NOVACOMET

BP24FC NEW
High capacity / High accuracy Low pressure regulator
Up to 250 kg/h (3475 kW)*

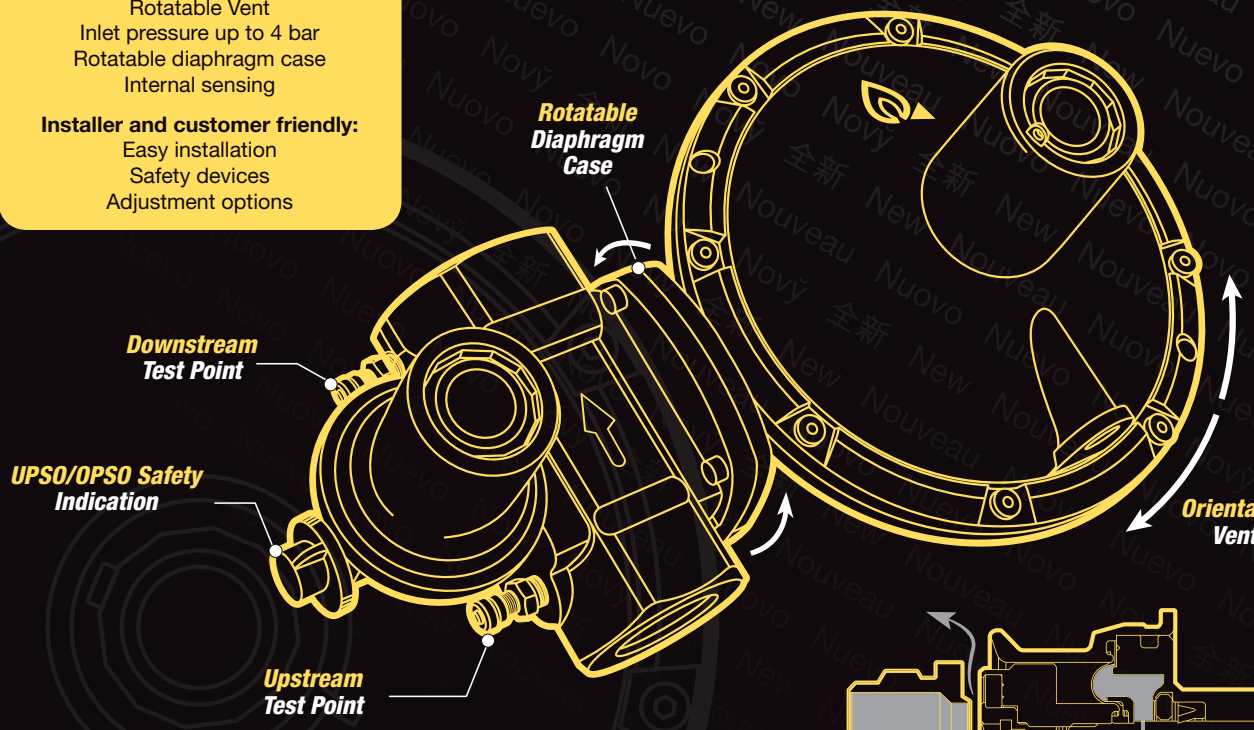
BP24FC - BP24FCR - BP24FC OPSO - BP24FC UPSO/OPSO

CE

Features

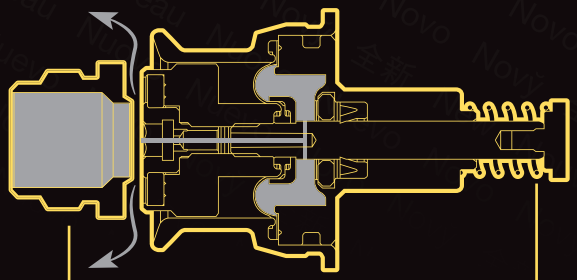
Balanced regulation group
Rotatable Vent
Inlet pressure up to 4 bar
Rotatable diaphragm case
Internal sensing

Installer and customer friendly:
Easy installation
Safety devices
Adjustment options



2nd Stage Regulation
Improved Performance
Installation and Safety Features

**Depends on inlet pressure and settings used, see page 3*



BALANCED VALVE ACTUATOR

High capacity low pressure regulator, suitable to accommodate an extensive range of operating conditions, having a compact design and an installer configurable design to meet the toughest of environments.

