Honeywell | Smart Energy

Elster M2R 6 - 50c

Two Stage Regulator



Application:

Pressure reduction for:
- Domestic use
- Small industrial applications

Brief information

The two stage pressure regulator M2R is available in various capacity stages, extending from 6, 10 and 25 m^3/h on the version with integrated low pressure cut-off and up to 50 m^3/h without this feature.

It means that the unit is suitable for a broad range of domestic and small commercial applications.

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 2nd stage has an integrated low pressure cut off valve, which is also used as an excess flow valve.

For combined low pressure cut-off/excess flow is an automatic reset feature available, besides manual reset.

Technical Data:

- Inlet pressure range P_u: 0.1 bar to 5 bar
  Version available with P_u up to 6 bar as a differential strength regulator.
- Outlet pressure range P_{ds}: 18 mbar to 100 mbar
- Maximum capacity Q 25 m^3/h, 40 m^3/h, 50 m^3/h

Pressure ranges & accuracy classes for outlet pressure & 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]	[%]
pds 18–100	AC 10 (AC 5)	SG 20 (SG 10)	Pdso 50 – 280	AGo 10	12-50 above outlet pressure pds	10

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

FEATURES & BENEFITS

Main Features

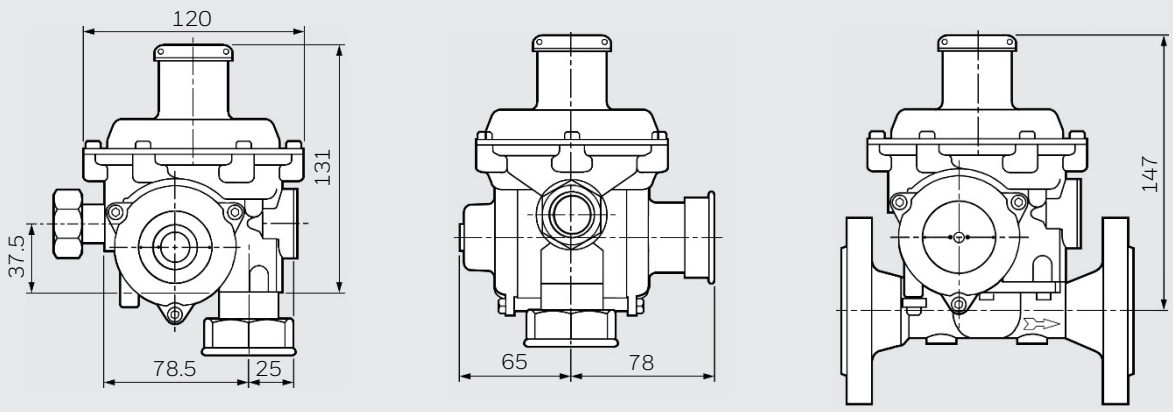
- Modular concept
- Integrated safety shut-off valve (SSV) for over pressure
- High accuracy, good lock up
- Integrated filter
- Temperature range -20 °C to +60 °C
- Inlet pressure resistant up to 16 bar
- Regulator body is tamper resistant locked
- A big variety of different connection types:
  - angled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

Options

- Integrated Low Pressure Cut Off (LPCO)
- Excess Flow Cut Off, automatic or manual reset
- Test plug available (outlet)
- Limited capacity Relief Valve
- Safety diaphragm
- UV stabilised plastic parts for open installation
- Thermal Cut Off valve (TCO)

