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Advanced solutions for gas control

UL LISTED

Propane Regulators, Valves and Equipment

2015 EDITION

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DANGER
- Leaking gas can cause deadly fires or explosions
- Only trained people should work on gas systems
- Inspect gas systems regularly
- Replace adapters or valves as required
- Failure to follow these directions can result in bodily injury or death

WARNING

The Cavagna Group, Cavagna North America, and its affiliates give notice that all products contained in this catalog must only be used with LP-Gas (liquefied petroleum gas). The products contained within this catalog must be installed in accordance with NFPA 54, NFPA 58, all D.O.T., federal, state, and local codes where applicable and only handled by trained experienced personnel. Periodic maintenance and inspection are necessary for all products contained within this catalog. If there are any questions or doubts concerning the use or handling of any products contained within this catalog, call:

cavagna north america Inc. 732-469-2100

Since 1949, the Cavagna Group has supplied the worldwide gas control industry with products of superior quality and value.
Our new comprehensive catalog features a complete line of products and accessories for the LPG and cryogenic gas containers.

cavagna north america Inc.

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INTRODUCTION

The Cavagna Group began operation in 1949 and continues to grow today in Northern Italy. Since its origin, the Group has become a world leader in the forging and machining of brass and stainless steel.

For over seventy years the Group has supplied safe products of superior quality and value. Technological advancement and sophisticated working procedures have allowed us to rapidly create new products and solutions for the gas control industry.

The Cavagna Group produces a wide range of products meeting international standards including:

- LPG Valves and Regulators
- Natural Gas regulators for domestic and industrial use
- ASME, Fork Lift, and Motor Fuel Tank Valves
- High Pressure Cylinder Valves
- Refrigeration Cylinder Valves
- Distribution and Regulation Equipment for Industrial Gases
- Distribution and Regulation Equipment for Medical Gases
- Comprehensive Range of Welding, Cutting Equipmentand Special Gases
- CNG - AUTOGAS products

The Group's design engineers and laboratory technicians closely cooperate with worldwide regulatory institutions, both in the writing of international performance standards and in the creation of new products. In North America our products are recognized by AGA, ASME, CGA, IAS, and UL as conforming to ANSI, NFPA and other recognized standards.

The Cavagna Group of companies has invested heavily in personnel, individual training, and robotic technology to meet the quality standards required by our customers and the 135 countries we serve. With the establishment of Cavagna North America in 1996 and our North American Distribution Center, we have further expanded our service network to meet the demands of the global marketplace.

Our philosophy is to provide all of our customers with quality products, continuous innovation and superior service in a competitive environment.

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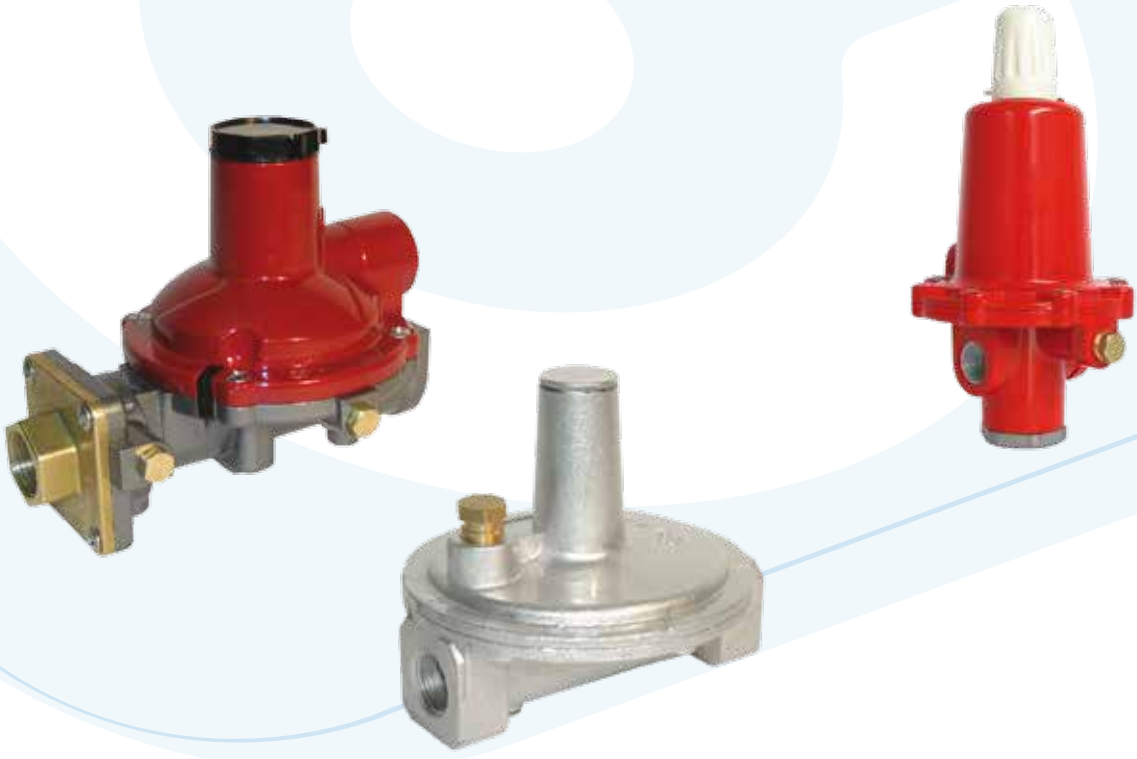
LPG & NATURAL GAS REGULATORS DIVISION

Gas pressure Regulators & Accessories

Residential / Commercial / Industrial



Regulators

The regulators are classified according to their use and according to the particular system they regulate the gas with. Therefore, first stage regulators and second stage regulators are designed to be used for residential and commercial installations. The first stage regulator is a regulator reducing the inlet pressure, coming from the withdrawal cylinder or tank, to a medium level suitable to feed consequently a second stage regulator, thus the first stage regulator reduces pressure down to 10 PSIG. The second stage regulator is a regulator reducing the pressure, coming from a first stage regulator, directly to the inlet pressure of the user's appliances or to a medium pressure value in case of installations with Pressure Line Regulators. Cavagna Group gas regulators for residential and commercial installations are complying with UL 144 Standard. They are designed to be installed outdoors, following the manufacturer's instructions of installation. Cavagna Group Pressure Line Regulators are used in natural gas or in LPG installations, following a second stage regulator with medium pressure value. Pressure Line Regulators are regulators that are located upstream user's appliances to compensate possible pressure drops coming from the supply system or distribution network. All Pressure Line Regulators are designed for indoor installations and are complying with ANSI Z2180.

Installation Types

Type A installation

The first stage regulator is connected to the tank valve as per 6.8.1.1. paragraph of the NFPA 58. It supplies a second stage regulator that is usually installed near the house. Length and diameter of gas pipes connecting the first stage regulator to the second stage regulator have to be calculated in order to ensure the minimum supplying pressure to the regulator of second stage (5 PSIG) and to ensure the maximum allowed capacity to gas appliances. At the same time, length and diameter of gas pipes connecting the second stage regulator outlet to gas appliances have to be calculated in order to respect the maximum authorized capacity and pressure drop, as well as to ensure good functioning of the installation. The first stage regulator must be mounted with cover turned upwards, but slightly bending downwards - please, refer to figure 1 - in order to allow the vent-hole to vent out possible water, which may enter the regulator. The second stage regulator is usually installed outdoors and has to have its vent turned downwards, away from eventual openings of the building. See 6.8.1.6 paragraph of NFPA 58. As far as

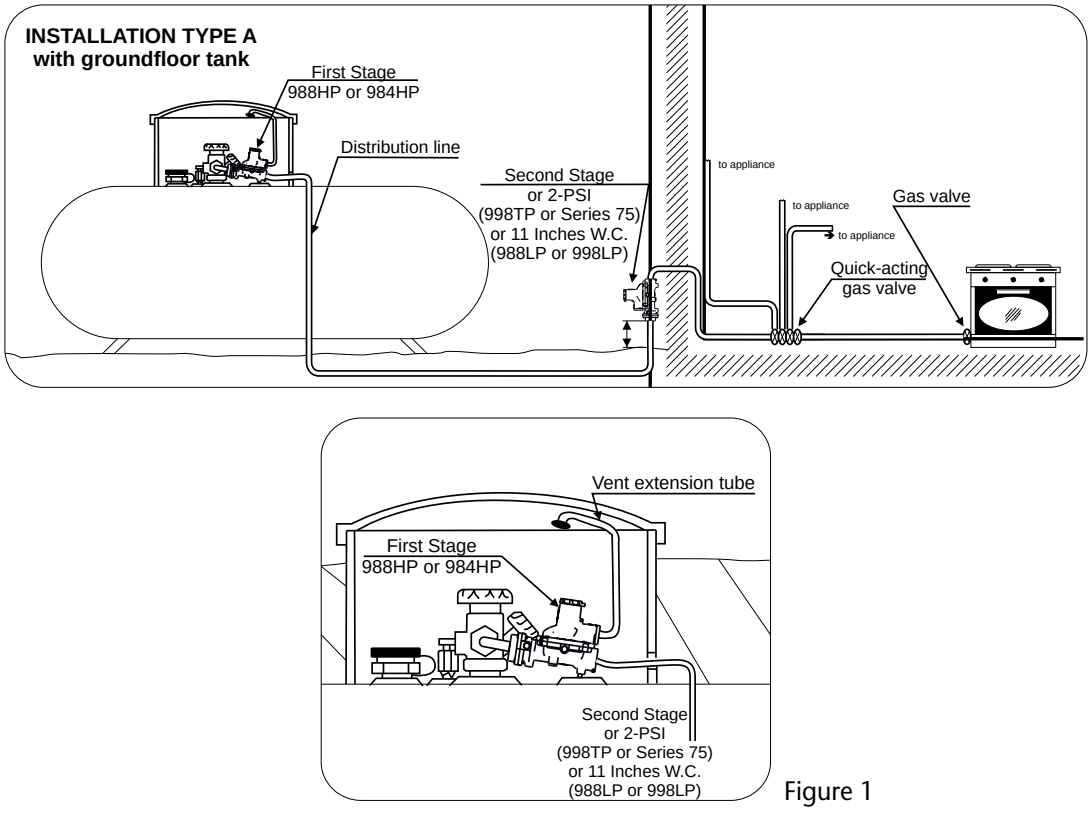
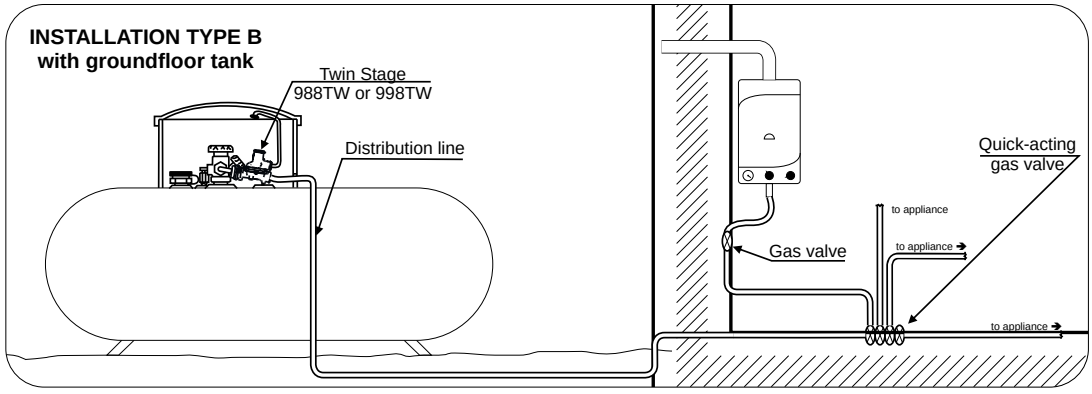


Figure 1

Installations

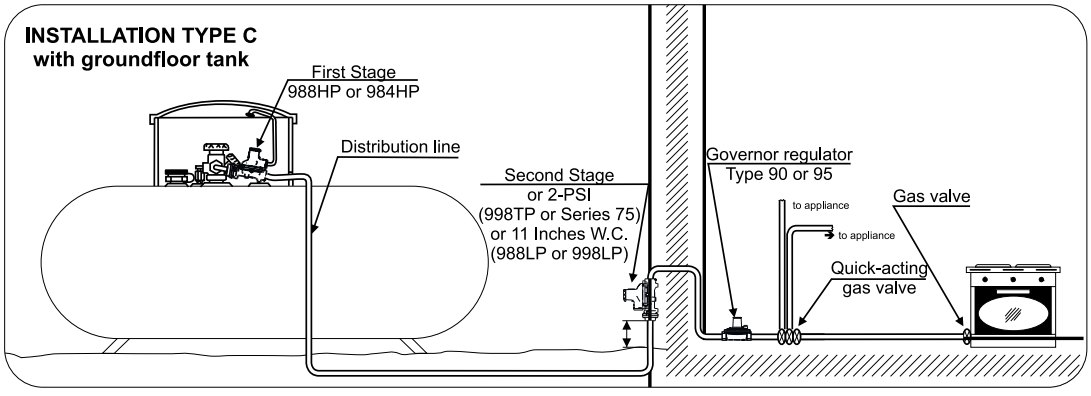
Type B installation

If the gas tank is placed near the building (i.e. underground tank), it is possible to use a group of regulation or regulators composed by first and second stages integrated, directly connected to gas tank valve. Length and diameter of gas pipes connecting the group of regulation or regulators to appliances have to be calculated in order to respect the maximum authorized loss of capacity and to ensure good functioning of the installation.



Type C installation

Type C installation is similar to Type A installations, however the supplying outlet pressure of the second stage regulator is 2 PSIG rather than 11" WC. The outlet pressure of the second stage regulator is stabilized by a Pressure Line Regulator placed inside the building, which supply gas appliances at normal pressure of 11" WC.



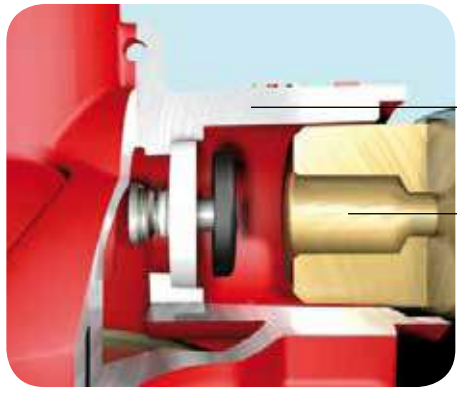


Figure 2

"INDOOR" installation

If the second stage regulator has to be installed inside the building, the gas flow through the venthole has to be vented outdoors. See figure 2. For this reason some precautions must be taken:
- Mounting the discharge pipe (male NPT thread) cannot interfere with normal functioning of the opening valve. See figure 2.
- Keep pipe length of bends to a minimum to prevent eventual loss of capacity compatible with normal valve function. In figure 3 you can find the dimensions to respect the valve's normal function (H = 39 inch; L = 31 inch).

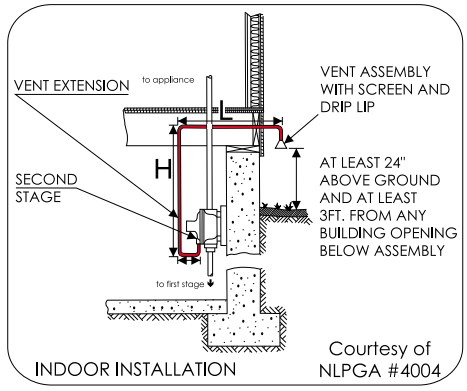


Figure 3

1.4 Regulator dimensions

The dimension of the regulator is indicated by three letters: L, W, H:
- L stands for the length between the inlet fitting and the outlet fitting included;
- W stands for the regulator width from side to side.
- H is the height of the regulator from the lower part of the body up to the highest part of the bonnet.

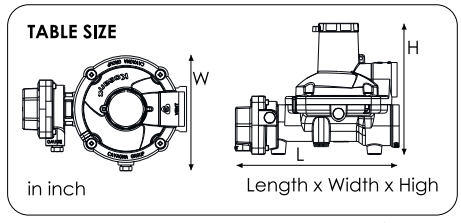


Figure 4

1.5 Tamper evident features

Gas regulators with the bonnet secured to the body by screws are protected from inappropriate disassembling by a tamper evident device that is clearly altered in case anybody opens the regulator screws. See figure 5.
Moreover adjustable regulators have a black plug on top of the bonnet, which has to be securely fastened once the outlet pressure has been set, thus it is compulsory to seal the black plug in order to prevent tampering.

Figure 5

1.6 Mounting bracket

For any wall mounted regulators, adequate mounting brackets are essential:
- steel mounting bracket, if the regulator is made of aluminium;
- plastic mounting bracket, if the regulator is made of zinc alloy.

The isolation of the regulator from the wall prevents from eventual electric corrosion.

Type **P100A**

L 6.692 x W 3.484 x H 0.248

Type **P100L**

L 7.48 x W 4.429 x H 0.216

Type **P21**

L 6.299 x W 1.968 x H 0.688

Figure 6

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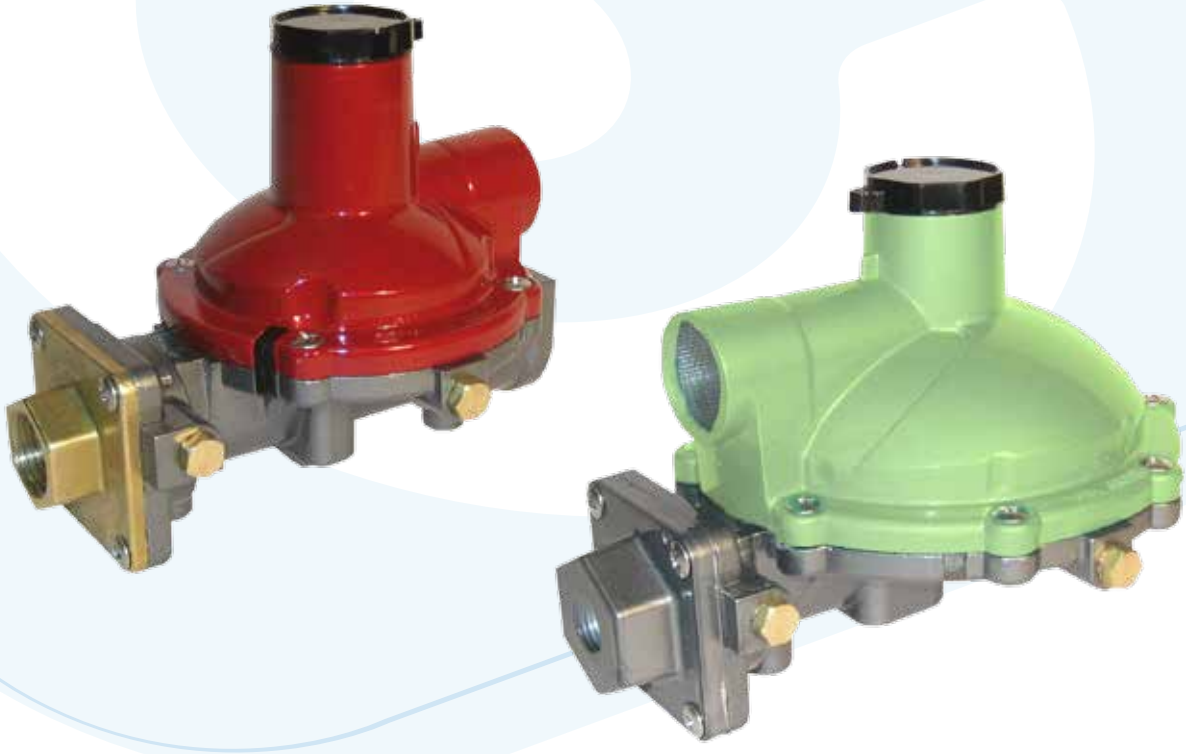
LPG & NATURAL GAS REGULATORS DIVISION

Kosan LINE

Residential / Commercial



First Stage Regulators

Type 984HP

L 4.881 x W 4.33 x H 3.917"
Weight: 31.375 oz.

Product description

The first stage regulator is a regulator reducing the inlet pressure, coming from the withdrawal cylinder, to a medium level suitable to feed a second stage regulator consequently. Therefore Type 984 HP regulators are designed for Type A installations, presented on page 6, or for installations Type C on page 7. They have to be used outdoors in correct mounting position with vent-hole turned downwards. In their standard version the Type 984 HP regulators are delivered with vent-hole turned in line with the outlet fitting.

Type 988HP

L 6.027 x W 4.33 x H 4.94"
Weight: 48.75 oz.

Technical Specifications:

Body And Cover: Aluminium
Diaphragm: Reinforced
Supplying Pressure: 25-250 PSIG
Cover Screws: Stainless Steel
Inlet Fitting Screws: Stainless Steel
Gas Type: Propane
Setting Point: Inlet Pressure 100 PSIG, 140,000 BTU, Outlet Pressure 10 PSIG
Provided Flows: Flow Based On 25 PSIG (1.725 Bar) Inlet Pressure And 20% Drop
(In accordance with UL 144 standard)
Regulator Specifications: see table.