Built by Novacomet part of the Clesse Group, the design uses the proven capabilities of the existing BP24FC diaphragm casing dimensions to give excellent pressure regulation that can be integrated with the new design high capacity UP/OPSO security system.

Mainly used in medium and large power installations (domestic metered networks, commercial, agricultural or industrial) as final stage or intermediate stage pressure reduction.

Suitable for all types of LPG, natural gas, synthetic natural gas (SNG) or other non aggressive gases (air, nitrogen, biomethane).

Wide range, choose from both standard range listed or bespoke specialist available.

- ✓ Low pressure - final pressure reduction normally 21, 30, 37, 50, 75 and up to 100 mbar,
- ✓ Intermediate pressure regulation supplying 100 to 350 mbar.

BP24FC is a special regulator designed with a balanced valve actuator. This results in:

- ✓ High flow rate capacity,
- ✓ High accuracy, across the full range of inlet pressures,
- ✓ Reduced and improved lock up performance,
- ✓ Quicker response to changing pressures,
- ✓ Maintenance without disassembling the body from the pipework,
- ✓ Ability to retrofit the UPSO/OPSO safety module without modification of the pipework.

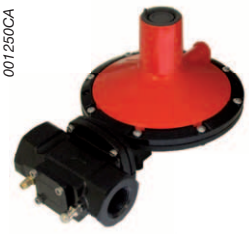
BP24FC Standard models used in commercial and industrial applications engineer settable.

BP24FCR Variable pressure models which require regular or fine tuning of pressure adjustment for industrial processes.

BP24FC UPSO/OPSO models offer security features for additional safety, protecting downstream installations from either over pressure or under pressure situations.

BP24FC and **UPSO/OPSO** device series regulators are supplied with internal sensing lines. Both the regulator and the UPSO/OPSO device are preset for optional connection to an external sensing line by the customer.

BP24FC 001250CA



BP24FCR 001250CC

BP24FC UPSO/OPSO 006896CC

Design Solutions for LPG & Natural Gas

FEATURES

High capacity and excellent pressure control with internal regulation system based on:

- ✓ Direct operated, spring loaded, mechanism,
- ✓ Adapted seat diameter (18 mm),
- ✓ HNBR highly resilient valve seat pad,
- ✓ Large reinforced diaphragm.

Stable pressure control is achieved and consistent in all conditions of temperature, capacity and inlet pressure operating in the normal range of the regulator. Meeting the manufacturing and performance standard EN 16129.

Connections

The gas connection, available as standard:

- ✓ Inlet: 1" - Rc or NPT,
- ✓ Outlet: 1"1/4 - Rc or NPT.

Convenient for most gas installers, offering generous pipe diameter connection for low pressure drop in installation pipework.

Adjustable regulated pressure models

The outlet regulated pressure is pre-set at nominal values and may be adjusted, in use, according to table "Standard Models".

Variable pressure models

Wide operating range of pressures on these models come with optional T-bar and locking nut handle, providing convenient user adjustment from the minimum value up to the maximum value pressures (see "Standard Models").

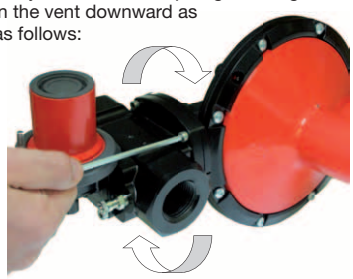
Vent orientation - New "Rotatable Vent"

Breather vent orientation, made easy by the new design of Rotatable Vent cover to ensure water is prevented from entering and/or accumulating in the regulator, either by rain, humidity or condensation. The operation can be carried out on site by a qualified engineer.

