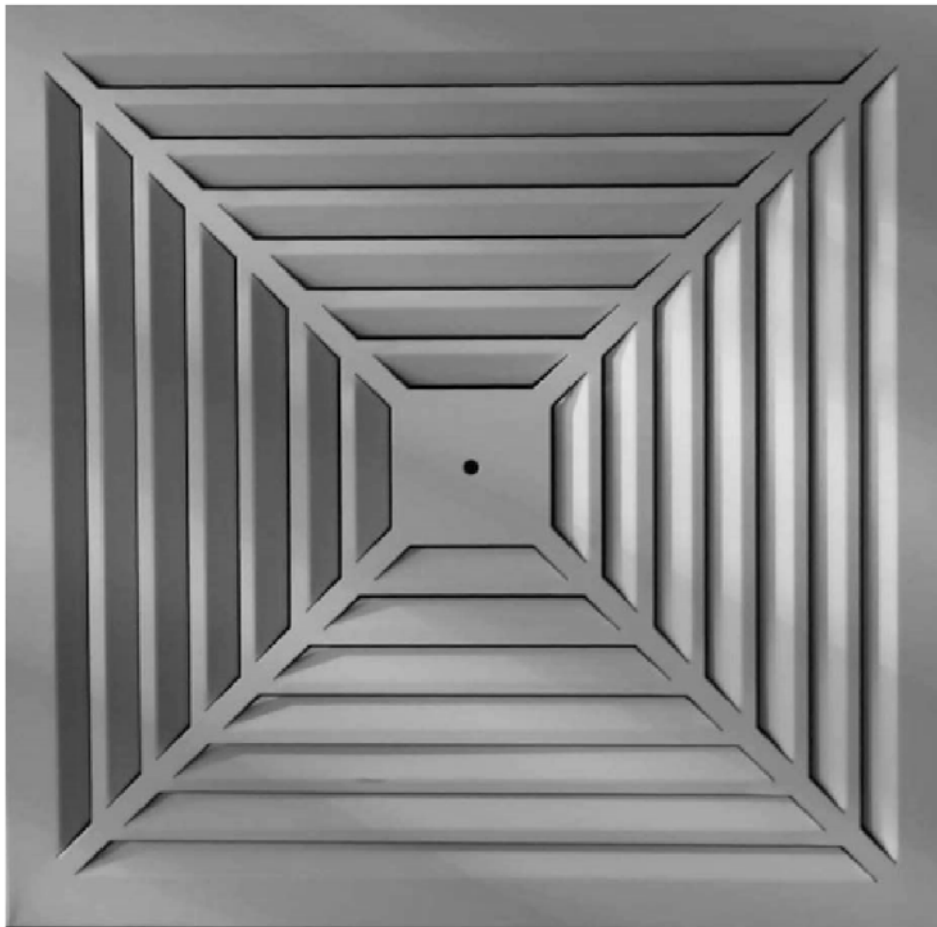




Additional operating instructions according to ATEX 2014/34/EU

Ceiling diffuser 4DF



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Additional operating instructions according to ATEX 2014/34/EU for ceiling diffuser 4DF

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Additional operating instructions according to ATEX 2014/34/EU for ceiling diffuser 4DF

General conditions

General description and instructions



These additional operating instructions must be observed prior to mounting and commissioning the device.

These additional operating instructions contain basic information regarding its use in areas subject to explosion hazards to be observed during assembly, operation and maintenance.

Prior to mounting and commissioning and during maintenance work, the present additional operating instructions must be read by the installer and the responsible skilled personnel/system operator!

Personnel qualification and training

The personnel for assembly, inspection and maintenance must have the relevant qualification for this work.

The area of responsibility, competence and monitoring of the personnel must be exactly regulated by the system operator. If the personnel does not have the required knowledge, it must be trained and instructed. Moreover, the system operator must ensure that the contents of the additional operating instructions are understood completely by the personnel.

Safety-conscious work

The safety instructions given in these additional operating instructions, the existing national and international regulations on explosion protection, accident prevention and the system operator's internal work, operating and safety regulations must be observed.

Designated use

The ceiling diffuser has the following ATEX marking:

 II 2G Ex h IIC T6 Gb EPS 11 ATEX 2 306 X
II 2D Ex h IIIC T80°C Db

The devices have been designed for use in ventilation systems in areas subject to explosion hazards according to ATEX of Category II, Zones 1, 2 and Category III, Zones 21, 22.

These devices are not suitable for use in unreleased Ex zones.