984HP & 988HP Configurations

Type	Capacities in BTU\hr (SCMH) propane	Inlet connection, inches	Outlet connection, inches	Outlet adjustment range, PSIG (bar)	Outlet pressure setting, PSIG (bar)
984HP - 04	1,000,000 (11.26)	1/4" NPT	1/2" NPT	No adjustment	10 (0.69)
988HP - 07	2,000,000 (22.51)	1/2" NPT		4 to 6 (0.28 to 0.41)	5 (0.34)
988HP - 08		POL			
988HP - 09	2,250,000 (25.33)		3/4" NPT		
988HP - 04	2,100,000 (23.64)	1/2" NPT	1/2" NPT	8 to 12 (0.55 to 0.83)	10 (0.69)
988HP - 01	2,400,000 (27.01)	3/4" NPT	3/4" NPT		
988HP - 05	2,100,000 (23.64)	POL	1/2" NPT		
988HP - 06	2,250,000 (25.33)		3/4" NPT		

Second Stage Regulators

Type 988LP

L 6.027 x W 4.33 x H 4.94”
Weight: 40.75 oz.

Product description

The second stage regulator is a regulator reducing the pressure coming from a first stage regulator directly to the inlet pressure of the user appliance or to a medium pressure value in case of installations with Pressure Line Regulators. Therefore Type 988 LP regulators are designed for Type A installations, see page 6 of the present catalogue. They have to be used outdoors in correct mounting position with venthole turned downwards. In the standard version these regulators are delivered with vent-hole in line with the inlet fitting. But there are three other configurations of the inlet and outlet fittings for the Type 998 LP model:

- Back Mount 998 LP-03, 998 LP-04 and 998LP-29 (fig. A)
- Angle Body 998 LP-05 (fig. B)
- In line inlet and outlet Flange 998 LP-09 and 998LP-10 (fig. C)

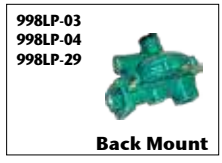
Type 998LP

L 7.055 x W 5.657 x H 4.964“
Weight: 57.625 oz

Technical Specifications:

Body And Cover: Aluminium
Diaphragm: Reinforced
Supplying Pressure: 5-15 PSIG
Cover Screws: Stainless Steel
Inlet Fitting Screws: Stainless Steel
Gas Type: Propane
Setting Point: Inlet Pressure 10 PSIG, 140,000 BTU, Outlet Pressure 11 Inch WC
Provided Flows: Flow based On 10 PSIG (0.69 Bar) Inlet Pressure And 20% Drop
(In accordance With UL144 Standard).

Fig.A



Weight: 56.625 oz

Fig.B

Weight: 58.25 oz

Fig.C

Weight: 106.25 oz

988LP & 998LP Configurations

Type	Capacities in BTU\hr (SCMH) propane	Inlet connection, inches	Outlet connection, inches	Outlet pressure range, inches W.C. (mbar)	Outlet pressure setting, inches W.C. (mbar)
988LP - 03	800,000 (9.01)	1/2” NPT	1/2” NPT	9 to 13 (22 to 32)	11 (27)
998LP - 19					
998LP - 22	1,000,000 (11.26)				
998LP - 01	1,400,000 (15.76)		3/4” NPT		
998LP - 28 [1]					
998LP - 02		3/4” NPT			
998LP - 05	920,000 (10.36)		3/4” NPT LAT		
998LP - 03	1,000,000 (11.26)	1/2” NPT	3/4” NPT 90°		
998LP - 04		3/4” NPT			
998LP - 29 [1]					
998LP - 10	2,300,000 (25.89)		3/4” NPT		
998LP - 09		1” NPT	1” NPT		

[1] Vent-hole in line with the outlet fitting.

Second Stage Regulators
With Incorporated Dielectric Union

Type 998LP

L 7.055 x W 5.657 x H 4.964"
Weight: 57.50 oz

Product description

The KOSAN+ Guardian regulators incorporate a dielectric insulation. This regulator is an all in one solution and there is no need to buy separate dielectric unions. The Guardian reduces installation costs and time as well as potential leak points.

Type 998TP

L 7.055 x W 5.657 x H 4.964"
Weight: 57.50 oz

Technical specifications:

For Type LP see page 11.
For Type TP see page 13.

In accordance with NFPA 58

§ 6.9.3.16 Underground metallic piping, tubing, or both which convey LP-Gas from a gas storage container shall be provided with dielectric fittings at the building to electrically isolate it from the aboveground portion of the fixed piping system that enters a building. Such dielectric fitting shall be installed above ground and outdoors.

998LP& 998TP Configurations

Type	Capacities in BTU\hr (SCMH) propane	Inlet connection, inches	Outlet connection, inches	Outlet pressure range, inches W.C. (Mbar)	Outlet pressure setting, inches W.C. (Mbar)
988LP - 24	800,000 (9.01)	1/2" NPT	1/2" NPT	9 to 13 (22 to 32)	11 (27)
998LP - 39					
998LP - 40	1,000,000 (11.26)				
998LP - 41 [1]	1,400,000 (15.76)		3/4" NPT		
998LP - 31					
998LP - 32		3/4" NPT			
998LP - 35	920,000 (10.36)		3/4" NPT LAT		
998LP - 33	1,000,000 (11.26)	1/2" NPT	3/4" NPT 90°		
998LP - 42 [1]		3/4" NPT			
998LP - 34					
988TP - 25	700,000 (7.88)	1/2" NPT	1/2" NPT	Non-adjustable	2 PSIG (0.14 bar)
998TP - 36	1,680,000 (18.91)	3/4" NPT	3/4" NPT	1 to 2.2 PSIG (0.069 to 0.15 bar)	
998TP - 37	1,500,000 (16.88)		3/4" NPT 90°		
998TP - 38	1,460,000 (16.43)	1/2" NPT	1/2" NPT		

[1] Vent-hole in line with the outlet fitting.

2-PSIG Regulators

Type 988TP

L 6.692 x W 4.33 x H 4.94”
Weight: 41.625 oz

Product description

Type 988 TP regulators are designed for C Type of installations.
They are to be used outdoors in correct mounting position with vent-hole turned downwards.
In the standard version Type 988 TP regulators are delivered with the vent-hole turned in line with the outlet fitting. There is a special configuration of inlet and outlet fittings for the Type 998 TP model:
- Back Mount 998 LP-07 (fig. A).

Fig.A

Weight: 57.875 oz

Type 998TP

L 7.055 x W 5.657 x H 4.964”
Weight: 57.5 oz

Technical Specifications

Body And Cover: Aluminium
Diaphragm: Reinforced
Supplying Pressure: 5-15 PSIG
Cover Screws: Stainless Steel
Inlet Fitting Screws: Stainless Steel
Gas Type: Propane
Setting Point: Inlet Pressure 10 PSIG, 140,000 BTU, Outlet Pressure: 2 PSIG
Provided Flows: Flow Based On 10 PSIG (0.69 Bar) Inlet Pressure with a 20% Drop
(In Accordance With UL144 Standard)
Regulator Specifications: See table

988TP & 998TP Configurations

Type	Capacities in BTU\hr (SCMH) propane	Inlet connection, inches	Outlet connection, inches	Outlet adjustment range, PSIG (bar)	Outlet pressure setting, PSIG (bar)
988TP - 22	700,000 (7.88)	1/2” NPT	1/2” NPT	1 to 2.2 (0.069 to 0.15)	2 (0.14)
998TP - 06	1,680,000 (18.91)	3/4” NPT	3/4” NPT		
998TP - 07	1,500,000 (16.88)		3/4” NPT 90°		
998TP - 08	1,460,000 (16.43)	1/2” NPT	1/2” NPT		

Twin Stage Regulators

Type 988TW

L 6.692 x W 4.33 x H 4.94”
Weight: 39.75 oz.

Product description

The twin stage regulator is a regulator consisting of two regulation levels, which regulates the inlet pressure, coming from the withdrawal cylinder or tank directly to the inlet pressure of the user appliance.
Type 988 TW regulators are designed for Type B of installations, see page 7 of the present catalogue. They are to be used outdoors in correct mounting position with vent-hole turned downwards. In the standard version, Type 988 TW regulators are delivered with vent-hole turned in line with to the outlet fitting.

Type 998TW

L 7.055 x W 5.657 x H 4.964”
Weight: 54.875 oz.

Technical Specifications:

Body And Cover: Aluminium
Diaphragm: Reinforced
Supplying Pressure: 25-250 PSIG
Cover Screws: Stainless Steel
Inlet Fitting Screws: Stainless Steel
Gas Type: Propane
Setting Point: Inlet Pressure 10 PSIG, 140,000 BTU, Outlet Pressure: 11 Inch WC
Provided Flows: Flow Based On 10 PSIG (0.69 Bar) Inlet Pressure with a 20% Drop
(In Accordance With UL144 Standard)
Regulator Specifications: See table

988TW & 998TW configuration

Type	Capacities in BTU\hr (SCMH) propane	Inlet connection, inches	Outlet connection, inches	Outlet adjustment range, inches W.C. (mbar)	Outlet pressure setting, inches W.C. (mbar)
988TW - 15	750,000 (8.44)	1/4” NPT	1/2” NPT	9 to 13 (22 to 32)	11 (27)
988TW - 16¹					
998TW - 20					
998TW - 11	1,400,000 (15.76)		3/4” NPT		
998TW - 12¹					
988TW - 28	750,000 (8.44)	POL			
988TW - 17			1/2” NPT		
988TW - 18¹					
998TW - 21					
998TW - 13	1,400,000 (15.76)		3/4” NPT		
998TW - 14¹					
988TW - 27	450,000 (16.43)	1/4” NPT	3/4” NPT	1 to 2.2 PSIG (0.069 to 0.15 bar)	2 PSIG (0.14 bar)
998TW - 23	1,460,000 (16.43)	1/4” NPT	3/4” NPT	1 to 2.2 PSIG (0.069 to 0.15 bar)	2 PSIG (0.14 bar)

¹ First and Second-Stage spring case vents opposite gauge taps.

Automatic Changeover

Type 524AC

L 9.921 x W 4.212 x H 5.275”

Technical Specifications:

Body And Cover Of The Automatic Changeover: Zamak
Diaphragm: Reinforced
Supplying Pressure: 25-250 PSIG
Cover Screws: Stainless Steel
Fittings: Brass
Gas: Propane Gas
Setting Point: Inlet Pressure 100 PSIG, 140,000 BTU, Outlet Pressure: 11 WC
Provided Flows: Flow Based On 25 PSIG (1.725 Bar) Inlet Pressure And 20% Drop (In accordance with UL144 Standard)
Regulator Specifications: See table

Product description

The double stage automatic changeover regulator Type 524 AC is a combination consisting of an automatic changeover working as a 1st stage coupled to a 2nd stage regulator. The 1st stage automatic changeover works as per the description found on the next page titled “functioning of the automatic changeover”, which is connected to the 2nd stage regulator: Type 988 LP (see page 11 of the present catalogue). Since the regulator body is made of zinc alloy, it is necessary to use the proper plastic mounting bracket for this type of regulator. Please refer to recommendations on page 8 of the present catalogue.

524AC configuration

Type	Capacities in BTU\hr (SCMH) propane	Inlet connection, inches	Outlet connection, inches	Vent size, inches
524AC	600,000 (6.75)	1/4 Inverted Flare	1/2 NPT	3/4 NPT

Type 528B

L 7.677 x W 4.212 x H 4.094”

Technical Specifications:

Body And Cover Of The Automatic Changeover: Zamak
Diaphragm: Reinforced
Supplying Pressure: 25-250 PSIG
Fittings: Brass
Gas: Propane Gas
Setting Point: Inlet Pressure 100 PSIG, 140,000 BTU, Outlet Pressure: 11 WC
Provided Flows: Flow Based On 25 PSIG (1.725 Bar) Inlet Pressure And 20% Drop (In accordance with UL144 Standard)
Regulator Specifications: See table

528B configuration

Type	Capacities in BTU\hr (SCMH) propane	Inlet connection, inches	Outlet connection, inches	Vent size, inches
528B	450,000 (5.07)	1/4 Inverted Flare	3/8 NPT	3/8 NPT

Type 924N

L 5.314 x W 3.11 x H 3.897”

Technical Specifications:

Body And Cover Of The Automatic Changeover: Zamak
Supplying Pressure: 25-250 PSIG
Fittings: Brass
Gas: Propane Gas
Setting Point: Inlet Pressure 100 PSIG, 70,000 BTU, Outlet Pressure: 11 WC
Provided Flows: Flow Based On 25 PSIG (1.725 Bar) Inlet Pressure And 20% Drop (In accordance with UL144 Standard)
Regulator Specifications: See table

924N configuration

Type	Capacities in BTU\hr (SCMH) propane	Inlet connection, inches	Outlet connection, inches
924N	160,000 (1.80)	1/4 Inverted Flare	3/8 NPT

Functioning And Reading Of The Automatic Changeover

The automatic changeover ensures continuous gas flow, automatically changing the gas withdrawal from the empty "service" cylinder to the full "reserve" one. The full-empty indicator incorporated into the bonnet of the automatic changeover indicates the exhaustion status of the "service" cylinder. The indicator color changes from green to red, when the "service" cylinder is exhausted. The rotation of the automatic changeover handle to the full "reserve" cylinder restores the green color on the indicator.

Start up

- Turn two cylinders' gas valves on at the same time. This is fundamental, which ensures the automatic changeover the ability to continuously supply the gas appliance, in case the service cylinder becomes empty. The automatic changeover cannot turn to the reserve gas bottle if its valve is closed.

Reading the automatic changeover's indicator: when the service gas bottle is full

- When the two gas cylinders are full, the automatic changeover's indicator turns to green while opening gas valves A and B.
- The arrow on the automatic changeover's knob indicates which one of the two gas cylinders is supplying gas: that is to say the "service gas bottle".

The other cylinder is the "reserve gas bottle".

Figure 1

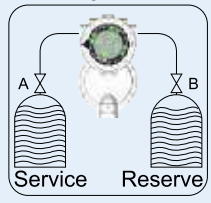
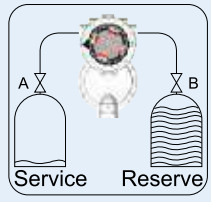


Figure 2



Reading the automatic changeover's indicator: when the service gas bottle is empty

- When the service bottle is getting exhausted and reaches pressure values of inversion (lower than 10 PSIG), the automatic changeover turns automatically to the "reserve gas bottle" and the gas appliance continues working.

In this case the automatic changeover's indicator turns to red: the end user gets to know that the "service gas bottle" is empty: it is not supplying gas any more.

Substituting the empty gas bottle

- Close the valve of the service gas bottle A and turn the automatic changeover's knob 180° (see figure 3 a). If the reserve gas bottle is full and its valve is open, the automatic changeover's indicator turns to green (figure 3 b).
- Remove the empty gas bottle (figure 3c).
- Position a new full gas bottle. Open the gas valve A (figure 3d).

Figure 3a

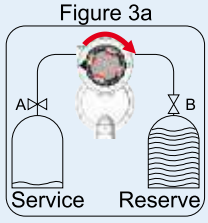


Figure 3b

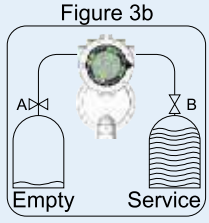


Figure 3c

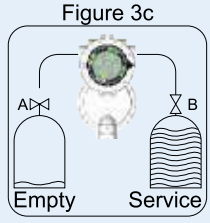
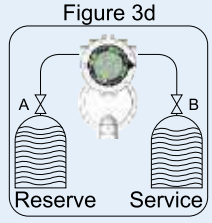


Figure 3d



ASME Double Stage Regulator

Type 524AS

L 6.389 x W 2.696 x H 2.488"

Technical Specifications:

ASME Double Stage Regulator
Body And Cover Material: Zamak
Diaphragm: Reinforced
Supplying Pressure: 25-250 PSIG
Fittings: Brass
Gas: Propane
Setting Point: Inlet Pressure 100 PSIG, 70,000 BTU, Outlet Pressure: 11 WC
Provided Flows: Flow Based On 25 PSIG (1.725 Bar) Inlet Pressure And 20% Drop (In accordance with UL144 Standard)
Regulator Specifications: See table

524AS Coonfiguration

Type	Capacities in BTU\hr (SCMH) propane	Inlet connection, inches	Outlet connection, inches
524AS	160,000 (1.80)	P.O.L.	3/8" NPT

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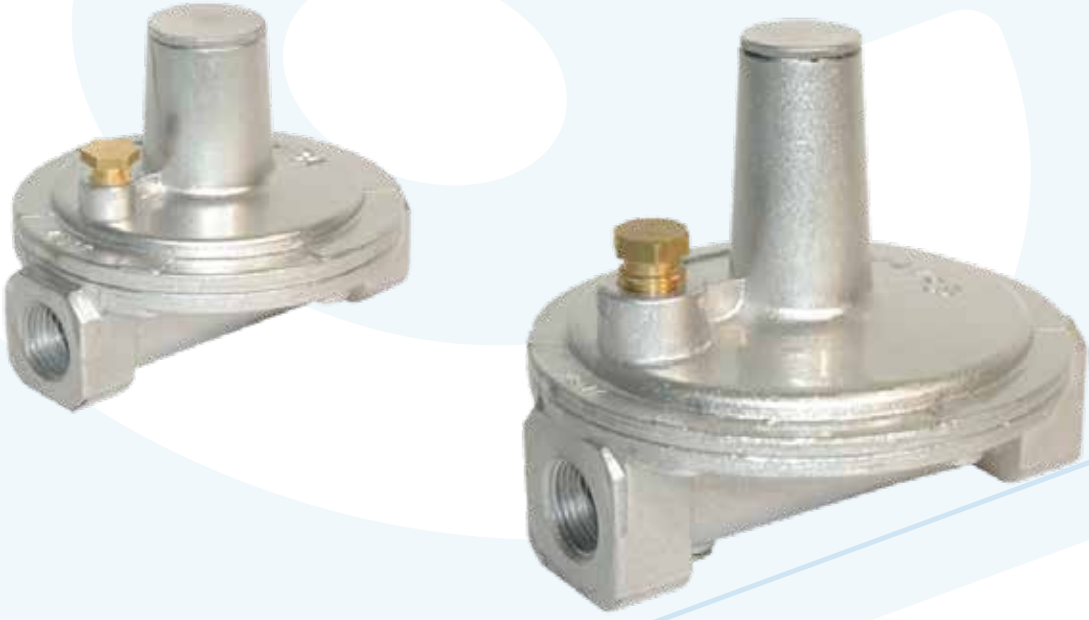
LPG & Natural gas Pressure Line Regulators



Pressure Line Regulators

Type 90 / 2-PSIG

L 4.409 x W 3.956 x H 3.492”
Weight: 22.75 oz.

Technical specifications:

Rated inlet pressure: 2 PSIG (138 mbar)
Outlet pressure setting:
Type 901 7”-9” w.c.
Type 902 9”-12” w.c.
Type 903 7”-11” w.c.
Type 904 7”-11” w.c.
Type 905 5”-9” w.c.
Gases: Natural Gas or Propane
Code: The four digit code indicates the year and the calendar week, in which the regulator was manufactured (i.e. 1012: in twelfth week of 2010)
Ambient temp. range: -40/205°F (-40/96°C)
Pipe size NPT: “x“
Venting: Vent limiter “0” 3-18 1/8” NPT
Emergency exposure limits: 65 PSIG (4.5 BAR) inlet side only

Ordering Information - See page 20

Applications

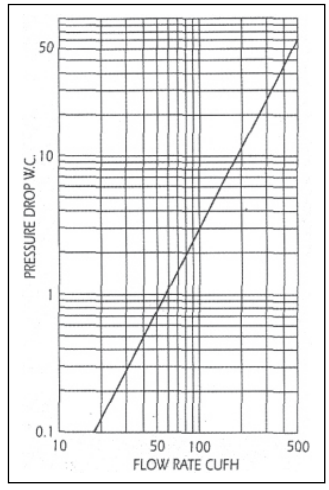
Type 90 OARA regulators are manufactured to supply the demands of both Pressure Line Regulators and Gas Appliance Regulators.

Features

- Precise regulating control of full flows or small pilot flows.
- All models are approved by IAS, in accordance with the two different standards.
- Manufactured to fulfill utility specifications in residential, commercial and industrial applications.
- Rubber is reliable in temperature ranges from - 40/205 °F (-40/96°C).
- Housings are made of rugged die-cast Aluminium.
- Regulators are supplied with a vent limiter type “0” 3-18 thread 1/8” NPT.

In case of diaphragm rupture, gas leakage is limited within ANSI standards.

