

WGA

Long throw nozzle grille

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FUNCTION AND USE

Since multi-purpose halls have many different uses, great demands are placed on their air-conditioning and ventilation requirements. Since both sporting and cultural events are held in these halls, requirements with regard to supply of air volumes and temperature differences between supply and room temperature also change.

The long throw nozzle grille type WGA has been specially developed to cope with these different requirements. The advanced and well designed construction of the grille allows high throw speeds at low noise levels. The high throw speeds result in deep penetration of the room to be ventilated. This ensures that fresh air is circulated throughout the whole room and not just near the supply air grille itself. A further advantage of the long throw nozzle grille is that the entire air jet is divided into a large number of individual jets, thus resulting in a high level of induction. The temperatures and velocities of the individual jets are very quickly reduced. This means that on the one hand the supply air does not drop into the occupied area in cooling mode and, on the other hand the air does not rise too fast towards the ceiling in heating mode.

The long throw nozzle grille type WGA-Q-V0-... with individually manually adjustable nozzles allows a diverging air jet (pivoting range 45°). To achieve an even greater throw for cooling applications and effective, energy saving room heating for heating applications, the long throw nozzle grille type WGA-Q-V0-... has been designed with individually or jointly adjustable nozzles. In the WGA-Q-VG-..., WGA-Q-VE-... and WGA-Q-VT-..., the nozzles are fitted to a pivoting faceplate which can be adjusted manually, electrically or by means of a thermocouple (pivoting range 34°).

In the model with thermocouple, at a supply air temperature of 20 °C or lower the nozzles of the WGA-...-VT-... are in the cooling position with throw direction diagonally upwards (max. angle 17°). At a supply air temperature of 35 °C or higher, the nozzles of the WGA-...-VT-... are in the heating position with throw direction diagonally upwards (max. angle -17°). In the temperature range between 20 °C and 35 °C, the nozzle rows are adjusted linearly.

The long throw nozzle grille is available in models WGA-R-... for direct installation in round ducts. At an extra charge, bars can be fitted to the faceplate as ball-impact guards. An integrated hit-and-miss damper is available for simple air volume regulation. The installation of the WGA-R-... in spiral ducts must take place free of stress. Avoid using unround or deformed spiral ducts, in order to protect the grilles from distortion.

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.

All models can be used in 100% to 40% VAV systems.

MODELS

WGA-Q-...	for installation in walls and ducts
WGA-R-...	for installation in round ducts
WGA-...-F0-...	with fixed nozzles
WGA-...-V0-...	with individually manually adjustable nozzles (nozzle pivoting range 45°)
WGA-...-VG-...	with jointly manually adjustable nozzles (nozzle pivoting range 34°)
WGA-...-VE-...	with jointly electrically adjustable nozzles (nozzle pivoting range 34°)
WGA-...-VT-...	with jointly thermally adjustable nozzles (without electrical energy) (nozzle pivoting range 34°)
WGA-...-N-...	single design (standard)
WGA-...-B-...	band design (only possible for WGA-Q-F0-... and WGA-Q-V0-..., available lengths according to SCHAKO standard for band design)

MOUNTING

- screw mounting (-SM, standard)
 - screws must be provided on site
- Concealed mounting (-VM)
 - only possible for WGA-Q-F0-... and WGA-Q-V0-...
 - with VM pole brace
 - only possible with plenum box
 - only possible without hit-and-miss damper
- VM counter pole brace (-GT)
 - only possible for WGA-Q-F0-... and WGA-Q-V0-...
 - pole brace made of galvanised sheet steel
 - supplied loose as standard
 - only possible without plenum box
 - only possible without hit-and-miss damper

PROCESSING

Frame

- Sheet steel (-SB-...), painted to:
 - RAL colour 9010 (white) (-9010, standard)
 - RAL colour 9005 (black) (-9005)
 - RAL colour 9006 (white aluminium) (-9006)
 - RAL colour 9007 (grey aluminium) (-9007)
 - painted to a different RAL colour, freely selectable (always with 4 digits) (-xxxx).

nozzles

- Plastic:
 - similar to RAL colour 9010 (white) (-DW, standard)
 - similar to RAL colour 9005 (black) (-DS)
 - similar to RAL colour 9006 (white aluminium) (-DA)
 - similar to RAL colour 9007 (grey aluminium) (-DG)

Electric actuator

- without actuator (-E000, standard)
 - with actuator:
 - 230 V AC, 3-point activation (-E080)
 - 24 V AC, actuator signal Y, 0-10 V DC (-E081, standard)
(is fitted if no motor type is specified when ordering)
 - 24 V AC, 3-point activation (-E082)
- The actuator can be fitted only for WGA-Q-VE-... and WGA-R-VE-...

Thermocouple

- for WGA-Q-VT-... / WGA-R-VT-...

ACCESSORIES

Hit-and-miss damper (-SN/-SS)

- without hit-and-miss damper (-SN, standard)
- with hit-and-miss damper (-SS), for volumetric flow adjustment, adjustable on room side, made of electrolytically galvanised sheet steel (not possible in combination with VM and GT, mounting exclusively ex works)

Ball-impact guard (-B0/-BS)

- without ball-impact guard (-B0, standard)
- with ball-impact guard (-BS), integrated into the housing made of profiled steel (painted to the same colour as the frame).

Plenum box (-AK-37/-AK-38/-AK-39), for WGA-Q

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

- Air diffuser:
 - for WGA-Q-F0-... / WGA-Q-V0-... (AK-37)
 - for WGA-Q-VG-... / WGA-Q-VT-... (AK-38)
 - for WGA-Q-VE-... (AK-39)
- Length:
 - 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) (only possible for WGA-...-F0-... and WGA-...-V0-...)
 - length (BL) in mm, freely selectable, for band design (-xxxxx, always with 5 digits) (for a grille length BL > 1225 mm: 2-part for a length of band BL ≤ 2432 mm, multi-part for a length of band > 2432 mm)
- Height:
 - grille height H = 125 mm (-125)
 - grille height H = 225 mm (-225)
 - grille height H = 325 mm (-325) (only possible for WGA-Q-F0-... / WGA-Q-V0-...)
- Single / band design:
 - Single design (-N) (standard)
 - band design (-B) (only possible for AK-37 [for WGA-Q-F0-... / WGA-Q-V0-...], for a grille length BL > 1225 mm, available lengths according to SCHAKO standard for band design)
- Mounting:
 - screw mounting (-SM, standard, screws must be provided on site)
 - concealed mounting (-VM, only possible for -AK-37-... for WGA-Q-F0-... / WGA-Q-V0-...)
- 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 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, [with AK-37] / + 167 mm [with AK-38] / + 187 mm [with AK-39], 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)

QUICK SELECTION

	Height H (mm)					Length L (mm)							
	115	125	215	225	325	325	425	525	625	825	1025	1225	
WGA-Q-F0-...	--	X	--	X	X	X	X	X	X	X	X	X	
WGA-Q-V0-...	--	X	--	X	X	X	X	X	X	X	X	X	
WGA-Q-VG-...	--	X	--	X	--	X	X	X	X	X	X	--	
WGA-Q-VE-...	--	X	--	X	--	X	X	X	X	X	X	--	
WGA-Q-VT-...	--	X	--	X	--	X	X	X	X	X	X	--	
WGA-R-F0-...	X	--	X	--	--	X	X	X	X	X	X	X	
WGA-R-V0-...	X	--	X	--	--	X	X	X	X	X	X	X	
WGA-R-VG-...	X	--	X	--	--	X	X	X	X	X	X	--	
WGA-R-VE-...	X	--	X	--	--	X	X	X	X	X	X	--	
WGA-R-VT-...	X	--	X	--	--	X	X	X	X	X	X	--	

X = available / -- = not available

NUMBER OF NOZZLES

WGA-Q-...

	L						
	325	425	525	625	825	1025	1225
H 125	3	4	5	6	8	10	12
H 225	6	8	10	12	16	20	24
H 325	9	12	15	18	24	30	36

WGA-R-...

	L						
	325	425	525	625	825	1025	1225
H 115	3	4	5	6	8	10	12
H 215	6	8	10	12	16	20	24

DIMENSIONS

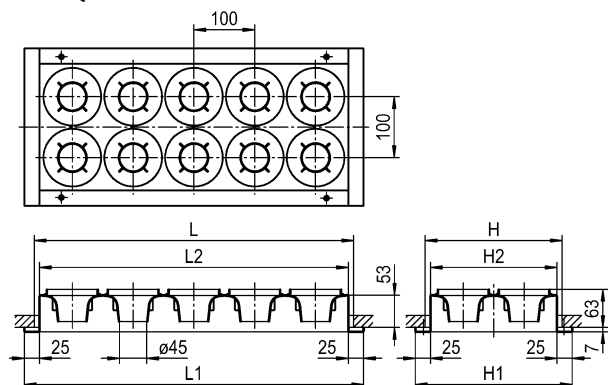
For installation in walls and ducts

for WGA-Q

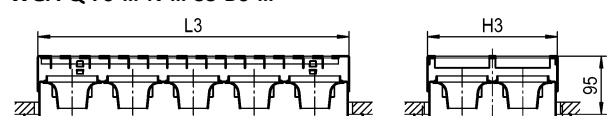
Single design (-N)

Fixed nozzles (-F0)

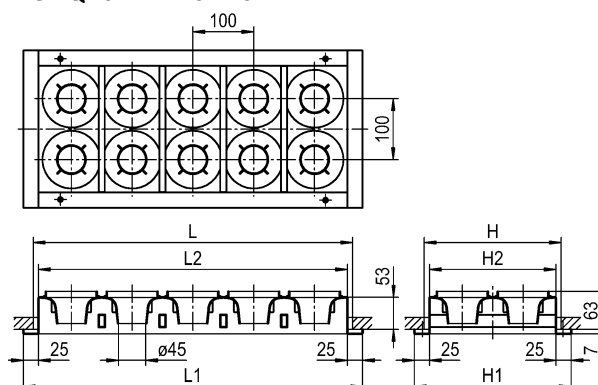
without hit-and-miss damper (-SN) /
without ball-impact guard (-B0)
WGA-Q-F0-...-N-...-SN-B0-...



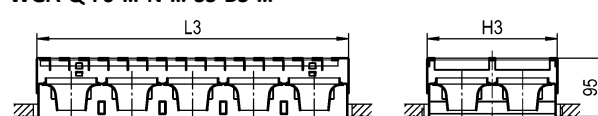
with hit-and-miss damper (-SS) /
without ball-impact guard (-B0)
WGA-Q-F0-...-N-...-SS-B0-...



without hit-and-miss damper (-SN) /
with ball-impact guard (-BS)
WGA-Q-F0-...-N-...-SN-BS-...



with hit-and-miss damper (-SS) /
with ball-impact guard (-BS)
WGA-Q-F0-...-N-...-SS-BS-...



Available sizes WGA-Q-F0-...

L	L1	L2	L3
325	358	309	310
425	458	409	410
525	558	509	510
625	658	609	610
825	858	809	810
1025	1058	1009	1010
1225	1258	1209	1210

H	H1	H2	H3
125	158	109	111
225	258	209	211
325	358	309	311

All combined lengths and heights available.

Special dimensions not available!

Fastening possible without hit-and-miss damper with SM, VM and GT.

Fastening with hit-and-miss damper only possible with SM.

Mounting options: for screw mounting (-SM), see page 18 / for concealed mounting (-VM), see page 19

For installation in walls and ducts

for WGA-Q

Single design (-N)

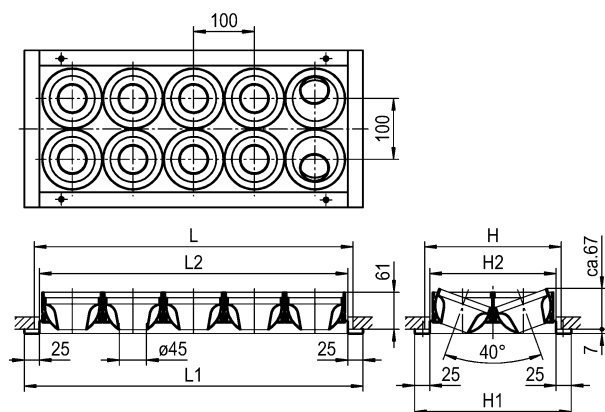
Nozzles manually individually adjustable (-V0)

nozzle pivoting range 45°

without hit-and-miss damper (-SN) /

without ball-impact guard (-B0)

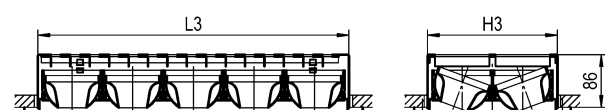
WGA-Q-V0-...-N-...-SN-B0-...



with hit-and-miss damper (-SS) /

without ball-impact guard (-B0)

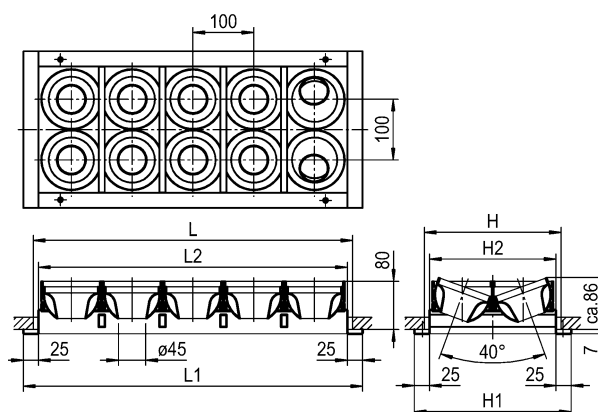
WGA-Q-V0-...-N-...-SS-B0-...



without hit-and-miss damper (-SN) /

with ball-impact guard (-BS)

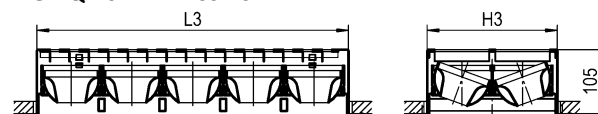
WGA-Q-V0-...-N-...-SN-BS-...



with hit-and-miss damper (-SS) /

with ball-impact guard (-BS)

WGA-Q-V0-...-N-...-SS-BS-...



