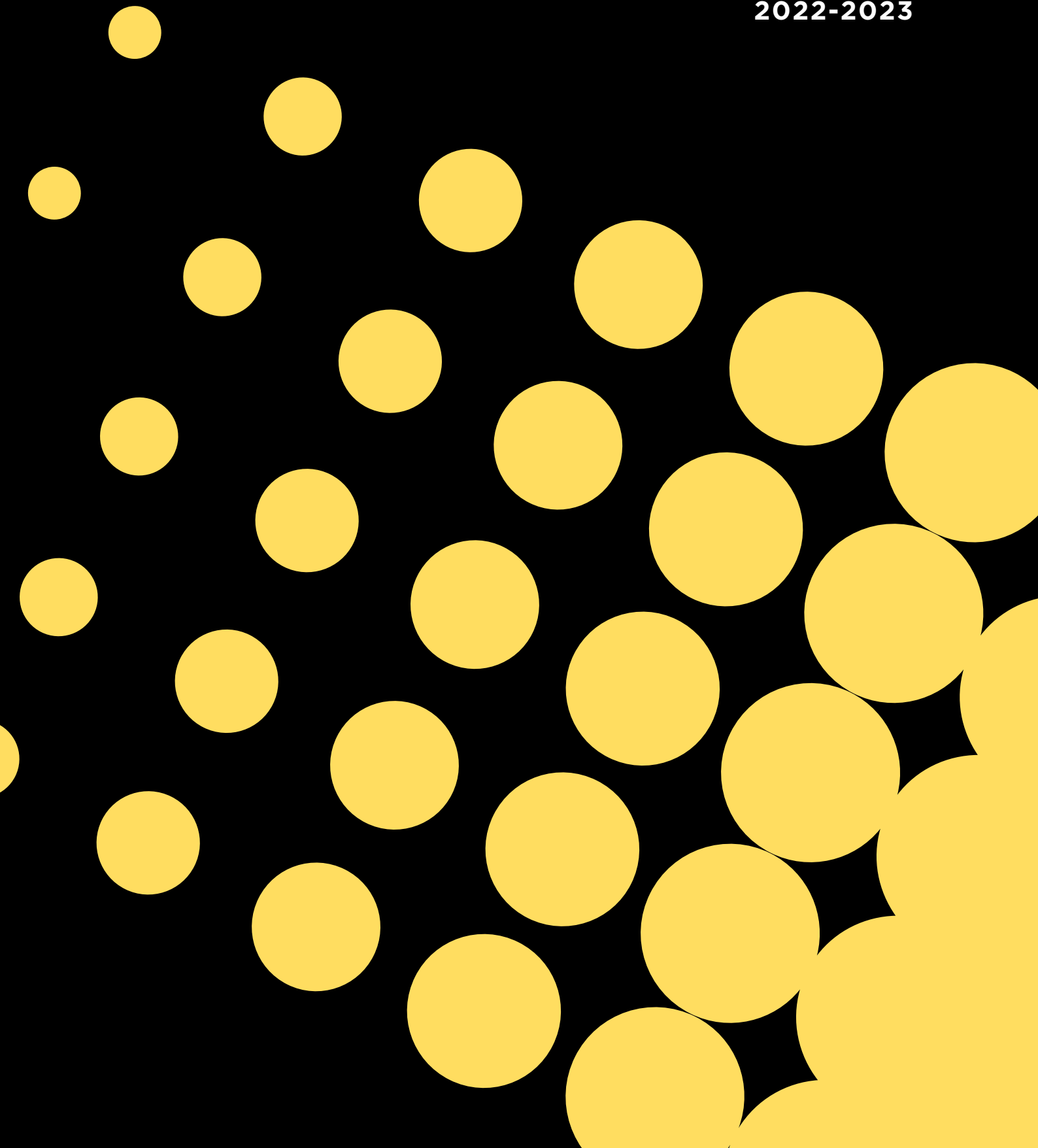
CLESSE
(UK) LIMITED

PRODUCT CATALOGUE
2022-2023



CLESSE (UK) LIMITED

CLESSE (UK) Limited is a subsidiary of CLESSE INDUSTRIES, and together with renowned brands CLESSE and NOVACOMET, designs, manufactures, specifies and supplies products to serve all types of LPG gas installations.

CLESSE (UK) Limited is the UK division supporting the distributors and installers in Domestic and Commercial LP Gas installations. Based in the rural heart of the UK, the Worcestershire location is ideally located to serve the UK & Irish markets.

Clesse UK is the market leader for quality solutions in pressure regulation. Whether it's a cylinder, tank, or metered network, Clesse has the expertise to ensure the correct solution is delivered punctually, supported by our inhouse technical professionals.

Clesse UK has available the most extensive range of LPG product from gas regulators, bulk tank equipment, metering and kit solutions ranging from 1 - 1200 kg/h, together with a selection of locally sourced UK products such as hoses and fitting accessories.

We have over 30 years experience, and our professional sales and warehouse team are recognised as the authority for gas professionals in the industry and are ready to help you choose and supply the right equipment for your customer.

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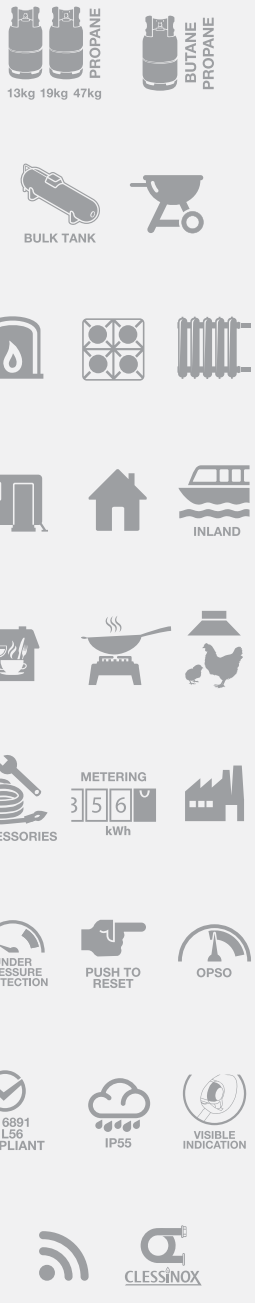
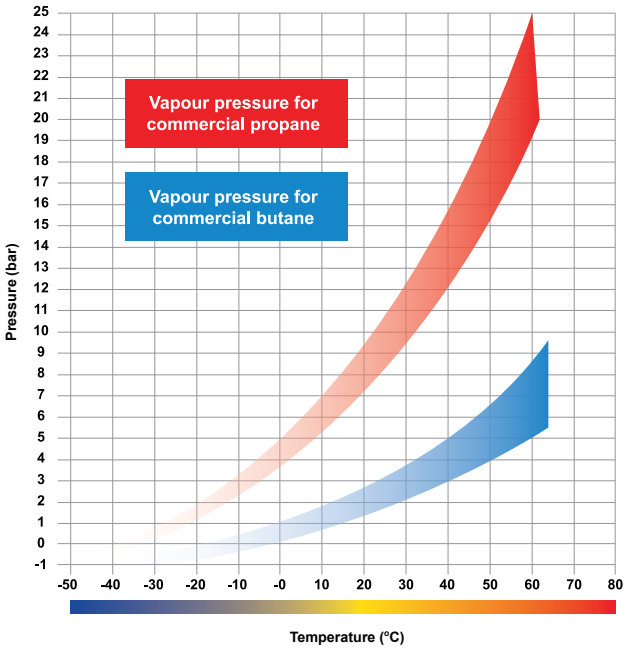
ICON LEGEND

Clesse UK have introduced icons to assist with application based product selection.

You will notice them in grey down the edge of most pages.



Gas types, vaporisation cylinder off-take rates and conversion tables



Type of gas in the cylinders

LPG (Liquefied Petroleum Gas) contained in the cylinders is supplied either as Butane or Propane or a mix of both. Commercial Butane contains approximately 80-90% of Butane, whilst commercial Propane contains approximately 90% Propane.

Large quantities of flammable vapour can be produced from relatively small amounts of liquid LPG stored in cylinders and gas tanks. This makes LPG an ideal portable fuel. Cylinders must always remain upright to ensure only vapour exits the cylinder valve before it enters the regulators.

At atmospheric pressure BUTANE boils at -2°C and PROPANE boils at -45°C

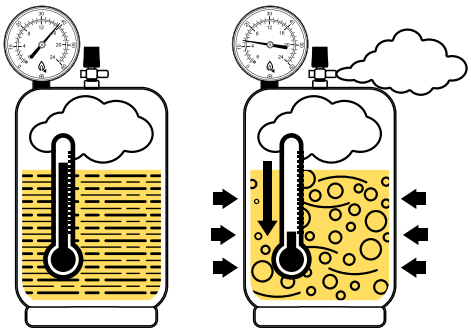
Contained in cylinders or bulk tanks, LPG remains in liquid form under pressure and this pressure depends on the type of LPG and the ambient temperature surrounding the cylinder or tank. The chart to the left shows the vapour pressure within a gas cylinder at various ambient temperatures.

Vaporisation in the cylinder

In a cylinder, LPG is in liquid form at the bottom, and vapour under pressure at the top. When there is an off-take of gas, the gas volume is regenerated by boiling off the liquid part. This vaporisation cools down the liquid. The heat required to allow the LPG to continue to boil is the surrounding air or ambient temperature in contact with the cylinder.

Propane delivers high pressure at colder temperatures and is vaporised faster so is used and stored outside. Butane is used mainly indoors, or outdoors during the summer.

During off-take, the temperature decreases, then the pressure decreases. When only a small amount of liquid remains in the cylinder, the pressure is lower than when the cylinder was full. Likewise the larger the cylinder the greater the surface area and so more vapour can be produced. This is the vaporisation rate.



Typical vaporisation rates on cylinders

The maximum flow rate depends on:

- the type of gas
- the level in the cylinder
- the ambient temperature
- the duration of use
- the dimension and material of the cylinder
- the number of cylinders

Cylinders can only supply a certain rate of vapour and must be sized to meet the heat input of the appliances. Often an overlooked part of an LPG installation is the correct sizing and quantity of cylinders. This will ensure that the regulator delivers the correct pressure using the full contents of a cylinder. When using automatic changeovers these will eventually select the reserve cylinder contents.

The capacity we declare on our regulators is normally “worst case scenario” to ensure the regulator or ACO (Automatic Changeover) operate in both very cold or hot climatic conditions and low cylinder contents. This means in most cases our regulators are “understated”.

Off-take rates for cylinders are typically as indicated below and based on a continuous off-take rate. Some installations will require more than one cylinder so automatic changeovers should be used.

Recommended maximum off-take rates for LPG cylinders

	Cylinder size (kg)	Offtake rate (kg/h)	Offtake rate kW (kilowatt)
Butane	15	0.70	9.70
Propane	13	1.05	14.60
	19	1.32	18.35
	47	2.37	32.94

Example

When supplying a 12kW cooker, a 28kW CH boiler and a 14kW fire, the total load is 54kW. Therefore 2x47kg cylinders combined will need to be used. An ideal installation of ACO using 4 cylinders (2 per side), such as the Compact 800 5kg/h (69kW) supplying 37mb outlet pressure will need to be used.

Note: 1kg/h Gas Flow rate = 13.8kW = 47,500BTU/h

Stages of Regulation

In an LPG installation, there can be 1, 2 or 3 pressure regulation stages.

Single stage
The regulator is directly connected to the cylinder or tank and reduces the pressure from the vessel directly down to the appliance pressure.

First stage
The regulator or ACO (via inlet connection hose) is directly connected to the cylinder or tank and reduces the pressure from the vessel down to an intermediate pressure for a second stage regulator application.

Second stage
The regulator reduces the pressure from the intermediate pressure down to the appliance pressure or to a third stage intermediate pressure.

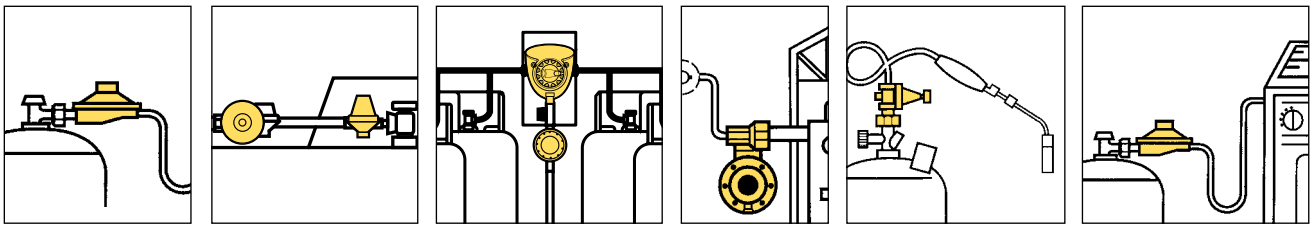
Third stage
The regulator reduces the pressure from the second stage regulator pressure down to the appliance pressure normally associated with 3 stage bulk tank installations.

High or Low pressure regulator
For LPG installations the regulators families are generally defined as follows:

High pressure regulators
Regulators delivering an outlet pressure (fixed or variable) higher than 500mbar.

These are defined as single or first stage regulators generally up to a maximum of 4bar.

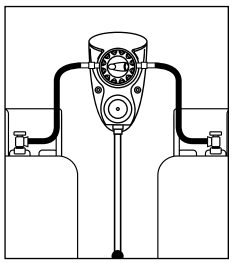
Low pressure regulators
Regulators delivering an outlet pressure (fixed, adjustable or variable) lower than 500mbar. These are defined as single, second or third stage.



Single Stage *First Stage* *ACO* *Second Stage* *High Pressure Regulator* *Low Pressure Regulators*

Automatic Changeovers

Automatic Changeovers are used with 2 or more cylinders.



The first cylinder (or cylinder bank if using more than 2 cylinders) is called “service”, the second is called “reserve”. The Automatic Changeover firstly draws the gas from the “service” cylinder. When the “service” cylinder is empty or when its vaporising capacity is not sufficient (for instance, high flow rate during a long time, use of butane-propane mixture, low temperatures, low level in the cylinder, etc….) it automatically changes to and takes the main flow from the reserve cylinder. An indicator on the device shows that the “service” cylinder is empty.

By using an Automatic Changeover you can guarantee continuous flow of gas without fear of interruption of service to the appliance, maximizing the amount of gas available in the cylinders.

There are 2 types of Automatic Changeovers

- High Pressure versions delivering a first stage intermediate pressure of 1, 1.5 and 3bar for higher capacity and specialist applications for poultry and game rearing brooder heaters or remote cylinder installations.
- Low Pressure versions which are equipped with an integral second stage pressure regulator providing a single stage outlet pressure, normally 37mb, with 29 and 50mb versions also available.

Inlet pressure

The inlet pressure can be expressed in minimum and maximum values. When supplied within the declared range of inlet pressure, the regulator is able to deliver a stable outlet pressure and flow rate declared on the data label. For LPG first or single stage regulators, the maximum inlet pressure is 16bar, to ensure the correct flow rates are achieved as defined in the EN standard.

