

## Test couplings “MINIMESS® system” Model CPK-MM

WIKA data sheet AC 87.02

### Applications

- Calibration service companies and service industry
- Calibrations directly on-site
- Maintenance and service facilities
- Pressure test

### Special features

- Plug-in and threaded coupling
- Integrated check valve enables leak-free mounting and dismounting
- Tool-free fitting of the threaded connections



Fig. left: 1620 series

Fig. right: 1215 series

## Description

### Application areas

Both connection sets contain various test couplings for adapting to WIKA calibration instruments to existing processes with quick-release couplings series MINIMESS® 1620 or MINIMESS® 1215. The selection and quantity of adapters is specifically configured for the various WIKA calibration instruments.

### Two connection sets for different systems

In practice, one often finds the 1620 and 1215 series test couplings. The numbers represent the thread sizes of the test coupling connections: 1620 stands for the M16 x 2 thread size and 1215 for the M12 x 1.5 thread size.

For this reason, WIKA offers one connection set for each of both systems.

### Different adapter types

The components of both sets can be divided into 4 different categories:

- Test couplings have a series-specific male thread on one side and a BSP or NPT male thread on the other side. The coupling is also fitted with a check valve.
- Direct connections for measuring instruments have a series-specific female thread on one side with an internal metal mandrel. The metal mandrel serves to open the check valves of the test couplings.
- Hose adapters have a series-specific male thread on both sides. In contrast to the couplings, these have no check valve integrated and are particularly suitable for the connection of two hoses.
- Measuring hoses have a series-specific female thread on both sides.

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## Test coupling “MINIMESS® system”, model CPK-MM

Test coupling, direct connection and hose adapter	
<b>Material</b>	
Coupling body	Steel 1.0718 (zinc-/nickel-coated)
Metal cap	Steel 1.0718 (zinc-/nickel-coated)
Seals	NBR (Perbunan)
<b>Ambient conditions</b>	
Operating temperature	-20 ... +100 °C [-4 ... +212 °F]

### Test couplings

Thread G	Type of sealing	Torque in Nm	Pressure ( $p_{max}$ )	Dimensions in mm [in]			
			in bar [psi]	H	i	ø	SW
<b>1620 series</b>							
ISO 228-G 1/8	Form F	20	400 [5,800]	38 [1.50]	8 [0.31]	20 [0.79]	17 [0.67]
ISO 228-G 1/4	Form F	60	630 [9,130]	36 [1.42]	10 [0.39]	20 [0.79]	19 [0.75]
M10 x 1	Form G	20	630 [9,130]	37.5 [1.48]	8.5 [0.34]	20 [0.79]	17 [0.67]
1/4 NPTF	Form H	-	630 [9,130]	33 [1.30]	16.5 [1.50]	20 [0.79]	17 [0.67]
<b>1215 series</b>							
ISO 228-G 1/8	Form F	18	400 [5,800]	30 [1.18]	8 [0.31]	17 [0.67]	14 [0.55]
ISO 228-G 1/4	Form F	40	630 [9,130]	29 [1.14]	10 [0.39]	17 [0.67]	19 [0.75]
M10 x 1	Form G	20	630 [9,130]	30 [1.18]	8.5 [0.34]	17 [0.67]	14 [0.55]
1/4 NPTF	Form H	-	630 [9,130]	26 [1.02]	15 [0.59]	17 [0.67]	14 [0.55]

### Direct connections for measuring instruments

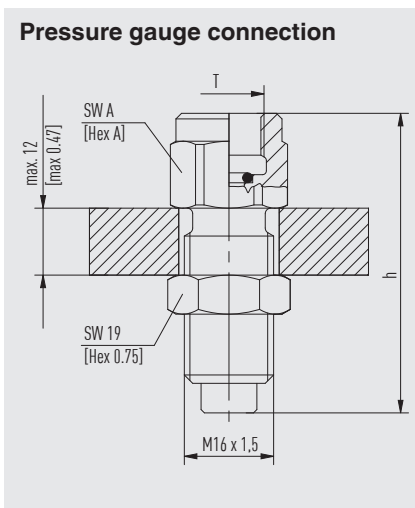
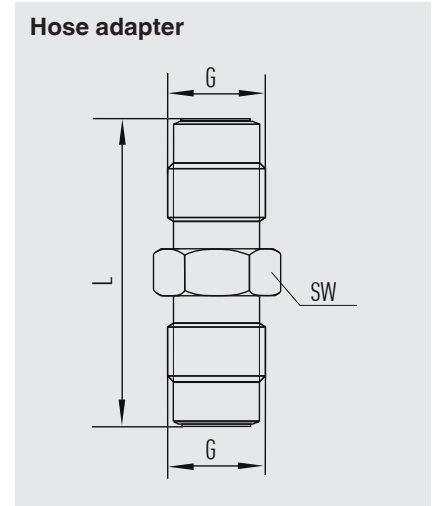
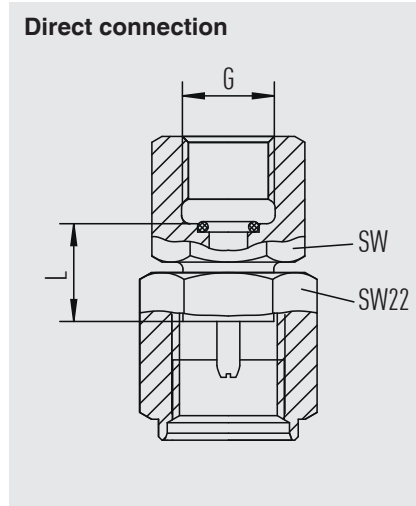
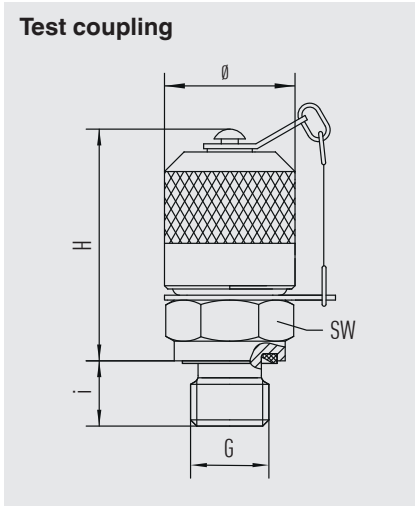
Thread G	Pressure ( $p_{max}$ )	Dimensions in mm [in]	
	in bar [psi]	L	SW
<b>1620 series / 1215 series</b>			
G 1/2	630 [9,130]	17 [0.67]	27 [1.02]
1/4 NPT	630 [9,130]	-	19 [0.75]

