iTec

SENTRALGASSUTSTYR
SPECTROCEM

VERSJON 1.0. 2019

www.itec.as

FORORD

iTec AS leverer komplette maskinløsninger for plater, rør og profiler, samt gassutstyr, og har de siste 20 år vært en ledende leverandør til norsk industri.

iTec leverer gassutstyr fra den tyske høykvalitetsleverandøren Spectron. I samarbeid med leverandør kan vi levere gassutstyr til ulike industrier; medisinsk, farmasøytisk, prosess, akvakultur og næringsmiddel applikasjoner.

Spectron har en bred produktportefølje som inneholder komponenter for alle typer komprimerte gasser og bruksområder.

Denne katalogen inneholder teknisk spesifikasjon på gassutstyr i rustfri utførelse (SpectroCem).

Generell informasjon:

Inngangstrykk	: fra 0 - 300 bar
Utgangstrykk	: fra 0 - 200 bar
Max volumstrøm gass	: 50 m^3/t
Lekkasjerate	: $1x10^{-8}$ mbar l/s

Alle produktene tilfredsstiller de normer og lovpålagte krav som gjelder for gass og trykkpåkjent utstyr.

iTec leverer komplette gass distribusjonsløsninger, med tilhørende prosjektering/ dimensjonering og dokumenterer jobben i henhold til kundens krav.

Det tas forbehold om endringer på produktenes visuelle utforming vist i denne katalogen.

Ta kontakt med iTec for nærmere informasjon om prosjektering/ dimensjonering, priser, normer og lovpålagte krav, installasjon, service og preventivt vedlikehold av dine gassystemer.

Med vennlig hilsen

Daniel R. Persen
Salgssjef Gassutstyr

INNHOLD

.

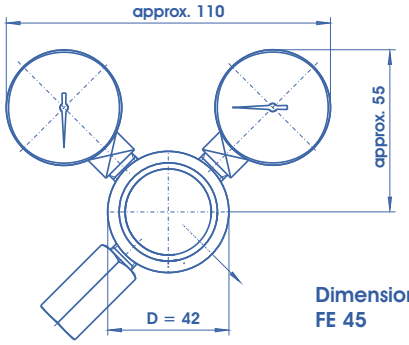
Flaskeregulator FM53/FE53

FLASKEREGULATOR
FE45

Cylinder regulator FE 45

spectrocem

Figure
FE 45



Dimensions
FE 45

Product features

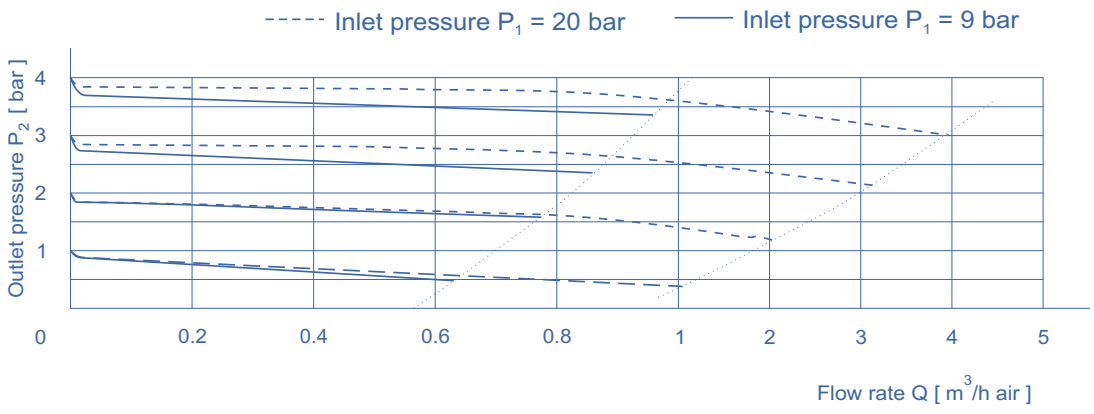
- Single-stage cylinder pressure regulator with compensated main valve for improved performance
- Simple and safe gas withdrawal from gas cylinders, for corrosive gases and gas mixtures up to quality 6.0
- Compensated main valve for significantly improved outlet pressure accuracy similar to a dual-stage regulator
- Compact design, light weight
- New laboratory-style design
- Ergonomically designed
- Suitable for ECD-applications
- High control accuracy
- Integrated relief valve
- Hastelloy-diaphragm
- Minimised gas-wetted surface
- Manual cylinder connection (for non-metal-to-metal sealing cylinder connections)

Technical data

Inlet pressure P_1:	max. 230 bar 300 bar on request
Max. Outlet pressure P_2:	0,1 - 10 bar
Flow rate Q:	see flow curves
Materials:	
Body:	SS 1.4404 (SS 316 L)
Diaphragm:	Hastelloy C276
Valve seat:	PCTFE [1)]
Cylinder connection:	acc. to international standards and gas type
Outlet connector:	1/8"-27 NPT-F
Leak rate (to atmosphere):	10^{-8} mbar l/sec He
Weight:	520 g
Outlet fittings:	see accessories

[1)] Other valve seat materials such as PVDF upon request

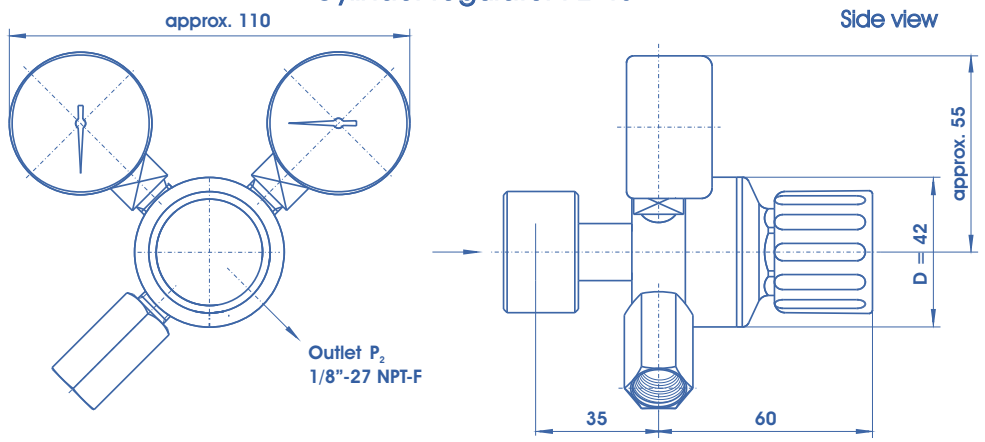
Flow curves FE 45



Cylinder regulator FE 45

spectrocem

Cylinder regulator FE 45



Additional configurations upon request!

Ordering information:
FE 45 series cylinder regulators

FE 45 - 230 - 4 - BS no. 3 - H_2

Inlet pressure P_1

230 - max. 230 bar

Outlet pressure P_2

1,5 - up to 1.5 bar
4 - up to 4 bar
10 - up to 10 bar

Type of gas

Please specify type of gas (for selection of valve seat material)

Cylinder connection

Detailed description of the cylinder connection including the relevant standard and the number of the connection (e.g. BS no.3)

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% function- and Helium-leak-test.

Pressure indication

- All pressure regulators are equipped with pressure gauges for inlet- and outlet pressure indication.

Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole gas supply system into account when selecting a pressure regulator.
- The function of the regulator, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

FLASKEREGULATOR
FE51

Cylinder pressure regulator FE51

Cylinder regulator FE51

Specifications

- SPECTROCEM-components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All parts in the gas wetted surface area are cleaned in an ultrasonic cleaning system (CFC-free) with the special Cleaning process SPECTRO-CLEAN® and then baked out.
- SPECTROCEM-components undergo a 100% function- and Helium-leak-test.

Product features

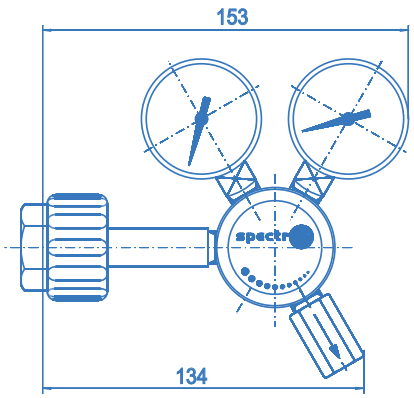
- Stainless steel cylinder pressure regulator
- Pressure regulator with very stable outlet pressure and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 6 ports for flexible and individual configuration
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1.5 up to 200 bar *
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Inlet filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design
- Ergonomically designed

* 1.5 / 4 bar only for inlet pressure ≤ 50 bar

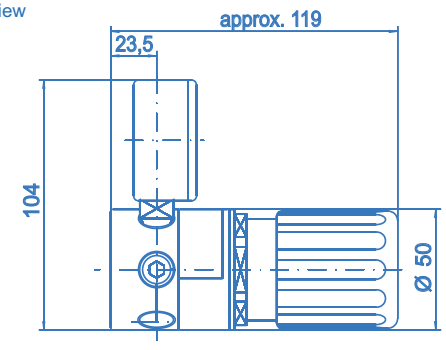
Technical data

Type	single-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 bar (P_1 ≤ 50 bar) 10 / 20 / 50 / 100 / 200 bar (P_1 > 50 bar)
Materials	
Body regulator, relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Pressure gauge	Safety pressure gauges ISO5171/KI1.6/NG50
Flow capactiy	C_V=0.15
Weight	1.2 kg

Dimensions
FE51



Side view



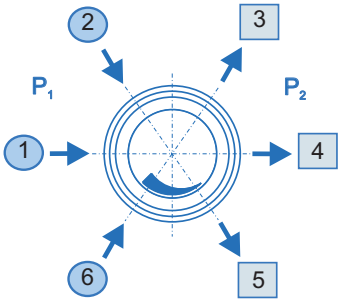
FLASKEREGULATOR
FE51

Cylinder pressure regulator FE51

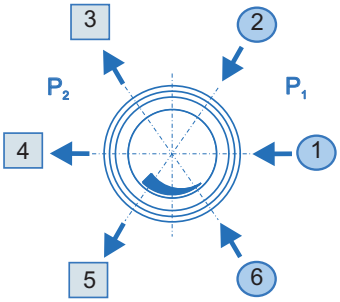
Ordering information:
Cylinder regulator FE51

In- / outlets

CE 1/4 - 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6 - 3 / 6 / 8 / 10 / 12 mm OD compression fitting (stainless steel)
B - plug
A - relief valve - 1/4"-NPT-F (P_2≤100 bar)
xxxx - detailed specification of cylinder connection including the relevant standard and number (e.g. BS no.3 for nitrogen up to 230 bar)
K - contact pressure gauge
M - pressure gauge
0 - 1/4"-NPT-F (port only)



port selection



Inlet left: L

Inlet right: R

FE51 - L - 300 - 20 - 1 - 2 - 3 - 4 - 5 - 6 - N2

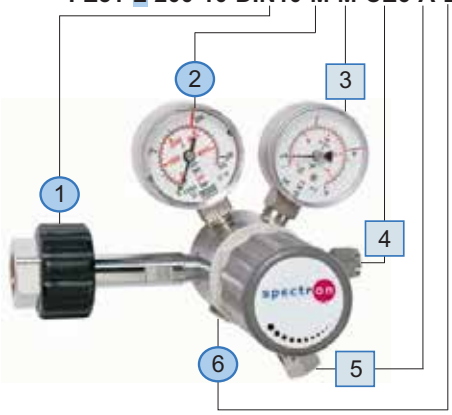
Inlet
L - left
R - right

Inlet pressure P_1
10 - max. 10 bar
20 - max. 20 bar
50 - max. 50 bar
100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2
1,5 - up to 1.5 bar (P_1 ≤ 50 bar)
4 - up to 4 bar (P_1 ≤ 50 bar)
10 - up to 10 bar
20 - up to 20 bar
50 - up to 50 bar
100 - up to 100 bar
200 - up to 200 bar

Type of gas
Please specify type of gas (for selection of valve seat materials)

Ordering example:
FE51-L-200-10-DIN10-M-M-CE6-A-B-N2



Ordering example:
FE51-R-200-10-CGA540-M-M-CE1/8-A-B-Ar

FLASKEREGULATOR
FE51-SP

Cylinder pressure regulator FE51-SP

Cylinder regulator FE51-SP2

Specifications

- SPECTROCEM-components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All parts in the gas wetted surface area are cleaned in an ultrasonic cleaning system (CFC-free) with the special Cleaning process SPECTRO-CLEAN® and then baked out.
- SPECTROCEM-components undergo a 100% function- and Helium-leak-test.

Product features

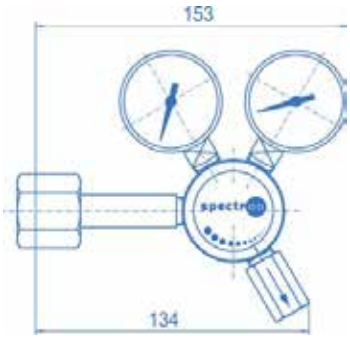
- Stainless steel cylinder pressure regulator with purge valves for process gas or purge gas purging
- Pressure regulator with very stable outlet pressure and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- Purge valves in 3 different configurations available
- Suitable for inlet pressures up to 200 bar
- Max. outlet pressures 1.5 up to 200 bar *
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Inlet filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design

* 1.5 / 4 bar only for inlet pressure ≤ 50 bar

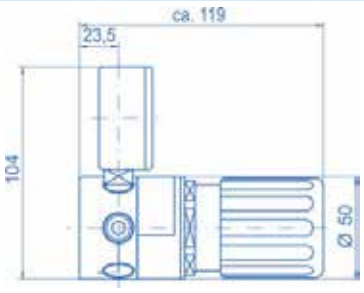
Technical data

Type		single-stage
Inlet pressure P_1		max. 200 bar
Outlet pressure P_2		1,5 / 4 bar (P_1 ≤ 50 bar) 10 / 20 / 50 / 100 / 200 bar (P_1 > 50 bar)
Materials		
Body regulator, relief valve: Valve seat: Diaphragm: Filter:		SS 316L (SS 1.4404) PVDF Hastelloy C276 Edelstahl 1.4404
In- and outlets		1/4“ NPT-F
Temperature range		-30°C to +60°C
Leak rate (to atmosphere) (via seat)		10^{-8} mbar l/s He 10^{-6} mbar l/s He
Pressure gauge		Safety pressure gauges ISO5171/KI1.6/NG50
Flow capacity		0,15
Weight	FE51-SP2A FE51-SP2 FE51-SP3	ca. 2,0 kg ca. 1,9 kg ca. 2,2 kg

Dimensions FE51



Side view



Cylinder pressure regulator FE51-SP

Ordering information:

Cylinder pressure regulator FE51-SP

FE51 - SP3 - 200 - 10 - DIN 7 - SO2

Configuration

SP2A 2 purge valves in the outlet:
waste gas + process gas

SP2 2 purge valves:
purge gas in the inlet
process gas in the outlet

SP3 3 purge valves:
purge gas in the inlet
waste gas in the outlet
process gas in the outlet

Inlet pressure P_1

10 - max. 10 bar
20 - max. 20 bar
50 - max. 50 bar
100 - max. 100 bar
200 - max. 200 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

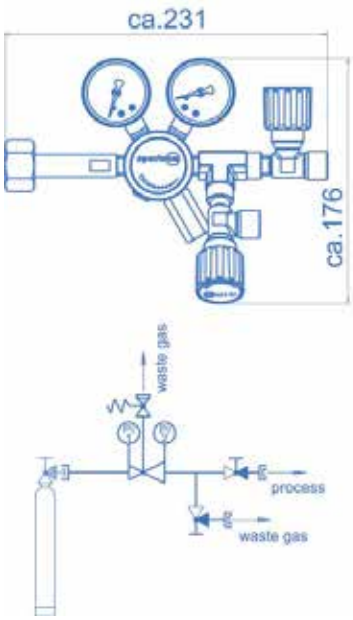
Cylinder connection

Detailed specification of cylinder connection including the relevant standard and number
(e.g. BS no.3)

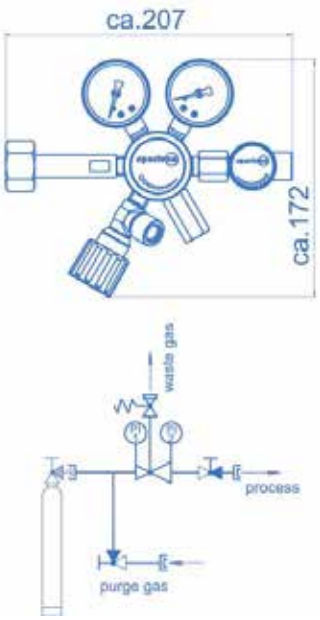
Outlet pressure P_2

1,5 - up to 1,5 bar (P_1 ≤ 50 bar)
4 - up to 4 bar (P_1 ≤ 50 bar)
10 - up to 10 bar
20 - up to 20 bar
50 - up to 50 bar
100 - up to 100 bar
200 - up to 200 bar

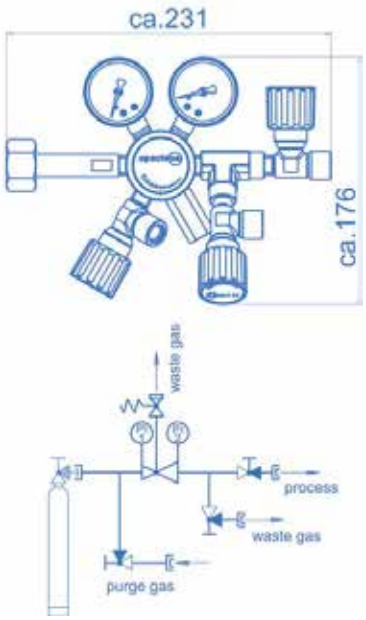
FE51-SP2A
Process gas purging



FE51-SP2
Purge gas purging
without waste gas valve



FE51-SP3
Inert gas purging
with waste gas valve



FLASKEREGULATOR

FE52exact

Cylinder regulator FE52exact

Cylinder regulator FE52exact

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Product features

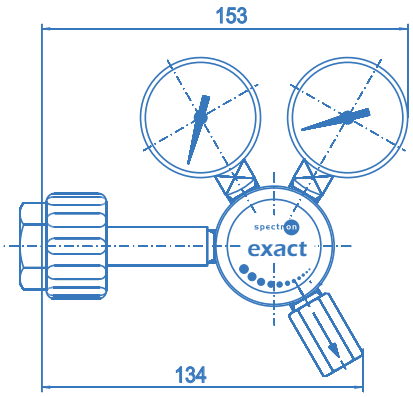
- Stainless steel cylinder pressure regulator
- Extremly stable outlet pressure by applied extremly accurate technology "exact" and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 6 ports for flexible and individual configuration
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1.5 up to 20 bar
- Light weight
- Compact design
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Central filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design

exact = extremly accurate technology

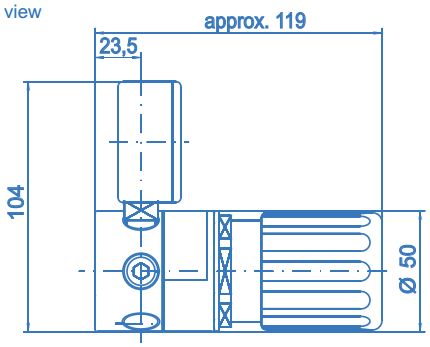
Technical data

Type	single-stage EXACT
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1.5 / 4 / 10 / 20 bar
Materials	
Body regulator, relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Soft goods:	EPDM
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Pressure gauge	Safety pressure gauges ISO5171/KI1.6/NG50
Flow capactiy	C_V=0.15
Weight	1.2 kg

Dimensions FE52exact



Side view



FLASKEREGULATOR

FE52exact

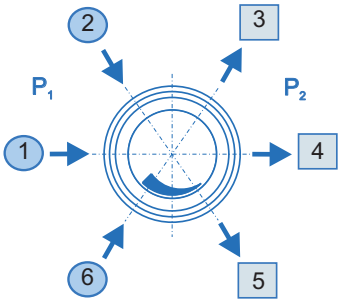
Cylinder regulator FE52exact

spectrocem

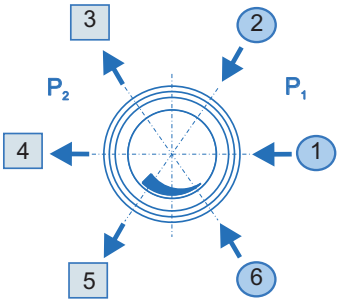
Ordering information:
Cylinder regulator FE52exact

In- / outlets

CE 1/4 - 1/8" / 1/4" / 1/2"	- OD compression fitting (stainless steel)
CE 6 - 3 / 6 / 8 / 10 / 12	mm OD compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-NPT-F (P_2≤100 bar)
xxxx	- detailed specification of cylinder connection including the relevant standard and number (e.g. BS no.3 for nitrogen up to 230 bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-NPT-F (port only)



port selection



Inlet left: L

Inlet right: R

FE52 - L - 300 - 20 - 1 - 2 - 3 - 4 - 5 - 6 - N2

Inlet

L	- left
R	- right

Inlet pressure P_1

100	- max. 100 bar
200	- max. 200 bar
300	- max. 300 bar

Outlet pressure P_2

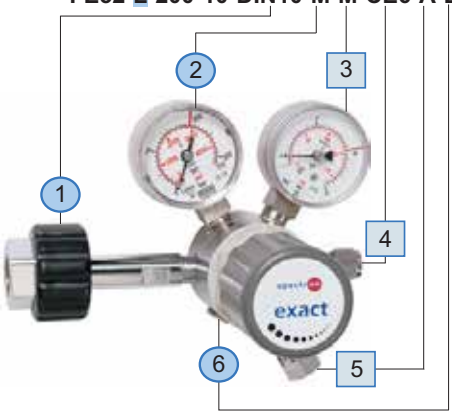
1,5	- up to 1.5 bar
4	- up to 4 bar
10	- up to 10 bar
20	- up to 20 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use M51

Ordering example:
FE52-L-200-10-DIN10-M-M-CE6-A-B-N2



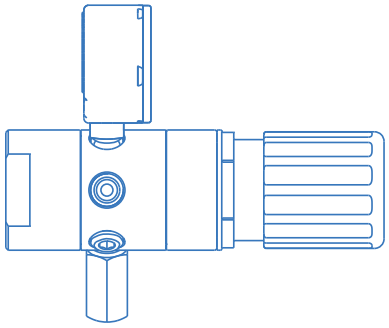
Ordering example:
FE52-R-200-10-CGA540-M-M-CE1/8-A-B-Ar

ÆRLIG INTERESSERT PRESIS

FLASKEREGULATOR
FE53

Cylinder pressure regulator FE53

Cylinder pressure regulator FE53



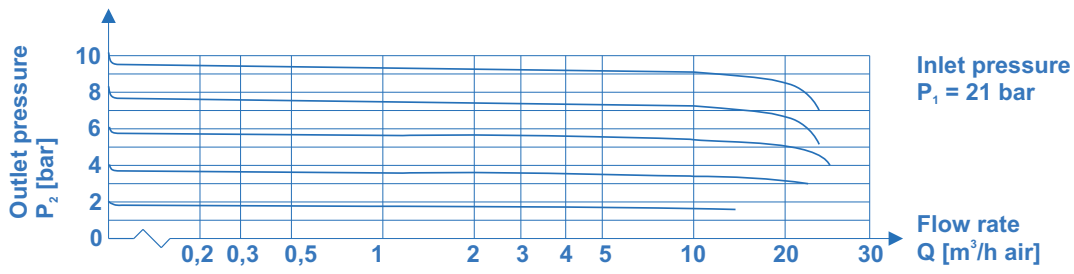
Product features

- Double-stage stainless steel cylinder pressure regulator with extremly stable outlet pressure and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 6 ports for flexible and individual configuration
- New laboratory-style design
- Central filter
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1.5 up to 20 bar
- Light weight
- Compact design
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install

Technical data

Type	double-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 / 10 / 20 bar
Materials	
Body regulator, relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Pressure gauge	Safety pressure gauges ISO5171/KI1.6/NG50
Weight	1.8 kg

Flow curves FE53

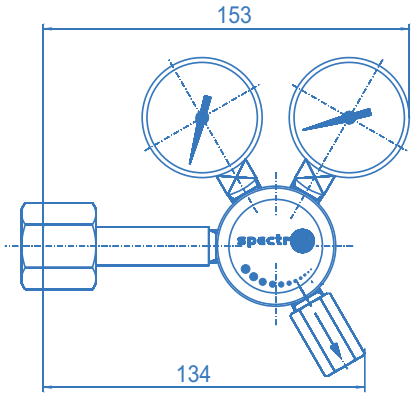


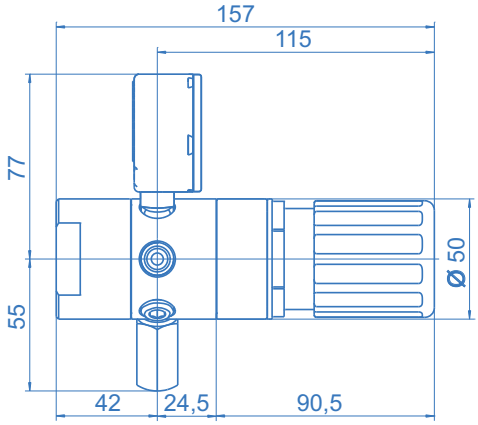
FLASKEREGULATOR
FE53

Cylinder pressure regulator FE53

spectrocem

Dimensions

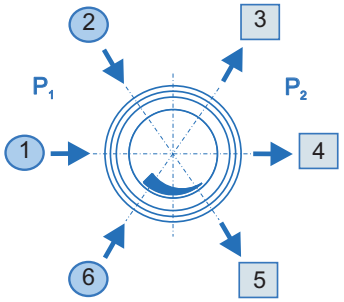




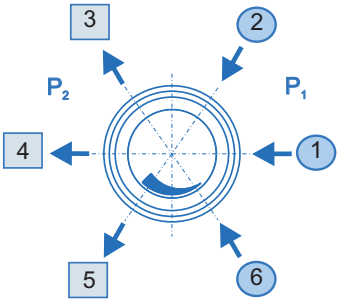
Ordering information:
Cylinder regulator FE53

In- / outlets

CE 1/4 - 1/8" / 1/4" / 1/2"	- OD compression fitting (stainless steel)
CE 6 - 3 / 6 / 8 / 10 / 12	mm OD compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-18 NPT-F (P_2≤100 bar)
xxxx	- detailed specification of cylinder connection including the relevant standard and number (e.g. BS no.3 for nitrogen up to 230 bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-NPT-F (port only)



Inlet left: L



Inlet right: R

FE53 - L - 300 - 20 - 1 - 2 - 3 - 4 - 5 - 6 - N2

Inlet

L	- left
R	- right

Inlet pressure P_1

100	- max. 100 bar
200	- max. 200 bar
300	- max. 300 bar

Outlet pressure P_2

1,5	- bis 1,5 bar
4	- bis 4 bar
10	- bis 10 bar
20	- bis 20 bar

Type of gas

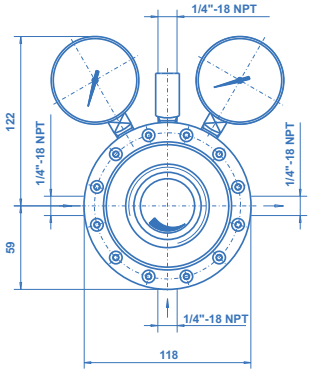
Please specify type of gas (for selection of valve seat materials)

For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use E51

FLASKEREGULATOR
FE121

Cylinder pressure regulator FE 121

Cylinder pressure regulator
FE 121 SP



Dimensions
FE 121

Product features

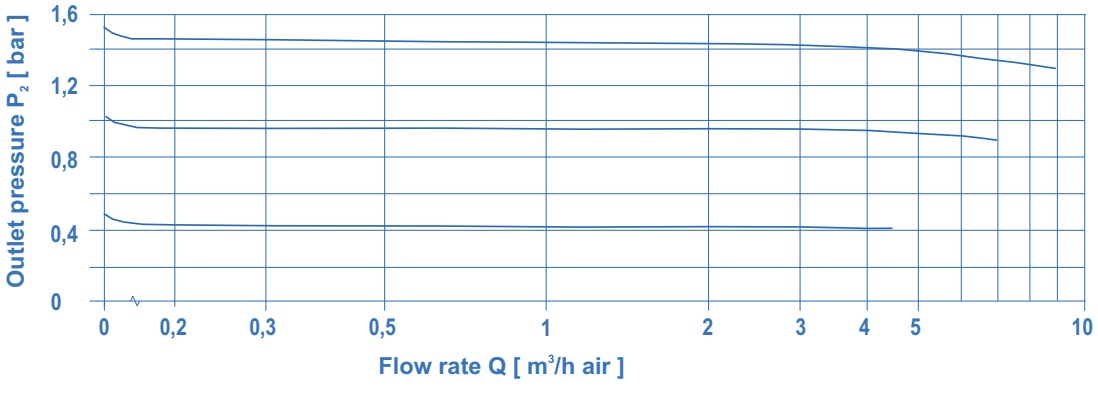
- Single-stage cylinder pressure regulator
- Simple and safe gas withdrawal from gas cylinders, for corrosive gases and gas mixtures up to quality 6.0 up to 25 bar vapour pressure
- For corrosive gases and gas mixtures with >1% corrosive components we recommend the use of a purging device (FE 121 SP)
- New laboratory-style design
- Ergonomically designed
- Filter at the regulator inlet
- High control accuracy due to large diaphragm
- Integrated relief valve
- Available with purge device FE 121 SP
- Simple outlet pressure limitation by handwheel
- Powder-coated bonnet

Technical data

Inlet pressure P_1	max. 25 bar
Outlet pressure P_2	0,1 - 1,5 bar (higher values upon request)
Flow rate Q	max. 9 m^3/h [1])
Materials	
Body:	SS 1.4404 (SS 316 L)
Diaphragm:	Hastelloy C276
Valve seat:	PCTFE (Kel-F)
Inlet gasket:	PCTFE
Cylinder connector	acc. to international standards and gas type
Outlet connector	1/4"-18 NPT-F
Leak rate	10^{-8} mbarl/s He
Weight	2,1 kg

[1]) see flow curves

Flow curves cylinder pressure regulator FE 121 - inlet pressure P_1 = 4 bar

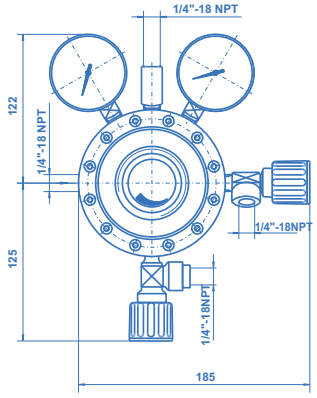


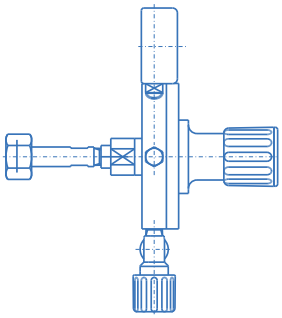
FLASKEREGULATOR
FE121

Cylinder pressure regulator FE 121

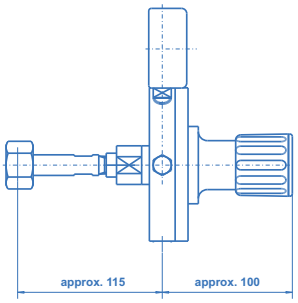
spectrocem

Cylinder pressure regulator FE 121 SP





Side view FE 121



Additional configurations upon request!