Outlet Pressure – types and settings

The outlet pressure can be:

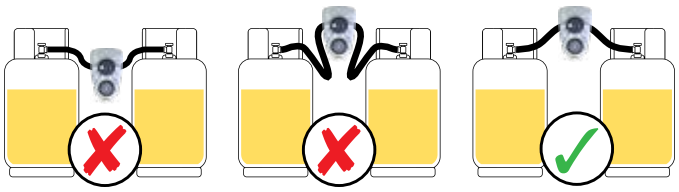
- **“Fixed”:** Outlet pressure is factory preset. The types of regulators with this function are sealed units with no possible chance of adjustment. Typical examples would be certain first stage intermediate pressure regulators delivering a fixed 0.75bar or 1bar, or single stage low pressure regulators typical used in BBQ applications delivering a fixed 29 or 37mb. This will be denoted in the catalogue as (fixed).
- **“Adjustable”:** The outlet pressure is factory set but can be readjusted internally by removing the cap on the regulator diaphragm lid. The cap can either be hand screwed, or opened only with a special cap removal tool. Compact 100 and Compact 800 Automatic Changeovers are adjustable via an Allen key adjustment tool (4mm) underneath a push in grommet on the front of the regulator.
- **“Variable”:** The outlet pressure can be set using external adjustment methods built onto the regulator, either as a multi-turn T-Bar, a knob with hexagonal locking nut, or a single gradient turn 1-10 position head which is not lockable.

Examples of variable regulators include:

- 20-300mbar means a variable setting can be achieved, minimum setting 20mbar, maximum setting 300mbar
- 0.75 (0.5 – 2) bar: The regulator has been preset at the factory to the un-bracketed figure, but can be engineer adjusted between the bracketed figure so long as there is a minimum inlet pressure of at least 0.5bar above that required setting.

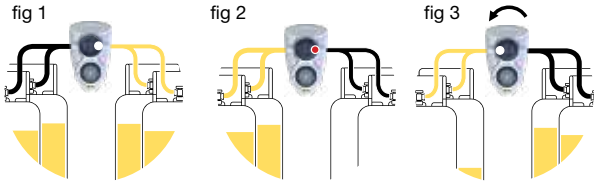
ACO Installing Guide

Always fit wall mounted regulators above the level of the cylinders with hoses falling gradually to the cylinder valves, so that no condensed LPG can collect in the ACO or hoses.



How ACO Works

The ACO uses the service cylinder (fig 1). When empty the indicator will turn red and automatically switches internally to reserve cylinder (fig 2). The empty cylinder is be replaced and



the indicator knob is manually turned to the opposite side. The replaced cylinder now become the reserve (fig 3).

Safety Devices

Pressure Relief Valve (PRV)

This is a safety device for the relief of excess pressure. Excess pressure can result from:

a) Thermal expansion of trapped gas after the regulator. LPG vapour has a large expansion coefficient and is affected by changes in temperature. When associated with an OPSO system the PRV prevents nuisance tripping of the shut off.

b) Creeping lock up pressure due to dirt between the regulator seat and the seat pad, this is the first line of safety for downstream appliances.

The type of PRV used in Clesse regulators in this catalogue are Limited Relief Valves. These will show in the tables with Y or N in a PRV column if applicable to the regulator family group. This type of relief valve discharges a low flow (less than 10% of nominal regulator flow rate) and deals with excess pressures resulting from a) and b) above.

- The relief valves will be either vented through small concealed holes in the regulator, or in some cases will have an external vent hole that can be connected to a pipe to be vented away from the regulator position.
- In the case of an external vent hole for pipe connection, this will be denoted in the tables in clock format with 0h having the vent positioned over the outlet of the regulator and 6h when located over inlet.
- There is an additional PRV style on certain regulators that will be able to be positioned in multiple locations dependent on the installation. These are called giro vents and will be denoted in the tables if this has the function.

OPSO (Over Pressure Shut Off) Device

The OPSO safety device cuts off the gas flow in the event of abnormal overpressure that can be caused, for example, by an operating fault in a regulator (impurities on the valve seat or deterioration of a part) or by a defect in installation or liquid LPG entering the regulator. OPSO safety devices can be fitted to high or low pressure regulators.

They are the last line of defence to ensure gas pipework and appliances are not subjected to high pressures above and beyond manufacturer's limits.

OPSO Continued...

If an OPSO device continues to trip DO NOT continue to use. Get a qualified gas installer to examine the gas installation to ascertain if any fault is causing the OPSO to activate.

The triggering pressure of OPSO safety devices can be adjustable or fixed, however they always come factory preset at an appropriate pressure. Low pressure OPSO must operate below 150mb and are normally set at 100mb.

Regulators fitted with these will show in the tables with a Y in an OPSO column if applicable.

New British Standards dictate in certain applications on cylinder installations, an OPSO system is required whether using one or more cylinders. See page 8 for more details on the CSR OPSO.

UPSO (Under Pressure Shut Off) Device

The UPSO device cuts off the gas flow in the event of an abnormal fall in pressure that can be caused by flow rate exceeding the capacity of the gas installation, (for example, incorrect cylinder or pipework sizing, excessive outlet flow rate from the regulator to the appliance etc.....), or the run out of gas normally associated with bulk tank supply.

This safety device applies to low pressure regulators, and if fitted will show in the tables with a Y in an UPSO column.

The UPSO triggering pressure is not adjustable (except on large capacity BP2402FC and BP2403FC). Regulators provided with an adjustable outlet pressure will see the triggering pressure automatically adapted to the outlet pressure setting.

Where applicable, all installations, adjustments and maintenance work must be carried out by persons who have the necessary skills to do so and are qualified according to the regulations in force for that particular installation.

Flow rate

This is indicated as the kg/h (kilograms per hour) as required by EN standards. This equates to the mass of liquid used per hour in a gas cylinder or bulk tank and can be easily converted into kilowatts (kW) with the following formula (for propane gas):

kW = kg/h x 13.9

Should you wish to convert kW back into kg/h then the formula is reversed like so:

kg/h = kW ÷ 13.9

Clesse declares the flow rate at the lowest inlet pressure (worst case) to the regulator to ensure that consumers are covered in most climatic conditions.

Be careful when comparing with other manufacturers or suppliers whom declare higher flow rates but omit the inlet pressure or outlet pressure drop to achieve this result.

Installation

Installation must be carried out in accordance with the instruction leaflet that accompanies the regulator. Where applicable, all installations, adjustments and maintenance work must be carried out by persons who have the necessary skills to do so and are qualified according to the regulations in force for that particular installation.

Maintenance and durability

Normally the regulators do not require any maintenance. Functionality of the product and of the gas installation must be checked periodically, and according to any maintenance schedule or rules governed by the regulations in force for that particular installation. The recommended replacement period of a regulator by Clesse UK Limited is normally 10 years.

The contents of this User Guide, Advice and Reference section are provided for guidance purposes only and, although we have taken every precaution to ensure its accuracy, it should not be interpreted as representing any explicit or implicit guarantee covering the products or services described, or their use or applicability. We reserve the right to modify or improve the designs or the specifications of the products at any time and without notice.

Rubber material and gas quality

All our regulators can be used with LPG (Liquefied Petroleum Gas) in vapour phase, NG (Natural Gas), air and nitrogen. In order to ensure correct operation and a long life expectancy, the LPG gases must be sufficiently pure, and should contain no aggressive contaminates such as oil. It is important that a bulk head mounted regulator is fitted with short hoses and such that the regulator inlet is above the cylinder valves to ensure any LPG condensate (vapour gas reliquifying in the hoses) returns back into the cylinders and not the regulator. Always purchase your gas from reputable gas distributors.

For further advice and guidance on the safe use of LPG, cylinders, regulators and hoses download the User Information Sheet UIS028 from UKLPG: www.uklpg.org/advice-and-information/useful-information

Liquid Gas UK COP 32 - LPG systems in Leisure Accommodation Vehicles and Road Vehicles with Habitation - Post Delivery Inspection and Maintenance

NON-OPSO REGULATOR

Not suitable for Installations covered by GSIUR or standards BS6891 and LGUK COP32

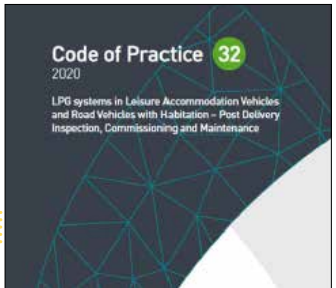
If in doubt contact your registered gas installer

Scope
This code of practice specifies post-delivery commissioning, inspection & testing of LPG installations not included in the scope of either BS 6891 or BS EN 1949. Where connection to external gas supply is provided and/or installation requires on-site commissioning. Includes Leisure Accommodation Vehicles (LAV) such as:

- **Holiday caravans** - static and holiday park homes
- **Touring caravans and trailer tents** which are connected to an external LPG supply not incorporated in the original manufacturer's design
- **Touring caravans** that are used for more than 4 weeks whilst connected to external cylinder supply
- **Other vehicles** with or without after market conversion incorporating accommodation for habitation

When does COP become published?
The COP is now published and is available to download by wmembers or purchase from Liquid Gas UK web site*

The RGE magazine published the COP in the standards update February 2021 advising implementation from April 2021 where Gas Safe inspectors will start to monitor the installations according to the COP, which replaces the withdrawn standard BS5482 parts 1 and 2.



Important - Clesse changes to supply of NON-OPSO regulators
Non OPSO - low pressure cylinder regulators supplied by Clesse above 1.5kgh capacity will include warning labels on packaging from April 2021.

Clear marking of regulators not featuring OPSO safety - promoting current UK installation standards in support of HSE and Liquid Gas UK safety initiatives.

Why was COP32 necessary? Domestic, commercial properties including residential park homes are covered in the installation standards BS6891 either on LPG or Natural Gas, whist caravan holiday homes on LPG were not included.

COP 32 addresses the absence, also providing additional specific requirements unique to the holiday home market or temporary static vehicle used for work or habitation.

What are the main changes for equipment distributors, park managers and gas installers using Clesse solutions

- **Flexible rubber hose assemblies** - to be rodent protected - includes HP Pigtails from cylinders, flexible hose connections between ACO or regulator or Meter and the home connection –section 2.4.1.5
  Comment - Additional armoured protection is now required as standard in addition to rubber hose - already a requirement for outlet hoses since 2015 in BS6891. COP 32 goes further and now includes high pressure hoses between cylinder and upstream regulator or ACO on new installation or replacement.
  Solution - Clesse will supply Clessinox stainless steel hoses where customers request an armoured hose solution either loose or in kits with ACO - the solution provides ultimate in longterm protection, reduction in contaminates and is an environmental solution both recyclable and hydrocarbon emissions.
- **Maximum hose lengths** of hoses HP Pigtails 750mm and where used flexible outlet hose connections between ACO or regulator or meter to fixed pipework 2m – section 2.4.2 (exemptions apply to homes using flotation systems).
  Comment - This restriction of lengths aimed at HP hoses from Cylinder to regulator—where excessive lengths have shown to increase the possibility of LPG re-liquefying and creating risk to downstream regulators and installation.
- **OPSO safety** - on any home or habitable accommodation either supplied by cylinders the ACO or regulator – section 2.7.1
  Comment - Over Pressure Safety devices are requirement when supplied by cylinders and harmonizes with BS6891. Reducing risks in case of regulator failure to control downstream pressure below which appliances are designed for.
  Solution - CSR485 and CompacTR 800 CSR regulators incorporate the OPSO consumer reset system as standard.

*** For further guidance on LP gas regulators and equipment www.liquidgasuk.org/domestic/consumer-guidance-sheets**

For the latest copy of the standards contact or join as a member of Liquid Gas UK visit the website www.liquidgasuk.org

COP32 & BS6891 COMPLIANT

CSR Style OPSO

Regulation equipment incorporating "Push to Set" over pressure safety system with indication.

Whether single cylinder, two, four or more cylinders, the CSR OPSO range of regulation equipment ensures reliable pressure delivery and consumer safety with the new over pressure protection system. With no need to remove caps or pull resets, this system is a clear "Push to Set" device to cancel the red trip indicator. This latest development of innovative OPSO regulators for LPG cylinders is patent designed and manufactured by Clesse Industries in France.

The design team re-evaluated the way consumers interact with LP gas, redefining the suitability for modern appliances of today and the expectations of the consumers towards safety.

Consumer Safety Reset "CSR"

This allows the homeowner or consumer to quickly "reset and go" the gas installation, should the OPSO shut down the supply due to events such as accidental impact when changing cylinders, overwintering, and non hazardous nuisance trips etc. while still protecting the consumer and property against potential excessive high pressure incidents that can occur.

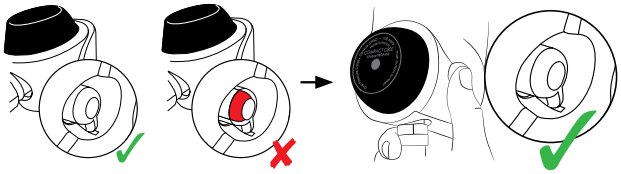
This design ensures the device cannot be tampered with or adjusted, so if continued OPSO trips occur it clearly indicates that a potential hazardous situation is being prevented and a qualified engineer is required to inspect the gas installation. Therefore the CSR safety device is considered suitable for consumers to reset themselves in much the same way as an electrical RCD fuse board.

This fresh approach provides the user with a visual safe resettable system, less headache for the park owner, gas supplier and engineer.

CSR OPSO satisfies EN16129 standards manufactured in Europe by Clesse Industries in France who are is independently audited by BSI ISO 9001:2008

Home owners, park operators and installers can be assured that the Clesse CSR OPSO regulation equipment fitted today meets the standards of tomorrow.

Consumer Safety Reset



This LPG cylinder pressure regulator is fitted with a CSR safety device. It prevents excessive pressure from entering the downstream pipework protecting, pipework and appliances.

If the CSR activates no gas will pass this regulator. It will show red inside the clear indicator (fig.1) when viewed to the side.

To reset the gas supply please observe the following:

- Ensure all the gas appliances are turned off.
- With the regulator connected correctly slowly turn on the cylinder valve.
- Push the reset button firmly to reset the OPSO, until the red indicator is fully depressed and NOT visible when viewed as shown in the diagram (fig 1).

If the CSR repeatably trips, do not continue to use. Contact a qualified LPG to investigate the installation for faults or replace the product.

For more instruction visit:
www.clesse.co.uk/CSR
or scan the QRcode

0485101

UUCSR485MCO

UUCSR485DCS

UUCSR485SCK

UUCSR485TPHK

CSR485 Cylinder Regulators

These regulators feature the CSR Style Over Pressure Shut Off (OPSO) safety system for LPG enabling the consumer to reset the regulator should the gas pressure exceed recommended limits.

With clear visible indication and an easy push to reset button, the CSR OPSO will protect appliances and property, similar to electrical consumer RCD protection.

The 'LP Gas circuit breaker'

The Low Pressure cylinder regulator fitted with the latest consumer safety protection system required by the UK standards to cover all fixed pipework installations.

Ideal for all types of LPG cylinder applications Domestic, Commercial, Holiday and Park Homes

Features

CSR Style OPSO system as featured on page 8.

Pressure relief valve. CSR 485 regulators are equipped with a Limited Pressure Relief Valve which can discharge thermal expansion and avoid unnecessary OPSO triggering.

Vent. The vent design allows condensate humidity to drain, according to recommended installed positions.

High resistance casing. The shock resistant and anti-UV treated casing gives the CSR 485 a high level of resistance in use. Furthermore it confers a weather proof protection equivalent of IP55 for adverse weather and ingress of water.

