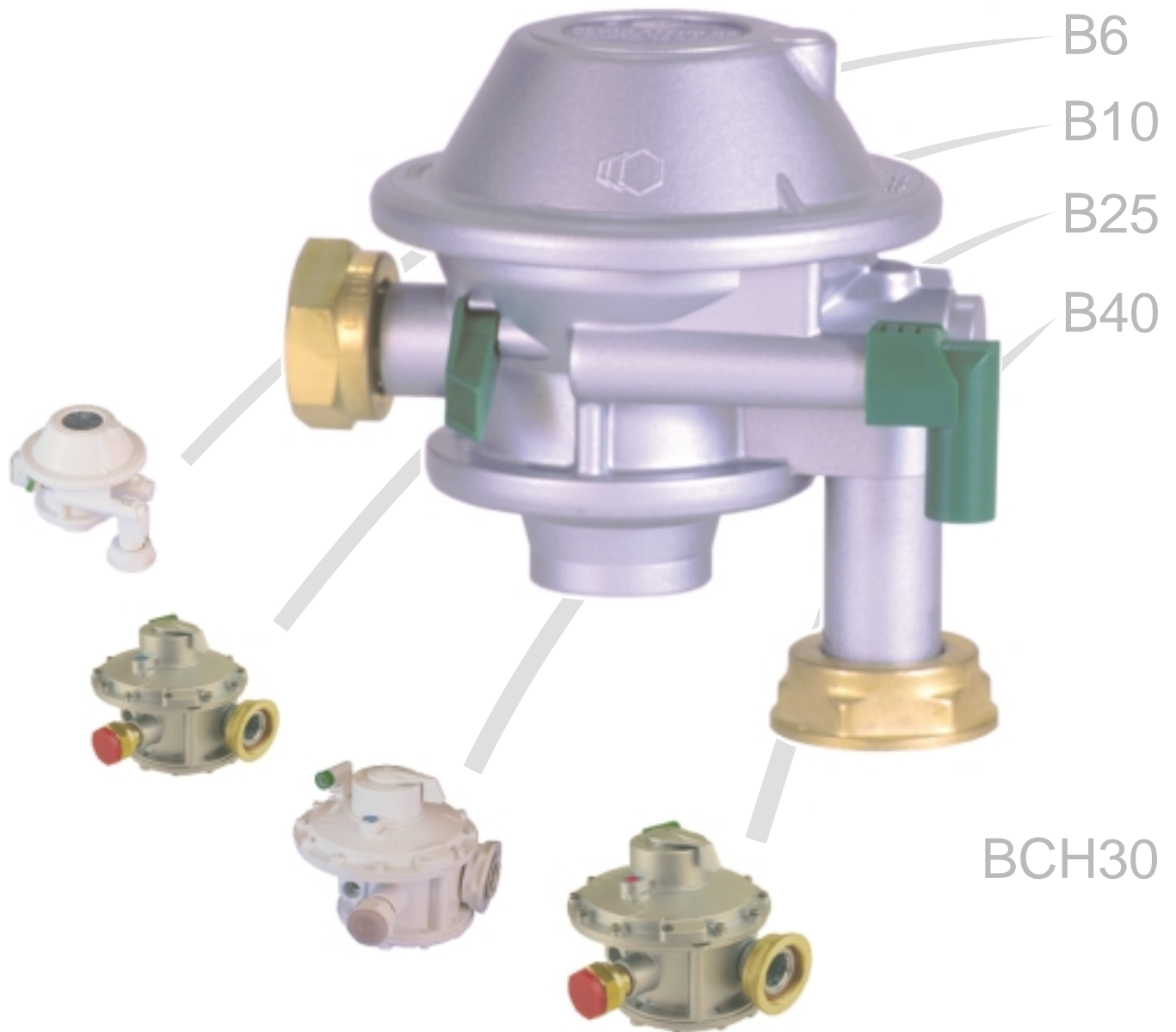
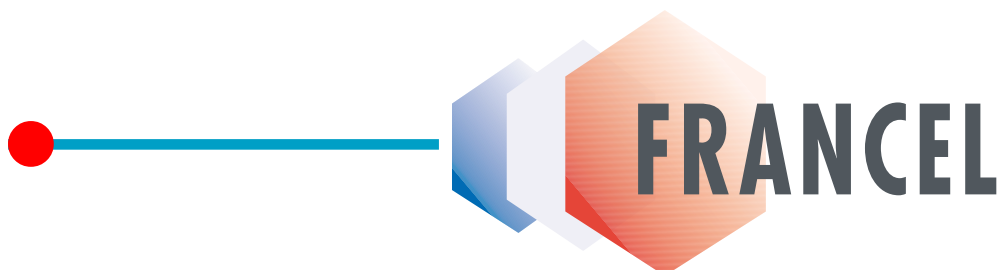


