

Thermowell system HIT for Hygienic Invasive Temperature measuring Type series HP1100



Application area

- Pharmaceutical industry
- Biotechnology
- Food industry

Features

- Hygienic invasive thermowell system
- Installation and disassembly of the temperature sensor without interruption of process
- Wetted parts stainless steel mat.- no. 1.4435 (316L)
- Surface roughness $\leq 0,4 \mu\text{m}$, electropolished
- Deltaferrite content $< 3\%$
- Material certificate per DIN EN 10204-3.1
- Pipe standards:
 - DIN 11866 series A / EN 10357 (DIN 11850)
 - DIN 11866 series B / ISO1127
 - DIN 11866 series C / ASME BPE
- Design: straight or angled pipe system
- Instrument connection M12 x 1
- Nominal pressure: up to PN 25
- Suitable temperature sensor MiniTherm GA 2730, data sheet T4-017

Options

- Delta ferrite content $< 1 \%$

Application

The HIT thermowell system guarantees hygienic invasive temperature measuring, especially for the requirements of the food/pharmaceutica/biotechnology industry. The thermowell is orbitally welded into a pipe system, thus enables a sterile temperature measuring without any gasket. For the temperature measuring we recommend the temperature sensor MiniTherm GA2730, data sheet T4-017.

Technical data

Constructional design

Design	Thermowell, orbitally welded into a pipe system <ul style="list-style-type: none"> ■ Straight ■ Angled (90 °)
Instrument connection	M12 x 1
Nominal width	See table
Nominal pressure	Up to PN 25 per DIN 11865
Weight	See table

Material wetted parts

Thermowell	Stainless steel mat.-no. 1.4435 (316L)
Pipe system	Stainless steel mat.-no. 1.4435 (316L)
Deltaferrite content	< 3 %, optional < 1 %

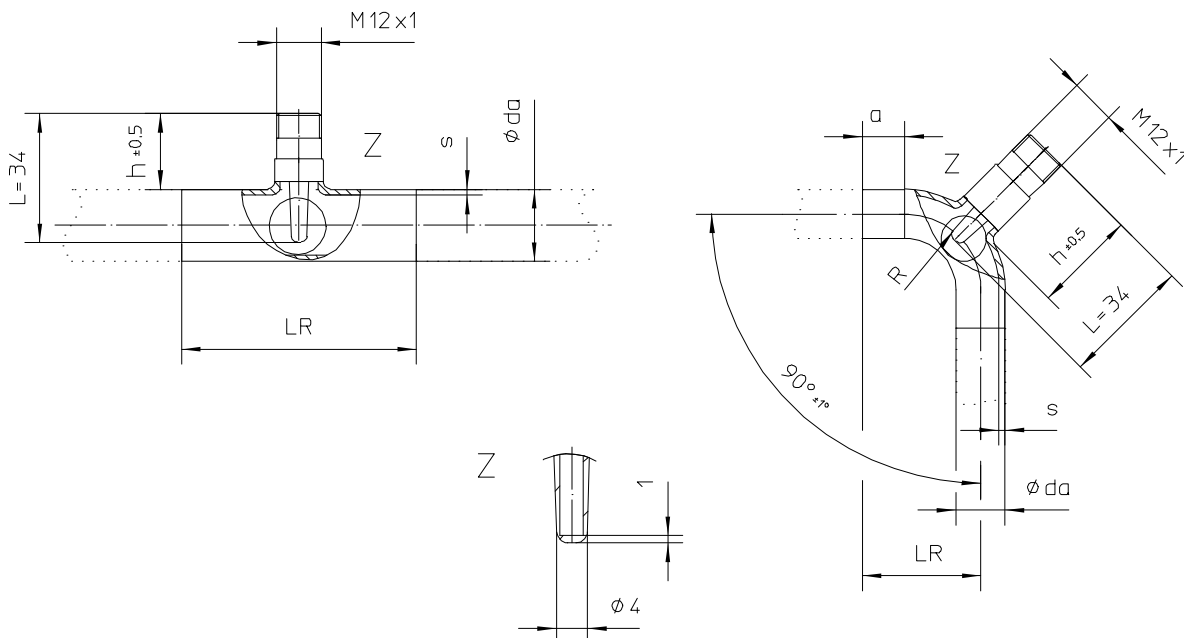
Surface wetted parts

Surface treatment	Electropolished
Roughness (inside)	≤ 0.4 μm (except welded seam)

Temperature sensor

Temperature sensor	Resistance thermometer GA2730, data sheet DB_T4-017
Screwing	Spring loaded union nut M12 x 1 with spring contact system for best heat transfer
Response time:	without heat sink compound $t_{90} = 7$ s with heat sink compound $t_{90} = 6$ s

Dimensions



Dimensions insertion length measuring insert:

Circular connector: $l_1 = 28$ mm

Field housing: $l_1 = 36$ mm

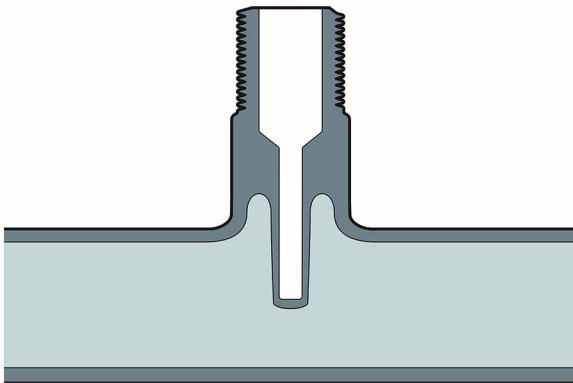
Pipe dimension design: straight pipe system

