M2R 50/75/100

Two Stage Regulator
maximum inlet pressure 5 bar



Applications

Pressure reduction for:
- Commercial uses
- Industrial uses

Brief information

The two stage pressure regulator M2R is available in various capacity stages, extending from 50 and 75 m^3/h on the version with integrated low pressure cut-off up to 100 m^3/h without this feature.
It means that the unit is suitable for a broad range of commercial and industrial applications, such as supplying large apartment blocks and public buildings or for applications in process gas distribution.
The modular concept of the M2R allows a wide range of different connection and equipment variants to match the particular customer requirements. The inline variant is available besides the angled variant. A broad selection of connectors for both inlet and outlet allows the M2R to be adapted with outstanding flexibility to the particular installation requirements.
The resetting and the adjustment of the SSV have a very user-friendly design. This also makes it resistant against manipulations.
The units are approved by DVGW according to the pressure equipment directive 97/23/EC (PED) and accordance with EN 334 / EN 14382.
Registration Number: CE-0085BS0343.

Technical data

- Inlet pressure range p_u: 0.1 bar to 5 (6) bar
- Outlet pressure range p_{ds}: 18 mbar to 100 mbar
- Maximum capacity Q 50 m^3/h, 75 m^3/h, 100 m^3/h

Pressure ranges & accuracy classes for outlet pressure and safety devices						
Regulator			Slam shut valve		Relief valve	
Set range	Accuracy class	Lock up pressure class	Set range	Accuracy group	Set range	Accuracy group
[mbar]	[%]	[%]	[mbar]	[%]	[mbar]	[%]
p_{ds} 18 – 100	AC 10 (AC 5)	SG 20 (SG 10)	p_{dso} 50 – 450	AG_o 10	12 - 50 above outlet pressure p_{ds}	10

Materials	
Body, cover	Precision die cast aluminium
Springs	Steel, zinc plated
Orifices	Brass
Valve disks, diaphragms	Nitrile rubber
Internal parts	Acetal resin, zinc alloy
Connecting pieces	Brass, cast iron or steel

Main features

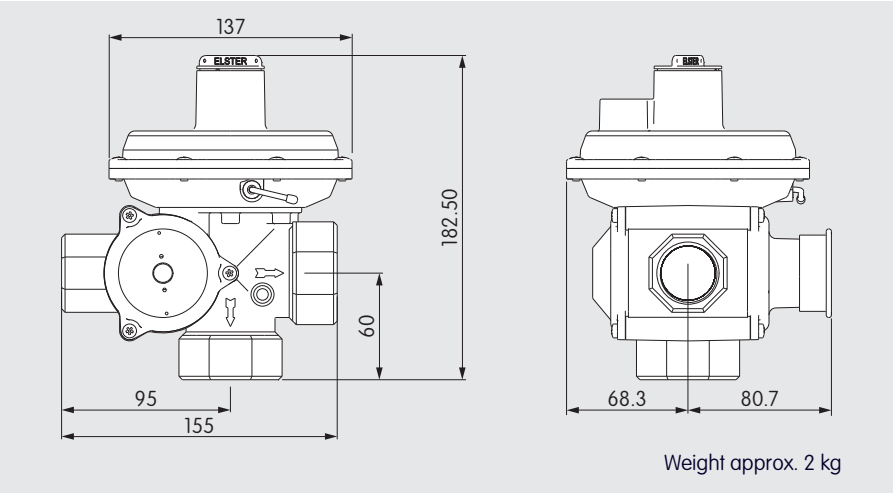
- Modular concept
- Integrated safety shut-off valve (SSV) for over pressure
- High accuracy, good lock up
- Integrated filter
- Temperature range -20 °C to +60 °C
- Inlet pressure resistant up to 16 bar
- A large variety of connection types:
  - angled
  - in line

Options

- Integrated Low Pressure Cut Off (LPCO) / Excess Flow Cut Off, automatic reset
- Test plug available (outlet)
- Limited capacity Relief Valve
- UV stabilised plastic parts for open installation

