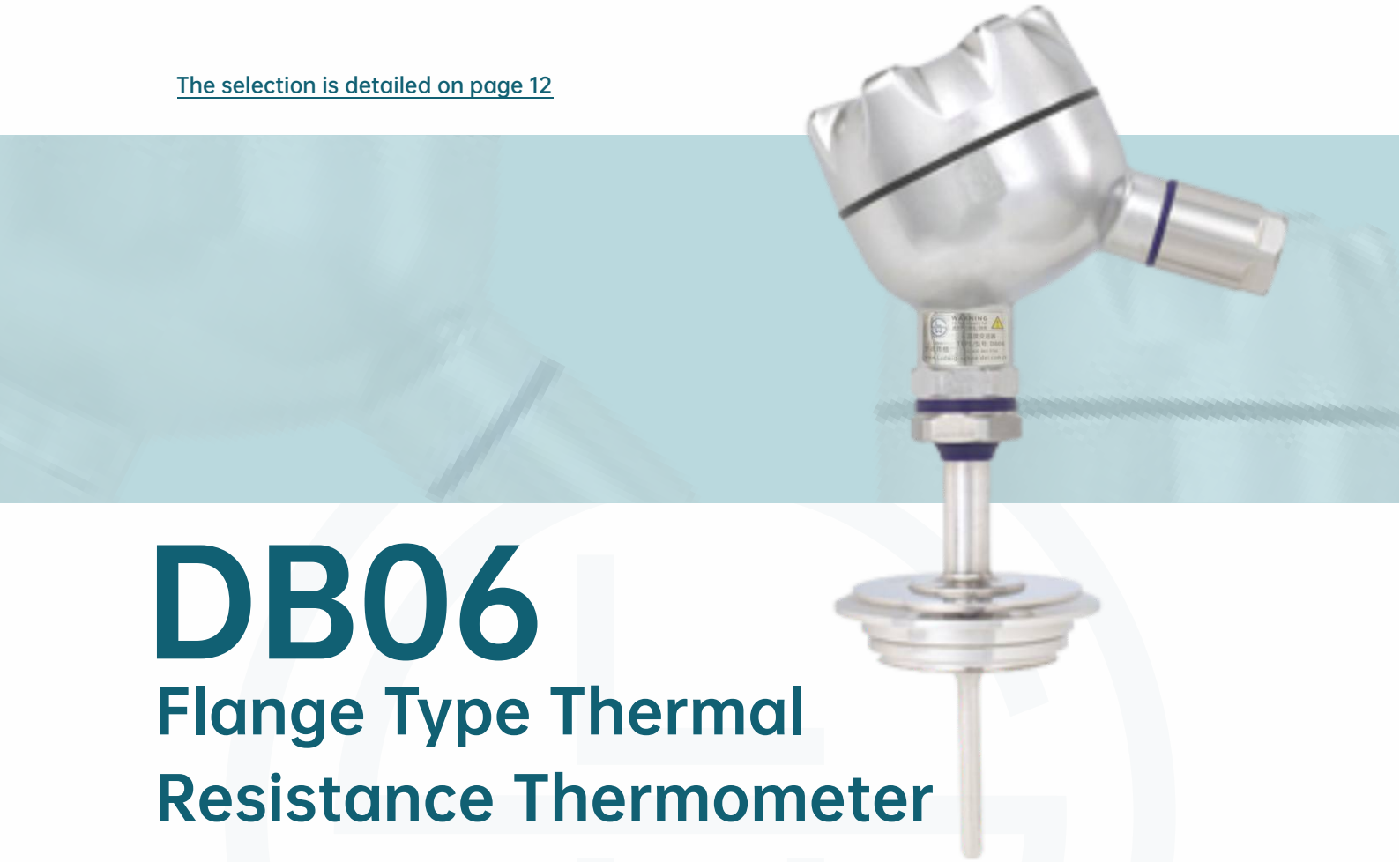
The selection is detailed on page 12



DB06

Flange Type Thermal Resistance Thermometer

Working principle

Thermal resistance is a kind of temperature measuring element commonly used in low and medium temperature region, which measures temperature by using the property that the resistance of the substance changes with the change of temperature. The heated part of the thermal resistance (temperature sensing element) is evenly wound on the skeleton made of insulating material with a thin metal wire. When there is a temperature gradient in the measured medium, the measured temperature is the average temperature in the medium layer within the range of the temperature sensing element.

Product description

This series of thermometers is suitable for containers and pipes. Available with DIN EN or ASME standard flanges.
The thermometer is suitable for liquid and gaseous media under moderate mechanical loads. The sheath is fully welded and threaded to the junction box.
Under normal chemical conditions, a sheath of stainless steel material is used. Corrosion resistant coatings are recommended for aggressive chemical media. Wear-resistant coating is used for wear resistant media. Replaceable rods do not require the thermometer to be completely removed from the process during replacement. You can check and replace the device during operation or directly during operation.
The selection of standard rod length can shorten the delivery time and reduce the inventory of spare parts. Insert depth, flange size, protective sleeve design, junction box and sensor can be individually selected to meet different application needs. As an option, an analog signal or a digital transmitter can be fitted to the head.

