kamstrup
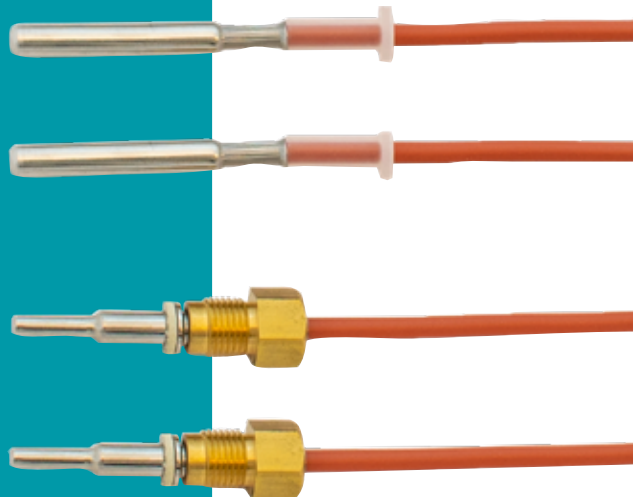
Data sheet

Temperature sensors and pockets

- For mounting in pocket or directly in the fluid flow
- Heat-resistant silicone cable
- Paired at delivery
- Temperature sensors in stainless steel
- Short reaction time

MID
CE M21 0200

Application

A temperature sensor pair is used together with the electronic energy meters for the measurement of inlet and outlet temperatures. Depending on the type, the sensor pairs can be used directly in the fluid flow or installed in a pocket. The temperature sensor has a built-in platinum resistance of which the electrical resistance changes with temperature. A measurement of the resistance value is thus an analog expression of the temperature.

An energy meter calculates the differential temperature of a heat installation on the basis of the measurements of the inlet and outlet temperatures. The energy consumption is then calculated by using the measured differential temperature and the measurement of the quantity of flow-through water.
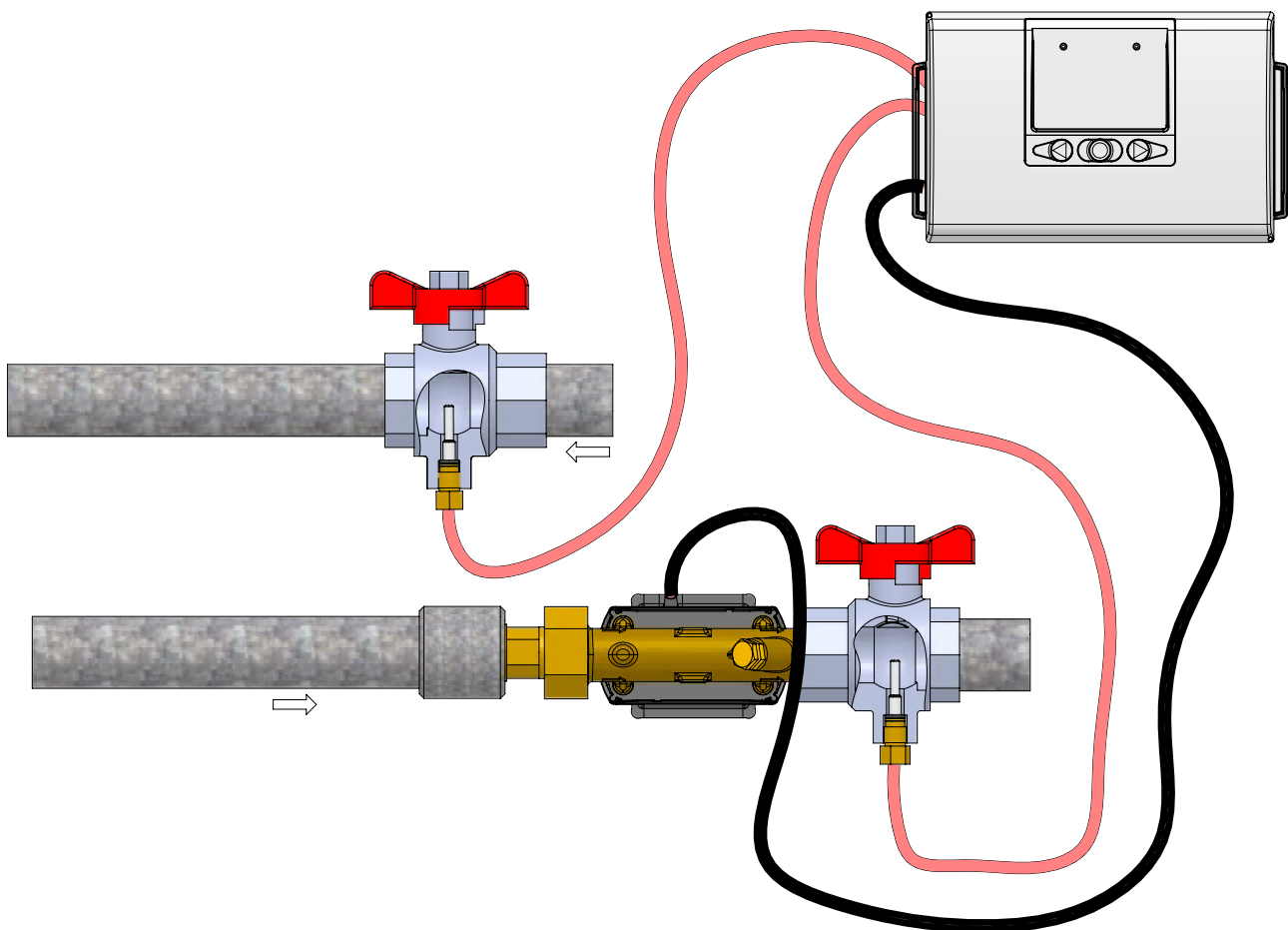
Approvals and verifications

