

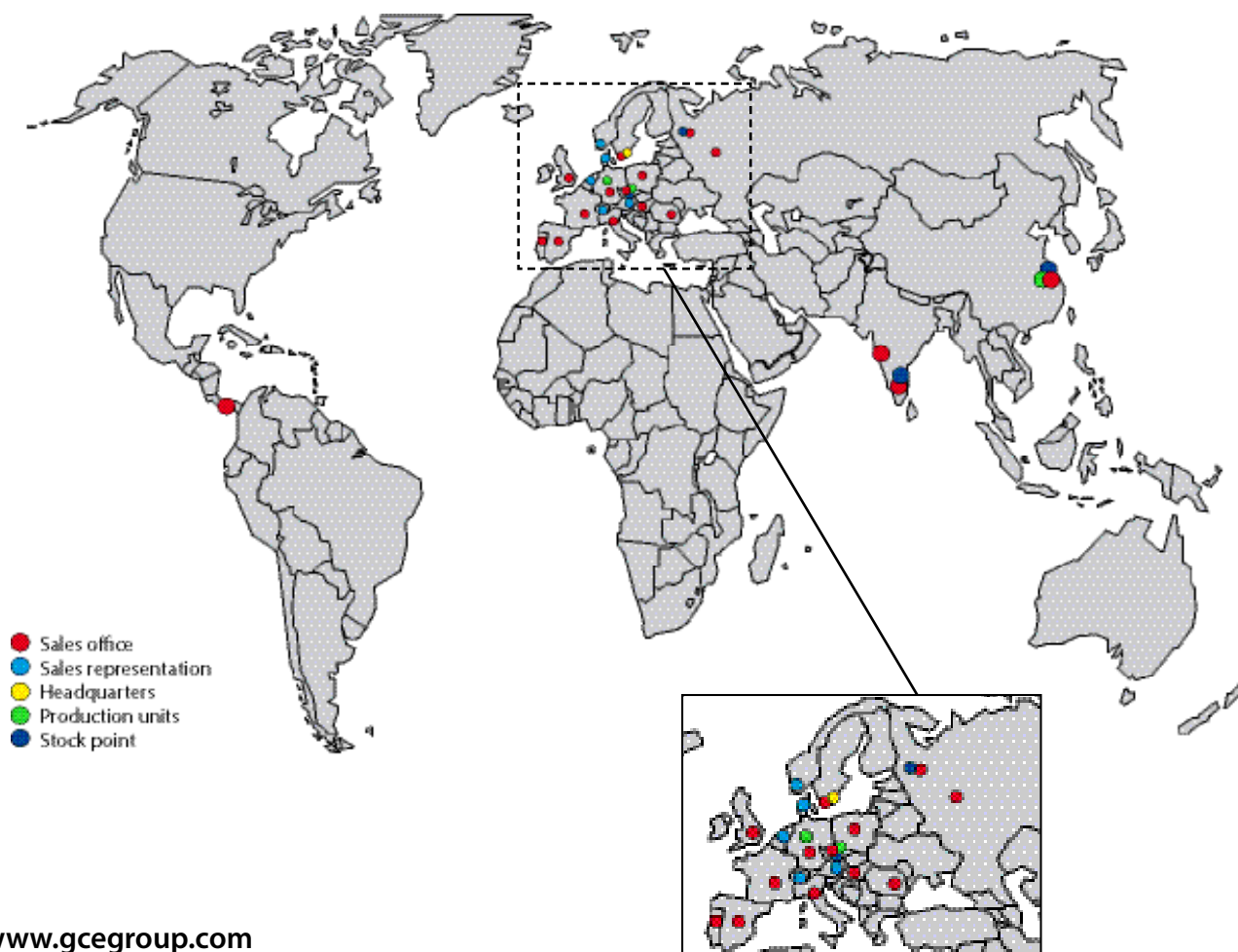


PROLINE MANIFOLDS AND OUTLETS

CENTRAL GAS SUPPLY FOR INDUSTRIAL GASES

EDITION 1/2015

GCE WORLDWIDE



www.gcegroup.com

THE GCE BUSINESS

GCE has almost 100 years of experience in the manufacture and supply of high pressure gas equipment. During this time the GCE product range has increased dramatically. Today's product portfolio fits a large variety of applications, from simple pressure regulators and blowpipes for cutting and welding to highly sophisticated gas supply systems for the medical, electronic and analytical industries.

GCE GROUP INCLUDES FOUR BUSINESS AREAS:

- Cutting & Welding
- Process Application
- Medical
- High Purity

ORIGINS

The origins of GCE (Gas Control Equipment) 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 is leading the restructuring of the European gas equipment industry through mergers and acquisitions.

Through its extensive Research and Development programs GCE has set standards that have become the benchmark for the whole industry.

GCE SERVICES

The main industrial customers for GCE are wholesalers and local distributors. However in some markets GCE distributes equipment with the full cooperation of the main gas supplier for that market. For these companies GCE provides both commercial and technical support. A significant part of the sales volume in this area also comes from key end user accounts such as shipyards, repair shops, OEM customers and welding machine manufacturers.

A COMPLETE RANGE FOR CUTTING & WELDING

GCE Group is one of the world's leading producers of industrial regulators for cutting and welding. The range covers a broad spectrum of products, for different applications, that have been designed according to the requirements of most European standards such as DIN, Afnor, BSI and Nordic.

The torch range includes products for heating, cutting, brazing and flame-cleaning applications designed in accordance with the preferences of individual markets and customers. Regulators, torches, nozzles and other products are also increasingly combined in sets and sold to users as a single package.

GCE Group is a pioneer in the field of safety equipment and currently produces a comprehensive range of flashback arrestors and hose check valves. A range of nozzles, including the longlife Coolex® nozzle, completes GCE's Cutting & Welding range.

GCE Group's ranges include various types of gas equipment enabling safe handling of gases in central gas supply systems and brewery equipment, to machine cutting products. We offer cylinder valves and combination valves, pressure control units, gas manifolds, outlet points, shut-off valves, alarm and safety units, high-pressure flexible hoses and accessories for different applications, gases, pressures and flow rates.

All products have to meet demanding requirements for rugged durability, leak-proof sealing and overall safety. Uniquely qualified in this area, GCE stands at the forefront of international development of these products.

GLOBAL LEADER IN OXY-FUEL TECHNOLOGY

With extensive experience in the development and production of machine cutting torches and cutting nozzles, GCE Group is a global leader in oxy-fuel cutting technology. The design of the products is based on GCE's extensive knowledge and expertise in the oxy-fuel area.

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CENTRAL GAS SUPPLY

Central Gas Supply Systems (CGS) are generally based on high volume gas delivery, on-site gas stocking in special containers and gas distribution from these high capacity sources up to the final applications. Gas can be delivered from the production plant either in liquefied form, mainly using cryogenic systems, or in gaseous high-compressed form mostly using steel cylinders or bundles of cylinders. When CGS is installed on-site and used, gas goes from the source (stable or mobile cryogenic vessel with vaporizer, cylinders bundle, cylinder or special container) through a high pressure manifold with a pressure regulator where the inlet pressure from the bulk is reduced to the level acceptable for a gas distribution system (GDS). GDS is usually made of mild steel, stainless steel or copper pipework transporting gas to the application. At the end of the pipeline, outlet points would be fitted to set gas parameters e.g. pressure and flow-rate according to application request. When CGS systems are installed in industrial plants, working efficiency, economic savings and safety aspects will grow in relation to increased gas consumption.

CENTRAL GAS SUPPLY SYSTEM:

- reliable supply system
- continuous gas delivery - no gas flow interruptions
- more precise gas parameters adjustment
- higher safety level because of outdoor gas storage & outdoor high pressure installation
- more space at the working place
- usually lower gas costs due to high volume delivery

GCE INDUSTRIAL CGS-PRODUCTS ARE TO BE USED IN FOLLOWING

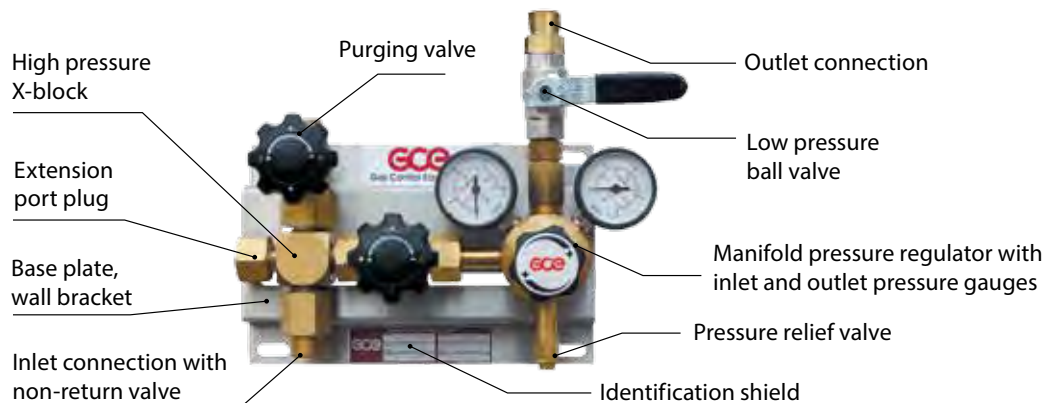
FIELDS OF ACTIVITIES:

- Automotive and transportation
- Metal & glass & plastics & paper production and fabrication
- Chemical & petrochemical industry
- Metallurgy
- Oil & gas refinery
- Off-shore & shipyards
- Ecology & environment
- Food & beverages production and packaging (see also special GCE Beverage product range)
- Craftsmen & workshops
- On-site constructions

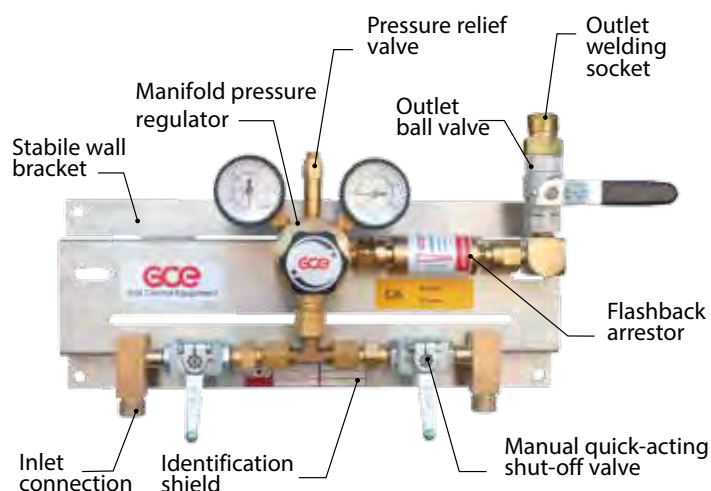
TYPICAL INDUSTRIAL APPLICATIONS:

- Flame, arc, plasma and laser welding
- Oxy-fuel, plasma and laser cutting
- Various heating processes
- Gas supply for metallurgical and chemical processes
- Glass melting and heating
- Glass & metals melting intensification
- Inertization & Neutralization
- Waste water treatment gas supply
- Food packaging

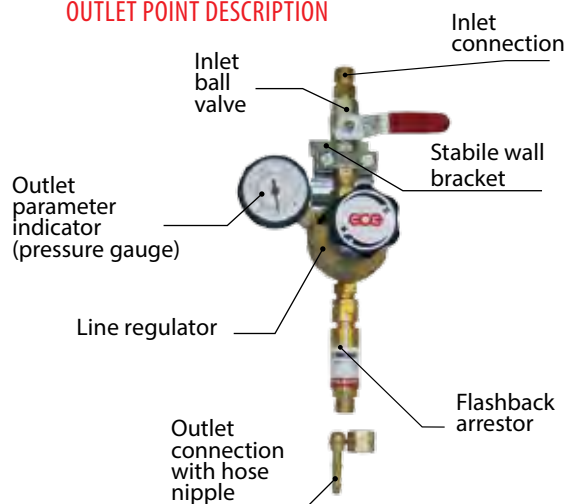
DESCRIPTION OF THE OXYGEN MANIFOLD



DESCRIPTION OF THE ACETYLENE MANIFOLD



OUTLET POINT DESCRIPTION



CENTRAL GAS SUPPLY SYSTEM SCHEME

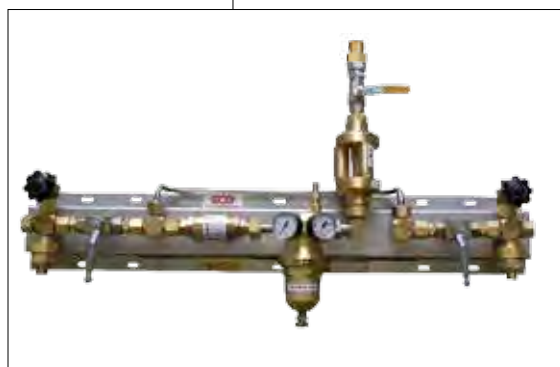
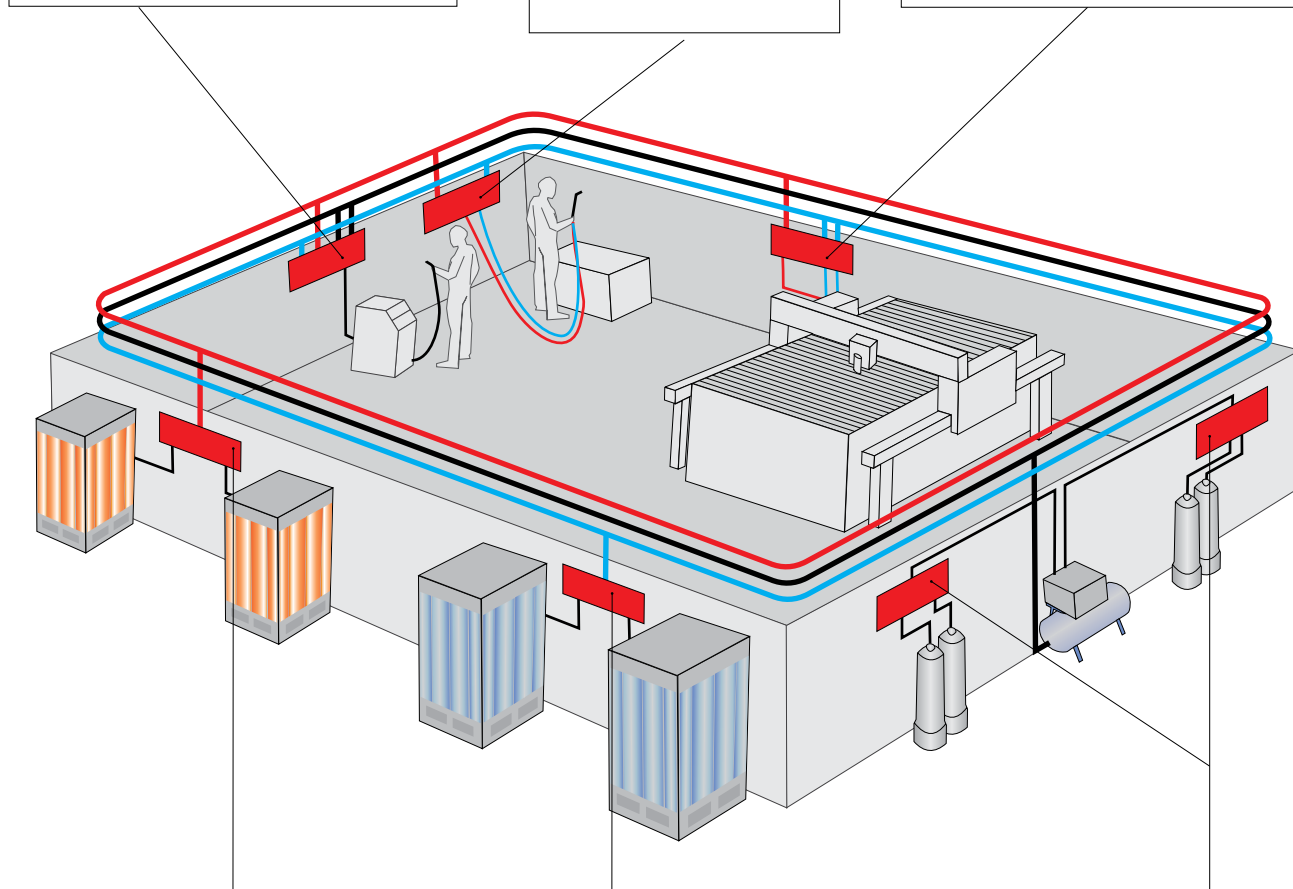
UNISET+



UNISET



HF-SET



MM400 - 2 ACE



MS400 OXY/INERT



MM70-2 OXY/INERT

HIGH PRESSURE MANIFOLDS OVERVIEW

PROLINE SINGLE CYLINDER UNIT

Gas manifolds for small- and middle-flow applications. Simple manifolds and manual changeover units, semiautomatic and automatic units.