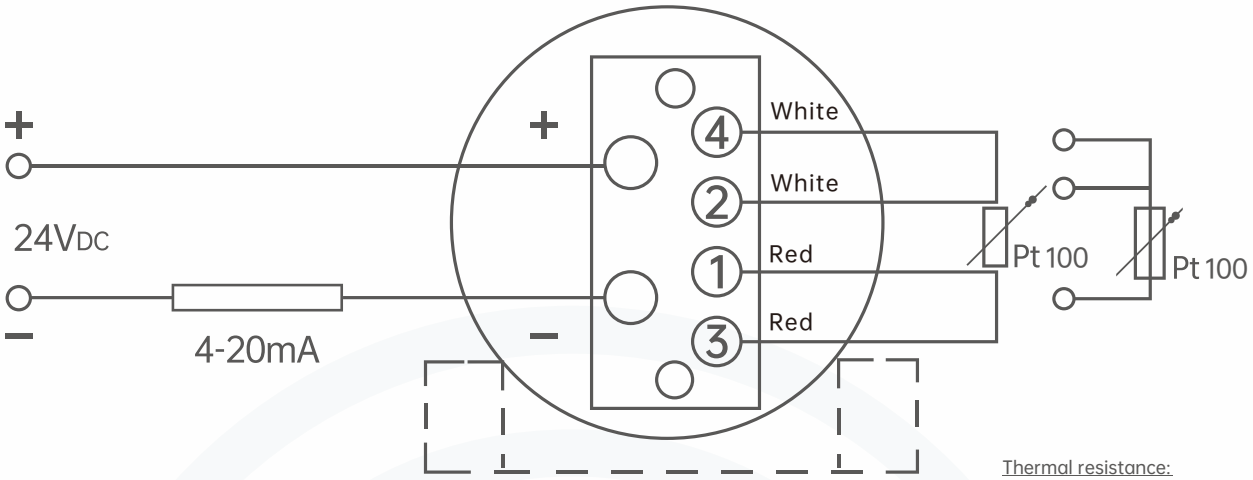
Product application

Machinery industry
Factory and container manufacturing
Energy technology and power plants
Chemical and petrochemical industries
The food and beverage industry
Heating and cooling technology

Functional characteristics

Sensor temperature range: -196... +600 ℃
Integrated assembly jacket
Probe rod with spring (replaceable)
Explosion proof type

Working principle Analytic table



Thermal resistance:
three or four wire system

Specification parameter

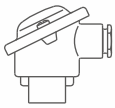
Measuring element		
Type of measuring element	Pt100 (Thin film)	
	Surface Sensitive Pt100 (Film)[1]	
Measuring current		
▪ Transmitter version	S10 type	< 0.2mA
	S20 type	< 0.3mA
▪ Version Pt100 (without transmitter)	0.1...1.0mA	
Connection mode		
▪ Transmitter version	1 x 3 wire system	
	1 x 4 wire system	
▪ Version Pt100 (without transmitter)	1 x 3 wire system	
	1 x 4 wire system	
	2 x 3 wire system	
Tolerance of the measuring element [2] according to IEC 60751	Class AA	0...150°C
	Level A	-30...+250°C
	Grade B	-50...+250°C

1) Surface-sensitive measurement resistors, through their small design, help reduce heat dissipation through shorter insertion lengths. Suitable for temperatures up to 150 °C [302 °F].
For tube insertion lengths of less than 50 mm, surface sensitive measuring resistors are recommended.
For protective tube insertion lengths less than 11 mm, surface sensitive measuring resistors are usually used.
2) Specifications are valid only for measuring components. Depending on the process connection, the deviation may be greater

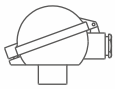
Measuring range	
Measuring range	-50 ... +250 °C [-58 ... +482 °F][1]

1) The connector should therefore be protected from temperatures exceeding 80 ° C [176 ° F]

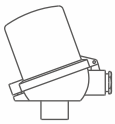
Connector



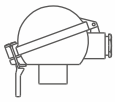
DBM



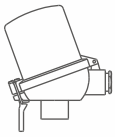
DBM-A



DBM-B



DBM-C



DBM-D

DBM-E

Connector material and specification

Material	Cable inlet thread specification	Protection level (Max)	Protective cap	Surface
Aluminum	M20 x 1.5	IP65	Flat top cover with 2 screws	Blue finish
Aluminum	M20 x 1.5	IP65	Spherical hinged cover with cylinder head screws	Blue finish
Aluminum	M20 x 1.5	IP65	Raised hinged cover with cylinder head screws	Blue finish
Aluminum	M20 x 1.5	IP65	Spherical hinged cover with clamping handle	Blue finish
Aluminum	M20 x 1.5	IP65	Raised hinged cover with clamping handle	Blue finish
Stainless steel	M20 x 1.5	IP65	Screw in lid, hygienic design	Natural color, electric polishing

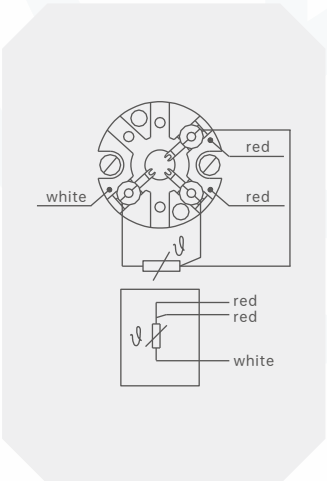
transmitter	S10 type	S10 type
exportation	4 ... 20 mA	4 ... 20 mA
		HART® agreement
Installation mode		
DBM	○	○
DBM-A	○	○
DBM-B	-	-
DBM-C	○	○
DBM-D	●	●
DBM-E	○	○

○ Install the wiring terminal instead ● Install the connector in the protective cap – Cannot install

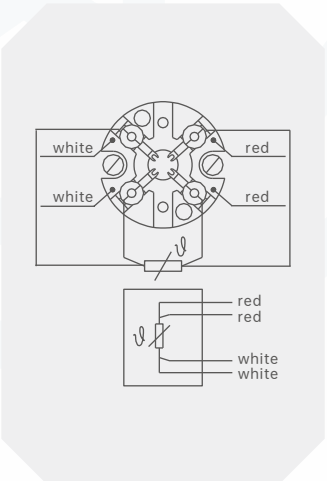
2 transmitters can be installed as required.

