

# CYLINDER VALVES

## North American Catalog



# GCE GROUP

The GCE Group has an extensive product range to service customers within Industrial, Medical, High Purity and Speciality Gas arenas. The GCE Group provides high quality products and world-class service support on a Global basis from its renowned central European Manufacturing base and has its main production facilities based in the Czech Republic. Distribution for North America is in Denton, TX.

## MARKET LEADERS

GCE is Europe's leading manufacturer of gas control equipment. GCE is committed to the development and manufacture of technically advanced equipment for pressure and flow control of high pressure gases. With over 100 years experience controlling high pressure gases, GCE's product range has grown to include the most advanced high purity and medical gas equipment in the World.



## GCE CORPORATE RESPONSIBILITY

GCE delivers sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own Environment, Economic and Social needs.

GCE insist upon:

- Safety of our products in the workplace
- Ethical business practices
- Sustainable usage and recycling of material

## HISTORY

The origins of GCE go back to the start of the 20th century when gas welding was first invented. The GCE Group was formed as an independent company in 1987 through the merging of two of the World's leading gas and welding companies into one independent unit. GCE has grown rapidly since its establishment and now leads the world in the provision of safe, gas handling systems and equipment. Through its extensive research and development programs GCE has set standards that have become the benchmark for the whole industry.

## GUIDING PRINCIPLES

GCE implements a Continuous Improvement Program to ensure that we will continue to provide you with world-class quality products in accordance with our core values of Safety, Quality and Innovation.

### SAFETY

The safe operation of our products in your hands is our paramount priority.

### QUALITY

GCE employees are highly skilled, trained and proficient. Our high quality focus begins with exacting suppliers, component selections and audits through exceptional manufacturing processes concluding in meticulous and rigorous testing.

### INNOVATION

We actively encourage our whole organization to identify business needs for development. We continuously explore ways to provide solutions for new and ever-changing challenges.



## INNOVATION AND CONTINUOUS IMPROVEMENT

GCE is committed to bringing the best innovative solutions to the Industrial and Medical valve markets. We excel at Continuous Design Improvement and implementation. In our industries, we are a recognized innovator.

## CYLINDER VALVES

GCE has a long and illustrious history in manufacturing and delivering safe, dependable valves, of which we are extremely proud. All the products we supply are backed by our lifetime support service and 2 year warranty.

All GCE valves are manufactured and independently tested in accordance with EN ISO standards by Presafe a recognized global testing laboratory to assure you robust and reliable service. GCE cylinder valves are manufactured in an ISO 9001 accredited, dedicated facility with a proud 100-year long tradition of gas equipment manufacture.

All valves are manufactured, tested and assured in accordance with EU directives, US and International Standards.

Each valve is then individually pressure tested as part of strict production monitoring.

## MAINTENANCE AND REPAIR

Sales and technical support from GCE is second to none.

The GCE Group integrates design features into our products to create ease-of-maintenance and ease-of-repair. For maintenance and repair support please contact Customer Care. Their contact information is listed on the back cover of this brochure.



## GLOBAL VALVE CONNECTIONS

GCE cylinder valves are available with a wide array of customer-use and fill-port connections, either to Compressed Gas Association (CGA) designations or created to a bespoke proprietary connection.

Valves with an integrated pressure regulator (VIPR) are provided with CGA connections that comply with required gas service designation.



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# INDUSTRIAL CYLINDER VALVES

GCE offers a wide range of industrial gas cylinder valves. Every GCE valve is produced, tested and packed in clean room conditions. Strict manufacturing rules and procedures are applied for the manufacture of each and every GCE industrial cylinder valves. GCE valves are manufactured with top quality materials and tooling to guarantee safe, reliability and durable usage.

GCE cylinder valves are designed to withstand the most demanding industrial environments.

