cavagna group
Advanced solutions for gas control

FIRST STAGE REGULATOR WITH AUTOMATIC CHANGEOVER TYPE 924 IN CONFORMITY WITH STANDARD EN16129

34-1-110-1296 r.0

EN

This product is covered by the manufacturer's general warranty conditions, available in the General Warranty Conditions section of the www.cavagnagroup.com website.

DANGER

- Gas leaks may cause fatal fires or explosions
- Only skilled persons must work on gas circuits
- Inspect the gas circuit regularly
- Replace adapters, valves and regulators as recommended by the relevant technical regulations
- Failure to follow these instructions with care could lead to serious health risks

The manufacturer reserves the right to modify this instruction sheet without notice.

THE MANUFACTURER GUARANTEES THAT THIS REGULATOR COMPLIES WITH THE REGULATIONS AND STANDARDS REFERRED TO ABOVE. IT IS THEREFORE THE INSTALLER'S RESPONSIBILITY TO COMPLY WITH THE REGULATIONS IN FORCE IN THE REGULATOR'S COUNTRY OF USE AND CHECK ANY SPECIFIC DIRECTIVES COVERING ITS APPLICATION.
FAILURE TO COMPLY WITH THE INSTRUCTIONS PROVIDED HERE LEADS TO AUTOMATIC FORFEITURE OF THE MANUFACTURER'S WARRANTY ON THE PRODUCT, AND THE MANUFACTURER SHALL NOT BE HELD RESPONSIBLE FOR ANY CONSEQUENT DAMAGE.

Operating instructions to be kept by the user
Read carefully before using

1 TECHNICAL DATA:

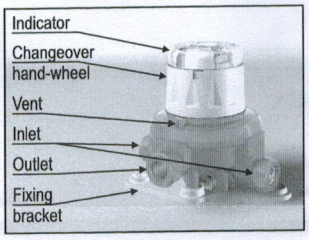
TYPE OF GAS	SUPPLY PRESSURE (p)	NOMINAL REGULATED PRESSURE (p_d)	NOMINAL FLOW RATE (M_g)
PROPANE	1.25 - 16 bar	0.75 bar	from 8 kg/h to 20 kg/h (written on the label)
	2 - 16 bar	1.5 bar	
	3.5 - 16 bar	3 bar	
LPG	0.9 - 16 bar	0.7 bar	from 4 kg/h to 10 kg/h (written on the label)
	1.7 - 16 bar	1.5 bar	
BUTANE	0.7 - 7.5 bar	0.5 bar	2.6 kg/h (written on the label)

- Inlet connection: G.1-G.2-G.4-G.5-G.6-G.7-G.8-G.9-G.10-G.12-G.13-G.14-G.18-G.23-G.34 of EN16129 (written on the label)
- Outlet connection: H.1-H.3-H.7-H.11-H.18-H.19-H.56 of EN 16129 (written on the label)

2 GENERAL

The changeover device is designed to operate multiple cylinder systems, the reserve cylinder being brought into use automatically when the service cylinders are empty. The indicator will turn red when the pressure in the service cylinder falls to the set changeover pressure. At this point the device will changeover automatically and draw gas from both the service and reserve cylinder. The Automatic Changeover Device maintains a constant outlet pressure and ensures no interruption in service when the supply cylinder is empty or during replacement.

- Make sure the regulator inlet and outlet are compatible with the cylinders and the appliance being used.
- This regulator is not for use in caravans and motor caravans.
- The regulator maintains a constant outlet pressure.
- Do not attempt to adjust the outlet pressure. Should you require service, contact your dealer.
- Type 924 operating temperature range is 0/50°C for Butane and -20/+50°C for Propane and LPG



Although fitted with non-return valves, hoses should only be disconnected during cylinder replacement. At all other times the hoses must always be connected to a cylinder.

This Automatic Changeover device is for use on BUTANE, PROPANE and LPG cylinder installations. It should be sited on an outside wall in an upright position, as shown overleaf, away from any openings such as windows, air vents, etc.

If possible it should be located in a position which remains shaded as this will prolong the useful life of the hoses.

Protection should be provided if necessary to keep ice or snow from covering the regulator when it is located in an exposed position. Once installed the regulator must not be painted and care should be taken to avoid any contamination by building or other decorative materials. Failure to observe these recommendations may lead to impairment of performance of the regulator.

Installation of this Automatic Changeover Device, shall be carried out by a competent person.

3 INSTALLATION

a) Place Automatic Changeover Device against wall in required position and mark hole through bracket.
- Always position the Automatic Changeover Device with the inlet connections above the cylinder valves outlet, with the hoses continually sloping down to the cylinder valve. This is so that any LPG condensates in the hose will drain back into the cylinder.
- Always position Automatic Changeover Device with vents pointing downwards.
b) Drill 2 holes and fit rawplugs flush to wall.
c) Fit the sealing washer inside the nut (if required) and screw into Automatic Changeover Device outlet and tighten gently with a suitable spanner. Do not over tighten.
d) Position the Automatic Changeover Device assembly over the rawplugs, cover the 2 fixing point of the bracket and secure to wall using the 2 round head screws provided.
e) Fit the sealing washer to inlet connections (if required). Ensure the sealing washer is in good condition and correctly aligned.
f) Fit H.P. hose assemblies to the Automatic Changeover Device. Tighten the hose nuts gently using a suitable spanner to make a gas tight seal. Do not over tighten.
g) Connect hose connection to cylinder valves.
h) If the installer deems it appropriate, it is possible to connect a pipe to the vent of the safety valve to evacuate the gas (in case the safety valve trips) in a desired location.
i) Ensure all connections are secure.
j) Slowly open all the cylinder valves and check all joints for leaks using leak detection fluid or a soapy water solution.
NEVER CHECK FOR LEAKS WITH A NAKED FLAME.
k) If a leak is found turn off all cylinder valves, bleed system and correct leak. Check again by repeating (i).
l) On completion and testing of the downstream pipework:
with all appliances running, check outlet pressure at the test point on the Automatic Change Over Device and at the appliances inlet valve is correct.

