



winkler

WITH EC-TYPE  
EXAMINATION  
CERTIFICATE



ATEX HEATED LINES

2010-12



## CODIFICATION OF WINKLER ATEX HEATED LINES

Terminations and cable exits (other types upon request)																									
<b>0-3</b>		Silicone caps on both sides				<b>5-8</b>		Silicone cap on E-side and threaded connector on A-side																	
<b>4</b>		Threaded connectors on both sides				<b>9</b>		Threaded connector on E-side and silicone cap on A-side																	
<b>X</b>		Special configuration																							
Power (W/m) / Max. operating temperature (°C)																									
<b>WEX0+WEX1</b>				<b>WEX2+WEX3</b>				<b>WEX8+WEX9</b>																	
Type of heating tape				Type of heating tape				Max. operating temperature (°C)																	
10 = 10 W/m		15 = 15 W/m		25 = 25 W/m		30 = 30 W/m		20 = 200°C																	
26 = 25 W/m		33 = 30 W/m		45 = 40 W/m		60 = 54 W/m																			
Inner lines and fittings																									
<b>0</b>		PTFE-hose				<b>1</b>		PTFE hose with exchangeable PTFE hose																	
<b>3</b>		PTFE basic hose with stainless steel tube ends				<b>4</b>		PTFE basic hose with stainless steel tube ends and exchangeable PTFE hose																	
<b>5</b>		Stainless steel tube				<b>6</b>		PTFE basic hose with sleeves and exchangeable PTFE hose																	
						<b>9</b>		PTFE basic hose with stainless steel clamp fittings and exchangeable PTFE hose																	
<b>W</b>	<b>E</b>	<b>X</b>	<b>8</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>-</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>Z</b>	<b>E</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>-</b>	<b>1</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>T</b>	<b>3</b>
Winkler Ex-Series				Seriencode				Nominal diameter DN				Heated length L (cm)				Sensor position (XX: no sensor) Standard 300 mm from E-Side				Temperature class					
<b>WEX0</b> ▶Page 4 - 5 <b>WEX1</b> ▶Page 4 - 5  <b>WEX2</b> ▶Page 6 - 7 <b>WEX3</b> ▶Page 6 - 7  <b>WEX8</b> ▶Page 8 - 9 <b>WEX9</b> ▶Page 8 - 9																<b>T6</b> <b>T5</b> <b>T4</b> <b>T3</b>									
														Sensor type and Quantity				Operating voltage (V)							
														<b>XX</b> = No sensor <b>XE</b> = 1 x EX-Pt100 <b>ZE</b> = 2 x EX-Pt100				<b>230</b> 230 VAC <b>115 V</b> 115 VAC							

**Note:**  
 All the descriptions and illustrations of the products in this catalogue are non-binding and correspond to our current state of knowledge.  
 Winkler reserves the right to modify the products described here at any time and without prior notice if considered necessary for the purpose of further development or constructional reasons.

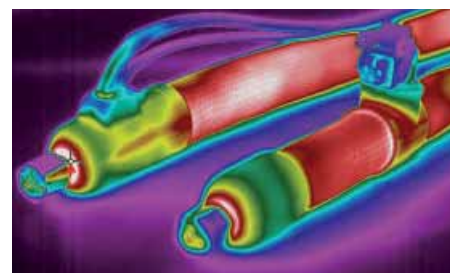
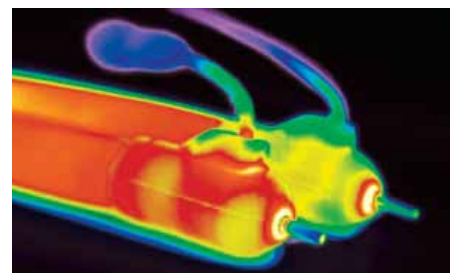
## WINKLER TECHNOLOGY

With more than 30 years of experience, Winkler stands for reliable products and intelligent innovations in industrial heat engineering. We probably offer the broadest range of flexible heating systems, control & monitoring equipment and accessory products for exacting analytical measurement.

Heated lines from Winkler are used in analytical systems for monitoring air pollutants in power stations and waste incineration plants as well as for process analysis in industry. They serve to transport gas samples without falsification from the sampling point to the gas treatment system and analyser. Thanks to their high degree of durability, they can be in use for many years, often round the clock and under tough conditions. The whole bandwidth of heating solutions from Winkler is also demonstrated at engine test beds for the calibration and optimization of combustion engines in the context of further development as well as at chassis dynamometers for statutory emission testing and vehicle certification.

The accuracy and reproducibility with which sensors and instruments in analytical systems are able to function crucially depends on the sampling gas treatment and the correct heating along the measuring gas route in accordance with the applicable standards and regulations. As the legal regulations become stricter and measurement technology improves even further, the requirements in this sector will increase correspondingly. Therefore, the heating within an analytical system represents a major element of every facility, and this is where Winkler, as a specialist, can always offer the perfect solution.