Multiple installation options. Models are suitable for a variety of installations

- Directly screwed into a Single Cylinder
- Wall mounted with backplate and pigtail for single cylinders
- Wall mounted Manual Changeover with pigtails
- Wall mounted Dual Cylinder with pigtails for maximising regulator capacity

SCK, MCO & DCS VERSIONS ALL AVAILABLE WITH CLESSINOX STAINLESS STEEL PIGTAILS

SEE PAGES 14-15 FOR DETAILS

OPSO regulators are mandatory on installations covered by the GSIUR, for further information contact the sales office.

Code	Inlet connection	Outlet connection	Inlet pressure (Pu) bar	Outlet pressure (Pd) mbar	Flow rate (LPG)		Type of gas	PRV (mbar)	OPSO (mbar)	Cylinder fitted	Wall mounted
					kg/h	kW					
CSR 485											
0485101	POLM-5/8LH-BS-HN	FEM-Rc1/2	1 – 16	37	4	55	Propane	75	125	✓	
UU0485101E	Irish Pol 21.8mm LH	1/2" BSP Female	1 – 16	37	4	55	Propane	75	125	✓	
UUCSR485SCK	MALE-M20x1,5RH Elbow	FEM-Rc1/2 Test Point	1 – 16	37	4	55	Propane	75	125		✓
UUCSR485SCKEIR	MALE-M20x1,5RH Elbow	FEM-Rc1/2 Test Point	1 – 16	37	4	55	Propane	75	125		✓
UUCSR485MCO	M20x1,5RH Manual Changeover	FEM-Rc1/2 Ball Valve + Test Point	1 – 16	37	4	55	Propane	75	125		✓
UUCSR485MCOEIR	M20x1,5RH Manual Changeover	FEM-Rc1/2 Ball Valve + Test Point	1 – 16	37	4	55	Propane	75	125		✓
UUCSR485DCS	M20x1,5RH Dual Cylinder	FEM-Rc1/2 Ball Valve + Test Point	1 – 16	37	4	55	Propane	75	125		✓
UUCSR485DCSEIR	M20x1,5RH Dual Cylinder	FEM-Rc1/2 Ball Valve + Test Point	1 – 16	37	4	55	Propane	75	125		✓
UUCSR485TPHK	UK Pol 5/8" LH	35kW Stainless Steel 1.2mtr Testpoint hose c/w 15&22mm compression Fittings	1 – 16	37	4	55	Propane	75	125	✓	
UUCSR485TPHKEIR	Irish POL 21.8mmLH	35kW Stainless Steel 1.2mtr Testpoint hose c/w 15&22mm compression Fittings	1 – 16	37	4	55	Propane	75	125	✓	

BS 6891 & LS6 COMPLIANT
IP55
VISIBLE INDICATION
PUSH TO RESET
OPSO
PROPANE 13kg 19kg 47kg

CLESSE

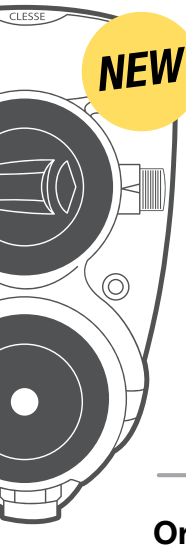
CompacTi

Gas bottle checking on the app

From a complete park collecting multi fleet data, or single user monitoring from the comfort of home, CompacTi has a time and money saving solution for everyone

Contact Clesse for more information and a free demonstration

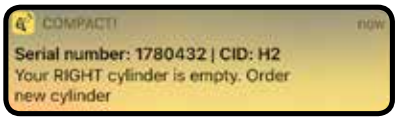

CLESSE
Gas Bottle
Monitoring System
Find out more
www.clesse.co.uk/CompacTi
Ti



NEW

CompacTi

Will notify the app remotely when your LPG bottle needs replacing, whilst optimising gas usage, saving you time and money.



Benefits

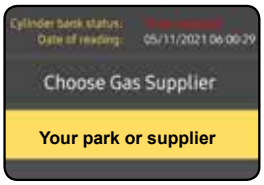
- Easy to use app with quick status viewer
- Saving you money by optimising gas consumption
- Minimise gas run outs
- Connect via bluetooth
- Order gas from the app△

Why not upgrade to Premium for viewing away from parksite or holiday home using the networking device?

- All the benefits of Bluetooth but from anywhere in the world with a data connection
- Check your gas bottles from home
- Make sure you and your customers have gas when you arrive for your stay

Order Gas

Directly order gas bottles in the app to your park or supplier. Service included with networking device & available for upgrade on Bluetooth△.



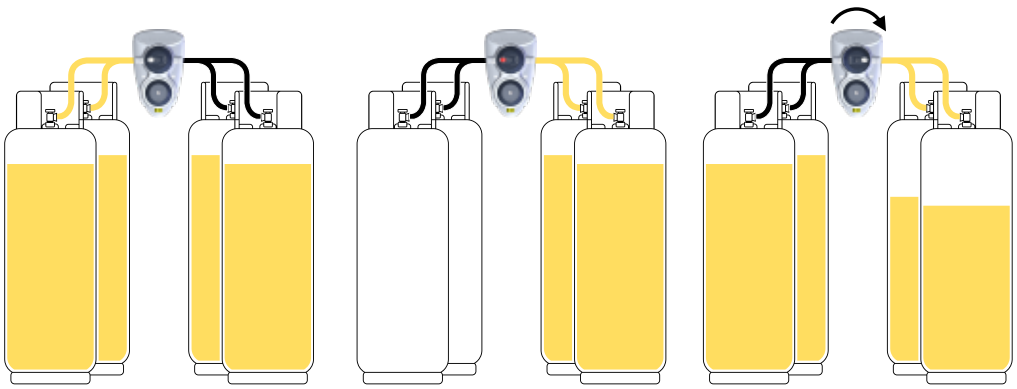
ALL ACO'S ARE NOW TELEMETRY READY

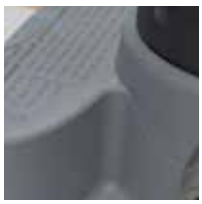
Easy install

Fits inside CompacTR 800 OPSO changeover and connects via Bluetooth to the CompacTi mobile app for easy monitoring and receiving notifications.

Automatic Changeovers

Clesse Automatic Changeover regulators ensure guaranteed continuous flow of gas without interruption of service to the appliances. The unique design, by Europe's leading manufacturer, maximises the amount of gas available in the cylinders by exhausting one side first before drawing gas from the other. After replacing the exhausted cylinders, just manually rotate the ACO knob to ensure the cylinders currently in use are then subsequently exhausted.





△Upgrade Bluetooth device for order gas facility

UU5185K-HS-TR

UU5185K-TR

ALL PRODUCTS ARE AVAILABLE WITH STAINLESS STEEL LONG LIFE PIGTAILS – CONTACT THE SALES TEAM FOR FURTHER INFORMATION & SEE PAGE 14-15 FOR PRODUCT DETAILS

UU51854CYL-TR

Features

- Excellent performance as with all Clesse Changeover equipment.
- OPSO “Push to Set” consumer safety system with indication.
- “Le Clic” changeover head position with reserve indicator.
- 5kgh 70kW - 37mb new design.
- Non return valves and filters on both inlet ports to prevent leakage when changing cylinders.
- Equipped with a limited flow safety relief valve (LRV).
- Protected breather vents positioned under the tough plastic ABS weather proof designed casing.
- Engineer adjustable pressure regulation.

Code	Inlet Connection	Outlet Connection	Inlet Pressure bar	Outlet Pressure mbar	Flow Rate (LPG)		Cylinder Changeover Pressure (PDI) bar	Outlet Pressure Adjustable (Y/N)	PRV (Y/N)	OPSO (Y/N)
					kg/h	kW				
Compact 800 OPSO 2 Cylinder										
UU5185K-TR	20” NRVEXF UK POL 5/8 LH Male Nut Propane Pigtails	½” BSPT Female Ball Valve	1 – 16	37	5	70	0.8	Y	Y	Y
UU5185E-TR	20” NRVEXF Irish Propane Pigtails	½” BSPT Female Ball Valve	1 – 16	37	5	70	0.8	Y	Y	Y
UU5185K-HS-TR	20” NRVEXF UK POL 5/8 LH Male Nut Propane Pigtails	35kW Stainless Steel 1.2mtr Testpoint hose c/w 15&22mm compression Fittings	1 – 16	37	5	70	0.8	Y	Y	Y
UU5185K-70-TR	20” NRVEXF UK POL 5/8 LH Male Nut Propane Pigtails	70kW Stainless Steel 1.2mtr Testpoint hose c/w 15&22mm compression Fittings	1 – 16	37	5	70	0.8	Y	Y	Y
UU5185K-ST-TR	20” NRVEXF UK POL 5/8 LH Male Nut Propane Pigtails	½” BSPT Female Ball Valve	1 – 16	37	5	70	0.8	Y	Y	Y
UU5185K-STK-TR	20” NRVEXF UK POL 5/8 LH Male Nut Propane Pigtails	1.2mtr ½” Stainless Steel Testpoint Hose c/w 15 and 22mm Compression fittings	1 – 16	37	5	70	0.8	Y	Y	Y
Compact 800 OPSO 4 Cylinder										
UU51854CYL-TR	20” NRVEXF UKPOL 5/8 LHM Pigtails x 2 33” NRVEXF UKPOL 5/8 LHM Pigtails x 2	½” BSPT Female Ball Valve	1 – 16	37	5	70	0.8	Y	Y	Y
UU5185E-4C-TR	20” NRVEXF Irish Propane Nut Pigtails x 2 33” NRVEXF Irish Propane Nut Pigtails x 2	½” BSPT Female Ball Valve	1 – 16	37	5	70	0.8	Y	Y	Y

° STD Includes cylinderstand. This stand is fully height adjustable for cylinder size, has security chain slots and can be anchored to the ground
°° STDKT Includes cylinderstand as described above and includes stainless steel outlet hose with integrated tespoint complete with selection of 15mm or 22mm compression outlet fittings

Product Ref	Description	Purchase Quantities		
This Kit Contains 2 X 33” Hoses Plus 2 X European Approved NRV Tee Pieces				
UU8436011	UKPOL NRVEXF 2-4 Cylinder Upgrade kit	Single Box - x 1	Outer Box - x 8	Pallet Layer - x 64
UU8436011E	Irish Propane nut 2-4 Cylinder Upgrade kit	Single Box - x 1	Outer Box - x 8	Pallet Layer - x 64

BS 6891 & LS6 COMPLIANT
IP55
VISIBLE INDICATION
PUSH TO RESET
OPSO
PROPANE
13kg 19kg 47kg

UU5185S-TR

UUALL4CYLSSUPGK

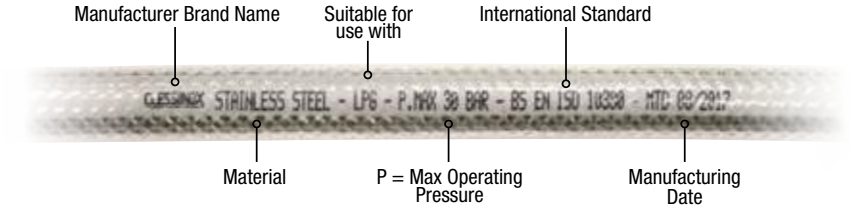
ARMOURED PIGTAILS ARE NOW A REQUIREMENT OF COP32 WHEN INSTALLED ON HOLIDAY PARKS

CLESSINOX
STAINLESS STEEL

High pressure cylinder hose DN10 PN30

Metallic flexible hose: Armoured and designed for high pressure, meeting requirements of manufacturing standards BS EN ISO 10380 and an ideal replacement for rubber.

- Rodent resistant
- Ultraset – new improved excess flow system
- UV stabilised outer cover
- Improved durability over rubber
- Wide bore design with reduced pressure loss
- Exceeds standard pull test requirements
- Highly flexible
- Traceable manufacturing
- No internal rubber components
- Plasticiser free
- Cost effective
- Fully recyclable & environmentally friendly



The wide internal bore design and Ultraset non-return valves provide silent operation and fast reset. No plasticiser material in contact with LPG helps to minimise oil contamination in downstream equipment. Armoured with additional braiding and coated with UV stabilised PVC outer sleeve, this hose is designed and constructed for use with LPG cylinders in accordance to BS6891, BS5482 and UKLPG CoP24.

Markings on Hose

P - Maximum operating pressure in bar

MM/20XX - Date of manufacture

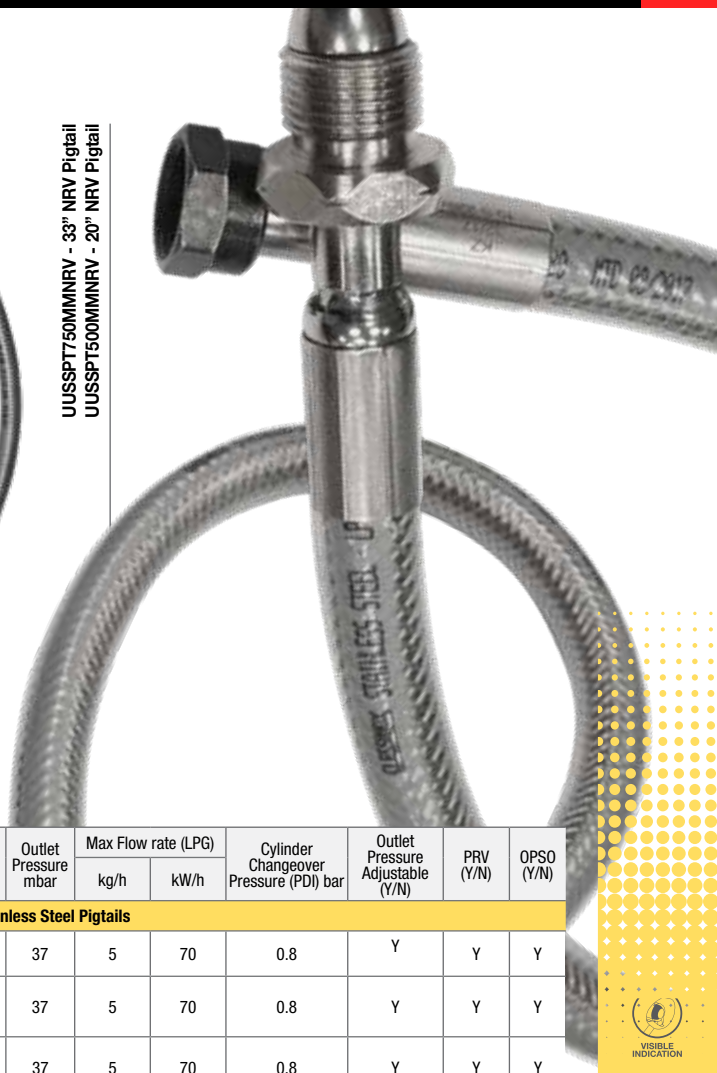
Clessinox high pressure hoses are rated 5kgh/70kwh, providing low pressure loss and full capacity even at cylinder pressures as low as 0.5bar, ensuring effective LPG cylinder usage.

Service life – Clesse recommends replacement at 10 years, however the life expectancy can be improved if there are no signs of visible deterioration, damage to hose or leakage at the connections or along its length. Clesse recommends that the hose is inspected regularly and at cylinder exchange.

Use the clear line on the PVC outer sheath to ensure the product is not subjected to twisting or torsional forces. Torque can occur upon installation or when the hose is in use. Never support weight from the hose, or bend further than the minimum bend radius of 50mm.