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Dimensions and weights

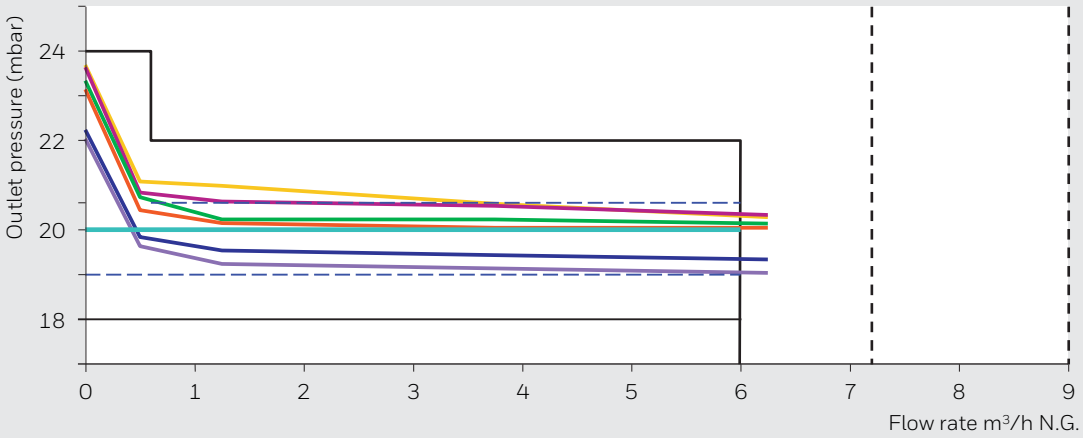


Type	Weight (kg)
M2R 25 A/L	~ 1.5
M2R 25 F	3.7

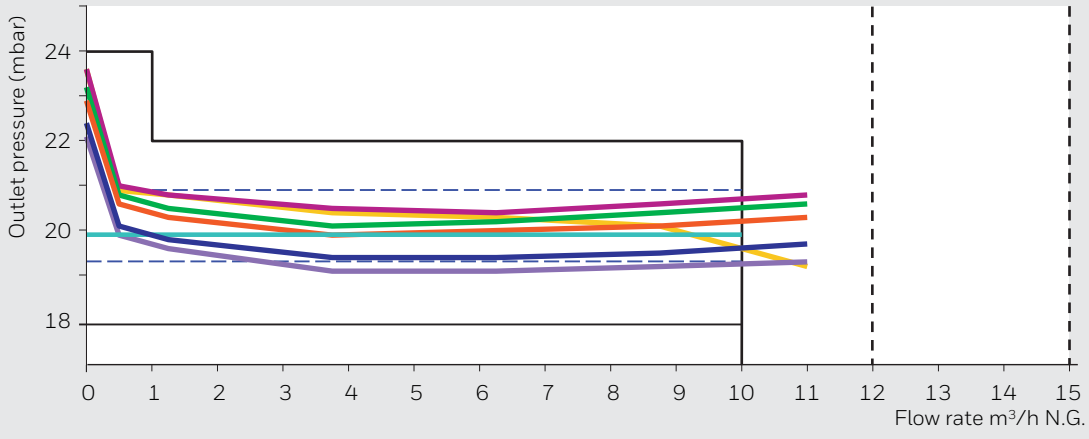
Flow capacity: Inlet pressures

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

M2R 6 flow capacity

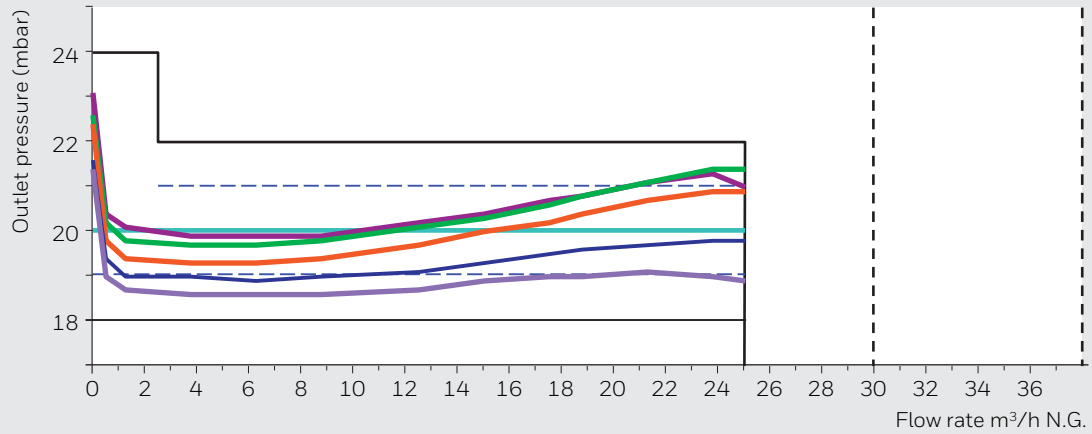


M2R 10 flow capacity

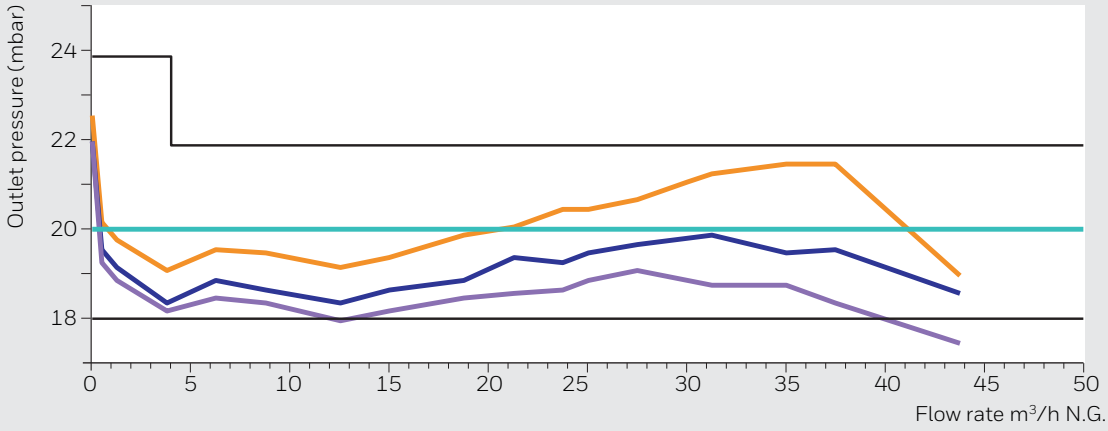


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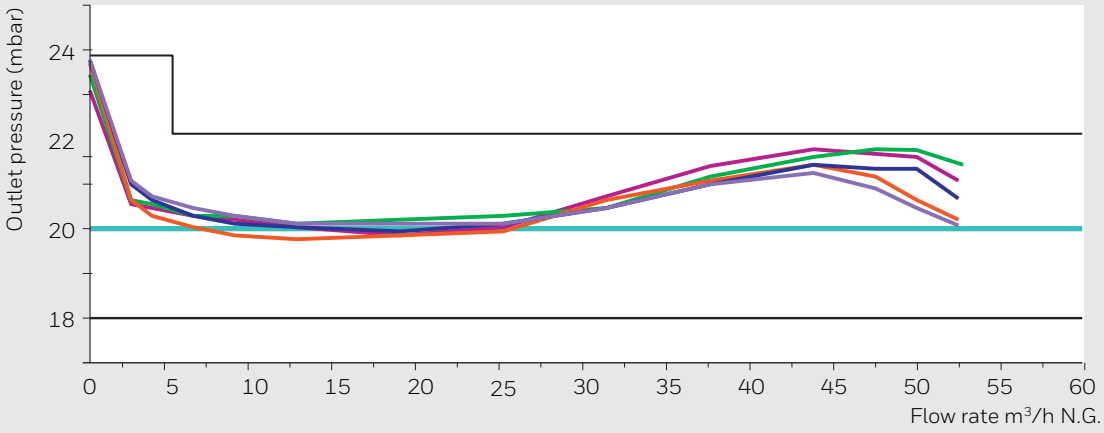
M2R 25 flow capacity



M2R 40 flow capacity (without LPCO)



M2R 50c flow capacity (without LPCO)

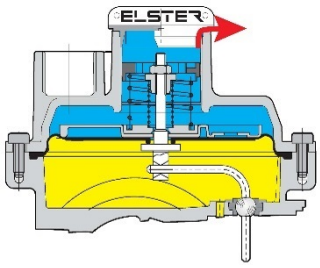


Pressure ranges

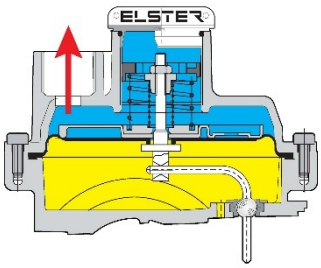
Type	Nominal flow rate Qn natural gas [stm3/h]	Minimum inlet pressure [bar] with LPCO	Minimum inlet pressure [bar] without LPCO
M2R 6	6	0.3	0.3
M2R 10	10	0.3	0.3
M2R 25	25	0.7	0.7
M2R 40	40	-	2
M2R 50c	50	-	0.7

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Configuration:



RV-L



RV-F

Main configuration	
A	Angled
L	in Line
F	Flange
G	Thread
F-G	Flange – Thread
E	Coaxial

Inlet connection*)
G 3/4" SC ISO 228/1
G 3/4" CF ISO 228/1
G 1" CF ISO 228/1
G 3/4" F ISO 228/1
G 5/4" M ISO 228/1
other connections on request

Type	Q	Main configuration	Dimensions*)	Inlet connection	Outlet connection
M2R					
M2R	25	A	103/60	G 3/4" SC ISO 228/1	G 1 1/4" CF ISO 228/1

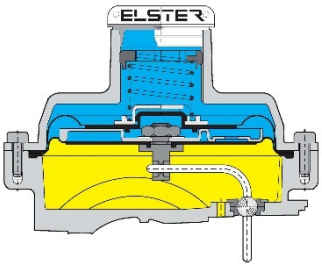
Q (m^3)
6
10
16
25
40
50c

Dimensions *)	
A: Angled	B / A
L: In Line	B + C

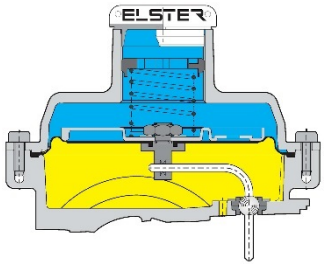
Outlet connection*)
G 1" CF ISO 228/1
G 1 1/4" CF ISO 228/1
G 3/4" F ISO 228/1
G 1" F ISO 228/1
G 5/4" M ISO 228/1
other connections on request

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

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SD



oSD

2nd Stage	
RV-L	Relief Valve - Limited Capacity
RV-F	Relief Valve - Lim. Cap. Full width ½”
SD	Safety Diaphragm
oSD	Without SD and RV







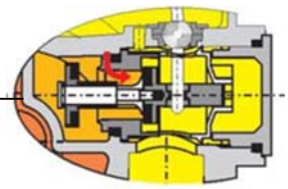
Test Point Configuration	
oTP	without Test Plug
TP	Test Plug
TN	Test Nipple

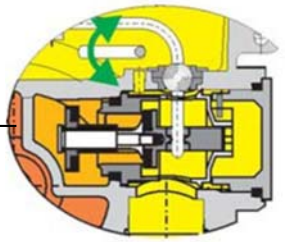
Gas
NG
LPG
Others

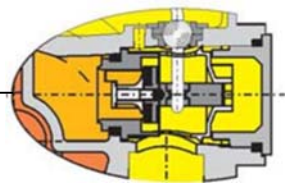
2nd stage	LPCO/EF	Test point	P_{ds}	P_{RV}	P_{dso}	Gas	Remark
RV-L	mLPCO	oTP	20	75	90	NG	Example

Set Pressures (mbar)	
P_{ds}	Outlet pressure
P_{RV}	Set point Relief Valve
P_{dso}	Set point SSV

