

BROEN-LAB CLEANLINE FITTINGS FOR UP TO 6.0 CLEAN GASES



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SPECIFICATIONS

BROEN-LAB CLEANLINE laboratory tapping points incorporate the functions shut-off, pressure regulation and pressure indication in one compact, ergonomic unit.

BROEN-LAB CLEANLINE valves for 6.0 clean gases can be used for non-corrosive (brass models) as well as corrosive (Stainless Steel models) gases and gas mixtures.

- The pressure regulator is diaphragm sensed for outlet pressures up to 10 bar and piston sensed for higher outlet pressure values.
- The acetone resistant pressure gauge is safely integrated into the adjusting handwheel to create an extremely compact device.
- Integrated shut-off valve in the rear-wall connector allows the preparation of the tapping point without pressure regulator.
- Quick and easy mounting or disassembly of the regulating unit with filled gas piping.
- Diaphragm shut-off valve with position indicator.
- Optional flow control / shut-off valve in the outlet.
- All gas-wetted components have undergone the special cleaning process and have been thoroughly baked out.
- All equipment has been 100%-helium-leak-tested using a mass-spectrometer.
- All components are plastic-covered resistant to acid and alkaline solutions.

TECHNICAL INFORMATION

Materials:

- Body: Brass (2503...-models)
Stainless Steel 1.4404 (316L) (2504...-models)
- Diaphragms: Hastelloy C276
- Other gas-wetted surfaces: Brass or SS 1.4404 (316L)
- Valve cone: SS 1.4404 (316L)
- Valve seat: PTFE / PVDF
- Cover: Polypropylene GB30

Leak rate (to atmosphere): 10^{-8} mbar l/s [He]

Filter: Brass: 100 μ m (bronze)
Stainless Steel: 150 μ m

Pressure ranges:

Inlet pres. P_1 :

P_2 up to 10 bar: max. 40 bar

$P_2 > 10$ bar: max. 100 bar

Max. outlet pressure P_2 :

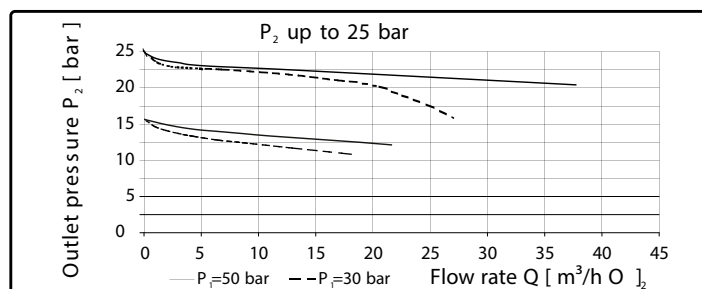
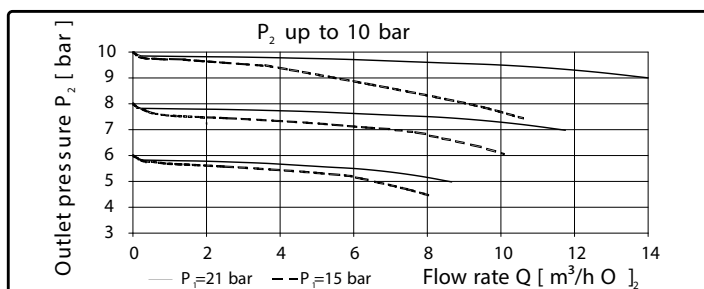
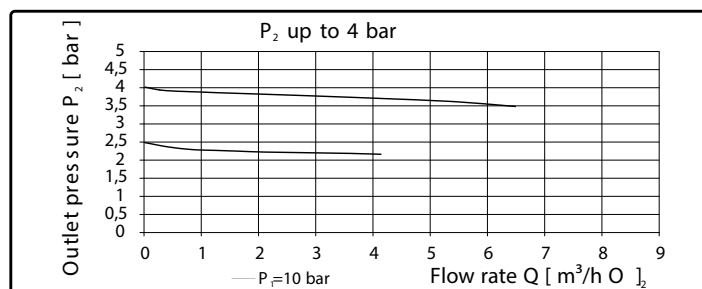
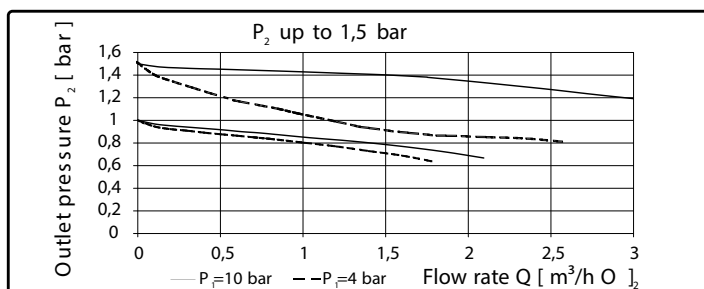
1,0 / 1,5 / 2,5 / 5 / 10 / 16 / 25 / 65 bar

P_2 up to 10 bar: The pressure setting will be done at 10 bar inlet pressure. The limitation of the outlet pressure setting is approx. $P_2 + 5\%$.

$P_2 > 10$ bar: The inlet pressure for the pressure setting will be done according to the customer's / user's specification.

Flow rates with valve in the outlet: see flow curves

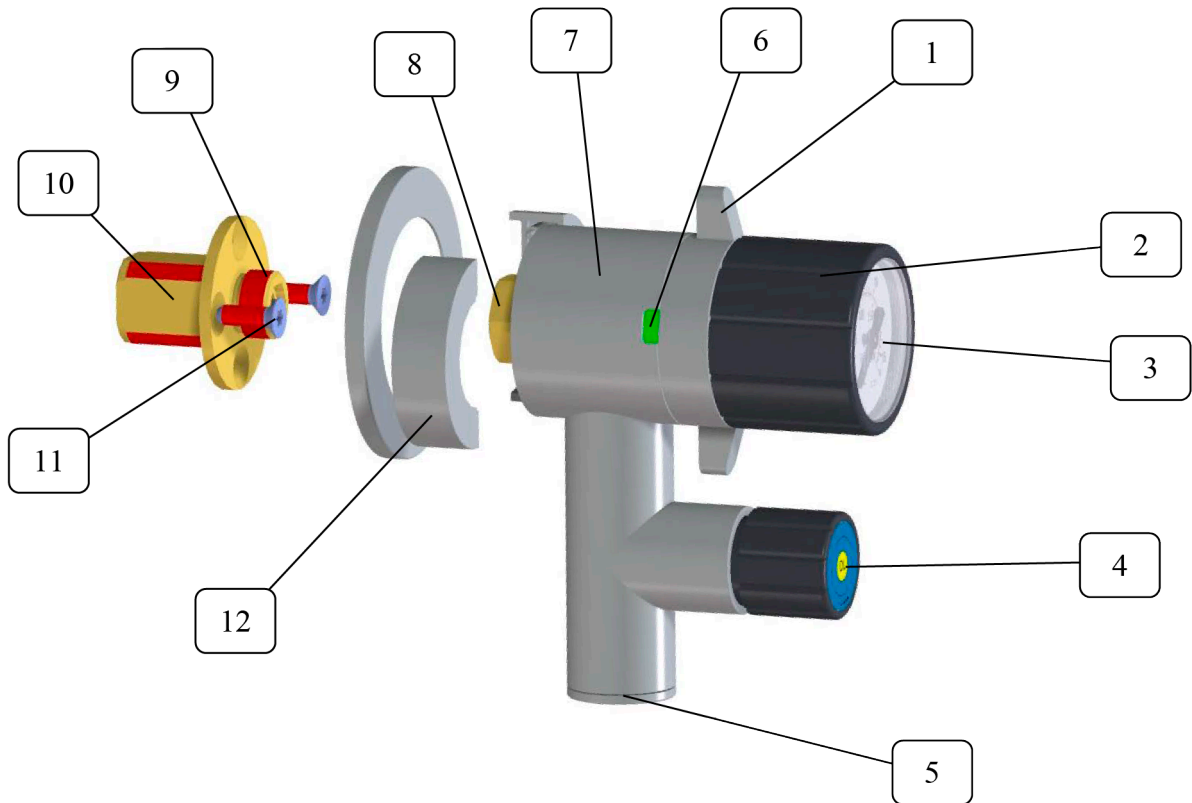
Connection to rear-wall connector: G 3/8" RH



For further information please contact your local BROEN-LAB representative.

