AdvanceLab
Global Laboratory Solutions

HIGH PURITY GAS FITTINGS

bizSAFE STAR

OHSAS 18001

ISO 9001

CONTENTS

Point of Use Regulators

Point of Use Regulator LM51-4

Product features

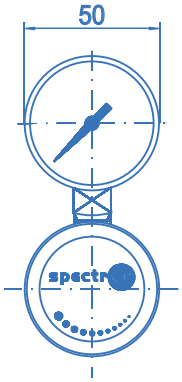
- Brass (chrome plated) line pressure regulator
- For non-corrosive gases and gas mixtures up to quality 6.0
- 4 ports for flexible and individual configuration
- Very stable outlet pressure
- Suitable for inlet pressures up to 300 bar
- Max. outlet pressures 1,5 up to 200 bar *
- Metal-to-metal seal to atmosphere
- Suitable for ECD-applications
- Inlet filter
- Tested 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

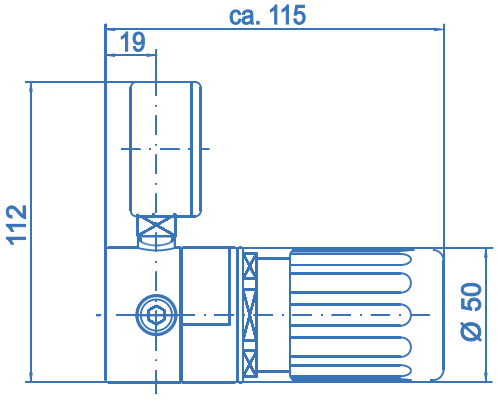
Technical data

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:	chrome plated brass
Valve seat:	Hytrel (P_1 > 50 bar: PA)
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 EN562/KI1.6/NG50
Flow capacitiy	C_V=0.15
Weight	1.0 kg

Dimensions
LM51-4



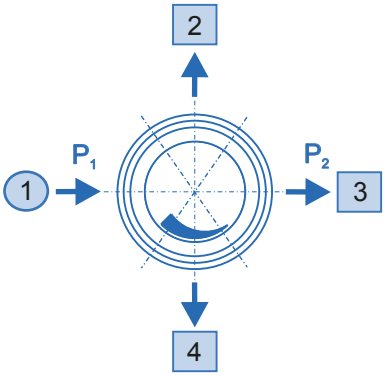
Side view



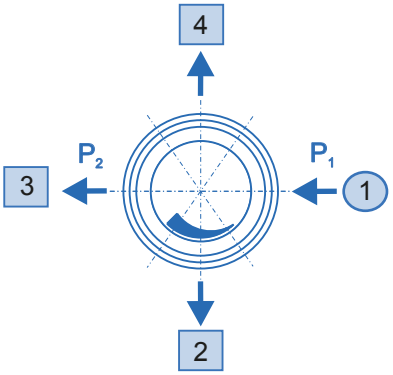
Ordering information:
Point of Use Regulator
LM51-4

In- / outlets

CM 1/4	- 1/8" / 1/4" / 1/2" - OD compression fitting (brass)
CM 6	- 3 / 6 / 8 / 10 / 12 mm compression fitting (brass)
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 gauge
M	- pressure gauge
0	- 1/4"-18 NPT-F (port only)



port selection



Inlet left: L

Inlet right: R

LM51 - 4 - L - 300 - 10 - 1 - 2 - 3 - 4 - N2

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

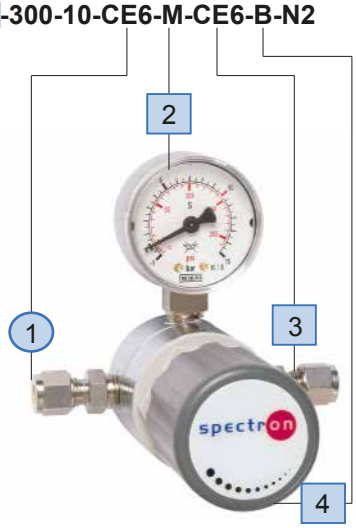
Outlet pressure P_2

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

Type of gas

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

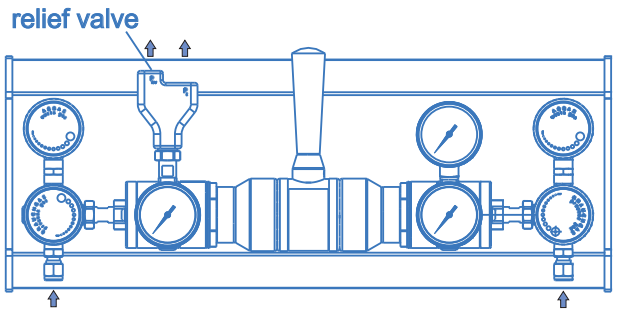
Ordering example:
LM51-4-L-300-10-CE6-M-CE6-B-N2



