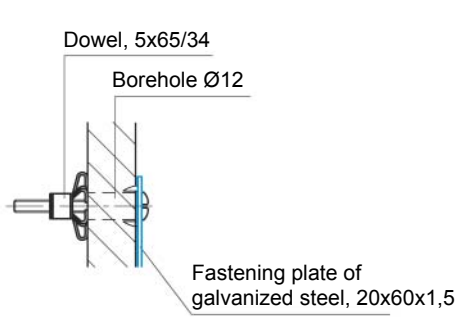
Installation inside and outside of F90/F30 shaft walls, L90/L30 classified or system-tested shafts without an embedding of mortar (DRY INSTALLATION)

All dimensions in mm

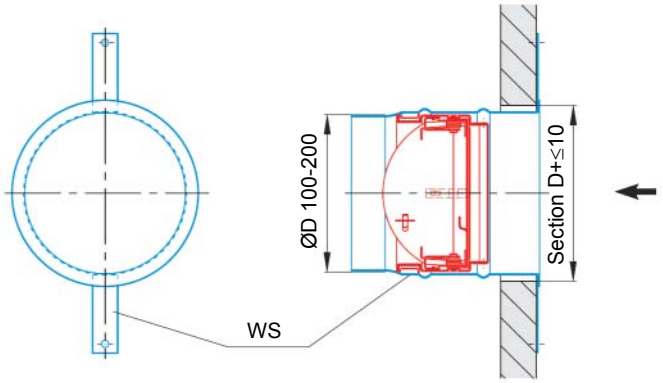
Fastening of the WP and WP-Z mounting frames

Installation into	Fastening by means of
Brickwork or concrete walls without a mortar embedding	Metall dowels
Walls or shafts of solid gypsum or fireproofing boards, metal stand walls with a covering of fireproofing boards	Wooden screws
In principle, a A1 adhesive (type: SBK 2000) shall be used between the wall and the square sheet metal plate. Mounting material by the installer!	

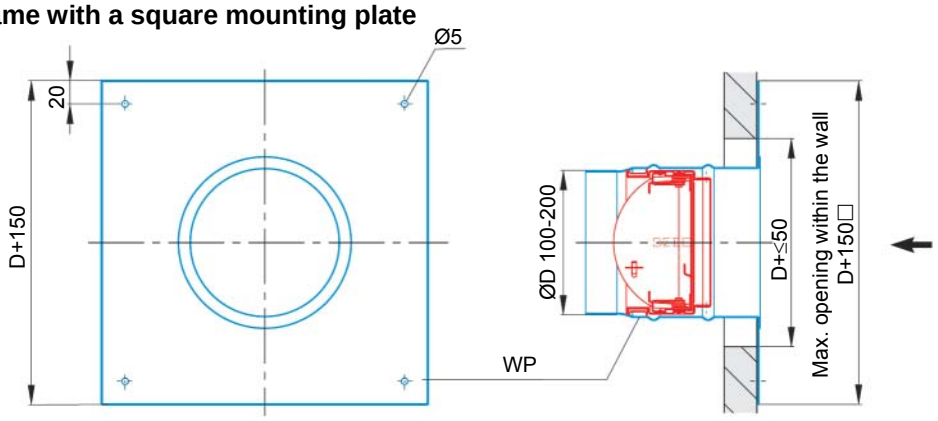
WS mounting frame with two mounting plates that are staggered by 180°



For mounting within shaft walls that are min. 24-34 mm thick, not embedded with mortar



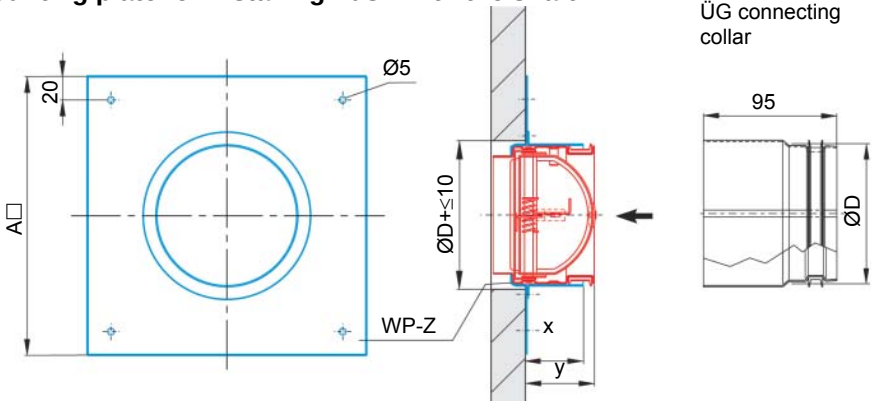
WP mounting frame with a square mounting plate