PRESSURE DROP CHART



PRESSURE DROP - 0.64 sp gr gas expressed in CFH (m³/h)

Press. drop	7.0” PSIG= 17 mbar	½ PSIG= 34.5 mbar	¾ PSIG= 52 mbar	1 PSIG= 69 mbar
Flow rate CFH (m3/h)	155 (4.3)	220 (6.1)	280 (7.8)	310 (8.7)

CAPACITIES based on 1” w.c. pressure drop from set point 0.64 sp gr gas expressed in CFH (m³/h)

Model	Outlet Pressure	½ PSIG= 34.5 mbar	¾ PSIG= 52 mbar	1 PSIG= 69 mbar	2 PSIG= 138 mbar	5 PSIG= 345 mbar
90	6” w.c.	160 (4.5)	200 (5.6)	235 (6.6)	285 (8.0)	350 (9.8)
	7” w.c.	155 (4.3)	200 (5.6)	230 (6.4)	280 (7.8)	345 (9.7)
	8” w.c.	155 (4.3)	195 (5.5)	230 (6.4)	270 (7.6)	335 (9.4)
	9” w.c.	145 (4.1)	190 (5.3)	215 (6.0)	260 (7.3)	325 (9.1)
	10” w.c.	135 (3.8)	180 (5.0)	205 (5.7)	245 (6.7)	310 (8.7)
	11” w.c.	125 (3.5)	170 (4.8)	195 (5.5)	235 (6.6)	300 (8.4)
	12” w.c.	125 (3.5)	165 (5.5)	195 (5.5)	230 (6.4)	295 (8.3)

Pressure Line Regulators

Type 95 / 2-PSIG

L 5.964 x W 5.551 x H 5.196”
Weight: 47.625 oz.

Technical specifications:

Rated inlet pressure: 2 PSIG (138 mbar)
Outlet pressure setting:
Type 951 7”-11” w.c.
Type 952 7”-11” w.c.
Outlet pressure setting:
Type 951 8” at 200 CFH
Type 952 11” at 200 CFH
Gases: Natural Gas or Propane
Code: The four digit code indicates the year and the calendar week, in which the regulator was manufactured (i.e. 1012: in twelfth week of 2010)
Ambient temp. range: -40/205°F (-40/96°C)
Pipe size NPT: “x” / 1” x 1”
Venting: Vent limiter “0” 6-38 3/8” NPT
Emergency exposure limits: 65 PSIG (4.5 BAR) inlet side only

Ordering Information - See page 20

Application

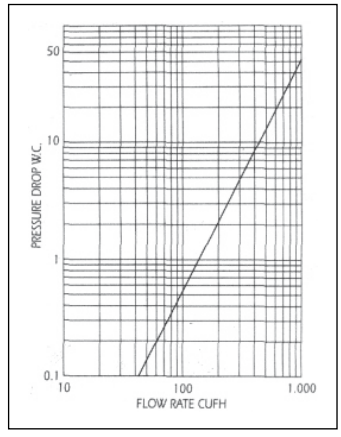
The Type 95 OARA pressure regulators are manufactured to supply the highest performances both as Pressure Line Regulators and Gas Appliance Regulators.

Features

- Precise regulating control of full flows or small pilot flows.
- All models are approved by IAS, in accordance with the two different standards.
- Manufactured to fulfill utility specifications in residential, commercial and industrial applications.
- Rubber is reliable in temperature ranges from - 40/205 °F (-40/96°C).
- Housings are made of rugged die-cast Aluminium.
- Regulators are supplied with a vent limiter type “0” 3-18 thread 1/8” NPT.

In case of diaphragm rupture, gas leakage is limited within ANSI standards.

PRESSURE DROP CHART



PRESSURE DROP - 0.64 sp gr gas expressed in CFH (m3/h)

Press. drop	7.0” PSIG= 17 mbar	½ PSIG= 34.5 mbar	¾ PSIG= 52 mbar	1 PSIG= 69 mbar
Flow rate CFH (m3/h)	359 (10.1)	504 (14.3)	627 (17.7)	719 (20.3)

CAPACITIES based on 1” w.c. pressure drop from set point 0.64 sp gr gas expressed in CFH (m3/h)

Model	Outlet Pressure	½ PSIG= 34.5 mbar	¾ PSIG= 52 mbar	1 PSIG= 69 mbar	2 PSIG= 138 mbar	5 PSIG= 345 mbar
95	7” w.c.	364 (10.3)	403 (11.4)	447 (12.7)	517 (14.6)	645 (18.3)
	8” w.c.	359 (10.2)	394 (11.2)	447 (12.7)	509 (14.4)	636 (18.0)
	9” w.c.	342 (9.7)	381 (10.8)	430 (12.2)	500 (14.2)	636 (18.0)
	10” w.c.	329 (9.3)	377 (10.7)	403 (11.4)	496 (14.0)	627 (17.8)
	11” w.c.	302 (8.5)	360 (10.2)	372 (10.5)	473 (13.4)	614 (17.8)

Table Of Conversion

Type 90 / 2-PSIG

Mod.	Part. No.	Pipe size	Inl. Press	Setting	N.G.	L.PG.
90	44-1-190-0002	1/2"	2 PSIG	8"	7" - 11" w.c.	-
90	44-1-190-0006	1/2"	2 PSIG	7"	-	7" - 11" w.c.
90	44-1-190-0008	1/2"	2 PSIG	11"	-	9" - 12" w.c.
90	44-1-190-0004	1/2"	2 PSIG	11"	-	7" - 11" w.c.
90	44-1-190-0013	1/2"	5 PSIG	7"	-	7" - 11" w.c.
90	44-1-190-0011	1/2"	5 PSIG	8"	7" - 11" w.c.	-
90	44-1-190-0012	1/2"	5 PSIG	11"	-	7" - 11" w.c.

Type 95 / 2-PSIG

Mod.	Part. No.	Pipe size	Inl. Press	Setting	N.G.	L.PG.
95	44-1-290-0002	3/4"	2 PSIG	8"	7" - 11" w.c.	-
95	44-1-290-0003	3/4"	2 PSIG	11"	-	7" - 11" w.c.
95	44-1-290-0010	3/4"	5 PSIG	8"	-	7" - 11" w.c.
95	44-1-290-0011	3/4"	5 PSIG	11"	-	7" - 11" w.c.

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Kosan LINE

Industrial

94 Series

Type 94HP

L 4.33 x W 4.72 x H 8.26

Technical Specifications:

Body And Cover: Aluminium
Diaphragm: Reinforced
Supplying Pressure: 25-250 PSIG
Cover Screws: Stainless Steel
Gas Type: Propane
Setting Point: Inlet Pressure 100 PSIG, 350,000 BTU, Outlet Pressure 20 PSIG
Provided Flows: Flow based on Inlet Pressure 20 PSIG (1.38 Bar) greater than Outlet with 20% drop (In accordance with UL144 Standard)
Regulator Specification: See table

Product description

The 94 series direct operated regulators are designed for high pressure service and can be used on either vapor or liquid applications. Their outlet pressure ranges from 3 to 100 PSIG.
High pressure regulators usually reduce tank pressure to an intermediate pressure for use by another regulator. They are also used for final stage service on particular applications, as high pressure burners as well as other medium sized commercial industrial applications.
Type 942HP regulator is an adjustable high pressure regulator with a wide range of outlet pressures. It is not equipped with an internal relief valve. Type 948HP regulator is an adjustable high pressure regulator with a wide range of outlet pressures. It is equipped with a internal relief valve. Both types are equipped with a NPT side outlet which is normally plugged and provides an opening for an outlet pressure.

94HP Configuration

Type	Description	Capacity BTU\HR	Inlet & Outlet connections	Outlet pressure setting	Outlet adjustment range
942HP - 03	Basic Regulator	2,600,000	1/2" NPT	10 PSIG	3-15 PSIG
942HP - 04		3,600,000		20 PSIG	5-35 PSIG
942HP - 05		4,200,000		40 PSIG	30-60 PSIG
942HP - 07		5,250,000		50 PSIG	35-100 PSIG
942HP - 08		5,800,000	3/4" NPT	20 PSIG	5-35 PSIG
942HP - 06		6,500,000		40 PSIG	30-60 PSIG
948HP - 01	With Internal Relief Valve	2,600,000	1/2" NPT	10 PSIG	3-15 PSIG
948HP - 02		3,000,000		15 PSIG	5-20 PSIG
948HP - 03		3,600,000		20 PSIG	5-35 PSIG
948HP - 04		5,800,000	3/4" NPT		

81 Series

Type 81HP

L 7.67 x W 4.72 x H 9.33

Technical Specifications:

Body And Cover: Aluminium
Diaphragm: Reinforced
Supplying Pressure: 25-250 PSIG
Cover Screws: Stainless Steel
Inlet Fitting Screws: Stainless Steel
Gas Type: Propane
Setting Point: Inlet Pressure 100 PSIG, 350,000 BTU, Outlet Pressure 10 PSIG
Provided Flows: Flow based on Inlet Pressure 20 PSIG (1.38 Bar) greater than Outlet with 20% drop (In accordance with UL144 Standard)
Regulator Specification: See table

Product description

The 81 series direct operated regulators are designed for high pressure service and for large loads like factories, office buildings, restaurants, etc. Their outlet pressure ranges from 5 to 20 PSIG.
High pressure regulators usually reduce tank pressure to an intermediate pressure for use by another regulator. They are also used for final stage service on particular applications (pounds to pounds).
Type 81HP regulator is an adjustable high pressure regulator with a wide range of outlet pressures. It can be equipped with a internal relief valve. Type 81 regulators are equipped with a NPT side outlet which is normally plugged and provides an opening for an outlet pressure gauge.
Type 81 regulators can be equipped with Viton trim.

81HP configuration

Type	Capacity BTU\HR	Orifice Size	Inlet & Outlet connections	Outlet pressure range	Outlet pressure setting
812HP - 03	6,100,000	3/8"	3/4" NPT	5-20 PSIG	10 PSIG
812HP - 04	10,700,000	1/2"			
812HP - 01	10,700,000		1" NPT		
812HP - 02 [2]					
811HP - 02 [3]	10,700,000		3/4" NPT		
811HP - 01 [3]	10,700,000		1" NPT		
818HP - 11 [1]	6,100,000	3/8"	3/4" NPT		
812HP - 05	10,700,000	1/2"	2" NPT	5-20 PSIG	10 PSIG

[1] = Has Internal Relief
[2] = Fluorocarbon Trim (GLT Viton)
[3] = w/monitoring

49 Series

Type 49HP

Type 492 Type 493 Type 494 Type 495

L 2.56 x W 2.89 x H 4.88

Technical Specifications:

Body And Cover: Aluminium
Diaphragm: Reinforced
Supplying Pressure: 25-250 PSIG
Cover Screws: Stainless Steel
Gas Type: Propane
Setting Point: Inlet Pressure 100 PSIG, 200,000 BTU, Outlet Pressure 20 PSIG
Provided Flows: Flow based on Inlet Pressure 20 PSIG (1.38 Bar) greater than Outlet with 20% drop (In accordance With UL144 Standard)
Regulator Specification: See table
Inlet & Outlet: 1/4" FNPT

Product description

The 49 series direct operated regulators are designed for high pressure service and can be used on either vapor or liquid applications. Their outlet pressure ranges from 3 to 135 PSIG.
High pressure regulators usually reduce tank pressure to an intermediate pressure for use by another regulator.
NOTE: Type 49 regulators do not have internal relief valves, so these regulators can not be installed in fixed piping serving 0.5 appliance systems.
Type 492HP regulator is an adjustable high pressure regulator with handwheel adjustment.
Type 493HP regulator is an adjustable high pressure regulator with wrench adjustment and 3 spring ranges from 3 to 100 PSIG. Type 494HP regulator is a fixed high pressure regulator with no field adjustment. It is very compact.
Type 495HP regulator is an adjustable high pressure regulator with a dial cap adjustment. This cap eliminates the need for a gauge on portable applications. All types are equipped with a 1/4" FNPT side outlet which is normally plugged and provides an opening for an outlet pressure gauge.

49HP configuration

Type	Description	Capacity BTU\hr	Outlet pressure setting	Outlet adjustment range
492HP - 01	Basic Regulator (Handwheel Adjustment)	650,000	15 PSIG	3-20 PSIG
492HP - 02		750,000	20 PSIG	3-35 PSIG
492HP - 03		1,200,000	40 PSIG	30-60 PSIG
492HP - 04		1,000,000	50 PSIG	50-135 PSIG
492HP - 05 [1]		750,000	20 PSIG	5-35 PSIG
493HP - 02	Basic Regulator (Wrench Adjustment)	650,000	15 PSIG	3-20 PSIG
493HP - 01		750,000	20 PSIG	3-35 PSIG
493HP - 03		1,200,000	40 PSIG	30-60 PSIG
493HP - 04		1,000,000	50 PSIG	50-135 PSIG
493HP - 05 [1]		750,000	20 PSIG	5-35 PSIG
494HP - 02	Non-adjustable	400,000	10 PSIG	Non-Adjustable
494HP - 01		400,000	15 PSIG	
494HP - 03		750,000	20 PSIG	
495HP - 01	Dial Cap Adjustment	650,000	15 PSIG	5-20 PSIG
495HP - 02		750,000	20 PSIG	5-30 PSIG
495HP - 03		1,200,000	40 PSIG	20-50 PSIG

[1] = Inlet M POL

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LPG Tank Equipment

Multi-Service Valve

UL LISTED

67.0805
67.0.490.0805

Application
These multi-service valves are suitable for 100-200 lb DOT containers.

Features
- Multi-purpose valve with double back check filler valve
- Ideal for on site filling of DOT cylinders up to 200 lb LPG capacity without interrupting service
- Includes a service valve, back check filler valve, fixed maximum liquid level gauge (specify DT length when ordering)
- New high discharge flow capacity pressure relief valve (1123 UL listing)
- Reduced filler valve chamber reduces the waste of LPG during filling operation
- Increased high filling capacity
- Double O-ring replaceable stem

Ordering Information

Part Number	Tank Connection	Vapor Service Connection	Filler Connection	Fixed Liquid Level Gauge	DT Length	Propane liquid capacity at various differential pressure (GPM)				Pressure Relief Valve Flow Capacity (SCFM) Air		
						10 PSIG	20 PSIG	50 PSIG	100 PSIG	PRV Setting	UL	ASME
67.0805	3/4" M NPT	POL (CGA 510)	1-3/4" ACME	not captive	10.6"	9	15	23	35	375	1123	n/a
67.0808	3/4" M NPT	POL (CGA 510)	1-3/4" ACME	not captive	11.6"	9	15	23	35	375	1123	n/a
67.0816	3/4" M NPT	POL (CGA 510)	1-3/4" ACME	not captive	8.2"	9	15	23	35	375	1123	n/a
67.0821	3/4" M NPT	POL (CGA 510)	1-3/4" ACME	not captive	10.2"	9	15	23	35	375	1123	n/a
67.1004	3/4" M NPT	POL (CGA 510)	1-3/4" ACME	not captive	8.6"	9	15	23	35	375	1123	n/a

420 Multivalve

67.1027
67.0.490.1027

Application
This multi-service valve is designed for use with 420 lb DOT containers.

Features
- Multi purpose valve with double back check filler valve
- Includes service valve, filler valve, fixed maximum liquid level gauge
- Reduced filler valve chamber minimizes LPG waste during filling operation
- Increased high filling capacity
- Double O-Ring replaceable stem

Ordering Information

Part Number	Tank Connection	Vapor Service Connection	Filler Connection	Fixed Liquid Level Gauge	DT Length	Pressure Relief Valve Flow Capacity (SCFM) Air	PRV Setting (PSIG)
67.1027	1" NPT	POL (CGA 510)	1-3/4" ACME	not captive	11.6"	1986	375

Underground Multi-Service Valve

67.0807
67.0.490.0807

UL LISTED

Multi-Service Valve
for ASME underground
propane tank.

68.2005
68.0.290.2005

Multi-Service Valve for ASME underground propane tank and Liquid Withdrawal Valve for liquid evacuation Kit

+

67.0807
67.0.490.0807

69.0010
69.0.190.0010

Application

This multi-service valve is designed for use in a single opening ASME container with a riser of 2-1/2" M NPT. A separate opening is required for a liquid withdrawal valve.

Features

The solid brass multi-service valve incorporates:
- double back check filler valve
- vapor equalizing valve with excess flow
- pressure relief valve with protective cap
- service valve with Cavagna quality handwheel system
- plugged 1/4" F.NPT gauge boss
- fixed liquid level gauge with 36" DT
- "Junior" size float gauge flange opening. Specify float gauge when ordering
- internal threads accommodate 2-1/2" M NPT riser pipe connection and a 3/4" F.NPT connection for the filling valve opening
- double O-ring service valve: individual replacement system

Ordering Information

Part Number		Tank Connection	Vapor Service Connection	Filler Connection	Fixed Liquid Level Gauge	DT Length	Propane liquid capacity at various differential pressure (GPM)				Pressure Relief Valve Flow Capacity (SCFM) Air		
							10 PSIG	25 PSIG	50 PSIG	75 PSIG	PRV Setting	UL	ASME
67.0807		2-1/2" M NPT	POL (CGA 510)	1-3/4" ACME	captive	36"	58	98	146	186	250	1918	1808
68.2005	67.0807	2-1/2" M NPT	POL (CGA 510)	1-3/4" ACME	captive	36"	58	98	146	186	250	1918	1808
	69.0010	Container Connection		Outlet Connection			U.L. Closing Flow (Propane)				Wrench Hex Flat		
		3/4" M NPT		1-5/8" UN			20 GPM				1-3/4"		

Underground Multi-Service Valve with Integrated Evacuation Valve

67.1020
67.0.490.1020

Application

This multi-service valve is designed for use in a single opening ASME container with a riser of 2-1/2" M NPT.
A separate opening is NOT required for a liquid withdrawal valve.

Features

- Integrated liquid withdrawal valve in the body of the multi-service valve provides easy access
- Integrated service valve in the body of the multi-service valve
- New, compact design. More function in less space!
- 100% brass construction
- Replacement components available (see table below)

The solid brass multi-service valve incorporates:
- double back check filler valve
- vapor equalizing valve with excess flow
- pressure relief valve with protective cap
- service valve with Cavagna quality handwheel system
- integrated fixed liquid level gauge with 36" DT

Ordering Information

Part Number	Tank Connection	Vapor Service Connection	Filler Connection	Internal Threads		Fixed Liquid Level Gauge	DT Length	Propane liquid capacity at various differential pressure (GPM)				Pressure Relief Valve Flow Capacity (SCFM) Air		
								10 PSIG	25 PSIG	50 PSIG	75 PSIG	PRV Setting	UL	ASME
67.1020	2-1/2" M NPT	POL (CGA 510)	1-3/4" ACME	3/4" NPT L.H. Filler	3/4" NPT Liquid Withdrawal	captive	36"	58	98	146	186	250	1918	1808

SPARE PARTS FOR MULTI-VALVE

1609500304	Filler Valve Repair Kit
1609500305	Vapor Return Valve
6901900111	Liquid Withdrawal Valve
7001900217	Safety Pressure Relief Valve

Multi-Service Valve

UL LISTED

67.0720
67.0.490.0720

Application

Multi-service valve suitable for ASME tanks where a vapor service valve is required. This valve incorporates in the same body a service valve, a vapor withdrawal valve and a fixed level gauge.

Features

Improved Stem Seal - Two seals - a back seat and an O-ring protect against stem leakage in the service valve portion. When the service valve is fully open, the O-ring is not under pressure, increasing the service life of the O-ring.
Redesigned Body Configuration - Installation of the 67.0720 can be performed with a standard 1" socket wrench using the large center wrenching hex.
The extremely low body silhouette (approximately 2-3/4") allows the use of small, economical hoods.
Convenient Level Gauge - Top mounting of the fixed liquid level gauge gives easy access.
Gauge Connection - The 1/4" F.NPT gauge connection can be plugged or left unplugged for installation of a pressure gauge.
Fixed level gauge - Please specify DT length when ordering.
Sealant - Pre-applied on the inlet thread.
Various DT lengths upon request.

Ordering Information

Part Number	Tank Connection	Vapor Service Connection	Vapor Line Connection	Gauge Boss	Fixed Liquid Level Gauge	Fixed Level Gauge DT Length	Wrench Hex Flat
67.0720	3/4" M NPT	Female POL CGA 510	1-1/4" M.ACME	1/4" F.NPT	Yes	Customizable Upon Request	1"

Filler Valves

66.1122
66.0.290.1122
UL LISTED

66.1232
66.0.290.1232
UL LISTED

Pre-applied sealant on the inlet thread.