### Hose adapter

Thread G	Pressure ( $p_{max}$ )	Dimensions in mm [in]	
	in bar [psi]	L	SW
<b>1620 series</b>			
M16 x 2	630 [9,130]	42 [1.65]	17 [0.67]
<b>1215 series</b>			
Fixing thread 12	630 [9,130]	29 [1.14]	14 [0.55]

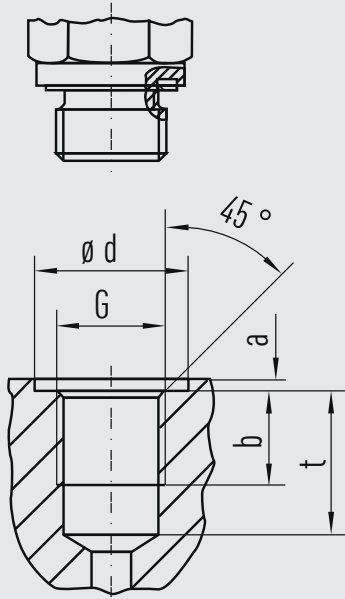
## Pressure gauge connection

Thread G	Pressure ( $P_{max}$ )	Dimensions in mm [in]		Through bore
	in bar [psi]	L	SW A	Diameter in mm [in]
<b>1620 series</b>				
G ½	630 [9,130]	42.5 [1.67]	27 [1.02]	18 [0.71]
G ¼	630 [9,130]	38 [1.50]	19 [0.75]	18 [0.71]
¼ NPT	630 [9,130]	-	19 [0.75]	18 [0.71]



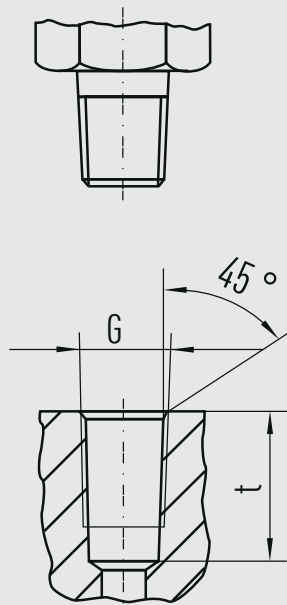
## Threaded holes and types of sealing

**Form F**



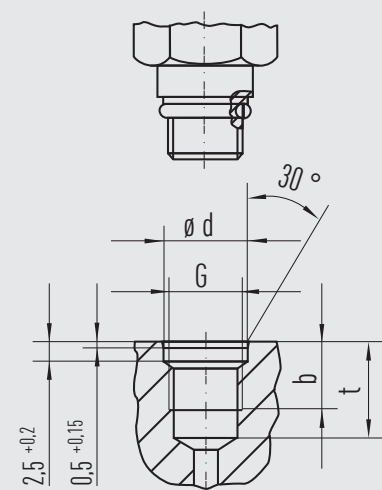
Tapped hole up to  $\varnothing d$  in accordance with DIN 3852 part 1 and part 2.  
Form X (sealing through flat gasket)

**Form H**



Tapped hole in accordance with ANSI/ASME B 1.20.1-1983 (self-sealing thread)

**Form G**

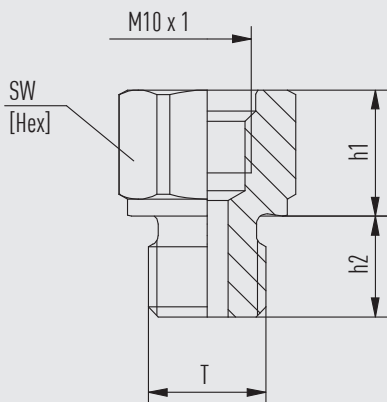


Tapped hole in accordance with Hydrotechnik factory standard N 901-01-14 (sealing through O-ring)

Thread G	Type of sealing	Dimensions in mm [in]			
		d	a	b	t
ISO 228-G ¼	Form F	20.0 [0.79]	1.5 [0.06]	12.0 [0.47]	18.5 [0.73]
ISO 228-G ½	Form F	15.0 [0.59]	1.0 [0.04]	8.0 [0.31]	13.0 [0.51]
M10 x 1	Form G	11.5 [0.45]	-	9.0 [0.35]	13.0 [0.51]
¼ NPTF	Form H	-	-	-	17.5 [0.69]
½ NPTF	Form H	-	-	-	12.0 [0.47]

## Reduction nozzle and type of sealing

**Reduction nozzle**



Thread T	Type of sealing	Dimensions in mm [in]		
		h1	h2	SW
G ½	Form F	10.5 [0.41]	14 [0.55]	27 [1.06]
G ¾	Form F	10.5 [0.41]	12 [0.47]	22 [0.87]

