

Sleeve sensor / cable temperature sensor
duct / immersion / screw-in temperature sensor,
with passive output

The sleeve sensor / cable sensor **THERMASGARD® HTF** is used to measure temperatures in liquid and gaseous media. It can be used as a duct sensor and - if installed in an immersion sleeve - as an immersion and screw-in sensor. The sleeve length varies, depending on request, from 30...400 mm (standard is 50 mm respectively 200 mm), the cable length is arbitrary (standard is 1.5 m). Depending on application, with silicone, glass fibre, or PVC leads, for two-wire or four-wire connection. For direct, continuous use in liquids, please use our **THE** immersion sleeves (see type table).

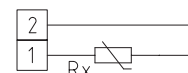
TECHNICAL DATA

Measuring ranges:	-35...+105 °C PVC , LiYY, 2 x 0.25 mm ² -50...+180 °C Silicone , SiHF, 2 x 0.25 mm ² -50...+250 °C PTFE , 2 x 1.0 mm ² -50...+350 °C glass fibre , 2 x 0.25 mm ² ends stripped with wire end sleeves (extended measuring range limits optional, depending on connection leads, T_{max} Ni1000 = +180 °C, T_{max} NTC / Ni1000 TK5000 = +150 °C, T_{max} LM235Z = +125 °C)
Sensors / output:	see table, passive (optional also with 2 sensors) (Perfect Sensor Protection with IP68)
Connection type:	2-wire connection (4-wire connection optional)
Testing current:	< 0.6 mA (Pt1000) < 1.0 mA (Pt100) < 0.3 mA (Ni1000, Ni1000 TK5000) < 2.0 mW (NTC xx) 400 µA...5 mA (LM235Z)
Protective tube	sensor sleeve made of stainless steel, V4A (1.4571), Ø = 6 mm HTF50 nominal length (NL) = 50 mm HTF200 nominal length (NL) = 200 mm (other optional dimensions also available, nominal length (NL) = 30...400 mm)
Connection cable:	cable length (KL) = 1.5 m (optional also 3 m, 5 m, 8 m, 10 m)
Insulating resistance:	≥ 100 MΩ, at +20 °C (500 V DC)
Process connection:	using immersion sleeves THE (see table) or mounting flange, plastic (see table) (optionally in galvanised steel, see chapter Accessories)
Permitted humidity:	< 95 % RH, non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	IP65 (according to EN 60 529) sleeve humidity-tight (standard) IP68 (according to EN 60 529) sleeve water-tight (optional) IP54 (according to EN 60 529) with glass fibre cable (optional)

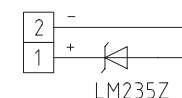
ACCESSORIES

MF-06-K	Mounting flange , plastic, 56.8 x 84.3 mm, Ø = 6.2 mm tube gland, T _{max} = +100 °C (is not included in scope of delivery)
THE-MS-G xx	Immersion sleeve , polished brass, Ø = 9 mm, inserted length (EL) = 50 - 250 mm (see table), inner diameter of socket Ø = 5.2 mm, with adjusting screw M12 x 1.5 T _{max} = +130 °C, p _{max} = 16 bar
THE-VA/xx	Immersion sleeve , stainless steel, V4A (1.4571), Ø = 9 mm, inserted length (EL) = 50 - 400 mm (see table), inner diameter of socket Ø = 5.2 mm, with adjusting screw M12 x 1.5 T _{max} = +200 °C, p _{max} = 40 bar

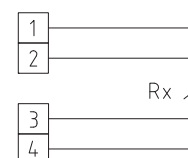
1x two-wire connection
standard



1x two-wire connection
LM235Z (KP 10)



1x four-wire connection
 (optional)



IP65 (standard)
 humidity-tight



IP68 (optional)
 water-tight
Perfect Sensor Protection



IP54 (optional)
 with **glass fibre** cable

MF-06-K
 Mounting flange,
 plastic
 (optional)



High-performance encapsulation against
 vibration, mechanical stress and humidity





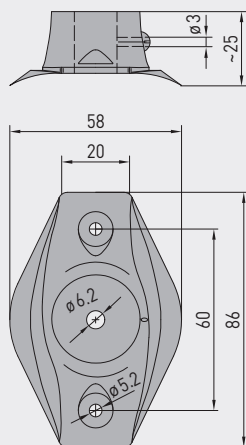
S+S REGELTECHNIK

THERMASGARD® HTF 50
THERMASGARD® HTF 200

Sleeve sensor / cable temperature sensor
duct / immersion / screw-in temperature sensor,
with passive output