Ordering Information

Part Number	Container Connection	Line Connection	Wrench Hex Flat	Propane liquid capacity at various differential pressure (GPM)						
				10 PSIG	20 PSIG	25 PSIG	30 PSIG	40 PSIG	50 PSIG	75 PSIG
66.1122	3/4" M NPT	1-3/4" M.ACME	1-3/4"	17	23	-	28	33	37	-
66.1232	1-1/4" M NPT	1-3/4" M.ACME	1-3/4"	58	-	98	-	-	146	186
66.1134 TWO PIECE BODY	1-1/4" M NPT	1-3/4" M.ACME	1-3/4"	54	-	100	-	-	148	190

Filler Valves for Dispensers

66.1261
66.0.290.1261

66.1262
66.0.290.1262

UL LISTED

Features

- Double back-check filler valve with integral emergency shut-off ball valve: ALL-IN-ONE SOLUTION.
- Both valves are double back check filler valves that have:
  (1) a soft seated upper back check,
  and (2) a metal-to-metal lower back check seat.
- Eliminates the need for installing expensive and un-reliable filler hose adapters as a temporary fix to a failed or leaky filler valve.
- Permits safe filler valve maintenance without tank evacuation.
- These two versions can be used either for underground or above ground

Ordering Information

Part Number	Tank Connection	Filler Connection	Wrench Hex Flat	Propane liquid capacity at various differential pressure (GPM)						
				10 PSIG	20 PSIG	25 PSIG	30 PSIG	40 PSIG	50 PSIG	75 PSIG
66.1261	1-1/4" NPT	1-3/4" 6 ACME	1-13/16"	54	-	98	-	-	146	186
66.1262	1-1/4" NPT	1-3/4" 6 ACME	1-13/16"	54	-	98	-	-	146	186

Vapor Equalization Valve

UL LISTED

66.1206
66.0.290.1206

Upper back check valve
and lower excess flow
valve combined.
Pre-applied sealant on the inlet thread.

Ordering Information

Part Number	Tank Connection	Filler Connection	Wrench Hex Flat
66.1206	3/4" M NPT	1-1/4" 5 ACME	1-1/4 "

Filler Valves with Overfill Prevention Device

66.1115

66.0.290.1115

Filler valve for vertical ASME and DOT containers. Specify tank diameter when ordering. Suitable for a 300 liter horizontal tank or 119VG tank. They can be fitted to other tank sizes upon request.

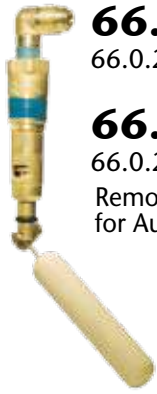
UL LISTED

66.1154

66.0.290.1154

Filler valve with OPD for Automotive Application.

UL LISTED



66.1157

66.0.290.1157

66.1272

66.0.290.1272

Remote Filler valve with OPD for Automotive Application.

UL LISTED

Application

These valves incorporate a standard 1-1/4" flat wrenching hex allowing easy installation from the top with a socket wrench.

***When ordering it is necessary to specify tank dimension, mount angle and diameter to determine correct part number.**

Ordering Information

Part Number	Tank Connection	Filler Connection	Wrench Hex Flat	Specify tank dimension when ordering
66.1115	3/4" NPT	1-3/4" ACME	1-3/4"	*
66.1154	3/4" NPT	1-3/4" ACME	1-3/4"	*
66.1157	3/4" NPT	1/2" SAE	1-1/16"	*
66.1272	3/4" NPT	1/2" SAE	1-1/16"	*

* Specify when ordering

66.1101

66.0.290.1101

Filler valve suitable for underground tank. The extended body allows an easier refilling operation.

66.1106

66.0.290.1106

Filler valve with high flow capacity suitable for above ground containers. Specify tank size when ordering.

66.1093

66.0.290.1093

As with other valves that incorporate an OPD, "this valve also includes an extended filler valve with a manually operated shut-off ball valve.

Application

These filler valves are designed for horizontal and vertical LPG containers. All the valves are equipped with an overfill prevention device. Always specify the type of tank (horizontal or vertical), diameter of the tank and location of the filler valve in the flange of the tank.

Ordering Information

Part Number	Tank Connection	Filler Connection	Wrench Hex Flat	Specify tank dimension when ordering
66.1101	1-1/4" NPT	1-3/4" ACME	1-3/4"	*
66.1106	1-1/4" NPT	1-3/4" ACME	1-3/4"	*
66.1093	1-1/4" NPT	1-3/4" ACME	1-3/4"	*

* Specify when ordering

Internal Pressure Relief Valves for ASME And DOT Containers

Designed specifically for use as a primary pressure relief device on ASME containers up to 2000 gallon water capacity. Furnished with a rain cap for protection against contamination. See ordering information for part numbers. These valves have a pre-applied sealant on the container connection. These valves are ASME approved.

66.1128 66.0.290.1128
66.1129 66.0.290.1129
66.1130 66.0.290.1130
66.1135 66.0.290.1135
66.1162 66.0.290.1162

Type	Part number
66.1128	10.0.950.0203
66.1129	10.0.950.0204
66.1130	10.0.950.0205
66.1135	10.0.110.5032
66.0248	30.0.110.0278
66.1242	30.0.110.0277

Rain Caps for Internal Pressure Relief Valves

UL LISTED

ASME SETTING THE STANDARD

Ordering Information

Part Number	Container Connection	Start to Discharge Setting PSIG	UL (at 120% of set pressure) Flow capacity SCFM/AIR	ASME (at 120% of set pressure) Flow capacity SCFM/AIR	Wrench Hex Flat
66.1127	1" NPT	375	1491	n/a	1-5/16"
66.1128	3/4" NPT	250	2007	1807	1-9/16"
66.1129	1" NPT	250	2757	2493	1-3/4"
66.1130	1-1/4" NPT	250	4312	3913	2-1/4"
66.1242	1" NPT	312	1109	979	1-5/16"
66.1135	1" NPT	250	864	786	1-5/16"
66.1162	3/4"-NPT	312	690	690	1-1/16"

External Pressure Relief Devices

66.1139
Pressure relief valve for small containers and on-line pipe installations. Setting point: 250 PSIG.

UL LISTED ASME SETTING THE STANDARD

66.1140
Pressure relief valve for small containers and on-line pipe installations. Setting point: 375 PSIG.

UL LISTED

66.1311
Hydrostatic Pressure relief valve provides pressure relief at or in excess of the stated pressure setting, protecting against line or plumbing system failures.

UL LISTED

Ordering Information

Part Number	Bottom Male Connection	Wrench grip hexagon	Thread type		Configuration suitable for a tank with a max surface area of:	PRV - Start to Discharge Setting (PSIG)	PRV-OVERPRESSURE 20%	Approval	PRV Orifice
			taper	parallel			CAPACITY SCFM-AIR		
66.1139 - PRV	1/4-18 NPT	14/16"	X		-	250	296-262	UL/ASME	7/8"
66.1140 - PRV	1/4-18 NPT	14/16"	X		-	375	486	UL CGA S1.1	7/8"
70.0073 - EU19	3/4-14 NPT	1 13/16"	X		73 sq.ft Aboveground 316 sq.ft Underground	250	1918-1808	UL/ASME	1-13/16"
66.1311	1/4-18 NPT	9/16"	X		-	440	-	UL	9/16

UL LISTED ASME SETTING THE STANDARD

70.0073 (EU19)
External pressure relief valve ASME containers. Setting point: 250 PSIG.

Internal Pressure Relief Valves for DOT Fork Lift Cylinders

UL LISTED

66.1027

66.0.290.1027

Designed specifically for use as primary relief valve on fork lift cylinders.
A 45° deflector adapter is already included into the body of the valve.
The valve is a one-piece hot forged brass body.

66.0248

66.0.290.0248

Designed specifically for use as primary relief valve on fork lift cylinders.

UL LISTED

Ordering Information

Part Number	Container Connection	Start to Discharge Setting (PS)	UL (at 120% fo set pressure) Flow capacity SCFM/AIR	Wrench Hex Flat
66.1027	3/4" NPT	375	400	1-1/16"
66.0248	3/4" NPT	375	400	1-1/16"

Fork Lift and Lawnmower Connectors

UL LISTED

These brass connectors are designed to join the carburetor vapor fuel line to the service valve.

66.1024

66.0.290.1024

Half coupling ACME.
For installation between the LPG engine fuel line and the fork lift service valve.

66.1023

66.0.290.1023

Female coupling ACME.
For installation on the carburetor fuel line.

66.1312

66.0.290.1312

Half coupling LH ACME.
For installation between the LPG engine fuel line and the lawnmower service valve.

66.1354

66.0.290.1354

Female coupling LH ACME.
For installation on the carburetor vapor fuel line.

Ordering Information

All the connectors automatically close when disconnected.

Part Number	Inlet A	Outlet B	Normal Application
66.1024	1-1/4" M.ACME	3/8" F.NPT	Service Valve
66.1012	1-1/4" LH M.ACME	1/4" F.NPT	Service Valve
66.1023	1-1/4" F.ACME	1/4" F.NPT	Vapor Fuel
66.1354	1-1/4" LH F.ACME	1/4" F.NPT	Vapor Fuel

Service Valves for DOT Fork Lift and ASME Motor Fuel Containers

80.2062
80.0.380.2062

80.2063
80.0.390.2063

UL LISTED

80.2064
80.0.390.2064

80.2146
80.0.390.2146

73.0001
73.0.390.0001
Solenoid Valve Equipped with excess flow and manual shutoff device.
Voltage: 12V

Application

These valves are designed for vapor or liquid withdrawal service on DOT fork lift containers (80-2064) and ASME containers.
These valves are equipped with an excess flow limiter with different settings. Because these valves do not have an integrated pressure relief valve, they may only be used as an accessory valve on containers that have an independent PRV suitable for that containers capacity (such as 66.0248, 66.1057 or 66.1058 – see pressure relief valves).

Features

These valves are supplied with pre-applied sealant on the inlets. The 80.2064 also has pre-applied sealant on the outlet.
Double O-ring Stem Seal - Two O-rings form the stem seal for improved resistance to leakage caused by dirt or extreme temperatures.
Tamperproof Design - A travel stop keeps the handwheel from being removed which helps to prevent tampering.
It also prevents removal of the stem and provides an additional seal against gas leakage.
Sturdy Quality Brass Handwheel - Large, sturdy brass handwheel and stem threads less likely to break, even with rough handling.
Static Seat Disc - In the 73.0001 Valve the seat disc does not rotate, abrasive wear on the disc is eliminated, improving service life.
Recessed Excess Flow Valve - The recessed excess flow valve helps reduce the possibility of mechanical damage or fouling from excess pipe compound.

Ordering Information

Part Number	Container Connection	Outlet Connection	Normal Application	Excess Flow Closing
80.2063	3/4" M.NGT	3/8" SAE Flare (70)	ASME Motor Fuel	3.3 GPM
80.2062		3/8" SAE Flare (90)	ASME Motor Fuel	3.3 GPM
80.2146		POL (CGA 510)	ASME Motor Fuel	1.5 GPM
80.2064		3/8" 18 NPT	DOT Fork Lift	2.6 GPM
73.0001	3/4" - 14 NPT	5/8" UNF	RV - Automotive	1.4 GPM

Fixed Liquid Level Gauges

66.1072
66.0.290.1072
Special DT length available.
An optional instruction plate may be ordered for use with these valves. These valves incorporate a No. 54 drill size orifice.
Captive screw.

UL LISTED

66.1161
66.0.290.1161

Remote outgauge.
Captive screw.

UL LISTED

Part Number	Container Connection	Outlet Connection	DT Length
66.1072	1/4" M NPT	-	12"
66.1116	1/4" M NPT	-	5.4"
66.1117	1/4" M NPT	-	6.6"
66.1118	1/4" M NPT	-	3.8"
66.1119	1/4" M NPT	-	4.1"
66.1120	1/4" M NPT	-	5.6"
66.1121	1/4" M NPT	-	6.9"
66.1204	1/4" M NPT	-	Without
66.1125	1/4" M NPT	-	5.2"
66.1161	1/4" NPTF	1/4" SAE Flare	Without

Fork Lift DOT Multivalve

UL LISTED

80.8190
80.0.390.8190

Application and description

- Designed specifically as a “One-Hole” solution for composite LPG cylinders in DOT fork lift service.
- One hole solution - fewer points for potential leaks.
- Multi function valve, including PRD and Excess Flow Valve.
- Straight threads reduce torque force into composite cylinder wall.

Ordering Information

Part Number	Inlet	Outlet	Application
80.8190	M 34	3/8-18 NPT	DOT Fork Lift

Liquid Withdrawal Valves with Excess Flow

These valves are designed for liquid withdrawal from stationary containers.

69.0010

69.0.190.0010

UL LISTED

This new liquid withdrawal valve is designed for liquid evacuation prior to moving the tank. This valve can also be used on permanent installations equipped with an excess flow limiter. Designed according to the latest UL standard.
Pre-applied sealant

UL LISTED

66.1109

66.0.290.1109

This adapter is designed to be used with a 69.0010 liquid withdrawal valve. Fully compatible with the new evacuation valves on the market.

69.0109

69.0.190.0109

UL LISTED

This new liquid withdrawal valve is designed for liquid evacuation prior to moving the tank. This valve can also be used on permanent installations equipped with an excess flow limiter. Designed according to the latest UL standard.
Pre-applied sealant

Ordering Information

Part Number	Container Connection	Outlet Connection	U.L. Closing Flow (Propane)	Wrench Hex Flat
69.0010	3/4" M NPT	1-5/8" UN	20 GPM	1-3/4"
66.1109	1-5/8" UN	3/4" NPT	n/a	n/a
69.0109	1-1/4" NPT	1-5/8" UN	36 GPM	1-3/4"

Service Valves for ASME and DOT Containers or Fuel Line Application

UL LISTED

80.3135
80.0.490.3135

Designed specially for vapor withdrawal service on ASME and DOT containers.
Because this valve has no integral pressure relief valve, it may only be used as an accessory valve on containers that have an independent pressure relief valve sufficient for that container's capacity. This valve can also be used as a service valve on a 420 lb vertical tank or a 300 liter horizontal tank. This valve also incorporates a fixed liquid level gauge. Specify DT length when ordering.

UL LISTED

80.1199
80.0.290.1199

Open-close valve with POL outlet.
Designed for vapor withdrawal only.

Features
Double O-ring Stem Seal - Two O-rings from the stem seal for improved resistance to leakage due to dirt or temperature extremes.
Sturdy Quality Brass Handwheel - New large sturdy brass handwheel and stem threads are less likely to break, even with rough handling. Repairable design based upon request.
Static Seat Disc - Because the seat disc does not rotate, abrasive wear on the disc is eliminated, improving service life.

Ordering Information

Part Number	Tank Connection	Vapor Service Connection	Fixed Liquid Level Gauge	Fixed Level Gauge DT Length
80.3135	3/4" NGT	POL CGA 510	Not captive	11.1"
80.3144	3/4" NGT	POL CGA 510	Not captive	5.8"
80.1199	3/4" NGT	POL CGA 510	N/A	N/A
80.3149	3/4" NGT	POL CGA 510	Not captive	11.0"
80.3190	3/4" NGT	POL CGA 510	Not captive	10.0"
80.3191	3/4" NGT	POL CGA 510	Not captive	10.63"

Service Valves for DOT Cylinders

80.5016
80.0.690.5016

DOT cylinder valve for vapor withdrawal up to 100 lb LPG capacity.
Specify dip-tube length when ordering.

UL LISTED

80.6032
80.0.790.6032

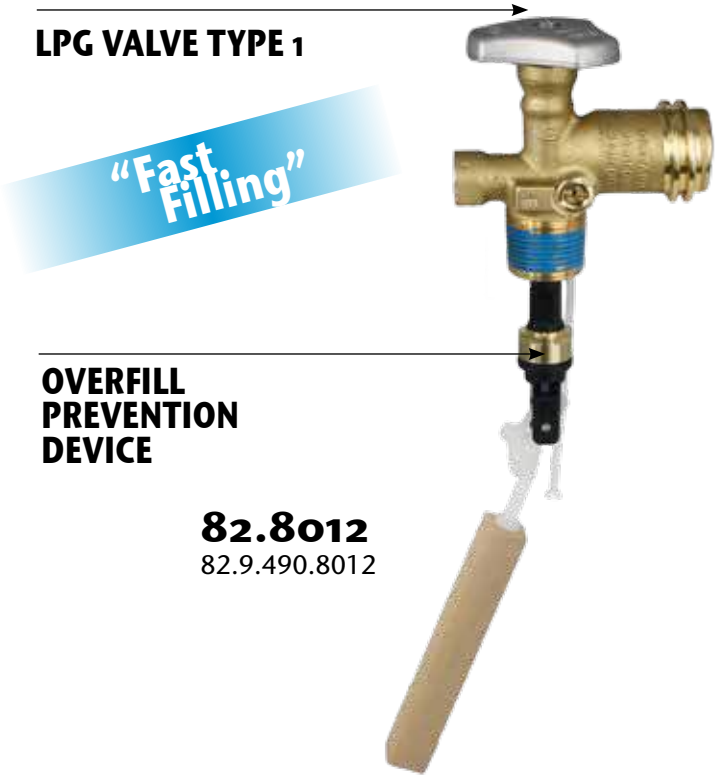
Heavy duty POL valve with pressure relief valve for 200 lb propane cylinders. Different DT lengths available.

Ordering Information

Part Number	Cylinder Connection	Outlet Connection	Normal Application	Liquid Level Gauge	DT Length	Relief Setting	UL rated discharge flow capacity (SCFM)
80.6032	3/4" NGT	Female POL (CGA 510)	DOT cylinder up to 100 lbs	Yes	10.2"	375	765
80.5016			Service valve on DOT cylinder	Yes	10.6"		366
80.5064			DOT cylinder up to 100 lbs	No	-		366

Type 1 ACME Cylinder Valve with Overfill Prevention Device (OPD)

These Type 1 ACME valves (CGA791) are intended for DOT cylinders up to 40 pounds LPG capacity (96 pounds water capacity). This valve has a vapor service outlet, relief valve, captive fixed liquid level gauge, and an overfill prevention device (OPD).



UL LISTED

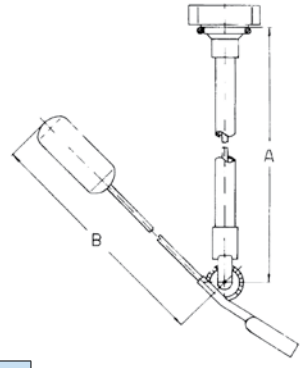
Features

Rapid purging and filling with over one million BTU withdrawal capacity.
Tri-lobular one-piece forged alluminum handwheel.
Double "O-ring" stem seal for improved leak resistance.
Pre-applied sealant.
Quality "O-ring" check valve seat, opens only with positive seal.
Brass safety cage surrounding critical welds provides additional protection to components for long-term operational peformance.

Ordering Information

Part Number	Cylinder Capacity	Container Connection	Outlet Connection	Relief Setting	Dip Tube
82.8014	20 lbs	3/4" 14 NGT	Type 1 ACME and POL	375 PSIG	4.0"
82.8012	30 lbs	3/4" 14 NGT	Type 1 ACME and POL	375 PSIG	4.7"
82.8013	40 lbs	3/4" 14 NGT	Type 1 ACME and POL	375 PSIG	6.4"

LPG Float Gauges Flanged for Bolt Model



Ordering Information

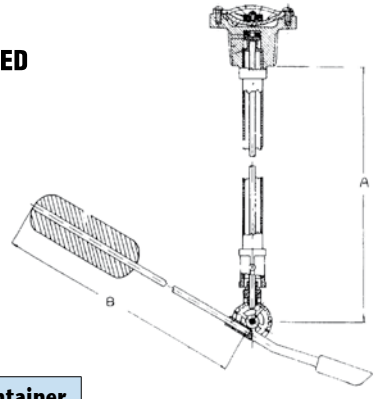
Part Number	Nominal Ø Inches	Diameter Ø mm	Tank Type	Container Gallons	Capacity Liters	Dimension	
						A	B
2069.U	24″	609.60	horizontal	120	454.25	13-5/16″	11-7/32″
2070.U	30″	762.00	horizontal	250/320	946.35/1,211.328	16-7/32″	14-11/64″
2071.U	37″	939.80	horizontal	500	1,892.70	20-5/64″	17-1/4″
2072.U	41″	1,041.40	horizontal	1,000	3,785.40	21-49/64″	18-25/32″
2073.U	48″	1,219.20	horizontal	-	-	24-3/32″	21-1/16″
2075.U	30″	762.00	vertical	-	-	25-13/64″	16-59/64″

Note:
MM is the month of manufacture AA is the year of manufacture

I.E. 2000/03 = 03-00
dimension on request

LPG Threaded Float Gauges

All level gauges are produced in compliance with the CEN TC 286-prEN 13799 standard. The float is made in SPANSIL rubber. This kind of material cannot be detached from its lodging when in touch with caustic soda. These level gauges have been manufactured in accordance with the best available technology: a tropicalised zamac has been used both for the head and the gearing.