## Measuring hose

### Dimensions

Nominal width	DN 2
Internal diameter <sup>1)</sup>	2 mm [0.08 in]
Outer diameter <sup>1)</sup>	5 mm [0.20 in]
<b>Minimum bending radius</b>	20 mm [0.79 in]
<b>Application</b>	Perforated hose <sup>2)</sup>
<b>Operating pressure</b>	630 bar [9,130 psi]
<b>Burst pressure</b>	1,950 bar [28,282 psi]

### Material

Inner tube	Polyamide
Pressure carrier	Polyester fibre
Jacket	Polyamide
Connections	Steel 1.0718 (zinc-/nickel-coated)

### Ambient conditions

Operating temperature	-20 ... +100 °C [-4 ... +212 °F]
Storage temperature	15 ... 25 °C [59 ... 77 °F]
Pressure utilisation <sup>3)</sup>	<ul style="list-style-type: none"> <li>■ 0 °C [32 °F] ⇒ 122 %</li> <li>■ 30 °C [86 °F] ⇒ 110 %</li> <li>■ 50 °C [122 °F] ⇒ 100 %</li> <li>■ 80 °C [176 °F] ⇒ 86 %</li> <li>■ 100 °C [212 °F] ⇒ 77 %</li> <li>■ 120 °C [248 °F] ⇒ 68 %</li> </ul>

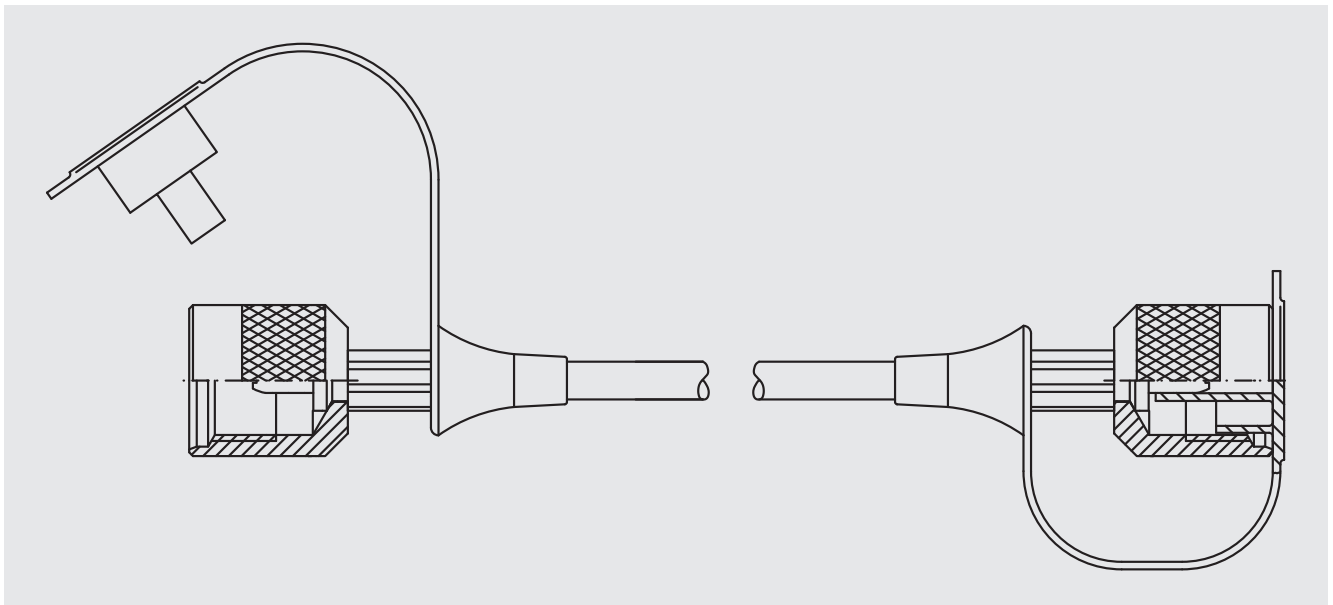
1) At reference conditions (20 °C - 3 K [68 °F -3 °K])

2) Perforated hose = jacket of hose is perforated for applications using gaseous media

3) Calculation example:

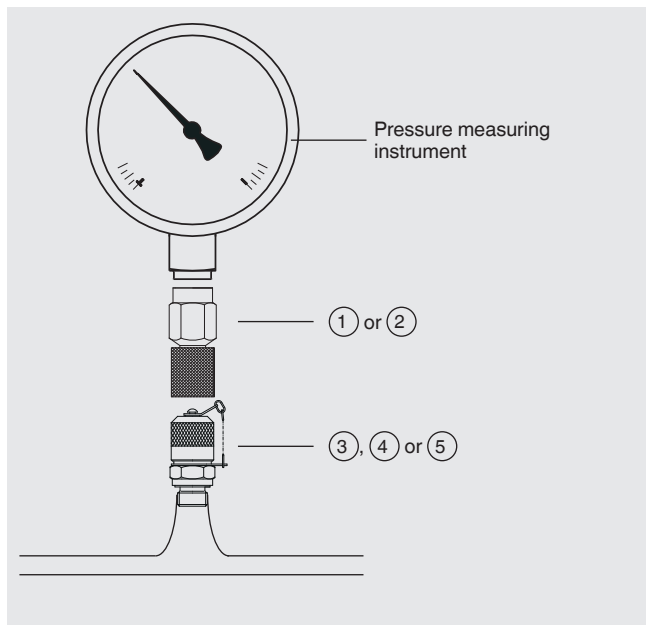
Measuring hose DN 2/630 bar at 30 °C pressure utilisation level: 630 bar x 1.10 = 693 bar