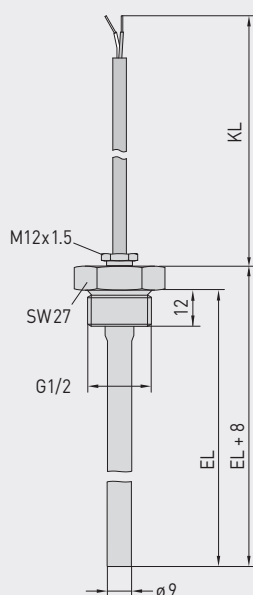


Dimensional drawing **MF-06-K**



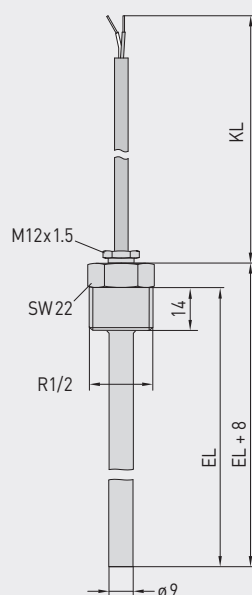
HTF200 + MF-06-K
with accessory mounting flange
(see type table)
as duct temperature sensor

HTF50 + THE-VA

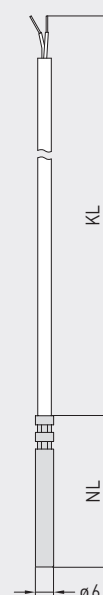


HTF50 + THE-xx
with accessory immersion sleeve
(see type table)
as immersion / screw-in temperature sensor

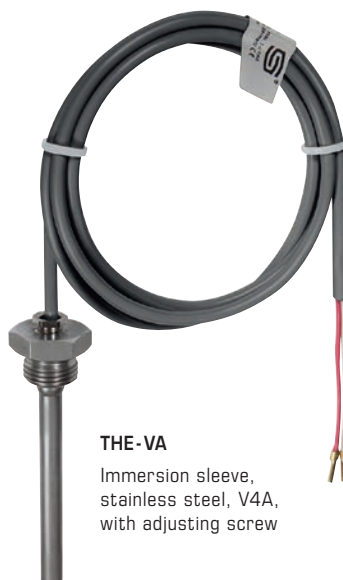
HTF50 + THE-MS-G



HTF50 / HTF200



HTF50
with PVC / silicone cable
(standard)



THE-VA
Immersion sleeve,
stainless steel, V4A,
with adjusting screw



HTF50
with glass fibre cable



THE-MS-G
Immersion sleeve,
polished brass,
with adjusting screw



Sleeve sensor / cable temperature sensor
duct / immersion / screw-in temperature sensor,
with passive output

S+S REGELTECHNIK

THERMASGARD® HTF 50 sleeve sensor / cable temperature sensor (NL = 50 mm)

