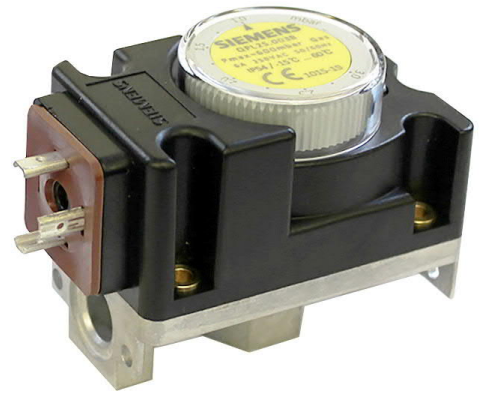


QPL15



QPL25

Compact Pressure Switches

QPLx5.xxxB

The compact pressure switches are used for monitoring gas or air pressures. When the pressure falls below or exceeds the adjusted switching point, the respective electrical circuit will be opened or changes over.

The QPLx5 and this Data Sheet are intended for use by OEMs which integrate the pressure switches in their products.

Use

- For the supervision of air or gas pressures in gas trains of gas-fired equipment (gas burners)
- QPLx5 are suitable as pressure switches for minimum or maximum pressure
- Adjustable working pressure range up to 50 kPa (depending on pressure range)
- Suitable for gases of gas families 1 / 2 / 3, hydrogen and other neutral gaseous media

Warning notes



To avoid injury to persons, damage to property or the environment, the following warning notes must be observed!

Do not open, interfere with or modify the pressure switch!

- All activities (mounting, installation and service work, etc.) must be performed by authorized staff
- Before making any wiring changes in the connection area, completely isolate the unit from the mains supply (all-polar disconnection). Ensure that the plant cannot be inadvertently switched on again and that it is indeed dead. If not disconnected, there is a risk of electric shock hazard
- Fall or shock can adversely affect the safety functions. Such QPLx5 must not be put into operation, even if they do not exhibit any damage
- Do not use the QPLx5 in inflammable or explosive gas atmospheres
- Before using QPLx5 read the Data Sheet. The QPLx5 must be installed in accordance with applicable regulations

Engineering notes

Setting the switching point

To set the required switching point, remove the cover from the pressure switch and turn the setting knob clockwise to increase the set value, or counterclockwise to decrease it (see scale under «Dimensions»). Replace the cover and secure it to prevent tampering.



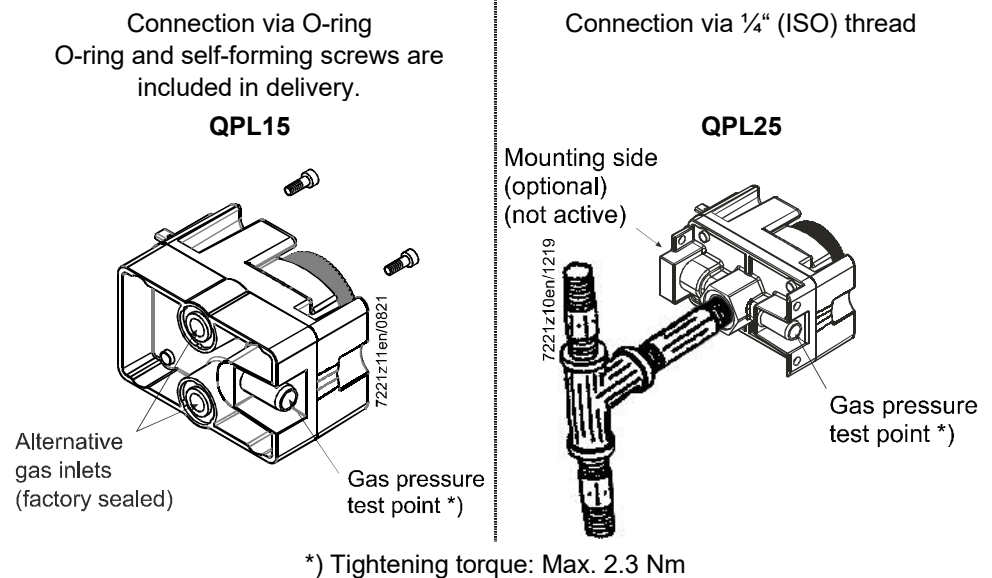
Particularly important!

The switching point must be checked in the application against the actual intended switching pressure applied and adjusted if necessary.

The direction of the pressure rise / pressure drop must be observed here.

Mounting notes

- Ensure that the relevant national safety regulations are complied with
- By check piping connections ensure that there are no leaks
- To prevent the pressure connection from being blocked by contamination on the plant, a suitable preventive precaution must be used
Example: Installation of a fine mesh or filter
- The QPLx5 can be mounted either horizontally or vertically, but not in a suspended position (scale must not pointing downward). This can have a minor influence on the switching point
- The QPLx5 can be connected via a ¼" thread or O-ring, depending on the type of switch
- The pressure test point on QPLx5 can be opened with a 3 mm allen key
- Refer also to following Mounting Instructions: 74 319 0551 0 (M7221)



Warning!

Damage to the plastic housing of the QPLx5 can result in a gas leak.

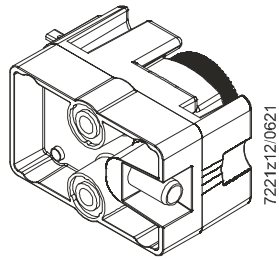


Applications which the supply gas pressure could exceed 60 kPa:
When installing the QPLx5, measures must be introduced on site to ensure that any gas leak arising from damage to the plastic housing is limited to a maximum air volume of 70 liters/h.

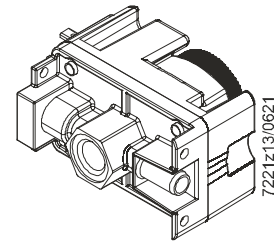
QPLx5s with visible external damage must be replaced immediately.