Globally approved, high pressure Industrial valves are manufactured for a minimum service life of 10 years. Valves integrated with regulators (VIPR) and Residual Pressure Valves (RPV) are manufactured for a minimum service life of 15 years. Dedicated CGA connections ensure only the correct gas service is connected to for use. GCE Valves are designed to control and safely deliver all industrial gases and are available with features such as; Residual Pressure Devices (RPD), active and non-active contents gauges and a variety of fill port connections.

GCE can provide ergonomically designed and globally approved valve protection that Also available are high flow, multi-cylinder pack valves and line valves that complete the range. All GCE products meet the most stringent global testing standards.

## FEATURES / ADVANTAGES / BENEFITS

- Easy opening and closing operation
- Laser marked for identification and traceability
- Tested for global market conditions
- Full array of US and International connections available
- Working pressures up to 4400 psi
- Built in Burst Disc Safety Reliefs, Dip Tubes and Acetylene Fuse Plugs are available.



TECHNICAL DATA	
Working pressure	up to 4400 psi
Operating temperature	from -50° to 150° F
Storage and transportation temperature	from -65° to 155° F
Seat diameter	1/8"
Flow coefficient CV	0.5
Flow coefficient CV with RPV	0.3
Compliance	ISO 10297, CGA V-9



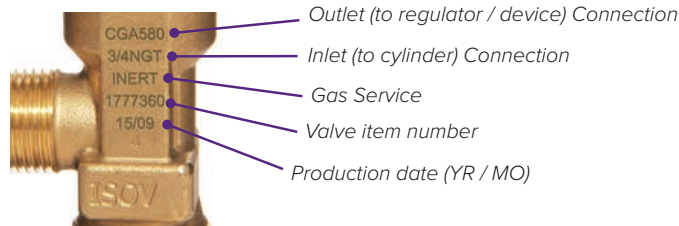
**MATERIAL AND COMPONENTS**

The materials and components are all sourced from quality assured suppliers and are ISO type test validated. Quality Assurance testing of 100% functional and leak proof to ISO 9001 in a lean manufacturing environment.

**APPLICATIONS**

GCE Standard and Residual Pressure Valves can be used for industrial gas services up to 4400 psi working pressure.

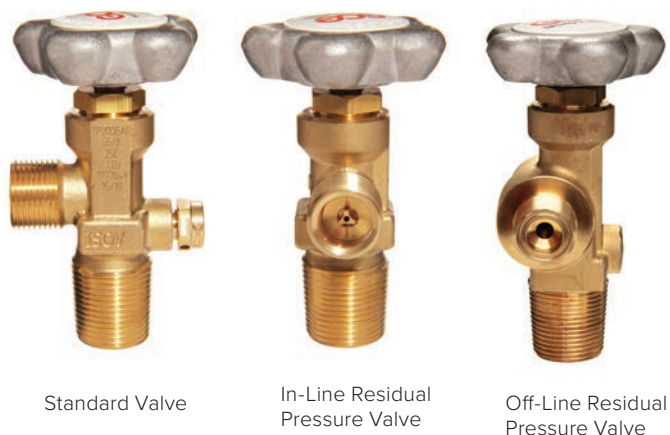
**VALVE BODY MARKINGS**



**DESIGN OPTIONS**

GCE valves can be supplied with the following additional options:

- Residual Pressure Device (RPD) with non-return gas function
- Burst Disc Safety Relief
- Aluminium or plastic handwheel
- Handwheel cap with customer branding / private labeling
- Excess flow restrictor
- Nickel or chrome plating on the body
- Teflon tape on the inlet thread
- Thread protectors
- Dip tubes (PVC, brass, copper or stainless steel)