MID approval: DK-0200-MI004-036

Temperature range	θ: 2...150 °C
Temperature difference	ΔΘ: 3...140 K

Danish cooling approval: TS 27.02 004

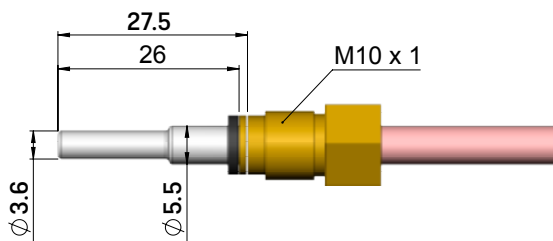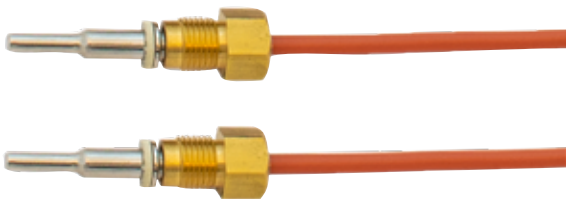|	
Temperature range	θ: 2...150 °C
Temperature difference	ΔΘ: 3...140 K

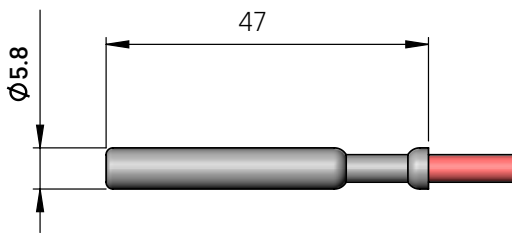Pairing and verification are in accordance with A1434-5:2015.