Mounting instructions

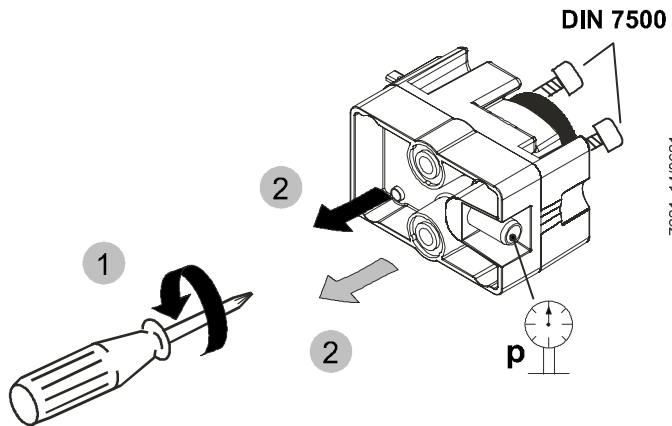
QPL15



QPL25

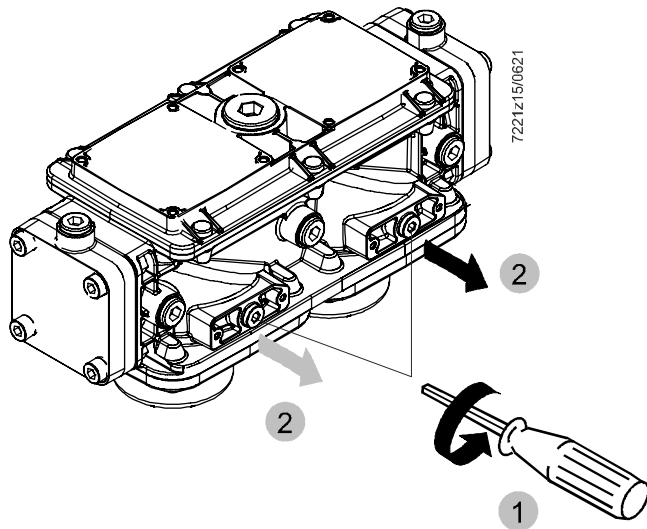


1

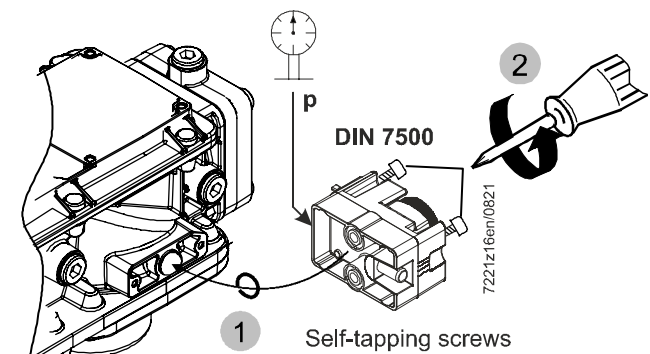


2a

QPL15 / VGD2

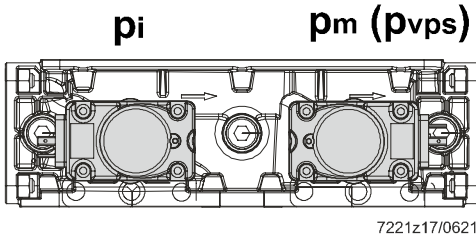


3a

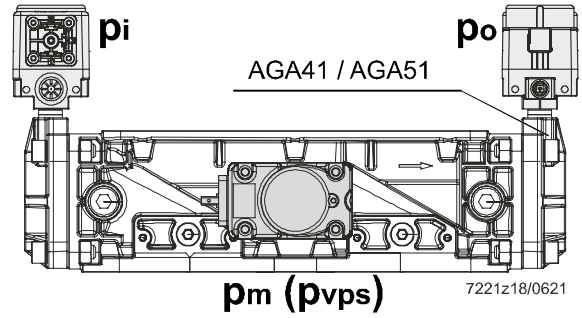


4a Mounting variants (example)

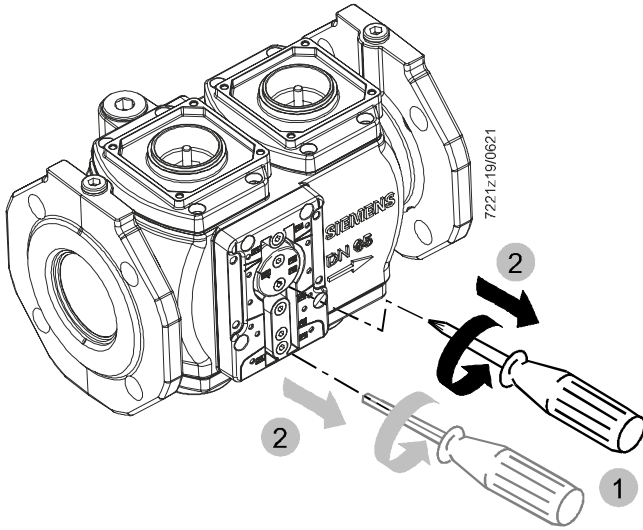
QPL15 with O-ring for VGD20.4011 / VGD20.5011



