Instructions for Installation and Operation

ATEX heated analysis lines
series WEX0… / series WEX1…

series WEX0…
fixed PTFE inner tube

series WEX1…
exchangeable electrostatically dissipative PTFE inner tube

Important safety information for the use of ATEX heated analysis lines

Please read the instructions for installation and operation very carefully before using ATEX heated analysis lines. Observe the data on the nameplate and any possible warnings on the product. The instructions for installation and operation are part of the explosion protection document in accordance with §6 of the German Ordinance on Hazardous Materials (GefStoffV). These instructions must always be available to everyone using or operating the equipment. You should therefore keep the instructions for installation and operation at a safe place for further use.
Please also observe the “Special conditions” listed under item 17 in the EC Type Examination Certificate (see section 13, EC Type Examination Certificate).
ATEX heated analysis lines are employed in hazardous areas where special operational requirements and conditions must be met. Please study these requirements and regulations in advance and observe compliance to ensure trouble-free operation within the intended field of application.
If you have any questions or concerns, please contact us (see contact data, section 11).
We will always be happy to advise and assist you so that you can rely on the safe operation of your ATEX heated analysis lines for the intended purpose.

ATEX heated analysis lines are electrical apparatuses

Operation and maintenance of ATEX heated analysis lines may only be carried out by a qualified electrician or a person with appropriate electrotechnical training.
To prevent hazards due to electric current, it is necessary to carry out regular inspections and, where appropriate, maintenance of ATEX heated analysis lines in accordance with the applicable technical rules and standards (VDE / DGUV V3 / …).

A 30 mA RCD should be used to support a safe operation.

The device function must be checked before putting the device into operation and thereafter at regular intervals.

Area of application of ATEX heated analysis lines

For explosive gas atmospheres > in zones 1 and zone 2
For explosive dust atmospheres > in zones 21 and zone 22

Not suitable for use in zone 0 or zone 20!

Additional safety information

In case of damage, the ATEX heated analysis lines must be taken out of operation immediately and may not be reused. The cause of the damage must be analysed and eliminated without delay.
Mechanical damage of the protective cover (corrugated hose) > due to external force.
Mechanical damage of the connection caps / glands > due to external force.
Brittle or broken protective cover (corrugated hose) > thermal overload or exposure to strong solar radiation (provide UV protection).
Always take care to avoid overheating of ATEX heated analysis lines. Observe the minimum and maximum operating temperatures and make sure that the temperature cannot overshoot or undershoot these limits. Overheating may be due to a number of causes. Please check the operating and ambient conditions in advance and monitor the initial heating-up phases.
Series WEX0… and series WEX1…are not equipped with temperature sensors since an overheating of the analysis line cannot occur.
If required (optional) temperature sensors can be installed. These, however, have nothing to do with the actual protection function of the heated analysis line (controller / limiter) and are to be used depending on the application or process.

Directives and regulations for explosion protection

The following Directives and regulations were taken into account for the design, testing, official approval and manufacture of ATEX heated analysis lines from Winkler:

Directive 2014/34/EU - Equipment and protective systems intended for use in potentially explosive atmospheres - Annex III Module B - EU Type Examination

EN-norms and regulations for explosion protection:

EN 1127-1	Explosive atmospheres - Explosion prevention and protection Part 1: Basic concepts and methodology
EN 60079-0	Explosive atmospheres Part 0: Equipment – General requirements
EN 60079-7	Explosive atmospheres Part 7: Equipment protection by increased safety “e“
EN 60079-14	Explosive atmospheres Part 14: Electrical installations design, selection and erection
EN 60079-18	Explosive atmospheres Part 18: Equipment protection by encapsulation “m“
EN 60079-30-1	Explosive atmospheres Part 30-1: Electrical resistance trace heating – General and testing requirements
EN 60079-31	Explosive atmospheres Part 31: Equipment dust ignition protection by enclosure “t”

Instructions for Installation and Operation ATEX heated analysis lines series WEX0… / WEX1…

With ATEX heated analysis lines you have acquired a high-quality product suitable for use in hazardous areas with potentially explosive atmospheres in accordance with the relevant standards and regulations as well as the conditions set out here. It is always our main objective to manufacture products that will function to your full satisfaction and meet the desired requirements. To ensure that this can be properly implemented for your own benefit, please read the following carefully and observe the instructions concerning installation and operation. If you have any questions, we will be happy to assist you (see section 11 - Contact data).
In the following ATEX heated analysis lines are simply referred to as “analysis lines”.

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1. General information

The central element of the analysis line is the inner tube through which the fluid flows. It is made of high-grade PTFE with a smooth surface. Since the inner tube does not in itself possess any high-pressure resistance, it is covered with stainless steel braiding. The integrated fittings are joined to the hose structure with a defined pressure and time period. The entire analysis line is designed in such a way that the high flexibility of the pressure hose or the bending potential of the tube is hardly affected. However, the specified permissible bending radius must always be observed to prevent defects and damage to any additional components (see section7, Permissible bending radii).