Temperature sensors

Direct short temperature sensor

Temperature sensors

ø5.8 temperature sensor
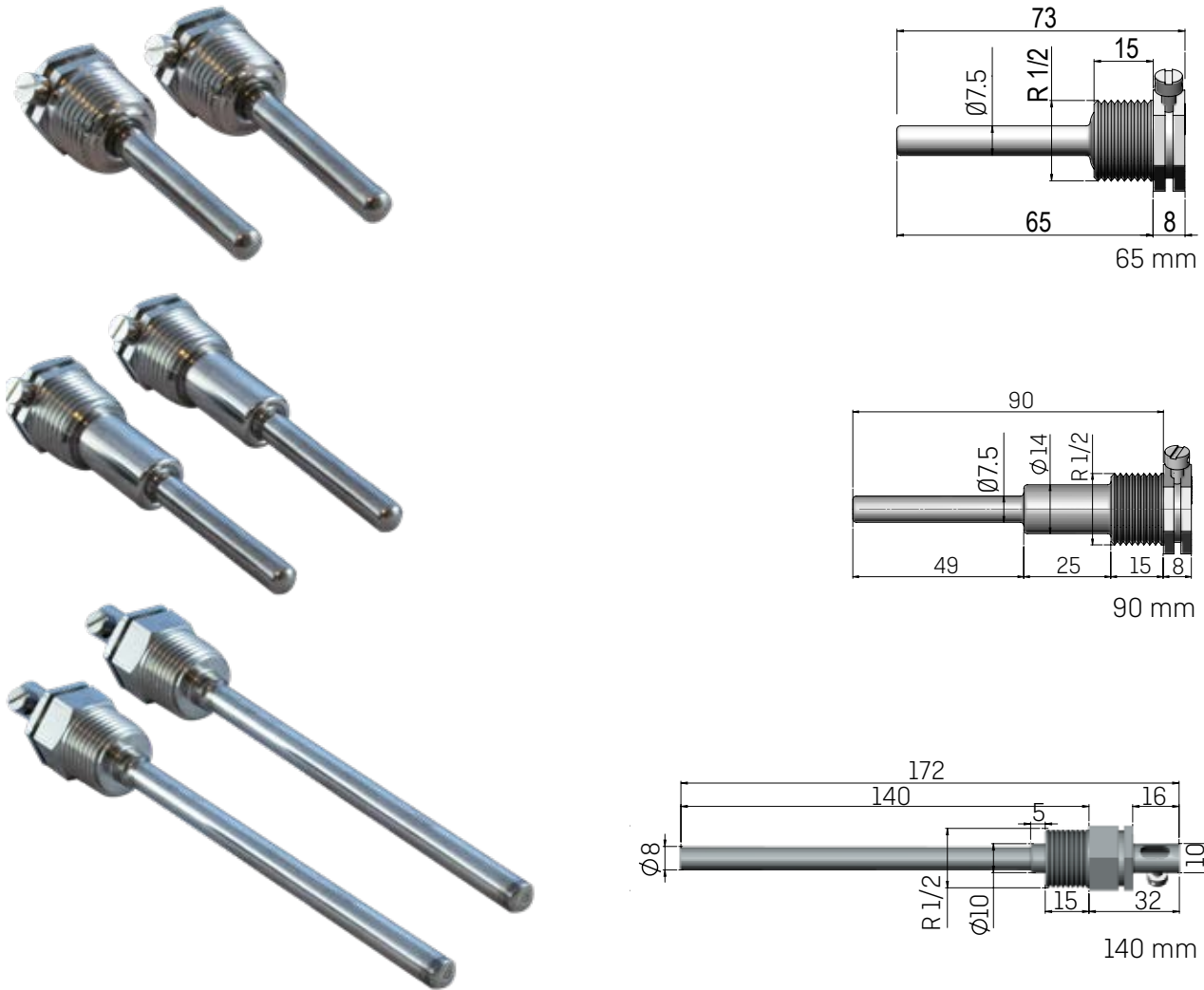

Technical data on temperature sensors

	Direct short temperature sensor	ø5.8 mm temperature sensor
Element	Pt500 according to EN 60751	
Time constant τ0.5	2 s	5 s
Minimum submersion depth	17 mm	22 mm
Diameter	ø3.6 MM/ø5.5 mm	ø5.8 mm
Material	AISI 316L, W-no. 1.4404	
Silicone cable	2 x 0.25 mm²	
Cable lengths	1.5 m, 3 m	1.5 m, 3 m, 5 m, 10 m

Pockets for ø5.8 mm temperature sensor

Pockets with thread R½

73
Ø7.5
R 1/2
15
65
8
65 mm

90
Ø7.5
Ø14
R 1/2
49
25
15
8
90 mm

172
140
5
16
Ø8
R 1/2
Ø10
15
32
10
140 mm

Technical data on pockets with thread R½

Installation lengths	65 mm, 90 mm, 140 mm
Thread	Cone-shaped thread R½
Material	65 mm pocket, 90 mm pocket: AISI 304 / W.No. 1.4301 140 mm pocket: AISI 316Ti / 1.4571
Time constant $\tau_{0.5}$	65 mm pocket, 90 mm pocket: Max 8 s 140 mm pocket: Max 25 s
Type numbers in approval	65 mm pocket: 6557-324 90 mm pocket: 6557-327 140 mm pocket: 6557-314