Ordering information:
Cylinder pressure regulators FE 121

FE 121 - 25 - 1,5 - DIN 6 - NH_3

Please specify gas type with your order (valve seat material)

Type

121 - single-stage without purge device
121 SP - single-stage with purge device

Inlet pressure P_1

25 - max. 25 bar
others upon request

Outlet pressure P_2

1,5 - up to 1,5 bar
others upon request

Gas type

Please specify gas type!
(valve seat material)

Cylinder connection

Detailed description of the cylinder connection including the relevant standard and the connection number
(e.g. BS no. 3)

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Pressure indication

- All pressure regulators are equipped with pressure gauges for inlet- and outlet pressure indication.

Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a pressure regulator.
- The function of the regulator, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

Flaskeregulator FM51/FE51

LINJEREGULATOR
LE51-2

Line pressure regulator LE51-2

Line pressure regulator LE51-2

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All parts in the gas wetted surface area are cleaned in an ultrasonic cleaning system (CFC-free) with the special Cleaning process SPECTRO-CLEAN® and then baked out.
- SPECTROCEM - components undergo a 100% function- and Helium-leak-test.

Product features

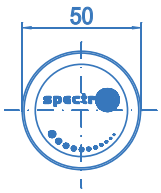
- Stainless steel line pressure regulator
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 2 ports for flexible and individual configuration
- Stable outlet pressure
- Anti-vibration device
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1,5 up to 200 bar *
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Inlet filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design
- Ergonomically designed

* 1.5 / 4 bar only for inlet pressure ≤ 50 bar

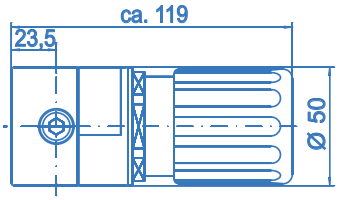
Technical data

Type	single-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 bar (P_1 ≤ 50 bar) 10 / 20 / 50 / 100 / 200 bar (P_1 > 50 bar)
Materials	
Body regulator:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Flow capactiy	C_V=0.15
Weight	1.0 kg

Dimensions
LE51-2



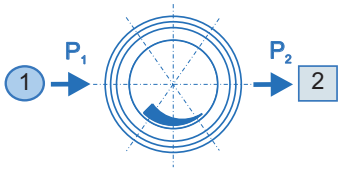
Side view



Line pressure regulator LE51-2

spectrocem

Ordering information:
Line pressure regulator LE51-2



In- / outlets

CE 1/4 - 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6 - 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
0 - 1/4"-NPT-F (port only)

port selection

LE51 - 2 - 300 - 10 - 1 - 2 - Cl_2

Inlet pressure P_1

10 - max. 10 bar
20 - max. 20 bar
50 - max. 50 bar
100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2

1,5 - up to 1,5 bar (P_1 ≤ 50 bar)
4 - up to 4 bar (P_1 ≤ 50 bar)
10 - up to 10 bar
20 - up to 20 bar
50 - up to 50 bar
100 - up to 100 bar
200 - up to 200 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

Ordering example:
LE51-2-300-10-CE6-CE6-N2

LINJEREGULATOR
LE51-4

Line pressure regulator LE51-4

Line pressure regulator LE51-4

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All parts in the gas wetted surface area are cleaned in an ultrasonic cleaning system (CFC-free) with the special Cleaning process SPECTRO-CLEAN® and then baked out.
- SPECTROCEM - components undergo a 100% function- and Helium-leak-test.

Product features

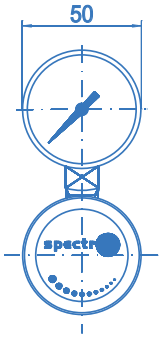
- Stainless steel line pressure regulator
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 4 ports for flexible and individual configuration
- Stable outlet pressure
- Anti-vibration device
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1,5 up to 200 bar *
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Inlet filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design
- Ergonomically designed

* 1.5 / 4 bar only for inlet pressure ≤ 50 bar

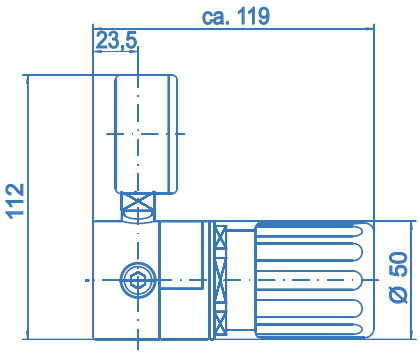
Technical data

Type	single-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 bar (P_1 ≤ 50 bar) 10 / 20 / 50 / 100 / 200 bar (P_1 > 50 bar)
Materials	
Body regulator, relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Pressure gauge	Safety pressure gauges ISO5171/KI1.6/NG50
Flow capactiy	C_V=0.15
Weight	1.0 kg

Dimensions
LE51-4



Side view



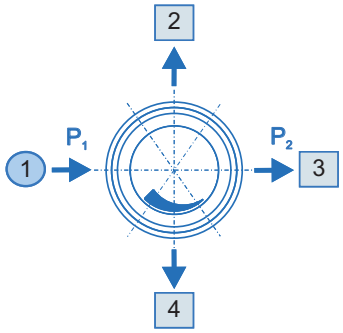
LINJEREGULATOR
LE51-4

Line pressure regulator LE51-4

Ordering information:
Line pressure regulator LE51-4

In- / outlets

CE 1/4	- 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6	- 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-18 NPT-F (P_2≤100 bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-NPT-F (port only)



port selection

LE51 - 4 - 300 - 10 - 1 - 2 - 3 - 4 - Cl_2

Inlet pressure P_1

10	- max. 10 bar	100	- max. 100 bar
20	- max. 20 bar	200	- max. 200 bar
50	- max. 50 bar	300	- max. 300 bar

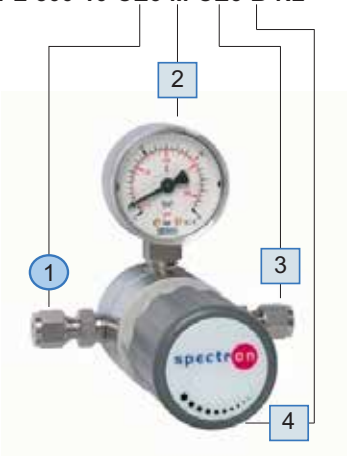
Outlet pressure P_2

1,5	- up to 1,5 bar (P_1 ≤ 50 bar)
4	- up to 4 bar (P_1 ≤ 50 bar)
10	- up to 10 bar
20	- up to 20 bar
50	- up to 50 bar
100	- up to 100 bar
200	- up to 200 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

Ordering example:
LE51-4-L-300-10-CE6-M-CE6-B-N2



LINJEREGULATOR
LE51-6

Line pressure regulator LE51-6

Line pressure regulator LE51-6

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All parts in the gas wetted surface area are cleaned in an ultrasonic cleaning system (CFC-free) with the special Cleaning process SPECTRO-CLEAN® and then baked out.
- SPECTROCEM - components undergo a 100% function- and Helium-leak-test.

Product features

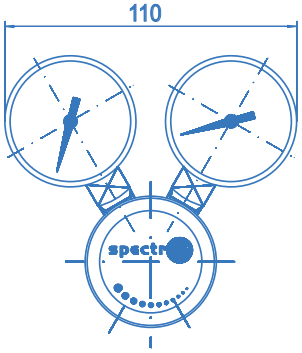
- Stainless steel line pressure regulator
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 6 ports for flexible and individual configuration
- Stable outlet pressure
- Anti-vibration device
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1,5 up to 200 bar *
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Inlet filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design
- Ergonomically designed

* 1.5 / 4 bar only for inlet pressure ≤ 50 bar

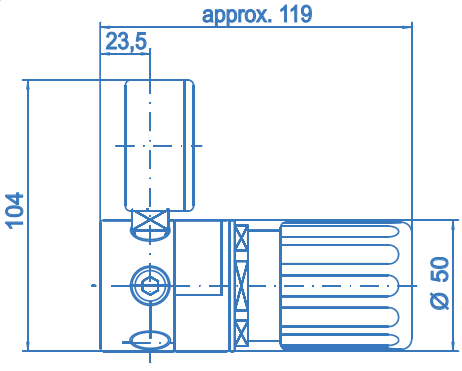
Technical data

Type	single-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 bar (P_1 ≤ 50 bar) 10 / 20 / 50 / 100 / 200 bar (P_1 > 50 bar)
Materials	
Body regulator, relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$mbar l/s He
(via seat)	$1x10^{-6}$mbar l/s He
Pressure gauge	Safety pressure gauges ISO5171/KI1.6/NG50
Flow capactiy	C_V=0.15
Weight	1.1 kg

Dimensions
LE51-6



Side view



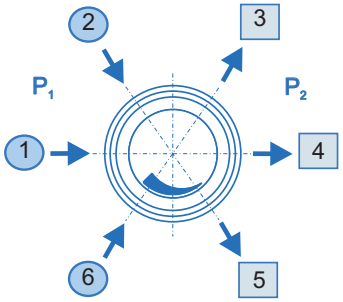
LINJEREGULATOR
LE51-6

Line pressure regulator LE51-6

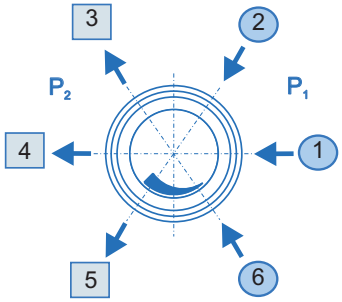
Ordering information:
Line pressure regulator LE51-6

In- / outlets

CE 1/4	- 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6	- 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-NPT-F (P_2≤100 bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-NPT-F (port only)



Inlet left: L



Inlet right: R

port selection

LE51 - 6 - L - 300 - 10 - 1 - 2 - 3 - 4 - 5 - 6 - Cl_2

Inlet

L	- left
R	- right

Inlet pressure P_1

10	- max. 10 bar	100	- max. 100 bar
20	- max. 20 bar	200	- max. 200 bar
50	- max. 50 bar	300	- max. 300 bar

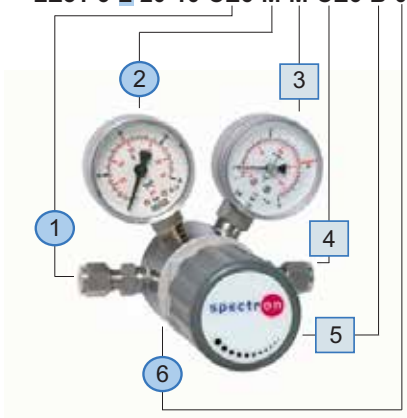
Outlet pressure P_2

1,5	- up to 1,5 bar (P_1 ≤ 50 bar)
4	- up to 4 bar (P_1 ≤ 50 bar)
10	- up to 10 bar
20	- up to 20 bar
50	- up to 50 bar
100	- up to 100 bar
200	- up to 200 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

Ordering example:
LE51-6-L-20-10-CE6-M-M-CE6-B-0-N2



Ordering example:
LE51-6-R-200-10-0-M-M-CE6-A-B-Ar

LINJEREGULATOR

LE52exact-2

Line regulator LE52exact-2

Line pressure regulator LE52exact-2

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All parts in the gas wetted surface area are cleaned in an ultrasonic cleaning system (CFC-free) with the special Cleaning process SPECTRO-CLEAN® and then baked out.
- SPECTROCEM - components undergo a 100% function- and Helium-leak-test.

Product features

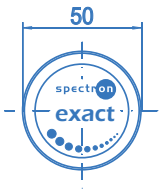
- Stainless steel line pressure regulator
- Extremly stable outlet pressure by applied extremly accurate technology "exact" and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 2 ports for flexible and individual configuration
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1.5 up to 20 bar
- Light weight
- Compact design
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Central filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design

exact = extremly accurate technology

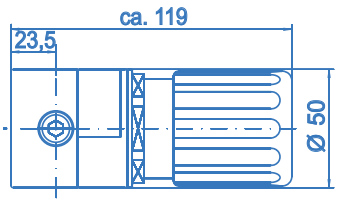
Technical data

Type	single-stage EXACT
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1.5 / 4 / 10 / 20 bar
Materials	
Body regulator:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Soft goods:	EDPM
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Flow capactiy	C_V=0.15
Weight	1.0 kg

Dimensions
LE52exact-2



Side view



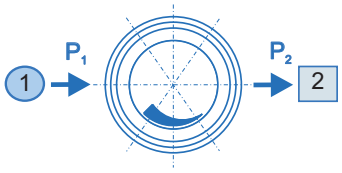
Line regulator LE52exact-2

Ordering information:

Line pressure regulator LE52exact-2

In- / outlets

CE 1/4 - 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6 - 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
0 - 1/4"-NPT-F (port only)



port selection

LE52 - 2 - 300 - 10 - 1 - 2 - Cl_2

Inlet pressure P_1

100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2

1,5 - up to 1,5 bar
4 - up to 4 bar
10 - up to 10 bar
20 - up to 20 bar

Gasart

Please specify type of gas (for selection of valve seat materials)

For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use M51

Ordering example:
LE52-2-300-10-CE6-CE6-N2

LINJEREGULATOR

LE52exact-4

Line regulator LE52exact-4

Line pressure regulator
LE52exact-4

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All parts in the gas wetted surface area are cleaned in an ultrasonic cleaning system (CFC-free) with the special Cleaning process SPECTRO-CLEAN® and then baked out.
- SPECTROCEM - components undergo a 100% function- and Helium-leak-test.

Product features

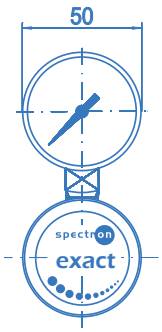
- Stainless steel line pressure regulator
- Extremly stable outlet pressure by applied extremly accurate technology "exact" and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 4 ports for flexible and individual configuration
- Suitable for inlet pressures up to 300 bar•
- Max. outlet pressures 1.5 up to 20 bar
- Light weight
- Compact design
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Central filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design

exact = extremly accurate technology

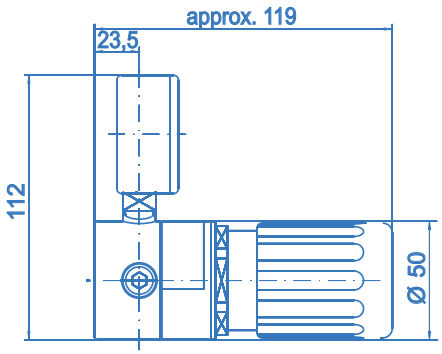
Technical data

Type	single-stage EXACT
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1.5 / 4 / 10 / 20 bar
Materials	
Body regulator, relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Soft goods:	EPDM
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Pressure gauge	Safety pressure gauges ISO5171/KI1.6/NG50
Flow capactiy	C_V=0.15
Weight	1.1 kg

Dimensions
LE52exact-4



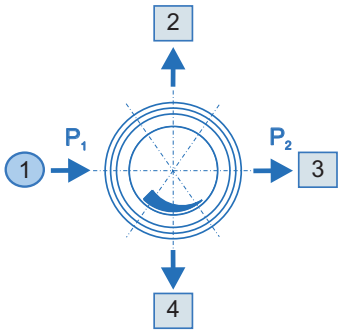
Side view



Line regulator LE52exact-4

Ordering information:

Line pressure regulator LE52exact-4



In- / outlets

CE 1/4	- 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6	- 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-NPT-F ($P_2 \leq 100$ bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-NPT-F (port only)

port selection

LE52 - 4 - 300 - 10 - 1 - 2 - 3 - 4 - Cl_2

Inlet pressure P_1

100	- max. 100 bar
200	- max. 200 bar
300	- max. 300 bar

Outlet pressure P_2

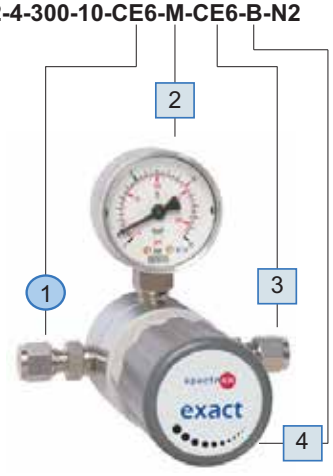
1,5	- up to 1,5 bar
4	- up to 4 bar
10	- up to 10 bar
20	- up to 20 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use M51

Ordering example:
LE52-4-300-10-CE6-M-CE6-B-N2



LINJEREGULATOR

LE52exact-6

Line regulator LE52exact-6

Line pressure regulator
LE52exact-6

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All parts in the gas wetted surface area are cleaned in an ultrasonic cleaning system (CFC-free) with the special Cleaning process SPECTRO-CLEAN® and then baked out.
- SPECTROCEM - components undergo a 100% function- and Helium-leak-test.

Product features

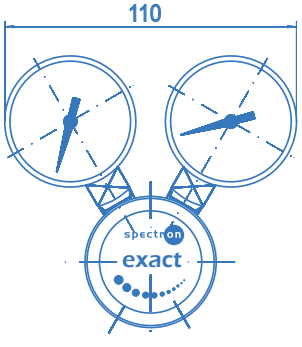
- Stainless steel panel pressure regulator for panel and panel surface mounting
- Extremly stable outlet pressure by applied extremly accurate technology "exact" and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 6 ports for flexible and individual configuration
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1.5 up to 20 bar
- Light weight
- Compact design
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Central filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design

exact = extremly accurate technology

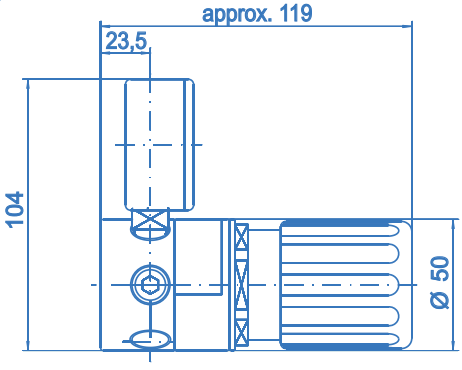
Technical data

Type	single-stage EXACT
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1.5/4/10/20 bar
Materials	
Body regulator, relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Soft goods:	EPDM
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$mbar l/s He
(via seat)	$1x10^{-6}$mbar l/s He
Pressure gauge	Safety pressure gauges ISO5171/KI1.6/NG50
Flow capactiy	C_V=0.15
Weight	1.1 kg

Dimensions
LE52exact-6



Side view



LINJEREGULATOR

LE52^{exact}-6

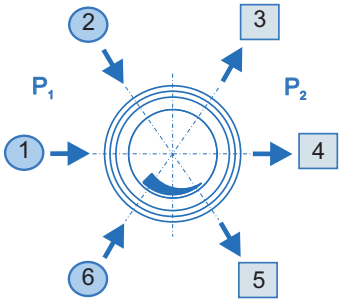
Line regulator LE52^{exact}-6

Ordering information:

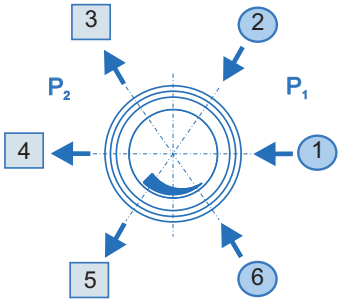
Line pressure regulator LE52^{exact}-6

In- / outlets

CE 1/4	- 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6	- 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-NPT-F (P_2 100 bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-NPT-F (port only)



port selection



Inlet left: L

Inlet right: R

LE52 - 6 - L - 300 - 10 - 1 - 2 - 3 - 4 - 5 - 6 - N2

Inlet

L	- left
R	- right

Inlet pressure P_1

100	- max. 100 bar
200	- max. 200 bar
300	- max. 300 bar

Outlet pressure P_2

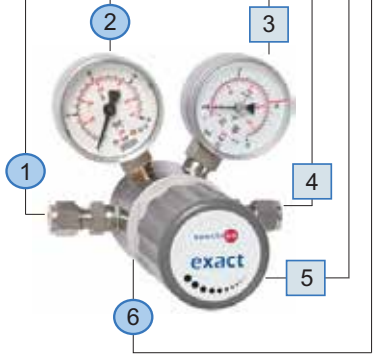
1,5	- up to 1,5 bar
4	- up to 4 bar
10	- up to 10 bar
20	- up to 20 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use M51

Ordering example:
LE52-6-L-20-10-CE6-M-M-CE6-B-0-N2



Ordering example:
LE52-6-R-200-10-0-M-M-CE6-A-B-Ar

LINJEREGULATOR
LE53-2

Line pressure regulator LE53-2

Panel pressure regulator LE53-2

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

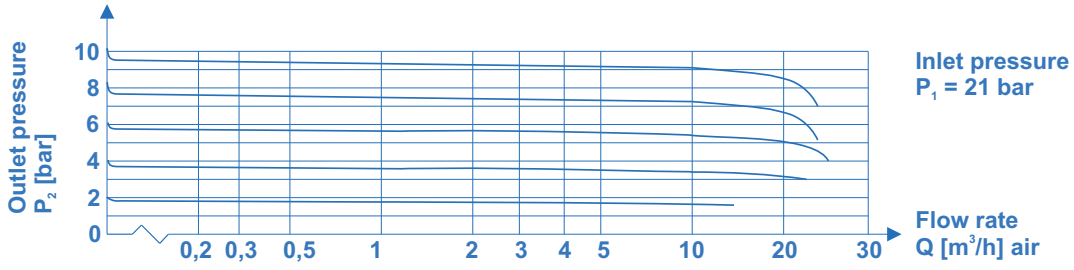
Product features

- Double-stage stainless steel line pressure regulator with very stable outlet pressure and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 2 ports for flexible and individual configuration
- Central filter
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1,5 up to 200 bar
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- New laboratory-style design
- Easy to install

Technical data

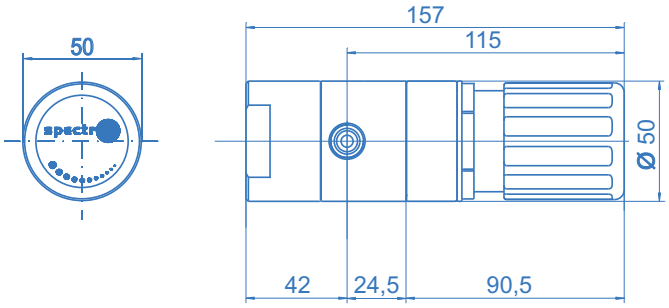
Type	double-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 /10 / 20 bar
Materials	
Body regulator:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Flow capactiy	C_V=0.15
Weight	1.6 kg

Flow curves LE53

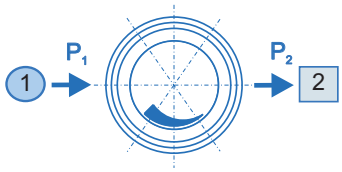


Line pressure regulator LE53-2

Dimensions



Ordering information:
Panel pressure regulator LE53-2



In- / outlets

CE 1/4 - 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6 - 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
0 - 1/4"-NPT-F (port only)

port selection

LE53 - 2 - 300 - 10 - 1 - 2 - Cl_2

Inlet pressure P_1

100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2

1,5 - up to 1,5 bar
4 - up to 4 bar
10 - up to 10 bar
20 - up to 20 bar

Type of gas

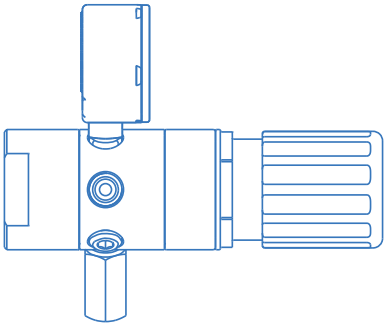
Please specify type of gas (for selection of valve seat materials)

For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use E51

LINJEREGULATOR
LE53-6

Line pressure regulator LE53-6

Line pressure regulator LE53-6



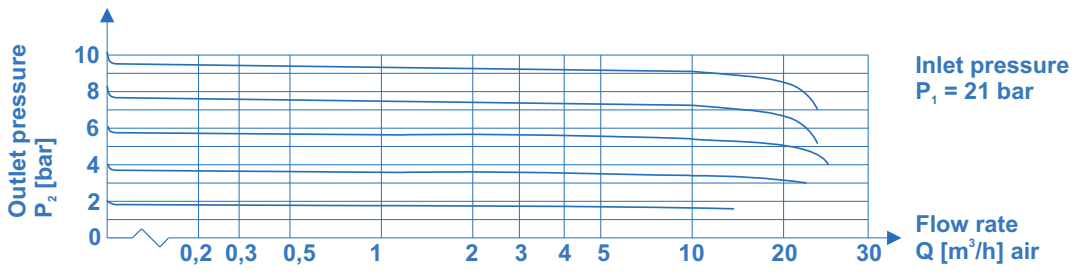
Product features

- Double-stage stainless steel line pressure regulator with very stable outlet pressure and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 6 ports for flexible and individual configuration
- Central filter
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1,5 up to 200 bar
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- New laboratory-style design
- Easy to install

Technical data

Type	double-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 /10 / 20 bar
Materials	
Body regulator and relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Flow capactiy	C_V=0.15
Weight	1.7 kg

Flow curves LE53

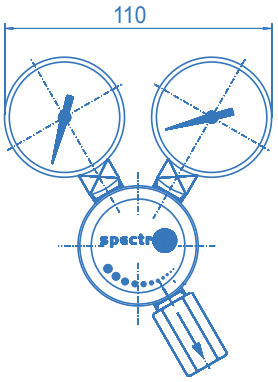


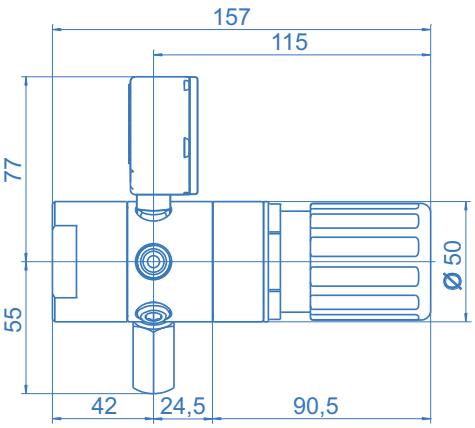
LINJEREGULATOR
LE53-6

Line pressure regulator LE53-6

spectrocem

Dimensions

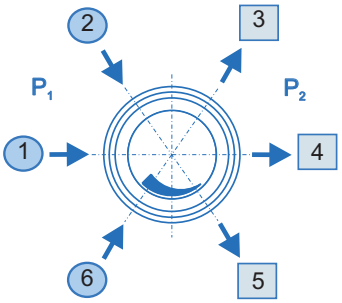




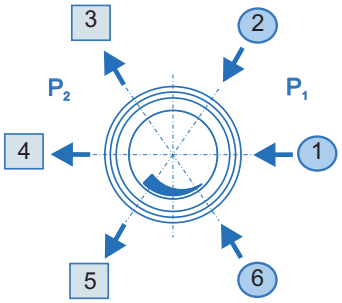
Ordering information:
Panel pressure regulator LE53-6

