## THERMASGARD® THR

Immersion sleeves made of stainless steel or brass, nickel-plated, for temperature controllers ETR (Thor 2)

nickel-plated brass

thread-sealing, conical,

according to DIN 10226



**E** 





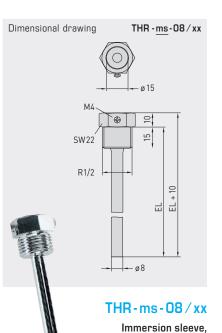


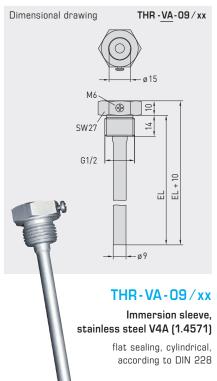


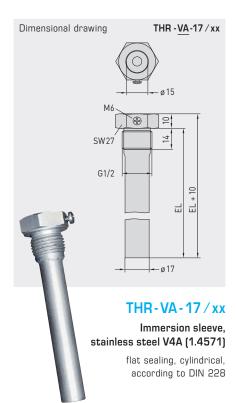












### When Copper and Zinc are Not Enough

Uncompromising quality and safety are also paramount in the design of the accessory from S+S. This is why our metal immersion sleeves for duct sensors are made using either nickel plated brass or stainless steel. Brass is an alloy consisting mainly of copper and zinc, which provide good forming and machining properties, mechanical strength, temperature resistance and electrical conductivity.

In contrast to conventional products in the market, however, our brass immersion sleeves feature an additional nickel coating. This ensures their longterm corrosion resistance in minor aggressive media, from air and water to alkaline solutions and diluted acids. At the same time, the nickel layer prevents ingredients in thermally conductive compounds from stripping the copper and causing pitting.

Highest protection against corrosion is provided by immersion sleeves made of stainless steel. Among the available qualities, we chose VA 1.4571 or AISI 316 Ti, a high-grade austenite specialty combining chromium, nickel and molybdenum with an extra titanium content. The alloy has a proven fit particularly in the design of chemical process equipment and technical instruments as well as in waste gas and water treatment. Its corrosion resistance also includes chlorides or salts and more aggressive acids, such as hydrochloric acid (HCI).

Type/WG01	p <sub>max</sub>	T <sub>max</sub>	Time Constant for Medium:			Inserted	Item No.	Price
	(static)		Air	Water	Oil	Length (EL)	Ø	
THR-ms-08/xx	Brass nickel-plated						Ø8 x 0.5 mm	
THR-MS-08/100	10 bar	+150°C	106 s	18 s	53 s	100 mm	7100-0011-3022-000	15,42 €
THR-MS-08/150	10 bar	+150°C	106 s	18 s	53 s	150 mm	7100-0011-3404-000	15,55 €
THR-MS-08/200	10 bar	+150°C	106 s	18 s	53 s	200 mm	7100-0011-3403-000	18,47 €
THR-VA-09/xx	Stainless steel V4A (1.4571)						Ø 9 x 1.0 mm	
THR-VA-09/100	25 bar	+150°C	92 s	17 s	41 s	100 mm	7100-0012-3022-000	39,72 €
THR-VA-09/150	25 bar	+150°C	92 s	17 s	41 s	150 mm	7100-0012-3032-000	40,99 €
THR-VA-09/200	25 bar	+150°C	92 s	17 s	41 s	200 mm	7100-0012-3042-000	43,92 €
THR-VA-17/xx	<b>Stainless steel V4A</b> (1.4571) <b>Ø 17</b> x 1.0 mm							
THR-VA-17/150	25 bar	+150°C	_	45 s	55 s	150 mm	7100-0012-3033-000	40,99 €
THR-VA-17/200	25 bar	+150°C	_	45 s	55 s	200 mm	7100-0012-3404-000	43,92 €
Ordering example:	THR -ms - $08/100$ (Brass immersion sleeve, $\emptyset = 8$ mm, <b>EL = <math>100</math></b> mm) THR - VA - $09/150$ (Stainless steel immersion sleeve, $\emptyset = 9$ mm, <b>EL = <math>150</math></b> mm) THR - VA - $17/200$ (Stainless steel immersion sleeve, $\emptyset = 17$ mm, <b>EL = <math>200</math></b> mm)							
Note:	inner diameter of socket 15.0 mm							

## THERMASGARD® THR

Immersion sleeves made of stainless steel or brass, nickel-plated, for temperature controllers ETR (Thor 2)

Maximum permissible approach velocities for

 $P = 20 \text{ bar } / T = +200 ^{\circ}\text{C}$ 

(water)

# INSTRUCTIONS FOR PLANNING AND INSTALLATION

The approaching flow causes the protective tube to vibrate.

10

22

20

If the specified approach velocity is exceeded even by a marginal amount, a negative impact on the protective tube's service life may result (material fatigue).

Please observe permissible approach velocities for stainless steel protective tubes (see graph **THR-VA**) as well as for brass protective tubes (see graph **THR-ms**).

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.

#### 9 brass protective tubes $8 \times 0.5 \text{ mm}$ THR-ms-08/xx 8 ---- P = 16 bar / T = +100°C 7 (water / steam) 6 $P = 16 \text{ bar } / T = +200 ^{\circ}\text{C}$ [V] = m/s(water / steam) 5 Δ 3 2 1 0 150 200 250 100 300 350 400 500 30 Maximum permissible approach velocities for 28 stainless steel protective tubes 9 x 1 mm (1.4571) 26 THR-VA-09/xx 24

## MIXING SECTION

After the mixing of water flows of different temperatures, the issue of temperature stratification means that an adequate distance to the sensor must be observed.