TECHNICAL INFORMATION

TECHNICAL INFORMATION - GENERAL INFORMATION



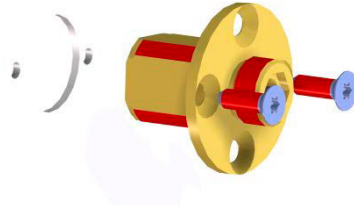
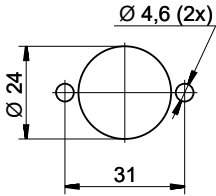
BROEN-LAB FITTINGS FOR 6.0 GASES

Item	Designation	Function
1	Rotary lever	Used to actuate the shut-of valve
2	Hand wheel	Used for setting the outlet pressure
3	Pressure gauge	Indicates the current outlet pressure
4	Gas type label	Shows the type of gas the tapping points may be used for according to norm
5	Gas outlet	It is recommended to order the regulator with outlet connection from factory
6	Open/closed display	Shows the position of the shut-off valve
7	Pressure regulator	Diminishes the inlet pressure P_1 to the adjusted outlet pressure P_2
8	Union nut	Fastens the tapping points to the rear wall connection
9	Integrated shut-off valve	Seals the piping system as long as no tapping point is installed and is used as the primary pressure shut-off valve for installed tapping points for installation instruction, please see next page.
10	Rear wall connection	Used as the connection point for the gas supply system
11	Fastening screws	Self-tapping screws for fastening the rear wall connection to the furniture wall
12	Half-shells	Used to cover the union nut

For further information please contact your local BROEN-LAB representative.

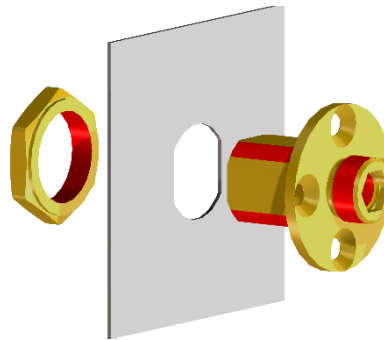
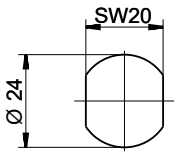
Rear wall connection assembly

Rear wall connection 1/4" NPT female and M24x1 male assembly from the front/fixing from the front with screws.



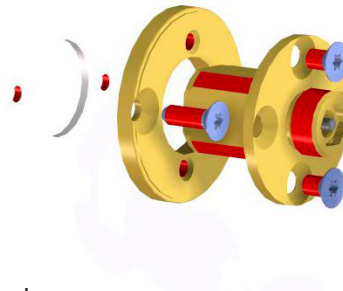
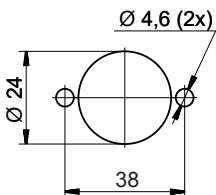
- Arrange the furniture wall as depicted in the drilling template
- Screw in self-tapping screws and fasten the rear wall connection to the furniture wall

Rear wall connection 1/4" NPT female and M24x1 male assembly from the front/fixing from behind with nut.



- Arrange the furniture wall as depicted in the drilling template
- Screw on M24x1 nuts and fasten the rear wall connection to the furniture wall

Rear wall connection with adapter plate



- Arrange the furniture wall as depicted in the drilling template
- Fasten the adapter plate to the furniture wall using the supplied self-tapping screws
- Fasten the rear wall connection to the adapter plate using the supplied M5x8 countersunk screws

TECHNICAL INFORMATION

TECHNICAL INFORMATION - INSTALLATION

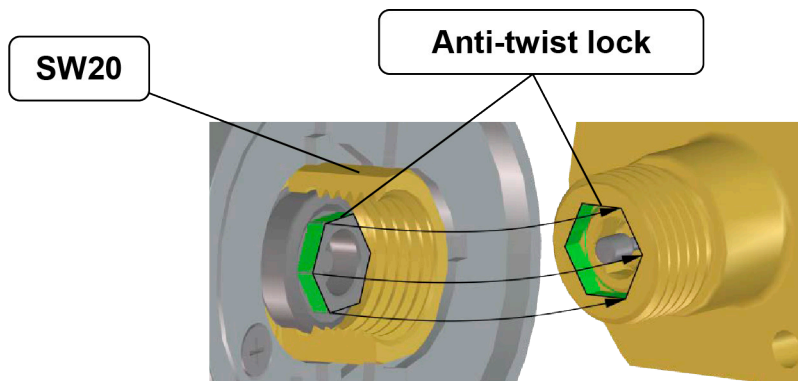
Assembling and screwing together the rear wall connection and tapping point

Special attention is needed when assembling the rear wall connection and the actual tapping point (this equally applies to the column-mounted and the ceiling connection).

Both connecting parts have a hexagonal geometry that serves to aid positioning and acts as an anti-twist lock. It is very important that both hexagonal geometries are threaded in the correct position when manually screwing on the SW20 union nut. While doing this, **no force may be applied**, for example, by using a tool.

A tool may only be used for the final tightening of the union nut when both parts of the anti-twist lock are interlocked - you feel a "click" when it happens.

Otherwise, the tapping point will be incorrectly positioned and the rear wall connection will be damaged. As a result of this, gas-tightness will not be achieved in the connection between the rear wall connection and tapping points.

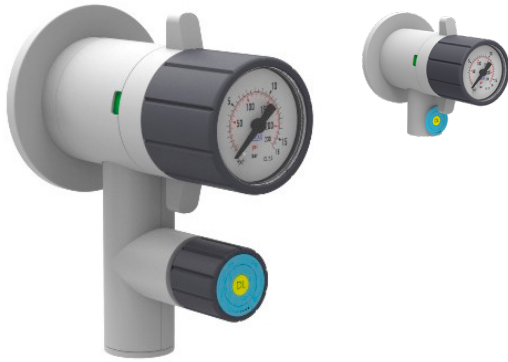


Note!

The hexagonal anti-twist lock can only be repositioned in 60° increments in accordance with its geometric proportions.

If the tapping point is to be rotated by 90° relative to its current position, the rear wall connection must first be rotated by 90°.