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Instromet

Dimensions and weights

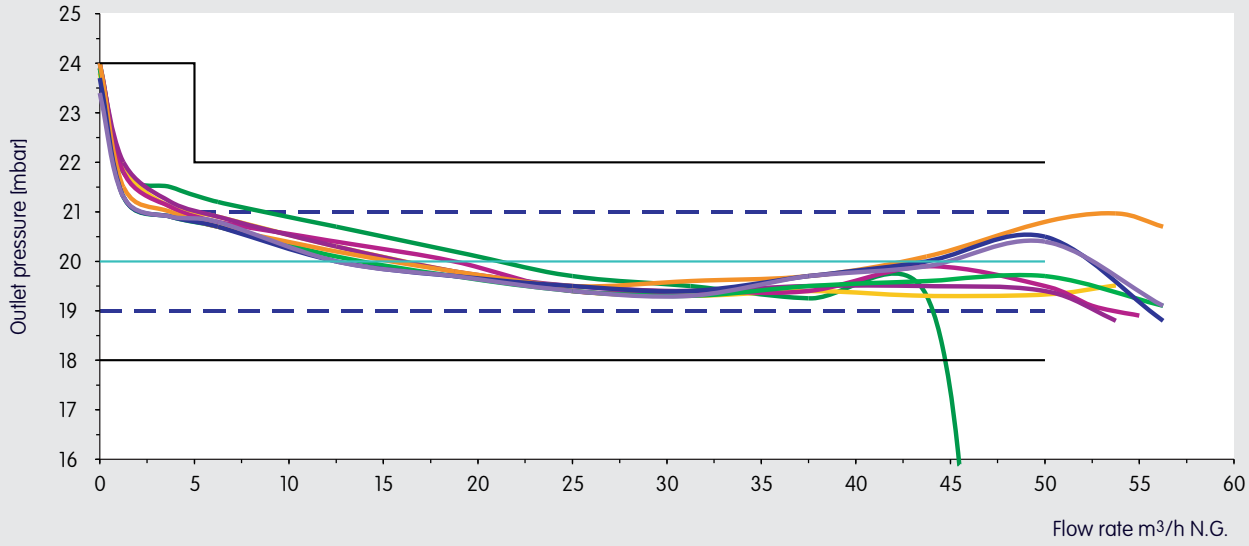


Weight approx. 2 kg

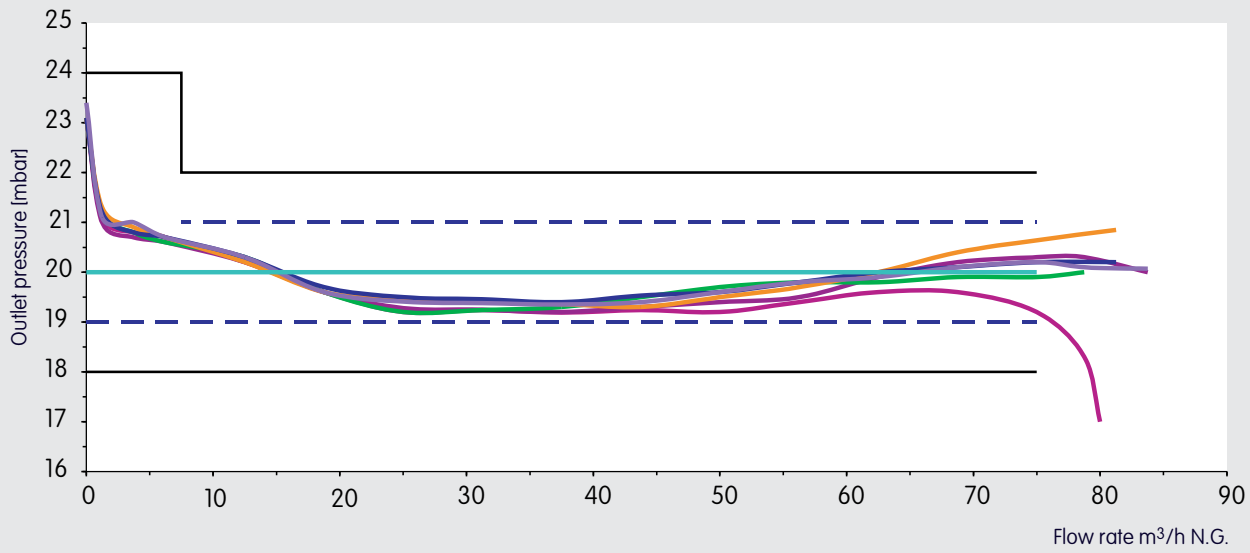
Flow capacity: Inlet pressures

0.3 bar	1.0 bar	p_{ds}
0.5 bar	2.0 bar	AC 10 / SG 20
0.7 bar	4.0 bar	AC 5
	5.0 bar	Q_{min} / Q_{max}