In- / outlets

CE 1/4 - 1/8" / 1/4" / 1/2"	- OD compression fitting (stainless steel)
CE 6 - 3 / 6 / 8 / 10 / 12	mm OD compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-18 NPT-F (P_2≤100 bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-NPT-F (port only)



Inlet left: L



Inlet right: R

port selection

LE53 - L - 300 - 20 - 1 - 2 - 3 - 4 - 5 - 6 - N2

Inlet

L	- left
R	- right

Inlet pressure P_1

100	- max. 100 bar
200	- max. 200 bar
300	- max. 300 bar

Outlet pressure P_2

1,5	- bis 1,5 bar
4	- bis 4 bar
10	- bis 10 bar
20	- bis 20 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

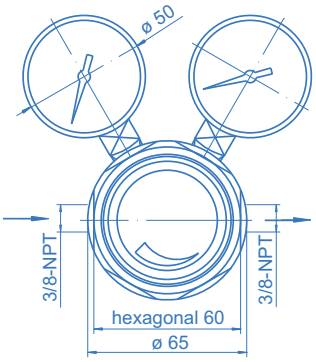
For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use E51

LINJEREGULATOR
LE71

Line pressure regulator LE71

Pressure regulator LE71

Dimensions



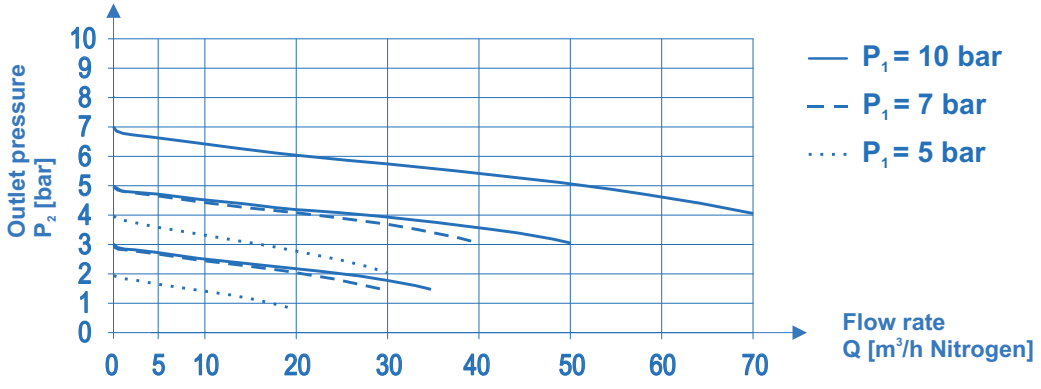
Product features

- Single-stage pressure regulator for corrosive gases and gas mixtures up to quality 6.0
- New laboratory style design
- High control accuracy
- Suitable for ECD-applications
- Simple outlet pressure limitation by handwheel
- Powder coated bonnet

Technical data

Inlet pressure P_1	max. 50 bar (higher inlet pressure upon request)
Outlet pressure P_2	max. 20 bar
Flow rate Q	see flow curve
Materials	
Body:	SS 316L (SS 1.4404)
Diaphragm:	Hastelloy
Valve seat:	PTFE
In- / outlet	3/8”-NPT female
Pressure gauge conn.	1/4”-NPT female
Leak rate	$1x10^{-8}$ mbar l/s He
Weight	1,5 kg

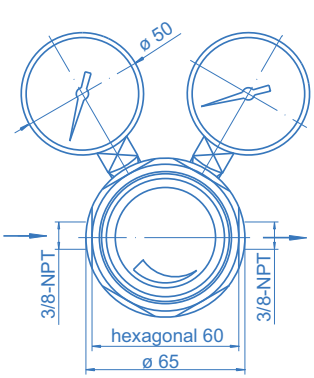
Flow curves LE71

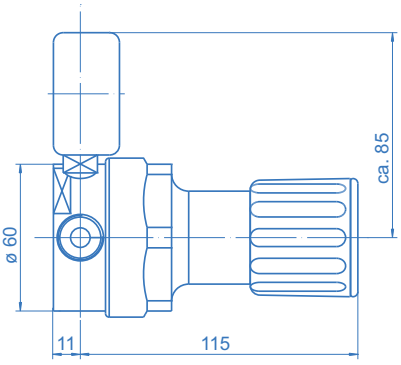


LINJEREGULATOR
LE71

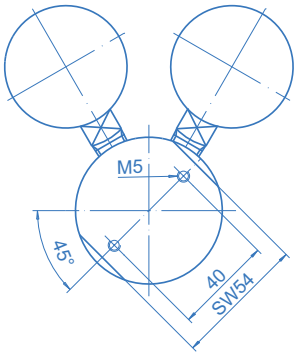
Line pressure regulator LE71

Dimensions - pressure regulator LE71 side view





rear view / mounting



Ordering information:
LE71 series line pressure regulators

LE71 - 50 - 10 - M - M - N_2

Inlet pressure P_1

50 - max. 50 bar

Outlet pressure P_2

1,5 - up to 1,5 bar
4 - up to 4 bar
10 - up to 10 bar
20 - up to 20 bar

Type of gas

Please specify type of gas!

Outlet press. indication

B - without (plug)
M - pressure gauge
0 - 1/4"-NPT-port only

Inlet press. indication

B - without (plug)
M - pressure gauge
0 - 1/4"-NPT-port only

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control panel.
- The function of the components, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

****) Important note regarding corrosive gases***

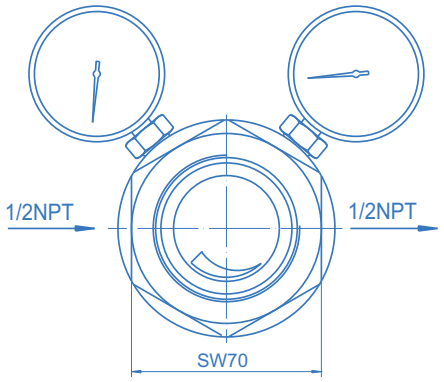
Using gas mixtures with corrosive components >1% or very critical applications, we recommend our pressure control panels SE in combination with the purge- and connection block SBE/3.

LINJEREGULATOR
LE81

Line pressure regulator LE81

Line pressure regulator LE81

Dimensions



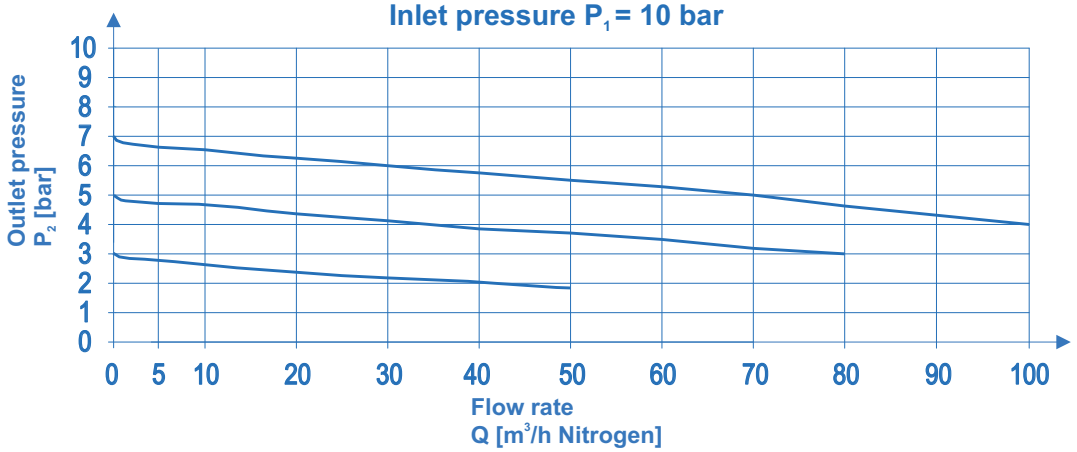
Product features

- Single-stage pressure regulator for corrosive gases and gas mixtures up to quality 6.0
- New laboratory style design
- High control accuracy
- Suitable for ECD-applications
- Simple outlet pressure limitation by handwheel
- Powder coated bonnet

Technical data

Inlet pressure P_1	max. 50 bar
Outlet pressure P_2	max. 10 bar
Flow rate Q	see flow curve
Materials	
Body:	SS 316L (SS 1.4404)
Diaphragm:	Hastelloy
Valve seat:	PTFE
In- / outlet	1/2”-NPT female
Pressure gauge conn.	1/4”-NPT female
Leak rate	$1x10^{-8}$ mbar l/s He
Weight	1,9 kg

Flow curves LE81



LINJEREGULATOR
LE81

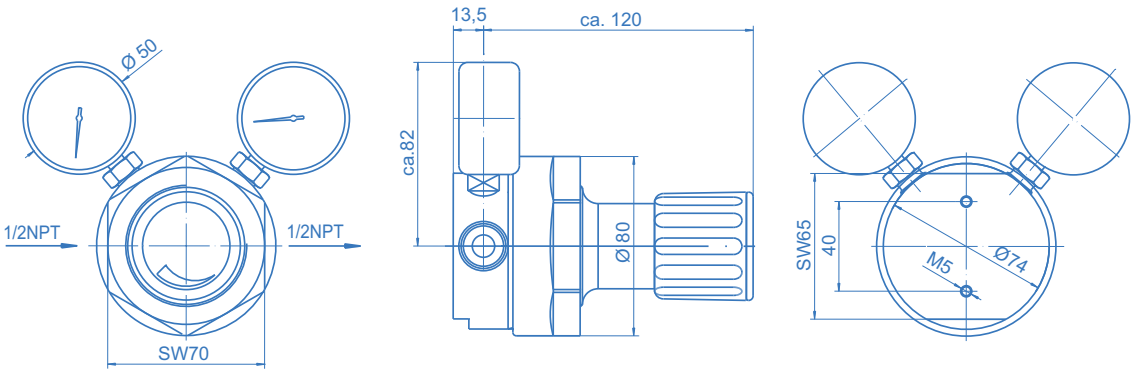
Line pressure regulator LE81

spectrocem

Dimensions

side view

rear view / mounting



Ordering information:
LE81 series line pressure regulators

LE81 - 50 - 10 - M - M - N_2

Inlet pressure P_1

50 - max. 50 bar

Outlet pressure P_2

1,5 - up to 1,5 bar
4 - up to 4 bar
10 - up to 10 bar

Type of gas

Please specify type of gas!

Outlet press. indication

B - without (plug)
M - pressure gauge
0 - 1/4"-NPT-port only

Inlet press. indication

B - without (plug)
M - pressure gauge
0 - 1/4"-NPT-port only

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control panel.
- The function of the components, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

****) Important note regarding corrosive gases***

Using gas mixtures with corrosive components >1% or very critical applications, we recommend our pressure control panels SE in combination with the purge- and connection block SBE/3.

PANELREGULATOR
PE51-2

Panel pressure regulator PE51-2

Panel pressure regulator PE51-2


Example:
PE51
panel mounted

Product features

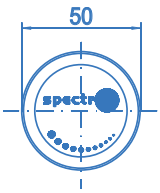
- Stainless steel panel pressure regulator for panel and panel surface mounting
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 2 ports for flexible and individual configuration
- Stable outlet pressure
- Anti-vibration device
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1,5 up to 200 bar *
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Inlet filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design
- Ergonomically designed

* 1.5 / 4 bar only for inlet pressure ≤ 50 bar

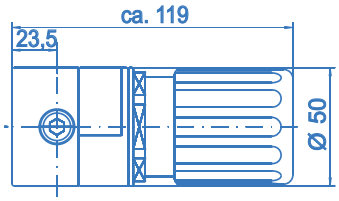
Technical data

Type	single-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 bar (P_1 ≤ 50 bar) 10 / 20 / 50 / 100 / 200 bar (P_1 > 50 bar)
Materials	
Body regulator:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Flow capactiy	C_V=0.15
Weight	1.0 kg

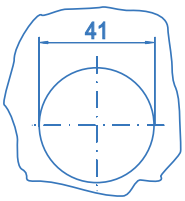
Dimensions
PE51-2



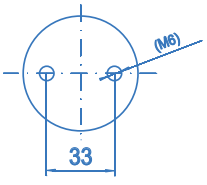
Side view



Bore template
for panel
mounting

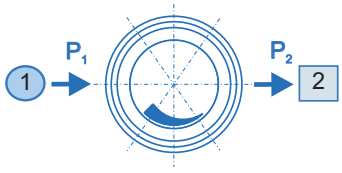


Fixing holes
for panel surface
mounting



Panel pressure regulator PE51-2

Ordering information:
Panel pressure regulator PE51-2



In- / outlets

CE 1/4 - 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6 - 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
0 - 1/4"-NPT-F (port only)

port selection

PE51 - 2 - 300 - 10 - 1 - 2 - Cl_2

Inlet pressure P_1

10 - max. 10 bar
20 - max. 20 bar
50 - max. 50 bar
100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2

1,5 - up to 1,5 bar (P_1 ≤ 50 bar)
4 - up to 4 bar (P_1 ≤ 50 bar)
10 - up to 10 bar
20 - up to 20 bar
50 - up to 50 bar
100 - up to 100 bar
200 - up to 200 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

Ordering example:
PE51-2-300-10-CE6-CE6-N2

PANELREGULATOR
PE51-4

Panel pressure regulator PE51-4

Panel regulator PE51-4


Example:
PE51
panel mounted

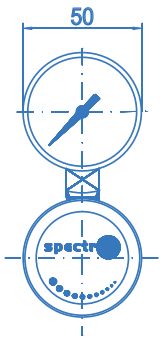
Product features

- Stainless steel panel pressure regulator for panel and panel surface mounting
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 4 ports for flexible and individual configuration
- Stable outlet pressure
- Anti-vibration device
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1,5 up to 200 bar *
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Inlet filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design
- Ergonomically designed

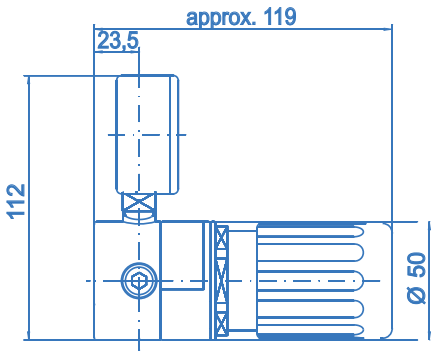
Technical data

Type	single-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 bar ($P_1 \leq 50$ bar) 10 / 20 / 50 / 100 / 200 bar ($P_1 > 50$ bar)
Materials	
Body regulator, relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Pressure gauge	Safety pressure gauges ISO5171/KI1.6/NG50
Flow capactiy	C_V=0.15
Weight	1.0 kg

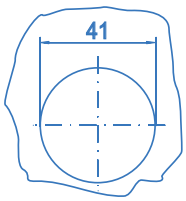
Dimensions
PE51-4



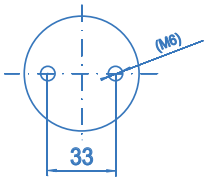
Side view



Bore template
for panel
mounting



Fixing holes
for panel surface
mounting



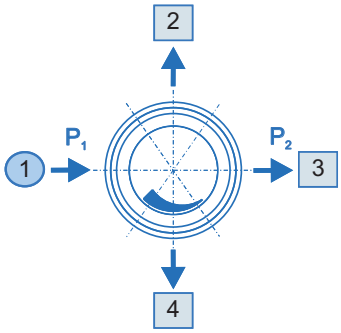
PANELREGULATOR
PE51-4

Panel pressure regulator PE51-4

Ordering information:
Panel pressure regulator PE51-4

In- / outlets

CE 1/4	- 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6	- 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-NPT-F (P_2≤100 bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-NPT-F (port only)



port selection

PE51 - 4 - 300 - 10 - 1 - 2 - 3 - 4 - Cl_2

Inlet pressure P_1

10	- max. 10 bar	100	- max. 100 bar
20	- max. 20 bar	200	- max. 200 bar
50	- max. 50 bar	300	- max. 300 bar

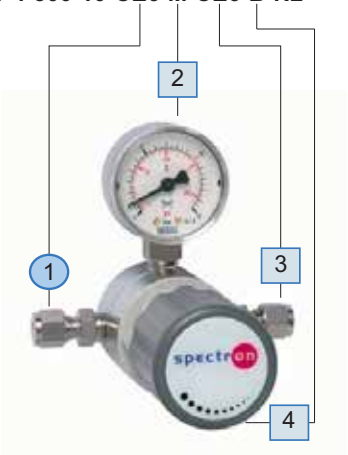
Outlet pressure P_2

1,5	- up to 1,5 bar (P_1 ≤ 50 bar)
4	- up to 4 bar (P_1 ≤ 50 bar)
10	- up to 10 bar
20	- up to 20 bar
50	- up to 50 bar
100	- up to 100 bar
200	- up to 200 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

Ordering example:
PE51-4-300-10-CE6-M-CE6-B-N2



PANELREGULATOR
PE51-6

Panel pressure regulator PE51-6

Panel regulator PE51-6


Example:
PE51
panel mounted

Product features

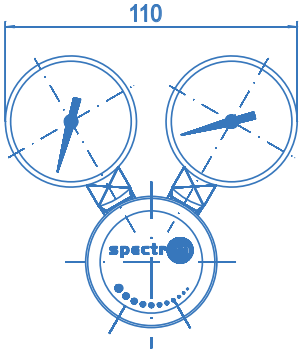
- Stainless steel panel pressure regulator for panel and panel surface mounting
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 6 ports for flexible and individual configuration
- Stable outlet pressure
- Anti-vibration device
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1,5 up to 200 bar *
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Inlet filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design
- Ergonomically designed

* 1.5 / 4 bar only for inlet pressure ≤ 50 bar

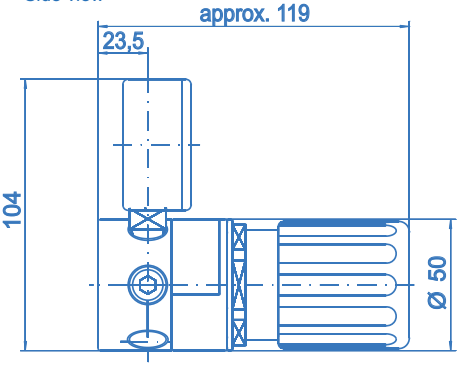
Technical data

Type	single-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 bar (P_1 ≤ 50 bar) 10 / 20 / 50 / 100 / 200 bar (P_1 > 50 bar)
Materials	
Body regulator, relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$mbar l/s He
(via seat)	$1x10^{-6}$mbar l/s He
Pressure gauge	Safety pressure gauges ISO5171/KI1.6/NG50
Flow capactiy	C_V=0.15
Weight	1.1 kg

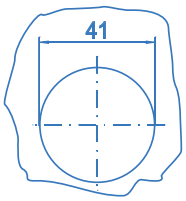
Dimensions
PE51-6



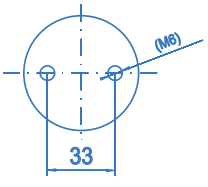
Side view



Bore template
for panel
mounting



Fixing holes
for panel surface
mounting



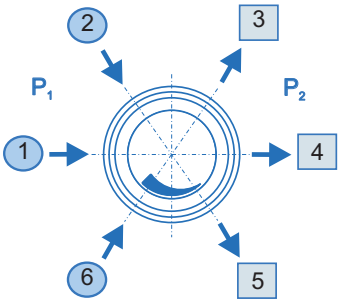
PANELREGULATOR
PE51-6

Panel pressure regulator PE51-6

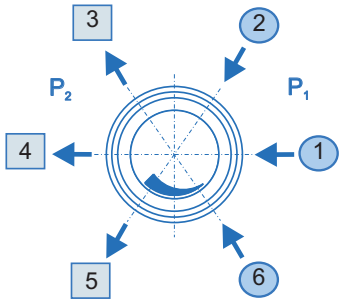
Ordering information:
Panel pressure regulator PE51-6

In- / outlets

CE 1/4	- 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6	- 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-NPT-F (P_2≤100 bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-NPT-F (port only)



Inlet left: L



Inlet right: R

port selection

PE51 - 6 - L - 300 - 10 - 1 - 2 - 3 - 4 - 5 - 6 - Cl_2

Inlet

L	- left
R	- right

Inlet pressure P_1

10	- max. 10 bar	100	- max. 100 bar
20	- max. 20 bar	200	- max. 200 bar
50	- max. 50 bar	300	- max. 300 bar

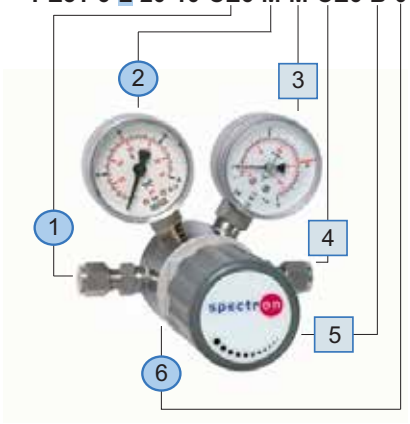
Outlet pressure P_2

1,5	- up to 1,5 bar (P_1 ≤ 50 bar)
4	- up to 4 bar (P_1 ≤ 50 bar)
10	- up to 10 bar
20	- up to 20 bar
50	- up to 50 bar
100	- up to 100 bar
200	- up to 200 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

Ordering example:
PE51-6-L-20-10-CE6-M-M-CE6-B-0-N2



Ordering example:
PE51-6-R-200-10-0-M-M-CE6-A-B-Ar

PANELREGULATOR
PE52^{EXACT}-2

Panel regulator PE52^{exact}-2

Panel regulator PE52^{exact}-2

Example:
PE52^{exact}
panel mounted

Product features

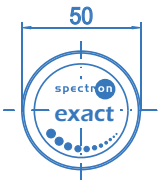
- Stainless steel panel pressure regulator for panel and panel surface mounting
- Extremly stable outlet pressure by applied extremly accurate technology "exact" and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 2 ports for flexible and individual configuration
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1.5 up to 20 bar
- Light weight
- Compact design
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Central filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design

exact = extremly accurate technology

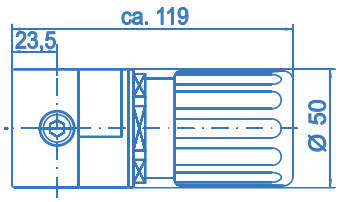
Technical data

Type	single-stage EXACT
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1.5 / 4 / 10 / 20 bar
Materials	
Body regulator:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Soft goods:	EPDM
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Flow capactiy	C_V=0.15
Weight	1.0 kg

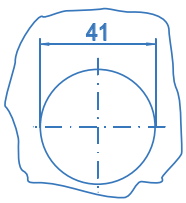
Dimensions
PE52^{exact}-2



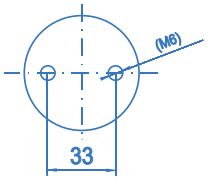
Side view



Bore template
for panel
mounting

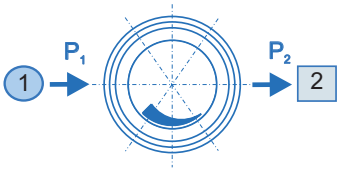


Fixing holes
for panel surface
mounting



Panel regulator PE52exact-2

Ordering information:
Panel pressure regulator PE52exact-2



In- / outlets

CE 1/4 - 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6 - 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
0 - 1/4"-NPT-F (port only)

port selection

PE52 - 2 - 300 - 10 - 1 - 2 - Cl2

Inlet pressure P1

100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P2

1,5 - up to 1,5 bar
4 - up to 4 bar
10 - up to 10 bar
20 - up to 20 bar

Gasart

Please specify type of gas (for selection of valve seat materials)

For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use M51

Ordering example:
PE52-2-300-10-CE6-CE6-N2

PANELREGULATOR
PE52^{EXACT}-4

Panel regulator PE52^{exact}-4

Panel regulator PE52^{exact}-4

Example:
PE52^{exact}
panel mounted

Product features

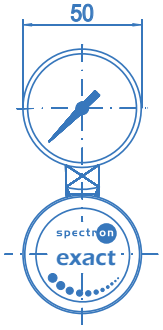
- Stainless steel panel pressure regulator for panel and panel surface mounting
- Extremly stable outlet pressure by applied extremly accurate technology "exact" and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 4 ports for flexible and individual configuration
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1.5 up to 20 bar
- Light weight
- Compact design
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Central filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design

Technical data

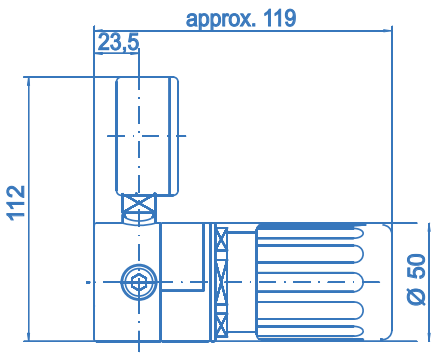
Type	single-stage EXACT
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1.5 / 4 / 10 / 20 bar
Materials	
Body regulator, relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Soft goods:	EPDM
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Pressure gauge	Safety pressure gauges ISO5171/Kl1.6/NG50
Flow capactiy	C_V=0.15
Weight	1.1 kg

exact = extremly accurate technology

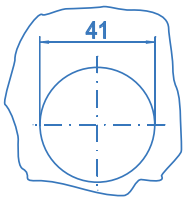
Dimensions
PE52^{exact}-4



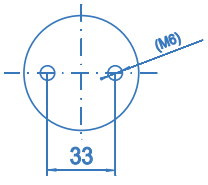
Side view



Bore template
for panel
mounting



Fixing holes
for panel surface
mounting



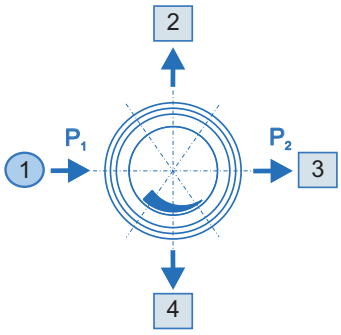
Panel regulator PE52exact-4

spectrocem

Ordering information:
Panel pressure regulator PE52exact-4

In- / outlets

CE 1/4	- 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6	- 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-18 NPT-F ($P_2 \leq 100$ bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-18 NPT-F (port only)



port selection

PE52 - 4 - 300 - 10 - 1 - 2 - 3 - 4 - Cl_2

Inlet pressure P_1

100	- max. 100 bar
200	- max. 200 bar
300	- max. 300 bar

Outlet pressure P_2

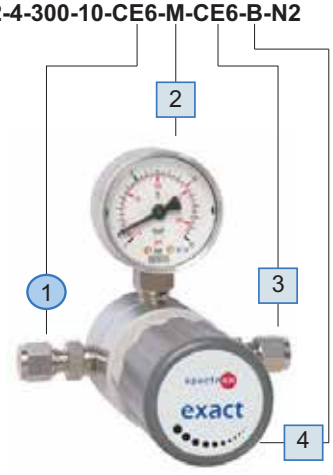
1,5	- up to 1,5 bar
4	- up to 4 bar
10	- up to 10 bar
20	- up to 20 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use M51

Ordering example:
PE52-4-300-10-CE6-M-CE6-B-N2



PANELREGULATOR

PE52^{EXACT}-6

Panel regulator PE52^{exact}-6

spectrocem

Panel regulator PE52^{exact}-6

Example:
PE52^{exact}
panel mounted

Product features

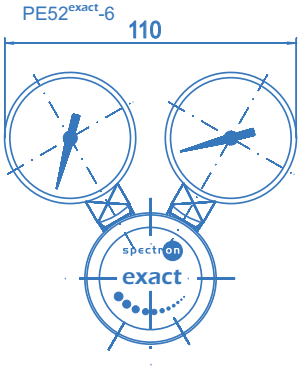
- Stainless steel panel pressure regulator for panel and panel surface mounting
- Extremly stable outlet pressure by applied extremly accurate technology "exact" and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 6 ports for flexible and individual configuration
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1.5 up to 20 bar
- Light weight
- Compact design
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Central filter
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- Easy to install
- New laboratory-style design