**Rely on our experience and you will be convinced of our products and services!**



Thermographic pictures

## WINKLER EXAMINATION CERTIFICATE



Our ATEX heated lines and ATEX heated hoses are approved as complete systems and certified with a single EC Prototype Test Certificate (system approval). They can be employed for the intended purpose in potentially explosive gas or dust atmospheres zone 1 / 2 and 21 / 22 in compliance with the enclosed instructions for installation and operation.

### Benefit from the advantages of system approval!

Certification to the new standards (EN 60079 + EN 61241) of all the fitted electrical and non-electrical components guarantees maximum safety (state of the art).

Particularly advantageous are the special combinations of individual functions as well as the option of customized or process-specific designs.

The total construction of all the ATEX heated lines and ATEX heated hoses is electrostatically dissipative both with regard to static and dynamic operation, so that dangerous discharge cannot build up in hazardous areas (see page 11 for more information on the subject).

On the basis of the extensive information and documentation supplied with the delivery, the operator of hazardous area installations is allowed verifiability as required in the Explosion Protection Document in accordance with § 6 of the BetrSichV (Operational Safety Ordinance)

**Don't hesitate to get in touch with our specialists – we will be happy to advise you!**

## WINKLER QUALITY

The technical experience and high level of quality assurance are reflected in all Winkler products so that our customers can rely on tested and proven products for their applications.

Our heating systems are characterized by an even distribution of heating power and a generously dimensioned heating conductor arrangement. This enables relatively direct and careful heat transfer to the fluid or object to be heated.

We only use high-quality, tried and tested materials and components, and there is no compromise in this respect when it comes to the selection of and cooperation with our suppliers. Our customers are therefore offered excellent and trustworthy products with a long service life, even under heavy load conditions.

Winkler products are 100% routine tested. There are three documented tests already during production, and during the final test the heated lines are again subjected to strict quality inspection. This testing procedure ensures a high degree of safety and reliability. And in the long run, these high quality and safety standards are beneficial.

Our quality management system is certified to ISO 9001:2008. Winkler is a certified manufacturer in accordance with Directive 94/9/EC Appendix VII (ATEX).





### Applications

Self-limiting heated lines for the transport of gas samples in the temperature range up to +65°C to protect from frost and condensation. For applications in potentially explosive atmospheres classified zone 1/2 (Gas) and 21/22 (Dust) areas. Not suitable for zone 0 and 20 areas.

### Structure (WEXO)



### Features and benefits

- Very robust structure made of durable, high-quality materials. Suitable for indoor and outdoor installation. Protection classes Gas IP66/Dust IP6X.
- Large variety of nominal diameters, inner lines, fittings, terminations and cable exits to cover most applications.
- High flexibility → very easy installation especially of higher lengths and at low temperatures (up to -20°C)
- Ready to connect, complete system tested and certified according to ATEX with EC-type examination certificate. ▶ Page 11  
The lines are supplied fully fitted and terminated and can be directly connected and put into operation without further inspection or approval.
- No controller is necessary in the basic version. Optionally one or two temperature sensors ATEX-Pt100 can be integrated to control the process temperature and to limit the heating tape temperature. Temperature controllers and combined temperature controllers/limiters for ATEX areas.

### Specifications for 230 VAC (115 VAC upon request, Tolerances: lengths ±2%, diameters ±5%, power ±10%)

Series WEXO (fix inner line)	WEXO_10_	WEXO_15_	WEXO_26_	WEXO_33_
Series WEX1 (exchangeable, antistatic inner line)	WEX1_10_	WEX1_15_	WEX1_26_	WEX1_33_
Nominal power at ambient temperature Ta = +10°C	10 W/m	15 W/m	25 W/m	30 W/m
Temperature maintained at ambient temperature Ta = -20°C	5-15°C	10-25°C	20-35°C	30-45°C
Temperature class	T6	T6	T5	T5
Max. permissible operating temperature Power ON / OFF	+65°C / +85°C (cumulative 1.000h)			
Min. installation temperature	-20°C			
Admissible range of ambient temperatures	-40°C / +65°C			
Max. length L at Ta = -25°C (one heating circuit, 20A fuse type C)	82 m	82 m	75 m	64 m
Min. admissible bend radius	200 mm			
Marking	CE 0123 Ex II 2G Ex e IIC T5 T6 CE 0123 Ex II 2D Ex tD A21 IP6X Ta=-40...+65°C T 95°C			
EC type examination certificate	TPS 09 ATEX 1007			

### Dimensions (WEX09)



Other length upon request

## VERSIONS: AVAILABLE TERMINATIONS UND CABLE EXITS

Depending on applications, ATEX heated lines series WEX0 and WEX1 can be terminated with silicone caps or threaded metric connectors on both the electrical connection side (E-side) or the ending side (A-side). Please indicate the kind of termination when ordering. Other versions upon request.