MM70 -1



MM400-1, high flow



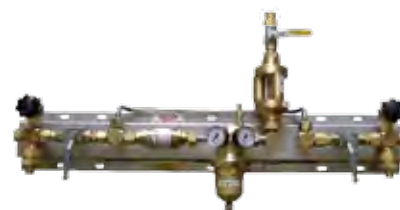
PROLINE MANUAL CHANGEOVER MANIFOLD

Gas manifolds for high-flow applications. Simple manifolds, manual changeover and semiautomatic units.

MM70-2



MM400-2, high flow



PROLINE AUTOCHANGE MANIFOLD

Compact semiautomatic gas manifolds range with Maxiflow unit. For different gases and applications, one- or double-stage design.

MAXIFLOW 2/2



MS400, high flow

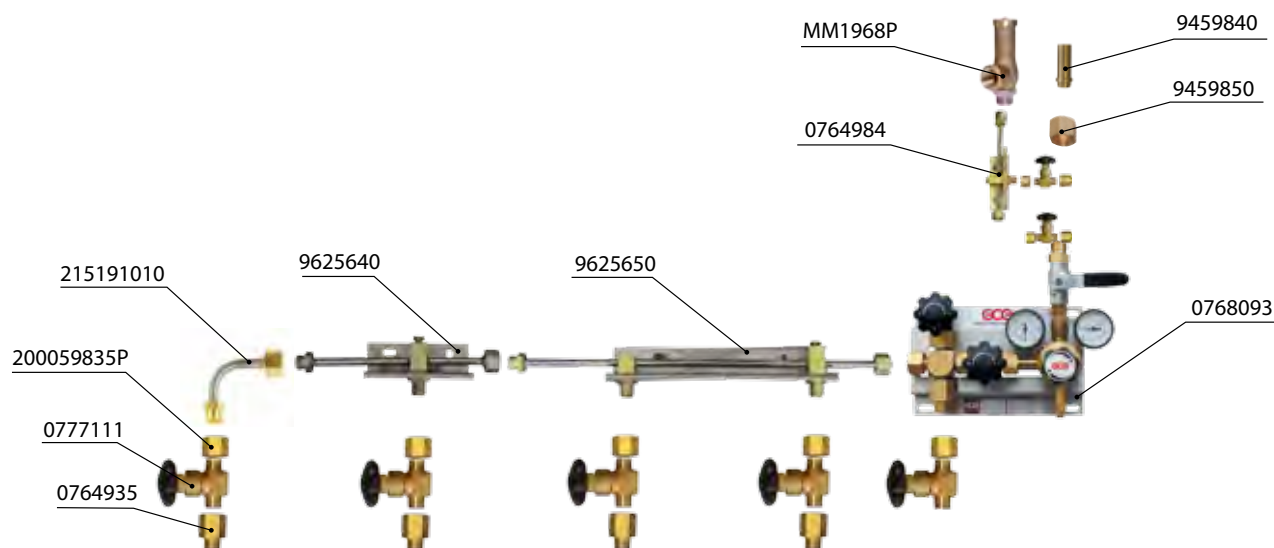


PROLINE SINGLE CYLINDER UNIT

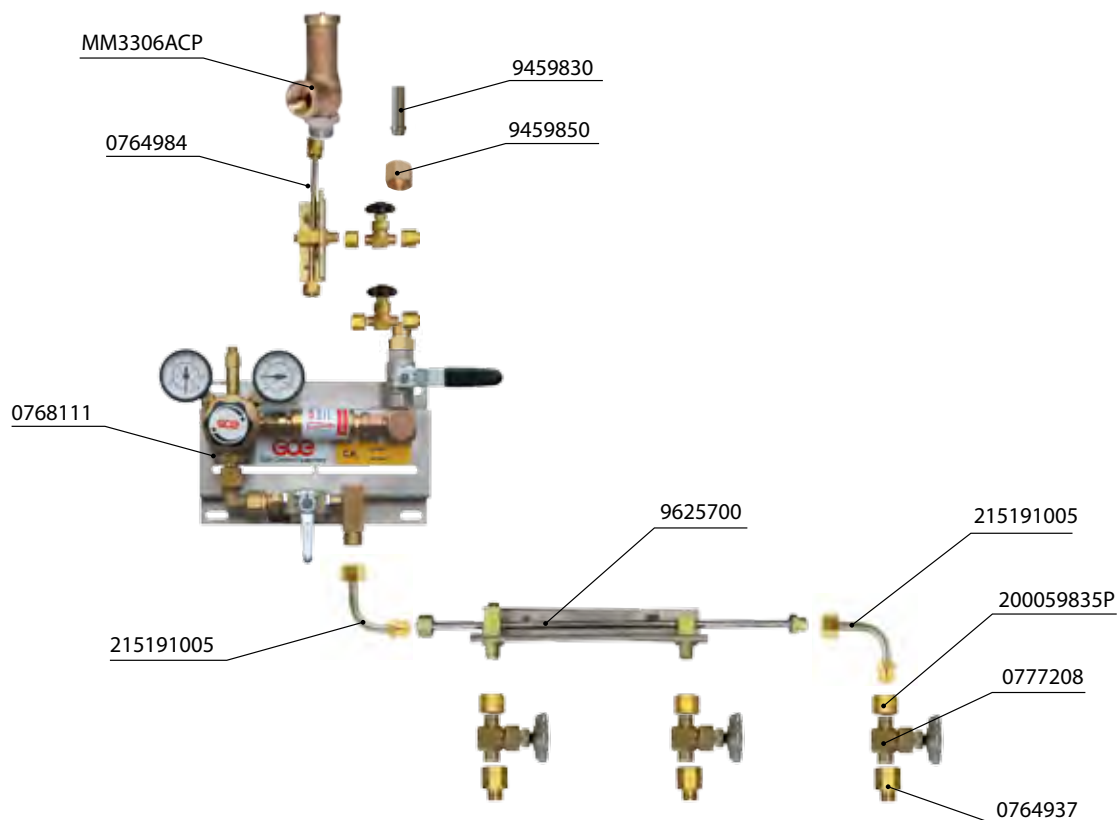
Gas manifold panels for different gases with inlet pressure up to 300bar. Manifolds contain inlet x-block with non-return valve and filter, purge valve and second inlet from site with the potential to install extension units. Purge valves can be used for pressure release when cylinder/bundle hose is disconnected. There is also a high pressure shut-off valve, regulator with pressure relief valve and outlet ball valve mounted on the stainless steel panel.

Acetylene variant of MM70-1 manifold for cylinder service. It is designed and produced in accordance with ISO 14 114. There is a manual quick acting shut-off valve upstream of the regulator. There is a flashback arrestor GVA 90 (EN 730-1, ISO 5175) mounted downstream of the regulator and also an outlet ball valve.

MM70-1 for 5 Oxygen cylinders with SE-2, SE-1, shut-off valves and non-return valves



MM70-1 for 3 Acetylene cylinders with SE-2, shut-off valves and non-return valves



MM70-1 MANIFOLD UNIT

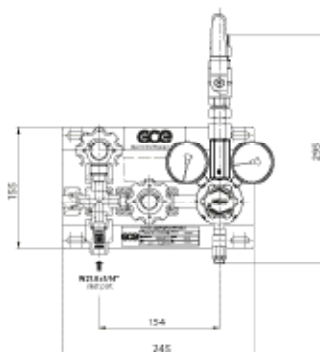


O, D, N, CO₂, H, P

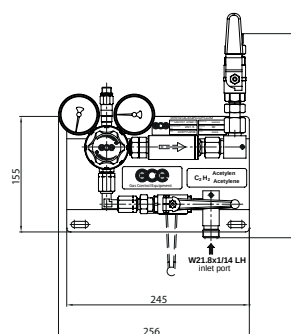


Acetylene

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0768093	MM70-1	O, D, N, CO ₂ , 300/20 bar	W21,8x1/14"	DN15, G1/2"
0768142	MM70-1	O, D, N, CO ₂ , 300/40 bar	W21,8x1/14"	DN15, G1/2"
0768168	MM70-1	O, D, N, CO ₂ , 300/100 bar, JC600	W21,8x1/14"	DN4, W21,8x1/14"
0768094	MM70-1	Hydrogen/methan, 300/20 bar	W21,8x1/14"LH	DN15, G1/2"
0768096	MM70-1	Propane, 25/4 bar	W21,8x1/14"LH	DN15, G1/2"
0768111	MM70-1	Acetylene, 25/1,5 bar	W21,8x1/14"LH	DN15, G1/2"



O, D, N, CO₂, H, P



Acetylene

SE LINE HEADERS

High pressure manifold extension unit. SE-line manifolds contain collecting tubes in adjustable positions. The axial distance between the tube and wall bracket is changeable. This enables SE-line application for both M70 line and M400 line manifolds. The tube and the wall bracket are made of stainless steel. The connection blocks are made of brass. One block will always include an outlet connection for the optional fitting of a gauge or contact alarm gauge.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
9625640	SE-1	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625690	SE-1	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625650	SE-2	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625700	SE-2	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625660	SE-4	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625710	SE-4	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH



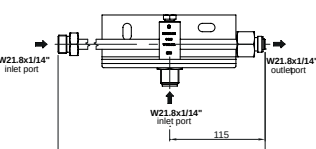
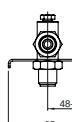
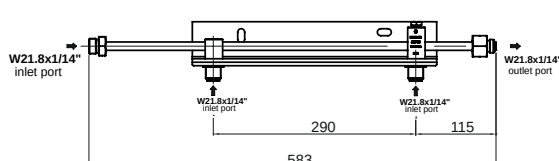
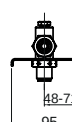
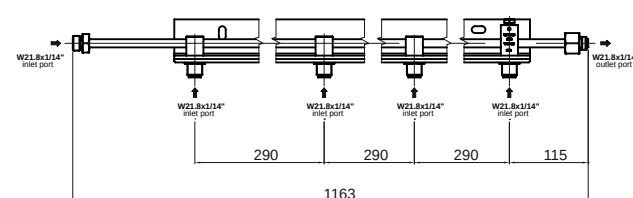
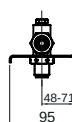
9625640



9625650



9625660



SHUT-OFF VALVES DN4 FOR EXTENSION HEADERS



SOV DN4 should be used for extension modules of M70 Line manifolds. BV 300 DN8 are designed for M400 Line manifolds.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0777111	SOV DN4	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"LH
0777112	SOV DN4	H, M, P, 300 bar	W21,8x1/14"LH	W21,8x1/14"
0777208	SOV DN4	Acetylene, 25 bar	W21,8x1/14"LH	W21,8x1/14"

HIGH PRESSURE ACETYLENE BALL VALVE



High pressure acetylene isolating valve and manual quick acting shut-off valve according to ISO 14114 and ISO 15615.

Art. Nr.	Connection
SPP27990018	3/8"

NON RETURN VALVES



Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0764935	Non return valve	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
0764936	Non return valve	H, M, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
0764937	Non return valve	Acetylene, 25 bar	W21,8x1/14"LH	W21,8x1/14"LH
0764976	Non return valve	Propane, 20 bar	W21,8x1/14"LH	W21,8x1/14"LH

CYLINDER WALL BRACKET



Art. Nr.	Description
14037116	for 1 cylinder
14037117	for 2 cylinders
14037118	for 3 cylinders

HIGH PRESSURE ACCESSORIES



Art. Nr.	Description	Gas, Max. pressure	Inlet	Outlet
215191005	Tube 90° SS	A, P, H, M; 300 bar	W21,8x1/14"LH female	W21,8x1/14"LH male
215191010	Tube 90° SS	O, D, N, CO ₂ ; 300 bar	W21,8x1/14" female	W21,8x1/14" male
200059835P	Double nut	All gases; 300 bar	W21,8x1/14"	W21,8x1/14"LH
215191081	Plug with nut	A, P, H, M; 300 bar	W21,8x1/14"LH	
215191080	Plug with nut	O, D, N, CO ₂ ; 300 bar	W21,8x1/14"	
0764982	Manifold adaptor for flexible hose - O, D, N, CO ₂			
0764983	Manifold adaptor for flexible hose - A, P, H, M			
311837121815P	Alu sealing gasket (package of 5 pcs), 18x12,0x1,5			
311325111032P	Cu sealing gasket (package of 10 pcs), 18x12,7x1,5			

GAS PREHEATER - GGP 200



Inlet pressure up to 300bar for inert gases. The expansion of high compressed gases i.e. CO₂ and argon CO₂ mixtures can cause freezing in regulators. This could require a gas preheater to prevent freezing of the pressure regulator and other components of gas manifolds. Use of a preheater is recommended for higher stability of gas flow in central gas supply systems. GGP 200 is a reliable CE marked product.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
H28054801	GGP 200	Oxygen / Inert, 300 bar	W21,8x1/14"M	W21,8x1/14"F

TECHNICAL DATA

Power supply	230 V - 50 Hz
Heating power	200 W
Connecting plug	IP 44 with 2 m cable
Protection class	IP 44
Max. working temperature	40°C, +/-3°C
Safety switch	80°C, +/-5°C
Outer diameter	90 mm
Length	aprox 150 mm
Weight	aprox 2,3 kg

OUTLET CONNECTIONS



Purge valve blow-out tube for M70line and M400line manifolds. Inlet connection with sleeve nut, W21,8x1/14". UC500 Pressure relieve valve outlet should be mounted at MM70 Line manifolds to be connected with evacuating pipe.

Art. Nr.	Description
0764896	Purge valve outlet W21,8x1/14"
9449810	UC500 pressure relieve valve outlet

HIGH PRESSURE FLEXIBLE HOSES



The high pressure flexible hoses are produced in accordance to ISO 14113. The PTFE inner liner is covered by stainless steel braided mantle. Cylinder and manifold connectors are made of brass. The hose for oxygen service contains heat sink at the manifold end.

Art. Nr.	Gas type	Pressure	Lenght	Specification
MM2598	Oxygen	300 bar	1000 mm	Incl. heat sink
MM2532	Argon, Nitrogen	300 bar	1000 mm	
MM3364	CO ₂	300 bar	1000 mm	
MM2537	Hydrogen, Propane	300 bar	1000 mm	
MM3513	Acetylene	30 bar	600 mm	Incl. non-return valve

SAFETY RELIEF VALVES



Safety relief valves protect pipe works and components of the gas supply system against abnormal pressure increase. They are CE marked and produced and tested according to PED 97/23/EC.