Ordering Information

Part Number	Nominal Ø Inches	Diameter Ø mm	Tank Type	Container Gallons	Capacity Liters	Dimension (mm)		Container Connection
						A	B	
2069.U1	24″	609.60	horizontal	120	454,25	13-5/16″	11-7/32″	1″
2070.U1	30″	762.00	horizontal	250/320	946,35/1.211,328	16-7/32″	14-11/64″	1″
2071.U1	37″	939.80	horizontal	500	1.892,70	20-5/64″	17-1/4″	1″
2072.U1	41″	1,041.40	horizontal	1,000	3.785,40	21-49/64″	18-25/32″	1″
2073.U1	48″	1,219.20	horizontal	-	-	24-3/32″	21-1/16″	1″
2075.U1	30″	762.00	vertical	-	-	25-13/64″	16-59/64″	1″
2076.U1	-	-	vertical	-	-	22-3/64″	18-25/32″	1″
20SO.U1	-	-	horizontal	-	-	*	*	1″
20SV.U1	-	-	vertical	-	-	*	*	1″
2069.U1-1/4	24″	609.60	horizontal	120	454,25	13-5/16″	11-7/32″	1/4″
2070.U1-1/4	30″	762.00	horizontal	250/320	946,35/1.211,328	16-7/32″	14-11/64″	1/4″
2071.U1-1/4	37″	939.80	horizontal	500	1.892,70	20-5/64″	17-1/4″	1/4″
2072.U1-1/4	41″	1,041.40	horizontal	1,000	3.785,40	21-49/64″	18-25/32″	1/4″
2073.U1-1/4	48″	1,219.20	horizontal	-	-	24-3/32″	21-1/16″	1/4″

Note:
MM is the month of manufacture AA is the year of manufacture

I.E. 2000/03 = 03-00
(A=January, B=February, C=March etc.)

dimension on request

Gaslow Measuring Systems

GASLOW

Part N.
80-0020

UL LISTED

The Gaslow was the first, and is the only, measuring system to work in almost all gas cylinder applications with total accuracy. It is straight-forward, cost-effective, easy to fit, and extremely reliable.
Its unique advanced calibration warns you when gas supplies are running low and tests the complete system for dangerous gas leaks. Ideal for boats, motorhomes, RV's, patio heaters, gas barbecues, and propane powered mosquito traps. The propane gas user can simply install an easy-to-read indicator for totally dependable results.

Low Level Monitoring

Users of propane gas know that it is extremely difficult to tell when the cylinder is running low.
Gaslow unique measuring instruments are fitted before the regulator on the high pressure side of the propane gas system to monitor the vaporization of the gas as it is being used to give advanced warning of low gas levels.

Part N.
AD-2G

UL LISTED

Leak Protection

Propane gas has an excellent record for safety but must be handled with care. With the gauge fitted directly onto the cylinder, its leak test function can give total peace of mind. They are the only units which will quickly and easily perform a pressure leak test on the complete system, including the cylinder connection.

Gaslow 1500 Remote Tank Monitor

GASLOW

UL LISTED

Gaslow remote propane monitor gauge with fuel indicator flashing light.
Light starts flashing when fuel supplies are running low and cylinder needs to be refilled. Plus start-up leak detection warning light:

- before turning on appliance(s) and after system is pressurized with gas, a flashing light will indicate a leak within 60 seconds on most propane systems.

Full instructions enclosed.

For Use With
gas grills, fish cookers, mosquito units, rv's & boats

Model# AD-3G
Included:
- 30 inches connection cable
- 15 Foot extension cables available - no limit to length of wire
- Electronic gauge and adapter with check lock seal
- Mounting bracket and remote flashing light indicator

Requires 2 AAA Batteries (not included)

Tank Equipment Spare Parts

The manufacturer declines all responsibility for incorrect use or application.
We recommend using original parts or to replace the whole valve.

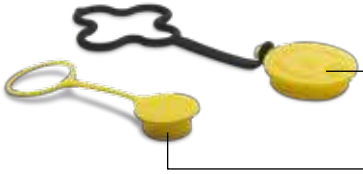
Rain Caps for Internal
Pressure Relief Valves.

30.0274
30.0273
30.0276

VINYL

10.5032
10.5036
10.5033
10.5037

PLASTIC



10.0203
10.0204
10.0205

PLASTIC

10.5038

Ordering Information

Type for	Part number
66.1029 66.1129	30.0.110.0273 - 10.0.110.5033 - 10.0.950.0204
66.1030	30.0.110.0274 - 10.0.110.5036
66.1128	30.0.110.0274 - 10.0.950.0203
66.1031 66.1130	30.0.110.0276 - 10.0.110.5037 - 10.0.950.0205
66.1057 66.1058 66.1127 66.1135	10.0.110.5032
66.1162	10.0.110.5056
66.1027	10.0.110.5056
66.0248	10.0.110.5038

5605030021

Ug Wrench Kit
Valve Socket - 3/4" drive.
Fit Cavagna Multiservice valves
for ASME underground
propane tank.

51C1140001

Valve Socket
1/2 inch drive
Fits Cavagna
OPD Service Valves and
Fork Lift Service Valves

cavagna group

Advanced solutions for gas control

LPG Bulk Storage and Truck Equipment

ENDURANCE
SERIES

Threaded Internal Valves

These valves, designed as primary shut-offs to control product discharge in LP-Gas service, are predominantly used in the liquid and vapor openings of bobtail and other transport vehicles. All valves satisfy the requirements of NFPA 58 and can also be used in stationary storage tank applications. All Cavagna internal valves have a robust, one piece body design and an incorporated excess flow function. Each valve has a weak section that allows the pump or piping to "shear" in the event of an accident, thereby leaving the valve mechanism intact. Cavagna threaded valves are compact and can be operated either manually or remotely via cable or pneumatic control. Valves contain spring-loaded, PTFE packing providing excellent leakage protection and the standard disc material provided is Nitrile.

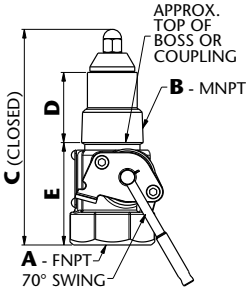
UL LISTED

LPG - NH_3

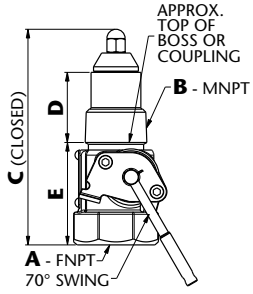
Part Number		Material	Inlet Connection	Outlet Connection	Closing Flow GPM Propane		LPG Vapor Capacity (SCFH/Propane)		Closing Flow GPM Ammonia NH_3 + LPG
One Way	Two Way				Half Coupling	Full Coupling	25 PSIG	100 PSIG	
6902900101	-----	steel	1-1/4" M NPT	1-1/4" F NPT	30	-----	5.800	9.100	27
6902900102	-----	steel	1-1/4" M NPT	1-1/4" F NPT	50	35	7.650	12.900	45
6902900103	-----	steel	1-1/4" M NPT	1-1/4" F NPT	80	65	10.950	18.800	72
6902900104	6902900130	steel	2" M NPT	2" F NPT	100	60	21.550	36.800	90
6902900105	6902900131	steel	2" M NPT	2" F NPT	150	90	33.600	57.200	135
6902900106	6902900132	steel	2" M NPT	2" F NPT	250	130	-----	-----	225
6902900107	6902900112	steel	3" M NPT	3" F NPT	150	100	28.600	48.700	135
6902900108	6902900113	steel	3" M NPT	3" F NPT	200	125	43.500	73.900	180
6902900109	6902900114	steel	3" M NPT	3" F NPT	250	165	51.500	87.600	225
6902900110	6902900115	steel	3" M NPT	3" F NPT	400	235	80.100	139.000	360
6902900111	6902900116	steel	3" M NPT	3" F NPT	500	325	-----	-----	450

Threaded Internal Valves

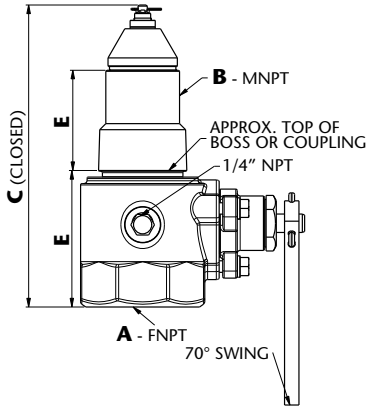
1 1/2" ONE WAY



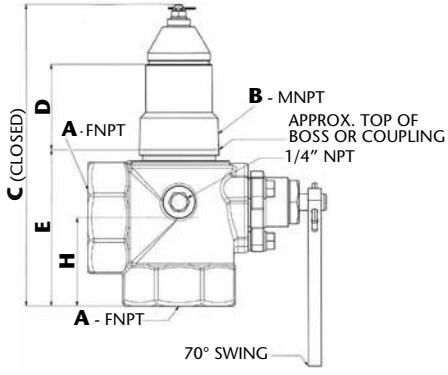
1-1/4" ONE WAY



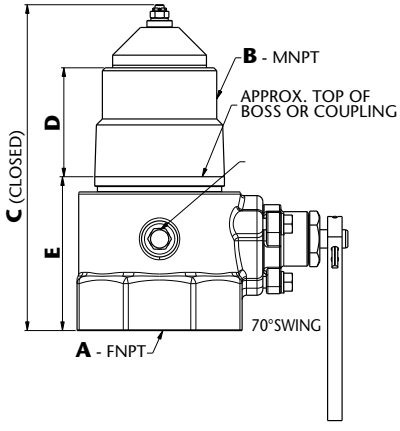
2" ONE WAY



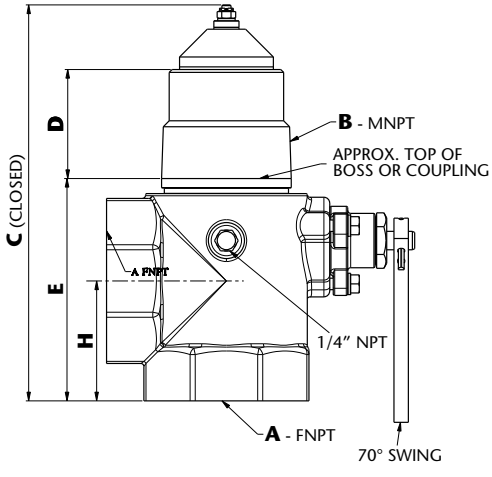
2" TWO WAY



3" ONE WAY



3" TWO WAY



Threaded Valves specification:
Pressure Rating: 400 PSIG (27.58 bar) WOG
Temperature: Up to 150°F (66°C)
Body: Ductile Iron
Packing: PTFE
Seat disk: Synthetic rubber
Stub, Shaft & Stem: stainless steel

DIMENSIONS					
A	B	C	D	E	H
1-1/4" NPT	1-1/4" NPT	5.90" (150 mm)	1.86" (47 mm)	2.88" (73 mm)	-------
1-1/2" NPT	1-1/2" NPT	5.90" (150 mm)	1.86" (47 mm)	2.88" (73 mm)	-------
2" NPT	2" NPT	8.26" (210 mm)	2.40" (61 mm)	4.05" (103 mm)	-------
3" NPT	3" NPT	8.85" (225 mm) ONE WAY 10.82" (275 mm) TWO WAY	2.56" (65 mm) ONE WAY AND TWO WAY	4.54" (115.3 mm) ONE WAY 6.50" (165.3 mm) TWO WAY	3.26" (83 mm)

Flanged Internal Valve 3"

Cavagna flanged valves, equipped with a built-in excess flow valve to prevent uncontrolled product release, are perfect for mounting a pump or other similar piping connections.
Mounting bolts weakened section, provided, allow the pump or piping to "shear" in the event of an accident, thereby leaving the valve intact. Cavagna flanged valves have a protection filter to avoid pump contamination from dirt and particles, easily removable when the valve is installed on the filling piping line. Cavagna flanged valves contain PTFE packing providing excellent leakage protection and the standard disc material provided is Nitrile, they can be operated manually or remotely via cable or pneumatic control.

UL LISTED

LPG - NH_3

Part Number		Material	Inlet Connection	Outlet Connection	Closing Flow GPM Propane	LPG Vapor Capacity (SCFH/Propane)		Closing Flow GPM Ammonia NH_3 + LPG
Single	Double					25 PSIG Inlet	100 PSIG Inlet	
6902900117	6902900122	steel	3" 300lb ANSI RF Modified (4 7/8" dia bore)	3" 300lb. ANSI RF	150	25.100	42.700	135
6902900118	6902900123	steel	3" 300lb ANSI RF Modified (4 7/8" dia bore)	3" 300lb. ANSI RF	200	36.900	62.800	180
6902900119	6902900124	steel	3" 300lb ANSI RF Modified (4 7/8" dia bore)	3" 300lb. ANSI RF	250	42.200	71.800	225
6902900120	6902900125	steel	3" 300lb ANSI RF Modified (4 7/8" dia bore)	3" 300lb. ANSI RF	400	59.400	100.900	360
6902900121	6902900126	steel	3" 300lb ANSI RF Modified (4 7/8" dia bore)	3" 300lb. ANSI RF	500	-----	-----	450

Flanged Internal Valve 4"

Cavagna flanged valves, equipped with a built-in excess flow valve to prevent uncontrolled product release, are perfect for mounting a pump or other similar piping connections.
Mounting bolts weakened section, provided, allow the pump or piping to "shear" in the event of an accident, thereby leaving the valve intact. Cavagna flanged valves have a protection filter to avoid pump contamination from dirt and particles, easily removable when the valve is installed on the filling piping line. Cavagna flanged valves contain PTFE packing providing excellent leakage protection and the standard disc material provided is Nitrile, they can be operated manually or remotely via cable or pneumatic control.

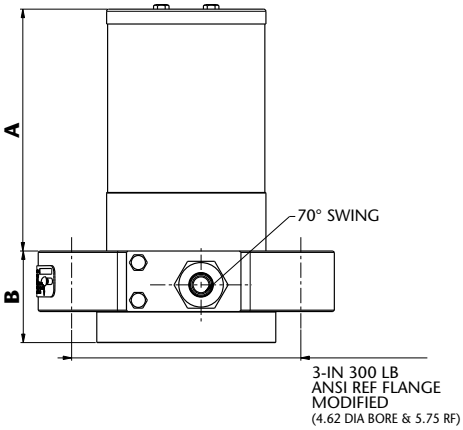
UL LISTED

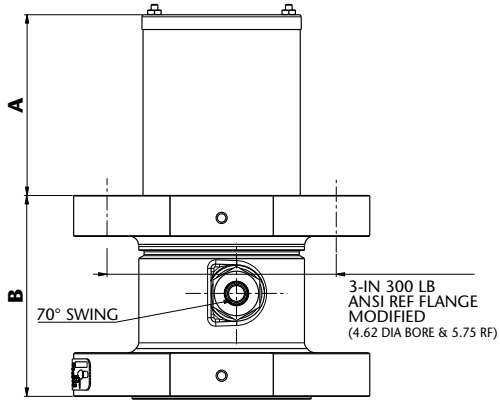
LPG - NH_3

Part Number	Material	Inlet Connection	Outlet Connection	Closing Flow GPM Propane
6902900141	steel	4" 300lb ANSI RF Modified (4 7/8" dia bore)	4" 300 lb. ANSI RF	340
6902900142	steel	4" 300lb ANSI RF Modified (4 7/8" dia bore)	4" 300 lb. ANSI RF	440
6902900143	steel	4" 300lb ANSI RF Modified (4 7/8" dia bore)	4" 300 lb. ANSI RF	600
6902900144	steel	4" 300lb ANSI RF Modified (4 7/8" dia bore)	4" 300 lb. ANSI RF	800
6902900145	steel	4" 300lb ANSI RF Modified (4 7/8" dia bore)	4" 300 lb. ANSI RF	1,000

Flanged Internal Valve

3″ Single and Double Flanged

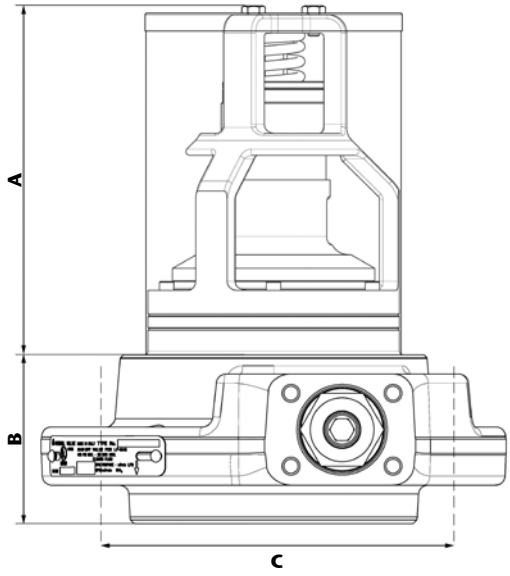




Flanged Valves specification:
Pressure Rating: 400 PSIG (27.58 bar) WOG
Temperature: Up to 150°F (66°C)
Body: cast steel WCB
Packing: PTFE
Seat disk: Synthetic rubber
Stub, Shaft & Stem: stainless steel
Gaskets: Non asbestos spiral wound graphite

Part Number		DIMENSIONS		DIMENSIONS	
		A	B	A	B
Single	Double	Single	Single	Double	Double
6902900117	6902900122	6.75″ (171 mm)	2.56″ (65 mm)	5.33″ (133 mm)	5.62″ (143 mm)
6902900118	6902900123				
6902900119	6902900124				
6902900120	6902900125				
6902900121	6902900126				

4″ Single flanged

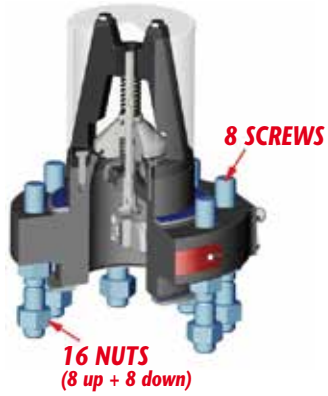


Flanged Valves specifi cation:
Pressure Rating: 400 PSIG (27.58 bar) WOG
Temperature: Up to 150°F (66°C)
Body: cast steel WCB
Packing: PTFE
Seat disk: Synthetic rubber
Stub, Shaft & Stem: stainless steel
Gaskets: Non asbestos spiral wound graphite

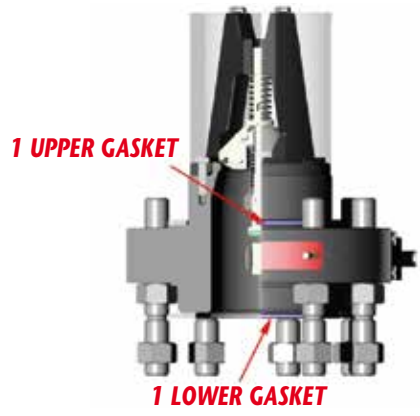
DIMENSIONS		
A	B	C
Single	Single	Single
7.55″ (192 mm)	3.66″ (93 mm)	7.88″ (200 mm)

Threaded and Flanged Internal Valve
Accessories

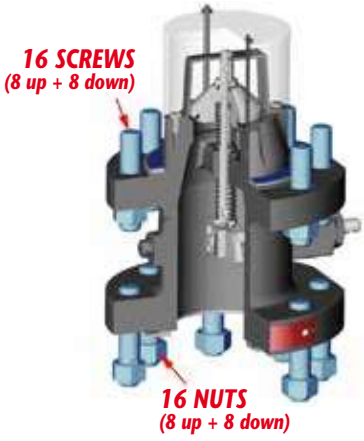
3" Single Flanged Valve



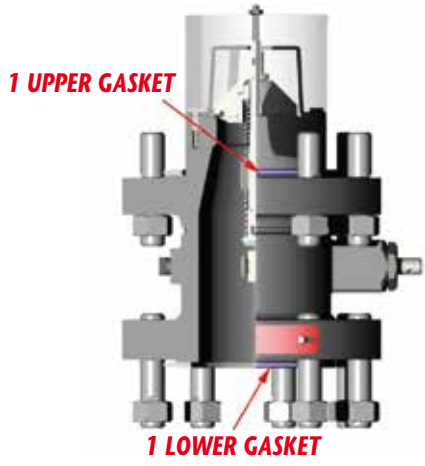
Product Code	Description
6803900020	3/4"-10 UNC studs kit (8 pcs)
6803900019	3/4"-10 UNC nuts kit (16 pcs)
0401105575	Upper spiral gasket (1pcs)
0401105576	Lower spiral gasket (1pcs)
6803900021	M20x2,5 studs kit (8 pcs)
6803900022	M20x2,5 nuts kit (16 pcs)



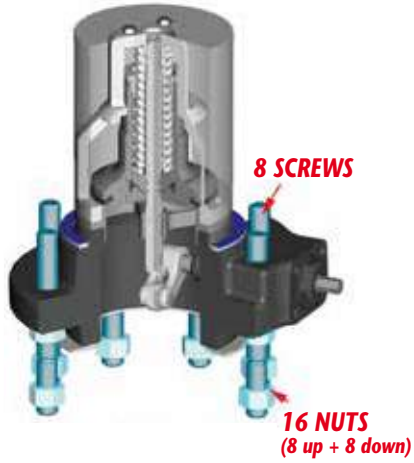
3" Double Flanged Valve



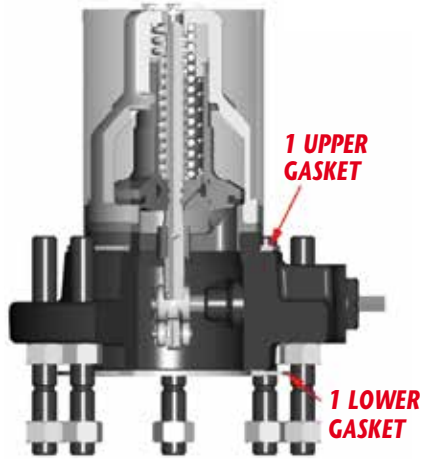
Product Code	Description
6803900018	3/4"-10 UNC studs kit (16 pcs)
6803900019	3/4"-10 UNC nuts kit (16 pcs)
0401105575	Upper spiral gasket (1pcs)
0401105576	Lower spiral gasket (1pcs)