**WEX03**\_\_\_ / **WEX13**\_\_\_  
with silicone caps on both sides



**WEX04**\_\_\_ / **WEX14**\_\_\_  
with treaded connectors M50x1,5 on both sides



**WEX08**\_\_\_ / **WEX18**\_\_\_  
with silicone cap on E-side and threaded connector M50x1,5 on A-side



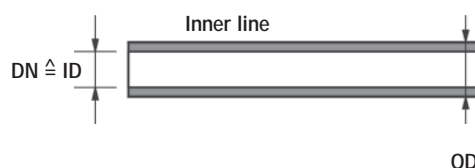
**WEX09**\_\_\_ / **WEX19**\_\_\_  
With threaded connector M50x1,5 on E-side and silicone cap on A-side

### Versions: Available nominal diameters

Nominal diameter (DN)	Inner diameter (ID) Inner line	Outer diameter (OD) Inner line
2 2/3	2 mm	3 mm
4 4/6	4 mm	6 mm
6 6/8	6 mm	8 mm
8 8/10	8 mm	10 mm
10 10/12	10 mm	12 mm

### Attention!

The nominal diameter (DN) of the heated lines always refers to the inner diameter (ID) of the inner line.



### Versions: Available inner lines and fittings

Series **WEX0** (fix inner line)



**WEX0**\_\_\_**0**  
PTFE hose (protruding 500 mm on both sides)



**WEX0**\_\_\_**3**  
PTFE basic hose with stainless steel tube ends 1.4571



**WEX0**\_\_\_**5**  
Stainless steel tube 1.4404 (protruding 50 mm on both sides)

Series **WEX1** (exchangeable, antistatic inner line)



**WEX1**\_\_\_**1**  
PTFE hose with exchangeable PTFE hose (protruding 500 mm on both sides)



**WEX1**\_\_\_**4**  
PTFE basic hose with stainless steel tube ends 1.4571 and exchangeable PTFE hose (protruding 500 mm on both sides)



**WEX1**\_\_\_**6**  
PTFE basic hose with sleeves and exchangeable PTFE hose (protruding 500 mm on both sides)

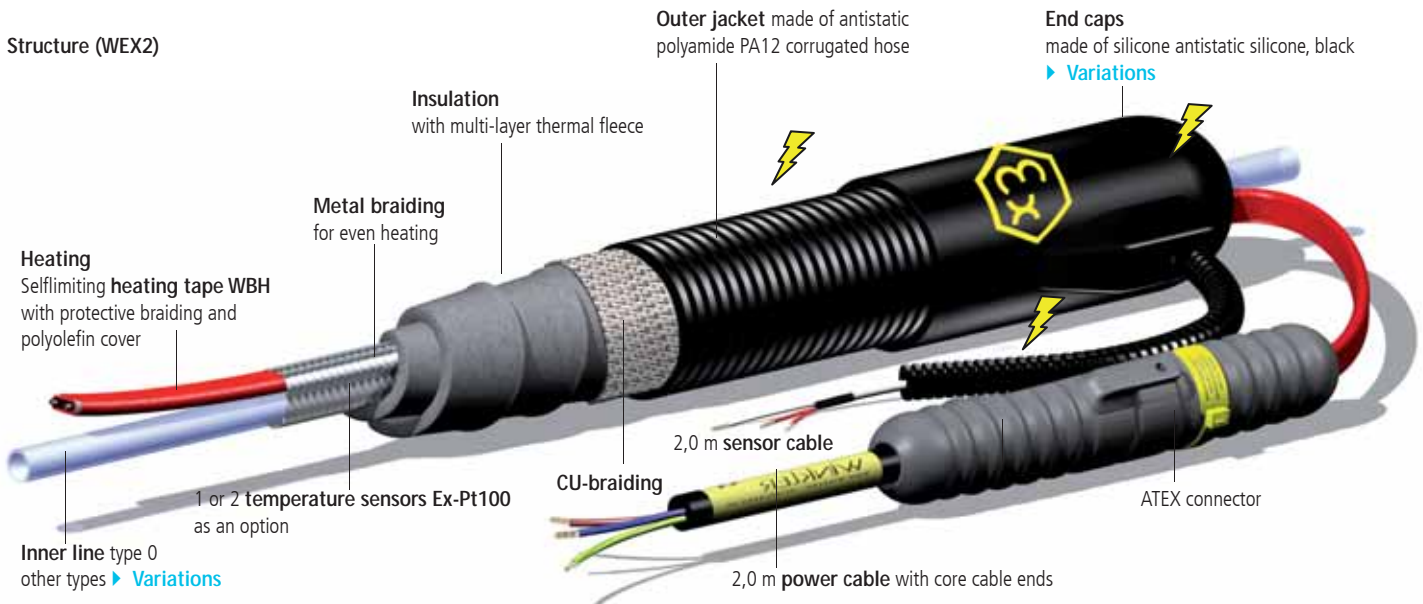


**WEX1**\_\_\_**9**  
PTFE basic hose with stainless steel clamp fittings 1.4571 and Exchangeable PTFE hose (protruding 500 mm on both sides)

### Applications

Self-limiting heated lines for the transport of gas samples in the temperature range up to +120°C to protect from condensation and false measurements. For applications in potentially explosive atmospheres classified **zone 1/2 (Gas) and 21/22 (Dust)** areas. Not suitable for zone 0 and 20 areas.