TYPE B

Regulators



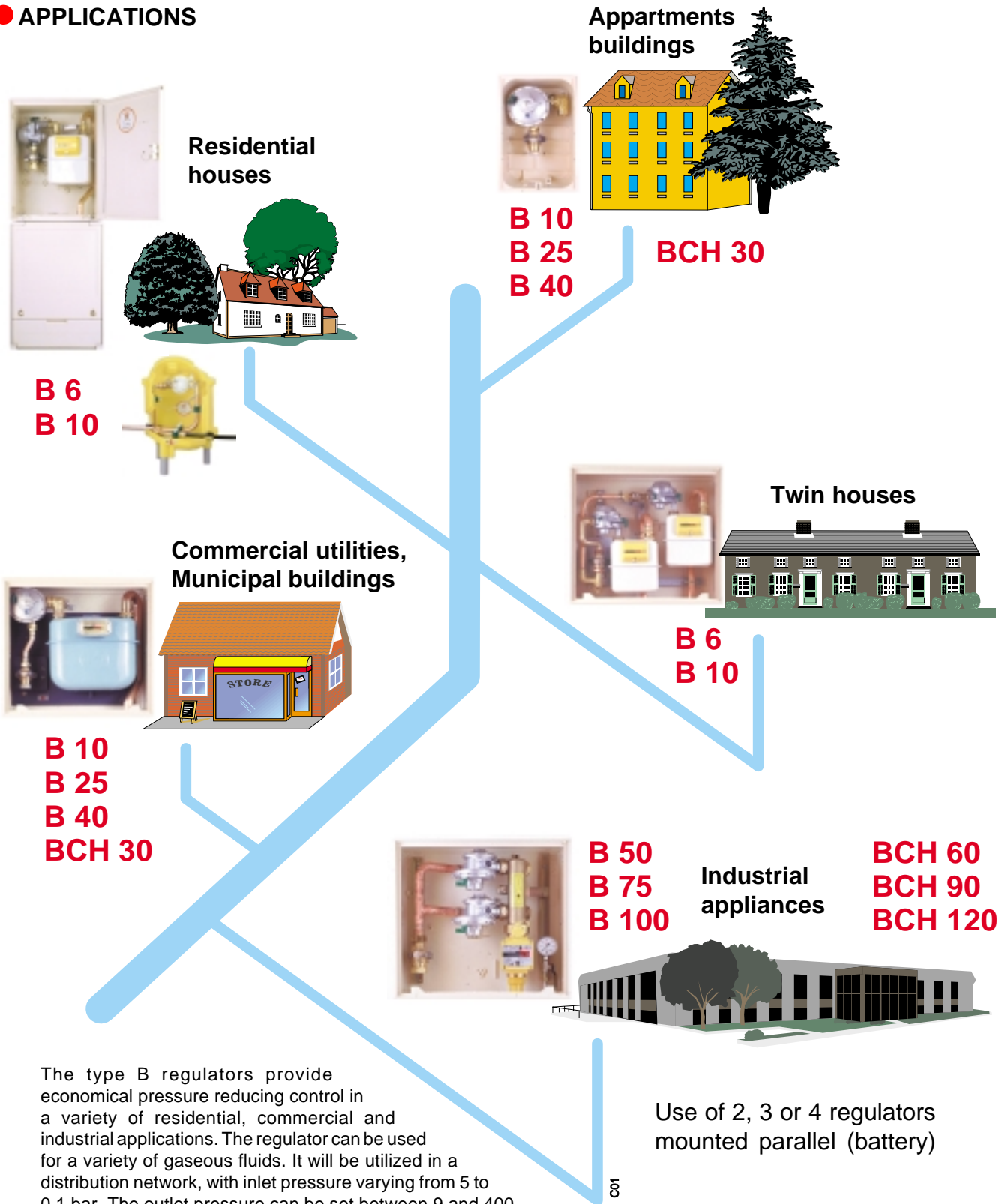
DOMESTIC GAS REGULATORS



TYPE B Regulators

Domestic gas regulators

● APPLICATIONS



The type B regulators provide economical pressure reducing control in a variety of residential, commercial and industrial applications. The regulator can be used for a variety of gaseous fluids. It will be utilized in a distribution network, with inlet pressure varying from 5 to 0,1 bar. The outlet pressure can be set between 9 and 400 mbar, with a flow capacity of 0 to 48 m³/h. The regulator can be installed in pressure reducing cabinets or reducing and metering cabinets in a compact design above ground or in underground modules.