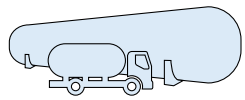


4" Single Flanged Valve



Product Code	Description
6803900023	3/4"-10 UNC studs kit (8 pcs)
6803900019	3/4"-10 UNC nuts kit (16 pcs)
0401105595	Upper spiral gasket (1pcs)
0401105596	Lower spiral gasket (1pcs)





Threaded and Flanged Internal Valve
Accessories

Spiral Gaskets

Product Code	Description
0401105575	Upper Spiral Gasket 3" Flanged Valve (Single and Double)
0401105576	Lower Spiral Gasket 3" Flanged Valve (Single and Double)
0401105595	Upper Spiral Gasket 4" Single Flanged Valve
0401105596	Lower Spiral Gasket 4" Single Flanged Valve

Studs and Nuts

Product Code	Description
6803900018	3/4"-10 UNC studs kit (16 pcs)
6803900019	3/4"-10 UNC nuts kit (16 pcs)
6803900020	3/4"-10 UNC studs kit (8 pcs)
6803900021	M20x2,5 studs kit (8 pcs)
6803900022	M20x2,5 nuts kit (16 pcs)
6803900023	3/4"-10 UNC studs kit (8 pcs)

Main Spindle Assembled Kit

Product Code	Description
6803900024	Dedicated for Internal Valve 1-1/4" and 1-1/2" - 1 pcs
6803900025	Dedicated for Internal Valve 2" (1 way and 2 ways) - 1 pcs
6803900026	Dedicated for Internal Valve 3" (1 way and 2 ways) - 1 pcs
6803900027	Dedicated for 3" Single Flanged Valve - 1 pcs
6803900028	Dedicated for 3" Double Flanged Valve - 1 pcs

Assembled Cone Kit

Product Code	Description
6803900029	Dedicated for Internal Valve 1-1/4" and 1-1/2" - 1 pcs
6803900030	Dedicated for Internal Valve 2" (1 way and 2 ways) - 1 pcs
6803900031	Dedicated for Internal Valve 3" (1 way and 2 ways) and 3" Flanged Valve (Single and Double) - 1 pcs

Assembled Opening System Kit

Product Code	Description
6803900032	Dedicated for Internal Valve 1-1/4" and 1-1/2" - 1 pcs
6803900033	Dedicated for Internal Valve 2" (1 way and 2 ways) - 1 pcs
6803900034	Dedicated for Internal Valve 3" (1 way and 2 ways) - 1 pcs
6803900035	Dedicated for 4" Single Flanged Valve - 1 pcs

Soft sealings kit only for assembled opening system

Product Code	Description
6803900036	Dedicated for Internal Valve 1-1/4" and 1-1/2" - 1 pcs
6803900037	Dedicated for Internal Valve 2" and 3" (1 way and 2 ways) - 1 pcs
6803900038	Dedicated for 3" Single and Double Flanged Valve - 1 pcs
6803900039	Dedicated for 4" Single Flanged Valve - 1 pcs

Complete soft sealings kit (O-rings and gaskets)

Product Code	Description
6803900040	Dedicated for Internal Valve 1-1/4" and 1-1/2" - 1 pcs
6803900041	Dedicated for Internal Valve 2" (1 way and 2 ways) - 1 pcs
6803900042	Dedicated for Internal Valve 3" (1 way and 2 ways) - 1 pcs
6803900043	Dedicated for 3" Single Flanged Valve - 1 pcs
6803900044	Dedicated for 3" Double Flanged Valve - 1 pcs
6803900045	Dedicated for 4" Single Flanged Valve - 1 pcs

Excess Flow Spring

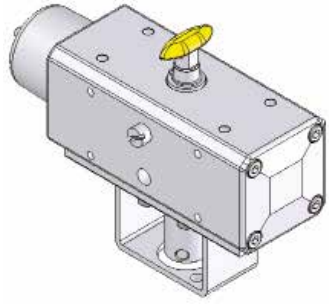
Product Code	Description
6803900046	Dedicated for 30 GPM - Internal Valve 1-1/4" and 1-1/2"
6803900047	Dedicated for 50 GPM - Internal Valve 1-1/4" and 1-1/3"
6803900048	Dedicated for 80 GPM - Internal Valve 1-1/4" and 1-1/4"
6803900049	Dedicated for 100 GPM - Internal Valve 2"
6803900050	Dedicated for 150 GPM - Internal Valve 2"
6803900051	Dedicated for 250 GPM - Internal Valve 2"
6803900052	Dedicated for 150 GPM - Internal Valve 3" and 3" Flanged (Single and Double)
6803900053	Dedicated for 200 GPM - Internal Valve 3" and 3" Flanged (Single and Double)
6803900054	Dedicated for 250 GPM - Internal Valve 3" and 3" Flanged (Single and Double)
6803900055	Dedicated for 400 GPM - Internal Valve 3" and 3" Flanged (Single and Double)
6803900056	Dedicated for 500 GPM - Internal Valve 3" and 3" Flanged (Single and Double)
6803900057	Dedicated for 340 GPM - 4" Single Flanged Valve
6803900058	Dedicated for 440 GPM - 4" Single Flanged Valve
6803900059	Dedicated for 600 GPM - 4" Single Flanged Valve
6803900060	Dedicated for 800 GPM - 4" Single Flanged Valve
6803900061	Dedicated for 1000 GPM - 4" Single Flanged Valve

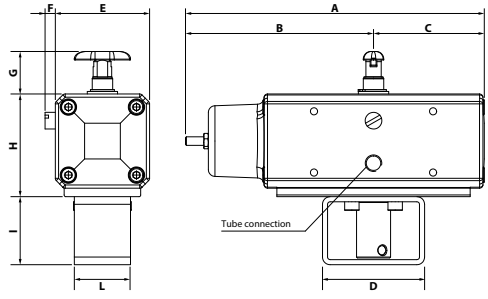
Rotary Cams Actuators

Features:

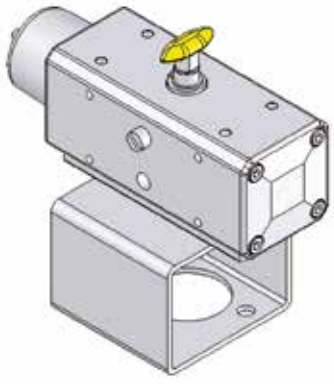
- The actuator is preassembled and ready to install.
- Compared to current devices which require adjustments the installment is quick and easy (3 screws and 1 split pin).
- The actuator can be fitted to the valve in four separate positions allowing optimization of space on the vehicle.
- Direct drive design does not apply side load to internal valve stem packing for maximum valve life.
- The actuator uses an internal cam mechanism, which guarantees higher performance optimizing the opening torque.
- Torque moment: The return torque moment relies only on the spring and is independent from the supply pressure.
- Immediate and automatic closing in absence of air (no need for additional rapid discharge accessories).
- OPEN/CLOSE indicator.
- Compact design and lightweight.
- Aluminum body, components in stainless steel and aluminum.
- Valve anchoring bracket made in stainless steel.
- The actuator is self-lubricating with PTFE carbon-graphite seals.
- The actuator guarantees complete opening of the valve and is equipped with limit switch.
- Operating media: compressed filtered air, not necessarily lubricated.
- 500.000 opening cycles guaranteed.

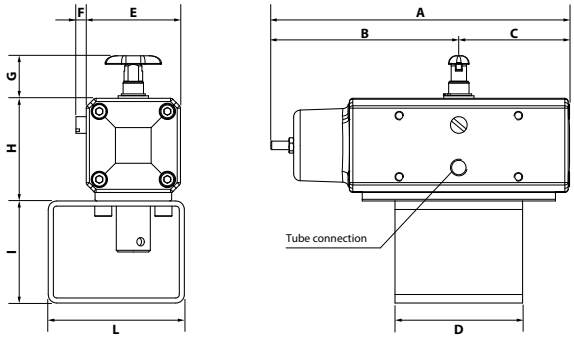
Actuator 1"1/4 and 1"1/2





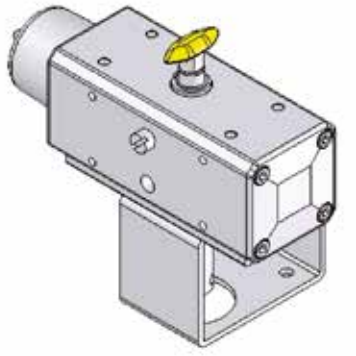
Actuator 2" and 3"

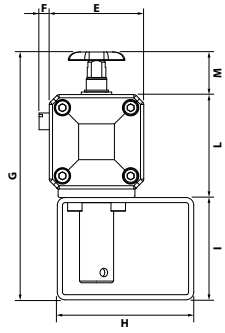


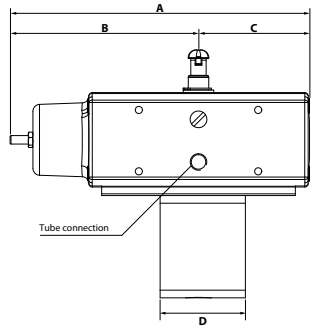


Rotary Cams Actuators

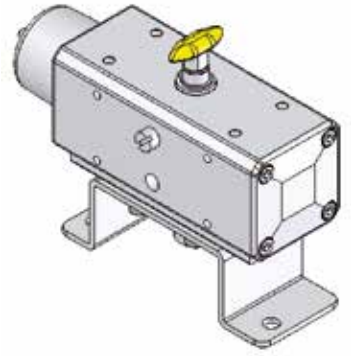
Actuator 3″
SINGLE FLANGED

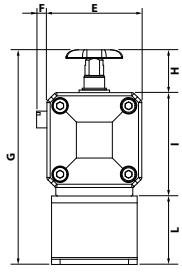


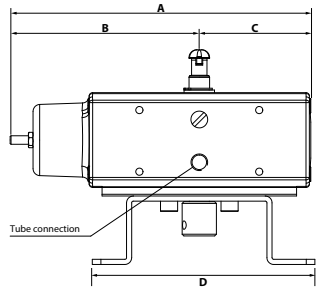




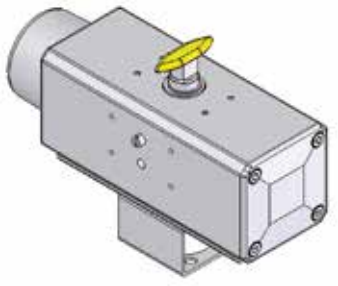
Actuator 3″
DOUBLE FLANGED

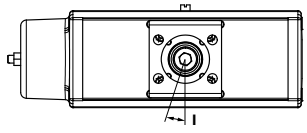


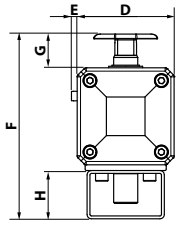


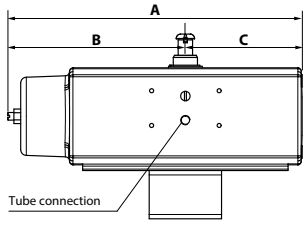


Actuator 4″
SINGLE FLANGED









Rotary Cams Actuators Dimensions (Inches)													
		A	B	C	D	E	F	G	H	I	L	M	Tube Connection Ø
3000900000	O-205 Actuator 1-1/4″ and 1-1/2″	6-29/32	4-11/32	2-9/16	2-23/64	2-3/16	15/64	63/64	2-3/8	1-37/64	1-19/64	-	1/4″
3000900001	O-206 Actuator 2″ and 3″	6-29/32	4-11/32	2-9/16	2-61/64	2-3/16	15/64	63/64	2-3/8	2-23/64	3-5/32	-	1/4″
3000900002	O-207 SF Actuator 3″ Single Flanged	6-29/32	4-11/32	2-9/16	1-31/32	2-3/16	15/64	5-23/32	3-5/32	2-23/64	2-3/8	63/64	1/4″
3000900003	O-207 Actuator 3″ Double Flanged	6-29/32	4-11/32	2-9/16	5-1/8	2-3/16	15/64	4-15/16	63/64	2-3/8	1-37/64	-	1/4″
3000900004	O-208 SF Actuator 4″ Single Flanged	12-1/64	7-1/4	4-49/64	3-61/64	15/64	7-17/32	1-3/8	1-31/32	17,5°	-	-	1/4″
3000900014	O-205 Actuator 1-1/4″ and 1-1/2″ tube Ø6 mm	6-29/32	4-11/32	2-9/16	2-23/64	2-3/16	15/64	63/64	2-3/8	1-37/64	1-19/64	-	6 mm
3000900015	O-206 Actuator 2″ and 3″ tube Ø6 mm	6-29/32	4-11/32	2-9/16	2-61/64	2-3/16	15/64	63/64	2-3/8	2-23/64	3-5/32	-	6 mm
3000900016	O-207 SF Actuator 3″ Single Flanged tube Ø6 mm	6-29/32	4-11/32	2-9/16	1-31/32	2-3/16	15/64	5-23/32	3-5/32	2-23/64	2-3/8	63/64	6 mm
3000900017	O-207 Actuator 3″ Double Flanged tube Ø6 mm	6-29/32	4-11/32	2-9/16	5-1/8	2-3/16	15/64	4-15/16	63/64	2-3/8	1-37/64	-	6 mm
3000900018	O-208 SF Actuator 4″ Single Flanged tube Ø6 mm	12-1/64	7-1/4	4-49/64	3-61/64	15/64	7-17/32	1-3/8	1-31/32	17,5°	-	-	6 mm
3000900019	O-205 Actuator 1-1/4″ and 1-1/2″ tube Ø8 mm	6-29/32	4-11/32	2-9/16	2-23/64	2-3/16	15/64	2-3/8	2-3/8	1-37/64	1-19/64	-	8 mm
3000900020	O-206 Actuator 2″ and 3″ tube Ø8 mm	6-29/32	4-11/32	2-9/16	2-61/64	2-3/16	15/64	2-3/8	2-3/8	2-23/64	3-5/32	-	8 mm
3000900021	O-207 SF Actuator 3″ Single Flanged tube Ø8 mm	6-29/32	4-11/32	2-9/16	1-31/32	2-3/16	15/64	3-5/32	3-5/32	2-23/64	2-3/8	63/64	8 mm
3000900022	O-207 Actuator 3″ Double Flanged tube Ø8 mm	6-29/32	4-11/32	2-9/16	5-1/8	2-3/16	15/64	63/64	63/64	2-3/8	1-37/64	-	8 mm
3000900023	O-208 SF Actuator 4″ Single Flanged tube Ø8 mm	12-1/64	7-1/4	4-49/64	3-61/64	15/64	7-17/32	1-31/32	1-31/32	17,5°	-	-	8 mm

High Performace actuator available upon request

Latch/Remote Release Mechanisms

The Cavagna brand 1-1/4", 1-1/2", 2" and 3" Threaded Internal Valves can be fitted with a manual Latch/remote release mechanism. When the Internal Valve's operating lever is manually moved to the open position, the lever can be latched in the open position. The lever can be released from a remote location by pulling on the cable attached to a pull ring, thus closing the internal valve. A built-in fusible element in the latch release melts if exposed to fire allowing the operating lever to return to the closed position. (melting temperature 212°F/100°C)

1309500142

1309500143

1309500144

1309500147

Cod.	Description
1309500142	Fuse latch threaded Internal valve 2" and 3"
1309500143	Fuse latch threaded Internal valve 1-1/4" and 1-1/2"
1309500144	Dual Latch/ remote release for Internal valve 1-1/4" and 1-1/2"
1309500147	Manual lever and release on for 4"

Full Internal Relief Valves

Application:

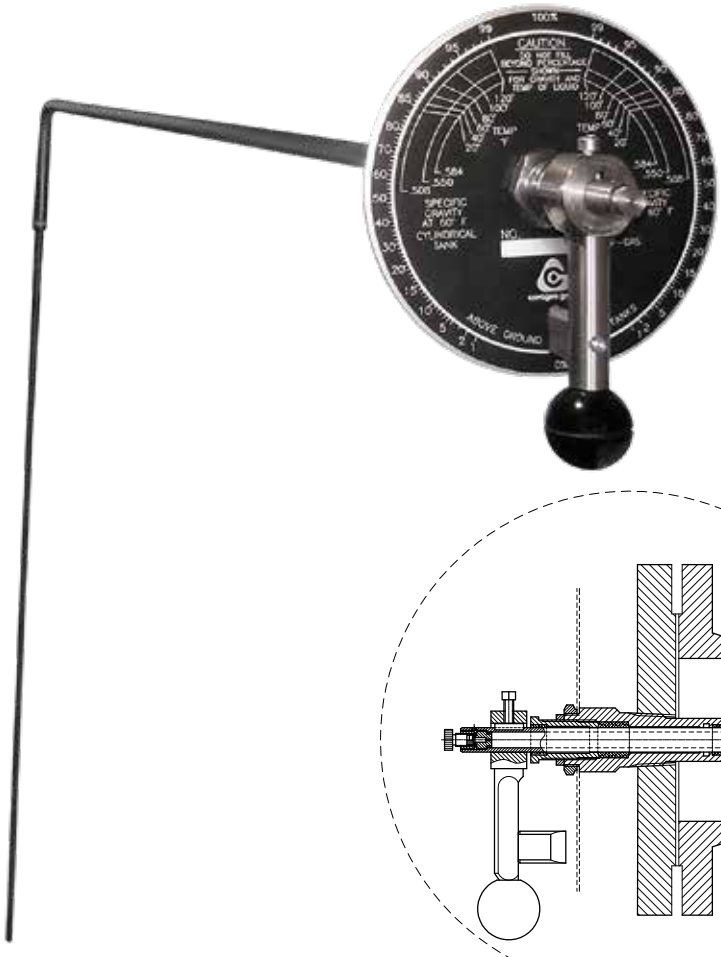
Designed for use in mobile LPG & NH3 containers as a primary pressure relief valve for bobtail and transport trailer installations.
All working components are internal to the container connection preventing damage to the valve should a roll-over incident occur.

Features:

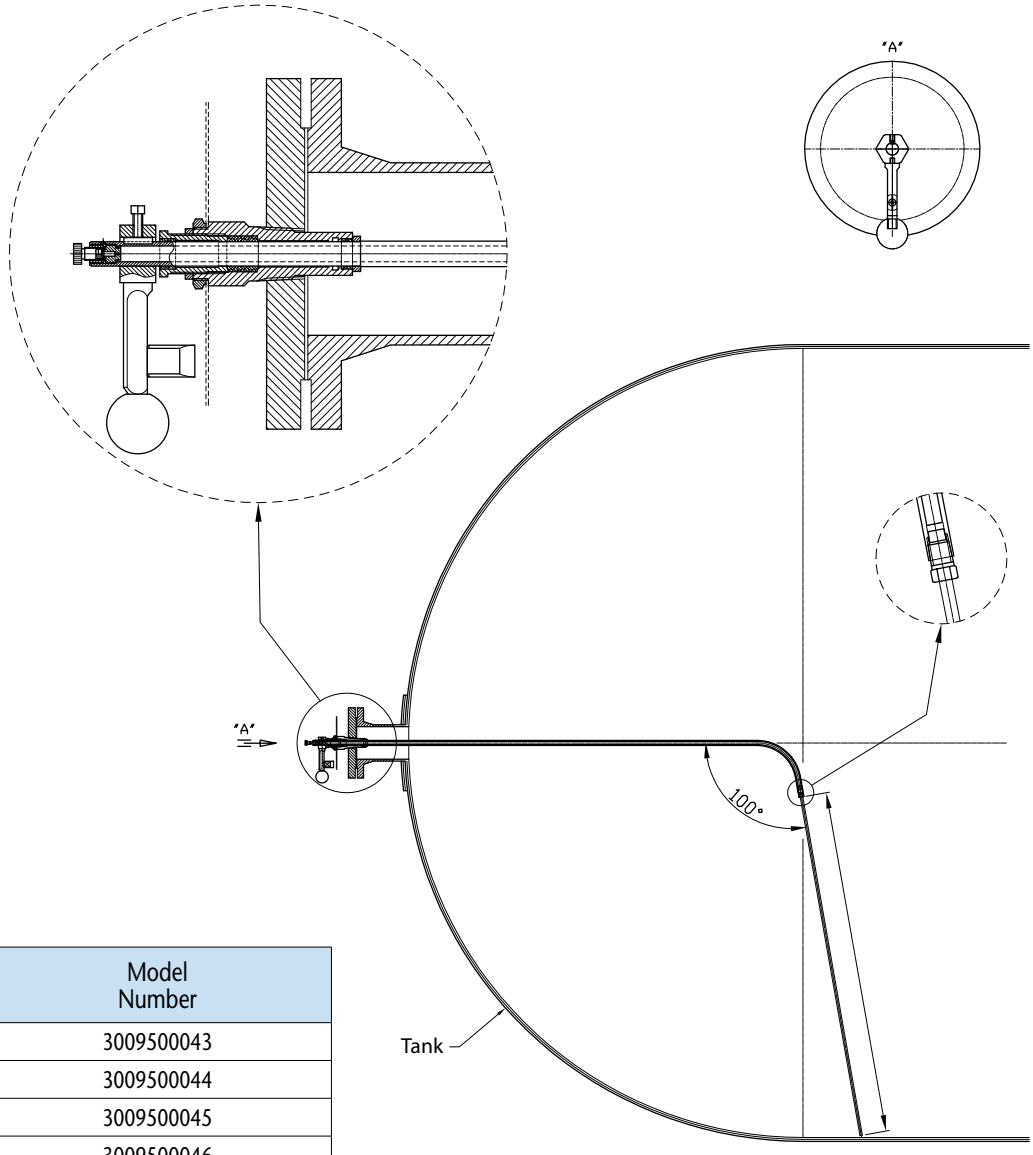
- Durable stainless steel body construction.
- All stainless steel internal components for maximum corrosion resistance.
- Available with Nitrile valve seals.
- Large seating surface for superior seal performance & reliability.
- Available with 250 & 265 PSI set pressures.