Type / WG03	Cable material	Cable length	Measuring Range	Protection class	Item No. Sensor
HTF50 PT100					Pt 100, class B
HTF50 Pt100 PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6030-1211-110
HTF50 Pt100 Silikon 1,5M	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6030-1211-120
HTF50 Pt100 PTFE 1,5M	PTFE	1.5 m	-50...+250 °C	IP65 *	1101-6030-1211-140
HTF50 Pt100	Glass Fibre	1.5 m	-50...+350 °C	IP54	1101-6030-1211-050
HTF50 Pt100 PVC 3M	PVC	3 m	-35...+105 °C	IP65 *	1101-6030-1231-110
HTF50 Pt100 Silikon 3M	Silicone	3 m	-50...+180 °C	IP65 *	1101-6030-1231-120
HTF50 Pt100 PVC 5M	PVC	5 m	-35...+105 °C	IP65 *	1101-6030-1251-110
HTF50 Pt100 Silikon 5M	Silicone	5 m	-50...+180 °C	IP65 *	1101-6030-1251-120
HTF50 Pt100 PVC 8M	PVC	8 m	-35...+105 °C	IP65 *	1101-6030-1281-110
HTF50 Pt100 Silikon 8M	Silicone	8 m	-50...+180 °C	IP65 *	1101-6030-1281-120
HTF50 Pt100 PVC 10M	PVC	10 m	-35...+105 °C	IP65 *	1101-6030-1301-110
HTF50 Pt100 Silikon 10M	Silicone	10 m	-50...+180 °C	IP65 *	1101-6030-1301-120
HTF50 PT1000					Pt 1000, class B
HTF50 Pt1000 PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6030-5211-110
HTF50 Pt1000 Silikon 1,5M	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6030-5211-120
HTF50 Pt1000 PTFE 1,5M	PTFE	1.5 m	-50...+250 °C	IP65 *	1101-6030-5211-140
HTF50 Pt1000	Glass Fibre	1.5 m	-50...+350 °C	IP54	1101-6030-5211-050
HTF50 Pt1000 PVC 3M	PVC	3 m	-35...+105 °C	IP65 *	1101-6030-5231-110
HTF50 Pt1000 Silikon 3M	Silicone	3 m	-50...+180 °C	IP65 *	1101-6030-5231-120
HTF50 Pt1000 PVC 5M	PVC	5 m	-35...+105 °C	IP65 *	1101-6030-5251-110
HTF50 Pt1000 Silikon 5M	Silicone	5 m	-50...+180 °C	IP65 *	1101-6030-5251-120
HTF50 Pt1000 PVC 8M	PVC	8 m	-35...+105 °C	IP65 *	1101-6030-5281-110
HTF50 Pt1000 Silikon 8M	Silicone	8 m	-50...+180 °C	IP65 *	1101-6030-5281-120
HTF50 Pt1000 PVC 10M	PVC	10 m	-35...+105 °C	IP65 *	1101-6030-5301-110
HTF50 Pt1000 Silikon 10M	Silicone	10 m	-50...+180 °C	IP65 *	1101-6030-5301-120
HTF50 PT1000 A					Pt 1000 A, class A-TGA
HTF50 Pt1000A PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6030-6211-110
HTF50 Pt1000A Silikon 1,5M	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6030-6211-120
HTF50 Ni1000					Ni 1000
HTF50 Ni1000 PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6030-9211-110
HTF50 Ni1000 Silikon 1,5M	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6030-9211-120
HTF50 Ni1000 PVC 3M	PVC	3 m	-35...+105 °C	IP65 *	1101-6030-9231-110
HTF50 Ni1000 Silikon 3M	Silicone	3 m	-50...+180 °C	IP65 *	1101-6030-9231-120
HTF50 Ni1000 PVC 5M	PVC	5 m	-35...+105 °C	IP65 *	1101-6030-9251-110
HTF50 Ni1000 Silikon 5M	Silicone	5 m	-50...+180 °C	IP65 *	1101-6030-9251-120
HTF50 Ni1000 PVC 8M	PVC	8 m	-35...+105 °C	IP65 *	1101-6030-9281-110
HTF50 Ni1000 Silikon 8M	Silicone	8 m	-50...+180 °C	IP65 *	1101-6030-9281-120
HTF50 Ni1000 PVC 10M	PVC	10 m	-35...+105 °C	IP65 *	1101-6030-9301-110
HTF50 Ni1000 Silikon 10M	Silicone	10 m	-50...+180 °C	IP65 *	1101-6030-9301-120
HTF50 NiTK					Ni 1000 TK 5000
HTF50 NiTK PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6031-0211-110
HTF50 NiTK Silikon 1,5M	Silicone	1.5 m	-50...+150 °C	IP65 *	1101-6031-0211-120
HTF50 NiTK PVC 3M	PVC	3 m	-35...+105 °C	IP65 *	1101-6031-0231-110
HTF50 NiTK Silikon 3M	Silicone	3 m	-50...+150 °C	IP65 *	1101-6031-0231-120
HTF50 NiTK PVC 5M	PVC	5 m	-35...+105 °C	IP65 *	1101-6031-0251-110
HTF50 NiTK Silikon 5M	Silicone	5 m	-50...+150 °C	IP65 *	1101-6031-0251-120
HTF50 NiTK PVC 8M	PVC	8 m	-35...+105 °C	IP65 *	1101-6031-0281-110
HTF50 NiTK Silikon 8M	Silicone	8 m	-50...+150 °C	IP65 *	1101-6031-0281-120
HTF50 NiTK PVC 10M	PVC	10 m	-35...+105 °C	IP65 *	1101-6031-0301-110
HTF50 NiTK Silikon 10M	Silicone	10 m	-50...+150 °C	IP65 *	1101-6031-0301-120
HTF50 LM235Z					LM235Z
HTF50 LM235Z PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6032-1211-110
HTF50 LM235Z Silikon 1,5M	Silicone	1.5 m	-40...+125 °C	IP65 *	1101-6032-1211-120
HTF50 LM235Z PVC 3M	PVC	3 m	-35...+105 °C	IP65 *	1101-6032-1231-110
HTF50 LM235Z Silikon 3M	Silicone	3 m	-40...+125 °C	IP65 *	1101-6032-1231-120
HTF50 LM235Z PVC 5M	PVC	5 m	-35...+105 °C	IP65 *	1101-6032-1251-110
HTF50 LM235Z Silikon 5M	Silicone	5 m	-40...+125 °C	IP65 *	1101-6032-1251-120
HTF50 LM235Z PVC 8M	PVC	8 m	-35...+105 °C	IP65 *	1101-6032-1281-110
HTF50 LM235Z Silikon 8M	Silicone	8 m	-40...+125 °C	IP65 *	1101-6032-1281-120
HTF50 LM235Z PVC 10M	PVC	10 m	-35...+105 °C	IP65 *	1101-6032-1301-110
HTF50 LM235Z Silikon 10M	Silicone	10 m	-40...+125 °C	IP65 *	1101-6032-1301-120