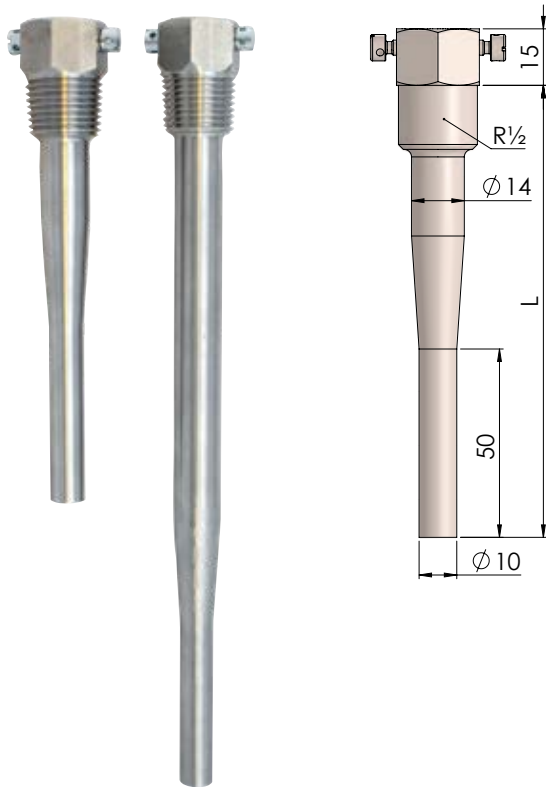# Pockets for ø5.8 mm temperature sensors

Pockets with thread G½B
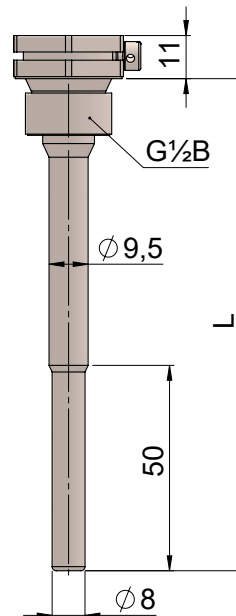
Technical data on pockets with thread G½B

Installation lengths L	85 mm, 120 mm, 210 mm
Thread	Straight thread G½B
Gasket	Copper sealing (supplied in the bag with 2 pockets)
Material	AISI 316L / W.-No. 1.4404
Time constant $\tau_{0.5}$	Max 12 s
Type numbers in approval	85 mm pocket: 6557-343 120 mm pocket: 6557-344 210 mm pocket: 6557-345

Reinforced pockets for ø5.8 mm temperature sensors

Reinforced pockets with R½ thread

Reinforced pockets with G½B thread
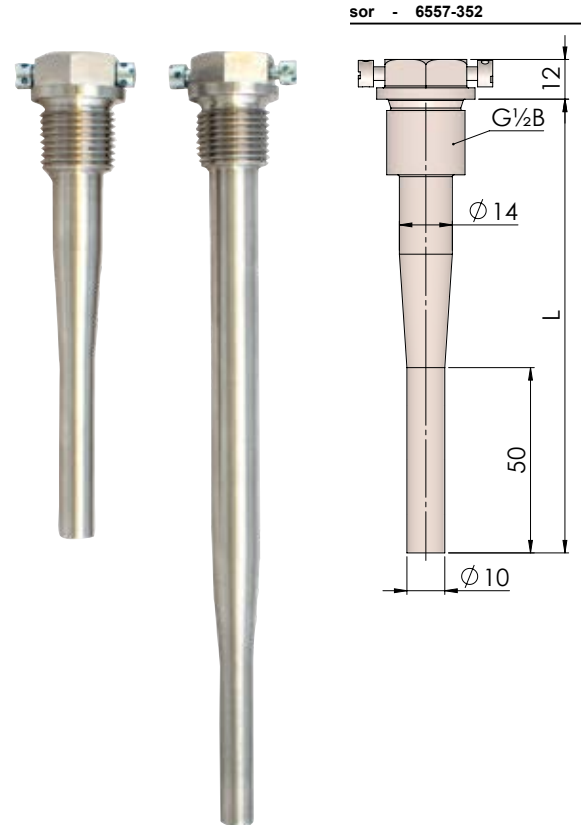
Technical data on reinforced pockets