Available sizes WGA-Q-V0-...

L	L1	L2	L3
325	358	309	310
425	458	409	410
525	558	509	510
625	658	609	610
825	858	809	810
1025	1058	1009	1010
1225	1258	1209	1210

H	H1	H2	H3
125	158	109	111
225	258	209	211
325	358	309	311

All combined lengths and heights available.

Special dimensions not available!

Fastening possible without hit-and-miss damper with SM, VM and GT.

Fastening with hit-and-miss damper only possible with SM.

Mounting options: for screw mounting (-SM), see page 18 / for concealed mounting (-VM), see page 19

For installation in walls and ducts

for WGA-Q

Single design (-N)

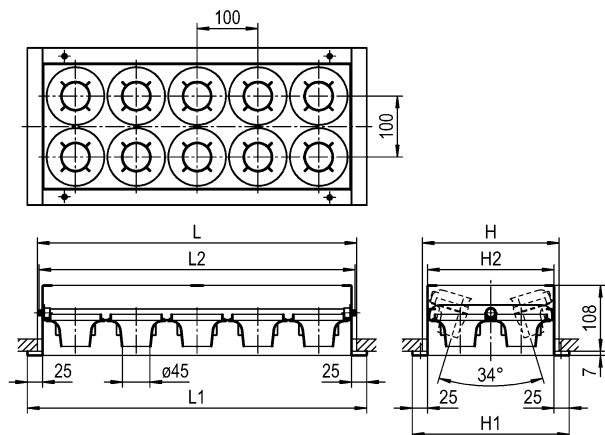
Nozzles jointly manually adjustable (-VG)

nozzle pivoting range 34°

without hit-and-miss damper (-SN) /

without ball-impact guard (-B0)

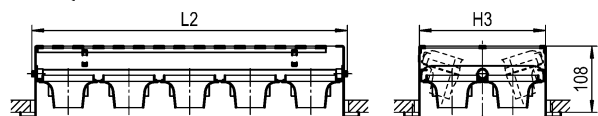
WGA-Q-VG-...-N-...-SN-B0-...



with hit-and-miss damper (-SS) /

without ball-impact guard (-B0)

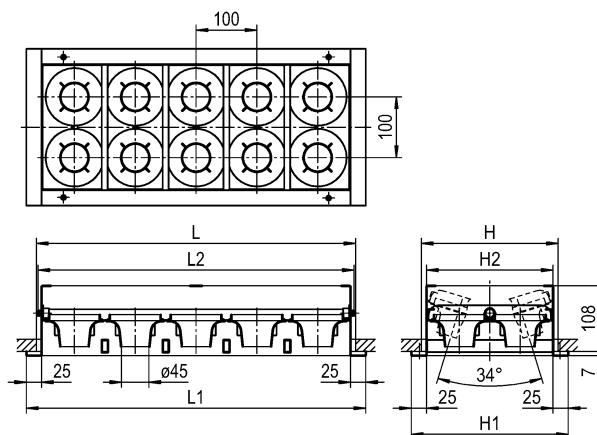
WGA-Q-VG-...-N-...-SS-B0-...



without hit-and-miss damper (-SN) /

with ball-impact guard (-BS)

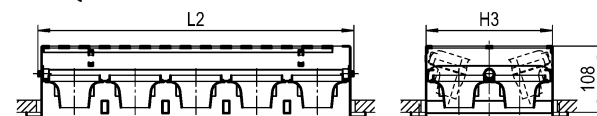
WGA-Q-VG-...-N-...-SN-BS-...



with hit-and-miss damper (-SS) /

with ball-impact guard (-BS)

WGA-Q-VG-...-N-...-SS-BS-...



Available sizes WGA-Q-VG-...

L	L1	L2	H	H1	H2	H3
325	358	319	125	158	109	110
425	458	419	225	258	209	210
525	558	519				
625	658	619				
825	858	819				
1025	1058	1019				

All combined lengths and heights available.

Special dimensions not available!

Installation opening in the length section

For model with a plenum box, the length of the installation opening increases

without plenum box:	L
with plenum box AK-38:	L + 5

Fastening only possible with SM.

Mounting options: for screw mounting (-SM), see page 18.

For installation in walls and ducts

for WGA-Q

Single design (-N)

Nozzles jointly electrically adjustable (-VE)

nozzle pivoting range 34°

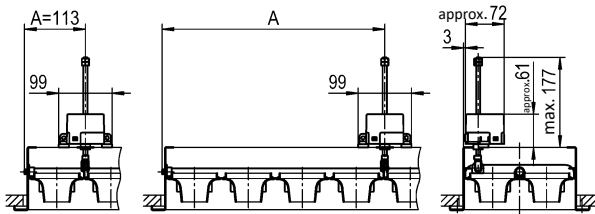
without hit-and-miss damper (-SN) /

without ball-impact guard (-B0)

WGA-Q-VE-...-N-...-SN-B0-...

lateral:

centred:



Available sizes WGA-Q-VE-...

H	lateral		centred	
	L	A	L	A
125	325-625	113	825	410
			1025	510
			625	310
225	325-525	113	825	410
			1025	510
			625	310

All combined lengths and heights available.

Special dimensions not available!

WGA-Q-VE-...-N-...-SN-B0-... / WGA-Q-VE-...-N-...-SS-B0-... /
WGA-Q-VE-...-N-...-SN-B0-... / WGA-Q-VE-...-N-...-SS-B0-...:

Dimensions and available sizes WGA-Q-VE-... the same as
WGA-Q-VG-... (see page 8).

Installation opening in the length section

For model with a plenum box, the length of the installation opening increases

without plenum box:	L
with plenum box AK-39:	L + 5

Fastening only possible with SM.

Mounting options: for screw mounting (-SM), see page 18.

With WGA-Q-VE-... Observe actuator mounting!

List of actuators:

	Actuator	Product
-E080	230 V AC 3-point activation	Gruner 309-230-150/SL8
-E081 (standard)	24 V AC 0-10 V DC	Gruner 309C-024-150/SL8
-E082	24 V AC 3-point activation	Gruner 309-024-150/SL8

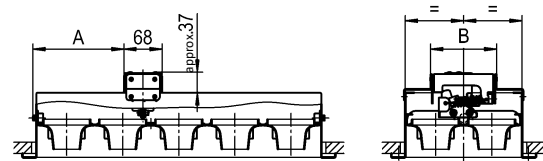
Nozzles jointly thermally adjustable (-VT)

nozzle pivoting range 34°, without electrical energy

without hit-and-miss damper (-SN) /

without ball-impact guard (-B0)

WGA-Q-VT-...-N-...-SN-B0-...



Available sizes WGA-Q-VT-...

L	A	H	B
325	62	125	115
425	162	225	118
525	162		
625	262		
825	362		
1025	462		

All combined lengths and heights available.

Special dimensions not available!

WGA-Q-VT-...-N-...-SN-B0-... / WGA-Q-VT-...-N-...-SS-B0-... /
WGA-Q-VT-...-N-...-SN-B0-... / WGA-Q-VT-...-N-...-SS-B0-...:

Dimensions and available sizes WGA-Q-VT-... the same as
WGA-Q-VG-... (see page 8).

Installation opening in the length section

For model with a plenum box, the length of the installation opening increases

without plenum box:	L
with plenum box AK-38:	L + 5

Fastening only possible with SM.

Mounting options: for screw mounting (-SM), see page 18.

For installation in walls and ducts

for WGA-Q

Band design (-B)

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

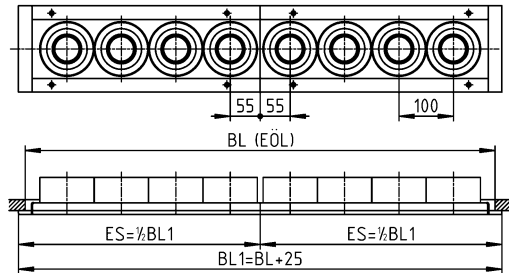
Available lengths according to SCHAKO standard:

In the band design of the long throw nozzle grille WGA-Q, 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.

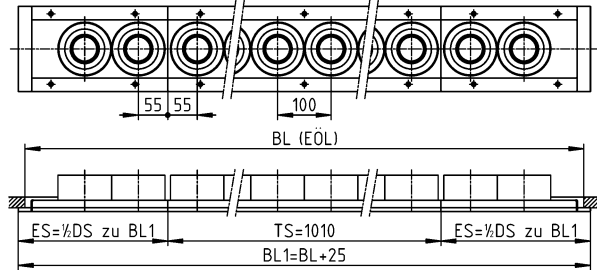
Without plenum box

only for: WGA-Q-F0-... / WGA-Q-V0-...

2-part for a length of band BL > 1225 mm to ≤ 2432 mm



multi-part for a length of band BL > 2432 mm



Max. length end piece (ES):

 $ES_{max} = 1224 \text{ mm}$

- 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

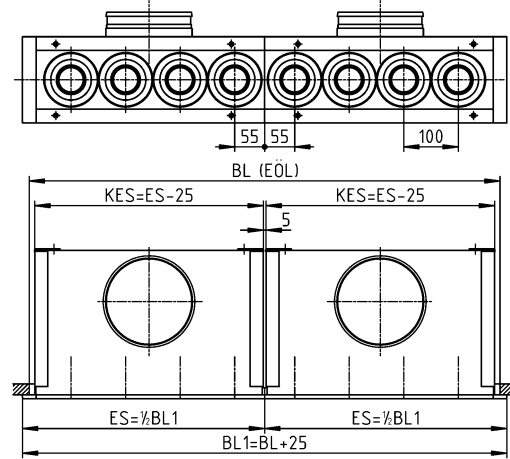
For spigot position / box shape, see page 15.
For mounting options, see pages 18+19.

with plenum box

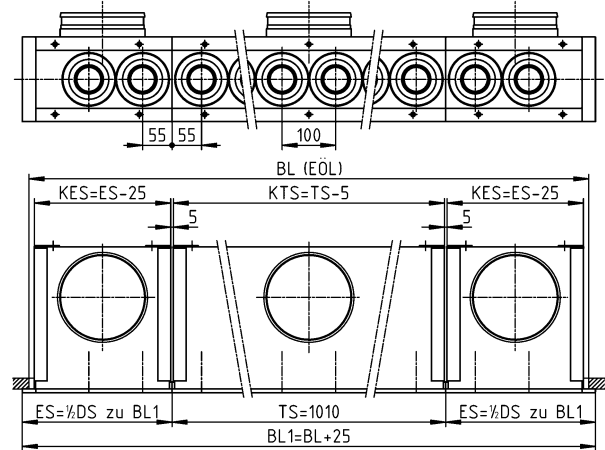
only for: WGA-Q-F0-... / WGA-Q-V0-...

only possible spigot positions -S1 and -S0

2-part for a length of band BL > 1225 mm to ≤ 2432 mm



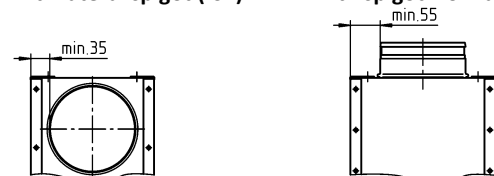
multi-part for a length of band BL > 2432 mm



Max. length plenum box end piece (KES):

 $KES_{max} = 1199 \text{ mm}$

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 15 and 16, marking*).