Technical data

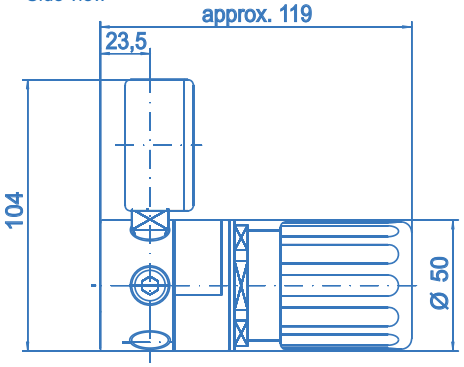
Type	single-stage EXACT
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1.5 / 4 / 10 / 20 bar
Materials	
Body regulator, relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Soft goods:	EPDM
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	1x10^{-8}mbar l/s He
(via seat)	1x10^{-6}mbar l/s He
Pressure gauge	Safety pressure gauges ISO5171/KI1.6/NG50
Flow capactiy	C_V=0.15
Weight	1.1 kg

exact = extremly accurate technology

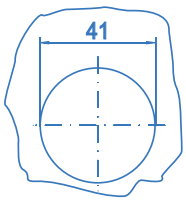
Dimensions
PE52^{exact}-6



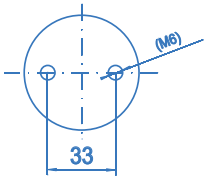
Side view



Bore template
for panel
mounting



Fixing holes
for panel surface
mounting



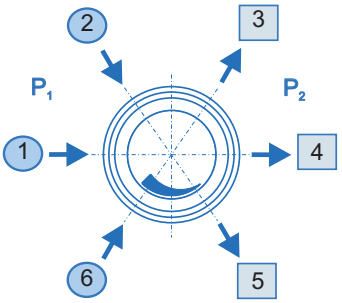
PANELREGULATOR
PE52^{EXACT}-6

Panel regulator PE52^{exact}-6

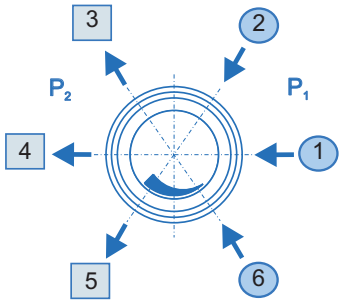
Ordering information:
Panel pressure regulator PE52^{exact}-6

In- / outlets

CE 1/4	- 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6	- 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-NPT-F ($P_2 \leq 100$ bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-NPT-F (port only)



Inlet left: L



Inlet right: R

port selection

PE52 - 6 - L - 300 - 10 - 1 - 2 - 3 - 4 - 5 - 6 - N2

Inlet

L	- left
R	- right

Inlet pressure P_1

100	- max. 100 bar
200	- max. 200 bar
300	- max. 300 bar

Outlet pressure P_2

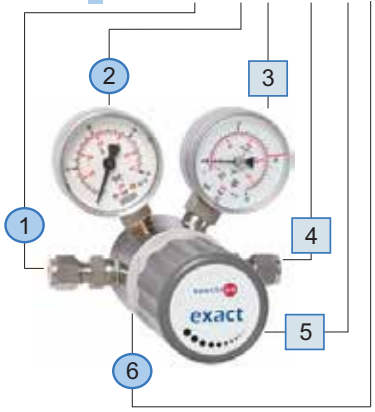
1,5	- up to 1,5 bar
4	- up to 4 bar
10	- up to 10 bar
20	- up to 20 bar

Type of gas

Please specify type of gas (for selection of valve seat materials)

For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use M51

Ordering example:
PE52-6-L-20-10-CE6-M-M-CE6-B-0-N2



Ordering example:
PE52-6-R-200-10-0-M-M-CE6-A-B-Ar

PANELREGULATOR
PE53-2

Panel pressure regulator PE53-2

Panel pressure regulator PE53-2


Example:
PE53
panel mounted

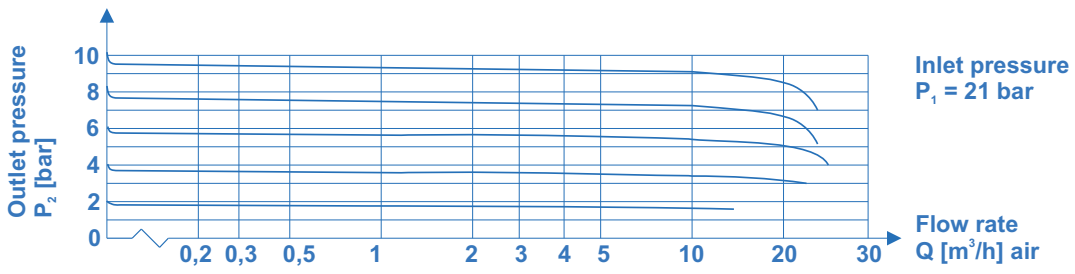
Product features

- Double-stage stainless steel panel pressure regulator with very stable outlet pressure and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 2 ports for flexible and individual configuration
- Central filter
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1,5 up to 200 bar
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- New laboratory-style design
- Easy to install

Technical data

Type	double-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 /10 / 20 bar
Materials	
Body regulator:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Flow capactiy	C_V=0.15
Weight	1.0 kg

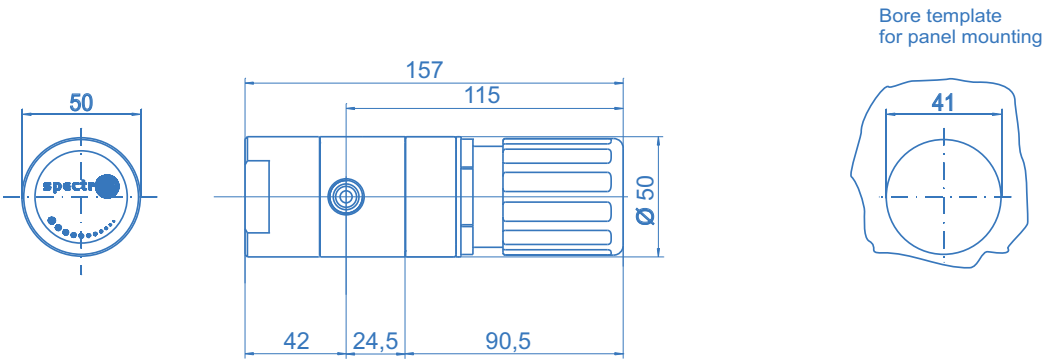
Flow curves PE53



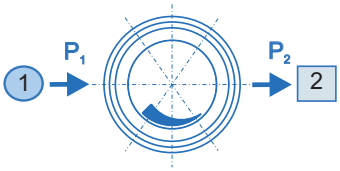
PANELREGULATOR
PE53-2

Panel pressure regulator PE53-2

Dimensions



Ordering information:
Panel pressure regulator PE53-2



In- / outlets

CE 1/4 - 1/8" / 1/4" / 1/2" - OD compression fitting (stainless steel)
CE 6 - 3 / 6 / 8 / 10 / 12 mm compression fitting (stainless steel)
0 - 1/4"-NPT-F (port only)

port selection

PE53 - 2 - 300 - 10 - 1 - 2 - Cl_2

Inlet pressure P_1

100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2

1,5 - up to 1,5 bar
4 - up to 4 bar
10 - up to 10 bar
20 - up to 20 bar

Type of gas

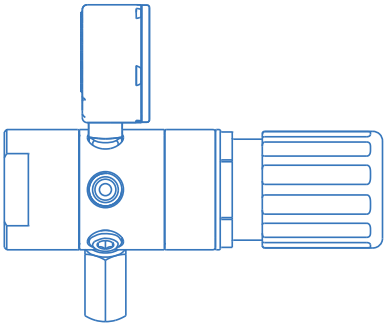
Please specify type of gas (for selection of valve seat materials)

For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use E51

PANELREGULATOR
PE53-6

Panel pressure regulator PE53-6

Panel pressure regulator PE53-6



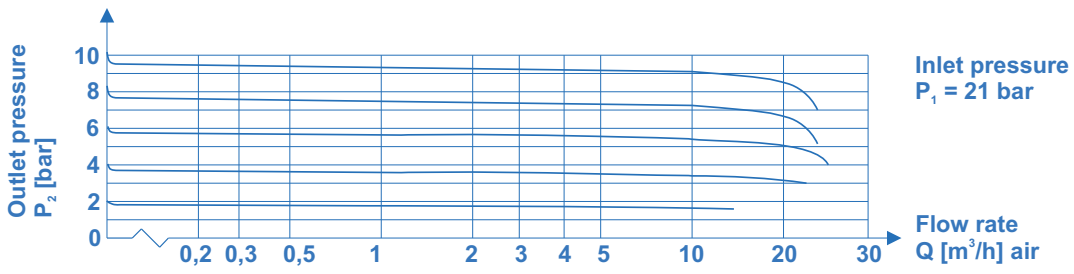
Product features

- Double-stage stainless steel panel pressure regulator with very stable outlet pressure and anti-vibration device
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- 6 ports for flexible and individual configuration
- Central filter
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1,5 up to 200 bar
- Suitable for ECD-applications
- Pressure regulator can be evacuated
- Approved for use with oxygen
- Simple outlet pressure limitation by handwheel
- New laboratory-style design
- Easy to install

Technical data

Type	double-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 /10 / 20 bar
Materials	
Body regulator and relief valve:	SS 316L (SS 1.4404)
Valve seat:	PVDF
Diaphragm:	Hastelloy C276
Filter:	Sintered SS 316L
In- and outlets	1/4" NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Flow capactiy	C_V=0.15
Weight	1.0 kg

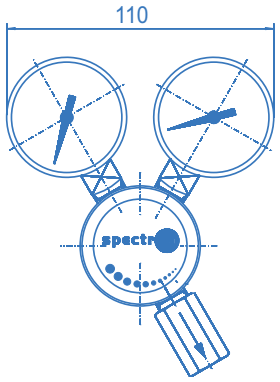
Flow curves PE53

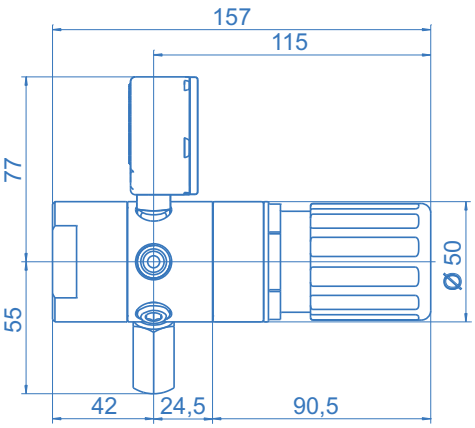


PANELREGULATOR
PE53-6

Panel pressure regulator PE53-6

Dimensions

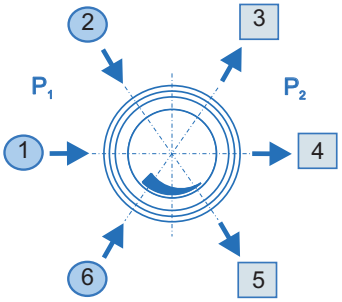




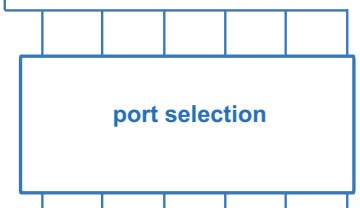
Ordering information:
Panel pressure regulator PE53-6

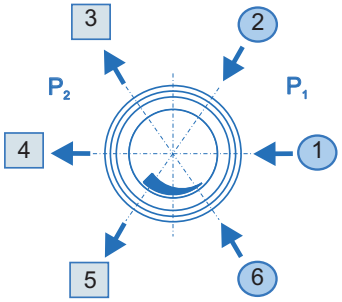
In- / outlets

CE 1/4 - 1/8" / 1/4" / 1/2"	- OD compression fitting (stainless steel)
CE 6 - 3 / 6 / 8 / 10 / 12	mm OD compression fitting (stainless steel)
B	- plug
A	- relief valve - 1/4"-18 NPT-F (P_2≤100 bar)
K	- contact pressure gauge
M	- pressure gauge
0	- 1/4"-NPT-F (port only)



Inlet left: L





Inlet right: R

PE53 - L - 300 - 20 - 1 - 2 - 3 - 4 - 5 - 6 - N2

Inlet

L	- left
R	- right

Inlet pressure P_1

100	- max. 100 bar
200	- max. 200 bar
300	- max. 300 bar

Outlet pressure P_2

1,5	- bis 1,5 bar
4	- bis 4 bar
10	- bis 10 bar
20	- bis 20 bar

Type of gas

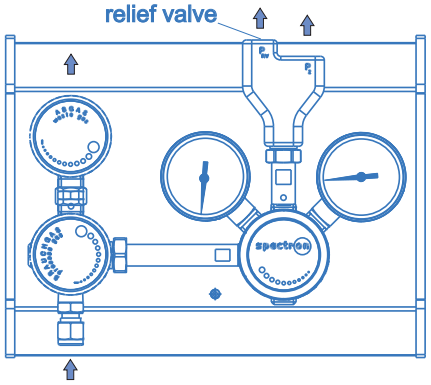
Please specify type of gas (for selection of valve seat materials)

For inlet pressure up to 50 bar and outlet pressure of max. 1,5 or 4 bar please use E51


P1: 300 bar
P2: 10 bar
WIKA
bar
psi

Pressure control panel BE55-1

Pressure control panel BE55-1
with valve in the outlet adapter



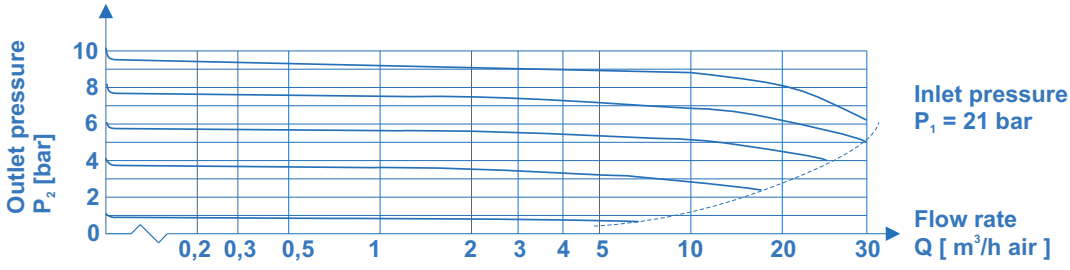
Product features

- Wall- and cabinet-mounting stainless steel pressure control panels
- For corrosive gases and gas mixtures with corrosive components up to quality 6.0
- Laboratory-style design
- Ergonomically designed
- Modular design (to be extended to 2, 3 etc. cylinders)
- Filter at the process gas inlet valve
- Diaphragm-type shut-off valves optimised for low internal volume with On/Off position indicator
- Suitable for ECD-applications
- Diaphragm-type pressure regulator with high control accuracy and anti-vibration device
- Outlet adapter with integrated relief valve and optional diaphragm-shut-off valve (this prevents the outlet piping from draining during disconnecting the panel)
- Designed for easy installation
- Approved for use with oxygen
- Suitable for inlet pressure values up to 300 bar
- Double-stage model: BE56-1

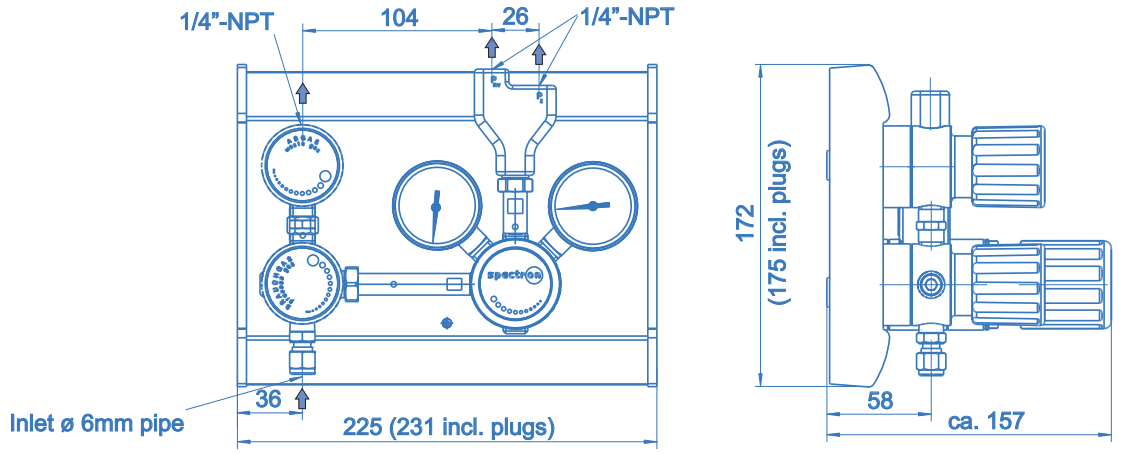
Technical data

Type	single-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	10/20/50/100/200 bar
Materials	
Body regulator and valves:	SS 316L (SS 1.4404)
Valve seat regulator:	PVDF or PA (NH_3)
Valve seat shut-off valve:	PCTFE
Diaphragm regulator:	Hastelloy C276
Diaphragm valve:	Hastelloy C276
Soft goods:	FKM or EPDM (NH_3)
Filter:	Sintered SS 316L
Inlet connector	SS compression ring fitting 6x1 mm
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$mbar l/s He
(via seat)	$1x10^{-6}$mbar l/s He
Pressure gauges	Safety pressure gauges ISO5171/cl 1.6/NG50
Weight	4,5 kg

Flow curves BE55-1



Pressure control panel BE55-1



Process gas valve also with 300 bar - pneumatic-actuator upon request!

Ordering information:
Pressure control panels BE55-1

BE55 - 1 - 300 - 10 - M - M - V - N_2

Inlet pressure P_1

100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2

10 - max. 10 bar
20 - max. 20 bar
50 - max. 50 bar
100 - max. 100 bar
200 - max. 200 bar

Inlet press. indication

M - pressure gauge
K - contact pressure gauge

Gas type

Please specify gas type with your order (selection of valve seat material)

Outlet adapter

0 - without valve
V - valve (manual)
VP - pneumatic-valve

Outlet press. indication

M - pressure gauge
K - contact pressure gauge

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

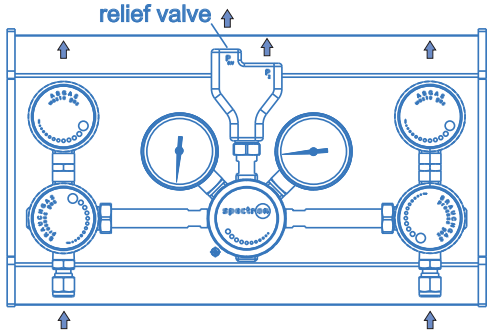
- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control panel.
- The function of the components, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

****) Important note regarding corrosive gases***

Using gas mixtures with corrosive components >1% or very critical applications, we recommend our pressure control panels SE in combination with the purge- and connection block SBE/3.

Pressure control panel BE55-2

Pressure control panel BE55-2
Outlet adapter without valve



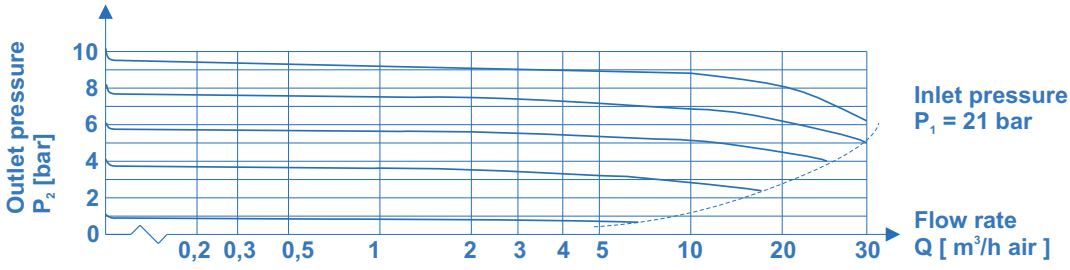
Product features

- Wall- and cabinet-mounting stainless steel pressure control panels
- For corrosive gases and gas mixtures with corrosive components up to quality 6.0
- Laboratory-style design
- Ergonomically designed
- Modular design (to be extended to 2, 3 etc. cylinders)
- Filter at the process gas inlet valve
- Diaphragm-type shut-off valves optimised for low internal volume with On/Off position indicator
- Suitable for ECD-applications
- Diaphragm-type pressure regulator with high control accuracy and anti-vibration device
- Outlet adapter with integrated relief valve and optional diaphragm-shut-off valve (this prevents the outlet piping from draining during disconnecting the panel)
- Designed for easy installation
- Approved for use with oxygen
- Suitable for inlet pressure values up to 300 bar
- Double-stage model: BE56-2

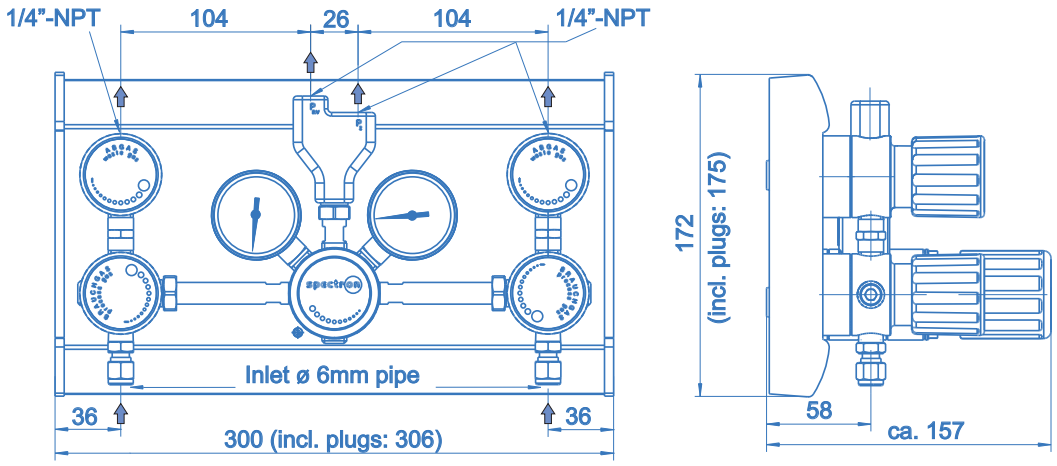
Technical data

Type	single-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	10/20/50/100/200 bar
Materials	
Body regulator and valves:	SS 316L (SS 1.4404)
Valve seat regulator:	PVDF or PA (NH_3)
Valve seat shut-off valve:	PCTFE
Diaphragm regulator:	Hastelloy C276
Diaphragm valve:	Hastelloy C276
Soft goods:	FKM or EPDM (NH_3)
Filter:	Sintered SS 316L
Inlet connector	SS compression ring fitting 6x1 mm
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Pressure gauges	Safety pressure gauges ISO5171/cl 1.6/NG50
Weight	6 kg

Flow curves BE55-2



Pressure control panel BE55-2



Process gas valve also with 300 bar - pneumatic-actuator upon request!

Ordering information:
Pressure control panels BE55-2

BE55 - 2 - 300 - 10 - M - M - V - N_2

Inlet pressure P_1

100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2

10 - max. 10 bar
20 - max. 20 bar
50 - max. 50 bar
100 - max. 100 bar
200 - max. 200 bar

Inlet press. indication

M - pressure gauge
K - contact pressure gauge

Gas type

Please specify gas type with your order (selection of valve seat material)

Outlet adapter

0 - without valve
V - valve (manual)
VP - pneumatic-valve

Outlet press. indication

M - pressure gauge
K - contact pressure gauge

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

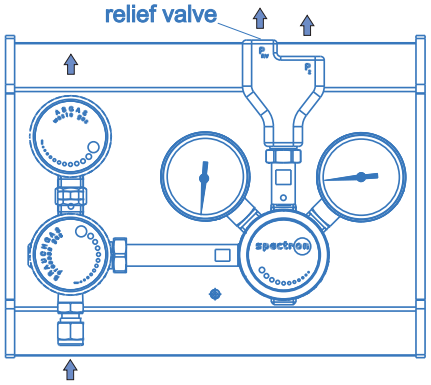
- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control panel.
- The function of the components, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

****) Important note regarding corrosive gases***

Using gas mixtures with corrosive components >1% or very critical applications, we recommend our pressure control panels SE in combination with the purge- and connection block SBE/3.

Pressure control panel BE56-1

Pressure control panel BE56-1
with valve in the outlet adapter



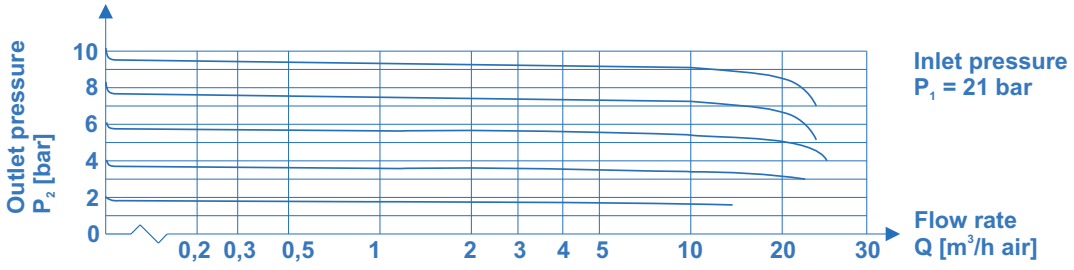
Product features

- Double-stage wall- and cabinet-mounting stainless steel pressure control panels
- For corrosive gases and gas mixtures with corrosive components up to quality 6.0
- Laboratory-style design
- Modular design (to be extended to 2, 3 etc. cylinders)
- Filter at the process gas inlet valve
- Diaphragm-type shut-off valves optimised for low internal volume with On/Off position indicator
- Suitable for ECD-applications
- Double-stage diaphragm-type pressure regulator with high control accuracy and anti-vibration device
- Outlet adapter with integrated relief valve and optional diaphragm-shut-off valve (this prevents the outlet piping from draining during disconnecting the panel)
- Designed for easy installation
- Approved for use with oxygen
- Suitable for inlet pressure values up to 300 bar
- Compact design especially for installation into safety cabinets for gas cylinders
- Single-stage model: BE55-1

Technical data

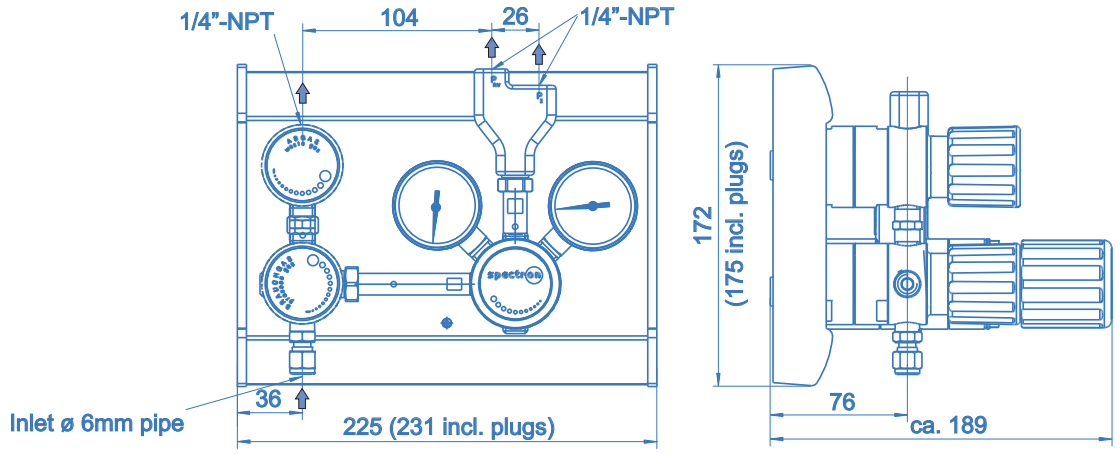
Type	double-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 / 10 bar
Materials	
Body regulator and valves:	SS 316L (SS 1.4404)
Valve seat regulator:	PVDF or PA (NH_3)
Valve seat shut-off valve:	PCTFE
Diaphragm regulator:	Hastelloy C276
Diaphragm valve:	Hastelloy C276
Soft goods:	FKM or EPDM (NH_3)
Filter:	Sintered SS 316L
Inlet connector	SS compression ring fitting 6x1 mm
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$mbar l/s He
(via seat)	$1x10^{-6}$mbar l/s He
Pressure gauges	Safety pressure gauges ISO5171/cl 1.6/NG50
Weight	4,9 kg

Flow curves BE56-1



GASSENTRAL
BE56-1

Pressure control panel BE56-1



Process gas valve also with 300 bar - pneumatic-actuator upon request!

Ordering information:
Pressure control panels BE56-1

BE56 - 1 - 300 - 1,5 - M - M - V - N_2

Inlet pressure P_1

100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2

1,5 - max. 1,5 bar
4 - max. 4 bar
10 - max. 10 bar

Inlet press. indication

M - pressure gauge
K - contact pressure gauge

Gas type

Please specify gas type with your order (selection of valve seat material)

Outlet adapter

0 - without valve
V - valve (manual)
VP - pneumatic-valve

Outlet press. indication

M - pressure gauge
K - contact pressure gauge

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

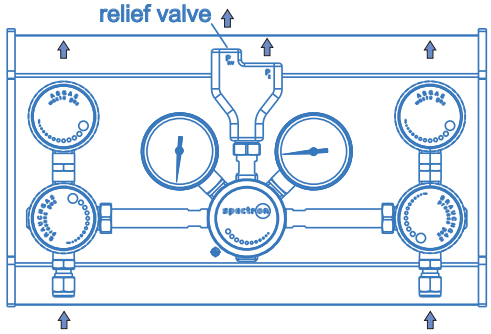
- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control panel.
- The function of the components, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

****) Important note regarding corrosive gases***

Using gas mixtures with corrosive components >1% or very critical applications, we recommend our pressure control panels SE in combination with the purge- and connection block SBE/3.

