S S REGELTECHNIK ETR Built in Temperature Controllers Instruction Manual

Contents

S S REGELTECHNIK ETR Built in Temperature Controllers

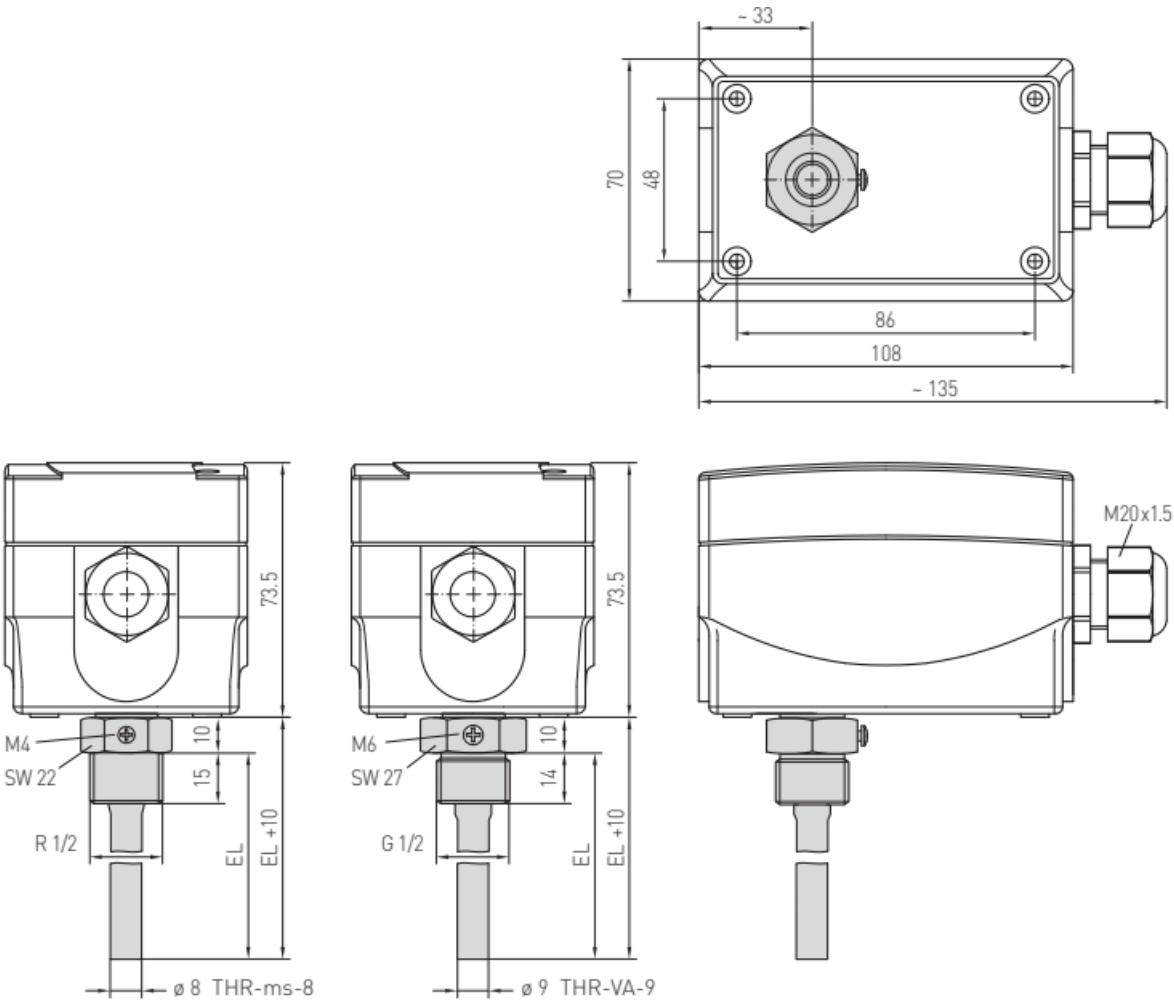
Product Information

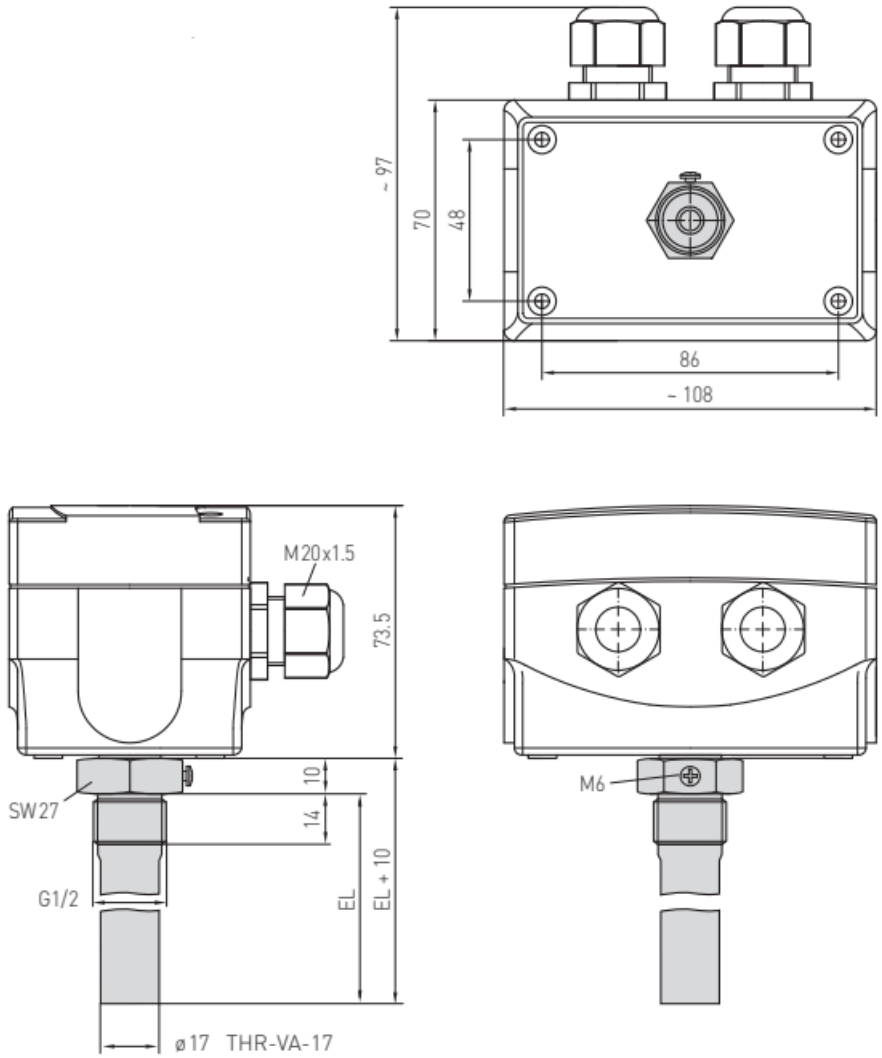
- **Product Name:** D G F r
- **Model Number:** 6000-2860-0000-1XX
- **Manufacturer:** SplusS
- **Website:** www.SplusS.de

Product Usage Instructions

1. Read the important notices and warnings in the user manual before proceeding with installation or operation.
2. Mount and install the product according to the provided instructions.
3. Connect the product to a power source with a voltage range of 24-250V AC and a current of either 10A or 1.5A, depending on the specific requirements.
4. Ensure that the product is properly grounded and that the switch block is sealed to protect against dust and water (IP65 rating).
5. Refer to the provided wiring diagrams for proper connection of the TW, TR, and STB terminals.
6. Adjust the temperature ranges as needed using the adjustable settings.
7. Set the desired thermal switching differential (3K for most models) for accurate temperature control.
8. Refer to the table for the appropriate capillary length and thread type for your specific model.
9. Follow the specified temperature and flow rate ranges for optimal performance.
10. Refer to the user manual for additional instructions and troubleshooting tips.