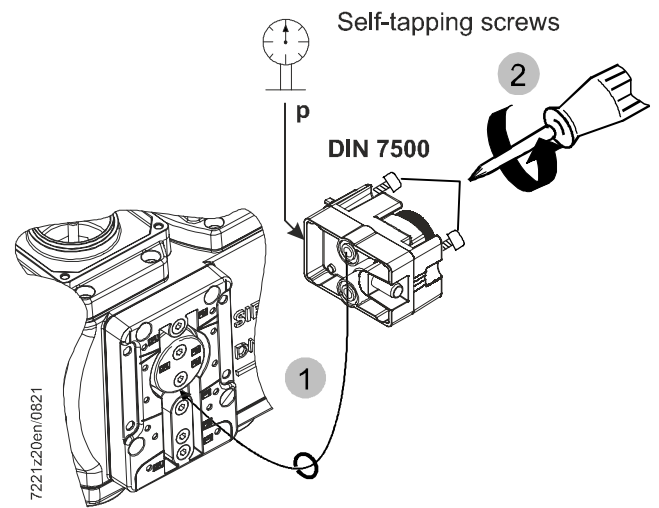
QPL25 with Rp1/4" nipple for VGD20.403 / VGD20.503



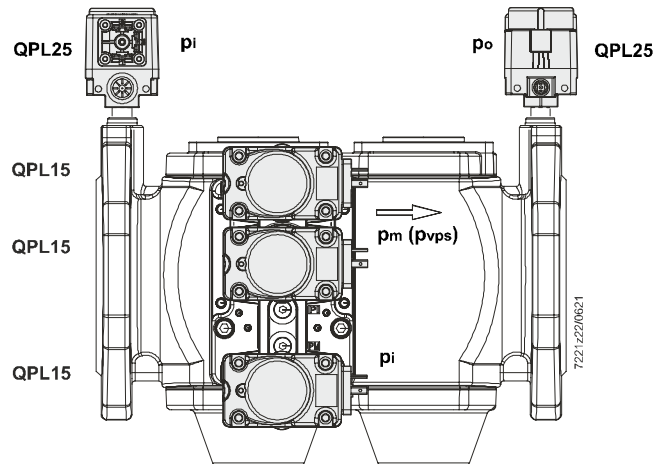
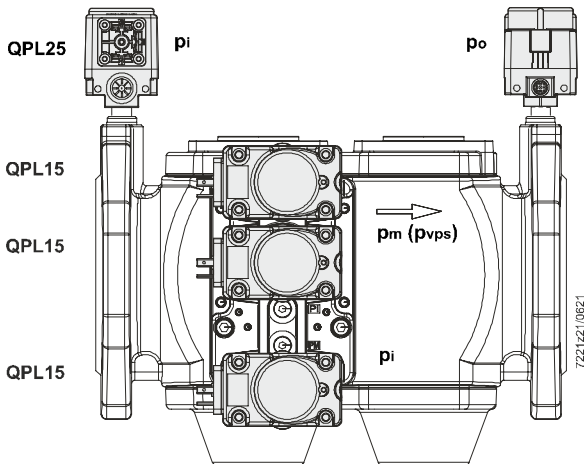
2b QPL15 / VGD4



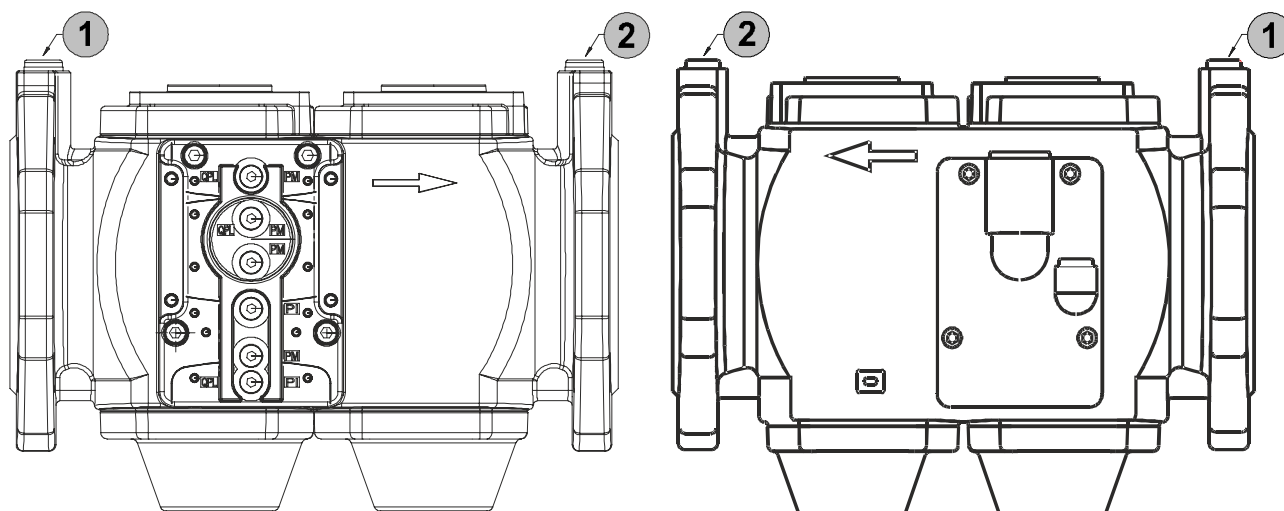
3b



4b Mounting variants (example)