Art. Nr.	Gas type	Opening pressure	Inlet	Outlet
MM1968P	O, D, N, CO ₂ , H	28 bar (406 psi)	G 1/2" m	G3/4"F
MM3401P	N (Argon, Nitrogen)	52 bar (754 psi)	G 1/2" m	G3/4"F
MM3382P	P (Propane)	6 bar (87 psi)	G 1/2" m	G3/4"F
MM3306ACP	A (Acetylene)	1,9 bar (27,5 psi)	G 1/2" m	G3/4"F

SAFETY VALVE MOUNTING KIT



It is adaptor for easy and stabile installation of the safety valve downstream the high pressure manifold.

Art. Nr.	Gas type	Connections
0764984	All	G 1/2"

WELDING AND BRAZING SOCKETS G1/2"



Accessories for 70-line manifolds according to EN 560.

Art. Nr.	Material	Out diam.	Lenght
9459830	Stainless steel	14 mm	50 mm
9459840	Brass	14 mm	50 mm
4A38550P	Carbon steel	14 mm	50 mm

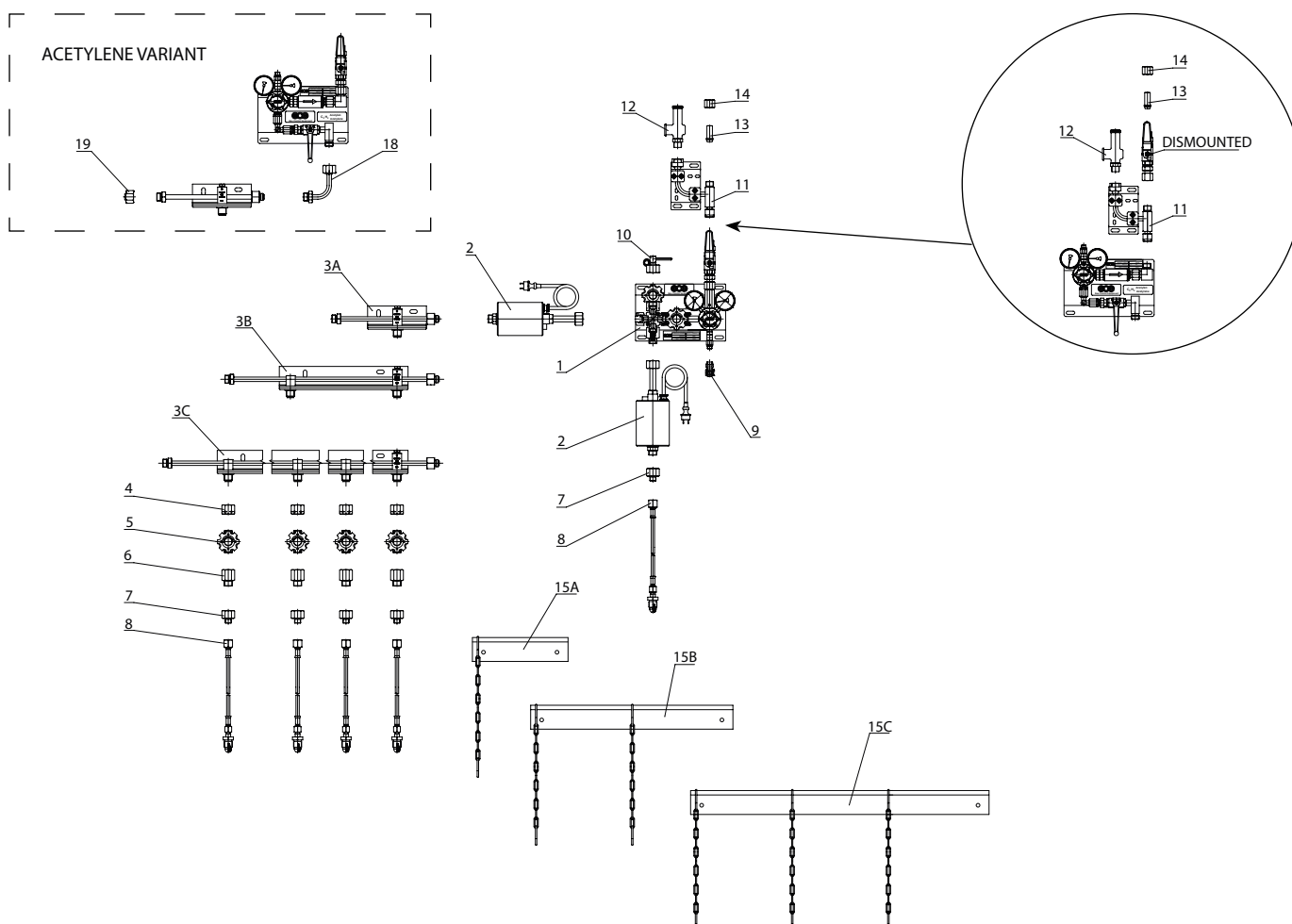
SLEEVE NUTS



Accessories according to EN 560.

Art. Nr.	Material	Connection
9459850	Brass	G1/2"

Pos.	Item	Oxygen 300/20bar	"Argon 300/20bar Nitrogen 300/20bar"	"Argon 300/40bar Nitrogen 300/40bar"	CO ₂ 300/20bar	Hydrogen 300/20bar	Propane 25/4bar	Acetylene 25/1,5bar
1	MM70-1	0768093	0768093	0768142	0768093	0768094	0768096	0768111
2	Preheater	x	x	x	19008004	x	x	x
3/A	SE-1	9625640	9625640	9625640	9625640	9625690	9625690	9625690
3/B	SE-2	9625650	9625650	9625650	9625650	9625700	9625700	9625700
3/C	SE-3	9625660	9625660	9625660	9625660	9625710	9625710	9625710
4	Double nut	200059835P	200059835P	200059835P	200059835P	200059835P	200059835P	200059835P
5	Shut-off valve	0777111	0777111	0777111	0777111	0777112	0777112	0777208
6	Non-return valve	0764935	0764935	0764935	0764935	0764936	0764976	0764937
7	Hose Adaptor	0764982	0764982	0764982	0764982	0764983	0764983	0764983
8	Flexible hose 1000 mm	MM2598	MM2532	MM2532	MM3364	MM2537	MM2537	MM3436
9	PRV adaptor	9449810	9449810	9449810	9449810	9449810	9449810	9449810
10	Purge valve outlet	0764896	0764896	0764896	0764896	0764896	0764896	x
11	Safety valve adaptor	0764984	0764984	0764984	0764984	0764984	0764984	0764984
12	Safety valve	MM1968P	MM1968P	MM3401P	MM1968P	MM1968P	MM3382P	MM3306ACP
13A	Outlet pipe adaptor - carbon steel	4A38550P	4A38550P	4A38550P	4A38550P	4A38550P	4A38550P	4A38550P
13B	Outlet pipe adaptor - brass	9459840	9459840	9459840	9459840	9459840	9459840	x
13C	Outlet pipe adaptor - stainless steel	9459830	9459830	9459830	9459830	9459830	9459830	9459830
14	Sleeve nut	9459850	9459850	9459850	9459850	9459850	9459850	9459850
15A	1 Cylinder wall bracket	14037116	14037116	14037116	14037116	14037116	14037116	14037116
15B	2 Cylinders wall bracket	14037117	14037117	14037117	14037117	14037117	14037117	14037117
15C	3 Cylinders wall bracket	14037118	14037118	14037118	14037118	14037118	14037118	14037118
16	Sealing washer Al	x	x	x	x	311837121815P	311837121815P	311837121815P
17	Sealing washer Cu	311325111032P	311325111032P	311325111032P	311325111032P	x	x	x
18	T-piece	x	x	x	x	x	x	215191005
19	Plug with nut	x	x	x	x	x	x	215191081



PROLINE SINGLE CYLINDER MANIFOLD PACKAGES

Gas type	Item Nr.
Oxygen	PROC001O
Argon, Nitrogen	PROC001N
CO ₂	PROC001CO2
Hydrogen	PROC001H
Acetylene	PROC001A
Propane	PROC001P

EACH PACKAGE CONTAINS:

Gas type	
MM70-1 Unit	1×
Manifold adaptor for flexible hose	1×
Flexible hose	1×
Cylinder rack	1×
Purge valve outlet adaptor*	1×
Safety valve mounting kit	1×
Safety valve	1×
Regulator PRV adaptor	1×
Pipeline outlet adaptor SS***	1×
Pipeline adaptor sleeve nut***	1×
Sealing gasket package	1×

* Not in Acetylene package
 ** Only in Acetylene package
 *** Only in Acetylene and Propane

TECHNICAL DATA

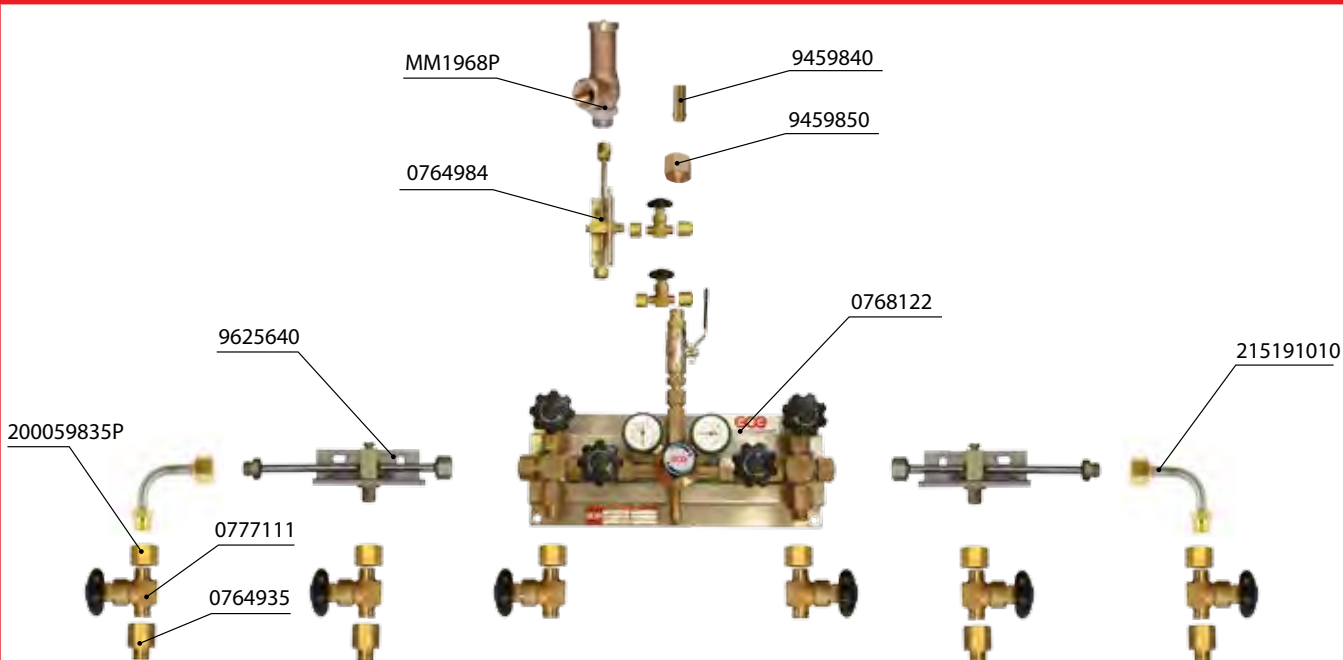
	Oxy, Inert, CO ₂	Hydrogen, Propane	Acetylene
Regulator type:	UC 500	UC 500	UC 500
Body, bonnet material:	Brass	Brass	Brass (Cu< 65%)
Connectors & fittings material:	Brass, St. steel	Brass, St. steel	Brass (Cu< 65%), St. steel
Diaphragm material:	EPDM	NBR	EPDM
Seat sealing material:	PA	PA	Chloroprene
Wall bracket:	St. steel	St. steel	St. steel
Maximal inlet pressure:	300 bar	300 bar (H), 25 bar (P)	25 bar
Maximal flow rate:	50 Nm ³ /h	50 Nm ³ /h (H), 10 Nm ³ /h (P)	14 Nm ³ /h
Temperature range:	from -20 °C to 60 °C	from -20°C to 60°C	from -20°C to 60°C

PROLINE MANIFOLD, MANUAL CHANGEOVER

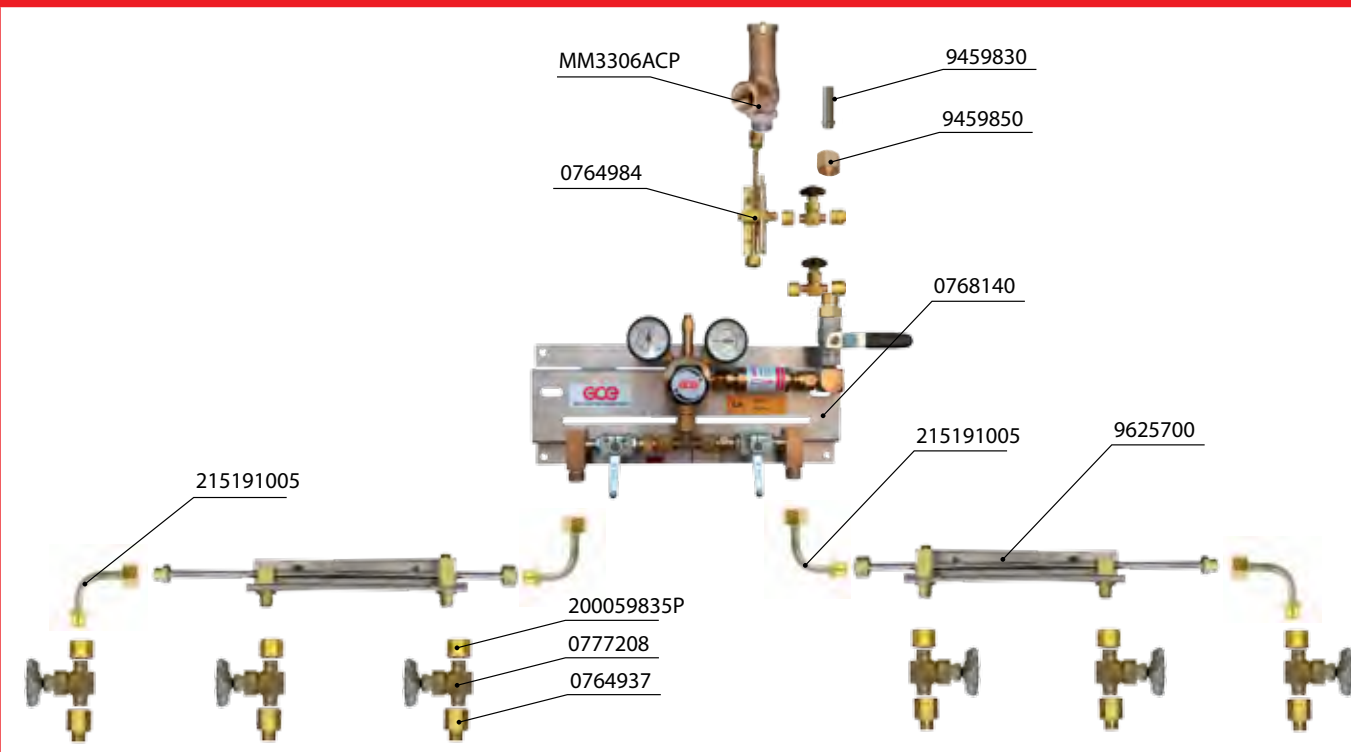
Manual changeover manifold for different gases with inlet pressure up to 300bar. On both outlet sides there are x-blocks with non-return valves and filters, purge valves and second inlets from sites for extension units. Shut-off valves, regulators with pressure relief valves and outlet ball valves, as well as other components, are mounted on the stainless steel panel.