Dimensional drawing


~ 33
70
48
86
108
~ 135
73.5
M4
SW 22
10
15
R 1/2
EL
EL +10
ø 8 THR-ms-8
M6
SW 27
14
G 1/2
ø 9 THR-VA-9
M20x1.5

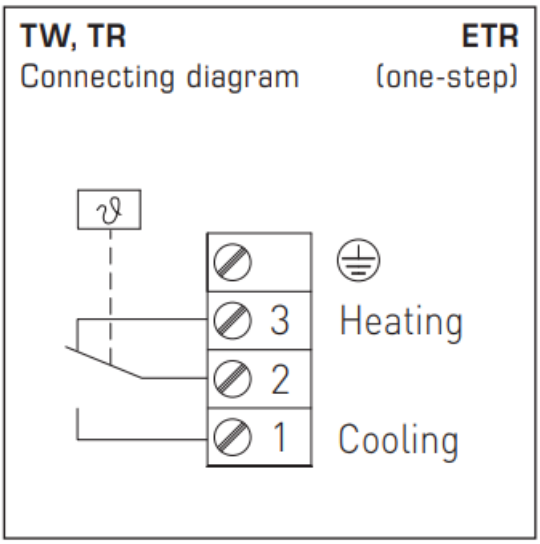


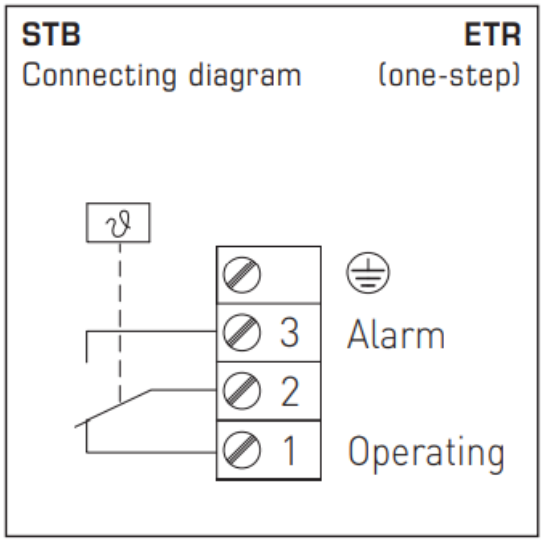
DIN-tested German quality product. Temperature control and limiting device for heat generation plants in accordance with DIN EN 14597. Safety temperature limiter (STB) with EC type test (module B) according to directive 2014 / 68 / EU.
Mechanical temperature control device / rod thermostat THERMASREG® ETR with switching output, used for monitoring, controlling or limiting the temperatures of liquid or gaseous media as a boiler controller or in heating, air conditioning technology as well as in mechanical and apparatus engineering and in heat generation plants. It is available as one – step or two-step device, as adjustable temperature controller TR, temperature monitor TW, or as safety temperature limiter STB.

