

Process connection per EN 837

WIKA data sheet IN 00.03

Applications

- For the definition of the process connections for WIKA pressure measuring instruments

Variants

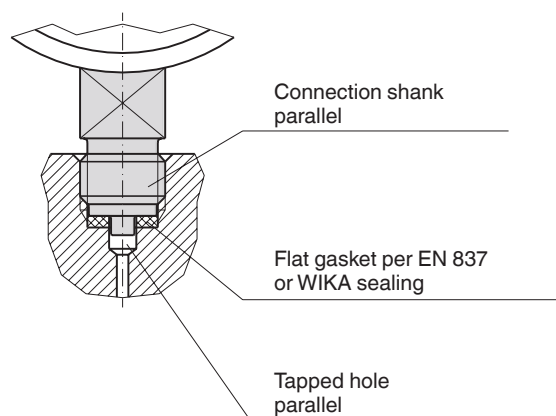
- Process connections with parallel thread
- Process connections with tapered thread
- Industry-specific special connections

Description

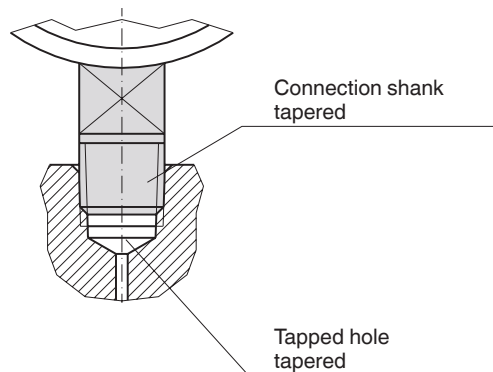
WIKA offers pressure gauges with a variety of process connections in order to meet diverse customer-specific application requirements.

For pressure measuring instruments with parallel or tapered thread, process connections with a range of dimensions are specified.

The permissible maximum pressure of a process connection is a result of the combination of thread size and material. The correlation is illustrated for a selection of representative process connections in a table on page 3.

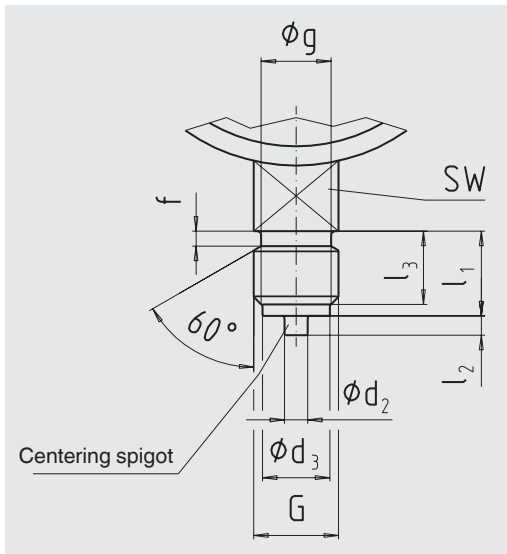


Installation example with parallel thread



Installation example with tapered thread

Connection shank with parallel thread

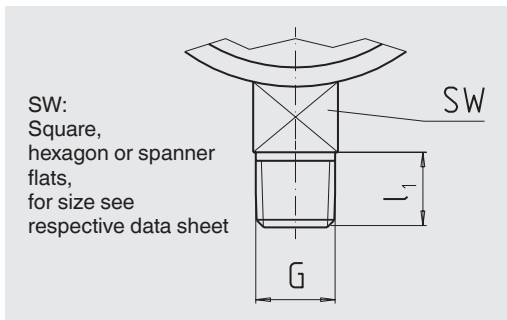


| Parallel thread G | Dimensions in mm | | | | | | | |
|----------------------|------------------|------|--------------|---------------|--------|------------|---------------|------------|
| | d2 | d3 | f with Brass | Stainl. steel | g -0.2 | $l_1 +0.3$ | $l_2 \pm 0.1$ | $l_3 +0.3$ |
| G 1/8 1) | 2) | 8 | 2) | 2) | 2) | 10 | 2) | 8 |
| M10 x 1 | 2) | 8 | 2) | 2) | 2) | 10 | 2) | 8 |
| G 1/4 1) | 5 | 9.5 | 2 | 3 | 11 | 13 | 2 | 11 |
| M12 x 1.5 | 5 | 9.5 | 2 | 3 | 9.7 | 13 | 2 | 11 |
| G 3/8 | 5.5 | 13 | 2 | 3 | 14.5 | 16 | 3 | 13 |
| G 1/2 1) | 6 | 17.5 | 3 | 4 | 18 | 20 | 3 | 17 |
| M20 x 1.5 | 6 | 17.5 | 3 | 4 | 17.7 | 20 | 3 | 17 |

1) Preferably with WIKA standard versions

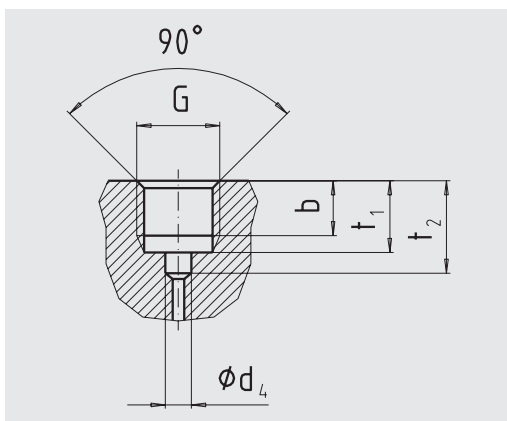
2) With WIKA, without centering spigot, instead of undercut thread run-out