UU5185SHS-TR

UUSSPT750MMNRV - 33" NRV Pigtail
UUSSPT500MMNRV - 20" NRV Pigtail



Changeover and Regulator Kits

Code	Inlet Connection	Outlet connection	Inlet Pressure bar	Outlet Pressure mbar	Max Flow rate (LPG)		Cylinder Changeover Pressure (PDI) bar	Outlet Pressure Adjustable (Y/N)	PRV (Y/N)	OPSO (Y/N)
					kg/h	kW/h				
Compact 800 OPSO 2 Cylinder including Stainless Steel Pigtails										
UU5185S-TR	20" NRVEXF UK POL 5/8 LH Male Nut Stainless Steel Propane Pigtails x 2	½" BSPT Female Ball Valve	1 – 16	37	5	70	0.8	Y	Y	Y
UU5185SHS-TR	20" NRVEXF UK POL 5/8 LH Male Nut Stainless Steel Propane Pigtails x 2	35kW Stainless Steel 1.2mtr Testpoint hose c/w 15&22mm compression fittings	1 – 16	37	5	70	0.8	Y	Y	Y
UU5185S-70-TR	20" NRVEXF UK POL 5/8 LH Male Nut Stainless Steel Propane Pigtails x 2	70kW Stainless Steel 1.2mtr Testpoint hose c/w 15&22mm compression fittings	1 – 16	37	5	70	0.8	Y	Y	Y
UU5185S-STK-TR (This item includes Cylinderstand)	20" NRVEXF UK POL 5/8 LH Male Nut Stainless Steel Propane Pigtails x 2	35kW Stainless Steel 1.2mtr Testpoint hose c/w 15&22mm compression fittings	1 – 16	37	5	70	0.8	Y	Y	Y
Compact 800 OPSO 4 Cylinder including Stainless Steel Pigtails										
UU5185SS4CYL-TR	20" NRVEXF UK POL 5/8 LH Male Nut 33" NRVEXF UK POL 5/8 LH Male Nut Stainless Steel Propane Pigtails x 2 each	½" BSPT Female Ball Valve	1 – 16	37	5	70	0.8	Y	Y	Y
CSR 485 OPSO including Stainless Steel Pigtails										
UUCSR485SCKSS	20" NRVEXF UK POL 5/8 LH Male Nut Stainless Steel Propane Pigtails x 1	½" BSPT Female Test Point	1 – 16	37	4	55	n/a	Y	Y	Y
UUCSR485MCOSS	20" NRVEXF UK POL 5/8 LH Male Nut Stainless Steel Propane Pigtails x 2	½" BSPT Female Ball Valve & Test Point	1 – 16	37	4	55	n/a	Y	Y	Y
UUCSR485DCSSS	20" NRVEXF UK POL 5/8 LH Male Nut Stainless Steel Propane Pigtails x 2	½" BSPT Female Ball Valve & Test Point	1 – 16	37	4	55	n/a	Y	Y	Y

Stainless Steel Pigtail Upgrade Kits			
Code	Inlet Connection	Outlet Connection	Length and Features
UU8436011SS	NRVEXF UK POL 5/8 LH Male Nut	M20 female swivel nut with Washer	2 > 4 Cylinder upgrade kit containing 2 x European approved NRV Tee pieces and 2 x 750mm Stainless Steel Pigtails & 4 x Washer
UUALL4CYLSSUPGK	NRVEXF UK POL 5/8 LH Male Nut	M20 female swivel nut with Washer	ALL 4 Cylinder upgrade kit containing 2 x European approved NRV Tee pieces, 2 x 750mm and 2 x 500mm Stainless Steel Pigtails with 6 x Washer

Single Pigtails for Upgrade

Code	Inlet Connection	Outlet connection	Max Pressure	Length	Manufacturing Standard
UUSSPT500MMNRV	UK POL 5/8 LH Male Nut With NRVEXF	M20 Female Swivel Nut	30 bar	500mm	BS EN ISO 10380
UUSSPT750MMNRV	UK POL 5/8 LH Male Nut With NRVEXF	M20 Female Swivel Nut	30 bar	750mm	BS EN ISO 10380
UUSSPT1000MMNRV	UK POL 5/8 LH Male Nut With NRVEXF	M20 Female Swivel Nut	30 bar	1000mm	BS EN ISO 10380
UUSSPT500MMPXP	UK POL 5/8 LH Male Nut Straight Through	UK POL 5/8 LH Male Nut Straight Through	30 bar	500mm	BS EN ISO 10380
UUSSPT750MMPXP	UK POL 5/8 LH Male Nut Straight Through	UK POL 5/8 LH Male Nut Straight Through	30 bar	750mm	BS EN ISO 10380
UUSSPT500MMST	UK POL 5/8 LH Male Nut Straight Through	M20 Female Swivel Nut	30 bar	500mm	BS EN ISO 10380
UUSSPT750MMST	UK POL 5/8 LH Male Nut Straight Through	M20 Female Swivel Nut	30 bar	750mm	BS EN ISO 10380
UUSSPT500NRVM20	Irish Propane/UK Butane 21.8mm LH Nut With NRVEXF	M20 Female Swivel Nut	30 bar	500mm	BS EN ISO 10380
UUSSPT750NRVM20	Irish Propane/UK Butane 21.8mm LH Nut With NRVEXF	M20 Female Swivel Nut	30 bar	750mm	BS EN ISO 10380
UUSSPT500M20	Irish Propane/UK Butane 21.8mm LH Nut Straight Through	M20 Female Swivel Nut	30 bar	500mm	BS EN ISO 10380
UUSSPT750M20	Irish Propane/UK Butane 21.8mm LH Nut Straight Through	M20 Female Swivel Nut	30 bar	750mm	BS EN ISO 10380

VISIBLE INDICATION
BS 6891 & L56 COMPLIANT
IP55
OPSO
PUSH TO RESET
CLESSINOX
PROPANE 13kg 19kg 47kg

CLESSINOX STAINLESS STEEL

DN12 - 35kW | **DN16 - 70kW**

Clessinox Flexible Stainless Steel hose is the modern alternative to rubber and meets the requirements of installation standard BS6891:2015. It is optimized to give low pressure loss, and conforms to manufacturing standard BS EN ISO 10380.

- **LPG Installation standard BS6891:**2015 – The specification for installation and maintenance of low pressure pipework requires the outlet hose to be armour protected from rodent attack.
- **Supplied in 2 diameters** DN12 to satisfy installations up to 35kW. DN16 to satisfy installation up to 70kW. Both sizes of hose are declared with a 1mb pressure loss per metre.
- **Rubber hose without armoured** protection no longer meets the requirements of BS6891:2015.

- Rodent resistant
- Ultraset – new improved excess flow system
- UV stabilised outer cover
- Improved durability over rubber
- Wide bore design with reduced pressure loss
- Exceeds standard pull test requirements
- Highly flexible
- Traceable manufacturing
- No internal rubber components
- Plasticiser free
- Cost effective
- Fully recyclable & environmentally friendly

Clessinox is a stainless steel convoluted walled hose covered with a protective UV stabilised PVC outer sleeve, providing a durable, flexible solution in gas installations and an alternative to rubber and rubber armoured hose. Specifically designed for use with LPG and Natural Gas in accordance to BS 6891:2015, BS 5482 and Liquid Gas UK COP.

Markings on Hose

DN -	Nominal inside bore diameter
PN -	Maximum Operating Pressure in bar (0.5bar is 500mb)
MM/20XX -	Date of Manufacture, Month / Year
Pd -	Pressure differential rating - pressure drop expected from the hose per 1mb in kW per metre (2 bends in pipework)

Clessinox is marked with the expected pressure drop and aids the installer to ensure the installation meets the 2mb pipework maximum permissible pressure drop requirements of BS6891. i.e. a 1.2m hose using Clessinox DN16 at 70kw/metre/1mb will have a Pd of 1.2mb. Using the same hose at a reduced 50kW, pressure drop is calculated as 1.2 x (50/70) = 0.85mb.

Service life - Normally 10 years depending on installation and use conditions. Visit the Clesse website for further installation recommendations - all hoses should be checked regularly and replaced if damaged or leaking.

Should you have any questions regarding the new standards, hoses & other products please contact the Clesse technical support centre.

Clearly printed hose with Identification markings

DN12 VARIANTS Ideal for installations of 1 Cylinder Regulators and 2 Cylinder Changeover Systems	
Code	Description
UUSS12WB120	Clessinox 35kW/h Stainless Steel Hose Assembly 1.2MTR 1/2"M x M
UUSS35KWX15	Clessinox 35kW/h Stainless Steel Hose Assembly 1.2MTR 1/2"M x 15mm Compression
UUSS35KWX22	Clessinox 35kW/h Stainless Steel Hose Assembly 1.2MTR 1/2"M x 22mm Compression
UUSS35KWTPX15	Clessinox 35kW/h Stainless Steel Hose Assembly 1.2MTR 1/2"MALE WITH Testpoint x 15mm Compression
UUSS35KWTPX22	Clessinox 35kW/h Stainless Steel Hose Assembly 1.2MTR 1/2"MALE WITH Testpoint x 22mm Compression
UUSS35KWTP15&22	Clessinox 35kW/h Stainless Steel Complete Outlet Hose Assembly Kit 1.2MTR 1/2" Male With Testpoint Including 15&22mm Compression Fittings

DN16 VARIANTS Ideal for larger capacity installations of more than 2 Cylinders, 2nd Stage Regulators & Meterboxes	
Code	Description
UUSS16WB120	Clessinox 70kW/h Stainless Steel Hose Assembly 1.2MTR 1/2"M x M
UUSS70KWX15	Clessinox 70kW/h Stainless Steel Hose Assembly 1.2MTR 1/2"M x 15mm Compression
UUSS70KWX22	Clessinox 70kW/h Stainless Steel Hose Assembly 1.2MTR 1/2"M x 22mm Compression
UUSS70KWTPX15	Clessinox 70kW/h Stainless Steel Hose Assembly 1.2MTR 1/2" MALE WITH TESTPOINT x 15mm Compression
UUSS70KWTPX22	Clessinox 70kW/h Stainless Steel Hose Assembly 1.2MTR 1/2" Male With Testpoint x 22mm Compression
UUSS70KWTP15&22	Clessinox 70kW/h Stainless Steel Complete Outlet Hose Assembly Kit 1.2MTR 1/2" Male With Testpoint Including 15&22mm Compression Fittings

Installation - Do not exceed minimum bend radius of the hose: **DN12 - 50mm** **DN16 - 70mm**

When installing, visually use the yellow line to ensure hoses are not twisted or subjected to torsional forces. Torque can occur upon installation or when the hose is in use, never support weight from the hose - **inspect regularly**.

Should you have any questions regarding the new standards, hoses & other products please contact the Clesse technical support centre.

BULK TANK
CLESSINOX
BUTANE PROPANE

Application

These changeover regulators are designed for use with 4 or more cylinders, where the application demands a higher offtake than typical domestic applications. They contain either 1st (for intermediate distribution) and / or 2nd stage regulators combined to give both fixed and adjustable outlet pressures for propane.

Typical applications for these regulators vary from commercial catering vans to a temporary supply solution before a bulk LPG tank is installed. Bespoke solutions and advice are available, call the office for more information.

Features

- Excellent "change-over performances" with lowest possible cylinder changeover pressures ensuring maximum use of gas in the cylinders & maintaining consistent outlet pressure on either "service" or "reserve" cylinders.
- Over Pressure Shut Off device featured on all changeovers.
- Non Return Valve tee pieces fitted to the inlet of the regulators which splits the supply each side of the valve to give a more consistent flow of gas from the cylinders.
- Medium and intermediate pressure applications available for remote and wall end installations requiring second stage regulation.
- Filters in both Inlet connections.
- Reserve indicator built into changeover knob.
- Provided with high quality BE EN 10380 Stainless Steel Clessinox pigtails.

NEW

CLESSINOX STAINLESS STEEL

All models now feature Stainless Steel pigtails as upgrade from standard rubber

Code	Inlet Connection	Outlet Connection	Inlet Pressure	Outlet Pressure	Flow Rate (LPG)		Outlet Pressure Adjustable (Y/N)	PRV (Y/N)	OPSO (Y/N)	UPSO (Y/N)
			bar	mbar	kg/h	kW				
8175000	UKPOL Male 5/8" LH Nut, Clessinox Pigtails x 2 each inc.	1/2" BSPT Female	1 - 16	1500	12	110	N	N	N	N
UU8175C12/4CYL	20" UK POL 5/8 LH Male Nut St/Thru 33" UK POL 5/8 LH Male Nut St/Thru Clessinox Pigtails x 2 each inc. 2 x NRV Tee	3/4" BSPT Female Ball Valve	2 – 16	37	12	166	Y	Y	Y	N
UU8175C20/4CYL	20" UK POL 5/8 LH Male NUT St/Thru 33" UK POL 5/8 LH Male Nut St/Thru Clessinox Pigtails x 2 each inc. 2 x NRV Tee	3/4" BSPT Female Ball Valve	3.5 – 16	37	20	278	Y	Y	Y	N
UU8175C20HP4CYL	20" UK POL 5/8 LH Male Nut St/Thru 33" UK POL 5/8 LH Male Nut St/Thru Clessinox Pigtails x 2 each inc. 2 x NRV Tee	3/4" BSPT Female Ball Valve	3.5 – 16	750	20	278	N	N	Y	N

IRISH PROPANE PIGTAIL VERSIONS AVAILABLE FOR ALL

Code	Inlet Connection	Outlet Connection	Description
Additional Accessories For Installations			
UU2CYLXKIT	UKPOL Male 5/8" LH Nut	UKPOL Male 5/8" LH Nut	This kit is designed to connect additional cylinders to High Capacity Changeover systems. The kit comprises of: 2 x straight through Clessinox Pigtails UKPOL x UKPOL 20" pigtails, 2 x extended tee MxFxF UKPOL adapters

UUBTPA04K

040721 & 040759

005425

UU6276015

UUPTFETAPE

040671

Code	Inlet Connection	Outlet connection	Length	Material	Cylinder Type
***20" Pigtails**					
UURP0011A0	5/8" LH Male UKPOL c/w Non Return/ExcessFlow	M20 Female	20"	Plain Rubber	UK Propane
UURP0011A7	21.8mm LH Female c/w Non Return/ExcessFlow	M20 Female	20"	Plain Rubber	UK Butane and Irish Propane
UURGPT002	5/8" LH Male UKPOL Straight Through	M20 Female	20"	Plain Rubber	UK Propane
UURGPT020	M20 Female	M20 Female	20"	Plain Rubber	For use with Clip Cylinder Adapter
UURP0011A5	5/8" LH Male UKPOL Straight Through	5/8" LH Male UKPOL Straight Through	20"	Plain Rubber	UK Propane
***33" Pigtails**					
UURP0011A1	5/8" LH Male UKPOL c/w Non Return/ExcessFlow	M20 Female	33"	Plain Rubber	UK Propane
UURGPT003	5/8" LH Male UKPOL Straight Through	M20 Female	33"	Plain Rubber	UK Propane

**Clesse refers only to hose length, not including end fittings. Other suppliers may quote end to end size which increases the overall length of assembly by 2".*

Code	Description
Coiled Hose	
UURCRT6HPS	6mm High Pressure Orange Hose
UURCRT8HPS	8mm High Pressure Orange Hose