The operating safety of the delivered devices is only guaranteed when used in accordance with their designated use.

According to the ATEX marking, the diffuser may only be used for media with a maximum temperature of up to 80 °C.

Special conditions

It must be ensured that all metal components are properly and permanently connected to the ground potential.

The attached and installed electrical devices must have a suitable explosion-proof design. The combination of electrical and non-electrical devices must be examined again from a safety point of view.

To avoid propagating brush discharges on diffusers with RAL coating, it must be ensured that the air in the ventilation system is not heavily contaminated with non-conductive particles.

Type of ignition protection

The type of ignition protection of the diffuser is guaranteed by its safe design.

Quality

The SCHAKO production facilities are certified according to the QM procedure EN ISO 9001.

Delivery and storage

Upon receipt, the devices must be checked for completeness and transport damage. If delivered incompletely or damaged, the forwarding company and the SCHAKO KG have to be informed immediately.

The device must not be exposed directly to weather, solar radiation and moisture.

Mounting information

Mounting, electrical connection work and commissioning must be carried out by skilled personnel only and in accordance with the recognised technical rules and the safety and accident prevention regulations.

Maintenance

Only a device subjected to proper maintenance and kept in perfect condition can guarantee safe and reliable operation.

When defective parts are replaced with spare parts, only SCHAKO original spare parts may be used. The SCHAKO KG cannot be held liable for any damage caused by using spare parts that are not original and will not give any warranty.

Hazard caused by non-observance of the safety instructions

Non-observance of the safety instructions can result both in putting persons and the environment and operating units at risk. Likewise, non-observance of the safety instructions will result in the loss of any claims for damages.

Additional operating instructions according to ATEX 2014/34/EU for ceiling diffuser 4DF

Description

The **square** ceiling diffuser type 4DF with **fixed air deflection blades** is suitable for use **in supply and return air systems**. The supply air is **delivered horizontally in four directions**. The air diffuser is fitted flush to the ceiling. The construction of the faceplate allows easy cleaning.

A volumetric flow meter can be integrated into the spigot of the plenum box at an extra charge. The measurement error of the volumetric flow meter is $\pm 5\%$ at a connection spigot velocity of 2-5 m/s and a straight flow pattern of at least $1 \times D$. The measurement is carried out with mounted diffuser. By adjusting the throttle damper, the required air volume of each diffuser can be set quickly and correctly.

The damper, equalising grid and volume flow measuring device can easily be removed from the plenum type SK-Q-... model for easy cleaning from the room side.

Variable volumetric flow

The ceiling diffuser type 4DE is also highly suitable for systems with variable volumetric flows. A stable air jet is guaranteed by the high exit velocities thus ensuring no air dumping.

This ceiling diffuser complies with the regulations of the ATEX directives and can be used in ventilation systems in areas subject to explosion hazards.

The ceiling diffuser has been certified for the explosion protection group II for Zones 1, 2 and 21, 22. Zones 1 and 2 represent the application range containing gases, while Zones 21 and 22 represent the application range containing dusts.

Classification by zone must be established by the system operator or planner in compliance with current standards.

Note:

In explosion-protected zones, only devices that have an ATEX approval for this use may be used.

Technical data, information

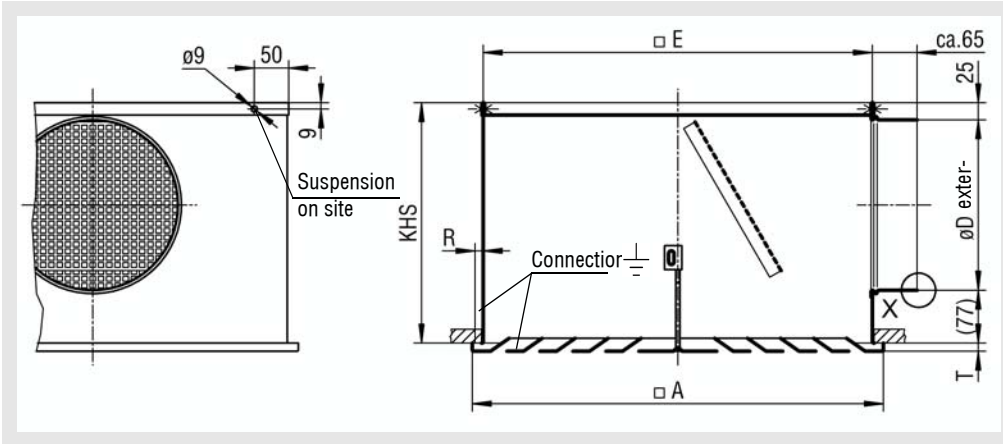
- the grounding terminal of the 4DF must be connected to the grounding terminal of the SAK/SRK and to the equipotential bonding

