**KGF**

Compact Filter Grille

**Contents**

Function and use .....	2
Models .....	2
Mounting .....	2
Processing .....	2
Accessories .....	2
Dimensions .....	3
Dimensions of accessories .....	4
Installation .....	7
Technical data .....	8
Order code KGF .....	9
Order code AK .....	10
Specification text .....	11

## FUNCTION AND USE

The compact filter grille KGF can be used in both supply and return air installations. Owing to its **compact construction**, the front frame, blades for air distribution and the hit-and-miss damper for air volume control consist of a single component, as a result of which the compact filter grille requires only a **small installation depth**. This small installation depth reduces air vortex formation at the hit-and-miss damper, thus ensuring **uniform air intake** over the entire diffuser surface of the grille. This means that, compared with grilles equipped with air throttle dampers, the **air flow capacity** of the compact filter grille is **more than 20% higher** at the same sound power level. Accordingly, smaller or fewer grilles can be used.

Moreover, the compact construction gives the grille **very high stability and torsional rigidity**. Its special frame shape, angled on both sides, allows the compact filter grille to sit flush with the ductwork. Modern production methods allow the compact grille to be **manufactured free of welding spots**, thus **minimising the susceptibility to corrosion** of the compact grille.

The modern design of the **cover frame** allows concealed mounting of the grille. The grille KGF is fitted with an integrated filter insert G4 (ISO Coarse > 45% dry layer filter mat). To replace the filter mat, the blade insert can be removed from the front side.

## MODELS

KGF-Q-...	for installation in walls and ducts
KGF-R-...	for installation in round ducts
KGF-...-08-...	horizontal pivoting air deflection blades on the front side. Additionally with integrated hit-and-miss damper (adjustable on the room side, for simple air volume and ductwork regulation) and integrated filter insert G4 (ISO Coarse > 45% dry layer filter mat).
KGF-...-N-...	single design (standard)

### Air throw pattern:

...-L000-...	blade position straight (standard)
...-L044-...	blade position 44 diverging
...-L084-...	blade position 84 diverging

## MOUNTING

- Screw mounting (-SM, standard)
  - screws must be provided on site

## PROCESSING

### Frame and blades

- Galvanised sheet steel (-SV-0000, standard)
- Sheet steel (-SB-...):
  - painted to RAL colour 9010 (-9010, standard)
  - painted to a freely selectable RAL colour (-xxxx, at an extra charge) (always with 4 digits)

### Filter

- filter insert G 4 (ISO Coarse > 45% dry layer filter mat)

## ACCESSORIES

### Plenum box (-AK-51), only for KGF-Q-...

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

- Length:
  - grille length L= 315 mm (-00315)
  - grille length L= 415 mm (-00415)
  - grille length L= 515 mm (-00515)
  - grille length L= 615 mm (-00615)
- Height:
  - grille height H= 115 mm (-115)
  - grille height H= 215 mm (-215)
  - grille height H= 315 mm (-315)
- Single / band design:
  - Single design (-N) (standard)
- Mounting:
  - screw mounting (standard, screws must be provided on site) (-SM)
- Damper:
  - without damper (-DK0) (standard)
- 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 plenum 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)
  - spigot front side (-S4)

### Installation frame (-ER0 / -ER1 / -ER2), only for KGF-Q-...

- without installation frame (-ER0, standard)
- with installation frame made of galvanised sheet steel (only possible without plenum box):
  - without wall anchors (-ER1)
  - with wall anchors (-ER2)

### Cover frame (-BN / -BR), only for KGF-Q-...

- without cover frame (-BN, standard)
- with cover frame (-BR, for concealed mounting) made of:
  - natural colour anodised aluminium (E6/EV1) (standard for -SV model)
  - aluminium painted to the RAL colour of the grille (standard for -SB model)