Electrical connection

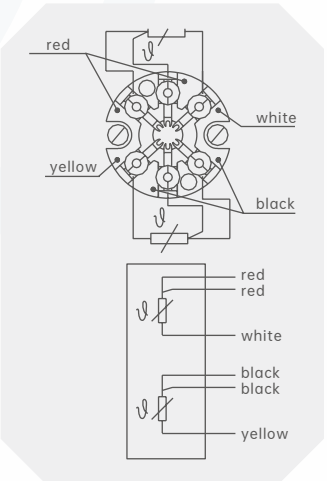
1 x Pt100, 3-Wire system



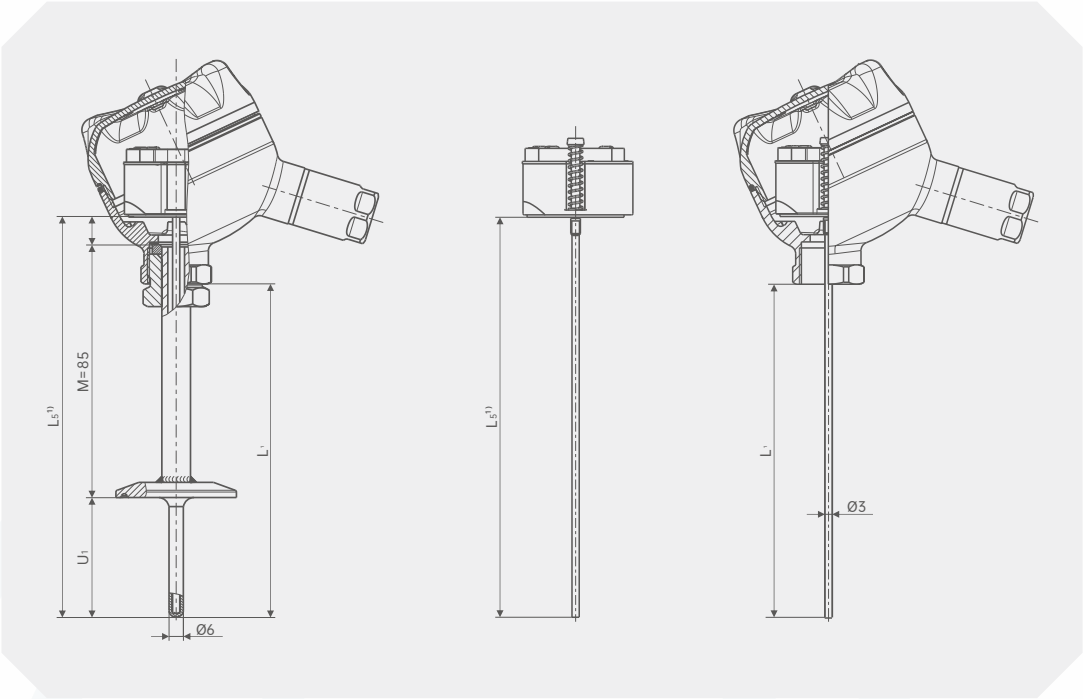
1 x Pt100, 4-Wire system



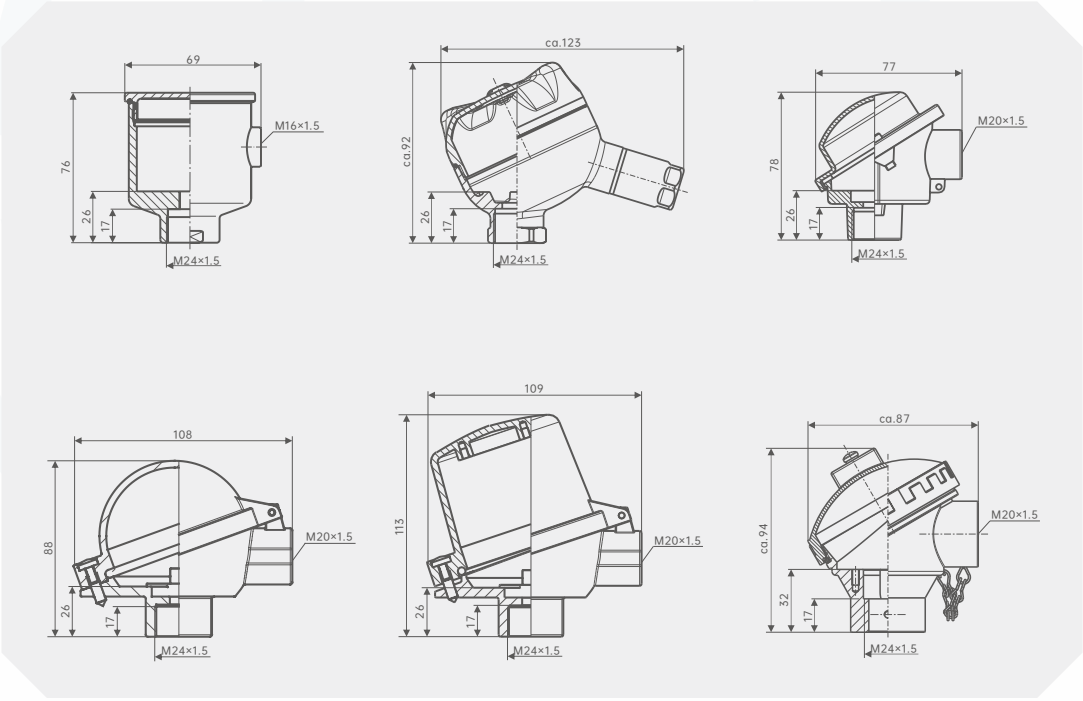
2 x Pt100, 3-Wire system



Size mm



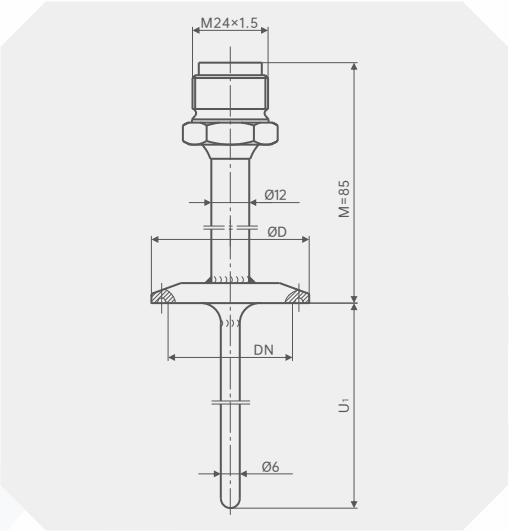
The size of the connector is mm



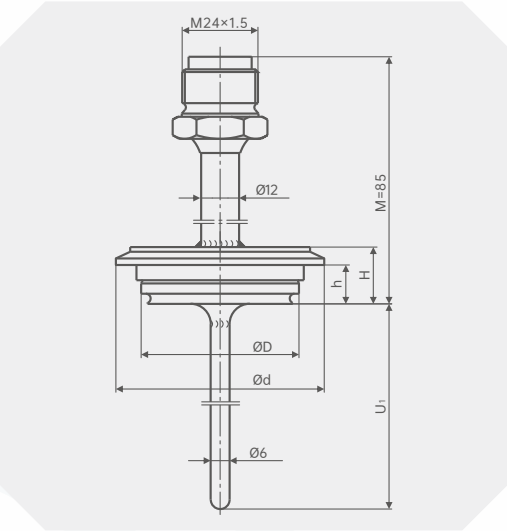
Process connection size mm

U_1 = Variable insertion length

Clamp process connection



VARINLINE® Process connection



Clamp process connection dimensions

Process connection	Nominal diameter (mm/ inch)	PN (bar)	Size mm ØD	weight (kg)
DIN 32676 is suitable for pipes conforming to DIN 11866 A line	DN 10 ... 20	25	34.0	0.2
	DN 25 ... 40	25	50.4	0.3
	DN 50	16	64.0	0.4
DIN 32676 is suitable for pipes conforming to DIN 11866 line B	13.5 ... 17.2	25	25.0	0.2
	21.3 ... 33.7	25	50.5	0.3
	42.4 ... 48.3	16	64.0	0.3
DIN 32676 is suitable for pipes conforming to DIN 11866 line C	1/2" ... 3/4"	25	25.0	0.2
	1" ... 1 1/2"	25	50.5	0.3
	2"	16	64.0	0.4
TRI-CLAMP® complies with ASME BPE	1/2"	13.8	25.0	0.2
	3/4"	13.8	25.0	0.2
	1"	13.8	50.5	0.3
	1 1/2"	13.8	50.5	0.3
	2"	13.8	64.0	0.4
	2 1/2"	13.8	77.5	0.4
	3"	13.8	91.0	0.5
	4"	13.8	119.0	0.5

VARINLINE® The size of the process connection

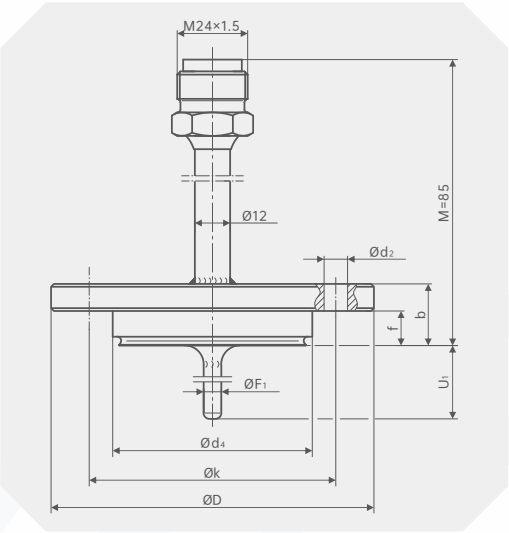
Process connection	Nominal diameter (mm)	PN (bar)	Size (mm)				weight (kg)
