

Needle valve and multiport valve Models IV10 and IV11

WIKA data sheet AC 09.22

Applications

- Shut off and vent pressure measuring instruments
- For gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive environments
- Process industry: Oil & gas, petrochemical, chemical industries, power generation, water and wastewater

Special features

- Low-wear design due to non-rotating spindle tip in the bonnet
- Low torque and smooth operation of valve handle even at high pressure
- Enhanced safety due to blow-out proof bonnet design
- Customer-specific combination of valves and instruments (hook-up) on request



Fig. left: Model IV10, needle valve
Fig right: Model IV11, multiport valve

Description

Needle valves and multiport valves separate the process from measuring instruments such as pressure gauges, switches or transmitters. By closing this valve the instrument can be safely dismantled for services like recalibration or replacement. With the vent connection option, the instrument can be vented to the atmosphere by means of the needle valve. Already in the standard version, the multiport valve is equipped with two additional connections. These can be used either as vent connections or for the connection of additional instruments.

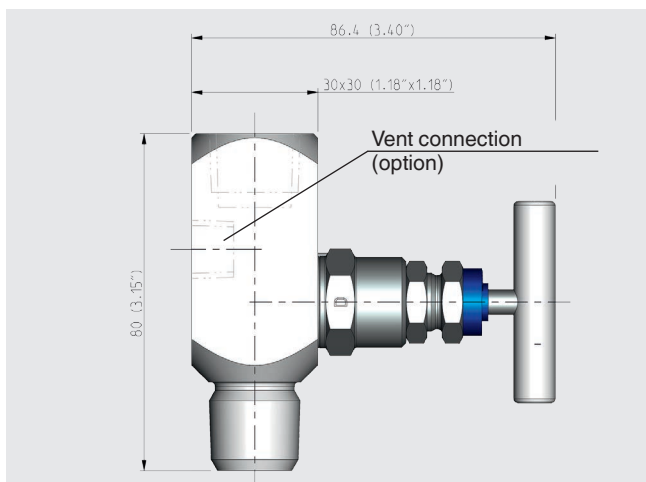
Through the non-rotating spindle tip, the wear of the sealing elements is reduced. This results, particularly with frequent opening and closing, in a noticeable increase in the service life.

Through the blow-out proof design of the valve, working safety is improved, especially in applications with high pressure loading.

As an option, WIKA offers the professional assembly of valves and pressure measuring instruments and also other accessories into a ready-to-install solution, also known as a hook-up. To ensure the performance of the complete system, an additional leak test is carried out on the hook-up.

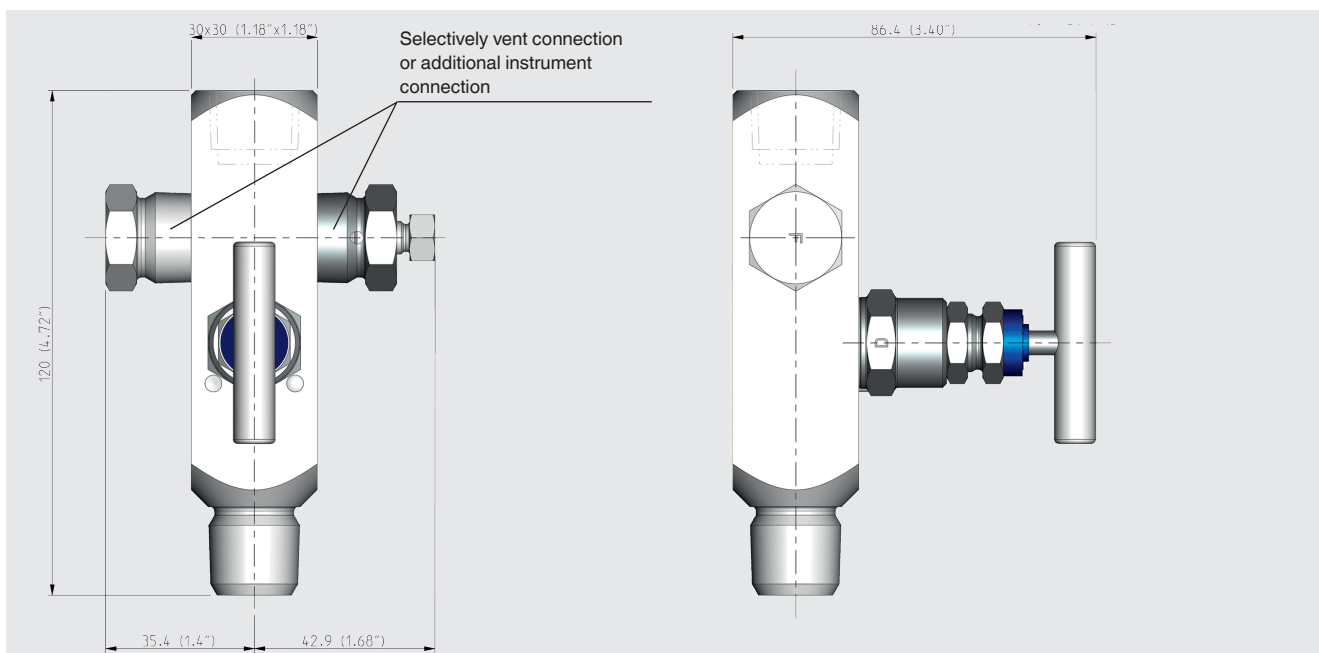
Dimensions in mm (in)