Standard Valve

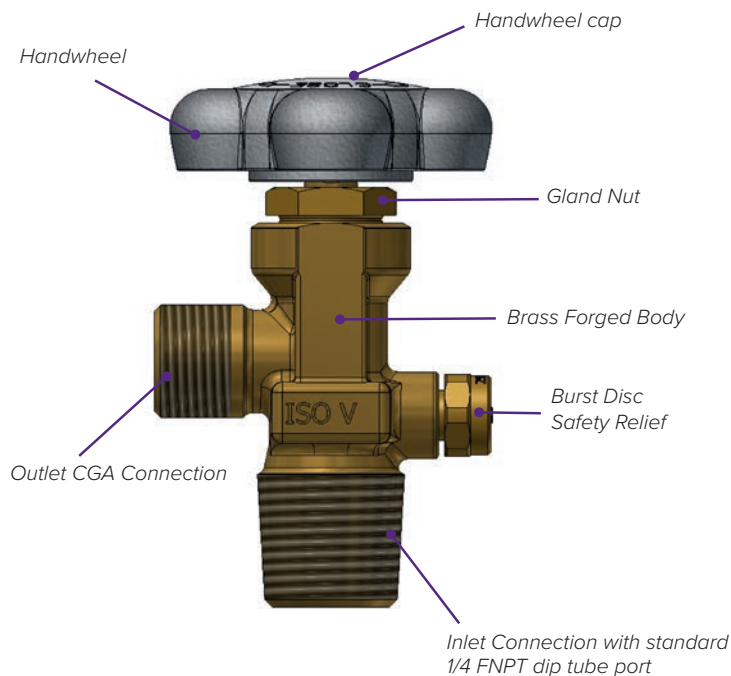
In-Line Residual Pressure Valve

Off-Line Residual Pressure Valve

**OUTLET CONNECTIONS QUICK GUIDE**

GAS	OUTLET DIMENSIONS	CONNECTIONS
ACETYLENE	.885 - 15 NGO LH INT	CGA 510
AMMONIA	3/8 - 18 NGT RH INT	CGA 240
ARGON	.965 - 14 NGO RLH INT	CGA 580
BUTANE	.885 - 14 NGO LH INT	CGA 510
CARBON DIOXIDE	.825 - 14 NGO RH EXT	CGA 320
CARBON MONOXIDE	.825 - 14 NGO LH EXT	CGA 350
CHLORINE	1.030 - 14 NGO RH EXT	CGA 660
COMPRESSED AIR	.825 - 14 NGO RH EXT	CGA 346
ETHYLENE OXYIDE	.885 - 14 NGO LH INT	CGA 510
HELIUM	.965 - 14 NGO RH INT	CGA 580
HYDROGEN	.825 - 14 NGO RH EXT	CGA 350
METHANE	.825 - 14 NGO LH EXT	CGA 350
NITROGEN	.965 - 14 NGO RH INT	CGA 580
NITROUS OXIDE	.825 - 14 NGO RH EXT	CGA 326
OXYGEN	.903 - 14 NGO RH EXT	CGA 540
REFRIGERANT	1.030 - 14 NGO RH EXT	CGA 660
SULPHUR DIOXIDE	1.030 - 14 NGO RH EXT	CGA 660

**DESCRIPTION**



# INDUSTRIAL CYLINDER VALVES



## STANDARD VALVES

Part No.	Gas	CGA Outlet	CGA Inlet	Pressure	Burst Disc (psi) / Fusible plug (F)
1777596	Acetylene	CGA 300	3/4" NGT	500 psi	212F
1777372	Acetylene	CGA 200	3/8" NGT	500 psi	212F
1777602	Acetylene	CGA 520	3/8" NGT	500 psi	212F
1777360	Argon/Nitrogen/Inert Gases	CGA 580	3/4" NGT	3000 psi	4000 psi
1777599	Breathing Air	CGA 346	3/4" NGT	3000 psi	4000 psi
1777601	Hydrogen	CGA 350	3/4" NGT	3000 psi	4000 psi
1777603	Industrial Air	CGA 590	3/4" NGT	3000 psi	4000 psi
1777158	Oxygen	CGA 540	3/4" NGT	3000 psi	4000 psi