The maximum operating temperatures of the analysis line are specified on the nameplate and are defined by the ATEX marking. These must not be exceeded under any circumstances and at any point along the length of the analysis line. The standard version is not equipped with temperature sensors. If required, temperature sensors can be added as an option (factory-fitted). Use suitable temperature control equipment for the temperature control of the analysis lines, also in relation to the relevant temperature class for ATEX applications.
Additionally, the max. operating temperatures will need to be observed regarding the “switched on” and “switched off” operation of the self-limiting heating tape!

Series WEX0…
fixed PTFE inner tube

Series WEX1…
exchangeable, electrostatically dissipative PTFE inner tube

The devices of series WEX0… and WEX1… are suitable for applications up to 65°C when switched on (up to 85°C when switched off). The temperature is influenced and limited by the properties of the built-in heating tape, the ambient temperature, and the temperature of the media transported. An exact temperature setting along the entire length of the analysis line is not possible. The electrical connections (ATEX connection sleeves) are arranged underneath the silicone connection cap of the analysis line.
Series WEX0… comprises a PTFE inner tube surrounded by stainless steel braiding; it is supplied with pressed-on fittings.
Series WEX1… comprises a PTFE inner tube surrounded by stainless steel braiding and can be supplied with or without pressed-on fittings. This series is provided with an electrostatically dissipative PTFE inner tube which can be exchanged as required.

2. Area of application

Series WEX0… and series WEX1… bear the following ATEX Marking:

for explosive gas atmospheres **CE 0123 II 2G Ex e mb IIC T6…T5 Gb**
for explosive dust atmospheres **CE 0123 II 2D Ex mb tb IIIC T95°C Db**
-40°C ≤ Ta ≤ 65°C

The analysis lines can be employed for the temperature stabilization of various media in areas with explosive gas atmospheres – zones 1 and 2 – as well as in areas with combustible dust – zones 21 and 22. They are not suitable for application in zone 0 or zone 20. The range of application extends from freeze protection to temperature maintenance up to a maximum of 65°C. The nominal voltage of these analysis lines is 230 V. 115 V is possible upon request. The permissible ambient temperature for analysis line application spans from -40°C to +65°C. The temperature of the media must not exceed 85°C; this is to be guaranteed by the operator.
The heating power of the analysis lines depends on the type of construction as well as on the actual length and cross-section. You will find the exact details specified on the nameplate attached to the connecting cable.

Different ambient temperatures along the hose route will result in different internal temperatures.
The standard version is not equipped with temperature sensors!
Depending on the application or process, temperature sensors may be required and can be added (factory-fitted) at different positions along the analysis line.
As standard, the sensors are fitted 30 cm from the electrical connection.

Since the analysis line is a product for use under special conditions in hazardous areas, all the relevant Directives, rules and regulations or other requirements must be applied and complied with. This information can be found in the Explosion Protection Document for the entire plant, which should be kept by the operator in accordance with §6 of the German Ordinance on Hazardous Materials (GefStoffV). In addition, it is absolutely essential to observe the following manufacturer's information (instructions for installation and operation) to ensure that the analysis line is used properly and as intended.
Before initial operation, please check which regulations or internal works' rules are additionally applicable in your case to ensure trouble-free and safe operation.

If the analysis lines are employed under operating conditions that are not in compliance with the present instructions for installation and operation or if the intended use is not observed, the manufacturer's warranty and liability will lapse. Please contact us in time if you have any questions in this respect so that we can help you find a solution.

3. Installation / initial operation

In EN 60079-14 “Explosive atmospheres - Part 14 - Electrical installation design, selection and installation of equipment, including initial inspection”, you will find basic information for intended operation. Electrical heating devices must be installed and operated such that no hazard can arise from them even if left unattended or inadvertently switched on. Suitable safety measures must be adopted for this purpose.