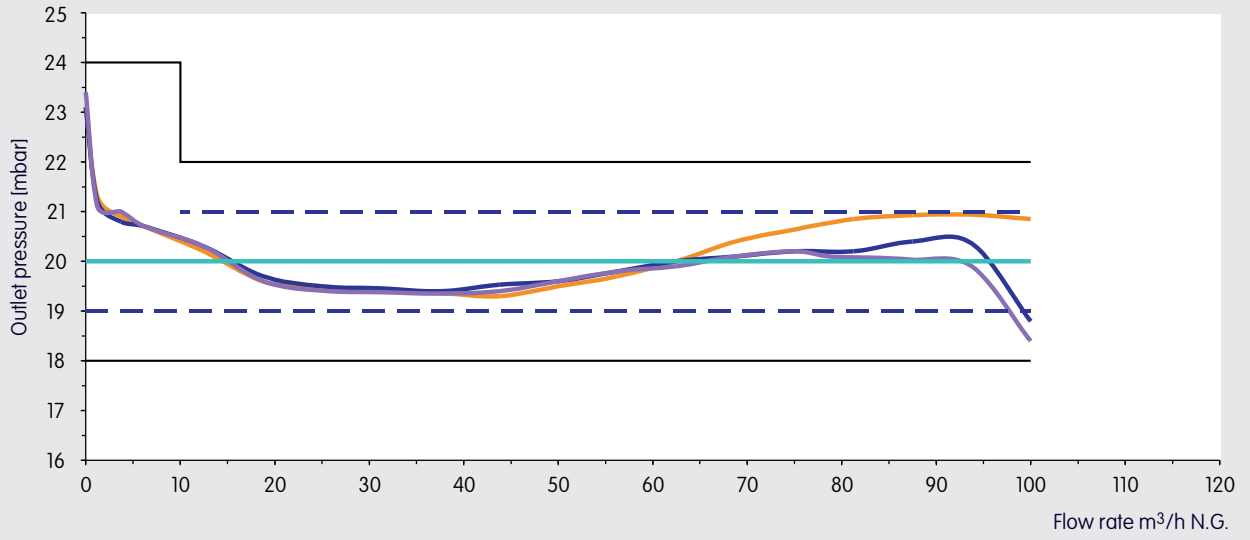
M2R 50 flow capacity (without LPCO)



M2R 75 flow capacity (without LPCO)



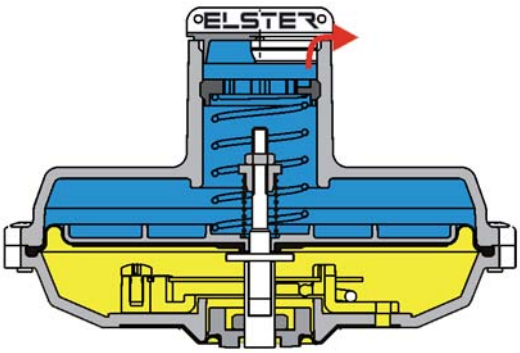
M2R 100 flow capacity (without LPCO)



Pressure ranges

Type	Nominal flow rate Qn natural gas [stm³/h]	Minimum inlet pressure [bar] with LPCO	Minimum inlet pressure [bar] without LPCO
M2R 40	40	0.5	0.5
M2R 50	50	0.5	0.5
M2R 75	75	1	0.5
M2R 100	100	-	1

Configuration



RV-L

Main configuration	
A	Angled
L	in Line

Inlet connection*)
G 1" F ISO 228/1
G $^{3}/_{4}$" CF ISO 228/1
G $^{3}/_{4}$" SC ISO 228/1
G 1" CF ISO 228/1
G 1 $^{1}/_{4}$" CF ISO 228/1
Other connections on request