Measuring hose DN 2/[9,130 psi] at [86 °F] pressure utilisation level: [9,130 psi x 1.10 = 10,043 psi]



# Fields of application

## Direct connection of a pressure measuring instrument / digital pressure gauge



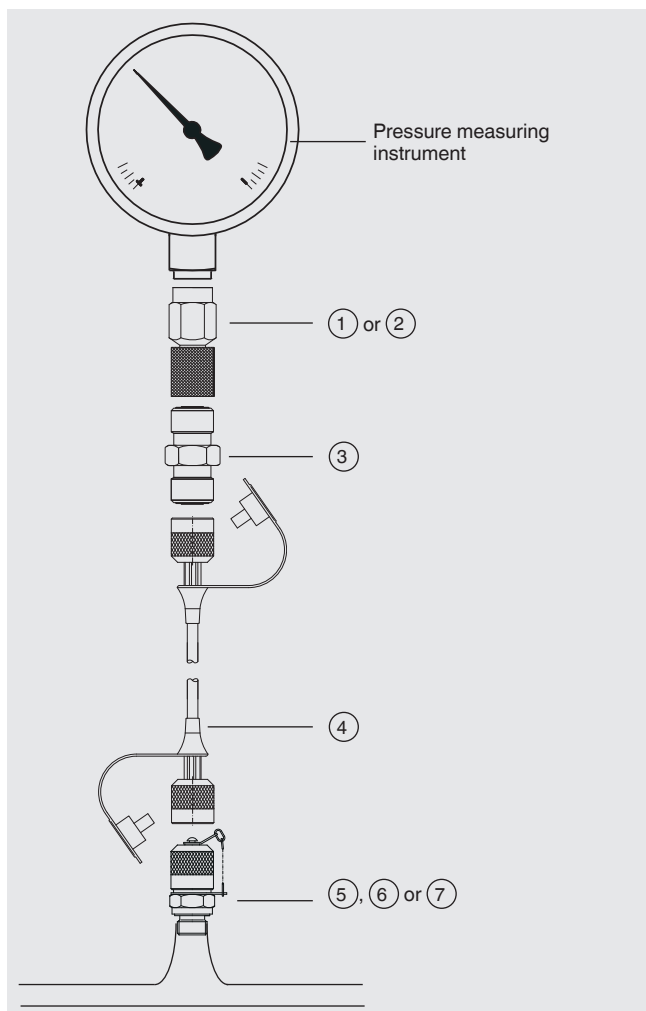
### Requirements

- Pressure measuring instrument with a G ½ or ¼ NPT male thread
- Process connection with a G ¼, G ⅜ or ¼ NPT female thread

⇒ Corresponding adapters are available in WIKA accessories.

No.	Description
①	Direct connection for measuring instrument G ½, female thread
②	Direct connection for measuring instrument ¼ NPT, female thread
③	Test coupling ISO 228-G ¼, male thread
④	Test coupling ISO 228-G ⅜, male thread
⑤	Test coupling ¼ NPTF, male thread

## Connection of a pressure measuring instrument with measuring hose



### Requirements

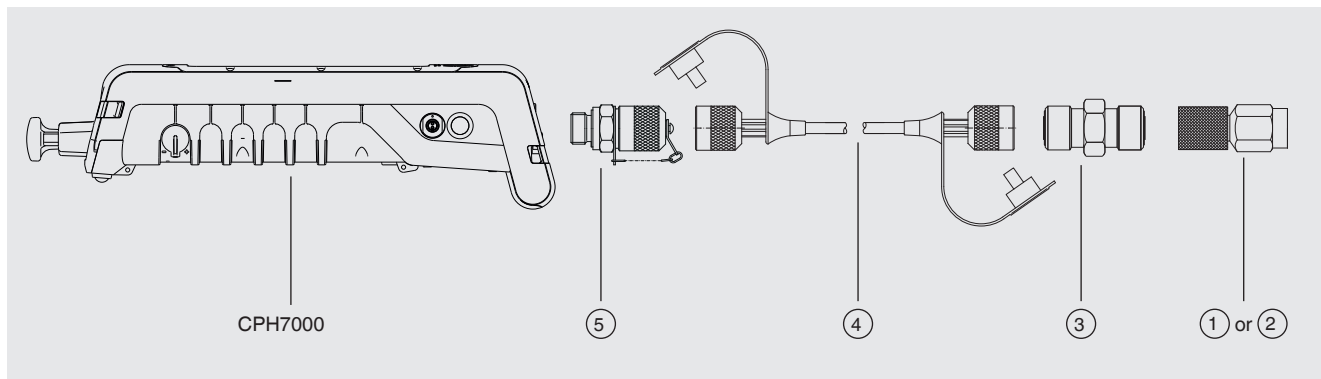
- Pressure measuring instrument with a G ½ or ¼ NPT male thread
- Process connection with a G ¼, G ⅜ or ¼ NPT female thread

⇒ Corresponding adapters are available in WIKA accessories.