## RESIDUAL PRESSURED VALVE - RPV

Part No.	Gas	CGA Outlet	CGA Inlet	Pressure	Burst Disc (psi)
1777677	Air	CGA 346	3/4" NGT	3000 psi	4000 psi
1777630	Argon/Nitrogen/Helium	CGA 580	3/4" NGT	3000 psi	4000 psi
1777631	Carbon Dioxide	CGA 320	3/4" NGT	3000 psi	4000 psi
1777629	Oxygen	CGA 540	3/4" NGT	3000 psi	4000 psi



## CARBON DIOXIDE (CO2) VALVE FOR SMALL CYLINDER

A smaller sized cylinder valve is ideal for small cylinders used mainly in water treatment, in-home brewing, carbonation systems and hobby aquariums.

- Reliable design
- Easy operation
- Ergonomic handwheel
- Equipped with safety burst disc and signal disc to indicate burst disc activation

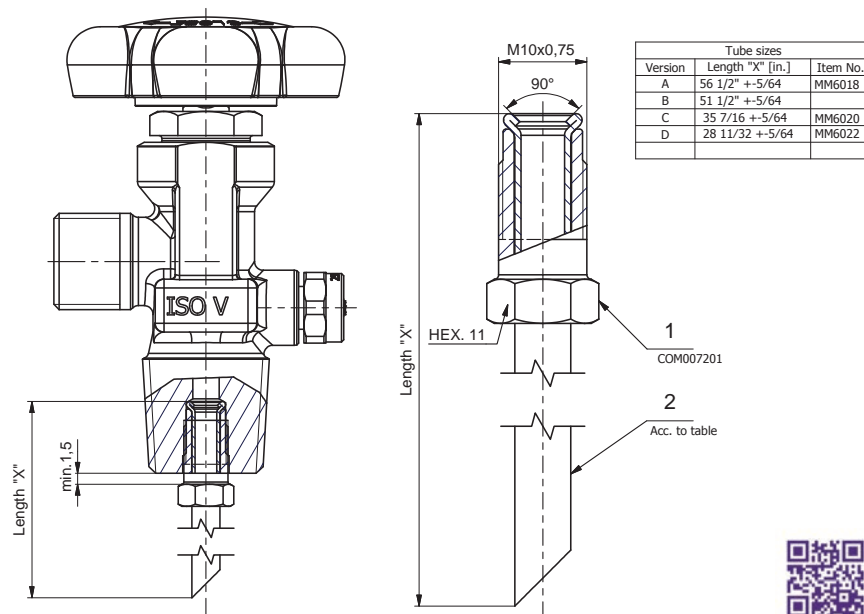


Part No.	Description
2777001	Carbon Dioxide Valve

# INDUSTRIAL GAS VALVE AND CYLINDER ACCESSORIES

## DIPTUBES

GCE dip tubes allow the cylinder valve to withdraw liquid from the bottom of the cylinder. The cylinder is liquified by the pressure, so adding the dip tube to the valve allows equal mixing of liquid and gas. The formed end of the tube ensure a positive, leak-tight connection.



For more specific technical data please visit

## FUSIBLE PLUG

Fusible plugs are for acetylene cylinders and are sensitive to excessive temperature. At a predefined range of temperature, the fuse plug material melts and opens a safe escape path for gas.

## BURST DISC SAFETY DEVICE (RELIEF)

Certain GCE valves are equipped with a Burst Disc Safety Device. These devices are a relief that cracks at predefined pressure range in order to protect cylinders against over pressurization.