Semi Automatic Changeover Panel

BM55-2U

Semi-automatic changeover panel BM55-2U
Outlet adapter without valve



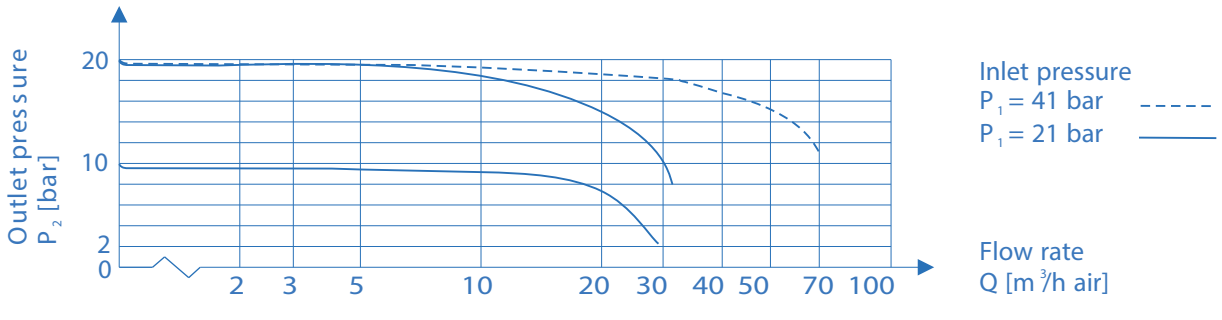
Product features

- Wall- and cabinet-mounting pressure control panels with automatic change-over function
- For non-corrosive gases 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: BM56-2U

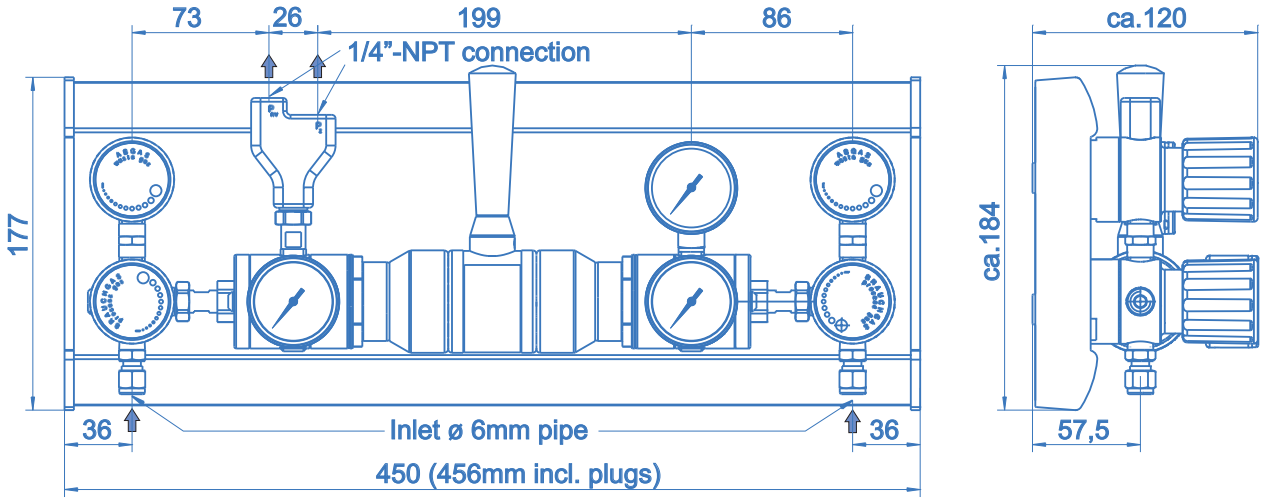
Technical data

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:	chrome-plated brass
Valve seat regulator:	PA 11
Valve seat valves:	PVDF
Diaphragm regulator:	Hastelloy C276
Diaphragm valve:	Hastelloy C276
Soft goods:	EPDM, FKM
Filter:	Sintered bronze B60
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 BM55-2U



Semi-automatic Changeover Panel BM55-2U



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

Ordering information:

Semi-automatic changeover panel BM55-2U

BM55 - 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; $P_{2\ max/min}$ = ± 1x 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

- SPECTROLAB - 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.
- SPECTROLAB - components undergo a 100% Helium-leak-test.