B Regulators

STANDARD CHARACTERISTICS

REGULATING

Inlet pressure	Pe	0.1 to 5 bar
Outlet pressure	Pa	9 to 400 mbar
Connection		3/4" x 1"1/4
Temperature	q	-30 to +60°C
Capacity	Q	0 to 48 m ³ /h(n)
Accuracy	RG	5 (SG 10)

SAFETY FEATURE

Slam shut (cut off of the flow by a slam shut) on:

- Excessive flow
- Outlet pressure below specification
- Inlet pressure below specification.
- Serious 2nd stage diaphragm rupture

To atmosphere

- Outlet pressure above specification (relief valve)
- Slight 2nd stage diaphragm damage (vent)

MANUAL RESET

FLOW TABLE (m³/h(n))

Pe (bar)	B 6	B 10	B 25	B 40	BCH 30
5.0	7.2	12	30	48	36
0.8 to 4.0	7.2	12	30	48	36
0.7	7.2	12	30	48	
0.5	7.2	12	30	40	
0.4	6	12	28		
0.3	5	12	25		
0.2	4	10	18		
0.1	3	7	13		

C02a

MATERIALS

REGULATOR

Body	Zinc/Aluminum Alloy
Casings	Zinc/Aluminum Alloy
Inlet connection	Brass
Inlet filter (100 m)	Bronze
Outlet connection	Brass
Outlet gasket	Composite
1 st stage plug	Brass
1 st stage disc seat	Nitrile
2 nd stage plug	Brass
2 nd stage disc seat	Nitrile
1 st stage diaphragm	Reinforced nitrile
2 nd stage diaphragm	Reinforced nitrile
Vent	Plastic

SLAM SHUT

Safety plug	Brass
Safety plug disc seat	Nitrile

PRESSURE TABLE (mbar)

Regulator	B 6	B 10	B 25	B 40	BCH 30
Standard Pa	21				300
Other Pa	9 to 45				46 to 400