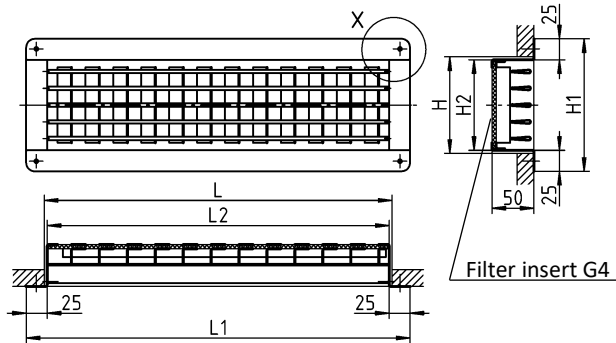
## DIMENSIONS

### Single design (-N) / screw mounting (-SM)

with horizontal pivoting air deflection blades on the front side (-08)

### For installation in walls and ducts (KGF-Q)

KGF-Q-08-...-N-...-SM-...



Available sizes KG-Q-08-...

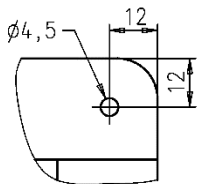
L	L1	L2
315	358	310
415	458	410
515	558	510
615	658	610

H	H1	H2
115	158	110
215	258	210
315	358	310

All combined lengths and heights available!  
 Special dimensions are not possible!

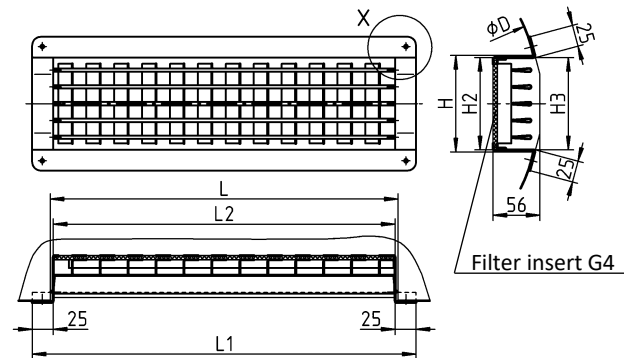
### Screw mounting (-SM)

Detail X



### For installation in round ducts (KGF-R)

KGF-R-08-...-N-...-SM-...



Available sizes KG-R-08-...

L	L1	L2
315	358	310
415	458	410
515	558	510
615	658	610

H	H2	H3
115	110	108
215	210	208
315	310	308

All combined lengths and heights available!  
 Special dimensions are not possible!

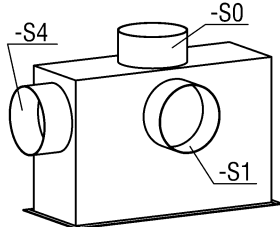
**DIMENSIONS OF ACCESSORIES**

**Plenum box (-AK-51)**

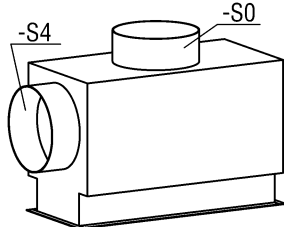
**SINGLE DESIGN (-N)**

**Spigot position**

**Straight plenum box:**



**Offset plenum box:**



- Lateral spigot on the plenum box (-S1, standard)
- Spigot from above (-S0)
- spigot front side (-S4)

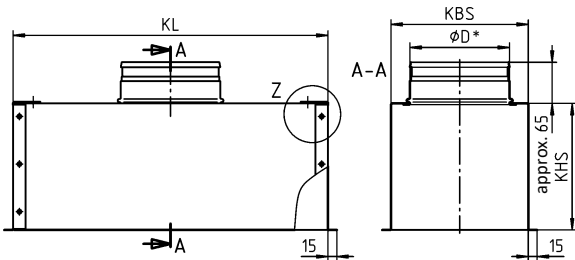
Spigot diameter for spigot position "Spigot front side (-S4)" is identical with "Lateral spigot on the box (-S1)".

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

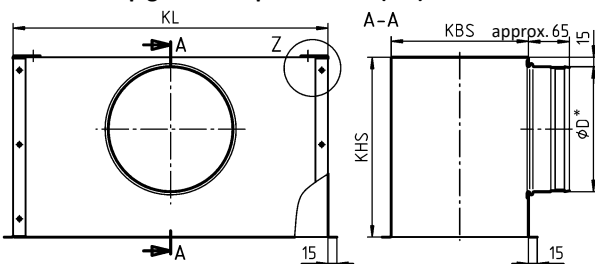
For the table of available sizes, see page 5.