Pressure control panel BE56-2

Pressure control panel BE56-2
Outlet adapter without valve



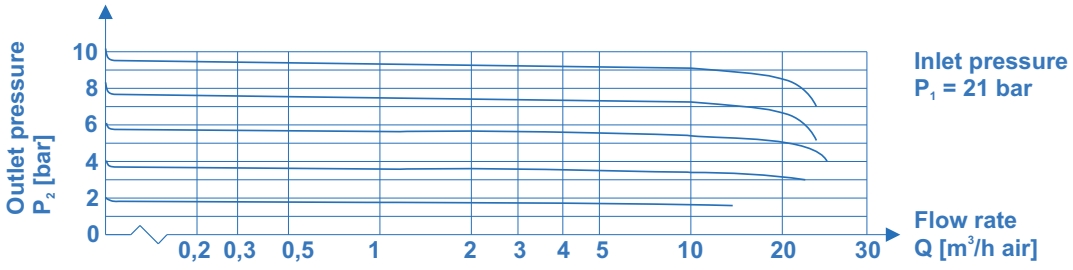
Product features

- Double-stage wall- and cabinet-mounting stainless steel pressure control panels
- For corrosive gases and gas mixtures with corrosive components up to quality 6.0
- Laboratory-style design
- Modular design (to be extended to 2, 3 etc. cylinders)
- Filter at the process gas inlet valve
- Diaphragm-type shut-off valves optimised for low internal volume with On/Off position indicator
- Suitable for ECD-applications
- Double-stage diaphragm-type pressure regulator with high control accuracy and anti-vibration device
- Outlet adapter with integrated relief valve and optional diaphragm-shut-off valve (this prevents the outlet piping from draining during disconnecting the panel)
- Designed for easy installation
- Approved for use with oxygen
- Suitable for inlet pressure values up to 300 bar
- Compact design especially for installation into safety cabinets for gas cylinders
- Single-stage model: BE55-2

Technical data

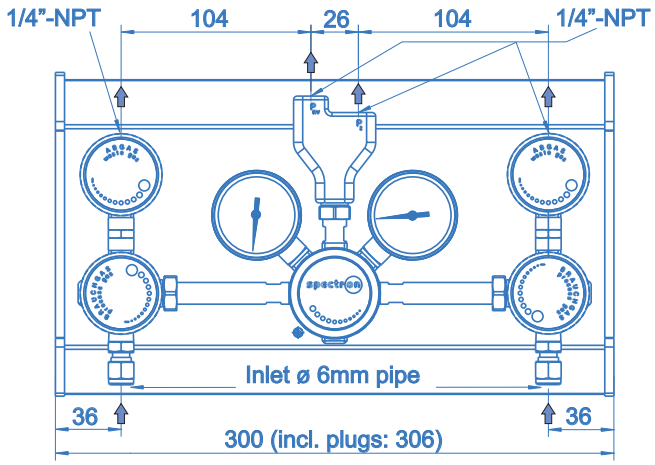
Type	double-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 / 10 bar
Materials	
Body regulator and valves:	SS 316L (SS 1.4404)
Valve seat regulator:	PVDF or PA (NH_3)
Valve seat shut-off valve:	PCTFE
Diaphragm regulator:	Hastelloy C276
Diaphragm valve:	Hastelloy C276
Soft goods:	FKM or EPDM (NH_3)
Filter:	Sintered SS 316L
Inlet connector	SS compression ring fitting 6x1 mm
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Pressure gauges	Safety pressure gauges ISO5171/cl 1.6/NG50
Weight	6,5 kg

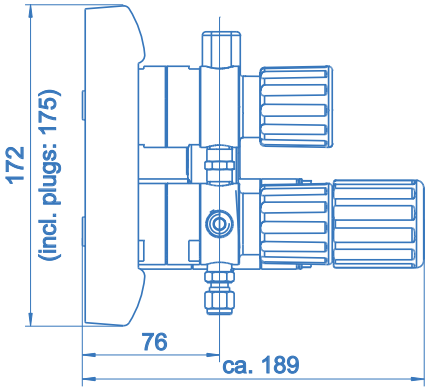
Flow curves BE56-2



GASSENTRAL
BE56-2

Pressure control panel BE56-2





Process gas valve also with 300 bar - pneumatic-actuator upon request!

Ordering information:
Pressure control panels BE56-2

BE56 - 2 - 300 - 1,5 - M - M - V - N_2

Inlet pressure P_1

100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2

1,5 - max. 1,5 bar
4 - max. 4 bar
10 - max. 10 bar

Inlet press. indication

M - pressure gauge
K - contact pressure gauge

Gas type

Please specify gas type with your order (selection of valve seat material)

Outlet adapter

0 - without valve
V - valve (manual)
VP - pneumatic-valve

Outlet press. indication

M - pressure gauge
K - contact pressure gauge

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

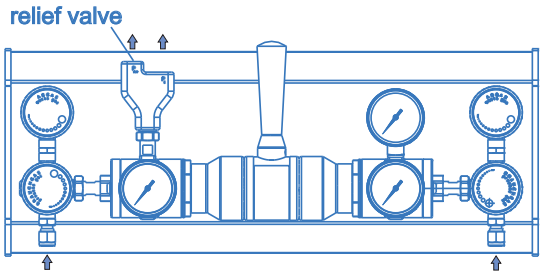
- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control panel.
- The function of the components, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

****) Important note regarding corrosive gases***

Using gas mixtures with corrosive components >1% or very critical applications, we recommend our pressure control panels SE in combination with the purge- and connection block SBE/3.

Pressure control panel BE55-2U

Pressure control panel BE55-2U
Outlet adapter without valve



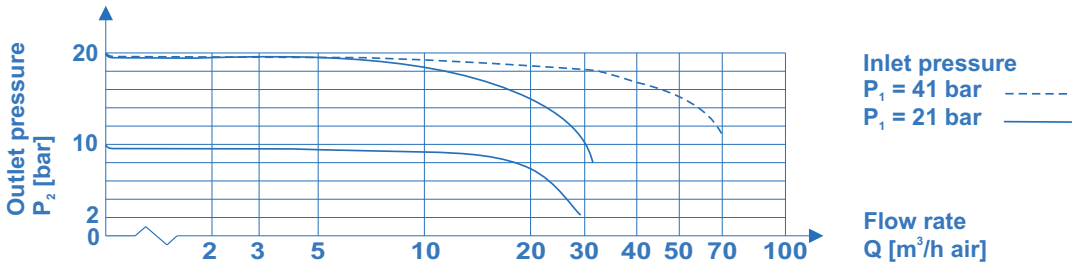
Product features

- Wall- and cabinet-mounting pressure control panels with automatic change-over function
- For corrosive gases and gas mixtures with corrosive components up to quality 6.0
- Laboratory-style design
- Ergonomically designed
- Modular design (to be extended to 2, 3 etc. cylinders)
- Filter at the process gas inlet valve
- Diaphragm-type shut-off valves optimised for low internal volume with On/Off position indicator
- Suitable for ECD-applications
- Diaphragm-type pressure regulator with high control accuracy and anti-vibration device
- Outlet adapter with integrated relief valve and optional diaphragm-shut-off valve (this prevents the outlet piping from draining during disconnecting the panel)
- Designed for easy installation
- Approved for use with oxygen
- Compact design especially for installation into safety cabinets for gas cylinders
- Minimised pressure difference between left and right hand side outlet pressure
- Double-stage model: BE56-2U

Technical data

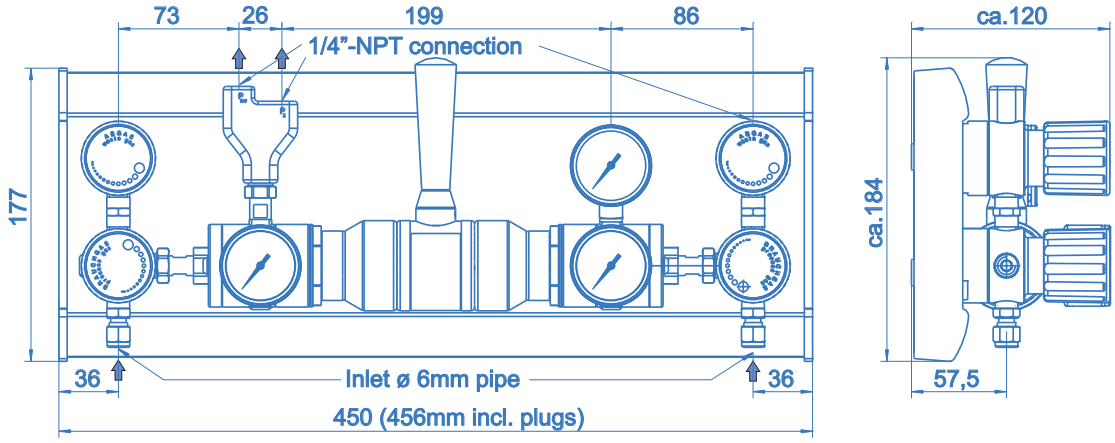
Type	single-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	10/20/50/100/200 bar
Materials	
Body regulator and valves:	SS 316L (SS 1.4404)
Valve seat regulator:	PVDF or PA (NH_3)
Valve seat shut-off valve:	PCTFE
Diaphragm regulator:	Hastelloy C276
Diaphragm valve:	Hastelloy C276
Soft goods:	FKM or EPDM (NH_3)
Filter:	Sintered SS 316L
Inlet connector	SS compression ring fitting 6x1 mm
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Pressure gauges	Safety pressure gauges ISO5171/cl 1.6/NG50
Weight	7,7 kg

Flow curves BE55-2U



GASSENTRAL
BE55-2U

Pressure control panel BE55-2U



Process gas valve also with 300 bar - pneumatic-actuator upon request!

Ordering information:
Pressure control panels BE55-2U

BE55 - 2U - 300 - 10 - M - M - V - N_2

Inlet pressure P_1
100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2
10 - max. 10 bar (middle position = 10 bar; $P_{2\ max\ /\ min}$ = ± 1,5 bar)
20 - max. 20 bar (middle position = 20 bar; $P_{2\ max\ /\ min}$ = ± 1,5 bar)
50 - max. 50 bar (middle position = 50 bar; $P_{2\ max\ /\ min}$ = ± 5 bar)
100 - max. 100 bar (middle position = 100 bar; $P_{2\ max\ /\ min}$ = ± 10 bar)
200 - max. 200 bar (middle position = 200 bar; $P_{2\ max\ /\ min}$ = ± 10 bar)

Inlet press. indication
M - pressure gauge
K - contact pressure gauge

Gas type
Please specify gas type with your order (selection of valve seat material)

Outlet adapter
0 - without valve
V - valve (manual)
VP - pneumatic-valve

Outlet press. indication
M - pressure gauge
K - contact pressure gauge

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

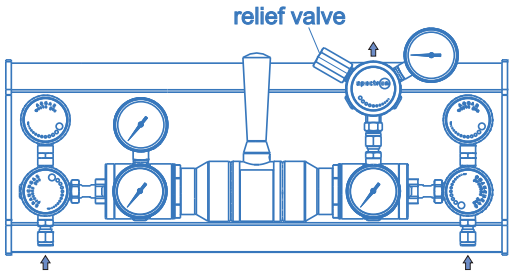
- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control panel.
- The function of the components, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

****) Important note regarding corrosive gases***

Using gas mixtures with corrosive components >1% or very critical applications, we recommend our pressure control panels SE in combination with the purge- and connection block SBE/3.

Pressure control panel BE56-2U

Pressure control panel BE56-2U



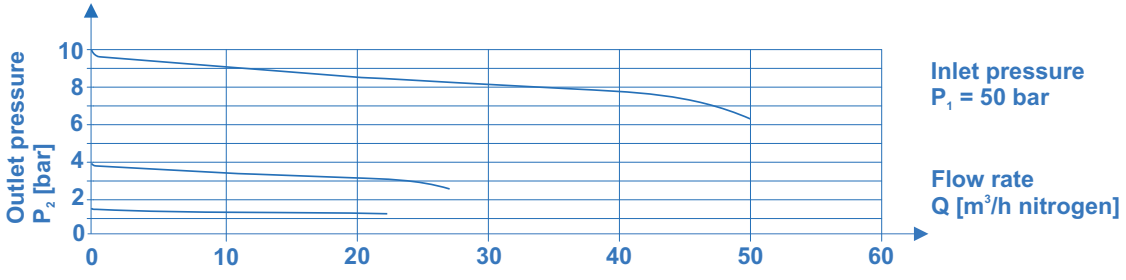
Product features

- Double-stage wall- and cabinet-mounting pressure control panels with automatic change-over function
- For corrosive gases and gas mixtures with corrosive components up to quality 6.0
- Laboratory-style design
- Ergonomically designed
- Modular design (to be extended to 2, 3 etc. cylinders)
- Filter at the process gas inlet valve
- Diaphragm-type shut-off valves optimised for low internal volume with On/Off position indicator
- Suitable for ECD-applications
- Double stage pressure control with 3 diaphragm-type pressure regulators with high control accuracy, anti-vibration device and integrated relief valve
- Designed for easy installation
- Approved for use with oxygen
- Compact design especially for installation into safety cabinets for gas cylinders
- Minimised pressure difference between left and right hand side outlet pressure
- Single-stage model: BE55-2U

Technical data

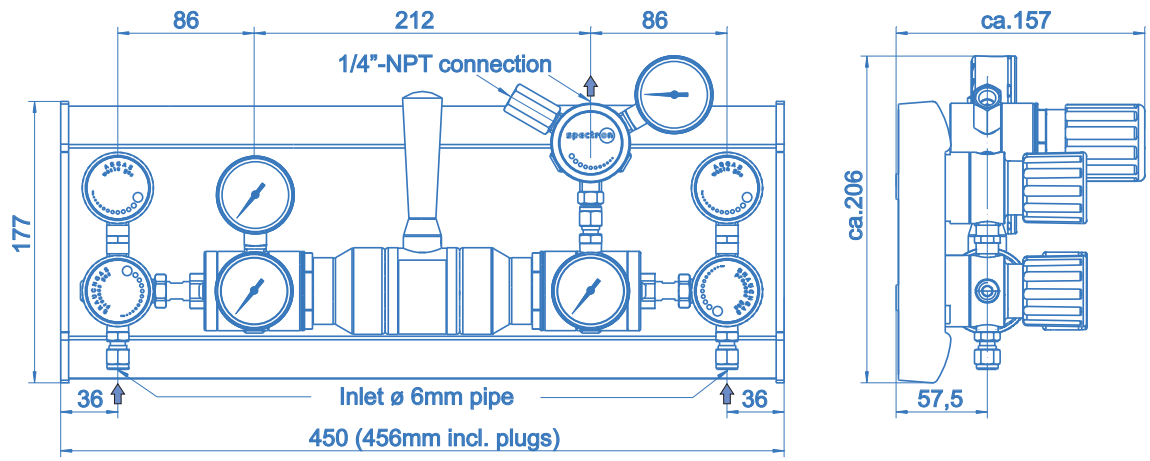
Type	double-stage
Inlet pressure P_1	max. 300 bar
Outlet pressure P_2	1,5 / 4 / 10 bar
Materials	
Body regulator and valves:	SS 316L (SS 1.4404)
Valve seat regulator:	PVDF or PA (NH_3)
Valve seat shut-off valve:	PCTFE
Diaphragm regulator:	Hastelloy C276
Diaphragm valve:	Hastelloy C276
Soft goods:	FKM or EPDM (NH_3)
Filter:	Sintered SS 316L
Inlet connector	SS compression ring fitting 6x1 mm
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$mbar l/s He
(via seat)	$1x10^{-6}$mbar l/s He
Pressure gauges	Safety pressure gauges ISO5171/cl 1.6/NG50
Weight	8,7 kg

Flow curves BE56-2U



GASSENTRAL
BE56-2U

Pressure control panel BE56-2U



Process gas valve also with 300 bar - pneumatic-actuator upon request!

Ordering information:
Pressure control panels BE56-2U

BE56 - 2U - 300 - 1,5 - M - M - N_2

Inlet pressure P_1

100 - max. 100 bar
200 - max. 200 bar
300 - max. 300 bar

Outlet pressure P_2

1,5 - max. 1,5 bar
4 - max. 4 bar
10 - max. 10 bar

Inlet press. indication

M - pressure gauge
K - contact pressure gauge

Gas type

Please specify gas type with your order (selection of valve seat material)

Outlet press. indication

M - pressure gauge
K - contact pressure gauge

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control panel.
- The function of the components, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

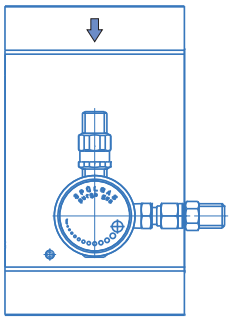
****) Important note regarding corrosive gases***

Using gas mixtures with corrosive components >1% or very critical applications, we recommend our pressure control panels SE in combination with the purge- and connection block SBE/3.

GASSENTRAL
BE55+56-SP

Purge units BE55+56-SP

Purge unit BE55-SP



Product features

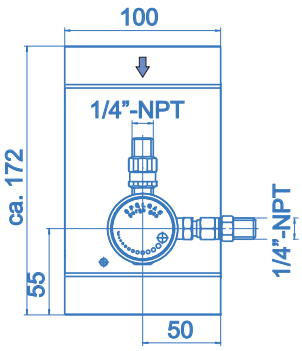
- Extension modules for purging with inert gas in Spectrocem BE55 / BE56 pressure control panels
- Non-return valve in the inlet
- Filter in the in- and outlet
- Laboratory-style design
- Handwheel with on/off position indicator

Technical data

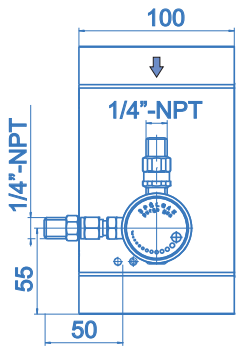
Operating pressure	max. 300 bar
Materials	
Body:	stainless steel 1.4404
Filter:	stainless steel 1.4404
In- / outlet	1/4”-NPT male
Temperature range	-30°C to +60°C
Weight	ca. 1 kg per side

Purge units right and left for panels BE55 and BE56:

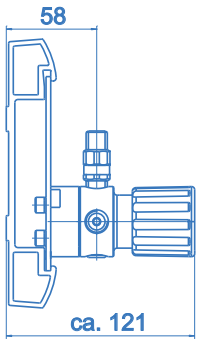
BE55-SP-**LH**



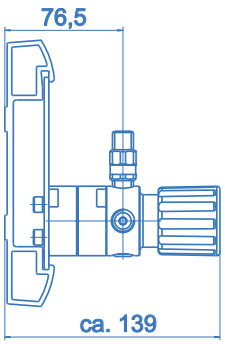
BE55-SP-**RH**



BE**55**-SP-LH



BE**56**-SP-LH



Ordering information:
Purge units BE55+56-SP

BE55 - SP - LH - NH_3

Type

55 - single-stage panel BE55 or BE56-2U
56 - double-stage panel BE56-1 and BE56-2

Side

RH - right
LH - left

Gas type

Please specify gas type with your order (selection of valve seat material)

High pressure panel BE50-1+2

High pressure panel BE50-1

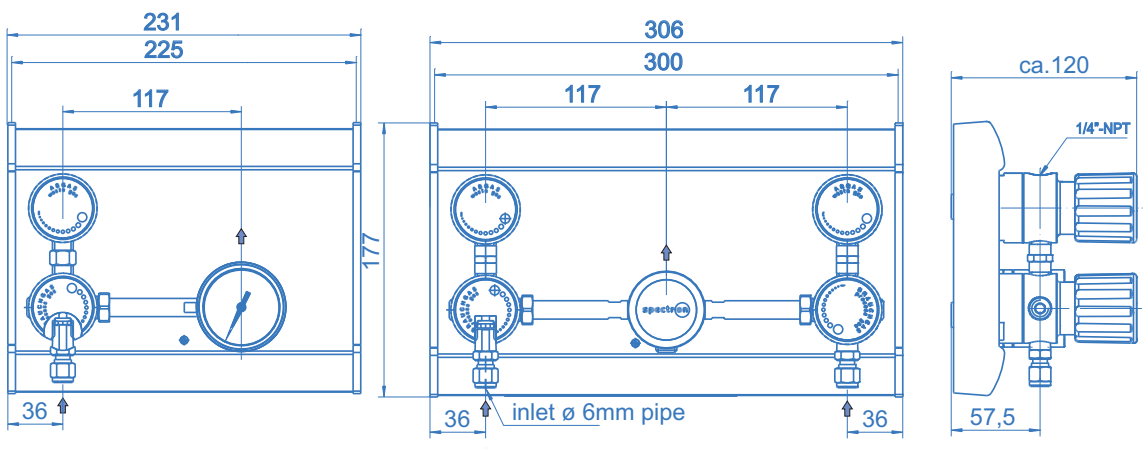
High pressure panel BE50-2

Product features

- Wall- and cabinet-mounting stainless steel high pressure panels
- For corrosive gases and gas mixtures with corrosive components up to quality 6.0
- Laboratory-style design
- Ergonomically designed
- Modular design (to be extended to 2, 3 etc. cylinders)
- Filter at the process gas inlet valve
- Diaphragm-type shut-off valves optimised for low internal volume with On/Off position indicator
- Pressure gauge (optional)
- Suitable for ECD-applications
- Designed for easy installation
- Approved for use with oxygen
- Suitable for inlet pressure values up to 300 bar
- Compact design

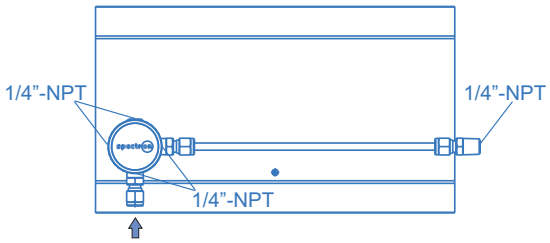
Technical data

Type		withour regulator
Working pressure P		max. 300 bar
Materials		
Body:		SS 316L (SS 1.4404)
Valve seat valves:		PVDF
Diaphragm valve:		Hastelloy C276
Filter:		Sintered SS 316L
Inlet connector		SS compression ring fitting 6x1 mm
Temperature range		-30°C to +60°C
Leak rate	(to atmosphere)	$1x10^{-8}$ mbar l/s He
	(via seat)	$1x10^{-6}$ mbar l/s He
Weight	BE50-1:	3,3 kg
	BE50-2:	5,3 kg



Extensions BE55+56-E

Extensions BE55-E



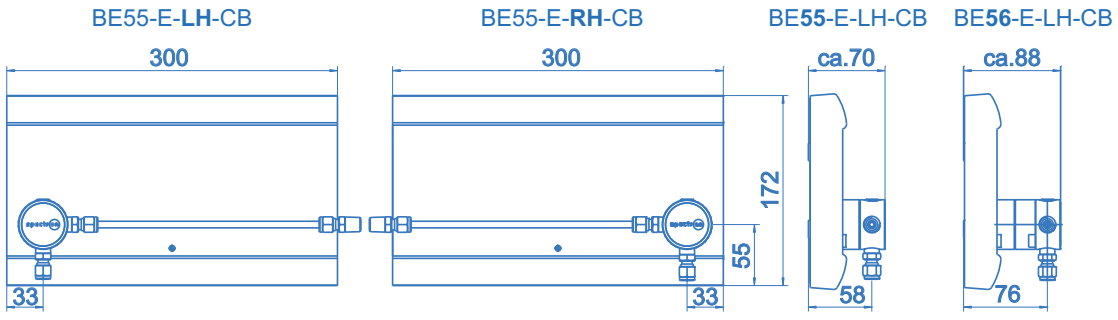
Product features

- Extension modules for all Spectrocem BE55 and 56 series pressure control panels
- For corrosive gases and mixtures up to quality 6.0
- Laboratory-style design
- Designed for easy installation
- With filter at the inlet of the individual extension modules

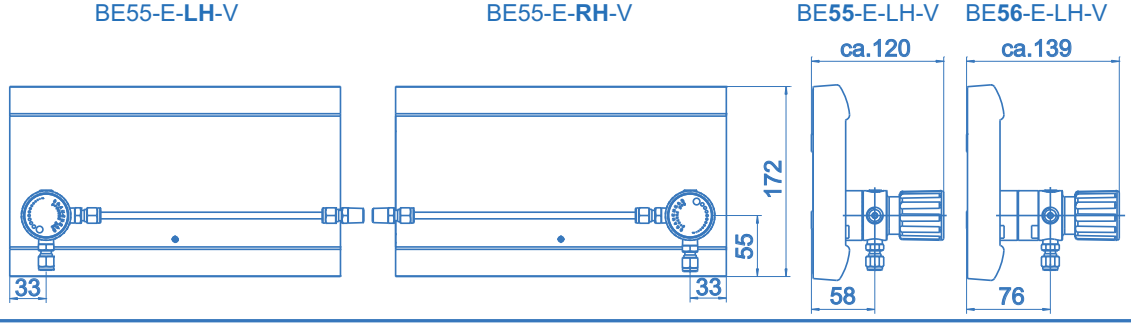
Technical data

Inlet pressure P_1	max. 300 bar
Materials	
Manifold body:	SS 316L (SS1.4404)
Filter:	Sintered SS 316L
O-ring (for M12 connection):	FKM or EPDM (NH_3)
Inlet connection	SS compression ring fitting 6x1 mm
Temperature range	-30°C to +60°C
Weight	approx. 1 kg per side

Extensions right and left for pressure control panels BE55 and BE56 with **connection block**:

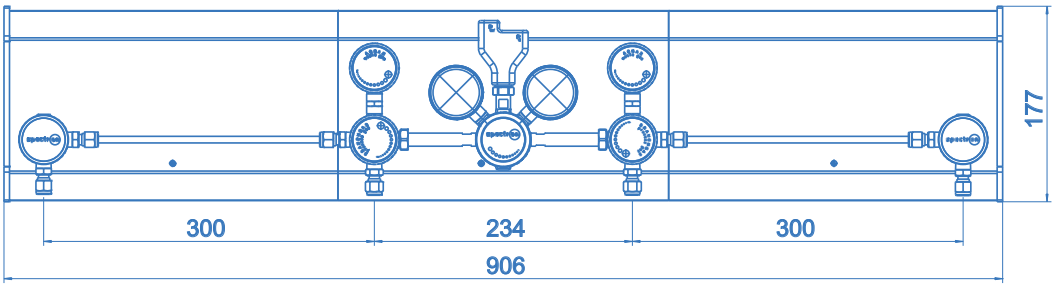


Extensions right and left for pressure control panels BE55 and BE56 with **valve**:



Extensions BE55+56-E

Extension modules completely assembled
Example: pressure control panel BE55-2
with BE55-E-LH-CB and BE55-E-RH-CB



Ordering information:
Extensions BE55+56-E

BE55 - E - LH - CB

Type

55 - single-stage pressure control panel BE55 or BE56-2U
56 - double-stage pressure control panel BE56-1 and BE56-2

Side

RH - right
LH - left

Inlet

CB - connection block
V - valvel (manual)
VP - pneumatic-valve

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting system components.
- The function of the components, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

Pressure control panels SE45/55/125


SE45-1


SE55-1


SE125-1

Product features

- Pressure control panels for use on gas cylinders with gases or gas mixtures with corrosive or toxic components, where the presence of ambient air (especially humidity or oxygen) would be harmful to hardware and/or the process
- Regulator with Hastelloy-diaphragm (SE55 and SE125)
- Diaphragm-type shut-off valves optimised for low internal volume with On/Off position indicator (SE45)
- Regulator with high control accuracy and integrated relief valve (SE55 and SE125)
- 3-way purge/connection block with integrated purge gas capillary tube and cylinder connection with the following control functions: purge gas inlet, purge/waste gas outlet and process gas outlet
- Suitable for ECD-applications
- Laboratory-style design

Product description

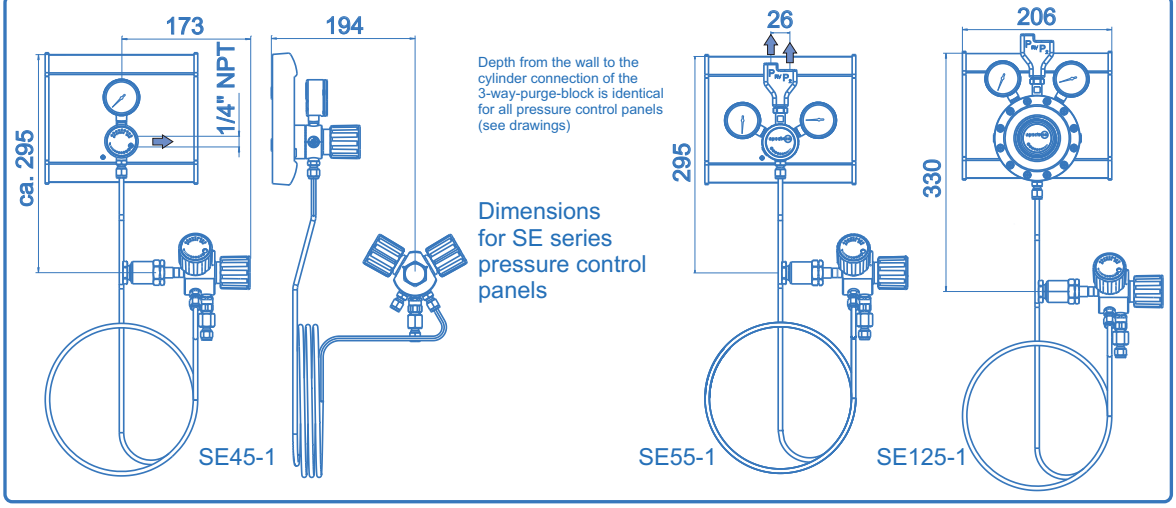
- The pressure control panels SE45, SE55 and SE125 consist of optionally a process gas valve (SE45) or alternately pressure regulator (SE55 or SE125 resp.) mounted on an aluminium profile and the three-way-purge/connection block, connected to the valve/regulator on the profile by a stainless steel pigtail.
- During the critical process of changing cylinders the purge gas flows (after opening the shut-off valve at the purge gas inlet) through the capillary tube deep into the closed cylinder valve. The purge gas along with any contaminants flows around the capillary tube to the shut-off valve at the purge gas outlet, where it can safely be disposed of through a suitable vent line.