Model IV10, needle valve



Plug screw for vent connection is included in delivery, though not pre-fitted.

Model IV11, multiport valve



Plug screw and vent screw is included in delivery, though not pre-fitted.

Manufacturer's information and certificates

Logo	Description
-	PMI ¹⁾ test certificate Valve body
-	Certificate for proof pressure Tested with 1.5 times permissible operating pressure, shell test per API 598, and with 1.1 times permissible operating pressure, seat test per API 598

1) Positive material identification

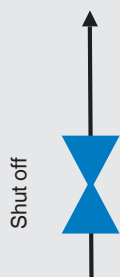
Certificates

- NACE 3.1 material certificate for the valve body (MR0103/MR0175)
- NACE 3.1 material certificate for the wetted parts (MR0103/MR0175)

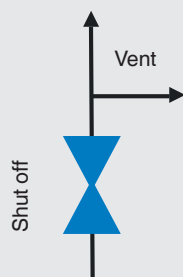
Specifications

Functional diagram

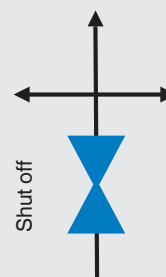
Needle valve without vent connection



Needle valve with vent connection

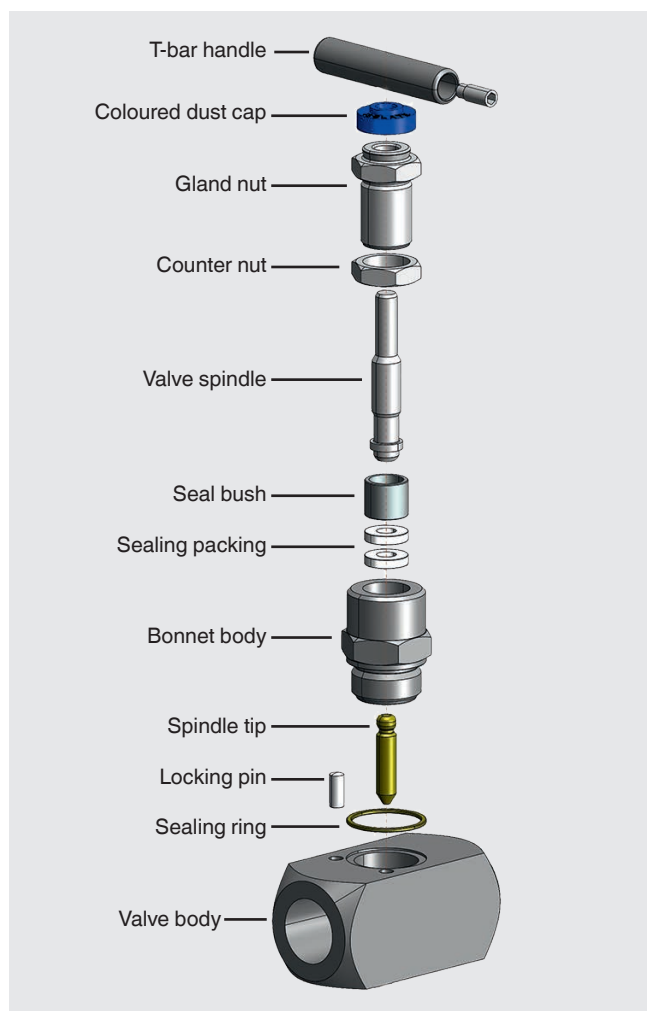


Multiport valve



Bonnet design

Standard version



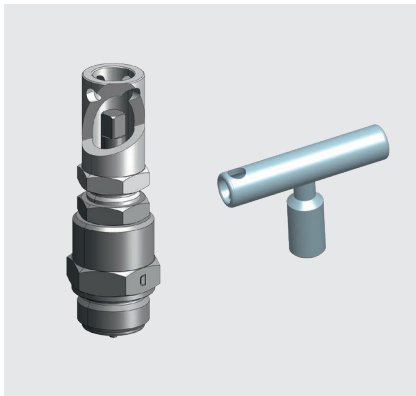
Specification

Dust cap colour code	Blue: Shut off
Spindle tip	Non-rotating, low-wear
Valve seat	Metal seat
Valve bore size	4 mm (0.16 in)