			ØD	Ød	H	h	
B 形	DN 10, DN 15	25	31	52.7	20	13.65	0.3
F 形	DN 25, DN 32	25	50	66.0	18	12.30	0.4
N 形	DN 40, DN 50	25	68	84.0	18	12.30	0.6

Process connection size mm

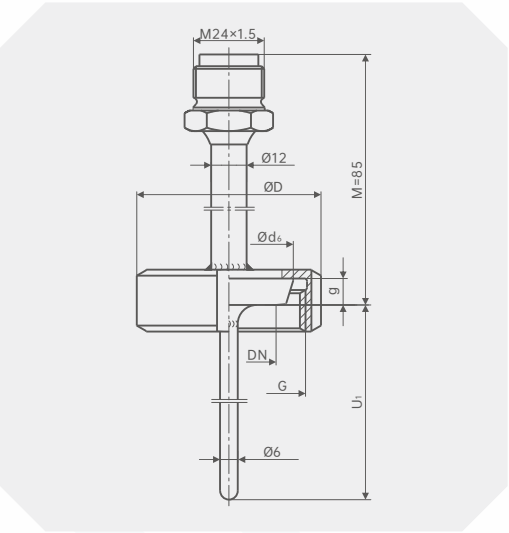
In order to fit into a flow-through housing, the insert length U1 and the protection diameter must match. For corner shells, the insert length U1 must be specified by the customer.

U_1 = Variable insertion length

NEUMO BioControl® Process connection



Process connection DIN 11851 for loose nuts with tapered joints (nipple threaded joints)



NEUMO BioControl® The size of the process connection

Case size	Nominal diameter of pipeline	PN (bar)	Size (mm)							weight (kg)
			U_1	$Ød_4$	ØD	f	b	Øk	$Ød_2$	
Size 25	DN8	16	5	30.5	64	11	20	50	4 x Ø7	0.4
	DN10	16	6	30.5	64	11	20	50	4 x Ø7	0.4
	DN15	16	9	30.5	64	11	20	50	4 x Ø7	0.4
	DN20	16	11	30.5	64	11	20	50	4 x Ø7	0.4
Size 50	DN25	16	15	50.0	90	17	27	70	4 x Ø9	0.8
	DN40	16	20	50.0	90	17	27	70	4 x Ø9	0.8
	DN50	16	25	50.0	90	17	27	70	4 x Ø9	0.8
	DN65	16	35	50.0	90	17	27	70	4 x Ø9	0.8
	DN80	16	45	50.0	90	17	27	70	4 x Ø9	0.8
	DN100	16	55	50.0	90	17	27	70	4 x Ø9	0.8
Size 65	DN40	16	20	68.0	120	17	27	95	4 x Ø11	1.4
	DN50	16	25	68.0	120	17	27	95	4 x Ø11	1.4
	DN65	16	35	68.0	120	17	27	95	4 x Ø11	1.4
	DN80	16	45	68.0	120	17	27	95	4 x Ø11	1.4
	DN100	16	55	68.0	120	17	27	95	4 x Ø11	1.4

