



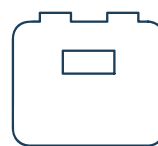
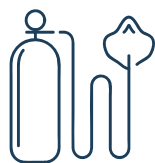
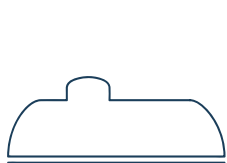
**cavagna group**

Wherever gas is used, we are there

# **Valves, Regulators & Filling Heads for Refrigerant Gases**

2022-2023 EDITION 

# Solutions



LPG  
SOLUTIONS

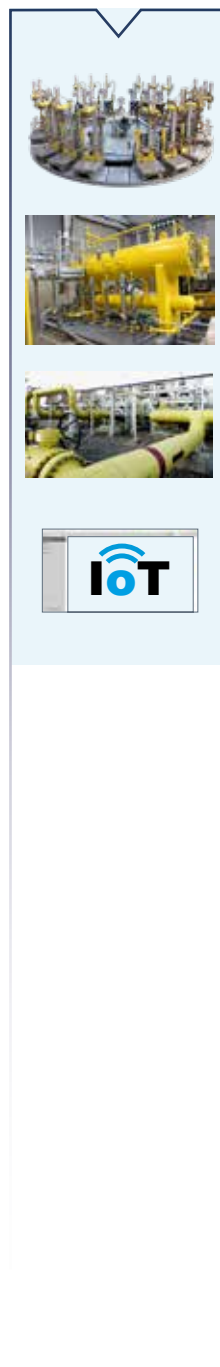
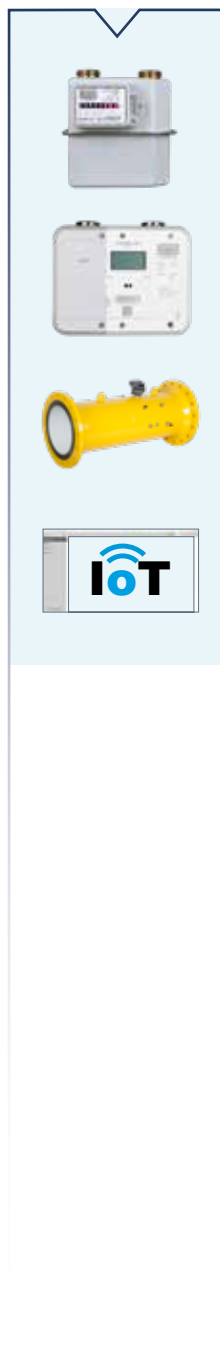
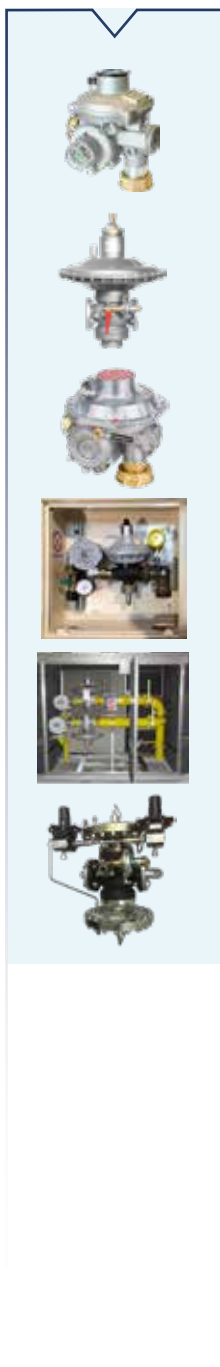
COMPRESSED GASES  
SOLUTIONS

NATURAL GAS  
SOLUTIONS

ALTERNATIVE FUEL  
SYSTEMS

GAS METERING  
SOLUTIONS

INDUSTRIAL PROCESS  
MANAGEMENT





The Cavagna Group began operation in 1949 in Northern Italy and continues to grow today. 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, Equipment and Regulators
- Engineering and Services dedicated to the LPG industry
- ASME, Fork Lift and Motor Fuel Tank Valves
- Natural Gas regulators for domestic, commercial and industrial use
- Gas meters
- Compressed Gases Cylinder Valves
- Specialty Gases Cylinder Valves
- Refrigerant Gases Cylinder Valves
- Regulation Equipment for Industrial Gases
- Regulation Equipment for Medical Gases
- Comprehensive Range of Welding, Cutting Equipment
- CNG - H2 - AUTOGAS cylinder valves and filling valves
- CNG - AUTOGAS systems

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.

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 150 countries we serve.

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

## **Valves**

Single Phase Diaphragm Valves  
Double Phase Diaphragm Valves  
Y Valves  
Valves with Backflow Prevention

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pg.4

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## **Connectors**

Connectors for Outlet valves

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## **Tubes**

Quick Connection

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pg.9



## SINGLE PHASE DIAPHRAGM VALVES for inert Refrigerant Gas

### Key Features

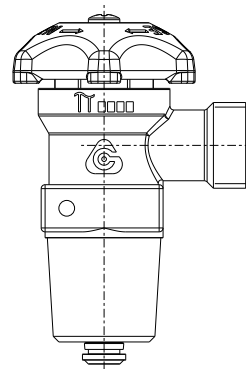
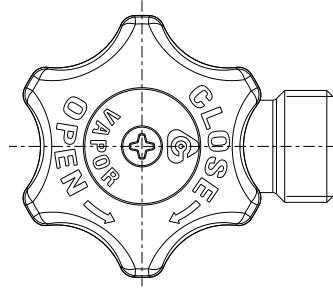
- Brass cylinder valve for refrigerant and cooling applications using halocarbons
- Permanent gas tight seal
- Spring Loaded PRV
- Tube quick connection
- Inlet thread dry sealant