Acetylene variant of MM70-2 manual changeover manifold for cylinder service. It is designed and produced in accordance with ISO 14 114. There are manual quick acting shut-off valves at each inlet side, upstream of the regulator. These devices are tested according to ISO 15 615. There is a flashback arrestor GVA 90 (EN 730-1, ISO 5175) mounted downstream of the regulator and also an outlet ball valve.

MM70-2 for 2x3 Oxygen cylinders with SE-1, shut-off valves, non-return valves and safety valve assembly



MM70-2 for 2x3 Acetylene cylinders with SE-2, shut-off valves, non-return valves and safety valve assembly



MM70-2 MANIFOLD UNIT

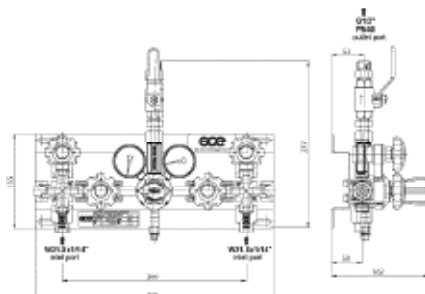


O, D, N, CO₂, H, P

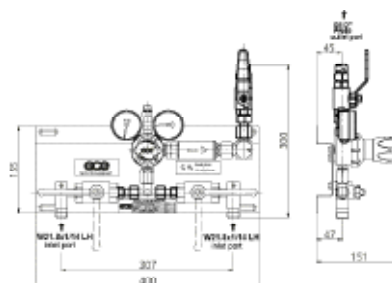


Acetylene

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0768122	MM70-2	O, D, N, CO ₂ , 300/20 bar	W21,8x1/14"	DN15, G1/2"
0768143	MM70-2	O, D, N, CO ₂ , 300/40 bar	W21,8x1/14"	DN15, G1/2"
0768124	MM70-2	Hydrogen/methan, 300/20 bar	W21,8x1/14"LH	DN15, G1/2"
0768125	MM70-2	Propane, 25/4 bar	W21,8x1/14"LH	DN15, G1/2"
0768140	MM70-2	Acetylene, 25/1,5 bar	W21,8x1/14"LH	DN15, G1/2"



O, D, N, CO₂, H, P



Acetylene

SE LINE HEADERS

High pressure manifold extension unit. SE-line manifolds contain collecting tubes in adjustable positions. The axial distance between the tube and the wall bracket is changeable. This enables SE-line application for both M70 line and M400 line manifolds. The tube and the wall bracket are made of stainless steel. Connection blocks are made of brass. One block will always include an outlet connection for the optional fitting of a gauge or contact alarm gauge.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
9625640	SE-1	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625690	SE-1	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625650	SE-2	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625700	SE-2	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625660	SE-4	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625710	SE-4	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH



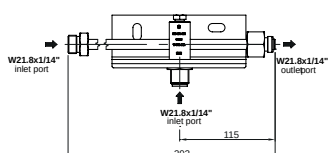
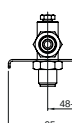
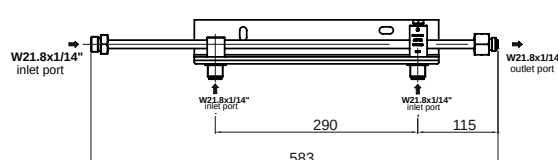
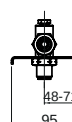
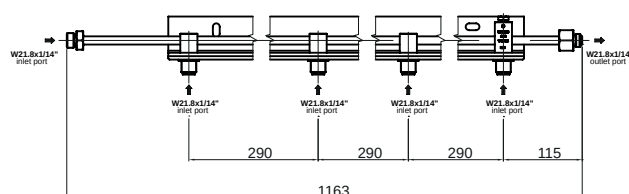
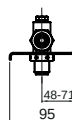
9625640



9625650



9625660



SHUT-OFF VALVES DN4 FOR EXTENSION HEADERS



SOV DN4 should be used for extension modules of M70 Line manifolds. BV 300 DN8 are designed for M400 Line manifolds.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0777111	SOV DN4	O, D, N, CO ₂ , 300 bar	W21,8×1/14"	W21,8×1/14"LH
0777112	SOV DN4	H, M, P, 300 bar	W21,8×1/14"LH	W21,8×1/14"
0777208	SOV DN4	Acetylene, 25 bar	W21,8×1/14"LH	W21,8×1/14"

HIGH PRESSURE ACETYLENE BALL VALVE



High pressure acetylene isolating valve and manual quick acting shut-off valve according to ISO 14114 and ISO 15615.

Art. Nr.	Connection
SPP27990018	3/8"

NON RETURN VALVES



Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0764935	Non return valve	O, D, N, CO ₂ , 300 bar	W21,8×1/14"	W21,8×1/14"
0764936	Non return valve	H, M, 300 bar	W21,8×1/14"LH	W21,8×1/14"LH
0764937	Non return valve	Acetylene, 25 bar	W21,8×1/14"LH	W21,8×1/14"LH
0764976	Non return valve	Propane, 20 bar	W21,8×1/14"LH	W21,8×1/14"LH

CYLINDER WALL BRACKET



Art. Nr.	Description
14037116	for 1 cylinder
14037117	for 2 cylinders
14037118	for 3 cylinders

HIGH PRESSURE ACCESSORIES



Art. Nr.	Description	Gas, Max. pressure	Inlet	Outlet
215191005	Tube 90° SS	A, P, H, M; 300 bar	W21,8×1/14"LH female	W21,8×1/14"LH male
215191010	Tube 90° SS	O, D, N, CO ₂ ; 300 bar	W21,8×1/14" female	W21,8×1/14" male
200059835P	Double nut	All gases; 300 bar	W21,8×1/14"	W21,8×1/14"LH
215191081	Plug with nut	A, P, H, M; 300 bar	W21,8×1/14"LH	
215191080	Plug with nut	O, D, N, CO ₂ ; 300 bar	W21,8×1/14"	
0764982	Manifold adaptor for flexible hose - O, D, N, CO ₂			
0764983	Manifold adaptor for flexible hose - A, P, H, M			
311837121815P	Alu sealing gasket (package of 5 pcs), 18×12,0×1,5			
311325111032P	Cu sealing gasket (package of 10 pcs), 18×12,7×1,5			

GAS PREHEATER - GGP 200



H28054801

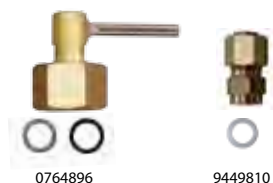
Inlet pressure up to 300 bar, for inert gases. The expansion of high compressed gases i.e. CO₂ and argon CO₂ mixtures creates cold in regulators. This could require a gas preheater to prevent freezing of the pressure regulator and other components of gas manifold. Using of preheater is recommended for higher stability of gas flow in central gas supply systems. GGP 200 is reliable CE- marked product.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
H28054801	GGP 200	Oxygen / Inert, 300 bar	W21,8×1/14"M	W21,8×1/14"F

TECHNICAL DATA

Power supply	230 V - 50 Hz
Heating power	200 W
Connecting plug	IP 44 with 2 m cable
Protection class	IP 44
Max. working temperature	40°C, +/-3°C
Safety switch	80°C, +/-5°C
Outer diameter	90 mm
Length	aprox 150 mm
Weight	aprox 2,3 kg

OUTLET CONNECTIONS



Purge valve blow-out tube for M70 line and M400 line manifolds. Inlet connection with sleeve nut W21 8x1/14. UC500 pressure relief valve outlet should be fitted on MM70 line manifolds to be connected with evacuating pipe.

Art. Nr.	Description
0764896	Purge valve outlet W21,8x1/14"
9449810	UC500 pressure relieve valve outlet

HIGH PRESSURE FLEXIBLE HOSES



The high pressure flexible hoses are produced in accordance to ISO 14113. The PTFE inner liner is covered by stainless steel braided mantle. Cylinder and manifold connectors are made of brass. The hose for oxygen service contains heat sink at the manifold end.

Art. Nr.	Gas type	Pressure	Lenght	Specification
MM2598	Oxygen	300 bar	1000 mm	Incl. heat sink
MM2532	Argon, Nitrogen	300 bar	1000 mm	
MM3364	CO ₂	300 bar	1000 mm	
MM2537	Hydrogen, Propane	300 bar	1000 mm	
MM3513	Acetylene	30 bar	600 mm	Incl. non-return valve

SAFETY RELIEF VALVES



Safety relief valves protect pipe works and components of the gas supply system against abnormal pressure increase. They are CE marked and produced and tested according to PED 97/23/EC.

Art. Nr.	Gas type	Opening pressure	Inlet connection
MM1968P	O, D, N, CO ₂ , H	28 bar (406 psi)	G 1/2" m
MM3401P	N (Argon, Nitrogen)	52 bar (754 psi)	G 1/2" m
MM3382P	P (Propane)	6 bar (87 psi)	G 1/2" m
MM3306ACP	A (Acetylene)	1,9 bar (27,5 psi)	G 1/2" m

SAFETY VALVE MOUNTING KIT



It is adaptor for easy and stabile installation of the safety valve downstream the high pressure manifold.

Art. Nr.	Gas type	Connections
0764984	All	G 1/2"

WELDING AND BRAZING SOCKETS G1/2"



Accessories for 70-line manifolds according to EN 560.

Art. Nr.	Material	Out diam.	Lenght
9459830	Stainless steel	14 mm	50 mm
9459840	Brass	14 mm	50 mm
4A38550P	Carbon steel	14 mm	50 mm-

SLEEVE NUTS

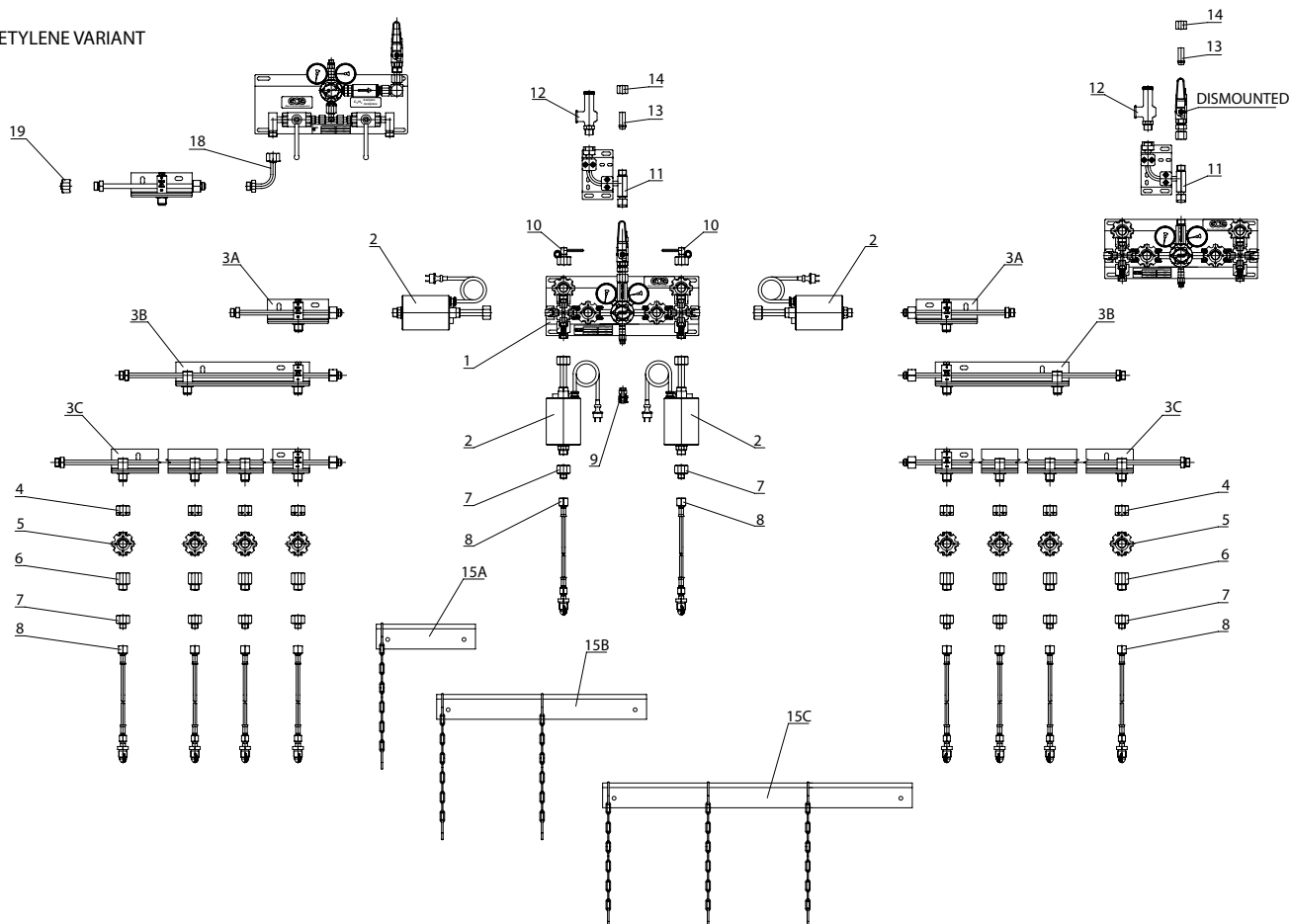


Accessories according to EN 560.