Technical data

Pressure control panel	**SE45**	**SE55**	**SE125**
Type	without pressure regulator	single-stage	single-stage
Inlet pressure P_1	vapour press. up to 10 bar	max. 200 bar	max. 25 bar
Outlet pressure P_2	vapour pressure	max. 1,5 / 4 / 10 bar	max. 1,5 / 4 bar
Flow rate	max. 5 Nm³/h N_2	max. 15 Nm³/h N_2	max. 9 Nm³/h N_2
Leak rate	10^{-8} mbar l/s He	10^{-8} mbar l/s He	10^{-8} mbar l/s He
Materials			
Cylinder connections:	Stainless steel 1.4571	Stainless steel 1.4571	Stainless steel 1.4571
Cylinder connection gasket:	depending on gas type	depending on gas type	depending on gas type
Pigtail:	Stainless steel 1.4571	Stainless steel 1.4571	Stainless steel 1.4571
Body pressure regulator/valve:	Stainless steel 1.4404	Stainless steel 1.4404	Stainless steel 1.4404
Body purge block:	Stainless steel 1.4435	Stainless steel 1.4435	Stainless steel 1.4435
Valve seat purge block:	PVDF (NH_3:PCTFE)	PVDF (NH_3:PCTFE)	PVDF (NH_3:PCTFE)
Soft goods:	FKM (NH_3:EPDM)	FKM (NH_3:EPDM)	FKM (NH_3:EPDM)
Diaphragm purge block valves:	Hastelloy C276	Hastelloy C276	Hastelloy C276
Valve seat pressure regulator:	-	PCTFE	PCTFE
Diaphragm pressure regulator:	-	Hastelloy C276	Hastelloy C276
Diaphragm process gas valve:	Hastelloy C276	-	-
Valve seat process gas valve:	PCTFE	-	-
Outlet A	1/4”-NPT female	1/4”-NPT female	1/4”-NPT female

Pressure control panels SE45/55/125

spectrocem



Ordering information:
SE series pressure control panels

SE55 - 1 - 200 - 10 - M - M - DIN 6 - NH_3

Type
- 45 - without pressure regulator
- 55 - single-stage pressure regulator E51
- 56 - double-stage regulator E53 (upon request)
- 125 - single-stage pressure regulator E121

Inlet pressure P_1
- 10 - max. 10 bar vapour pressure (SE45)
- 25 - max 25 bar (SE125)
- 200 - max. 200 bar (SE55)

Outlet pressure P_2
- 0 - without pressure regulator (SE45)
- 1,5 - up to 1,5 bar (SE55, SE125)
- 4 - up to 4 bar (SE55, SE125)
- 10 - up to 10 bar (SE55)

Type of gas
Please specify type of gas with your order!

Cylinder connection
Detailed description of the cylinder connection including the relevant standard and the number of the connection

Outlet press. indication
- M - pressure gauge
- K - contact pressure gauge

Inlet press. indication
- M - pressure gauge
- K - contact pressure gauge

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Pressure indication

- All pressure control panels are equipped with pressure gauges for inlet- (SE 45, SE 55 and SE 125) and outlet pressure indication (SE 55 and SE 125) for the relevant pressure range.

Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a pressure control panel.
- The function of the components, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

Control Panels BM55/BE55

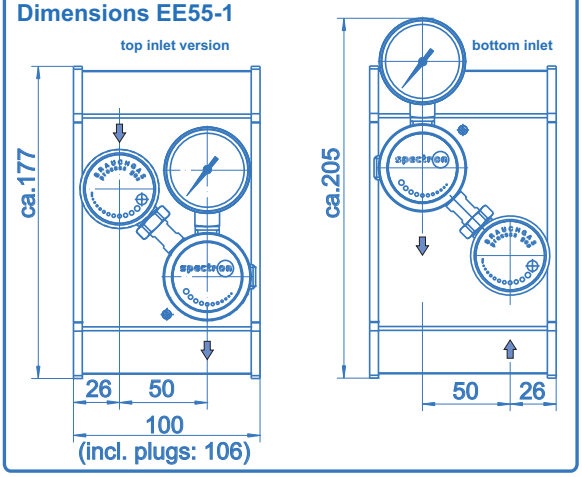
UTTAKSPOST

EE55

Tapping point EE55

Tapping point EE55-4

Dimensions EE55-1



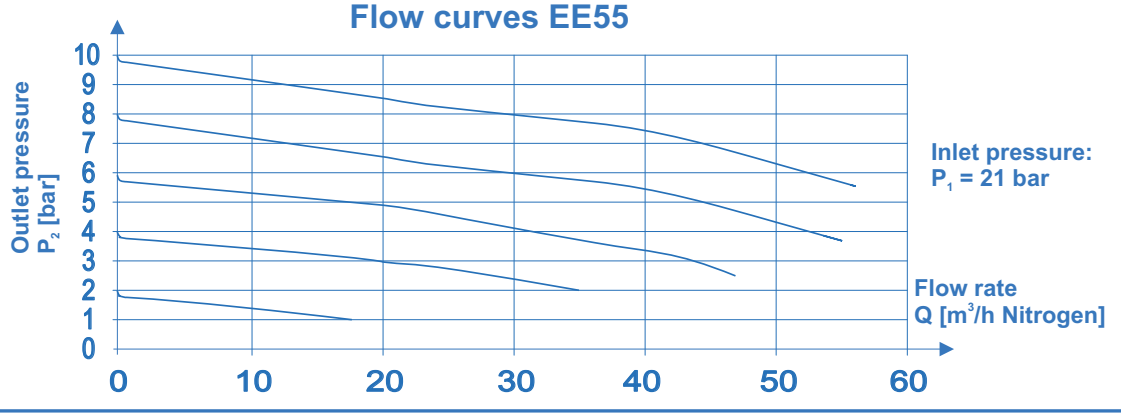
Product features

- Wall-mounting tapping points
- For corrosive gases and gas mixtures with corrosive components up to quality 6.0
- Laboratory-style design
- Ergonomically designed
- Filter at the process gas inlet valve
- Diaphragm-type shut-off valves optimised for low internal volume with On/Off position indicator
- Suitable for ECD-applications
- Pressure regulator with high control accuracy
- Designed for easy installation
- Approved for use with oxygen
- Tapping point can be extended into multiple tapping points
- Top-inlet or bottom-inlet configurations available

Technical data

Inlet pressure P_1	max. 200 bar
Outlet pressure P_2	1,5 / 4 / 10 / 20 / 50 bar
Materials	
Body regulator and valve:	SS 1.4404 (SS 316 L)
Valve seat regulator:	PVDF or EPDM (NH_3)
Valve seat shut-off valve:	PCTFE
Diaphragm regulator:	Hastelloy C276
Diaphragm valve:	Hastelloy C276
Soft goods:	FKM or EPDM (NH_3)
Filter:	Sintered SS 1.4404
Connectors	1/4”-NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-8}$ mbar l/s He
(via seat)	$1x10^{-6}$ mbar l/s He
Pressure gauges	Safety pressure gauge ISO5171/KI1.6/NG50
Weight	2,5 kg

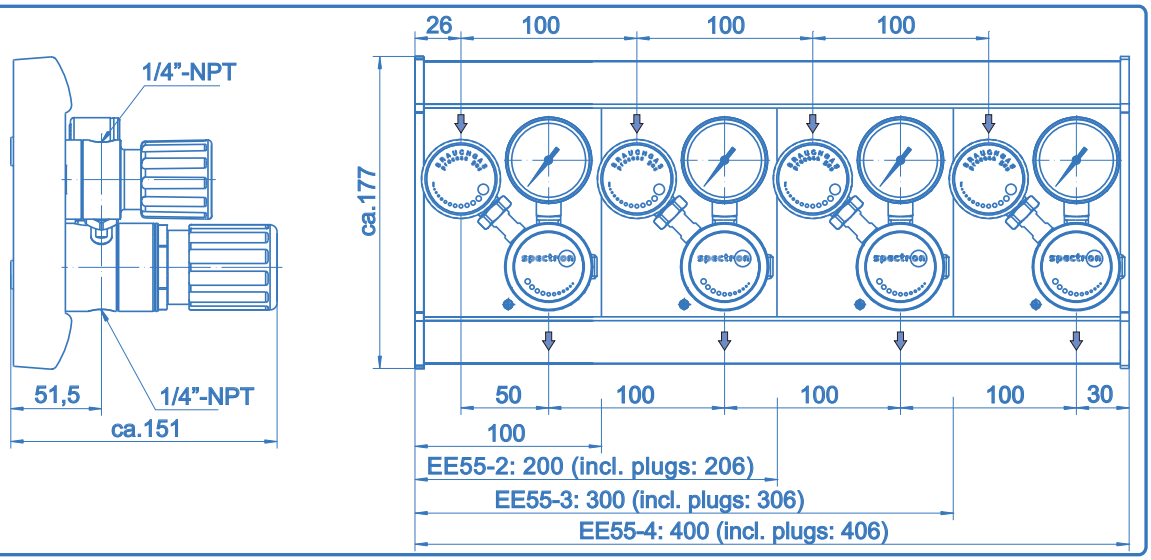
Flow curves EE55



UTTAKSPOST

EE55

Tapping point EE55



Ordering information:
Tapping points EE55

EE55 - 1 - 40 - 10 - O

Please specify gas type with order

Type

1 - single tapping point
2 - double tapping point
3 - triple tapping point
4 - 4 tapping points

Inlet pressure P_1

40 - 40 bar
100 - 100 bar
200 - 200 bar

Inlet

O - top inlet
U - bottom inlet

Outlet pressure P_2

1,5 - 1,5 bar
4 - 4 bar
10 - 10 bar
20 - 20 bar
50 - 50 bar
Higher outlet pressure upon request

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control panel.
- The function of the components, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

****) Important note regarding corrosive gases***

Using gas mixtures with corrosive components >1% or very critical applications, we recommend our pressure control panels SE in combination with the purge- and connection block SBE/3.

spectro lab

Compact laboratory tapping points
EM15: for non-corrosive gases
EE15: for corrosive gases

Surface-mounted
Laboratory equipment with rear wall inlet and front outlet

Type AW

Surface-mounted angle
Laboratory equipment with rear wall inlet and rear outlet

Type AE

Panel-mounted
Laboratory equipment with rear wall inlet and rear outlet

Type EP

Valves / wall outlets
Laboratory equipment with rear wall inlet and front outlet

Type AW / EP

Panel-mounted front
Laboratory equipment with rear wall inlet and front outlet

Type EF

Wall-mounted
Laboratory equipment for wall mounting (surface-mounted pipework)

Type ES

Column-mounted
Column-mounted laboratory equipment and front outlet

Type SC

Ceiling-mounted
Laboratory equipment with top inlet and front outlet

Type DC

spectron Gas Control Systems

ÆRLIG INTERESSERT PRESIS

UTTAKSPOST

EM/EE15

Compact laboratory tapping points EM15 / EE15


with control / shut-off valve


without valve (long)


without valve


blind without regulator

Specifications

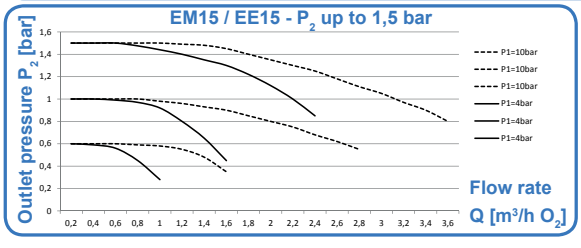
- The special laboratory tapping points incorporate the functions shut-off, pressure regulation and pressure indication in one compact, ergonomic unit.
- EM15: for non-corrosive gases up to quality 6.0
- EE15: for corrosive gases and gas mixtures with corrosive components up to quality 6.0
- The pressure 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 hand wheel 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 SPECTROCLEAN© cleaning process and have been thoroughly baked out.
- For ECD-applications the devices can be treated in an extended cleaning process.
- All equipment has been 100%-helium-leak-tested using a mass-spectrometer.
- All components are plastic-covered resistant to acid and alkaline solutions.
- Acetylene version optional with flashback arrester.

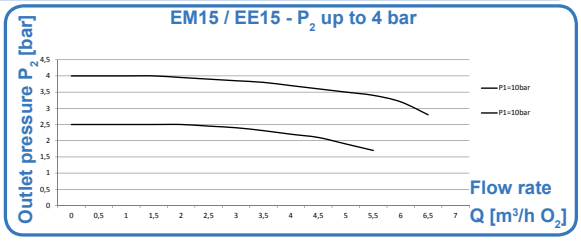
Technical data

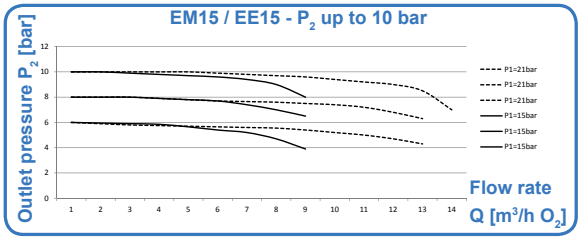
Materials		
Body	M15:	brass
	E15:	SS 1.4404 (316L)
Diaphragms:		Hastelloy C276
other gas wetted surfaces:		brass or SS 1.4404 (316L)
Valve cone:		SS 1.4404 (316L)
Valve seat:		PTFE
Cover:		Polypropylene GB30
Leak rate (to atmosphere):		10^{-8} mbar l/s He
Filter		150 µm
Pressure ranges		
Inlet P_1 (P_2 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

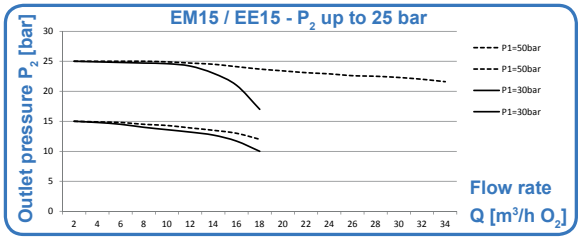
P_2 up to 10 bar: The pressure setting will be done at 10 bar inlet pressure. The limitation of the outlet pressure setting is approx. P_2 + 5%.
P_2 > 10 bar: The inlet pressure for the pressure setting will be done according to the customer´s / user´s specification.

Flow rates with valve in the outlet	see flow curves
Connection to rear-wall connector	G 3/8“ RH



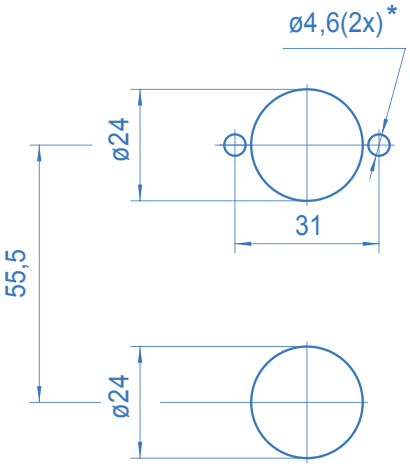






EM15 / EE15
Surface-mounted angle Type AE

Surface-mounted angle tapping point
with flow control / shut-off valve



*) for self-cutting screw
ME-T-50-16-TX25-A2-DIN7500

Bore template for installation

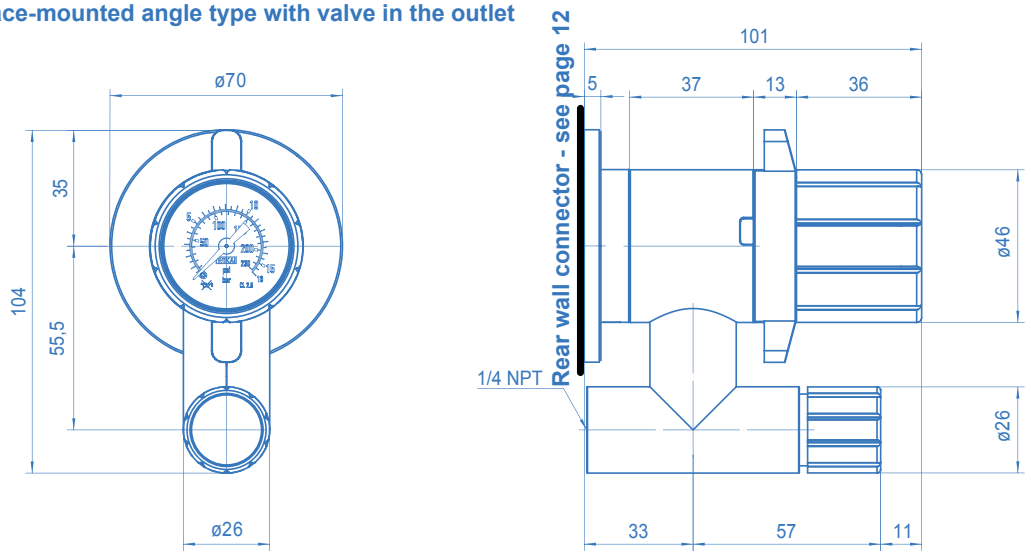
Specifications

- The surface-mounted tapping point is used for installations into panels independent of the panel thickness.
- The surface-mounted angle version consists of a rear-wall connector made of brass or stainless steel respectively, a round faceplate and assembly accessories.
- The rear outlet leads back into the panel.

Technical data

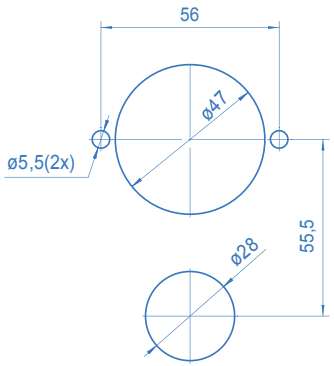
Materials		
Rear-wall connector:		brass or SS 1.4404 (316L)
Covers:		Polypropylene GB30
Connections	inlet:	see ordering info
	outlet:	1/4“-NPT female
Weight		ca. 0.8 kg

Surface-mounted angle type with valve in the outlet



EM15 / EE15
Panel-mounted Type EP

Panel-mounted tapping point
with flow control / shut-off valve



Bore template for installation

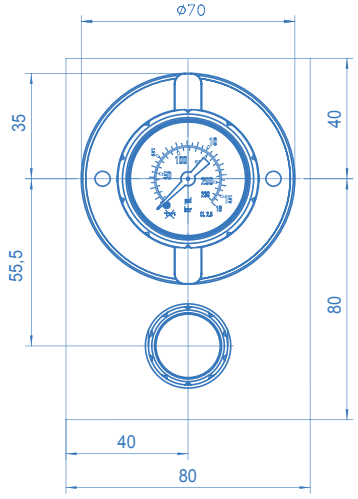
Specifications

- The panel-mounted tapping point is used for installations into panels between 2 and 8 mm thick.
- The panel-mounted version consists of an inlet adaptor made of brass or stainless steel respectively with 1/4”-NPT female thread, a plastic holder, a round faceplate (2-5 mm panel) and assembly accessories.

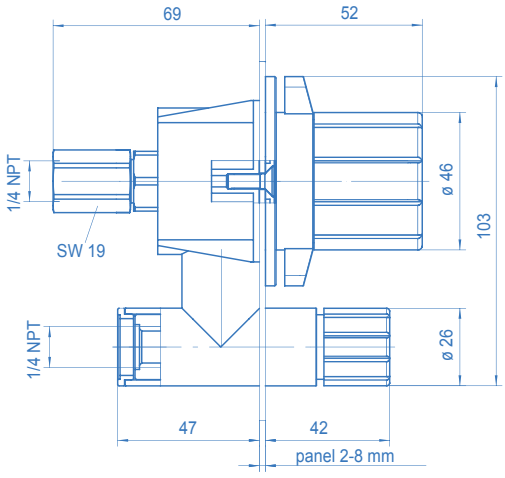
Technical data

Materials		
Inlet adaptor:		brass or SS 1.4404 (316L)
Holder:		Polypropylene GB30
Covers:		Polypropylene GB30
Connections	inlet:	1/4“-NPT female
	outlet:	1/4“-NPT female
Weight		ca. 0.8 kg

Panel-mounted type with valve in the outlet



Front view with recommended modular dimensions

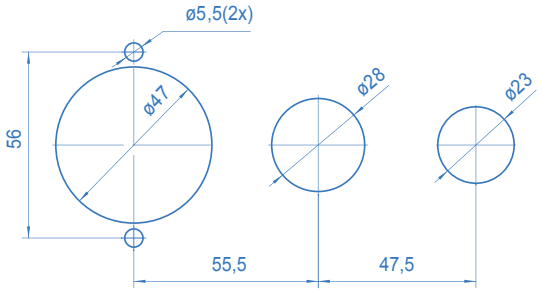


Side view with interface dimensions for a panel 2 mm thick

UTTAKSPOST
EM/EE15

EM15 / EE15
Panel-mounted front Type EF

Panel-mounted front tapping point with flow control / shut-off valve



Bore template for installation

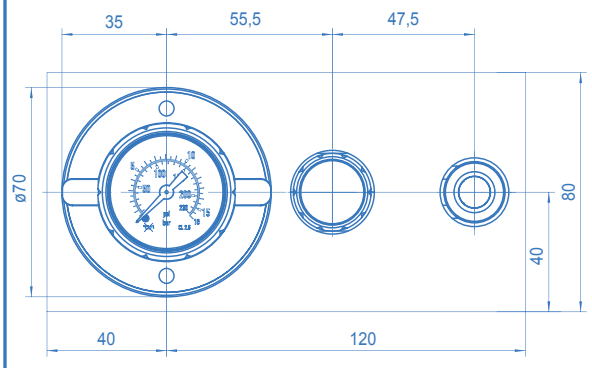
Specifications

- The panel-mounted tapping point is used for installations into panels between 2 and 8 mm thick.
- The front version consists of an inlet adaptor made of brass or stainless steel respectively with 1/4”-NPT female thread, a plastic holder, a round faceplate (2-5 mm panel) and assembly accessories.
- The outlet is to the front.

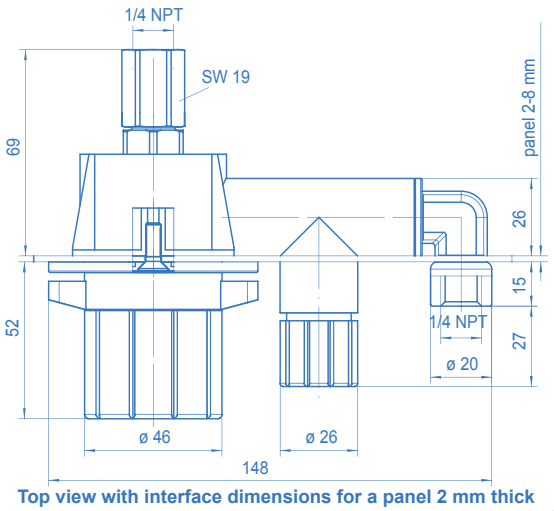
Technical data

Materials		
Inlet adaptor:		brass or SS 1.4404 (316L)
Holder:		Polypropylene GB30
Covers:		Polypropylene GB30
Connections	inlet:	1/4“-NPT female
	outlet:	1/4“-NPT female
Weight		ca. 0.8 kg

Panel-mounted front type with valve in the outlet



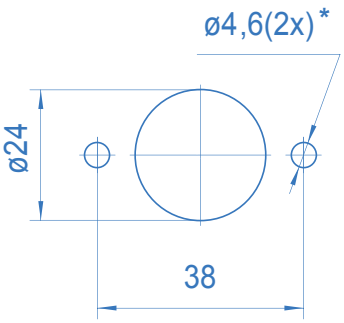
Front view with recommended modular dimensions



Top view with interface dimensions for a panel 2 mm thick

EM15 / EE15
Ceiling-mounted Type DC

Ceiling-mounted tapping point
with flow control / shut-off valve



*) for self-cutting screw
ME-T-50-16-TX25-A2-DIN7500

Bore template for installation

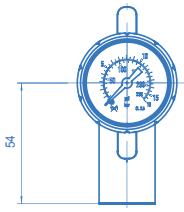
Specifications

- The ceiling-mounted tapping point is used for installations at the ceiling.
- The ceiling-mounted version consists of a rear-wall connector made of brass or stainless steel respectively with an 1/4”-NPT female inlet, plastic covers, washer, a round faceplate and assembly accessories.

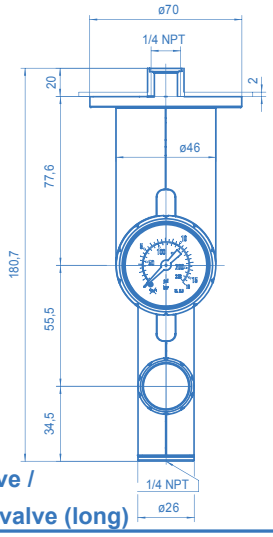
Technical data

Materials		
Rear-wall connector		
P_1 up to 40 bar		Brass
P_1 > 40 bar		SS 1.4404 (316L)
Covers:		Polypropylene GB30
Washer:		Polypropylene GB30
Connections	inlet:	1/4“-NPT female
	outlet:	1/4“-NPT female
Weight		ca. 1.2 kg

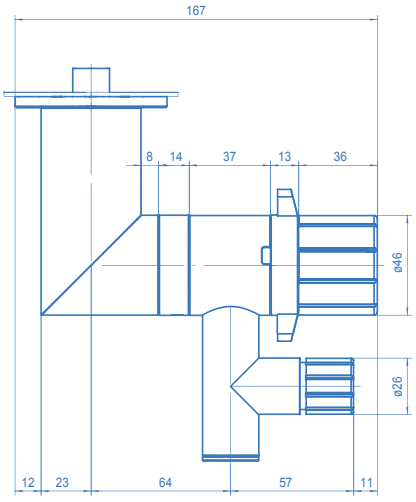
Ceiling type with valve in the outlet



without valve



with valve /
without valve (long)



EM15 / EE15
Column-mounted Type SC

Column-mounted tapping point with flow control / shut-off valve

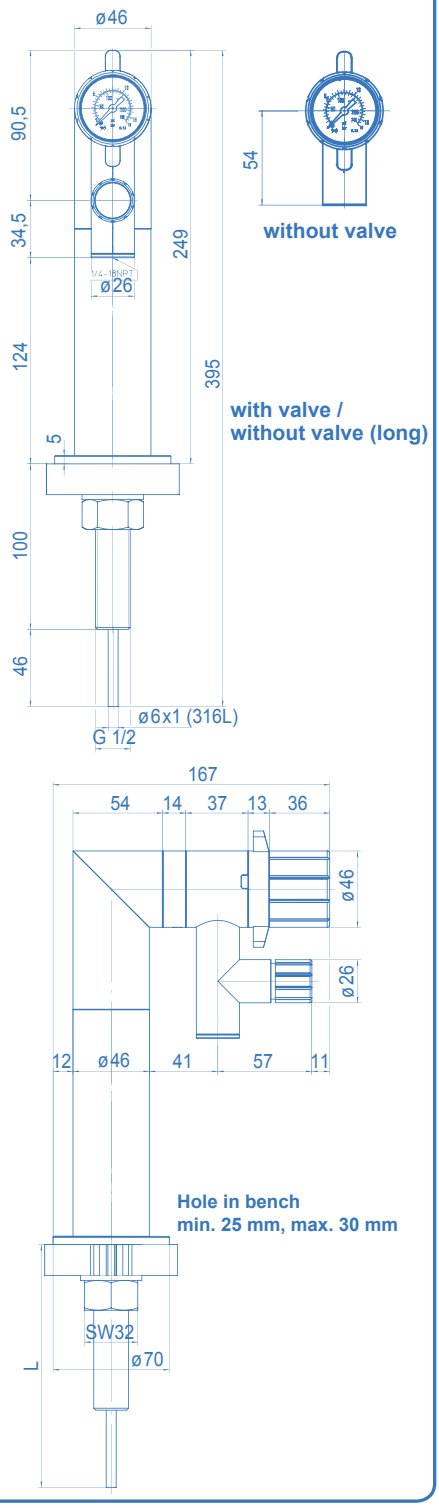
Specifications

- The column-mounted tapping point is used for installations on laboratory benches up to approx. 90 mm thickness.
- The column-mounted version consists of a metal column body, a metal connector with a tube (6x1 mm), plastic washer, plastic covers, a round faceplate and assembly accessories.
- The plastic covers of the metal column are acid and alkaline solutions resistant.