## SPECIALTY VALVES



### STAINLESS STEEL DIAPHRAGM VALVE

- High Purity Gas and Ultra High Purity Services
- Easy to open and close
- Clear visibility of ON/OFF status
- Controlled opening of diaphragm



### CHARGING VALVE

High pressure cylinder valves used for pre-charged pneumatic charging system

- Quick and controlled filling
- Safety and easy to use design
- Steady charging flow



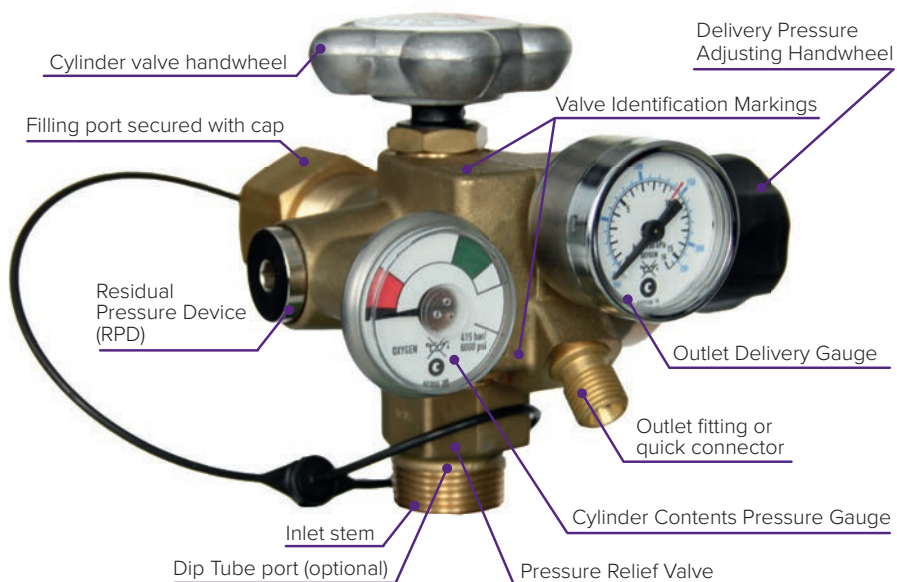
# VALVE WITH INTEGRATED PRESSURE REGULATOR - VIPR



## FEATURES AND BENEFITS

- Robust and reliable design
- Compact size
- EN ISO 22435 compliant
- Oxygen adiabatic shock-tested up to 5200 psi
- Filling port with non-return valve
- Residual Pressure Device (RPD)
- Pressure gauges for cylinder content and delivery pressures
- OPTIONS: Safety Relief Burst Disc, dip tubes and acetylene fusible plugs
- VIPR guard tested to ISO 11117

## DESCRIPTION



TECHNICAL DATA	Oxygen	Acetylene	Argon & AR/CO2 Blends	Helium
<b>Gas Service:</b>	Oxygen	Acetylene	Argon & AR/CO2 Blends	Helium
<b>Inlet pressure:</b>	2900 or 4400 psi	360 psi	2900 or 4400 psi	2900 or 4400 psi
<b>Outlet delivery:</b>	0-145 psi	0-22 psi	0-53 CFH	0-145 psi
<b>Flow rate:</b>	1060 CFH	180 CFH	53 CFH	1060 CFH



# MEDICAL CYLINDER VALVES

GCE offers a wide range of cylinder valves for all medical gases. They are produced, tested and packed in clean rooms. Strict manufacturing rules and procedures are applied for the manufacture of GCE medical cylinder valves. GCE valves use top quality materials and tools to guarantee reliability and safety.

## FEATURES / ADVANTAGES / BENEFITS

- Available in all North American standard inlet and outlet connections
- Handwheels available in different colors and materials
- Handwheel caps can be private labeled with your logo
- Optional Residual Pressure Device (RPD) available for most valves
- Variants with Burst Disc Safety Device or Dip Tube



For valves with a Residual Pressure Device (RPD) GCE offers filling adaptors that guarantee compatibility with GCE RPV cassette design. Our valves are CE marked.

