Measuring instruments with connections per DIN 11864







About us

As a family-run business acting globally, with over 7,900 highly qualified employees, the WIKA group of companies is a worldwide leader in pressure and temperature measurement. The company also sets the standard in the measurement of level and flow, and in calibration technology.

Founded in 1946, WIKA is today a strong and reliable partner for all the requirements of industrial measurement technology, thanks to a broad portfolio of high-precision instruments and comprehensive services.

With manufacturing locations around the globe, WIKA ensures flexibility and the highest delivery performance. Every year, over 50 million quality products, both standard and customer-specific solutions, are delivered in batches of 1 to over 10,000 units.

With numerous wholly-owned subsidiaries and partners, WIKA competently and reliably supports its customers worldwide. Our experienced engineers and sales experts are your competent and dependable contacts locally.

Contents

About us	2
Hygienic design	3
Highest demands	4
What is DIN 11864?	5
Electronic pressure measuring instruments	6
Mechanical pressure measuring instruments	8
Temperature measuring instruments	10
Level measuring instruments	10





Hygienic design

The hygienic design of components in contact with food or pharmaceuticals is an essential pre-requisite to avoid microbiological contamination, which goes with ensuring the product's quality.

As part of the overall hygienic concept of a plant, the measuring instruments used must comply with special requirements on material, surface quality, process safety, connection engineering and cleaning in the scope of the CIP process.



As a company member of the European Hygienic Engineering and Design Group (EHEDG), WIKA contributes to the international standards and combines hygienic design with high-quality measurement technology.

WIKA offers a comprehensive programme for the hygienic integration of measuring instruments into sanitary applications with process connections per DIN 11864:

- Pressure transmitters
- Process transmitters
- Pressure gauges
- Resistance thermometers
- Bimetal and gas-actuated thermometers
- Float switches
- Level sensors

This brochure serves as a selection aid in project planning. In the table we show you in detail which measuring instruments, with their corresponding process connections, are available.

Highest demands

In the production of food and pharmaceuticals, safety in the production and the prevention of any risks to those using the finished product is of the highest priority.

Modern production facilities are cleaned using CIP during the cleaning phase. This requires that the equipment used can be easily cleaned. The basic prerequisite for this is that the process connections must conform to the rules of hygienic design.

Process connections which are used in CIP-capable equipment should not constitute any risk in respect to sterility. They are characterised by the following features:

- A defined compression of the sealing element through a metallic stop
- Centring via a cylindrical guide
- Crevice-free sealing on the inside of the pipe

Connections per DIN 11864 offer this.

The widely used connections in accordance with DIN 11851 (milk thread fitting) and DIN 32676 (clamp) were originally developed to disassemble plant components easily. They are therefore ideally suited to equipment that needs to be removed for cleaning.



What is DIN 11864?

DIN 11864 was prepared by the working committee "Fittings for the food industry", based on the recommendations of the EHEDG (European Hygienic Equipment Design Group) pipe couplings subgroup.

The aim of this was to incorporate the knowledge of modern hygienic design into the design and construction of process connections.

The DIN 11864 standard "Stainless steel fittings for the aseptic, chemical and pharmaceutical industries" consists of 3 parts:

11864-1 Aseptic threaded pipe connection11864-2 Aseptic flange connection11864-3 Aseptic clamp connection

The connection is made up of two components that are matched to one another, e.g. collar connecting sleeve and threaded coupling. The designation 'form A' refers to the O-ring between the two fittings. 'Form B' (form seal), which is also defined in the standard, is actually not used in practical application. With the specification of measuring instruments, one must pay attention that the design of the process connection is chosen so that it matches the opposing connector on the tank or pipeline.