Connection shank with tapered thread



| Tapered thread G | Dimensions in mm l_1 min. |
|---------------------|-----------------------------------|
| 1/8 NPT, R 1/8 | 10 |
| 1/4 NPT, R 1/4 | 13 |
| 3/8 NPT, R 3/8 | 15 |
| 1/2 NPT, R 1/2 | 19 |

Tapped hole with parallel female thread



| Parallel female thread G | Dimensions in mm | | | |
|-----------------------------|------------------|--------|------------|------------|
| | b min. | d_4 | $t_1 -0.5$ | t_2 min. |
| G 1/8 1) | 7.5 | 4.4 3) | 10 | 13 |
| M10 x 1 | 7.5 | 4.5 3) | 10 | 13 |
| G 1/4 1) | 10 | 5.5 | 13 | 16.5 |
| M12 x 1.5 | 9.5 | 5.5 | 13 | 16.5 |
| G 3/8 | 12 | 6.5 | 16 | 19.5 |
| G 1/2 1) | 15 | 7 | 19 | 24.5 |
| M20 x 1.5 | 15.5 | 7 | 19 | 24.5 |

1) Preferably with WIKA standard versions

3) Can be omitted with WIKA instruments since without centering spigot

Standards for threads

Parallel threads: Pipe threads, code G, per ISO 228-1
Metric ISO threads, code M, per DIN 13

Tapered threads: Pipe threads, code NPT, per ANSI / ASME B1.20.1
Pipe threads, code R, per ISO 7

Permissible maximum pressure

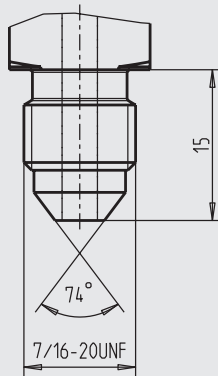
| Thread 1) | Permissible maximum pressure 2) | | | | | |
|----------------|---------------------------------|--------|-----------------|--------|--------|--------|
| | Cu-alloy | | Stainless steel | | Monel® | |
| | bar | psi | bar | psi | bar | psi |
| G 1/8 | 400 | 6,000 | 400 | 6,000 | 400 | 6,000 |
| G 1/4 | 600 | 8,600 | 1,000 | 15,000 | 1,000 | 15,000 |
| G 3/8 | 600 | 8,600 | 1,000 | 15,000 | 1,000 | 15,000 |
| G 1/2 | 1,000 | 15,000 | 2,500 | 36,000 | 2,500 | 36,000 |
| M10 x 1 | 400 | 6,000 | 400 | 6,000 | 400 | 6,000 |
| M12 x 1.5 | 400 | 6,000 | 400 | 6,000 | 400 | 6,000 |
| M20 x 1.5 | 1,000 | 15,000 | 2,500 | 36,000 | 2,500 | 36,000 |
| 1/8 NPT, R 1/8 | 400 | 6,000 | 400 | 6,000 | 400 | 6,000 |
| 1/4 NPT, R 1/4 | 600 | 8,600 | 1,000 | 15,000 | 1,000 | 15,000 |
| 3/8 NPT, R 3/8 | 600 | 8,600 | 1,000 | 15,000 | 1,000 | 15,000 |
| 1/2 NPT, R 1/2 | 1,000 | 15,000 | 1,600 | 23,000 | 1,600 | 23,000 |
| 7/16-20 UNF | 400 | 6,000 | 800 | 12,000 | 800 | 12,000 |

1) Valid for the thread standards for connection shanks and female threads mentioned on page 2.

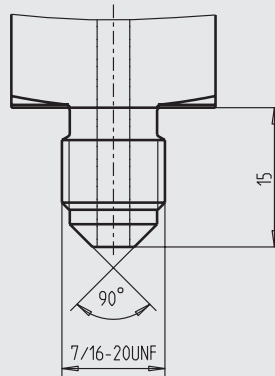
2) The specified values for the maximum pressure are rounded values and are assigned to the nearest standard scale range.

Examples of industry-specific process connections

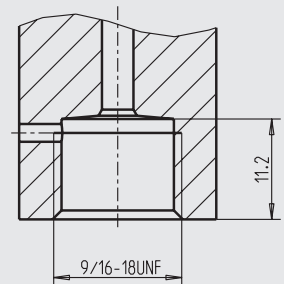
**Hydraulic connection
with 74° sealing cone
SAE J 514**



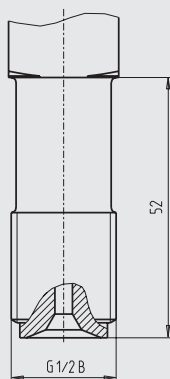
**Refrigeration connection
with 90° sealing cone
SAE J 513**



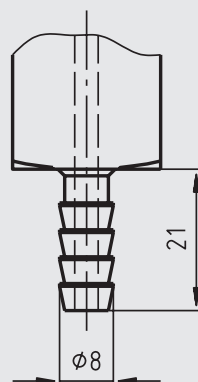
**High-pressure process connection
per Autoclave Engineering or
Nova Swiss M16 x 1.5 female**



**High-pressure process connection
(HP) for connection with lens-type
sealing ring, per EN 837**



Hose connection



Other process connections
on request

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