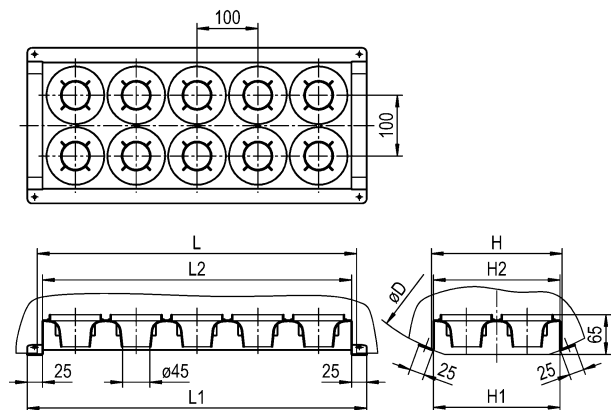
For installation in round ducts

for WGA-R

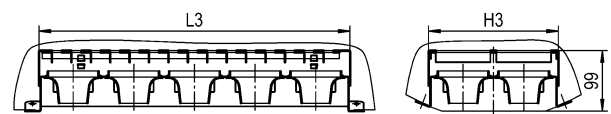
Single design (-N)

Fixed nozzles (-F0)

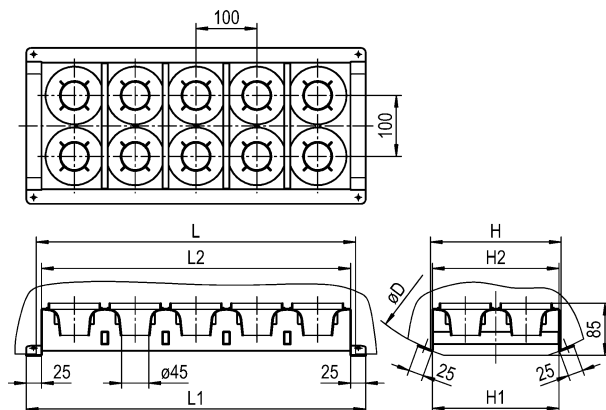
without hit-and-miss damper (-SN) /
without ball-impact guard (-B0)
WGA-R-F0-...-N-...-SN-B0-...



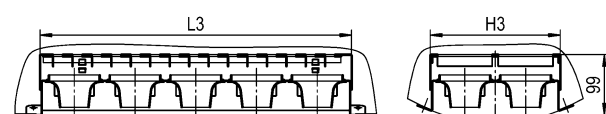
with hit-and-miss damper (-SS) /
without ball-impact guard (-B0)
WGA-R-F0-...-N-...-SS-B0-...



without hit-and-miss damper (-SN) /
with ball-impact guard (-BS)
WGA-R-F0-...-N-...-SN-BS-...



with hit-and-miss damper (-SS) /
with ball-impact guard (-BS)
WGA-R-F0-...-N-...-SS-BS-...



Available sizes WGA-R-F0-...

L	L1	L2	L3
325	358	309	310
425	458	409	410
525	558	509	510
625	658	609	610
825	858	809	810
1025	1058	1009	1010
1225	1258	1209	1210

H	H1	H2	H3
115	108	109	111
215	208	209	211

All combined lengths and heights available.

Special dimensions not available!

Fastening only possible with SM.

Installation: for duct diameter ($\varnothing D$), see page 20.

Mounting options: for screw mounting (-SM), see page 18.

For installation in round ducts

for WGA-R

Single design (-N)

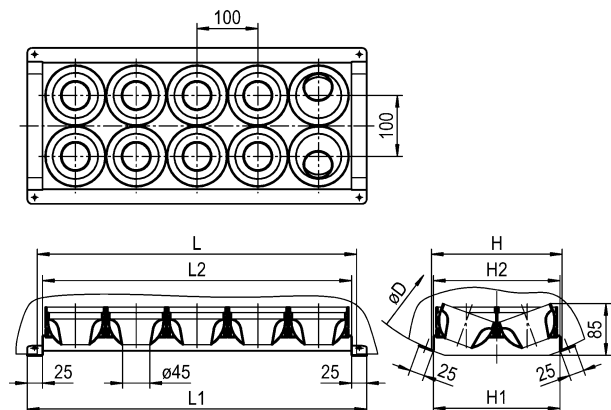
Nozzles manually individually adjustable (-V0)

nozzle pivoting range 45°

without hit-and-miss damper (-SN) /

without ball-impact guard (-B0)

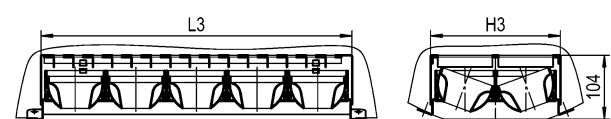
WGA-R-V0-...-N-...-SN-B0-...



with hit-and-miss damper (-SS) /

without ball-impact guard (-B0)

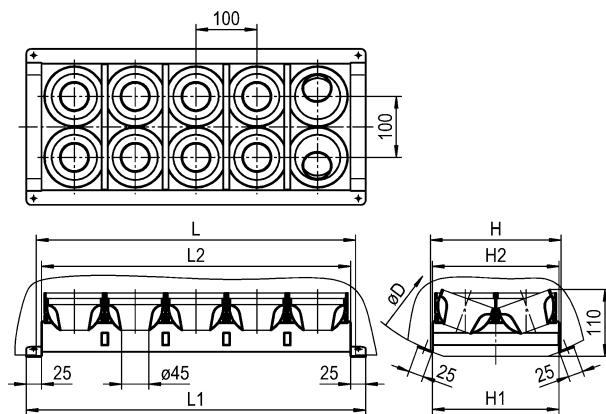
WGA-R-V0-...-N-...-SS-B0-...



without hit-and-miss damper (-SN) /

with ball-impact guard (-BS)

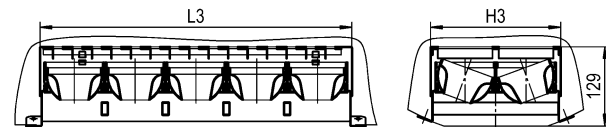
WGA-R-V0-...-N-...-SN-BS-...



with hit-and-miss damper (-SS) /

with ball-impact guard (-BS)

WGA-R-V0-...-N-...-SS-BS-...



Available sizes WGA-R-V0-...

L	L1	L2	L3
325	358	309	310
425	458	409	410
525	558	509	510
625	658	609	610
825	858	809	810
1025	1058	1009	1010
1225	1258	1209	1210

H	H1	H2	H3
115	108	109	111
215	208	209	211

All combined lengths and heights available.

Special dimensions not available!

Fastening only possible with SM.

Installation: for duct diameter (ØD), see page 20.

Mounting options: for screw mounting (-SM), see page 18.

For installation in round ducts

for WGA-R

Single design (-N)

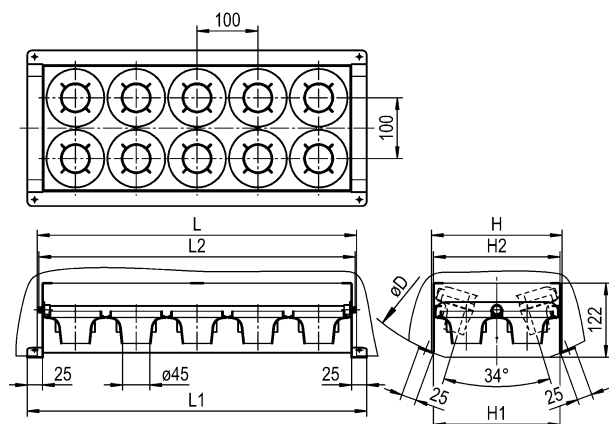
Nozzles jointly manually adjustable (-VG)

nozzle pivoting range 34°

without hit-and-miss damper (-SN) /

without ball-impact guard (-B0)

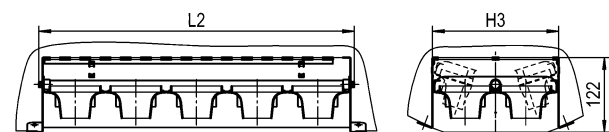
WGA-R-VG-...-N-...-SN-B0-...



with hit-and-miss damper (-SS) /

without ball-impact guard (-B0)

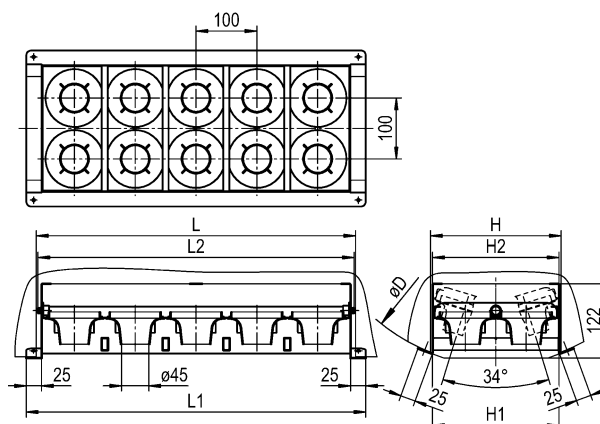
WGA-R-VG-...-N-...-SS-B0-...



without hit-and-miss damper (-SN) /

with ball-impact guard (-BS)

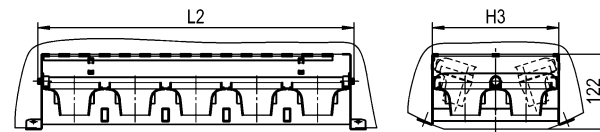
WGA-R-VG-...-N-...-SN-BS-...



with hit-and-miss damper (-SS) /

with ball-impact guard (-BS)

WGA-R-VG-...-N-...-SS-BS-...



Available sizes WGA-R-VG-...

L	L1	L2	H	H1	H2	H3
325	358	319	115	108	109	110
425	458	419	215	208	209	210
525	558	519				
625	658	619				
825	858	819				
1025	1058	1019				

All combined lengths and heights available.

Special dimensions not available!

Fastening only possible with SM.

Installation: for duct diameter (ØD), see page 20.

Mounting options: for screw mounting (-SM), see page 18.

For installation in round ducts

for WGA-R

Single design (-N)

Nozzles jointly electrically adjustable (-VE)

nozzle pivoting range 34°

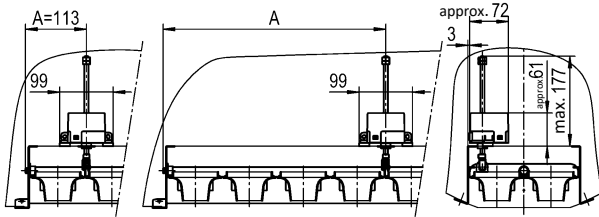
without hit-and-miss damper (-SN) /

without ball-impact guard (-B0)

WGA-R-VE-...-N-...-SN-B0-...

lateral:

centred:



Available sizes WGA-R-VE-...

H	lateral		centred	
	L	A	L	A
115	325-625	113	825	410
			1025	510
215	325-525	113	625	310
			825	410
			1025	510

All combined lengths and heights available.

Special dimensions not available!

WGA-R-VE-...-N-...-SN-B0-... / WGA-R-VE-...-N-...-SS-B0-... /

WGA-R-VE-...-N-...-SN-B0-... / WGA-R-VE-...-N-...-SS-B0-...:

Dimensions and available sizes WGA-R-VE-... the same as WGA-R-VG-... (see page 13).

Fastening only possible with SM.

Installation: for duct diameter (øD), see page 20.

Mounting options: for screw mounting (-SM), see page 18.

At WGA-R-VE-... Observe actuator mounting!

List of actuators:

	Actuator	Product
-E080	230 V AC 3-point activation	Gruner 309-230-150/SL8
-E081 (standard)	24 V AC 0-10 V DC	Gruner 309C-024-150/SL8
-E082	24 V AC 3-point activation	Gruner 309-024-150/SL8

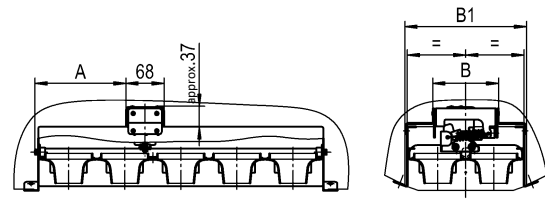
Nozzles jointly thermally adjustable (-VT)

nozzle pivoting range 34°, without electrical energy

without hit-and-miss damper (-SN) /

without ball-impact guard (-B0)

WGA-R-VT-...-N-...-SN-B0-...



Available sizes WGA-R-VT-...

L	A	H	B	B1
325	62	115	115	117
425	162	215	118	217
525	162			
625	262			
825	362			
1025	462			

B1 = duct opening

All combined lengths and heights available.

Special dimensions not available!

WGA-R-VT-...-N-...-SN-B0-... / WGA-R-VT-...-N-...-SS-B0-... /

WGA-R-VT-...-N-...-SN-B0-... / WGA-R-VT-...-N-...-SS-B0-...:

Dimensions and available sizes WGA-R-VT-... the same as WGA-R-VG-... (see page 13).

