



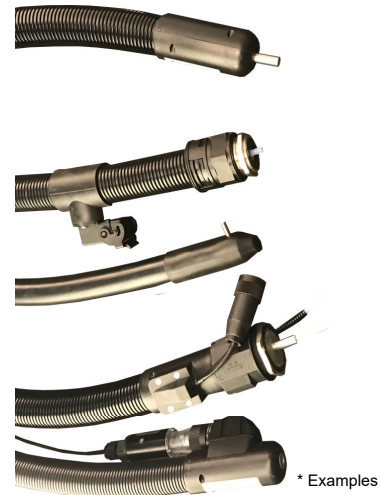
ANKERSMID Heated lines

regulated:

operating temperatures: up to +200/250°C

self-limiting:


operating temperatures: fix at +10/+80/+120°C



Application

This electrically heated sample lines series AHL are designed for connecting to all Ankersmid sample elements. The heated line ensures that the gas components in the sample stream remain above their dew point and thereby eliminates the risk of condensation. This is a safe way to transport the sample to a heated analyzer or the special Ankersmid coolers.

The electrically heated sample lines series AHLX are designed to transport sample gas through an explosive zone type 1 or 2, but not zones type 0.

- **Completely manufactured "ready-to-use"**
- **Never cold spots**
- **Tube DN 4/6, 6/8 or 8/10mm**
 - a) **PTFE-tube fixed**
 - b) **PTFE-tube interchangeable**
 - c) **SS316-tube fixed**
-  **Available according to ATEX (AHLX)**

Description

The heated sample lines are manufactured according to the client's specification and completely confectioned in the factory to a fixed length.

The regulated sample lines are to be controlled by a temperature controller. The heater is one serial resistance, twisted around the tube.

The heating element used in the self-limiting sample lines is an auto-regulated ribbon.

The heater is secured closely to the sample carrier tube, thus eliminating the occurrence of cold zones or spots in the heated line, and therefore also eliminating the incidence of potential blockage.

We offer a variety of standard lines, which can be fit with many options upon request.



ANKERSMID Heated lines, regulated
operating temperatures +200/+250°C

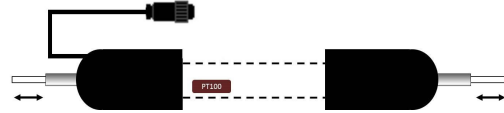
Technical data

Operating temperature: +200°C @ -20°C ambient	Tube diameter (ID/OD mm)	Part number Line per meter	Part number Beginning/end fitting
Inner tube PTFE fixed	DN 4/6	AHL 030	AHL 302
	DN 6/8	AHL 031	
	DN 8/10	AHL 032	



Tube ends: Stainless steel studs, length: 25mm

Inner tube PTFE Interchangeable	DN 4/6	AHL 033	AHL 305
	DN 6/8	AHL 034	
	DN 8/10	AHL 035	



Tube ends: Stainless steel studs, length: 25mm
PTFE-tube 500mm overlaying, interchangeable

Inner tube SS316 fixed	DN 4/6	AHL 036	AHL 308
	DN 6/8	AHL 037	
	DN 8/10	AHL 038	



Tube ends: Stainless steel studs, length: 25mm

Operating temperature: 250°C @ -20°C ambient	Additional p/n for all diameter	AHL H250
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DN	DN 4/6	DN 6/8	DN 8/10
Outside diameter of inner tube	6mm	8mm	10mm
Operating temperature	+200°C (Standard, 250°C with p/n AHL H250)		
Corrugated tube outside diameter	43mm		
Hard caps outside diameter	50mm		
Outer jacket	Corrugated PA12		
Max. power consumption at +180°C	100W/m	110W/m	130W/m
Max. power consumption at +250°C	+20%		
Max. length for 1 heating circuit	With fixed tube: 48m	With interchangeable tube: 30m	
Min. bending radius	270mm		
Max. ambient temperature	-20°C to +85°C		

Dimension and minimum bending radius (tolerance: length: 2%, diameter: 5%)



ANKERSMID Heated lines, regulated

Technical data

operating temperature +180°C, according to ATEX

Operating temperature: +10°C @ -20°C ambient	Tube diameter (ID/OD mm)	Part number Line per meter	Part number Beginning/end fitting
Inner tube PTFE fixed	DN 4/6	AHLX 030	AHLX 302
	DN 6/8	AHLX 031	
	DN 8/10	AHLX 032	