1. Check the data on the nameplate. Do the type, design, mains voltage, power and operating temperature correspond to your specifications? If in doubt, compare with your documentation.
2. Does the analysis line supplied conform to the requirements at the place of installation (ATEX Marking / ATEX zone) and is it suitable for this purpose?
3. Are all the certificates and confirmations available and have the persons responsible for the plant (operator) carried out an inspection of the entire hazardous area installations (Explosion Protection Document)? Do the existing facilities and ambient conditions meet the requirements for the intended use? Are there any special rules and regulations applicable at the place of installation and have these been observed during installation?
4. Observe all the following installation guidelines, especially the wrong-right chart. These guidelines are based on many years of experience as well as on a danger analysis and regular fault analyses in the analysis line sector with the aim to prevent the most common causes of failure.
5. The standard version of series WEX0… and series WEX1… is not equipped with temperature sensors. If one or more PT100 sensors (controller sensor / limiter sensor) are added as an option (factory-fitted), It is essential to use suitable temperature control equipment (approved for ATEX application). The limiter must switch off permanently upon reaching the set temperature (considering the max. permissible temperature) according to EN 60079-0, i.e., switching the system back on again should only be possible manually after successful fault diagnosis and remedy. Observe the relevant guidelines and connection diagrams of the temperature control units!
6. When connecting the mains lead, the SI cable must be introduced through the ATEX gland of ATEX terminal box WZX188EX and connected to the appropriate terminals (1/2>L1; 3/4>N; PE>PE). Make sure that the ATEX glands are fully sealed. If this cannot be guaranteed, the analysis line must not be put into operation.
7. On the part of the operator, the electrical connection must be provided with a master switch (3mm contact gap), to function as disconnector, and a 16A or 20A fuse corresponding to the heating power (observe cable cross-section).
8. A residual current device RCD (FI) of IF ≤ 30mA should be used.
9. When connecting the sensor lead (optional sensors), the lead in the corrugated tube must be introduced through the ATEX gland of ATEX terminal box WZX189EX (blue; intrinsically safe) and connected to the appropriate terminals. Make sure that the ATEX glands are fully sealed. If this cannot be guaranteed, the analysis line must not be put into operation.
10. The connecting power leads are normally supplied stripped and ready for connection. If shortening is necessary, use suitable tools. Wire–end ferrules must be crimped onto the stripped wire ends.
11. The user must ensure that the material in contact with the media to be heated is resistant to it (see section 8, General technical data and section 10, Chemical resistance of the outer cover). If you have any questions in this respect, please contact us directly for guidance.
12. Always monitor the initial heating-up phases of the analysis line very carefully so that any possible faults can be detected and, where appropriate, remedied at an early stage. Check whether any nearby objects, plant components and other parts could cause damage to the analysis line or impair its function and, where applicable, remove or rearrange such items.
13. Accessible electroconductive parts must be included into the local equipotential bonding measures.
14. When removing the electrostatically dissipative PTFE inner tube of analysis line series WEX1… ensure that it is replaced with another electrostatically dissipative PTFE tube, otherwise there is a danger of static charge which may, under unfavourable conditions, create an ignitable spark.

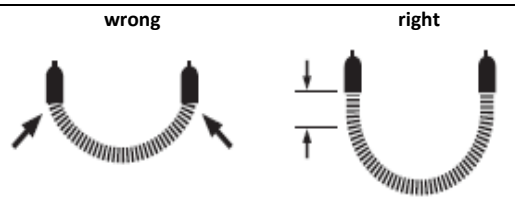
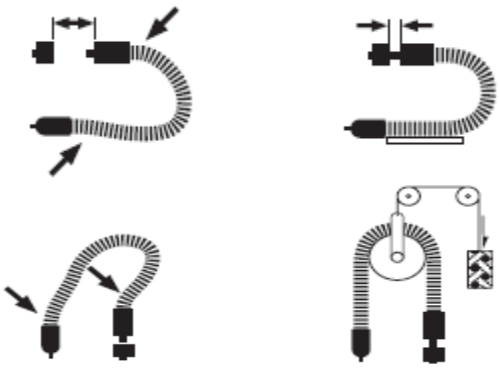
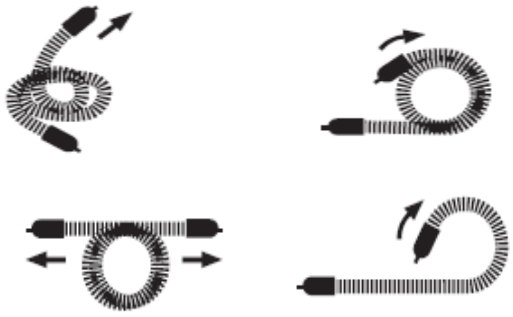
4. Operation / deinstallation

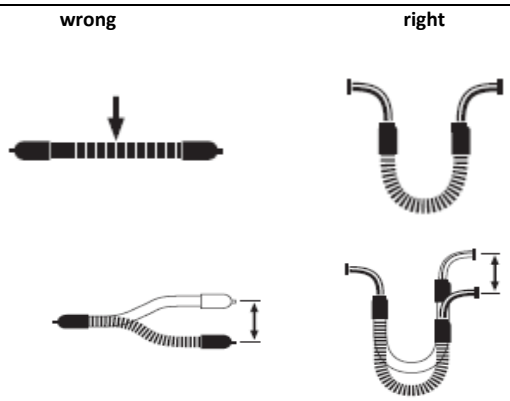
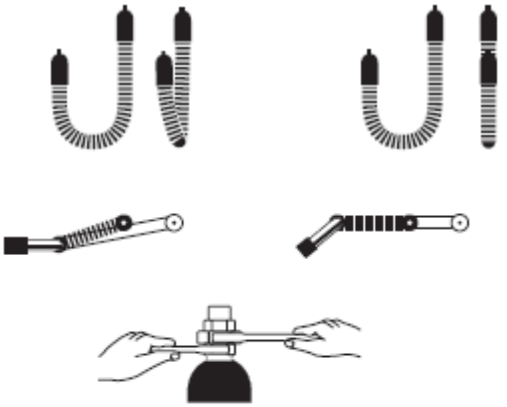
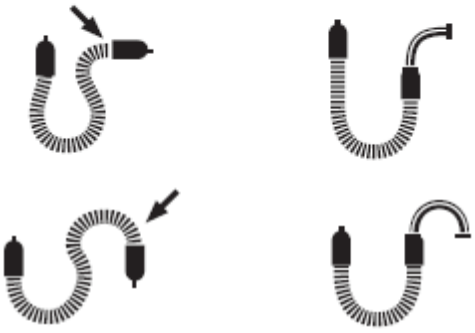
1. Check the initial heating-up phase exactly and monitor the further operation of the analysis line.
2. Make sure that the medium at the inflow or inlet point does not get hotter than the max. permissible operating temperature of the analysis line, otherwise the analysis line could be damaged.
3. Extreme movements or vibrations should be avoided during operation of the analysis lines.