Fastening only possible with SM.

Installation: for duct diameter (øD), see page 20.

Mounting options: for screw mounting (-SM), see page 18.

DIMENSIONS OF ACCESSORIES

Plenum box (-AK-37 / -AK-38 / -AK-39)

AK-37: for WGA-Q-F0-... / WGA-Q-V0-...

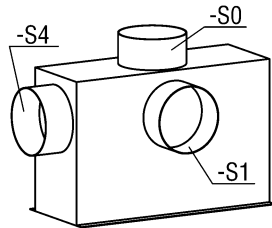
AK-38: for WGA-Q-VG-... / WGA-Q-VT-...

AK-39: for WGA-Q-VE-...

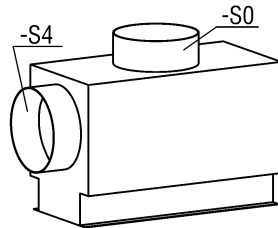
SINGLE DESIGN (-N)

Spigot position

Straight plenum box:



Offset plenum box:



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

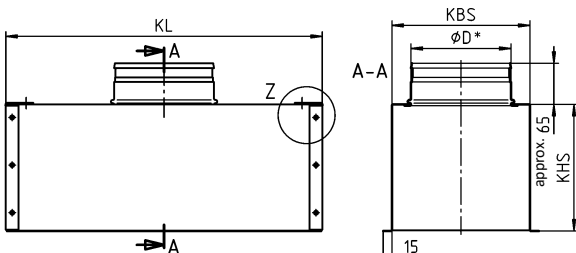
Spigot diameter for spigot position "Spigot front side (-S4)" is identical with "Lateral spigot on the box (-S1)".

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

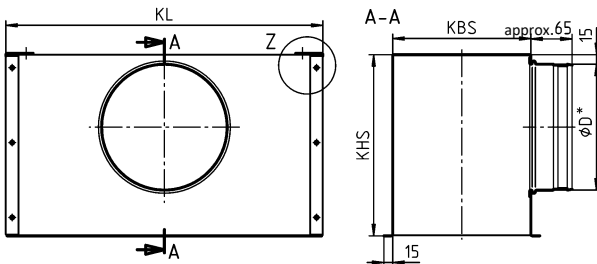
For the table of available sizes, see page 15.

Straight plenum box:

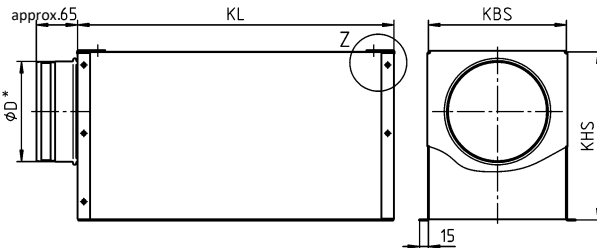
with spigot from above (-S0)



with lateral spigot on the plenum box (-S1)



with spigot front side (-S4)



* external

For plenum box in band design, see page 10.

Mounting options: for VM fastening, see page 19.

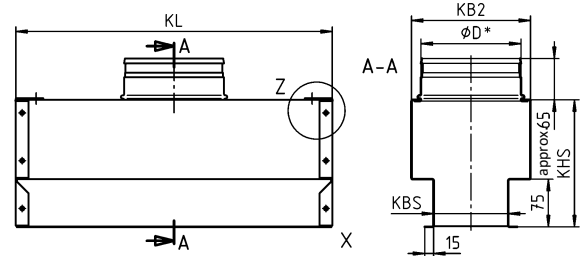
Offset plenum box:

If KBS is < (ØD+30), an offset plenum box will be manufactured.

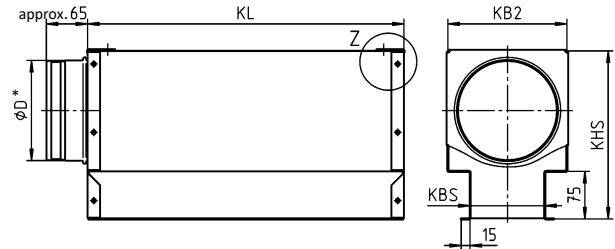
For model -S0: KB2 = ØD+30

Minimum difference between KBS and KB2 = 40 mm.

with spigot from above (-S0)



with spigot front side (-S4)

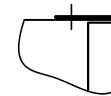


* external

Plenum box mounting:

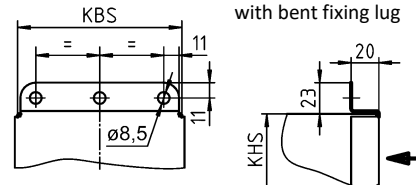
Detail Z

As-delivered condition with fitted mounting bracket



Detail Z

with bent fixing lug



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

AK-37: KHS min. = ØD + 87 mm, but at least 200 mm

AK-38: KHS min. = ØD + 167 mm, but at least 200 mm

AK-39: KHS min. = ØD + 187 mm, but at least 200 mm

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

KB2 min. = 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.

Available sizes AK-37-... (only WGA-Q-F0-... / WGA-Q-V0-...)

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

* dimensions for band design / n = number of spigots /
band design (-B) only possible for AK-37 (for WGA-Q-F0-... / WGA-Q-V0-...).

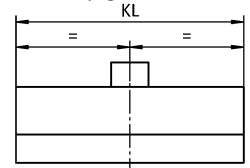
Available sizes AK-38-... (only WGA-Q-VG-... / WGA-Q-VT-...)

H	KBS	L	KL	Spigot position -S1				Spigot position -S0				Spigot position -S4			
				KHS	KB2	n x ØD	Plenum box	KHS	KB2	n x ØD	Plenum box	KHS	KB2	n x ØD	Plenum box
125	118	325	325	345	--	1x Ø158		200	158	1x Ø98		345	188	1x Ø158	
		425	425							2x Ø98					
		525	525												
		625	625	365	--	1x Ø198		200	158	2x Ø98		365	228	1x Ø198	
		825	825												
		1025	1025							4x Ø98					
225	218	325	325	365	--	1x Ø198		200	258	1x Ø198		365	258	1x Ø198	
		425	425							2x Ø178					
		525	525												
		625	625	415	--	1x Ø248		200	258	2x Ø178		415	278	1x Ø248	
		825	825												
		1025	1025												

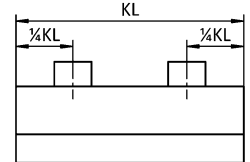
Available sizes AK-39-... (only WGA-Q-VE-...)

H	KBS	L	KL	Spigot position -S1				Spigot position -S0				Spigot position -S4			
				KHS	KB2	n x ØD	Plenum box	KHS	KB2	n x ØD	Plenum box	KHS	KB2	n x ØD	Plenum box
125	118	325	325	365	--	1x Ø158		200	158	1x Ø98		365	188	1x Ø158	
		425	425												
		525	525												
		625	625												
		825	825	385	--	1x Ø198	2x Ø98				385	228	1x Ø198		
		1025	1025												
225	218	325	325	385	--	1x Ø198		200	258	1x Ø198		385	258	1x Ø198	
		425	425												
		525	525												
		625	625												
		825	825	435	--	1x Ø248	2x Ø178				435	278	1x Ø248		
		1025	1025												

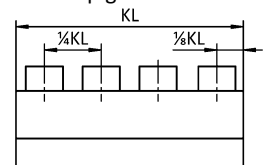
Number of spigots: Spigot from above (-S0) with 1 spigot



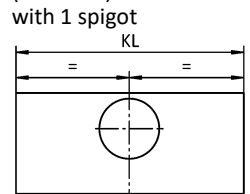
with 2 spigots



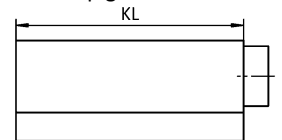
with 4 spigots



Lateral spigot (-S1) (standard) with 1 spigot

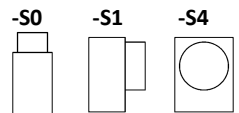


Spigot front side (-S4) Band design not possible. with 1 spigot

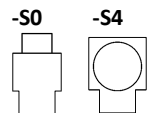


Plenum box shape

Straight:



Offset:



For minimum height of KHS and minimum width of KB2, see page 15.

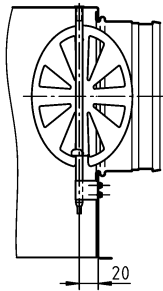
The dimension KBS cannot be changed.
With spigot positions -S0 and -S4, if the spigot diameter is increased, only the offset plenum box shape is available.

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



When ordering a plenum box (-AK) with damper (-DK1), the box height (KH) of AK-37 will be different.

AK-37-...-DK1: KH + 80 mm

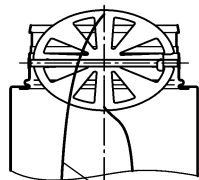
AK-38-...-DK1: KH + 0

AK-39-...-DK1: KH + 0

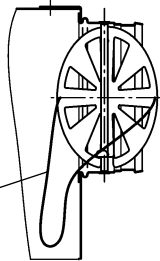
-DK2 (with cable-operated adjustment):

spigot from above -S0

spigot front side -S4



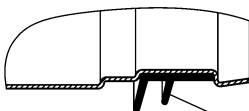
Cable-operated ad-



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

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

Detail Y

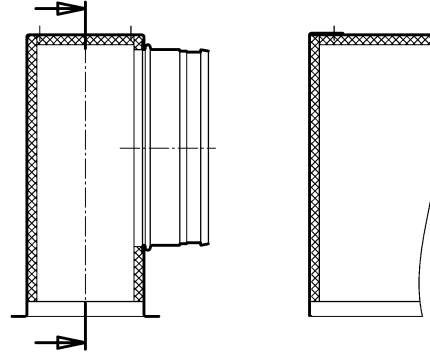


Rubber lip seal

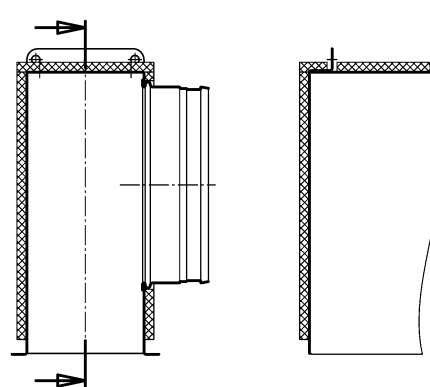
Insulation (-I0 / -Ii / -Ia), for AK-...

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

Internal insulation (-Ii)



External insulation (-Ia)



MOUNTING OPTIONS

Screw mounting (-SM)

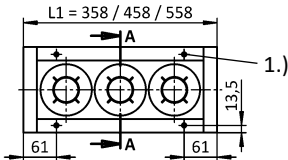
for installation in walls / ducts

WGA-Q-...

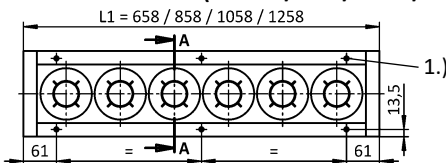
Single design (-N)

(models WGA-Q-F0-...-N-...-SN-B0-... are shown)

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



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

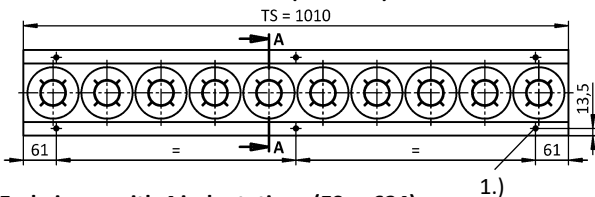


Band design (-B)

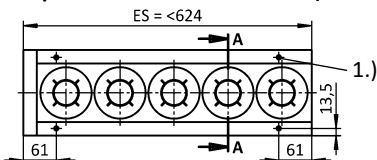
(models WGA-Q-F0-...-B-...-SN-B0-... are shown)

only for: WGA-Q-F0-... and WGA-Q-V0-...

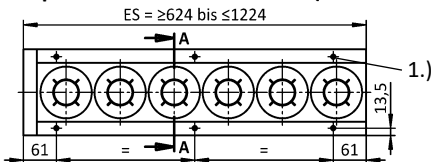
Section - with 6 indentations (TS=1020)



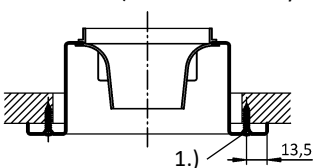
End piece - with 4 indentations (ES= <624)



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



Section A-A (drawn rotated by 90°)



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

For band design with plenum box, see page 10.

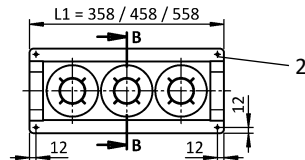
for installation in round duct

WGA-R-...