Part Number	Start To Discharge Pressure / PSIG	Container Connection	Installation Hex	Service		Seat Material
				LPG	NH_3	
6602901295	250	2″ M NPT	1-1/2″	Yes	Yes	H-Nitrile
6602901300	265	2″ M NPT	1-1/2″	Yes	Yes	H-Nitrile
6602901296	250	3″ M NPT	2-1/2″	Yes	Yes	H-Nitrile
6602901301	265	3″ M NPT	2-1/2″	Yes	Yes	H-Nitrile

Rotary Gauge System



Cavagna Group rotary gauges can be used on stationary or mobile tanks to visually indicate the amount of LP-Gas in the container. They are also used in filling the tank to the proper liquid level. On mobile applications and some large stationary storage tanks, hangers are recommended to support the horizontal length of the dip tube.
The gauge is operated by opening the small bleed orifice when the tube is in the vapor space of the tank. Moving the pointer on the dial causes the end of the tube to move until it contacts liquid in the container. At that point, discharge from the bleed orifice turns from vapor to liquid and the rotary gauges dial gives the volume percentage of liquid in the tank.
Gauges fit 1" coupling container connections. All gauges have stem and dip tubes with an extra large inside diameter. This assures that the correct liquid level can be obtained quickly.



Length in Inches (Diameter of Tank)	Model Number
68	3009500043
69-92	3009500044
93-108	3009500045
109-140	3009500046
Dial only LP	3001102709

Excess Flow Valves for Liquid or Vapor

Valves are designed for Liquid or Vapor fill / withdrawal and for vapor equalization in containers or line applications. They are intended to close when the liquid or vapor passing trough the hose or the piping system exceeds the prescribed flow rate. Valves are available in different sizes and body configurations.

VALVE'S FUNCTIONING.

Once the flow exceeds the valve's setting, the valve closes and will remain closed until the system equalizes. Once the pressure on both sides of the poppet is equal, a built in equalizing passage automatically opens the valve.

Part Number	Material	Inlet Connection	Outlet Connection	Wrench Hex Flats	Length	Approximate Closing Flows		
						Liquid (GPM Propane)	25 PSIG Inlet	100 PSIG Inlet
6902900127	Steel	1-1/4"	1-1/4"	2"	1-5/16"	30	5750	9800
6902900128	Steel	1-1/4"	1-1/4"	2"	1-5/16"	40	7500	13330
6902900129	Steel	1-1/4"	1-1/4"	2"	1-5/16"	50	8800	15970

Excess Flow Valves for Liquid or Vapor withdrawal

Valves are designed to be mounted on the bottom of costumer storage tanks for liquid service. They may also be mounted on the top for vapour service.

Part Number	Material	Inlet Connection	Outlet Connection	Wrench Hex Flats	Approximate Closing Flows
					Liquid (GPM Propane)
6901900036	Steel	1-1/4"	1-1/4"	1 7/8"	55
6901900037	Steel	1-1/4"	1-1/4"	1 7/8"	70

Back Pressure Valves for Container or Line Applications

Valves are intended to prevent liquid discharge when the desired flow is directed into the vessel thereby allowing the flow in only one direction.

When coupled with the appropriate single check filler valve, the combination forms a double check filler valve suitable for use in filling of bulk storage tanks.

Part Number	Material	Inlet Connection	Outlet Connection	Wrench Hex Flats	Length	Propane Liquid Capacity at different Δ Pressure		
						5 PSIG	10 PSIG	25 PSIG
7100900051	Steel	3/4" F NPT	3/4" M NPT	1 3/8"	1-15/16" (49,2 mm)	10,75	15,7	24,5
7100900050	Steel	1-1/4" F NPT	1-1/4" M NPT	2"	2-1/2" (63,5 mm)	27,5	39,2	61,75
7100900049	Steel	2" F NPT	2" M NPT	3"	3-3/8" (83,5 mm)	121,5	171,5	270,5
7100900109	Brass	1-1/4" F NPT	1-1/4" M NPT	2"	2-1/2" (63,5 mm)	27,5	39,2	61,75

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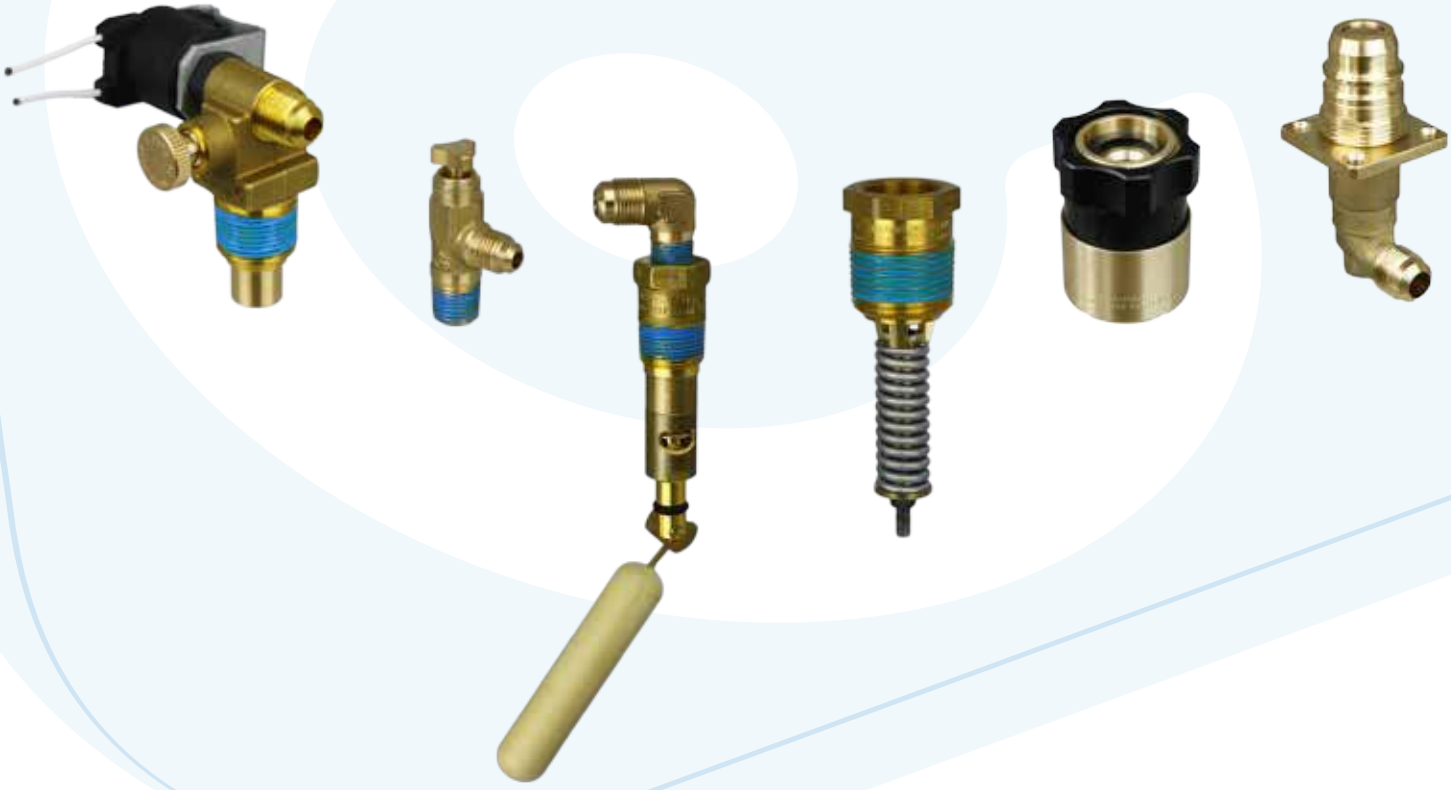
Advanced solutions for gas control

Autogas Equipment



Filler Valves

66.1154

66.0.290.1154

Direct Filler valve with OPD for Automotive Application.
Fitted with an OPD device 80% fill limiter.
Pre-applied sealant on the container connection.

66.1157

66.0.290.1157

Remote Filler valve with OPD for Automotive Application.
Incorporates standard 1 1/16" hex wrench flat that allows easy installation from the top with a socket wrench.

66.1292

66.0.290.1292

Allows the filling through the EN 12806 Euro connection.

Ordering Information

Part Number	Tank Connection	Filler Connection	Wrench Hex Flat	Inlet Connection	Specify tank diameter when ordering
66.1154	3/4" NPT	1-3/4" ACME	1-3/4"	/	*
66.1157	3/4" NPT	1/2" SAE	1-1/16"	/	*
66.1272	3/4" NPT	1/2" SAE	1-1/16"	/	*
66.1292	/	Ø30-EN12806	/	1/2" SAE FLARE	*

*** Full Range of Remote filler valves with OPD available according to tank diameter. Please specify tank diameter when ordering.**

Service Valves

73.0001

73.0.390.0001

Solenoid Service Valve: can be fitted to all tank sizes upon request.
Pre-applied sealant on the container connection.
Equipped with excess flow and manual shutoff device.
Voltage: 12V

80.2146

80.0.390.2146

Manual Service Valve equipped with an excess flow device.
Pre-applied sealant on the container connection.

Ordering Information

Part Number	Container Connection	Outlet Connection	Normal Application	Excess Flow Closing
73.0001	3/4" - 14 NPT	5/8" UNF (1/2" SAE FLARE)	RV - Automotive	1.4 GPM
80.2146	3/4" M.NGT	POL (CGA 510)	ASME Motor Fuel	2.6 GPM

Safety Relief Valves

66.1242

66.0.290.1242
Equipped with rain cap for protection against contamination.
Pre-applied sealant on the container connection.

66.1162

66.0.290.1162
Equipped with rain cap for protection against contamination.
Pre-applied sealant on the container connection.

Ordering Information

Part Number	Container Connection	Start to Discharge Setting PSIG	UL (at 120% of set pressure) Flow capacity SCFM/AIR	ASME (at 120% of set pressure) Flow capacity SCFM/AIR	Wrench Hex Flat
66.1242	1" NPT	312	1109	979	1-5/16"
66.1162	3/4" NPT	312	690	690	1-1/16"

Fixed Liquid Level Gauges

Pre-applied sealant on the container connection.
Special DT length can be ordered apart.
An optional instruction plate may be ordered for use with these valves.

66.1072

66.0.290.1072
Fixed Liquid Level Gauge

66.1161

66.0.290.1161
Remote Fixed Liquid Level Gauge

Ordering Information

Part Number	Container Connection	Outlet Connection	DT Length
66.1072	1/4" M NPT	-	12"
66.1116	1/4" M NPT	-	5.4"
66.1117	1/4" M NPT	-	6.6"
66.1118	1/4" M NPT	-	3.8"
66.1119	1/4" M NPT	-	4.1"
66.1120	1/4" M NPT	-	5.6"
66.1121	1/4" M NPT	-	6.9"
66.1204	1/4" M NPT	-	Without
66.1125	1/4" M NPT	-	5.2"
66.1161	1/4" NPTF	1/4" SAE Flare	Without

ACME / EURO Adapters

The 16.0320 adapter converts the EN 12806 connection to ACME connection.
Once installed the adapter will prevent any disconnection caused by accidental rotations of the filling head.

The 16.0331 adapter converts the ACME connection to EN 12806 connection.

16.0320
16.0.950.0320

16.0331
16.0.950.0331

Ordering Information

Part Number	Female Thread	Male Thread
16.0.950.0320	M33 x 2	1 3/4 - 6 ACME
16.0.950.0331	1 3/4 - 6 ACME	EURO EN 12806

Dual Check T-Connector

Should two tank pressures become unequal, this connector will draw LPG from the tank with the higher pressure untlil both pressures equalize;
LPG will then be drawn from both tanks.
Integrated Hydrostatic Pressure Relief Valve.

UL LISTED

66.1313
66.0.290.1313

Ordering Information

Part Number	PRV - Setting to discharge setting (PSIG)	Working Temperature	Pipe Connection	Outlet Connection
66.0.290.1313	400	-40 °F to +130 °F	3/8" SAE Flare	3/8" SAE Flare

Multivalve

Complete range from 180 to 270 (toroidal version)
and from 200 to 360 (cylindrical version)
Double safety due to the absence of transfer gears and plastic mechanisms.
Single solution for all engine capacities.

MV20

Ordering Information

Part Number	Max Working Pressure	Working Temperature	Inlet Connection	Outlet Connection
MV20	435 PSI	68 °F to +149 °F	M10 X 1 Pipe Diameter: 6mm Optional 8 mm Pipe Diameter Available	1/4 GAS

E8 ECE R67.01: E8-67R 014561 Certified

globalgreen

Euro Filler

68.0065
68.0.390.0065
Allows the filling through the EN 12806 Euro connection.
Kit includes Black Plastic Housing, Cap and Euro Filler Valve

66.1292
66.0.290.1292
Allows the filling through the EN 12806 Euro connection.

UL LISTED

Ordering Information

Part Number	Filler Connection	Inlet Connection	Specify tank diameter when ordering
66.1292	Ø30-EN12806	1/2" SAE FLARE	*

Euro Filler Spare Parts

10.0283
10.0.950.0283
Plastic Housing with Flip Door

10.0287
10.0.950.0287
Plastic Housing Assembly

10.0288
10.0.950.0288
Plastic Housing Flip Door

16.0354
16.0.950.0354
Euro Filler Plate

04.5666
04.0.110.5666
Flip Door O-RIng

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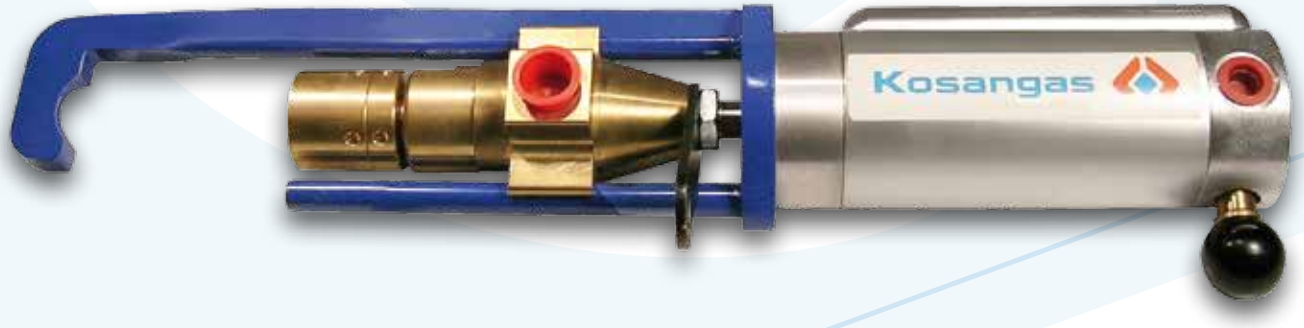
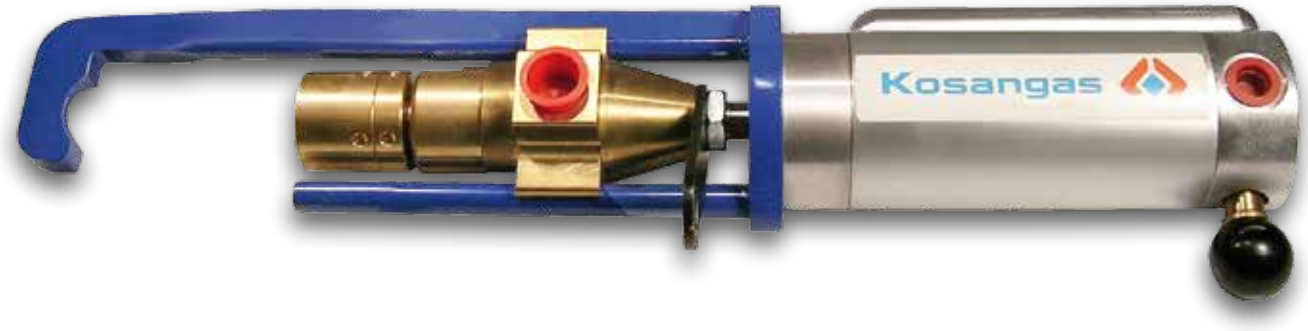
Advanced solutions for gas control

Kosan LPG Filling Heads



Kosan LPG Filling Heads



Materials and standards

The Filling Heads are made of corrosion-resistant materials such as stainless steel, brass, Aluminium and special polymers. The rubber materials are developed and manufactured according to the requirements of EN 549 as well as Kosan's own strict specifications. The Cavagna Group quality control system carries as minimum an ISO 9002 certification and is continuously assessed by QCB.

Color

The Filling Heads are supplied in the natural colors of the raw materials (brass and Aluminium) except for the clamping brace, which is painted blue to ensure full corrosion-resistance and longer durability.

Table of filling heads

Valves	Semi-Automatic	Manual
Standard Handwheel Valve Male Thread	129A001 LPG Filling Head	Not Applicable
Standard Handwheel Valve Male Thread	129A002 Refrigerant Gases Filling Head	Not Applicable
Standard Handwheel Valve POL Outlet	129A003 LPG Filling Head	Not Applicable
Omeca Coupling 66.0.290.1024	129A006 LPG Filling Head	Not Applicable
OPD Valves Type 1 ACME American Valves	129A009 LPG Filling Head	Not Applicable

LPG Filling Head

For Handwheel Valves Semi-Automatic Operated Part Number 129A001

MATERIALS AND STANDARDS

The Filling Head is made of corrosion-resistant materials such as stainless steel, brass, aluminium and special polymers. The rubber materials used are developed and manufactured according to the requirements of EN 549.

FEATURES

1. Insignificant loss of product (1 cm3) when the gas flow is cut off and the filling head is released from the cylinder valve.
2. Balanced jig for easy suspension between filling operations.
3. Easy to manually connect and disconnect. Filling is initiated simultaneously with the connection to the valve.
4. Slim design makes it easy to handle and it fits easily inside any shroud.

Color

The Filling Head is supplied in the natural colors of the raw material (brass and aluminium) except for the clamping brace which is painted in a blue color to ensure full corrosion-resistance and longer durability.

Inlet connection:
LPG: 1/4" NPT - Pneumatic air: 3/8" NPT.

Outlet connection:
Connects to standard outlet male thread valves without SRV.
Specify exact valve type when ordering.

Supply pressures:
The Filling Head is designed to operate within the normal supply pressures.
Pneumatic supply: 6-10 bar. Liquid filling product: 1-15 bar.
Filling time as per the present valve specification.

Marking:
The following information is marked on the Filling Head:
• Cavagna Group logo.
• Month and year of production.
• The code number of the Filling Head.

Packing:
The Filling Heads are individually packed in cardboard boxes with instructions.

Function and Maintenance:
The Filling Head is easy to operate. The clamping brace is placed around the neck of the cylinder valve. Once the Filling Head outlet is aligned with the cylinder valve outlet, the ball knob is pushed to allow the compressed air to fill the pneumatic cylinder. This forces the Filling Head outlet to attach the cylinder valve outlet thereby obtaining a leak tight connection and simultaneously opening the gas seal initiating the LPG flow. After completing the filling operation the handle on the side of the pneumatic cylinder is pushed and the air pressure is released thereby stopping the flow of gas and the outlet disconnects from the cylinder valve. All rubber seals inside the gas section as well as the complete pneumatic cylinder can be exchanged.

Suitable for:
A wide range of standard LPG handwheel valves without SRV.

ORDERING INFORMATION

Part Number	Inlet Connection	Outlet Connection
6882900042	LPG 1/4" AIR 3/8"	Standard Handwheel male outlet without SRV

Refrigerant Gases Filling Head

For Handwheel Valves Semi-Automatic Operated Part Number 129A002

MATERIALS AND STANDARDS

The Filling Head is made of corrosion-resistant materials such as stainless steel, brass, aluminium and special polymers. The rubber materials used are developed and manufactured according to the requirements of EN 549.