TECHNICAL DATA	
<b>Gas Services</b>	O <sub>2</sub> , Air, CO <sub>2</sub> , N <sub>2</sub> O, He and others
<b>Inlet pressure</b>	Up to 4400 psi
<b>RPV closing</b>	≤ 29 psi
<b>Inlet connection</b>	Tapered or parallel threads (17E, 25E, M18x1,5 or per customer specification)
<b>Outlet connection</b>	Compliant to CGA V-1
<b>Materials</b>	Nickel and Chrome plated forged brass
<b>Operating temperature</b>	-50 °F to +149°F
<b>Storage and transport temperature</b>	-50°F to +155°F

## STANDARD CYLINDER VALVES (IN-LINE):

- Inlet pressure: up to 4400 psi
- Inlet connection: 17E, 25E, 3/4"NGT, 0.750UNF, 1.125UNF



### OPTIONS:

- Residual Pressure Device (RPD)
- Burst Disc Safety Device
- Dip tube
- Handwheel in high impact ABS or aluminium
- Handwheel with space for RF chip
- Customer logo on the handwheel cap

## STANDARD CYLINDER VALVES (OFF-LINE):

- Inlet pressure: up to 4400 psi
- Inlet connection: 17E, 25E

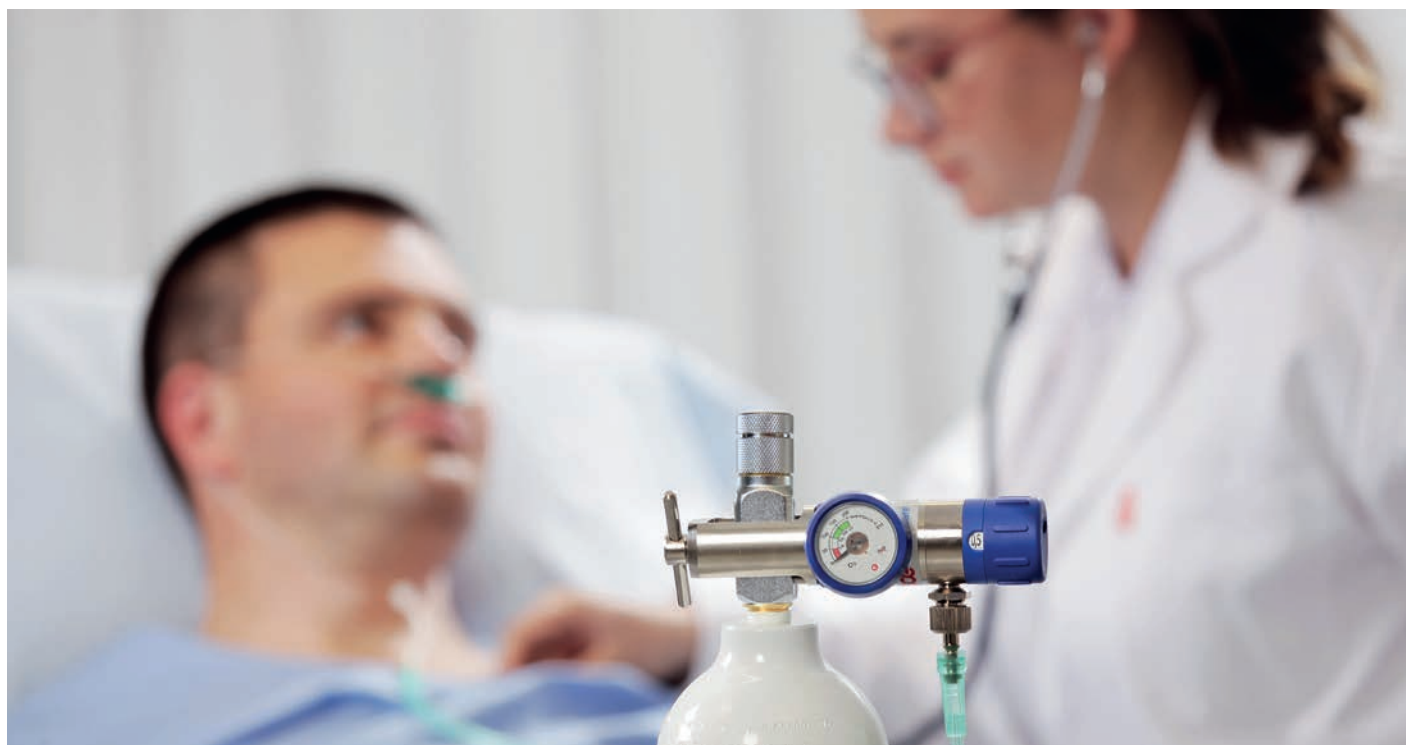


## PIN INDEX VALVES:

- Inlet pressure: up to 3000 psi
- Inlet connection: 17E, 25E, M18x1.5, 0.750UNF

### OPTIONS:

- Residual Pressure Device (RPD)
- Burst Disc Safety Device



## MEDICAL COMBINATION VALVE

# MEDIVITAL®

MediVital is a flow gauge pressure regulator integrated with a cylinder valve for use on medical gas cylinders.

## FEATURES / ADVANTAGES / BENEFITS

### 15 YEAR SERVICE LIFE

- > 15 year service life ensured by extended endurance and cycle testing
- > Patented slow opening valve
- > Hi-Shock resistant Glow in the Dark gauge
- > Patient safety ensured with flow selector designed for optimal gas flow
- > Guard design provides maximum valve protection

### USER FRIENDLY

- > Suitable for use in Homecare, Emergency and Hospital applications
