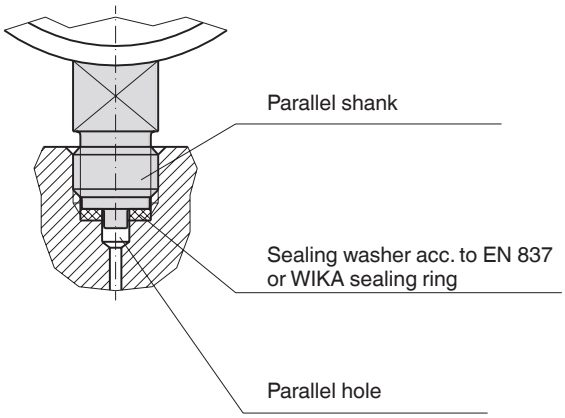
Pressure connections per EN 837

Applications

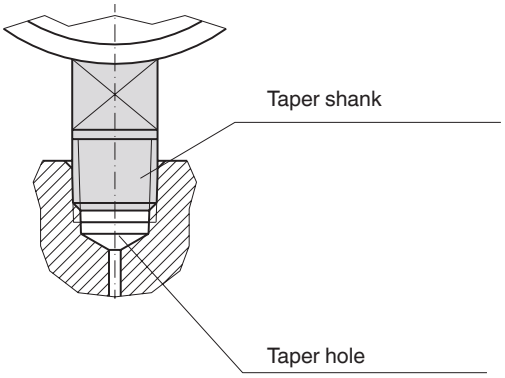
- Specification of pressure connections for WIKA pressure measuring instruments

Versions

- Pressure connections with parallel pipe threads
- Pressure connections with taper pipe threads
- Industry-specific special connections



Installation example with parallel pipe thread



Installation example with taper pipe thread

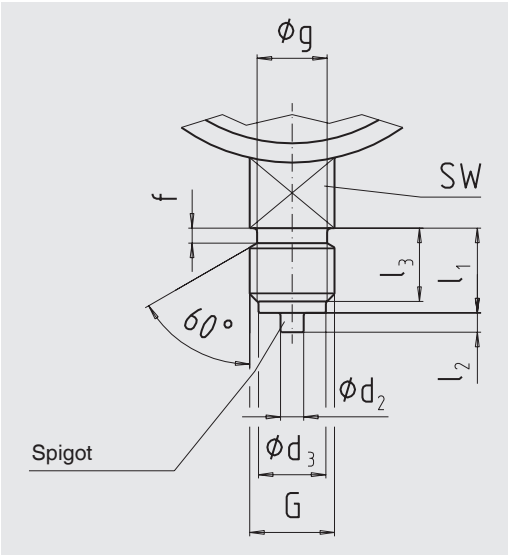
Description

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

For pressure measuring instruments with parallel or taper pipe thread pressure connections with a range of dimensions are specified.

The correlation of thread sizes to pressure ranges and materials according to EN 837 can be found in the “Table of combination ...” on page 3. This table also specifies the nominal instrument sizes recommended for the respective thread sizes.

Pressure connection with parallel pipe thread

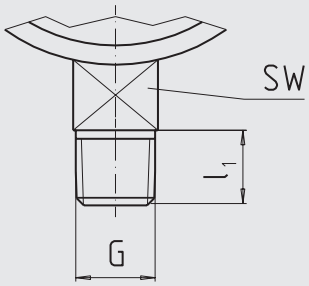


Parallel pipe thread G	Dimensions in mm d_2	d_3	f with Brass	f with Stainl. steel	g -0.2	l_1 +0.3	l_2 ±0.1	l_3 +0.3
G ⅛ [1]	[2]	8	[2]	[2]	[2]	10	[2]	8
M10 x 1 [3]	[2]	8	[2]	[2]	[2]	10	[2]	8
G ¼ [1]	5	9.5	2	3	11	13	2	11
M12 x 1.5 [3]	5	9.5	2	3	9.7	13	2	11
G ⅜	5.5	13	2	3	14.5	16	3	13
G ½ [1]	6	17.5	3	4	18	20	3	17
M20 x 1.5 [3]	6	17.5	3	4	17.7	20	3	17

1) WIKA's preferred standard versions.
2) Normally with thread run-out. No spigot or undercut.
3) Metric ISO threads were based on DIN 16 288: 1987, now withdrawn. These threads are no longer standardised within EN 837.

