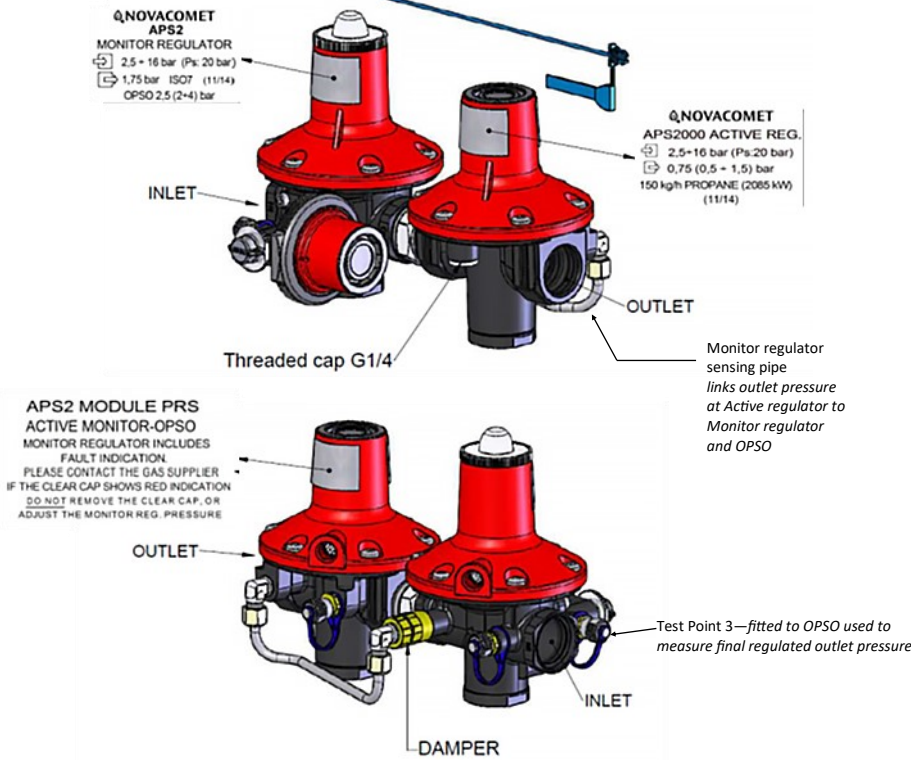




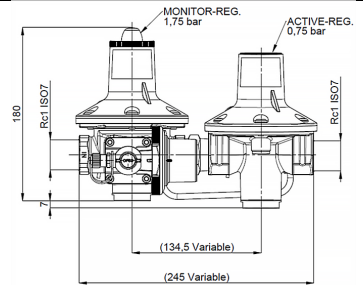
CLESSE PART No.
006880MD

1ST STAGE ACTIVE MONITOR OPSO
750mb 150kg/h 2074kW

SUPPLIED BY
CLESSE(UK) LIMITED



Technical Information	
Regulator	AP2 AM OPSO
Capacity kg/h (kW)	150 (2074)
Set Pressure ACTIVE	0.75 bar (0.5-1.5)
Set Pressure MONITOR	1.75 bar (not adjustable)
Max inlet Pressure	16 bar (operating)
OPSO Set Pressure	Standard setting 2.5 bar (2-4)
Design Standard	EN16129
Inlet connection	Rc1F ISO/7 (BSP)
Outlet connection	Rc1F ISO/7 (BSP)
Pressure test point	Schrader valve x 3

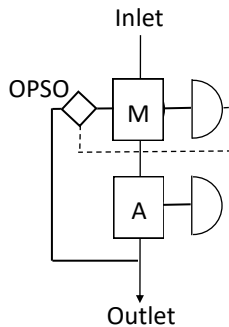


This regulator is suitable for up to 120 properties.
(Based on 24kW per property / 70% diversification factor)

