

**PA**

Ventilation grille

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## FUNCTION AND USE

The ventilation grille PA is suitable for use in supply and return air installations and for installation in walls, ceilings, floors and ventilation ducts. For air deflection, **horizontal, fixed profiled blades are fitted at the front side.**

**The basic type PA-...-01** with clamp mounting (-KB, standard) or with concealed mounting (-VM, standard for -AK or -ER1 / -ER2) or screw mounting (-SM) is suitable for **wall mounting.**

**The basic type PA-...-03** with concealed mounting (-VM) is suitable for **floor installation.** It can also be used for wall installation.

According to the required air throw pattern, the blade profile of the basic types PA-...-01 and PA-...-03 can be selected from three different blade profiles (**PA-...-Z standard**, PA-...-G and PA-...-S).

The blade spacing of basic types PA-...-01 and PA-...-03 for **non-walk-on** and **non-ball-impact-resistant use is 13 mm (standard)**, while for **walk-on** (only PA-...-03) and **ball-impact-resistant use** (for PA-...-01 only in combination with screw mounting -SM) (acc. to DIN 18032, Part 3) it is **8 mm.**

The blade insert can be removed for cleaning purposes (PA-...-03).

The basic type PA-...-10 consists of a narrow front frame and blades made of aluminium extrusion profiles anodized in natural colour. The standard blade spacing is 13 mm, optionally 8 mm. This grille type is generally neither walk-on nor ball-impact-resistant.

At an extra charge, a plenum box can be mounted. The damper in the spigot of the plenum box (at an extra charge) serves for easy air volume regulation.

The technical data apply to all models.

## MODELS

PA-...-01-...	<b>installation in walls, ceilings and ventilation ducts. With wide frame profile (24 mm).</b> With front side fixed, horizontal profiled blades
PA-...-2a-...	same as PA-...-01, additionally with individually adjustable vertical droplet-forming blades.
PA-...-2b-...	same as PA-...-01, additionally with hit-and-miss damper.
PA-...-2c-...	same as PA-...-01, additionally with individually adjustable vertical droplet-forming blades and hit-and-miss damper.
PA-...-10-...	<b>installation in walls, ceilings and ventilation ducts. With narrow frame profile (10 mm).</b> With front side fixed, horizontal profiled blades, with narrow frame profile.
PA-...-03-...	<b>installation in walls and floors. With wide frame profile (25 mm).</b> With removable blade insert consisting of horizontal fixed profiled blades.
PA-...-05-...	same as PA-...-03, additionally with individually adjustable vertical droplet-forming blades.
PA-...-06-...	same as PA-...-03, additionally with individually adjustable vertical droplet-forming blades and hit-and-miss damper.
PA-...-07-...	same as PA-...-03, additionally with hit-and-miss damper.
PA-Z-...	blade profile Z, lightweight model, diagonal throw (standard).
PA-G-...	blade profile G, compact model, straight throw.
PA-S-...	blade profile S, compact model, diagonal throw.
PA-08-...	blade spacing 8 mm
PA-13-...	blade spacing 13 mm (standard)
PA-...-N-...	single design (standard)
PA-...-B-...	band design (available lengths according to SCHAKO standard for band design)

## MOUNTING

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- for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c:
  - Screw mounting (-SM)
    - standard for band design
    - band design is only available with -SM.
    - screws must be provided on site.
  - Concealed mounting (-VM)
    - only possible with plenum box or installation frame, at an extra charge.
  - Clamp mounting (-KB)
    - standard for single design
    - only possible without plenum box or installation frame.
- for PA-...-10:
  - Concealed screw mounting (-VS)
    - for single and band design
    - only possible with plenum box or counter pole brace (on site).
- for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07:
  - Concealed mounting (-VM)
    - for single and band design
    - only possible with plenum box or installation frame, at an extra charge.

## PROCESSING

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### Frame and blades

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- Extruded aluminium profile (-AL-...):
  - natural colour anodised (E6/EV1) (-ELOX, standard)
  - Painted to RAL colour 9010 (white) (-9010, standard)
  - painted to a freely selectable RAL colour (-xxxx, at an extra charge) (always with 4 digits).
- Droplet-forming blade only for model PA-...-2a / PA-...-2c / PA-...-05 / PA-...-06.

### Hit-and-miss damper

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- galvanised sheet steel

## ACCESSORIES

### Plenum box (-AK-34 / -AK-35 / -AK-54)

Rectangular design, made of galvanised sheet steel (-SV, standard), housing with round connection spigot and mounting brackets.

- Air diffuser:
  - for ventilation grille PA-...-1 / PA-...-2a / PA-...-2b / PA-...-2c (-AK-34)
  - for ventilation grille PA-...-10 (-AK-35)
  - for ventilation grille PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07 (-AK-54) (inside painted to RAL 9005)
- Length:
  - grille length L = 225 mm (-00225) (only PA-...-10-...)
  - grille length L = 325 mm (-00325)
  - grille length L = 425 mm (-00425)
  - grille length L = 525 mm (-00525)
  - grille length L = 625 mm (-00625)
  - grille length L = 825 mm (-00825)
  - grille length L = 1025 mm (-01025)
  - grille length L = 1225 mm (-01225)
  - Length (BL) in mm, freely selectable, for band design (-xxxx, always with 5 digits) (available lengths: 2-part or multi-part according to SCHAKO standard).
- Height:
  - grille height H = 75 mm (-075)
  - grille height H = 125 mm (-125)
  - grille height H = 225 mm (-225)
  - grille height H = 325 mm (-325)
- Single / band design:
  - Single design (-N) (standard)
  - band design (-B) (for grille length BL > 1225 mm, available lengths according to SCHAKO standard for band design)
- Mounting:
  - screw mounting (-SM, screws must be provided on site, only available for AK-34)
  - concealed screw mounting (-VS, standard for AK-35, not available for AK-34 and AK-54)
  - concealed mounting (-VM, standard for AK-34 and -AK-54, not available for AK-35)
- Damper:
  - without damper (-DK0) (standard)
  - with damper (-DK1), made of galvanised sheet steel, in the plenum box housing, adjustable, for simple air volume regulation (standard with spigot position -S1).
  - with damper (-DK2), same as DK1 but with cable-operated adjustment (standard for spigot position -S0 / -S4).
- Rubber lip seal:
  - without rubber lip seal (-GD0) (standard)
  - with rubber lip seal (-GD1) made of special rubber, at the connection spigot.
- Insulation:
  - without insulation (-I0) (standard)
  - with internal insulation (-Ii), thermal insulation inside the plenum box.
  - with external insulation (-Ia), thermal insulation at the outside of the plenum box.
- Height of plenum box:
  - Standard height of box (-KHS)
  - height of box in mm, freely selectable (-xxx) (minimum height [KHS] with spigot positions -S1 and -S4 = spigot diameter  $\varnothing$  + 87 mm, but at least 200 mm) (always with 3 digits).

- Spigot diameter:
  - standard spigot diameter (-SDS)
  - spigot diameter ( $\varnothing$ ) in mm, freely selectable (-xxx, always with 3 digits) (with spigot positions -S0 and -S4, if the spigot diameter is increased, only the offset box shape is available).
- Spigot position:
  - Spigot from above (-S0)
  - Lateral spigot on the box (-S1) (standard)
  - front side spigot (-S4, not possible for band design)

### Corner angle 90° (-EWPA)

Front frame and blades made of extruded aluminium profile (-AL), with 90° angle between sides. With dummy plate, black, painted to RAL 9005, consisting of galvanised sheet steel (only for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07) or Zincor (only for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c / PA-...-10).

- Blade profile:
  - blade profile Z(-Z), lightweight model, diagonal throw.
  - blade profile G (-G), compact model, straight throw.
  - blade profile S (-S), compact model, diagonal throw.
- Blades (design):
  - suitable for ventilation grille band PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c (-01)
  - suitable for ventilation grille band PA-...-10 (-10)
  - suitable for ventilation grille band PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07 (-03)
- Blade spacing:
  - 8 mm (-08)
  - 13 mm (-13) (standard)
- Height:
  - grille height H = 75 mm (-075)
  - grille height H = 125 mm (-125)
  - grille height H = 225 mm (-225)
  - grille height H = 325 mm (-325)
- Left side length (a):
  - standard length (-000) (a = 436 for PA-...-10, a = 450 mm for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c / PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07)
  - length freely selectable (-xxx) (minimum length = standard length) (always with 3 digits)
- Right side length (b):
  - standard length (-000) (b = 436 for PA-...-10, b = 450 mm for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c / PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07)
  - length freely selectable (-xxx) (minimum length = standard length) (always with 3 digits)
- Coating (front frame and blades):
  - natural colour anodised (-ELOX, E6/EV1) (standard)
  - painted to RAL colour 9010 (white) (-9010)
  - painted to a freely selectable RAL colour (-xxxx) (always with 4 digits).
- Mounting:
  - screw mounting (-SM) (only for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c)
  - concealed mounting (-VM) (only for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07)
  - concealed screw mounting (-VS) (only for PA-...-10) (only possible with counter pole brace [on site])

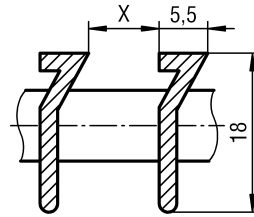
**Installation frame (-ER0 / -ER1 / -ER2)**

- without installation frame (-ER0)
- with installation frame made of galvanised sheet steel (only for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c, only possible without plenum box):
  - without wall anchors (-ER1)
  - with wall anchors (-ER2)

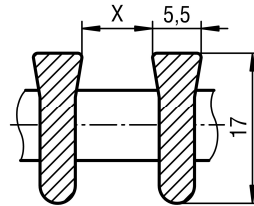
**BLADE PROFILE**

**Profiled blades (design and spacing)**

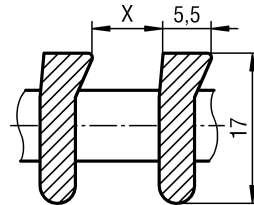
**PA-Z... (standard)**



**PA-G...**



**PA-S...**



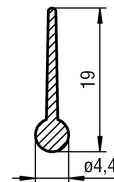
X = blade spacing

X	Mounting type
<b>13 mm (standard)</b>	- non-walk-on - non-ball-impact-resistant
<b>8 mm</b>	- walk-on: PA-...-03 / 05 / 06 / 07-...-VM - ball-impact-resistant (according to DIN 18032 Part 3): - PA-...-01 / 2a / 2b / 2c-...-SM - PA-...-03 / 05 / 06 / 07-...-VM - non-ball-impact-resistant: - PA-...-01 / 2a / 2b / 2c -...-VM - PA-...-10-...-VS

Please specify dimension X when ordering!

**Droplet-forming blade (individually adjustable)**

(only for PA-...-2a / PA-...-2c / PA-...-05 / PA-...-06)



## DIMENSIONS

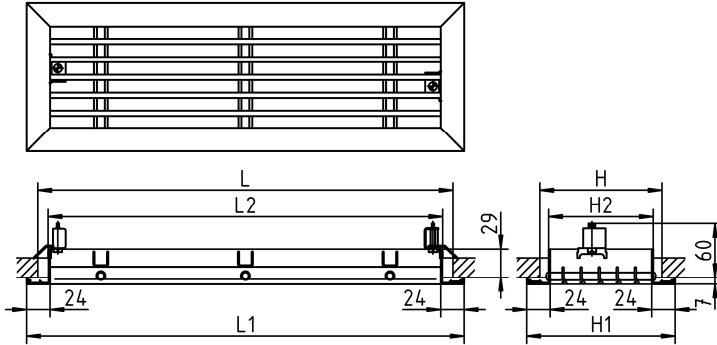
### Installation in walls, ceilings and ventilation ducts

With wide frame profile (24 mm).

for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c

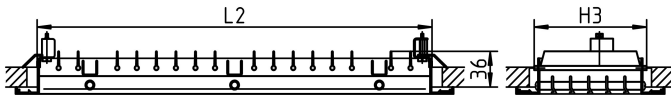
#### Single design (-N)

PA-...-01-...-KB-...



All models consist of basic type PA-...-01-...:

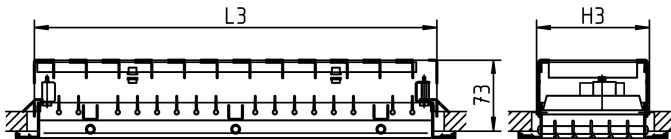
PA-...-2a-...-KB-...



PA-...-2b-...-KB-...

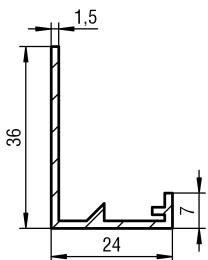


PA-...-2c-...-KB-...



#### Frame profile

for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c



#### Available sizes

PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c

L	L1	L2	L3
325	348	304	310
425	448	404	410
525	548	504	510
625	648	604	610
825	848	804	810
1025	1048	1004	1010
1225	1248	1204	1210

H	H1	H2	H3	H4	PLA	
					Blade spacing 8 mm	13 mm
75	102	58	65	60	3	2
125	152	108	115	110	7	5
225	252	208	215	210	14	10
325	352	308	315	310	21	16

All combined lengths and heights available.

Other sizes available on request.

PLA = number of profiled blades

**Installation in walls, ceilings and ventilation ducts**

With wide frame profile (24 mm).

for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c

**Band design (-B)**

Band design is only possible with screw mounting (-SM).

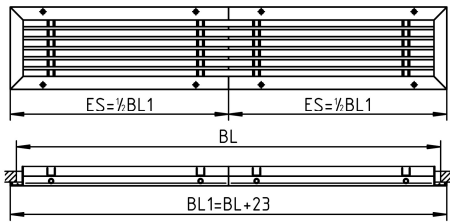
**Available lengths according to SCHAKO standard:**

In the band design of the ventilation grille PA, the total length BL is assembled from two end pieces in the 2-part model and from sections (TS) of 1020 mm and end pieces (ES) in the multi-part model. The end pieces can be manufactured in lengths from 1224 mm.