Designs and designations

Process connection type	Process connection specification	
Aseptic threaded connection DIN 11864-1	Liner with union nut	2 . B
	Threaded coupling with male thread	
Aseptic flange following DIN 11864-2	Aseptic flange with groove	r III
	Aseptic liner flange	S S
Aseptic clamp following DIN 11864-3	Clamp with notch	
	Clamp with groove	

Electronic pressure measuring instruments

This overview shows the possible combinations of electronic pressure transmitters with the available process connections.

Pipe standard	Process connection	Diaphragm seal model 990.51 with electronic process transmitter					
		from 0 400 mbar	from 0 600 mbar	from 0 1 bar	from 0 2.5 bar		
	DN 10 (pipe dimension 13.0 x 1.5)	0	0	0	0		
	DN 15 (pipe dimension 19.0 x 1.5)	0	0	0	0		
Pipes per DIN 11866 row A or DIN 11850 row 2	DN 20 (pipe dimension 23.0 x 1.5)	0	0	0	0		
es per DIN 11866 ro or DIN 11850 row 2	DN 25 (pipe dimension 29.0 x 1.5)	0	0	0	•		
I 118 850 r	DN 32 (pipe dimension 35.0 x 1.5)	0	0	0	•		
r DIN	DN 40 (pipe dimension 41.0 x 1.5)	0	0	•	•		
s pel	DN 50 (pipe dimension 53.0 x 1.5)	0	0	•	•		
Pipe	DN 65 (pipe dimension 70.0 x 2.0)	0	•	•	•		
	DN 80 (pipe dimension 85.0 x 2.0)	•	•	•	•		
	DN 100 (pipe dimension 104.0 x 2.0)	•	•	•	•		
	DN 13.5 (pipe dimension 13.5 x 1.6)	0	0	0	0		
	DN 17.2 (pipe dimension 17.2 x 1.6)	0	0	0	0		
	DN 21.3 (pipe dimension 21.3 x 1.6)	0	0	0	0		
Pipes per DIN 11866 row or DIN ISO 1127 row 1	DN 26.9 (pipe dimension 26.9 x 1.6)	0	0	0	•		
1118	DN 33.7 (pipe dimension 33.7 x 2.0)	0	0	0	•		
r DIN ISO	DN 42.4 (pipe dimension 42.4 x 2.0)	0	0	•	•		
s pel	DN 48.3 (pipe dimension 48.3 x 2.0)	0	0	•	•		
Pipe	DN 60.3 (pipe dimension 60.3 x 2.0)	0	•	•	•		
	DN 76.1 (pipe dimension 76.1 x 2.0)	0	•	•	•		
	DN 88.9 (pipe dimension 88.9 x 2.3)	•	•	•	•		
	1/2" (pipe dimension 12.7 x 1.65)	0	0	0	0		
O M		0	0	0	0		
Pipes per DIN 11866 row C or ASME BPE	1" (pipe dimension 25.4 x 1.65)	0	0	0	•		
		0	0	•	•		
ASM	2" (pipe dimension 50.8 x 1.65)	0	0	•	•		
s per		0	•	•	•		
Pipe	3" (pipe dimension 76.2 x 1.65)	•	•	•	•		
		•	•	•	•		