No.	Description
①	Direct connection for measuring instrument G ½, female thread
②	Direct connection for measuring instrument ¼ NPT, female thread
③	Hose adapter (without check valve)
④	Measuring hose DN 2, length 0.5 m [1.64 ft]
⑤	Test coupling ISO 228-G ¼, male thread
⑥	Test coupling ISO 228-G ⅜, male thread
⑦	Test coupling ¼ NPTF, male thread

## Connection to a model CPH7000 process calibrator or models PASCAL ET, PASCAL 100 multi-function calibrator

### Variant 1: connection of a test item



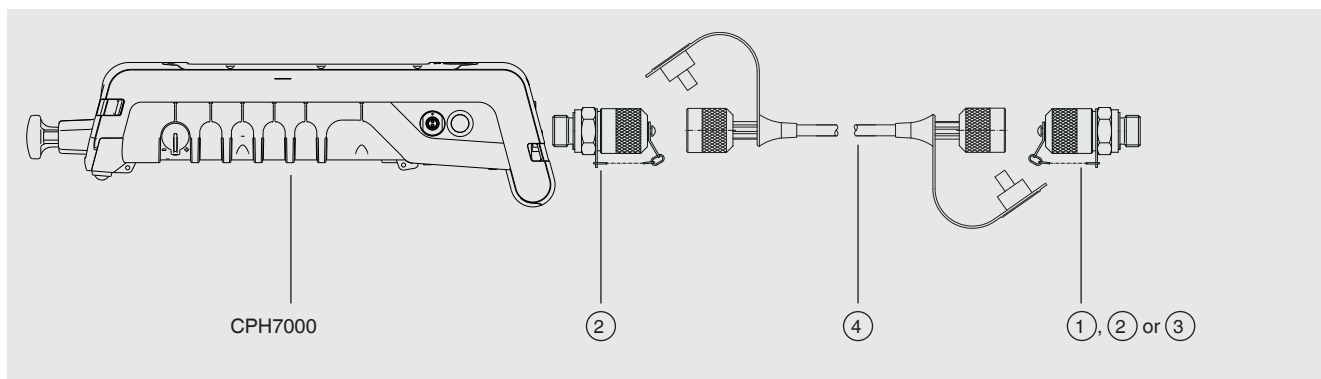
#### Requirements

Test item with a G ½ or ¼ NPT male thread.

⇒ Corresponding adapters are available in WIKA accessories.

No.	Description
①	Direct connection for measuring instrument G ½, female thread
②	Direct connection for measuring instrument ¼ NPT, female thread
③	Hose adapter (without check valve)
④	Measuring hose DN 2, length 0.5 m [1.64 ft]
⑤	Test coupling ISO 228-G ¼, male thread

### Variant 2: connection to a test valve or process connection



#### Requirements

Process connection with a G ¼, G ½ or ¼ NPT female thread

⇒ Corresponding adapters are available in WIKA accessories.

No.	Description
①	Test coupling ISO 228-G ¼, male thread
②	Test coupling ISO 228-G ¼, male thread
③	Test coupling ISO 228-G ¼, male thread
④	Measuring hose DN 2, length 0.5 m [1.64 ft]

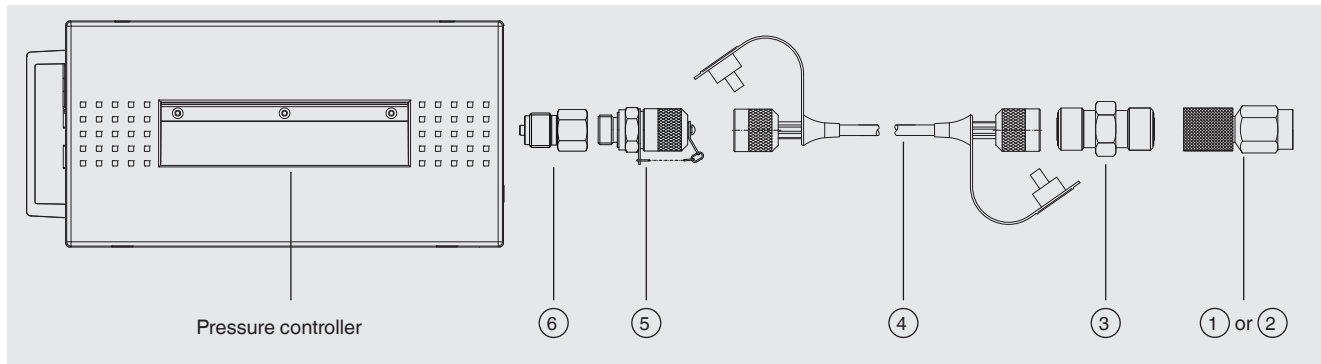
## Connection of a pressure controller, model CPC from Mensor

### Requirements

The pressure adapter 7/16" – 20 F SAE male thread to G 1/8 female thread must be ordered separately.

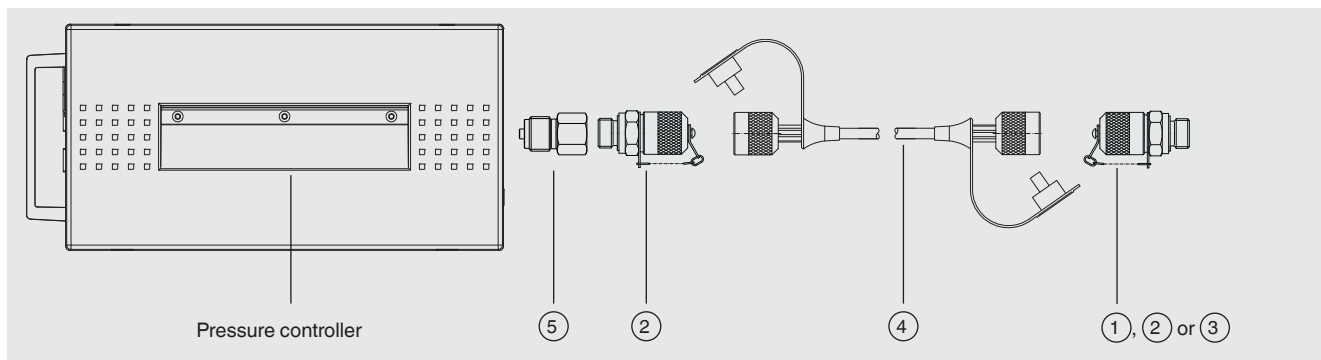
⇒ Corresponding adapters are available in WIKA accessories.