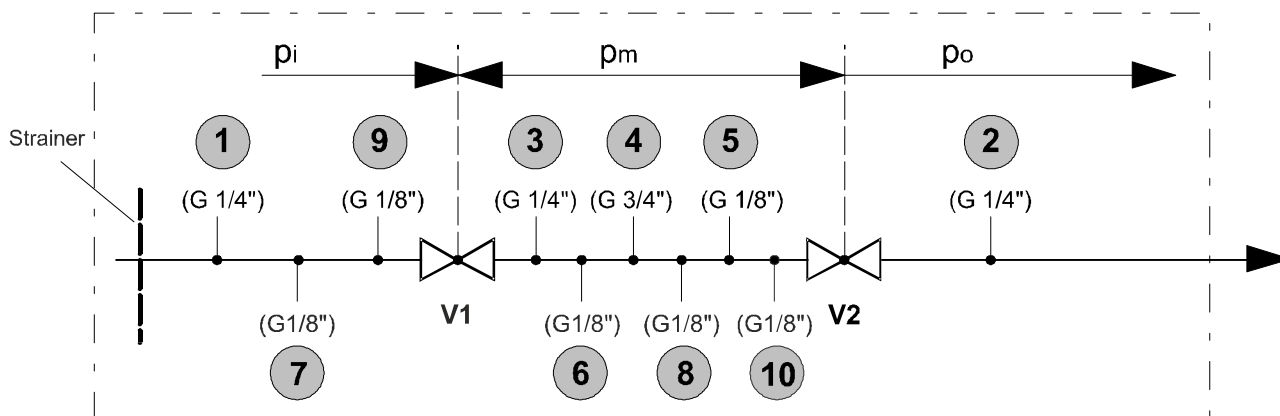
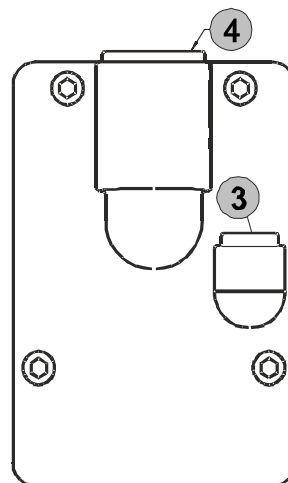
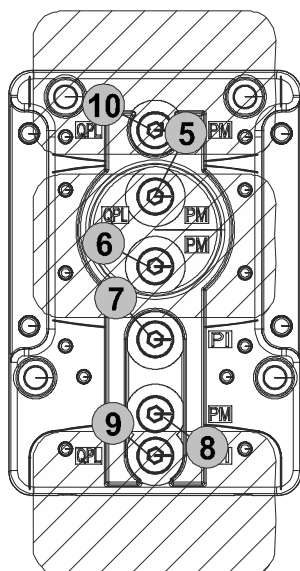


5 Pressure connections



VGD40/VRD40

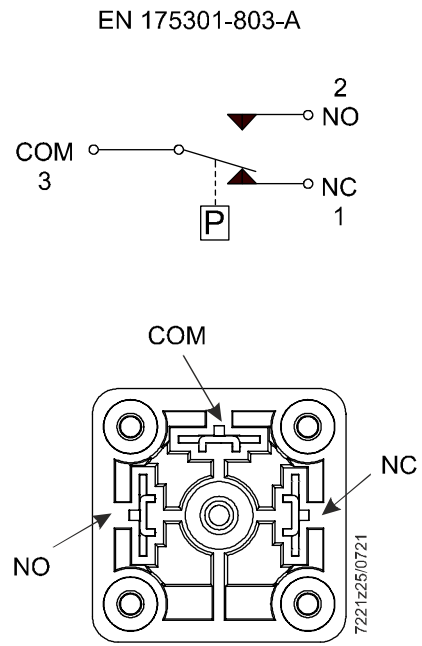
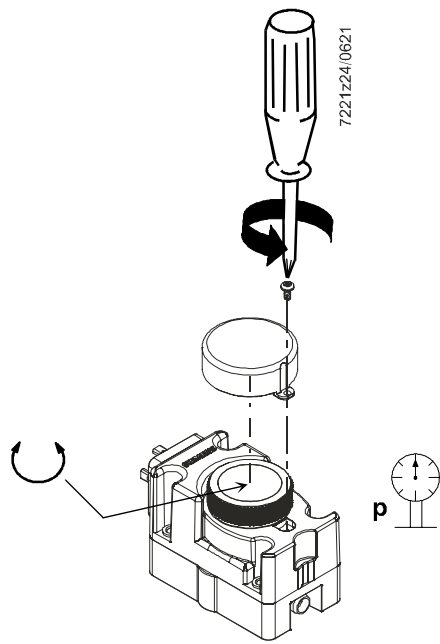
VGD40/VRD40



Pi = Inlet pressure: V1
 Pm = Pressure between V1 and V2
 Po = Outlet pressure: V2

7221z23en/0821

6



Service notes



Caution!

The QPLx5 also has to be replaced when replacing a valve. It is recommended to replace the QPLx5 after over 50,000 cycles or a service life of 10 years due to the designed lifetime for gas pressure switches according to AFECOR. It is not recommended to reinstall these, even if the seals on the valve have been replaced.



Applied directives:

- Low-voltage directive 2014/35/EC
- Gas Appliances Regulation EU/2016/426
- Electromagnetic Compatibility EMC (immunity) *) 2014/30/EU

*) Compliance with EMC emissions requirements must be checked after the compact pressure switch has been installed in the equipment.

Compliance with the regulations of the applied directives is verified by the adherence to the following standards / regulations:

- Pressure sensing devices for gas burners and gas burning appliances EN 1854
- Automatic electrical controls EN 60730-2-6
Part 2-6:
Particular requirements for automatic electrical pressure sensing controls including mechanical requirements.
The pressure range above 60 kPa (EN 1854) was approved by an additional evaluation.

The relevant valid edition of the standards can be found in the declaration of conformity!



EAC Conformity mark (Eurasian Conformity mark)



China RoHS

Hazardous substances table:

<http://www.siemens.com/download?A6V10883536>



<http://www.szutest.cz>

Lifetime

The pressure switch has a designed lifetime* of 50,000 burner startup cycles when using gases in accordance with EN 437, which, under normal operating conditions in heating mode, correspond to approx. 10 years of usage (starting from the production date given on the type field). This is based on the endurance tests specified in the standard EN 1854. A summary of the conditions has been published by the European Control Manufacturers Association (Afecor) (www.afecor.org).

The designed lifetime is based on use of the pressure switch according to the manufacturer's data sheet. After reaching the designed lifetime in terms of the number of burner startup cycles, or after the corresponding usage time, the pressure switch must be replaced by authorized personnel.