**Straight plenum box:**

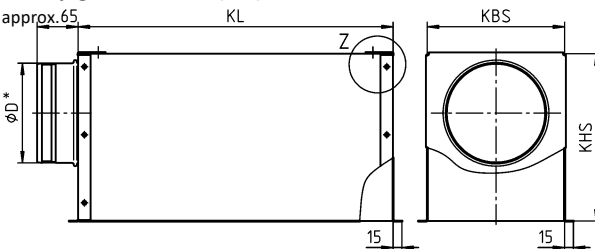
**with spigot from above (-S0)**



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



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



\* external

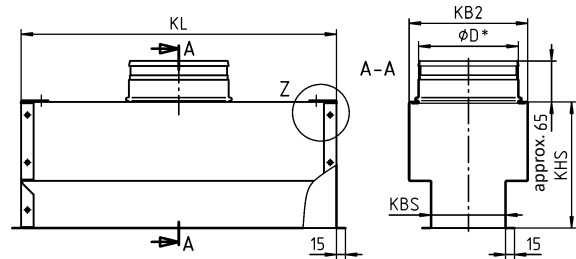
**Offset plenum box:**

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

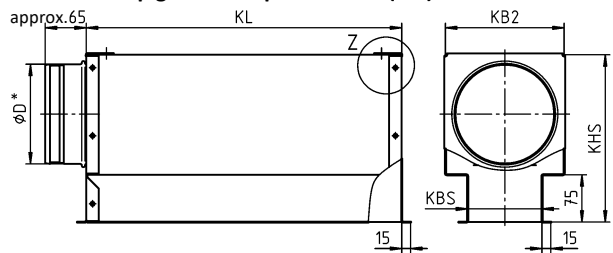
For model -S0:  $KB2 = \phi D + 30$

Minimum difference between KBS and KB2 = 40 mm.

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



**with lateral spigot on the plenum box (-S4)**

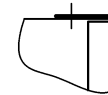


\* external

**Plenum box mounting:**

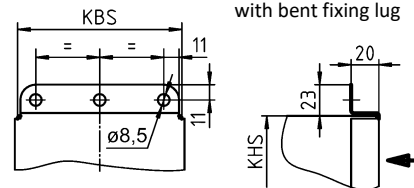
**Detail Z**

As-delivered condition with fitted mounting bracket



**Detail Z**

with bent fixing lug



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

**$KHS_{min.} = \phi D + 87$  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.

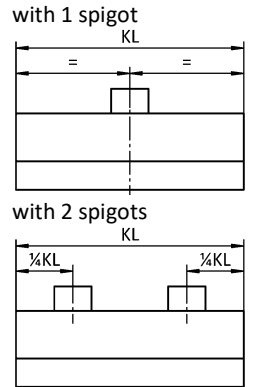
**The dimension KBS cannot be changed.**

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

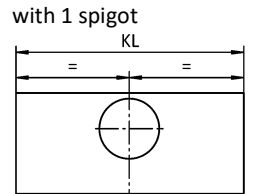
Available sizes for AK-51

H	KBS	L	KL	Spigot position -S1 (standard)				Spigot position -S0				Spigot position -S4			
				KHS	KB2	n x ØD	PBS	KHS	KB2	n x ØD	PBS	KHS	KB2	n x ØD	PBS
115	118	315	320	265	--	1x Ø158		200	158		265	188	1x Ø158		
		415	420												1x Ø98
		515	520												2x Ø98
		615	620												
215	218	315	320	285	--	1x Ø198		200	258	1x Ø198	285	258	1x Ø198		
		415	420												
		515	520												
		615	620	335	--	1x Ø248		--	2x Ø178		335	278	1x Ø248		
315	318	315	320	335	--	1x Ø248		200	--	1x Ø248		335	--	1x Ø248	
		415	420												
		515	520												
		615	620	400	--	1x Ø313		--	2x Ø222		400	358	1x Ø313		