### Structure (WEX2)



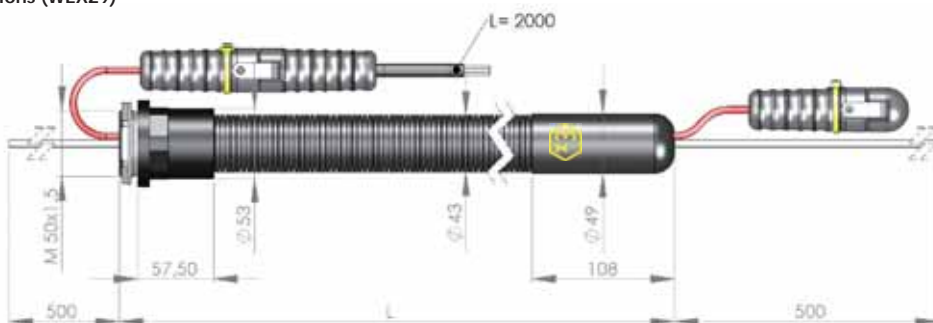
### Features and benefits

- Very robust structure made of durable, high-quality materials. Suitable for indoor and outdoor installation. Protection classes Gas IP66/Dust IP6X.
- Large variety of nominal diameters, inner lines, fittings, terminations and cable exits to cover most applications.
- High flexibility → very easy installation especially of higher lengths and at low temperatures (up to -20°C)
- Ready to connect, complete system tested and certified according to ATEX with EC-type examination certificate. ▶ [Page 11](#)  
The lines are **supplied fully fitted and terminated** and can be directly connected and put into operation without further inspection or approval.
- A controller is necessary in the basic version. **Optionally** none or two temperature sensors ATEX-Pt100 can be integrated to control the process temperature and to limit the heating tape temperature. Temperature controllers and combined temperature controllers/limiters for ATEX areas.
- In a special version, no sensor and no controller are necessary. Special conditions apply in this case (please refer to installation instructions).

### Specifications for 230 VAC (115 VAC upon request, Tolerances: lengths ±2%, diameters ±5%, power ±10%)

Series WEX2 (fix inner line)	WEX2_25_	WEX2_30_	WEX2_45_	WEX2_60_
Series WEX3 (exchangeable, antistatic inner line)	WEX3_25_	WEX3_30_	WEX3_45_	WEX3_60_
Nominal power at ambient temperature Ta = +10°C	25 W/m	30 W/m	40 W/m	54 W/m
Temperature maintained at ambient temperature Ta = -20°C	50-60°C	70-80°C	90-100°C	110-120°C
Temperature class	T3	T3	T3	T2
Max. permissible operating temperature Power ON / OFF	+120°C / +190°C (cumulative 1.000h)			
Min. installation temperature	-20°C			
Admissible range of ambient temperatures	-40°C / +85°C			
Max. length L at Ta = -25°C (one heating circuit, 20A fuse type C)	82 m	82 m	66 m	52 m
Min. admissible bend radius	200 mm			
Marking	CE 0123 Ex II 2G Ex e IIC 200°C (T2) T3 T4 CE 0123 Ex II 2D Ex tD A21 IP6X Ta=-40..+85°C T 195°C			
EC type examination certificate	TPS 09 ATEX 1008 TPS 10 ATEX 1010 X (no sensor)			

### Dimensions (WEX29)



Other length upon request

## VERSIONS: AVAILABLE TERMINATIONS UND CABLE EXITS

Depending on applications, ATEX heated lines series WEX2 and WEX3 can be terminated with silicone caps or threaded metric connectors on both the electrical connection side (E-side) or the ending side (A-side). Please indicate the kind of termination when ordering. Other versions upon request.



**WEX23** \_\_\_ / **WEX33** \_\_\_  
with silicone caps on both sides



**WEX24** \_\_\_ / **WEX34** \_\_\_  
with treaded connectors M50x1,5 on both sides



**WEX28** \_\_\_ / **WEX38** \_\_\_  
with silicone cap on E-side and threaded connector M50x1,5 on A-side



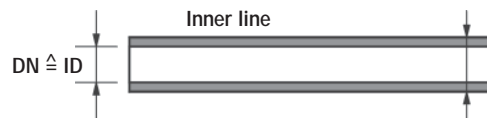
**WEX29** \_\_\_ / **WEX39** \_\_\_  
With threaded connector M50x1,5 on E-side and silicone cap on A-side

### Versions: Available nominal diameters

Nominal diameter (DN)	Inner diameter (ID) Inner line	Outer diameter (OD) Inner line
2 2/3	2 mm	3 mm
4 4/6	4 mm	6 mm
6 6/8	6 mm	8 mm
8 8/10	8 mm	10 mm
10 10/12	10 mm	12 mm

### Attention!

The nominal diameter (DN) of the heated lines always refers to the inner diameter (ID) of the inner line.