Technical data

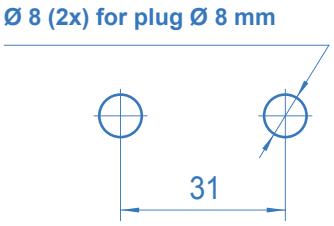
Materials		
Connector:		SS 1.4404 (316L)
Tube:		SS 1.4404 (316L)
Column body:		Aluminium
Washer:		Polypropylene GB30
Covers:		Polypropylene GB30
Connections	inlet:	tube 6x1 mm
	outlet:	1/4“-NPT female
Weight		ca. 1.8 kg

Column-mounted type with valve in the outlet



EM15 / EE15
Wall-mounted Type ES

Wall-mounted tapping point
with flow control / shut-off valve



Bore template for installation

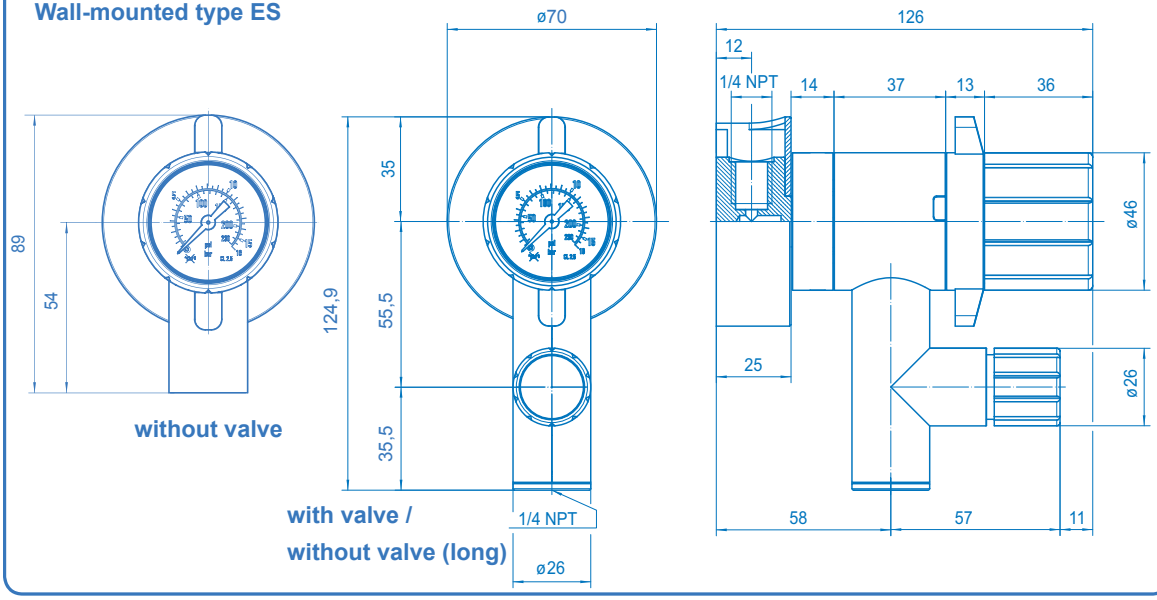
Specifications

- The wall-mounted tapping point is used for installations with surface-mounted pipe work.
- The wall-mounted version consists of a metal wall connector to connect both the gas line and the tapping point, a round faceplate and plastic covers.

Technical data

Materials		
Wall connector:		brass or SS 1.4404 (316L)
Covers:		Polypropylene GB30
Connections	inlet:	1/4“-NPT female
	outlet:	1/4“-NPT female
Weight		ca. 1.0 kg

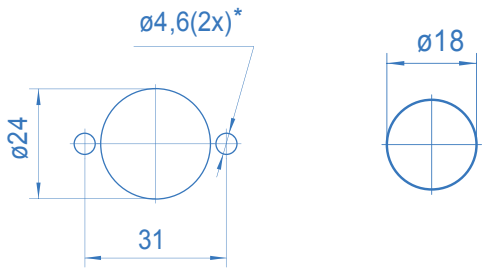
Wall-mounted type ES



UTTAKSPOST
EM/EE15

VM15 / VE15
Flow control / shut-off valves

Flow control / shut-off valve for surface mounting (angle) and panel mounting (globe version)



*) for self-cutting screw ME-T-50-16-TX25-A2-DIN7500

Bore template for surface mounting (left) and panel mounting (right)

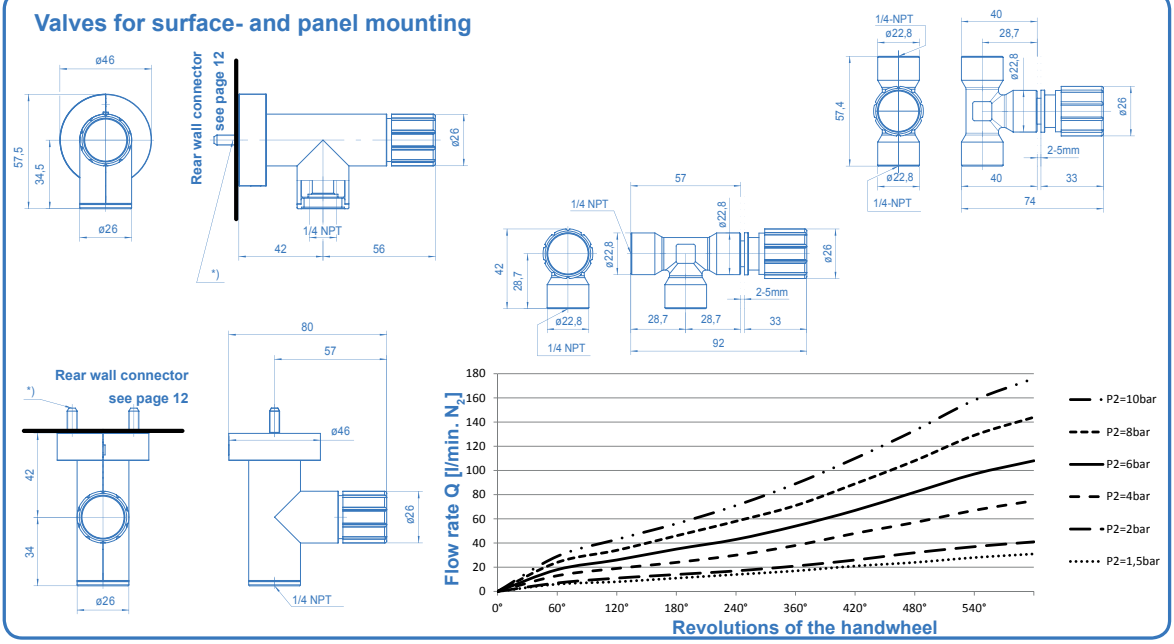
Specifications

- The flow control and shut-off valves are also available in addition to the laboratory tapping points.
- The vales come as surface- or panel-mounted type.
- There is a globe and an angle version in brass or stainless steel available.
- The vales are suitable for pressure ranges up to 100 bar

Technical data

Materials		
Body, flow control spindle:		brass or SS 1.4404 (316L)
Valve seat:		PTFE
Diaphragm:		Hastelloy C276
Covers:		Polypropylene GB30
Spring:		Stainless steel 1.4310
Connections	inlet:	see drawings below
	outlet:	1/4“-NPT female
Leak rate (to atmosphere)		10^{-8} mbar l/s He

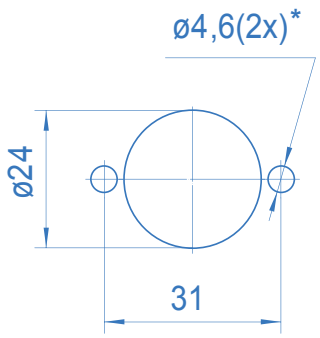
Valves for surface- and panel mounting



UTTAKSPOST
EM/EE15

AM15 / AE15
Wall outlets

Surface-mounted wall outlets
(angle and globe version)



Bore template for wall outlet (surface-mounted)

*) for self-cutting screw ME-T-50-16-TX25-A2-DIN7500

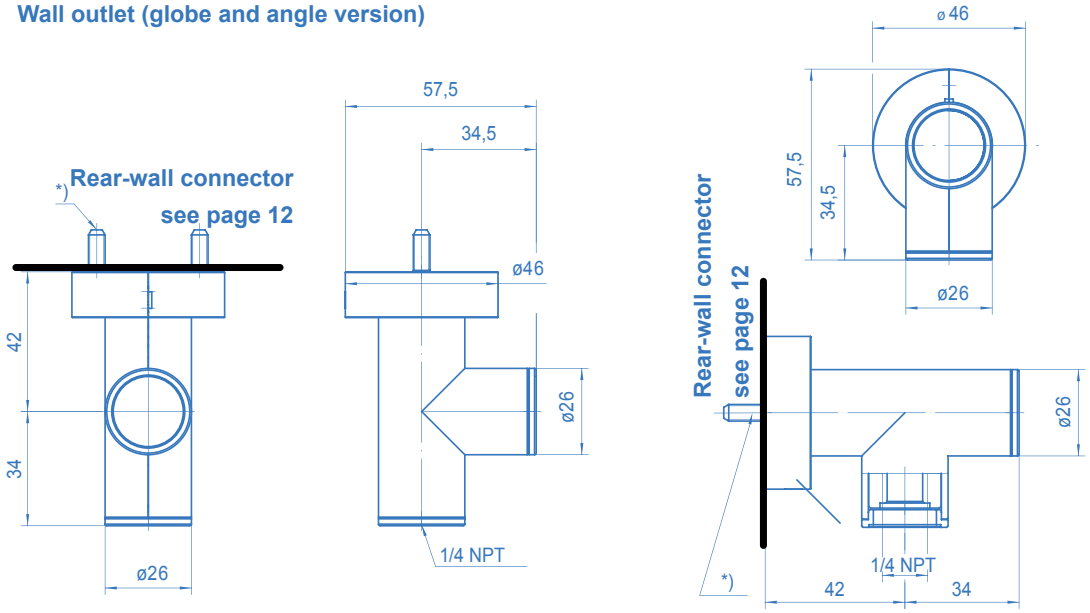
Specifications

- The wall outlets are also available in addition to the laboratory tapping points.
- The outlets come as surface-mounted type.
- There is a globe and an angle version in brass or stainless steel available.

Technical data

Materials		
Body:		brass or SS 1.4404 (316L)
Valve seat:		PTFE
Covers:		Polypropylene GB30
Spring:		SS 1.4310
Connections	inlet:	see drawings below
	outlet:	1/4“-NPT female
Leak rate (to atmosphere)		10^{-8} mbar l/s He

Wall outlet (globe and angle version)



*) for self-cutting screw ME-T-50-16-TX25-A2-DIN7500

EM15 / EE15
Rear-wall connectors

L7

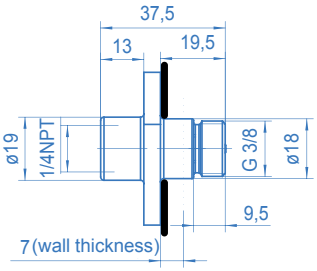
L30

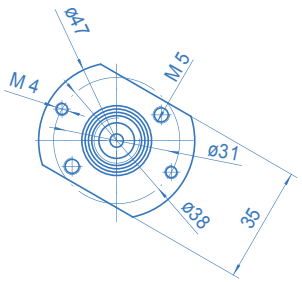
NPT

Rear-wall connectors (for surface-mounting AW and AE)
with integrated shut-off valve

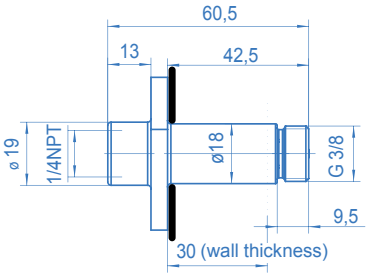
Bore template and dimensions

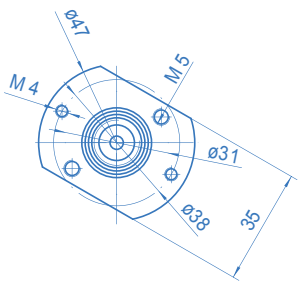
1/4“-NPT female / 7 mm wall thickness (rear installation)



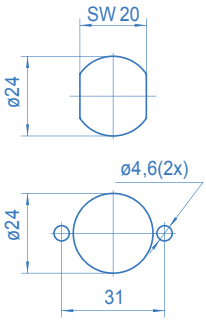


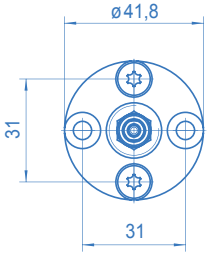
1/4“-NPT female / 30 mm wall thickness (rear installation)

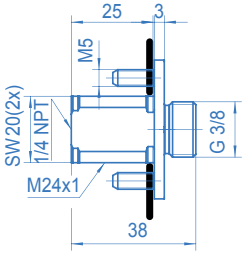




1/4“-NPT female + M24x1 male (front installation)







EM15 / EE15
Ordering information

Ordering information: Tapping points EM15 / EE15 series

EM 15 - AW - 10 - 0 - V - Ar/H2

Material

M	Brass
E	Stainless steel

Type

AW	Surface-mounted
AE	Surface-mounted angle version
EP	Panel-mounted
EF	Panel-mounted front
DC	Ceiling-mounted
SC	Column-mounted
ES	Wall-mounted
GG	Basic regulator w/o rear-wall conn. (G 3/8" RH)

Pressure range

1,0	max. outlet pressure 1,0 bar
1,5	max. outlet pressure 1,5 bar
2,5	max. outlet pressure 2,5 bar
5	max. outlet pressure 5 bar
10	max. outlet pressure 10 bar
16	max. outlet pressure 16 bar (piston version up to $P_{1,max.}$ = 100 bar)
25	max. outlet pressure 25 bar (piston version up to $P_{1,max.}$ = 100 bar)
65	max. outlet pressure 65 bar (piston version up to $P_{1,max.}$ = 100 bar)
0	Rear-wall connector incl. shut-off valve without pressure regulator

Gas type

Please specify with order

Outlet

0	1/4"-NPT female
CM3/6/...	Compression ring brass [DN]
CE3/6/...	Compression ring SS [DN]
SM	Hose connector brass
SE	Hose connector SS
CSM(E)	Compr. ring+hose connector
FS	Flashback arrestor
L	1/4"-NPT female **(long)**
LCM3/6/...	Compression ring brass [DN]
LCE3/6/...	Compression ring SS [DN]
LSM	Hose connector brass
LSE	Hose connector SS
LCSM(E)	Compr. ring+hose connector
V	Valve (1/4"-NPT female)
VCM(E)6	Valve with compression ring
VSM(E)	Valve with hose connector
VCSM(E)	Valve + compression ring and hose connector
B	Blind w/o pressure regulator

Inlet

0	**EP/EF:** 1/4"-NPT female
0	**DC/ES:** 1/4"-NPT female
L7	**AW/AE:** 1/4"-NPT f / 7 mm
L30	**AW/AE:** 1/4"-NPT f / 30 mm
NPT	**AW/AE:** 1/4"-NPT female + M24x1 male
CM6/8/...	Compression ring brass [DN]
CE6/8/...	Compression ring SS [DN]
CM(E)6w	angle compression ring [DN]
RS	**SC:** SS-tube stub 6x1mm
X	without rear-wall connection

Ordering information: Valve / Wall outlet

VM 15 - AW - 0 - EV - 0 - Ar/H2

Model

V	Valve
A	Wall outlet

Material

M	brass
E	Stainless steel

Type

see above

GG	Basic unit w/o rear-wall conn. (G 3/8" RH)

Gas type (see above)

Outlet (see above)

Version

DV	Globe version
EV	Angle version

Inlet (see above)

Diaphragm valves DVE

DVE-8-NPT-F-1/4 SA

DVE-8-OD-6

Product features

- Stainless steel diaphragm valve
- Suitable for corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- Suitable for pressures up to 40 bar
- Fully functional under vacuum
- Wide range of in-/ outlets
- Metal-to-metal sealed to atmosphere
- Oxygen cleaned
- Ergonomically designed

Technical data

Type		Diaphragm valve
Working pressure		DN8, DN13: max. 40 bar DN19: max. 25 bar
Materials		
Body:		Stainless steel 1.4404
Diaphragm:		DN8: SS 1.4571
		DN13/19: SS 1.4310
Valve seat		PCTFE
In- and outlets		Female thread or Stainless steel welding stub
Temperature range		-30°C to +60°C
Leak rate		$<10^{-8}$ mbar l/s He
Seat diameter		8, 13 or 19 mm
c_v-value	DN8:	1,47 (1/4"-NPT) 0,47 (tube 6x1 mm) 1,47 (tube 10x1 mm)
	DN13:	2,1
	DN19:	3,1

DVE-13-NPT-F-1/2

DVE-19-NPT-F-3/4

Diaphragm valves DVE

Additional configurations upon request!

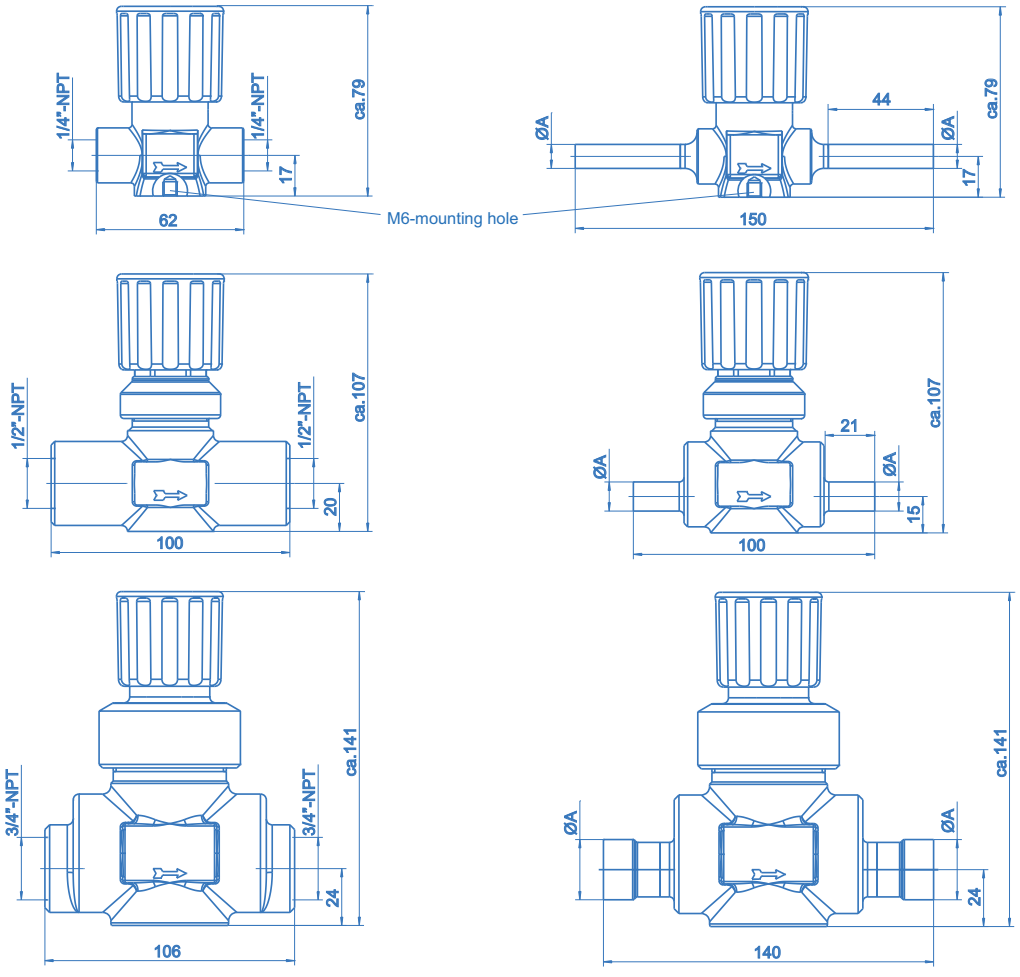
Ordering information:
Diaphragm valves DVE

DVE - 13 - NPT F - 1/2

8		13		19	
NPT F 1/4*	- 1/4”-NPT female	NPT F 1/2	- 1/2”-NPT female	NPT F 3/4	- 3/4”-NPT female
OD 6*	- SS-tube 6x1 mm			OD 3/4	- SS-tube 3/4” male
OD 10*	- SS-tube 10x1 mm			OD 1	- SS-tube 1” male

*optional:
... SA - with position indicator

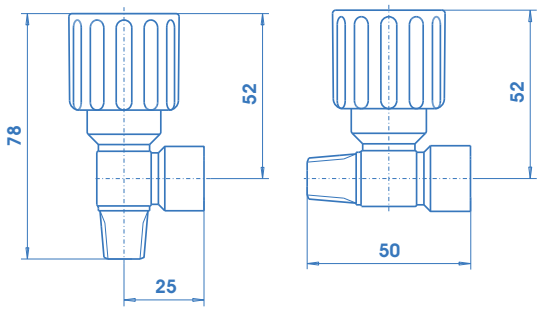
Dimensions diaphragm valves DVE



Control- and shut-off valves V6E-3

Valves EV-V6E-3 (left) and DV-V6E-3 (right)

Dimensions valves V6E-3



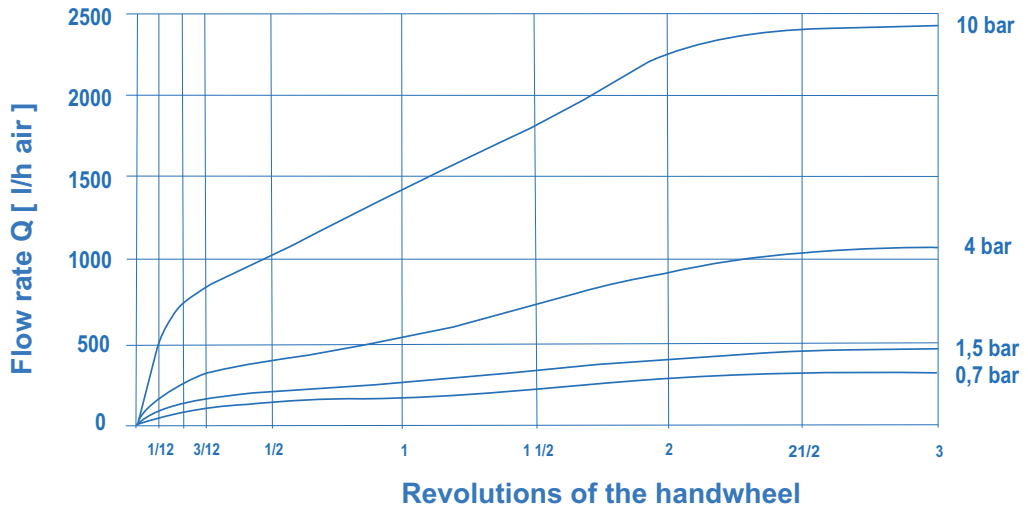
Product features

- Control valve (e.g. for the pressure regulator outlet)
- High control accuracy
- Shut-off valve (e.g. for in- and outlets of pressure regulators with inert gas purge arrangement)
- Suitable for corrosive gases
- Diaphragm metal-to-metal sealed to atmosphere
- Ergonomically designed
- New laboratory-style design
- Compact design

Technical data

Operating pressure	
Control valve:	max. 50 bar
Shut-off valve:	max. 200 bar
Nominal size	3 mm
Materials	
Body:	SS 1.4435 (SS 316 L)
Diaphragm:	Duratherm 600
Control spindle:	SS 1.4404 (SS 316 L)
Inlet connector	1/4”-18 NPT-M
Outlet connector	1/4”-NPT female
Weight	0,5 kg
Leak rate	10^{-8} mbarl/s He
Flow rate control valve	see flow curves
c_v-value shut-off valve	c_v = 0,08

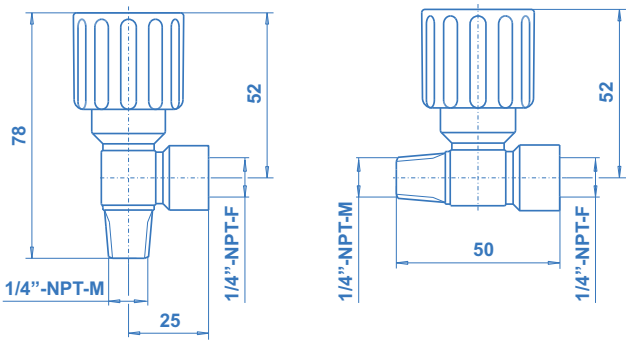
Flow curves control valve V6E-3



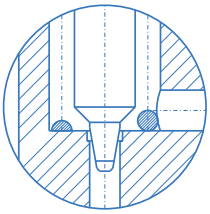
Control- and shut-off valves V6E-3

spectrocem

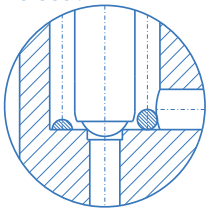
Dimensions valves V6E-3



Detail:
Control valve seat

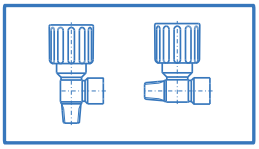


Detail:
Shut-off valve seat



Ordering information:
V6E-3 series valves

DV - V6E-3 - AV



Type

DV - globe valve
EV - angle valve

Function

AV - shut-off valve
CV - control valve

Part numbers: control valves

globe valve	DV-V6E-CV: **71801029**
angle valve	EV-V6E-CV: **71800990**

Part numbers: shut-off-valves

globe valve	DV-V6E-AV: **71800992**
angle valve	EV-V6E-AV: **71800991**

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control valve.
- The function of the valve, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

Shut-off valves MV3-E

MV3-DV-H-E-NPTF1/4

MV3-DV-PN25/100/300-E-NPTF1/4

Product features

- Stainless steel valves for manual or automatic (pneumatic) shut-off
- For corrosive gases and gas mixtures up to qualität 6.0
- Diaphragm metal-to-metal sealed to atmosphere
- In- and outlet filter
- Suitable for pressures up to 300 bar
- Fully functional under vacuum
- Ergonomically designed
- New laboratory-style design
- Compact design
- Manual valve with position indicator

- Pneumatic actuator optional for line pressure 25, 100, 200 and 300 bar
- Optional with inductive proximity switch
- Variable installation position

Technical data

Operating pressure	max. 300 bar
Nominal diameter	4 mm
Materials	
Body:	stainless steel 316L
Diaphragm:	Hastelloy C276
Valve seat:	PCTFE
Filter:	stainless steel 316L
Inlet	1/4”-NPT female
Outlet	1/4”-NPT female
Temperature range	-30°C to +60°C
Leak rate	$<10^{-8}$ mbar l/s He
Weight	0,5 kg
c_v-value	c_v = 0,33 / 0,09*