Installation lengths L	120 mm, 210 mm
Thread	Cone-shaped thread R½ or straight thread G½B
Gasket for pockets with straight thread G½B	Copper sealing (supplied in the bag with 2 pockets)
Material	AISI 316L / W. No. 1.4404
Time constant $\tau 0.5$	Max 16 s
Type numbers in approval	120 mm pocket with R½ thread: 6557-350 210 mm pocket with R½ thread: 6557-351 120 mm pocket with G½B thread: 6557-352 210 mm pocket with G½B thread: 6557-353

Overview of pockets for ø5.8 mm temperature sensors

Type number in approval	Installation length L	Pocket type	Thread	Article number of bag with 2 pcs.
6557-324	65 mm	Standard pocket	R½	6557-424
6557-327	90 mm			6557-427
6557-314	140 mm			6557-414
6557-343	85 mm		G½B	6557-443
6557-344	120 mm			6557-444
6557-345	210 mm			6557-445
6557-350	120 mm	Reinforced pocket	R½	6557-450
6557-351	210 mm			6557-451
6557-352	120 mm		G½B	6557-452
6557-353	210 mm			6557-453

Application areas of temperature sensors and pockets

|	
Ambient temperature	-10 °C...70 °C
Storage and transport temperature	-25 °C...70 °C
Media	District heating water
Temperature of medium	0...150 °C, briefly 160 °C
Humidity	< 98 %, rF condensing
IP class	IP 65
Approved mechanical classes	M1, M2
Approved pressure stages for short direct temperature sensor	PN16, PN25
Approved pressure stages for pockets type number 6557-324/327/314	PN16, PN25
Approved pressure stages for pockets type number 6557-343/344/345/350/351/352/353	PN16, PN25, PN40
Maximum flow velocity for pockets type number 6557-324/327/314/343/344/345	3 m/s
Maximum flow velocity for pockets type number 6557-350/351/352/353	10 m/s

Accessories

Nipples

Technical data

Connection	R½ or R¾
Material	MS 58 Bb

Nipples can be used in both PN16 and PN25 installations.