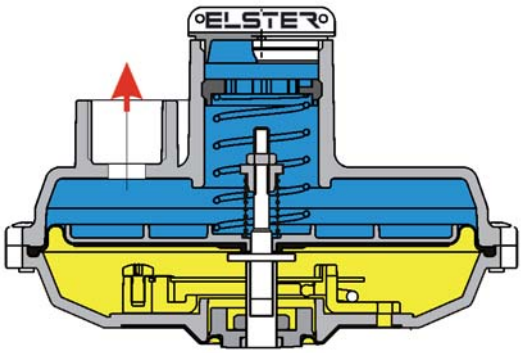
Type	Q	Main configuration	Dimensions*)	Inlet connection*)	Outlet connection*)
M2R					
M2R	75	A	95/60	G 1" F ISO 228/1	G 1 $^{1}/_{2}$" F ISO 228/1

Q [m³]
40
50
75
100

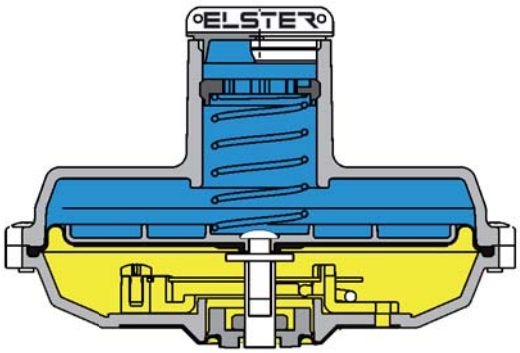
Dimensions *)	
A : **A**ngled	B / A
L : In **L**ine	B + C

Outlet connection *)
G 1 $^{1}/_{2}$" F ISO 228/1
G 1 $^{1}/_{4}$" CF ISO 228/1
G 1 $^{1}/_{2}$" CF ISO 228/1
G 2" CF ISO 228/1
Other connections on request

*) Dimensions A, B, C and connection configurations please see page 6 and 7



RV-F



oSD

2nd stage	
RV-L	**R**elief **V**alve - **L**imited Capacity
RV-F	**R**elief **V**alve - Lim. Cap. **F**ull width ½"
oSD	With**o**ut **SD** and RV

Test Point configuration	
oTP	with**o**ut **T**est **P**lug
TP	**T**est **P**lug
TN	**T**est **N**ipple





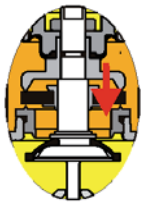


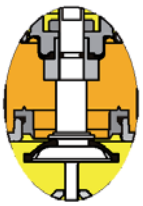
Gas
NG
LPG
others

2nd stage	LPCO/EF	Test point	p_{ds}	p_{RV}	p_{dso}	Gas	Remark
RV-L	oLPCO	oTP	20	75	90	NG	Example

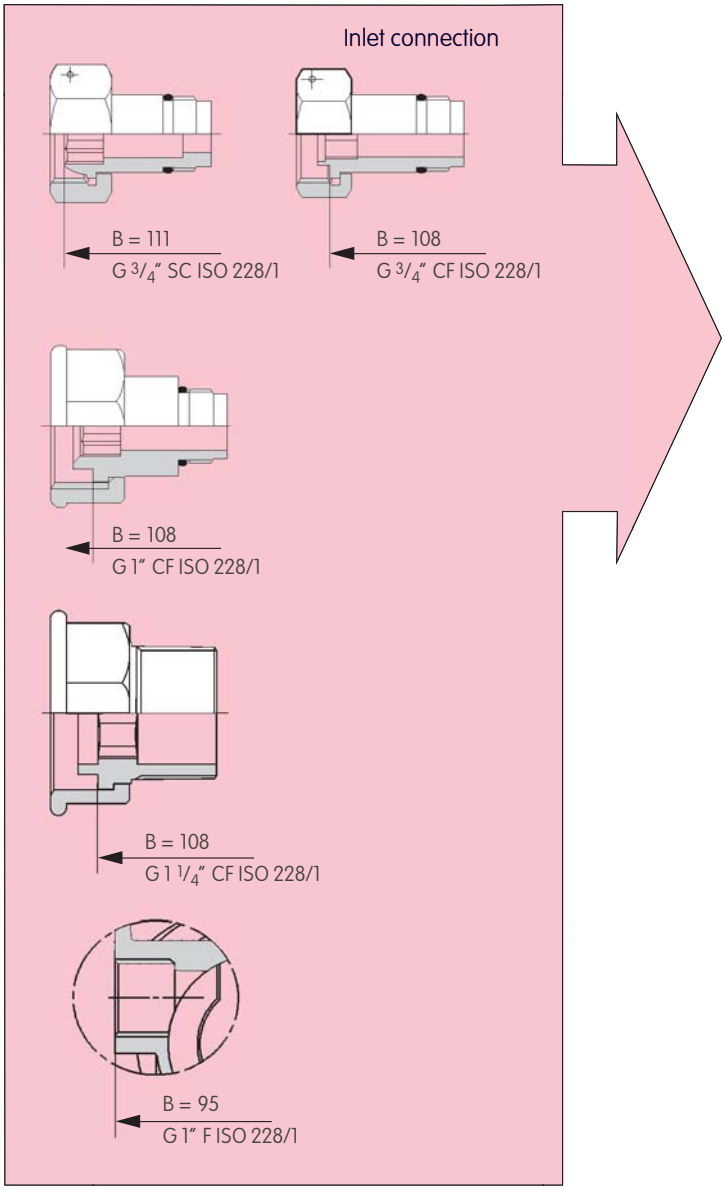
Set pressures [mbar]	
p_{ds}	outlet pressure
p_{RV}	set point Relief Valve
p_{dso}	set point SSV