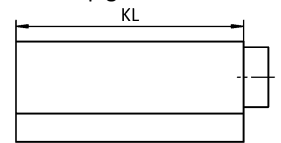
**Number of spigots:  
 Spigot from above (-S0)**



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



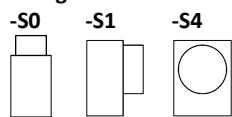
**Spigot front side (-S4)  
 with 1 spigot**



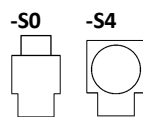
n = number of spigots / PBS = Plenum box shape

**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**

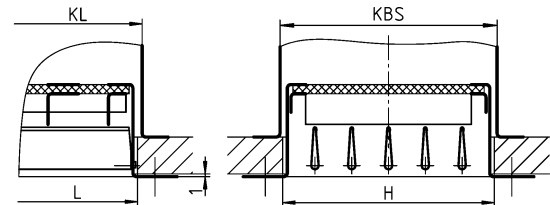
Minimum difference between KBS and KB2 = 40 mm.

**The dimension KBS cannot be changed.**

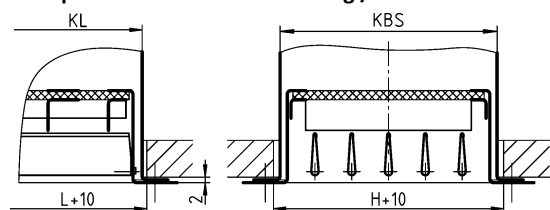
**With spigot positions -S0 and -S4, if the spigot diameter is increased, only the offset plenum box shape is available.**

**Installation position**

**with plenum box above the ceiling / behind the wall**



**with plenum box below the ceiling / in front of the wall**



**Attention: Change of installation opening for installation under the ceiling / in front of the wall!**

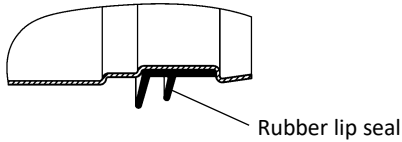
**Damper (-DK0)**

- without damper (-DK0) (standard)

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

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

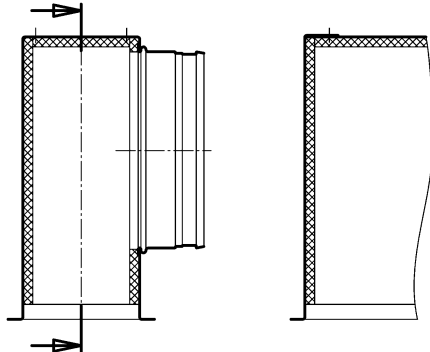
**Detail Y**



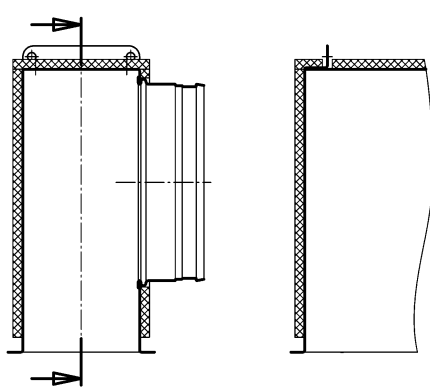
**Insulation (-I0/-Ii/-Ia), for AK-...**

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

**Internal insulation (-Ii)**



**External insulation (-Ia)**

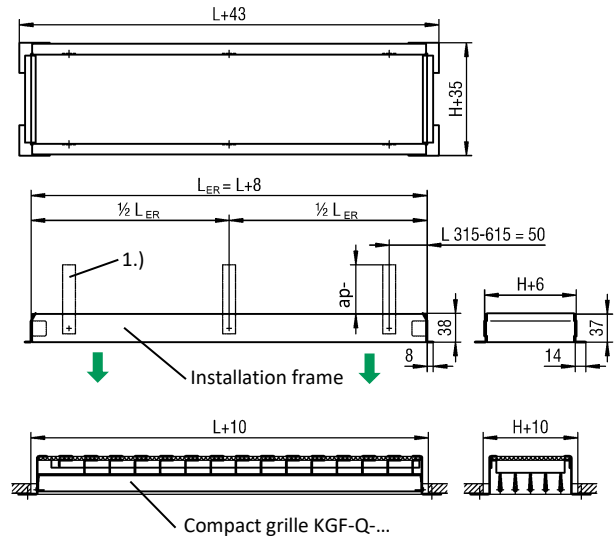


**Installation frame (-ER0/-ER1/-ER2) (only for KGF-Q-...)**

- 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 in the absence of a plenum box.