Code	Description
Hose clips	
UUHOC9/16	Double ear clip for 6mm Hose
UUHOC5/8	Double ear clip for 8mm Hose
UUMOOCLIP	Wormdrive Jubilee clip for 8mm Hose

Code	Inlet Connection	Outlet Connection
Test Points		
UUBTPA04K	½" BSP Taper Male	½" BSP Taper Female
UUBTPA05K	3/8" BSP Taper Male	½" BSP Taper Female
UURFCSPMR.15K	½" BSP Taper Male	15mm Compression Nut & Olive
UURFCSPMR.0422K	½" BSP Taper Male	22mm Compression Nut & Olive
UUBTPA15K	15mm Compression Nut & Olive	15mm Compression Nut & Olive
UUBTPA22K	22mm Compression Nut & Olive	22mm Compression Nut & Olive

Code	Description
Vapour offtake valve connection fittings	
040721	UK Propane 5/8" ISO228 LH Male POL Nut Brass
040725	US Propane 0.880" 14NGO LH Male POL Nut Brass
040759	¼" Brass POL Stem
040710	UK Butane & Irish PropnaeM21.8 LH Female Brass Nut
040753	UK Butane & Irish Propane 1/4"Brass POL Stem
006103	Black washer for Butane stem 040753

Code	Inlet Connection	Outlet Connection
Nozzles		
005402XZ	1/4" BSP Taper Male	10mm LP Nozzle suitable for 8mm ID Hose
005403XZ	1/4" BSP Female	10mm LP Nozzle suitable for 8mm ID Hose
005205	1/4" BSP Male	Quick Release Coupling Female for 005206
005206	Quick release Plug end	10mm LP Nozzle suitable for 8mm ID Hose
005420XZ	3/8" BSP Male	10mm LP Nozzle suitable for 8mm ID Hose
005460	3/8" BSP Taper Male	10mm LP Nozzle suitable for 8mm ID Hose
005425	1/2" BSP Taper Male	10mm LP Nozzle suitable for 8mm ID Hose
005502	1/2" BSP Female	10mm LP Nozzle suitable for 8mm ID Hose
005303	10mm Compression Nut & Olive	10mm LP Nozzle suitable for 8mm ID Hose

Code	Description
Ball Valves & Filters	
UU6276015	½" M x F Butterfly Ball Valve
6220140	½" F x F Lever Ball Valve
UU6276021	¾" F x F Lever Ball Valve
004401	½" M x F Inline Y Filter
040910AA	½" M x F Filter
040910AB	½" M x ¾" F Filter

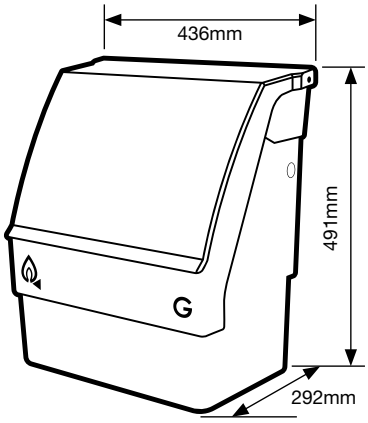
Code	Description
Sealants & Accessories	
041671	50ml Clessetite thread sealant
041671AC	250ml Clessetite thread sealant
UUPTFETAPE	Gas approved one wrap PTFE Tape
004650	Extended Cylinder Tee Piece MxFxF
006150	400ml Leak detection fluid spray

THE EVOLUTION® STARTS HERE

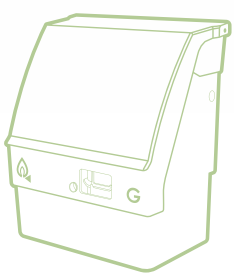
Specifically designed for LPG and to reduce the whole life costs of ownership.

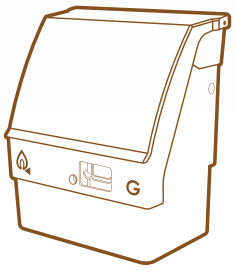
Created using computerised 3D design technology, together with the experience of Clesse the new meter housing represents a step forward in functionality, precision and ease of installation in metering solutions.

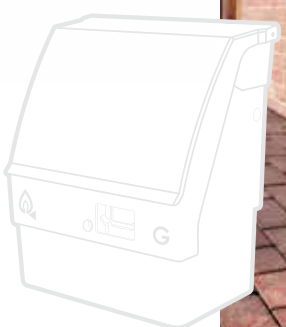
From new build to existing housing stock and holiday to residential park home sectors, the unique design permits different mounting options and colours for whatever the choice of location.



NEW Evolution Meterbox® meets all your requirements







www.clesse.co.uk/**evolution**

OPSO
UNDER PRESSURE PROTECTION
BULK TANK
METERING kWh

tough fire resistant reinforced GRP

PAGE 22-23 FOR PRODUCT SELECTION

SEMI SUBMERGED - WALL - POST - EDGE
ONE SOLUTION MANY WAYS TO INSTALL

Components used in the assembly are sourced from some of UK and EU's most respected manufacturers to ensure long reliable service, accurate metering and resistance to adverse weather conditions.

As with all Clesse meter boxes, they use our own pressure regulators specifically designed for LPG duty in either medium or low pressure distribution.

Features

- Unique robust GRP design made by Clesse in UK.
- Easy installation, saving time and expense.
- Adverse weather resistant - wind tunnel tested .
- Colour options are Green, Brown or White.
- Mounting options for posts, base, skirt, wall and floatation kits.
- Hinged lid with stay bar - option of meter reading window.
- Easily replaceable parts such as lid and body shell.
- Optimised for Telemetry solutions (also available).
- "First fix" allows groundworks and siting to be completed before fitting the meter box.

Supplied in an outer cardboard box to protect until needed.

Connections and Gas

- Above ground gas connection even when semi submerged.
- Suitable for Low Pressure 75mb (50-400mb) and Medium Pressure 0.75bar (0.35 - 2 bar) distribution networks.
- LPG 37mb 4m3h (100kW) and Natural Gas available.
- Choice of multiple outlet positions for fixed and hose.
- Compatible for BS6891 and EN1949 domestic gas installations.
- 25mm inlet PE connection inc. as standard.

EVOLUTION®

EXAMPLE PRODUCT SELECTION

Step 1

Choose the mounting kit required for installation

☐ Wall Mounted

☐ Semi Sub-Merged

☐ Post Mounted

☐ Edge of Base

Example of product selection process using opposite page product numbers

Temperature compensated meters available on request

Step 2

Colour

Green ☐

Brown ☐

White ☐

Window  ☐ Y ☐ N

Step 3

Outlet Style

Bulkhead Outlet ☐

22mm Compression ☐

Rear outlet ☐

Step 4

Low or Medium Pressure

MP BP2284 ☐

LP STB27 ☐

OPSO

UNDER PRESSURE PROTECTION

BULK TANK

METERING

PRODUCT SELECTION

EVOLUTION®

Mounting bracket & Inlet kits			
Code	**Description**	**Contents**	
UUMBBASEMOKIT-2	Edge of Base Flush Mounting kit	• Edge of Base Bracket inc. Raw plugs & screws • PE Transition Bracket & Bolts set	• PE Transition fitting with security C clip • Emergency control Valve with Blanking cap
UUMBBASEMOKIT-3	Edge of Base Extended (150mm) Mounting kit ***Multi Height positional***	• Edge of Base Extended Multi Height Bracket • PE Transition Bracket & Bolts set PE • Transition fitting with security C clip • Emergency control Valve with Blanking cap	***Bracket is multi height positional*** • Semi submerged or Ground level • ½" Above ground level • 2" above ground level
UUMBPOSTMOKIT	Post Mounting kit	• Post mount Bracket inc. 1.5mtr post & fixings • PE Transition Bracket & Bolts set	• PE Transition fitting with security C clip • Emergency control Valve with Blanking cap
UUMBWALMOKIT	Wall or Semi Submerged Mounting kit	• Mounting Bracket with PE transition slot • Raw plugs and Screws set	• PE Transition fitting with security C clip • Emergency control Valve with Blanking cap

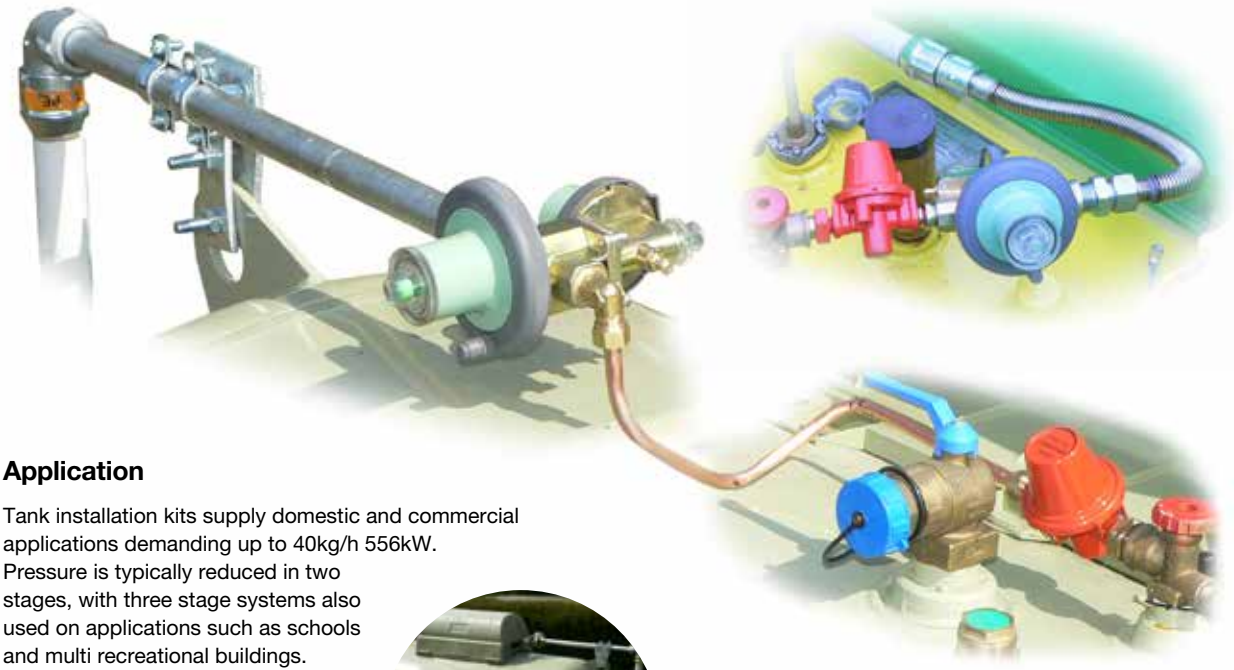
Medium Pressure Inlet Evolution Meterboxes										
Code	**Colour**	**Inlet Pressure**	**Outlet Pressure**	**Flow Rate (LPG)**	**PRV**	**OPSO**	**UPSO**	**Test Point**	**Window**	**Outlet Connection**
UUMBGRW-MP-BH	Green	0.3 – 2bar	37mb	9kg/h (125kW/h)	75mbar	100mb	25mb	Y	Y	Right hand side Bulkhead ½" Plugged
UUMBGRW-MP-ROH	Green	0.3 – 2bar	37mb	9kg/h (125kW/h)	75mbar	100mb	25mb	Y	Y	Rear Outlet 1.2mtr 70kW/h Clessinox hose terminating in 22mm Compression
UUMBGRW-MP-22MM	Green	0.3 – 2bar	37mb	9kg/h (125kW/h)	75mbar	100mb	25mb	Y	Y	Terminates inside the box with 22mm Capped Compression
UUMBGR0-MP-BH UUMBBR0-MP-BH UUMBWH0-MP-BH	Green Brown White	0.3 – 2bar	37mb	9kg/h (125kW/h)	75mbar	100mb	25mb	Y	N	Right hand side Bulkhead ½" Plugged
UUMBGR0-MP-ROH UUMBBR0-MP-ROH UUMBWH0-MP-ROH	Green Brown White	0.3 – 2bar	37mb	9kg/h (125kW/h)	75mbar	100mb	25mb	Y	N	Rear Outlet 1.2mtr 70kW/h Clessinox hose terminating in 22mm Compression
UUMBGR0-MP-22MM UUMBBR0-MP-22MM UUMBWH0-MP-22MM	Green Brown White	0.3 – 2bar	37mb	9kg/h (125kW/h)	75mbar	100mb	25mb	Y	N	Terminates inside the box with 22mm Capped Compression

Low Pressure Inlet Evolution Meterboxes										
Code	**Colour**	**Inlet Pressure**	**Outlet Pressure**	**Flow Rate (LPG)**	**PRV**	**OPSO**	**UPSO**	**Test Point**	**Window**	**Outlet Connection**
UUMBGRW-LP-BH	Green	45-200mb (Max 400)	37mb	7.2kg/h (100kW/h)	No	No	27.5mb	Y	Y	Right hand side Bulkhead ½" Plugged
UUMBGRW-LP-ROH	Green	45-200mb (Max 400)	37mb	7.2kg/h (100kW/h)	No	No	27.5mb	Y	Y	Rear Outlet 1.2mtr 70kW/h Clessinox hose terminating in 22mm Compression
UUMBGRW-LP-22MM	Green	45-200mb (Max 400)	37mb	7.2kg/h (100kW/h)	No	No	27.5mb	Y	Y	Terminates inside the box with 22mm Capped Compression
UUMBGR0-LP-BH UUMBBR0-LP-BH UUMBWH0-LP-BH	Green Brown White	45-200mb (Max 400)	37mb	7.2kg/h (100kW/h)	No	No	27.5mb	Y	N	Right hand side Bulkhead ½" Plugged
UUMBGR0-LP-ROH UUMBBR0-LP-ROH UUMBWH0-LP-ROH	Green Brown White	45-200mb (Max 400)	37mb	7.2kg/h (100kW/h)	No	No	27.5mb	Y	N	Rear Outlet 1.2mtr 70kW/h Clessinox hose terminating in 22mm Compression
UUMBGR0-LP-22MM UUMBBR0-LP-22MM UUMBWH0-LP-22MM	Green Brown White	45-200mb (Max 400)	37mb	7.2kg/h (100kW/h)	No	No	27.5mb	Y	N	Terminates inside the box with 22mm Capped Compression

Spare Parts

Please see spare part for the Meter box.
For internal spares please contact: sales@clesse.co.uk
Please advise colour and version when placing your order.

OPSO
UNDER PRESSURE PROTECTION
BULK TANK
METERING
kWh



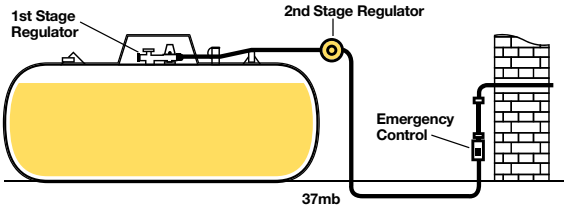
Application

Tank installation kits supply domestic and commercial applications demanding up to 40kg/h 556kW. Pressure is typically reduced in two stages, with three stage systems also used on applications such as schools and multi recreational buildings.

The kits listed on page 26 are widely used by leading LP gas supply companies and the kit contents are drawn from industry standards.