Pressure indication

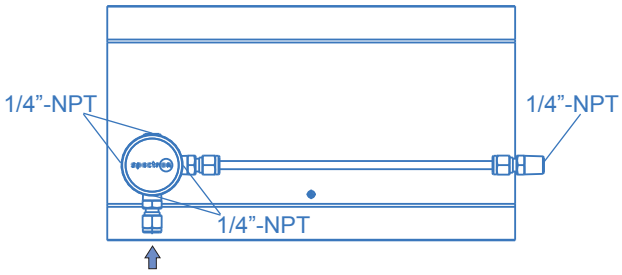
- All pressure reguators can be equipped with pressure gauges or contact gauges for in- and outlet pressure indication.

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 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.

Extensions Semi-automatic Changeover Panel BM55+56-E

Extension Semi-automatic changeover panel
BM55+56-E



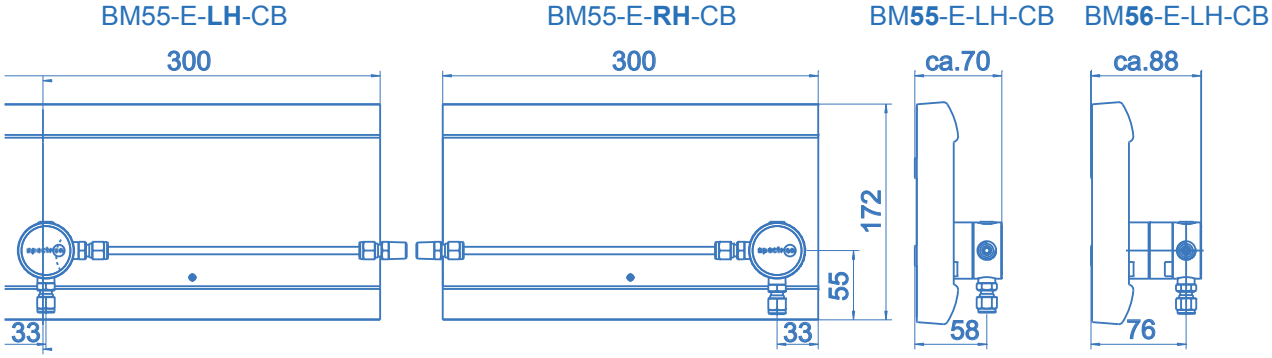
Product features

- Extension modules for Semi-automatic changeover panel Spectrolab BM55 and BM56 series
- For non-corrosive gases up to quality 6.0
- Laboratory-style design
- Designed for easy installation
- With filter at the inlet of the individual extension modules

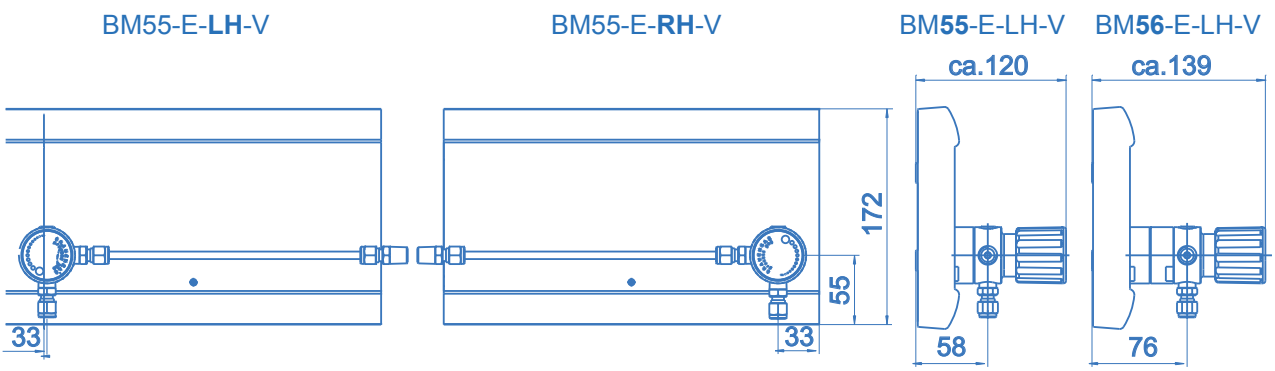
Technical data

Inlet pressure P_1	max. 300 bar
Materials	
Manifold body:	chrome-plated brass
Filter:	Sintered SS 316L
Inlet connection	SS compression ring fitting 6x1 mm
Temperature range	-30°C to +60°C
Weight	approx. 1 kg per side