1. Unscrew one by one the 8 screws,
2. Rotate and orientate the regulator cover with vent downward oriented,
3. Redo the 8 screws alternately again,
4. Make a leak test to ensure everything is OK and the Rotatable Vent cover is sealed.

New Rotatable Diaphragm Case

After installation into the pipework, it's easy to rotate the diaphragm casing to fit into confined spaces or to position the vent downward as requested previously. Please proceed as follows:



1. Slack off (with an hexagon wrench) one by one, the 4 screws around the flange,
2. Rotate and orientate the diaphragm casing as necessary,
3. Redo the 4 screws alternatively,
4. Make a leak test to ensure everything is OK and the Rotatable Flange is sealed.

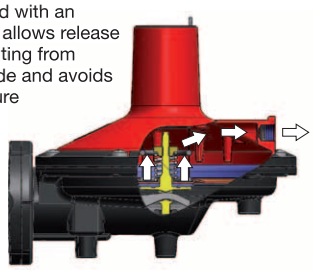
OPERATIONAL DESIGN

OPSO safety (Over Pressure Shut Off) and UPSO safety (Under Pressure Shut Off)

- ✓ BP24FC regulators may be fitted with a safety OPSO valve which interrupts the flow of gas upstream in case of over pressure. The intervention OPSO value is factory pre-set,
- ✓ Certain models of BP24FC may additionally equipped with an UPSO safety function which interrupts the flow of gas in case of low pressure. In this case, UPSO function is integrated in the OPSO device,
- ✓ UPSO may be generated by interruption of upstream gas supply, excessive gas consumption, gas supply pipe obstruction. The intervention UPSO value is factory pre-set,
- ✓ OPSO / UPSO has a visual indicator.
- ✓ Easily resettable,
- ✓ Possible sealing means to prevent from any improper reset,
- ✓ Certain models of BP24FC may additionally equipped with an UPSO safety function which interrupts the flow of gas in case of low pressure. In this case, UPSO function is integrated in the OPSO device.

PRV safety

- ✓ BP24FC regulators can be manufactured with an internal Pressure Relief Valve (PRV) that allows release of slight overpressure, in particular resulting from thermal expansion in the static flow mode and avoids nuisance activation of safety overpressure (OPSO) device.
- ✓ For indoors installations and/or poorly ventilated areas, it's recommended to pipe the vent outside.



Connectable vent

- ✓ The vent may be connected to a pipe, which allows to unload in a safe area, the pressurised gas released by the PRV,
- ✓ Vent device is pre-equipped with an internal filter preventing intrusion from undesirable element (spider, dust…),
- ✓ Connection type: Female G1/4" RH.

OTHER BENEFITS

Pressure test points

BP24FC regulators are fitted with two pressure testing points:

- ✓ Schrader type valve for upstream pressure.
- ✓ For downstream pressure: 8 mm I.D. up to 100 mbar, Schrader type above 100 mbar.

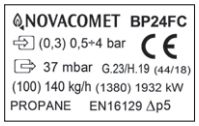
This functionality is useful for variable regulators users in order to easily set the regulated pressure.

Pressure setting sealing

On some models provision to seal internal adjustable pressure settings onto the regulator cap is now available where specified.

Label Marking

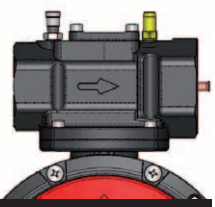
In conformity with EN 16129 requirements, the following information is marked on the label regulator or the safety:



- ✓ NOVACOMET,
- ✓ Model: BP24FC, BP24FC-OPSO, BP24FC-UPSO/OPSO,
- ✓ Type of gas,
- ✓ Inlet connection type (G) and pressure range, indicated in bar,
- ✓ Outlet connection type (H) and set pressure (pressure range for variable models), indicated in mbar,
- ✓ Flow capacity, indicated in kg/h of LPG or Propane or in (S)m³/h of NG and corresponding rated power in kW,
- ✓ Setting of the pressure relief valve (PRV), if any, indicated in mbar,
- ✓ Setting of the OPSO safety, if any, indicated in mbar,
- ✓ Setting of the UPSO safety, if any, indicated in mbar,
- ✓ Referring standard : EN 16129,
- ✓ Manufacturing date: ww/yy (week/year),
- ✓ For regulators set pressure according to EN 437, the downstream gas installation acceptable lost of charge indicated as follows: ΔP2 (for 2 mbar) or ΔP5 (for 5 mbar).

Construction

- ✓ BP24FC regulators are design, manufactured and tested according to EN 16129 standard,
- ✓ Regulators comply with the European Pressure Equipment Directive PED 2014/68/EU, category I, and production according to ISO 9001 quality management standard,
- ✓ Body and cover of regulators: die cast aluminium alloy,
- ✓ Body and cover of UPSO/OPSO safety: die cast zinc alloy,
- ✓ Flange connection: die cast aluminium alloy,
- ✓ Diaphragm: NBR-R reinforced EN 549,
- ✓ Valve pad: HNBR according to EN 549 (FPM upon request),
- ✓ All external components are protected against atmospheric corrosion.



Manufacturers advice: always follow the installation instructions and local rules for gas installation for the Country.

TYPICAL PERFORMANCES BP24FC

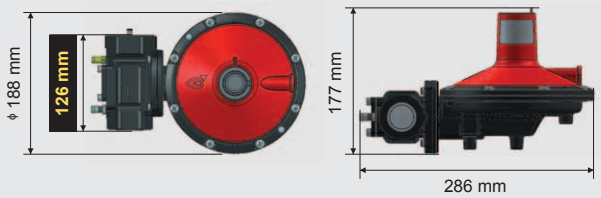
BP24FC - Flow capacity at standard conditions with 1"1/2 downstream pipe													
Outlet pressure (mbar)	Type of gas		Performance rule	Limits	Inlet pressure (bar)								
					0.25	0.3	0.5	0.75	1	1.5	2	3	4
BP24FC - BP24FC OPSO - BP24FC UPSO/OPSO - Low and Medium pressure - Fixed													
21	NG	(S)m3/h	EN 334 (AC10 SG20)	18,9-23,1-25,2 mbar	60	70	100	150	170	180	200	200	200
			EN 334 (AC20 SG30)	16,8-25,2-27,3 mbar	80	90	110	155	175				
30	LPG	kg/h	EN 16129	21-36-39 mbar	100	110	150	200	210	220	230	240	250
			EN 16129 (EN 437 ΔP2)	27-35-40 mbar	70	90	120	150	210				
37	Propane	kg/h	EN 16129 (EN 437 ΔP2)	27-45-50 mbar	100	110	145	190	210	220	230	240	250
			EN 16129 (EN 437 ΔP5)	30-45-50 mbar	90	100	140	185	210				
			BS6891	37 +/- 5 mbar - Lock-up +10mbar	90	100	130	180	210				
50	Propane	kg/h	EN 16129 (EN 437 ΔP5)	47,5-57,5-62,5	50	70	90	120	150	220	230	240	250
75	Propane	kg/h	EN 16129	52,5-90-97,5 mbar	-	100	150 (160 @ 0,6)	180	200	220	230	240	250
			Special	75 +/- 10 mbar - Lock-up +15 mbar	-	80	120 (130 @ 0,6)	150	180				
148	Propane	kg/h	EN 16129 (EN 437 ΔP5)	105-180-185 mbar	-	-	140 (150 @ 0,65)	180	200	210	220	230	240
300	Propane	kg/h	EN 16129	210-360-390 mbar	-	-	120	180	210	220	230	240	250
	NG	(S)m3/h	EN 334 (AC10 SG20)	270-330-360 mbar	-	-	70	125	150	195	205	210	220
BP24FC - Low and Medium pressure - Variable													
20 - 300	Propane	kg/h	EN 16129	Min : 11-26-29 mbar Max : 210-360-390 mbar	-	-	40 - 100	50 - 150	60 - 170	80 - 200	100 - 220	150 - 230	200 - 240