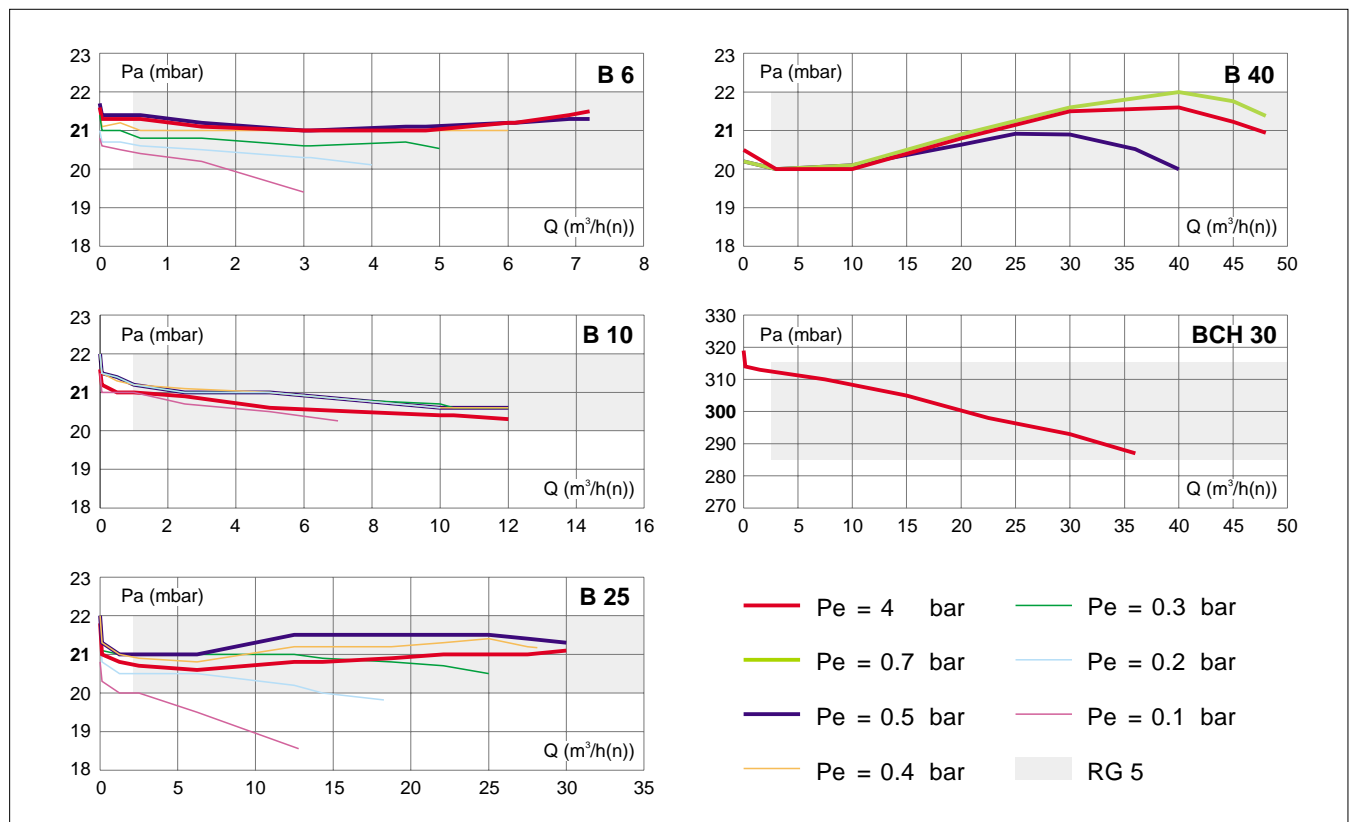
C03a

EXCESS FLOW TABLE (m³/h(n))