* The designed lifetime is not the warranty time specified in the Terms of Delivery.

Disposal notes

The unit contains electrical and electronic components and must not be disposed of together with domestic waste. Local and currently valid legislation must be observed.

Mechanical design

- Housing made of durable plastic with die-cast aluminum base
- Adjustable switching point
- Automatic reset

The switching point (setpoint) of the QPLx5 is to be set with the adjusting knob located under the securing cover.

Type summary

When ordering, please give type reference according to *Type summary*.



Note!
The QPLx5.xxxB listed here replace the previous version QPLx5.xxx.

QPLx5 with automatic reset:

Order number	O-Ring	S55722-S106-A100	S55722-S107-A100	S55722-S108-A100	S55722-S109-A100	S55722-S110-A100
Type / Connection		QPL15.003B	QPL15.010B	QPL15.050B	QPL15.150B	QPL15.500B
Order number	1/4"	S55722-S101-A100	S55722-S102-A100	S55722-S103-A100	S55722-S104-A100	S55722-S105-A100
Type / Connection		QPL25.003B	QPL25.010B	QPL25.050B	QPL25.150B	QPL25.500B
Permissible operating pressure	72 kPa					
Working pressure range	0.1...0.3 kPa	0.2...1 kPa	0.5...5 kPa	0.5...15 kPa	10...50 kPa	
Switching differential	0.1 kPa	0.15 kPa	0.3 kPa	0.6 kPa	2.5 kPa	
Factory setting	0.1 kPa	0.2 kPa	0.5 kPa	1 kPa	10 kPa	

Accessories

Accessories must be ordered as separate items:



Contact box **AGA65**

Article no.: BPZ:AGA65

- Plug-in connector according to DIN EN 175301-803-A
- 4.5...11 mm dia. / max. 1.5 mm²

Technical data

General data	Switching voltage	AC effective max. 250 V DC 24...48 V
	Switching current	AC eff max. 6 A at $\cos\varphi$ 1 AC eff. max. 2 A at $\cos\varphi$ 0.6 AC eff. min. 20 mA DC max. 1 A DC min. 20 mA
	Adjustable operating pressure range	0.3...50 kPa (different ranges, refer to «Type summary»)
	Operating pressure (continuously)	Max. 72 kPa
	Weight	
	• QPL15	Approx. 155 g
	• QPL25	Approx. 143 g
	• AGA65	Approx. 36 g
	Mounting position	horizontal or vertical, but not suspended
	Safety class	II according to EN 60730-1:2016
	Degree of protection	IP54
	Switching pressure deviation	± 15 %, referred to the setpoint (scale) (diaphragm in vertical position)
	Gas families	1, 2, 3 according to EN 437:2018 <1% H ₂ (refer to <i>Notes</i> in the manufacturer's declaration) <1% NH ₃
	Classification	According to EN 1854:2010 PSD-M (50,000 cycles)
	Drift of set value during the lifetime	According to EN 1854:2010 7.101.1.3
	Permissible operating pressure	See "Type summary"
	Working pressure range	See "Type summary"
	Switching differential	See "Type summary"
	Factory setting	See "Type summary"
	Environmental conditions	Storage
Temperature range		-20...+80 °C
Humidity		< 95 % r.h.
Transport		
Temperature range		-20...+80 °C
Humidity		< 95 % r.h.
Operation		
Temperature range		-15...+60 °C
Humidity		< 95 % r.h.
Installation altitude		Max. 2,000 m above sea level



Caution!
Condensation, formation of ice and ingress of water are not permitted!

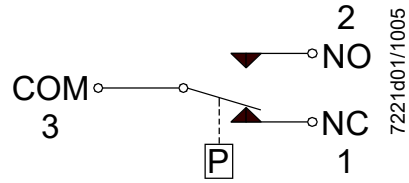
Mechanical conditions	Vibration test	According to IEC 600068-2-6:2008 with accelerations of 10 m/s ²
	Shock tests	According to IEC 600068-2-27:2021 with peak accelerations of 100 m/s ²

Connection diagram

Function
when used as ...