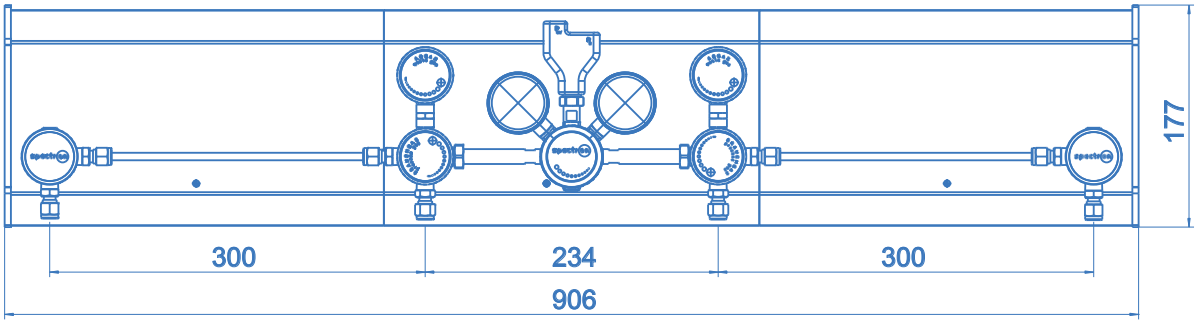
Extensions right and left for semi-automatic changeover panels BM55 and BM56 with **connection block**:



Extensions right and left for semi-automatic changeover panels BM55 and BM56 with **valve**:



Extension modules completely assembled
Example: semi-automatic changeover panel BM55-2
with BM55-E-LH-CB and BM55-E-RH-CB



Ordering information:
Extensions BM55+56-E

BM55 - E - LH - CB

Type

55 - single-stage semi-automatic changeover panel BM55
56 - double-stage semi-automatic changeover panel BM56

Side

RH - right
LH - left

Inlet

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

Specifications

- SPECTROLAB - 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.
- SPECTROLAB - 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.

Alarm Units

4-channel alarm unit FloAlarm K4

12-channel alarm unit FloAlarm K12

Product features

- Alarm unit as 4- or **12**-channel-version
- For connection of 4 or **12** digital input signals such as contact pressure gauges or pressure switches
- Suitable for transducers accoring to NAMUR-spezification (e.g. inductive sensors)
- All channels are individually progammable as normally closed or normally open contact
- Delay mode (5 sec.) is integarated for all channels
- Potential-free output as normally closed or normally open
- Visible alarm (diodes integrated in keypad)
- Acoustic alarm (integrated piezo-buzzer)
- Plastic housing for wall and panel mounting

Technical data

Housing:	
Protection class:	IP 65
Dimensions (WxHxD):	K4 : 200 x 120 x 57 mm
	K**12**: 200 x 120 x 77 mm
Compatibility inputs:	
	- mechanical switches
	- electr. switches PNP/NPN (DC only)
	- inductive switches type NAMUR
Potential free output:	
max. switchable voltage:	220 V AC
max. switchable load:	1 A
configurable as:	NO / NC
Power supply voltage:	220 V / 50-60 Hz
max. power input:	8 VA
NAMUR-specification:	
Voltage:	5 V DC - 25 V DC
Power input inactive:	I_L < 1 mA
Power input activated:	3 mA < I_L < 15 mA

Applications in explosive environment:

The units FloAlarm K4 / K**12** / D10 and A5 must be mounted *outside of explosive environment*. Tranducers, which are installed inside hazardous areas, have to be activated by an ATEX-approved switch amplifier. This amplifier also has to be mounted *outside of the explosive environment*. The output contact of the switch amplifier can easily be connected to the FloAlarm units.

Article numbers:

- FloAlarm K4: 770.51260
- FloAlarm K**12**: 770.51261
- FloAlarm D10 (see overleaf): 770.51253
- FloAlarm A5 (see overleaf): 770.51254

Accessories:

- 2-channel-switch amplifier: 770.51465
- Wall mounting box for switch amplifier: 770.51466
- Programming tool incl. PC-software: 770.50872

Accessories

Cylinder connector

BS 3 - for O2, He, Ar, Air
BS 4 - for H2, C2H2, Methane
BS 8 - for CO2, N2
BS 13 - for N2O
CGA 510 - for LPG
Other type available upon request

High pressure hose

Teflon lined stainless steel braided hose
Max working pressure: 3000psi
End conection: ¼" M/F NPT
Lenght: 0.6m, 1.0m, 1.2m, 1.5m, 2.0m

Flash back arrestor

For C2H2, LPG, O2, H2, Methane, etc
Connection: ¼" M/F NPT

Cylinder bracket

Cast Aluminium with Epoxy coating and galvanized steel chain

Contact gauge

Inductive type (2")
Or
Magnetic latching type (2 ½")
Or
Reed contact type (2")

HIGH PURITY GASES FITTINGS

AdvanceLab has built a rock steady reputation for solutions where most fail. Since our establishment in 2003, we have positioned ourselves as the premier facility solution provider for the scientific industry; designing, building and delivering quickly and without fuss. We have also taken our brand of expertise globally; now with exports of laboratory casework, fume hoods, laminar flow cabinets and clean booths heading to 30 countries, covering all continents.

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