FEATURES

1. Insignificant loss of product when the gas flow is cut off and the filling head is released from the cylinder valve.
2. Includes anti-filling device opener.
3. Balanced jig for easy suspension between filling operations.
4. Easy to manually connect and disconnect. Filling is initiated simultaneously with the connection to the valve.
5. Slim design makes it easy to handle and it fits easily inside any shroud.

Color

The Filling Head is supplied in the natural colors of the raw material (brass and aluminium) except for the clamping brace which is painted in a blue color to ensure full corrosion-resistance and longer durability.

Inlet connection:
Refrigerant: 1/4" NPT - Pneumatic air: 3/8" NPT.

Outlet connection:
Connects to standard outlet male threads such as G1, G2, G4, G5, G6, G8, G11, G12 acc. to EN 12864. Valves with and without SRV.

Supply pressures:
The Filling Head is designed to operate within the normal supply pressures.
Pneumatic supply: 6-10 bar. Liquid filling product: 1-20 bar.
Filling time approx. 2 sec./Kg liquid at 7 bar differential pressure.

Marking:
The following information is marked on the Filling Head:
• Cavagna Group logo.
• Month and year of production.
• The code number of the Filling Head.

Packing:
The Filling Heads are individually packed in cardboard boxes with instructions.

Function and Maintenance:
The Filling Head is easy to operate. The clamping brace is placed around the neck of the cylinder valve. Once the Filling Head outlet is aligned with the Cylinder valve inlet, the ball knob is pushed to allow the compressed air to fill the pneumatic cylinder. This forces the Filling head outlet to attach the cylinder valve outlet thereby obtaining a leak tight connection and simultaneously opening the gas seal initiating the FREON flow. After completing the filling operation the handle on the side of the pneumatic cylinder is pushed and the air pressure is released thereby stopping the flow of gas and the outlet disconnects from the cylinder valve. All rubber seals inside the gas section as well as the complete pneumatic cylinder can be exchanged.

ORDERING INFORMATION

Part Number	INLET CONNECTION	OUTLET CONNECTION
6882900043	REFRIGERANT GAS 1/4" AIR 3/8"	Standard Handwheel male outlet with and without SRV

LPG Filling Head
For Handwheel Valves, Pol Outlet Semi-Automatic Operated Part Number 129A003

MATERIALS AND STANDARDS

The Filling Head is made of corrosion-resistant materials such as stainless steel, brass, aluminium and special polymers. The rubber materials used are developed and manufactured according to the requirements of EN 549.

FEATURES

1. Insignificant loss of product (1 cm3) when the gas flow is cut off and the filling head is released from the cylinder valve.
2. Balanced jig for easy suspension between filling operations.
3. Easy to manually connect and disconnect. Filling is initiated simultaneously with the connection to the valve.
4. Slim design makes it easy to handle and it fits easily inside any shroud.

Color

The Filling Head is supplied in the natural colors of the raw material (brass and aluminium) except for the clamping brace which is painted in a blue color to ensure full corrosion-resistance and longer durability.

Inlet connection:
LPG: 1/4" NPT Pneumatic air: 3/8" NPT.

Outlet connection:
Connect to POL - type valves with or without Pressure Relief Valves. Specify when ordering.

Supply pressures:
The Filling Head is designed to operate within the normal supply pressures.
Pneumatic supply: 6-10 bar. Liquid filling product: 1-15 bar
Filling time as per the present valve specification.

Marking:
The following information is marked on the Filling Head:
• Cavagna Group logo.
• Month and year of production.
• The code number of the Filling Head.

Packing:
The Filling Heads are individually packed in cardboard boxes with instructions.

Function and Maintenance:
The Filling Head is easy to operate. The clamping brace is placed around the neck of the cylinder valve. Once the Filling Head outlet is aligned with the Cylinder valve outlet, the ball knob is pushed to allow the compressed air to fill the pneumatic cylinder. This forces the Filling head outlet to attach the cylinder valve outlet thereby obtaining a leak tight connection and simultaneously opening the gas seal initiating the LPG flow. After completing the filling operation the handle on the side of the pneumatic cylinder is pushed and the air pressure is released thereby stopping the flow of gas and the outlet disconnects from the cylinder valve. All rubber seals inside the gas section as well as the complete pneumatic cylinder can be exchanged.

Suitable for:
All different Handwheel POL type of valves. Specify valve type and outlet when ordering.

ORDERING INFORMATION

Part Number	INLET CONNECTION	OUTLET CONNECTION
6882900044	LPG 1/4" NPT AIR 3/8" NPT	Female POL thread valves with and without SRV
6882900133 (left hand version)	LPG 1/4" NPT AIR 3/8" NPT	Female POL thread valves with and without SRV

LPG Filling Head
For Omeca Coupling 66-0-290-1024 Semi-Automatic Operated Part Number 129A006

MATERIALS AND STANDARDS

The Filling Head is made of corrosion-resistant materials such as stainless steel, brass, aluminium and special polymers. The rubber materials used are developed and manufactured according to the requirements of EN 549.

FEATURES

1. Insignificant loss off product (1 cm3) when the gas flow is cut off and the filling head is released from the cylinder valve.
2. Balanced jig for easy suspension between filling operations.
3. Easy to manually connect and disconnect. Filling is initiated simultaneously with the connection to the valve.
4. Slim design makes it easy to handle and it fits easily inside any shroud.

COLOR

The Filling Head is supplied in the natural colors of the raw material (brass and aluminium) except for the clamping brace which is painted in a blue color to ensure full corrosion-resistance and longer durability.

Inlet connection:
LPG: 1/4" NPT. Pneumatic air: 3/8" NPT.

Outlet connection:
Connects to Omeca Coupling 66-0-290-1024

Supply pressures:
The Filling Head is designed to operate within the normal supply pressures.
Pneumatic supply: 6-10 bar.
Liquid filling product: 1-15 bar.
Filling time as per present valve specification to which the coupling is connected.

Marking:
The following information is marked on the Filling Head:
• Cavagna Group logo.
• Month and year of production.
• The code no of the Filling Head.

Packing:
The Filling Heads are individually packed in cardboard boxes with instructions.

Function and Maintenance:
The Filling Head is easy to operate. The connector at the end of the clamping brace is placed around the neck of the coupling. Once the Filling Head outlet is aligned with the coupling outlet, the ball knob is pushed to allow the compressed air to fill the pneumatic cylinder. This forces the Filling head outlet to attach the coupling outlet thereby obtaining a leak tight connection and simultaneously opening the gas seals initiating the LPG flow. After completing the filling operation the handle on the side of the pneumatic cylinder is pushed and the air pressure is released thereby stopping the flow of gas and the outlet disconnects from the coupling. All rubber seals inside the gas sections as well as the complete pneumatic cylinder can be exchanged.

Suitable for:
Omeca valve 66-0-290-1024 (see illustration above).

ORDERING INFORMATION

Part Number	INLET CONNECTION	OUTLET CONNECTION
6882900047	LPG 1/4" NPT AIR 3/8" NPT	Omeca coupling 66.0.290.1024

LPG Filling Head
For Handwheel Valves, Opd-Type Semi-Automatic Operated Part Number 129A009

MATERIALS AND STANDARDS

The Filling Head is made of corrosion-resistant materials such as stainless steel, brass, aluminium and special polymers. The rubber materials used are developed and manufactured according to the requirements of EN 549.

FEATURES

1. Insignificant loss of product (1 cm3) when the gas flow is cut off and the filling head is released from the cylinder valve.
2. Balanced jig for easy suspension between filling operations.
3. Easy to manually connect and disconnect. Filling is initiated simultaneously with the connection to the valve.
4. Slim design makes it easy to handle and it fits easily inside any shroud.

COLOR

The Filling Head is supplied in the natural colors of the raw material (brass and aluminium) except for the clamping brace which is painted in a blue color to ensure full corrosion-resistance and longer durability.

Inlet connection:
LPG: 1/4" NPT - Pneumatic air: 3/8" NPT.

Outlet connection:
Connects to POL - type OPD valves with or without SRV.

Supply pressures:
The Filling Head is designed to operate within the normal supply pressures. Pneumatic supply: 6-10 bar. Liquid filling product: 1-15 bar.
Filling time as per present valve specification.

Marking:
The following information is marked on the Filling Head:
- Cavagna Group logo.
- Month and year of production.
- The code number of the Filling Head.

Packing:
The Filling Heads are individually packed in cardboard boxes with instructions.

Function and Maintenance:
The Filling Head is easy to operate. The clamping brace is placed around the neck of the cylinder valve. Once the Filling Head outlet is aligned with the cylinder valve outlet, the ball knob is pushed to allow the compressed air to fill the pneumatic cylinder. This forces the Filling Head outlet to attach the cylinder valve outlet thereby obtaining a leak tight connection and simultaneously opening the gas seal initiating the LPG flow. After completing the filling operation the handle on the side of the pneumatic cylinder is pushed and the air pressure is released thereby stopping the flow of gas and the outlet disconnects from the cylinder valve. All rubber seals inside the gas section as well as the complete pneumatic cylinder can be exchanged.

Suitable for:
OPD valves with POL female outlet.

ORDERING INFORMATION

Part Number	INLET CONNECTION	OUTLET CONNECTION
6882900050	LPG 1/4" AIR 3/8"	OPD - female POL thread valve with check-lock with and without SRV

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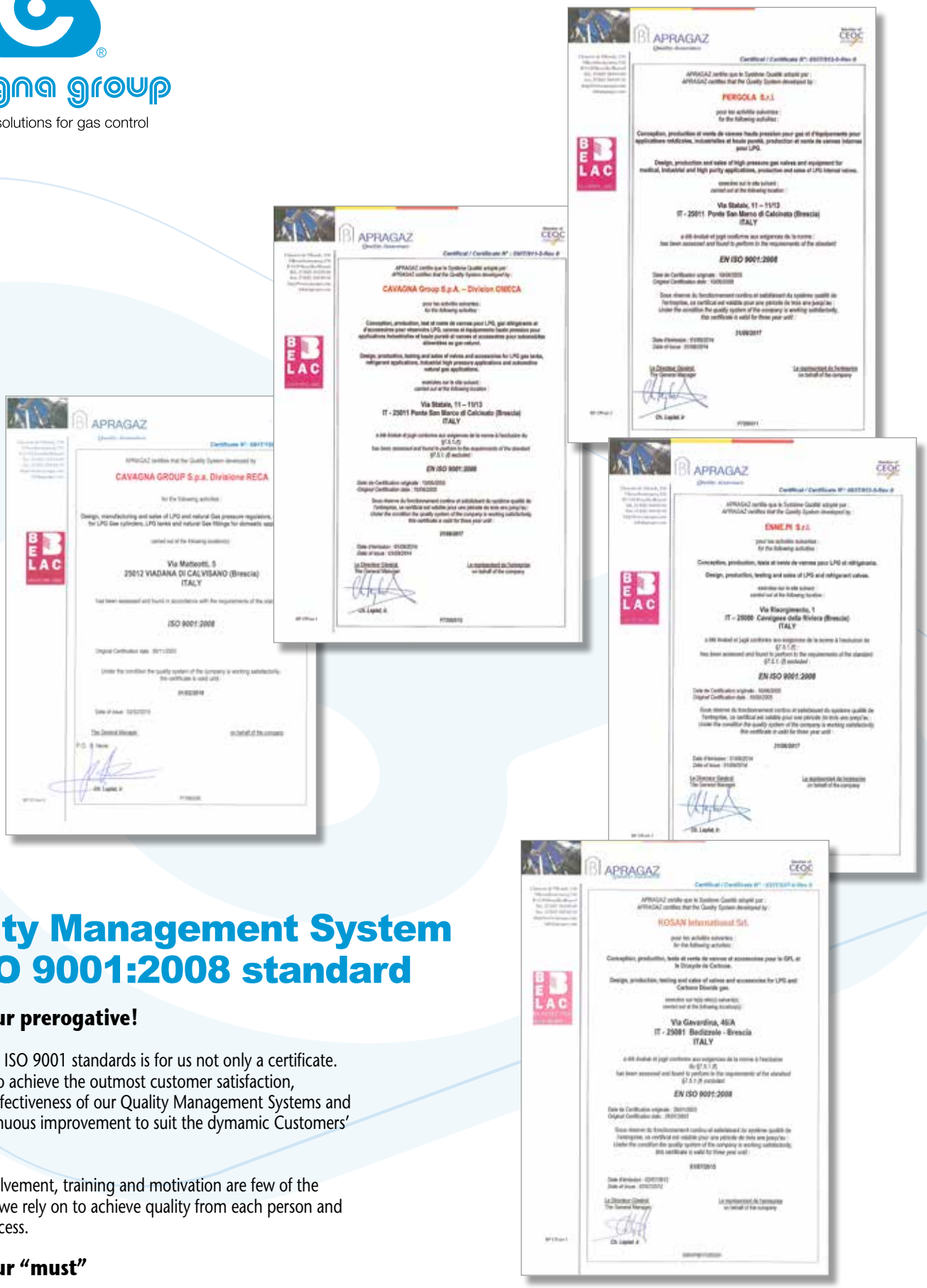

Quality Management System to ISO 9001:2008 standard

Quality: our prerogative!

Registration to ISO 9001 standards is for us not only a certificate. Our policy is to achieve the outmost customer satisfaction, through the effectiveness of our Quality Management Systems and through continuous improvement to suit the dymamic Customers' expectations.

Personnel involvement, training and motivation are few of the elements that we rely on to achieve quality from each person and from each process.

Quality: our "must"

Regulators Type Index

Valves Type Index

Technical Information Conversion Table

POWER / ENERGY		
MULTIPLY	**BY**	**TO OBTAIN**
Kilowatt	860	Kcal/h
Kcal/h	0.001163	Kilowatt
Kilowatt Hour	3,412.7	B.T.U.
B.T.U.	0.0002930	Kilowatt Hour
Kg/h gas (propane)	47,600	B.T.U.
B.T.U.	0.000021	Kg/h gas (propane)
Kilocalorie	3.9683	B.T.U.
B.T.U.	0.25201	Kilocalorie
Nm^3 natural gas	35,838	B.T.U.
B.T.U.	0.0000279	Nm^3 natural gas

PRESSURE		
MULTIPLY	**BY**	**TO OBTAIN**
PSIG (pounds/sq.in)	0.068948	Bar
Bar	14.504	PSIG (pounds/sq.in)
Inch of water	0.0024909	Bar
Bar	401.462	Inch of water
Inch of water	0.036126	PSIG (pounds/sq.in)
PSIG (pounds/sq.in)	27.680	Inch of water

TEMPERATURE		
MULTIPLY	**BY**	**TO OBTAIN**
Degrees Celsius	°F=(9/5) °C + 32	Degrees Fahrenheit
Degrees Fahrenheit	°C=5/9 (°F - 32)	Degrees Celsius
Degrees Celsius	°K=(°C + 273.16)	Degrees Kelvin
Degrees Kelvin	°C=(°K - 273.16)	Degrees Celsius
Degrees Kelvin	1.8	Degrees Rankine
Degrees Rankine	0.55556	Degrees Kelvin

MASS - WEIGHT - VOLUME		
MULTIPLY	**BY**	**TO OBTAIN**
Pound	0.453592	Kilograms
Kilograms	2.2046	Pound
Gallon	3.785	Liters
Liters	0.2642	Gallon
Cubic foot	28.317	Liters
Liters	0.035315	Cubic foot

AVERAGE PROPERTIES OF PROPANE			
Properties		**Properties**	
Formula	**C_3H_8**	MegaJoule per Kilograms of gas	**50**
Boiling Point F° (°C)	**-44 (-42)**	Kcalories per Kilograms of gas	**12000**
Specific Gravity of Gas (Air=1.00)	**1.56**	BTU per Gallon of gas	**91508**
Pound per Gallon of liquid at 60 °F (16 °C)	**4.24**	BTU per Pound of gas	**21582**

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LPG VALVES & TANK EQUIPMENT DIVISION

LPG 5 YEARS LIMITED WARRANTY

1 - Compliance of the products
Subject to the provisions of this article, the seller guarantees the compliance of the products supplied; by the term "compliance of the products" is meant that they correspond in quantity, quality, and type with what was agreed in the contract and that they are without defects that could render them unfit for the use to which they are intended to be put.

2 - Extent of the guarantee
The guarantee against defects is limited only to product defects due to defects in planning, materials or construction that can be attributed to the seller, and does not apply in the case where the buyer is unable to prove a correct preservation of the products, and neither that he has modified them without the agreement of the seller.
Furthermore, the seller is not liable for defects in product compliance due to the normal wear of those parts, which by their nature, are subject to rapid and continuous wear and tear (for example: lining, etc.).
In general, in no case is the seller liable for defects in compliance, whose cause lies in a fact subsequent to the transfer of risk to the buyer.
The present guarantee is valid only when the products are installed, used and maintained in conformity with the instructions furnished by the seller (inserted in the Warning Paper) and with the requests and dispositions of the voluntary or mandatory laws and regulations existing in the country where the products are used or, where there's no laws, in conformity with the good technical work rules of the sector.

3 - Claims
The buyer is required to control the compliance of the products and the absence of flaws. The buyer should report any flaws or defects in product compliance, in the following ways:
a) Claims for shortage or damages apparent from exterior examination of package contents must be expedited as soon as the products arrived at their place of destination or risk forfeiture;
b) claims relevant to quantity, color, quality flaws or defects or non-compliance that the buyer would be able to point out as soon as he takes possession of the goods, must be made shortly after the time when the products arrived at their place of destination and, in any event, on lapse of the guarantee not later than 15 days after that time;
c) hidder flaws, defects or non-compliance (that is, those not identifiable according to the inspection imposed by law and by the preceding subparagraph on the buyer) must be reported shortly after the discovery and in any event, on lapse of the guarantee, not later than 5 years from the delivery date.
Claims must be made by registered letter, addressed to the head office of the seller and must describe in detail the flaws or disputed non-compliance.
In order to preserve this warranty, the buyer will not execute any intervention on the product (disassembling, repair, modification, etc.) without the seller prior written agreement.
The buyer forfeits his guarantee rights if he does not consent to every reasonable control requested by the seller, or if after the seller has requested the return of the defective products at his own expenses, the buyer omits to return them within 5 working days from the request.
In the event that the claim turns out to be unfounded, the buyer will be required to reimburse the seller for all the expenses sustained by him in verifying the claim (travel, expert valuations, transport expenses etc..).

4 - Remedies
Following a report by the buyer duly made in accordance with the previous point 3, the seller, within a reasonable period having regard to the context of the claim, may, at his discretion:
a) supply ex factory to the buyer products of the same kind and quantity as those that have been proved to be defective or not in compliance with what was agreed; in such a case the seller can require the return or the defective products, which become his property.
b) declare in writing the cancellation of the contract, offering the restitution of the sum paid against the restitution of the supplied products.
No other cost (such as disassembling and/or reassembling of the products, transportation from/to the premises of buyer's customers, etc.) shall be charged to the seller.

5 - Limit of seller's liability
The guarantee contained in the previous points supersedes all legal warranty for defects and compliance, and excludes any other possible liability of the seller, however originating, from the products supplied. In particular, the buyer can not put forward another claim for compensation in respect of any further damages, reduction of the price or cancellation of the contract. Once the period of the guarantee has expired no valid claim can be made against the seller.
In no event shall seller be liable to buyer for any direct, incidental, indirect, consequential or exemplary damages, including without limitation any claim for damages based on lost revenues or profits, however caused.
No exceptions to the provisions of the present point and to the previous ones will be considered valid unless expressly and specifically defined and accepted by the parties in writing.

6 - Technical regulations
Whereas for that which concerns the product characteristics the seller complies with the legislation and the technical regulations prevailing in Italy and the European Directives, and that will be furnished on request, the buyer assumes the whole risk of any difference between the European Directives plus the Italian regulations and those of the country of destination of the products, and indemnifies the seller in respect of it, unless if they have been previously communicated to him.
The seller guarantees the performance of products of his manufacture only and exclusively in relation to uses, destinations, applications, tolerances, capacities, etc.. that have been expressly indicated by him, with the sole exception of uses, destinations and applications that, to the common knowledge acquired by normal users, are clearly and unequivocally attributable to the products in question.
The buyer is not authorised to dispose of the products supplied to him by the seller in a way which does not conform to the indications described in the previous sub-paragraph and in the instruction given by seller.
Where the buyer intends the said products to be resold, it shall be his responsibility:
a) informing his purchasers of the indications in question;
b) any further periods of guarantee he decides to grant to his purchasers exceeding the ones granted to him by Seller according to paragraph 3

7 - Personal injuries and property damages
Seller shall indemnify buyer from and against any and all claims, demands, losses, liabilities alleged by third parties relating to personal injuries and property damages suffered as a result of a defective product. In such event, seller will exclusively be responsible within the limits, terms and conditions of the product liability insurance policy held by it (a copy of the current policy is available upon request).
In case of potential damages to third parties that may arise from a defective product, the parties shall work together in good faith to determine the nature and extent of the appropriate measures to be taken, including recall operations. It is understood that the costs and expenses associated with the recall or other measures shall be paid by seller within the limits, the terms and the conditions set forth in its liability insurance policy, with the exclusion of the costs connected to the finding of the Products in the market, that will be supported by the Buyer.

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ITALY

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ITALY

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