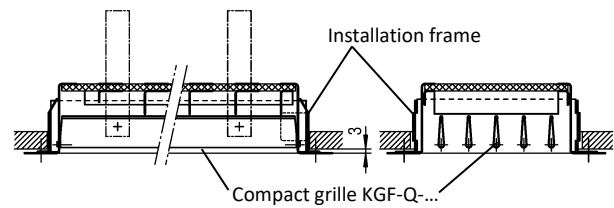
**SINGLE DESIGN (-N)**



**Attention: Change of installation opening for installation with installation frame!**  
**EÖL = L+10 / EÖH = H+10**

Length  $L \leq 615$  mm = 4 wall anchors  
 Installation frame E1 made of electrolytic galvanised sheet steel.  
 The installation frame is only delivered with wall anchors on special request (-ER2, at an extra charge).

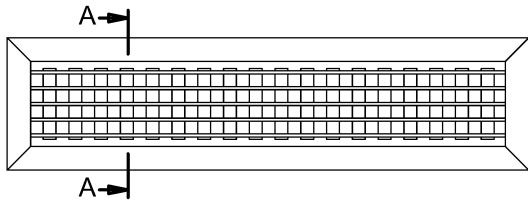
**Installation detail:**



EÖL = installation opening in the length section  
 EÖH = installation opening in the height section

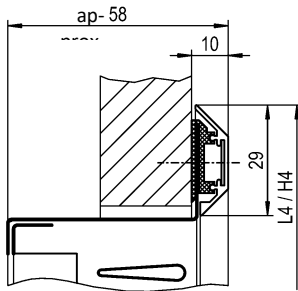
**Cover frame (-BN/-BR) (only for KGF-Q-...)**

- without cover frame (-BN) (standard)
- with cover frame, for concealed mounting (-BR)



The cover frame is only available for KGF-Q-...!  
 A cover frame has been developed to allow concealed mounting, which can be attached easily, after sliding two plastic parts onto the longitudinal side of the grille. This can also easily be done on grilles which have already been installed.

**Section A-A**



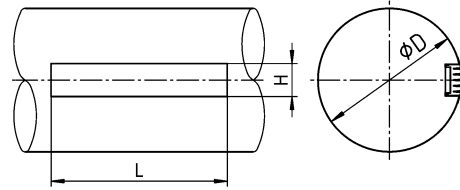
**Available sizes**

L	L4	H	H4
315	368	115	168
415	468	215	268
515	568	315	368
615	668		

All combined lengths and heights available!

**INSTALLATION**

**Installation situation KGF-R-...**



**Duct diameter**

KGF-R-...	øD		
	min.	ideal	max.
Height 115	300	500	800
215	600	750	1250
315	900	1000	1250

The curved flange and the three height dimensions, apart from providing high stability and torsional rigidity, allow optimum adaptation of the compact filter grille KGF-R-... to sheet metal and spiral ducts.

The selection of the grille height depends on the duct measures shown in the table. The grille frames only make optimum contact when the ideal duct diameter is used.