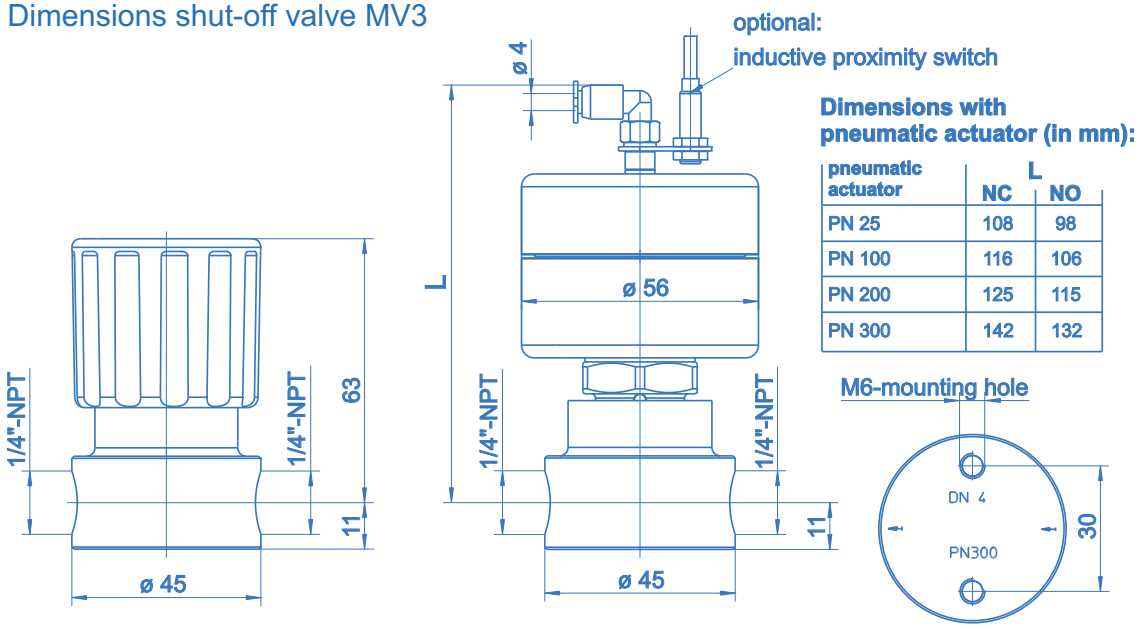
* with filter (must be installed for the use of oxygen)

Technical data pneumatic actuators

Actuator pressure:	6 to 8 bar
Actuator connector:	for hose Ø 4mm
Pneumatic function:	- normally closed (NC) - normally open (NO)
Option:	- inductive proximity switch

Shut-off valves MV3-E

Dimensions shut-off valve MV3



Dimensions with pneumatic actuator (in mm):

pneumatic actuator	L NC	L NO
PN 25	108	98
PN 100	116	106
PN 200	125	115
PN 300	142	132

Ordering information:
MV3-E series valves

MV3 - DV - H - E - NPTF1/4

Type

DV - globe valve (2 ports)

Other types upon request

Valve

H - manual valve

PN... - pneumatic actuator PN **25/100/200/300**
PNI... - pneumatic actuator PN **25/100/200/300** with inductive proximity switch
N... - pneumatic actuator **NO / NC**

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

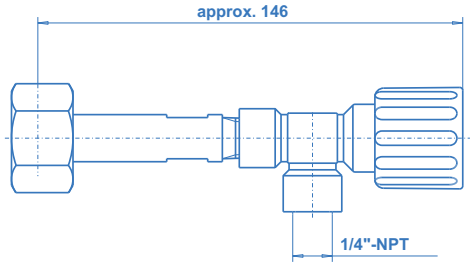
Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a component.
- The function of the component, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

Control Valve RV6E

Control valve RV6E

Dimensions



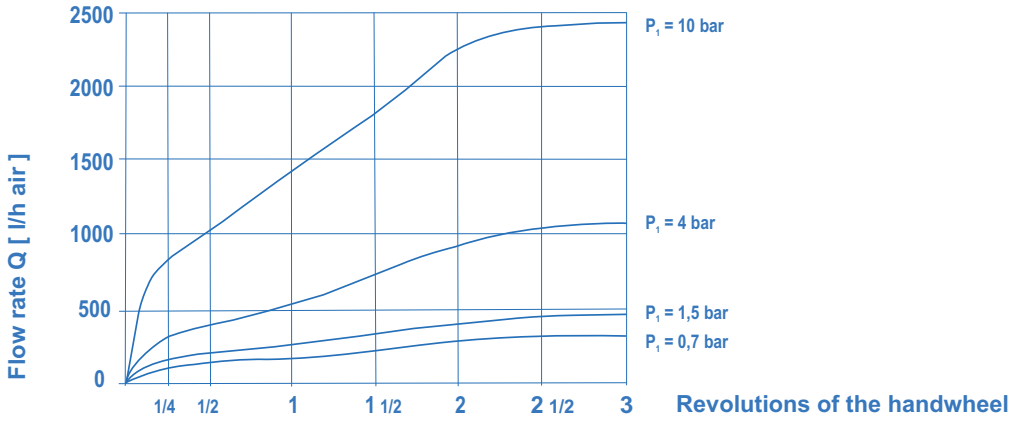
Product features

- Control valve for withdrawal from gas cylinders up to 40 bar
- For corrosive, toxic gases and gas mixtures with corrosive components up to quality 6.0
- New laboratory-style design
- Ergonomically designed
- Metal-to-metal seal to atmosphere

Technical data

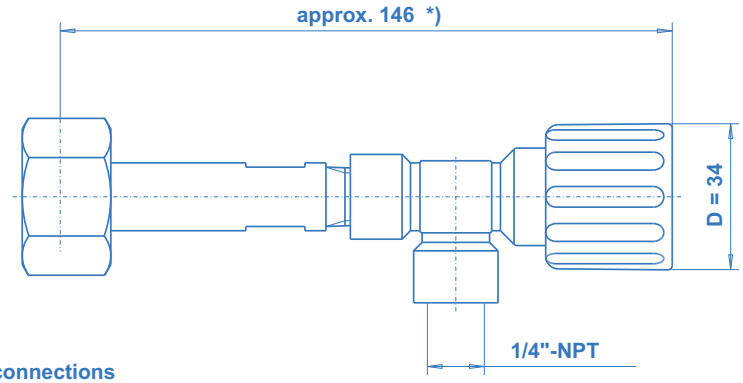
Type:	Control function by control spindle
Inlet pressure. P_1	max. 40 bar
Flow rate Q:	2-2500 l/h (depending on press., see flow curves)
Materials	
Body:	SS 1.4435 (SS 316 L)
Spindle:	SS 1.4404 (SS 316 L)
Diaphragm:	Duratherm 600
Weight	0,5 kg
Inlet connector	acc. to international standards and gas type
Outlet connector	1/4”-NPT female
Leak rate	10^{-8} mbar l/s He
Outlet fittings	see accessories

Flow curves RV6E



Control Valve RV6E

Dimensions



*) May vary for other cylinder connections

Additional configurations upon request!

Ordering information:
RV6E series control valves with cylinder connection

RV6E - DIN 477-6

Please specify gas type with your order!

Type
control valve - stainless steel

Cylinder connection
Detailed description of the cylinder connection including the relevant standard and number of the connection (e.g. BS no. 3)

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Important note regarding component selection

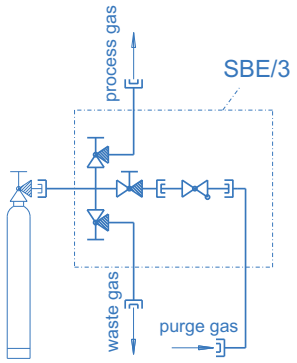
- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control valve.
- The function of the valve, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

SPYLEENHET
SBE/3

Purge- and connection block SBE/3

SBE/3 (without accessories)
process gas valve with pneumatic actuator

Functional schematic SBE/3 (without accessories)



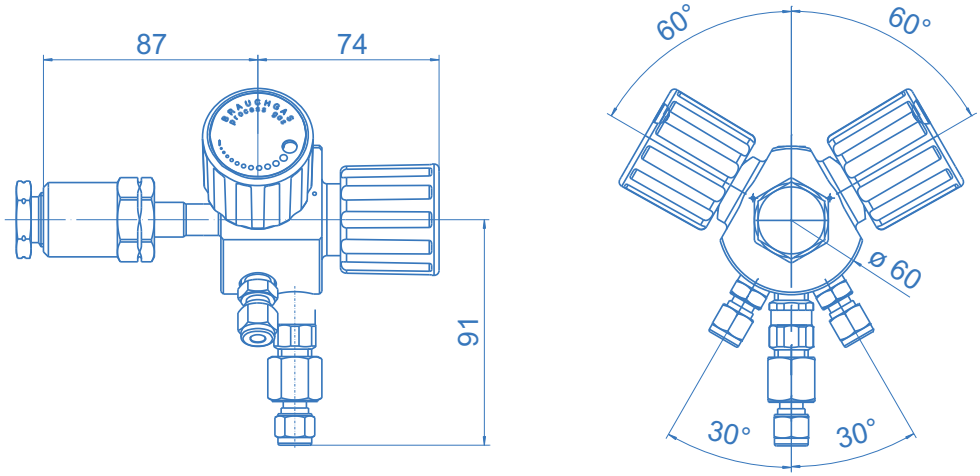
Product features

- Purge- and connection block for use with high-purity, strongly corrosive or toxic gases in combination with an inert gas purge arrangement
- Minimised purge volume of only 1,4 cm³
- With integrated capillary tube (short purge cycles)
- Contaminated purge gas can be vented through waste gas valve without entering the downstream system
- With non-return valve at the purge gas inlet and compression ring fittings
- Available with pneumatic actuators (optional)
- Available with pressure gauge (for low vapour pressure gases), with pressure regulator (mounted onto the purge block) or for use with a pressure control panel (with pigtail)

Technical data

Inlet pressure P_1	max. 300 bar
Materials	
Body:	ES 1.4404 (SS 316L)
Diaphragm:	Hastelloy C276
Valve seat:	PCTFE or PVDF
Cylinder connection	acc. to international standards and gas type
In- and outlet connection	1/4"-NPT female
Temperature range	-30°C to +60°C
c_v-value	c_v = 0,24 (k_v = 0,2)
Nominal diameter	DN 4
Leak rate	10^{-8} mbar l/s He
Weight	1,6 kg

SBE/3-SE

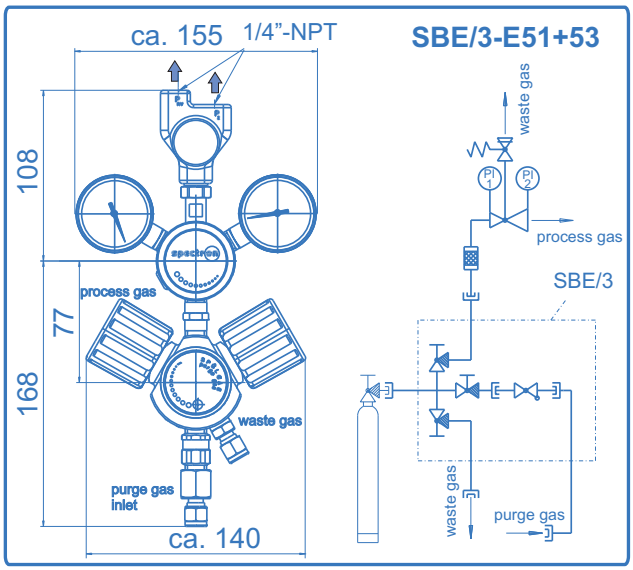


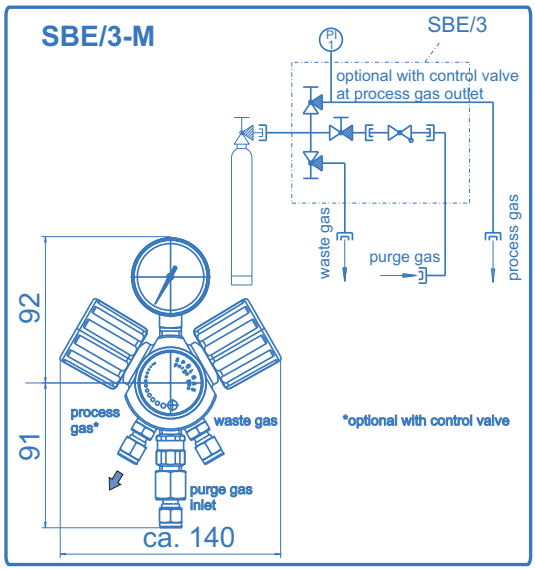
SBE/3-SE (with compression ring fittings and non-return valve at the purge gas inlet)

SPYLEENHET

SBE/3

Purge- and connection block SBE/3





Additional configurations upon request!

Ordering information:

SBE/3 series purge- and connection blocks

SBE/3 - SE - DIN 8 - F_2/ He

Type

SE - purge-block to be connected with pigtail of pressure control panels SE45/55/125

M - purge-block with pressure gauge for vapour pressures up to 2 bar

E51/10 - purge-block with single-stage pressure regulator up to 10 bar

E53/1,5 - purge-block with double-stage pressure regulator up to 1,5 bar

E53/4 - purge-block with double-stage pressure regulator up to 4 bar

Type of gas

Please specify type of gas with your order!

Cylinder connection

Detailed description of the cylinder connection including the relevant standard and the number of the connection (e.g. BS no. 3)

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

Pressure indication

- All pressure regulators are equipped with pressure gauges for inlet- and outlet pressure indication.

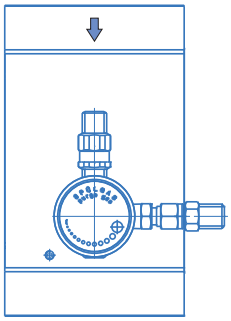
Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a pressure regulator.
- The function of the regulator, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

SPYLEENHET
BE55+56-SP

Purge units BE55+56-SP

Purge unit BE55-SP



Product features

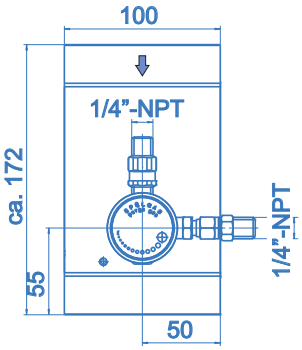
- Extension modules for purging with inert gas in Spectrocem BE55 / BE56 pressure control panels
- Non-return valve in the inlet
- Filter in the in- and outlet
- Laboratory-style design
- Handwheel with on/off position indicator

Technical data

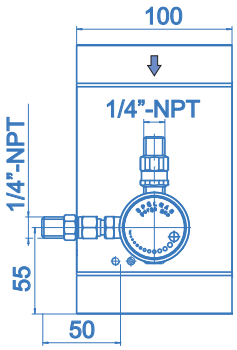
Operating pressure	max. 300 bar
Materials	
Body:	stainless steel 1.4404
Filter:	stainless steel 1.4404
In- / outlet	1/4”-NPT male
Temperature range	-30°C to +60°C
Weight	ca. 1 kg per side

Purge units right and left for panels BE55 and BE56:

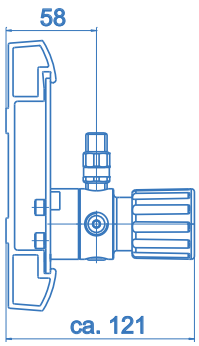
BE55-SP-**LH**



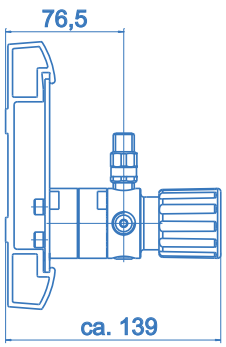
BE55-SP-**RH**



BE**55**-SP-LH



BE**56**-SP-LH



Ordering information:
Purge units BE55+56-SP

BE55 - SP - LH - NH_3

Type

55 - single-stage panel BE55 or BE56-2U
56 - double-stage panel BE56-1 and BE56-2

Side

RH - right
LH - left

Gas type

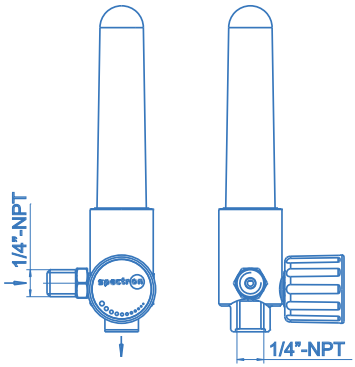
Please specify gas type with your order (selection of valve seat material)

Flowmeter FLE 32

spectrocem

Flowmeter FLE 32

Connections



Product features

- Flowmeter for use on pressure regulators with all high-purity gases up to quality 6.0
- Flowmeter for exact adjustment and indication of the flow rate
- Laboratory-style design
- Ergonomical and compact design
- With integrated control valve
- Suitable for corrosive gases (not for ammonia)

Technical data

Inlet pressure	1,4 or 4 bar resp.
Materials	
Body:	SS 1.4404 (SS 316 L)
Soft goods:	Viton (FKM)
Flowmeter:	glass
Outer tube:	Polycarbon
Control spindle:	Stainless steel
Connectors	
Inlet:	1/4"-18 NPT-M
Outlet:	1/4"-18 NPT-F
Temperature range	-30°C to +60°C
Leak rate (to atmosphere)	$1x10^{-6}$ mbar l/s He
Weight	0,4 kg

Table of flow rates for FLE32 with %-scale at 1,4 bar and 4 bar resp.
Flow rates at full scale (blue figures for a calibrating pressure of 1,4 bar)

Inlet pressure (bar gauge) [bar]	l/h nitrogen at a calibrating pressure	
	4 bar	1,4 bar
0,5	164	237
1	190	274
1,4	208	300
2	232	-
2,5	251	-
3	268	-
3,5	285	-
4	300	-

Flow rate for gas type nitrogen
With an outlet pressure of 1,4 bar set at the pressure regulator the control valve is opened until the top of the ball is level with the 100% mark on the metering glass. Now 300 l/h N_2 flow through the flowmeter. At 50 % this means 150 l/h etc. The setting should not be below the 10% mark.

For Outlet pressure values P_{SOLL} below the calibrating pressure P_{KAL} the 100%-flow rate may be calculated using **Equation a)**, where the pressure values must be applied in **absolute pressure** values .

Equation a) $Q = f_1 \times Q_{100\%}$

with $f_1 = \sqrt{\frac{P_{SOLL}}{P_{KAL}}}$

P ➡ absolute

Flow rate for other gas types
For other gas types the 100%-flow rate for the applicable outlet pressure and calibrating pressure can be calculated from the N_2 flow rate using **Equation b)**.

Equation b) $Q = f_2 \times Q_{N2}$

factor f_2			
synth. air	0.98	argon	0.84
CO_2	0.80	hydrogen	3.73
methane	1.32	helium	2.65
oxygen	0.94		

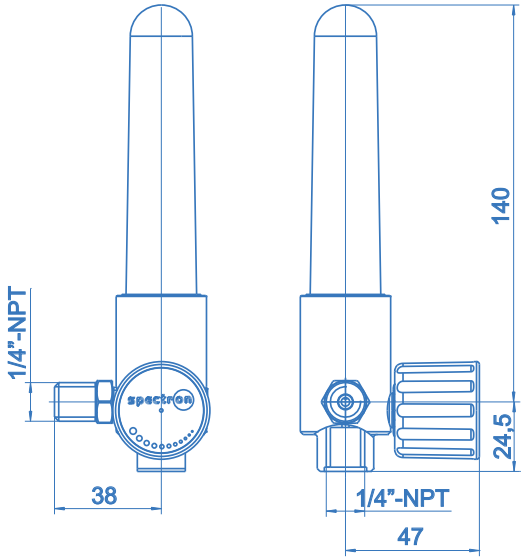
The **factor f_2** (see table) can be calculated using

$$f_2 = \sqrt{\frac{\text{density}_{\text{reference gas}}}{\text{density}_{\text{process gas}}}}$$

where $\text{density}_{\text{reference gas}}$ is the density of nitrogen (1.250 kg/m³).

Flowmeter FLE 32

Dimensions



Ordering information:
Flowmeter FLE 32

FLE 32 - 1,4

Series
FLE 32 - Flowmeter FLE 32

Calibrating pressure
1,4 - 1,4 bar
4 - 4 bar

Specifications

- SPECTROCEM - components guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROCEM - components undergo a 100% Helium-leak-test.

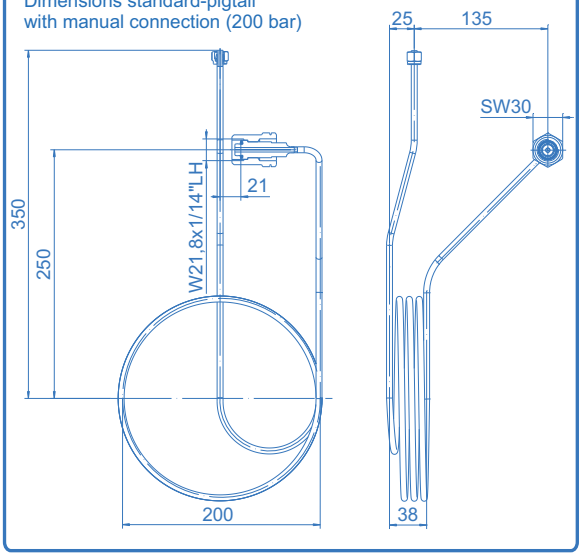
Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a control valve.
- The function of the valve, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

Pigtails / Cylinder brackets

Pigtail SR-200-DIN 10-N2
with 200 bar manual connection
for DIN-cylinder valves
(for non-corrosive gases)

Dimensions standard-pigtail
with manual connection (200 bar)



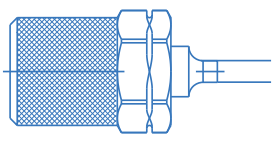
Product features

- Stainless steel-pigtail for the connection of a gas cylinder to BE/BM series pressure control panels
- For gases up to quality 6.0
- 4 windings for high flexibility in all directions
- Manual cylinder valve connector for easy installation and cylinder change without tools (for CEN-connections and for DIN-connectors for non-corrosive gases only)
- Compact pigtails also suitable for gas cabinets or applications with other space constraints

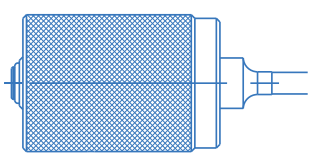
Technical data

Nominal pressure	200 / 300 bar
Nominal size	4 mm
Materials	SS 1.4571 (SS 316)
Nut (for non-corrosive gases)	brass
Leak rate	< 10^{-8} mbar l/s He
Cylinder connection	acc. to international standards and gas type
Cylinder gasket	depending on gas type
Outlet connection	compression ring fitting 6 mm (stainless steel)

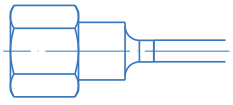
Valve connector types:



Cylinder valve connector
with knurled handwheel for
valves acc. to DIN 477
(for non-corrosive gases only)



Cylinder valve connector
with knurled nut for 300 bar
(CEN-connectors)



1/4"-NPT-connector with internal
thread for the installation of
individual cylinder connectors
(EURO-pigtail)

Pigtails / Cylinder brackets

spectro lab

Additional configurations upon request!

Ordering information:
Pigtails for BM/BE series pressure control panels

SR - 200 - DIN 10 - N_2

Type

SR - pigtails for BM/BE series pressure control panels

Nominal pressure

200 - max. 200 bar
300 - max. 300 bar (CEN)

Gas type

Please specify gas type (gasket material selection)

Cylinder connection

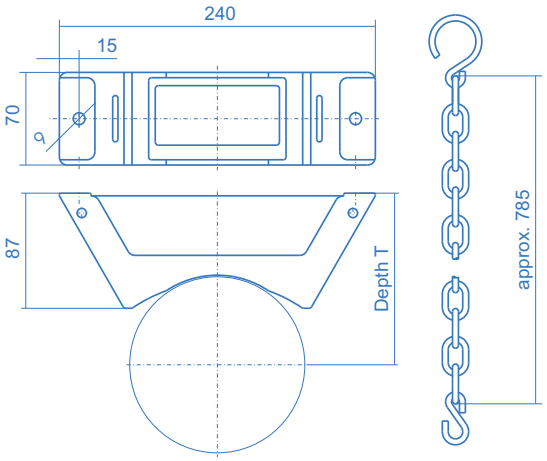
Detailled description of the cylinder connection (e. g. BS no. 3 for 200 bar or ISO 30 for 300 bar)

Product features cylinder brackets:

- Cylinder bracket to protect gas cylinders against falling and to position the cylinder

Technical data

Materials		
Bracket:		cast aluminium, blasted
Chain:		zink-plated Steel
Depth T	20 l cylinder:	130 mm
	50 l cylinder:	180 mm
Ordering no.		718.32028



Figures: Cylinder bracket in front and top view
Figure right: Chain

Specifications

- SPECTROLAB - pigtails guarantee maximum quality by using high grade materials and a quality assurance program acc. to ISO 9001.
- All components which come into contact with the medium are cleaned in an ultrasonic cleaning system (CFC-free) with the special cleaning process SPECTRO-CLEAN® and are then baked out.
- SPECTROLAB - components undergo a 100% function- and Helium-leak-test.

Manual connectors

- All pigtails with DIN cylinder connections for non-corrosive gases and the pigtails with 300 bar (CEN-) connectors come with manual connectors (DIN: plastic handwheel on hex nut; CEN: knurled nut). Pigtails with connectors acc. to other standards come with a hex nut.

Important note regarding component selection

- In order to assure safe operation it is essential to take the configuration of the whole system into account when selecting a pressure regulator.
- The function of the regulator, the compatibility of the materials, correlating temperature ranges, correct installation, operation and maintenance in accordance with the relevant regulations are the responsibility of the system designer and the user.

High pressure hoses HDS

spectrotec

Product features

- Quality high pressure hoses for non-corrosive industrial gases, oxygen and acetylene
- 90° elbow on inlet
- Design in all essential points according to DIN EN ISO 14113 (Rubber and plastics hose)
- Design in all essential points according to EN ISO 10380 (Corrugated metal hose)
- Anti-whip cord (not for acetylene)
- Non-return-valve at cylinder- or bundle connection for acetylene to avoid air getting into the hose

Technical data

Working pressure P	max. 300 bar max. 25 bar (Acetylene)
Nominal diameter	DN 6 - DN 12
Length	0,5 - 3,5 m
Materials	
Industrial gases	
Inner surface:	Polyester
Outer surface:	Polyurethane
Reinforcement:	Aramid fibre
Fitting:	1.4305
Oxygen:	stainless steel
Acetylene:	rubber
Connections	
Inlet:	cylinder connection or 1/4”-NPT female
Outlet:	1/4”-NPT female
Temperature range	-20°C to +60°C
Leak rate	$<10^{-3}$ mbar l/s He

High pressure hose HDS - PE for industrial gases except oxygen and acetylene

Ordering information:
High pressure hose for **industrial gases** except oxygen and acetylene HDS - PE

HDS - PE - 300 - 3,5M - DIN 477-6 - 0 - CM 1/4

Pressure range

200 - 200 bar
300 - 300 bar

Length

0,5M - 0,5 meter (DN 8)
1M - 1,0 meter (DN 8)
2M - 2,0 meters (DN 8)
3,5M - 3,5 meters (DN 8)

Inlet

Cylinder- or bundle connection:
Specify relevant standard and connection type required

Outlet

Compression fitting (brass)
CM 1/4 - 1/8” / 1/4” / 1/2” -
CM 6 - 3 / 6 / 8 / 10 / 12 mm
Compression fitting (stainless steel)
CE 1/4 - 1/8” / 1/4” / 1/2” -
CE 6 - 3 / 6 / 8 / 10 / 12 mm

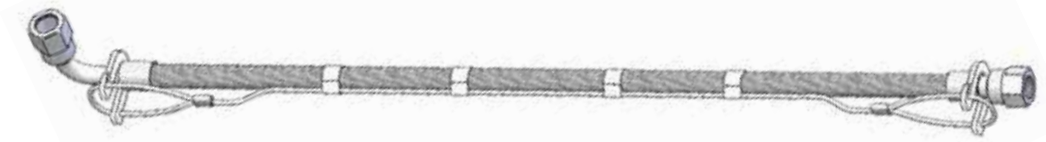
KK 1/2 - G 1/2” bull nose+union nut
0 - 1/4”-NPT female

Cylinder connection

0 - brass
M - chrome plated brass

High pressure hoses HDS

High pressure hose HDS - ES for oxygen



Ordering information: High pressure hose for **oxygen** HDS - ES

HDS - ES - 300 - 3,5M - DIN 477-9 - E - CE6

Pressure range

200 - 200 bar
300 - 300 bar

Length

0,5M - 0,5 meter (DN 6)
1M - 1,0 meter (DN 6)
2M - 2,0 meters (DN 6)
3,5M - 3,5 meters (DN 6)

Inlet

Cylinder- or bundle connection:
Specify relevant standard and connection type required

Outlet

RS - compression fitting with 6 mm SS-tube stub
KK1/2 - G 1/2" bull nose+union nut
0 - 1/4"-NPT female

Cylinder connection

M - chrome plated brass
E - stainless steel

High pressure hose HDS - AC for acetylene

Ordering information: High pressure hose for **acetylene** HDS - AC

HDS - AC - 25 - 2,5M - DIN 477-3 - M16

Pressure range

25 - 25 bar

Length

0,5M - 0,5 meter (DN 6)
1M - 1,0 meter (DN 6)
2,5M - 2,5 meters (DN 12, in- / outlet: G 3/4" LH female with Aluminum-sealing)

Outlet

M16 - M16 x 1,5
G3/4 - G 3/4" LH female with 2,5 meters DN12

Inlet

Cylinder- or bundle connection:
Specify relevant standard and connection type required

NOTAT

NOTAT

NOTAT

iTec AS
Hegdalveien 80
3261 Larvik
Tlf. (+47) 95 800 700
itec@itec.as

ET FØRSTEVALG FOR INDUSTRIEN