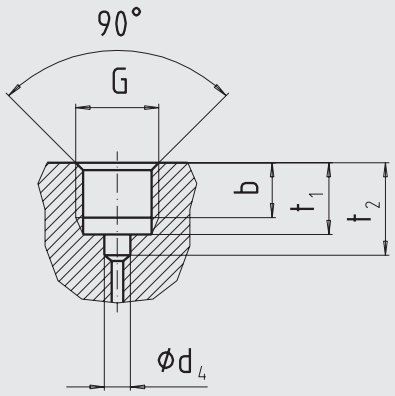
Pressure connection with taper pipe thread

SW:
hexagon, square or flats, for size see respective data sheet



Taper pipe thread G	Dimensions in mm l_1 min.
⅛ NPT	10
¼ NPT	13
½ NPT	19

Parallel threaded tapped hole



Parallel female thread G	Dimensions in mm b min.	d_4	t_1 -0.5	t_2 min.
G ⅛ [1]	7.5	4.4 [2]	10	13
M10 x 1 [3]	7.5	4.5 [2]	10	13
G ¼ [1]	10	5.5	13	16.5
M12 x 1.5 [3]	9.5	5.5	13	16.5
G ⅜	12	6.5	16	19.5
G ½ [1]	15	7	19	24.5
M20 x 1.5 [3]	15.5	7	19	24.5

1) WIKA's preferred standard versions.
2) Now obsolete on standard connectors supplied by WIKA.
3) Metric ISO threads were based on DIN 16 288: 1987, now withdrawn. These threads are no longer standardised within EN 837.

Standards for threads

Parallel pipe threads: Pipe thread, letter symbol G according to ISO 228-1
metric ISO - thread, letter symbol M according to DIN 13 (ISO 724)
Taper pipe threads: Pipe thread, letter symbol NPT according to ANSI / ASME B1.20.1

Table of combination: Threads, pressure, materials, nominal size

Threads	Pressure p in bar					Nominal size
	≤ 250	> 250 ≤ 400	> 400 ≤ 600	> 600 ≤ 1000	> 1000 ≤ 1600	preferred
G ⅛ B **⅛ NPT**	A, B	A, B	-	-	-	40, 50
G ¼ B **¼ NPT**	A, B	A, B	A, B	B	-	40, 50, 63, 80
G ⅜ B	A, B	A, B	A, B	B	-	80, 100, 150, 160
G ½ B	A, B	A, B	A, B	A, B	C	80, 100, 150, 160, 250
½ NPT	A, B	A, B	A, B	B	-	80, 100, 150, 160, 250
G ½ B (for HP)	B	B	B	B	C	100, 150, 160, 250

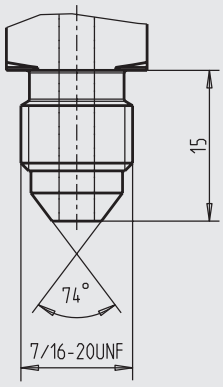
Material (minimum requirement)

A ... Material with yield strength Rp 0.2 ≥ 150 N/mm² (e.g. brass)
B ... Material with yield strength Rp 0.2 ≥ 190 N/mm² (e.g. stainless steel 316L, monel)
C ... Material with yield strength Rp 0.2 ≥ 260 N/mm² (e.g. stainless steel 316L)

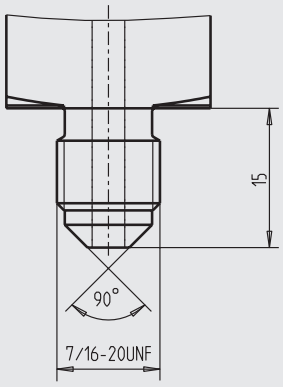
Combinations marked "-" must not be used

Examples of industry-specific pressure connections

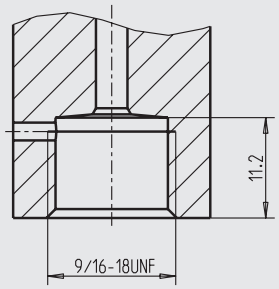
Hydraulic connection with 74° sealing cone SAE J 514



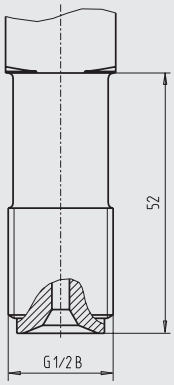
Refrigeration connection with 90° sealing cone SAE J 513



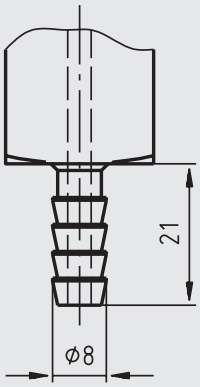
High pressure connection per Autoclave Engineering or Nova Swiss M16 x 1.5 female



High pressure shank (HP) for connection with lens seal per EN 837



Hose connection



Other connections on inquiry

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