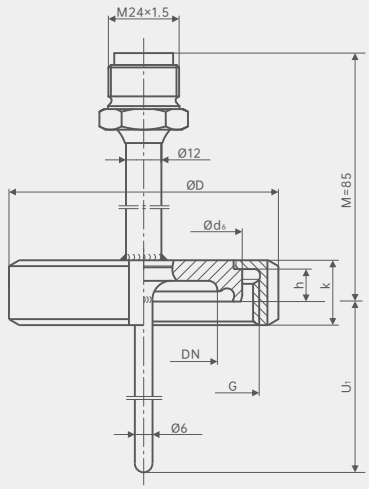
Loose nut process fittings with tapered fittings (nipple threaded fittings) dimensions DIN 11851

Nominal diameter (mm)	PN (bar)	Size (mm)				weight (kg)
		$Ød_6$	G	ØD	g	
DN 20	40	36.5	RD 44×1/6	54	8	0.4
DN 25	40	44.0	RD 52×1/6	63	10	0.5
DN 32	40	50.0	RD 58×1/6	70	10	0.6
DN 40	40	56.0	RD 65×1/6	78	10	0.8
DN 50	25	68.5	RD 78×1/6	92	11	0.9

Process connection size mm

Process connection, sterile threaded pipe connection DIN 11864-1 with Type A liner for pipes conforming to DIN 11866 columns A, B and C

U_1 = Variable insertion length



Sterile threaded pipe connection

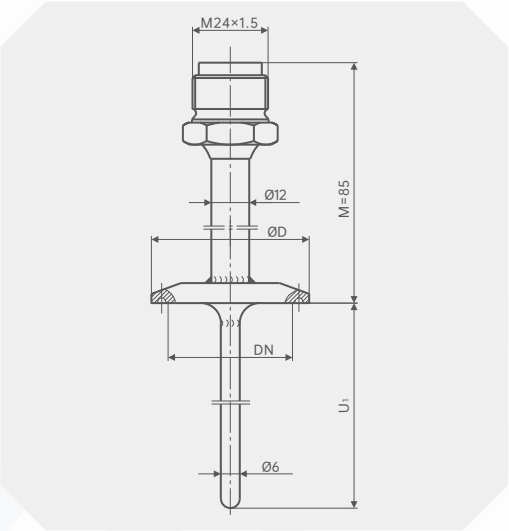
Nominal diameter of pipeline	Nominal pressure (bar)	Pipe outside diameter	Inside diameter of pipe	Size (mm)				Sterile O-ring	weight (kg)
ON / OD	PN			ØD	G	h	k		
DIN 11866A									
10	40	13	1.5	38	RD 28×1/8	9	18	12×3.5	0.2
15	40	19	1.5	44	RD 34×1/8	9	18	18×3.5	0.2
20	40	23	1.5	54	RD 44×1/6	10	20	22×3.5	0.25
25	40	29	1.5	63	RD 52×1/6	12	21	28×3.5	0.4
32	40	35	1.5	70	RD 58×1/6	13	21	34×5	0.45
40	40	41	1.5	78	RD 65×1/6	13	21	40×5	0.55
50	25	53	1.5	92	RD 78×1/6	14	22	52×5	0.7
DIN 11866B									
8 (13.5)	40	13.5	1.6	38	RD 28×1/8	9	18	12×3.5	0.2
10 (17.2)	40	17.2	1.6	44	RD 34×1/8	9	18	16×3.5	0.2
15 (21.3)	40	21.3	1.6	54	RD 44×1/6	10	20	20×3.5	0.3
20 (26.9)	40	26.9	1.6	63	RD 52×1/6	12	21	26×3.5	0.4
25 (33.7)	40	33.7	2	70	RD 58×1/6	13	21	32×5	0.5
32 (42.4)	25	42.4	2	78	RD 65×1/6	13	21	40.5×5	0.6
40 (48.3)	25	48.3	2	92	RD 78×1/6	14	22	46.6×5	0.7
DIN 11866C									
8 (13.5)	40	12.7	1.65	38	RD 28×1/8	9	18	12×3.5	0.2
10 (17.2)	40	19.05	1.65	44	RD 34×1/8	9	18	18×3.5	0.2
15 (21.3)	40	25.4	1.65	63	RD 52×1/6	12	21	24×3.5	0.4
20 (26.9)	40	38.1	1.65	78	RD 65×1/6	13	21	37×5	0.6
25 (33.7)	40	50.8	1.65	92	RD 78×1/6	14	22	50×5	0.7

Process connection size mm

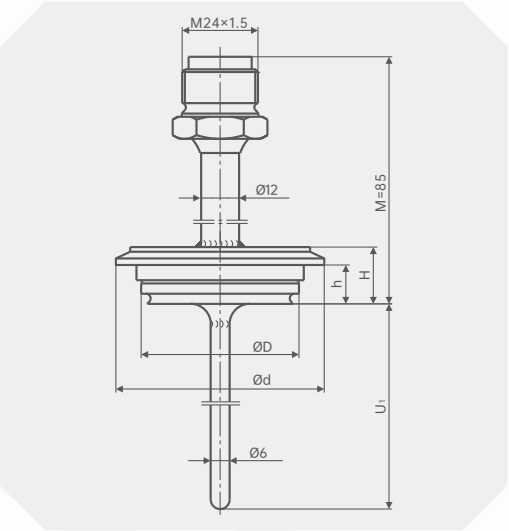
Sterile flange process connection DIN 11864-2, Type A is suitable for pipes conforming to DIN 11866 Type A