### Variant 1: connection of a test item



No.	Description
①	Direct connection for measuring instrument G 1/2, female thread
②	Direct connection for measuring instrument 1/4 NPT, female thread
③	Hose adapter (without check valve)
④	Measuring hose DN 2, length 0.5 m [1.64 ft]
⑤	Test coupling ISO 228-G 1/8, male thread
⑥	7/16"-20 F SAE male thread to G 1/8, female thread

### Variant 2: connection of the pressure controller to a test valve or process connection



No.	Description
①	Test coupling ISO 228-G 1/4, male thread
②	Test coupling ISO 228-G 1/8, male thread
③	Test coupling 1/4 NPTF, male thread
④	Measuring hose DN 2, length 0.5 m [1.64 ft]
⑤	7/16"-20 F SAE male thread to G 1/8, female thread



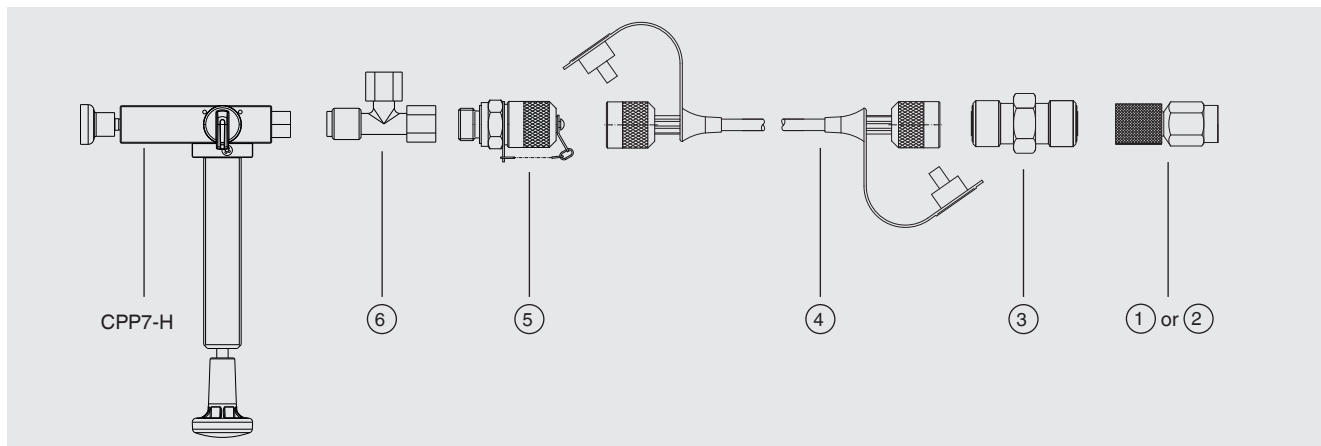
## Connection to the pneumatic hand test pump, model CPP7-H

### Requirements

- The T-connection adapter is a part of the scope of delivery of the CPP7-H
- If a measuring hose is connected to each G 1/8 female thread of the T-connection adapter, further components are necessary!

⇒ Corresponding adapters are available in WIKA accessories.

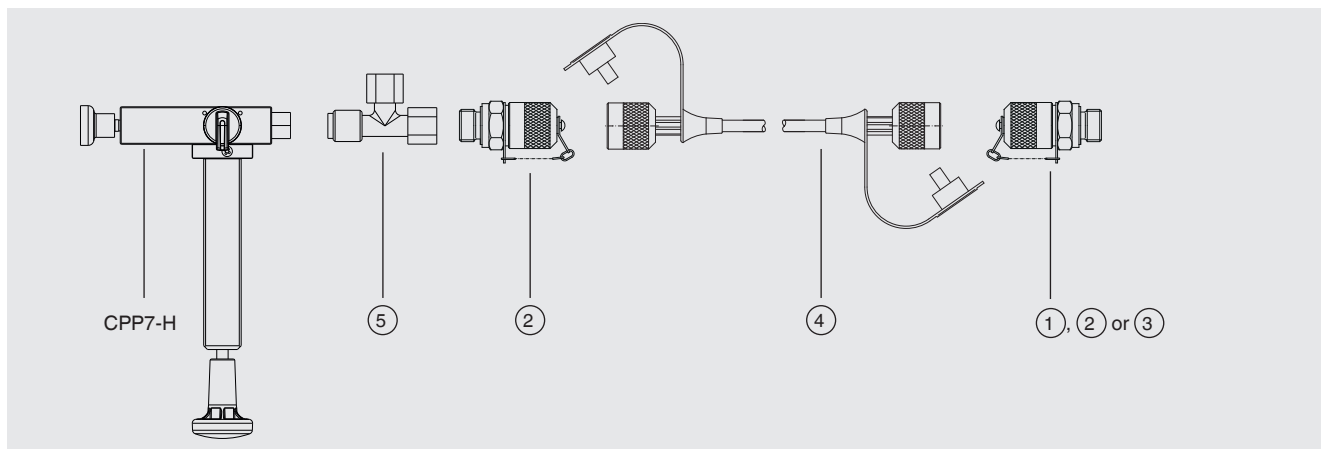
### Variant 1: connection of a test item



No.	Description
①	Direct connection for measuring instrument with G 1/2, female thread
②	Direct connection for measuring instrument with 1/4 NPT, female thread
③	Hose adapter (without check valve)

No.	Description
④	Measuring hose DN 2, length 0.5 m [1.64 ft]
⑤	Test coupling ISO 228-G 1/8, male thread
⑥	T-connection adapter 1 x G 1/8, male thread to 2 x G 1/8, female thread