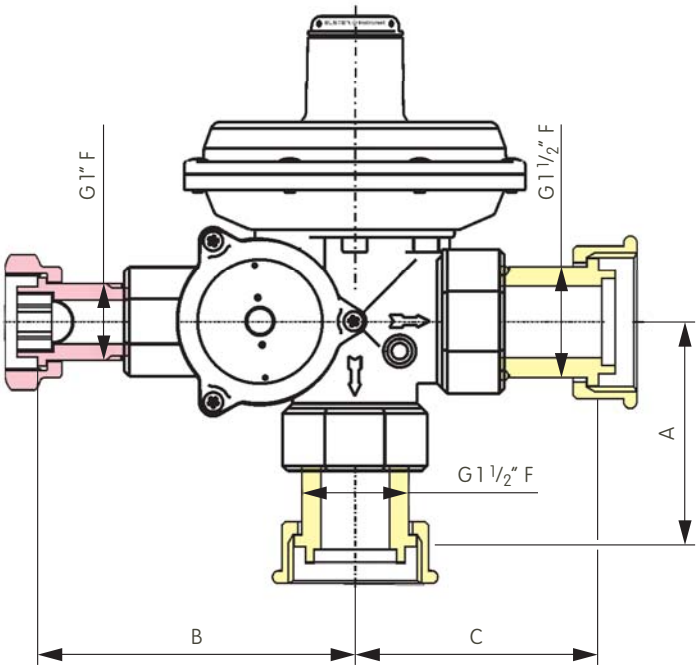
Low Pressure Cut-Off configuration	
aLPCO	**a**utomatic reset **L**ow **P**ressure **C**ut **O**ff
oLPCO	with**o**ut **L**ow **P**ressure **C**ut **O**ff