WP-Z mounting frame with a square mounting plate for installing flush with the shaft

ØD	A□*	x	y
80	200	~31	~37
100		~40	~47
125			

*other dimensions on request



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Test certificate Z-41.3-619
Resistance class K90-18017

Facility for inspection and cleaning when mounting into a wall with an extended ventilation duct

Facility for inspection in case of an extended ventilation duct of WFR

- SNP-S male sleeve connection with a rubber lip sealing

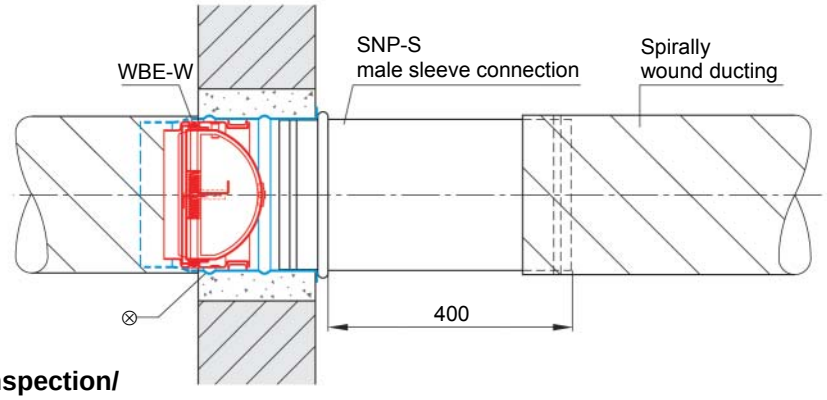
Facility for inspection in case of an extended ventilation duct of flexible aluminium ducting

- NP male-male connector with a rubber lip sealing

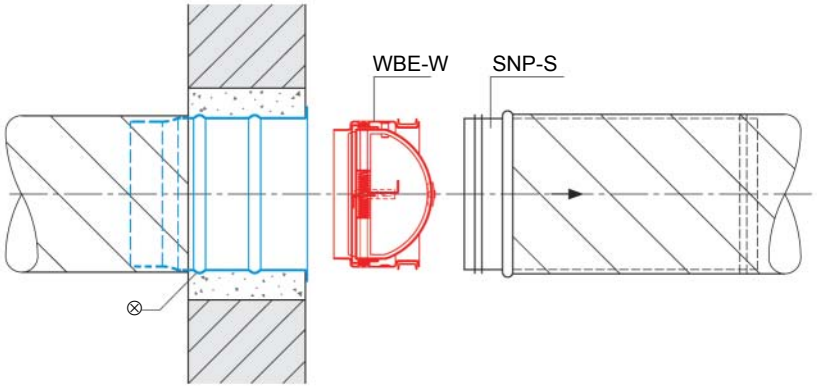
⊗ mounting frame as previously mentioned or standard spirally wound ducting

For installation guidelines, maintenance and repair see our separate operating instructions