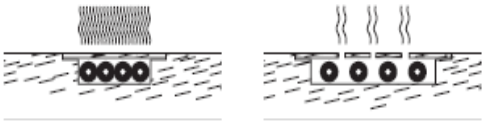
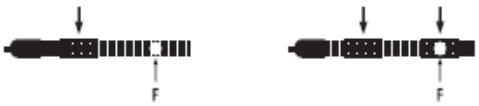
4. Before removing the analysis line, make sure it is cooled down and ensure all connections to the mains power supply are disconnected.
5. The connecting cable should never be used to pull the analysis line; it is not suitable for this purpose.
6. The fitting should never be used to pull the analysis line; the fittings are resistant to pressure, but more susceptible to tension forces.
7. It can happen that a fitting becomes clogged up when the liquid hardens and that the fitting only becomes unclogged after a certain heating-up period. Do not try to shorten this waiting period by applying heat externally. This may damage the line.
8. In case of damage to the analysis line or abnormal functioning during operation, the hose must be switched off as quickly as possible and all connections to the mains power supply must be disconnected. Fault cause analysis should be conducted.
9. Never open the analysis line or ATEX terminal box during operation!
10. Avoid exposing the analysis lines to direct solar radiation or, in unavoidable, provide suitable protection. As a result of direct and prolonged solar radiation the outer cover will suffer damage, which will impair the protective effect, but only become apparent after a longer period of dynamic operation.

5. Installation guidelines wrong – right chart

(Excerpt from the danger analysis)

1.	If the analysis line is too short, it will be bent excessively at the connection ends. Remedy: Include a straight section (5 x hose diameter). A large bending radius will increase the service life of the hose.	
2.	Hose is laid with a sagging part. Remedy: Supports or rollers with counterweight.	
3.	Pulling at the end of a rolled-up hose will result in torsional stress and a bending radius smaller than permissible. Remedy: Unroll the hose ring without pulling at the analysis line. Observe minimum bending radius = 5 x hose diameter. **Caution:** **The analysis lines may not be operated in a rolled-up condition or lying on top of each other, otherwise the outer cover (corrugated tube) can be destroyed!**	

4.	Compression along the longitudinal axis due to wrong installation or during movement will reduce the pressure resistance. Stretch compensation by fixed hoses leads to their destruction. Remedy: Bends at connection points. **wrong** **right** 	**wrong** **right** 
5.	Torsional movements will destroy the analysis line. This is often due to wrong installation, particularly to turning the hose in the wrong direction when connecting it up. Remedy: Ensure that the hose axes run parallel and that the direction of motion is on one plane. Use a counter-wrench during installation to prevent twisting the hose.	
6.	Corners are danger spots because of the risk of twists and bending stress. Remedy: Saddle support or roller with suitable diameter.	
7.	Excessive bending stress just behind the connection points is damaging. Remedy: Pipe bends **wrong** **right** 	
8.	With hand-held equipment, the risk of twists is particularly great. Remedy: Depending on working position, fit bend or anti-twist system (e.g., wire spiral).	
9.	If powdery substances, adhesives or other materials with thermal insulation properties are spilt onto the analysis line, overheating will occur at these points. Remedy: Constant cleaning/removing of such materials and eliminating the cause.	

10.	If analysis lines are laid in a closed channel or duct, this will result in heat concentration. Remedy: The hoses must not be in contact with each other. Additionally, adequate ventilation should be provided.	wrong right 
11.	Bundling of hoses or laying hoses in close contact next to each other will lead to overheating at the points of contact. Remedy: Always leave sufficient space between the hoses.	
12.	Heat concentration with overheating can also be caused by wrapping other materials around the analysis line. If the sensor area is wrapped up, the remaining hose section will cool down.	
13.	When fixing the hose with clamps or similar it must be ensured that the outer structure is not squeezed.	

6. Maintenance / inspections and repair

Regular maintenance and inspections of the analysis lines are necessary. In IEC 60079-17 “Explosive atmospheres - Part 17 - Electrical installations inspection and maintenance” you will find basic information in this regard. The maintenance and inspections must be documented accordingly.

