

PRESSURE REGULATORS

EQA 722

The 722 Pressure Regulator can be used for direct service (simple stage regulation) and for first and last stage regulations, either in small installations or in industries.

Its excellent design makes it the proper regulator for abrupt pressure changes since it does not produce excessive freezing.

Four models of this type are produced, depending on the regulated pressure:

- 722-1 up to 0.05 bar
- 722-2 from 0.05 to 0.9 bar
- 722-3 from 0.9 to 1 bar
- 722-A from 1 to 1.25 bar

All of them support inlet pressures of up to 28 bar.

TECHNICAL DATA

CONNECTIONS: Inlet: 3/4" BSP / left screw 885
NGO (POL)
Outlet: 3/4" BSP

OPERATING TEMPERATURE: -20°C to 60°C (-10°F to 140°F)

APPROX WEIGHT: 2.1 Kg (722) 2.4Kg (722A)
4.6 lbs (722) or 5.3 lbs (722A)

ACCURACY CLASS: AC10

CLOSE PRESSURE CLASS: SG20

ACCORDING TO STANDARD: EN-334

MATERIALS

INLET BODY/SEAT ORIFICE: Forged Brass

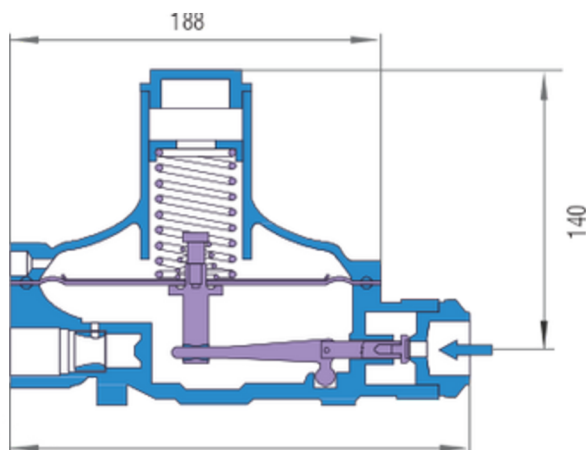
INTERIORS: Brass

DIAPHRAGM: Acrylonitrile

SEAT MATERIAL: Acrylonitrile (722) Teflon (722A)



DIMENSIONS in mm





USAGE

It can be used for natural gas (density 0.6), LPG (density 1.5) and other gases (see chart).

STRUCTURE

It is highly solid, its diaphragm is made of nitrile and its inner parts are anticorrosive. Both the diaphragm and its inner parts resistant to hydrocarbon action. The system is equipped with a safety relief valve that vents possible excesses in outlet pressures.



INSTALLATION

Connections:

Inlet: 3/4" BSP / left screw 885 NGO (POL)

Outlet: 3/4" BSP

It can be connected equally to vertical or horizontal pipes. The diaphragm plane can also be positioned horizontally or vertically no matter the position of the regulator.

It is recommended to leave the spring tap within easy reach in order to be able to make adjustments in outlet pressures.

ORIFICES

Different orifice diameters are available for different inlet and outlet pressures: 5/32" (4mm), 3/16" (4.8mm), 1/4" (6.4mm) and 3/8" (9.5mm).

SPRING RANGES

Outlet pressures of regulators type 722 are regulated through the adjustment of the different spring provided.

SPRINGS TABLE

| COD | Ø Wire | Regulated Pressure in Bar |
|-----|--------|---------------------------|
| R42 | 2.00 | 0.010 ... 0.023 |
| R7 | 2.25 | 0.016 ... 0.031 |
| R34 | 2.50 | 0.023 ... 0.050 |
| R8 | 2.75 | 0.032 ... 0.069 |
| R9 | 3.00 | 0.040 ... 0.094 |
| R36 | 3.50 | 0.080 ... 0.185 |
| R10 | 3.75 | 0.100 ... 0.260 |
| R37 | 4.00 | 0.130 ... 0.350 |
| R38 | 4.25 | 0.170 ... 0.440 |
| R11 | 4.75 | 0.210 ... 0.660 |
| R12 | 5.00 | 0.280 ... 0.700 |
| R54 | 5.50 | More than 1 bar |
| R5 | 1.75 | Ps: up to 0.16 bar |
| R6 | 2.50 | Ps: from 0.16 bar |