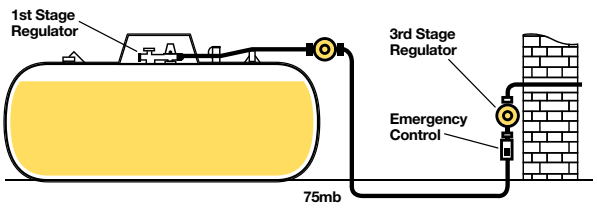
Wall end regulator kits are designed to be fitted at the property. They will include an ECV (emergency control valve) and reduce the pressure to the requirements of the application, typically 37mbar, although on 1st/2nd stage 37mb kits the wall end Installation will be unregulated.

Above ground installation types



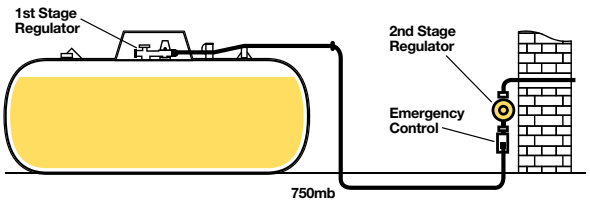
1st/2nd stage combined

Typical domestic type above ground installation using 1st/2nd stage regulators to give 37mb outlet pressure from the tank, supplying standard non regulated wall end kit for transition to the property.



1st/2nd stage combined & 3rd stage Wall end

Typical domestic or commercial type above ground installation using 1st/2nd stage regulators to give 75mb outlet pressure from the tank, to the 3rd stage 37mb wall end regulator kits providing the final stage pressure to the property.

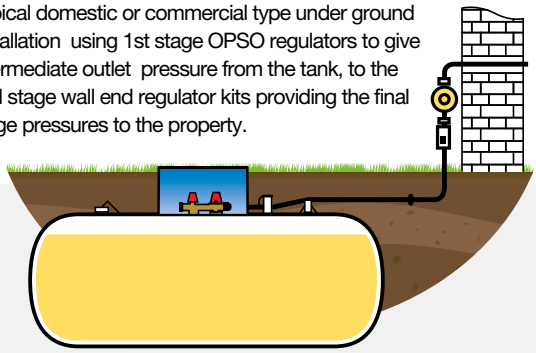


1st stage OPSO & 2nd Stage Wall end

Typical domestic or commercial type above ground installation using 1st stage OPSO regulators to give intermediate outlet pressure from the tank, to the 2nd stage wall end regulator kits providing the final stage pressures to the property.

Underground Tank Installation

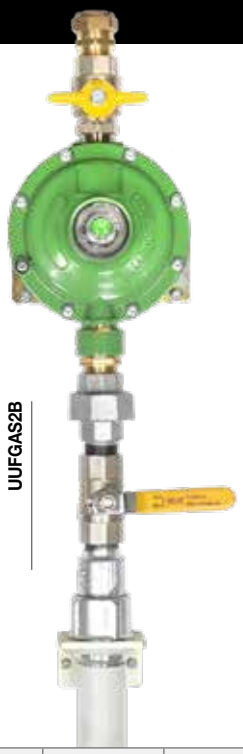
Typical domestic or commercial type under ground installation using 1st stage OPSO regulators to give intermediate outlet pressure from the tank, to the 2nd stage wall end regulator kits providing the final stage pressures to the property.



OPSO

UNDER PRESSURE PROTECTION

BULK TANK



1st Stage With and without OPSO

Code	Inlet Connection	Outlet Connection	Inlet Pressure	Outlet Pressure	Flow Rate (LPG)		OPSO (Y/N)	OPSO Position (U/D)	Gauge (Y/N)	Pressure Test Point (Y/N)
			bar	bar	kg/h	kW				
APZ400 - Fixed										
002713AE	US POL LH Male	3/8" BSPT Female	1.25 - 16	0.75	40	556	N	N/A	N	N
002713AD	US POL LH Male	3/8" BSPT Female	1.5 - 16	1	40	556	N	N/A	N	N
APZ400 - Adjustable										
002700AB	1/4" BSPT Female	3/8" BSPT Female	1.25 - 16	0.5 – 2	30-60	417-834	N	N/A	N	N
002700AQ	1/4" BSPT Female	3/8" BSPT Female	1.25 – 16	0.75 (0.5 – 2)	40	556	N	N/A	N	Y
002700AP	US POL LH Male	3/8" BSPT Female	1.25 - 16	0.5 – 2	30-60	417-834	N	N/A	Y	N
APZ400-OPSO										
UU6865/0.75	US POL LH Male	1/2" BSPT Female	1.25 – 16	0.75	40	556	Y	D	N	Y
UU6865/1.0	US POL LH Male	1/2" BSPT Female	1.25 – 16	1	40	556	Y	D	N	Y
UU6865/0-2STP	US POL LH Male	1/2" BSPT Female	1.25 – 16	0.5 - 2	40	556	Y	D	Y	Y
006865FE	1/4" BSPT Female	3/4" BSPT Female	1.25 – 16	0.75 (0.5-2)	40	556	Y	D	N	Y
006861FA	1/2" BSPT Female	3/8" BSPT Female	1.25 – 16	0.75 (0.5-2)	40	556	Y	U	N	Y
UU6865/0-3STP	US POL LH Male	1/2" BSPT Female	1.25 – 16	1 - 3	40	556	Y	D	Y	Y
AP40 / AP40-OPSO										
002810AC	1/4" BSPT Female	3/8" BSPT Female	1.25 - 16	1 – 3	40-60	556-834	N	N/A	Y	N
002862AB	1/2" BSPT Female	1/2" BSPT Female	1.25 - 16	0.75 (0.5-2)	60	834	N	N/A	N	N
006861FB	1/2" BSPT Female	1/2" BSPT Female	1.25 - 16	0.75 (0.5-2)	60	834	Y	U	N	Y
New Underwater APZ400										
006865SA	US POL LH Male	3/4" BSPT Female	1.25 - 16	0.75	25	347	Y	N/A	N	Y

Tank Installation Kits

Code	Additional Information	Inlet Connection	Outlet Connection	Inlet pressure	Outlet pressure	Flow rate (LPG)		OPSO	UPSO (Y/N)
				bar	mbar	kg/h	kW/h		
Above Ground Tank Mounted									
UUFGAS1A	Standard Domestic Above Ground 37mb Installation	US POL	32mm PE Adapter	2 – 16	37	10.5	146	Y	Y
UUFGAS1B	75mb Installation for use with 3rd Stage Wall End Kit 2B	US POL	32mm PE Adapter	2 – 16	75	10.5	146	Y	N
UUFGAS1C	750mb Installation for use with 2nd Stage Wall End Kits	US POL	32mm PE Adapter	2 – 16	750	40	556	Y	N
Below Ground Tank Mounted									
UUFGAS4A	Standard Domestic Below Ground 37mb Installation	US POL	32mm PE Adapter	2 – 16	37	10.5	146	Y	Y
UUFGAS4B	75mb Installation for use with 3rd Stage Wall End Kit 2B	US POL	32mm PE Adapter	2 – 16	75	10.5	146	Y	N
UUFGAS4C	750mb Installation for use with 2nd Stage Wall End Kits	US POL	32mm PE Adapter	2 – 16	750	40	556	Y	N

Note: installation kits do not include GRP sleeve, preformed bends or galvanised pipe - all items are available as additional items to complete installations. See page 33.

2nd & 3rd Stage Wall End kits

Code	Additional Information	Inlet Connection	Outlet Connection (Plugged)	Inlet pressure	Outlet pressure	Flow rate (LPG)		OPSO	UPSO (Y/N)
				mbar	mbar	kg/h	kW/h		
Transmission Pressure Of 37mbar									
UUFGAS2A	Fittings only kit. No regulator included	32mm PE Transition	¾" BSPT Female	37	N/A	N/A	N/A	N/A	N/A
Transmission Pressure Of 75mbar									
UUFGAS2B	3rd Stage Wall End Installation kit use with Kit1A/4B	32mm PE Transition	¾" BSPT Female	75	37	8	111	N	Y
UUFGAS2C	3rd Stage Wall End Installation kit use with Kit1A/4B	32mm PE Transition	1" BSPT Female	75	37	12	167	N	Y
UUFGAS2G	3rd Stage Wall End Installation kit use with Kit1H	32mm PE Transition	1 ¼" BSPT Female	75	37	25	345	N	Y
Transmission Pressure Of 750mbar									
UUFGAS2D	2nd Stage Wall End Installation kit use with Kit1C/4C	32mm PE Transition	¾" BSPT Female	0.5 - 2 bar	37	10.5	146	Y	Y
UUFGAS2E	2nd Stage Wall End Installation kit use with Kit1C/4C	32mm PE Transition	¾" BSPT Female	0.5 - 2 bar	37	30	417	Y	Y
UUFGAS2F	2nd Stage Wall End Installation kit use with Kit1D/1E	32mm PE Transition	1" BSPT Female	0.5 - 2 bar	37	40	556	Y	Y

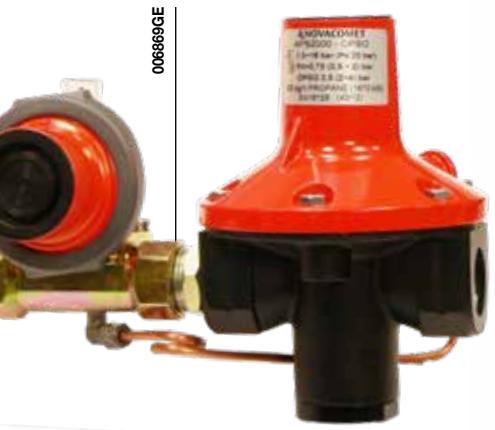
Note: Installation kits do not include GRP sleeve, preformed bends or galvanised pipe - All Items are available as additional items to complete installations. See page 33.

OPSO

UNDER PRESSURE PROTECTION

BULK TANK

1st Stage Tank Regulators up to 150kg/h



Application

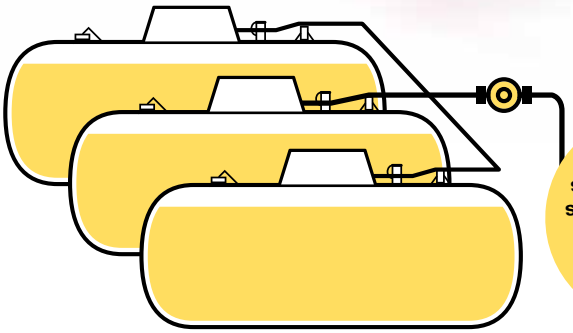
These fixed or variable regulators are mainly used on commercial, industrial or agricultural LPG installations using bulk tanks. They provide first stage regulation function between 0.5bar and 3bar, generally fitted directly to a tank manifold kit. Design and performance to BS EN 13785 dependent on the model.

Construction

- Body and cover: die cast zinc alloy.
- Diaphragm: NBR-R.
- Valve Pad: NBR.

Features

- APS2000 and APS2 have a pressure compensation system for stable operating pressures regardless of weather and inlet pressure conditions.
- APS2 has improved capacity performance delivering 150kg/h (2080kW).
- All models now include an inbuilt filter system to ensure long term reliable operation and protection against ingress of foreign matter.



Bespoke single and twin stream solutions available, call: 01905 842020

NEW APS2 Active Monitor OPSO Single Stream

Old twin streams need replacing? This compact inline regulator provides 0.75bar for medium pressure distribution, call the office for further details.

Code	Inlet Connection	Outlet Connection	Inlet Pressure	Outlet Pressure	Flow Rate (LPG)		OPSO (Y/N)	OPSO Position (U/D)	Gauge (Y/N)	Pressure Test Point (Y/N)
			bar	bar	kg/h	kW				
APS2000										
002510AA	3/4" BSPT Female	3/4" BSPT Female	1 – 16	1 – 3	150	2085	N	N/A	Y (Outlet only)	N
002530AA	3/4" BSPT Female	3/4" BSPT Female	1 – 16	1 – 3	150	2085	N	N/A	Y (Inlet & Outlet)	N
APS2000-OPSO										
006869GE	3/4" BSPT Female	3/4" BSPT Female	1.5 – 16	0.75 (0.5-2)	120	1668	Y	U	N	Y
UU006869GE/3	3/4" BSPT Female	3/4" BSPT Female	1.5 – 16	1 - 3	120	1668	Y	U	N	Y
APS2 OPSO										
006880CA	1" NPT	1" BSPT	1.5 – 16	0.75 (0.5-2)	150	2085	Y	U	N	Y
APS2 OPSO Active Monitor - Call For Application Details										
006880MD	1" NPT	1" BSPT	1.5 – 16	0.75 (0.5-2)	150	2085	Y	U	N	Y
OPSO 492 (OPSO Only) Internally Sensed										
004393AA	1/2" BSPT	1/2" BSPT	1.5 – 16	2.5 (2-4)	120	1668	Y	Giro	N	optional
004393AB	3/4" BSPT	3/4" BSPT	1.5 – 16	2.5 (2-4)	120	1668	Y	Giro	N	optional

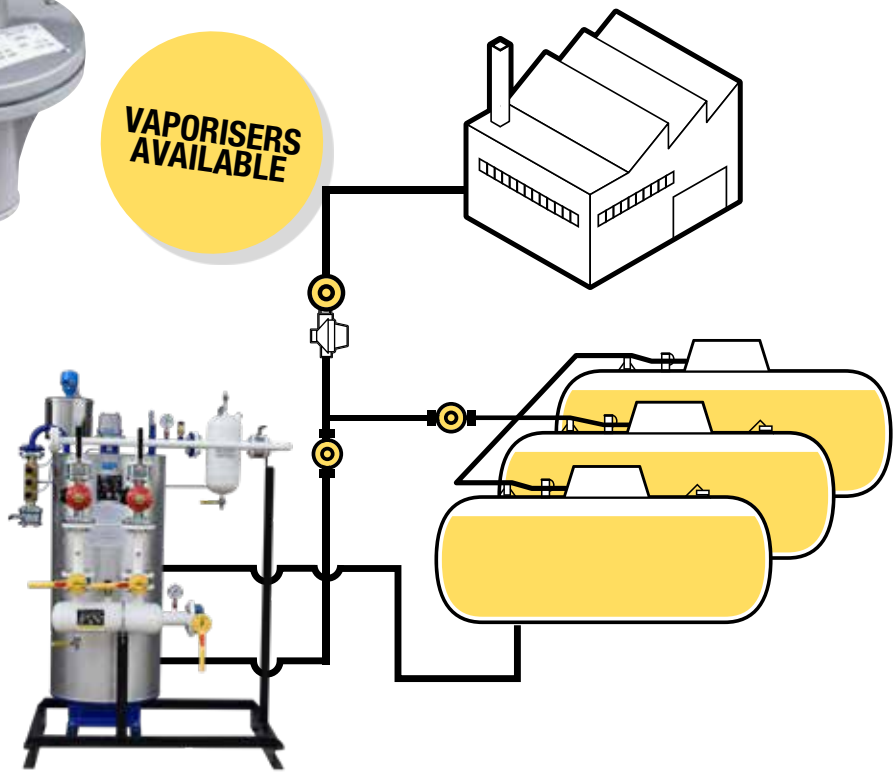
OPSO

UNDER PRESSURE PROTECTION

BULK TANK

ACTIVE MONITOR AND TD13 TWIN STREAMS AVAILABLE ON REQUEST

VAPORISERS AVAILABLE



Application

These very high capacity, high pressure regulators are used in large commercial, networked or industrial applications.