Continued on next page ...



S+S REGELTECHNIK

THERMASGARD® HTF 50

Sleeve sensor / cable temperature sensor
duct / immersion / screw-in temperature sensor,
with passive output



THERMASGARD® HTF 50 sleeve sensor / cable temperature sensor (NL = 50 mm)

Type / WG03	Cable material	Cable length	Measuring Range	Protection class	Item No. Sensor
HTF50 NTC1.8K					NTC 1.8K
HTF50 NTC1,8K PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6031-2211-110
HTF50 NTC1,8K Silikon 1,5M	Silicone	1.5 m	-50...+150 °C	IP 65 *	1101-6031-2211-120
HTF50 NTC1,8K PVC 3M	PVC	3 m	-35...+105 °C	IP 65 *	1101-6031-2231-110
HTF50 NTC1,8K Silikon 3M	Silicone	3 m	-50...+150 °C	IP 65 *	1101-6031-2231-120
HTF50 NTC1,8K PVC 5M	PVC	5 m	-35...+105 °C	IP 65 *	1101-6031-2251-110
HTF50 NTC1,8K Silikon 5M	Silicone	5 m	-50...+150 °C	IP 65 *	1101-6031-2251-120
HTF50 NTC1,8K PVC 8M	PVC	8 m	-35...+105 °C	IP 65 *	1101-6031-2281-110
HTF50 NTC1,8K Silikon 8M	Silicone	8 m	-50...+150 °C	IP 65 *	1101-6031-2281-120
HTF50 NTC1,8K PVC 10M	PVC	10 m	-35...+105 °C	IP 65 *	1101-6031-2301-110
HTF50 NTC1,8K Silikon 10M	Silicone	10 m	-50...+150 °C	IP 65 *	1101-6031-2301-120
HTF50 NTC10K					NTC 10K
HTF50 NTC10K PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6031-5211-110
HTF50 NTC10K Silikon 1,5M	Silicone	1.5 m	-50...+150 °C	IP 65 *	1101-6031-5211-120
HTF50 NTC10K PVC 3M	PVC	3 m	-35...+105 °C	IP 65 *	1101-6031-5231-110
HTF50 NTC10K Silikon 3M	Silicone	3 m	-50...+150 °C	IP 65 *	1101-6031-5231-120
HTF50 NTC10K PVC 5M	PVC	5 m	-35...+105 °C	IP 65 *	1101-6031-5251-110
HTF50 NTC10K Silikon 5M	Silicone	5 m	-50...+150 °C	IP 65 *	1101-6031-5251-120
HTF50 NTC10K PVC 8M	PVC	8 m	-35...+105 °C	IP 65 *	1101-6031-5281-110
HTF50 NTC10K Silikon 8M	Silicone	8 m	-50...+150 °C	IP 65 *	1101-6031-5281-120
HTF50 NTC10K PVC 10M	PVC	10 m	-35...+105 °C	IP 65 *	1101-6031-5301-110
HTF50 NTC10K Silikon 10M	Silicone	10 m	-50...+150 °C	IP 65 *	1101-6031-5301-120
HTF50 NTC20K					NTC 20K
HTF50 NTC20K PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP 65 *	1101-6031-6211-110
HTF50 NTC20K Silikon 1,5M	Silicone	1.5 m	-50...+150 °C	IP 65 *	1101-6031-6211-120
HTF50 NTC20K PVC 3M	PVC	3 m	-35...+105 °C	IP 65 *	1101-6031-6231-110
HTF50 NTC20K Silikon 3M	Silicone	3 m	-50...+150 °C	IP 65 *	1101-6031-6231-120
HTF50 NTC20K PVC 5M	PVC	5 m	-35...+105 °C	IP 65 *	1101-6031-6251-110
HTF50 NTC20K Silikon 5M	Silicone	5 m	-50...+150 °C	IP 65 *	1101-6031-6251-120
HTF50 NTC20K PVC 8M	PVC	8 m	-35...+105 °C	IP 65 *	1101-6031-6281-110
HTF50 NTC20K Silikon 8M	Silicone	8 m	-50...+150 °C	IP 65 *	1101-6031-6281-120
HTF50 NTC20K PVC 10M	PVC	10 m	-35...+105 °C	IP 65 *	1101-6031-6301-110
HTF50 NTC20K Silikon 10M	Silicone	10 m	-50...+150 °C	IP 65 *	1101-6031-6301-120
Extra charge:	* Protection type IP 68 (Sensor sleeve watertight compound-filled) Other sensors optional Cable length (KL) 3 m, 5 m, 8 m, 10 m (standard lengths) Connection type 4-wire (4-conductor)				on request on request on request
For special orders please specify: (possible for 25 or more pieces)	Type sensor length (NL), sensor, cable material, connection type, cable length (KL), protection type e.g. HTF - 30mm, Pt1000, PVC, 2-wire, 10 m, IP 68; HTF - 50mm, Ni1000 TK5000, silicon, 4-wire, 5 m, IP 65				