SURFACE MOUNTED FITTING, CONCEALED PIPING, INLET FEMALE 1/4" NPT



SPECIFICATIONS

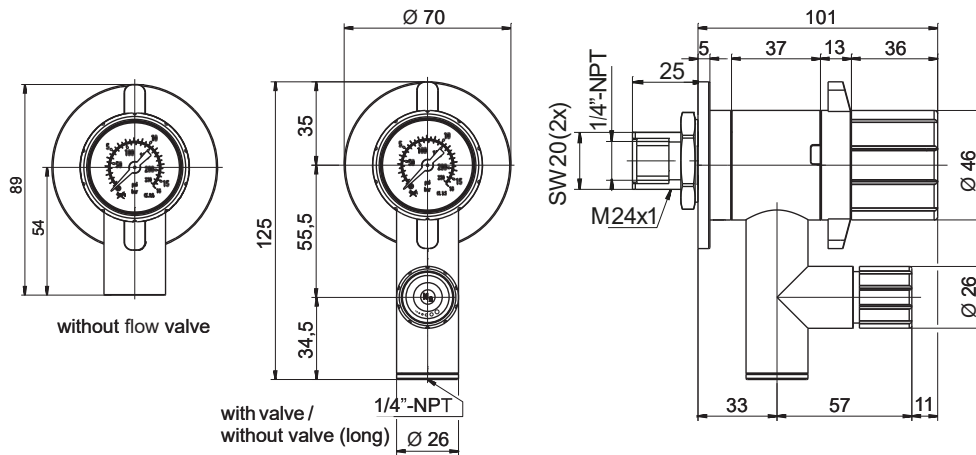
Pressure regulator with integrated shut-off valve for installation into panels independent of the panel thickness.

Inlet connection: female 1/4" NPT
(see ordering information for other options)

Outlet connection: female 1/4" NPT
(see ordering information for other options)

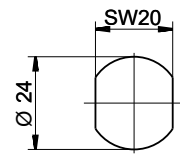
MOUNTING INFORMATION

Installation example

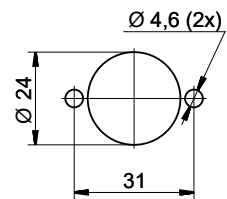


Drilling template

Installation from rear



Installation from the front





ORDERING INFORMATION





Brass: 2503... - models
Stainless Steel: 2504... -models

Fittings

Outlet pressure:

	 without flow valve	 with flow valve
0-1 bar	2503 210 10xx-yy	2503 211 10xx-yy
0-1.5 bar	2503 220 10xx-yy	2503 221 10xx-yy
0-2.5 bar	2503 230 10xx-yy	2503 231 10xx-yy
0-5 bar	2503 240 10xx-yy	2503 241 10xx-yy
0-10 bar	2503 250 10xx-yy	2503 251 10xx-yy
0-16 bar	2503 260 10xx-yy	2503 261 10xx-yy
0-25 bar	2503 270 10xx-yy	2503 271 10xx-yy
0-65 bar	2503 280 10xx-yy	2503 281 10xx-yy

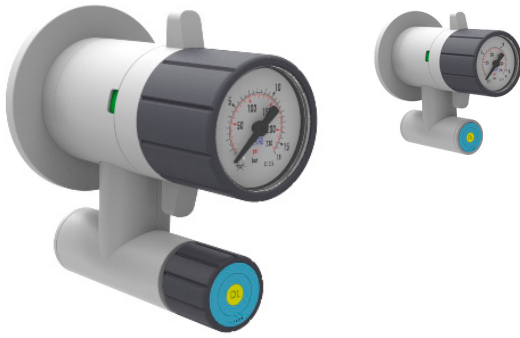
Delivered with mounting accessories

Inlet/outlet options, tube fittings (to be ordered separately)	 Straight Brass	 Straight Stainless Steel	 Elbow Brass	 Elbow Stainless Steel
OD 1/8" x male 1/4" NPT	96i01400	96i01040	96i01560	96i01100
OD 1/4" x male 1/4" NPT	96i00390	96i01030	96i01550	96i01090
OD 6mm x male 1/4" NPT	96i01120	96i01020	96i01320	96i01080
OD 8mm x male 1/4" NPT	96i00380	96i01110	96i01540	96i00430
OD 10mm x male 1/4" NPT	96i01240	96i01430	96i01390	96i01680

For further information please contact your local BROEN-LAB representative.

SURFACE MOUNTED FITTING, REAR OUTLET, INLET FEMALE 1/4" NPT

SPECIFICATIONS



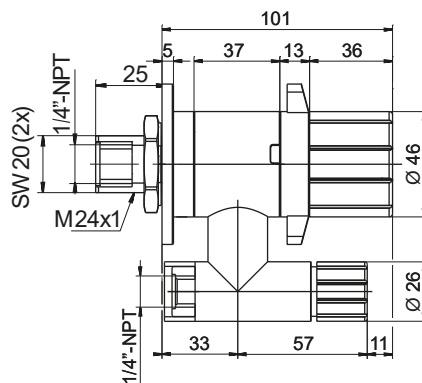
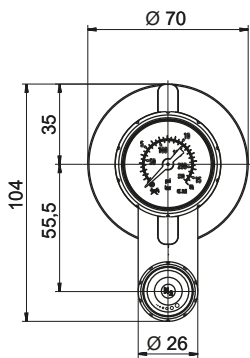
Pressure regulator with integrated shut-off valve for installation into panels independent of the panel thickness. The rear outlet leads back into the panel.

Inlet connection: female 1/4" NPT
(see ordering information for other options)

Outlet connection: female 1/4" NPT
(see ordering information for other options)

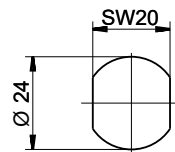
MOUNTING INFORMATION

Installation example

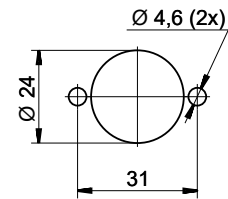


Drilling template

Installation from rear



Installation from the front



ORDERING INFORMATION

Brass: 2503... - models
Stainless Steel: 2504... -models

Fittings

Outlet pressure:

	without flow valve	with flow valve
0-1 bar	2503 410 10xx-yy	2503 411 10xx-yy
0-1.5 bar	2503 420 10xx-yy	2503 421 10xx-yy
0-2.5 bar	2503 430 10xx-yy	2503 431 10xx-yy
0-5 bar	2503 440 10xx-yy	2503 441 10xx-yy
0-10 bar	2503 450 10xx-yy	2503 451 10xx-yy
0-16 bar	2503 460 10xx-yy	2503 461 10xx-yy
0-25 bar	2503 470 10xx-yy	2503 471 10xx-yy
0-65 bar	2503 480 10xx-yy	2503 481 10xx-yy

Delivered with mounting accessories

Inlet/outlet options, tube fittings (to be ordered separately)	Straight Brass	Straight Stainless Steel	Elbow Brass	Elbow Stainless Steel
OD 1/8" x male 1/4" NPT	96i01400	96i01040	96i01560	96i01100
OD 1/4" x male 1/4" NPT	96i00390	96i01030	96i01550	96i01090
OD 6mm x male 1/4" NPT	96i01120	96i01020	96i01320	96i01080
OD 8mm x male 1/4" NPT	96i00380	96i01110	96i01540	96i00430
OD 10mm x male 1/4" NPT	96i01240	96i01430	96i1390	96i01680

For further information please contact your local BROEN-LAB representative.