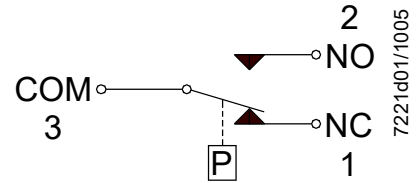
Minimum pressure switch

When the pressure falls below the set value, NO opens and NC closes

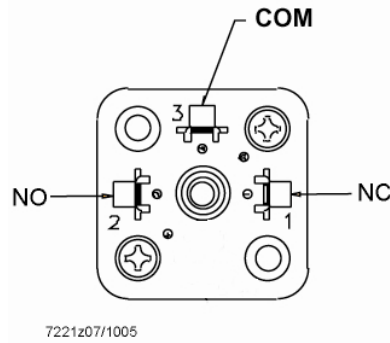


Maximum pressure switch

When the pressure exceeds the set value, NC opens and NO closes

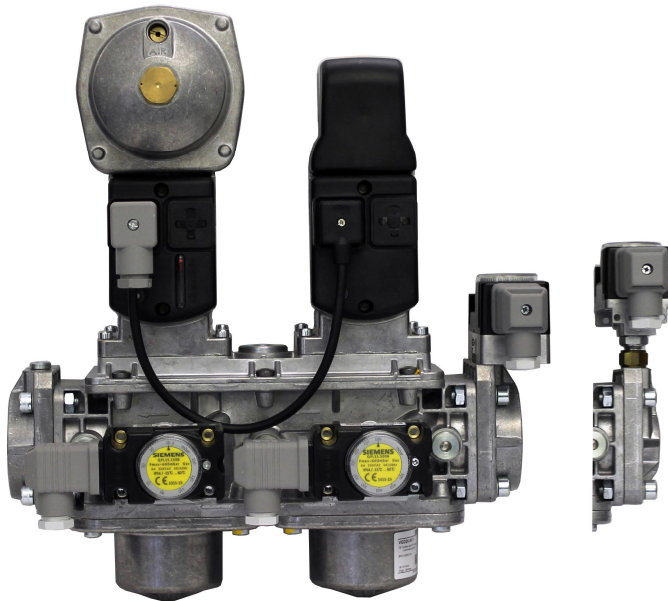


Connection via connector
AGA65 according to
DIN 43650

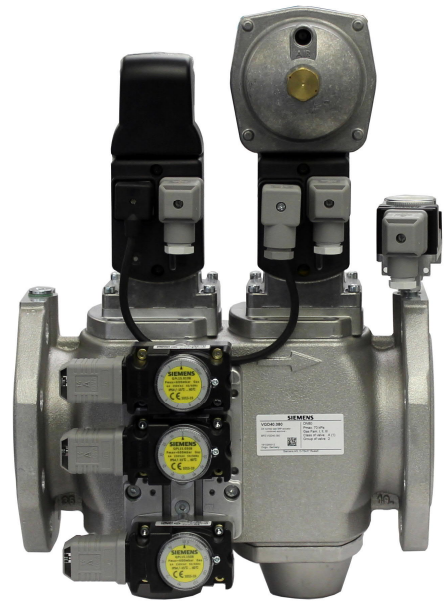


Connection examples

QPLx5 fitted to VGD20.xx11

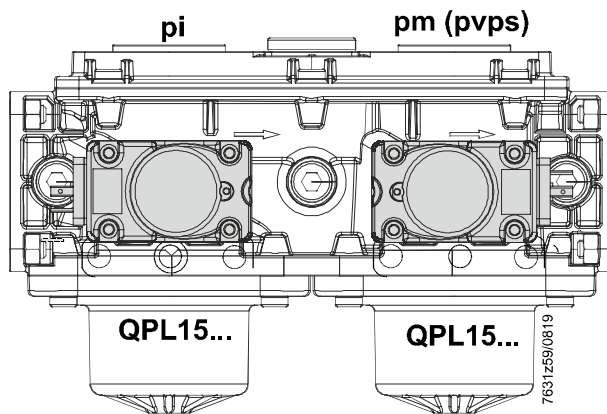


QPLx5 fitted to VGD40

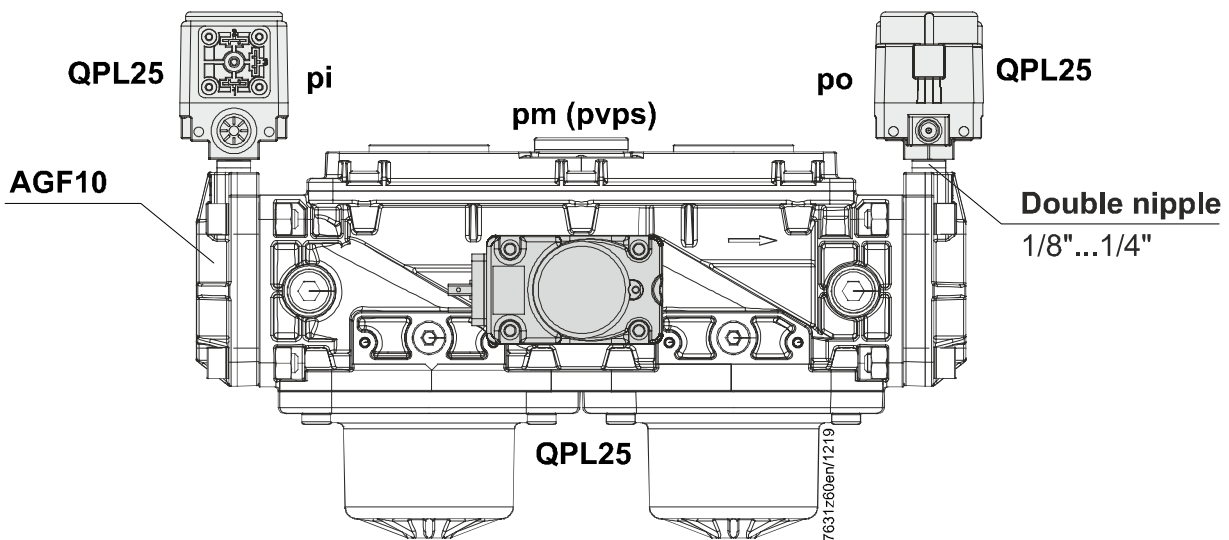


Mounting versions (example)

QPL15 with O-ring with VGD20.xx11



QPL25 with nipple Rp1/4" with VGD20.xx11



Note!