### Versions: Available inner lines and fittings

Series **WEX2** (fix inner line)



**WEX2** \_\_\_ **0**  
PTFE hose (protruding 500 mm on both sides)



**WEX2** \_\_\_ **3**  
PTFE basic hose with stainless steel tube ends 1.4571



**WEX2** \_\_\_ **5**  
Stainless steel tube 1.4404 (protruding 50 mm on both sides)

Series **WEX3** (exchangeable, antistatic inner line)



**WEX3** \_\_\_ **1**  
PTFE hose with exchangeable PTFE hose (protruding 500 mm on both sides)



**WEX3** \_\_\_ **4**  
PTFE basic hose with stainless steel tube ends 1.4571 and exchangeable PTFE hose (protruding 500 mm on both sides)



**WEX3** \_\_\_ **6**  
PTFE basic hose with sleeves and exchangeable PTFE hose (protruding 500 mm on both sides)



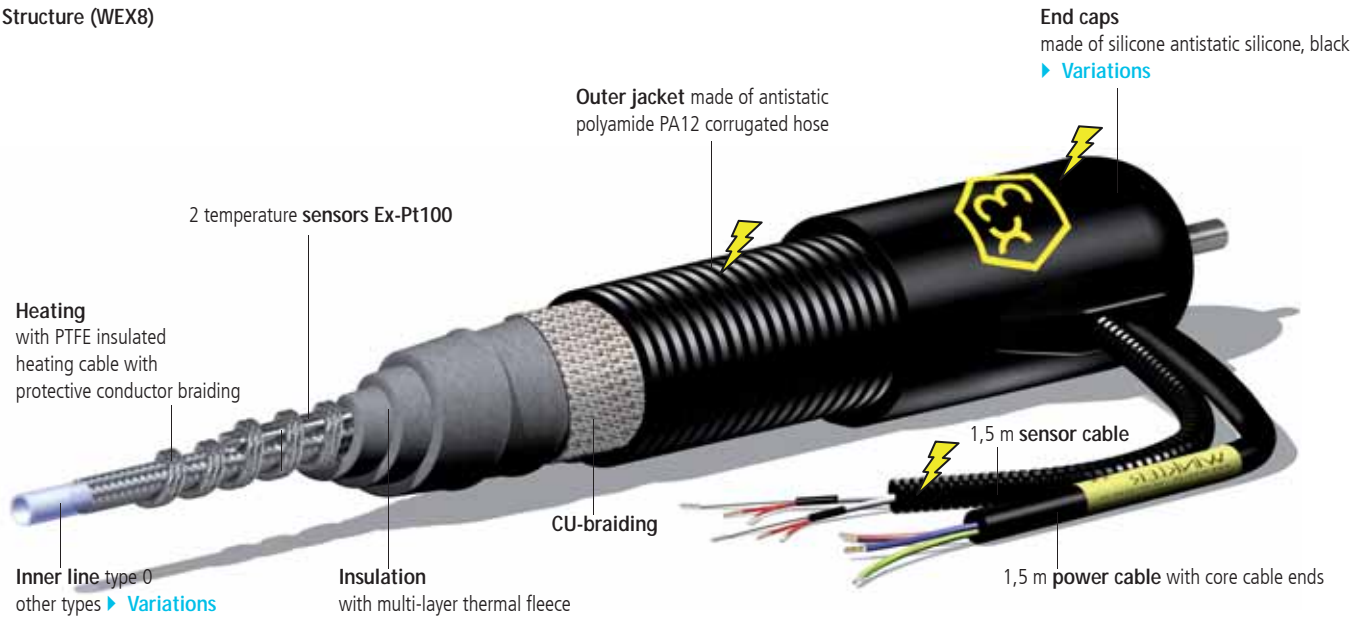
**WEX3** \_\_\_ **9**  
PTFE basic hose with stainless steel clamp fittings 1.4571 and Exchangeable PTFE hose (protruding 500 mm on both sides)

### Applications

Heated lines for the transport of gas samples in the temperature range up to +200°C to protect from false measurements.

For applications in potentially explosive atmospheres classified zone 1/2 (Gas) and 21/22 (Dust) areas. Not suitable for zone 0 and 20 areas.