BROEN-LAB FITTINGS FOR 6.0 GASES

XX - Media code (see page 19)

YY - Outlet connection:

It is recommended to order with outlet connection from factory:

- BA** - brass, tube fitting OD 8mm
- BB** - brass, tube fitting OD 6mm
- BC** - brass, tube fitting OD 1/4"
- BD** - brass, tube fitting OD 1/8"
- BF** - brass, flashback arrestor (C₂H₂ - 1.5 bar; H₂ - 3.5 bar)
- SA** - SS, tube fitting OD 8mm
- SB** - SS, tube fitting OD 6mm
- SC** - SS, tube fitting OD 1/4"
- SD** - SS, tube fitting OD 1/8"
- blank** - female 1/4" NPT (Not recommended)

PANEL / BUILT-IN FITTING, REAR OUTLET



SPECIFICATIONS

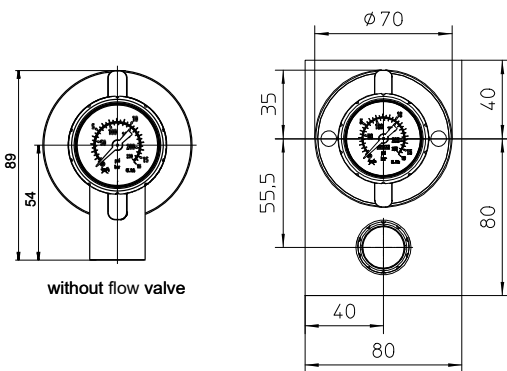
Pressure regulator with integrated shut-off valve for installation into fume hoods (for 2-8mm thick panels).

Inlet connection: female 1/4" NPT
(see ordering information for other options)

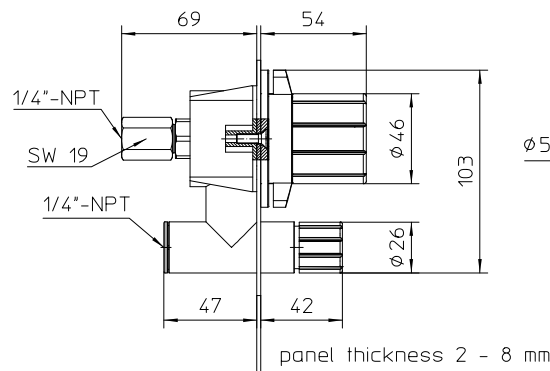
Outlet connection: female 1/4" NPT
(see ordering information for other options)

MOUNTING INFORMATION

Installation example

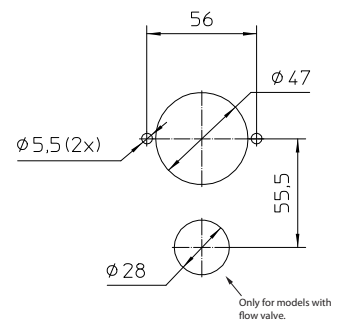


Front view with recommended dimension for multiple installations



Side view with interface dimensions for a panel 2 mm thick
Up to 5 mm wall thickness as shown. From 5 to 8 mm wall thickness without cover.

Drilling template



ORDERING INFORMATION

Brass: 2503... - models
Stainless Steel: 2504... -models

Fittings

Outlet pressure:

	without flow valve	with flow valve
0-1 bar	2503 510 10xx-yy	2503 511 10xx-yy
0-1.5 bar	2503 520 10xx-yy	2503 521 10xx-yy
0-2.5 bar	2503 530 10xx-yy	2503 531 10xx-yy
0-5 bar	2503 540 10xx-yy	2503 541 10xx-yy
0-10 bar	2503 550 10xx-yy	2503 551 10xx-yy
0-16 bar	2503 560 10xx-yy	2503 561 10xx-yy
0-25 bar	2503 570 10xx-yy	2503 571 10xx-yy
0-65 bar	2503 580 10xx-yy	2503 581 10xx-yy

Delivered with mounting accessories

Inlet/outlet options, tube fittings (to be ordered separately)	Straight Brass	Straight Stainless Steel	Elbow Brass	Elbow Stainless Steel
OD 1/8" x male 1/4" NPT	96i01400	96i01040	96i01560	96i01100
OD 1/4" x male 1/4" NPT	96i00390	96i01030	96i01550	96i01090
OD 6mm x male 1/4" NPT	96i01120	96i01020	96i01320	96i01080
OD 8mm x male 1/4" NPT	96i00380	96i01110	96i01540	96i00430
OD 10mm x male 1/4" NPT	96i01240	96i01430	96i01390	96i01680

For further information please contact your local BROEN-LAB representative.

PANEL / BUILT-IN FITTING, FRONT OUTLET



SPECIFICATIONS

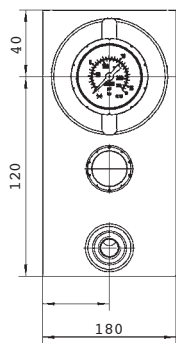
Pressure regulator with integrated shut-off valve for installation into 2-8mm thick panels. The outlet is to the front.

Inlet connection: female 1/4"NPT
(see ordering information for other options)

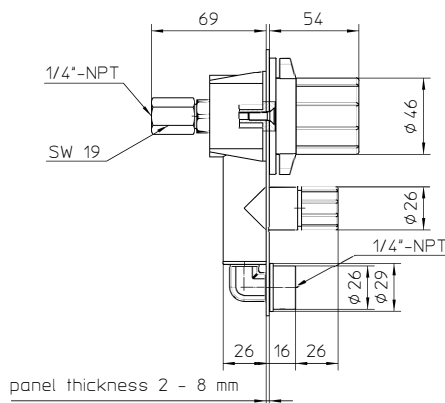
Outlet connection: female 1/4" NPT
(see ordering information for other options)

MOUNTING INFORMATION

Installation example

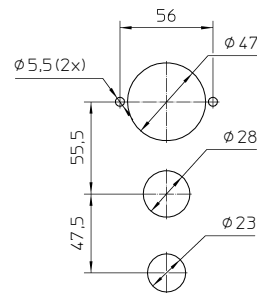


Front view with recommended dimension for multiple installations



Side view with interface dimensions for a panel 2 mm thick

Drilling template (for model with flow valve)



BROEN-LAB FITTINGS FOR 6.0 GASES

ORDERING INFORMATION

Brass: 2503... - models
Stainless Steel: 2504... -models

Fittings

Outlet pressure:

	without flow valve	with flow valve
0-1 bar	2503 610 10xx-yy	2503 611 10xx-yy
0-1.5 bar	2503 620 10xx-yy	2503 621 10xx-yy
0-2.5 bar	2503 630 10xx-yy	2503 631 10xx-yy
0-5 bar	2503 640 10xx-yy	2503 641 10xx-yy
0-10 bar	2503 650 10xx-yy	2503 651 10xx-yy
0-16 bar	2503 660 10xx-yy	2503 661 10xx-yy
0-25 bar	2503 670 10xx-yy	2503 671 10xx-yy
0-65 bar	2503 680 10xx-yy	2503 681 10xx-yy







XX - Media code (see page 19)

YY - Outlet connection:

It is recommended to order with outlet connection from factory:

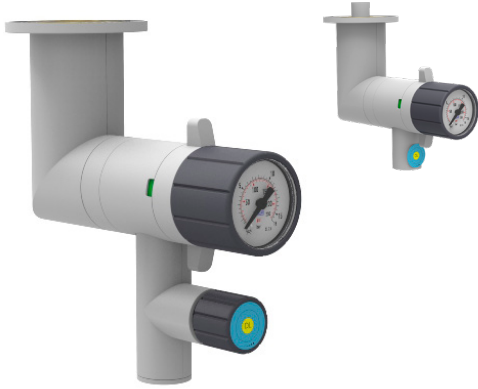
- BA** - brass, tube fitting OD 8mm
- BB** - brass, tube fitting OD 6mm
- BC** - brass, tube fitting OD 1/4"
- BD** - brass, tube fitting OD 1/8"
- BF** - brass, flashback arrestor (C₂H₂ - 1.5 bar; H₂ - 3.5 bar)
- SA** - SS, tube fitting OD 8mm
- SB** - SS, tube fitting OD 6mm
- SC** - SS, tube fitting OD 1/4"
- SD** - SS, tube fitting OD 1/8"
- SH** - SS, Hose nozzle ID 1/4"
- blank** - female 1/4"NPT (Not recommended)

Delivered with mounting accessories

Inlet/outlet options, tube fittings (to be ordered separately)	 Straight Brass	 Straight Stainless Steel	 Elbow Brass	 Elbow Stainless Steel
OD 1/8" x male 1/4"NPT	96i01400	96i01040	96i01560	96i01100
OD 1/4" x male 1/4"NPT	96i00390	96i01030	96i01550	96i01090
OD 6mm x male 1/4"NPT	96i01120	96i01020	96i01320	96i01080
OD 8mm x male 1/4"NPT	96i00380	96i01110	96i01540	96i00430
OD 10mm x male 1/4"NPT	96i01240	96i01430	96i01390	96i01680

For further information please contact your local BROEN-LAB representative.