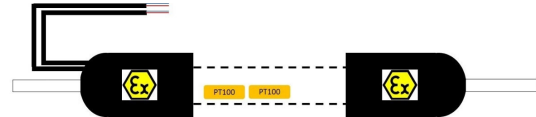
Tube ends: PTFE-tube 500mm overlaying, fixed

Inner tube PTFE Interchangeable	DN 4/6	AHLX 033	AHLX 305
	DN 6/8	AHLX 034	
	DN 8/10	AHLX 035	



Tube ends: PTFE-tube 500mm overlaying, interchangeable

Inner tube SS316 fixed	DN 4/6	AHLX 036	AHLX 308
	DN 6/8	AHLX 037	
	DN 8/10	AHLX 038	



Tube ends: PTFE-tube 500mm overlaying, fixed

DN	DN 4/6	DN 6/8	DN 8/10
Outside diameter of inner tube	6mm	8mm	10mm
Maximum operating temperature	+180°C		
Corrugated tube outside diameter	43mm		
Hard caps outside diameter	40x75mm		
Outer jacket	Corrugated PA6		
Max. power consumption at +180°C	60W/m		
Max. heating circuit for regulated lines (with 32A fuse protection)	50m	50m	50m
Min. bending radius	270mm		
Max. ambient temperature	-20°C to +85°C		

Dimension and minimum bending radius (tolerance: length: 2%, diameter: 5%)

ATEX Definition

For lines with operating temperature +180°C:

III 2G Ex 60079-30-1 IIC T6...T2 Gb

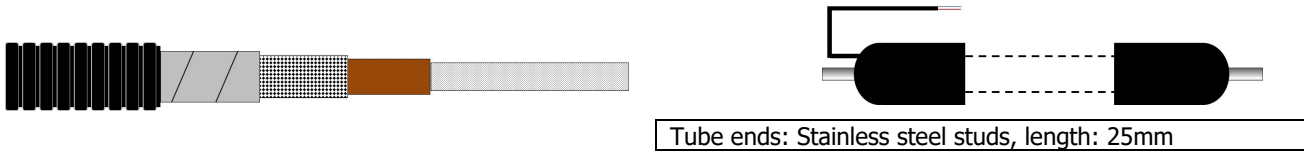
II 2D EX 60079-30-1 IIIC Txxx°C Db



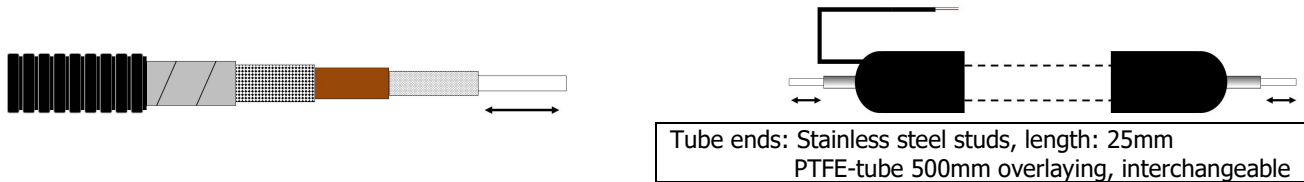
ANKERSMID Heated lines, self-limiting
operating temperatures +10/+80/+120°C

Technical data

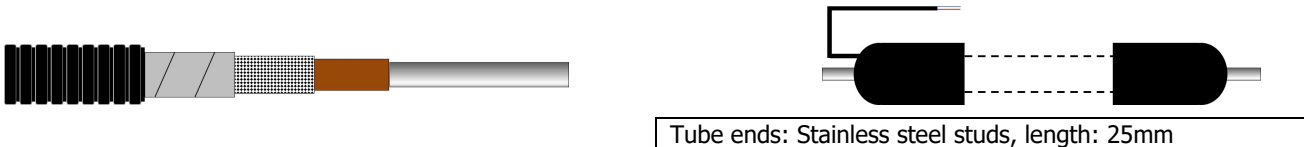
Operating temperature: +10°C @ -20°C ambient	Tube diameter (ID/OD mm)	Part number Line per meter	Part number Beginning/end fitting
Inner tube PTFE fixed	DN 4/6	AHL 010	AHL 102
	DN 6/8	AHL 011	
	DN 8/10	AHL 012	



Inner tube PTFE Interchangeable	DN 4/6	AHL 016	AHL 108
	DN 6/8	AHL 017	
	DN 8/10	AHL 018	



Inner tube SS316 fixed	DN 4/6	AHL 022	AHL 124
	DN 6/8	AHL 023	
	DN 8/10	AHL 024	



Operating temperature: 80°C @ -20°C ambient	Additional p/n for all diameter	AHL M025
Operating temperature: 120°C @ -20°C ambient	Additional p/n for all diameter	AHL M060