U_1 = Variable insertion length

With notched flange



Flange with grooves



With notched flange

Sterile flange with notch DIN 11864-2 Type A

Nominal diameter mm	PN (bar)	Process connection							Sterile O-ring	weight (kg)
		b_1	b_2	$Ød_5$	$Ød_6$	$Ød_{10}$	$Ød_{11}$	$Ød_{13}$		
DN 10	25	-	10	37	-	54	22.4	4×Ø9	12×3.5	0.2
DN 15	25	-	10	42	-	59	28.4	4×Ø9	18×3.5	0.25
DN 20	25	-	10	47	-	64	32.4	4×Ø9	22×3.5	0.3
DN 25	25	-	10	53	-	70	38.4	4×Ø9	28×3.5	0.1
DN 32	25	-	10	59	-	76	47.7	4×Ø9	34×5	0.4
DN 40	25	-	10	65	-	82	53.7	4×Ø9	40×5	0.5
DN 50	16	-	10	77	-	94	65.7	4×Ø9	52×5	0.6

Flange with grooves

Sterile flange with grooves DIN 11864-2 Type A

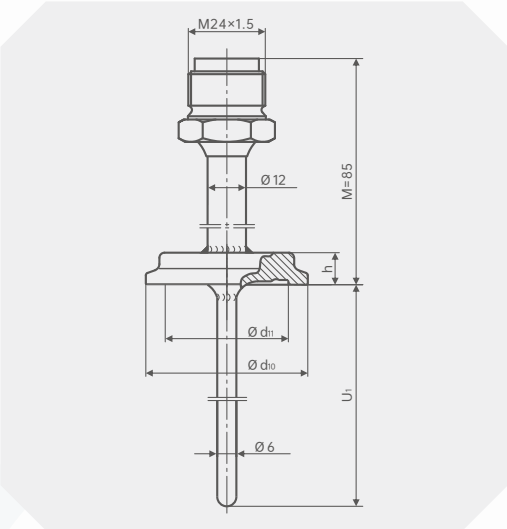
Nominal diameter mm	PN (bar)	Process connection							Sterile O-ring	weight (kg)
		b_1	b_2	$Ød_5$	$Ød_6$	$Ød_{10}$	$Ød_{11}$	$Ød_{13}$		
DN 10	25	11.5	-	37	22.3	54	-	4×Ø9	12×3.5	0.25
DN 15	25	11.5	-	42	28.3	59	-	4×Ø9	18×3.5	0.3
DN 20	25	11.5	-	47	32.3	64	-	4×Ø9	22×3.5	0.3
DN 25	25	11.5	-	53	38.3	70	-	4×Ø9	28×3.5	0.4
DN 32	25	11.5	-	59	47.6	76	-	4×Ø9	34×5	0.45
DN 40	25	11.5	-	65	56.6	82	-	4×Ø9	40×5	0.6
DN 50	16	11.5	-	77	65.6	94	-	4×Ø9	52×5	0.7

The size of the process connection mm

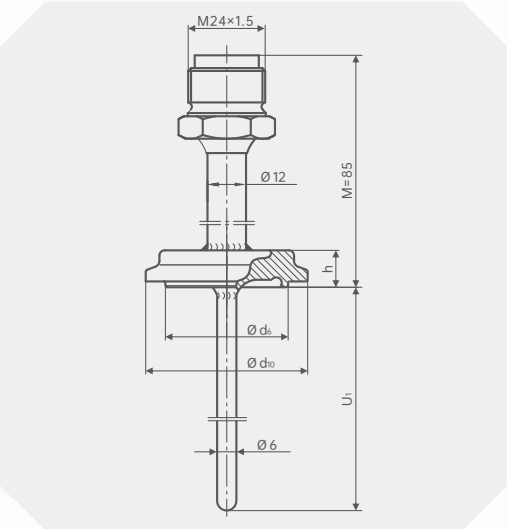
Aseptic flange process connection DIN 11864-2, Type A for pipes conforming to DIN 11866 Type A

U_1 = Variable insertion length

With notched clamp



Clamps with grooves



With notched clamp

Sterile flange with notched DIN 11864-2 A

Nominal diameter mm	PN (bar)	Process connection				Sterile O-ring	weight (kg)
		$Ød_6$	$Ød_{10}$	$Ød_{11}$	h		
DN 10	40	-	34	22.4	10	12×3.5	0.2
DN 15	40	-	34	28.4	10	18×3.5	0.2
DN 20	40	-	50.5	32.4	10	22×3.5	0.3
DN 25	40	-	50.5	38.4	10	28×3.5	0.3
DN 32	40	-	50.5	47.7	10	34×5	0.3
DN 40	40	-	64	53.7	10	40×5	0.4
DN 50	25	-	77.5	65.7	10	52×5	0.5

Clamps with grooves

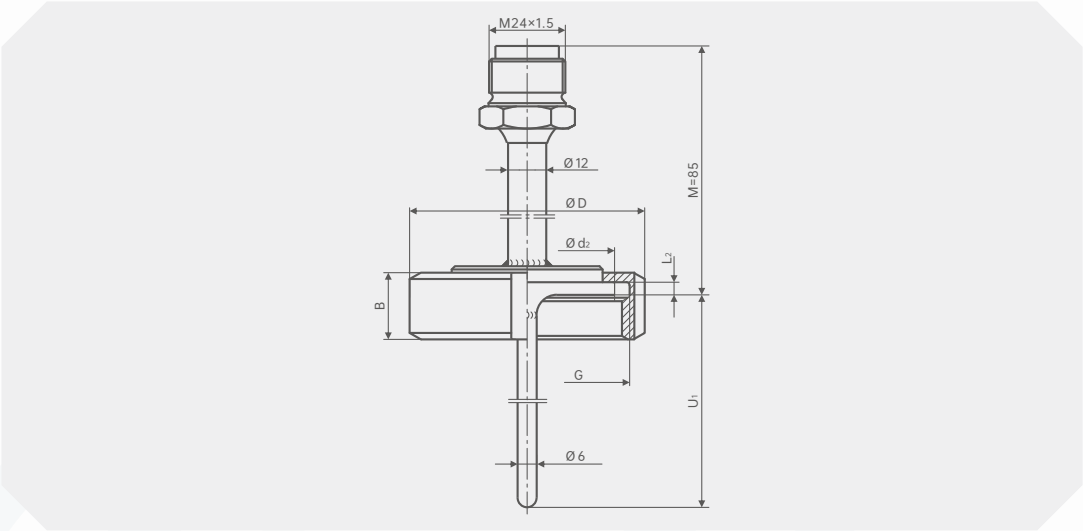
Sterile flange with grooves DIN 11864-2 Type A

