

DESCRIPTION

CIVIC regulators are designed to regulate gas for medium pressure applications. These double stage regulators are regulated by spring.

They are used both for N.G., LPG, and other non-corrosive gas installations as well as 1st stage regulators.

They can also be fitted with a safety shut off device with minimum (UPSO) and maximum pressure (OPSO) – this model is the CIVIC BP/S.

MODELS

Two models are manufactured, covering the most typical ranges of pressure in gas installations.

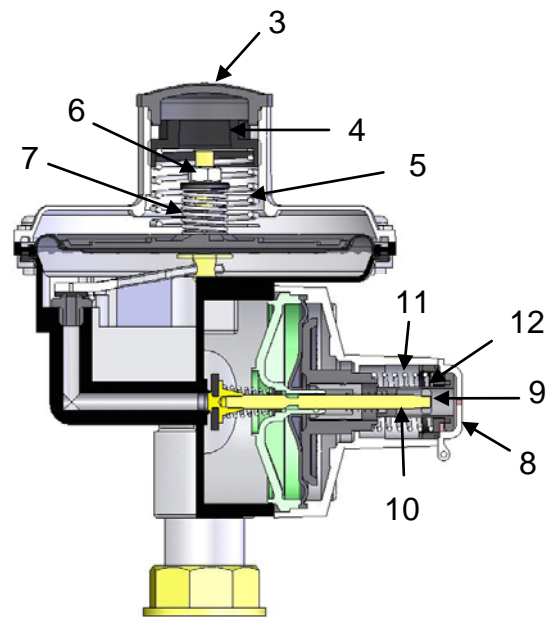
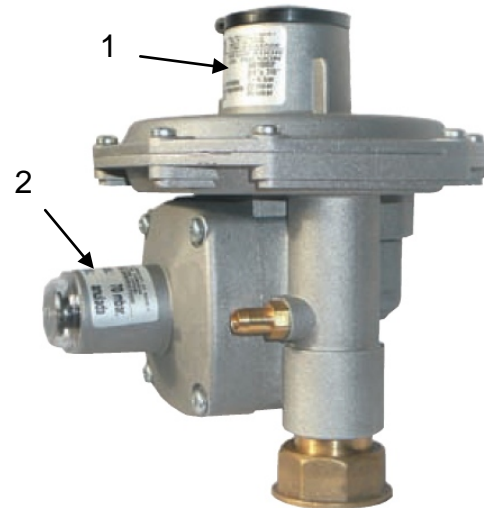
Model CIVIC BP with outlet pressure from 1.8 to 8 kPa (18 to 80 mbar).
(These data sheets)

Model CIVIC MP with outlet pressure from 8 to 18 kPa (80 to 180 mbar).
(Data sheet CE.8.95.1001)

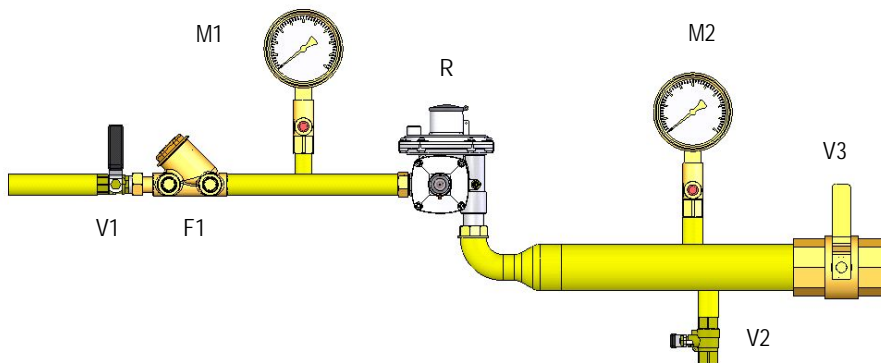
INSTALLATION

Before installing the regulator, ensure that:

- The regulator selected (see labels 1 and 2) coincides with the needs of the installations.
- The fluid passes through the body of the regulator in the correct direction, as indicated on the arrow on the body of the regulator.
- The pipeline has been previously cleaned and the gas reaches the regulator perfectly clean and dry.
- The regulator must be positioned so that there is sufficient room for maintenance to be carried out and for the adjustment of the outlet pressure and so that it complies maximum and minimum safety levels.
- The regulator is protected from rain and from direct sunlight.
- There is a pipeline buffer, with the regulator at maximum flow, has a capacity of 120 liters. For the lower levels, the size of the tank can be reduced proportionally.