1. Should any defects become apparent on the outside of the analysis line or the connecting mains lead, the analysis line must be disconnected immediately from the mains supply, removed and sent back to our factory for inspection. Never open the analysis line or any of its components on your own initiative, i.e., unauthorized, because this would endanger the explosion protection. The connecting mains lead cannot be replaced. In the event of damage, the entire analysis line needs to be replaced.
2. Inspection or maintenance of the analysis line should be carried out at regular intervals to guarantee operational safety. The inspection intervals should be chosen in relation to the operating conditions on site. However, according to DGUV V3 (safety instructions for electrical installations and equipment) inspections by a qualified electrician should take place at least every 6 months using suitable measurement and test equipment.
3. The service life of the analysis line will depend on the actual operating conditions. Therefore, it is not possible to make a generally valid statement about the length of the service life. However, the service life will generally be shorter under severe operating conditions as against occasional use under optimum conditions. For more information, please contact us directly for consulting.
4. If a limiter switches the analysis line off, the cause must be analysed before recommissioning the analysis line and appropriate measures must be taken to prevent reoccurrence.
5. If you intend to use an analysis line for a purpose other than its original design, please contact our specialists to confirm its suitability for your intended application. Unauthorized alterations to the intended use are not allowed.
6. Any changes on the hose performed by the customer will endanger the operational safety and will automatically invalidate the manufacturer’s warranty.
7. If you have any problems or questions, please contact us directly for quick and competent advice (see section 11, Contact data).

7. Permissible bending radii

The analysis lines have been designed to withstand bending stress. However, non-observance of the minimum bending radius or twists or strong torsional movement will lead to the destruction of the analysis line. The minimum permissible bending radius depends on the material and the nominal diameter (DN) of the analysis line.

As a general rule: Minimum permissible bending radius > 5 x hose diameter

Should you require any other bending radius, please get in touch with us so that we can advise you!

8. General technical data

(For specific technical data, see nameplate on the analysis line)

Ambient temperature:	-40°C to +65°C
Max. operating temperature:	**+ 65°C max. media temperature when switched on** **+ 85°C max. media temperature when switched off** > for use in the temperature range T5/T6
Nominal operating voltage:	230 V / 50 Hz (115V upon request)
Nominal power:	depending on analysis line type (see nameplate)
Circuit protection:	Miniature circuit-breakers (MCB) with C-Characteristic according to IEC 60898-1:2015
Power tolerance:	+/- 5 %
Mains connection cable:	2.0 m silicone cable (H05SS-F EWKF 1.5 mm^2 / 2.5 mm^2)
Sensor connection cables:	2.0 m PTFE cable (4 x 0.14 mm^2)
Chemical resistance:	PTFE inner tube > resistant against all chemicals, including acids and bases of any concentration. Exception: molten alkali metals and fluorine compounds. Outer cover > see “Chemical resistance of the outer cover” (section 10)

9. Pressure load

The high-quality PTFE inner tube may only be subjected to pressure because it is provided with stainless steel braiding and suitably pressed-on fittings. The pressure load must be in accordance with the table below.
If the existing hose constructions are not equipped with pressed-on fittings, the analysis line must not be subjected to pressure.
The pressure load capacity of the flexible analysis lines – equipped with fittings – varies in relation to the different working temperatures.

Please observe the values in the table below:

Nominal dia. Mm	Operating pressure bar at 24 °C	Operating pressure bar at 100 °C	Operating pressure bar at 150 °C	Operating pressure bar at 200 °C	Burst pressure bar at 24°C
4	**275**	**260**	**248**	**228**	**1100**
6	**240**	**228**	**216**	**199**	**960**
8	**200**	**190**	**180**	**166**	**800**
10	**175**	**166**	**158**	**145**	**700**
13	**150**	**143**	**135**	**125**	**600**
16	**135**	**128**	**122**	**112**	**540**
20	**100**	**95**	**90**	**83**	**400**
25	**80**	**76**	**72**	**66**	**320**

Take account of pressure peaks (dynamic operation)!
They can be very high and are not registered on normal pressure gauges. The operating pressure must never be exceeded.

10. Chemical resistance of the outer cover

The chemical resistance of the electrostatically dissipative outer cover depends on the temperature, the exposure duration (constant or occasional contact) of the chemical substance and on its concentration. The resistance values stated below are related to a temperature of +20° C. The table is only meant to serve as a guideline for the use of the analysis line (outer cover) in contact with the substances stated in the table.
However, the suitability for the individual application must be checked by the operator/user. If you have any questions or problems in this respect, please get in touch with us for further information (see section 11, Contact data).

Explanations:

- > not recommended
+ > limited resistance, suitable for short-time contact
++ > resistant, suitable for occasional contact
+++ > excellent resistance, suitable for permanent contact

Resistant against	Chemical formula	Polyamide 12 (PA12)
Acetic acid (aprox.10%)	$C_2H_4O_2$	++
Acetone	C_3H_6O	+++
Ammonia (approx. 30%)	NH_3	+++
Benzine/gasoline	-	+++
Brake fluid	-	+++
Sodium hydroxide solution	NaOH	+++
Ethanol (40%)	C_2H_6O	+++
Glycol	$C_2H_6O_2$	++
Hydrochloric acid (10%)	HCl	+
Methanol	CH_4O	+++
Methylethylketone MEK	C_4H_6O	+++
Nitric acid (10%)	HNO_3	-
Ozone	O_3	++
Nitro thinner	-	+++
Perchloroethylene	C_2Cl_4	++
Petroleum	-	+++
Phosphoric acid (10%)	H_3PO_4	++
Sea water	-	+++