Nominal diameter mm	PN (bar)	Process connection				Sterile O-ring	weight (kg)
		$Ød_6$	$Ød_{10}$	$Ød_{11}$	h		
DN 10	40	22.3	34	-	11.5	12×3.5	0.2
DN 15	40	28.3	34	-	11.5	18×3.5	0.2
DN 20	40	32.3	50.5	-	11.5	22×3.5	0.3
DN 25	40	38.3	50.5	-	11.5	28×3.5	0.3
DN 32	40	47.6	50.5	-	11.5	34×5	0.3
DN 40	40	56.6	64	-	11.5	40×5	0.4
DN 50	25	65.6	77.5	-	11.5	52×5	0.5

Process connection size mm

U_1 = Variable insertion length

The latch nut process connects SMS



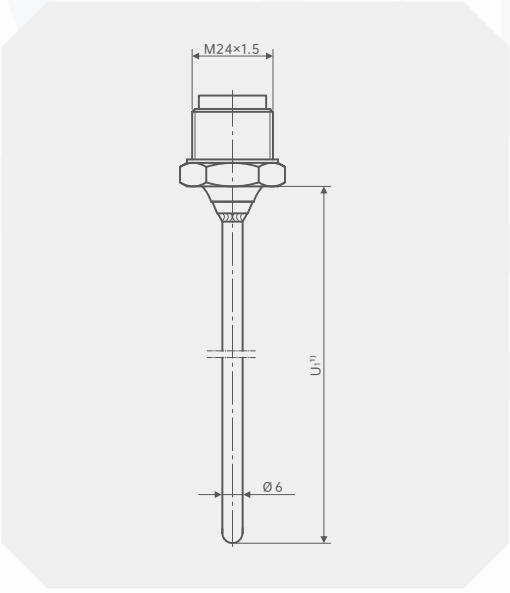
VARINLINE® The size of the process connection

Nominal diameter (inch)	PN (bar)	Process connection					weight (kg)
		ØD	Ød$_2$	B	L$_2$	G	
1"	25	51	35.5	25	3.5	RD 40×1/6	0.4
1 1/2"	25	74	55	25	4	RD 60×1/6	0.8
2"	25	84	65	26	4	RD 70×1/6	1.0