### Options

- Liquid withdrawal tubes quick connection
- Anti-Filling - Rubber or Metal seal:
  - Removable
  - Unremovable
  - Breakable
- Colored plastic handwheel: red, blue
- Plastic inlet/outlet thread protection
- PRV plastic red cap
- Cartridge Spring Loaded PRV

### Specifications

<b>Test pressure</b>	800 psi
<b>Service temperatures</b>	-40°F up to +149°F
<b>Seat orifice size</b>	5/16"
<b>Helium leak rate at Pmax</b>	internal $4,3 \cdot 10^{-3}$ atm.cc/s external $4,3 \cdot 10^{-3}$ atm.cc/s
<b>Material</b>	Body: brass Handwheel: plastic Seat Pad: PA66 Diaphragm : stainless steel Withdrawal tube: PA
<b>Inlet and outlet connections</b>	Conforms to all requirements of : CGA V9 / CGA s-11 / CGA V-1 / ISO 10297



### Example product details\*

Valves	Inlet	Outlet 1	Colored Plastic Handwheel	Quick Tube Connection
7601900454	3/4"-14 NGT	CGA 660	Blue Vapor	Yes
7601900455			Red Liquid	

\* Here are some example codes that are intended for reference only, you may contact our sales department for further details.



## DOUBLE PHASE DIAPHRAGM VALVES for inert Refrigerant Gas

### Key Features

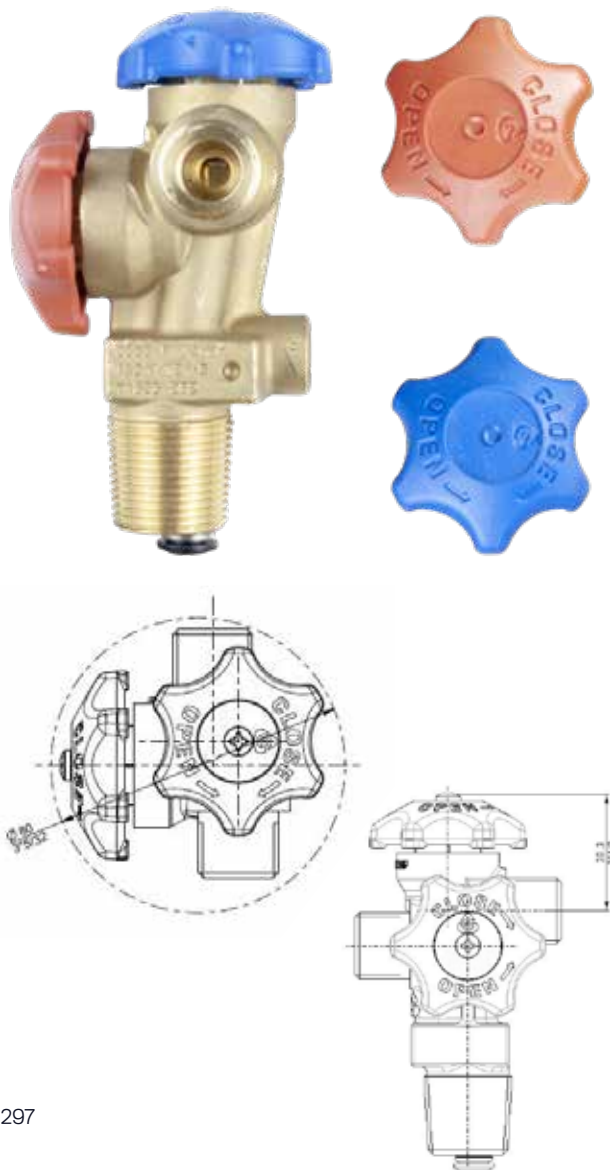
- Brass cylinder valve for refrigerant and cooling applications using halocarbons
- Permanent gas tight seal
- $\pi$  marking according TPED directive and EN ISO 10297
- Listed According UL 1769
- Spring Loaded PRV/Bursting disk
- Single or Double outlet
- Tube quick connection

### Options

- Customer's logo on label
- Cap nuts
- Liquid withdrawal tubes quick connection
- Anti-Filling (AF):
  - Removable
  - Unremovable
  - Breakable
- Colored plastic handwheel: red, blue
- Plastic inlet/outlet thread protection
- PRV plastic red cap
- Cartridge Spring Loaded PRV
- Inlet thread dry sealant
- Inlet thread PTFE tape

### Specifications

<b>Test pressure</b>	800 psi
<b>Service temperatures</b>	-40°F up to +149°F
<b>Seat orifice size</b>	5/16"
<b>Helium leak rate at Pmax</b>	internal $4,3 \cdot 10^{-3}$ atm.cc/s external $4,3 \cdot 10^{-3}$ atm.cc/s
<b>Material</b>	Body: brass Handwheel: plastic Seat Pad: PA66 Diaphragm : stainless steel Withdrawal tube: PA
<b>Inlet and outlet connections</b>	Conforms to all requirements of : CGAV9 / CGA s-11 / CGA V-1 / ISO 10297



### Example product details\*

Valves	Inlet	Outlet 1	Outlet 2	Safety Devices	Colored Plastic Handwheel	Quick Tube Connection	Homologation
<b>7601900169</b>	3/4-14 NGT	CGA 660	CGA 660	PRV 600 PSI	Blue Vapor - Red Liquid	Yes	$\pi$
<b>7601900240</b>							
<b>7601900242</b>							
<b>7601900453</b>	3/4"-14 NGT 7 Oversize						

\* Here are some example codes that are intended for reference only, you may contact our sales department for further details.