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

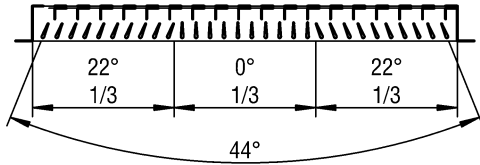
## TECHNICAL DATA

### Blade position

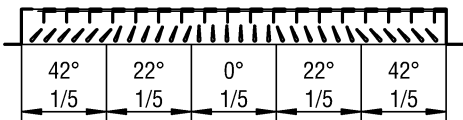
#### Blade position straight (-L000, standard)



#### Blade position 44° diverging (-L044)

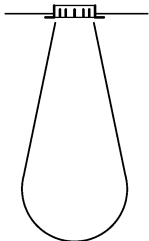


#### Blade position 84° diverging (-L084)

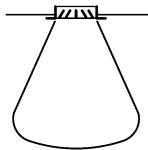


The angle of propagation of the air jet and thus the length of throw can be affected by adjusting the vertical air deflection blades.

#### Blade position: straight



#### diverging



## ORDER CODE KGF

01	02	03	04	05	06
Type	Model	Blades	Length	Height	Single / band design
<b>Example</b>					
KGF	-Q	08	-00615	-115	-N
07	08	09	10	11	12
Air throw pattern	Material	Paint	Mounting	Installation frame	Cover frame
-L000	-SV	-0000	-SM	-ERO	-BR

All fields must be filled when ordering.

### Sample

**KGF-Q-08-00615-115-N-L000-SV-0000-SM-ERO-BR**

Compact filter grille KGF | for installation in walls and ducts | horizontal pivoting air deflection blades on the front side with integrated hit-and-miss damper, adjustable on the room side, for simple air volume regulation and ductwork regulation with filter insert ISO Coarse > 45% | grille length L = 615 mm | grille height H = 115 mm | single design | blade position straight | galvanised sheet steel | without paint | screw mounting | without installation frame | with cover frame

## ORDER DETAILS

### 01 - Type

KGF = compact filter grille KGF

### 02 - Model

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

### 03 - Blades

08 = horizontal pivoting air deflection blades on the front side. Additionally with integrated hit-and-miss damper (adjustable on the room side, for simple air volume and ductwork regulation) and integrated filter insert G4 (ISO Coarse > 45% dry layer filter mat).

### 04 - Length

00315 = grille length L = 315 mm  
 00415 = grille length L = 415 mm  
 00515 = grille length L = 515 mm  
 00615 = grille length L = 615 mm

### 05 - Height

115 = grille height H = 115 mm  
 215 = grille height H = 215 mm  
 315 = grille height H = 315 mm

### 06 - Single / band design

N = single design (standard)

### 07 - Air throw pattern

L000 = blade position straight (standard)  
 L044 = blade position 44° diverging  
 L084 = blade position 84° diverging

### 08 - Material

SV = galvanised sheet steel (standard)  
 SB = sheet steel (only available with paint)

### 09 - Paint

0000 = without paint (standard for -SV model)  
 9010 = painted in RAL colour 9010 (white) (standard for -SB model)  
 xxxx = painted to a RAL-colour, freely selectable (always with 4 digits)

### 10 - Mounting

SM = screw mounting (standard)

### 11 - Installation frame

ERO = without installation frame (standard)  
 ER1 = with installation frame without wall anchors (only for KGF-Q-...)  
 ER2 = with installation frame with wall anchors (only for KGF-Q-...)

Installation frame only without plenum box possible.

### 12 - Cover frame

BN = without cover frame (standard)  
 BR = with cover frame, for concealed mounting, made of aluminium natural colour anodised (E6/EV1, standard for -SV model) or aluminium painted to the RAL colour of the grille (standard for -SB model) (only for KGF-Q-...).

## ORDER CODE AK

01	02	03	04	05	06	07
Type	Air diffuser	Length	Height	Single / band design	Mounting	Material
<b>Example</b>						
AK	-51	-00415	-215	-N	-SM	-SV

08	09	10	11	12	13
Damper	Rubber lip seal	Insulation	Height of plenum box	Spigot diameter	Spigot position
-DK0	-GD1	-I0	-KHS	-SDS	-S1

All fields must be filled when ordering.