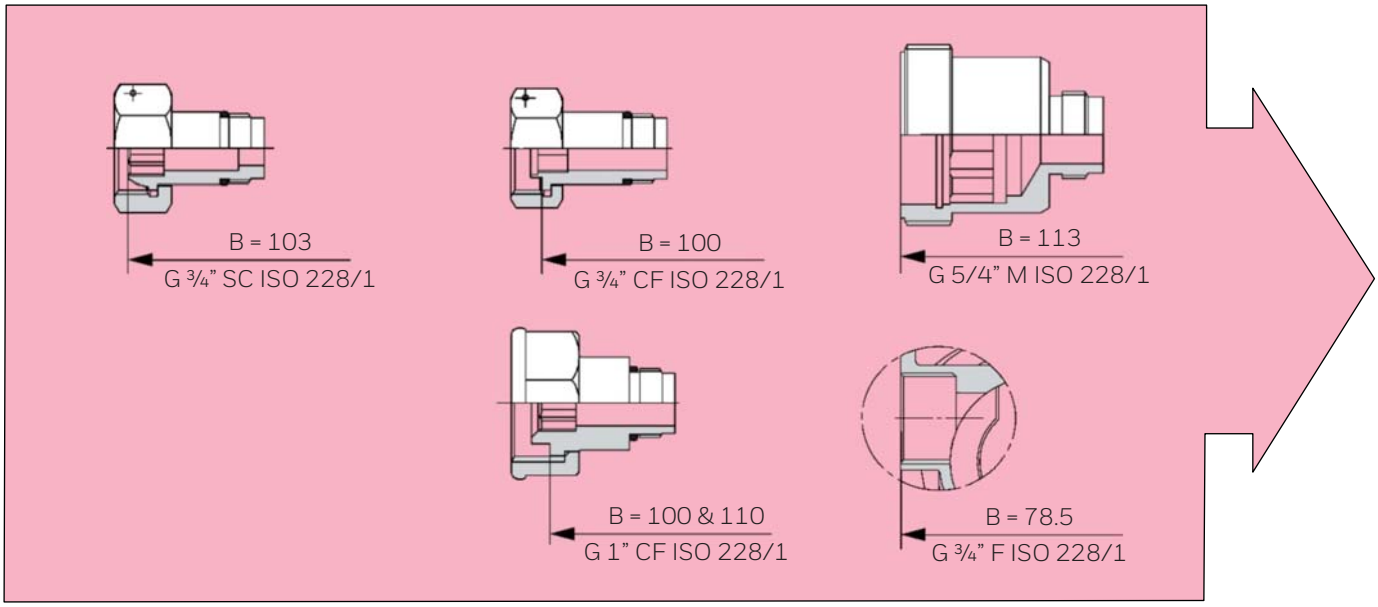
Low Pressure Cut-Off configuration	
aLPCO	automatic reset Low Pressure Cut Off
mLPCO	manual reset Low Pressure Cut Off
oLPCO	without Low Pressure Cut Off





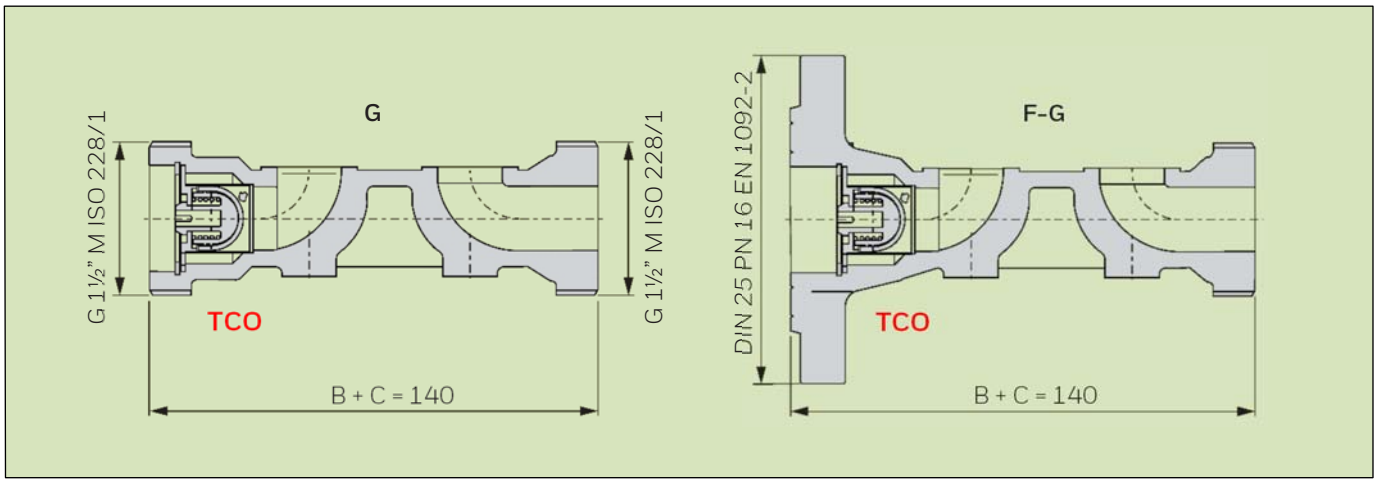


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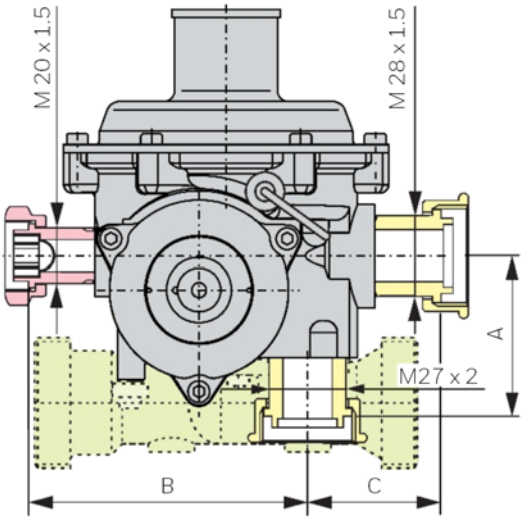