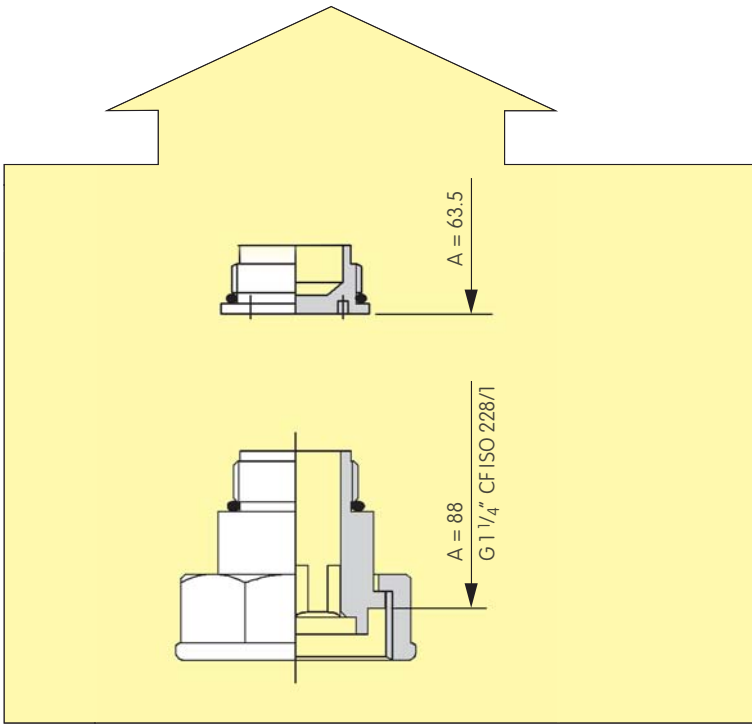




Connection configuration



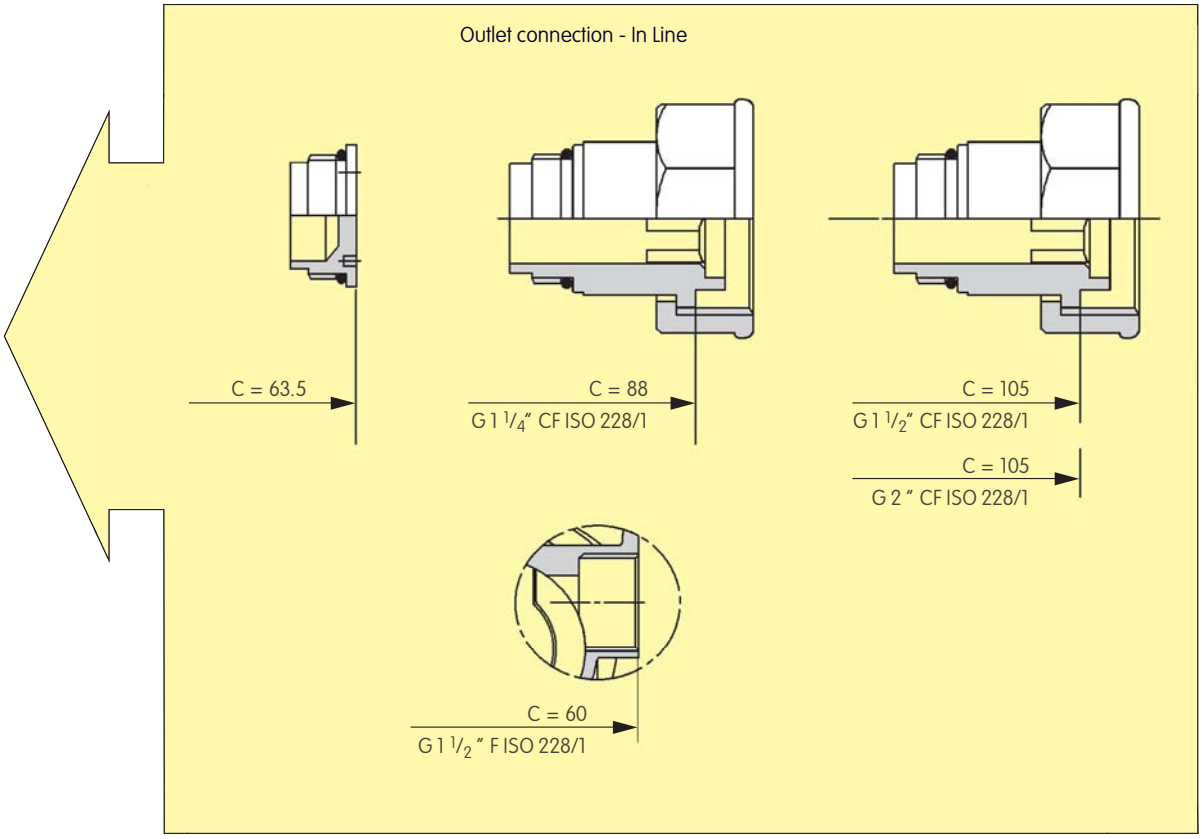




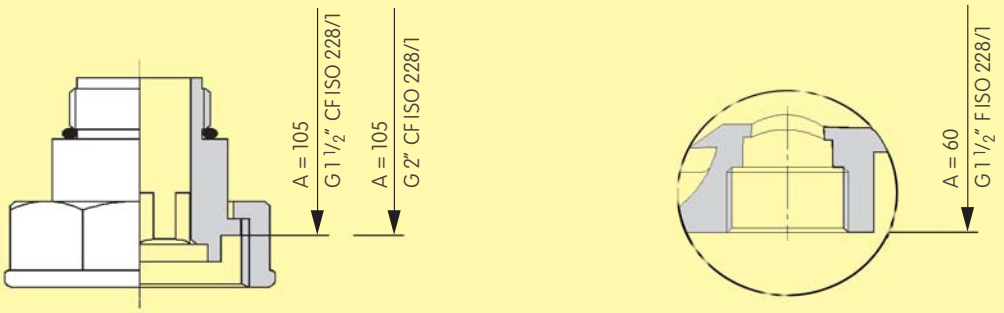
Caption	
SC	**S**phero **C**onic
CF	**C**oupling **F**lat
CP	**C**oupling **P**lain
F	**F**emale
M	**M**ale

Other connections on request

Outlet connection - In Line



Outlet connection - Angled



Safety devices and accessories

- **Integrated filter**
  placed in the inlet connection to retain solid impurities in the gas.