- > Easy to read Flow Selector and Gauge
- > Shut off valve with clear open/closed status color coded markings
- > Ergonomic guard design allows easy handling of the cylinder package by all users
- > Compact and lightweight design less than 2.5 lbs.
- > Easy to clean guard material

### HIGHEST SAFETY

- > Testing in accordance with the following standards, EN ISO 10524-3, ASTM G175, EN ISO 10297
- > CE marked in accordance with the Medical directive 93/42/EEC and TPED 2010/35 EU
- > Phthalate and halogenated polymer free components meeting regulatory standards
- > MRI compatible up to Tesla 3
- > For use with Medical Oxygen, Air and O<sub>2</sub>/N<sub>2</sub>O up to 4400 psi working pressure



TECHNICAL DATA	
<b>Gas</b>	O <sub>2</sub> , Air, O <sub>2</sub> /N <sub>2</sub> O
<b>Inlet pressure</b>	Up to 4400 psi
<b>Outlet pressure</b>	50 to 80 psi - acc. to EN ISO 10524-3 (or per customer specification)
<b>RPV closing</b>	≤ 44 psi
<b>PRV opening and re-closing</b>	80 psi
<b>Flow ranges</b>	0-6, 0-15, 0-25 LPM
<b>Materials</b>	Metallic parts (gas wetted): brass
	Elastomers: EPDM, silicon, PUR
	Plastics: PA66, PEEK
	Springs (gas wetted): CuBe2, CuSn6
<b>Dimensions (hXwXd)</b>	6 1/32" x 4 13/32" x 4 41/64"
<b>Weight*</b>	2.5 lbs.
<b>Inlet stem</b>	Tapered or parallel threads (17E, 25E, M18x1,5 or per customer specification)
<b>Filling port</b>	ISO 5145, NEVOC or per customer specification

\* Standard Combivalve (flow control unit 0-15 LPM, flow outlet, DIN quick coupling pressure outlet) with guard.  
All technical data is for reference only and subject to modifications by the manufacturer.

## MEDICAL COMBINATION VALVE

# MEDIVITOP®

MediVitol® is a pressure regulator integrated with a cylinder valve for use on medical gas cylinders.