Additional operating instructions according to ATEX 2014/34/EU for ceiling diffuser 4DF

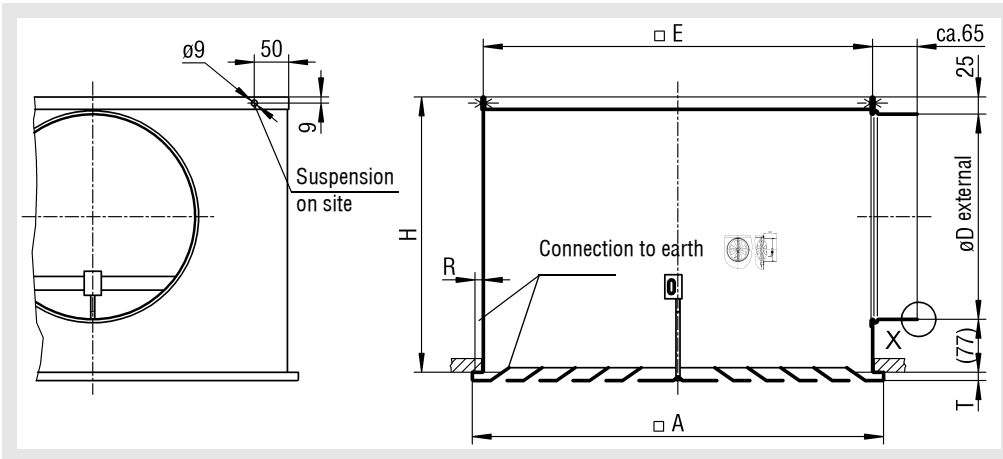
Models and dimensions

Dimensions

4DF-...with SK-Q-07-Z-...(for supply air, with concealed mounting)



4DF-...with SK-Q-07-A-...(for return air, with concealed mounting)

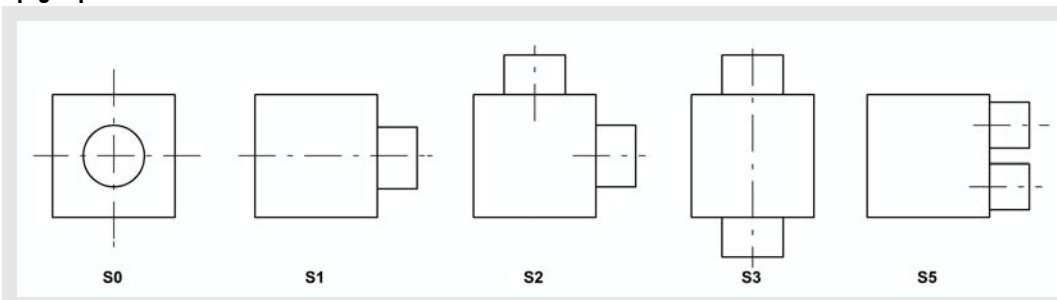


Available sizes

NW	A	E	R	SK-Q-07-Z-...		SAK-Q-07-A-...		T	øDmax for ...-S5
				KHS	øD	KHS	øD		
310	308	290	8	260	158	300	198	7	98
400	398	370	12	260	158	300	198	12	138
500	498	470	12	300	198	350	248		198
600	598	570	12	350	248	400	298		248
625	623	570	24	350	248	400	298		248

KHS= standard height of plenum box
Special height of plenum box = $\varnothing D + 102\text{mm}$,
but at least 200mm

Spigot positions

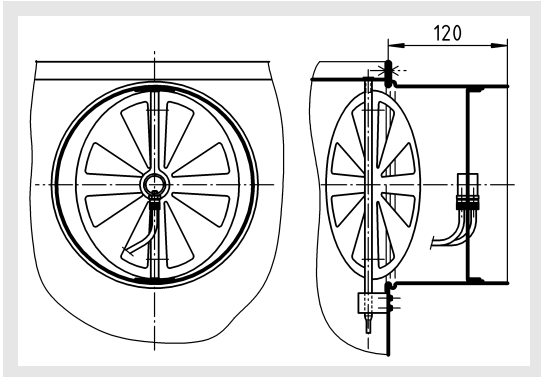


Additional operating instructions according to ATEX 2014/34/EU for ceiling diffuser 4DF