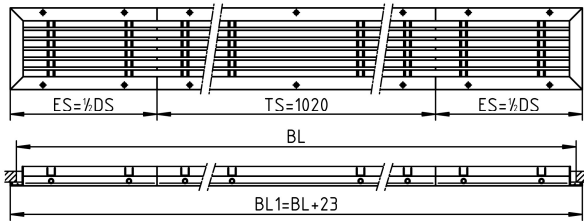
**Without plenum box**

only for: PA-...-01-...-B-...-SM / PA-...-2a-...-B-...-SM /  
 PA-...-2b-...-B-...-SM / PA-...-2c-...-B-...-SM

2-part for a length of band BL > 1225 mm to ≤ 2424 mm



multi-part for a length of band BL > 2424 mm



**Max. length end piece (ES):**

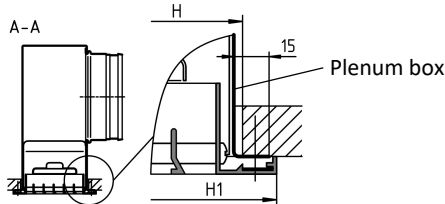
ES<sub>max</sub> = 1224 mm

**Fishplate**

Standard for band design



**Section A-A**



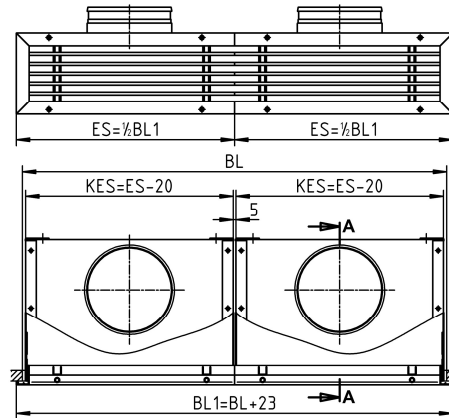
- ES = end piece
- KES = plenum box end piece (KES = ES-20)
- TS = section
- KTS = plenum box section
- DS = difference piece (DS = BL1 - [n x TS])
- n = number of sections
- BL = band length

For spigot position / box shape, see page 12.  
 For mounting options, see page 19

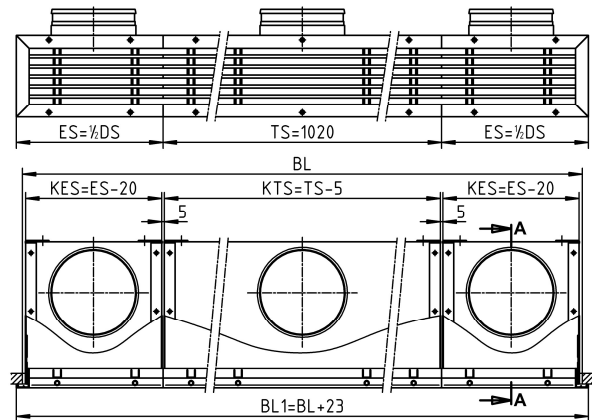
**with plenum box (-AK-34)**

only for: PA-...-01-...-B-...-SM / PA-...-2a-...-B-...-SM /  
 PA-...-2b-...-B-...-SM / PA-...-2c-...-B-...-SM

2-part for a length of band BL > 1225 mm to ≤ 2424 mm



multi-part for a length of band BL > 2424 mm



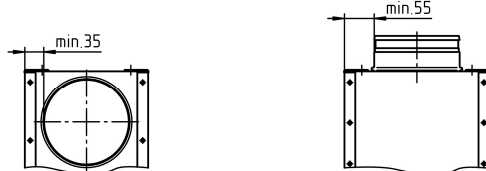
**Max. length plenum box end piece (KES):**

KES<sub>max</sub> = 1204 mm

**Minimum distance spigot in the plenum box**

with lateral spigot (-S1):

with spigot from above (-S0):



As standard, the plenum box end pieces (KES) have the same dimensions KHS / KB2 / øD as the plenum box section (KTS) (for dimensions, see the table of available sizes, pages 12 and 13, marking\*).

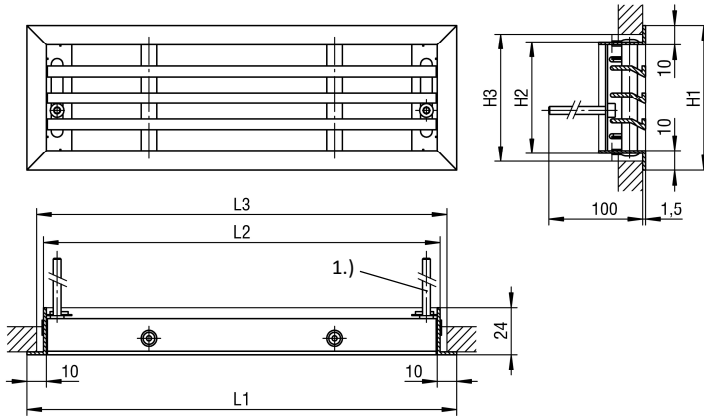
**Installation in walls, ceilings and ventilation ducts**

With narrow frame profile (10 mm).

for PA-...-10

**Single design (-N)**

PA-...-10-...-VS-...

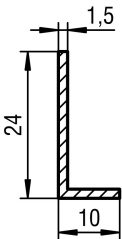


- 1.) for model with counter pole brace: M4x80
- for model with plenum box: M4x20

Counter pole brace on site

**Frame profile**

for PA-...-10



**Available sizes PA-...-10**

L	L1	L2	L3
225	220	205	210
325	320	305	310
425	420	405	410
525	520	505	510
625	620	605	610
825	820	805	810
1025	1020	1005	1010
1225	1220	1205	1210

H	H1	H2	H3	PLA	
				Blade spacing 8 mm	13 mm
75	74	57	65	3	2
125	124	107	115	7	5
225	224	207	215	14	10
325	324	307	315	21	16

All combined lengths and heights available.

Other sizes available on request.

Hit-and-miss damper not possible.

PLA = number of profiled blades



**Installation in walls, ceilings and ventilation ducts**

With narrow frame profile (10 mm).

for PA-...-10

**Band design (-B)**

Band design only possible with concealed screw mounting (-VS).

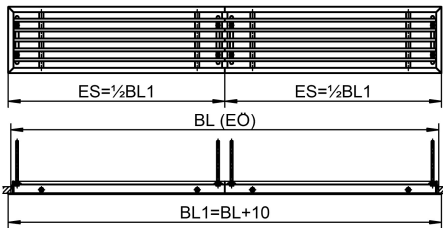
**Available lengths according to SCHAKO standard:**

In the band design of the ventilation grille PA, the total length BL is assembled from two end pieces (ES) in the 2-part model and from sections (TS) of 1020 mm and end pieces (ES) in the multi-part model. The end pieces can be manufactured in lengths from 1210 mm.

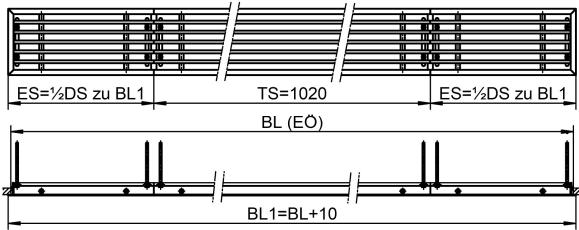
**Without plenum box**

only for: PA-...-10-...-B-...-VS

2-part for a length of band BL > 1225 mm to ≤ 2410 mm



multi-part for a length of band BL > 2410 mm

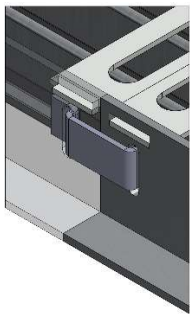


**Max. length end piece (ES):**

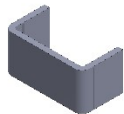
ES<sub>max</sub> = 1210 mm

**Connecting piece**

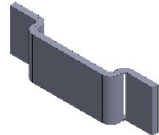
Standard for band design



As-delivered condition:



Folded down on site:



Note: The connecting piece is folded down manually on-site.

- ES = end piece
- KES = plenum box end piece (KES = ES-9)
- TS = section
- KTS = plenum box section
- DS = difference piece (DS = BL1 - [n x TS])
- n = number of sections
- BL = band length
- EÖ = installation opening

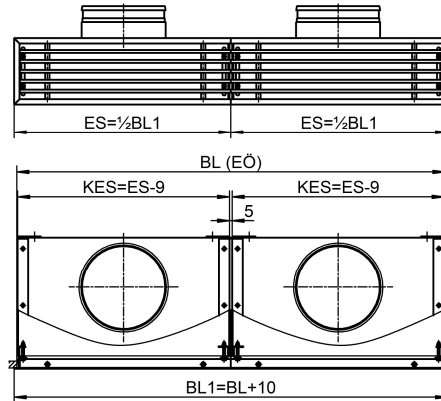
For spigot position / box shape, see page 14.

For mounting options, see page 19

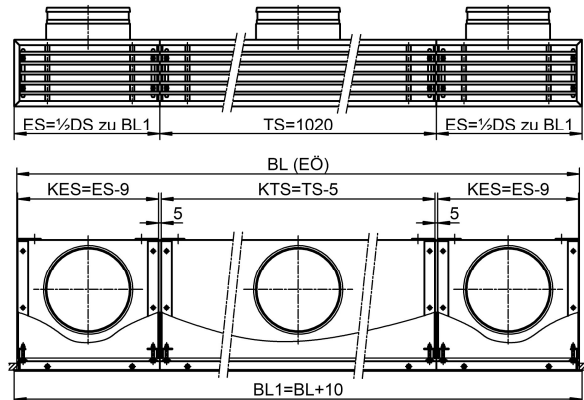
**with plenum box (-AK-35)**

only for: PA-...-10-...-B-...-VS

2-part for a length of band BL > 1225 mm to ≤ 2410 mm



multi-part for a length of band BL > 2410 mm



**Max. length plenum box end piece (KES):**

KES<sub>max</sub> = 1201 mm

**Minimum distance spigot in the plenum box**

with lateral spigot (-S1):

with spigot from above (-S0):



As standard, the plenum box end pieces (KES) have the same dimensions KHS / KB2 / ØD as the plenum box section (KTS) (for dimensions, see the table of available sizes, pages 14 and 15, marking\*).

### Installation in walls and floors

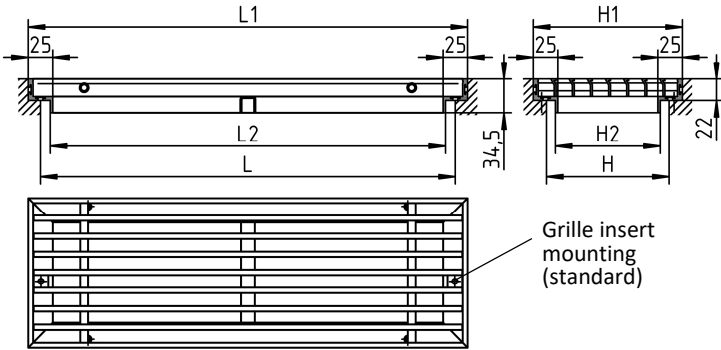
With wide frame profile (25 mm).

The basic type PA-...-03 is also suitable for wall mounting.

for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07

### Single design (-N)

PA-...-03-...-VM-...



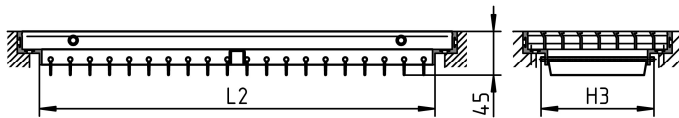
### Available sizes

PA-...-03 / PA-...-5 / PA-...-6 / PA-...-7

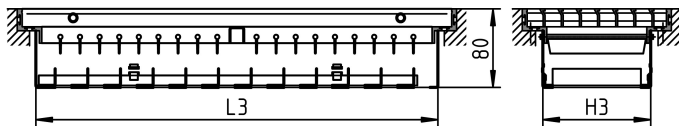
L	L1	L2	L3
325	348	304	310
425	448	404	410
525	548	504	510
625	648	604	610
825	848	804	810
1025	1048	1004	1010
1225	1248	1204	1210

All models consist of basic type PA-...-03-...:

PA-...-05-...



PA-...-06-...



PA-...-07-...



H	H1	H2	H3	H4	PLA	
					Blade spacing 8 mm	13 mm
75	102	58	65	60	6	4
125	152	108	115	110	10	7
225	252	208	215	210	17	12
325	352	308	315	310	25	18

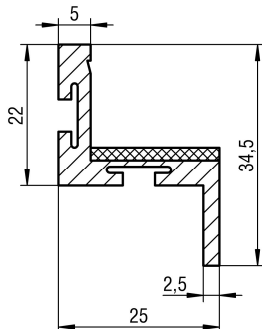
All combined lengths and heights available.

Other sizes available on request.

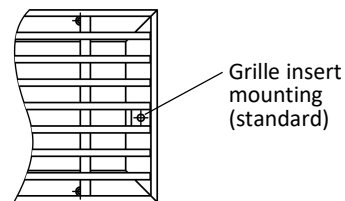
PLA = number of profiled blades

### Frame profile

for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07



### Grille insert mounting



### Installation in walls and floors

With wide frame profile (25 mm).

for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07

#### Band design (-B)

Band design only possible with concealed mounting (-VM).

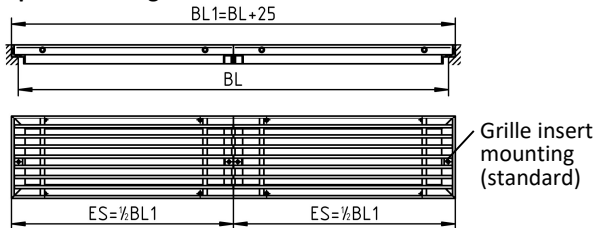
#### Available lengths according to SCHAKO standard:

In the band design of the ventilation grille PA, the total length BL is assembled from two end pieces in the 2-part model and from sections (TS) of 1020 mm and end pieces (ES) in the multi-part model. The end pieces can be manufactured in lengths from 1223 mm.

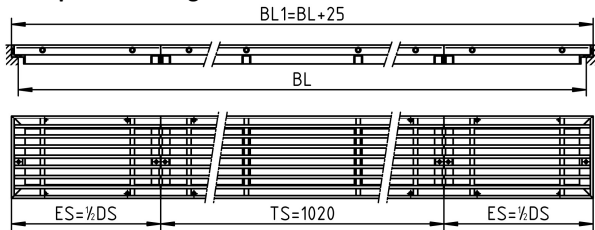
#### Without plenum box

only for: PA-...-03-...-B-...-VM / PA-...-05-...-B-...-VM /  
 PA-...-06-...-B-...-VM / PA-...-07-...-B-...-VM

#### 2-part for a length of band BL > 1225 mm to ≤ 2421 mm



#### multi-part for a length of band BL > 2421 mm

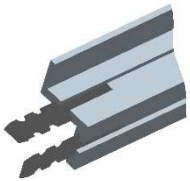


#### Max. length end piece (ES):

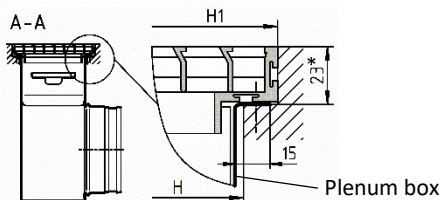
$ES_{max} = 1223 \text{ mm}$

#### Fishplate

Standard for band design



#### Section A-A



\* mounting depth for model with plenum box

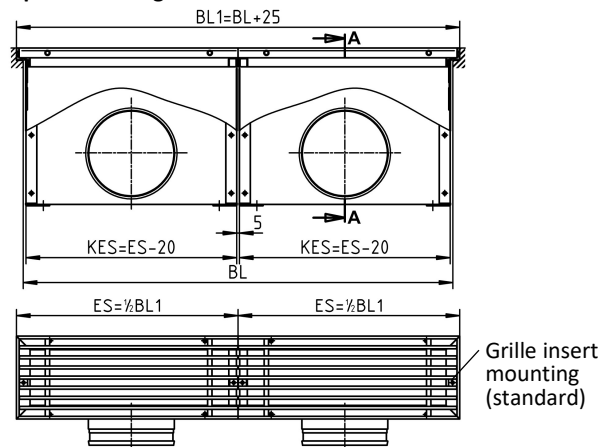
- ES = end piece
- KES = plenum box end piece (KES = ES-20)
- TS = section
- KTS = plenum box section
- DS = difference piece (DS = BL1 - [n x TS])
- n = number of sections
- BL = band length

For spigot position / box shape, see page 12.  
 For mounting options, see page 19

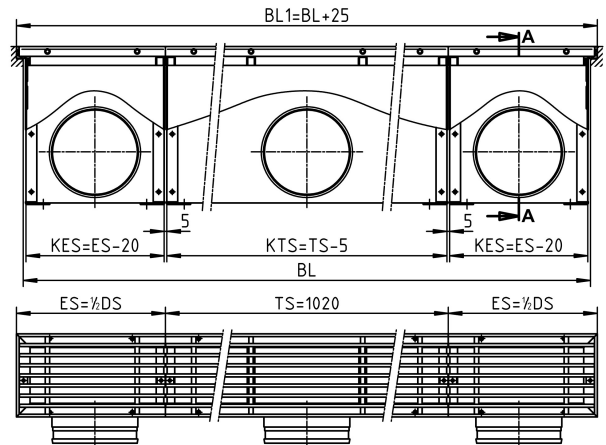
#### with plenum box (-AK-54)

only for: PA-...-03-...-B-...-VM / PA-...-05-...-B-...-VM /  
 PA-...-06-...-B-...-VM / PA-...-07-...-B-...-VM

#### 2-part for a length of band BL > 1225 mm to ≤ 2421 mm



#### multi-part for a length of band BL > 2421 mm



#### Max. length plenum box end piece (KES):

$KES_{max} = 1203 \text{ mm}$

#### Minimum distance spigot in the plenum box

with lateral spigot (-S1):      with spigot from above (-S0):



As standard, the plenum box end pieces (KES) have the same dimensions KHS / KB2 / øD as the plenum box section (KTS) (for dimensions, see the table of available sizes, pages 12 and 13, marking\*).