## Y VALVES for Refrigerant Gas

### Key Features

- Brass cylinder valve for refrigerant and cooling applications using halocarbons
- Double O-Ring valve operating mechanism
- Permanent gas tight seal
- Listed according UL 1769
- Spring Loaded PRV
- Single or Double outlet
- Tube quick connection
- Inlet thread dry sealant

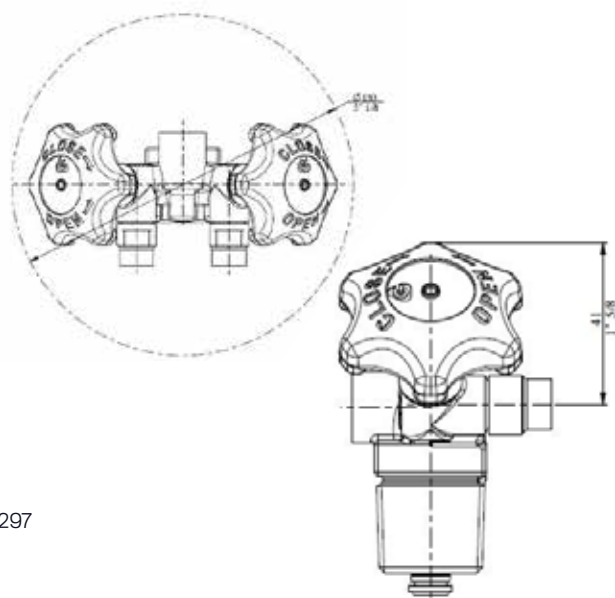
### Options

- Liquid withdrawal tubes quick connection
- Anti-Filling – Rubber or metal seal :
  - Removable
  - Unremovable
  - Breakable
- Colored plastic handwheel: red, blue
- Plastic inlet/outlet thread protection
- PRV plastic red cap



### Specifications

<b>Test pressure</b>	800 psi
<b>Service temperatures</b>	-40°F up to +149°F
<b>Seat orifice size</b>	5/32"
<b>Helium leak rate at Pmax</b>	internal $4,3 \cdot 10^{-3}$ atm.cc/s external $4,3 \cdot 10^{-3}$ atm.cc/s
<b>Material</b>	Body: brass Handwheel: plastic Seat Pad: PA66 O-ring : CR Rubber Withdrawal tube: PA
<b>Inlet and outlet connections</b>	Conforms to all requirements of : CGAV9 / CGA s-11 / CGA V-1 / ISO 10297



### Example product details\*

Valves	Inlet	Outlet 1	Outlet 2	Safety Devices	Colored Plastic Handwheel	Quick Tube Connection
<b>7601900224</b>	3/4"-14 NGT	CGA 165	CGA 165	PRV 600 PSI	Blue Liquid - Red Vapor	Yes
<b>7601900257</b>					Red Liquid - Blue Vapor	
<b>7601900445</b>		CGA 166**	CGA 166**	PRV 375 PSI	Blue Liquid - Red Vapor	
<b>7601900446</b>					Red Liquid - Blue Vapor	
<b>7601900467</b>	3/4"-14 NGT (long thread)	CGA 165	CGA 165	PRV 600 PSI	Red Liquid - Blue Vapor	

\*\*CGA 166 for flammable refrigerant gas

\* Here are some example codes that are intended for reference only, you may contact our sales department for further details.





## VALVES WITH BACKFLOW PREVENTION for Refrigerant Gas

### Key Features

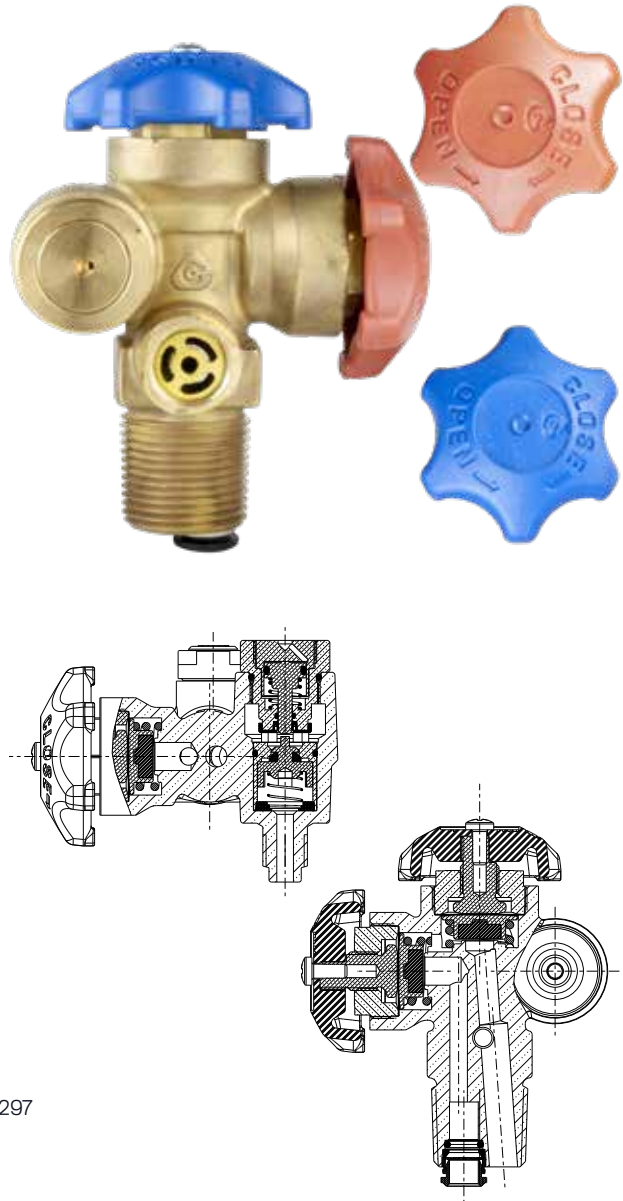
- Brass cylinder valve for refrigerant and cooling applications using halocarbons
- Permanent gas tight seal
- Listed according UL 1769
- Cartridge Spring Loaded PRV
- Single outlet
- Tube quick connection
- Pneumatic activated Anti-Filling rubber seal