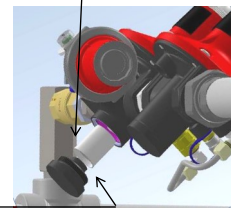
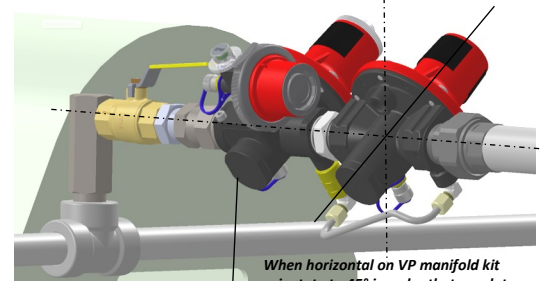
Principle of operation

1. The Monitor (M) regulator senses pressure at the outlet of Active (A) regulator. The Monitor (M) regulator only responds and controls the pressure at this point, and not internally as a normal regulator.
2. The Monitor (M) regulator is set to operate 15% higher than the maximum lock up pressure of the Active (A) regulator (1.5 bar).
3. In normal operation, the Monitor (M) regulator remains fully open as it is factory pre-set higher than the Active (A) regulator. Adjustment of Active (A) regulator is only allowed between the pressures (0.5—1.2 bar). The static lockup value must not exceed 1.35bar otherwise the Monitor (M) will begin to operate.
4. In normal operation, upstream tank pressure passes through the Monitor (M) regulator directly to the inlet of Active (A) regulator.
5. Pressure measured at TP1 and TP2 will be the same as tank pressure.
6. Should any problems occur with Active (A), the Monitor (M) regulator will start to operate around 1.75 bar
7. When this occurs, a red indicator shows fully in the glass window of the Monitor (M) regulator. In this condition, TP1 and TP2 will not show the same pressure. TP1 will show tank pressure and TP2 will show Monitor (M) regulator operating and lock up pressure.
8. In this condition, TP3 measured pressure will be the same as TP2. If this is the case, the regulator will need to be replaced or adjustment of Active (A) regulator to a lower setting.
9. Double protection of outlet pressure provides a more stable OPSO system with greater protection against nuisance tripping.

M—Monitor Regulator remains in the fully open condition in normal conditions. Should the Active regulator A fail, the Monitor regulator will assume



A- Active Regulator controls pressure under normal operating conditions



* Note
This regulator contains a filter on the monitor regulator—refer overleaf for instruction on checking and cleaning

QUICK REFERENCE FOR CHECKING NORMAL OPERATION

Normal Operation

TP 1 and 2 show the same pressure (tank pressure).

Incorrect operation

TP 2 and 3 show the same pressure (elevated regulated pressure) and the red indicator shows fully in Monitor (M) regulator window.

If the red indicator is fully visible, the regulator needs to be checked by a qualified gas engineer or replaced completely.



This regulator needs to be periodically inspected.

Use the correct servicing kit UUA/MOPSOTSTKIT to check the correct functioning of Active Monitor regulator and verify settings of OPSO.

*Operating Conditions	Settings
Outlet Pressure Range	0.5-1.5 bar
Inlet Operating Pressure to achieve declared capacity	2.5 - 16 bar
Operating temperature	-20°C to 50°C
OPSO Sensing Method	External sensing to Active regulator
Lockup Pressure	Maximum 1.35 bar
Filter— stainless steel 200 micron (0.2mm) No. 04455AA	Yes

Nominal Pressure Adjustment

Regulator adjustment is not normally required. In the event that this is required, only adjustment of the Active regulator is permitted

1. Remove the black cap by the cover and adjust to give the desired pressure (max 1.2 bar or lockup no greater than 1.45 bar) by adjusting the internal screw ring to give the desired outlet pressure.
2. Reset the cap on the cover.

DO NOT adjust the Monitor regulator, unless you have the correct service tool kit, as well as adequate training and qualification.