## DIMENSIONS OF ACCESSORIES

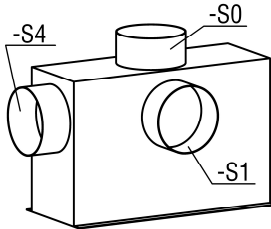
### Plenum box (-AK-34 / -AK-54)

AK-34: for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c  
 AK-54: for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07

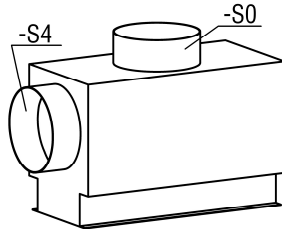
#### SINGLE DESIGN (-N)

##### Spigot position

Straight plenum box:



Offset plenum box:



- Lateral spigot on the plenum box (-S1, standard)
- Spigot from above (-S0)
- Front side spigot (-S4, not possible for band design)

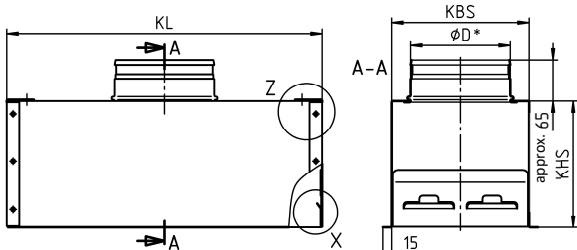
Spigot diameter for spigot position "Spigot front side (-S4)" is **identical** with "Lateral spigot on the box (-S1)".

Spigot diameter for spigot position "Spigot from above (-S0)" is **in part not identical** with "Lateral spigot on the box (-S1)".

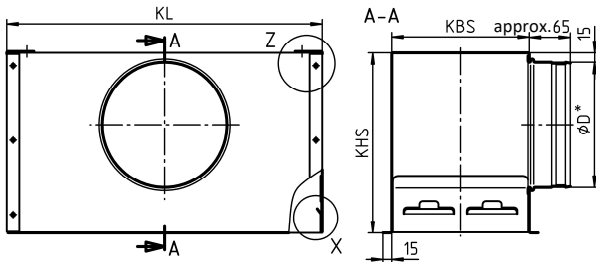
For the table of available sizes, see page 13.

##### Straight plenum box:

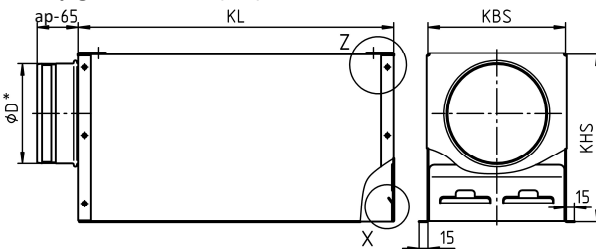
with spigot from above (-S0)



with lateral spigot on the plenum box (-S1)



with spigot front side (-S4)



\* external

For plenum box in band design, see pages 7 and 11.

Construction subject to change  
 No return possible

PA

## TECHNICAL DOCUMENTATION

Dimensions of accessories |

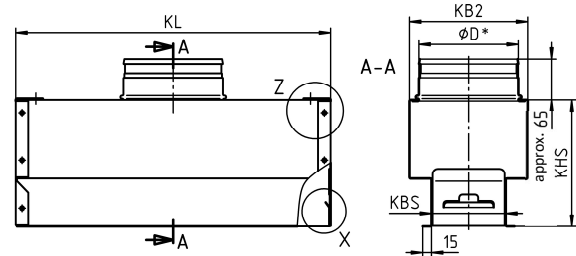
### Offset plenum box:

If KBS is  $< (\phi D + 30)$ , an offset plenum box will be manufactured.

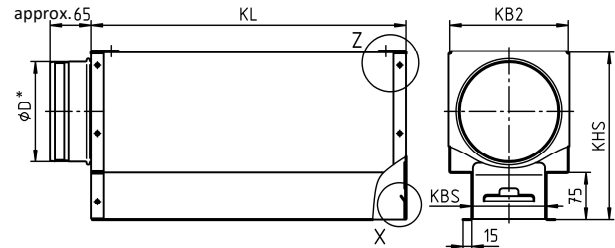
For model -S0:  $KB2 = \phi D + 30$

Minimum difference between KBS and KB2 = 40 mm.

With spigot from above (-S0)



with spigot front side (-S4)

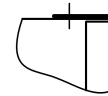


\* external

### Plenum box mounting:

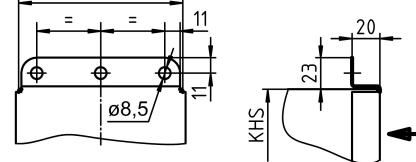
#### Detail Z

As-delivered condition with fitted mounting bracket



#### Detail Z

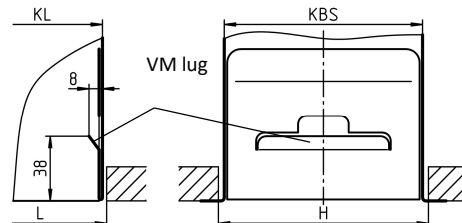
with bent fixing lug



### Concealed mounting:

Only for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c

#### Detail X



Concealed plates can be bent outwards, if necessary.

Minimum height KHS with spigot position -S1 / -S4:  
 **$KHS_{min.} = \phi D + 87$  mm, but at least 200 mm**

Minimum width KB2 with spigot position -S0 / -S4:  
 **$KB2_{min.} = \phi D + 30$  mm**

Minimum difference between KBS and KB2 = 40 mm.

**The dimension KBS cannot be changed.**

**With spigot positions -S0 and -S4, if the spigot diameter is increased, only the offset plenum box shape is available.**

Available sizes AK-34 (for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c)

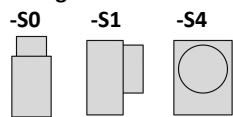
Available sizes AK-54 (for PA-...-03 / PA-...-5 / PA-...-06 / PA-...-07)

H	KBS	L	KL	Spigot position -S1 (standard)				Spigot position -S0				Spigot position -S4				
				KHS	KB2	n x øD	Plenum box shape	KHS	KB2	n x øD	Plenum box shape	KHS	KB2	n x øD	Plenum box shape	
75	68	325	320	220	--	1x ø123		200*	128*		220	153	1x ø123			
		425	420												1x ø98	
		525	520												2x ø98	
		625	620	265*	--	1x ø158*		265	188	1x ø158						
		825	820									4x ø98*				
		1025	1020													
1225	1220															
125	118	325	320	265	--	1x ø158		200*	158*		265	188	1x ø158			
		425	420												1x ø98	
		525	520												2x ø98	
		625	620	285*	--	1x ø198*		285	228	1x ø198						
		825	820									4x ø98*				
		1025	1020													
1225	1220															
225	218	325	320	285	--	1x ø198		200*	258	1x ø198		285	258	1x ø198		
		425	420													1x ø198
		525	520													2x ø178*
		625	620	335*	--	1x ø248*		335	278	1x ø248						
		825	820													
		1025	1020													
1225	1220															
325	318	325	320	335	--	1x ø248		200*	--	1x ø248		335	--	1x ø248		
		425	420													1x ø248
		525	520													2x ø222*
		625	620	400*	--	1x ø313*		400	358	1x ø313						
		825	820													
		1025	1020													
1225	1220															

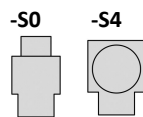
\* dimensions for band design / n = number of spigots

**Plenum box shape**

**Straight:**



**Offset:**



Minimum height KHS with spigot position -S1 / -S4:

**KHS<sub>min.</sub> = øD + 87 mm, but at least 200 mm**

Minimum width KB2 with spigot position -S0 / -S4:

**KB2<sub>min.</sub> = øD + 30 mm**

Minimum difference between KBS and KB2 = 40 mm.

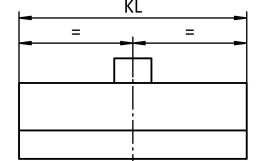
**The dimension KBS cannot be changed.**

**With spigot positions -S0 and -S4, if the spigot diameter is increased, only the offset plenum box shape is available.**

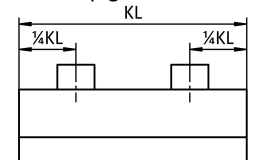
**Number of spigots:**

**Spigot from above (-S0)**

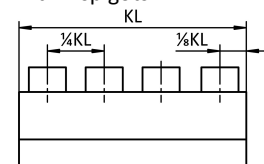
with 1 spigot



with 2 spigots



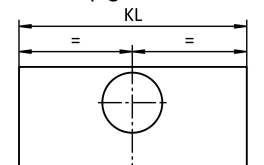
with 4 spigots



**Lateral spigot (-S1)**

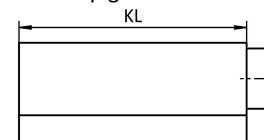
(standard)

with 1 spigot



**Spigot front side (-S4)**

Band design not possible.  
with 1 spigot



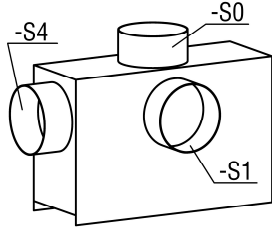
**Plenum box (-AK-35)**

AK-35: for PA-...-10

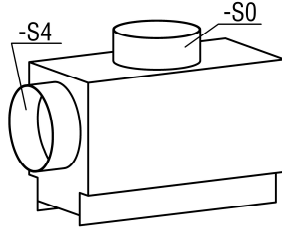
**SINGLE DESIGN (-N)**

**Spigot position**

**Straight plenum box:**



**Offset plenum box:**



- Lateral spigot on the plenum box (-S1, standard)
- Spigot from above (-S0)
- Front side spigot (-S4, not possible for band design)

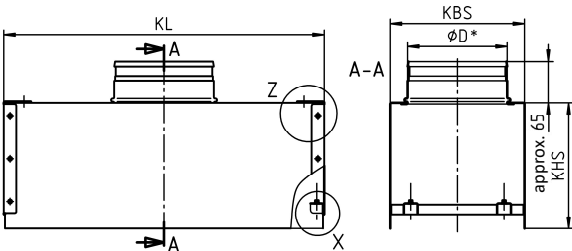
Spigot diameter for spigot position “Spigot front side (-S4)” is **identical** with “Lateral spigot on the box (-S1)”.

Spigot diameter for spigot position “Spigot from above (-S0)” is **in part not identical** with “Lateral spigot on the box (-S1)”.

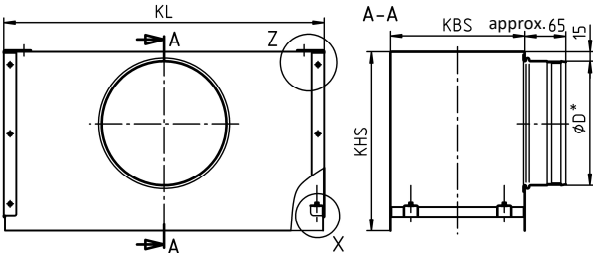
For the table of available sizes, see page 15.

**Straight plenum box:**

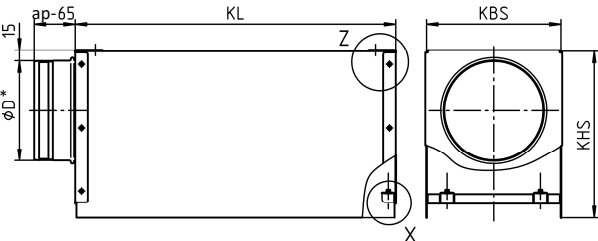
**With spigot from above (-S0)**



**with lateral spigot on the plenum box (-S1)**



**with spigot front side (-S4)**



\* external

For plenum box in band design, see page 9.

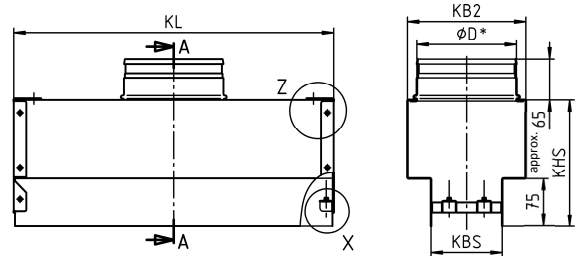
**Offset plenum box:**

If KBS is  $< (\phi D + 30)$ , an offset plenum box will be manufactured.

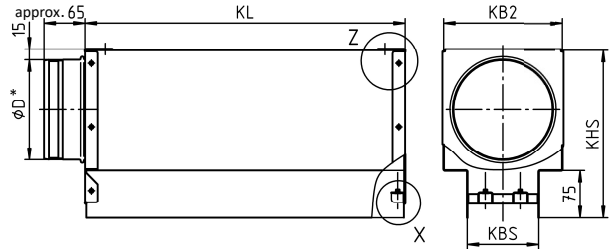
For model -S0:  $KB2 = \phi D + 30$

Minimum difference between KBS and KB2 = 40 mm.

**With spigot from above (-S0)**



**with spigot front side (-S4)**

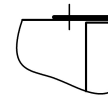


\* external

**Plenum box mounting:**

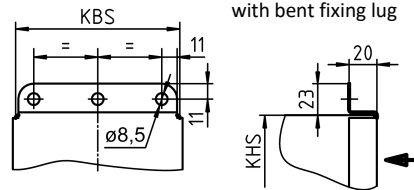
**Detail Z**

As-delivered condition with fitted mounting bracket



**Detail Z**

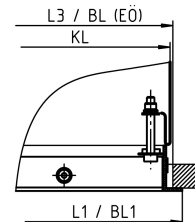
with bent fixing lug



**VS fastening:**

Only for PA-...-10

**Detail X**



Minimum height KHS with spigot position -S1 / -S4:

**$KHS_{min.} = \phi D + 87$  mm, but at least 200 mm**

Minimum width KB2 with spigot position -S0 / -S4:

**$KB2_{min.} = \phi D + 30$  mm**

Minimum difference between KBS and KB2 = 40 mm.