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Pressure transmitter model SA-11	Pressure switch model PSA-31	In-line diaphragm seal model 981.51 with electrical process transmitter		Process transmitter model IPT-11	
		from 0 400 mbar	from 0 1 bar		
0	0	0	0	0	
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0	0	0	•	•	
•	•	0	•	•	
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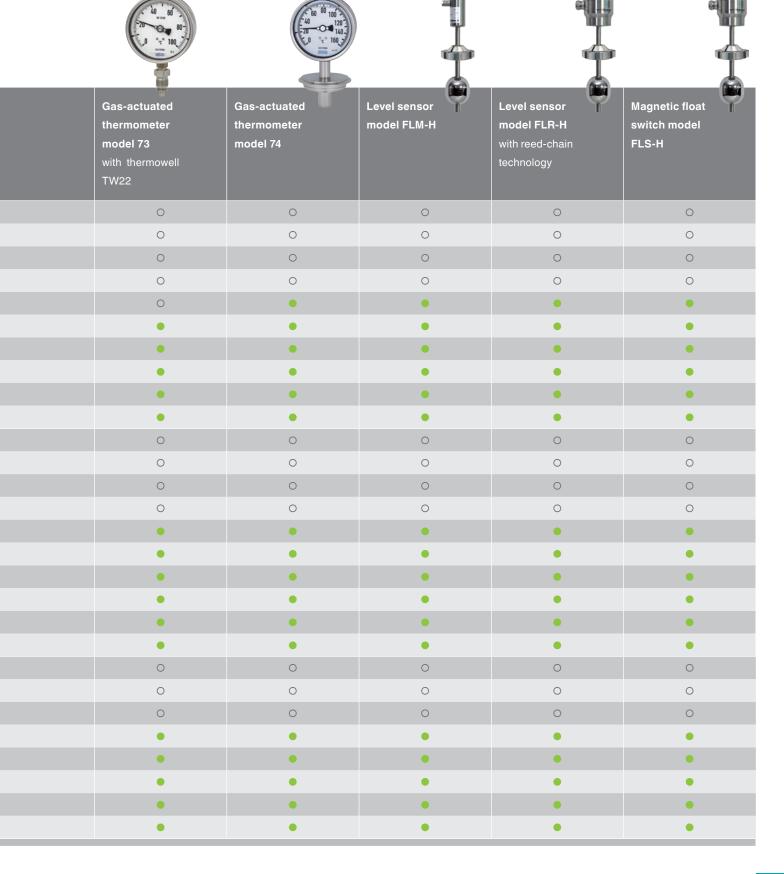
Mechanical pressure measuring instruments

Pipe standard	Process connection	Diaphragm seal model 990.51 with pressure gauge				
		from 0 0.6 bar	from 0 1 bar	from 0 2 bar	from 0 4 bar	
	DN 10 (pipe dimension 13.0 x 1.5)	0	0	0	0	
	DN 15 (pipe dimension 19.0 x 1.5)	0	0	0	0	
ν Α	DN 20 (pipe dimension 23.0 x 1.5)	0	0	0	0	
66 rc	DN 25 (pipe dimension 29.0 x 1.5)	0	0	0	•	
l 118 850 r	DN 32 (pipe dimension 35.0 x 1.5)	0	0	0	•	
Pipes per DIN 11866 row A or DIN 11850 row 2	DN 40 (pipe dimension 41.0 x 1.5)	0	0	•	•	
s pe	DN 50 (pipe dimension 53.0 x 1.5)	0	0	•	•	
Pipe	DN 65 (pipe dimension 70.0 x 2.0)	0	•	•	•	
	DN 80 (pipe dimension 85.0 x 2.0)	•	•	•	•	
	DN 100 (pipe dimension 104.0 x 2.0)	•	•	•	•	
	DN 13.5 (pipe dimension 13.5 x 1.6)	0	0	0	0	
	DN 17.2 (pipe dimension 17.2 x 1.6)	0	0	0	0	
0 W B	DN 21.3 (pipe dimension 21.3 x 1.6)	0	0	0	0	
66 rc ' row	DN 26.9 (pipe dimension 26.9 x 1.6)	0	0	0	•	
1118	DN 33.7 (pipe dimension 33.7 x 2.0)	0	0	0	•	
Pipes per DIN 11866 row B or DIN ISO 1127 row 1	DN 42.4 (pipe dimension 42.4 x 2.0)	0	0	•	•	
s pe DIN	DN 48.3 (pipe dimension 48.3 x 2.0)	0	0	•	•	
Pipe or	DN 60.3 (pipe dimension 60.3 x 2.0)	0	•	•	•	
	DN 76.1 (pipe dimension 76.1 x 2.0)	0	•	•	•	
	DN 88.9 (pipe dimension 88.9 x 2.3)	•	•	•	•	
	1/2" (pipe dimension 12.7 x 1.65)	0	0	0	0	
0 % C		0	0	0	0	
1997	1" (pipe dimension 25.4 x 1.65)	0	0	0	•	
N 118		0	0	•	•	
r DIN	2" (pipe dimension 50.8 x 1.65)	0	0	•	•	
es per DIN 11866 ro or ASME BPE 1997		0	•	•	•	
Pipes per DIN 11866 row C or ASME BPE 1997	3" (pipe dimension 76.2 x 1.65)	•	•	•	•	
		•	•	•	•	