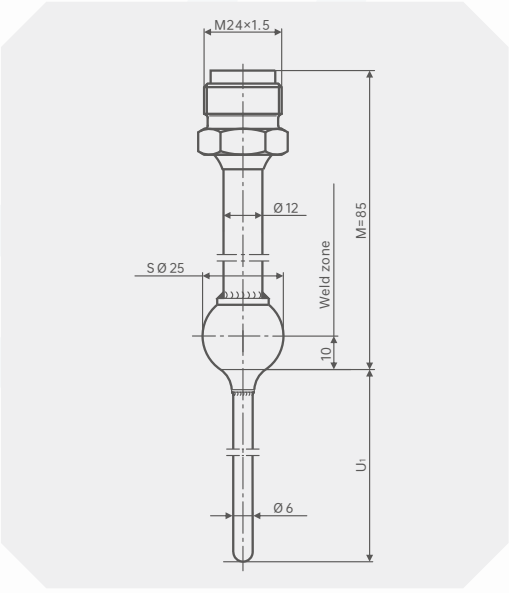
Process connection size mm

U_1 = Variable insertion length

Process connector, straight, Ø6 mm, for pressing the basic shape of the joint



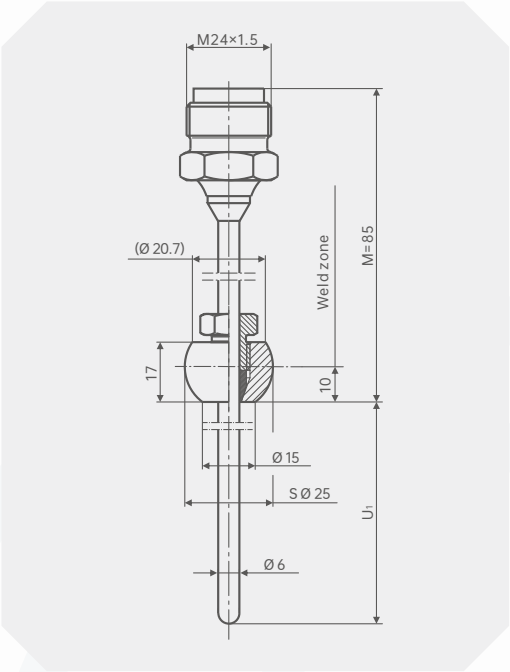
Welding ball process connection



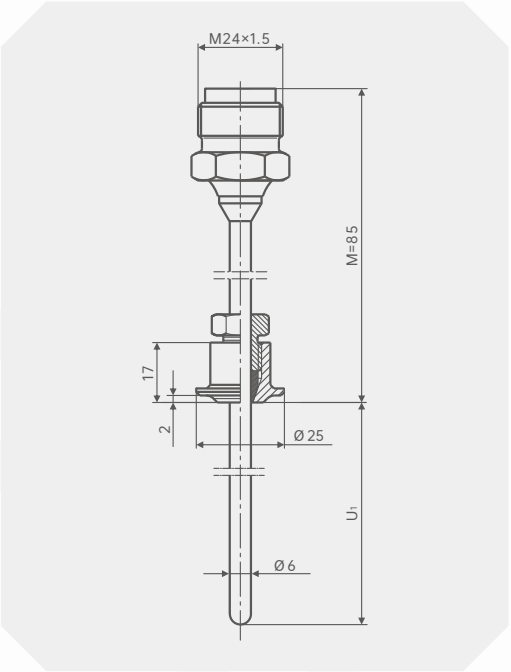
Push-in process connection

U_1 = Variable insertion length

With notched clamp



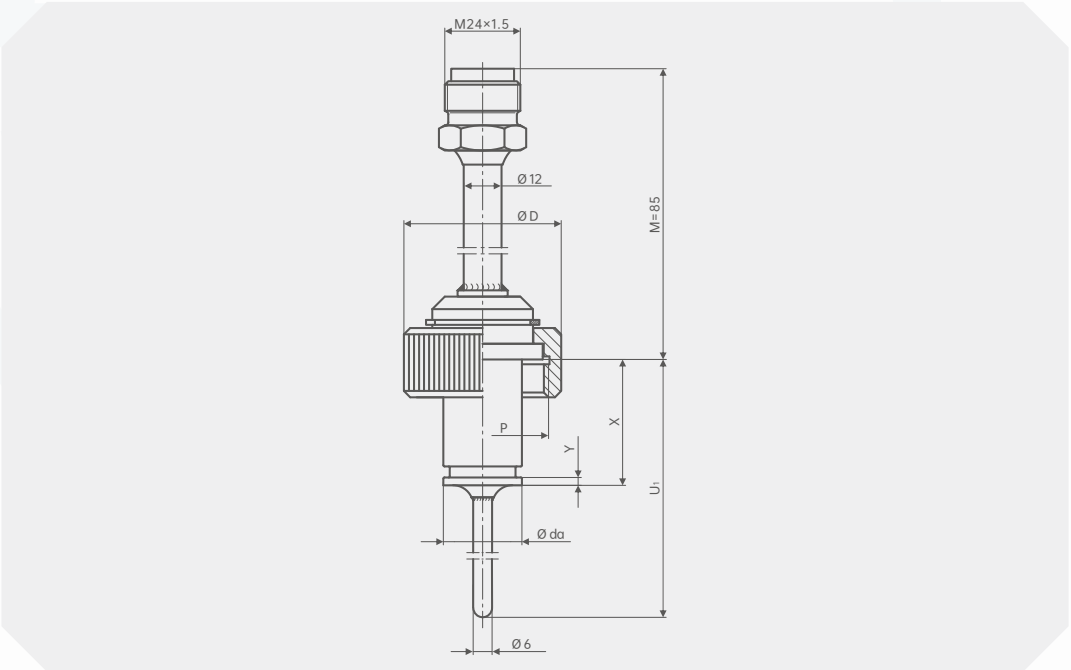
Clamps with grooves



Push-in process connection

Other process connections and nominal widths are available upon request.

Procedure connection, Ingold connection



DB06-Selection composition

Selection example
Flange connection type DB06

B	S	G	L	V	B	G	N	V	D	G	X	F	N
1	2	3	4	5	6	7	8	9	10	11	12	13	14

1.Selection description	A		All-in-one transmitter
	B		Flange casing
	C		Intrinsically safe explosion-proof type
	D		Flameproof type
	T( )		Other types
2.Flange connection	S		20592 Standard flange
	F		ANSI Standard flange
	N		Sanitary chuck
3.Insert probe design	G		Fixed installation
	H		Spring fixed terminal block (replaceable insert)
4.Junction box	K		aluminum
	L		Stainless steel
	M		With digital temperature display
	T( )		Other types of junction boxes
5.Electrical interface	U		1/2NPT
	V		M20×1.5
6.Wiring block/sensor	A		Crastin Terminal block
	B		Ceramic connection block
	C		S10 (4-20mA transmitter)
	D		S20 (HART transmitter)
	E		S30 (Fieldbus transmitter)
7.Wire system	G		Single 3-wire system
	H		Double branch 6-wire system
	T( )		Other wire system
8.Flange connection size	N		DN25
	O		DN50
	P		DN80
	Q		DN100
	R		ANSI 1"
	S		ANSI 2"
	T		ANSI 3"
	U		ANSI 4"
	T( )		Other flange types
9.Thermistor	V		Pt100, B level
	W		Pt100, A level
	X		Pt1000, B level
	Y		Pt1000, A level
10.Rod diameter	A		3mm
	B		4mm
	C		5mm
	D		6mm
	E		8mm

DB06-Selection composition

Selection example
Flange connection type DB06

B	S	G	L	V	B	G	N	V	D	G	X	F	N
1	2	3	4	5	6	7	8	9	10	11	12	13	14

11.Rod length (mm)	G	50			
	O	100			
	P	150			
	Q	200			
	R	250			
	S	300			
	T	350			
	U	400			
	V	450			
	W	500			
	T( )	Other lengths			
12.Probe rod material	X	304SS			
	Y	316/316L (1.4401/1.4435)			
	Z	Other materials			
13.Temperature range (℃)	A	-50...+250			
	B	-50...+450			
	C	-200...+250			
	D	-200...+450			
	E	-200...+600			
	F	0...+400			
	G	0...+500			
	T( )	Other measured temperatures			
14.Safety certification	X	Intrinsic safety			
	Y	Flameproof			
	Z	There is no			
15.Additional order information	V	Additional information			
	N	There is no			

Instructions:

It means that the DB06 thermal resistance is a thermometer with flanged sleeve, the connection mode is 20592 standard flange, the probe rod design is fixed installation, the connection box is stainless steel, the electrical interface is M20*1.5, the sensor is ceramic connecting block, the single three-wire system, the flange specification is DN25, the thermal resistance element is Pt100, the class B, the diameter of the probe rod is 6mm. The length of the rod is 50mm, the material of the rod is 304SS, and the temperature range is 0... 400℃, no explosion-proof, 15 items are not required.

Product certification

Compliance and approval; Rodwig thermometers meet key standards and certifications for process measurement technology; Thus guaranteeing the highest reliability in such Settings;

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