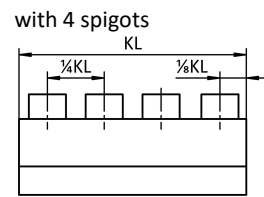
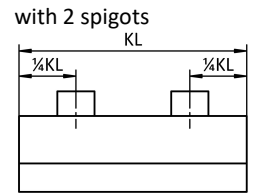
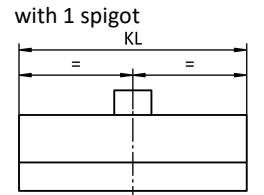
**The dimension KBS cannot be changed.**

**With spigot positions -S0 and -S4, if the spigot diameter is increased, only the offset plenum box shape is available.**

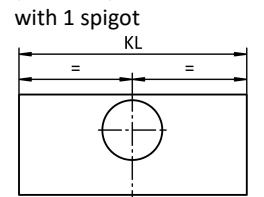
Available sizes AK-35 (for PA-...-10)

H	KBS	L	KL	Spigot position -S1 (standard)				Spigot position -S0				Spigot position -S4			
				KHS	KB2	n x øD	Plenum box shape	KHS	KB2	n x øD	Plenum box shape	KHS	KB2	n x øD	Plenum box shape
75	63	225	208	220	--	1x ø123		200*	128*		220	153	1x ø123		
		325	308												2x ø98
		425	408												
		525	508	265*	--	1x ø158*		265	188	1x ø158					
		625	608									4x ø98*			
		825	808												
		1025	1008												
1225	1208														
125	113	225	208	245	--	1x ø138		200*	158*		265	188	1x ø158		
		325	308												2x ø98
		425	408												
		525	508												
		625	608	285*	--	1x ø198*		285	228	1x ø198					
		825	808									4x ø98*			
		1025	1008												
1225	1208														
225	213	225	208	245	--	1x ø138		200*	258		285	258	1x ø198		
		325	308												2x ø178*
		425	408												
		525	508												
		625	608	335*	--	1x ø248*		335	278	1x ø248					
		825	808												
		1025	1008												
1225	1208														
325	313	225	208	245	--	1x ø138		200*	--		335	--	1x ø248		
		325	308												2x ø178
		425	408												
		525	508												
		625	608	400*	--	1x ø313*		400	358	1x ø313					
		825	808									2x ø222*			
		1025	1008												
1225	1208														

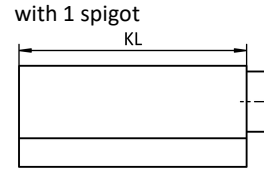
**Number of spigots:**  
**Spigot from above (-S0)**



**Lateral spigot (-S1)**  
 (standard)



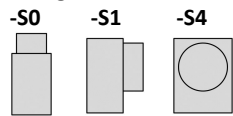
**Spigot front side (-S4)**  
 Band design not possible.



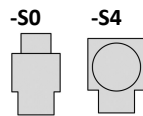
\* dimensions for band design / n = number of spigots

**Plenum box shape**

**Straight:**



**Offset:**



Minimum height KHS with spigot position -S1 / -S4:  
**KHS<sub>min.</sub> = øD + 87 mm, but at least 200 mm**

Minimum width KB2 with spigot position -S0 / -S4:  
**KB2<sub>min.</sub> = øD + 30 mm**

Minimum difference between KBS and KB2 = 40 mm.

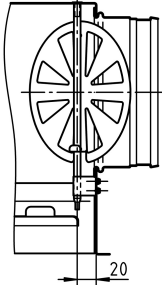
**The dimension KBS cannot be changed.**  
**With spigot positions -S0 and -S4, if the spigot diameter is increased, only the offset plenum box shape is available.**

### Damper (-DK0 / -DK1 / -DK2), for AK-...

- without damper (-DK0) (standard)
- with damper (-DK1) (standard for spigot position -S1)
- with damper and cable-operated adjustment (-DK2) (standard for spigot position -S0/-S4)

#### -DK1:

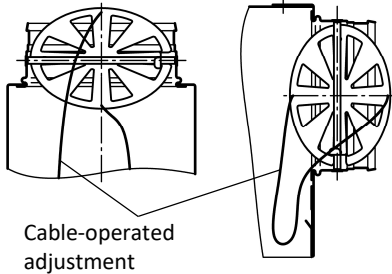
Lateral spigot -S1



#### -DK2 (with cable-operated adjustment):

spigot from above -S0

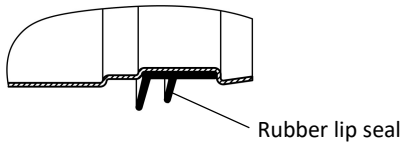
spigot front side -S4



### Rubber lip seal (-GD0 / -GD1), for AK-...

- without rubber lip seal (-GD0) (standard)
- with rubber lip seal (-GD1), made of special rubber.

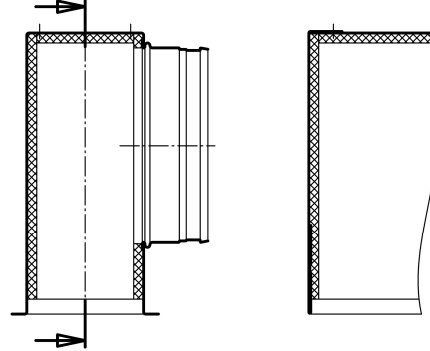
#### Detail Y



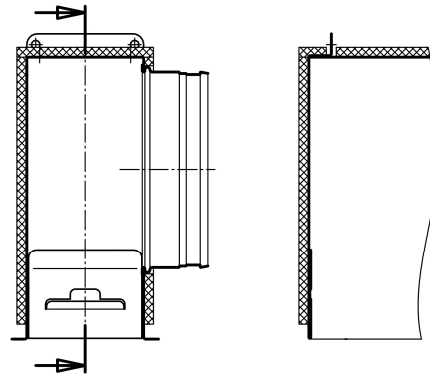
### Insulation (-I0 / -Ii / -Ia), for AK-...

- without insulation (-I0) (standard)
- with internal insulation (-Ii)
- with external insulation (-Ia)

#### Internal insulation (-Ii)



#### External insulation (-Ia)

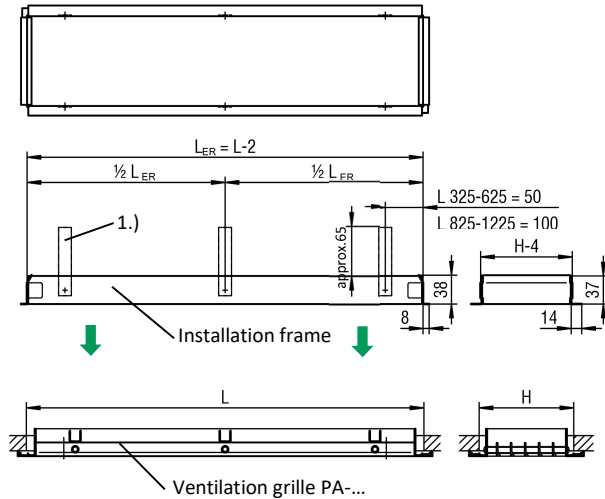




### Installation frame (-ER0 / -ER1 / -ER2)

Only for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c.  
 -- without installation frame (-ER0) (standard)  
 -- with installation frame without wall anchors (-ER1)  
 -- with installation frame with wall anchors (-ER2)  
 The installation frame is only possible without plenum box.

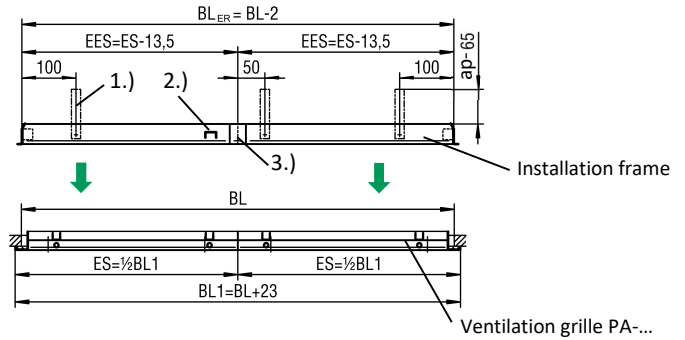
### SINGLE DESIGN (-N)



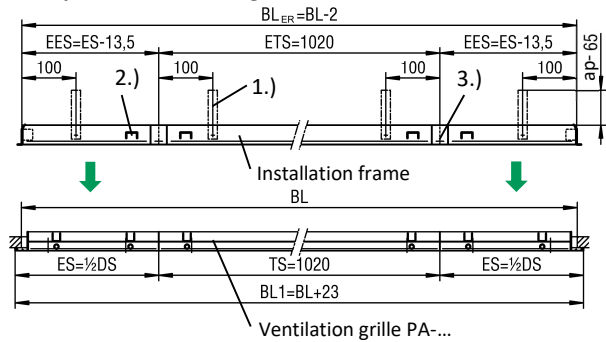
Length  $L \leq 825$  mm = 4 wall anchors  
 Length  $L > 825$  mm = 6 wall anchors  
 Installation frame made of electrolytically galvanised sheet steel.  
 The installation frame is only delivered with wall anchors on special request (-ER2, at an extra charge).

### BAND DESIGN (-B)

#### 2-part for a length of band BL > 1225 mm to ≤ 2424 mm



#### multi-part for a band length BL > 2424 mm

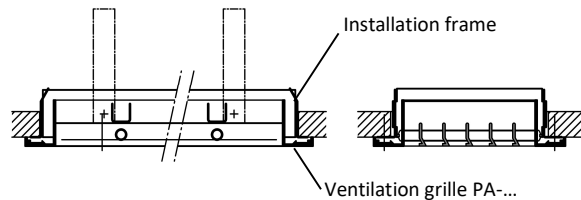


#### Max. length installation frame end piece (EES / ES):

$EES_{max} = 1210.5$  mm /  $ES_{max} = 1224$  mm (see page 7)

Mounting frames for grille bands are supplied with plug-in connections. Assembly webs are additionally attached, they can easily be removed with a turn, once the grille is wallled in. All mounting frames are supplied without wall anchors as standard. Wall anchors available at extra cost.

#### Installation detail:



- L = length
- BL = band length
- $L_{ER}$  = installation frame length ( $L_{ER} = L - 2$ )
- $BL_{ER}$  = installation frame band length ( $BL_{ER} = BL - 2$ )
- EES = installation frame end piece ( $EES = ES - 13.5$ )
- ETS = installation frame section
- ES = end piece
- TS = section
- DS = difference piece ( $DS = BL_{ER} - [n \times TS]$ )
- n = number of sections
- 1.) Wall anchor
- 2.) Assembly rail
- 3.) Plug-in connection

**Corner angle (-EWPA)**

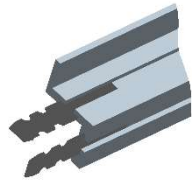
The corner angle has a 90° angle and can only be produced as dummy pieces, i.e. without plenum box. The Zincor dummy plate used is painted to the RAL colour 9005 (black).

The ventilation grille is connected to the corner angle using fishplates. 4 fishplates are included in delivery (2 for each connection). They are supplied loose.

**Fishplate**

to EWPA-...-01:

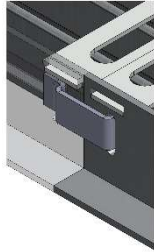
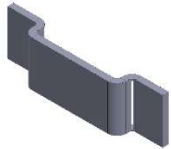
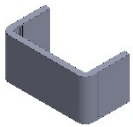
to EWPA-...-03:



to EWPA-...-10:

as-delivered condition

installation conc



The fishplate is folded down manually on site.

**Mounting:**

- screw mounting (-SM) (only for EWPA-...-01, suitable for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c)
- concealed mounting (-VM) (only for EWPA-...-03, suitable for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07)
- concealed screw mounting (-VS) (only for EWPA-...-10, suitable for PA-...-10) (only possible with counter pole brace [on site])

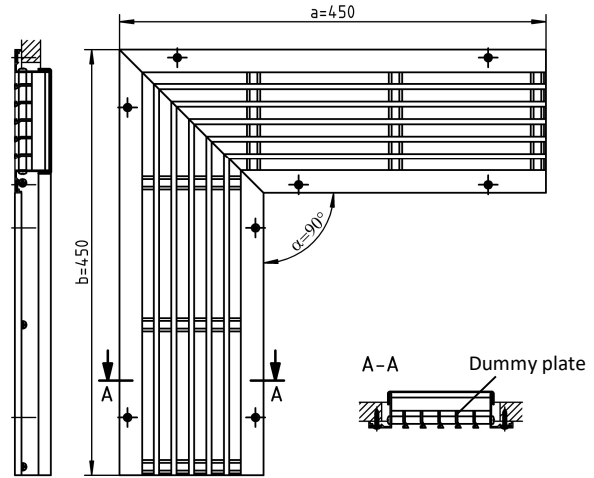
**Left side (a) / right side length (b):**

- Standard length (-000)
  - for EWPA-...-01: a = 450 mm / b = 450 mm
  - for EWPA-...-10: a = 436 mm / b = 436 mm
  - for EWPA-...-03: a = 450 mm / b = 450 mm
- Length can be freely selected (-xxx) (minimum length = standard length).

a = left side length  
b = right side length

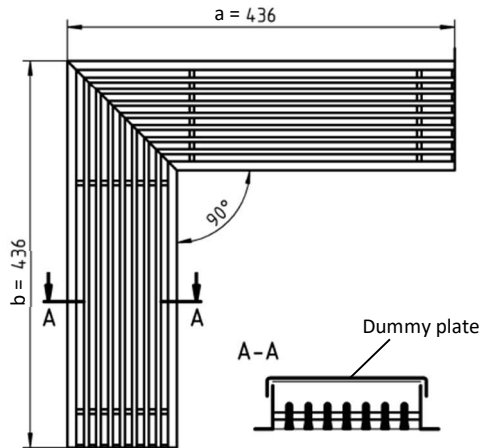
**EWPA-...-01**

- suitable for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c
- for installation in walls, ceilings and ventilation ducts (with wide frame profile 24 mm).



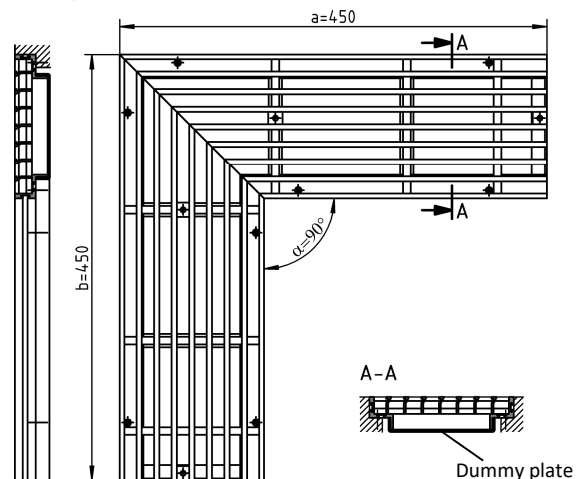
**EWPA-...-10**

- suitable for PA-...-10
- for installation in walls, ceilings and ventilation ducts (with narrow frame profile 10 mm).



**EWPA-...-03**

- suitable for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07
- installation in walls and floors (with wide frame profile 25 mm).



## MOUNTING OPTIONS

### PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c

- for installation in walls, ceilings and ventilation ducts.
- with wide frame profile (24 mm)

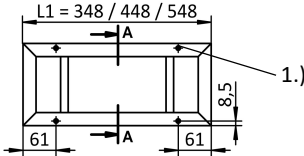
### Screw mounting (-SM)

(drawn without grille insert)

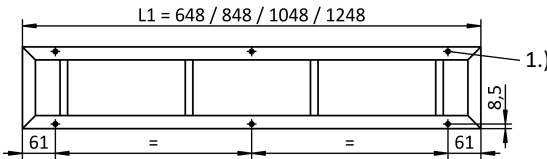
- single design optionally available with screw mounting (-SM).
- band design only available with screw mounting (-SM, standard).
- blade spacing 8 mm (-08) only with screw mounting (-SM) ball-impact-resistant (according to DIN 18032, Part 3).
- screws must be provided on site.