		2	1	33	
In-line diaphragm seal r with pressure gauge	nodel 981.51		Flush diaphragm pressure gauge model PG43SA	Flush diaphragm pressure gauge model 432.55	
from 0 0.6 bar	from 0 1 bar	from 0 4 bar	model PG435A		
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Temperature and level measuring instruments

Pipe standard	Process connection	Resistance ther- mometer models TR21-A, TR21-C and TR22-A with thermowell TW22	Resistance ther- mometer mo- dels TR21-B and TR22-B with ther- mowell TW61	In-line resis- tance ther- mometer mo- del TR25	Bimetal thermometer models 53, 54 and 55 with thermowell TW22	
	DN-10 (sine dimension 12.0 v.1.5)			•	0	
	DN 10 (pipe dimension 13.0 x 1.5)	•	•	•	0	
⋖	DN 15 (pipe dimension 19.0 x 1.5) DN 20 (pipe dimension 23.0 x 1.5)	•	•	•	0	
row v 2	DN 25 (pipe dimension 29.0 x 1.5)	•	•	•	0	
1866 0 ro	DN 32 (pipe dimension 25.0 x 1.5)	•	•	•	0	
es per DIN 11866 ro or DIN 11850 row 2	DN 40 (pipe dimension 41.0 x 1.5)	•	•	•	•	
per [DN 50 (pipe dimension 53.0 x 1.5)	•	•	•	•	
Pipes per DIN 11866 row A or DIN 11850 row 2	DN 65 (pipe dimension 70.0 x 2.0)	•	•	•		
<u>.</u>	DN 80 (pipe dimension 85.0 x 2.0)	•	•	•	•	
	DN 100 (pipe dimension 104.0 x 2.0)	•	•	•	•	
	DN 13.5 (pipe dimension 13.5 x 1.6)	•	•	•	0	
	DN 17.2 (pipe dimension 17.2 x 1.6)	•	•		0	
<u>m</u>	DN 21.3 (pipe dimension 21.3 x 1.6)	•	•	•	0	
DIN 11866 row B SO 1127 row 1	DN 26.9 (pipe dimension 26.9 x 1.6)	•	•	•	0	
1186(127 r	DN 33.7 (pipe dimension 33.7 x 2.0)	•	•		•	
DIN 1	DN 42.4 (pipe dimension 42.4 x 2.0)	•	•			
per l	DN 48.3 (pipe dimension 48.3 x 2.0)	•	•	•	•	
Pipes per or DIN I	DN 60.3 (pipe dimension 60.3 x 2.0)	•	•	•	•	
<u>ic</u>	DN 76.1 (pipe dimension 76.1 x 2.0)	•	•	•	•	
	DN 88.9 (pipe dimension 88.9 x 2.3)	•	•	•	•	
	1/2" (pipe dimension 12.7 x 1.65)	•	•	•	0	
O ≩		•	•	•	0	
66 rov	1" (pipe dimension 25.4 x 1.65)	•	•	•	0	
1186 PE 1		•	•	•	•	
Pipes per DIN 11866 row C or ASME BPE 1997	2" (pipe dimension 50.8 x 1.65)	•	•	•	•	
per r ASI		•	•	•	•	
o	3" (pipe dimension 76.2 x 1.65)	•	•	•	•	
		•	•	•	•	



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