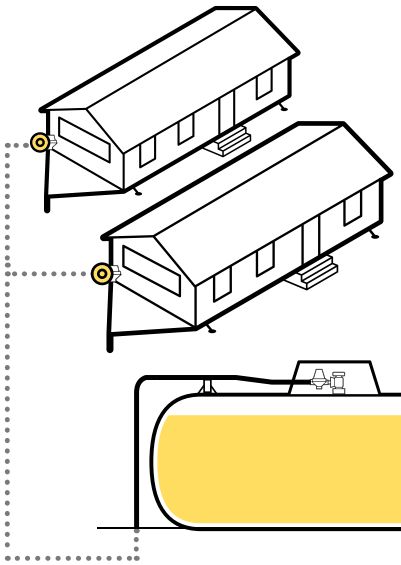
Suitable for use with LPG, LNG, Natural gas and other non-aggressive gases. Clesse UK stock spare springs and repair kits for the entire range, meaning the demands of any application can be met.

When used with LPG, a vaporiser is commonly installed. Clesse UK have a complete range of hot water and electric feed out or feedback vaporisers, from 40kg/h – 2000kg/h. Speak to our engineering department for more information.

Code	Inlet connection	Outlet connection	Inlet Pressure bar	Outlet Pressure bar	LPG Flow rate kg/h	LPG Flow rate kW/h	OPSO
1391HF OPSO							
051081AA	1" NPT	1" NPT	2.5-16	1	300	4140	2.5
1395HB OPSO							
051085ZA	PN40 DN50	PN40 DN50	2.5-16	1	1200	16560	2.5
Sensing Kits							
UUDN50SENSEKIT	PN40 DN50	2" BSPT	Sensing tube, flange and gasket for downstream sensing of pressure.				

OPSO
UNDER PRESSURE PROTECTION
BULK TANK

2nd & 3rd Stage Domestic Tank Regulators



Application

2nd & 3rd stage regulators are mainly used in domestic and small commercial applications at either the bulk tank, wall end or inside a meterbox housing of an installation, all of which incorporate Pressure Relief Valves.

2nd stage regulators provide transmission pressure of 37 or 75mb and contain safety features of UPSO & OPSO, with OPSO only on 75mb models. See table for details.

3rd stage regulators are designed to reduce transmission pressure from the 1st and 2nd stage regulation equipment down to 37mb and contain UPSO safety features on all models.

Design and performance to BS EN 13785 & EN 16129 dependent on model.

BP2203 UPSO OPSO: performance and design ensures required pressure, whatever the ambient temperatures and tank pressures

2nd Stage & Close coupled 1st & 2nd Stage

Code	Inlet Connection	Outlet Connection	Inlet Pressure	Outlet Pressure	Flow Rate (LPG)		Relief Valve (Giro/Pipe)	OPSO (Y/N)	UPSO (Y/N)	Pressure Test Point (Y/N)
			bar	mbar	kg/h	kW				
BP2203 – UPSO/OPSO										
006827AA*	1/2" BSPT Female	3/4" BSPT Female	0.45 – 2	37	10.5	146	Giro	Y	Y	Y
006827AD*	1/2" BSPT Female	3/4" BSPT Female	0.6 – 2	75	12.5	174	Giro	N	N	Y
Close Coupled APZ400-BP2203 – UPSO / OPSO										
006881AA	1/4" BSPT Female	3/4" BSPT Female	1.5 – 16	37	10.5	146	Giro	Y	Y	N
006881AC	1/4" BSPT Female	3/4" BSPT Female	1.5 – 16	75	12.5	174	Giro	N	N	Y
BP2303 OPSO										
006830BB	1/2" BSPT Female	3/4" BSPT Female	1 - 4	37	30	414	Pipe	Y	N	Y
BP4203 UPSO / OPSO										
006850FM*	1/2" BSPT Female	1" BSPT Female	0.75 - 2	37	30	414	Giro	Y	Y	Y
NON OPSO										
000860AH	1/2" bspt Female	1/2" BSPT Female	0.5 - 4	37	10	139	Giro	N	N	N
001051AB	1/2" bspt Female	3/4" BSPT Female	0.5 - 4	37	30	417	Pipe	N	N	N
001052AB	1/2" bspt Female	3/4" BSPT Female	0.5 - 4	37	30	417	Pipe	N	N	N

** Wall mounting brackets available*

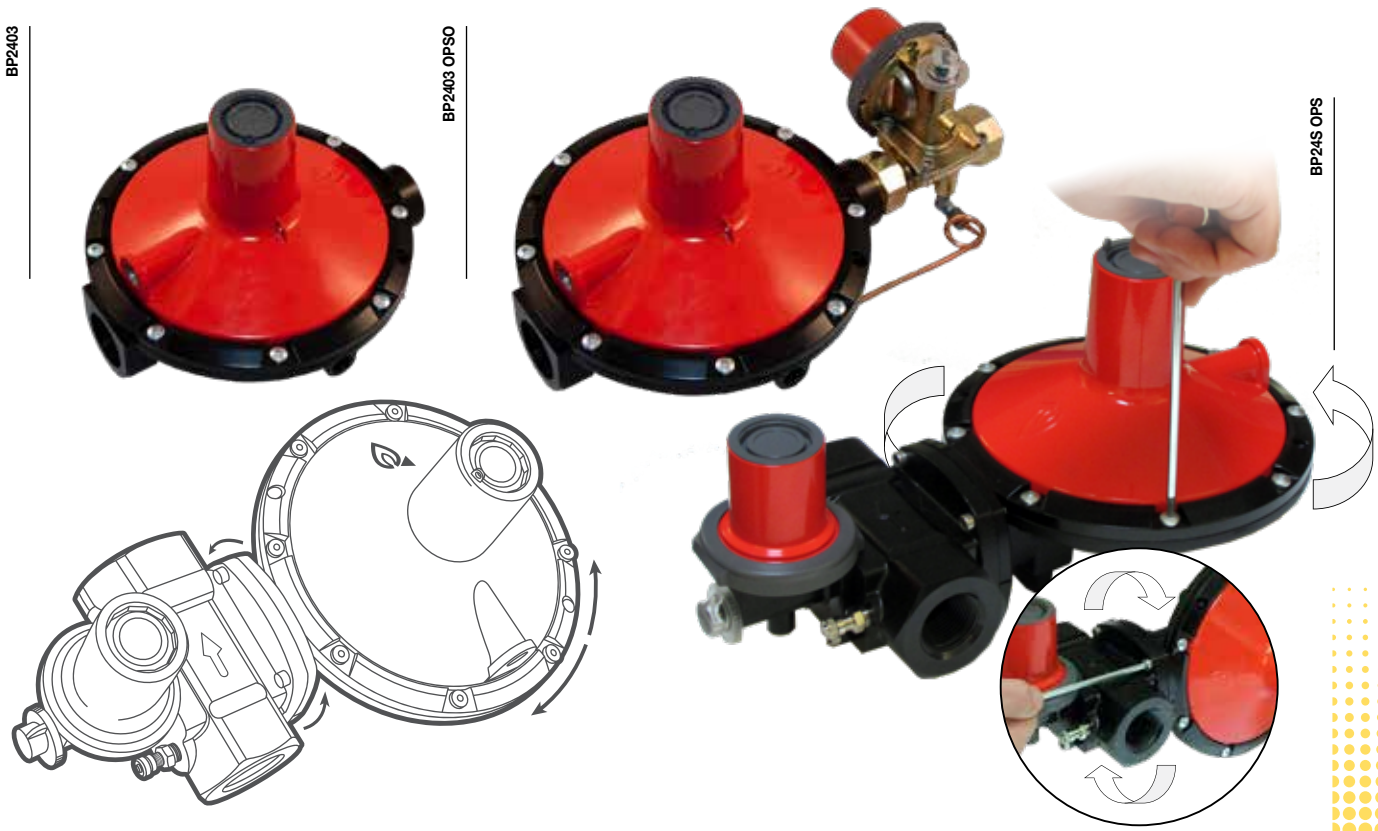
3rd Stage

Code	Inlet Connection	Outlet Connection	Inlet Pressure	Outlet Pressure	Flow Rate (LPG)		Relieve Valve (Giro/Pipe)	OPSO	UPSO (Y/N)	Vent Position (Inlet = 6h)	Pressure Test Point (Y/N)
			mbar	mbar	kg/h	kW					
BP2303											
001060BA	3/4" BSPT Female	3/4" BSPT Female	60 - 90	37	8	110	Pipe	N	Y	6h	Y
BP2403											
001120CA	3/4" BSPT Female	1" BSPT Female	60 - 90	37	12	170	Pipe	N	Y	7h	Y

OPSO

UNDER PRESSURE PROTECTION

BULK TANK



BP24F / BP24S High Capacity Low Pressure regulator upto 100kg/h

High capacity Low Pressure regulators suitable to accommodate an extensive range of operating conditions, with a compact and installer configurable design to meet the toughest of environments.

Features

- Direct operated, spring loaded mechanism.
- Adapted 13.5mm seat diameter.
- Large reinforced diaphragm.
- Rotatable vent.
- Central rotatable diaphragm casing.
- 1" BSPT Inlet.
- 1" BSPT Outlet (1 ¼" on BP24F).
- Connectable vent.
- High and Low Pressure test points.
- Built to EN 16129.

BP2403 Low Pressure regulator up to 60 kg/h

Versatile and economic pressure regulator supplying high capacity flow rates at both low and high inlet pressure ranges. Mainly used in medium and large power installations as final stage or intermediate stage pressure reduction.

Features

- Direct operated, spring loaded mechanism.
- 9.6mm seat diameter.
- Rotatable vent.
- Large reinforced diaphragm.
- ¾" BSPT Inlet.
- 1" BSPT Outlet.
- Connectable vent.
- Built to EN 16129.

2nd Stage

Code	Inlet connection	Outlet connection	Inlet Pressure bar	Outlet Pressure mbar	LPG Flow rate kg/h	LPG Flow rate kW/h	OPSO	PRV	UPSO	Test Point	Original Vent position*
BP2403 Non OPSO											
001105CA	¾" BSPT	1" BSPT	(0.3) 0.5-2	37	(40) 50	(552) 690	N	75mbar	N	N	4
BP2403 UPSO OPSO											
006846CB	¾" BSPT	1" BSPT	0.5-2 (1)	37	40 (60)	552 (828)	100mbar	75mbar	28mbar	Y	7
006842CB	¾" BSPT	1" BSPT	0.5-2 (1)	75	40 (60)	552 (828)	140mbar	115mbar	N	Y	7
BP24F NON OPSO											
001205CA	1" BSPT	1 ¼" BSPT	(0.3) 0.5-2	37	(60) 70	(828) 966	N	75mbar	N	Y	6
BP24S UPSO OPSO											
006847CB	1" BSPT	1" BSPT	0.3	37	50	690	130mbar	75mbar	28mbar	Y	6
			0.5 – 1		60 – 80	828-1104					
			1.5		100	1390					
006847CC	1" BSPT	1" BSPT	0.5-5	75	70	966	140	115	N	Y	6
006847CD	1" BSPT	1" BSPT	0.65-5	150	80	1104	300	225	N	Y	6
006847CE	1" BSPT	1" BSPT	0.8-5	300	80	1104	475	420	N	Y	6

** The position of the vent reads like a watch face seen from above with the inlet connection being 6 o clock*

3rd Stage

Code	Inlet connection	Outlet connection	Inlet Pressure mbar	Outlet Pressure mbar	LPG Flow rate kg/h	LPG Flow rate kW/h	OPSO	PRV	UPSO	Test Point	Original Vent position*
BP2403 UPSO											
001120CA	¾" BSPT	1" BSPT	50-500	37	12	166	N	75mbar	28mbar	Y	7
BP24F UPSO											
001240CC	1" BSPT	1 ¼" BSPT	60-150	37	25-50	345-690	n	75mbar	28mbar	Y	6

** The position of the vent reads like a watch face seen from above with the inlet connection being 6 o clock*

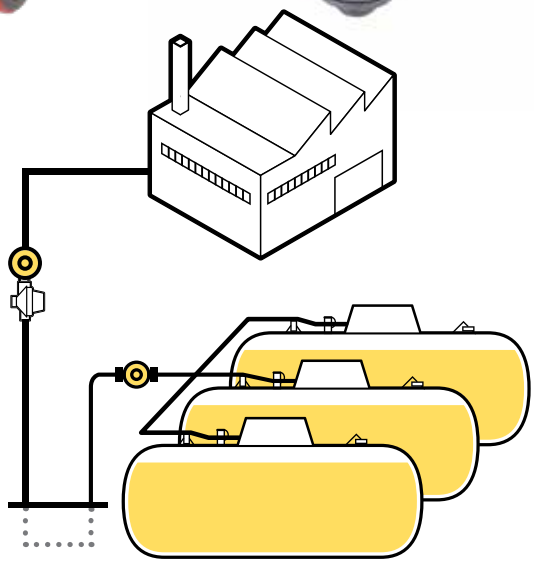
2nd Stage High Capacity Commercial Tank Regulators

Application

The regulators on this page provide 2nd stage intermediate or final stage regulated pressure to large commercial or industrial applications.

The BP24FC, new in 2019, supersedes the BP2402FC. It offers enhanced flow rates, up to 200kg/h (1bar inlet required) and is pressure compensated, giving consistent outlet pressures, regardless of whether you have 0.5 bar on the inlet, or 3bar. Consistent with the BP24S (60kg/h) range, it has a fully rotatable body and vent cover, meaning it can be installed in previously unachievable orientations.

Active monitor single stream modules are available across this range – speak to our engineering team for more information.