TYPICAL CHART



STARTING UP THE REGULATOR WITHOUT SAFETY SHUT OFF DEVICE

- Provide a light flow of gas downstream from the regulator. For example, using the bleed valve V2.
- Slowly open the gas shutoff valve V1 slightly, situated upstream from the filter.
- Check that the gas pressure is correct, using the inlet pressure gauge M1.
- Check that the pressure is stable, using the outlet pressure gauge M2.
- If the outlet pressure is not correct, adjust the outlet pressure via the nut (4).
- Finish opening the shutoff valve V1 slowly, located after the filter inlet F1.
- Slowly finish opening the shutoff valve V3, located downstream from the regulator.
- Close the bleed valve V2.

START UP THE REGULATOR WITH MAXIMUM SAFETY SHUT OFF DEVICE (AND MINIMUM)

- Provide a light flow of gas downstream from the regulator. For example, using the bleed valve V2.
- Slowly open the gas flow valve V1 slightly, situated upstream from the filter.
- Check that the gas pressure is correct, using the inlet pressure gauge M1.
- Check that the pressure is stable, using the outlet pressure gauge M2.
- If there is no outlet pressure, reset the regulator:
 - Remove the protective cover (8).
 - Slowly pull the button (12), opening the internal bypass.
 - When the regulating pressure is reached at the outlet, the resistance on the button will reduce and it will be possible to finish pull the button and it should maintain this position unassisted.
- Finish opening the shutoff valve V1 slowly, located at the filter inlet F1.
- Slowly finish opening the shutoff valve V3, located downstream from the regulator.
- Close the bleed valve V2.

The time required to pull the button opening the internal bypass will depend on the differential of pressure between the inlet and outlet and the volume of the outlet tank.

ADJUSTMENTS

Regulators are supplied with springs suitable for the customer's requirements. These springs allow a range of specific adjustments, described in the catalogue. Where other values are required, the regulating spring must be replaced. Where the regulator has VIS, the springs may also need to be changed.

REGULATION:

- Remove the black plastic cover (3).
- Using a 27 mm socket wrench, tighten the mobile nut (4). Turning the nut clockwise increases the outlet pressure. Turning it anticlockwise will reduce the outlet pressure.
- Put back the black plastic cover (3).

MINIMUM SHUT OFF DEVICE (optional) UPSO

- Remove the transparent plastic cover (8).
- Using a screwdriver, on the screw ring (9). Turning the screw ring clockwise increases the minimum operating level. Turning it anticlockwise has the opposite effect.
- Put back the transparent plastic cover (8).

MAXIMUM SHUT OFF DEVICE (optional) OPSO

- Remove the transparent plastic cover (8).
- Using a 14 mm socket wrench, tighten the mobile nut (12). Turning the nut clockwise increases the maximum operating level. Turning it anticlockwise has the opposite effect.
- Put back the transparent plastic cover (8).

To avoid dirt or damage when closing the regulator, a gas filter should be installed before the regulator, with a minimum filter grade of 5 microns (F1).

CHECK

Regulator without safety shut off device and without relief valve

- Check that the valve (V1) at the inlet to the filter (F1), the valve (V3) at the outlet of the regulator and the bleed valve (V2) are closed.
- Slowly open the inlet valve (V1) and use the pressure gauge (M1) to check that the pressure is correct at the inlet to the regulator (R). Use the pressure gauge (M2) to check that the pressure increases at the outlet to the regulator (R) until it is stabilized to the adjusted pressure in the regulator (R).
- Close the inlet valve again (V1).
- Use the inlet pressure gauge (M1) to check that there are no leaks at the inlet to the regulator (R).
- Use the outlet pressure gauge (M2) to check that there are no leaks at the outlets of the regulator (R).

Regulator without safety shut off device and with relief valve

- Make the adjustments described above.
- Connect an external source of pressure via the bleed valve (V2) in the pipeline buffer located along the stretch between the outlet to the regulator (R) and the outlet valve (V3).
- Slowly increase the pressure until the relief valve is activated. If it is necessary to vary the firing point of the relief valve, make the appropriate adjustments at the nut (6).

Regulator with safety shut off device at minimum UPSO

- Make the adjustments described above.
- Start up the regulator (R), checking that the outlet has the correct regulation pressure.
- Close the gas inlet valve (V1) and slowly reduce the pressure to the outlet via the bleed valve (V2) until the safety shut off device for minimum pressure is activated. If it is necessary to vary the firing point, make the necessary adjustments at the nut (9).

Regulator with safety shut off device at maximum OPSO

- Make the adjustments described above.
- Connect an external source of pressure via the bleed valve (V2) in the pipeline buffer located along the stretch between the outlet to the regulator (R) and the outlet valve (V3).
- Slightly increase the pressure in the pipeline buffer until you see that the safety shut off device for maximum pressure valve is activated. If it is necessary to vary the firing point of the safety shut off device, make the necessary adjustments at the nut (12).