IMPORTANT: These regulators are used in installations with two-stage regulation. These regulators must be mounted as a first stage, upstream a second stage regulator. Operating inlet pressure range is p_d+0,5-16 bar for gas Propane, p_d+0,2-16 bar for gas LPG and p_d+0,2-7.5 bar for gas Butane (where p_d is defined as the regulated output pressure to the regulator)

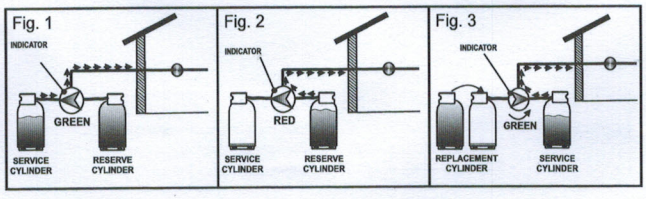
4 SAFETY CHECK BEFORE FITTING

This Automatic Changeover Device should only be installed by an approved register installer or suitably competent person.
- Ensure the gas equipment and appliances are in a sound condition and of an approved type. If you are in any doubt about the safety and efficiency of your gas system, consult your dealer or approved register installer.
- Never fit a cylinder on its side or leaning out of the vertical, always upright with the valve uppermost.
- Ensure that the hoses are routed so that any propane condensate returns back to cylinders as this wil assist in the service life of hoses and Automatic Changeover Device (see the installation diagram for example).
- Check the data badge of the appliances to ensure that the Automatic Change Over Device is compatible with the application.

Check that there is adequate ventilation for the appliance(s) used.

5 OPERATING INSTRUCTION

After installing the Automatic Changeover Device, connect cylinder(s) to all hoses on both sides of the device.
Open valve on the outlet and open all cylinder valves SLOWLY. Gas will now flow from all cylinders through the hoses into the Automatic Changeover Device.
Rotate the changeover knob fully one way. The indicator should be green.
Rotate the changeover knob fully the opposite way. The indicator should stay green.
The arrow denotes "Supply" which cylinders are on the service side, these will be used first.



6 CHANGEOVER UNIT OPERATION

Putting into Service, figure 1

After having checked that the indicator remains green in the two positions on the knob, turn the knob so that the arrow is facing to the right or left. The arrow on the knob will indicate the cylinder in use (Service).

Operation of the Reserve cylinders, figure 2.

When the indicator is red, this means that the cylinder in Service has run out. It is now empty and the installation is operating on the Reserve cylinder.

Replacing the empty cylinder, figure 3

Turn the knob fully to point at the Reserve cylinder. This cylinder that was previously in Reserve will now become the cylinder in Service, the indicator will turn green. If it stays red, this means that the system has been operating on the Reserve cylinder for too long and that this one is also empty. It will therefore be necessary to change both cylinders.

Close the valve on the empty cylinder. Disconnect the cylinder.

Connect a new full cylinder, AND FIRMLY TIGHTEN THE POL NUT USING A CORRECT FITTING SPANNER (left hand thread). Open the cylinder valve and check the connections for leaks using a Leak Detector fluid or a soapy water solution. A leak will show bubbles being continuously formed.

7 MAINTENANCE

Do not attempt repair the Automatic Changeover Device yourself, as there are no user serviceable parts in its construction. Hoses should be checked annually. If hoses show any signs of cracking or deterioration they should be changed. It is recommended that all hose are changed 5 years from installation.

In normal conditions of use, in order to ensure the correct operation of the installation, it is recommended that this Automatic Changeover Device is changed within 10 years of the date of manufacture.

8 GAS LEAKS

All gas leaks, however small, are dangerous and must be eliminated. Escaping gas can normally be traced by smell or sound but liquid detergent should be brushed over the area to confirm the location of the leak. Never look for a leak with a naked flame. If a leak is detected on bulk tank installations, turn off the service valve and call your dealer.

9 GENERAL SAFETY INSTRUCTION

All persons concerned with BUTANE, PROPANE and LPG should familiarise themselves with the following characteristics and hazards: BUTANE, PROPANE and LPG are stored normally as a liquid under pressure. Leakage, especially of liquid, may release a large volume of flammable gas. A very small proportion (1.9% - 11%) of these gases in air can give rise to an explosive mixture. BUTANE, PROPANE and LPG are heavier than air and therefore any leakage will accumulate at the lowest level of surroundings. As a liquid, BUTANE, PROPANE and LPG are half the density of water and will therefore lie on top of water. BUTANE, PROPANE and LPG liquid by its rapid vaporization and consequent lowering of the temperature can cause severe frost burns when in contact with the skin.

10 RECOMMENDATIONS FOR THE FINAL CUSTOMER

Gas leaks may cause fires and explosions.

If a smell of gas is noticed:

- Do not use electrical devices or the telephone
- Do not switch on household appliances
- Call your supplier from a neighbour's telephone at once
- If you are unable to contact your supplier, call the fire service.

CAVAGNA GROUP SPA - LPG & natural gas regulators RECA division
Via Matteotti, 5 - 25012 Viadana di Calvisano - Brescia ITALY
info@cavagna.com - www.cavagnagroup.com
Tel: +39 030 9688611 – Fax: +39 030 9968712