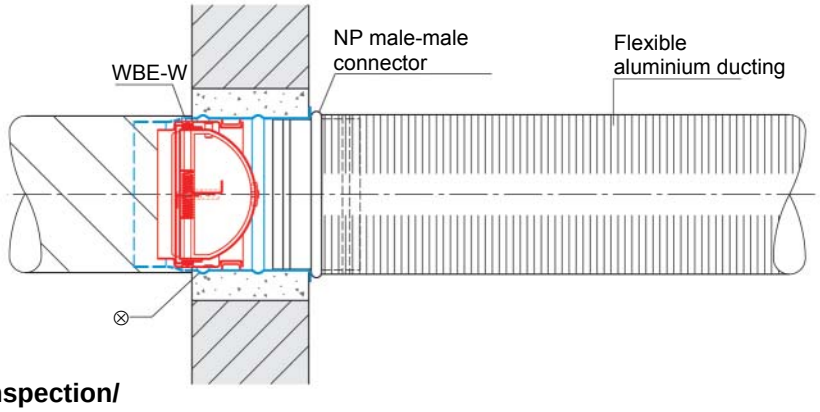
Operating condition



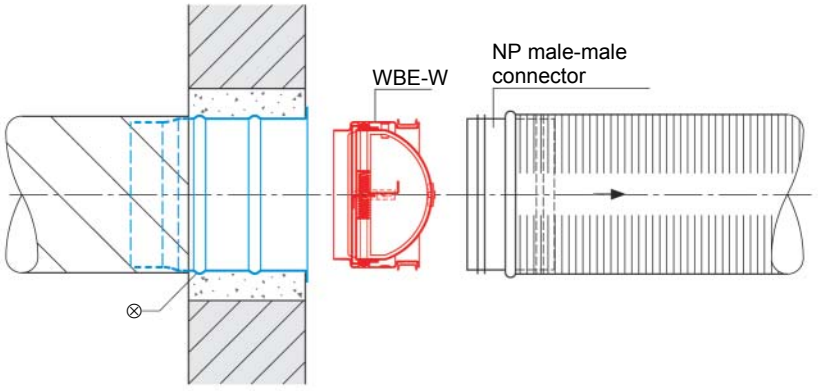
Inspection/ cleaning



Operating condition



Inspection/ cleaning



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Resistance class K90-18017

Installation example:
Floors including a facility for inspection and cleaning

A mounting frame of calcium silicate is always required for the installation of the WBE-D.
Extended ventilation ducts of sheet steel are connected by means of the NP male-male connector.
The inspection side can be installed above or, as shown, beneath the floor. For this the mounting frame and element have to be turned by 180°.

For installation guidelines, maintenance and repair see our separate operating instructions

RT tee for cleaning

Here the inspection cover and connecting collar or inlet spigot can be exchanged.

Note

Where required, the SNP-S male sleeve connection (not shown in the drawing) can also be used for inspection purposes.