### Options

- Cap nuts
- Liquid withdrawal tubes quick connection
- Colored plastic handwheel : red, blue
- Plastic inlet/outlet thread protection
- PRV plastic red cap
- Inlet thread dry sealant
- Inlet thread PTFE tape
- 7601900469 has CGA 165 outlet and for applications using HFO 12347F

### Specifications

Test pressure	800 psi
Service temperatures	-40°F up to +149°F
Seat orifice size	5/16"
Helium leak rate at Pmax	internal $4,3 \cdot 10^{-3}$ atm.cc/s external $4,3 \cdot 10^{-3}$ atm.cc/s
Material	Body: brass Handwheel: plastic Seat Pad: PA66 Diaphragm : stainless steel Withdrawal tube: PA
Inlet and outlet connections	Conforms to all requirements of : CGAV9 / CGA s-11 / CGA V-1 / ISO 10297
Flow Capacity (CV)	0.54



### Example product details\*

Valves	Inlet	Outlet	Safety Devices	Colored Plastic Handwheel	Quick Tube Connection	Homologation
7601900469	3/4 - 14 NGT	CGA 165	PRV 600 PSI	Blue Vapor - Red Liquid	Yes	and $\pi$
7601900479		CGA 166**				
7601900480		CGA 167				

\*\*CGA 166 for flammable refrigerant gas

\* Here are some example codes that are intended for reference only, you may contact our sales department for further details.



## CONNECTORS for Outlet Valves

TUBES

CONNECTORS

VALVES

**CavagnaGroup®** offers adapters for CGA 660 outlet connection.



Outlet Connction Valve	Connection Code		Connection Material
	Inlet Thread	Outlet Thread	
1.030-14 NGO RH EXT (CGA 660)	1609500027		White Plastic + Rubber
	1.035-14 NGO-RH-INT	.4375-20 UNF-2A-RH-EXT	
	CGA 165		
	1601100618		White Plastic
	1.035-14 NGO-RH-INT	.4375-20 UNF-2A-RH-EXT	
	CGA 165		
	1609500036		Blue Plastic + Rubber
	1.035-14 NGO-RH-INT	1/2" 16 ACME-2G-RH-EXT	
	CGA 167		
	1601100619		Blue Plastic
	1.035-14 NGO-RH-INT	1/2" 16 ACME-2G-RH-EXT	
	CGA 167		