FLOW RATE CONVERSION

| TO OBTAIN | CUBIC FOOT PER HOUR | CUBIC METER PER HOUR | CUBIC FOOT PER DAY | CUBIC METER PER DAY |
|---|---------------------|----------------------|--------------------|---------------------|
| MULTIPLY | (Scf/h) | (Scm/h) | (Scf/d) | (Scm/d) |
| Cubic foot per hour | 1 | 0.028 | 24 | 0.672 |
| Cubic meter per hour (15°C, 1.01325 bara) | 35.71 | 1 | 857.04 | 24 |
| Cubic foot per day | 0.0417 | 0.0012 | 1 | 0.028 |
| Cubic meter per day | 1.4879 | 0.0417 | 35.71 | 1 |

UNIT CONVERSION

| TO OBTAIN | POUNDS PER SQUARE INCH | INCHES OF WATER COLUMN | MILIMETERS OF WATER COLUMN | INCHES OF MERCURY | MILIMETERS OF MERCURY | BAR | MILIBAR | KILOGRAMS PER SQUARE CENTIMETER | KILOPASCALS |
|--------------------|------------------------|------------------------|----------------------------|-------------------|-----------------------|----------|---------|---------------------------------|-------------|
| MULTIPLY | psi | in H2O | mm H2O | in Hg | mm Hg | bar | mbar | Kg/cm ² | Kpa |
| psi | 1 | 2.768 | 703.1 | 2.036 | 51.7 | 0.06895 | 68.95 | 0.0703 | 6.895 |
| in H2O | 0.0361 | 1 | 25.4 | 0.07355 | 1.87 | 0.002491 | 2.491 | 0.00254 | 0.22491 |
| mm H2O | 0.0014 | 0.0394 | 1 | 0.00289 | 0.07355 | 0.000098 | 0.0981 | 0.0001 | 0.00981 |
| in Hg | 0.4911 | 13.6 | 345.4 | 1 | 25.4 | 0.03386 | 33.86 | 0.03453 | 3.386 |
| mm Hg | 0.01934 | 0.535 | 13.6 | 0.03937 | 1 | 0.001333 | 1.333 | 0.00136 | 0.1333 |
| bar | 14.5 | 401.5 | 10198.1 | 29.53 | 750.06 | 1 | 1000 | 1.02 | 100 |
| mbar | 0.0145 | 0.4015 | 10.1981 | 0.02953 | 0.7501 | 0.0001 | 1 | 0.00102 | 0.1 |
| Kg/cm ² | 14.22 | 393.7 | 10000 | 28.96 | 735.58 | 0.9807 | 980.7 | 1 | 98.07 |
| Kpa | 0.145 | 4.015 | 101.98 | 0.2953 | 7.501 | 0.01 | 10 | 0.0102 | 1 |