Regulator	B 6	B 10	B 25	B 40	BCH 30
Max. flow	9	15	37.5	60	45

C04a

FLOW CURVES



C05

Factory pre-set
Fixed setting

Control spring adjustable (option)
Ease of adaptation

Trip and
rearmament lever
Manual closing

1st stage reduction
Outlet pressure insensitive
to inlet pressure variations

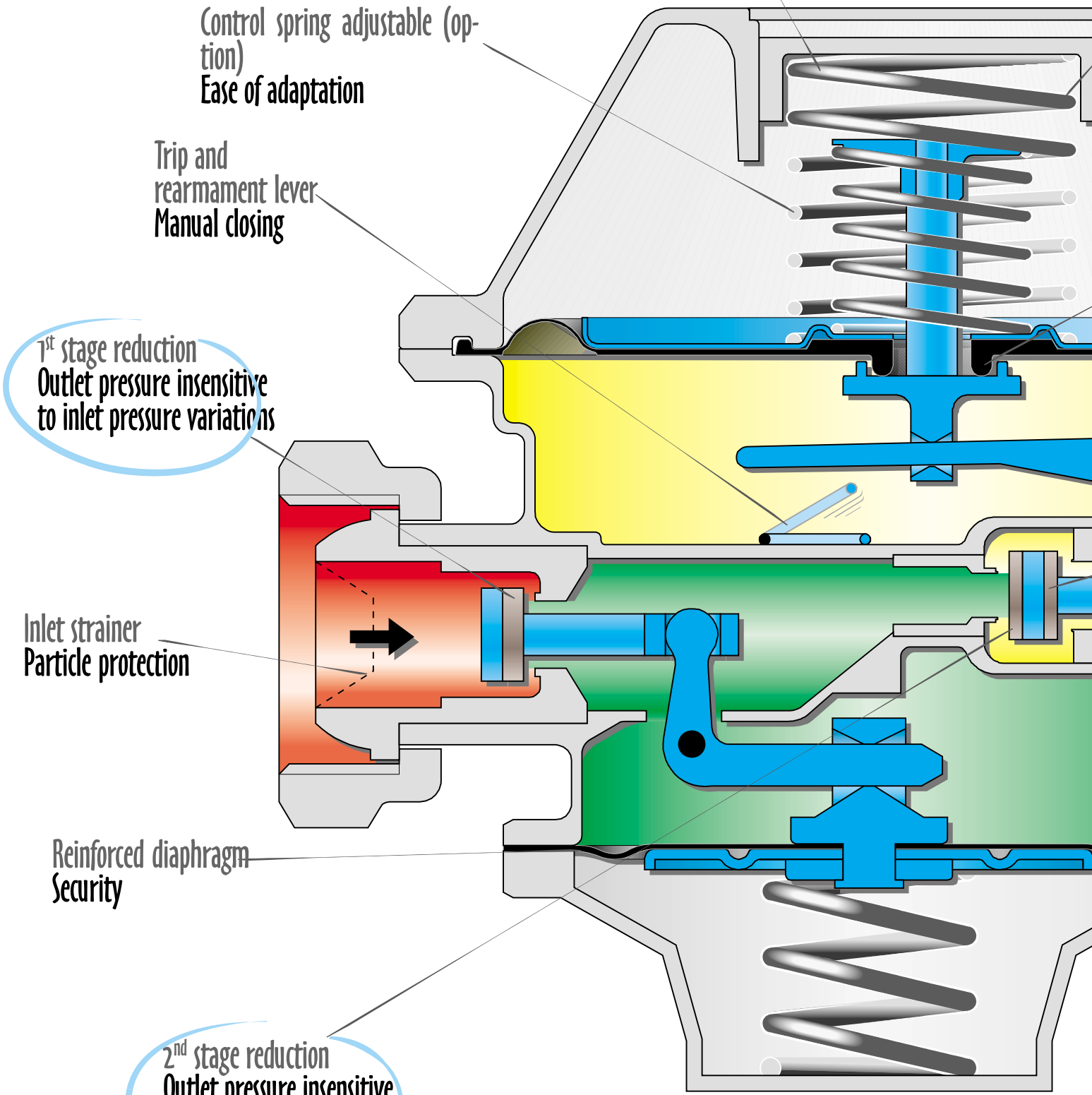
Inlet strainer
Particle protection

Reinforced diaphragm
Security

2nd stage reduction
Outlet pressure insensitive
to variations in flow

Special internal and external protection for the underground version
Easy to use

Concealed screws
Easy assembly and disassembly



Various springs
Adaptable to various fluids
(Natural Gas, LPG, Manufactured Gas etc.)

No maintenance required

Internal relief
Safety feature

High Quality pre shaped diaphragm
High precision

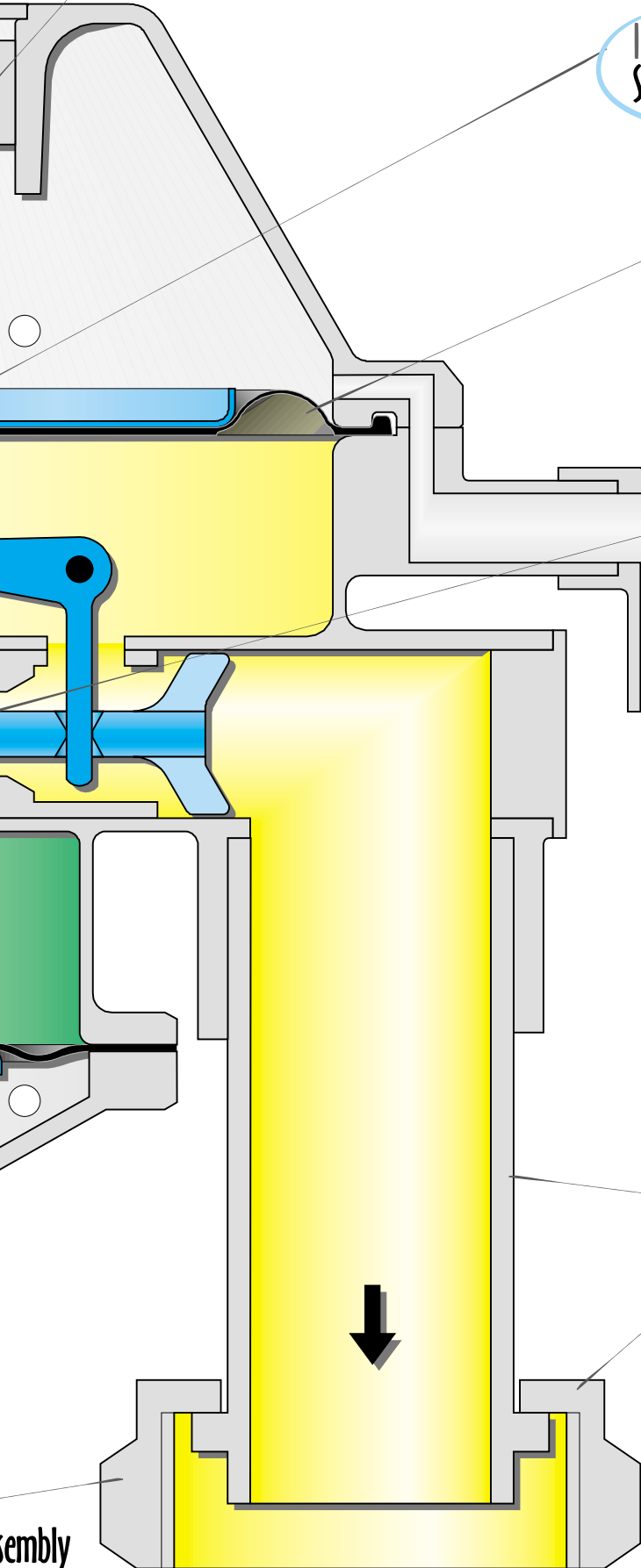
Slam shut
Triple security

- Excess flow
- Low outlet pressure
- Low inlet pressure (flow only)