### Variant 2: connection of the model CPP7-H of the pneumatic hand test pump to a test valve or process connection

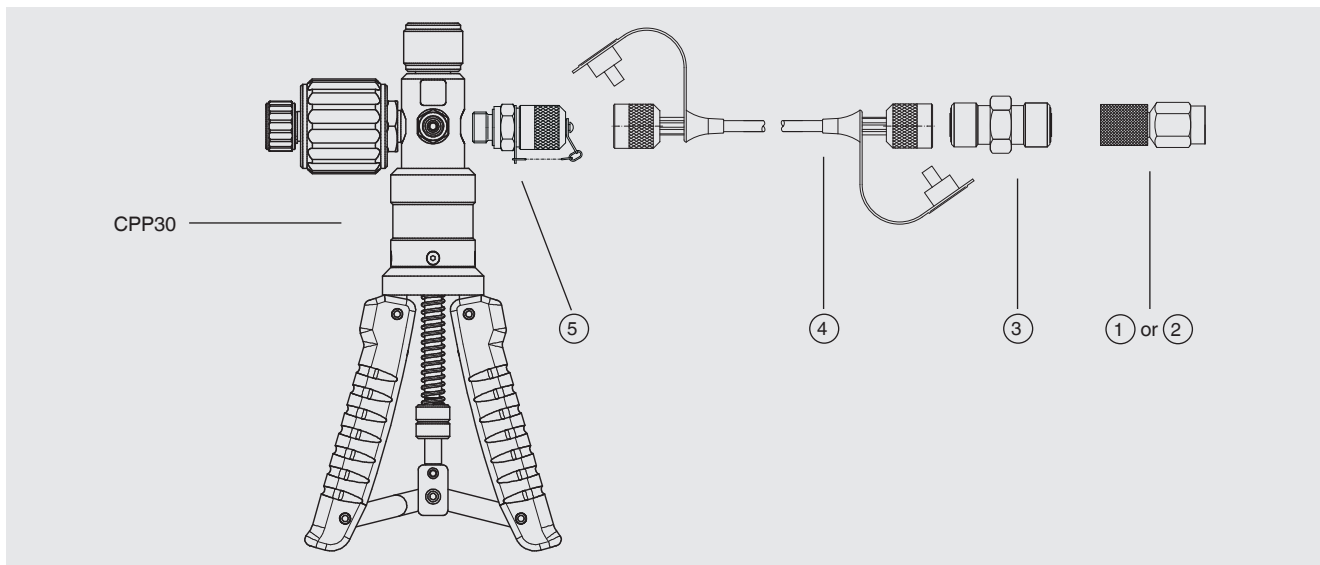


No.	Description
①	Test coupling ISO 228-G 1/4, male thread
②	Test coupling ISO 228-G 1/8, male thread
③	Test coupling 1/4 NPTF, male thread

No.	Description
④	Measuring hose DN 2, length 0.5 m [1.64 ft]
⑤	T-connection adapter 1 x G 1/8, male thread to 2 x G 1/8, female thread

## Connection to the pneumatic hand test pump, model CPP30

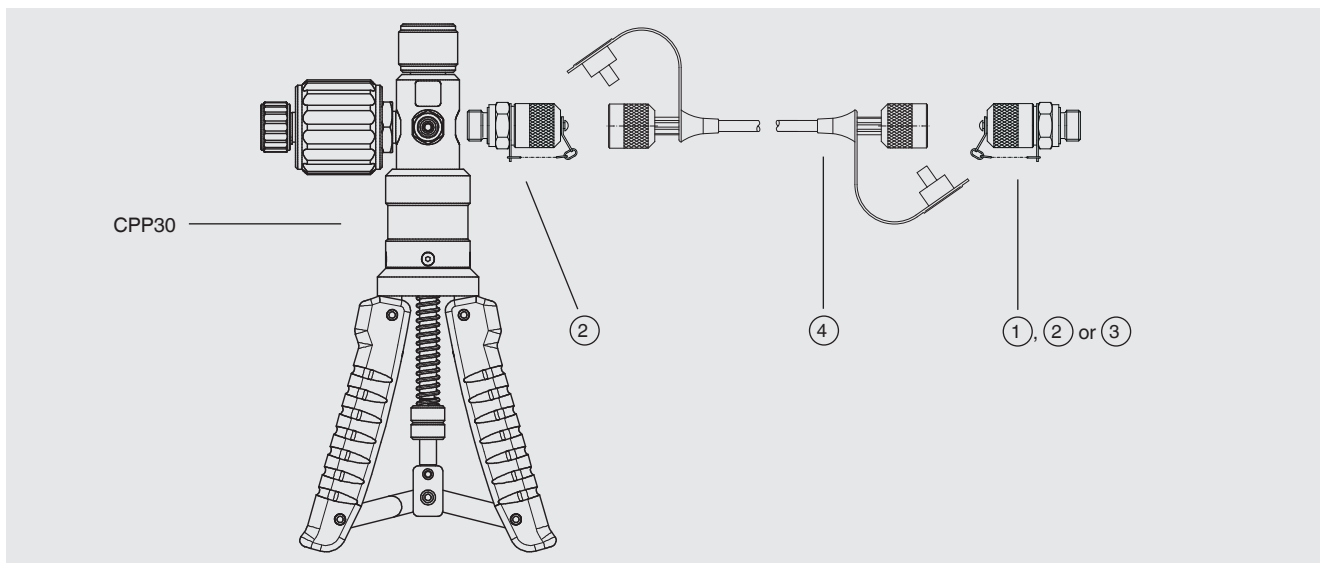
### Variant 1: connection of a test item



No.	Description
①	Direct connection for measuring instrument G ½, female thread
②	Direct connection for measuring instrument ¼ NPT, female thread
③	Hose adapter (without check valve)