### Single design (-N)

With 4 indentations (L = 325 / 425 / 525)



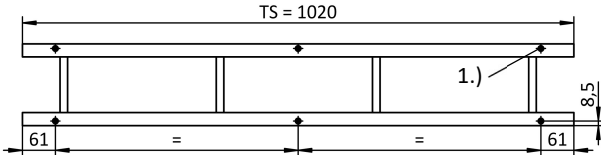
With 6 indentations (L = 625 / 825 / 1025 / 1225)



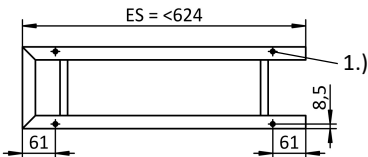
### Band design (-B)

only for: PA-...-01-...-B-...-SM / PA-...-2a-...-B-...-SM  
 PA-...-2b-...-B-...-SM / PA-...-2c-...-B-...-SM

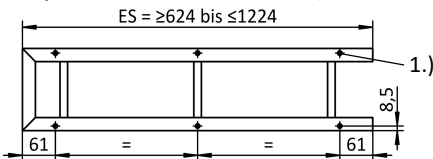
Section - with 6 indentations (TS=1020)



End piece - with 4 indentations (ES= <624)

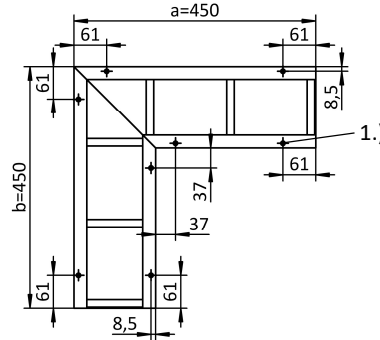


End piece - with 6 indentations (ES= ≥624 bis ≤1224)



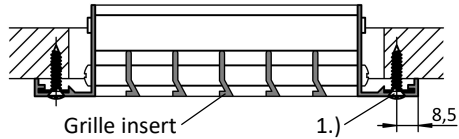
- 1.) Indentation for slotted shallow-raised countersunk-head tapping screw DIN ISO 7051 pitch 3.9 (on site).

### Corner angle (-EWPA-...)



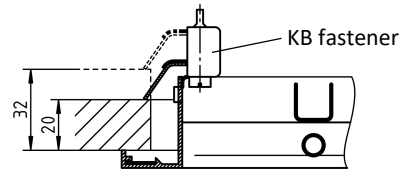
### Section A-A

(drawn rotated by 90°)



### Clamp mounting (-KB)

- standard for single design.
- only possible without plenum box or installation frame.

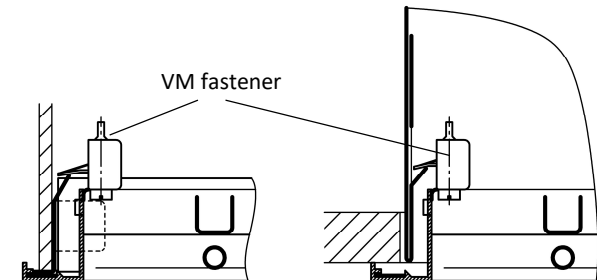


### Concealed mounting (-VM)

- only possible with plenum box or installation frame, at an extra charge.

With installation frame:

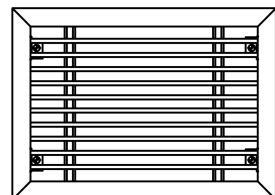
With plenum box:



### Quantity KB fastener / VM fastener

One mounting point:  
 H = 75 / 125

Two mounting points:  
 H = 225 / 325



**PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07**

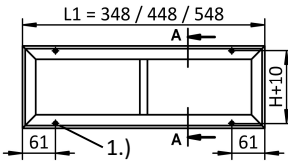
- for installation in walls and floors.  
 (The basic type PA-...-03 is also suitable for wall mounting.)
- with wide frame profile (25 mm).
- only available with concealed mounting (-VM).

**Concealed mounting (-VM)**

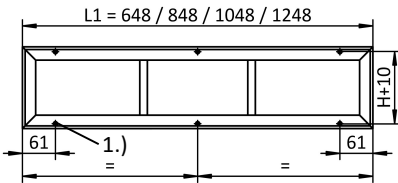
- (drawn without grille insert)
- for single and band design.
  - only possible with plenum box or installation frame, at an extra charge.

**Single design (-N)**

**With 4 indentations (L = 325 / 425 / 525)**

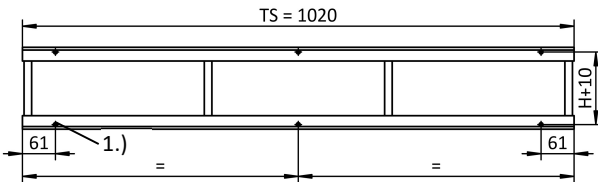


**With 6 indentations (L = 625 / 825 / 1025 / 1225)**

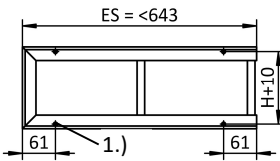


**Band design (-B)**

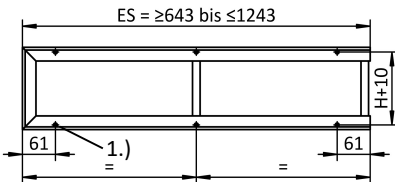
**Section - with 6 indentations (TS = 1020)**



**End piece - with 4 indentations (ES = <643)**

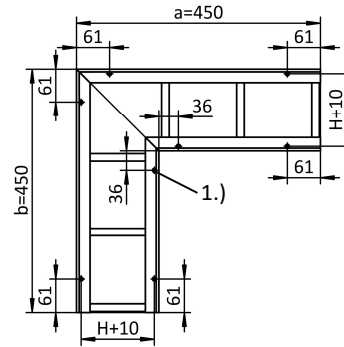


**End piece - with 6 indentations (ES = ≥643 to ≤1243)**

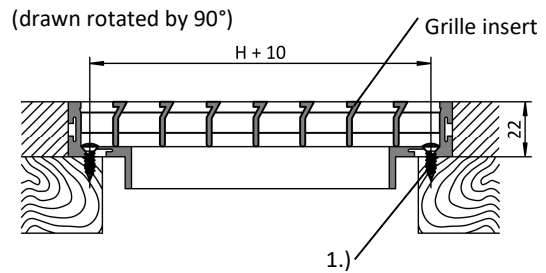


1.) Indentation for slotted shallow-raised countersunk-head tapping screw DIN ISO 7051 pitch 3.9 (on site)

**Corner angle (-EWPA-...)**



**Section A-A**



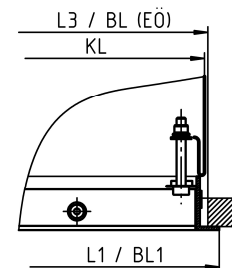
**PA-...-10**

- for installation in walls, ceilings and ventilation ducts.
- with narrow frame profile (10 mm).

**Concealed screw mounting (-VS)**

- for single and band design
- only possible with plenum box or counter pole brace (on site).

The ventilation grille PA-...-10 can only be delivered with concealed screw mounting (-VS).

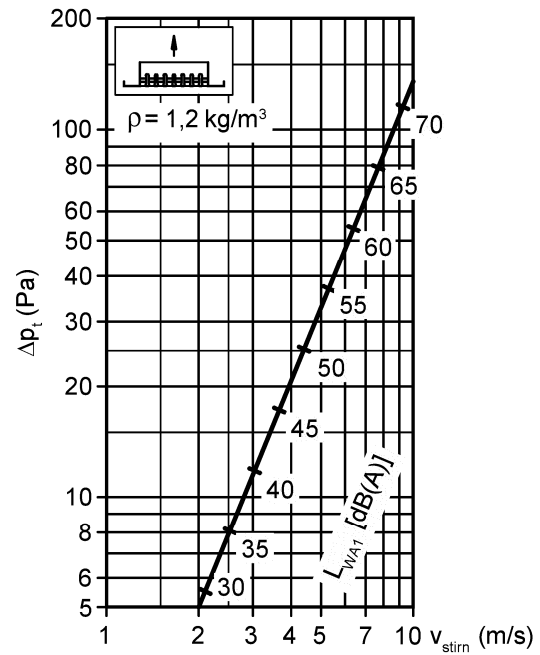
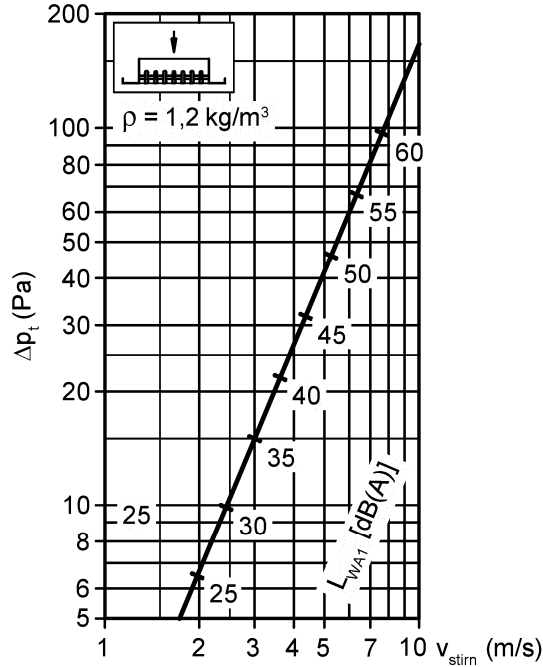


**TECHNICAL DATA**

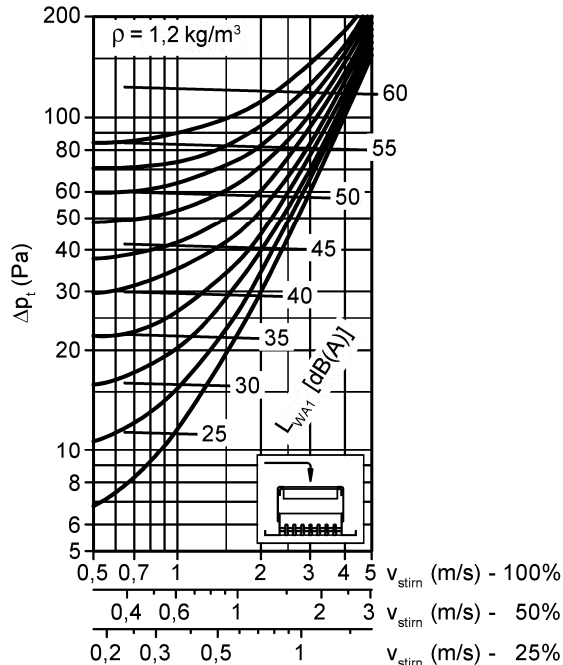
The technical data apply to all models.

**Pressure loss and noise level**

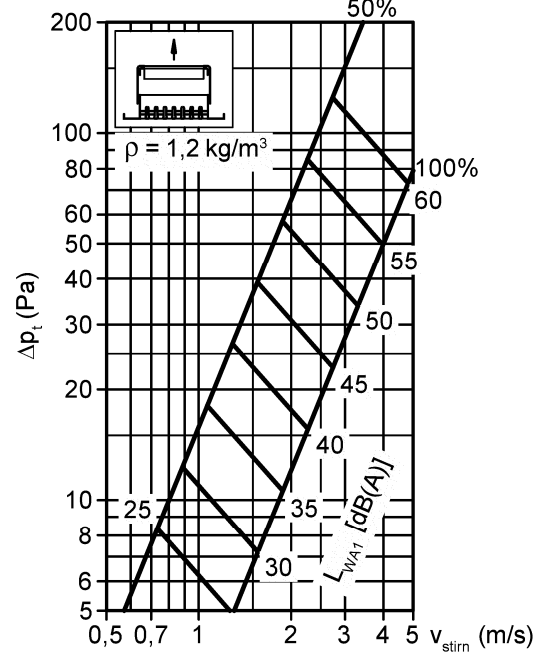
**Supply air without hit-and-miss damper**



**Supply air with hit-and-miss damper**



**Return air with hit-and-miss damper**



Hit-and-miss damper position OPEN in %

Hit-and-miss damper position OPEN in %

**Correction factor**

**Supply and return air**

$A_{Stirn}$ (m <sup>2</sup> )	0.01	0.02	0.04	0.08	0.16	0.32
KF (-)	-9	-6	-3	0	+3	+6

$LWA = LWA1 + KF$

**Return air without hit-and-miss damper**

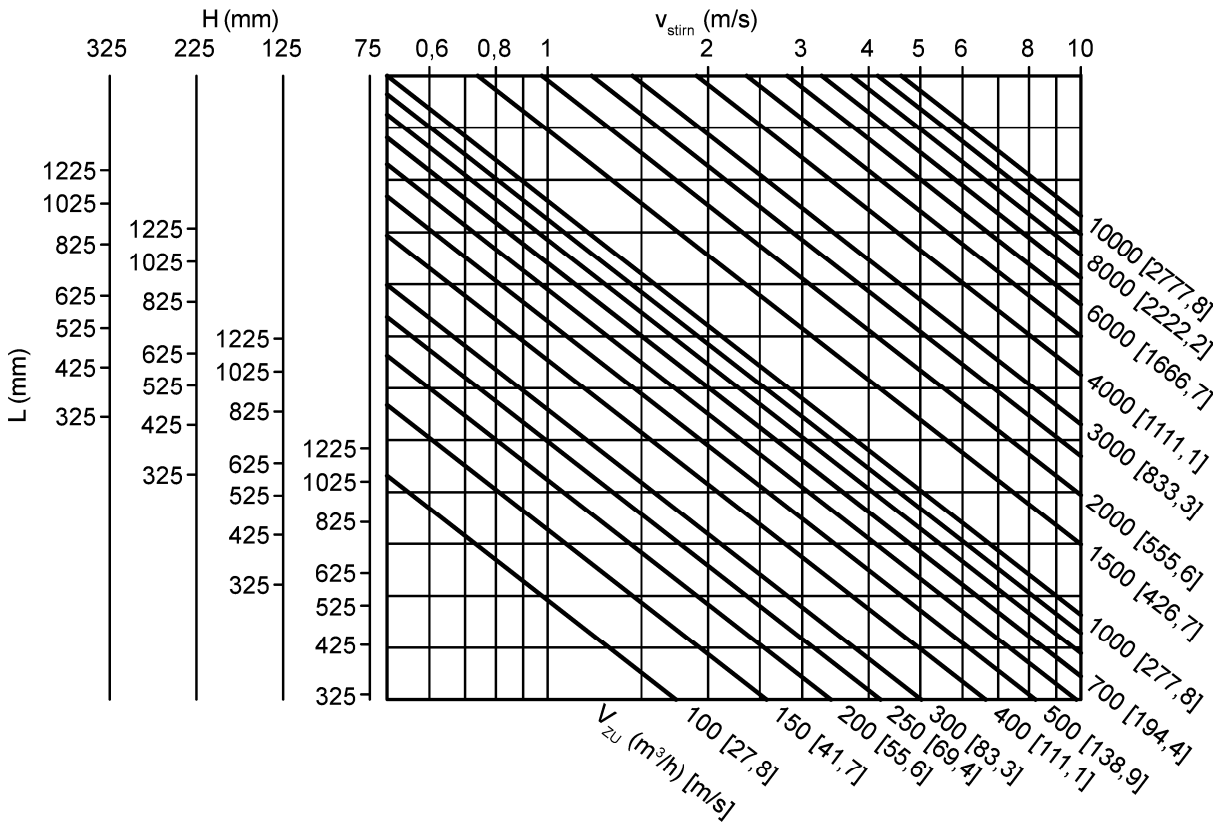
**Face area**

**Supply and return air**

Height H	Length L						
	325	425	525	625	825	1025	1225
75	0.016	0.021	0.026	0.031	0.042	0.052	0.062
125	0.031	0.041	0.051	0.061	0.082	0.102	0.123
225	0.061	0.081	0.101	0.122	0.162	0.202	0.243
325	0.091	0.121	0.151	0.182	0.242	0.303	0.363