CAPACITY TABLE in Nm³/hour | Density 0.6 | Sensitivity 10%

| MODEL 722 | | | | | |
|--------------------------|-------------------------|------------------------|-------|------|------|
| Outlet Pressure (bar) | Inlet Pressure (bar) | Natural Gas (0.6) | | | |
| | | Orifice Diameter in mm | | | |
| | | 5/32" | 3/16" | 1/4" | 3/8" |
| 0.015 to 0.033 Range | 0.140 | 6 | 8 | 10 | 18 |
| | 0.350 | 9 | 12 | 20 | 36 |
| | 0.500 | 12 | 18 | 26 | 40 |
| | 1.00 | 15 | 22 | 37 | 40 |
| | 1.50 | 22 | 28 | 40 | 40 |
| | 2.00 | 26 | 40 | 40 | 40 |
| | 2.50 | 30 | 40 | 40 | 40 |
| | 3.50 | 34 | 40 | 40 | 40 |
| | 5.00 | 40 | 40 | 40 | - |
| | 7.00 | 40 | 40 | 40 | - |
| | 10.00 | 40 | 40 | - | - |
| 0.03 to 0.08 Range | 0.140 | 5 | 6 | 8 | 11 |
| | 0.350 | 8 | 10 | 12 | 25 |
| | 0.500 | 11 | 12 | 14 | 38 |
| | 1.00 | 15 | 17 | 30 | 58 |
| | 1.50 | 20 | 27 | 45 | 65 |
| | 2.00 | 24 | 35 | 56 | 65 |
| | 2.50 | 30 | 40 | 56 | 65 |
| | 3.50 | 37 | 52 | 56 | 65 |
| | 5.00 | 49 | 56 | 56 | 65 |
| | 7.00 | 54 | 56 | 56 | 65 |
| | 10.00 | 54 | 56 | 56 | - |
| | 15.00 | 54 | 58 | - | - |
| | 21.00 | 55 | - | - | - |
| | 28.00 | 57 | - | - | - |
| 0.08 to 0.18 Range | 0.350 | 8 | 9 | 11 | 15 |
| | 0.500 | 10 | 12 | 15 | 32 |
| | 1.00 | 16 | 18 | 21 | 45 |
| | 1.50 | 22 | 25 | 32 | 80 |
| | 2.00 | 26 | 32 | 40 | 90 |
| | 2.50 | 35 | 38 | 54 | 90 |
| | 3.50 | 39 | 40 | 82 | 90 |
| | 5.00 | 54 | 68 | 90 | 90 |
| | 7.00 | 67 | 80 | 90 | - |
| | 10.00 | 67 | 80 | 90 | - |
| | 15.00 | 67 | 80 | - | - |
| | 21.00 | 69 | 80 | - | - |
| | 28.00 | 70 | - | - | - |
| 0.18 to 0.35 Range | 0.500 | 8 | 9 | 10 | 13 |
| | 1.00 | 15 | 16 | 18 | 32 |
| | 1.50 | 20 | 22 | 24 | 48 |
| | 2.00 | 22 | 28 | 30 | 70 |
| | 2.50 | 26 | 33 | 40 | 100 |
| | 3.50 | 33 | 45 | 64 | 120 |
| | 5.00 | 45 | 60 | 90 | 120 |
| | 7.00 | 62 | 78 | 120 | - |
| | 10.00 | 70 | 78 | - | - |
| | 15.00 | 91 | - | - | - |
| | 21.00 | 91 | - | - | - |
| | 28.00 | 91 | - | - | - |

| Outlet Pressure (bar) | Inlet Pressure (bar) | Natural Gas (0.6) | | | |
|--------------------------|-------------------------|------------------------|-------|------|------|
| | | Orifice Diameter in mm | | | |
| | | 5/32" | 3/16" | 1/4" | 3/8" |
| 0.35 to 0.7 Range | 1.00 | 11 | 12 | 14 | 18 |
| | 1.50 | 13 | 14 | 20 | 32 |
| | 2.00 | 18 | 19 | 28 | 39 |
| | 2.50 | 20 | 23 | 34 | 48 |
| | 3.50 | 32 | 34 | 39 | 70 |
| | 5.00 | 50 | 52 | 52 | 100 |
| | 7.00 | 64 | 66 | 100 | 130 |
| | 10.00 | 70 | 75 | - | - |
| | 15.00 | 85 | - | - | - |
| | 21.00 | 128 | - | - | - |
| | 28.00 | 128 | - | - | - |
| 0.7 to 1 Range | 2.50 | 11 | 20 | 30 | 40 |
| | 3.50 | 17 | 25 | 55 | 50 |
| | 5.00 | 25 | 45 | 55 | 70 |
| | 7.50 | 30 | 70 | 80 | 90 |
| | 10.00 | 40 | 96 | - | - |
| | 15.00 | 48 | 100 | - | - |
| | 21.00 | 50 | - | - | - |
| | 28.00 | 54 | - | - | - |
| MODEL 722-A | | | | | |
| 1 | 2.5 | 11 | 20 | 30 | 40 |
| | 3.5 | 17 | 25 | 35 | 50 |
| | 5 | 25 | 45 | 55 | 70 |
| | 7.5 | 30 | 70 | 80 | 90 |
| | 10 | 40 | 96 | - | - |
| | 15 | 48 | 100 | - | - |
| | 21 | 50 | - | - | - |
| | 28 | 54 | - | - | - |
| 1.5 | 2.5 | 13 | 20 | 30 | 40 |
| | 3.5 | 20 | 30 | 35 | 45 |
| | 5 | 30 | 50 | 60 | 70 |
| | 7.5 | 40 | 75 | 85 | 95 |
| | 10 | 45 | 100 | - | - |
| | 15 | 54 | 100 | - | - |
| | 21 | 56 | - | - | - |
| | 28 | 60 | - | - | - |
| 2 | 3 | 20 | 25 | 30 | 30 |
| | 5 | 35 | 55 | 70 | 70 |
| | 7.5 | 50 | 80 | 90 | 95 |
| | 10 | 55 | 110 | - | - |
| | 15 | 66 | 110 | - | - |
| | 21 | 70 | - | - | - |
| | 28 | 76 | - | - | - |
| 2.5 | 3 | 17 | 20 | 25 | 25 |
| | 5 | 35 | 50 | 70 | 70 |
| | 7.5 | 50 | 80 | 95 | 95 |
| | 10 | 65 | 100 | - | - |
| | 15 | 78 | 100 | - | - |
| | 21 | 85 | - | - | - |
| | 28 | 90 | - | - | - |