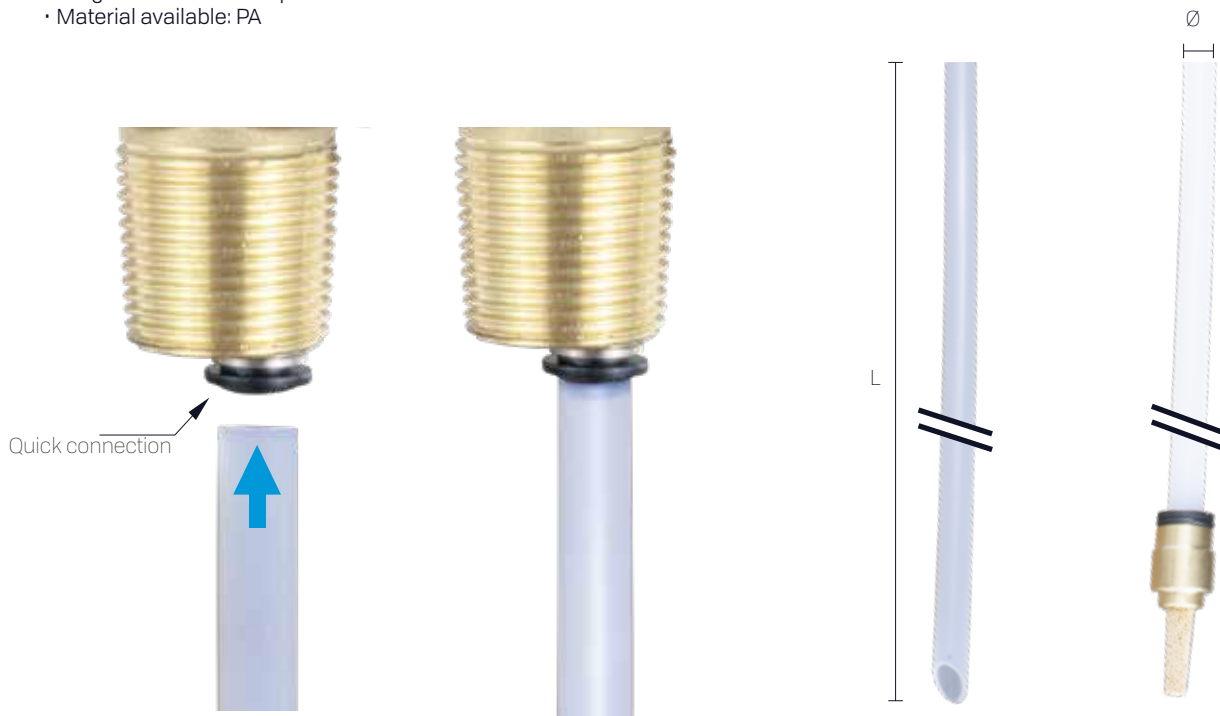


## LIQUID WITHDRAWAL TUBES Quick Connection

CavagnaGroup® offers a wide range of tubes and tools to complement its line of valves for refrigerant gas cylinders.

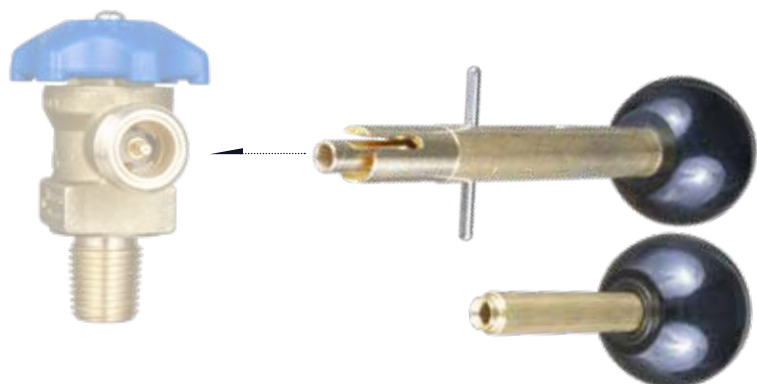
### Specifications

- Tube with or without filter
- Ø available: Ø6, Ø8 and Ø10
- Length available: on request
- Material available: PA



### Available tools to install and to remove

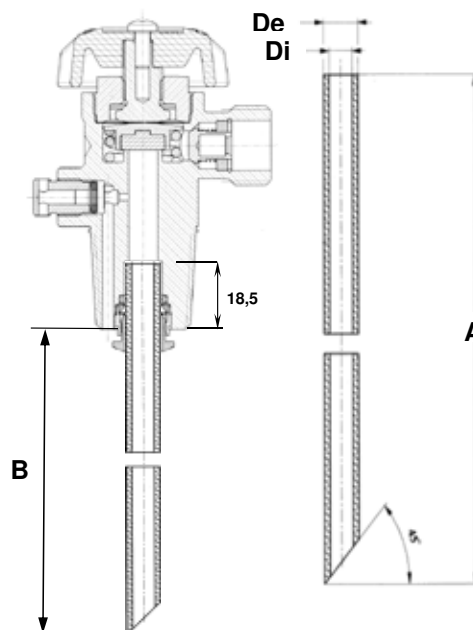
- Anti-Filling Breakable Version
- Anti-Filling Removable Version
- Anti-Filling Unremovable Version





# TUBES

## Quick Connection - External diameter 10mm

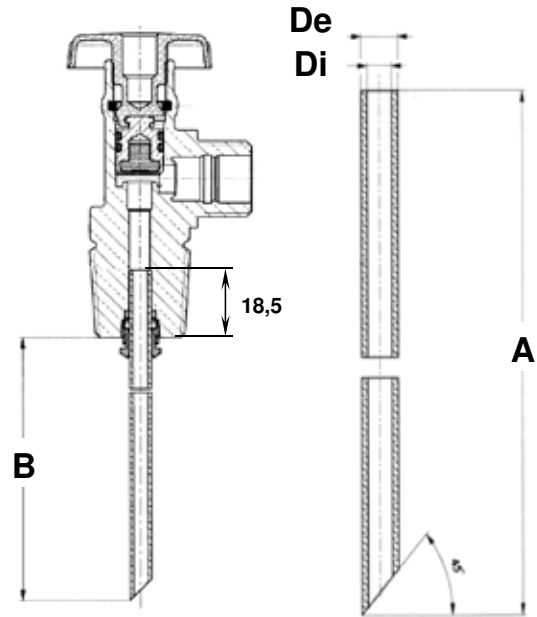


Code	Material	External Diameter "De"		Internal Diameter ("Di")		Length "A"		Assembled Length "B"	
		mm	in	mm	in	mm	in	mm	in
1201101719	PA6	10	0.39	8	0.31	280	11	261.5±2	10.3
1201101702						363.5	14.3	345±2	13.6
1201101581						433.5	17.1	415±2	16.3
1201101703						463.5	18.2	445±2	17.5
1201101745						1116	44	1097.5±2	43.2
1201101770	PA11					988.5	38.9	970±2	38.2
1201101788	PA6					1212.3	47.7	1193.8±3	47
1201101789						410	16.1	391.5±3	15.4
1201101816	PA66					1187	46.7	1168.5±3	46