Art. Nr.	Material	Connection
9459850	Brass	G1/2"

Pos.	Item	Oxygen 300/20bar	"Argon 300/20bar Nitrogen 300/20bar"	"Argon 300/40bar Nitrogen 300/40bar"	CO ₂ 300/20bar	Hydrogen 300/20bar	Propane 25/4bar	Acetylene 25/1,5bar
1	MM70-2	0768122	0768122	0768143	0768122	0768124	0768125	0768140
2	Preheater	x	x	x	19008004	x	x	x
3/A	SE-1	9625640	9625640	9625640	9625640	9625690	9625690	9625690
3/B	SE-2	9625650	9625650	9625650	9625650	9625700	9625700	9625700
3/C	SE-3	9625660	9625660	9625660	9625660	9625710	9625710	9625710
4	Double nut	200059835P	200059835P	200059835P	200059835P	200059835P	200059835P	200059835P
5	Shut-off valve	0777111	0777111	0777111	0777111	0777112	0777112	0777208
6	Non-return valve	0764935	0764935	0764935	0764935	0764936	0764976	0764937
7	Hose Adaptor	0764982	0764982	0764982	0764982	0764983	0764983	0764983
8	Flexible hose 1000 mm	MM2598	MM2532	MM2532	MM3364	MM2537	MM2537	MM3436
9	PRV adaptor	9449810	9449810	9449810	9449810	9449810	9449810	9449810
10	Purge valve outlet	0764896	0764896	0764896	0764896	0764896	0764896	x
11	Safety valve adaptor	0764984	0764984	0764984	0764984	0764984	0764984	0764984
12	Safety valve	MM1968P	MM1968P	MM3401P	MM1968P	MM1968P	MM3382P	MM3306ACP
13A	Outlet pipe adaptor - carbon steel	4A38550P	4A38550P	4A38550P	4A38550P	4A38550P	4A38550P	4A38550P
13B	Outlet pipe adaptor - brass	9459840	9459840	9459840	9459840	9459840	9459840	x
13C	Outlet pipe adaptor - stainless steel	9459830	9459830	9459830	9459830	9459830	9459830	9459830
14	Sleeve nut	9459850	9459850	9459850	9459850	9459850	9459850	9459850
15A	1 Cylinder wall bracket	14037116	14037116	14037116	14037116	14037116	14037116	14037116
15B	2 Cylinders wall bracket	14037117	14037117	14037117	14037117	14037117	14037117	14037117
15C	3 Cylinders wall bracket	14037118	14037118	14037118	14037118	14037118	14037118	14037118
16	Sealing washer Al	x	x	x	x	311837121815P	311837121815P	311837121815P
17	Sealing washer Cu	311325111032P	311325111032P	311325111032P	311325111032P	x	x	x
18	T-piece	x	x	x	x	x	x	215191005
19	Plug with nut	x	x	x	x	x	x	215191081

ACETYLENE VARIANT



PROLINE MANUAL CHANGEOVER MANIFOLD PACKAGES

Gas type	Item Nr. 2x1	Item Nr. 2x2	Item Nr. 2x3
Oxygen	PROM002O	PROM004O	PROM006O
Argon, Nitrogen	PROM002N	PROM004N	PROM006N
CO ₂	PROM002CO2	PROM004CO2	PROM006CO2
Hydrogen	PROM002H	PROM004H	PROM006H
Acetylene	PROM002A	PROM004A	PROM006A
Propane	PROM002P	PROM004P	PROM006P

EACH PACKAGE CONTAINS:

Gas type	2x1	2x2	2x3
MM70-2 Unit	1x	1x	1x
SE-line	-	2x	2x
Bent tube 90° **	-	2x	2x
Plug**	-	2x	2x
Non-return valve with filter*	-	2x	4x
Manifold adaptor for flexible hose	2x	4x	6x
Flexible hose	2x	4x	6x
Cylinder rack	1x	2x	2x
Purge valve outlet adaptor*	1x	2x	2x
Safety valve mounting kit	1x	1x	1x
Safety valve	1x	1x	1x
Regulator PRV adaptor	1x	1x	1x
Pipeline outlet adaptor SS***	1x	1x	1x
Pipeline adaptor sleeve nut***	1x	1x	1x
Sealing gasket package	1x	1x	2x

* Not in Acetylene package
 ** Only in Acetylene package
 *** Only in Acetylene and Propane

TECHNICAL DATA

	Oxy, Inert, CO ₂	Hydrogen, Propane	Acetylene
Regulator type:	UC 500	UC 500	UC 500
Body, bonnet material:	Brass	Brass	Brass (Cu < 65%)
Connectors & fittings material:	Brass, St. steel	Brass, St. steel	Brass (Cu < 65%), St. steel
Diaphragm material:	EPDM	NBR	EPDM
Seat sealing material:	PA	PA	Chloroprene
Wall bracket:	St. steel	St. steel	St. steel
Maximal inlet pressure:	300 bar	300 bar (H), 25 bar (P)	25 bar
Maximal flow rate:	50 Nm ³ /h	50 Nm ³ /h (H), 10 Nm ³ /h (P)	14 Nm ³ /h
Temperature range:	from -20 °C to 60 °C	from -20°C to 60°C	from -20°C to 60°C

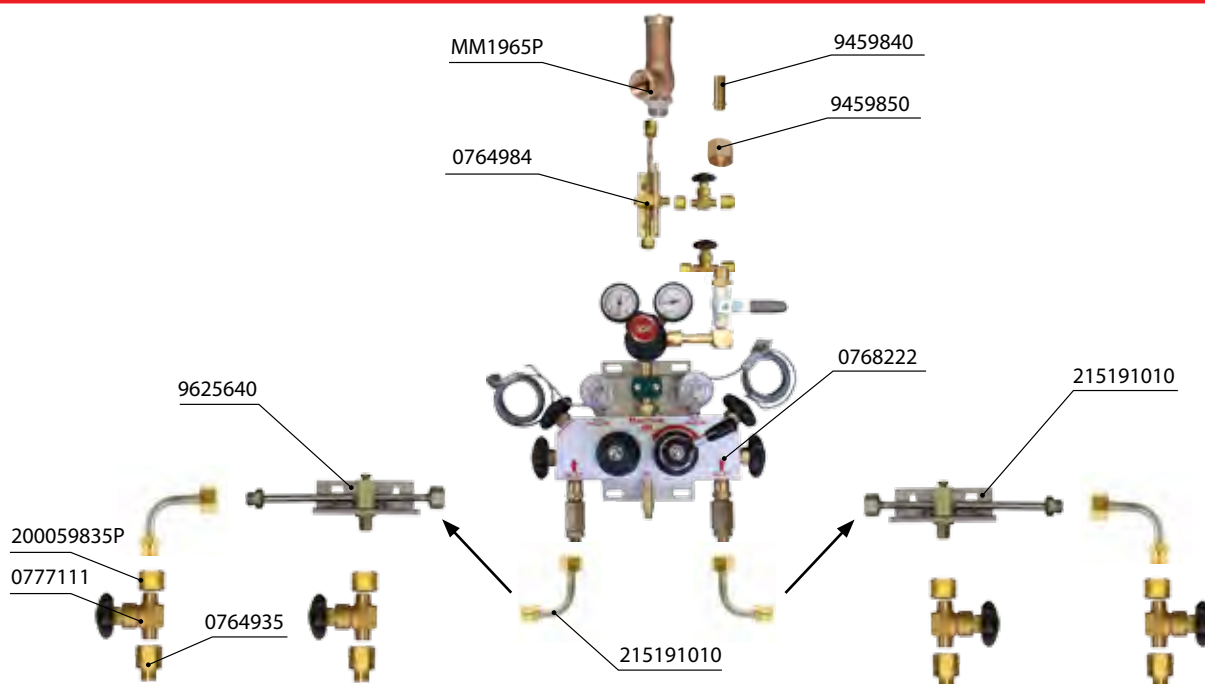
PROLINE AUTOCHANGE MANIFOLD

A unique compact semi-automatic solution for high pressure gas supply. This manifold integrates many different high pressure components in the central changeover block. Due to this specific design aspect, potential leakages are minimised. This ensures high safety standards and eliminates uncontrolled gas consumption, creating additional profit for the user.

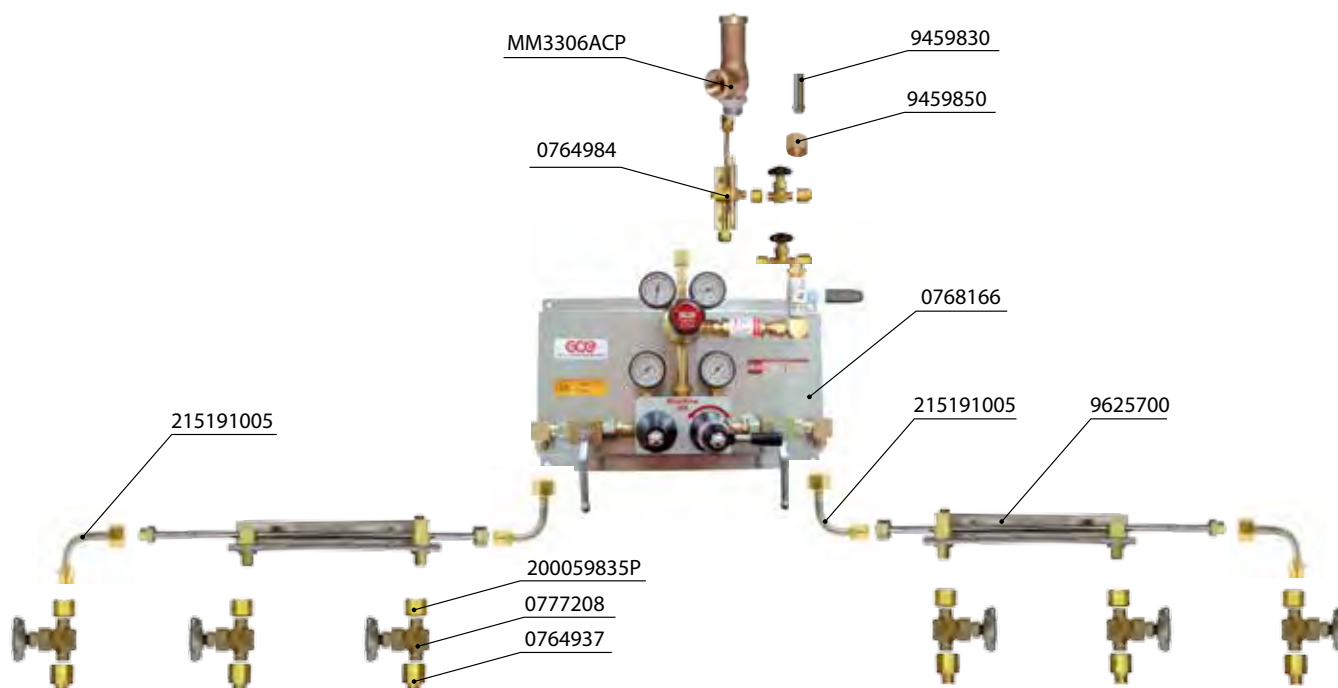
MAXIFLOW BRASS BLOCK CONTAINS FOLLOWING COMPONENTS:

- 2 inlet connections with sintered filters
- two regulators for semiautomatic operation
- inlet shut-off valves at both sides
- purge valves for high pressure part purging and for pressure release
- two HP gauges (contact gauges optionally)
- pressure relieve valve
- outlet connection with ball valve

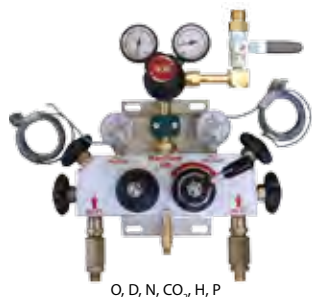
Maxiflow for 2x2 Oxygen cylinders with SE-1, shut-off valves, non-return valves, safety valve assembly and contact alarm gauges



Maxiflow for 2x3 Acetylene cylinders with SE-2, shut-off valves, non-return valves and safety valve assembly



MAXIFLOW UNIT



O, D, N, CO₂, H₂, P



Acetylene

Semi-automatic auto-change gas manifold for compressed gases with inlet pressure of up to 300bar. This product can ensure continuous gas supply without any application process interruption. Manifolds have the option for fitting contact gauges to relay information regarding gas depletion. It is a dual-stage regulation unit giving stable outlet pressure parameters. The unit consists of a brass changeover block which is the stable base for installation of other components. There are few internal connections which means minimal risk of leakages.

Semi-automatic auto-change gas manifold for acetylene. This product can ensure continuous gas supply without any application process interruption. There is a variant available with contact gauges to give information about gas depletion. It is a dual-stage regulation unit giving stable outlet pressure parameters. The product is designed and produced in accordance with ISO 14114. The inlet manual quick acting shut-off valves and regulators are tested according to requirements of ISO 15615. Also fitted on the outlet is a flashback arrestor GVA90 (EN 730-1, ISO 5175) and an isolating ball valve.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0768183	Maxiflow 2/2	O, D, N, CO ₂ , 300/10 bar	W21,8x1/14"	G1/2", DN15
0768222	Maxiflow 2/2 CG	O, D, N, CO ₂ , 300/10 bar, contact gauges	W21,8x1/14"	G1/2", DN15
0768184	Maxiflow 2/2	Hydrogen/methan, 300/10 bar	W21,8x1/14"LH	G1/2", DN15
0768223	Maxiflow 2/2 CG	Hydrogen, methan, 300/10 bar, contact gauges	W21,8x1/14"LH	G1/2", DN15
0768119	Maxiflow 2/2	Propane, 30/2,5 bar	W21,8x1/14"LH	G1/2", DN15
0768196	Maxiflow 2/2 CG	Propane, 30/2,5 bar, contact gauges	W21,8x1/14"LH	G1/2", DN15
0768166	Maxiflow 2/2	Acetylene, 25/1,5 bar	W21,8x1/14"LH	G1/2", DN15
0768167	Maxiflow 2/2CG	Acetylene, 25/1,5 bar, contact gauges	W21,8x1/14"LH	G1/2", DN15

SE LINE HEADERS

High pressure manifold extension unit. SE-line manifolds contain collecting tubes in adjustable positions. The axial distance between the tube and the wall bracket is changeable. This enables SE-line application for both M70 line and M400 line manifolds. The tube and the wall bracket are made of stainless steel. Connection blocks are made of brass. One block will always include an outlet connection for the optional fitting of a gauge or contact alarm gauge.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
9625640	SE-1	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625690	SE-1	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625650	SE-2	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625700	SE-2	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625660	SE-4	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625710	SE-4	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH



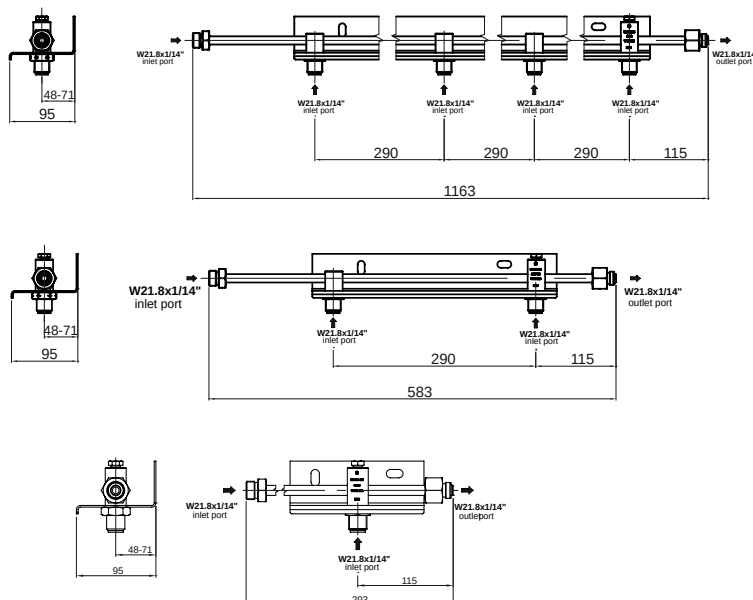
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9625650



9625660



SHUT-OFF VALVES DN4 FOR EXTENSION HEADERS



SOV DN4 should be used for extension modules of M70 Line manifolds. BV 300 DN8 are designed for M400 Line manifolds.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0777111	SOV DN4	O, D, N, CO ₂ , 300 bar	W21,8×1/14"	W21,8×1/14"LH
0777112	SOV DN4	H, M, P, 300 bar	W21,8×1/14"LH	W21,8×1/14"
0777208	SOV DN4	Acetylene, 25 bar	W21,8×1/14"LH	W21,8×1/14"

HIGH PRESSURE ACETYLENE BALL VALVE



High pressure acetylene isolating valve and manual quick acting shut-off valve according to ISO 14114 and ISO 15615.