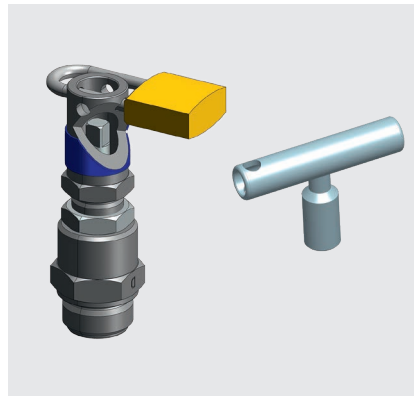
Material	Standard	Option
Wetted parts		
Valve body	Stainless steel 316/316L	■ Monel® 400
Bonnet body		■ Hastelloy® 276
Spindle tip		■ Others on request
Sealing packing	PTFE	Graphite
Non-wetted parts		
Handle	Stainless steel 304	
Gland nut	Stainless steel 316/316L	
Counter nut		
Valve spindle		
Seal bush		

Bonnet options

Anti-tamper version



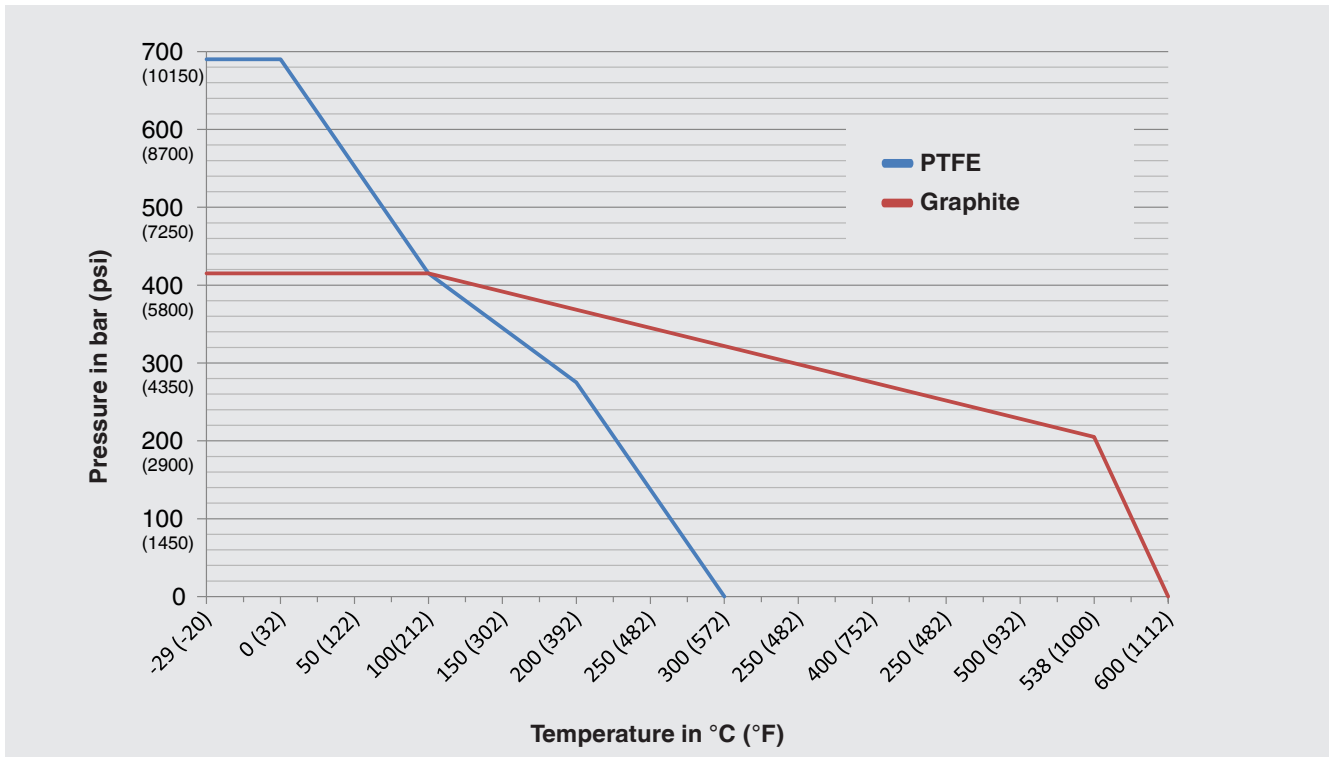
Anti-tamper version with padlock



Extended handle version



Pressure-temperature diagram



Sealing material	Max. pressure depending on the temperature
PTFE	689 bar at 38 °C (10,000 psi at 100 °F)
	276 bar at 210 °C (4,000 psi at 400 °F)
Graphite	414 bar at 38 °C (6,000 psi at 100 °F)
	209 bar at 538 °C (3,030 psi at 1,000 °F)