# TUBES

## Quick Connection - External diameter 8mm



Code	Material	External Diameter "De"		Internal Diameter ("Di")		Length "A"		Assembled Length "B"	
		mm	in	mm	in	mm	in	mm	in
1201101571	PA6	8	0.31	6	0.24	274.3	10.8	255±2	10
1201101669	RILSAN 11					348.5	13.7	330±2	13
1201101690						373.5	14.7	355±2	14
1201101680						439	17.3	420.5±2	16.6
1201101700						463.5	18.2	445±2	17.5
1201101658						478.5	18.8	460±2	18.1
1201101682						598.5	23.6	580±2	22.8
1201101659						708.5	27.9	690±2	27.2
1201101652						853.5	33.6	835±2	32.9
1201101657						868.5	34.2	850±2	33.5
1201101679						918.5	36.2	900±2	35.4
1201101660						948.5	37.3	930±2	36.6
1201101701						978.5	38.5	960±2	37.8
1201101689						993.5	39.1	975±2	38.4
1201101655						998.5	39.3	980±2	38.6
1201101724						1078.5	42.5	1060±2	41.7
1201101653						1188.5	46.8	1170±2	46.1
1201101646						1218.5	48	1200±2	47.2
1201101654						1228.5	48.4	1210±2	47.6
1201101587						1258.5	49.5	1240±2	48.8
1201101671						1318.5	51.9	1300±2	51.2
1201101656						1378.5	54.3	1360±2	53.5
1201101780						388.5	15.3	370±3	14.6
1201101781						488.5	19.2	470±3	18.5



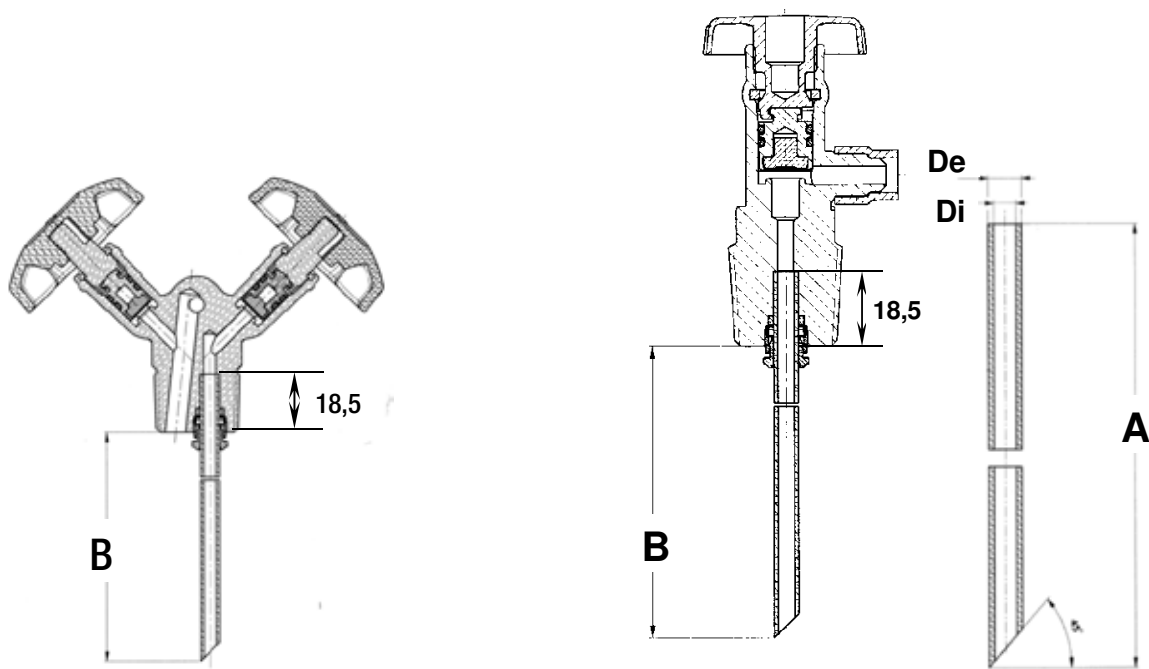
# TUBES

## Quick Connection - External diameter 10mm

TUBES

CONNECTORS

VALVES



Code	Material	External Diameter “De”		Internal Diameter (“Di”)		Length “A”		Assembled Length “B”	
		mm	in	mm	in	mm	in	mm	in
1201101570	PVDF (Kynar)	6	0.24	4	0.16	222	8.7	203±2	8
1201101573	PA6					262	10.3	243±2	9.6
1201101564						309	12.2	290±2	11.4
1201101598									
1201101562	PVDF (Kynar)					335	13.2	316±2	12.44
1201101560	PA6					339	13.3	320±2	12.6
1201101672						350	13.8	331±2	13.03
1201101568	PVDF (Kynar)					352	13.9	333±2	13.110
1201101563	PA6					358	14.1	339±2	13.35
1201101572	PVDF (Kynar)								
1201101596	PA6								
1201101597	PVDF (Kynar)					362	14.3	343±2	13.5
1201101565	PA6					369	14.5	350±2	13.8
1201101566	PVDF (Kynar)								
1201101661	PA6								
1201101561						384	15.1	365±2	14.4
1201101640						396	15.6	377±2	14.84
1201101645						439	17.3	420±2	16.54
1201101704						464	18.3	445±2	17.5
1201101593						484	19.1	465±2	18.3
1201101665						499	19.6	480±3	18.9
1201101606							634	25	615±2
1201101567	PVDF (Kynar)					641	25.2	622±2	24.5
1201101569	PVDF (Kynar)								
1201101664	PA6								
1201101604						994	39.1	975±2	38.4
1201101668						1084	42.7	1065±3	41.93
1201101683						1229	48.4	1210±3	47.64
1209500237						PA12	376.5	14.8	370±3
1209500238	476.5						18.8	470±3	18.5
1209500239	42						1.7	35.5±3	14