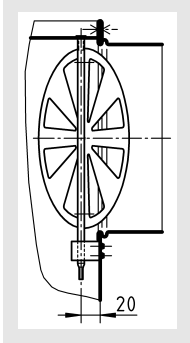
Accessories - dimensions

(at an extra charge):

Volumetric flow meter (-VME1)

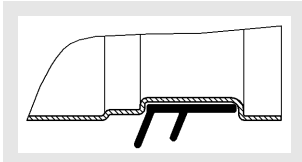


Damper (-DK1)

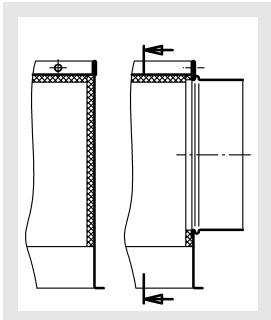


Rubber lip seal (-GD1)

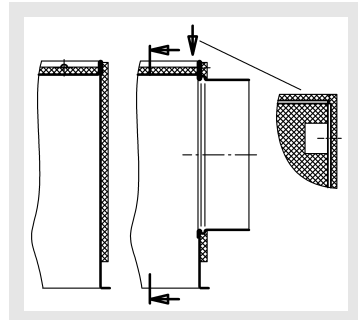
Detail X



Insulation for SK-Q-...
internal (-li)



external (-la)

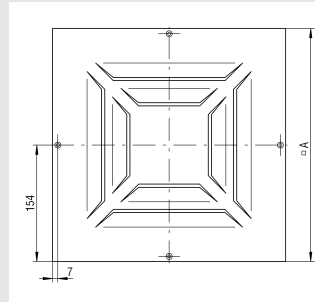


Fastening methods

Screw mounting (-SM)

only for connection to fire protection unit

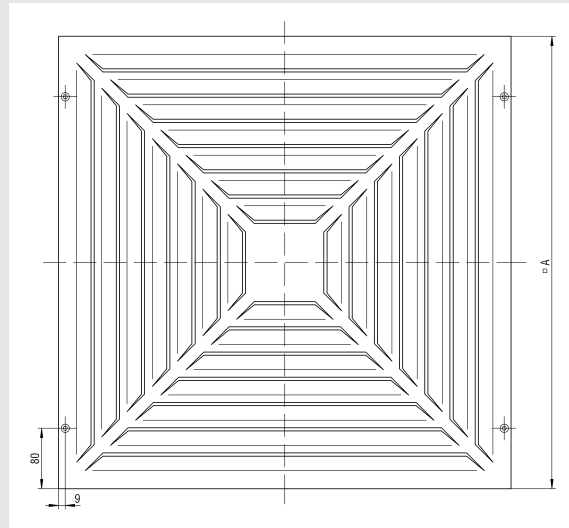
NW 310



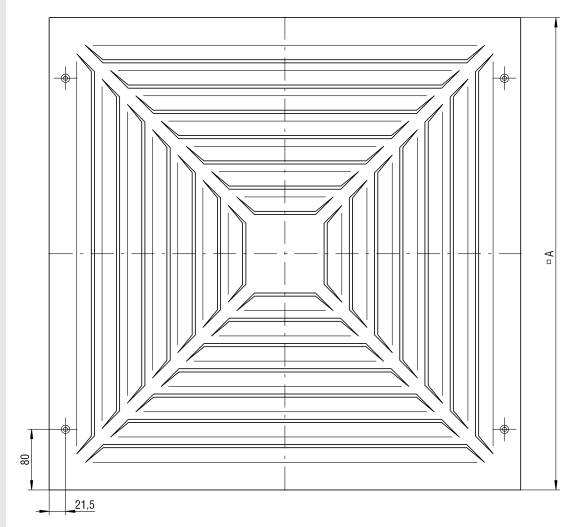
with indentation for slotted shallow-raised countersunk-head tapping screw (on-site)

- NW 310:
DIN ISO 7051 pitch 3.9
- NW 400-625:
DIN ISO 7051 pitch 4.8

NW 400-600



NW 625



Additional operating instructions according to ATEX 2014/34/EU for ceiling diffuser 4DF

Information regarding assembly and commissioning

Prior to being installed in the ventilation system, the ceiling diffuser must be checked for damage. Damaged fire dampers must not be installed.

The device may only be used in accordance with its designated use in air ventilation systems for supply air and return air.

Use only approved fastening material for mounting.

The ceiling diffuser must be connected to the ventilation duct network in electrically conducting manner.