### Structure (WEX8)



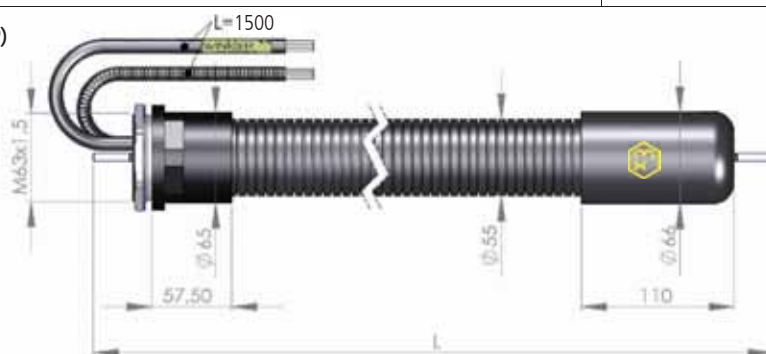
### Features and benefits

- Very robust structure made of durable, high-quality materials. Suitable for indoor and outdoor installation. Protection classes Gas IP66/Dust IP6X.
- Large variety of nominal diameters, inner lines, fittings, terminations and cable exits to cover most applications.
- High flexibility → very easy installation especially of higher lengths and at low temperatures (up to -20°C)
- Ready to connect, complete system tested and certified according to ATEX with EC-type examination certificate. The lines are supplied fully fitted and terminated and can be directly connected and put into operation without further inspection or approval.
- Operation only with controller and limiter. Two temperature sensors ATEX-Pt100 are built-in at 300 mm from E-side for the temperature control and limitation. (Other sensor positions upon request). Combined temperature controllers/limiters for ATEX areas. ▶ Page 10

### Specifications for 230 VAC (115 VAC upon request, Tolerances: lengths ±2%, diameters ±5%, power ±10%)

Series WEX8 (fix inner line)	DN 4	DN 6	DN 8	DN 10
Series WEX9 (exchangeable, antistatic inner line)	DN 2	—	DN 4	DN 6
Nominal power at ambient temperature Ta = +10°C	100 W/m	100 W/m	100 W/m	100 W/m
Temperature maintained at ambient temperature Ta = -20°C	+200 °C			
Temperature class	T3			
Max. permissible operating temperature Power ON / OFF	+200 °C			
Min. installation temperature	-20 °C			
Admissible range of ambient temperatures	-40°C / +85°C			
Max. length L at Ta = -25°C (one heating circuit, 20A fuse type C)	46 m	46 m	46 m	37 m
Min. admissible bend radius	250 mm			
Marking	CE 0123 Ex II 2G Ex ma e IIC T3 CE 0123 Ex II 2G Ex ma D tD Ta=-40..+85 °C T 200 °C			
EC type examination certificate	TPS 09 ATEX 1006			

### Dimensions (WEX89)



## VERSIONS: AVAILABLE TERMINATIONS UND CABLE EXITS

Depending on applications, ATEX heated lines series WEX8 and WEX9 can be terminated with silicone caps or threaded metric connectors on both the electrical connection side (E-side) or the ending side (A-side). Please indicate the kind of termination when ordering. Other versions upon request.



**WEX83\_\_ / WEX93\_\_**  
with silicone caps on both sides



**WEX84\_\_ / WEX94\_\_**  
with treaded connectors M63x1,5 on both sides



**WEX88\_\_ / WEX98\_\_**  
with silicone cap on E-side and threaded connector M63x1,5 on A-side



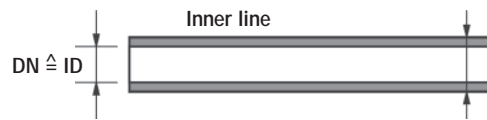
**WEX89\_\_ / WEX99\_\_**  
With threaded connector M63x1,5 on E-side and silicone cap on A-side

### Versions: Available nominal diameters

Nominal diameter (DN)	Inner diameter (ID) Inner line	Outer diameter (OD) Inner line
2 2/3	2 mm	3 mm
4 4/6	4 mm	6 mm
6 6/8	6 mm	8 mm
8 8/10	8 mm	10 mm
10 10/12	10 mm	12 mm

### Attention!

The nominal diameter (DN) of the heated lines always refers to the inner diameter (ID) of the inner line.



### Versions: Available inner lines and fittings

#### Series WEX8 (fix inner line)



**WEX8\_\_3**  
PTFE basic hose with stainless steel tube ends 1.4571



**WEX8\_\_5**  
Stainless steel tube 1.4404 (protruding 50 mm on both sides)

#### Series WEX9 (exchangeable, antistatic inner line)



**WEX9\_\_4**  
PTFE basic hose with stainless steel tube ends 1.4571 and exchangeable PTFE hose (protruding 500 mm on both sides)

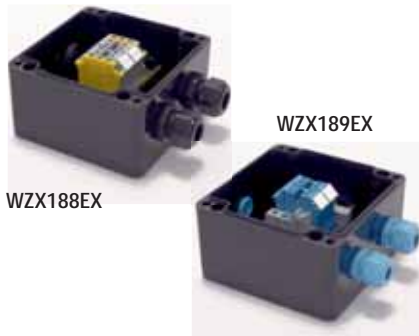


**WEX9\_\_6**  
PTFE basic hose with sleeves and exchangeable PTFE hose (protruding 500 mm on both sides)



**WEX9\_\_9**  
PTFE basic hose with stainless steel clamp fittings 1.4571 and Exchangeable PTFE hose (protruding 500 mm on both sides)