# WARRANTY AND LIABILITY CONDITIONS (Valid for USA and Canada)

## 1 - Compliance of the brand new products

The original seller of the brand new product (hereinafter referred to as Product) hereby warrants that the Product corresponds in quantity, quality, and type as specified in the sales contract (or, if missing, in the order's confirmation) for the Product and that the Product is without defects that could render it unfit for the use to which it is intended. The original seller of the Product is identified on the invoice for the Product and is referred to herein as the "Warrantor."

## 2 - Extent of the guarantee

The warranty is limited only to defects in the design of, materials in or construction of the Product that can be attributed to the Warrantor. The warranty does not apply in the case where the buyer is unable to prove correct storage and maintenance of the brand new products, or in the case the buyer has modified the Product without the prior written agreement of the Warrantor.

Furthermore, the Warrantor is not liable for defects in the brand new product due to the normal wear and deterioration of those parts of the Product, which by their nature, are subject to rapid and continuous wear and tear (e.g.: lining, etc.).

In general, in no case shall the Warrantor be liable for defects in compliance that arise after the transfer of risk or possession of the Product to the buyer has taken place.

The warranty is valid only when the brand new product is installed, used and maintained in conformity with the warnings and instructions provided by the Warrantor in the instruction manual or other Product literature and in conformity with the applicable laws, standards or regulations existing in the location where the brand new products are used or, in the absence of any applicable laws, standards or regulations, in conformity with the best practices in the applicable industry or trade.

## 3 - Claims

The buyer is required to check the compliance of the brand new Products and confirm the absence of flaws. The buyer should report any flaws or defects in brand new Products, in the following ways and time.

Failure to properly and timely report a defect will void the warranty:

a) Claims for shortage or damages that could have been apparent from an examination of the exterior of the Product's packaging contents must be reported as soon as the brand new Products arrives at their place of destination or, in any event, no more than 5 days after that time.

b) Claims relevant to quantity, colour, quality flaws or defects or non-compliance that the buyer should have been able to identify as soon as it took possession of the Product, must be made shortly after the time when the brand new Product arrives at its place of destination or, in any event, no more than 15 days after that time;

c) Hidden flaws, defects or non-compliance (that is, those not identifiable according to the inspection imposed by law and by the preceding subparagraphs) must be reported within 30 days after the discovery or in any event, no more than 2 years from the delivery date.

Claims must be sent by registered letter, addressed to the head office of the Warrantor and must describe in detail the alleged defect, flaw or non-compliance.

In order to preserve this warranty, the buyer must not attempt any disassembly repairs or modifications on the brand new product without the Warrantor's

prior written agreement. The buyer forfeits and waives its rights under this warranty if the buyer does not consent to every reasonable request of the Warrantor, or if after the Warrantor has requested the return of the defective brand new products at buyer's own expenses, the buyer fails to return the Product within 5 working days from the request. In the event that the warranty claim is ultimately determined, in the sole discretion of Warrantor, to be unfounded, the buyer will reimburse the Warrantor all expenses incurred by Warrantor in evaluating the warranty 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 Warrantor, within a reasonable period depending on the type of claim, may, at Warrantor's sole reasonable discretion:

a) Supply EXW to the buyer products of the same kind and quantity as those that have been proved to be defective or not in compliance with the contract; in such a case the Warrantor can require the return of the defective product, which become property of the Warrantor. In case of additional costs related to the replacement of a product proved to be defective or not in compliance, Warrantor and buyer shall jointly and previously agree how to apportion the costs.

b) Communicate in writing the cancellation of the contract, and offering a refund of the amount paid for the replaced product

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 or paid by the Warrantor, unless previously expressly agreed in writing by the Warrantor.

## 5 - Limit of seller's liability

The Warranty provided herein supersedes all legal warranty for defects and compliance, and excludes any other possible liability of the Warrantor, however originating, from the brand new products supplied by Warrantor. In particular, the buyer cannot put forward another claim for compensation in respect of any further damages, request any reduction of the contract price or cancellation of the contract. Once the period of the Warranty has expired no claim can be made against the Warrantor.

In no event shall Warrantor 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 or modification of this Warranty will be permitted unless expressly and specifically defined and accepted by the parties in writing.

## 6 - Technical regulations

As far as the brand new product characteristics and specifications are concerned, the Warrantor complies with the legislation and the technical regulations prevailing in Italy and the European Directives, unless otherwise specified in the contractual documentation (i.e. contract, order's confirmation, or invoice); The buyer assumes the risk of any difference between the European Directives plus the Italian regulations and those of the country of destination, use or installation of the Products, and indemnifies the Warrantor for any such differences it.