Resistant against	Chemical formula	Polyamide 12 (PA12)
Soap solution	-	+++
Ordinary salt	NaCl	+++
Sulphuric acid (10%)	H_2S0_4	++
Toluene	C_7H_8	+++
Trichloroethylene	C_2HCl3	++
Turpentine	-	+++
Urine	-	+++
Fats and oils		
Drilling oils / cutting oils	-	++
Diesel oil	-	+++
ASTM oil No.	-	+++
Fuel oil	-	+++
Hydraulic oils	-	+++
Mineral oils	-	+++
Spark erosion fluids	-	+++
Skydrol	-	++
Transformer oils	-	+++

11. Contact data

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12. Product description type WEX0… / WEX1…

ATEX heated analysis lines series WEX0

Self-limiting industry heated analysis lines for the transport of fluid media in temperature ranges up to +65 °C / +85 °C for temperature maintenance and protection against frost and condensation.

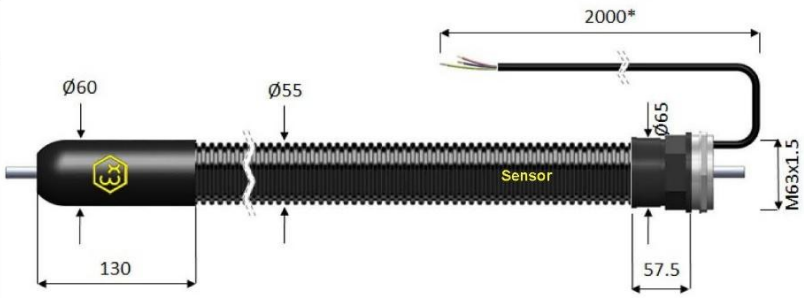
Features	Structure
• Robust, flexible and dissipative construction for indoor and outdoor use • Wide range of variants in terms of diameters, inner lines, fittings and connections • System-approved with an EU-type examination certificate (RL 2014/34/EU) • Extensive documentation for the explosion protection document according to §6 para. 9 of the German Ordinance on Hazardous Materials (GefStoffV)	

Specifications		Explosion protection marking
Nominal voltage	230 VAC (115 VAC)	Marking
Nominal power	application specific	Gas II 2G Ex e mb IIC T6...T5 Gb
Max. operating temperature	+65°C / +85°C	Dust II 2D Ex mb tb IIIC T95°C Db
Temperature class	T6...T5	-40°C ≤ Ta ≤ +65°C (ambient temperature)
Max. length	up to 82 m	
Protection class	IP66	EC-type examination certificate
Zones	1/2 (gas); 21/22 (dust)	TPS 14 ATEX 29587 012 X
Sensor Pt100 (EX-i, EX-e) Standard sensor position 300 mm or application specific	standard: 0 optional: 1, 2, 3 (SIL 3)…	

Dimensions

DN	ID	OD	Nominal power
2	2 mm	3 mm	10 W/m, 15 W/m, 25 W/m, 30 W/m,
4	4 mm	6 mm	
6	6 mm	8 mm	
8	8 mm	10 mm	
10	10 mm	12 mm	
13	13 mm	15 mm	
16	16 mm	18 mm	

All dimensions in mm
* Other lengths / sizes on request



Versions of termination and cable exits *

WEX03....
with silicone caps on both sides

WEX04....
with threaded connectors M63x1.5 on both sides

WEX08....
with silicone cap on E-side and threaded connector M63x1.5 on A-side

WEX09....
with threaded connector M63x1.5 on E-side and silicone cap on A-side

*Other versions on request

ATEX heated analysis lines series WEX1

Self-limiting industry heated analysis lines with exchangeable inner lines for the transport of fluid media in temperature ranges up to +65 °C / +85 °C for temperature maintenance and protection against frost and condensation.

Features

- Robust, flexible and dissipative construction for indoor and outdoor use
- Exchangeable, antistatic inner lines
- Wide range of variants in terms of diameters, inner lines, fittings and connections
- System-approved with an EU-type examination certificate (RL 2014/34/EU)
- Extensive documentation for the explosion protection document according to §6 para. 9 of the German Ordinance on Hazardous Materials (GefStoffV)

Structure

Specifications

Nominal voltage	230 VAC (115 VAC)
Nominal power	application specific
Max. operating temperature	+65°C / +85°C
Temperature class	T6...T5
Max. length	up to 82 m
Protection class	IP66
Zones	1/2 (gas); 21/22 (dust)
Sensor Pt100 (EX-i, EX-e) Standard sensor position 300 mm or application specific	standard: 0 optional: 1, 2, 3 (SIL 3)…

Explosion protection marking

Marking

Gas II 2G Ex e mb IIC T6...T5 Gb

Dust II 2D Ex mb tb IIIC T95°C Db

-40°C ≤ Ta ≤ +65°C (ambient temperature)