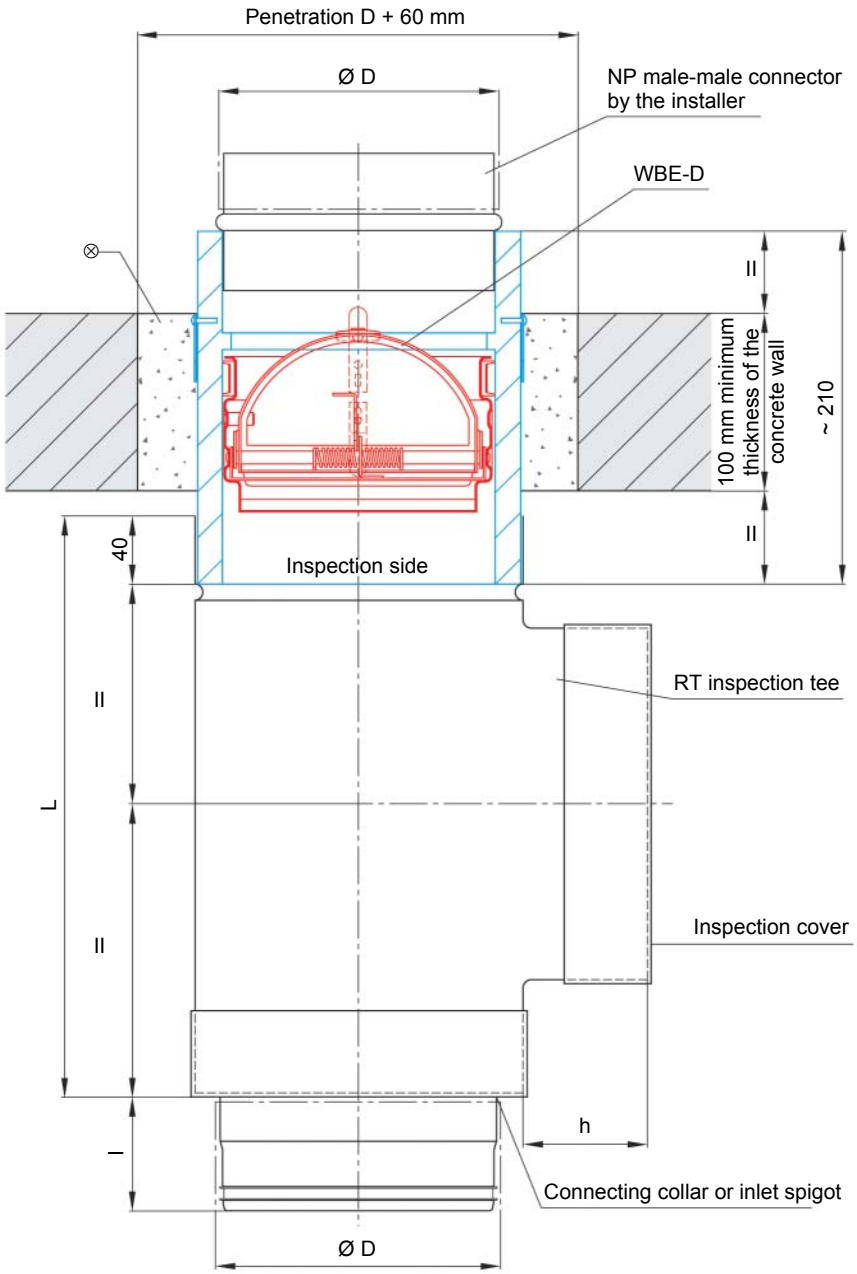
Dimensions

ØD = 100, 125, 160 or 200

Dimensions in mm

RT	ØD	L	l	h
100	100	275	65	~65
125	125	300	65	~70
160	160	335	67	~75
200	200	370	68	~80

Mounting into floors that have a fire resistance time of 30 - 90 minutes – including a facility for inspection and cleaning



⊗ Surrounding gap filled with mortar, mortar group II or III, DIN 1053 or with gypsum

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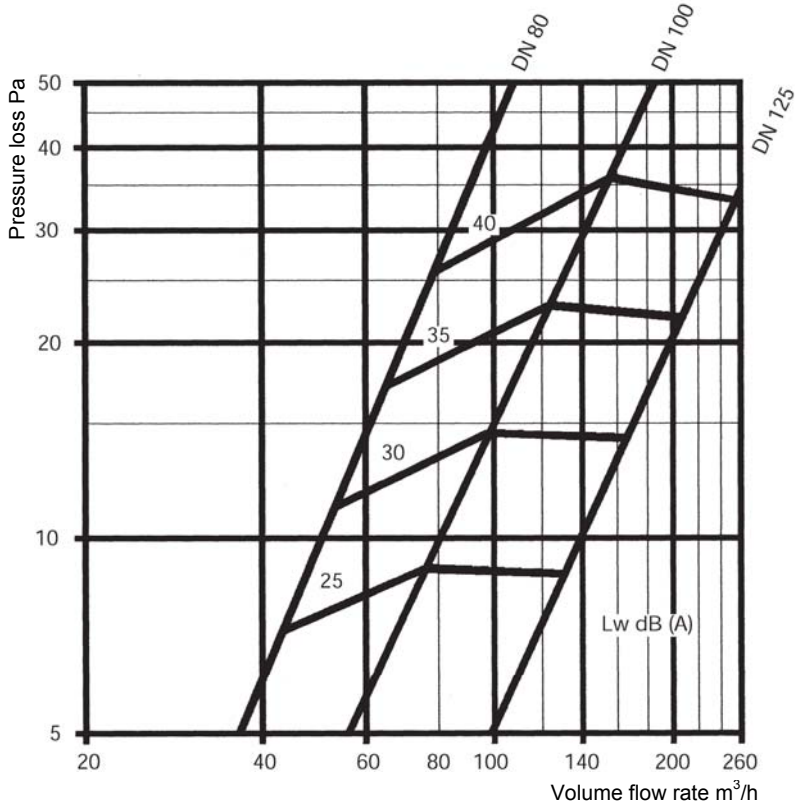
Design diagrams

