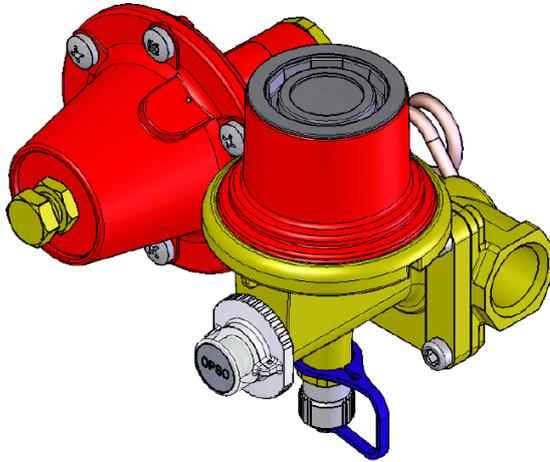




**CLESSE PART No.**  
**006861FB**

**FIRST STAGE REGULATOR**  
**WITH OPSO 60kg/h**

**SUPPLIED BY**  
**CLESSE**  
**(UK) LIMITED**

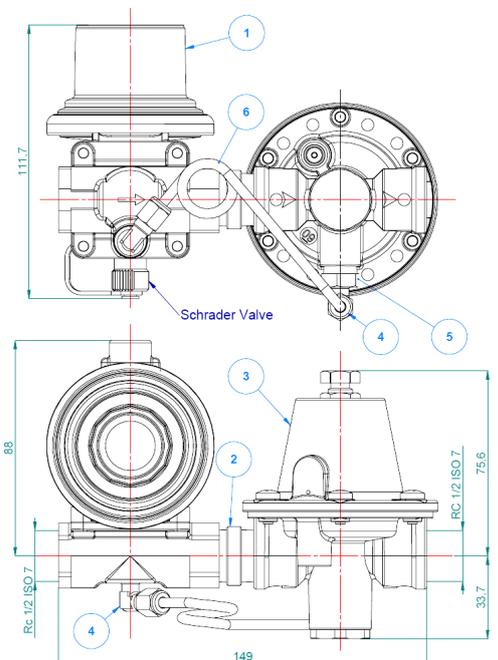
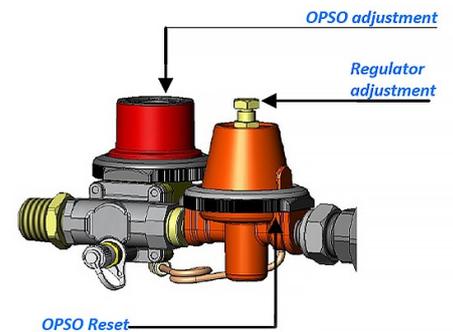


Technical Information	
Regulator	AP40 OPSO
Capacity kg/h (kW)	60 (830)
Set Pressure bar	0.75*(0.5-2)
Inlet Pressure	1.25-16 bar
OPSO Set Pressure	2.5 bar
Design Standard	EN13785
Inlet connection	Rc1/2F ISO/7 (BSP)
Outlet connection	Rc1/2F ISO/7 (BSP)

#### Assembly Instruction

1. Check the contents of the box, ensuring that the regulator meets the pressure and capacity requirements of the installation and all items are present and not damaged.
2. Assemble any components using PTFE tape to BS EN 751:3 Type G or Clesstite on the male pipe threads. Tighten the regulator or POL without applying undue strain on pre-assembled joints, particularly between regulator & OPSO. Assemble to achieve a gas tight seal using a flat jawed spanner on the appropriate points on the regulator.
3. Connections fitted to the first stage regulator should be tightened to approximately 30 Nm. OPSO connections (inlet) 40Nm.
4. Always position the regulator to ensure drainage of any water from diaphragm cover.
5. Any steel pipe (not supplied) should be threaded, de-burred, and thoroughly cleaned of any loose material before assembly onto the First Stage regulator assembly. Use flat jawed spanner at the outlet end of the OPSO when screwing the pipe.
6. Install the completed assembly onto the vessel. Tighten any securing clamps after the regulator POL connection has been made, ensuring no undue strain on the assembly occurs when doing so, particularly the POL fitting.
7. Perform a gas tightness test to the requirements of UKLPG COP22 or BS 5482:1 – 2005 using the Schrader test point on the OPSO unit. Refit the dust cap when complete.
8. Use Leak Detection Fluid on the test point and POL connection, wiping off any remaining residues. If not using LPG for test media purge the assembly fully before leaving site, ensuring all pipework is plugged or capped.
9. Fully commission assembly, checking operating pressures only when the appliances are available and connected. Otherwise, check for soundness and lockup before leaving. The regulator is pre-set at the factory and does not normally need adjustment when used. If operating pressure adjustment is required, see overleaf.
10. The OPSO unit is pre-set at 2.5bar and should not require adjustment, unless there are exceptional installation conditions.
11. Fit the OPSO seal passing the wire through the regulator hole in the OPSO body and clear plastic OPSO cap.