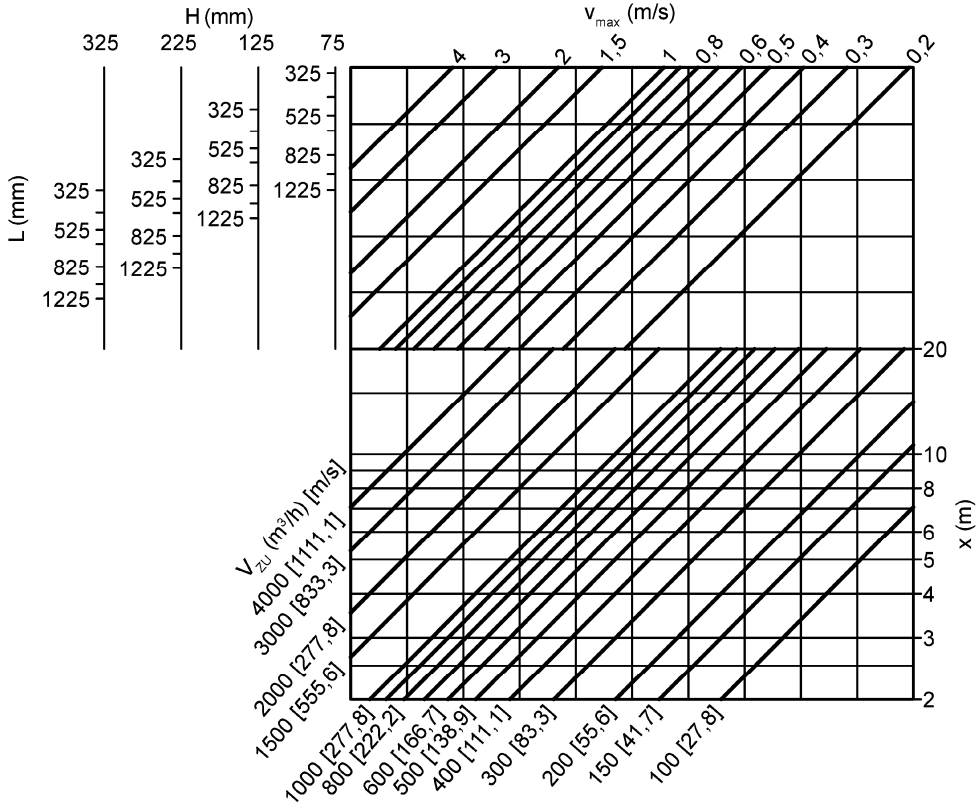
$A_{Stirn}$  (m<sup>2</sup>)

**Front side velocity**

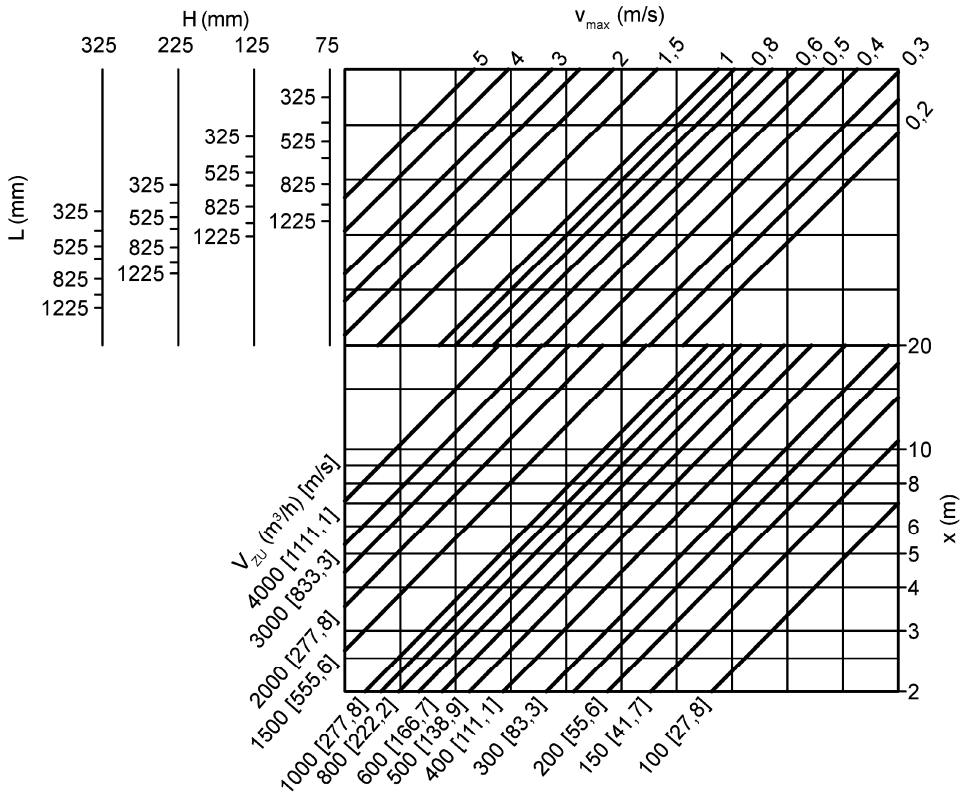


**Maximum end velocity of jet**

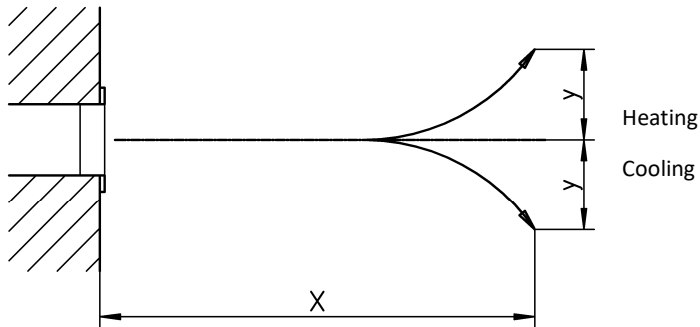
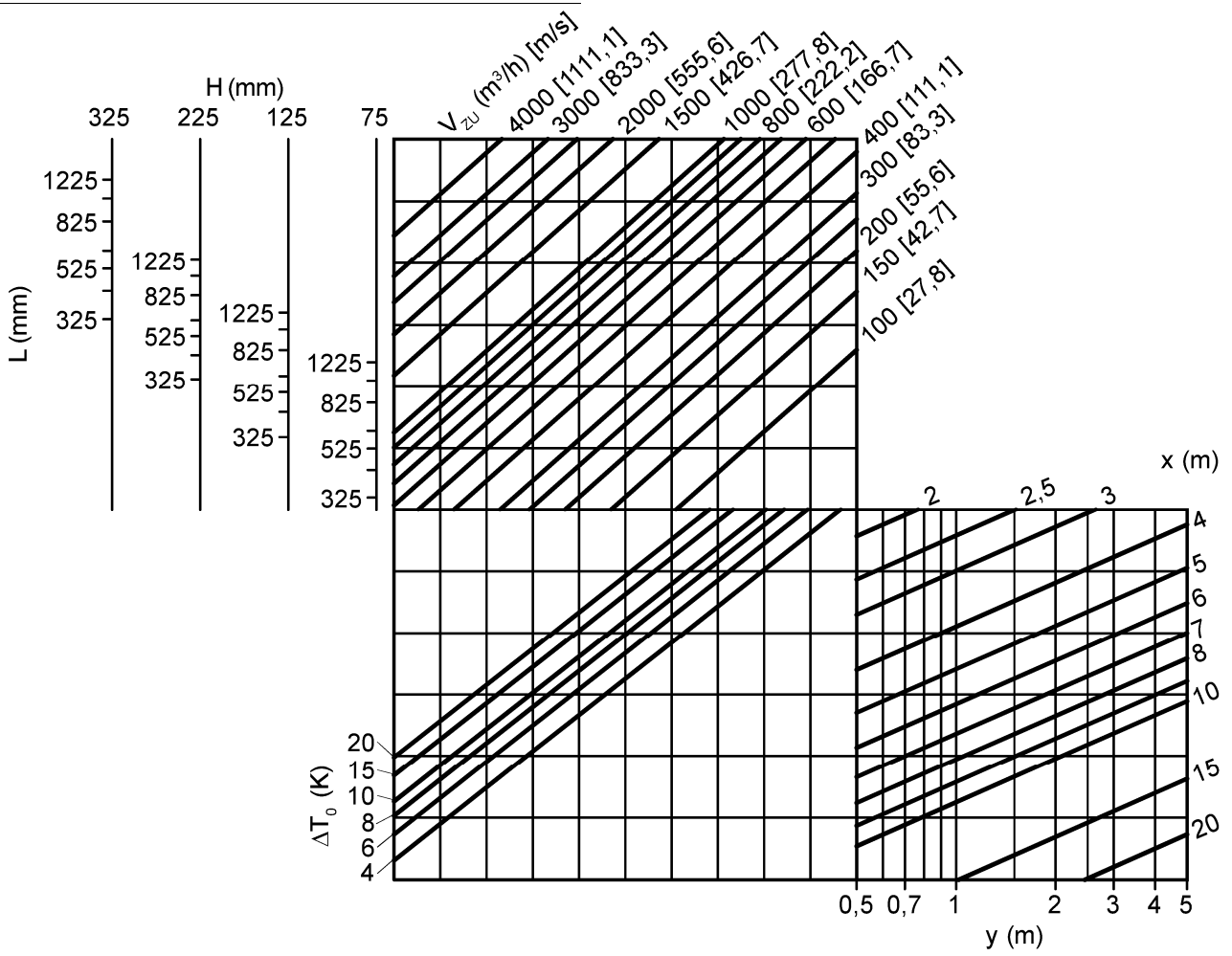
**Supply air without coanda effect**



**Supply air with coanda effect**



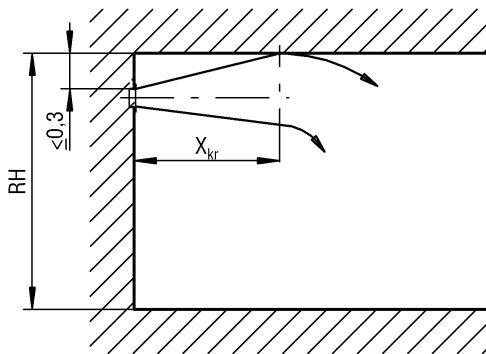
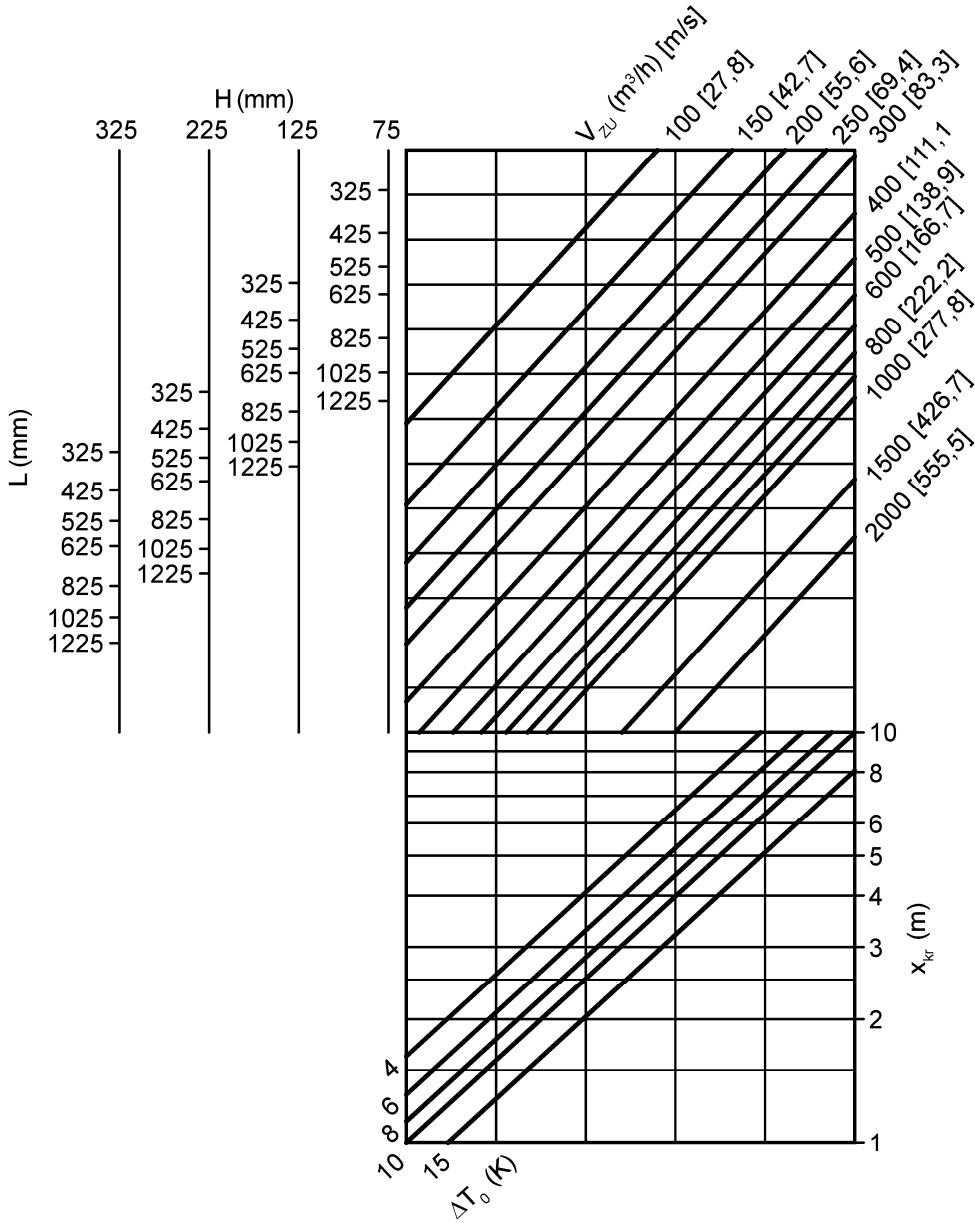
**Jet path**