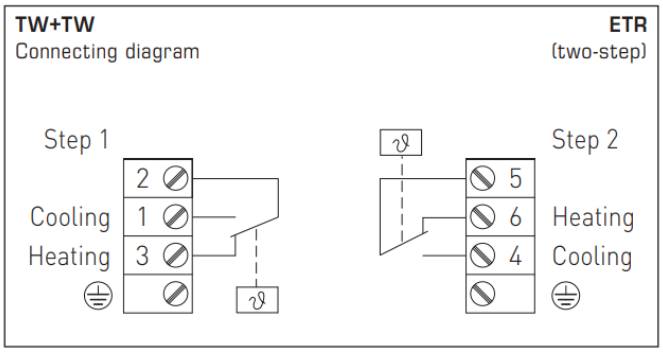
TECHNICAL DATA

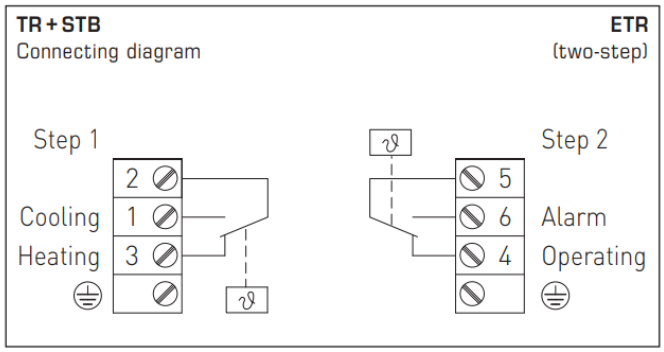
Switching capacity: (Contact load)	24 ... 250 V AC +10 %, 10 A, cos φ = 1.0 24 ... 250 V AC +10 %, 1.5 A, cos φ = 0.6 at 24 V AC min. 150 mA
Contact:	dust-proof switch block unit as potential-free single-pole or two-pole changeover contact
Housing:	plastic, UV-resistant, material polyamide, 30 % glass-globe reinforced, colour traffic white (similar to RAL 9016)
Housing dimensions:	108 x 70 x 73.5 mm (Thor 2)
Cable gland:	M 20 x 1.5; including strain relief
Measuring element:	torsion meter with liquid filling, liquid expansion temperature feeler
Mounting position:	arbitrary
Ambient temperature:	–10...+65 °C at the switch block housing
Tolerance:	T_{min} ± 5 K; T_{max} ± 3 K
Immersion sleeves:	**THR-ms-08 / xx**, Single sleeve brass, nickel-plated, Ø = 8 mm, R ½" straight pipe thread, wrench size 22, p_{max} = 10 bar, T_{max} = +150 °C **THR-VA-09 / xx**, Single sleeve stainless steel **V4A** (1.4571), Ø = 9 mm, G ½" straight pipe thread, wrench size 22, p_{max} = 25 bar, T_{max} = +150 °C **THR-VA-17 / xx**, Double sleeve stainless steel **V4A** (1.4571), Ø = 17 mm, G ½" straight pipe thread, wrench size 22, p_{max} = 25 bar, T_{max} = +150 °C (Depending on the type, the relevant immersion sleeve is included in the scope of delivery, see table)
Operating medium:	Water, oil, air and exhaust gas
Inserted length:	100 mm / 150 mm / 200 mm (see table)
Process connection:	screwed socket
Electrical connection:	0.14 - 2.5 mm² via terminal screws
Protection class:	I (according to EN 60730)
Protection type:	**IP 65** (according to EN 60529)
Standards:	CE conformity, EMC directive 2014 / 30 / EU, low-voltage directive 2014 / 35 / EU
Tests:	**EC type test (module B) according to directive 2014 / 68 / EU,** certificate No.: IS-TAF-MUC 18 03 2652130 002, DIN EN 14597, register Nos.: **STB 1201, TR / STB 1202**
FUNCTION	**TW, TR:** Contact 2-3 breaks when temperature rises to the preset value. **STB:** Contact 2-1 or 5-4 (two-step) breaks when temperature rises to the preset value. Restart is possible only after cooling off by approx. 15 K - 20 K by pressing the reset button.