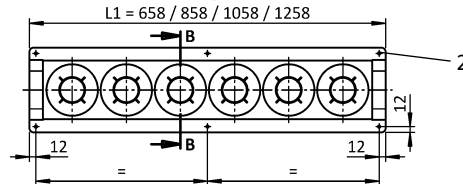
Single design (-N)

(models WGA-R-F0-...-N-...-SN-B0-... are shown)

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



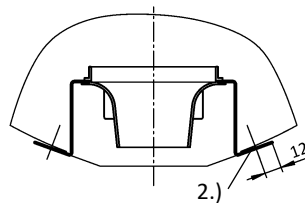
With 6 indentations (L = 625 / 825 / 1025 / 1225)



Band design (-B)

Not possible

Section B-B (drawn rotated by 90°)



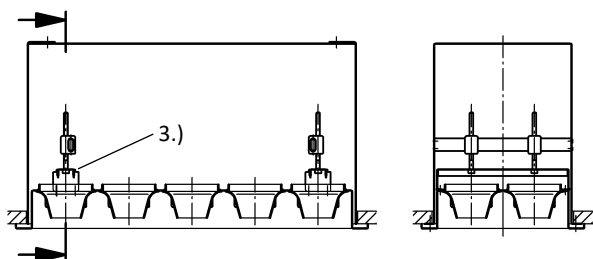
2.) Ø 4.8 mm

grille length L = 1225 mm only possible for WGA-Q-F0-... / WGA-Q-V0-... / WGA-R-F0-... / WGA-R-V0-...

Concealed mounting (-VM)

- only installation in walls / ducts possible for models WGA-Q-F0-... and WGA-Q-V0-...
- only possible **with** plenum box

Single design (-N)



3.) Position of the pole braces

Band design (-B)

See page 10

Pole brace position in the length L / BL (TS/ES):

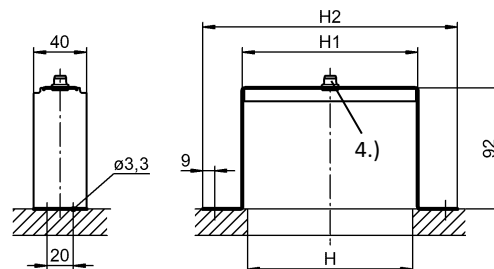
L / TS / ES	Pole brace position
325 - 625	external nozzle
825 - 1225	second nozzle from the outside

For concealed mounting, two VM counter pole braces are mounted in the plenum box. The long throw nozzle grille is mounted to the plenum box by means of two (with H=125) or four (with H=225/325) socket head screws DIN ISO 4762 M6.

Long throw nozzle grille with hit-and-miss damper is not available with concealed mounting.

VM counter pole brace (-GT)

- only installation in walls / ducts possible for models WGA-Q-F0-... and WGA-Q-V0-...
- only possible **without** plenum box
- pair (supplied loose)



4.) Riveting nut M6

Number of riveting nuts (EM) / mounting screws (BS):

- H = 125 ⇒ per counter pole brace 1 x EM / 1 x BS
H = 225 / 325 ⇒ per counter pole brace 2 x EM / 2 x BS

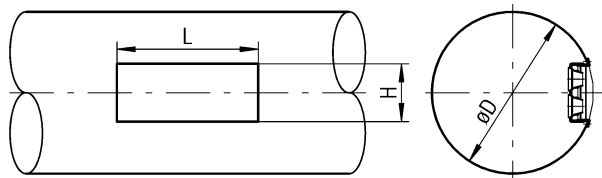
Available sizes VM counter pole brace (-GT)

H	H1	H2
125	140	193
225	240	293
325	340	393

INSTALLATION

Installation situation WGA-R-...

WGA-R-F0-... / WGA-R-V0-... / WGA-R-VG-... / WGA-R-VE-... /
 WGA-R-VT-...



Duct diameter

WGA-R-...		ØD		
		min.	ideal	max.
Height	115	300	500	800
	215	600	750	1250

The grilles only lie completely flush with ideal duct diameter.

Apart from high stability and torsional rigidity, the diagonal flange and the two height dimensions allow an optimum adjustment of the long throw nozzle grilles WGA-R-... to sheet steel or spiral ducts. The selection of the grille height depends on the duct measures shown in the table.

The installation of the WGA-R-... in spiral ducts must take place free of stress. Avoid using unround or deformed spiral ducts, in order to protect the grilles from distortion.

TECHNICAL DATA

The technical data apply to all models.

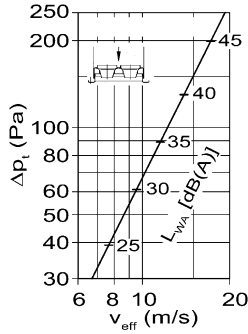
Pressure loss and noise level

WGA-...-F0-... / WGA-...-V0-... / WGA-...-VG-...

(L=1225 not for model WGA-...-VG, H=325 only for model WGA-Q-F0-... / WGA-Q-V0-...)

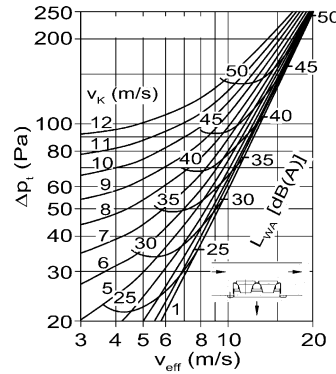
without hit-and-miss damper

Straight inflow



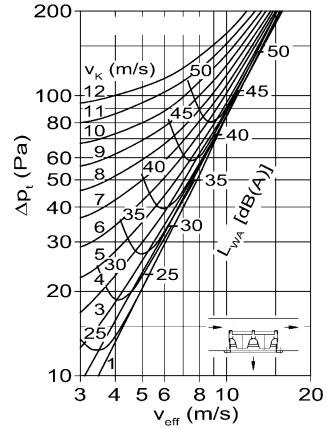
without hit-and-miss damper

Installation in main stream of duct



with hit-and-miss damper SS (100% OPEN)

Installation in main stream of duct



SS 50% OPEN:

$\Delta p_{t 50\%} = \Delta p_{t 100\%} \times 1.42$

Face area [A_{stirn} (m²)]

H	L						
	325	425	525	625	825	1025	1225
125	0.0310	0.0412	0.0514	0.0616	0.0820	0.1024	0.1262
225	0.0614	0.0816	0.1018	0.1220	0.1624	0.2028	0.2464
325	0.0918	0.1220	0.1522	0.1824	0.2428	0.3032	0.3666

Height 125/225/325 = height 115/215/315

Correction factor (KF)

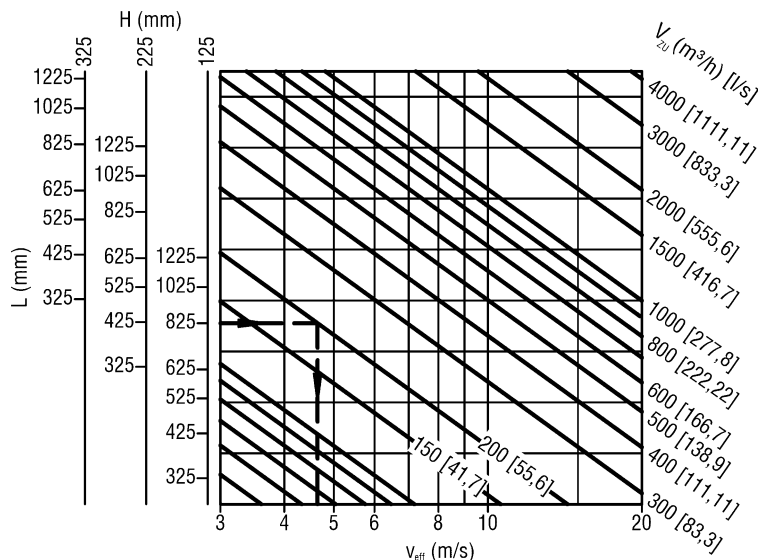
A_{stirn} (m ²)	0.032	0.040	0.051	0.064	0.080	0.100	0.128	0.160	0.203	0.256	0.320	0.367
KF (-)	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6

$$L_{WA} = L_{WA1} + KF$$

Effective velocity

WGA-...-F0-... / WGA-...-V0-... / WGA-...-VG-...

(L=1225 not for model WGA-...-VG, H=325 only for model WGA-Q-F0-... / WGA-Q-V0-...)



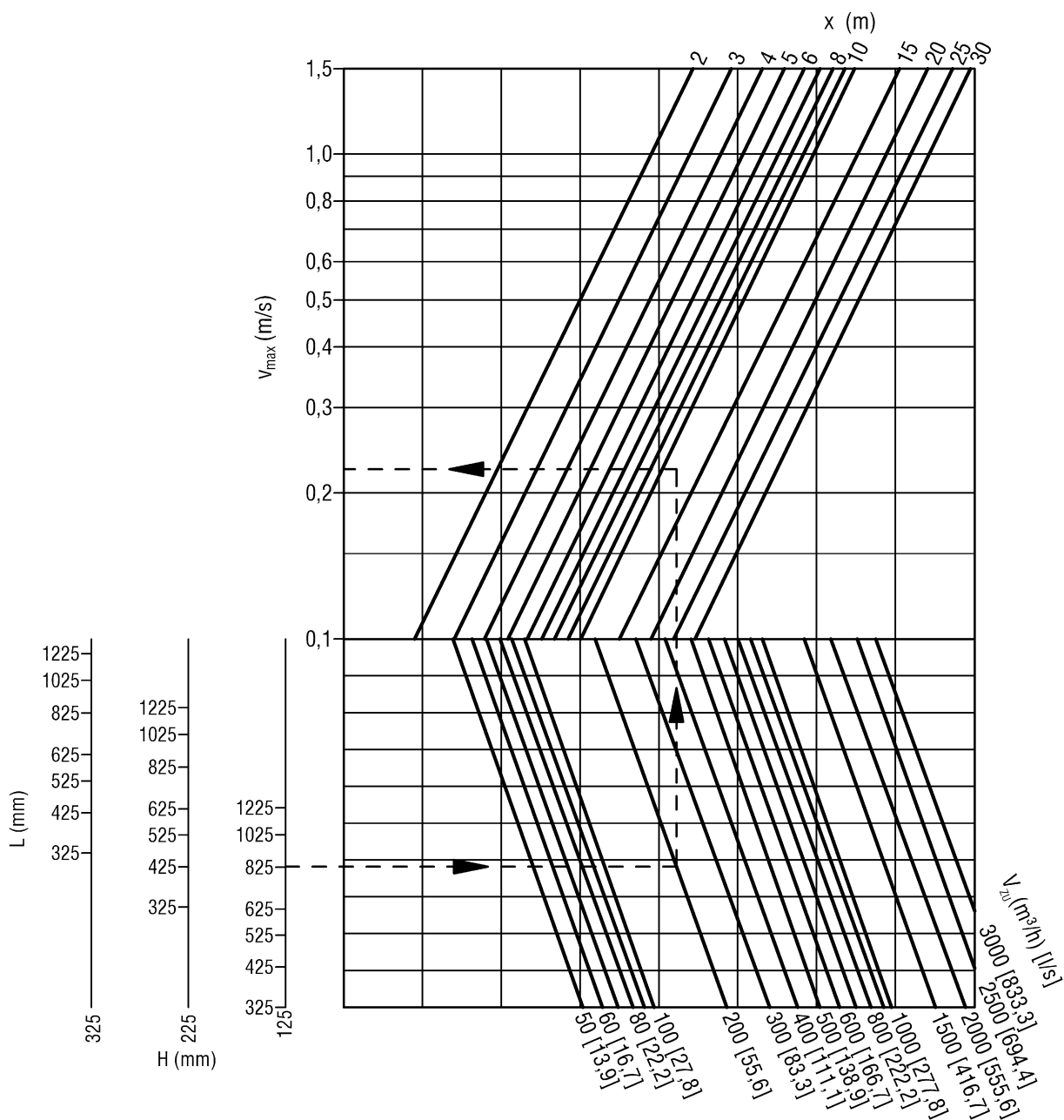
Height 125/225/325 = height 115/215/315

Maximum end velocity of jet

WGA-...-F0-... / WGA-...-V0-... / WGA-...-VG-...