The Warrantor guarantees the performance of

brand new products of manufactured by Warrantor only and exclusively in relation to uses, destinations, applications, tolerances, capacities, etc... that have been expressly indicated by Warrantor and that are incorporated in the contractual documentation (i.e. contract, order's confirmation, invoice). The buyer is not authorised to dispose of the brand new Products supplied to him by the Warrantor in a way which does not conform to the indications described in the previous sub-paragraph and in the instructions given by Warrantor.

Where the buyer intends the said products to be resold, it shall be buyer's responsibility:

a) to inform the purchasers of the Product from buyer of the correct specifications and uses of the Product;

b) to grant any further periods or extended terms of any warranty provided by buyer only to buyer's purchasers that exceed the warranty granted to buyer by Warrantor according to paragraph

c) the buyer shall not grant or extend any warranty on behalf of Warrantor to any third party.

## 7 - Personal injuries and property damages

Warrantor 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, Warrantor 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 brand new product, the buyer and Warrantor 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 Warrantor within the limits, the terms and the conditions set forth in Warrantor's liability insurance policy, with the exclusion of the costs connected to the locating and retrieving the Products in the market, which will be paid by the Buyer.



## Our Global Product Brands

reca®

Kosan+<sup>®</sup>LINE



Kosangas®

omeca®



bigas  
A Cavagna Group Partner Company



greengear®  
looking ahead

VIPROXY®

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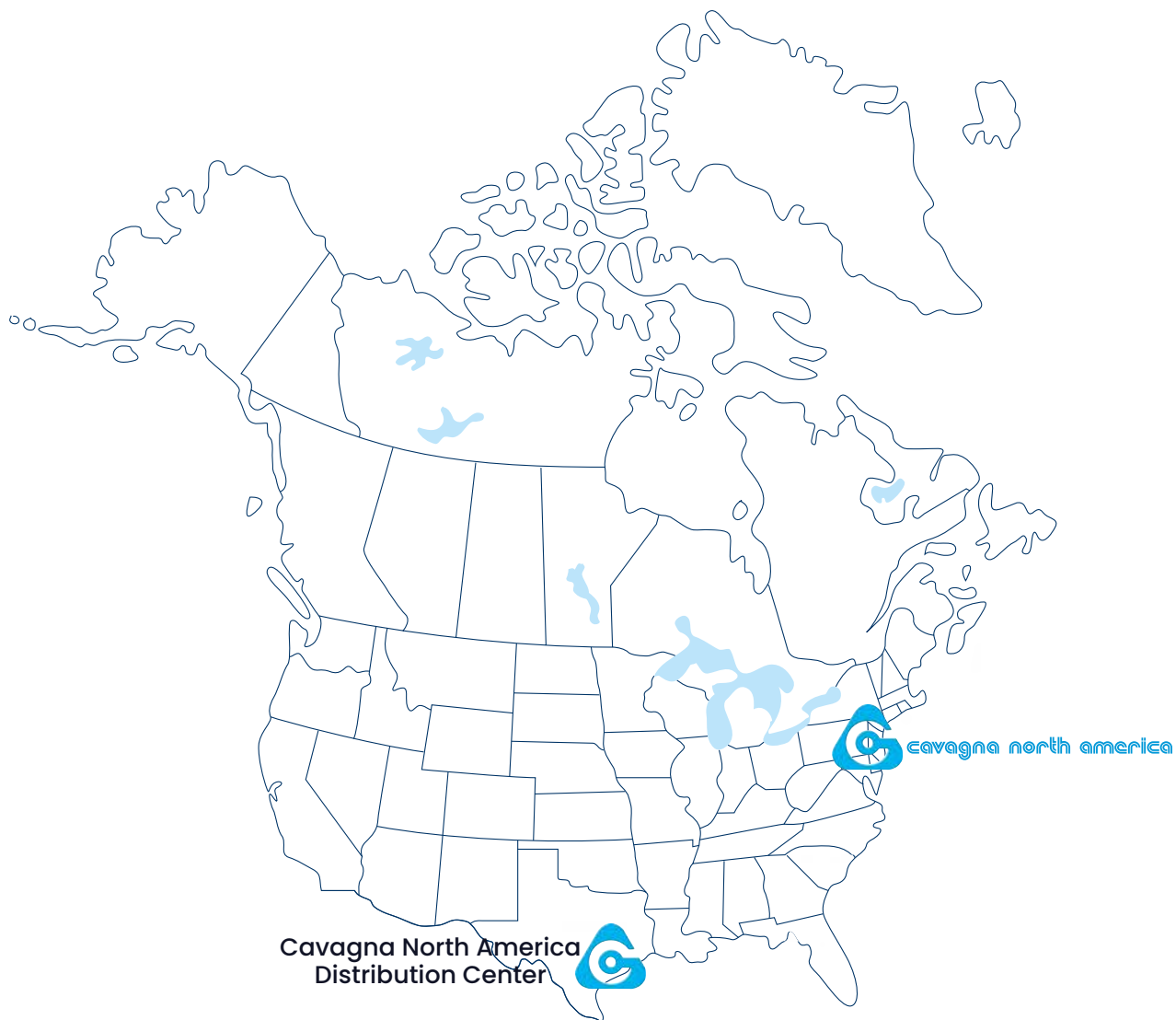




# Manufacturing Facilities



WHEREVER GAS IS USED, WE ARE THERE



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