Standard	nominal width	pipe dimension (da x s)	LR	h	weight
DIN 11866 model A / EN 10357 (DIN 11850)	DN 10	13 x 1.5 mm	70 mm	26 mm	40 g
	DN 15	19 x 1.5 mm	70 mm	26 mm	55 g
	DN 20	23 x 1.5 mm	80 mm	26 mm	100 g
	DN 25	29 x 1.5 mm	100 mm	20 mm	120 g
	DN 32	35 x 1.5 mm	110 mm	20 mm	150 g
DIN 11866 model B / ISO 1127	DN 13.5	13.5 x 1.6 mm	64 mm	26 mm	40 g
	DN 17.2	17.2 x 1.6 mm	68 mm	26 mm	55 g
	DN 21.3	21.3 x 1.6 mm	72 mm	26 mm	100 g
	DN 26.9	26.9 x 1.6 mm	110 mm	20 mm	150 g
	DN 33.7	33.7 x 2 mm	120 mm	20 mm	190 g
DIN 11866 model C / ASME BPE	1/2"	12.7 x 1.65 mm	95.2 mm	26 mm	50 g
	3/4"	19.05 x 1.65 mm	101.6 mm	26 mm	80 g
	1"	25.4 x 1.65 mm	108 mm	20 mm	200 g
	1 1/2"	38.1 x 1.65 mm	120.6 mm	20 mm	250 g

Pipe dimension design: angle pipe system

Standard	nominal width	pipe dimension (da x s)	LR	a	h	R	weight
DIN 11866 model A / EN 10357 (DIN 11850)	DN 10	13 x 1.5	51 mm	25 mm	26 mm	26	55 g
	DN 15	19 x 1.5	60 mm	25 mm	26 mm	35	70 g
	DN 20	23 x 1.5	65 mm	25 mm	26 mm	40	90 g
	DN 25	29 x 1.5	90 mm	40 mm	20 mm	50	110 g
	DN 32	35 x 1.5	95 mm	40 mm	20 mm	55	140 g
DIN 11866 model B / ISO 1127	DN 13.5	13.5 x 1.6	45 mm	25 mm	26 mm	20	55 g
	DN 17.2	17.2 x 1.6	53 mm	25 mm	26 mm	28	100 g
	DN 21.3	21.3 x 1.6	55 mm	25 mm	26 mm	30	150 g
	DN 26.9	26.9 x 1.6	68.5 mm	40 mm	20 mm	28.5	200 g
	DN 33.7	33.7 x 2	78 mm	40 mm	20 mm	38	220 g
DIN 11866 model C / ASME BPE	1/2"	12.7 x 1.65	76.2 mm	47.6 mm	26 mm	28.6	55 g
	3/4"	19.05 x 1.65	76.2 mm	47.6 mm	26 mm	28.6	75 g
	1"	25.4 x 1.65	76.2 mm	38.1 mm	20 mm	38.1	130 g
	1 1/2"	38.1 x 1.65	95.3 mm	38.1 mm	20 mm	57.2	200 g

Schnittzeichnung Schutzrohr HP1100



Order details

Thermowell system HIT for Hygienic Invasive Temperature measuring			
HP1100	Thermowell system HIT for Hygienic Invasive Temperature measurement		
		standard	nominal width
B10	pipe dimension design: straight	DIN 11866 model A / EN 10357 (DIN 11850)	DN 10 (13 x 1.5)
B11			DN 15 (19 x 1.5)
B12			DN 20 (23 x 1.5)
B13			DN 25 (29 x 1.5)
B14			DN 32 (35 x 1.5)
B31		DIN 11866 model B / ISO 1127	DN 13.5 (13.5 x 1.6)
B32			DN 17.2 (17.2 x 1.6)
B33			DN 21.3 (21.3 x 1.6)
B34			DN 26.9 (26.9 x 1.6)
B35			DN 33.7 (33.7 x 2)
B80		DIN 11866 model C / ASME BPE	1/2" (12.7 x 1.65)
B81			3/4" (19.05 x 1.65)
B82			1" (25.4 x 1.65)
B83			1 1/2" (38.1 x 1.65)
C10	pipe dimension design: angled	DIN 11866 model A / EN 10357 (DIN 11850)	DN 10 (13 x 1.5)
C11			DN 15 (19 x 1.5)
C12			DN 20 (23 x 1.5)
C13			DN 25 (29 x 1.5)
C14			DN 32 (35 x 1.5)
C31		DIN 11866 model B / ISO 1127	DN 13.5 (13.5 x 1.6)
C32			DN 17.2 (17.2 x 1.6)
C33			DN 21.3 (21.3 x 1.6)
C34			DN 26.9 (26.9 x 1.6)
C35			DN 33.7 (26.9 x 1.6)
C80		DIN 11866 model C / ASME BPE	1/2" (12.7 x 1.65)
C81			3/4" (19.05 x 1.65)
C82			1" (25.4 x 1.65)
C83			1 1/2" (38.1 x 1.65)
G12.9	material thermowell	stainless steel mat.-no. 1.4435 (316L) deltaferrite content < 3 %	
G12.7		stainless steel mat.-no. 1.4435 (316L) deltaferrite content < 1 %	
P1	roughness	Internal surface Ra ≤ 0.4 µm, electropolished, external surface furbished	

order code (example): HP1100 – B80 – G12.9 - P1