

WDAEX

Long throw nozzle

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FUNCTION AND USE

Long throw nozzle with ATEX homologation for horizontal and vertical air supply in large rooms such as theatres, concert halls and production halls. The WDAEX nozzle geometry allows a high blow velocity resulting in correspondingly long throw distance at low sound power level. The accessory swivel head allows you to move the nozzle by up to approx. 30 degrees in all directions. This does not affect the sound power level or pressure loss.

Attention: Please note that for size 400, the connection spigot of the long throw nozzle must be fitted on site. The installation of WDAEX into spiral ducts must take place free of stress. Avoid using unround or deformed spiral ducts, in order to protect the nozzles from distortion.

PERFORMANCE DATA

- Operating temperature: 0 - 60° C
- Ambient temperature: 0 - 60°C
- Volumetric flow range: 20 to 8000 m³/h

SPECIAL FEATURES

- ATEX marking and certification
- compact dimensions (up to NW 400 mm)
- low pressure loss

Tests and standards

- DIN EN 16798 (2017): Ventilation of non-residential buildings

Directives and certificates

- 2014/34 EU ATEX (product directive)

AREAS OF APPLICATION

- for supply air systems
- for hazardous areas of zones 1, 2, 21 and 22
- also for explosion group IIC in zones 1 and 2 (gases)
- at ambient temperatures 0 - 60°C, 5...95% rH, non-condensing

The long throw nozzle WDAEX is suitable for use in processed supply air. The SCHAKO WDAEX has been approved for all gases in zone 1 and 2 as well as for dusts in zone 21 and 22. The SCHAKO WDAEX can also be used in zones 1 and 2 of the explosion group IIC.

When connecting SCHAKO components to customer installations, any compatibility problems should be previously checked and solved on-site.

Additional information for defining explosion protection

(Hazardous zone 1 = Gases / Hazardous zone 2 = Dusts)

Device group II: Use in the remaining hazardous areas, subdivided into categories:

- Category 2 - occasional hazard for Zones 1 and 21
- Category 3 - rare / brief hazard for Zone 2 and Zone 22

MODELS

WDAEX-N-...	Nozzle without installation components (not available with -SK swivel head)
WDAEX-F-...	for flexible duct connection (not possible for NW400)
WDAEX-W-...	for spiral duct connection
WDAEX-D-...	for ceiling and wall installation (not possible for NW 400)
WDAEX-R-...	for duct connection (using saddle bracket, not possible for NW400)
WDAEX-...-SK-...	with swivel head

PROCESSING

Nozzle part

- Aluminium painted to:
 - RAL 9010 (white) (-9010, standard).

Cover plate

- Painted sheet steel:
 - RAL 9010 (white) (-9010, standard).

Connection spigot

- Painted sheet steel:
 - RAL 9010 (white) (-9010, standard).
- Galvanised sheet steel (only for WDAEX-D/-W).

Mounting ring

- Painted sheet steel:
 - RAL 9010 (white) (-9010, standard).

Saddle bracket (only WDAEX-R-...)

- Painted sheet steel:
 - RAL 9010 (white) (-9010, standard).

ACCESSORIES

Swivel head (-SK)

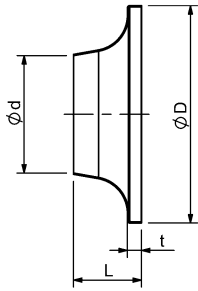
- with swivel head (-SK):
 - Aluminium painted to:
 - RAL 9010 (white) (-9010, standard).

Cover plate (-BN / -BR)

- without cover plate (-BN).
- with cover plate (-BR):
 - made of painted aluminium:
 - RAL 9010 (white) (-9010, standard).

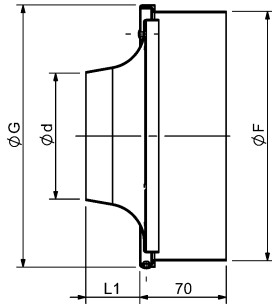
DIMENSIONS

WDAEX-N-...

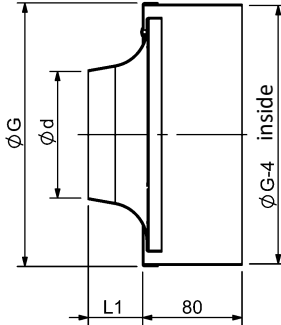


Nozzle without add-on parts
(not available with swivel head)

WDAEX-F-... (not possible for NW 400)



WDAEX-W-...