Code	Inlet connection	Outlet connection	Inlet Pressure bar	Outlet Pressure mbar	LPG Flow rate kg/h	LPG Flow rate kW/h	OPSO	PRV	UPSO	Test Point	Original Vent position*
BP24 NON OPSO											
001205CA	1" BSPT	1 ¼" BSPT	0.5-4	30 (25-40)	120	1656	N	75mbar	N	Y	3
BP24FC UPSO OPSO											
006896CC	1" BSPT	1 ¼" BSPT	0.5-4	37	140	1932	70mbar	50	Y	Y	6
006896CF	1" BSPT	1 ¼" BSPT	0.8-4	300	180	2484	475mbar	420mbar	200mbar	Y	6

Code	Inlet connection	Outlet connection	Inlet Pressure mbar	Outlet Pressure mbar	LPG Flow rate kg/h	LPG Flow rate kW/h	OPSO	PRV	UPSO	Test Point	Impulse type
1495BB UPSO OPSO											
051085YC	FLANGE PN40 – DN50	FLANGE PN40 – DN50	0.5-4	37	500	6210	100mbar	75mbar	28mbar	N	External
051085YA	FLANGE PN40 – DN50	FLANGE PN40 – DN50	0.7-4	75	600	8280	140mbar	115mbar	N	N	External
1495MB OPSO											
051085AF	FLANGE PN40 – DN50	FLANGE PN40 – DN50	1-4	300	800	11040	450mbar	N	N	N	External

OPSO
UNDER PRESSURE PROTECTION
BULK TANK

CLESSE

041671

FxF Lever Ball Valve

GRP Sleeve and Bend

UUABRACKET

UU3/4NPTTEE

Primo6 and uuprbracket25

Male x Female FILTER Adapters

UUSS2500MMOB

GRP Sleeve And Preformed Bend	
UUBEND25	Bend 38mm OD x 90deg 400mm radius gas
UUBEND32	Bend 44mm OD x 90deg 400mm radius gas
UUGRP25-1	GRP sleeve 38mm OD x 1 mtr
UUGRP25-2	GRP sleeve 38mm OD x 2mtrs
UUGRP32-1	GRP sleeve 44mm OD x 1mtr
UUGRP32-2	GRP sleeve 44mm OD x 2mtrs

George Fisher Transition Fittings	
PRIM01	3/4" BSP male x 25mm PE primofit adapter
PRIM02	1" BSP male x 32mm PE primofit adapter
PRIM04	3/4" BSP female x 25mm PE primofit adapter
PRIM05	3/4" STEEL female x 25mm PE primofit elbow
PRIM06	3/4" BSP male x 25mm PE WITH 'C' clip primofit adapter
UUPRIM08	1" BSP male x 32mm PE WITH 'C' CLIP primofit adapter
UUPRIM09	3/4" BSP male x 3/4" steel female primofit adapter
UUPRBRACKET-25	Primofit Bracket for use with PRIM06 and PRIM010
UUPRBRACKET-32	Primofit Bracket for use with PRIM08

Copper Tube & 10mm Stud Couplings	
UUCOPPTUBE10X.8	10mm x 0.8mm soft copper tube
UUMC13/10/163	1/4" BSPT Male x 10mm Stud Coupling Straight
UUMC23/10/163	1/4" BSPT Male x 10mm Stud Coupling Elbow
UUMC13/10/243	3/8" BSPT Male x 10mm Stud Coupling Straight
UUMC23/10/243	3/8" BSPT Male x 10mm Stud Coupling Elbow
UUMC13/10/323	1/2" BSPT Male x 10mm Stud Coupling Straight
UUMC23/10/323	1/2" BSPT Male x 10mm Stud Coupling Elbow

Filters	
040910AA	1/2" BSPT Male x Female FILTER Adapter
040910AB	1/2" BSPT Male x 3/4" BSPT Female FILTER Adapter
040910AC	3/4" BSPT Male x Female FILTER Adapter

Tank End Anclliary Fittings	
006734AA	Earth tag
006734AB	Tank bracket
006734AC	90 degree POL
UUABRACKET	Tank mounting "A" bracket 3/4"

Ptfe And Clessetite Sealant	
UUPTFETAPE	One Wrap PTFE Gas Tape
041671	Clessetite Thread Sealant 50ML Tube
041671AC	Clessetite Thread Sealant 250ML Tube

BSPT FXF Lever Ball Valves MOP 5	
6220140	1/2"
UU6276021	3/4"
6220180	1"
6220200	1 1/4"
6220260	2"

BSPT MXF Butterfly Ball Valves MOP 5	
UU6276015	1/2"
UU6276020	3/4"
UU6276018	1"

Jamesbury 3000LB NPT Ball Valves	
UU6276042	1/4"
UU6276026	1/2"
UU6276040	3/4"
UU6276025	1"
UU6276043	1 1/4"
UU6276044	1 1/2"
UU6276041	2"

3000LB NPT Equal Tee	
UU1/4NPTTEE	1/4"
UU1/2NPTTEE	1/2"
UU3/4NPTTEE	3/4"
UU1NPTTEE	1"
UU11/4NPTTEE	1 1/4"
UU2NPTTEE	2"

3000LB NPT Plug	
UU1/4NPTPLUG	1/4"
UU1/2NPTPLUG	1/2"
UU3/4NPTPLUG	3/4"
UUHEXPLUG1"3000	1"
UU11/4NPTPLUG	1 1/4"
UU2NPTPLUG	2"

3000LB NPT F x F Elbows	
UU1/4NPTELB3000	1/4"
UU1/2NPTELB3000	1/2"
UU3/4NPTELB3000	3/4"
UU1ELB3000	1"
UU11/4NPTELB	1 1/4"
UU11/2NPTELB	1 1/2"

3000LB NPT M x F Elbows	
UU1/4NPTMFELB	1/4"
UU006734AD	3/4"

3000LB NPT F x F Unions	
UUFXF1/4UNION30	1/4"
UUFXF1/2UNION30	1/2"
UUFXF3/4UNION30	3/4"
UUFXF1UNIBLK	1"
UU11/4NPTUN3000	1 1/4"
UUFXF11/2UNION3	1 1/2"
UUFXF2UNION30	2"

3000LB NPT M x F Unions	
UU1/4NPTUN3000	1/4"
UU1/2NPTUN3000	1/2"
UU3/4NPTUN3000	3/4"
UU1MXFUNI3000	1"

3000LB NPT EQUAL Nipples	
UU1/4NPTHN3000	1/4"
UU1/2NPTHN3000	1/2"
UU3/4NPTHN3000	3/4"
UU1"HEXNIPP3000	1"
UU11/4NPTHN3000	1 1/4"
UU2NPTHN3000	2"

3000LB NPT Others	
REDUCING NIPPLES	ALL SIZES
HEX BUSHES	ALL SIZES
EQUAL & REDUCING SOCKETS	ALL SIZES

High Pressure Stainless Steel Manifold Hoses	
UUSSH09	450mm 3/4" Stainless Steel ANLR 321 Unbraided Hose - Barrel M x Swivel F CW MxM Adapter
UUSSH10	750mm 3/4" Stainless Steel ANLR 321 Unbraided Hose - Barrel M x Swivel F CW MxM Adapter
UUSS2500MMOB	2.5mtr 3/4" Stainless Steel 316 Braided Hose – Swivel F c/w MxM Adapter x Swivel F c/w MxM Adapter

OPSO
UNDER PRESSURE PROTECTION
ACCESSORIES
BULK TANK

Features

- Outstanding Changeover performances to allow the constant flow of gas, fundamental to the chick rearing process.
- Quality regulators, manufactured in Europe, both adjustable and non adjustable, with robust design features for demanding locations.
- Reliable industry leading product.
- Highest standard of fittings and accessories to compliment the regulation equipment.
- Regulation standards and performance to BS EN 13785, hosing to BS 3212/2 and BS EN16436-1 Class 3.

Code	Inlet Connection	Outlet Connection	Inlet Pressure bar	Outlet Pressure bar/mbar	Flow Rate (LPG) kg/h	Flow Rate (LPG) kW
Changeover Equipment						
UUHPCO+ADPT	20" Str/Thr UK POL 5/8 LH Male NUT Pigtails x 2	5/8" LH Female	2 – 16	1.5bar	12	167
UU002635AEH	20" Str/Thr UK POL 5/8 LH Male NUT Pigtails x 2	M20 Male (No BV)	2 – 16	1.5bar	12	167
UU0175C20	20" NRVEXF UK POL 5/8 LH Male NUT Pigtails x 2	M20 Male (No BV)	2 – 16	1.5bar	12.5	174
UU0175CS20	20" Str/Thr UK POL 5/8 LH Male NUT Pigtails x 2	M20 Male (No BV)	3.5 – 16	3bar	20	278
Adjustable Regulators						
000780AS	UK POL 5/8 LH Male NUT Propane	10mm Fulham Hose Nozzle	1 – 16	50-150mbar	4	55
000780AR	UK POL 5/8 LH Male NUT Propane	10mm Fulham Hose Nozzle	1 – 16	20-300mbar	4	55
000780AE	FEM-Rp1/4	FEM-Rp3/8	1 – 16	50-150mbar	4	55
Fixed Regulators						
UU001823ACN	UK POL 5/8 LH Male NUT Propane	10mm Fulham Hose Nozzle	1 – 16	50mbar	4	55
UU001854ALN	UK POL	10mm Fulham Hose Nozzle	1 – 16	300mbar	5	90
001854AL	UK POL	M20 Male	1 – 16	300mbar	5	90
002011AX	UK POL 5/8 LH Male NUT Propane	10mm Fulham Hose Nozzle	1.9 – 16	1.4bar	8	111
High Capacity Regulators						
001070AA	1/2" BSPT Female	3/4" BSPT Female	0.5 – 4	10-200mbar	30	417
001070AB	1/2" BSPT Female	3/4" BSPT Female	0.5 – 4	20-300mbar	30	417

Code	Description
Hoses, Pigtails And Installation Accessories	
UURGPT002	20" Straight through Pigtail UKPOL x W20 - replacement pigtail for high pressure changeover valves
UURGPT003	33" Straight through Pigtail UKPOL x W20 - for multiple installations using the multi changeover t piece listed below
UURP0011A5	20" Straight through Pigtail UKPOL x UKPOL - for linking cylinders using the ypol cylinder adapter listed below
UUMOOCLIP	Wormdrive hose clip for use on regulators with 10mm nozzle, and any Fulham nozzle listed below
004650	FxFxM Pol T adapter
005720	3 way 8mm hose connector "T" piece section
004020	3 way 8mm hose connector "T" piece section including flow control adjustment knob
003810	2 way 1/4" FxF needle valve
PP04500	M20 Female x 10mm Fulham nozzle (For use with Clesse 001854 range)

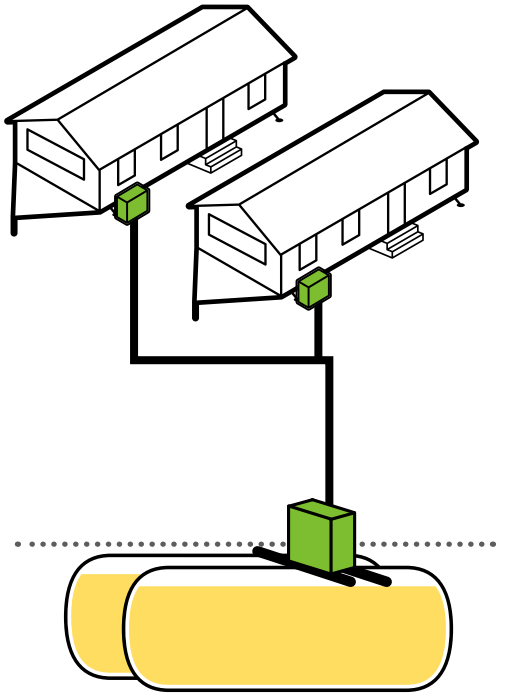
Application

Our networked distribution modules, designed for metered estates and holiday parks, were introduced in 2015 following extensive customer and engineering engagement. The tank mounting beam kit, and ground level module is now recognised as the industry standard for a multiple underground tank installation.

The range available covers both above ground and underground installation for these distribution types:

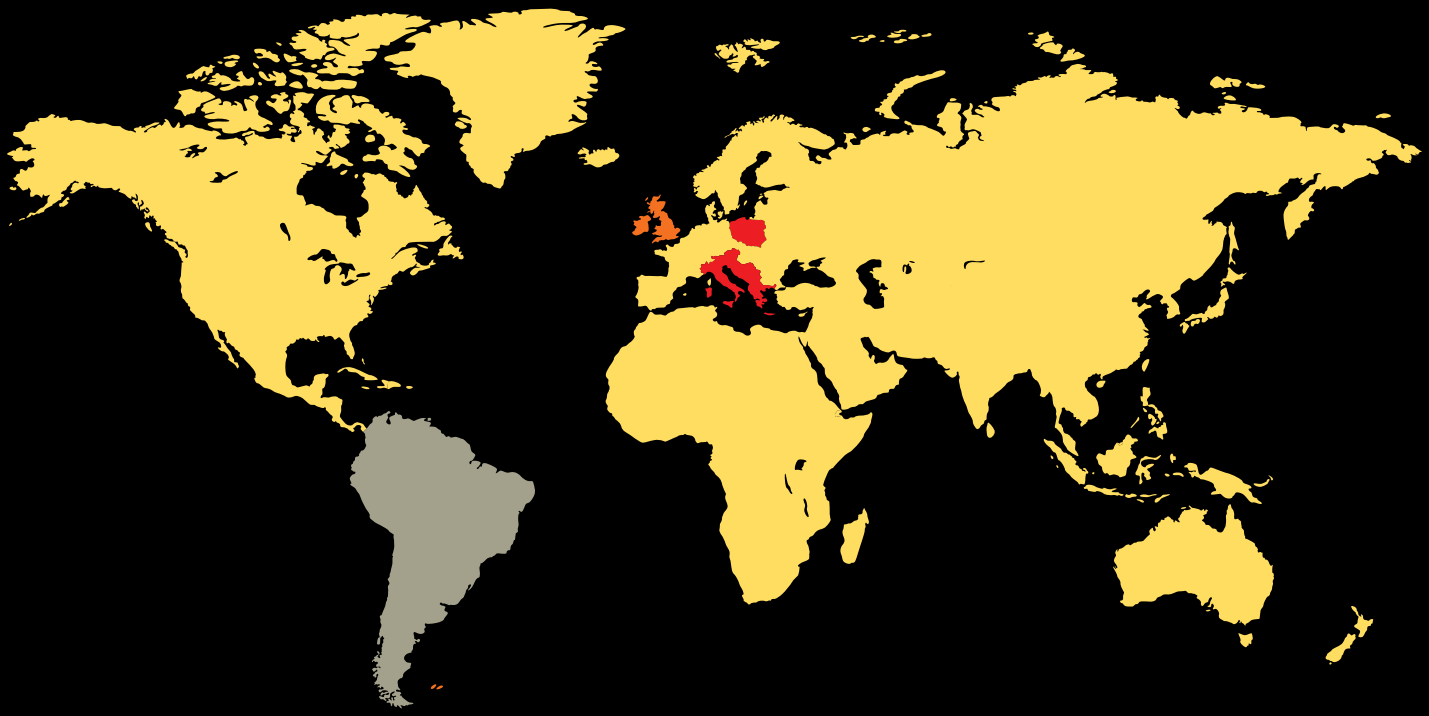
- 1st stage pressure only – for medium pressure distribution from the tank compound.
- 1st & 2nd stage pressure – for low pressure distribution from the tank compound.
- 2nd stage only – for reduction of a medium pressure ring main to low pressure distribution ring.

Please call the engineering department if you need further information, or have a bespoke requirement.



Code	Inlet connection	Outlet connection	Inlet Pressure bar	Outlet Pressure mbar	LPG Flow rate kg/h	LPG Flow rate kW/h	Kiosk Type	Beam Kit Required	Preconditioning Required?	Pressure Telemetry Available?
Underground Tanks - 1st & 2nd Stage										
UUTS2ST60KG	3/4" NPT	2" BSPT	1-16	75	60	828	GC2	Y	Y	Y
UUTS2ST150KG	3/4" NPT	2" BSPT	1-16	75	120	2038	GC2	Y	Y	Y
Aboveground 1st & 2nd Stage										
UU6842CB/AG-2S	3/4" NPT	1" BSPT	1-16	75	60	828	GC2	Y	N	Y
UUHP150+BP24AMK	3/4" NPT	2" BSPT	1-16	75	150	2038	VP Mounted	Y	N	Y
Aboveground - 1st Stage Only										
UUHP150A/MVPKIT	3/4" NPT	1" BSPT	1-16	750	60	828	VP Mounted	N	N	Y
Underground - 1st Stage Only										
UUAP2-AM-UNIBOX	3/4" NPT	32mm PE	1-16	750	150	2038	EvoBox	Y	Y	Y
Remote 2nd Stage Only										
UU75X40KGTSBRK	32mm PE	32mm PE	0.5 - 2	75	40	550	GCG66	N	N	Y
UUTS2NDST60KG	32mm PE	2" BSPT	0.5 - 2	75	60	838	GC2	Y - Trench	N	Y
UUTS2NDST150KG	32mm PE	2" BSPT	0.5 - 2	75	120	2038	GC2	Y - Trench	N	Y

World Locations



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