Connecting diagram









Built-in temperature controllers, one-step, two-step, including immersion sleeve

Type / WG02	Inserted Length (EL)	Temperature Ranges (adjustable) 1.	2.	Thermal Operating Difference (fixed) approx. 1.	2.	Maximum Capillary Temp.	Item No.
ETR-060 U MS/100	100 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-2100-380
ETR-060 U MS/150	150 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-2100-310
ETR-060 U MS/200	200 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-2100-320
ETR-060 U VA/100	100 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-2100-390
ETR-060 U VA/150	150 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-2100-330
ETR-060 U VA/200	200 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-2100-340
ETR-090 U MS/100	100 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-2100-480
ETR-090 U MS/150	150 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-2100-410
ETR-090 U MS/200	200 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-2100-420
ETR-090 U VA/100	100 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-2100-490
ETR-090 U VA/150	150 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-2100-430
ETR-090 U VA/200	200 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-2100-440
ETR-1 MS/100	100 mm	–35...+35 °C	–	3K	–	+75 °C	1102-2010-1100-180
ETR-1 MS/150	150 mm	–35...+35 °C	–	3K	–	+75 °C	1102-2010-1100-110
ETR-1 MS/200	200 mm	–35...+35 °C	–	3K	–	+75 °C	1102-2010-1100-120
ETR-1 VA/100	100 mm	–35...+35 °C	–	3K	–	+75 °C	1102-2010-1100-190
ETR-1 VA/150	150 mm	–35...+35 °C	–	3K	–	+75 °C	1102-2010-1100-130
ETR-1 VA/200	200 mm	–35...+35 °C	–	3K	–	+75 °C	1102-2010-1100-140
ETR-060 MS/100	100 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-1100-380
ETR-060 MS/150	150 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-1100-310
ETR-060 MS/200	200 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-1100-320
ETR-060 VA/100	100 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-1100-390
ETR-060 VA/150	150 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-1100-330
ETR-060 VA/200	200 mm	0...+60 °C	–	3K	–	+75 °C	1102-2010-1100-340
ETR-090 MS/100	100 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-1100-480
ETR-090 MS/150	150 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-1100-410
ETR-090 MS/200	200 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-1100-420
ETR-090 VA/100	100 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-1100-490
ETR-090 VA/150	150 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-1100-430
ETR-090 VA/200	200 mm	0...+90 °C	–	3K	–	+120 °C	1102-2010-1100-440

ETR-0120 MS/100	100 mm	0...+120 °C	–	5K	–	+135 °C	1102-2010-1100-580
ETR-0120 MS/150	150 mm	0...+120 °C	–	5K	–	+135 °C	1102-2010-1100-510
ETR-0120 MS/200	200 mm	0...+120 °C	–	5K	–	+135 °C	1102-2010-1100-520
ETR-0120 VA/100	100 mm	0...+120 °C	–	5K	–	+135 °C	1102-2010-1100-590
ETR-0120 VA/150	150 mm	0...+120 °C	–	5K	–	+135 °C	1102-2010-1100-530
ETR-0120 VA/200	200 mm	0...+120 °C	–	5K	–	+135 °C	1102-2010-1100-540
ETR-50140 MS/100	100 mm	+50...+140 °C	–	5K	–	+150 °C	1102-2010-1100-680
ETR-50140 MS/150	150 mm	+50...+140 °C	–	5K	–	+150 °C	1102-2010-1100-610
ETR-50140 MS/200	200 mm	+50...+140 °C	–	5K	–	+150 °C	1102-2010-1100-620
ETR-50140 VA/100	100 mm	+50...+140 °C	–	5K	–	+150 °C	1102-2010-1100-690
ETR-50140 VA/150	150 mm	+50...+140 °C	–	5K	–	+150 °C	1102-2010-1100-630
ETR-50140 VA/200	200 mm	+50...+140 °C	–	5K	–	+150 °C	1102-2010-1100-640
ETR-R6585 MS/100	100 mm	+65...+85 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-780
ETR-R6585 MS/150	150 mm	+65...+85 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-710
ETR-R6585 MS/200	200 mm	+65...+85 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-720
ETR-R6585 VA/100	100 mm	+65...+85 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-790
ETR-R6585 VA/150	150 mm	+65...+85 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-730
ETR-R6585 VA/200	200 mm	+65...+85 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-740
ETR-R90110 MS/100	100 mm	+90...+110 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-880
ETR-R90110 MS/150	150 mm	+90...+110 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-810
ETR-R90110 MS/200	200 mm	+90...+110 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-820
ETR-R90110 VA/100	100 mm	+90...+110 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-890
ETR-R90110 VA/150	150 mm	+90...+110 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-830
ETR-R90110 VA/200	200 mm	+90...+110 °C	–	+0/–15...20K	–	+120 °C	1102-2010-6100-840
ETR-090090 U VA/150	150 mm	0...+90 °C	0...+90 °C	3K	3K	+120 °C	1102-2010-2205-130
ETR-090090 U VA/200	200 mm	0...+90 °C	0...+90 °C	3K	3K	+120 °C	1102-2010-2205-140
ETR-060R85 VA/150	150 mm	0...+60 °C	+65...+85 °C	3K	+0/–15...20K	+120 °C	1102-2010-7205-230
ETR-060R85 VA/200	200 mm	0...+60 °C	+65...+85 °C	3K	+0/–15...20K	+120 °C	1102-2010-7205-240
ETR-090R110 VA/150	150 mm	0...+90 °C	+90...+110 °C	3K	+0/–15...20K	+135 °C	1102-2010-7205-330
ETR-090R110 VA/200	200 mm	0...+90 °C	+90...+110 °C	3K	+0/–15...20K	+135 °C	1102-2010-7205-340