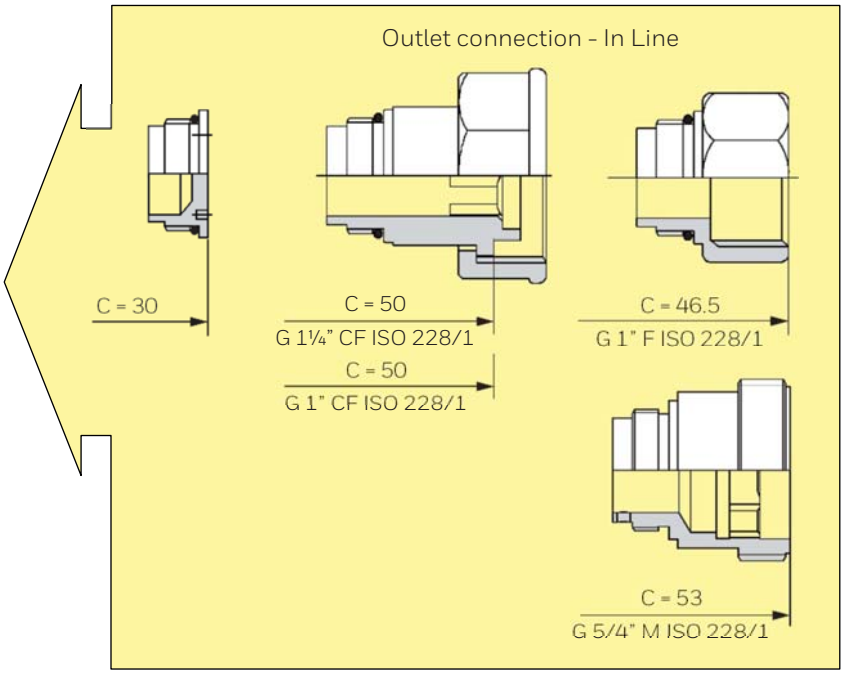
Caption	
SC	**S**phero **C**onic
CF	**C**oupling **F**lat
CP	**C**oupling **P**lan
F	**F**emale
M	**M**ale