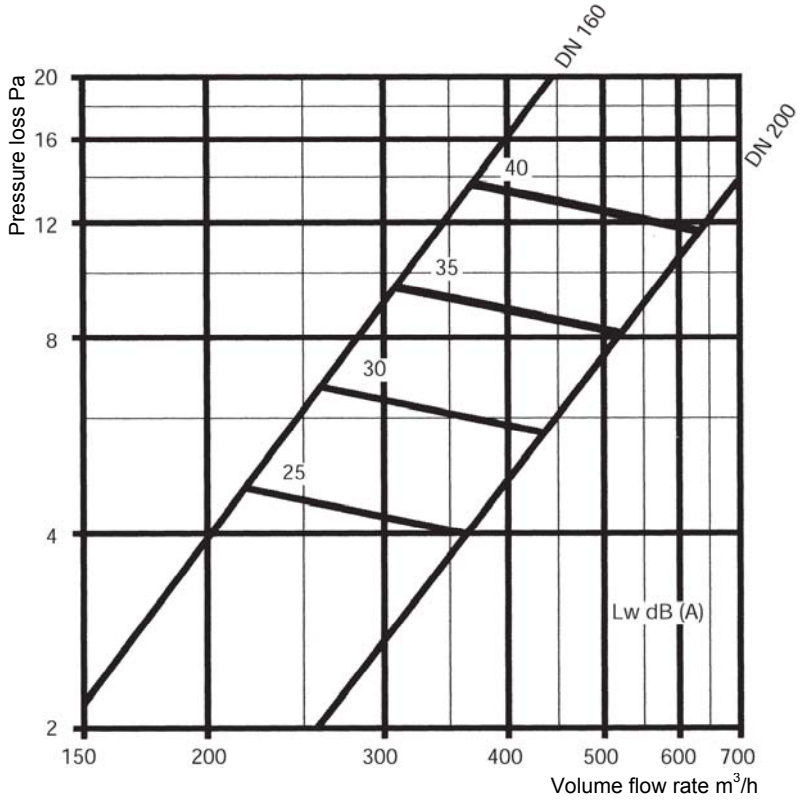
Pressure loss and noise level



Note

For aerodynamic reasons the airflow velocity shall not exceed ≤ 8 m/s.

The WBE dampers can be used for all directions of airflow.



Damper

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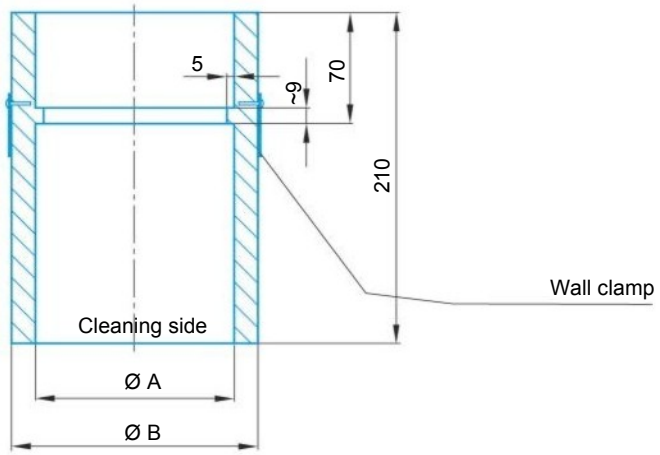
Resistance class K90-18017

Technical data of the mounting frame

Dimensions

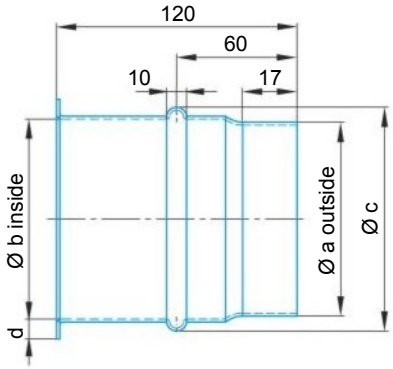
NW	Ø A	Ø B	Ø a	Ø b	Ø c	d
80	Only for the insertion into spirally wound ducting					
100	101	141	98	101	109	~ 10
125	126	166	124	128	133	~ 10
160	161	201	159	162	170	~ 12
200	201	241	199	201	209	~ 12

Floor mounting frame for WBE-D (always complete)



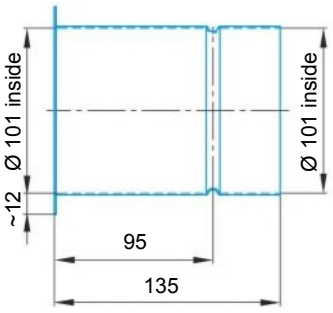
Please note:
When installing, always take care of the sign »cleaning side«.
The position of the cleaning side cannot be changed after the embedding with mortar.