Type designation:	**ETR-xx_immersion sleeve material/inserted length (mm)** **MS** = Brass nickel-plated, **VA** = Stainless steel V4A (1.4571) **STB with EC type test (module B) according to directive 2014/68/EU**
Extra charge:	**U** = Internal setting, unless included in a certain type **/2** = 2 Stufen, unless included in a certain type
Note:	To ensure **accurate responsiveness** series **ETR** devices must only be used in connection with the immersion sleeves included in the scope of delivery while applying heat-conductive paste!

General notes

Our “General Terms and Conditions for Business“ together with the “General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry“ (ZVEI conditions) including supplementary clause “Extended Retention of Title“ apply as the exclusive terms and conditions.
In addition, the following points are to be observed:

- These instructions must be read before installation and putting in operation and all notes provided therein are to be regarded!
- Devices must only be connected under dead-voltage condition. To avoid damages and errors at the device (e.g. by voltage induction) shielded cables are to be used, laying parallel with current-carrying lines is to be avoided, and EMC directives are to be observed.
- This device shall only be used for its intended purpose. Respective safety regulations issued by the VDE, the states, their control authorities, the TÜV and the local energy supply company must be observed. The purchaser has to adhere to the building and safety regulations and has to prevent perils of any kind.
- No warranties or liabilities will be assumed for defects and damages arising from improper use of this device.
- Consequential damages caused by a fault in this device are excluded from warranty or liability.
- These devices must be installed and commissioned by authorised specialists.
- The technical data and connecting conditions of the mounting and operating instructions delivered together with the device are exclusively valid. Deviations from the catalogue representation are not explicitly mentioned and are possible in terms of technical progress and continuous improvement of our products.
- In case of any modifications made by the user, all warranty claims are forfeited.