SUSPENDED FITTING



SPECIFICATIONS

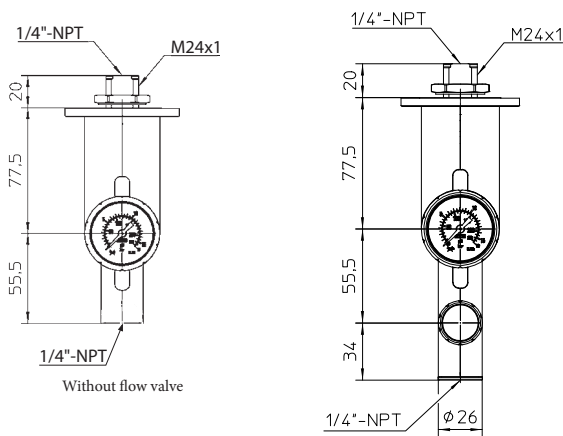
Pressure regulator with integrated shut-off valve for suspended mounting.

Inlet connection: female 1/4" NPT
(see ordering information for other options)

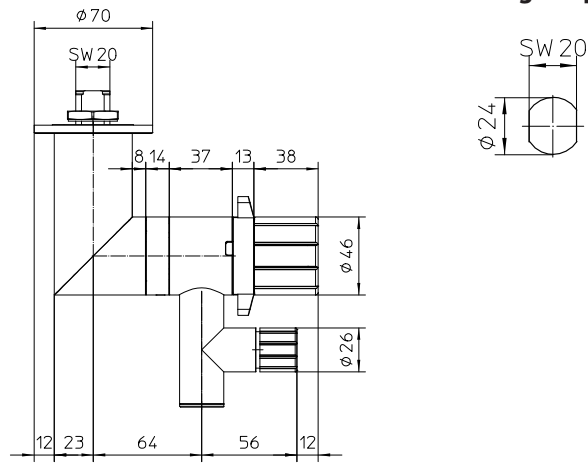
Outlet connection: female 1/4" NPT
(see ordering information for other options)

MOUNTING INFORMATION

Installation example



Drilling template



ORDERING INFORMATION

Brass: 2503... - models
Stainless Steel: 2504... -models

Fittings

Outlet pressure:

	without flow valve	with flow valve
0-1 bar	2503 710 10xx-yy	2503 711 10xx-yy
0-1.5 bar	2503 720 10xx-yy	2503 721 10xx-yy
0-2.5 bar	2503 730 10xx-yy	2503 731 10xx-yy
0-5 bar	2503 740 10xx-yy	2503 741 10xx-yy
0-10 bar	2503 750 10xx-yy	2503 751 10xx-yy
0-16 bar	2503 760 10xx-yy	2503 761 10xx-yy
0-25 bar	2503 770 10xx-yy	2503 771 10xx-yy
0-65 bar	2503 780 10xx-yy	2503 781 10xx-yy

Delivered with mounting accessories

Inlet/outlet options, tube fittings (to be ordered separately)	Straight Brass	Straight Stainless Steel	Elbow Brass	Elbow Stainless Steel
OD 1/8" x male 1/4" NPT	96i01400	96i01040	96i01560	96i01100
OD 1/4" x male 1/4" NPT	96i00390	96i01030	96i01550	96i01090
OD 6mm x male 1/4" NPT	96i01120	96i01020	96i01320	96i01080
OD 8mm x male 1/4" NPT	96i00380	96i01110	96i01540	96i00430
OD 10mm x male 1/4" NPT	96i01240	96i01430	96i01390	96i01680

XX - Media code (see page 19)

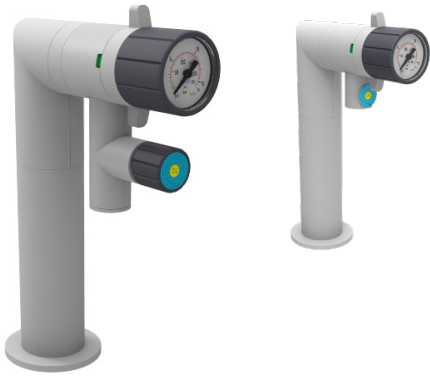
YY - Outlet connection:

It is recommended to order with outlet connection from factory:

- BA** - brass, tube fitting OD 8mm
- BB** - brass, tube fitting OD 6mm
- BC** - brass, tube fitting OD 1/4"
- BD** - brass, tube fitting OD 1/8"
- BF** - brass, flashback arrestor (C₂H₂ - 1.5 bar; H₂ - 3.5 bar)
- SA** - SS, tube fitting OD 8mm
- SB** - SS, tube fitting OD 6mm
- SC** - SS, tube fitting OD 1/4"
- SD** - SS, tube fitting OD 1/8"
- SH** - SS, Hose nozzle ID 1/4"
- blank** - female 1/4" NPT (Not recommended)

For further information please contact your local BROEN-LAB representative.

BENCH MOUNTED FITTING



SPECIFICATIONS

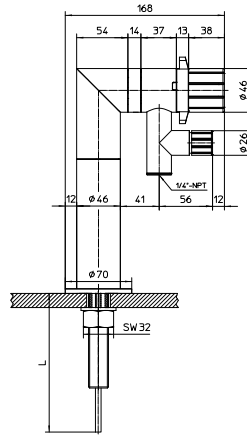
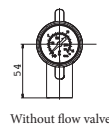
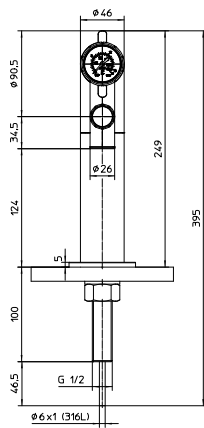
Pressure regulator with integrated shut-off valve for mounting on the working benches and table tops up to 90mm thick.