HTF 50
(NL = 50 mm)
with PVC / silicone cable

HTF 50
(NL = 50 mm)
with glass fibre cable



IP 65 (standard)
humidity-tight



IP 68 (optional)
water-tight
Perfect Sensor Protection



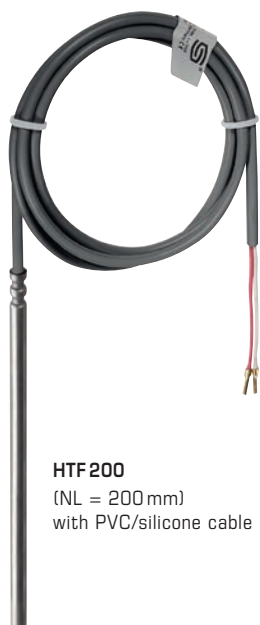
IP 54 (optional)
with glass fibre cable



Sleeve sensor / cable temperature sensor
duct / immersion / screw-in temperature sensor,
with passive output

THERMASGARD® HTF 200 sleeve sensor / cable temperature sensor (NL = 200 mm)

Type / WG03	Cable material	Cable length	Measuring Range	Protection class	Item No. Sensor
HTF200 PT100					Pt 100, class B
HTF200 Pt100 PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6090-1211-110
HTF200 Pt100 Silikon 1,5M	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6090-1211-120
HTF200 PT1000					Pt 1000, class B
HTF200 Pt1000 PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6090-5211-110
HTF200 Pt1000 Silikon 1,5M	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6090-5211-120
HTF200 PT1000 A					Pt 1000 A, class A-TGA
HTF200 Pt1000A PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6090-6211-110
HTF200 Pt1000A Silikon 1,5M	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6090-6211-120
HTF200 Ni1000					Ni 1000
HTF200 Ni1000 PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6090-9211-110
HTF200 Ni1000 Silikon 1,5M	Silicone	1.5 m	-50...+180 °C	IP65 *	1101-6090-9211-120
HTF200 NiTK					Ni 1000 TK 5000
HTF200 NiTK PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6091-0211-110
HTF200 NiTK Silikon 1,5M	Silicone	1.5 m	-50...+150 °C	IP65 *	1101-6091-0211-120
HTF200 LM235Z					LM 235 Z
HTF200 LM235Z PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6092-1211-110
HTF200 LM235Z Silikon 1,5M	Silicone	1.5 m	-40...+125 °C	IP65 *	1101-6092-1211-120
HTF200 NTC1,8K					NTC 1.8K
HTF200 NTC1,8K PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6091-2211-110
HTF200 NTC1,8K Silikon 1,5M	Silicone	1.5 m	-50...+150 °C	IP65 *	1101-6091-2211-120
HTF200 NTC10K					NTC 10K
HTF200 NTC10K PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6091-5211-110
HTF200 NTC10K Silikon 1,5M	Silicone	1.5 m	-50...+150 °C	IP65 *	1101-6091-5211-120
HTF200 NTC20K					NTC 20K
HTF200 NTC20K PVC 1,5M	PVC	1.5 m	-35...+105 °C	IP65 *	1101-6091-6211-110
HTF200 NTC20K Silikon 1,5M	Silicone	1.5 m	-50...+150 °C	IP65 *	1101-6091-6211-120
Extra charge:	* Protection type IP68 (Sensor sleeve watertight compound-filled) Other sensors optional Cable length (KL) 3 m, 5 m, 8 m, 10 m (standard lengths) Connection type 4-wire (4-conductor)				on request on request on request
For special orders please specify: (possible for 25 or more pieces)	Type sensor length (NL), sensor, cable material, connection type, cable length (KL), protection type e.g. HTF-200 mm, Pt1000, PVC, 2-wire, 10 m, IP68; HTF-400 mm, Ni1000 TK5000, silicon, 4-wire, 5 m, IP65				