Ordering information

Needle valve and multiport valve, models IV10 and IV11		Code	
Version	<ul style="list-style-type: none"> ■ Model IV10, needle valve ■ Model IV11, multiport valve 	10 11	
Process connection / instrument connection	<ul style="list-style-type: none"> ■ ½ NPT male / ½ NPT female ■ ½ NPT female / ½ NPT female ■ ¼ NPT male / ¼ NPT female ¹⁾ ■ ¼ NPT female / ¼ NPT female ¹⁾ ■ G ½ male / G ½ female ¹⁾ ■ G ½ female / G ½ female ¹⁾ 	N1 N3 N4 N5 G1 G2	
Material of wetted parts (body, bonnet, spindle tip)	<ul style="list-style-type: none"> ■ Stainless steel 316/316L ■ Monel 400 ■ Hastelloy 276 	S1 MO HC	●
Vent connection	<ul style="list-style-type: none"> ■ Without ¹⁾ ■ M8 female, plug screw is included in delivery though not pre-fitted ¹⁾ ■ ¼ NPT female, plug screw is included in delivery, though not pre-fitted ¹⁾ ■ Connection 2: ½ NPT female with plug screw, connection 3: ½ NPT female with vent screw ²⁾ 	Z B N P	
Test connection	<ul style="list-style-type: none"> ■ Without ■ Test flange Ø 40 mm ¹⁾ 	Z T	●
Permissible operating pressure	<ul style="list-style-type: none"> ■ ≤ 6,000 psi (420 bar) ■ ≤ 10,000 psi (689 bar) 	L M	●
Material of the sealing packing / permissible temperature range (see diagram on page 5)	<ul style="list-style-type: none"> ■ PTFE / -73 ... +210 °C (-100 ... +400 °F) ■ Graphite / -54 ... +538 °C (-65 ... +1,000 °F) 	P G	●
Bonnet design (see page 4 ff.)	<ul style="list-style-type: none"> ■ Standard version ■ Extended handle version 	S E	●
Bonnet options	<ul style="list-style-type: none"> ■ Without ■ Anti-tamper version without padlock, shut off ■ Anti-tamper version with padlock, shut off ■ Small T-bar handle ■ T-bar handle from stainless steel 316L 	ZZ ZZ 22 8Z 9Z	●
Special design feature	<ul style="list-style-type: none"> ■ Without ■ For oxygen, oil and grease free 	Z H	●
Certificate option 1 ³⁾	<ul style="list-style-type: none"> ■ NACE 3.1 material certificate for the valve body (MR0103/MR0175) ■ NACE 3.1 material certificate for the wetted parts (MR0103/MR0175) 	M N	●
Certificate option 2 ⁴⁾	<ul style="list-style-type: none"> ■ Without ■ PMI test certificate for the valve body 	Z P	●
Certificate option 3 ⁴⁾	<ul style="list-style-type: none"> ■ Without ■ Proof pressure test certificate with 1.5 times permissible operating pressure, shell test per API 598, and with 1.1 times permissible operating pressure, seat test per API 598 	Z 5	●

- 1) Option only for model IV10, needle valve
 2) Option only for model IV11, multiport valve
 3) Issued per order item
 4) Issued per piece

● Standard

Order code

IV										
Version	Process connection / instrument connection	Material of wetted parts	Vent connection	Test connection	Permissible operating pressure	Material of the sealing packing	Bonnet design	Bonnet options	Special design feature	Certificates 1, 2, 3

Order numbers

Standard bonnet; material of the valve body: 316/316L; sealing: PTFE; permissible operating pressure: 6,000 psi (420 bar)

Model	Process connection / instrument connection	Vent connection	Order number
IV10	¼ NPT female / ¼ NPT female	Without	14275409
	G ½ female / G ½ female		14275411
	½ NPT male / ½ NPT female	M8	14275316
	G ½ male / G ½ female		14275404
	½ NPT female / ½ NPT female	¼ NPT	14275103
	½ NPT male / ½ NPT female		14275319
IV11	½ NPT male / ½ NPT female	2 x ½ NPT	14275325

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