Art. Nr.	Connection
SPP27990018	3/8"

NON RETURN VALVES



Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0764935	Non return valve	O, D, N, CO ₂ , 300 bar	W21,8×1/14"	W21,8×1/14"
0764936	Non return valve	H, M, 300 bar	W21,8×1/14"LH	W21,8×1/14"LH
0764937	Non return valve	Acetylene, 25 bar	W21,8×1/14"LH	W21,8×1/14"LH
0764976	Non return valve	Propane, 20 bar	W21,8×1/14"LH	W21,8×1/14"LH

CYLINDER WALL BRACKET



Art. Nr.	Description
14037116	for 1 cylinder
14037117	for 2 cylinders
14037118	for 3 cylinders

HIGH PRESSURE ACCESSORIES



Art. Nr.	Description	Gas, Max. pressure	Inlet	Outlet
215191005	Tube 90° SS	A, P, H, M; 300 bar	W21,8×1/14"LH female	W21,8×1/14"LH male
215191010	Tube 90° SS	O, D, N, CO ₂ ; 300 bar	W21,8×1/14" female	W21,8×1/14" male
200059835P	Double nut	All gases; 300 bar	W21,8×1/14"	W21,8×1/14"LH
215191081	Plug with nut	A, P, H, M; 300 bar	W21,8×1/14"LH	
215191080	Plug with nut	O, D, N, CO ₂ ; 300 bar	W21,8×1/14"	
0764982	Manifold adaptor for flexible hose - O, D, N, CO ₂			
0764983	Manifold adaptor for flexible hose - A, P, H, M			
311837121815P	Alu sealing gasket (package of 5 pcs), 18×12,0×1,5			
311325111032P	Cu sealing gasket (package of 10 pcs), 18×12,7×1,5			

GAS PREHEATER - GGP 200



H28054801

Inlet pressure up to 300 bar, for inert gases. The expansion of high compressed gases i.e. CO₂ and argon CO₂ mixtures creates cold in regulators. This could require a gas preheater to prevent freezing of the pressure regulator and other components of gas manifold. Using of preheater is recommended for higher stability of gas flow in central gas supply systems. GGP 200 is reliable CE- marked product.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
H28054801	GGP 200	Oxygen / Inert, 300 bar	W21,8×1/14"M	W21,8×1/14"F

TECHNICAL DATA

Power supply	230 V - 50 Hz
Heating power	200 W
Connecting plug	IP 44 with 2 m cable
Protection class	IP 44
Max. working temperature	40°C, +/-3°C
Safety switch	80°C, +/-5°C
Outer diameter	90 mm
Lenght	aprox 150 mm
Weight	aprox 2,3 kg

OUTLET CONNECTIONS



9449810

UC500 Pressure relieve valve outlet should be mounted at MM70 Line manifolds to be connected with evacuating pipe.

Art. Nr.	Description
9449810	UC500 pressure relieve valve outlet

HIGH PRESSURE FLEXIBLE HOSES



MM2598

The high pressure flexible hoses are produced in accordance to ISO 14113. The PTFE inner liner is covered by stainless steel braided mantle. Cylinder and manifold connectors are made of brass. The hose for oxygen service contains heat sink at the manifold end.

Art. Nr.	Gas type	Pressure	Lenght	Specification
MM2598	Oxygen	300 bar	1000 mm	Incl. heat sink
MM2532	Argon, Nitrogen	300 bar	1000 mm	
MM3364	CO ₂	300 bar	1000 mm	
MM2537	Hydrogen, Propane	300 bar	1000 mm	
MM3513	Acetylene	30 bar	600 mm	Incl. non-return valve

SAFETY RELIEF VALVES



Safety relief valves protect pipe works and components of the gas supply system against abnormal pressure increase. They are CE marked and produced and tested according to PED 97/23/EC.

Art. Nr.	Gas type	Opening pressure	Inlet connection
MM1965P	O, D, N, CO ₂ , H ₂	11,2 bar (162 psi)	G 1/2" m
MM1566P	P (Propane)	28 bar (40 psi)	G 1/2" m
MM3306ACP	A (Acetylene)	1,9 bar (27,5 psi)	G 1/2" m

SAFETY VALVE MOUNTING KIT



It is adaptor for easy and stabile installation of the safety valve downstream the high pressure manifold.

Art. Nr.	Gas type	Connections
0764984	All	G 1/2"

WELDING AND BRAZING SOCKETS G1/2"



Accessories for 70-line manifolds according to EN 560.

Art. Nr.	Material	Out diam.	Lenght
9459830	Stainless steel	14 mm	50 mm
9459840	Brass	14 mm	50 mm
4A38550P	Carbon steel	14 mm	50 mm

SLEEVE NUTS



Accessories according to EN 560.

Art. Nr.	Material	Connection
9459850	Brass	G1/2"

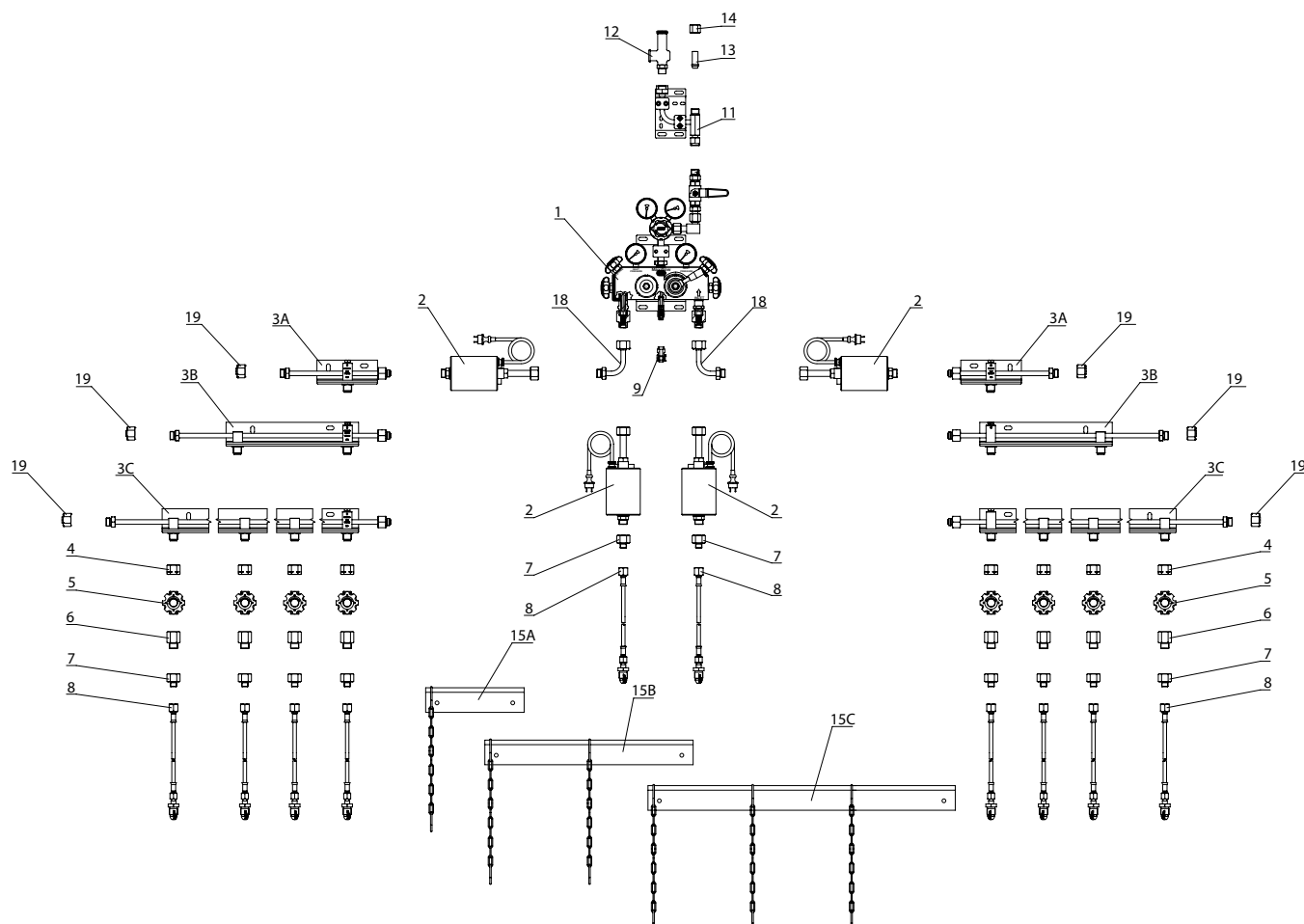
CONTACT ALARM GAUGES



The contact alarm gauge can be fitted on the high pressure side of the manifold in order to monitor the cylinder pressure. When the preset value is reached the alarm signal is sent to alarm unit.

Art. Nr.	Connection	Gas	Pressure range (bar)
XL2340P	G1/4", bottom inlet	O, D, N, H	400/300
SPK27990009	G1/4", bottom inlet	CO ₂	160/120
SPK27990001	G1/4", bottom inlet	A	40/30

Pos.	Item	Oxygen 300/10bar	"Argon 300/10bar Nitrogen 300/10bar"	CO2 300/10bar	Hydrogen 300/10bar	Propane 25/2,5bar	Acetylene 25/1,5bar
1A	Maxiflow	0768183	0768183	0768183	0768184	0768119	0768166
1B	Maxiflow CG (incl. contact alarm gauges)	0768222	0768222	0768222	0768223	0768196	0768167
2	Preheater	x	x	19008004	x	x	x
3/A	SE-1	9625640	9625640	9625640	9625690	9625690	9625690
3/B	SE-2	9625650	9625650	9625650	9625700	9625700	9625700
3/C	SE-3	9625660	9625660	9625660	9625710	9625710	9625710
4	Double nut	200059835P	200059835P	200059835P	200059835P	200059835P	200059835P
5	Shut-off valve	0777111	0777111	0777111	0777112	0777112	0777208
6	Non-return valve	0764935	0764935	0764935	0764936	0764976	0764937
7	Hose Adaptor	0764982	0764982	0764982	0764983	0764983	0764983
8	Flexible hose 1000 mm	MM2598	MM2532	MM3364	MM2537	MM2537	MM3436
9	PRV adaptor	9449810	9449810	9449810	9449810	9449810	9449810
11	Safety valve adaptor	0764984	0764984	0764984	0764984	0764984	0764984
12	Safety valve	MM1965P	MM1965P	MM1965P	MM1965P	MM1566P	MM3306ACP
13A	Outlet pipe adaptor - carbon steel	4A38550P	4A38550P	4A38550P	4A38550P	4A38550P	4A38550P
13B	Outlet pipe adaptor - brass	9459840	9459840	9459840	9459840	9459840	x
13C	Outlet pipe adaptor - stainless steel	9459830	9459830	9459830	9459830	9459830	9459830
14	Sleeve nut	9459850	9459850	9459850	9459850	9459850	9459850
15A	1 Cylinder wall bracket	14037116	14037116	14037116	14037116	14037116	14037116
15B	2 Cylinders wall bracket	14037117	14037117	14037117	14037117	14037117	14037117
15C	3 Cylinders wall bracket	14037118	14037118	14037118	14037118	14037118	14037118
16	Sealing washer Al	x	x	x	311837121815P	311837121815P	311837121815P
17	Sealing washer Cu	311325111032P	311325111032P	311325111032P	x	x	x
18	Tube 90° - stainless steel	215191010	215191010	215191010	215191005	215191005	215191005



PROLINE AUTOCHANGE (SEMI-AUTOMATIC) MANIFOLD PACKAGES

Gas type	Item Nr. 2x1	Item Nr. 2x2	Item Nr. 2x3
Oxygen	PROA002O	PROA004O	PROA006O
Argon, Nitrogen	PROA002N	PROA004N	PROA006N
CO ₂	PROA002CO2	PROA004CO2	PROA006CO2
Hydrogen	PROA002H	PROA004H	PROA006H
Acetylene	PROA002A	PROA004A	PROA006A
Propane	PROA002P	PROA004P	PROA006P

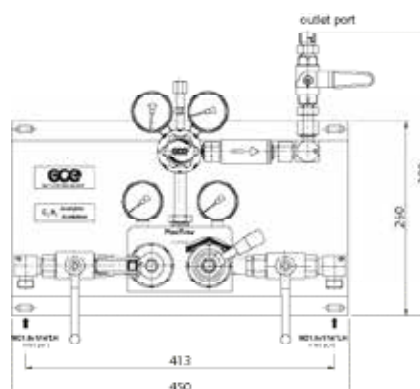
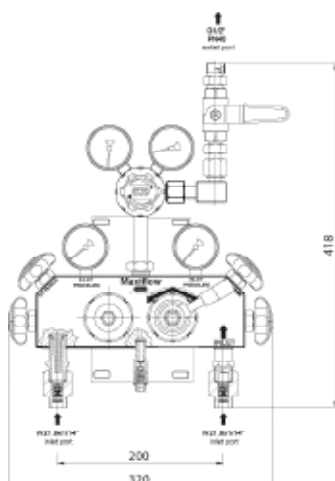
EACH PACKAGE CONTAINS:

Gas type	Item Nr. 2x1	Item Nr. 2x2	Item Nr. 2x3
Maxiflow Unit	1x	1x	1x
SE-line	-	2x	4x
Bent tube 90° **	-	2x	2x
Plug**	-	2x	2x
Non-return valve with filter*	-	4x	6x
Manifold adaptor for flexible hose	2x	4x	6x
Flexible hose	2x	4x	6x
Cylinder rack	2x	2x	2x
Safety valve mounting kit	1x	1x	1x
Safety valve	1x	1x	1x
Regulator PRV adaptor	1x	1x	1x
Pipeline outlet adaptor SS***	1x	1x	1x
Pipeline adaptor sleeve nut***	1x	1x	1x
Sealing gasket package	1x	2x	2x

* Not in Acetylene package
 ** Only in Acetylene package
 *** Only in Acetylene and Propane

TECHNICAL DATA

	Oxy, Inert, CO ₂	Acetylene	Hydrogen	Propane
Panel and regulator body	Brass	Brass (Cu<65%)	Brass	Brass
Regulator bonnet	Zn-Al alloy	Zn-Al alloy	Zn-Al alloy	Zn-Al alloy
Regulator type ODNCO ₂ HM	Piston	Diaphragm EPDM	Piston, Diaphragm NBR	Diaphragm NBR
Regulating valve sealing	Encapsulated, PA	Encapsulated, Chloroprene	Encapsulated, PA	Encapsulated, Chloroprene
Connectors & fittings	Brass	Brass (Cu<65%)	Brass	Brass
Wall bracket	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Maximal inlet pressure	300 bar	30 bar	300 bar	30 bar
Nominal flow rate	20 Nm ³ /h (at 10 bar)	5 Nm ³ /h (at 1,2 bar)	40 Nm ³ /h (at 10 bar)	7,5 Nm ³ /h (at 2,5 bar)
Temperature range	from -20 °C to 60 °C	from -20 °C to 60 °C	from -20 °C to 60 °C	from -20 °C to 60 °C



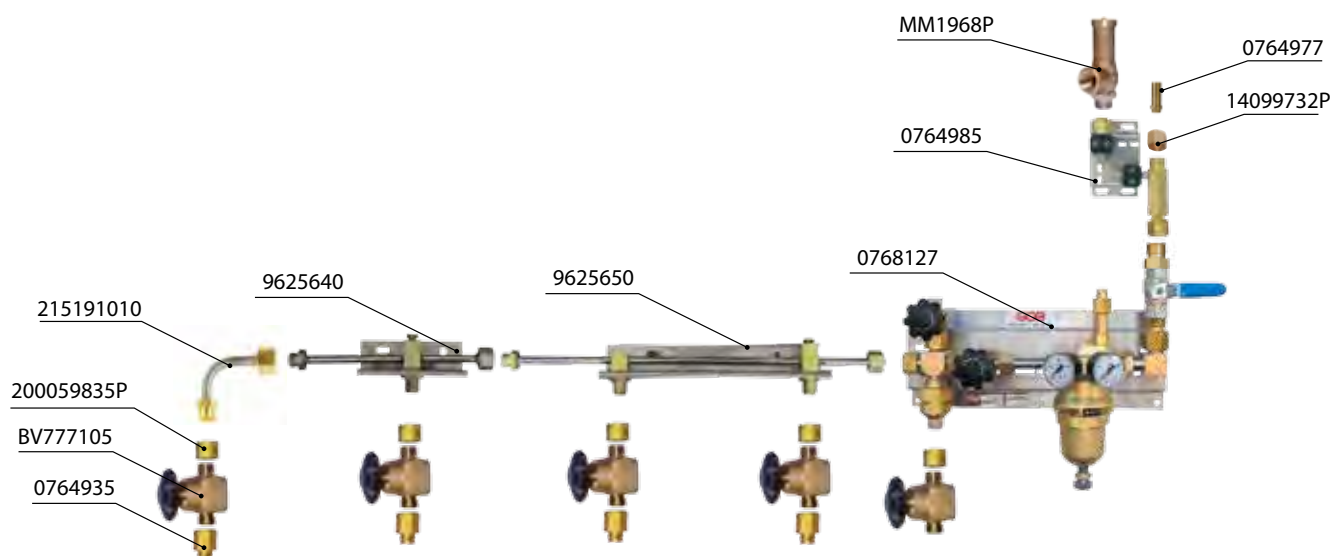
PROLINE SINGLE CYLINDER UNIT HIGH FLOW

Gas manifold panel with regulators MR60 or MR400 for high-flow applications for different gases with inlet pressure of up to 300bar. Manifolds contain inlet x-block with non-return valve and filter, purge valve and second inlet from site with the potential to install extension units. Purge valves can be used for pressure release when cylinder/bundle hose is disconnected. There is also a high pressure shut-off valve, regulator with pressure relief valve and outlet ball valve mounted on the stainless steel panel.