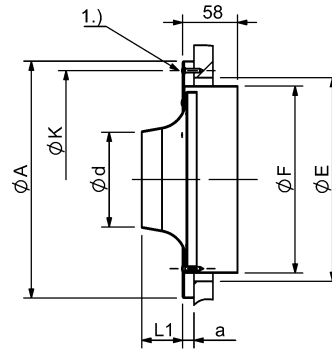
Available sizes

NW	ϕd	ϕA	ϕE	ϕF	ϕG	ϕK	a	L	t	P1	$\phi D1$	ϕD	L1
100	100	250	215	198	208	230	12	58	15	82	181-800*	185	43
125	125	450	415	398	408	430	12	189	15	175	356 - 800*	360	174
160	160							207		195			192
175	175							165		153			150
200	200							96		84			81
400	400	845	800	752	808	815	20	338	20	-	-	727	318

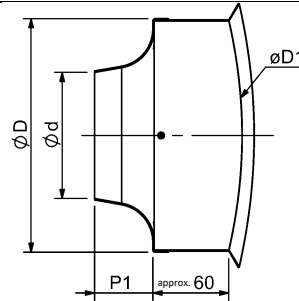
* Larger diameters are also available upon request!

1.) 3x indentation for slotted shallow-raised countersunk-head tapping screw DIN ISO 7051 pitch 3.9 (6x for NW 400)

WDAEX-D-... (not possible for NW 400)



WDAEX-R-... (not possible for NW 400)

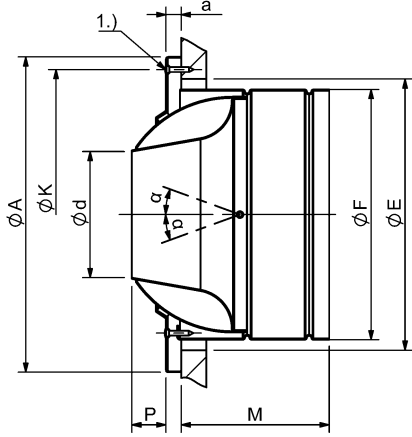


DIMENSIONS OF ACCESSORIES

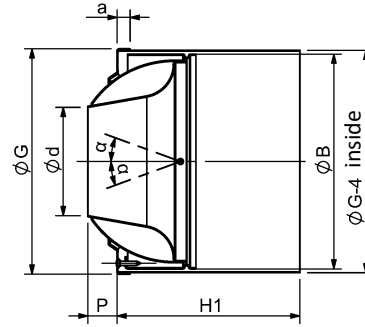
Swivel head (-SK)

The adjustment of the nozzle can be done manually

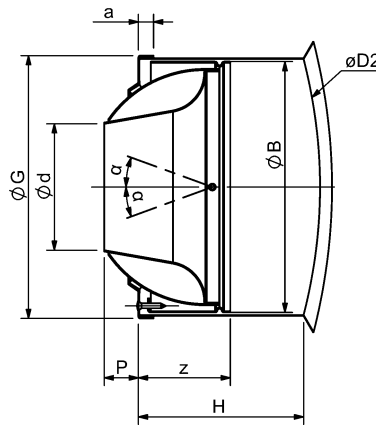
WDAEX-D-...-SK-... (not possible for NW 400)



WDAEX-W-...-SK-...



WDAEX-R-...-SK-... (not possible for NW 400)



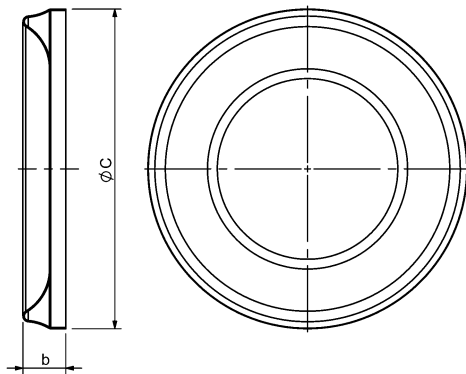
Available size

NW	ϕd	ϕA	ϕE	ϕF	ϕG	ϕK	a	α	P	H	H1	M	ϕB	z	$\phi D2$
100	100	250	215	198	208	230	12	20	27	131	170	118	197	74	200 - 1200*
125	125	450	415	398	408	430	12	30	86	201	241	163	398	155	400 - 1200*
160	160							108							
175	175							64							
200	200							22	56						
400	400	845	800	-	808	-	20	20	111	336,5	375	-	793	240	-

* Larger diameters are also available upon request!