No.	Description
④	Measuring hose DN 2, length 0.5 m [1.64 ft]
⑤	Test coupling ISO 228-G ⅛, male thread

### Variant 2: connection of the model CPP30 of the pneumatic hand test pump to a test valve or process connection

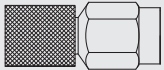
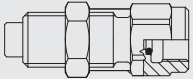
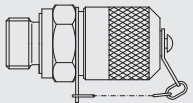

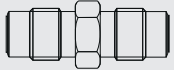
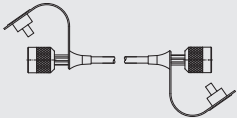


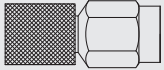
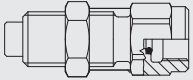
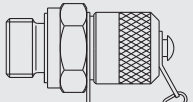

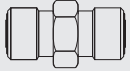
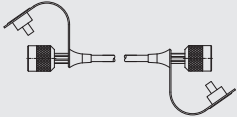
No.	Description
①	Test coupling ISO 228-G ¼, male thread
②	Test coupling ISO 228-G ⅛, male thread

No.	Description
③	Test coupling ¼ NPTF, male thread
④	Measuring hose DN 2, length 0.5 m [1.64 ft]

## Accessories



Depending upon which adapter set is used, the following parts are also available individually.

For 1620 series	Order number	
	Direct connection for measuring instrument G 1/2, female thread	9072306
	Direct connection for measuring instrument G 1/4, female thread	14615956
	Direct connection for measuring instrument 1/4 NPT, female thread	14340206
	Pressure gauge connection G 1/2, female thread	14615963
	Pressure gauge connection G 1/4, female thread	14615961
	Pressure gauge connection 1/4 NPT, female thread	14615962
	Test coupling ISO 228-G 1/4, male thread	9072284
	Test coupling ISO 228-G 1/8, male thread	14340208
	Test coupling ISO 228-M10 x 1, male thread	14615966
	Test coupling 1/4 NPTF, male thread	14340207
	Reduction nozzle G 3/8, male thread to M10 x 1, female thread	14615968
	Reduction nozzle G 1/2, male thread to M10 x 1, female thread	14615970
	Hose adapter (without check valve)	14340209
	Measuring hose DN 2, length 0.5 m [1.64 ft]	14340220
	Measuring hose DN 2, length 1 m [3.28 ft]	11403306
	Measuring hose DN 2, length 2 m [6.56 ft]	14349940

For 1215 series	Order number	
	Direct connection for measuring instrument G 1/2, female thread	14340210
	Direct connection for measuring instrument G 1/4, female thread	14615974
	Direct connection for measuring instrument 1/4 NPT, female thread	14340215
	Pressure gauge connection G 1/2, female thread	14615978
	Pressure gauge connection G 1/4, female thread	14615976
	Pressure gauge connection 1/4 NPT, female thread	14615977
	Test coupling ISO 228-G 1/4, male thread	14340211
	Test coupling ISO 228-G 1/8, male thread	14340218
	Test coupling ISO 228-M10 x 1, male thread	14615979
	Test coupling 1/4 NPTF, male thread	14340217
	Reduction nozzle G 3/8, male thread to M10 x 1, female thread	14615968
	Reduction nozzle G 1/2, male thread to M10 x 1, female thread	14615970
	Hose adapter (without check valve)	14340219
	Measuring hose DN 2, length 0.5 m [1.64 ft]	14340222
	Measuring hose DN 2, length 1 m [3.28 ft]	14349976
	Measuring hose DN 2, length 2 m [6.56 ft]	14349986

Other connection adapters are available on request.

## Scope of delivery

Description		Order code
		CPK-MM-
 <p><b>1620 series adapter set in storage case</b> Consisting of: 1 x direct connection G ½, female thread; P<sub>max</sub> 400 bar [5,800 psi] 1 x direct connection ¼ NPT, female thread; P<sub>max</sub> 630 bar [9,130 psi] 1 x test coupling ISO 228-G ¼, male thread; P<sub>max</sub> 630 bar [9,130 psi] 2 x test couplings ISO 228-G ⅜, male thread; P<sub>max</sub> 400 bar [5,800 psi] 1 x test coupling ¼ NPTF, male thread; P<sub>max</sub> 630 bar [9,130 psi] 1 x hose adapter (without check valve); P<sub>max</sub> 630 bar [9,130 psi] 1 x measuring hose DN 2, length 0.5 m [1.64 ft]; P<sub>max</sub> 630 bar [9,130 psi]</p>		-1SZ-
 <p><b>1215 series adapter set in storage case</b> Consisting of: 1 x direct connection G ½, female thread; P<sub>max</sub> 400 bar [5,800 psi] 1 x direct connection ¼ NPT, female thread; P<sub>max</sub> 630 bar [9,130 psi] 1 x test coupling ISO 228-G ¼, male thread; P<sub>max</sub> 630 bar [9,130 psi] 2 x test couplings ISO 228-G ⅜, male thread; P<sub>max</sub> 400 bar [5,800 psi] 1 x test coupling ¼ NPTF, male thread; P<sub>max</sub> 630 bar [9,130 psi] 1 x hose adapter (without check valve); P<sub>max</sub> 630 bar [9,130 psi] 1 x measuring hose DN 2, length 0.5 m [1.64 ft]; P<sub>max</sub> 630 bar [9,130 psi]</p>		-2SZ-
<b>Ordering information for your enquiry:</b>		
<b>1. Order code: CPK-MM</b> <b>2. Option:</b>		↓ [   ]

## Ordering information

Series / Adapter type / Additional ordering information

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