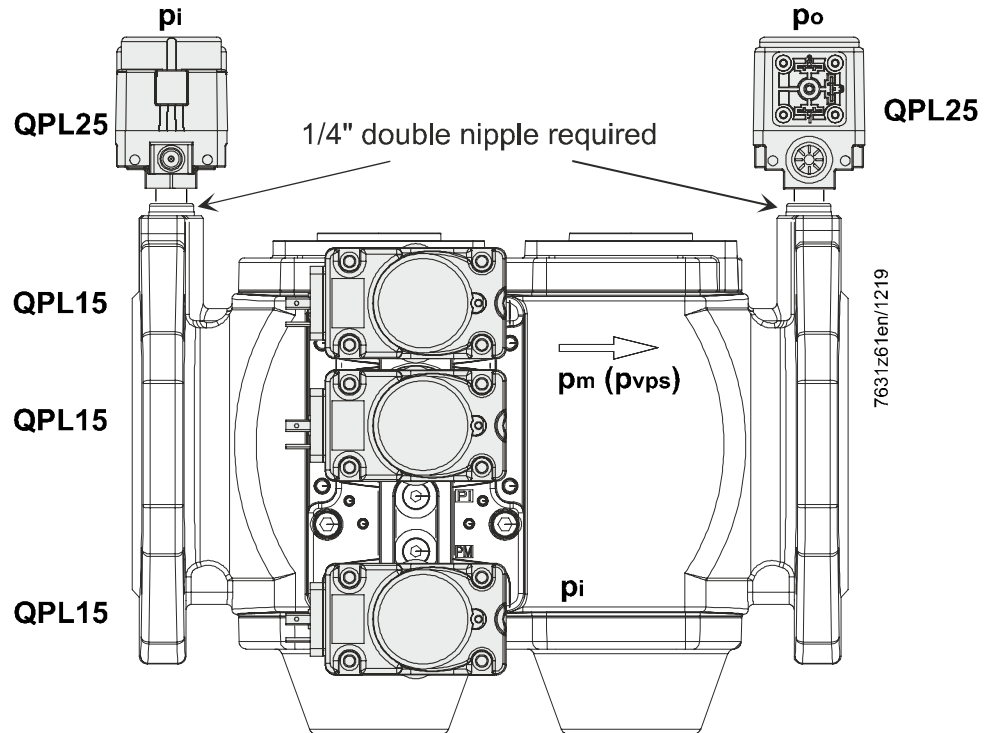
Not valid for US variants!

Mounting of the QPL15!

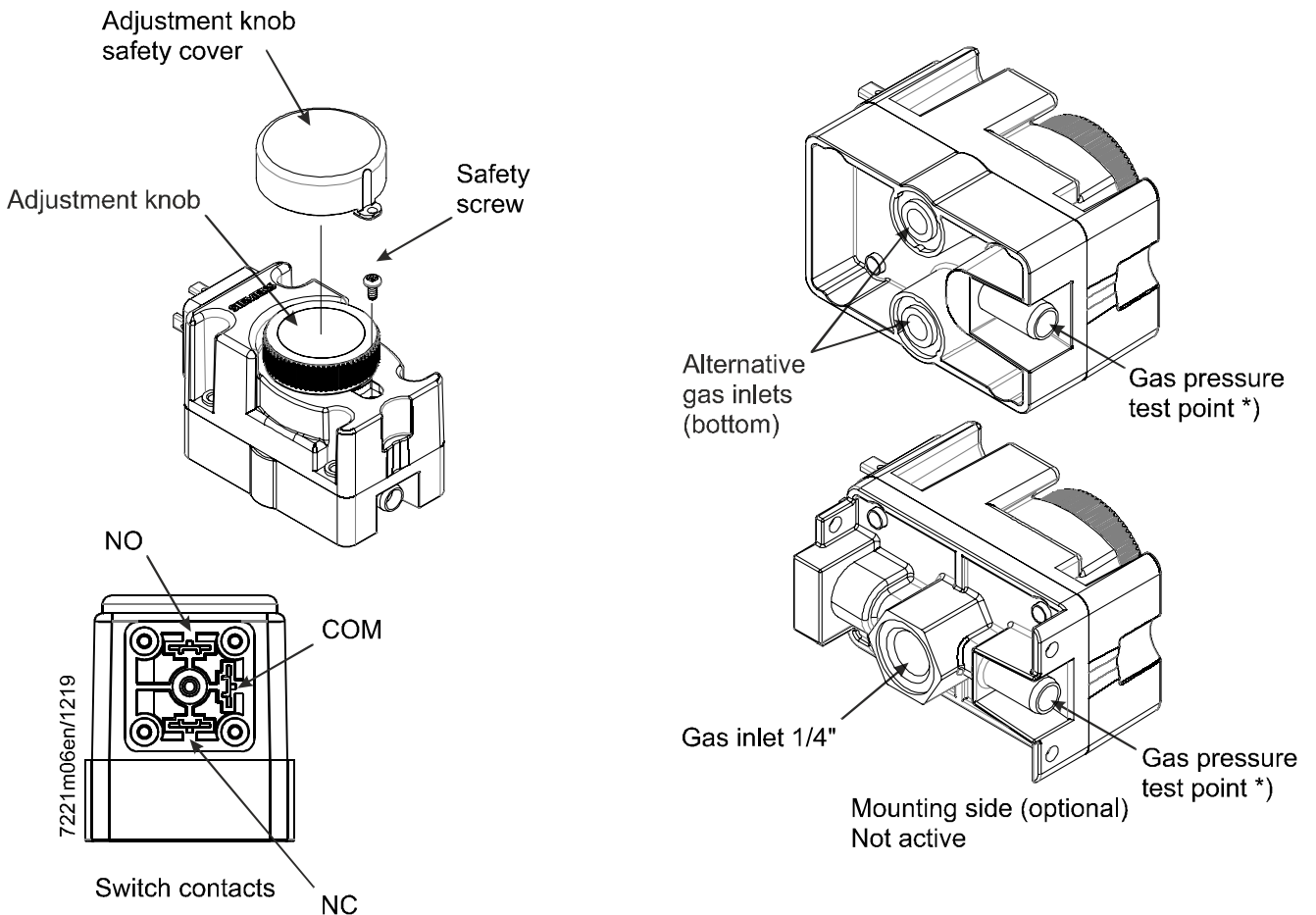
Optionally, QPL15 can also be mounted on the AGF10 flanges.