(L=1225 not for model WGA-...-VG, H=325 only for model WGA-Q-F0-... / WGA-Q-V0-...)

without coanda effect



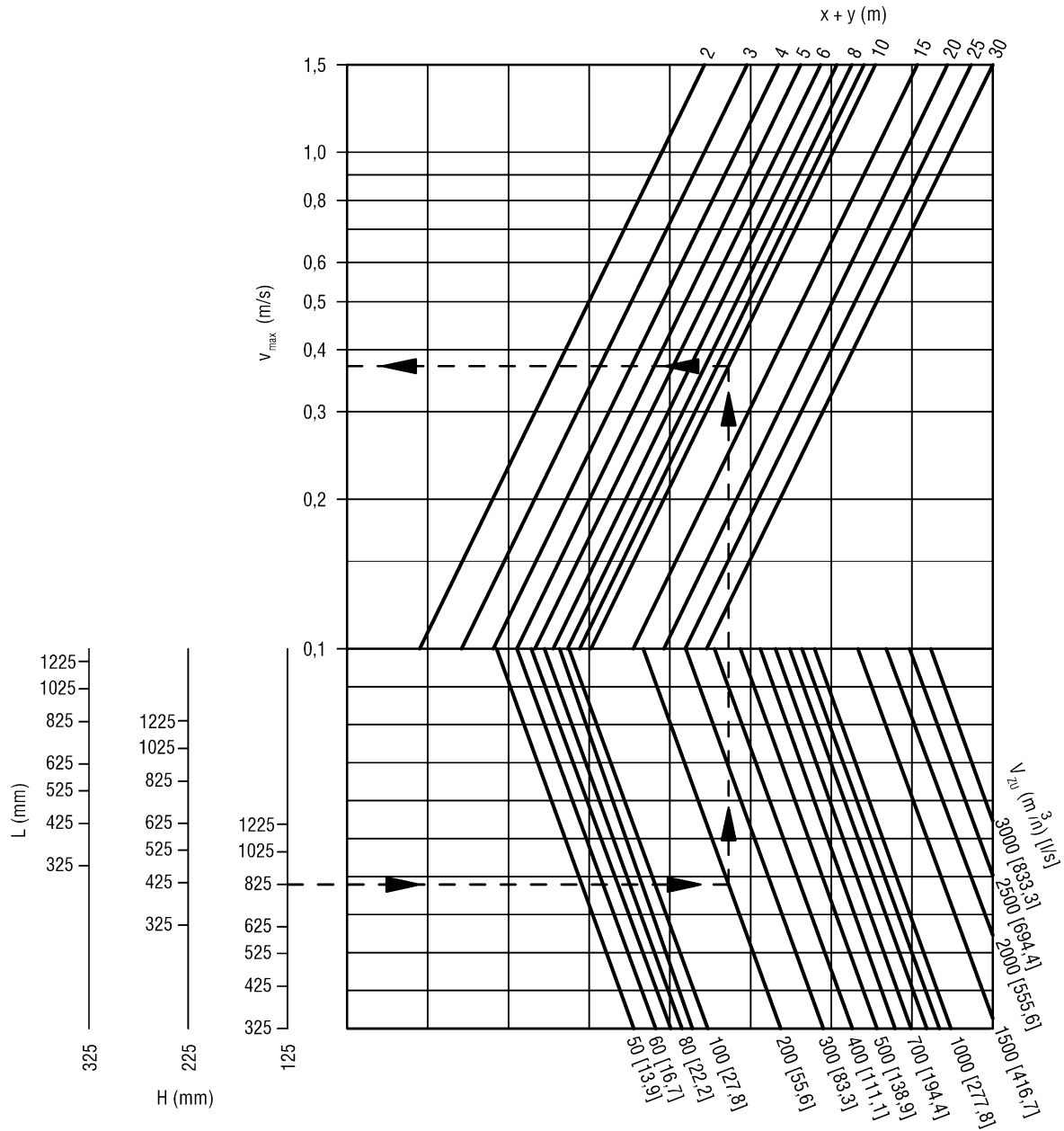
Height 125/225/325 = height 115/215/315

Maximum end velocity of jet

WGA-...-F0-... / WGA-...-V0-... / WGA-...-VG-...

(L=1225 not for model WGA-...-VG, H=325 only for model WGA-Q-F0-... / WGA-Q-V0-...)

with coanda effect



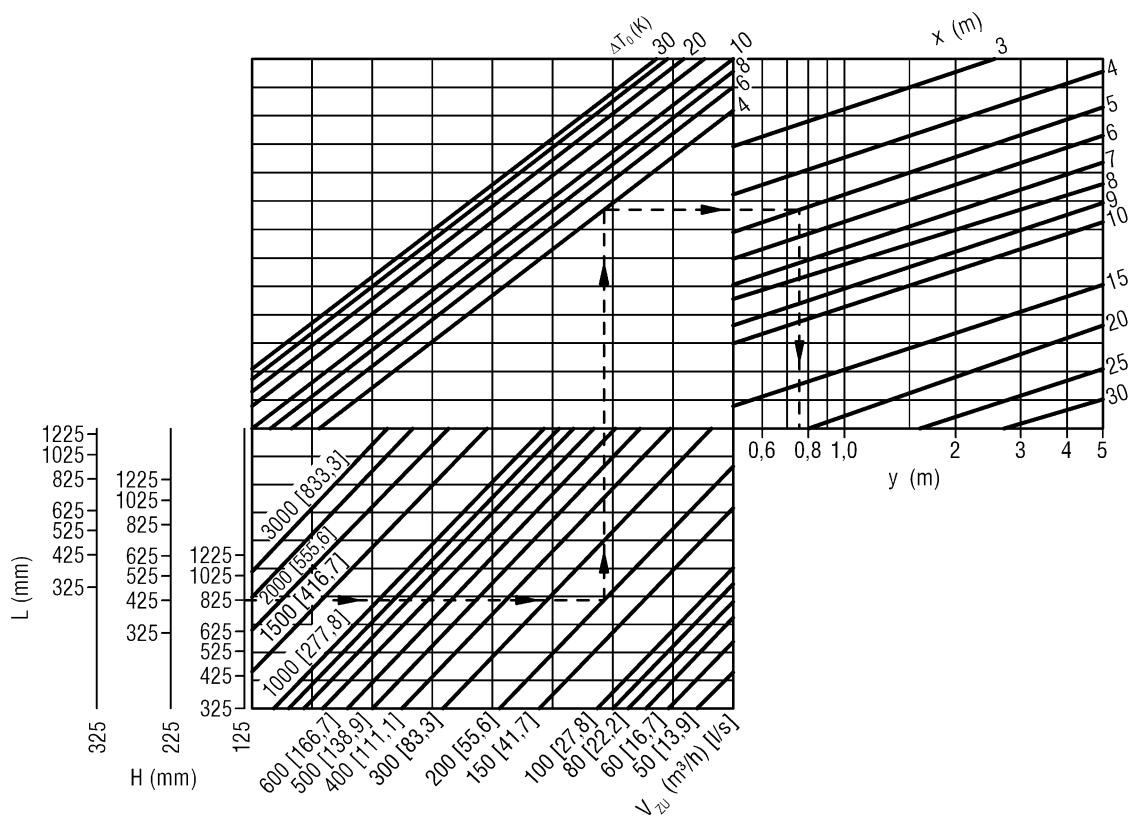
Height 125/225/325 = height 115/215/315

Jet path

WGA-...-F0-... / WGA-...-V0-... / WGA-...-VG-...

(L=1225 not for model WGA-...-VG, H=325 only for model WGA-Q-F0-... / WGA-Q-V0-...)

Free jet without coanda effect



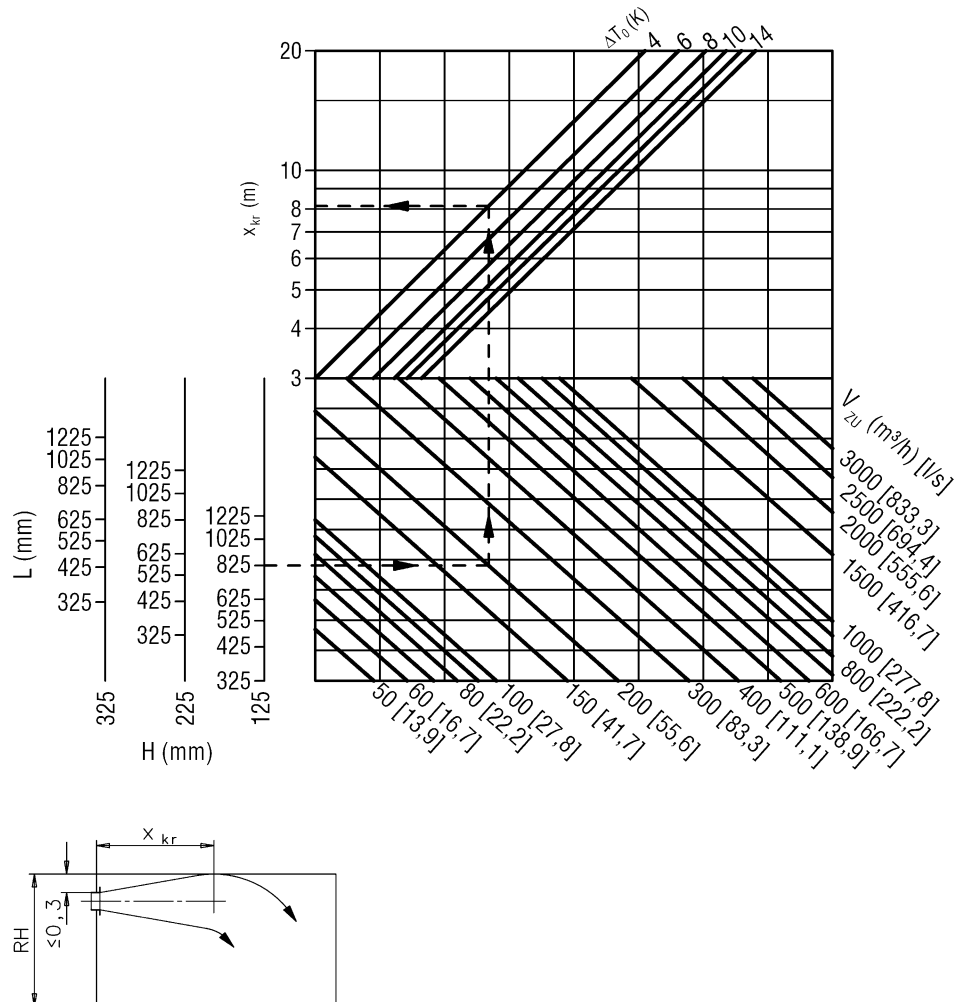
Height 125/225/325 = height 115/215/315

Critical throw

WGA-...-F0-... / WGA-...-V0-... / WGA-...-VG-...

(L=1225 not for model WGA-...-VG, H=325 only for model WGA-Q-F0-... / WGA-Q-V0-...)

with coanda effect (in cooling mode)

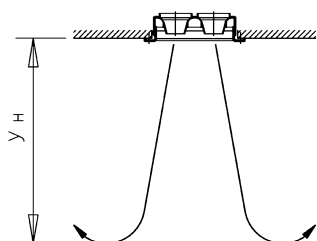
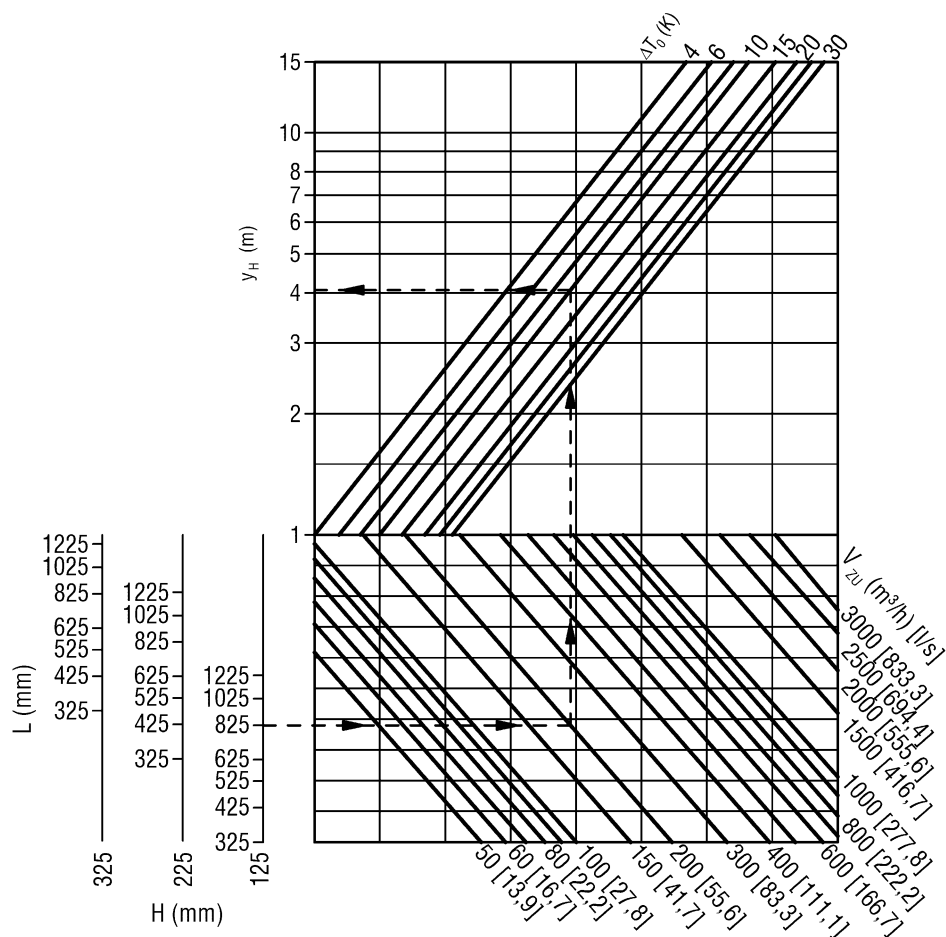


Maximum penetration

WGA-...-F0-... / WGA-...-V0-... / WGA-...-VG-...