Connectable vent at various positions
Safe in enclosed areas
Mounting in all positions

Angle body
Mounting direct to meter
Compact installation

100% of the regulator functions are tested on
100% of the manufactured regulators



TYPE B Regulators

Domestic gas regulators

DESCRIPTION

- The type B regulator is a direct acting spring loaded regulator, with **high performance and safety features**.
- **2 stages of reduction** produce a **constant outlet pressure**, which is insensitive to changes in inlet pressure. The regulator is factory pre-set.
- The **slam shut** cuts the flow in case of **excessive flow** or when the **outlet pressure drop below set point** (high gas demand or broken line), or in case the **inlet pressure drop below the set point** (network pressure drops or pipe damage). A manual reset allows for restarting the regulator after clearing failure.
- The regulator is equipped with an **internal relief valve**.
- A **strainer** protects the regulator at the inlet side.

OPTIONS

- Inlet and outlet connections adaptable on demand.
- Low inlet pressure possibilities (0.1 to 0.5 bar).
- Option for different outlet pressure settings (standard and specific).
- Options for manual pressure setting.
- Factory pre-set relief valve.
- Vent connectable to the exterior.
- Vent connection adaptable on demand.
- Underground modules are supplied with corrosion protection.
- Option for parallel mounting of regulators to form a "battery", which give a flow capacity of 2,3 or 4 times the flow of one regulator, with the same high regulating performances.

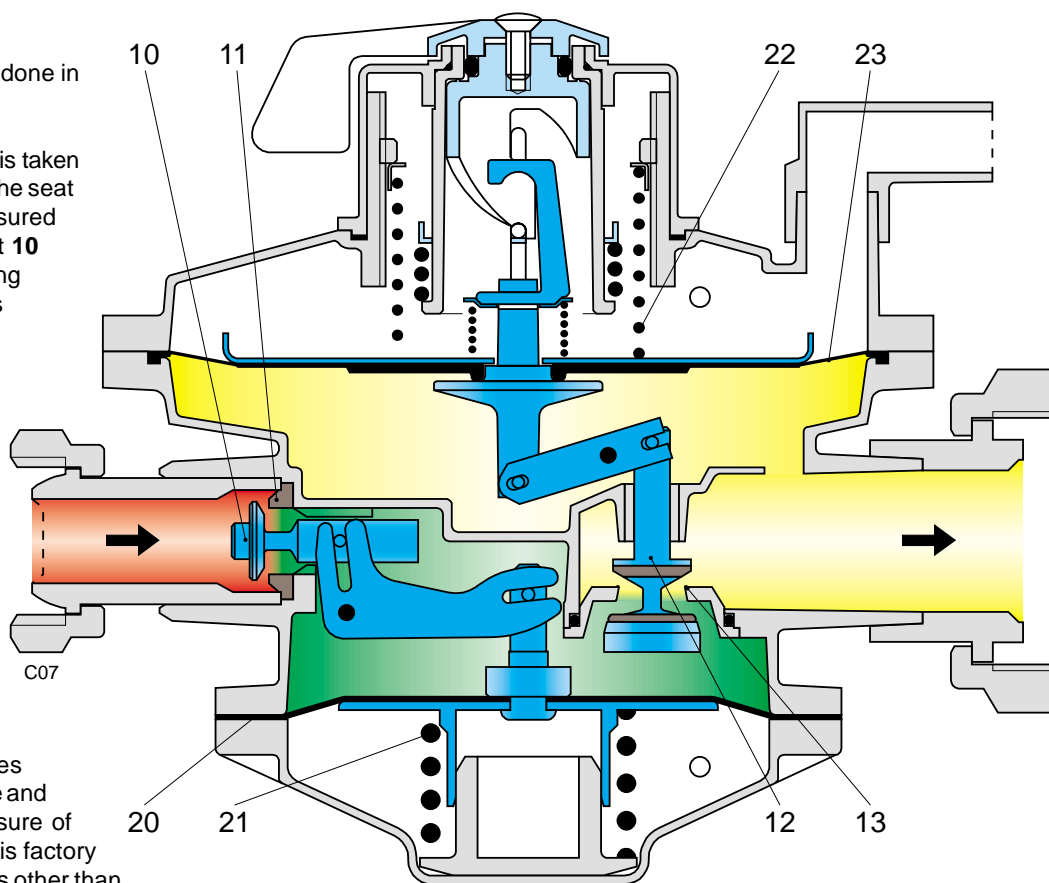
PRINCIPLE OF OPERATION

REGULATING

The pressure reduction is done in two stages:

The **first stage reduction** is taken over the inlet plug **10** and the seat ring **11**. Tightness is ensured through the plug disc seat **10** which closes on the seat ring **11**. Pressure regulation is controlled by the 1st stage diaphragm **20**, which senses intermediate pressure on one side and on the other side the set pressure of the spring **21**.