Inlet connection: Stainless Steel tube OD 6mm, L=146mm (see ordering information for other options)

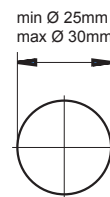
Outlet connection: female 1/4" NPT (see ordering information for other options)

MOUNTING INFORMATION

Installation example



Drilling template



BROEN-LAB FITTINGS FOR 6.0 GASES

ORDERING INFORMATION

Brass: 2503... - models
Stainless Steel: 2504... -models

Fittings

Outlet pressure:

	without flow valve	with flow valve
0-1 bar	2503 810 10xx-yy	2503 811 10xx-yy
0-1.5 bar	2503 820 10xx-yy	2503 821 10xx-yy
0-2.5 bar	2503 830 10xx-yy	2503 831 10xx-yy
0-5 bar	2503 840 10xx-yy	2503 841 10xx-yy
0-10 bar	2503 850 10xx-yy	2503 851 10xx-yy
0-16 bar	2503 860 10xx-yy	2503 861 10xx-yy
0-25 bar	2503 870 10xx-yy	2503 871 10xx-yy
0-65 bar	2503 880 10xx-yy	2503 881 10xx-yy

Delivered with mounting accessories

Inlet options, tube fittings (to be ordered separately)

Straight Stainless Steel

Elbow Stainless Steel

OD 1/8" x OD 6mm	96i01780	N/A
OD 1/4" x OD 6mm	96i01770	N/A
OD 6mm x OD 6mm	96i01760	96i02010
OD 8mm x OD 6mm	96i01750	N/A
OD 10mm x OD 6mm	96i01740	N/A

For further information please contact your local BROEN-LAB representative.

XX - Media code (see page 19)

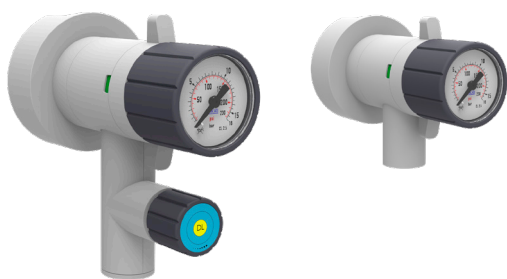
YY - Outlet connection:

It is recommended to order with outlet connection from factory:

- BA** - brass, tube fitting OD 8mm
- BB** - brass, tube fitting OD 6mm
- BC** - brass, tube fitting OD 1/4"
- BD** - brass, tube fitting OD 1/8"
- BF** - brass, flashback arrestor (C₂H₂ - 1.5 bar; H₂ - 3.5 bar)
- SA** - SS, tube fitting OD 8mm
- SB** - SS, tube fitting OD 6mm
- SC** - SS, tube fitting OD 1/4"
- SD** - SS, tube fitting OD 1/8"
- SH** - SS, Hose nozzle ID 1/4"
- blank** - female 1/4" NPT (Not recommended)

* for models without flow valve only!

WALL MOUNTED FITTING, EXPOSED PIPING



SPECIFICATIONS

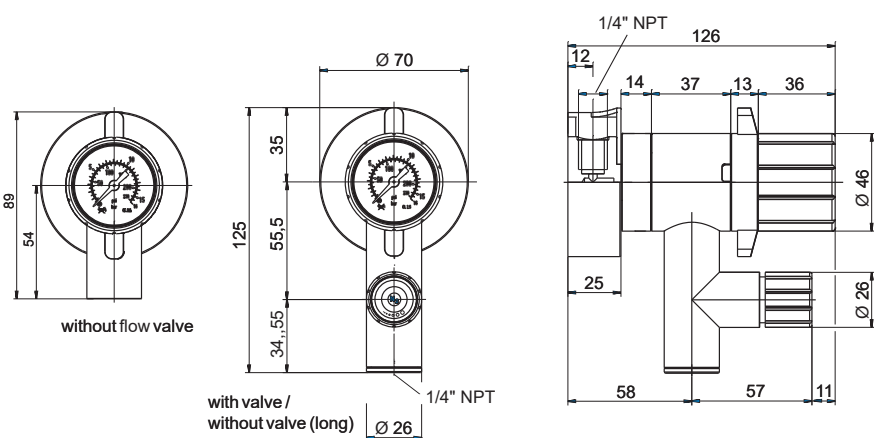
Pressure regulator with integrated shut-off valve for installation directly on the wall, for exposed piping.

Inlet connection: female 1/4" NPT
(see ordering information for other options)

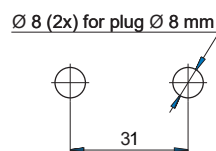
Outlet connection: female 1/4" NPT
(see ordering information for other options)

MOUNTING INFORMATION

Installation example



Drilling template



ORDERING INFORMATION

Brass: 2503... - models
Stainless Steel: 2504... -models

Fittings

Outlet pressure:

	without flow valve	with flow valve
0-1 bar	2503 910 10xx-yy	2503 911 10xx-yy
0-1.5 bar	2503 920 10xx-yy	2503 921 10xx-yy
0-2.5 bar	2503 930 10xx-yy	2503 931 10xx-yy
0-5 bar	2503 940 10xx-yy	2503 941 10xx-yy
0-10 bar	2503 950 10xx-yy	2503 951 10xx-yy
0-16 bar	2503 960 10xx-yy	2503 961 10xx-yy
0-25 bar	2503 970 10xx-yy	2503 971 10xx-yy
0-65 bar	2503 980 10xx-yy	2503 981 10xx-yy

Delivered with mounting accessories

Inlet options, tube fittings (to be ordered separately)

	Brass	Stainless Steel
OD 1/8" x male 1/4" NPT	96i01400	96i01040
OD 1/4" x male 1/4" NPT	96i00390	96i01030
OD 6mm x male 1/4" NPT	96i01120	96i01020
OD 8mm x male 1/4" NPT	96i00380	96i01110
OD 10mm x male 1/4" NPT	96i01240	96i01430

For further information please contact your local BROEN-LAB representative.

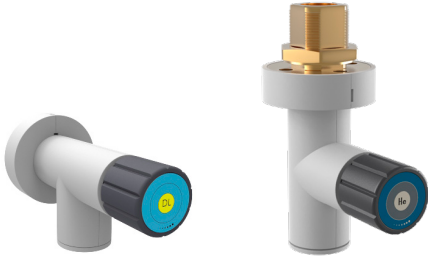
XX - Media code (see page 19)

YY - Outlet connection:

It is recommended to order with outlet connection from factory:

- BA** - brass, tube fitting OD 8mm
- BB** - brass, tube fitting OD 6mm
- BC** - brass, tube fitting OD 1/4"
- BD** - brass, tube fitting OD 1/8"
- BF** - brass, flashback arrestor (C₂H₂ - 1.5 bar; H₂ - 3.5 bar)
- SA** - SS, tube fitting OD 8mm
- SB** - SS, tube fitting OD 6mm
- SC** - SS, tube fitting OD 1/4"
- SD** - SS, tube fitting OD 1/8"
- SH** - SS, Hose nozzle ID 1/4"
- blank** - female 1/4" NPT (Not recommended)

FLOW VALVES - SURFACE MOUNTED



SPECIFICATIONS

Flow valve

Inlet connection: Female 1/4" NPT (M24x1)

Outlet connection: female 1/4" NPT

(see ordering information for other options)

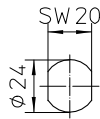
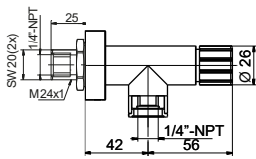
MOUNTING INFORMATION

INLET FEMALE 1/4" NPT - ANGLE VALVE

Installation example

Drilling template

Installation from the back

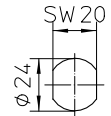
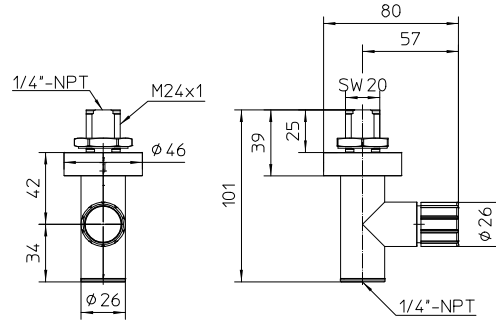