It's possible to calculate the corresponding flow capacity for any other gas than the one declared in the above table, using the conversion table below:

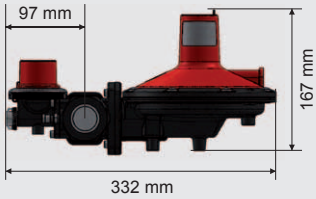
Capacity conversion		Used gas					
To get the "used gas" capacity, multiply the "declared gas" capacity by the coefficient		Propane (EN16129)	GPL (EN16129)	Natural Gas-H (EN 437 - G20)	Natural Gas-L (EN 437 - G25)	Air	Nitrogen
		kg/h		(S)m³/h			
Declared gas	Natural gas-H (G20) (S)m³/h	1.12	1.20	1.00	0.95	0.74	0.76
	Propane (EN16129) kg/h	1.00	1.07	0.89	0.85	0.66	0.68
	LPG (EN16129) kg/h	0.93	1.00	0.83	0.79	0.62	0.63

OVERALL DIMENSIONS

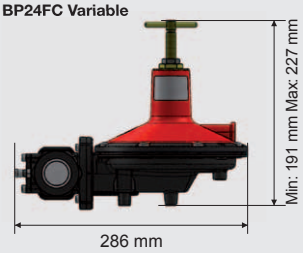
BP24FC



BP24FC OPSO - BP24FC UPSO/OPSO



BP24FC Variable



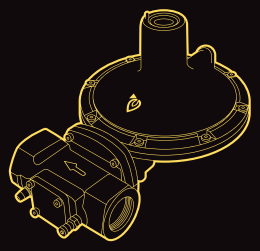
BP24FC Standard Models

** Orientation rule: Position of the vent to be read like a watch face, seen from above with the input direction = 6 hours and the output direction = 12 hours.*