Correct Nominal Pressure Adjustment

THIS IS A PRESSURE COMPENSATED REGULATOR. ONCE SET, REGULATOR WILL ACCOMMODATE VARYING TANK PRESSURES TO PROVIDE CONSISTENT OUTLET PRESSURES.

If adjusting the pressure: A nominal flow rate of minimum 10% of the regulator capacity needs to be used, and a minimum of 2.5 bar inlet pressure should be available, observing the regulators maximum pressure setting requirements on the front of this document and the installation pipework restrictions (whichever is lower).

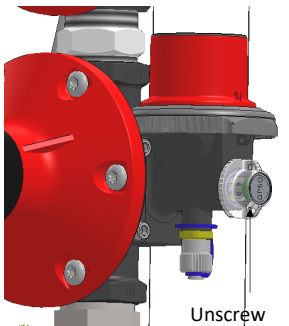
Once set, check the lockup at zero flow, ensuring the pressure does not exceed that stated in the front of this document or installation pipework restrictions (whichever is lower).

ENSURE THAT PRESSURES
SELECTED ARE SUITABLE FOR
THE DOWNSTREAM
PIPEWORK.

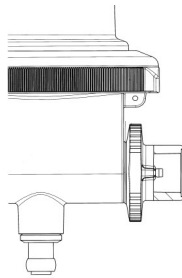
Over Pressure Shut Off Valve Reset

THE OPSO RESET CAN ONLY BE PERFORMED BY A SUITABLY QUALIFIED GAS ENGINEER ONCE REASON FOR ACTIVATION HAS BEEN ESTABLISHED.

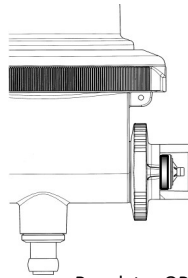
1. Over Pressure Shut Off must be reset by a qualified gas engineer, who should establish any cause for tripping, particular if this device trips repeatedly .
2. The device is fitted with a sealing wire, this must be replaced when reset (not shown)
3. If the OPSO has tripped together with UPSO then the 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 tight and reseat with new wire seal, if required proceed to reset UPSO



Unscrew
OPSO cap
reset and pull



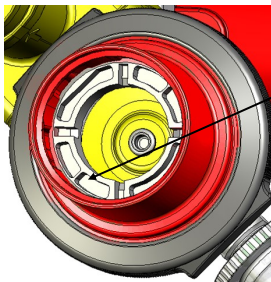
Requires resetting



Regulator OPSO set

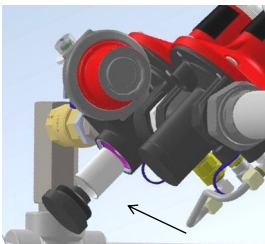
OPSO Adjustment

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



Adjust here to alter OPSO pressure

FILTER—INSPECTION REMOVAL CLEANING AND REPLACEMENT



This regulator is fitted with a filter. In normal conditions, this should not require cleaning; you can determine if cleaning is required without having to dismantle by:

1. Measure the differential gas pressure of tank pressure measured on TP1, and after the filter on the Monitor regulator on intermediate pressure TP2.
2. There should not be a pressure difference of more than 25% at any flow rate, up to the maximum capacity declared on the data plate.

- To remove the filter for cleaning: Isolate the regulator on the valves and de-pressurise the gas from within the regulator. Using a 38mm spanner, remove the cap on the lower part of the Monitor (M) regulator. Do this carefully in order not to damage the rubber O-ring on the cap.

- Carefully withdraw the cap and then the filter. Clean any metallic parts and inside the regulator. Inside the regulator there is magnet on some models, clean this also.

- Before re-assembly, ensure the filter is reinserted into the regulator fully and the rubber O-ring on the cap is present and undamaged. Re-assemble the cap using a small amount of grease (copper or molybdenum gas cock grease) on the threads only.

- Once assembled, re-introduce pressure into the regulator, test the threaded cap retaining the filter for leakage, and recommission the regulator, ensuring it is functioning correctly and locking up as detailed overleaf