1.) 3 x indentation for slotted shallow-raised countersunk-head tapping screw DIN ISO 7051 pitch 3.9

Cover plate (-BR, concealed mounting, only available for NW 100–200)



Available sizes -BR

NW	WDAEX-D-...-S0/SK-...-		WDAEX-F/W/R-...		WDAEX-W/R-...-SK-...-		WDAEX-F/D/K-...-S0/SK		WDAEX-W/R-...-S0-...	
	øC	b	øC	b	øC	b	øC	b	øC	b
100	253	34	211	29	211	28	-	-	-	-
125 - 200	-	-	-	-	-	-	452	49	412	40

PRIOR TO ASSEMBLY AND COMMISSIONING



An instruction leaflet containing information on safety, transport disposal, installation, commissioning and maintenance is enclosed with each SCHAKO product. For safety reasons, this instruction leaflet must be read under all circumstances and completely adhered to

Marking

The product has the following ATEX marking:

EPS 18 ATEX 2 052 U II 2G Ex h IIB Gb
II 2D Ex h IIIC Db



INSTALLATION INFORMATION

The devices have been designed for use in areas subject to explosion hazards.

These devices are not suitable for use in non-approved Ex zones. The operating safety of the devices is only guaranteed when used in accordance with their designated use.

Installation Instructions

- Current laws and regulations must be adhered to.
- Avoid any dust deposit on the module.
- Avoid electrostatic charges, only clean the device with a moist cloth.

Designated use

The long range nozzles shall not be used in air polluted by dust; in dust explosion zones, the long range nozzles must be cleaned on a regular basis.

The components have been designed for use in ventilation systems in areas subject to explosion hazards according to the ATEX marking "Device group II, Zones 1, 2 and 21, 22.

Information on installation and commissioning:

It must be ensured that all metal components are properly and permanently connected to the ground potential. For nozzles with RAL coating, it must be ensured that processes generating high loads are excluded.

Disposal

The devices have been prepared in accordance with the RoHS directive restricting the use of certain hazardous substances in electrical and electronic equipment (2002/95/EC).

Type of ignition protection

The type of ignition protection of the long throw nozzle is guaranteed by its safe design.

Quality reliability

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

WDAEX

Technical documentation

Prior to assembly and commissioning | Equipotential bonding

DANGER DUE TO IMPERMISSIBLE USE

The long range nozzles shall not be used:

- in non-approved explosion zones
- in aggressive air
- outdoor without an adequate protection against weather effects
- in case of modifications made to the long throw nozzle
- in fields of application not specified in the documentation

EQUIPOTENTIAL BONDING

The long throw nozzle must be connected by a skilled electrician to the local potential bonding.

MAINTENANCE AND SERVICE

Assembly and maintenance instructions

Prior to being installed in the ventilation system, the long throw nozzle WDAEX 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. Use only approved fastening material for mounting. No additional parts must be fastened to the diffuser. The long throw nozzle must be connected to the ventilation duct network in electrically conducting manner. In order to avoid hazards due to electrostatic charges, the WDAEX must be connected to the grounding connection provided for this purpose. 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 maintenance and inspection criteria must be observed:

- The air diffusers must be cleaned as required or at the defined cleaning intervals. There must be no dust deposits on the air diffusers.
- Visual inspection of the device
- Check the fastening of the device
- 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

ORDER CODE - LONG THROW NOZZLE

01	02	03	04	05	06	07
Type	Model	Nominal size	Swivel head	Paint	Cover plate	Duct diameter for saddle bracket design
Example						
WDAEX	-W	-125	-SK	-9010	-BN	-0000

Sample

WDA-W-125-SK-9010-BN-0000

Long throw nozzle type WDAEX | spiral duct connection | size 125 | with swivel head | RAL 9010 white | without cover plate | no saddle bracket design

ORDER DETAILS

01 - Type

WDAEX= Long throw nozzle type WDAEX

02 - Model

- N = only nozzle
- F = for flexible duct connection (not possible for NW400)
- W = for spiral duct connection
- D = for ceiling and wall installation (not possible for NW 400)
- R = for duct connection with saddle bracket (not possible for NW400)

03 - Nominal size

- 100 = Nozzle opening 100 mm
- 125 = Nozzle opening 125 mm
- 160 = Nozzle opening 160 mm
- 175 = Nozzle opening 175 mm
- 200 = Nozzle opening 200 mm
- 400 = Nozzle opening 400 mm

04 - Swivel head

- SO = without swivel head (standard)
- SK = with swivel head

05 - Paint

- 9010 = RAL colour 9010 (white, standard)

06 - Cover plate

- BN = Without cover plate / without flange ring (standard)
- BR = with cover plate (not possible for NW400)

07 - Duct diameter for saddle bracket design

- 0000 = no saddle bracket design
- xxx = Diameter for connection pipe given in mm with 4 digits for saddle bracket design WDAEX-R

SPECIFICATION TEXT

Long throw nozzle with ATEX homologation for air-conditioning of large and high rooms, such as halls, theatres or concert halls. The cone-shaped body of the nozzle increases air velocity ensuring a stable core jet. This results in very long throws. The dynamic internal construction of the jet nozzle allows a very high exit velocity at low noise levels and high induction. The technical data is secured and guaranteed by measurements and documentation in SCHAKO's own fluid dynamics and acoustics laboratory. Suitable for cooling and heating modes. A wide range of connection and installation options such as wall, ceiling, duct or pipes. Consists of the nozzle part made of aluminium painted with a high-quality powder coating to RAL colour 9010, white (standard). Suitable for use in VAV systems.