- **Safety Shut-off Valve SSV**
  monitors the outlet pressure and closes the inlet when the outlet pressure exceeds the given set point. The set point of the SSV can be adjusted with a special adjusting tool. Reset is manual.

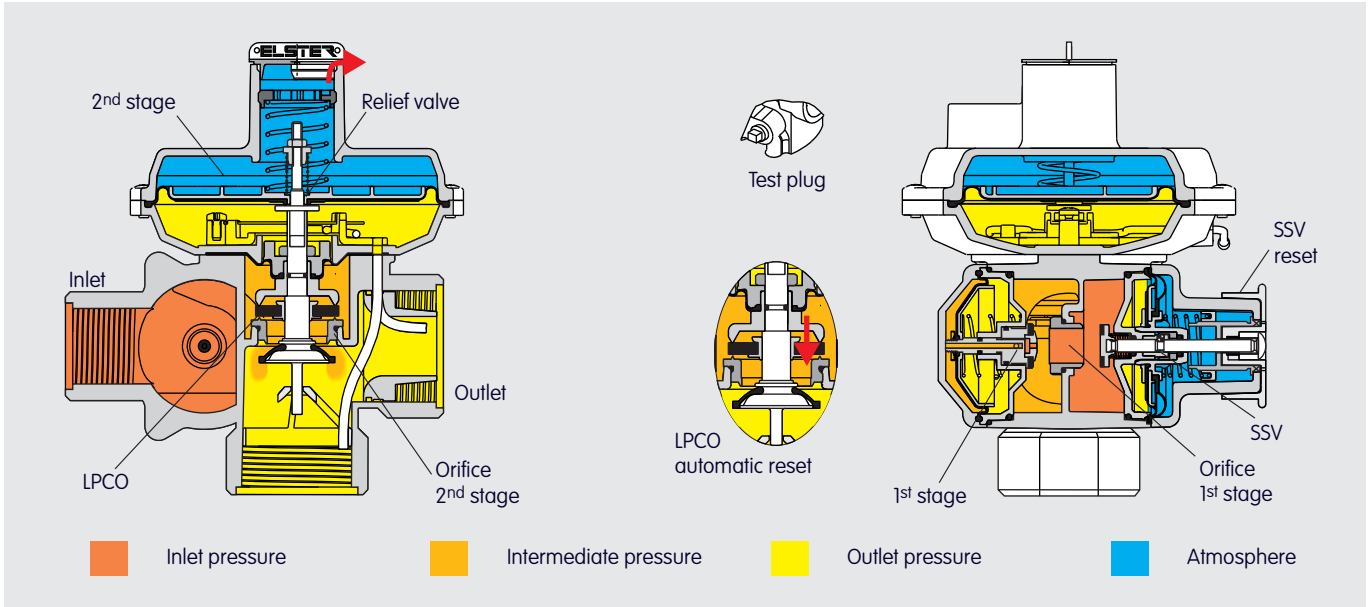
- **Low Pressure Cut Off LPCO**
  stops the flow in case the downstream pressure falls below a value of about 40 % to 60 % of the outlet pressure.

- **Excess Flow Cut Off EF**
  interrupts the flow in case of excessive flow rate.

- **Limited Capacity Relief Valve RV**
  vents small gas flows in case of overpressure downstream the regulator (e.g. because of temperature increase in the closed downstream pipework).

- **Reset of LPCO/EF**
  operated automatically
  A small bypass (30 dm^3/h) in the LPCO/EF device enables outlet pressure to increase until lock up. If downstream pipework is closed, then the LPCO/EF device opens automatically.

- **Test plug/nipple**
  for measuring the outlet pressure:
  - $^1/_8$", plugged or
  - with special test nipple



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