DN	DN 4/6	DN 6/8	DN 8/10
Outside diameter of inner tube	6mm	8mm	10mm
Holding temperature	+10°C	+80°C	+120°C
Corrugated tube outside diameter	43mm		
Hard caps outside diameter	50mm		
Outer jacket	Corrugated PA12		
Max. power consumption at +10°C	31W/m		
Max. power consumption at +80°C	45W/m		
Max. power consumption at +120°C	60W/m		
Max. heating circuit for self-limiting lines (with 32A fuse protection)	160m	135m	105 m
Min. bending radius	270mm		
Max. ambient temperature	-20°C to +85°C		

Dimension and minimum bending radius (tolerance: length: 2%, diameter: 5%)

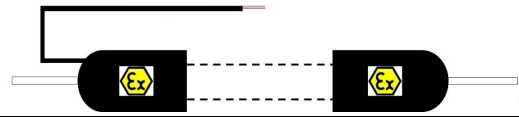
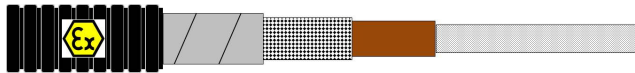


ANKERSMID Heated lines, self-limiting

Technical data

operating temperatures +10/+80/+120°C, according to ATEX

Operating temperature: +10°C @ -20°C ambient	Tube diameter (ID/OD mm)	Part number Line per meter	Part number Beginning/end fitting
Inner tube PTFE fixed	DN 4/6	AHLX 010	AHLX 102
	DN 6/8	AHLX 011	
	DN 8/10	AHLX 012	



Tube ends: PTFE-tube 500mm overlaying, fixed

Inner tube PTFE Interchangeable	DN 4/6	AHLX 016	AHLX 108
	DN 6/8	AHLX 017	
	DN 8/10	AHLX 018	



Tube ends: PTFE-tube 500mm overlaying, interchangeable

Inner tube SS316 fixed	DN 4/6	AHLX 022	AHLX 124
	DN 6/8	AHLX 023	
	DN 8/10	AHLX 024	



Tube ends: PTFE-tube 500mm overlaying, fixed

Operating temperature: 80°C @ -20°C ambient	Additional p/n for all diameter	AHLX M025
Operating temperature: 120°C @ -20°C ambient	Additional p/n for all diameter	AHLX M060

DN	DN 4/6	DN 6/8	DN 8/10
Outside diameter of inner tube	6mm	8mm	10mm
Holding temperature	+10°C	+80°C	+120°C
Corrugated tube outside diameter	43mm		
Hard caps outside diameter	40x75mm		
Outer jacket	Corrugated PA6		
Max. power consumption at +10°C	16W/m		
Max. power consumption at +80°C	38W/m		
Max. power consumption at +120°C	47W/m		
Max. heating circuit for self-limiting lines (with 32A fuse protection)	160m	135m	105m
Min. bending radius	270mm		
Max. ambient temperature	-20°C to +85°C		

Dimension and minimum bending radius (tolerance: length: 2%, diameter: 5%)

ATEX Definition

For lines with operating temperature +10°C:

Ex e IIC T6 Gb

Ex tD A21 IP66 T80°C

II 2G Ex e II T6

II 2D Ex tD A21 IP66 T80°C

For lines with operating temperature +80°C & +120°C:

Ex e IIC T3 Gb

Ex tD A21 IP66 T200°C

II 2G Ex e II T3

II 2D Ex tD A21 IP66 T200°C

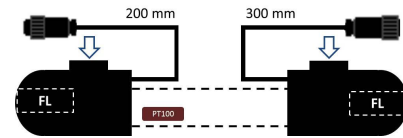


ANKERSMID Heated lines

Special Versions

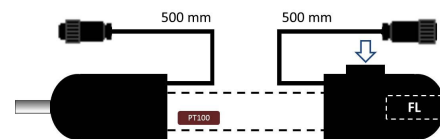
Regulated heated sample lines with FastLock-connections, for portable applications

Operating temperature: +200°C @ -20°C ambient	Tube diameter (ID/OD mm)	Part number Line per meter	Part number Beginning/end fitting
Inner tube PTFE fixed	DN 4/6	AHL 025	AHL 205