### Sample

**AK-51-00425-225-N-SM-SV-DK0-GD1-I0-KHS-SDS-S1**

Plenum box, rectangular design I for compact filter grille KGF-Q I grille length L = 415 mm I grille height H = 215 mm I single design I with screw mounting I galvanised sheet steel I without damper I with rubber lip seal I without insulation I standard height of box I standard spigot diameter I lateral spigot

## ORDER DETAILS

### 01 - Type

AK = plenum box, rectangular design

### 02 - Air diffuser

51 = for compact filter grille KGF-Q

### 03 - Length

00315 = grille length L = 315 mm  
 00415 = grille length L = 415 mm  
 00515 = grille length L = 515 mm  
 00615 = grille length L = 615 mm

### 04 - Height

115 = grille height H = 115 mm  
 215 = grille height H = 215 mm  
 315 = grille height H = 315 mm

### 05 - Single / band design

N = single design (standard)

### 06 - Mounting

SM = screw mounting (standard, screws must be provided on site)

### 07 - Material

SV = galvanised sheet steel (standard)

### 08 - Damper

DK0 = without damper (standard)

### 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  $\varnothing D + 87$  mm, but at least 200 mm) (always with 3 digits)

### 12 - Spigot diameter

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

### 13 - Spigot position

S0 = spigot from above  
 S1 = lateral spigot on the plenum box (standard)  
 S4 = spigot front side

## SPECIFICATION TEXT

Compact filter grille **type KGF-...** for supply and return air. The small mounting depth prevents air vortex formation on the front side, as a result of which air is applied evenly to the whole grille surface.

The grille is manufactured without weld spots, which greatly reduces susceptibility to corrosion.

Blade insert removable from the front side.

- for installation in walls and ducts  
Product: SCHAKO **type KGF-Q-...**

- for installation in round ducts  
Product: SCHAKO **type KGF-R-...**

### Blades:

- with horizontal pivoting air deflection blades on the front side (-08). Additionally with integrated hit-and-miss damper (adjustable on the room side, for simple air volume and ductwork regulation) and integrated filter insert G4 (ISO Coarse > 45% dry layer filter mat).

### Length:

- grille length L = 315 mm (-00315)
- grille length L = 415 mm (-00415)
- grille length L = 515 mm (-00515)
- grille length L = 615 mm (-00615)

### Height:

- grille height H = 115 mm (-115)
- grille height H = 215 mm (-215)
- grille height H = 315 mm (-315)

### Single / band design:

- Single design (-N)

### Air throw pattern:

- Blade position straight (-L000) (standard)
- Blade position 44° diverging (-L044)
- blade position 84° diverging (-L084)

### Material:

- galvanised sheet steel (-SV) (standard)
- sheet steel (-SB) (only available with paint)

### Paint:

- without paint (-0000, standard for -SV model)
- painted in RAL colour 9010 (white) (-9010, standard for -SB model)
- painted to another RAL colour, freely selectable (-xxxx, always 4 digits).

### Mounting:

- screw mounting (-SM, standard), screws must be provided on site.

### Accessories:

- Plenum box (-AK-51), in rectangular design, made of galvanised sheet steel (-SV, standard), housing with round connection spigot and mounting brackets.
  - Length:
    - grille length L = 315 mm (-00315)
    - grille length L = 415 mm (-00415)
    - grille length L = 515 mm (-00515)
    - grille length L = 615 mm (-00615)
  - Height:
    - grille height H = 115 mm (-115)
    - grille height H = 215 mm (-215)
    - grille height H = 315 mm (-315)
  - Single / band design:
    - single design (-N) (standard)
  - Mounting:
    - screw mounting (standard, screws must be provided on site) (-SM)
  - Damper:
    - without damper (-DK0) (standard)
  - 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 plenum 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)
    - Spigot front side (-S4)
- Installation frame (-ER0 / -ER1 / -ER2)
  - without installation frame (-ER0)
  - with installation frame made of galvanised sheet steel (only possible without plenum box):
    - without wall anchors (-ER1)
    - with wall anchors (-ER2)
- Cover frame (-BN / -BR)
  - without cover frame (-BN)
  - with cover frame (-BR) (only for KGF-Q-...) (for concealed mounting).
    - natural colour anodised aluminium (E6/EV1) (standard for -SV model)
    - aluminium painted to the RAL colour of the grille (standard for -SB model).