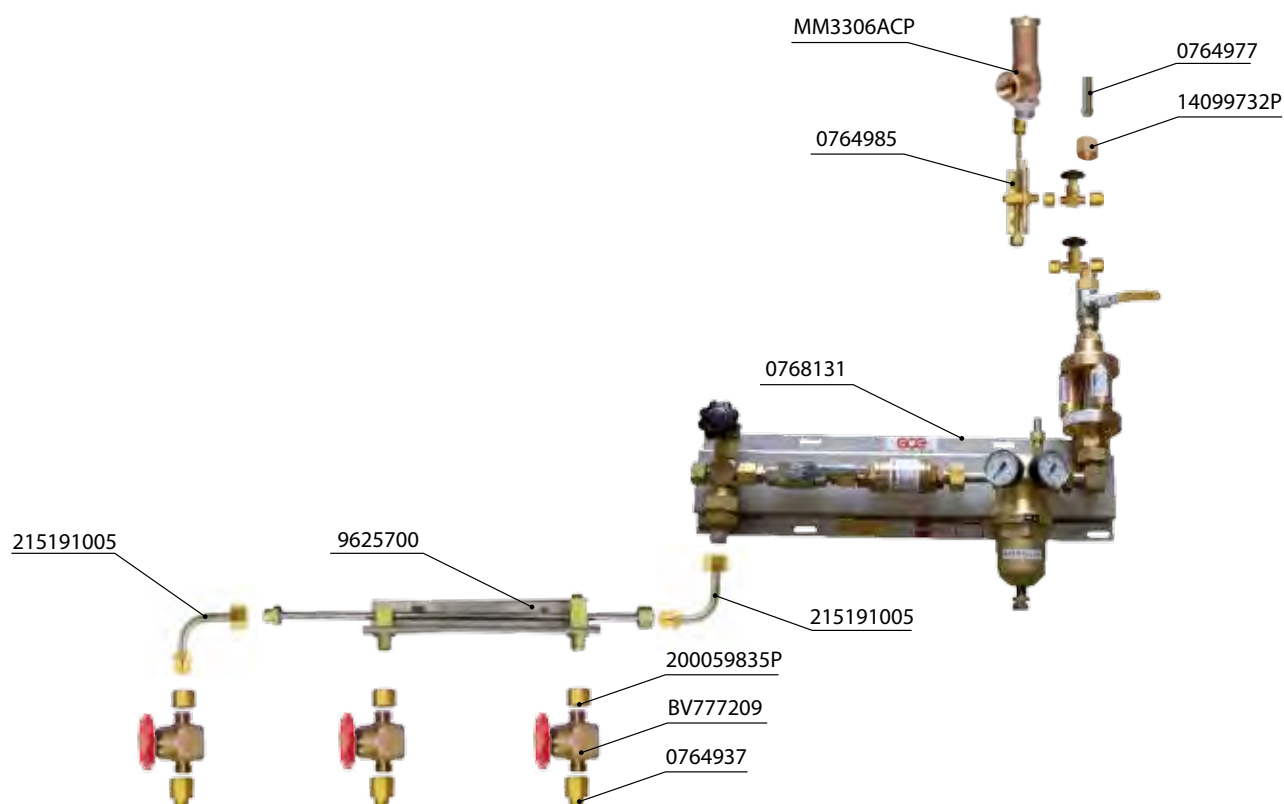
Gas manifold with regulator for MR60 for high-flow acetylene applications.

Acetylene variant of MM400-1 is designed and produced in accordance with ISO 14114. The inlet x-block with mounted purge valves, non-return valves and filters, enables safe operation with high pressure acetylene. There are used manual and also automatic quick acting shut-off valves upstream of the regulator. These devices are tested according to ISO 15615. There is a flashback arrestor Simax 3 (EN 730-1, ISO 5175) fitted downstream of the regulator and also an outlet ball valve.

MM400-1 for 5 Oxygen cylinders with SE-1, SE-2, shut-off valves, non-return valves and safety valve assembly



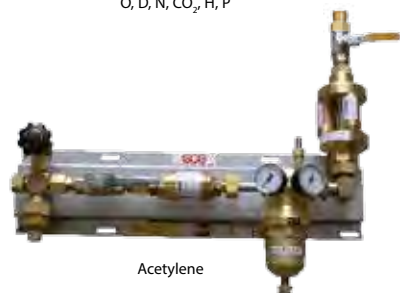
MM400-1 for 3 Acetylene cylinders with SE-2, shut-off valves, non-return valves and safety valve assembly



MM400-1 MANIFOLD UNIT



O, D, N, CO₂, H, P



Acetylene

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0768127	MM400-1	O, D, N, CO ₂ , 300/20 bar	W21,8x1/14"	G3/4", DN20
0768144	MM400-1	O, D, N, CO ₂ , 300/40 bar	W21,8x1/14"	G3/4", DN20
0768194	MM400-1 PH	O, D, N, CO ₂ , 300/12 bar, with preheater	W21,8x1/14"	G3/4", DN20
0768189	MM400-1 PH	O, D, N, CO ₂ , 300/20 bar, with preheater	W21,8x1/14"	G3/4", DN20
0768128	MM400-1	Hydrogen/methan, 300/20 bar	W21,8x1/14"LH	G3/4", DN20
0768130	MM400-1	Propane, 25/4 bar	W21,8x1/14"LH	G3/4", DN20
0768165	MM 400-1 CG	O, D, N, CO ₂ , 300/20 bar, with contact gauge	W21,8x1/14"	G3/4", DN20
0768131	MM400-1	Acetylene, 25/1,5 bar	W21,8x1/14"LH	G3/4", DN20

SE LINE HEADERS

High pressure manifold extension unit. SE-line manifolds contain collecting tubes in adjustable positions. The axial distance between the tube and the wall bracket is changeable. This enables SE-line application for both M70 line and M400 line manifolds. The tube and the wall bracket are made of stainless steel. Connection blocks are made of brass. One block will always include an outlet connection for the optional fitting of a gauge or contact alarm gauge.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
9625640	SE-1	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625690	SE-1	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625650	SE-2	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625700	SE-2	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625660	SE-4	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625710	SE-4	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH



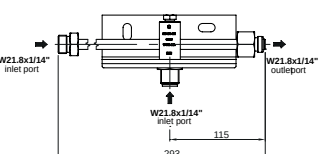
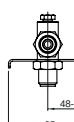
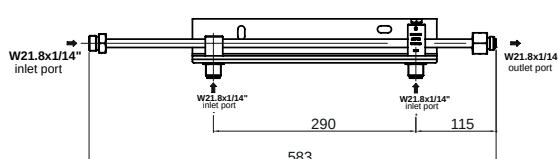
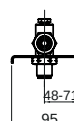
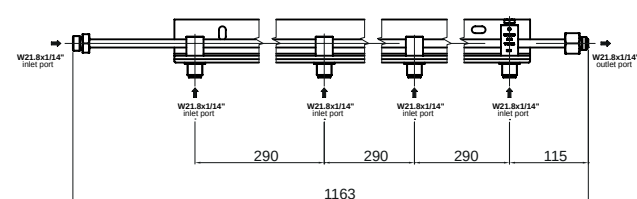
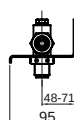
9625640



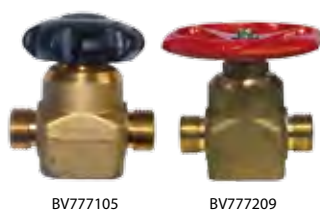
9625650



9625660



SHUT-OFF VALVES DN8 FOR EXTENSION HEADERS



BV777105

BV777209

SOV DN4 should be used for extension modules of M70 Line manifolds. BV 300 DN8 are designed for M400 Line manifolds.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
BV777105	BV 300 DN8	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"LH
BV777106	BV 300 DN8	Inert, 300 bar	W21,8x1/14"	W21,8x1/14"LH
BV777107	BV 300 DN8	H, M, P, 300 bar	W21,8x1/14"LH	W21,8x1/14"
BV777209	BV 300 DN8	Acetylene, 25 bar	W21,8x1/14"LH	W21,8x1/14"

HIGH PRESSURE ACETYLENE BALL VALVE



High pressure acetylene isolating valve and manual quick acting shut-off valve according to ISO 14114 and ISO 15615.

Art. Nr.	Connection
SPP27990019	G1/2"

NON RETURN VALVES



Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0764935	Non return valve	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
0764936	Non return valve	H, M, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
0764937	Non return valve	Acetylene, 25 bar	W21,8x1/14"LH	W21,8x1/14"LH
0764976	Non return valve	Propane, 20 bar	W21,8x1/14"LH	W21,8x1/14"LH

CYLINDER WALL BRACKET



Art. Nr.	Description
14037116	for 1 cylinder
14037117	for 2 cylinders
14037118	for 3 cylinders

HIGH PRESSURE ACCESSORIES



Art. Nr.	Description	Gas, Max. pressure	Inlet	Outlet
215191005	Tube 90° SS	A, P, H, M; 300 bar	W21,8x1/14"LH female	W21,8x1/14"LH male
215191010	Tube 90° SS	O, D, N, CO ₂ ; 300 bar	W21,8x1/14" female	W21,8x1/14" male
200059835P	Double nut	All gases; 300 bar	W21,8x1/14"	W21,8x1/14"LH
215191081	Plug with nut	A, P, H, M; 300 bar	W21,8x1/14"LH	
215191080	Plug with nut	O, D, N, CO ₂ ; 300 bar	W21,8x1/14"	
0764982	Manifold adaptor for flexible hose - O, D, N, CO ₂			
0764983	Manifold adaptor for flexible hose - A, P, H, M			
311837121815P	Alu sealing gasket (package of 5 pcs), 18x12,0x1,5			
311325111032P	Cu sealing gasket (package of 10 pcs), 18x12,7x1,5			

GAS PREHEATER - GGP 200



H28054801

Inlet pressure up to 300bar for inert gases. The expansion of high compressed gases i.e. CO₂ and argon CO₂ mixtures can cause freezing in regulators. This could require a gas preheater to prevent freezing of the pressure regulator and other components of gas manifolds. Use of a preheater is recommended for higher stability of gas flow in central gas supply systems. GGP 200 is a reliable CE marked product.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
H28054801	GGP 200 (spare part)	Oxygen / Inert, 300 bar	W21,8x1/14"M	W21,8x1/14"F
19008004	GGP 200	Oxygen / Inert, 300 bar	W21,8x1/14"F	W21,8x1/14"M

TECHNICAL DATA

Power supply	230 V - 50 Hz
Heating power	200 W
Connecting plug	IP 44 with 2 m cable
Protection class	IP 44
Max. working temperature	40°C, +/-3°C
Safety switch	80°C, +/-5°C
Outer diameter	90 mm
Length	aprox 150 mm
Weight	aprox 2,3 kg

OUTLET CONNECTIONS



Purge valve blow-out tube for M70line and M400line manifolds. Inlet connection with sleeve nut, W21,8x1/14".

Art. Nr.	Description
0764896	Purge valve outlet W21,8x1/14"

HIGH PRESSURE FLEXIBLE HOSES



MM2534

The high pressure flexible hoses are produced in accordance to ISO 14113. The PTFE inner liner is covered by stainless steel braided mantle. Cylinder and manifold connectors are made of brass. The hose for oxygen service contains heat sink at the manifold end.

Art. Nr.	Gas type	Pressure	Lenght	Specification
MM2599	Oxygen	300 bar	2000 mm	Incl. heat sink
MM2534	Argon, Nitrogen	300 bar	2000 mm	
MM2535	Argon, Nitrogen	300 bar	3000 mm	
MM3365	CO ₂	300 bar	2000 mm	
MM2539	Hydrogen, Propane	300 bar	2000 mm	
MM2540	Hydrogen, Propane	300 bar	3000 mm	
MM3514	Acetylene	30 bar	2000 mm	Incl. non-return valve

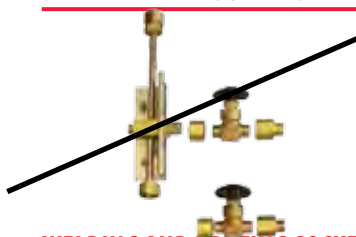
SAFETY RELIEF VALVES



Safety relief valves protect pipe works and components of the gas supply system against abnormal pressure increase. They are CE marked and produced and tested according to PED 97/23/EC.

Art. Nr.	Gas type	Opening pressure	Inlet connection
MM1968P	O, D, N, CO ₂ , H	28 bar (406 psi)	G 1/2" m
MM3401P	N (Argon, Nitrogen)	52 bar (754 psi)	G 1/2" m
MM3382P	P (Propane)	6 bar (87 psi)	G 1/2" m
MM3306ACP	A (Acetylene)	1,9 bar (27,5 psi)	G 1/2" m

SAFETY VALVE MOUNTING KIT



It is adaptor for easy and stable installation of the safety valve downstream the high pressure manifold.

Art. Nr.	Gas type	Connections
0764985	All	G 3/4"

WELDING AND BRAZING SOCKETS G3/4"



Accessories for 400-line manifolds according to EN 560.

Art. Nr.	Material	Out diam.	Lenght
0764986	Stainless steel	19 mm	50 mm
0764977	Brass	19 mm	50 mm
0764978	Carbon steel	19 mm	50 mm

SLEEVE NUTS



Accessories according to EN 560.