In order to avoid the risk of static charges, the diffuser must be connected to the grounding connection with the SK-Q-... grounding connection provided for this purpose. The SK-Q-... must be connected to the on-site equipotential bonding. Make sure that the ventilation systems are not subjected to any anomalous operating conditions, such as vibrations, pressure surges or high proportions of solids in the medium.

If required, the electrical connection diagrams can be found in the respective SCHAKO additional information.

Electrical wiring and commissioning work must be performed by skilled personnel only.

Information regarding maintenance and inspection

Proper maintenance increases operational safety and the service life of the device. This is why the devices should be subjected to regular inspection.

If inspection dates are prescribed by law, they must be complied with.

The operating personnel must be informed, prior to starting maintenance and inspection work.

The personal safety measures must be looked up in the safety data sheet. Hazard caused by contact or inhaling hazardous substances must be excluded by taking appropriate safety measures. Prior to maintenance or inspection, all system components up- and downstream of the device must be switched off and secured against being switched on again.

The following inspection criteria must be observed:

- Visual inspection of the device
- Check the fastening of the device
- Check the electrical connections
- Check the grounding connection for tight fit and good contact
- Functional check
- For additional inspections, please refer to the technical documentation or additional maintenance instructions



Deckenimpulsauslässe Typ 4DF..

Baugröße

Baujahr

Auftragsnummer

Positionsnummer

Seriennummer



II 2G Ex h IIC T6 Gb

II 2D Ex h IIIC T80°C Db



EPS 11 ATEX 2 306X

Additional operating instructions according to ATEX 2014/34/EU for ceiling diffuser 4DF Certificate of conformity



(1) Konformitätsbescheinigung

(2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen –
Richtlinie 2014/34/EU

(3) Bescheinigungsnummer

EPS 11 ATEX 2 306 X

Revision 2

(4) Gerät: Deckenimpulsauslässe Typ PIL
Ideal Komfort Auslass Typ IKA
Deckendrallauslass Typ DQJ
Deckenauslass Typ 4DF

(5) Hersteller: Schako KG

(6) Anschrift: Steigstraße 25-27
78600 Kolbingen
Deutschland

(7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser Konformitätsbescheinigung festgelegt.

(8) Bureau Veritas Consumer Products Services Germany GmbH bescheinigt aufgrund einer freiwilligen Prüfung auf Basis der Richtlinie 2014/34/EU des Europäischen Parlaments und des Rates vom 26. Februar 2014 die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie. Die Ergebnisse der Prüfung sind in der vertraulichen Dokumentation unter der Referenznummer 10TH0561 festgelegt.

(9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit:

EN ISO 80079-36:2016

EN ISO 80079-37:2016

(10) Falls das Zeichen „X“ hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser Bescheinigung hingewiesen.

(11) Diese Konformitätsbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Gerätes gemäß Richtlinie 2014/34/EU. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieses Gerätes. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.

(12) Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:

 II 2G Ex h IIC T6 Gb

 II 2D Ex h IIIC T80°C Db



Zertifizierungsstelle Explosionschutz

Hamburg, 20.10.2020

H. Schaffer

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Additional operating instructions according to ATEX 2014/34/EU for ceiling diffuser 4DF



BUREAU
VERITAS



Anlage

(13)

(14) **Konformitätsbescheinigung EPS 11 ATEX 2 306 X**

Revision 2

(15) Beschreibung des Gerätes:

Die verschiedenen Luftauslässe dienen zur Luftstrahlführung in Räumen. Die Auslässe bestehen aus Stahlblech mit einer antistatischen Lackierung.

(16) Referenznummer: 10TH0561

(17) Besondere Bedingungen:

Es muss sichergestellt werden, dass alle metallischen Teile ordnungsgemäß und dauerhaft mit dem Erdpotential verbunden sind.

Die an- und eingebauten elektrischen Geräte müssen in geeigneter Weise explosionsgeschützt ausgeführt sein. Die Zusammenführung von elektrischen und nichtelektrischen Geräten muss erneut sicherheitstechnisch betrachtet werden.

Zur Vermeidung von Gleitstielbüschelentladungen muss bei den Auslässen mit RAL Lack sichergestellt werden, dass die Luft im Lüftungssystem keine starke Belastung an nichtleitfähigen Partikeln aufweist.

(18) Grundlegende Sicherheits- und Gesundheitsanforderungen:

Durch Übereinstimmung mit Normen abgedeckt.



Hamburg, 20.10.2020

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