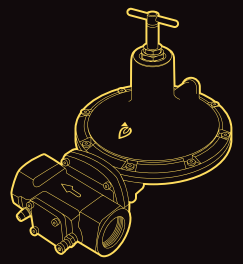
Previous BP2402FC Codes	New BP24FC Codes	Designation	Inlet connexion	Outet connexion	Inlet pressure (Pu) bar	Outlet pressure (Pd) mbar	Declared gas	Flow rate		OPSO	PRV	UPSO	Upstream pressure testing point	Downstream pressure testing point	Original vent orientation*	Performances rule
								kg/h of Propane / LPG (S)m3/h of NG	kW	mbar	mbar	mbar				
BP24FC (1" - 1"1/4)																
001250FG	001250CG	REG.BP24FC-21MB-Rc1"-1"1/4	FEM. Rc1"	FEM. Rc1"1/4	(0,24) 0,5 - 4	21 (20,5-28)	NG	(60) 100 (80) 110	(672) 1120 (896) 1232	-	-	-	Schrader	8 mm	6	EN 334 (AC10 SG20) ** EN 334 (AC20 SG30) **
001250FA	001250CA	REG.BP24FC-30MB-Rc1"-1"1/4	FEM. Rc1"	FEM. Rc1"1/4	(0,3) 0,5 - 4	30 (27 - 43)	LPG	(110) 150	(1518) 2070	-	75 (60-90)	-			3	EN 16129
001250FB	001250CB	REG.BP24FC-30MB-1"-1"1/4NPT	FEM. 1" NPT	FEM. 1"1/4 NPT						-	75 (60-90)	-			3	
001250FJ	001250CJ	REG.BP24FC-37MB-Rc1"-1"1/4	FEM. Rc1"	FEM. Rc1"1/4		37 (31 - 50)	Propane	(100) 140	(1380) 1932	-	-	-			6	EN 16129 (EN 437 ΔP5)
001250FH	001250CH	REG.BP24FC-148MB-Rc1"-1"1/4	FEM. Rc1"	FEM. Rc1"1/4	(0,5) 0,65 - 4	148 (65 - 180)		(140) 150	(1932) 2070	-	-	-		Schrader	6	
001250FK 001250FF	001250CK	REG.BP24FC-300MB-Rc1"-1"1/4	FEM. Rc1"	FEM. Rc1"1/4	(0,5) 0,8 - 4	300 (230 - 410)		(120) 180	(1656) 2484	-	-	-			6	EN 16129
BP24FCR (1" - 1"1/4)																
001250FC	001250CC	REG.BP24FC-20-300MB-Rc1"-1"1/4	FEM. Rc1"	FEM. Rc1"1/4	(0,5) 0,8 - 4	20 - 300	Propane	(40-100) 50-150	(552-1380) 690-2070	-	Pd +100 (Pd +70 / Pd +130)	-	Schrader	Schrader	3	EN 16129
001250FD	001250CD	REG.BP24FC-20-300MB-1"-1"1/4NP	FEM. 1"NPT	FEM. 1"1/4 NPT						-		-			3	
BP24FC OPSO (1" - 1"1/4)																
006895FB	006895CB	RG.BP24FC OP-75MB-Rc1"-1"1/4	FEM. Rc1"	FEM. Rc1"1/4	0,6 - 4	75 (67 - 110)	Propane	130	1807	140 (120-140)	115 (105-125)	-	Schrader	8 mm	6	Special
006895FJ	006895CJ	RG.BP24FC OP-300MB-Rc1"-1"1/4			(0,5) 0,8 - 4	300 (230 - 410)		(120) 180	(1656) 2484	475 (450-500)	420 (380-450)	-		Schrader	6	EN 16129
BP24FC UPSO/OPSO (1" - 1"1/4)																
006895FG	006896CG	RG.BP24FC UP/OP-21MB-Rc1-1"1/4	FEM. Rc1"	FEM. Rc1"1/4	(0,24) 0,5 - 4	21 (20,5-28)	NG	(60) 100 (80) 110	(672) 1120 (896) 1232	70 (62-80)	50 (40-60)	14 (12-16)	Schrader	8 mm	6	EN 334 (AC10 SG20) ** EN 334 (AC20 SG30) **
006895FC 006895FK	006896CC	RG.BP24FC UP/OP-37MB-Rc1-1"1/4			(0,3) 0,5 - 4	37 (31 - 50)	Propane	(100) 140	(1380) 1932	130 (120-140)	75 (60-90)	28 (26-30)			6	EN 16129 (EN 437 ΔP5)
006895FH	006896CH	RG.BP24FC UP/OP-148M-Rc1-1"1/4			(0,5) 0,65 - 4	148 (65 - 180)		(140) 150	(1932) 2070	300 (250-400)	225 (195-245)	90 (75-105)		Schrader	6	
006895FF	006896CF	RG.BP24FC UP/OP-300M-Rc1-1"1/4			(0,5) 0,8 - 4	300 (230 - 410)		(120) 180	(1656) 2484	475 (450-500)	420 (380-450)	200 (150-250)			6	EN 16129
006895FE	006896CE	RG.BP24FC UP/OP-345M-1-1"1/4NP	FEM. 1"NPT	FEM. 1"1/4 NPT	(0,5) 0,8 - 4	345 (230 - 410)		(120) 180	(1656) 2484	525 (500-550)	470 (450-490)	225 (200-250)			3	

*** Designed, manufactured and tested according to EN 16129 standard*

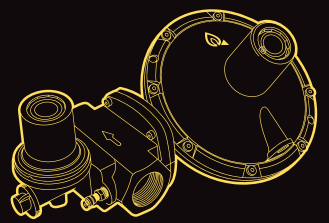
BP24FC



BP24FCR



BP24FC UPSO/OPSO



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