(L=1225 not for model WGA-...-VG, H=325 only for model WGA-Q-F0-... / WGA-Q-V0-...)

(in heating mode)

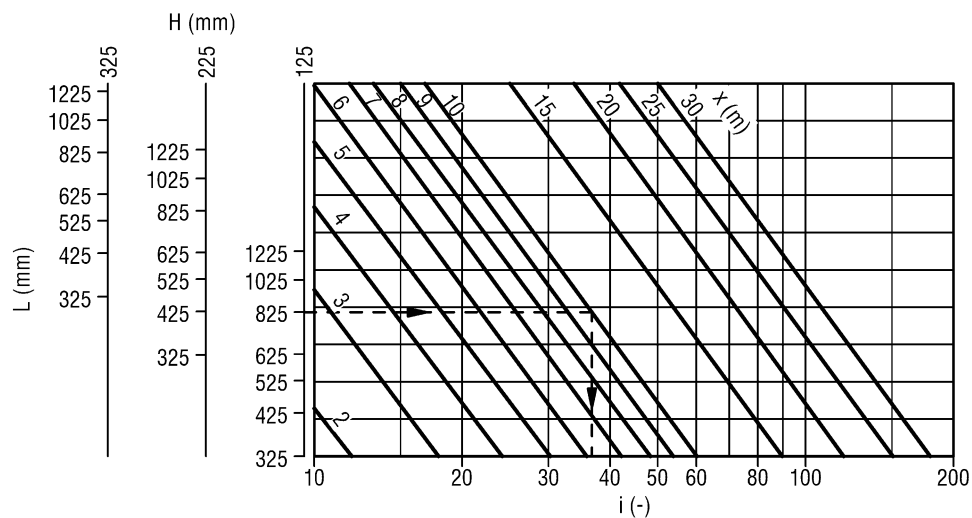


Induction ratio

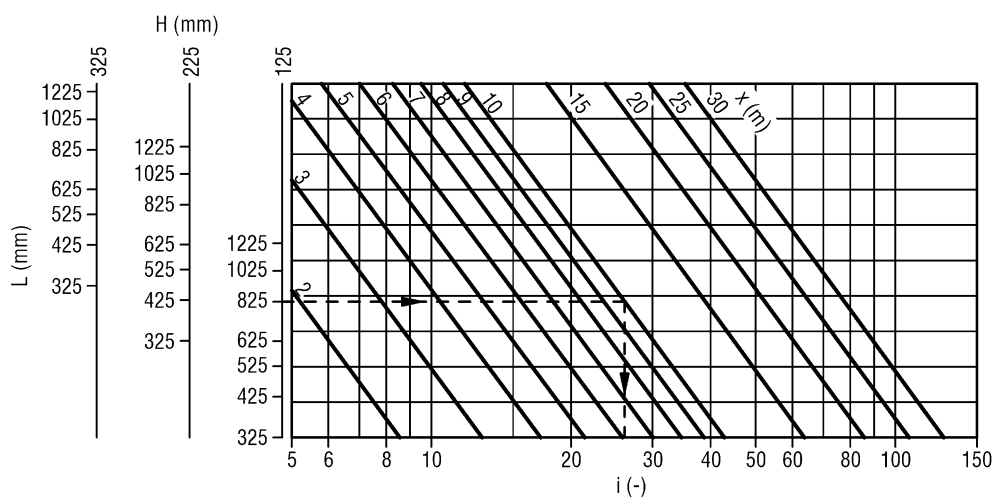
WGA-...-F0-... / WGA-...-V0-... / WGA-...-VG-...

(L=1225 not for model WGA-...-VG, H=325 only for model WGA-Q-F0-... / WGA-Q-V0-...)

without coanda effect



with coanda effect



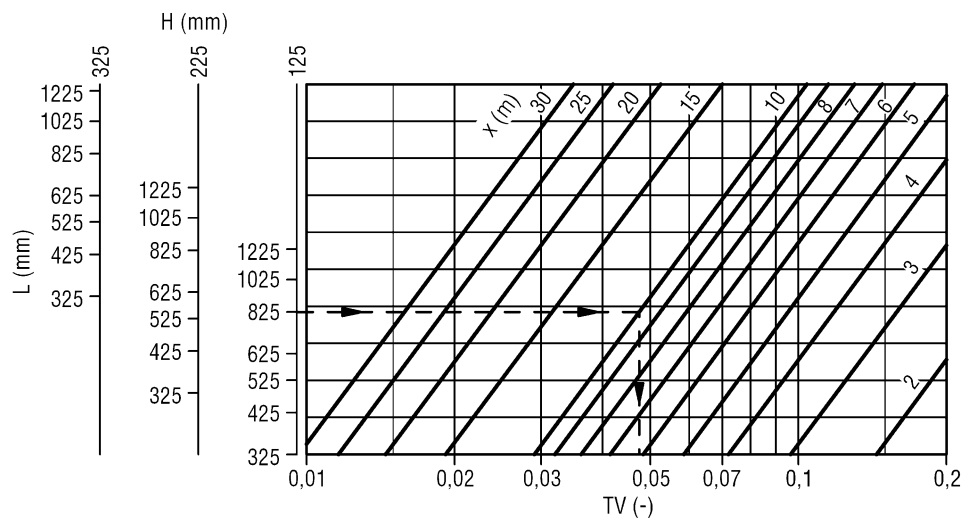
Height 125/225/325 = height 115/215/315

Temperature ratio

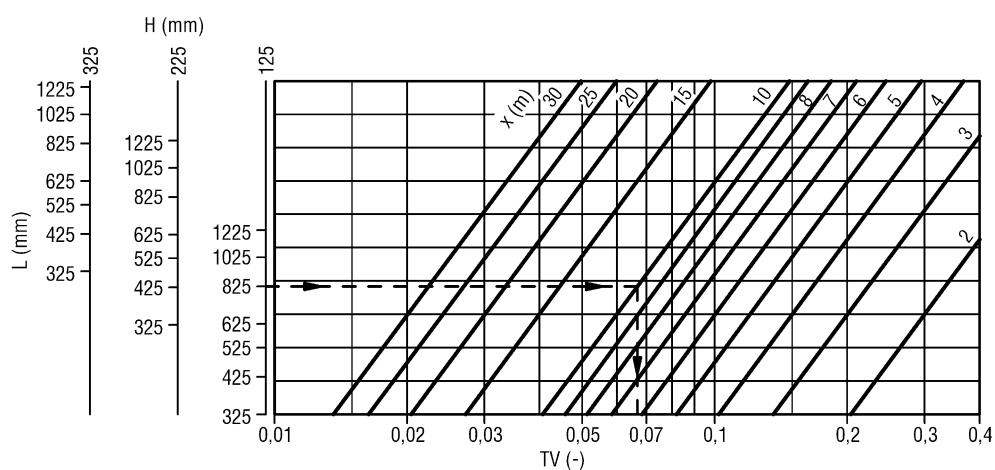
WGA-...-F0-... / WGA-...-V0-... / WGA-...-VG-...

(L=1225 not for model WGA-...-VG, H=325 only for model WGA-Q-F0-... / WGA-Q-V0-...)

without coanda effect



with coanda effect



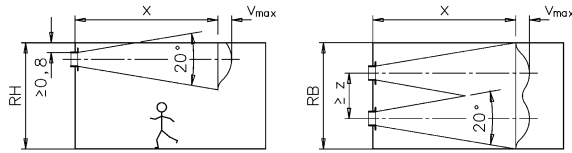
Height 125/225/325 = height 115/215/315

Minimum distances recommended

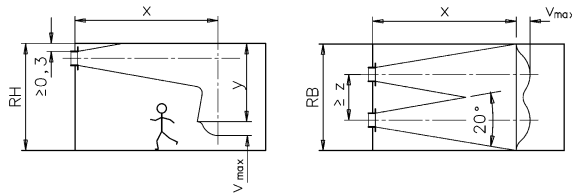
WGA-...-F0-... / WGA-...-V0-... / WGA-...-VG-...

(L=1225 not for model WGA-...-VG, H=325 only for model WGA-Q-F0-... / WGA-Q-V0-...)

without coanda effect



with coanda effect



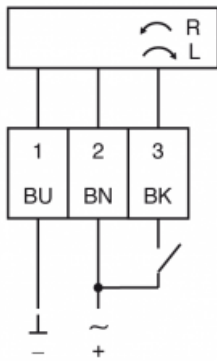
If the selected minimum distance "z" is less than $(x \cdot 0.2)$, the grille is referred to as a continuous grille

Connection diagrams of electric actuators

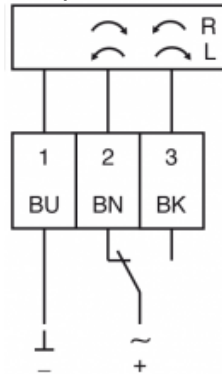
Make Gruner

-E080 (309-230-150/SL8) / -E082 (309-024-150/SL8)

OPEN/CLOSED control

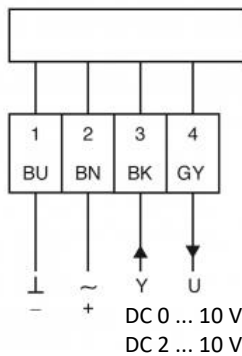


3-point control



Make Gruner

-E081 (309C-024-150/SL8) (standard)



DC 0 ... 10 V
DC 2 ... 10 V

Technical data of electric actuators

Make Gruner -E080 (309-230-150/SL8)

Rated voltage:	AC 230 V / DC 230 V, 50 / 60 Hz
Functional range:	AC 85 ... 265 V
Power consumption	
- Operation:	3.0 W @ nominal torque
- Idle position:	1.0 W
- Dimensioning:	5.5 VA
Torque (rated torque):	Min. 10 Nm at the rated voltage
Sound power level:	max. 35 dB (A)
Protection class:	II protective insulation
Degree of protection:	IP42 in all mounting positions
EMC:	CE according to 2004 / 108 / EC
Low voltage directive:	CE according to 2006 / 65 / EC
Ambient temperature:	-20 ... +50°C

Make Gruner -E081 (309C-024-150/SL8) (standard)

Rated voltage:	AC 24 V / DC 24 V, 50 / 60 Hz
Functional range:	AC / DC 19 ... 29 V
Power consumption	
- Operation:	2.5 W @ nominal torque
- Idle position:	1.5 W
- Dimensioning:	5.0 VA
Torque (rated torque):	Min. 10 Nm at the rated voltage
Sound power level:	max. 35 dB (A)
Activation	
- Actuator signal Y:	DC 0(2) ... 10 V, input resistance typically 100 kΩ
- Operating range:	DC 2 ... 10 V
Positional feedback (Measuring voltage U):	DC 2 ... 10 V, max. 0.5 mA
Protection class:	III safety extra low voltage
Degree of protection:	IP42 in all mounting positions
EMC:	CE according to 2004 / 108 / EC
Ambient temperature:	-20 ... +50°C

Make Gruner -E082 (309-024-150/SL8)

Rated voltage:	AC / DC 24 V, 50 / 60 Hz
Functional range:	AC / DC 19 ... 29 V
Power consumption	
- Operation:	2 W @ nominal torque
- Idle position:	1.5 W
- Dimensioning:	3.5 VA
Torque (rated torque):	Min. 10 Nm at the rated voltage
Sound power level:	max. 35 dB (A)
Protection class:	III Safety extra low voltage
Degree of protection:	IP42 in all mounting positions
EMC:	CE according to 2004 / 108 / EC
Ambient temperature:	-20 ... +50°C

Note: For further information on the actuators refer to the technical documents of Gruner.