## TERMINAL ENCLOSURES AND FIXATION SUPPORTS



Terminal enclosures for the prolongation of connection cables in potentially explosive atmospheres.  
Material: Polyester. For higher ambient temperatures up to 100 °C (available on stock)

**Art.-Nr. WZX188EX** Terminal enclosure Ex e (Power)  
Marking: Ⓜ II 2G Ex e IIC T6  
Ⓜ II 2D Ex tD A21 T+80°C IP66  
Equipment: 2 cable glands, 2 blind plugs, 6 terminal blocks  
Dimensions (LxWxH): 122 x 120 x 90 mm

**Art.-Nr. WZX189EX** Terminal enclosure Ex i (Sensors)  
Marking: Ⓜ II 2G Ex ia IIC T6  
Ⓜ II 2D Ex tD A21 T+85°C IP66  
Equipment: 3 cable glands, 1 blind plugs, 7 terminal blocks  
Dimensions (LxWxH): 122 x 120 x 90 mm



Fixation supports for potentially explosive atmospheres classified zone 1/2 and 21/22 areas.  
Material: Antistatic polyamide 12. Marking: Ⓜ II 2GD EEx e II  
Extremely shock resistant, optimum axial strain relief, quick installation due to single hole fixing.  
Versions for normal an heavy load

	Art.-Nr. WZXS36EX (normale load)	Art.-Nr. WZXL36EX (heavy load)
<b>Useable for</b>	Series WEX0-WEX3 (43 mm outer diameter of the corrugated hose)	
<b>Dimensions (LxWxH)</b>	56 x 56 x 20 mm	85 x 75 x 30 mm
	Art.-Nr. WZXS48EX (normale load)	Art.-Nr. WZXL48EX (heavy load)
<b>Useable for</b>	Series WEX8-WEX9 (55 mm outer diameter of the corrugated hose)	
<b>Dimensions (LxWxH)</b>	68 x 68 x 20 mm	115 x 90 x 30 mm

## TEMPERATURE CONTROL AND LIMITATION



### Art. Nr. WEXRBL25-230ZE000

Comprehensive solution for controlling and limiting the temperature in areas with potentially explosive gas or dust atmospheres according to zones 1 / 2 and 21 / 22, incl. power selector function.

Required for WEX8... and WEX9... for temperature control and limitation  
Suitable for WEX0... to WEX3... for optional temperature control and limitation

Ex marking: Ⓜ II 2 G Ex e ib [ib Gb] mb IIC T4 Gb  
Ⓜ II 2 D Ex tb IIIC IP6X T90°C Db

EC prototype test certificate: TÜV 10 ATEX 556065



Supply voltage : 230 VAC (-15% to +10%) ; 50-60 Hz  
Load output : electronic semiconductor relay with 25 A nominal current  
External fuse: 25 A  
Sensor probe: PT100 resistance thermometer  
Measuring circuit: [Ex ib] IIC U<sub>o</sub>=6.3 V; I<sub>o</sub>=22 mA  
- intrinsically safe -  
max. external capacity 1.5 µF  
max. external inductance 10 mH  
Measuring range: 0... 450°C  
Dimensions / weight: 260 x 160 x 135 mm / 6 kg  
Housing / protection standard: aluminium / IP 64  
Ambient temperature: -20 °C... +40 °C

### Controller components



### Art. Nr. WRHEXCMP-230ZE020

Comprehensive solution for controlling and limiting the temperature in areas with potentially explosive gas or dust atmospheres according to zones 1 / 2 and 21 / 22, installed outside the hazardous area in a switch cabinet (top hat rail mounting)

Suitable for series WEX0... to WEX9... for temperature control and limitation

Comprising:  
Components for control: WRZ00226-230XX025 semiconductor relay  
WRH00141-230XW117 microprocessor-based compact controller  
WRZ0MK32-024XT000 Pt100/Ni100 isolation amplifier  
WRZ0MK82-230XX024 power supply 230V/24V

### Limiters components



Components for limitation: WRZ00224-230XX020 heating system contactor  
WRH00141-230XW000 microprocessor-based compact controller  
WRZ0MK32-024XT000 Pt100/Ni100 isolation amplifier  
WRZ0MK82-230XX024 power supply 230V/24V