Wall mounting frame, type: ER

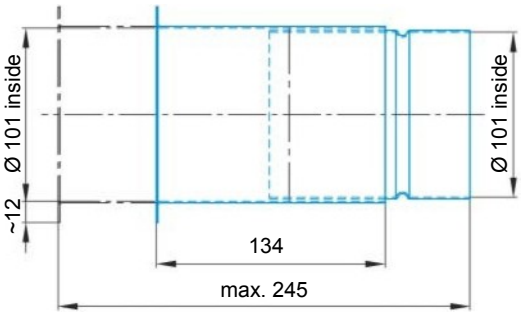


Special mounting frame (only in NW 100) for the direct connection to a sound-absorbing bend

Type: ER-I



As a telescopic frame
Type: ER-T



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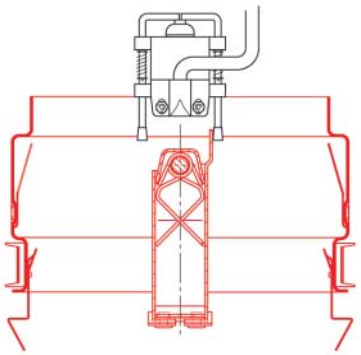
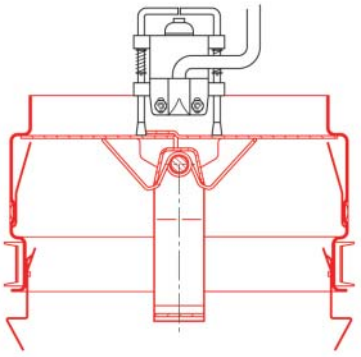
Accessory:
MS-E electrical limit switch