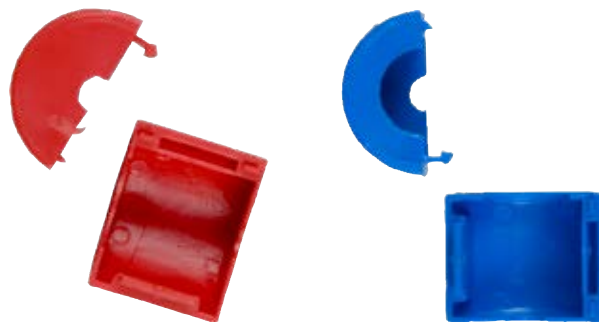**Nipples with extended immersion**
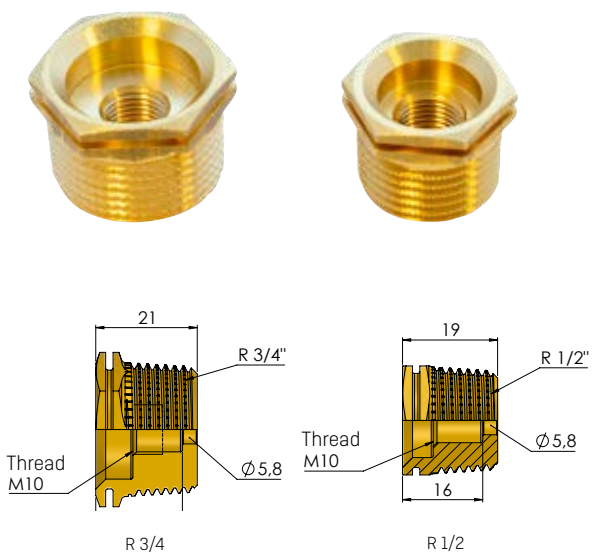
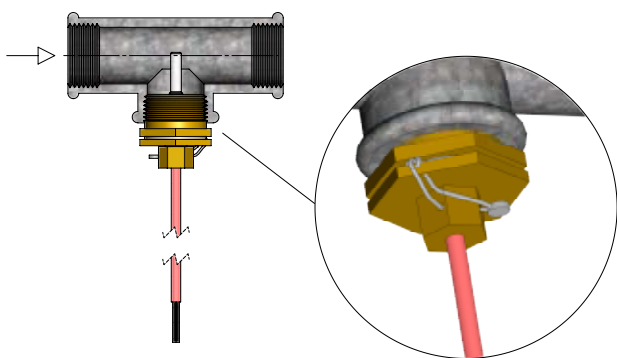**Nipples suitable for use with sealing caps**
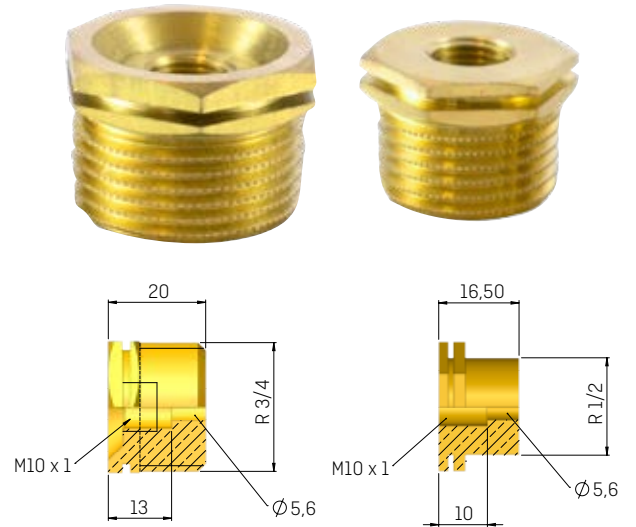
Sealing caps
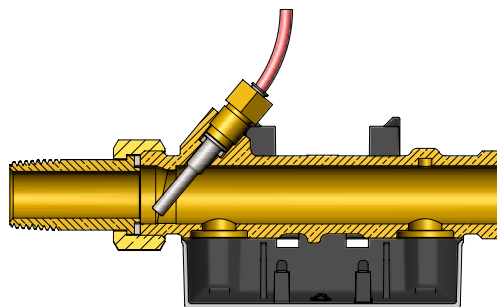
Mounting examples

Example 1

Direct short temperature sensor
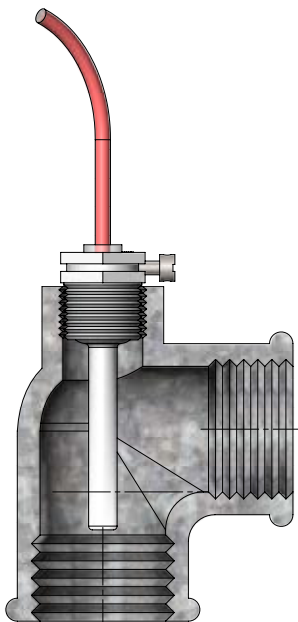mounted in the T-piece by means of a nipple.

Example 2

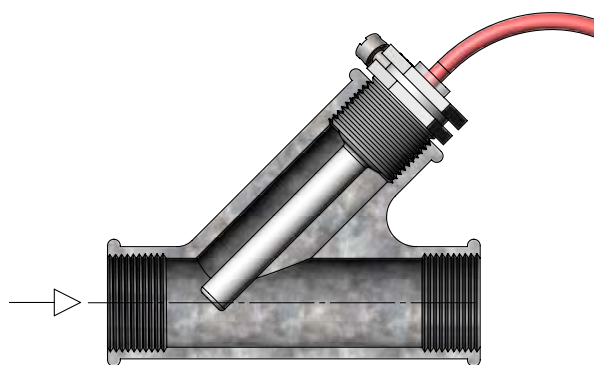Direct short temperature sensor
mounted in ULTRAFLOW®.