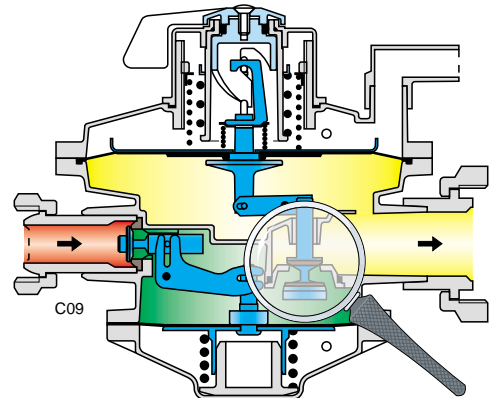
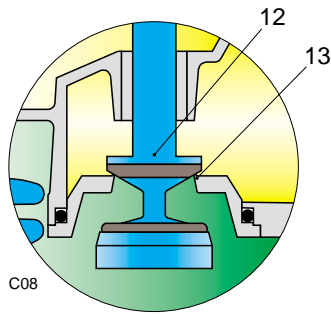
The **second stage reduction** is taken over the regulating plug **12** and the seat ring **13**. Pressure reduction is controlled by the 2nd stage diaphragm, which senses outlet pressure on one side and on the other the set pressure of the spring **22**. This spring is factory pre-set. Finally on modules other than the BCH, the trip set lever functions also as trip lever, which closes the second stage regulating plug **12**.



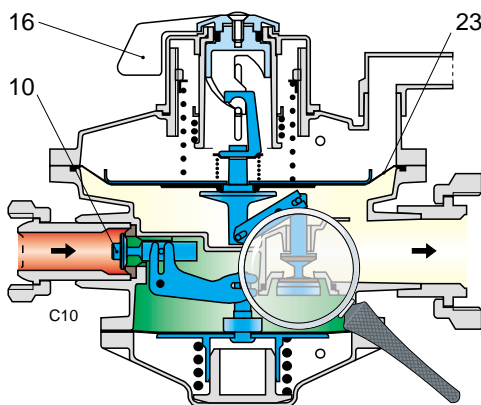
B Regulators

CLOSING

- The tight shut off is ensured by the plug disc seat 12 embedded firmly in the seat ring 13.



SLAM SHUT



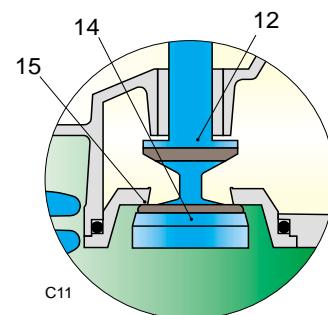
- The slam shut plug 14, connected to the 2nd stage regulating plug 12, cuts off the gas flow in case of:

Excess flow or outlet pressure below set point:

Diaphragm 23 drops and the regulating plug 12 opens, to activate the slam shut plug 14 to close.

Inlet pressure below specification:

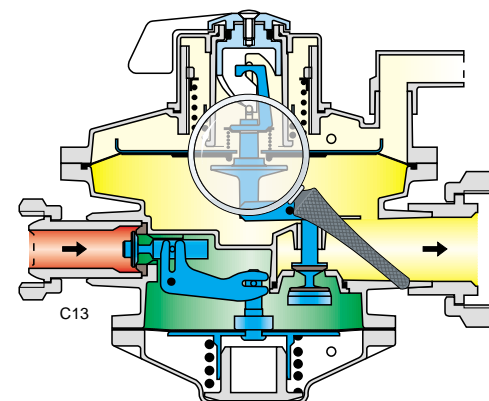
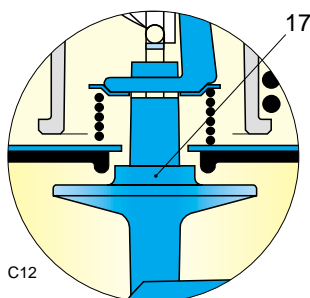
If the gas network pressure drops below the set point, the regulator flow starves and the 1st stage plug 10 opens fully and will not be capable to hold the intermediate pressure. The 2nd stage plug 12 will open fully, because of the low intermediate pressure, and subsequently the slam shut plug 14 will close.



After closure of the slam shut plug 14, the 2nd stage plug 12 is fully open. The regulator cannot be taken back into operation without removing the cause of failure. The reset is accomplished with the trip lever 16, which will open the slam shut plug and eventually passes gas to the outlet side and reposition the 2nd stage to a regulating position.