## FEATURES / ADVANTAGES / BENEFITS

### 15 YEARS SERVICE LIFE

- > 15 year service life ensured by extended endurance and cycle testing
- > Patented design of shut off valve integrated with flow control knob
- > Hi-Shock resistant Glow in the Dark gauge
- > Patient safety ensure with pressure selector designed for optimal gas flow
- > Guard design provides maximum protection for the valve

### USER FRIENDLY

- > Suitable for use in Homecare, Emergency and Hospital applications
- > Easy to read Flow Selector and Gauge
- > Shut off valve with clear open/closed status color coded markings
- > Ergonomic guard design allows easy handling of the cylinder package by all users
- > Compact and lightweight design less than 3 lbs
- > Easy to clean guard material

### HIGHEST SAFETY

- > Testing in accordance with the following standards, EN ISO 10524-3, ASTM G175, EN ISO 10297
- > In accordance with MDD 93/42/EEC and TPED 2010/35/EU
- > Phthalate and halogenated polymer free components
- > MRI compatible up to Tesla 3
- > For use with medical Oxygen, Air and O<sub>2</sub>/N<sub>2</sub>O up to 4400 psi working pressure



## ONE KNOB

SOV integrated with flow selectors

TECHNICAL DATA	
<b>Gas</b>	O <sub>2</sub> , Air, O <sub>2</sub> /N <sub>2</sub> O
<b>Inlet pressure</b>	Up to 4400 psi
<b>Outlet pressure</b>	50 to 80 psi - acc. to EN ISO 10524-3 (or per customer specification)
<b>RPV closing</b>	< 44 psi
<b>PRV opening and re-closing</b>	80 psi
<b>Flow ranges</b>	0-15 LPM
<b>Materials</b>	Metallic parts (gas wetted): brass
	Elastomers: EPDM, silicon, PUR
	Plastics: PA66, PEEK
	Springs (gas wetted): CuBe2, CuSn6
<b>Dimensions (hXwXd)</b>	6 <sup>57</sup> / <sub>64</sub> " × 5 <sup>35</sup> / <sub>64</sub> " × 4 <sup>27</sup> / <sub>32</sub> "
<b>Weight*</b>	2.98 lbs
<b>Inlet stem</b>	Tapered or parallel threads (17E, 25E, M18x1,5 or per customer specification)
<b>Filling port</b>	ISO 5145 or per customer specification

\* Standard Combivalve (flow control unit 0-15 LPM, flow outlet, DIN quick coupling pressure outlet) with guard.  
All technical data is for reference only and subject to modifications by the manufacturer.



Bed hanger



Bed hanger - plastic



Humidifier holder



Connecting hose



Valving tool



Filling adapter

ACCESSORIES FOR MEDICAL COMBINATION VALVES

Part No.	Description
0727421	Bed hanger (10 pcs)
0727427	Bed hanger with black plastic sleeves (10 pcs)
0727418	Humidifier holder <sup>9</sup> / <sub>16</sub> (10 pcs)
9442820	Connecting hose for humidifier holder 15 <sup>3</sup> / <sub>4</sub> " (10 pcs)
0727422	Valving tool (for inlet threads 25E, 17E, M18x1,5)
0727445	Valving tool (for inlet threads <sup>3</sup> / <sub>4</sub> UNF)
on request	Filling adapters



Bed Hanger



Humidifier Holder



Valving tool



## REGIONAL OFFICES

### EUROPE

CZECH REPUBLIC  
FRANCE  
GERMANY  
HUNGARY  
ITALY  
POLAND  
PORTUGAL  
ROMANIA  
SPAIN  
SWEDEN  
UNITED KINGDOM & IRELAND

### AMERICA

USA  
CANADA  
MEXICO  
LATIN AMERICA

### ASIA

CHINA  
INDIA  
RUSSIA



visit: [us.gcegroup.com](http://us.gcegroup.com)



GCE Group  
[www.gcegroup.com](http://www.gcegroup.com)

Please contact us for technical/sales support on addresses below:

#### **ESAB Welding & Cutting Products - US**

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Customer Care: 1-800-426-1888  
[www.esab.us](http://www.esab.us)

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