INLET FEMALE 1/4" NPT - STRAIGHT VALVE

Installation example

Drilling template

Installation from the back



BROEN-LAB FITTINGS FOR 6.0 GASES

ORDERING INFORMATION

Brass: 2503... - models

Stainless Steel: 2504... -models

Fittings

Inlet connection:



Angle valve



Straight valve

female 1/4" NPT (M24x1)

2503 202 10xx-yy

2503 203 10xx-yy

Delivered with mounting accessories

XX - Media code (see page 19)

YY - Outlet connection (see page 12)

It is recommended to order with outlet connection from factory:

BA - brass, tube fitting OD 8mm

BB - brass, tube fitting OD 6mm

BC - brass, tube fitting OD 1/4"

BD - brass, tube fitting OD 1/8"

BF - brass, flashback arrestor

(C₂H₂ - 1.5 bar; H₂ - 3.5 bar)

SA - SS, tube fitting OD 8mm

SB - SS, tube fitting OD 6mm

SC - SS, tube fitting OD 1/4"

SD - SS, tube fitting OD 1/8"

SH - SS, Hose nozzle ID 1/4"

blank - female 1/4" NPT

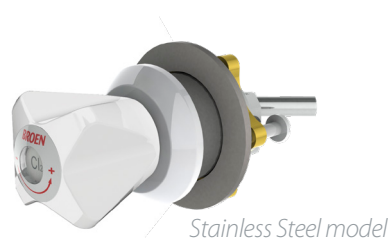
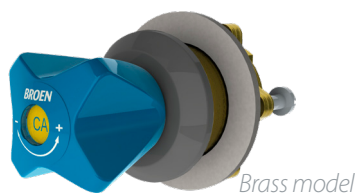
(Not recommended)

* for models without flow valve only!

Inlet/outlet options, tube fittings (to be ordered separately)	Straight Brass	Straight Stainless Steel	Elbow Brass	Elbow Stainless Steel
OD 1/8" x male 1/4" NPT	96i01400	96i01040	96i01560	96i01100
OD 1/4" x male 1/4" NPT	96i00390	96i01030	96i01550	96i01090
OD 6mm x male 1/4" NPT	96i01120	96i01020	96i01320	96i01080
OD 8mm x male 1/4" NPT	96i00380	96i01110	96i01540	96i00430
OD 10mm x male 1/4" NPT	96i01240	96i01430	96i1390	96i01680

For further information please contact your local BROEN-LAB representative.

FRONT CONTROL VALVES



SPECIFICATIONS

Valve can be used for non-corrosive and inactive gases with purity coefficient up to 6.0 (99.9999% pure gases).

Handle: Metal, BROEN-LAB Polyester Based Surface Treatment powder coated with media indication according to EN13792.

Headwork: Diaphragm type

Opening/closing function: 1.5 x 360°

Max. working pressure: 21 bar / 305 psi

Test pressure: 1.5 x working pressure

Inlet/outlet: Female 1/4" NPT thread

Leak rate: < 10⁻⁷ mbar x l/s [Helium]

Weight: 0.7 kg

MATERIALS WITH MEDIA CONTACT

Metals: Brass

Plastics: PVDF

Diaphragm: Stainless Steel Alloy

ORDERING INFORMATION

Material	Stop valve	Flow valve
Brass	02460009-9023	02462009-9023
Stainless Steel (corrosive gases)	-	02511 539 1099

Delivered with mounting accessories

ACCESSORIES

Brass

Inlet/outlet options, tube fittings (to be ordered separately)



Straight Brass



Straight Stainless Steel



Elbow Brass



Elbow Stainless Steel

OD 1/8" x male 1/4" NPT	96i01400	96i01040	96i01560	96i01100
OD 1/4" x male 1/4" NPT	96i00390	96i01030	96i01550	96i01090
OD 6mm x male 1/4" NPT	96i01120	96i01020	96i01320	96i01080
OD 8mm x male 1/4" NPT	96i00380	96i01110	96i01540	96i00430

Stainless Steel

Inlet options for SS valve, tube fittings (to be ordered separately)



Straight Stainless Steel

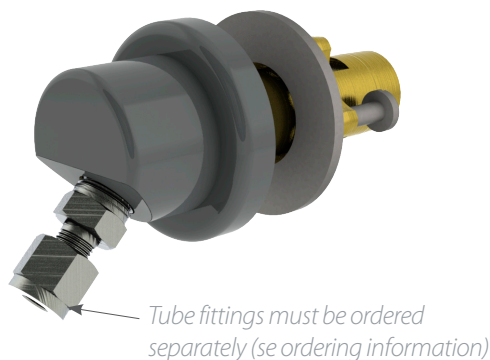


Elbow Stainless Steel

OD 8mm x OD 6mm	96i01750	N/A
OD 8mm x OD 8mm	96i02080	96i02000
OD 8mm x OD 10mm	96i01600	N/A

For further information please contact your local BROEN-LAB representative.

FUME HOOD OUTLETS



SPECIFICATIONS

BROEN-LAB CLEANLINE outlets for 6.0 gases can be used for mounting in the fume hoods in combination with BROEN-LAB CLEANLINE fittings with rear outlet connections.

Inlet connection: female 1/4" NPT - male 1/2" NPT
(see ordering information for other options)

Outlet connection: female 1/4" NPT
(see ordering information for other options)

Leak rate: 10^{-7} mbar x l/s [He]

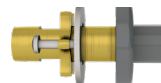
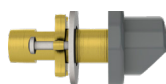
Weight: 0.5 kg

MATERIALS WITH MEDIA CONTACT

Metals: Brass or Stainless Steel

ORDERING INFORMATION

BROEN-LAB FITTINGS FOR 6.0 GASES



Options:

45°

Straight

Brass (powder coated, RAL 9023)

02869529-9023

02861529-9023

Stainless Steel

02869533

02861533

Delivered with mounting accessories

ACCESSORIES

Inlet/outlet options, straight tube fittings (to be ordered separately)



Brass



Stainless Steel

OD 1/8" x male 1/4" NPT

96i01400

96i01040

OD 1/4" x male 1/4" NPT

96i00390

96i01030

OD 6mm x male 1/4" NPT

96i01120

96i01020

OD 8mm x male 1/4" NPT

96i00380

96i01110

OD 10mm x male 1/4" NPT

96i01240

96i01430

Inlet/outlet options, elbow tube fittings (to be ordered separately)



Brass



Stainless Steel

OD 1/8" x male 1/4" NPT

96i01560

96i01100

OD 1/4" x male 1/4" NPT

96i01550

96i01090

OD 6mm x male 1/4" NPT

96i01320

96i01080

OD 8mm x male 1/4" NPT

96i01540

96i00430

OD 10mm x male 1/4" NPT

96i01390

96i01680

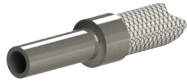
For further information please contact your local BROEN-LAB representative.