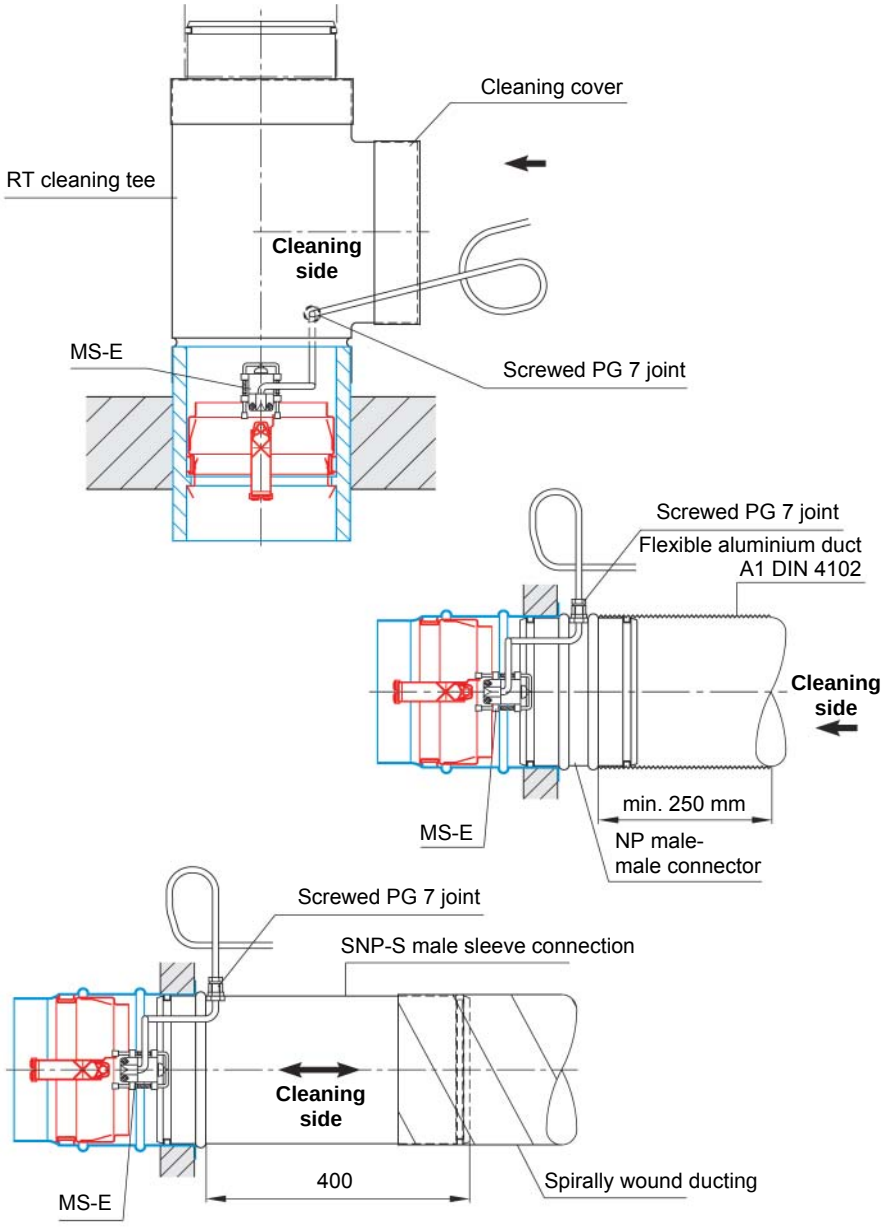
Position »OPEN«



Position »CLOSED«



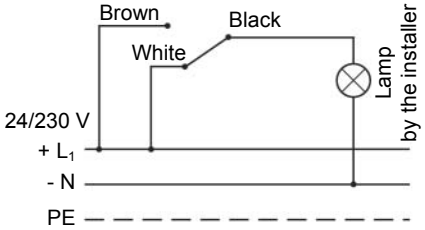
Facility to inspect the WBE-D damper including electrical limit switch



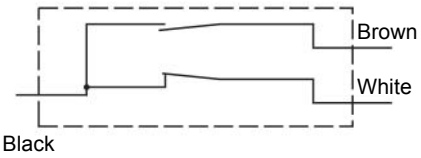
Lead the cable of the MS-E limit switch out of the screwed joint (PG 7) and leave a loop of ca. 50 cm with a cable binder outside the duct for inspection, so that the damper can be removed easily

Wiring diagram

Display: »CLOSED« - black/white
»CLOSED« - black/brown



Wiring diagram: MS-E



Technical details

Single-pole converter
IP 65
Constant current/nominal insulation current:
1,9 A/380 V or 3 A/240 V

Short circuit protection:
6 A fuse, class gl in accordance with IEC 269-1, VDE 0660-200

Tested in accordance with IEC 947-5-1 and EN 60947-5-1

Cable length: 2 m

Cross-sectional area: 3 x 0,34 mm^2

Item	Description	Unit Piece	Unit price EUR	Total EUR
	Installation into walls **Damper with a hermetically enclosed release mechanism, test certificate Z-41.3-619**, for ventilation systems in accordance with DIN 18017, with a K90-18017-3 fire resistance class. Installation inside and outside of F90/F30 shaft partition walls, L90/L30 classified or system-tested shafts with or without a mortar embedding (wet or dry installation). Minimum thickness 24 mm for F30 Minimum thickness 40 mm for F90 The housing consists of a steel cylinder, with two eccentrically arranged butterfly blades of sheet steel and the hermetically enclosed release mechanism. For the installation into a wall, the damper is simply inserted into the mounting frame or the spirally wound ducting. **Technical data** Diameters: 80 mm (only for the insertion into standard spirally wound ducting) 100 mm 125 mm 160 mm 200 mm Total length including mounting frame: 120 mm Release temperature: 72 °C Air volume: m^3/h Noise level Lw_A: dB[A] Manufacturer: **Strulik** Type: **WBE-W-K90-18017 + ER** including mounting frame **Accessories** Electrical limit switch Type: **MS-E** Male sleeve connection Type: **SNP-S** Male-male connection Type: **NP** **Special mounting frames** Type: **WP** including fastening plate, without mortar embedding Type: **WP-Z** as above, however for the installation into shafts Type: **WS** including fastening clip and steel dowels, without mortar embedding Type: **ER-I** for the direct connection with a bend or sound-absorbing bend (only NW 100) Type: **ER-T** as above, however in telescopic design (only NW 100)			

Tender Text

Item	Description	Unit Piece	Unit price EUR	Total EUR
	Installation into floors **Damper with a hermetically enclosed release mechanism, test certificate Z-41.3-619**, for ventilation systems in accordance with DIN 18017, with a K90-18017-3 fire resistance class. Installation into concrete floors, minimum thickness 100 mm. The housing consists of a steel cylinder, with two eccentrically arranged butterfly blades of sheet steel and the hermetically enclosed release mechanism. For the installation into a floor, a special mounting frame is used that has a bar, which takes up the two mounting springs that are staggered by 180°. **Technical data** Diameters: 100 mm 125 mm 160 mm 200 mm Total length including mounting frame: 210 mm Release temperature: 72 °C Air volume: m^3/h Noise level Lw_A: dB[A] Manufacturer: **Strulik** Type: **WBE-D-K90-18017** including mounting frame **Accessories** Electrical limit switch Type: **MS-E** Inspection tee Type: **RT** Male sleeve connection Type: **SNP-S** Male-male connection Type: **NP**			