Product: SCHAKO **type WDAEX-N-...**

- for flexible duct connection, with mounting ring and connection spigot for saddle bracket (not possible for NW 400)

Product: SCHAKO **type WDAEX-F-...**

- For spiral duct connection, with mounting ring and connection spigot

Product: SCHAKO **type WDAEX-W-...**

- for ceiling / wall mounting, with mounting ring and connection spigot for saddle bracket (not possible for NW 400)

Product: SCHAKO **type WDAEX-D-...**

- For duct connection, using saddle bracket (NW400 not possible)

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

Accessories:

Swivel head (-S0 / -SK)

- without swivel head (-S0)
- with swivel head (-SK):
 - Aluminium painted to:
 - RAL 9010 (white) (-9010, standard)

Cover plate (-BN / -BR)

- without cover plate (-BN)
- with cover plate (-BR):
 - made of painted aluminium:
 - RAL 9010 (white) (-9010, standard)

TYPE PLATE



**Weitwurfdüse
Typ WDAEX**

Baugröße _____

Baujahr _____

Auftragsnummer _____

Positionsnummer _____

Seriennummer _____



II 2G Ex h IIB Gb

II 2D Ex h IIIC Db

EPS 18 ATEX 2 052 U

009/018

CERTIFICATE OF CONFORMITY



Konformitätsbescheinigung

- (1)
- (2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen – **Richtlinie 2014/34/EU**
- (3) Bescheinigungsnummer
EPS 18 ATEX 2 052 U **Revision 1**
- (4) Komponente: Weitwurfdüse Typ WDA und WDAEX
- (5) Hersteller: Schako KG
- (6) Anschrift: Steigstraße 25-27
78600 Kolbingen
Deutschland
- (7) Die Bauart dieser Komponente 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 18TH0140 festgelegt.
- (9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit:
EN IEC 60079-0:2018 EN ISO 80079-36:2016 EN ISO 80079-37:2016
- (10) Das Zeichen „U“ hinter der Bescheinigungsnummer gibt an, dass dieses Zertifikat nicht mit einem für ein Gerät oder Schutzsystem vorgesehenen Zertifikat verwechselt werden darf. Dieses Zertifikat gilt für eine Komponente im Sinne von Art. 2 (3), die keine autonome Funktion erfüllt und berechtigt nach Art. 13 (3) der Richtlinie nicht zur Anbringung der CE-Kennzeichnung. Diese Teilbescheinigung kann nur als Basis für die Bescheinigung eines Gerätes oder Schutzsystems verwendet werden.
- (11) Diese Konformitätsbescheinigung bezieht sich nur auf Konzeption und Prüfung der festgelegten Komponente gemäß Richtlinie 2014/34/EU. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieser Komponente. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.
- (12) Die Kennzeichnung der Komponente muss die folgenden Angaben enthalten:



Türkheim, 10.02.2023

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Zertifikatsnummer EPS 18 ATEX 2 052 U, Revision 1

ZERT-8294-CEU-ZE-EN-V011/EMP-0031-CEU-ZE-V02

1/2



(13)

Anlage

(14) **Konformitätsbescheinigung EPS 18 ATEX 2 052 U****Revision 1**(15) Beschreibung der Komponente:

Die Weitwurfdüsen WDA und WDAEX werden in Raumluftsystemen zur Einbringung der aufbereiteten Zuluft eingesetzt. Es gibt sie in zwei verschiedenen Ausführungen, einmal mit einer festen Düse und einmal mit einem Schwenkkörper.

(16) Referenznummer: 18TH0140(17) Hinweise für Herstellung, Einbau und Inbetriebnahme:

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

Bei Düsen mit RAL-Lack muss sichergestellt werden, dass hochladungserzeugende Prozesse ausgeschlossen sind.

(18) Grundlegende Sicherheits- und Gesundheitsanforderungen:

Durch Übereinstimmung mit Normen abgedeckt.

Zertifizierungsstelle Explosionsschutz

Türkheim, 10.02.2023