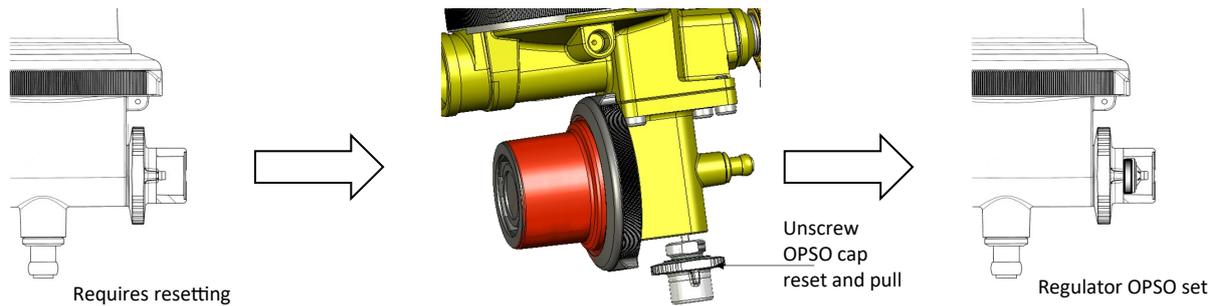
\* If the regulator is supplied as part of an OEM twin-stream assembly, this pressure may have been altered to suit. Please refer to the OEM instructions.



*Operating Conditions	Settings
Pressure Range	0.5-2 bar
Inlet Operating Pressure to achieve max capacity	2.5 - 16 bar
Operating temperature	-20°C to 45°C
OPSO Sensing Method	Internal
Lockup Pressure	30% above nominal pressure setting

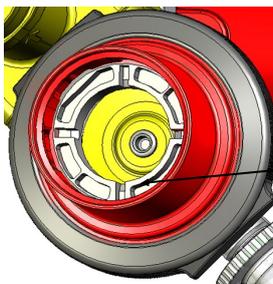
**ANY REGULATOR ADJUSTMENTS AND RESET PROCEDURES SHOULD BE CARRIED OUT BY A SUITABLY QUALIFIED GAS ENGINEER**

### Over Pressure Shut Off Valve Reset



1. Over Pressure Shut Off must be reset by a qualified gas engineer, who should establish any cause for tripping, particular if this device trips repeatedly .
2. The device is fitted with a sealing wire, this must be replaced when reset.
3. If the OPSO has tripped together with UPSO, the OPSO must be reset first.
4. Gas supply does not require to be turned on, but ensure downstream valves have been turned off before resetting.
5. Remove sealing wire and unscrew the OPSO reset cap, in doing so this will begin to engage the reset spindle.
6. The OPSO cap is attached to the green reset indicator inside and is used to pull the device to reset—pull the cap firmly.
7. When reset, replace cap, finger tighten, and reseal with new wire seal. If required, proceed to reset UPSO.

### OPSO Adjustment



1. OPSO adjustment is not normally required, however, in the event that this is required:
2. Remove the black OPSO cap and adjust to give the desired pressure.
3. Reset OPSO and recheck settings.

Adjust here to alter OPSO pressure

### Correct Nominal Pressure Adjustment

The pressure setting on an A1 kit is pre-set at the factory to 0.75 bar with an inlet pressure of 7 bar. This should not be adjusted unless a higher outlet pressure is required, i.e. down-stream regulator or appliance requires a higher inlet pressure.

Vessel vapour pressures below 7 bar will result in higher nominal regulator pressure, likewise, higher vessel vapour pressure will result in lower nominal regulator pressures.

Care should be taken when setting HP regulators where vessel vapour pressure is either below 4.5 bar or above 9.5 bar.

As an approximation, for every 1 bar +/- of the 7 bar vessel pressure -

- Above 7 bar vessel pressure — reduce nominal setting by 40 mbar
- Below 7 bar vessel pressure — increase nominal setting by 40 mbar

- *The correction should be used between pressures of 4.5 to 9.5 bar and determined at a flow rate between 20% to 80% of regulator capacity.*

This will ensure that the regulator maintains an average 0.75 bar during most ambient temperature and vessel contents conditions.

i.e.—

A) Vessel pressure of 4.5 bar supplying a pre-set 0.75 bar regulator will operate at a 0.85 bar; this is normal and does not need adjustment.

B) Vessel pressure of 9.5 bar supplying a pre-set 0.75 bar regulator will operate at a 0.65 bar; this is normal and does not need adjustment.

Make sure that in the case of B) the 2nd stage regulator has a rated capacity sufficient to supply appliances at a reduced pressure when the vessel pressure is high .