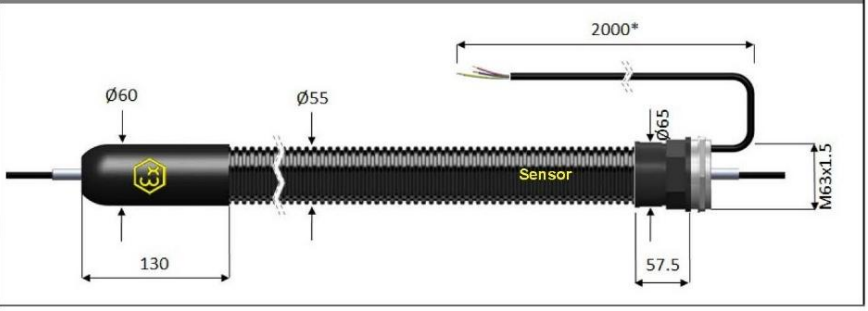
EC-type examination certificate

TPS 14 ATEX 29587 012 X

Dimensions

DN	ID	OD	Nominal power
4	4 mm	6 mm	10 W/m, 15 W/m, 25 W/m, 30 W/m,
6	6 mm	8 mm	
8	8 mm	10 mm	
10	10 mm	12 mm	

All dimensions in mm
The nominal diameter DN always refers to the inner diameter ID of the exchangeable inner line
* Other lengths / sizes on request



Versions of termination and cable exits *

WEX13....
with silicone caps on both sides

WEX14....
with threaded connectors M63x1.5 on both sides

WEX18....
with silicone cap on E-side and threaded connector M63x1.5 on A-side

WEX19....
with threaded connector M63x1.5 on E-side and silicone cap on A-side

*Other versions on request

13. EC Type Examination Certificate

ZERTIFIKAT ◆ CERTIFICATE ◆ 認証証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

A1 / 04.11

(1) EC Type Examination Certificate

Product Service

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres – **Directive 94/9/EC**

(3) EC Type Examination Certificate Number:

TPS 14 ATEX 29587 012 X

(4) Equipment: **Ex-Analysis and heating hoses WEX0, WEX1**

(5) Manufacturer: Winkler GmbH

(6) Address: Englerstr.24, 69126 Heidelberg

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) TÜV SÜD Product Service GmbH, notified body No. 0123 in accordance with Article 9 of the Council Directive 94/9/EC of March 23rd 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive.
The examination and test results are recorded in the confidential report 713045133.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 1127-1:2011	**EN 60079-7:2007**	**EN 60079-30-1:2007**
EN 60079-0/A11:2013	**EN 60079-18:2009**	**EN 60079-31:2009**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC Type Examination Certificate relates only to the design and the construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

(12) The marking of the equipment shall include the following:

II 2G Ex e mb IIC T5…T6 Gb II 2D Ex mb tb IIIC T95°C Db

-40°C ≤ Ta ≤ 65°C

Certification body

Andres Pfeil

612279

Stuttgart, 14.11.2014

Page 1 / 2

EC Type Examination Certificate without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by TÜV SÜD Product Service GmbH. In case of dispute, the German text shall prevail.
(Document no.: TPS 14 ATEX 29587 012 X)
The document is internally administrated under the following number: EX5 14 11 29587 012

TÜV SÜD Product Service GmbH · Zertifizierstelle · Ridlerstraße 65 · 80339 München · Germany

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ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Product Service

(13) **Schedule**

(14) **EC Type Examination Certificate TPS 14 ATEX 29587 012 X**

(15) Description of equipment:

The Ex-Analysis and heating hoses are used to heat mediums. Self-limiting design.

Coding of model:
WEX0abbc-230ZEddd-EEEE-ffT3

W	= Winkler
EX	= Ex model
0	= Series
a	= Type
bb	= Indication of the type of heater band (power)
c	= Basic hose and fittings
230	= Operating voltage 230 V / 115 V
Z	= Number of thermo couples (XX = no ; XE = one ; ZE = two)
E	= EX-PT100 thermocouple
ddd	= Nominal diameter of the basic hose
EEEE	= Length of the heating hose in cm
ff	= Sensor position basic hose
T3	= Code for temperature class T3

Electrical data:

Rated voltage:	230 V / 115 V ~; 50/60 Hz
Max. load heating cable:	10 W/m; 15 W/m; 25 W/m; 30 W/m
Ambient temperature:	-40°C to +65°C
Maximum temperature:	Refer to special conditions

(16) Test report: 713045133

(17) Special conditions for safe use:

Operator side, ensure that the permissible operating temperatures and pressures are not exceeded. The real maximum surface temperature of 90°C (Dust-Ex) / 95°C (T5/Gas-Ex) / 80°C (T6/Gas-Ex) must be complied with. The Ex-Analysis and heating hose must be cleaned cyclically in the Dust-Ex area. During operation dust layer has to be < 5 mm. The manufacturer`s instructions according installation note and user manual must be followed.