LEGEND

V_{ZU}	(m ³ /h) [l/s]	=	supply air volume
V_X	(m ³ /h) [l/s]	=	total air jet volume at point x
v_{max}	(m/s)	=	max. end velocity of jet
x	(m)	=	horizontal throw
y	(m)	=	vertical throw
x+y	(m)	=	horizontal + vertical throw
x_{kr}	(m)	=	critical throw
y_H	(m)	=	maximum penetration depth in heating mode
ΔT_O	(K)	=	temperature difference between supply air temperature and room temperature ($\Delta T_O = t_{ZU} - t_R$)
ΔT_X	(K)	=	temperature difference at point x
t_{ZU}	(°C)	=	supply air temperature
t_R	(°C)	=	room temperature
Δp_t	(Pa)	=	pressure loss
v_{eff}	(m/s)	=	effective throw velocity
v_K	(m/s)	=	duct velocity
A_{stirn}	(m ²)	=	face area
KF	(-)	=	Correction factor
L_{WA}	[dB(A)]	=	A-weighted sound power level
L_{WA1}	[dB(A)]	=	A-weighted sound power level, relative to one parameter
ρ	(kg/m ³)	=	density
i	(-)	=	induction ratio ($i = V_X / V_{ZU}$)
TV	(-)	=	temperature ratio ($TV = \Delta T_X / \Delta T_O$)
RH	(mm)	=	room height
RB	(mm)	=	room width
L	(mm)	=	length
H	(mm)	=	Height
z	(m)	=	minimum clearance between two grilles x (m) × 0.2

ORDER CODE WGA

01	02	03	04	05	06
Type	Model	Nozzle position	Length	Height	Single / band design
Example					
WGA	-Q	-F0	-00425	-125	-N

07	08	09	10	11	12	13
Material	Paint	Nozzle colour	Mounting	Hit-and-miss damper	Ball-impact guard	Actuator
Example						
-SB	-9010	-DS	-VM	-SN	-B0	-E000

All fields must be filled when ordering.

Sample

WGA-Q-F0-00425-125-N-SB-9010-DS-VM-SN-B0-E000

Long throw nozzle grille WGA I for installation in walls and ducts I with fixed nozzles I grille length L = 425 mm I grille height H = 125 mm (1 row for WGA-Q-...) I single design I sheet steel I painted to RAL colour 9010 (white) I similar to RAL colour 9005 (black) I concealed mounting I without hit-and-miss damper I without ball-impact guard I without actuator

ORDER DETAILS

01 - Type

WGA = long throw nozzle grille WGA

02 - Model

Q = for installation in walls and ducts
R = for installation in round ducts

03 - Nozzle position

F0 = with fixed nozzles
V0 = with individually manually adjustable nozzles
VG = with jointly manually adjustable nozzles
VE = with jointly electrically adjustable nozzles
VT = with jointly thermally adjustable nozzles

04 - Length

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 (only possible for WGA-Q-F0-... / WGA-Q-V0-... / WGA-R-F0-... / WGA-R-V0-...)
xxxxx = length (BL) in mm, freely selectable, for band design (for a grille length BL > 1225 mm: 2-part for a length of band BL ≤ 2432 mm, multi-part for a length of band > 2432 mm) (always with 5 digits)

05 - Height

115 = grille height H = 115 mm (1 row for WGA-R-...)
125 = grille height H = 125 mm (1 row for WGA-Q-...)
215 = grille height H = 215 mm (2 row for WGA-R-...)
225 = grille height H = 225 mm (2 row for WGA-Q-...)
325 = grille height H = 325 mm (3 rows, only possible for WGA-Q-F0-... / WGA-Q-V0-...)

06 - Single / band design

N = single design (standard)
B = band design (only possible for WGA-Q-F0-... and WGA-Q-V0-..., for a grille length BL > 1225 mm, module length max. 1225 mm, available lengths according to SCHAKO standard for band design)

07 - Material

SB = sheet steel

08 - Paint (frame)

9010 = painted to the colour RAL 9010 (white, standard)
9005 = painted to the colour RAL 9005 (black)
9006 = painted to RAL colour 9006 (white aluminium)
9007 = painted to RAL colour 9007 (grey aluminium)
xxxx = painted to a different RAL colour, freely selectable (always with 4 digits).

09 - Nozzle colour

DW = similar to RAL colour 9010 (white) (standard)
DS = similar to RAL colour 9005 (black)
DA = similar to RAL colour 9006 (white aluminium)
DG = similar to RAL colour 9007 (grey aluminium)

10 - Mounting

SM = screw mounting (standard)
VM = concealed mounting (only possible for WGA-Q-F0-... and WGA-Q-V0-...) (only possible with plenum box, only possible without hit-and-miss damper)
GT = VM counter pole brace (only possible for WGA-Q-F0-... and WGA-Q-V0-...) (only possible without plenum box and without hit-and-miss damper)

11 - Hit-and-miss damper

SN = Without hit-and-miss damper (standard)
SS = with hit-and-miss damper (not possible in combination with VM and GT)

12 - Ball-impact guard

B0 = without ball-impact guard (standard)
BS = with ball-impact guard (painted to the same colour as the frame)

13 - Actuator

E000 = without actuator (standard)
E080 = with actuator 230 V AC, 3-point
E081 = with actuator 24 V AC, 0-10 V DC
E082 = with actuator 24 V AC, 3-point
The actuator can be fitted only for WGA-Q-VE-... and WGA-R-VE-...

ORDER CODE AK

01	02	03	04	05	06	07
Type	Air diffuser	Length	Height	Single / band design	Mounting	Material
Example						
AK	-37	-00425	-125	-N	-SM	-SV

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

All fields must be filled when ordering.

Sample

AK-37-00425-125-N-SM-SV-DK1-GD1-I0-KHS-SDS-S1

Plenum box, rectangular design I for long throw nozzle grille WGA-Q-F0-... / WGA-Q-V0-... I grille length L = 425 mm I grille height H = 125 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

- 37 = for long throw nozzle grille WGA-Q-F0-... / WGA-Q-V0-...
- 38 = for long throw nozzle grille WGA-Q-VG-... / WGA-Q-VT-...
- 39 = for long throw nozzle grille WGA-Q-VE-...

03 - Length

- 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 (only possible for WGA-Q-F0-... / WGA-Q-V0-...)
- xxxxx = length (BL) in mm, freely selectable, for band design (for a grille length BL > 1225 mm: 2-part for a length of band BL ≤ 2432 mm, multi-part for a length of band > 2432 mm) (always with 5 digits).

04 - Height

- 125 = grille height H = 125 mm
- 225 = grille height H = 225 mm
- 325 = grille height H = 325 mm (only possible for WGA-Q-F0-... / WGA-Q-V0-...)

05 - Single / band design

- N = single design (standard)
- B = band design (only possible for AK-37 [for WGA-Q-F0-... / WGA-Q-V0-...], for a grille length BL > 1225 mm, available lengths according to SCHAKO standard for band design)

06 - Mounting

- SM = screw mounting (standard, screws must be provided on site)
- VM = concealed mounting (only possible for AK-37)

07 - Material

- SV = galvanised sheet steel

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 box

- KHS = standard height of plenum box
- xxx = height of box in mm, freely selectable (minimum height [KHS] with spigot positions -S1 and -S4 = spigot diameter ØD + 87 mm [for AK-37] / + 167 mm [for AK-38] / + 187 mm [for AK-39], 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)

SPECIFICATION TEXT

Long throw nozzle grilles type WGA-... are particularly suitable for air-conditioning of high and large rooms such as multi-purpose halls. High-induction supply air intake through several nozzles of high throw speeds at low sound power level, to achieve long throws and efficient throw pattern through optimum nozzle shape.

High flexibility through a wide range of installation options. Cooling and heating modes are possible. Suitable for use in 100% to 40% VAV systems.

Housing made of sheet steel painted with a high-quality powder coating.

- for installation in walls and ducts.

Product: SCHAKO type **WGA-Q-...**

- for installation in round ducts

Product: SCHAKO type **WGA-R-...**

Nozzle position:

- with fixed nozzles (-F0)
- with individually manually adjustable nozzles (-V0)
(Nozzle pivoting range 45°, without change in the sound power level and pressure loss upon adjustment.)
- with jointly manually adjustable nozzles (-VG)
(Nozzle pivoting range 34°, without change in the sound power level and pressure loss upon adjustment.)
- with jointly electrically adjustable nozzles (-VE)
(Nozzle pivoting range 34°, without change in the sound power level and pressure loss upon adjustment.)
- with jointly thermally adjustable nozzles (-VT)
(Nozzle pivoting range 34°, without change in the sound power level and pressure loss upon adjustment - without electrical energy. At a supply air temperature of 20 °C or lower, the nozzles are in the cooling position with throw direction diagonally upwards [max. angle 17°]. At a supply air temperature of 35 °C or higher, the nozzles are in the heating position with throw direction diagonally downwards [max. angle -17°]. In the temperature range between 20 °C and 35 °C, the nozzle row is adjusted linearly.

Length:

- 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) (only possible for WGA-Q-F0-... / WGA-Q-V0-... / WGA-R-F0-... / WGA-R-V0-...)
- length (BL) in mm, freely selectable, for band design (-xxxxx, always with 5 digits) (for a grille length BL > 1225 mm:
2-part for a length of band BL ≤ 2432 mm, multi-part for a length of band > 2432 mm).

Height:

- grille height H = 115 mm (-115) (1 row for WGA-R-...)
- grille height H = 125 mm (-125) (1 row for WGA-Q-...)
- grille height H = 225 mm (-215) (2 row for WGA-R-...)
- grille height H = 225 mm (-225) (2 row for WGA-Q-...)
- grille height H = 325 mm (-325) (3 rows, only possible for WGA-Q-F0-... / WGA-Q-V0-...)

Single / band design:

- single design (-N) (standard)
- band design (-B) (only possible for WGA-Q-F0-... and WGA-Q-V0-..., for a grille length BL > 1225 mm, module length max. 1225 mm, available lengths according to SCHAKO standard for band design)

Material:

- sheet steel (-SB)

Paint (frame):

- painted to the colour RAL 9010 (white) (-9010, standard)
- painted to the colour RAL 9005 (black) (-9005)
- painted to RAL colour 9006 (white aluminium) (-9006)
- painted to RAL colour 9007 (grey aluminium) (-9007)
- painted to a different RAL colour, freely selectable (-xxxx, always 4 digits).

Nozzle colour (plastic):

- similar to RAL colour 9010 (white) (-DW, standard)
- similar to RAL colour 9005 (black) (-DS)
- similar to RAL colour 9006 (white aluminium) (-DA)
- similar to RAL colour 9007 (grey aluminium) (-DG)

Mounting:

- screw mounting (-SM, standard)
- concealed mounting (-VM) (only possible for WGA-Q-F0-... and WGA-Q-V0-..., only possible with plenum box, only possible without hit-and-miss damper)
- VM counter pole brace (-GT) (only possible for WGA-Q-F0-... and WGA-Q-V0-..., only possible without plenum box and without hit-and-miss damper)

Actuator:

- without actuator (-E000, standard)
- with actuator
 - 230 V AC, 3-point activation (-E080)
 - 24 V AC, 0-10 V DC (-E081) (standard for model with actuator)
 - 24 V AC, 3-point activation (-E082)
 The actuator can be fitted only for WGA-Q-VE-... and WGA-R-VE-...

Accessories:

- Hit-and-miss damper:
 - without hit-and-miss damper (-SN, standard)
 - with hit-and-miss damper (-SS) for volumetric flow adjustment, adjustable on room side, made of electrolytically galvanised sheet steel (not possible in combination with VM and GT, mounting exclusively ex works).
- Ball-impact guard:
 - without ball-impact guard (-B0, standard)
 - with ball-impact guard (-BS), integrated into the housing made of profiled steel (painted to the same colour as the frame).

- with plum box (-AK-..., only available for WGA-Q), in rectangular design, made of galvanised sheet steel (-SV), housing with round connection spigot and mounting brackets.
 - Air diffuser:
 - for long throw nozzle grille WGA-Q-F0-... / WGA-Q-V0-... (-AK-37)
 - for long throw nozzle grille WGA-Q-VG-... / WGA-Q-VT-... (-AK-38)
 - for long throw nozzle grille WGA-Q-VE-... (-AK-39)
 - Length:
 - 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) (only possible for WGA-Q-F0-... / WGA-Q-V0-...)
 - length (BL) in mm, freely selectable, for band design (-xxxx, always with 5 digits) (for a grille length BL > 1225 mm: 2-part for a length of band BL ≤ 2432 mm, multi-part for a length of band > 2432 mm).
 - Height:
 - grille height H = 125 mm (-125)
 - grille height H = 225 mm (-225)
 - grille height H = 325 mm (-325) (only possible for WGA-Q-F0-... / WGA-Q-V0-...)
 - Single / band design:
 - single design (-N) (standard)
 - band design (-B) (only possible for AK-37 [for WGA-Q-F0-... / WGA-Q-V0-...], for a grille length BL > 1225 mm, available lengths according to SCHAKO standard for band design)
 - Mounting:
 - screw mounting (-SM, screws must be provided on site)
 - concealed mounting (-VM, only possible for AK-37)
 - 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 lateral 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 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 [for AK-37] / + 167 mm [for AK-38] / + 187 mm [for AK-39], 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)