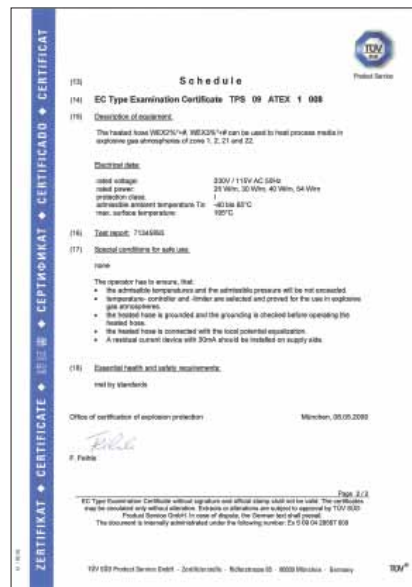
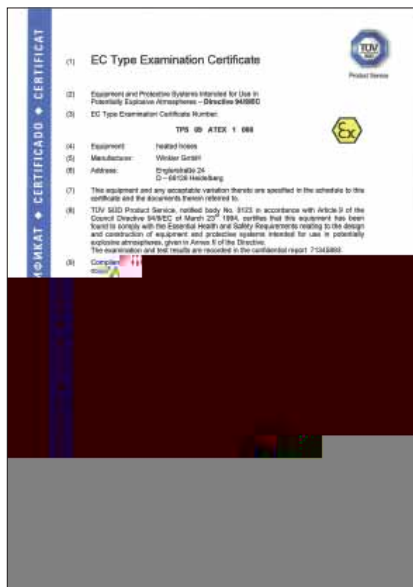
Isolation amplifier:  
Ex marking: Ⓜ II(1) G D [EEx ia] IIC  
EC prototype test certificate: TÜV 01 ATEX 1721  
Supply voltage: 230 VAC (+ / - 10%); 50-60 Hz  
Nominal current (heating system contactor): max. 20A

EC-Type Examination Certificate

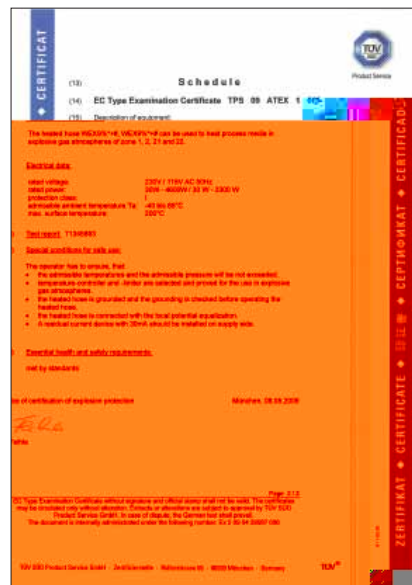
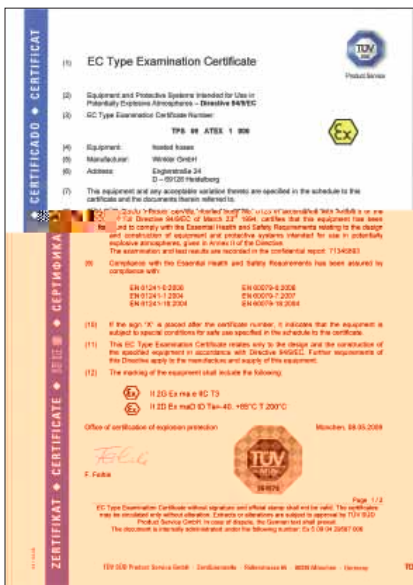
Serie WEXO and WEX1



Serie WEX2 and WEX3



Serie WEX8 and WEX9



Winkler GmbH is an independent, medium-sized company located in Heidelberg (Germany). For more than 30 years we have been developing and manufacturing a broad range of electric heating solutions for industry and laboratory applications.

**We supply reliable and durable products made of high-quality materials.**

We are the right partner for innovative and quick answers to your requirements. Customized solutions and flexible manufacturing are our particular strengths. Our experienced specialists will offer you sound advice and - together with you - develop the heating solution tailored to your application.

**Winkler - Your heating solution!**



Our headquarter



Heidelberg

Winkler GmbH  
Englerstrasse 24  
D-69126 Heidelberg  
Germany

Tel. +49-6221-3646-0  
Fax +49-6221-3646-40  
E-Mail: sales@winkler.eu  
www.winkler.eu



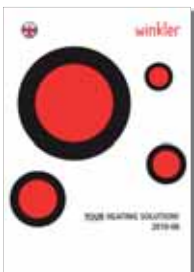
**Your contact:**  
**Frank Merkel**  
Head of technical administration and quality management

Tel: +49-6221-3646-25  
Fax: +49-6221-3646-40

f.merkel@winkler.eu



**Our product range**



Company presentation



Heated lines & heated hoses



Atex Heated lines



Heated wall bushings



Heated hoses



Heated hoses for pharmaceutical, chemical and food applications



Heating jackets



Silicone heaters & heating foils



Laboratory heaters



Drum and IBC heaters



Heating Solutions for Rail Applications

**Agencies**

**AUSTRIA**

Ing. Wolfgang Stipanitz, A-4060 Leonding  
Tel. +43-732-770177  
Fax +43-732-770177-7  
E-Mail: sales@winkler-austria.com

**FRANCE**

André Weinzaepflen, F-75016 Paris  
Tel. +33-1-46041590  
Fax +33-1-46041590  
E-Mail: commercial@winkler-france.com