Example 3

ø5.8 mm pocket sensor mounted at a 90 degree angle by
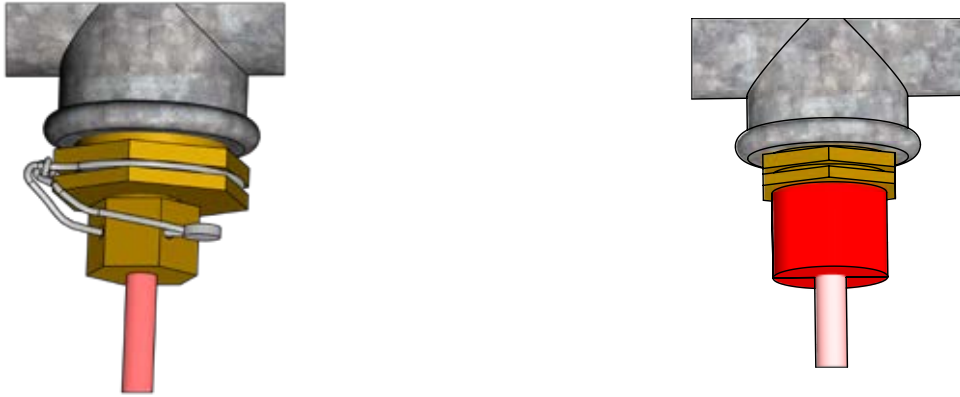means of pocket, type number 6557-324.

Example 4

ø5.8 mm pocket sensor mounted in tee with a 45° lateral Y-
piece by means of pocket, type number 6557-324.

Sealing examples

Example of sealing of direct short temperature sensor mounted in a nipple.

Example of sealing of direct short temperature sensor mounted in a flow sensor

Example of sealing of a pocket temperature sensor

Overview of order numbers

Temperature sensor set

Ordering number*	Description
66-0-0F0-XXX	Pt500 direct short sensor set (2 pcs.) with 1.5 m cable
66-0-0G0-XXX	Pt500 direct short sensor set (2 pcs.) with 3 m cable
65-0-0A0-XXX	Pt500 ø5.8 mm pocket sensor set (2 pcs.) with 1.5 m cable
65-0-0B0-XXX	Pt500 ø5.8 mm pocket sensor set (2 pcs.) with 3 m cable
65-0-0C0-XXX	Pt500 ø5.8 mm pocket sensor set (2 pcs.) with 5 m cable
65-0-0D0-XXX	Pt500 ø5.8 mm pocket sensor set (2 pcs.) with 10 m cable

* The order number may vary due to local approvals

Pockets for pocket sensors

Ordering number	Description
6557-424	Bag with 2 pcs. of 65 mm pocket with R½ thread
6557-427	Bag with 2 pcs. of 90 mm pocket with R½ thread
6557-414	Bag with 2 pcs. of 140 mm pocket with R½ thread
6557-443	Bag with 2 pcs. of 85 mm pocket with G½B thread
6557-444	Bag with 2 pcs. of 120 mm pocket with G½B thread
6557-445	Bag with 2 pcs. of 210 mm pocket with G½B thread
6557-450	Bag with 2 pcs. of 120 mm reinforced pocket with R½ thread
6557-451	Bag with 2 pcs. of 210 mm reinforced pocket with R½ thread
6557-452	Bag with 2 pcs. of 120 mm reinforced pocket with G½B thread
6557-453	Bag with 2 pcs. of 210 mm reinforced pocket with G½B thread

Accessories

Ordering number	Description
6556-546	R½ spacer nipple for direct short temperature sensor, extended immersion
6556-547	R¾ spacer nipple for direct short temperature sensor, extended immersion
6556-492	R¾ spacer nipple for direct short temperature sensor, suitable for use with sealing caps
6556-491	R½ spacer nipple for direct short temperature sensor, suitable for use with sealing caps
2210-131	Fiber gasket for direct short temperature sensor
3026-517	Sealing cap, red
3026-518	Sealing cap, blue