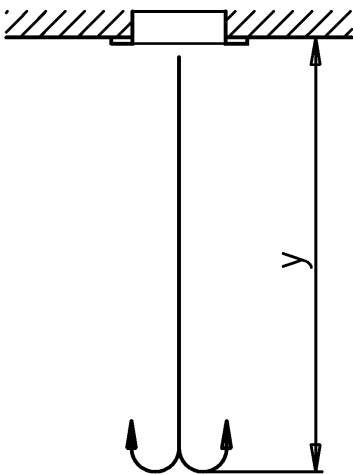
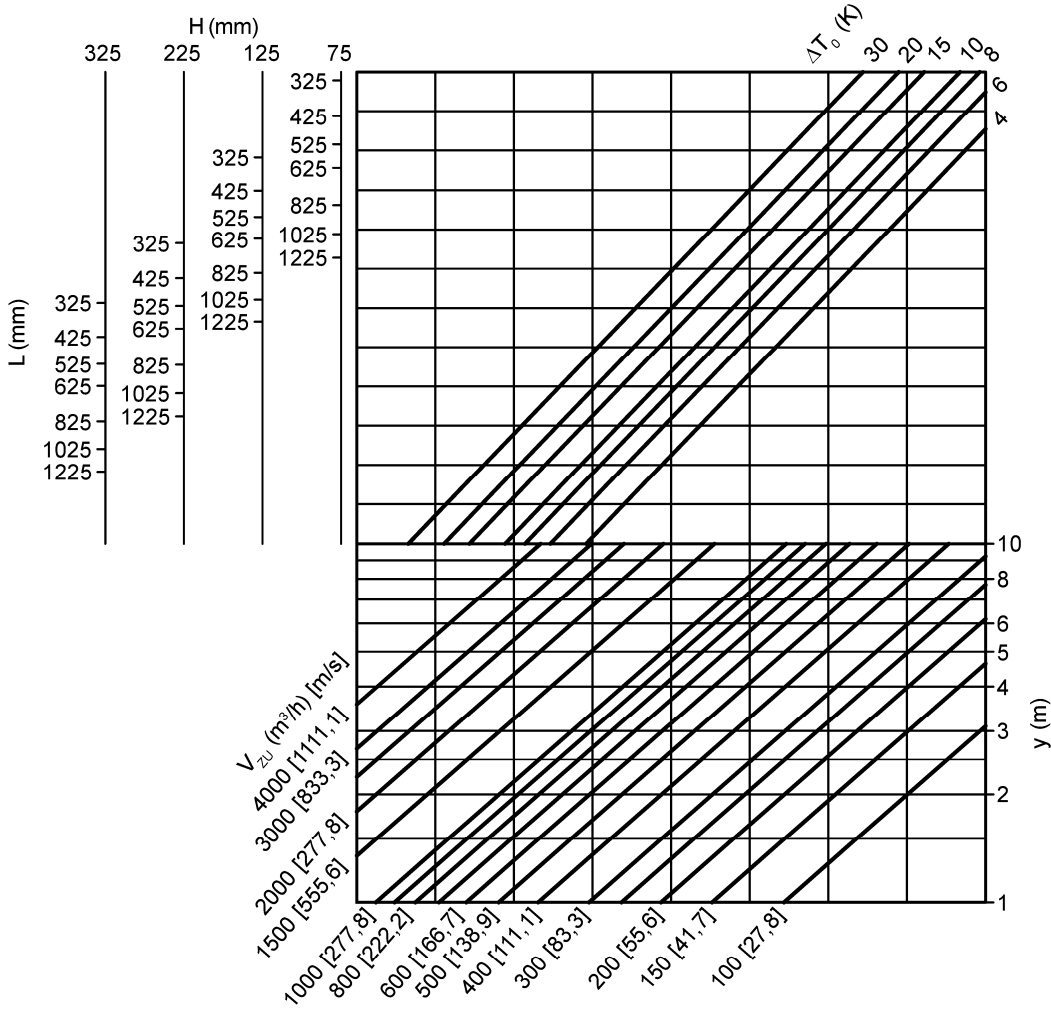
**Critical throw**

Supply air with coanda effect



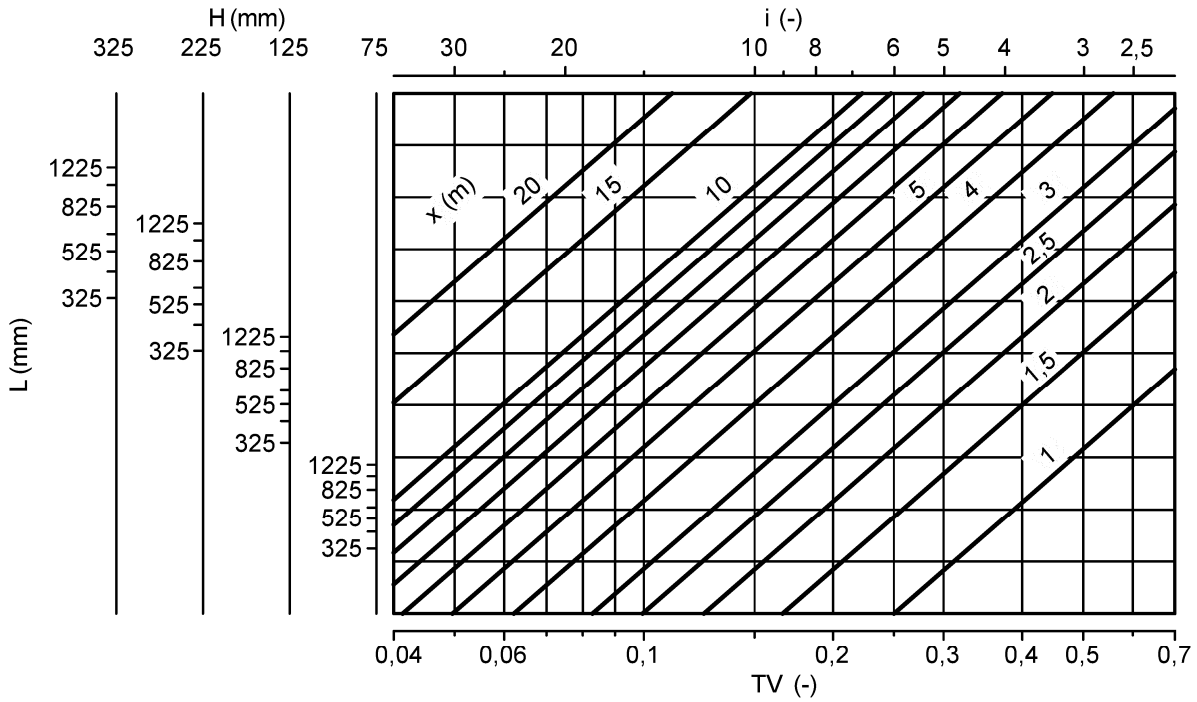
**Maximum penetration**

In heating mode  
 Supply air without coanda effect

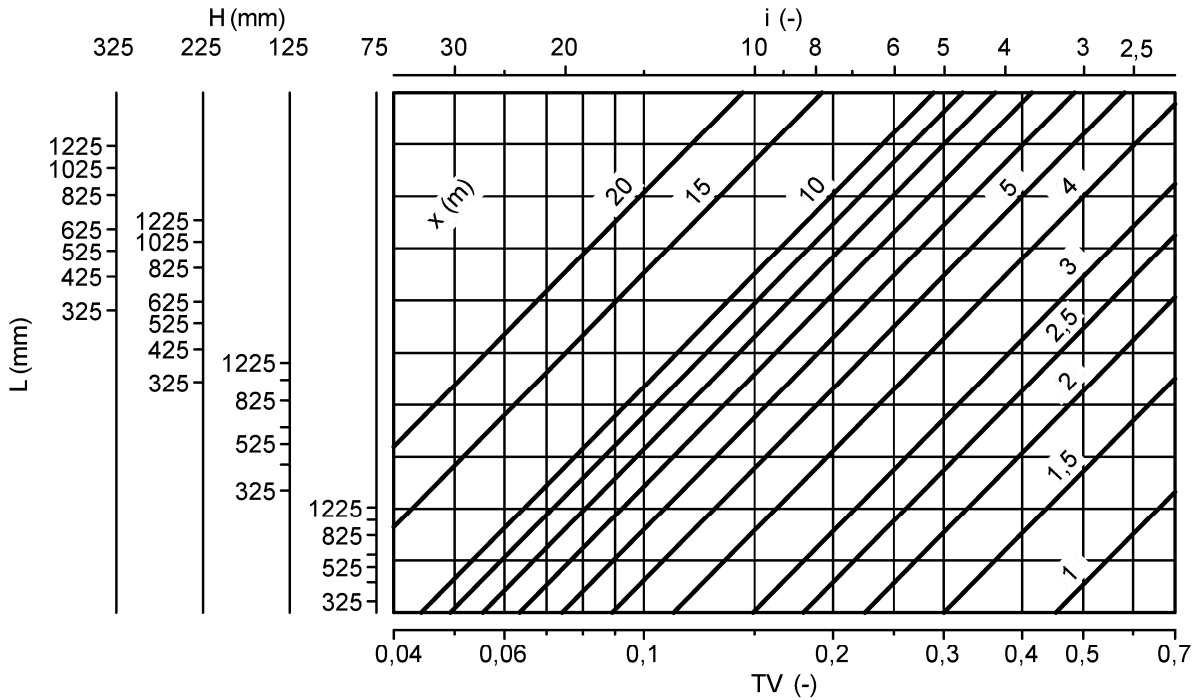


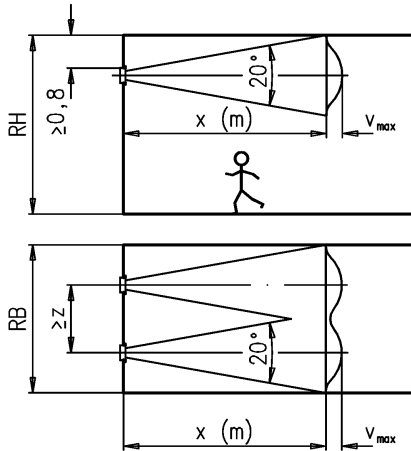
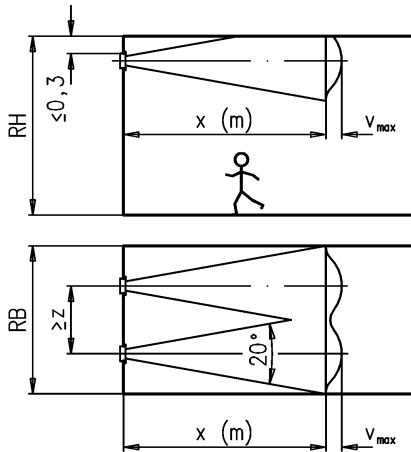
**Induction ratios and temperature ratios**

**Supply air without coanda effect**



**Supply air with coanda effect**



**Minimum distances**
**Supply air without coanda effect**

**Supply air with coanda effect**


For the diagrams to be correct, the distance  $z$  between two grilles must be  $x \text{ (m)} \times 0.2$ .

**LEGEND**

$V_{ZU}$	(m <sup>3</sup> /h) [l/s]	=	Supply air volume
$V_{AB}$	(m <sup>3</sup> /h) [l/s]	=	Return air volume
$V_X$	(m <sup>3</sup> /h) [l/s]	=	total air jet volume at point x
$v_{max}$	(m/s)	=	max. End velocity of jet
$v_K$	(m/s)	=	duct velocity
$v_{stirn}$	(m/s)	=	intake velocity, blower stream velocity, outflow velocity, relative to $A_{stirn}$
$A_{stirn}$	(m <sup>2</sup> )	=	face area
$x$	(m)	=	horizontal throw
$y$	(m)	=	vertical throw
$x_{kr}$	(m)	=	critical throw
$\rho$	(kg/m <sup>3</sup> )	=	Density
$\Delta p_t$	(Pa)	=	pressure loss
$L_{WA}$	[dB(A)]	=	A-weighted sound power level ( $L_{WA} = L_{WA1} + KF$ )
$L_{WA1}$	[dB(A)]	=	A-weighted sound power level, relative to $A_{stirn} = 0.08 \text{ m}^2$
$KF$	(-)	=	Correction factor
$\Delta T_O$	(K)	=	Temperature difference between supply air and room temperature ( $\Delta T_O = t_{ZU} - t_R$ )
$\Delta T_{OH}$	(K)	=	Temperature difference between supply air and ambient temperature in heating mode ( $\Delta T_{OH} = t_{ZU} - t_{RH}$ )
$\Delta T_X$	(K)	=	Temperature difference at point x
$t_{ZUH}$	(°C)	=	supply air temperature
$t_{RH}$	(°C)	=	ambient temperature
$t_{ZU}$	(°C)	=	supply air temperature
$t_R$	(°C)	=	room temperature
$i$	(-)	=	induction ratio ( $i = V_X / V_{ZU}$ )
$TV$	(-)	=	Temperature ratio ( $TV = \Delta T_X / \Delta T_O$ )
$z$	(m)	=	minimum clearance between two grilles $x \text{ (m)} \times 0.2$
$RH$	(mm)	=	room height
$RB$	(mm)	=	room width
$H$	(mm)	=	Height
$L$	(mm)	=	length

## ORDER CODE PA

01	02	03	04	05	06
Type	Blade profile	Blades	Blade spacing	Length	Height
<b>Example</b>					
PA	-Z	-01	-08	-00325	-075

07	08	09	10	11
Single / band design	Material	Paint	Mounting	Installation frame
-N	-AL	-9010	-KB	-ERO

All fields must be filled when ordering.

### Sample

**PA-Z-01-08-00325-075-N-AL-9010-KB-ERO**

Ventilation grille PA | blade profile Z, lightweight model, diagonal throw | with front side fixed, horizontal profiled blades | 8 mm | grille length L = 325 mm | grille height H = 75 mm | single design | aluminium | painted to RAL colour 9010 (white) | with clamp mounting | without installation frame

## ORDER DETAILS

### 01 - Type

PA = ventilation grille PA

### 02 - Blade profile

Z = blade profile Z, lightweight model, diagonal throw (standard).  
 G = blade profile G, compact model, straight throw.  
 S = blade profile S, compact model, diagonal throw.

### 03 - Blades (design)

01 = **installation in walls, ceilings and ventilation ducts. With wide frame profile (24 mm).**  
 With front side fixed, horizontal profiled blades.  
 2a = same as PA-...-01, additionally with individually adjustable vertical droplet-forming blades.  
 2b = same as PA-...-01, additionally with hit-and-miss damper.  
 2c = same as PA-...-01, additionally with individually adjustable vertical droplet-forming blades and hit-and-miss damper.  
 10 = **installation in walls, ceilings and ventilation ducts. With narrow frame profile (10 mm).**  
 With front side fixed, horizontal profiled blades, with narrow frame profile.  
 03 = **installation in walls and floors. With wide frame profile (25 mm).**  
 With removable blade insert consisting of horizontal fixed profiled blades.  
 05 = same as PA-...-03, additionally with individually adjustable vertical droplet-forming blades.  
 06 = same as PA-...-03, additionally with individually adjustable vertical droplet-forming blades and hit-and-miss damper.  
 07 = same as PA-...-03, additionally with hit-and-miss damper.

### 04 - Blade spacing

08 = 8 mm  
 13 = 13 mm (standard)

### 05 - Length

00225 = grille length L = 225 mm (only for PA-...-10-...)  
 00325 = grille length L = 325 mm  
 00425 = grille length L = 425 mm  
 00525 = grille length L = 525 mm  
 00625 = grille length L = 625 mm  
 00825 = grille length L = 825 mm  
 01025 = grille length L = 1025 mm  
 01225 = grille length L = 1225 mm  
 xxxxx = length (BL) in mm, freely selectable, for band design (always with 5 digits) (available lengths: 2-part or multi-part according to SCHAKO standard).