In order to calculate capacities with other gases, multiply the values of the chart by K factor.

| GAS | DENSITY | K FACTOR |
|--------------------|---------|----------|
| Butane | 2 | 0.55 |
| Propane (LPG) | 1.5 | 0.63 |
| Carbonic Anhydride | 1.5 | 0.63 |
| Oxygen | 1.1 | 0.74 |
| Air | 1 | 0.77 |
| Nitrogen | 0.97 | 0.79 |

| GAS | DENSITY | K FACTOR |
|---|---------|----------|
| Acetylene | 0.9 | 0.82 |
| Ammonia | 0.59 | 1.02 |
| Hydrogen | 0.07 | 3 |
| Biogas* | max 1.2 | 0.7 |
| | min 0.8 | 0.75 |
| *The proper operation is guaranteed only for treated Biogas (Low content of sulfur) | | |



INSTALLING RECOMENDATIONS

It is fundamental to pay attention to the position of the regulator vent, as it also acts as a breather. If it becomes obstructed, it could be hazardous. Therefore, it must be protected from water, dust, or other harmful elements. In general, it should always be installed facing downward.

If the regulator is to be installed in an enclosed space (only permitted for the second stage), a vent pipe of at least $\varnothing \frac{3}{4}$ " must be installed to discharge any gases vented by the regulator.

If the regulator is to be installed in an underground tank, the vent must be extended with a pipe above the possible water level.

Any gas leakage outside the valve indicates that the service should be shut off, and technical support should be contacted.

Only a qualified technician should install or repair the regulator.

- Whenever requesting a spare part or technical service, mention the valve nameplate data. (Model - Serial number - Pressures - Orifice - Flow rate)

INSTALLATION

Before installing the regulator, inspect it for any damage that may have occurred during transport. If any of the protective plastic plugs are missing, check that no foreign objects have entered through the connections.

Vent the supply piping several times until no particles come out. (This is the most common cause of startup issues).

The regulator can be installed in any position, as long as the gas flow direction indicated by the arrow on the body is followed and the vent orifice is neither obstructed nor exposed to rain or dust. It must also be protected from potential impacts caused by vehicle traffic.

The vent orifice should be periodically inspected to ensure it is not blocked.

It is always advisable to install two regulation branches with shut-off valves upstream and downstream of each one independently to avoid gas interruption during maintenance or repair.

COMMISSIONING

It is advisable to carry out the commissioning process using pressure gauges suitable for the inlet and outlet pressures of the regulator to monitor this procedure.

- 1- Slowly open the inlet shut-off valve.
- 2- Check the pressures.
- 3- Slowly open the outlet shut-off valve.
- 4- Check all connections for possible leaks.

ADJUSTMENT

If it is necessary to adjust the regulator's outlet pressure, this can be done using the nut that compresses the spring. Turning it clockwise increases the pressure, while turning it counterclockwise decreases it.



When increasing the pressure, consider the possible presence of safety elements such as relief valves, shut-off mechanisms, or pressure switches that will activate if their set pressure is exceeded. Additionally, the identification nameplate should be modified at the factory to comply with regulations and prevent future confusion.

SPARE PARTS

Always request them according to the part number from the General Cut and mention the regulator's nameplate data.

MAINTENANCE



Before disassembling the regulator, shut off the gas supply and release the accumulated pressure.

Due to the normal wear that may occur in any gas regulator, some components must be periodically inspected and replaced if necessary.

The inspection frequency depends on the severity of service or the requirements of the applicable regulations.



At EQA, we strive to minimize our environmental impact through sustainable and responsible practices. Therefore, we encourage you to join our commitment and, at the end of the product's lifecycle, adhere to the current Municipal, Provincial, and National regulations regarding the classification, recycling, destruction, or disposal of the product, spare parts, non-reusable parts, and packaging. By doing so, we prevent environmental damage and promote reuse and recycling whenever possible. Thank you for your commitment and efforts in joining these actions.