PROBLEMS, CAUSES AND SOLUTIONS

The regulator does not close

- Dirt in the regulating bar
 - External filter (F1) in poor condition, clean filter and closing bar
- Damaged rubber seat disc or orifice
 - Replace regulator
- Internal mechanism dirty or worn
 - Replace regulator

The maximum pressure safety valve discharges (OPSO)

- The seat disc or orifice it is not watertight
 - Possible dirt in the seat disc
- Water hammering at the outlet, due to abrupt closure of electro valves or manual shut-off valves
 - Small pipeline buffer in outlet
 - Reduce this effect by installing a relief valve in the regulator outlet pipeline buffer.
- Where there is no flow, increase the temperature in the outlet stretch due to the sun or nearby sources of heat.
 - Eliminate sources of heat and activate the relief valve below the maximum safety device

The minimum pressure safety valve discharges (UPSO)

- The outlet pressure is adjusted below or very close to the minimum safety adjustment level
 - Reduce the taring of the minimum UPSO
- Excessive flow for the inlet and outlet pressure values available in the regulator.
 - Lower the flow requested.
 - Increase the inlet pressure.
- Very high instant consumption
 - Raise the volume of the tank situated at the regulator outlet

REPLACING THE REGULATING SPRING

Disassembly





- Close gas inlet valve (V1) located at the inlet to the installation.
- Close gas inlet valve (V3) located at the outlet to the regulator.
- Open bleed key (V2), located at the outlet to the regulator, until the area is depressurized.
- Remove the black plastic cover (3) in order to access the regulating nut (4).
- Use a 27 mm tube spanner to turn the nut (4) anticlockwise and remove it.
- Remove the regulating spring (5).

Installation

- Choose from the list below the most suitable regulating spring for the required outlet pressure.
- Carry out the operations described under "disassembly" in reverse order. It should be borne in mind that only those springs indicated in the table below should be fitted. The fitting of other springs could cause damage to the regulator.

WARNING! It is potentially dangerous to manipulate a gas installation and its components. Therefore all start-up, adjustments and maintenance of the regulator must be carried out by duly authorized people with sufficient technical knowledge.

TOOLS FOR MAINTAINING THE CIVIC BP REGULATOR

 Open-end Spanner 30 - 34	 Screwdriver	 Tweezers	 Tube Spanner 14 - 27
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OUTLET PRESSURE ADJUSTMENT SPRINGS (5)

Wd (regulation) CIVIC BP			Wd (regulation) CIVIC BP		
Ø wire	Spring code	Adjustment field in mbar	Ø wire	Spring code	Adjustment field in mbar
1.8	ZM335058180	18 ÷ 23	2.2	ZM335058221	42 ÷ 52
1.8	ZM335058181	21 ÷ 26	2.3	ZM335058231	48 ÷ 61
2.0	ZM335058200	23 ÷ 31	2.4	ZM335058241	57 ÷ 72
2.0	ZM335058201	31 ÷ 39	2.5	ZM335058251	66 ÷ 83
2.2	ZM335058220	35 ÷ 42			

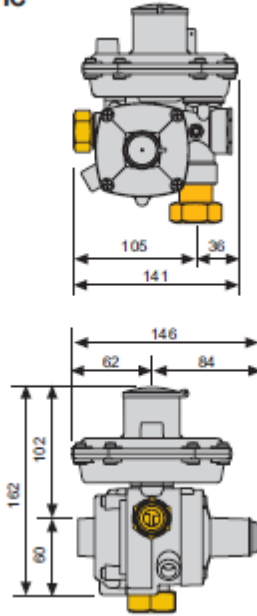
OPSO/UPSO ADJUSTMENT SPRINGS

Wdo (maximum) OPSO (11)		Wdu (minimum) UPSO (10)	
Spring code	Adjustment field in mbar	Spring code	Adjustment field in mbar

MAIN FEATURES

Inlet pressure bar	Nominal flow rate Qn m³/h N.G.
Pd + 0.2	
Pd + 0.3	
Pd + 0.4	
Pd + 0.5	

CIVIC



Technical Features

Bpu	1÷6 bar	(inlet pressure range)
Ps	6 bar	(design pressure)
Pu	6 bar	(maximum inlet pressure)
Wd		(outlet pressure range)
CIVIC BP	18÷ 80 mbar	
CIVIC MP	80÷180 mbar	
Wdo BP	50÷190 mbar	(OPSO range BP)
Wdo MP	100÷250 mbar	(OPSO range MP)
Wdu BP	30÷55 mbar	(UPSO range BP)
Wdu MP	50÷95 mbar	(UPSO range MP)
Wrv	+10...+30% Pd	(relief valve range)
Ac	20%	(degree of regulating pressure)
Sg	30% max.	(degree of closed pressure)
T	-20°C ÷ 60°C	(operating temperature)

Inlet connection 3/4" Sliding nut*
 Outlet connection 7/8" Sliding nut*
 * Other connections on request

Connection layout Angle
 Weigth CIVIC BP 2 Kg
 Weigth CIVIC MP 2.5 Kg