### 06 - Height

075 = grille height H = 75 mm  
 125 = grille height H = 125 mm  
 225 = grille height H = 225 mm  
 325 = grille height H = 325 mm

### 07 - Single / band design

N = single design (standard)  
 B = band design (available lengths according to SCHAKO standard for band design)

### 08 - Material

AL = aluminium

### 09 - Paint

ELOX = natural colour anodised (E6/EV1) (standard)  
 9010 = painted to RAL colour 9010 (white)  
 xxxx = painted to a RAL-colour, freely selectable (always with 4 digits).

**10 - Mounting**

- SM = screw mounting (only for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c, standard for band design, screws must be provided on site)
- VM = concealed mounting (standard for PA-...-03 / PA-05 / PA-...-06 / PA-...-07) (possible for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c, only possible with plenum box or installation frame)
- VS = concealed screw mounting (only for PA-...-10 [standard]) (only possible with plenum box or counter pole brace [on site])
- KB = clamp mounting (only for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c, standard for single design, only possible without plenum box or installation frame)

**11 - Installation frame**

- ER0 = without installation frame (standard)
  - ER1 = with installation frame without wall anchors
  - ER2 = with installation frame with wall anchors
- Installation frame only without plenum box possible.

## ORDER CODE AK

01	02	03	04	05	06	07
Type	Air diffuser	Length	Height	Single / band design	Mounting	Material
<b>Example</b>						
AK	-34	-00325	-075	-N	-SM	-SV

08	09	10	11	12	13
Damper	Rubber lip seal	Insulation	Height of plenum	Spigot diameter	Spigot posi-
-DK1	-GD1	-I0	-KHS	-SDS	-S1

All fields must be filled when ordering.

### Sample

**AK-34-00325-075-N-SM-SV-DK1-GD1-I0-KHS-SDS-S1**

Plenum box, rectangular design I for ventilation grille PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c I grille length L = 325 mm I grille height H = 75 mm I single design I with screw mounting I galvanised sheet steel I with damper I with rubber lip seal I without insulation I standard height of box I standard spigot diameter I lateral spigot on the box

### ORDER DETAILS

#### 01 - Type

AK = plenum box, rectangular design

#### 02 - Air diffuser

34 = for ventilation grille PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c  
 35 = for ventilation grille PA-...-10  
 54 = for ventilation grille PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07 (inside painted to RAL 9005)

#### 03 - Length

00225 = grille length L = 225 mm (only for PA-...-10)  
 00325 = grille length L = 325 mm  
 00425 = grille length L = 425 mm  
 00525 = grille length L = 525 mm  
 00625 = grille length L = 625 mm  
 00825 = grille length L = 825 mm  
 01025 = grille length L = 1025 mm  
 01225 = grille length L = 1225 mm  
 xxxxx = length (BL) in mm, freely selectable, for band design (always with 5 digits) (available lengths: 2-part or multi-part according to SCHAKO standard).

#### 04 - Height

075 = grille height H = 75 mm  
 125 = grille height H = 125 mm  
 225 = grille height H = 225 mm  
 325 = grille height H = 325 mm

#### 05 - Single / band design

N = single design (standard)  
 B = band design (for grille length BL > 1225 mm, available lengths according to SCHAKO standard for band design)

#### 06 - Mounting

SM = screw mounting (screws must be provided on site, only available for AK-34)  
 VS = concealed screw mounting (standard for AK-35, not available for AK-34 and AK-54)  
 VM = concealed mounting (standard for AK-34 and AK-54, not available for AK-35)

#### 07 - Material

SV = galvanised sheet steel (standard)

#### 08 - Damper

DK0 = without damper (standard)  
 DK1 = with damper (standard for spigot position -S1)  
 DK2 = with damper and cable-operated adjustment (standard for spigot position -S0 / -S4)

#### 09 - Rubber lip seal

GD0 = without rubber lip seal (standard)  
 GD1 = with rubber lip seal

#### 10 - Insulation

I0 = without insulation (standard)  
 Ii = With internal insulation  
 Ia = With external insulation

#### 11 - Height of plenum box

KHS = standard height of box  
 xxx = height of box in mm, freely selectable (minimum height [KHS] with spigot positions -S1 and -S4 = spigot diameter + 87 mm, but at least 200 mm) (always with 3 digits).

#### 12 - Spigot diameter

SDS = standard spigot diameter  
 xxx = spigot diameter (øD) in mm, freely selectable (always with 3 digits) (with spigot positions -S0 and -S4, if the spigot diameter is increased, only the offset box shape is available).

#### 13 - Spigot position

S0 = spigot from above  
 S1 = lateral spigot on the plenum box (standard)  
 S4 = front side spigot (not possible for band design)

**ORDER CODE CORNER ANGLE**

<b>01</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>
Type	Blade profile	Blades (design)	Blade spacing	Height
<b>Example</b>				
EWPA	-Z	-01	-08	-075

<b>06</b>	<b>07</b>	<b>08</b>	<b>09</b>	<b>10</b>
Left side length	Right side length	Material	Paint	Mounting
-000	-000	-AL	-ELOX	-SM

All fields must be filled when ordering.

**Sample**

**EWPA-Z-01-08-075-000-000-AL-ELOX-SM**

Corner angle for ventilation grille PA | blade profile Z, lightweight model, diagonal throw | suitable for ventilation grille band PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c | blade spacing 8 mm | height H = 75 mm | left side length: standard | right side length: standard | aluminium | natural colour anodised | screw mounting

**ORDER DETAILS**

**01 - Type**

EWPA = corner angle 90° for ventilation grille PA

**02 - Blade profile**

- Z = blade profile Z, lightweight model, diagonal throw (standard).
- G = blade profile G, compact model, straight throw.
- S = blade profile S, compact model, diagonal throw.

**03 - Blades (design)**

- 01 = suitable for ventilation grille band PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c
- 10 = suitable for ventilation grille band PA-...-10
- 03 = suitable for ventilation grille band PA-...-03 / PA- 05 / PA-...-06 / PA-...-07

**04 - Blade spacing**

- 08 = 8 mm
- 13 = 13 mm (standard)

**05 - Height**

- 075 = grille height H = 75 mm
- 125 = grille height H = 125 mm
- 225 = grille height H = 225 mm
- 325 = grille height H = 325 mm

**06 - Left-side length (a)**

- 000 = standard length (a = 436 for PA-...-10, a = 450 mm for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c / PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07)
- xxx = length freely selectable (minimum length = standard length) (always with 3 digits).

**07 - Right-side length (b)**

- 000 = standard length (b = 436 for PA-...-10, a = 450 mm for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c / PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07)
- xxx = length freely selectable (minimum length = standard length) (always with 3 digits).

**08 - Material**

AL = aluminium

**09 - Paint**

- ELOX = natural colour anodised (E6/EV1) (standard)
- 9010 = painted to RAL colour 9010 (white).
- xxxx = painted to a RAL-colour, freely selectable (always with 4 digits).

**10 - Mounting**

- SM = screw mounting (only for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c)
- VM = concealed mounting (only for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07)
- VS = concealed screw mounting (only for PA-...-10) (only possible with counter pole brace [on site]).



## SPECIFICATION TEXT

Ventilation grille PA, for supply and return air, for installation in walls / ceilings / ventilation ducts and floor, consisting of a front frame and blades made of extruded aluminium profiles. Profiled blades are fitted for air deflection.

### Blades (design):

- **installation in walls, ceilings and ventilation ducts.** With wide frame profile (24 mm).  
With front side fixed, horizontal profiled blades.  
SCHAKO type PA-...-01-...
  - same as PA-...-01, additionally with individually adjustable vertical droplet-forming blades.  
SCHAKO type PA-...-2a-...
  - same as PA-...-01, additionally with hit-and-miss damper.  
SCHAKO type PA-...-2b-...
  - same as PA-...-01, additionally with individually adjustable vertical droplet-forming blades and hit-and-miss damper.  
SCHAKO type PA-...-2c-...
- **installation in walls, ceilings and ventilation ducts. With narrow frame profile (10 mm).**  
With front side fixed, horizontal profiled blades, with narrow frame profile.  
SCHAKO type PA-...-10-...
- **installation in walls and floors. With wide frame profile (25 mm).**  
With removable blade insert consisting of horizontal fixed profiled blades.  
SCHAKO type PA-...-03-...
  - same as PA-...-03, additionally with individually adjustable vertical droplet-forming blades.  
SCHAKO type PA-...-05-...
  - same as PA-...-03, additionally with individually adjustable vertical droplet-forming blades and hit-and-miss damper.  
SCHAKO type PA-...-06-...
  - same as PA-...-03, additionally with hit-and-miss damper.  
SCHAKO type PA-...-07-...

### Blade profile:

- blade profile Z (-Z), lightweight model, diagonal throw (standard).
- blade profile G (-G), compact model, straight throw.
- blade profile S (-S), compact model, diagonal throw.

### Blade spacing:

- 8 mm (-08)
- 13 mm (-13) (standard)

### Length:

- grille length L = 225 mm (-00225) (only for PA-...-10-...)
- grille length L = 325 mm (-00325)
- grille length L = 425 mm (-00425)
- grille length L = 525 mm (-00525)
- grille length L = 625 mm (-00625)
- grille length L = 825 mm (-00825)
- grille length L = 1025 mm (-01025)
- grille length L = 1225 mm (-01225)
- Length (BL) in mm, freely selectable, for band design (-xxxxx, always with 5 digits) (available lengths: 2-part or multi-part according to SCHAKO standard).

### Height:

- grille height H = 75 mm (-075)
- grille height H = 125 mm (-125)
- grille height H = 225 mm (-225)
- grille height H = 325 mm (-325)

### Single / band design:

- single design (-N) (standard)
- band design (-B) (available lengths according to SCHAKO standard for band design)

### Material:

- aluminium (-AL).

### Coating (front frame and blades):

- natural colour anodised (-ELOX, E6/EV1) (standard)
- painted to RAL colour 9010 (white) (-9010)
- painted to a freely selectable RAL colour (-xxxx) (always with 4 digits).

### Mounting:

- for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c:
  - Screw mounting (-SM)
    - standard for band design.
    - band design is only available with -SM.
    - screws must be provided on site.
  - Concealed mounting (-VM)
    - only possible with plenum box or installation frame, at an extra charge.
  - Clamp mounting (-KB)
    - standard for single design.
    - only possible without plenum box or installation frame.
- for PA-...-10:
  - Concealed screw mounting (-VS)
    - for single and band design.
    - only possible with plenum box or counter pole brace (on site).
- for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07:
  - Concealed mounting (-VM)
    - for single and band design.
    - only possible with plenum box or installation frame, at an extra charge.

**Accessories:**

- Plenum box (-AK-...), in rectangular design, made of galvanised sheet steel (-SV, standard), housing with round connection spigot and mounting brackets.
  - Air diffuser:
    - for ventilation grille PA-...-1 / PA-...-2a / PA-...-2b / PA-...-2c (-AK-34)
    - for ventilation grille PA-...-10 (-AK-35)
    - for ventilation grille PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07 (-AK-54) (inside painted to RAL 9005)
  - Length:
    - grille length L = 225 mm (-00225) (only PA-...-10-...)
    - grille length L = 325 mm (-00325)
    - grille length L = 425 mm (-00425)
    - grille length L = 525 mm (-00525)
    - grille length L = 625 mm (-00625)
    - grille length L = 825 mm (-00825)
    - grille length L = 1025 mm (-01025)
    - grille length L = 1225 mm (-01225)
    - Length (BL) in mm, freely selectable, for band design (-xxxx, always with 5 digits) (available lengths: 2-part or multi-part according to SCHAKO standard).
  - Height:
    - grille height H = 75 mm (-075)
    - grille height H = 125 mm (-125)
    - grille height H = 225 mm (-225)
    - grille height H = 325 mm (-325)
  - Single / band design:
    - single design (-N) (standard)
    - band design (-B) (for grille length BL > 1225 mm, available lengths according to SCHAKO standard for band design)
  - Mounting:
    - screw mounting (-SM, screws must be provided on site, only available for AK-34)
    - concealed screw mounting (-VS, standard for AK-35, not available for AK-34 and AK-54)
    - concealed mounting (-VM, standard for AK-34 and AK-54, not available for AK-35)
  - Damper:
    - without damper (-DK0) (standard)
    - with damper (-DK1), made of galvanised sheet steel, in the plenum box housing, adjustable, for simple air volume regulation (standard with spigot position -S1).
    - with damper (-DK2), same as DK1 but with cable-operated adjustment (standard position -S0/-S4).
  - Rubber lip seal:
    - without rubber lip seal (-GD0) (standard)
    - with rubber lip seal (-GD1) made of special rubber, at the connection spigot.
  - Insulation:
    - without insulation (-I0) (standard)
    - with internal insulation (-Ii), thermal insulation inside the plenum box.
    - with external insulation (-Ia), thermal insulation at the outside of the plenum box.
  - Height of plenum box:
    - standard height of box (-KHS)
    - height of box in mm, freely selectable (-xxx) (minimum height [KHS] with spigot positions -S1 and -S4 = spigot diameter  $\varnothing D$  + 87 mm, but at least 200 mm) (always with 3 digits).
  - Spigot diameter:
    - standard spigot diameter (-SDS)
    - spigot diameter ( $\varnothing D$ ) in mm, freely selectable (-xxx, always with 3 digits) (with spigot positions -S0 and -S4, if the spigot diameter is increased, only the offset box shape is available).
- Spigot position:
  - Spigot from above (-S0)
  - lateral spigot on the box (-S1) (standard)
  - front side spigot (-S4, not possible for band design)
- Corner angle 90° (-EWPA) with front frame and blades made of extruded aluminium profile (-AL), with 90° angle between sides. With dummy plate, black, painted to RAL 9005, consisting of galvanised sheet steel (only for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07) or Zincor (only for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c / PA-...-10).
  - Blade profile:
    - blade profile Z (-Z), lightweight model, diagonal throw.
    - blade profile G (-G), compact model, straight throw.
    - blade profile S (-S), compact model, diagonal throw.
  - Blades (design):
    - suitable for ventilation grille band PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c (-01)
    - suitable for ventilation grille band PA-...-10 (-10)
    - suitable for ventilation grille band PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07 (-03)
  - Blade spacing:
    - 8 mm (-08)
    - 13 mm (-13) (standard)
  - Height:
    - grille height 75 mm (-075)
    - grille height 125 mm (-125)
    - grille height 225 mm (-225)
    - grille height 325 mm (-325)
  - Left side length (a):
    - standard length (-000) (a = 436 for PA-...-10, a = 450 mm for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c / PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07)
    - length freely selectable (-xxx) (minimum length = standard length) (always with 3 digits).
  - Right side length (b):
    - standard length (-000) (b = 436 for PA-...-10, b = 450 mm for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c / PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07)
    - length freely selectable (-xxx) (minimum length = standard length) (always with 3 digits).
  - Coating (front frame and blades):
    - natural colour anodised (-ELOX, E6/EV1) (standard)
    - painted to RAL colour 9010 (white) (-9010)
    - painted to a freely selectable RAL colour (-xxxx) (always with 4 digits).
  - Mounting:
    - screw mounting (-SM) (only for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c)
    - concealed mounting (-VM) (only for PA-...-03 / PA-...-05 / PA-...-06 / PA-...-07)
    - concealed screw mounting (-VS) (only for PA-...-10) (only possible with counter pole brace [on site])
- Installation frame (-ER0 / -ER1 / -ER2)
  - without installation frame (-ER0)
  - with installation frame made of galvanised sheet steel (only for PA-...-01 / PA-...-2a / PA-...-2b / PA-...-2c, only possible without plenum box):
    - without wall anchors (-ER1)
    - with wall anchors (-ER2)