Mounting versions (example)

QPL15 and QPL25 with VGD40



Construction of QPLx5.xxxB

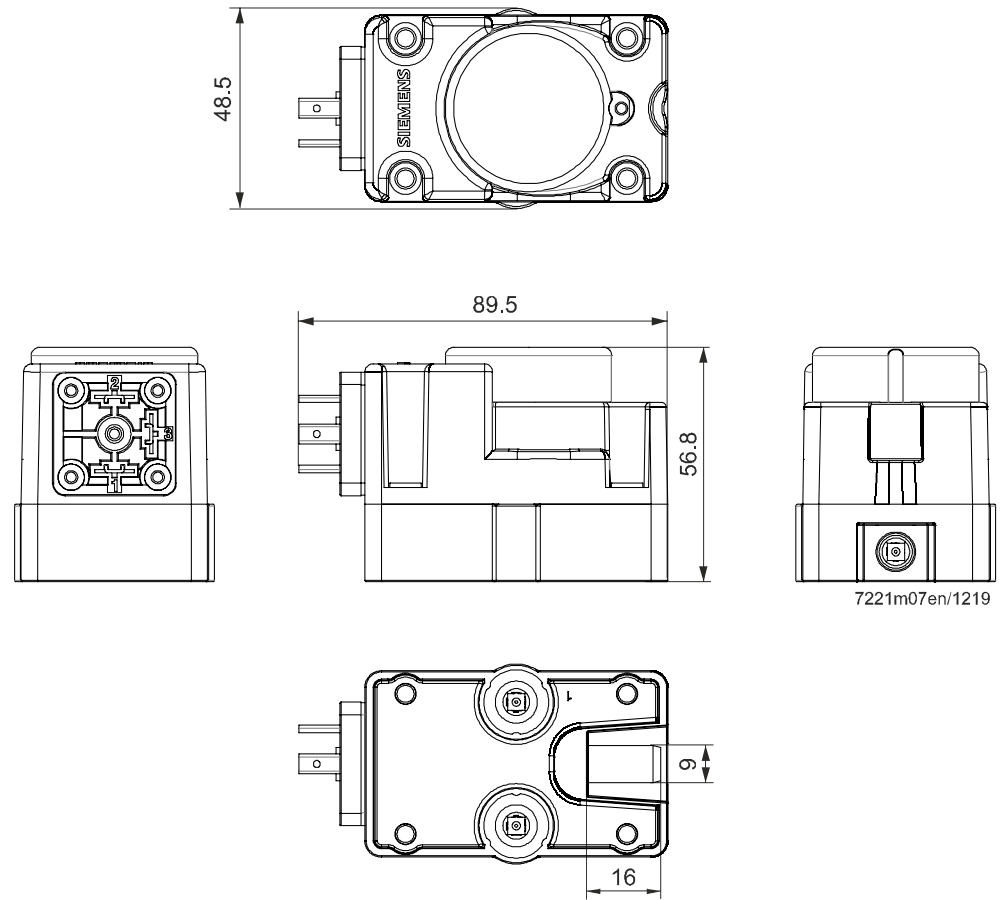


*) Tightening torque: Max. 2.3 Nm

Dimensions

Dimensions in mm

QPL15.xxxB

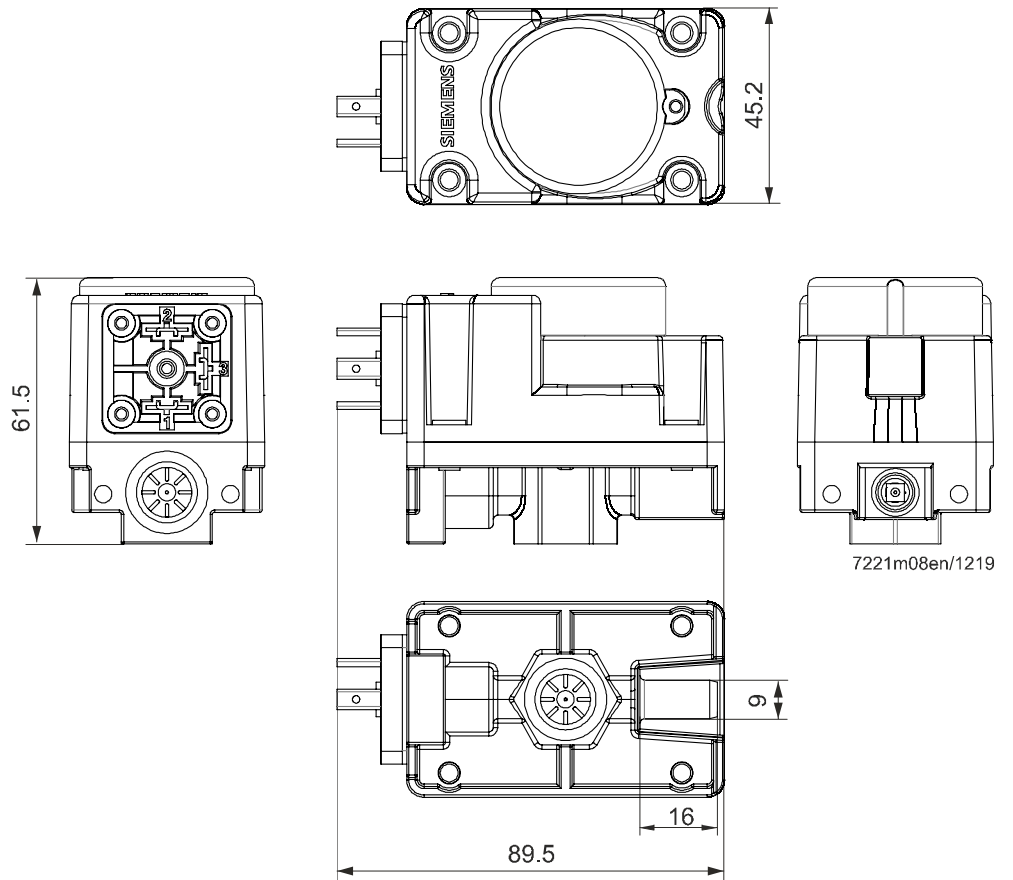


Note!
Dimensions for reference only

Dimensions (cont'd)

Dimensions in mm

QPL25.xxxB



Note!
Dimensions for reference only