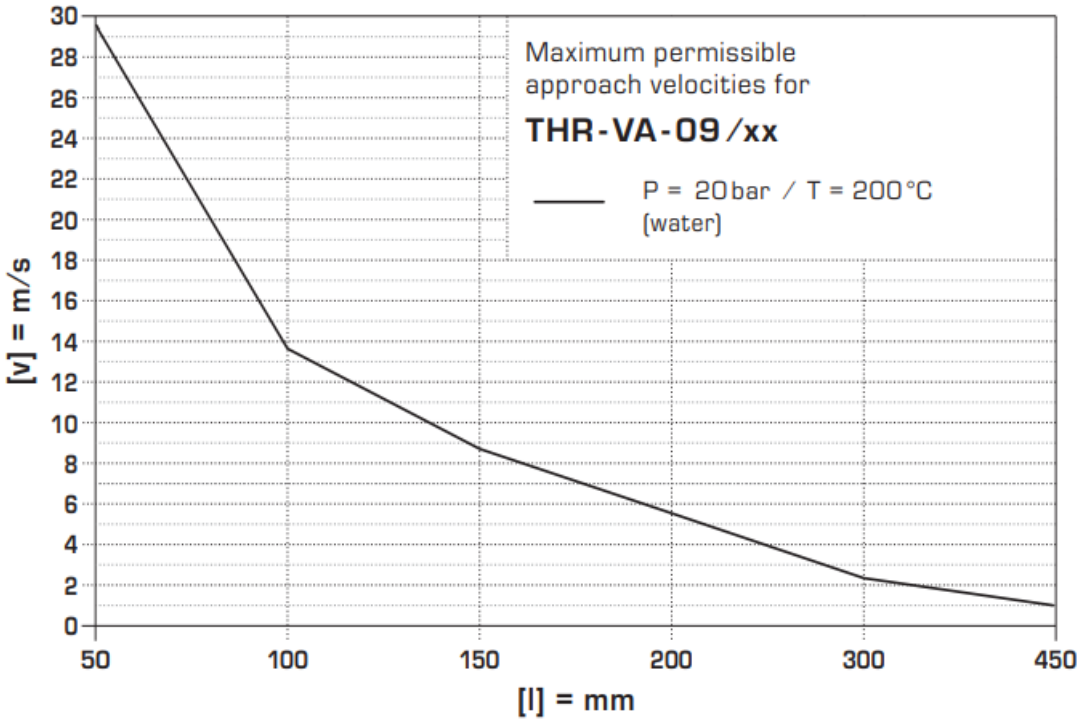
- This device must not be installed close to heat sources (e.g. radiators) or be exposed to their heat flow. Direct sun irradiation or heat i rradiation by similar sources (powerful lamps, halogen spotlights) must absolutely be avoided.
- Operating this device close to other devices that do not comply with EMC directives may influence functionality.
- This device must not be used for monitoring applications, which serve the purpose of protecting persons against hazards or injury, or as an EMERGENCY STOP switch for systems or machinery, or for any other similar safety-relevant purposes.
- Dimensions of housing or housing accessories may show slight tolerances on the specifications provided in these instructions.
- Modifications of these records are not permitted.
- In case of a complaint, only complete devices returned in original packing will be accepted.
- **Notes** on **commissioning:** This device was calibrated, adjusted and tested under standardised conditions. When operating under deviating conditions, we recommend performing an initial manual adjustment on-site during commissioning and subsequently at regular intervals.
- Commissioning is mandatory and may only be performed by qualified personnel!
- These instructions must be read before installation and commissioning and all notes provided therein are to be regarded!

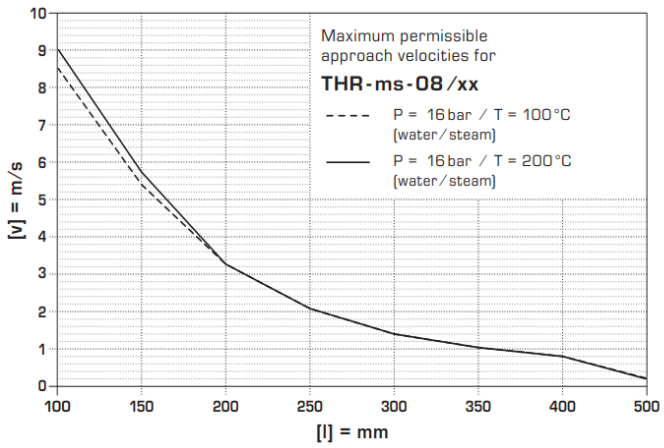
Installation and Commissioning

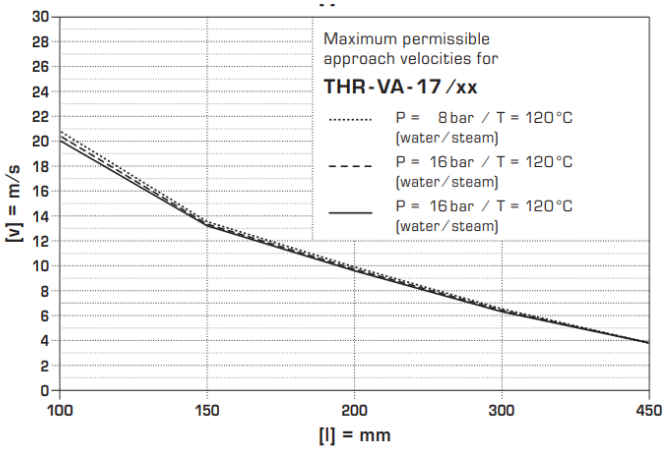
Permissible approach velocities (flow rates) for crosswise approached protective tubes in water.
The approaching flow causes protective tube to vibrate. If specified approach velocity is exceeded even by a marginal amount, a negative impact on the protective tube's service life may result (material fatigue). Discharge of gases and pressure surges must be avoided as they have a negative influence on the service life and may damage the protective tubes irreparably.