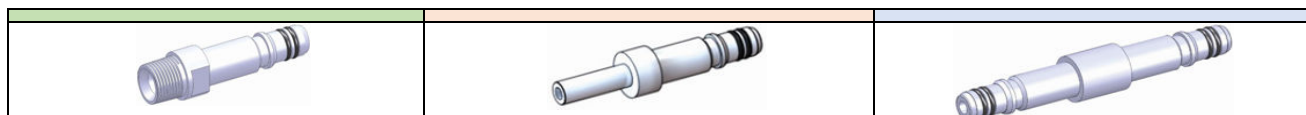
<p><u>Outer jacket</u> High-flexible black smooth silicone skin (OD: 43mm) material: silicone. Including 3 extra leads as power supply for the probe. Max. length: 23m</p> <p><u>Temperature sensor</u> Pt100, placed 0,3/2m from powered side (lines </> 5m)</p>	<p><u>Hard caps</u> With FastLock female confection on powered side (cooler side) and non-powered side (probe side).</p> <p><u>Connection cables</u> Powered side: 0,2m with 7-pin plug Non-powered side: 0,3m with 7-pin coupling.</p>
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Inner tube PTFE fixed	DN 4/6	AHL 125	AHL 225
	DN 6/8	AHL 126	



<p><u>Outer jacket</u> High-flexible black smooth silicone skin (OD: 43mm) material: silicone. Including 3 extra leads as power supply for the probe. Max. length: 23m</p> <p><u>Temperature sensor</u> Pt100, placed 0,3/2m from powered side (lines </> 5m)</p>	<p><u>Hard caps</u> With SS-tube end (length: 25mm) on powered side (cooler side) and FastLock female confection on non-powered side (probe side)</p> <p><u>Connection cables</u> Powered side: 0,5m with 7-pin plug Non-powered side: 0,5m with 7-pin coupling.</p>
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Various male adapter for FastLock-System



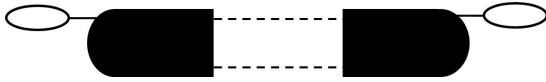
APP 300	FastLock male adapter with thread 1/4"m NPT for easy connection of a heated lines with FastLock-connection to portable gas sample probe series APP 1xx
APP 310	FastLock male adapter with 1/8"m NPT or easy connection of heated lines with FastLock-connection to other portable and stationary gas sample probes
APP 315	FastLock male adapter with G1/8"m for easy connection of heated lines with FastLock-connection to other sample probes, analyzers and other instruments
APP 318	FastLock male adapter with connection for tube DN6 (incl. ferrule and nut) for easy connection of heated lines with FastLock-connection
APP 320	FastLock male adapter with tube OD: 6mm, length: 25mm for easy connection of heated lines to portable gas conditioning system series APS and other SS-tube connectors
APP 330	FastLock double adapter bolt for easy connection of 2 heated lines with FastLock-connection



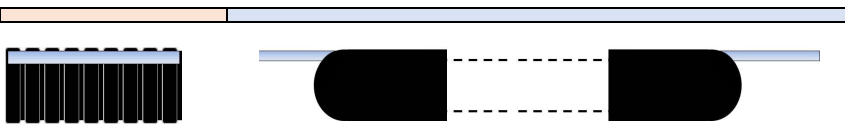
ANKERSMID Heated lines

Options

Stress relief cable, per meter	Part number
Stress relief cable on non-powered side, material: stainless steel	AHL P00
Confection Set for above version	Part number
Confection Set: loop eyes on both sides	AHL P01



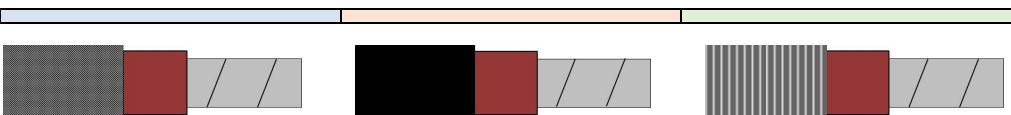
Additional inner PTFE-tube, e. g. for blowback, cal/test gas, additional to the sample tube (inside the jacket), per meter	Part number
Inner PTFE-tube DN 4/6	AHL P15
Inner PTFE-tube DN 6/8	AHL P17
Confection Set for above 2 versions	Part number
Confection Set: tube 500mm overlaying on both sides	AHL P18



Inner cable with open leads (PTFE-isolated), e. g. for electric signals, power supply of other devices, per meter	Part number
Inner cable 5x 0,75mm ²	AHL P19
Inner cable 5x 1,5mm ²	AHL P21
Inner cable 3x 0,75mm ²	AHL P33
Inner cable 3x 1,5mm ²	AHL P35
Confection Set for above 4 versions	Part number
Confection Set: open leads, 2000mm overlaying on both sides	AHL P34
Confection set: cable (length: 0,2m) with plug (7-pin) on powered side, cable (length: 0,3m) with coupling (7-pin) on non-powered side	AHL P80