HTF 200
(NL = 200 mm)
with PVC/silicone cable



IP65 (standard)
humidity-tight



IP68 (optional)
water-tight
Perfect Sensor Protection

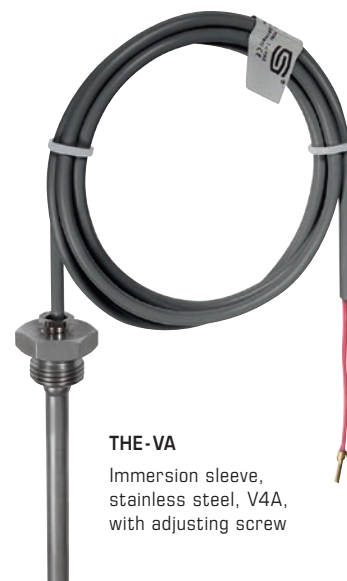
**THERMASGARD® HTF 50** accessory as immersion / screw-in sensor temperature sensor (ESTF)

Type / WG01	Description	Item No.	
THE-MS-G xx			
	Immersion sleeve, polished brass, Ø 9 mm, inner diameter of socket Ø=5.2 mm, with adjusting screw M12 x1.5		
THE-MS-G 50MM	p _{max} = 16 bar, T _{max} = +130 °C	EL = 50 mm	7100-0017-6010-002
THE-MS-G 100MM	p _{max} = 16 bar, T _{max} = +130 °C	EL = 100 mm	7100-0017-6020-002
THE-MS-G 150MM	p _{max} = 16 bar, T _{max} = +130 °C	EL = 150 mm	7100-0017-6030-002
THE-MS-G 200MM	p _{max} = 16 bar, T _{max} = +130 °C	EL = 200 mm	7100-0017-6040-002
THE-MS-G 250MM	p _{max} = 16 bar, T _{max} = +130 °C	EL = 250 mm	7100-0017-6050-002
THE-VA / xx			
	Immersion sleeve, stainless steel, V4A (1.4571), Ø 9 mm, inner diameter of socket Ø=5.2 mm, with adjusting screw M12 x1.5		
THE-VA 50MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 50 mm	7100-0012-6010-002
THE-VA 100MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 100 mm	7100-0012-6020-002
THE-VA 150MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 150 mm	7100-0012-6030-002
THE-VA 200MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 200 mm	7100-0012-6040-002
THE-VA 250MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 250 mm	7100-0012-6050-002
THE-VA 300MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 300 mm	7100-0012-6060-002
THE-VA 400MM	p _{max} = 40 bar, T _{max} = +200 °C	EL = 400 mm	7100-0012-6080-002
xx = (EL)	Other installation lengths on request		

HTF 50
(NL = 50 mm)
with THE-xx immersion sleeve
as immersion / screw-in temperature sensor



THE-MS-G
Immersion sleeve,
polished brass,
with adjusting screw



THE-VA
Immersion sleeve,
stainless steel, V4A,
with adjusting screw

MF-06-K
Mounting flange,
plastic
(optional)

**THERMASGARD® HTF 50** Accessories (standard)
THERMASGARD® HTF 200 Accessories (standard)

Type / WG01	Description	$T_{\max}$	Item No.
MF			
MF-06-K	Mounting flange plastic, 56.8 x 84.3 mm, Ø 6.2 mm tube gland (not included in scope of delivery)	+100 °C	7100-0030-1000-000
Note: For further information see last chapter!			