Please observe maximum permissible approach velocities

- for stainless steel protective tubes 9 x 1 mm (1.4571) (see graph THR – VA – 09 ⁄ xx)
- for stainless steel protective tubes 17 x 1 mm (1.4571) (see graph THR – VA – 17 ⁄ xx)
- for brass protective tubes 8 x 0.5 mm (see graph THR – ms – 08 ⁄ xx)



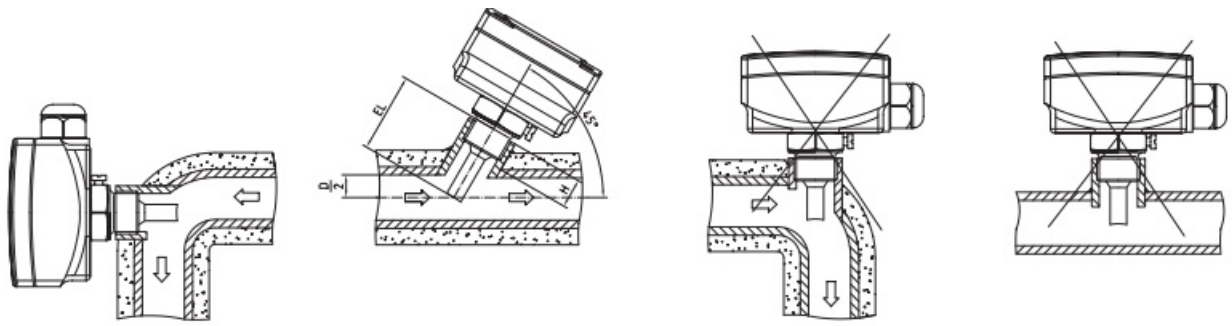




ACCESSORIES

Immersion sleeve 100Type / WG01	p max (static)	Tmax	Time Constant for Air Water	Medium: Oil	Inserted Length (EL)	Item No.
T HR- MS – 08 / 100	10 bar	+150 °C	106 s 18 s	53 s	**100 mm**	7100-0011-3022-000
T HR- MS – 08 / 150	10 bar	+150 °C	106 s 18 s	53 s	**150 mm**	7100-0011-3404-000
T HR- MS – 08 / 200	10 bar	+150 °C	106 s 18 s	53 s	**200 mm**	7100-0011-3403-000
T HR-VA- 09 / 100	25 bar	+150 °C	92 s 17 s	41 s	**100 mm**	7100-0012-3022-000
T HR-VA- 09 / 150	25 bar	+150 °C	92 s 17 s	41 s	**150 mm**	7100-0012-3032-000
T HR-VA- 09 / 200	25 bar	+150 °C	92 s 17 s	41 s	**200 mm**	7100-0012-3042-000
T HR-VA-17/ 150	25 bar	+150 °C	– 45 s	55 s	**150 mm**	7100-0012-3033-000
T HR-VA-17/ 200	25 bar	+150 °C	– 45 s	55 s	**200 mm**	7100-0012-3404-000

Mounting diagram



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ABOUT COMPANY

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Documents / Resources

	S S REGELTECHNIK ETR Built in Temperature Controllers [pdf] Instruction Manual TW1200, TW1241, ETR, ETR Built in Temperature Controllers, Built in Temperature Controllers , Temperature Controllers, Controllers

References

- S+S Regeltechnik | Ihr sensorik Partner