RELIEF VALVE

- The relief valve 17 opens if the outlet pressure passes the pressure setting. The relief will activate in following eventualities:

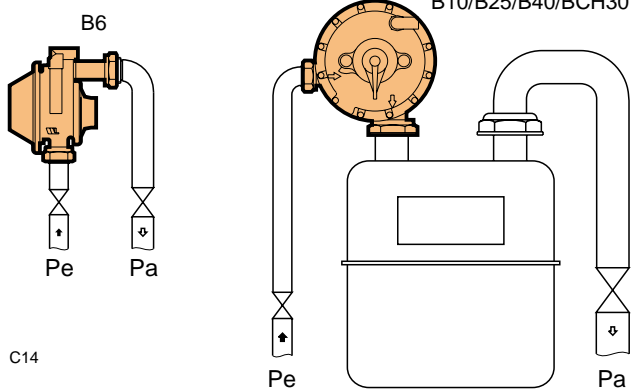


- At zero flow condition, with an temperature increase at the outlet piping, outlet pressure will increase. The relief valve will control the outlet pressure to avoid a trip of the slam shut and a cut flow, and the following maintenance interventions.

- Leakage through the 2nd stage plug. The principle of two stage reduction limits the leaked capacity, supplied by the intermediate pressure and not by the inlet pressure.
- Shoch absorption **without tripping the slam shut** in case of a cut of flow or a rapid reset.

B Regulators

● INSTALLATION



The regulator can be mounted in any position.

Install using schema C14 (example).

Pressure sensing is internal and the regulator does not require external sensing lines.

Use the torque indicated on the inlet connection.

CONNECTIONS

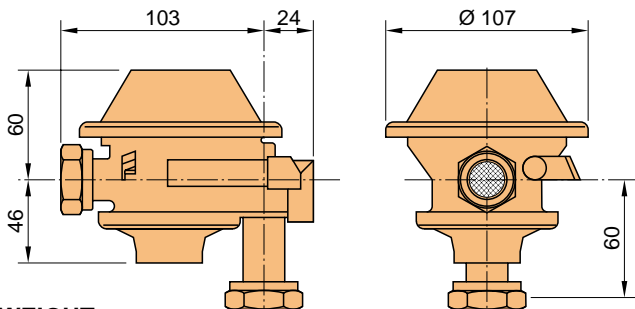
Inlet Sphero-conical or flat joint connection

Outlet Flat meter joint connection

Vent 10 mm or customised size

● DIMENSIONS & WEIGHT

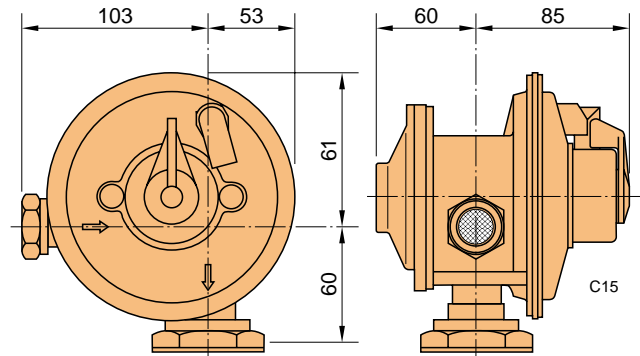
DIMENSIONS B6



WEIGHT

B 6	1	kg
B 10	2	kg
B 25	2	kg
B 40	2	kg
BCH 30	2	kg

DIMENSIONS B10, B25, B40, BCH30



Characteristics, dimensions and diagrams can bind FRANCEL only after confirmation.

REQUIRED ORDER INFORMATION

STANDARD REGULATORS

Select the type

Standard characteristics:

Regulator	B 6	B 10	B 25	B 40	BCH 30
Pe min (bar)	0.5	0.5	0.5	0.7	0.8
Pe max (bar)	4	4	4	4	4
Pa (mbar)	21	21	21	21	300
Flow (m ³ /h(n))	7.2	12	30	48	36
Inlet *	3/4"				
Outlet **	1"1/4				

C16a

* Sphero-conical connection, ** Flat joint connection

Standard protection

B6 : unpainted

Others : vinyl finish

Batteries and Underground modules : polyurethane paint

SPECIAL REGULATORS

Specify

- Inlet pressure maxi mini: see table C02
- Outlet pressure: see table C03
- Maximum flow: see table C02
- Inlet connections: specify
- Outlet connections: use the available information on commercial meters
- Vent connection
- Relief valve setting
- Option underground module
- Option manual pressure setting
- Option special paint



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