BROEN-LAB FLEXIBLE STAINLESS STEEL PIPES FOR 6.0 GASES

INLET CONNECTIONS

93 S XX XX XXXX

OD10mm connection (Code 80)



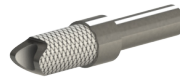
Male 1/4" NPT fixed connection
(Code 70)



OUTLET CONNECTIONS

93 S XX XX XXXX

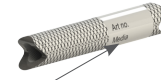
OD10mm connection (Code 80)



HOSE

93 S XX XX XXXX

Flexible SS pipe with braiding
in stainless steel



Marking for clean gases with
Part no. and Media indication

HOSE LENGTHS

Definition of length (L)



****Standard lengths of hoses (L):**

0500 = 500mm

0700 = 700mm

1000 = 1000mm

1200 = 1200mm

1500 = 1500mm

2000 = 2000mm

2500 = 2500mm

3000 = 3000mm

Length tolerance of hoses:
L = ≤400mm (-0, +10mm)
L = 401mm to 1000mm (-0, +20mm)
L = >1000mm (-0, +30mm)

EXAMPLE OF HOSE CONFIGURATION

1200mm hose with male 1/4" NPT
inlet connection and OD 10mm
pipe outlet connection



93S70801200

SPECIFICATIONS

Inner hose material:

Corrugated* Stainless Steel 1.4404 similar to AISI 316L (acc. to EN 10028-7).
Cleaned for use with gases having purity coefficient 6.0 (99,9999% pure gases)

Braiding: Stainless Steel 1.4301 similar to AISI 304

Hose connections: Stainless Steel 1.4404 and 1.4541
(acc. to EN 10216-5 CFA D4/T4 (DIN 17458 D4/T4))

Leak rate: < 10⁻⁹ mbar x l/s [He]

Surface roughness of the raw material: Ra max - 1.5 µm, Ra - 0.12 µm

Inside diameter: 8.3 mm

Outside diameter: 13.7 mm

Max. working pressure: 21 bar

Max. working temperature: 50°C

Bending radius (inner): ≥ 32 mm

Min. length with connections: 350mm

Packaging: individually packed in sealed bags

** Corrugated hoses have a large inner surface with media contact, therefore extended flushing may be required before taking into use! BROEN-LAB recommends purging by pressurizing a system by 10 bar to be repeated for 5-7 times.*

For further information please contact your local BROEN-LAB representative.

* Other lengths are available on request

ACCESSORIES / SPARE PARTS

Illustration	Description	BROEN-LAB item No.	
	Hose nozzle: Male 1/4" NPT - ID 1/4"	96i00450	
	Swagelok straight tube fittings: male 1/4" NPT - OD 1/8" male 1/4" NPT - OD 1/4" male 1/4" NPT - OD 6mm male 1/4" NPT - OD 8mm male 1/4" NPT - OD 10mm	Brass 96i01400 96i00390 96i01120 96i00380 96i01240	Stainless Steel 96i01040 96i01030 96i01020 96i01110 96i01430
	Swagelok elbow tube fittings: male 1/4" NPT - OD 1/8" male 1/4" NPT - OD 1/4" male 1/4" NPT - OD 6mm male 1/4" NPT - OD 8mm male 1/4" NPT - OD 10mm	Brass 96i01560 96i01550 96i01320 96i01540 96i01390	Stainless Steel 96i01100 96i01090 96i01080 96i00430 96i01680
 Can be combined with hose nozzle 96i00450	Flashback arrester, Inlet: male 1/4" NPT Outlet 1/4" NPT female (to be used for Acetylene (1,5 bar) Hydrogen (3 bar))	96T1006	
	Straight BROEN-LAB UniFlex™ adapters: male 1/4" NPT - female BROEN-LAB UniFlex™	02550220	
	female 1/4" NPT - female BROEN-LAB UniFlex™	15101740	
	Elbow BROEN-LAB UniFlex™ adapter: male 1/4" NPT - female BROEN-LAB UniFlex™	02101270	
	Rear wall connector with OD6mm tube (incl. mounting accessories)	97S0001	
	Rear wall connector with M24x1 - female 1/4" NPT (incl. mounting accessories)	97S0002	
	Adapter for replacing old version	97S0003	
	Blind plug with cover for rear wall connection	97S0004	
	Complete installation kits: for suspended mounting for bench mounting for wall mounting (exposed piping)	97S0006 97S0007 97S0008	

For further information please contact your local BROEN-LAB representative.

ORDERING INFORMATION

BROEN-LAB CLEANLINE 6.0 FITTINGS

25 0X X X X 10 XX - XX

Material

- 3 - brass
- 4 - Stainless Steel

Mounting/inlet

- 0 - without installation kit
- 2 - surface mounted, female 1/4"NPT
- 4 - surface mounted, rear outlet, female 1/4"NPT
- 5 - panel/built-in, rear outlet, female 1/4"NPT
- 6 - panel/built-in, front outlet, female 1/4"NPT
- 7 - suspended, female 1/4"NPT
- 8 - bench mounted, OD6x1mm SS tube
- 9 - wall mounted (exposed), female 1/4"NPT

Flow valve

- 0 - none
- 1 - with
- 2 - angle (fitting with valve only)
- 3 - straight (fitting with valve only)

Outlet pressure

- 0 - no pressure regulator
- 1 - 1 bar
- 2 - 1.5 bar
- 3 - 2.5 bar
- 4 - 5 bar
- 5 - 10 bar
- 6 - 16 bar
- 7 - 25 bar
- 8 - 65 bar

Outlet connection type

- blank - female 1/4"NPT
- BA - brass, tube fitting OD 8mm
- BB - brass, tube fitting OD 6mm
- BC - brass, tube fitting OD 1/4"
- BD - brass, tube fitting OD 1/8"
- *BE - brass, female BROEN-LAB UniFlex™
- BF - brass, flashback arrestor (C₂H₂ - 1.5 bar; H₂ - 3.5 bar)
- SA - SS, tube fitting OD 8mm
- SB - SS, tube fitting OD 6mm
- SC - SS, tube fitting OD 1/4"
- SD - SS, tube fitting OD 1/8"
- SG - SS, tube fitting OD 10mm
- SH - SS, hose nozzle ID 1/4"

Media code **



17 - Acetylene (C₂H₂) ***



19 - Hydrogen (H₂)



21 - Compressed Air (CA)



22 - Oxygen (O₂)



23 - Nitrogen (N₂)



24 - Carbon Dioxide (CO₂)



25 - Argon (Ar)



26 - Helium (He)



27 - Dinitrogen Monoxide (N₂O)



86 - Synthetic Air (SA)

* only for gases up to 5.0 quality

** Other media on request.

*** For acetylene (C₂H₂)

- Max outlet pressure 0-1.5bar
- Not available with flow valve
- Consider adding a flash back arrestor to prevent backflow

For further information please contact your local BROEN-LAB representative.

BROEN-LAB develops, manufactures and sells Laboratory Fittings, Emergency Shower Systems and Eye Wash Systems into a broad spectrum of laboratories and industrial locations; sectors include Pharmaceutical, Food&Beverage and Academia. Our expertise and product quality ensure optimal solutions compliant to all relevant international norms setting new standards in risk mitigation in modern research and development facilities.

BROEN-LAB offer solutions that ensure the functionality, compliance, hygiene, durability and safety are of the highest priority. For over 50 years our products have been integrated into a wide variety of workplaces, laboratories, hospitals and industrial locations, with features that are assessed and designed to be flexible, durable and compliant offering a broad range of options tailored to each location. This inherent design integrity provides confidence in the solution adopted wherever in the world these are applied.

BROEN-LAB is a collaboration partner in the design and layout of your next laboratory and it's integrated safety

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BROEN-LAB A/S ISO 9001 certification

In September 1991 BROEN-LAB A/S was certified according to ISO 9001 as one of the first Danish companies. The certification was carried out by Bureau Veritas, Denmark, for our Danish site in Assens. The quality management system of BROEN-LAB A/S now complies with detailed specifications laid down by the internationally acknowledged EN ISO 9001:2015. This certification will further contribute to reputation for quality and reliability of BROEN-LAB A/S.

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