(18) Essential health and safety requirements:
met by standards

Certification body

Stuttgart, 14.11.2014

Andreas Pfeil

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14. EU Declaration of Conformity

EU-DECLARATION OF CONFORMITY

Manufacturer	:	WINKLER AG Englerstraße 24 69126 Heidelberg
Contact	:	Tel.: ++ 49 (0) 6221-3646-0 Fax.: ++ 49 (0) 6221-3646-40 sales@winkler.org www.winkler.org
Product group	:	ATEX Heated analysis lines
Product	:	Series WEX0… / Series WEX1…
Directives	:	DIRECTIVES 2014/34/EU (ATEX) "of the European Parliaments and Council of 26 February 2014 on the harmonisation of the laws of the Members States relating to equipment and protective systems intended for use in potentially explosive atmospheres" Annex III – Module B: EU-Type-Examination

We hereby declare that in planning and manufacturing of this product the basic safety and health requirements of the EU Directives mentioned above and the up-to-date EMC / RoHS Directives have been observed.
Winkler AG maintains a quality assurance system according to Annex VII of Directives 2014/34/EU (ATEX), which is subject to a yearly audit by the notified body TÜV Süd Product Service GmbH.
Certificate number TPS 24 ATEX Q 029587 0026

Identification	CE0123	II 2G Ex e mb IIC T6…T5 Gb
	CE0123	II 2D Ex mb tb IIIC T95°C Db -40°C ≤ Ta ≤ +65°C
EC-Type Examination Certificate		TPS 14 ATEX 29587 012 X

Other applied national / european standards:

EN 1127-1:2019	EN IEC 60079-7:2015/A1:2018	EN 60079-30-1:2017
EN IEC 60079-0:2018	EN 60079-18:2015/A1:2017	EN 60079-31:2014

This declaration becomes invalid if the product is modified without prior agreement.

Heidelberg, January 1th 2025 Winkler AG

Frank Merkel
Product Manager
Explosions Protection Officer

Daniel Ernst
COO

15. QM-Certificate according to ISO 9001:2015 and to Directive 2014/34/EU Certificate Annex VII

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Management Service

CERTIFICATE

Certificate Registration No.: **12 100 28096 TMS** / Order No.: **70002379**

The Certification Body
of TÜV SÜD Management Service GmbH

certifies that the organization

Winkler AG
Englerstr. 24
69126 Heidelberg
Germany

for the scope

Development, manufacture and sales of
heat engineering products with
control and monitoring Systems

including the sites see enclosure

has established and applies a Quality Management System.

An audit was performed and has furnished proof
that the requirements according to

DIN EN ISO 9001:2015

are fulfilled.

The certificate is valid from **2024-04-20** until **2027-04-19**.

Fred Wenke
Head of Certification Body
Munich, 2024-04-15

IAF DAkkS Deutsche Akkreditierungsstelle D-ZM-14143-01-00

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www.tuvsud.com/de-certificate-validity-check

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MS/01-07/2023

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Management Service

ENCLOSURE OF CERTIFICATE

Certificate Registration No.: **12 100 28096 TMS** / Order No.: **70002379**

certificate holder:

Winkler AG
Englerstr. 24
69126 Heidelberg
Germany

at the sites	scope
Winkler AG Englerstr. 24 69126 Heidelberg Germany	Development, manufacture and sales of heat engineering products with control and monitoring systems
Winkler AG Kleinfeldweg 38 69190 Walldorf Germany	Manufacture of heat engineering products with control and monitoring systems

Fred Wenke
Head of Certification Body
Munich, 2024-04-15

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MS/01.07/2023

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

(1) **Certificate**

(2) **about the acceptance of the product quality assurance**

Product Service

TRANSLATION

(3) Equipment and components intended for use
in potentially explosive atmospheres – **Directive 2014/34/EU**

(4) Number of Certificate:

TPS 24 ATEX Q 029587 0026 Issue 00

(5) Product Category: Heating hoses, Heating jackets,
Controller-limiter-power-actuator-combination
Equipment Group II, category 2 G/D
Ignition protection concepts: "e", "i", "m", "t"

(6) Manufacturer: Winkler AG

(7) Adress: Englerstraße 24;D-69126 Heidelberg (main factory)
Kleinfeldweg 38; D-69190 Walldorf (second production site)

(8) TÜV SÜD Product Service GmbH notified body No. 0123 in accordance with Article 18 of the Council Directive 2014/34/EU of February 26th 2016, certifies that the manufacturer maintains a quality assurance for the product, which conforms with Annex VII of the Directive.

(9) This certificate is based upon the Audit Report No. 713333064, issued at 2024-04-12, and is valid until 2027-05-13.

The certificate can be withdrawn if the manufacturer does not longer satisfy the requirements of appendix VII.

The result of the quality assurance re-assessment is part of the certificate.

(10) According to article 16 (3) of the Directive 2014/34/EU, the CE-marking shall be followed by the identification number 0123 identifying the notified body, involved in the production control stage.

Certification Body Explosion Protection
Ridlerstrasse 65, 80339 München

München, 2024-05-14

CE
0123

.....
Dipl.-Ing. Ulrich Jacobs
QM-TC CRT-MUC

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Quality Assurance Certificates without signature are not valid. The certificate may be circulated only without alteration. Extracts or alterations are subject to approval by TÜV SUD Product Service GmbH. In case of dispute, the German text shall prevail. The document is internally administrated under the following number: EX3A 029587 0026 Rev. 00

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