Outer jackets for heated lines, per meter	Part number
Jacket made of polyamide braiding (OD: 43mm) instead of standard, for all heated lines with max. operating temperature of 250°C	AHL 399
High-flexible black smooth silicone skin (OD: 43mm or OD 29mm) instead of standard, for all heated lines with max. operating temperature 200°C. Max. length of line: 23m	AHL 400
Jacket made of stainless-steel braiding instead of standard, for all heated lines with max. operating temperature 200°C	AHL 410





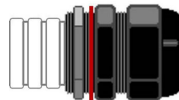
ANKERSMID Heated lines

Options

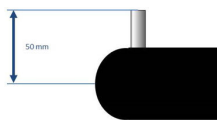
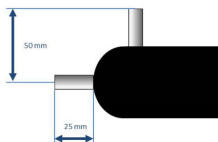
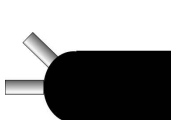
Spiral hose protection for sample lines, per meter	Part number
Flexible spiral hose protection, outside diameter: 30,0mm	AHL P39
Flexible spiral hose protection, outside diameter: 42,5mm	AHL P40
Flexible spiral hose protection, outside diameter: 54mm	AHL P41



Cable glands for end caps, only for lines with corrugated cover	Part number
End cap with cable gland M40x1,5 on non-powered side with SS-stud (40mm). For mounting heated line to bottom plate of sample probes (not for ATEX-lines)	AHL P25
End cap with cable gland PG36 (without SS-studs) on non-powered side	AHL P85
End cap with cable gland PG36 (without SS-studs) on powered side	AHL P86
End cap with cable gland M63 (without SS-studs) on non-powered side, for ATEX-lines	AHLX P85
End cap with cable gland M63 (without SS-studs) on powered side, for ATEX-lines	AHLX P86
Cable gland M63 on powered side, for passing through cabinet walls, without assembly	AHL P24
Cable gland M63 on powered side, for passing through cabinet walls, without assembly, for ATEX-lines	AHLX P24



Special fittings for end caps	Part number
Y-fitting 45° in SS DN4/6mm at powered side, incl. assembly	AHL P30
Y-fitting 45° in SS DN6/8mm at powered side, incl. assembly	AHL P31
Y-fitting 45° in SS DN8/10mm at powered side, incl. assembly	AHL P32
L-fitting 90° in SS at non-powered side, incl. assembly	AHL P75
side connection 90° side connection in SS at powered side, incl. assembly	AHL P76
side connection 90° side connection in SS at non-powered side, incl. assembly	AHL P77





ANKERSMID Heated lines

Options

Inner tubes for heated lines, per meter	Part number
Inner tube PTFE 1/4" instead of standard inner tube PTFE DN4/6, only with AHL P71	AHL P70
Inner tube PFA 1/4" instead of standard inner tube PTFE DN4/6, only with AHL P71	AHL P72
Both hard caps with SS-tube ends (length: 25mm) 1/4"OD, only with AHL P70/P72	AHL P71
Inner tube PFA 4/6 (VOC-free) instead of standard inner tube PTFE DN4/6	AHL P73
Inner tube PFA 6/8 (VOC-free) instead of standard inner tube PTFE DN6/8	AHL P74

Temperature sensors for heated lines	Part number
Temperature sensor thermo-couple type K (NiCr-Ni) instead of standard Pt100, placed 2m from powered side (for lines > 5m) or 0,3m (for lines < 5m)	AHL P56
Temperature sensor thermo-couple type J (Fe-CuNi) instead of standard Pt100, placed 2m from powered side (for lines > 5m) or 0,3m (for lines < 5m)	AHL P57
Additional temperature sensor Pt100, placed 2m from powered side (for lines > 5m) or 0,3m (for lines < 5m)	AHL P50
Additional temperature sensor thermo-couple type K (NiCr-Ni), placed 2m from powered side (for lines > 5m) or 0,3m (for lines < 5m)	AHL P51
Additional temperature sensor thermocouple type J (Fe-CuNi), placed 2m from powered side (for lines > 5m) or 0,3m (for lines < 5m)	AHL P52
Extension of the internal sensor cable per meter, standard placed 2m from powered side (for lines >5m) or 0,3m (for lines <5m)	AHL P53
Extension of power cable incl. sensor cable (standard on AHL-lines: 2m), for non-ATEX lines	AHL P90
Extension of power cable incl. sensor cable (standard on AHL-lines: 2m), for ATEX-lines	AHL P91