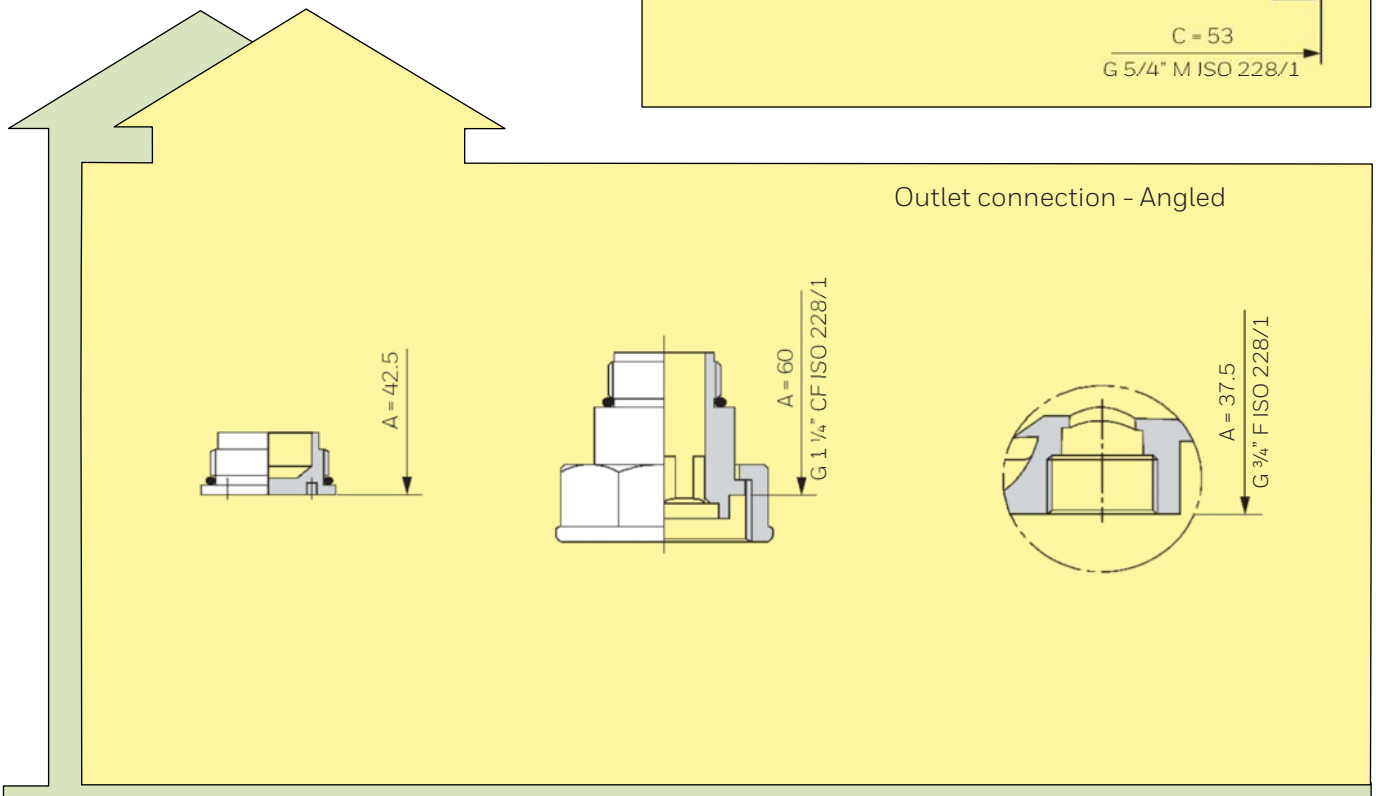
Other connections on request

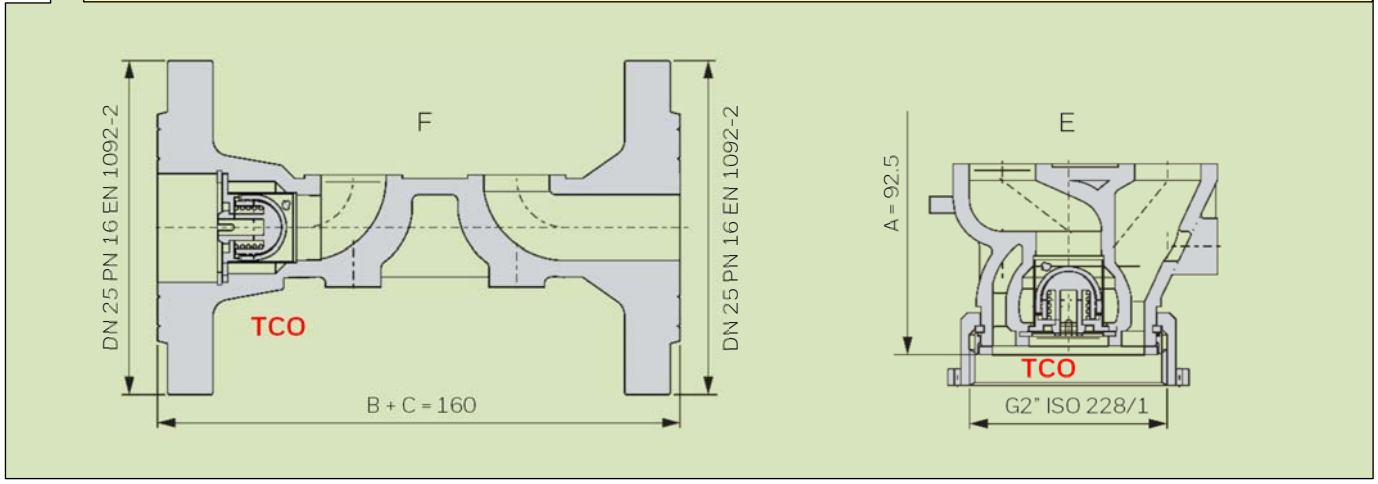


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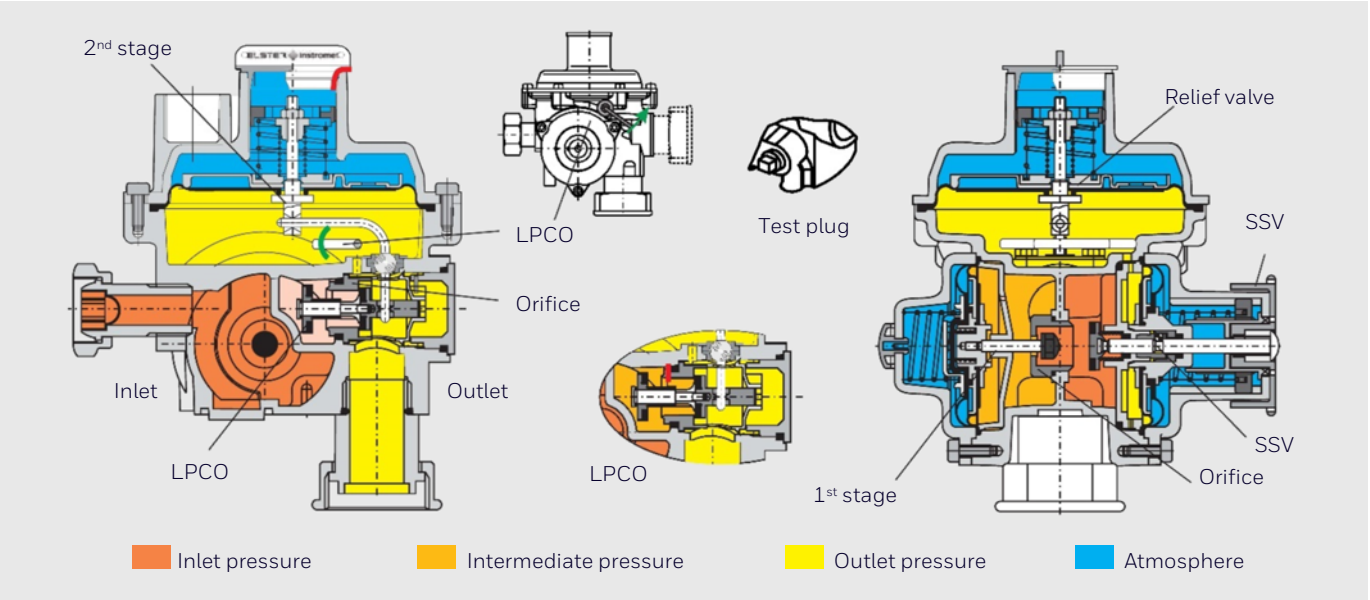
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Safety devices and accessories

1. **Integrated filter**
   placed in the inlet connection to retain solid impurities of the gas.
2. **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.
3. **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.
4. **Excess Flow Cut off EF**
   interrupts the flow in case of exceeding flow.
5. **Limited Capacity Relief Valve RV**
   vents small gas flows in case of over pressure downstream the regulator (e.g. because of temperature increase in the closed downstream pipework).
6. **Safety Diaphragm SD**
   to cover the working diaphragm to pre- vent a gas leakage in case of a destruction. Restricts the leak flow to the atmosphere to less than 30 dm^3/h. placed in the inlet connection to retain solid impurities of the gas.
7. **Reset of LPCO/EF**
   can be operated both automatically or manually (option).

   Automatic reset: a small bypass (30 dm^3/h) in the LPCO/EF device enables to increase the outlet pressure until lock up. Downstream pipework has to be closed. Then the LPCO/EF device 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.

   Manual reset: operate lever for manually opening of the bypass to start reset procedure as described above.
8. **Thermal Cut-Off valve TCO**
   closes the inlet in case of fire at a temperature of around 90 °C. The device will safely close the inlet.
9. **Test plug/nipple**
   for measuring the outlet pressure:
   1/8", plugged or with special test nipple



Honeywell is committed to a programme of continuous quality enhancement. All equipment designed and manufactured within the Honeywell Group benefits from the groups quality assurance standards, which are approved to EN ISO9001.

Honeywell has a programme of continuous product development and improvement and in consequence the information in this leaflet may be subject to change or modification without notice.

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