Art. Nr.	Material	Connection
14099732P	Brass	G3/4"

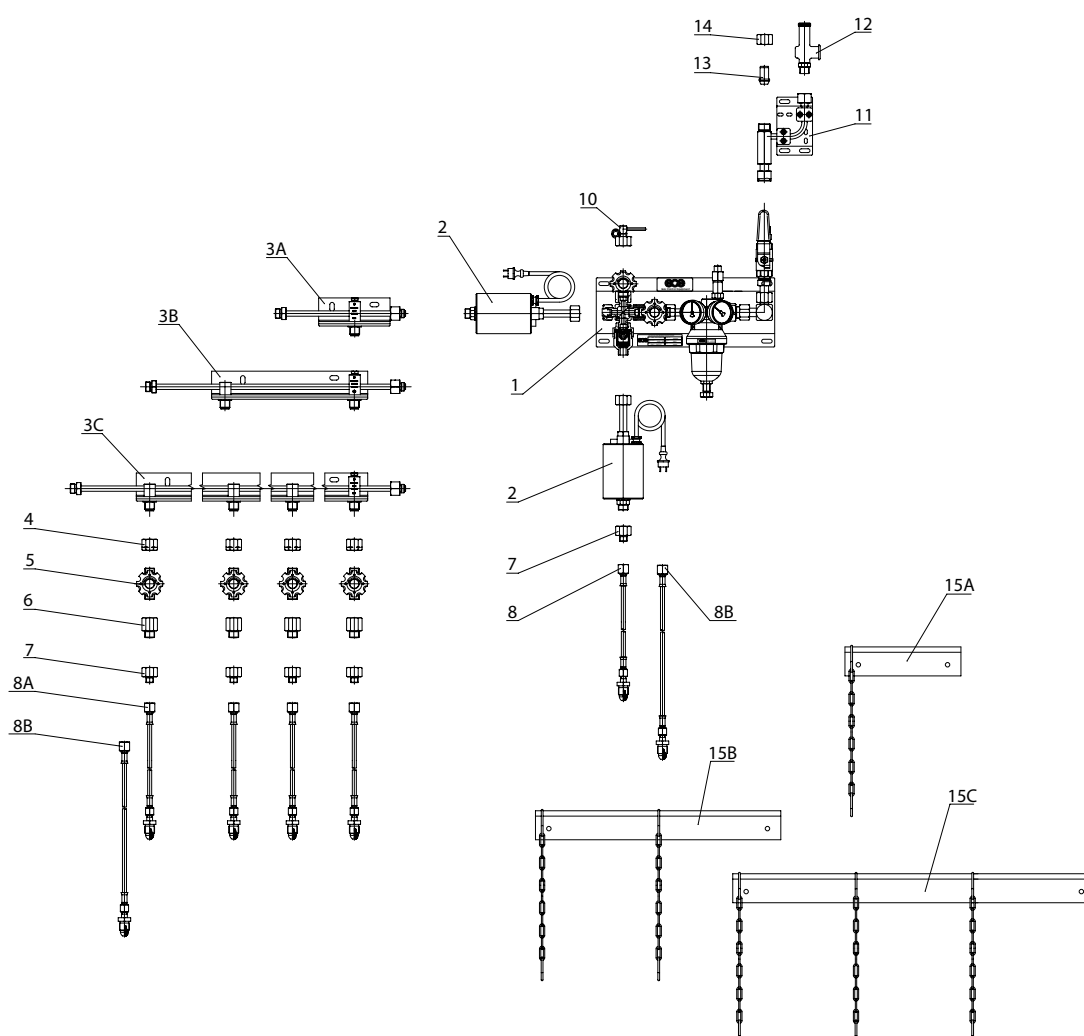
CONTACT ALARM GAUGES



The contact alarm gauge can be fitted on the high pressure side of the manifold in order to monitor the cylinder pressure. When the preset value is reached the alarm signal is sent to alarm unit.

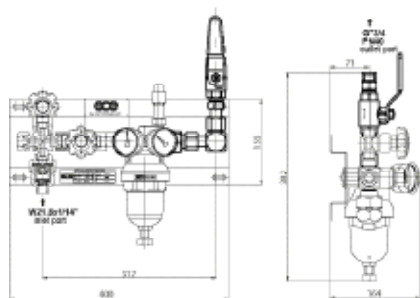
Art. Nr.	Connection	Gas	Pressure range (bar)
SPK27990015	G1/4", rear inlet	O, D, N, H	400/300
SPK27990037	G1/4", rear inlet	A	40/30

Pos.	Item	Oxygen 300/10bar	"Argon 300/10bar Nitrogen 300/10bar"	CO2 300/10bar	Hydrogen 300/10bar	Propane 25/2,5bar	Acetylene 25/1,5bar	Acetylene 25/1,5bar
1	MM400-2	0768127	0768127	0768144	0768127	0768128	0768130	0768131
2	Preheater	x	x	x	19008004	x	x	x
3/A	SE-1	9625640	9625640	9625640	9625640	9625690	9625690	9625690
3/B	SE-2	9625650	9625650	9625650	9625650	9625700	9625700	9625700
3/C	SE-3	9625660	9625660	9625660	9625660	9625710	9625710	9625710
4	Double nut	200059835P	200059835P	200059835P	200059835P	200059835P	200059835P	200059835P
5	Shut-off valve	BV777105	BV777105	BV777105	BV777105	BV777107	BV777107	BV777209
6	Non-return valve	0764935	0764935	0764935	0764935	0764936	0764976	0764937
7	Hose Adaptor	0764982	0764982	0764982	0764982	0764983	0764983	0764983
8/A	Flexible hose 2000 mm	MM2599	MM2534	MM2534	MM3365	MM2539	MM2539	MM3514
8/B	Flexible hose 3000 mm	x	MM2535	MM2535	x	MM2540	MM2540	x
10	Purge valve outlet	0764896	0764896	0764896	0764896	0764896	0764896	0764896
11	Safety valve adaptor	0764985	0764985	0764985	0764985	0764985	0764985	0764985
12	Safety valve	MM1968P	MM1968P	MM3401P	MM1968P	MM1968P	MM3382P	MM3306ACP
13A	Outlet pipe adaptor - carbon steel	0764978	0764978	0764978	0764978	0764978	0764978	0764978
13B	Outlet pipe adaptor - brass	0764977	0764977	0764977	0764977	0764977	0764977	x
13C	Outlet pipe adaptor - stainless steel	0764986	0764986	0764986	0764986	0764986	0764986	0764986
14	Sleeve nut	14099732P	14099732P	14099732P	14099732P	14099732P	14099732P	14099732P
15A	1 Cylinder wall bracket	14037116	14037116	14037116	14037116	14037116	14037116	14037116
15B	2 Cylinders wall bracket	14037117	14037117	14037117	14037117	14037117	14037117	14037117
15C	3 Cylinders wall bracket	14037118	14037118	14037118	14037118	14037118	14037118	14037118
16	Sealing washer Al	x	x	x	x	311837121815P	311837121815P	311837121815P
17	Sealing washer Cu	311325111032P	311325111032P	311325111032P	311325111032P	x	x	x

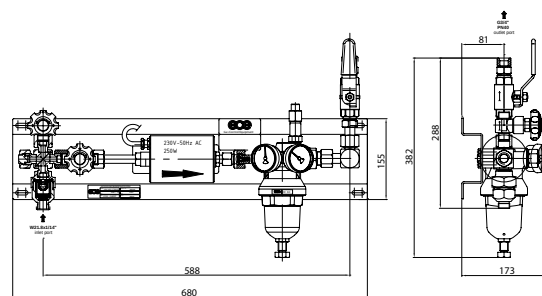


TECHNICAL DATA

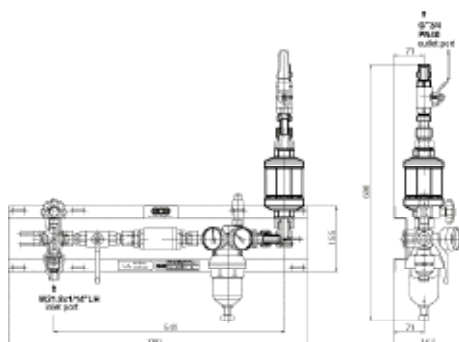
	Oxy, Inert, CO ₂	Acetylene	Hydrogen	Propane
Regulator type	MR400/MR60 (40 bar)	MR60	MR400	MR60
Body, bonnet material	Brass	Brass (Cu<65%)	Brass	Brass
Connectors & fittings material	Brass, stainless steel	Brass (Cu<65%), stainless steel	Brass, stainless steel	Brass, stainless steel
Diaphragm material	Butyl	Butyl	NBR	NBR
Seat sealing material	PA/PTFE (40 bar)	PTFE	PA	PTFE
Wall bracket	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Maximal inlet pressure	300 bar	30 bar	300 bar	30 bar
Maximal flow rate	400 Nm ³ /h	28 Nm ³ /h	450 Nm ³ /h	50 Nm ³ /h
Nominal flow rate	250 Nm ³ /h	25 Nm ³ /h	270 Nm ³ /h	35 Nm ³ /h
Temperature range	from -20 °C to 60 °C	from -20 °C to 60 °C	from -20 °C to 60 °C	from -20 °C to 60 °C



O, D, N, CO₂, H, P



CO₂ with preheater



Acetylene



PROLINE MANUAL CHANGEOVER MANIFOLD HIGH FLOW

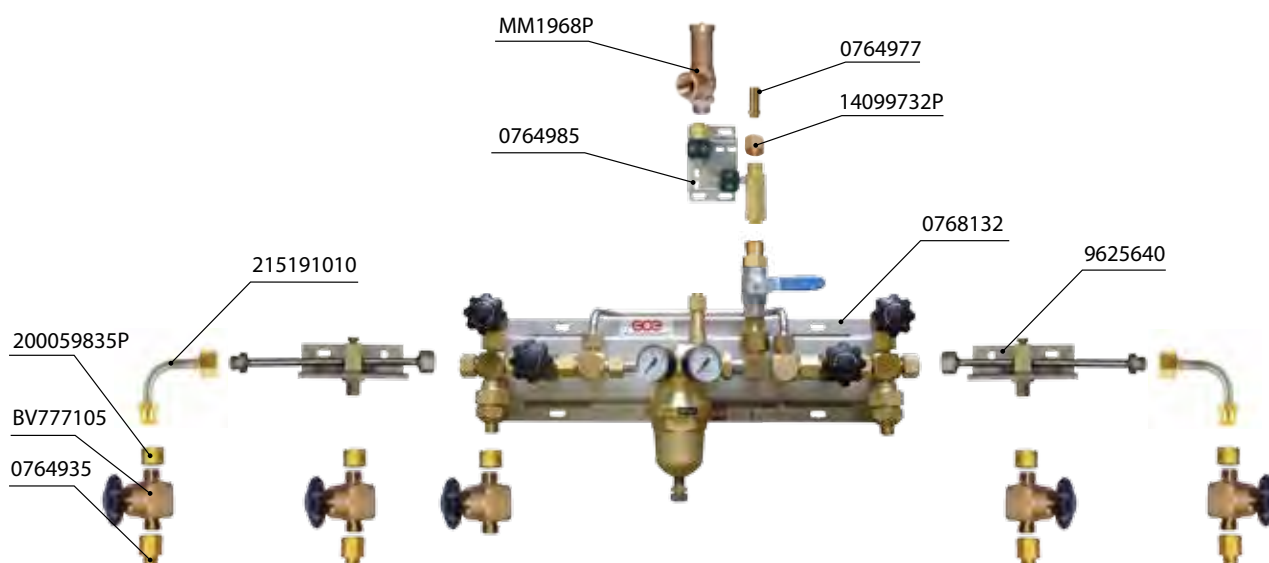
Manual changeover manifold with regulators MR60 or MR400 for high-flow applications for different gases with inlet pressure up to 300bar. Manifolds contain inlet x-block with non-return valve and filter, purge valve and second inlet from site with the potential to install extension units. Purge valves can be used for pressure release when cylinder/bundle hose is disconnected. There is also a high pressure shut-off valve, regulator with pressure relief valve and outlet ball valve mounted on the stainless steel panel.

Gas manifold with regulator for MR60 for high-flow acetylene applications.

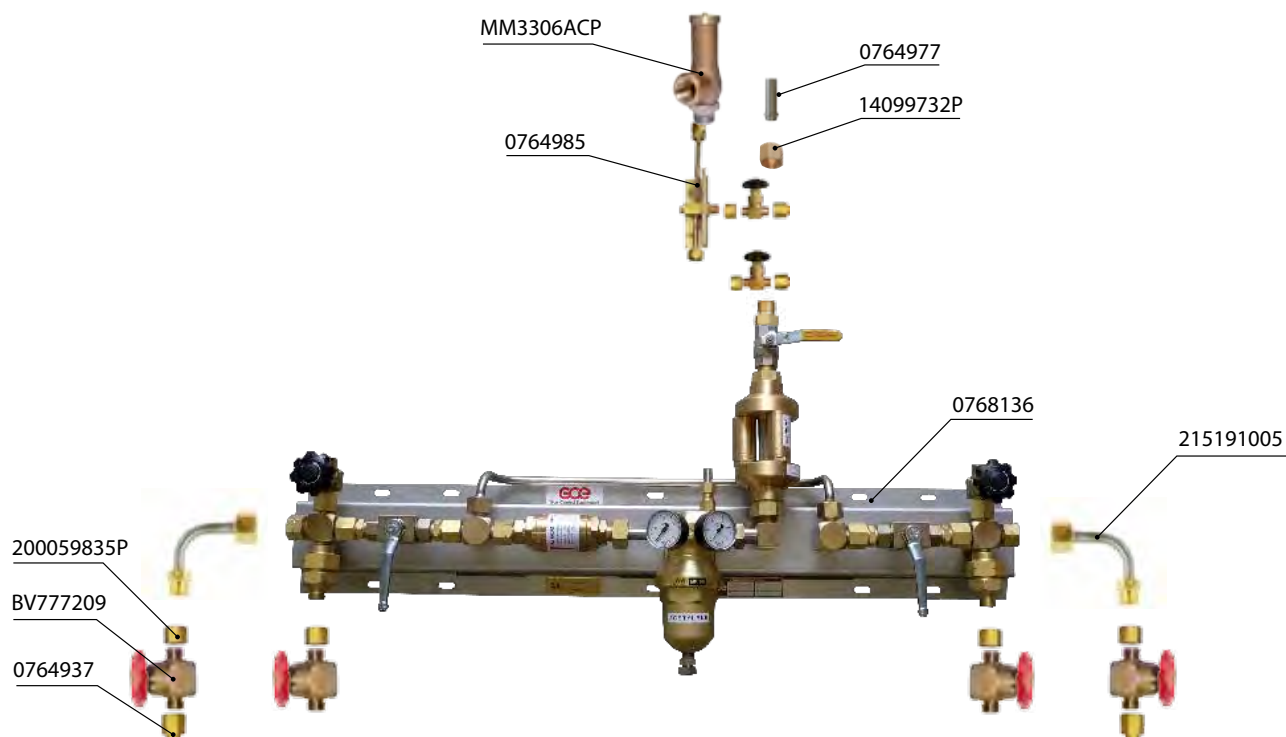
Acetylene variant of MM400-2 is designed and produced in accordance with ISO 14 114.

The inlet x-block with mounted purge valves, non-return valves and filters, enables safe operation with high pressure acetylene. There are used manual and also automatic quick acting shut-off valves upstream of the regulator. These devices are tested according to ISO 15 615. There is a flashback arrestor Simax 3 (EN 730-1, ISO 5175) fitted downstream of the regulator and also an outlet ball valve.

MM400-2 for 2x3 Oxygen cylinders with SE-1, shut-off valves, non-return valves and safety valve assembly



MM400-2 for 2x2 Acetylene cylinders with shut-off valves, non-return valves and safety valve assembly

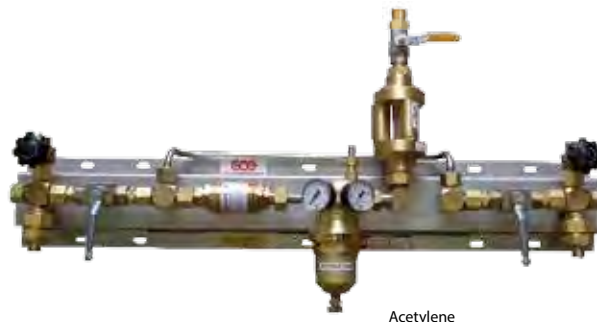


MM400-2 MANIFOLD UNIT

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0768132	MM400-2	O, D, N, CO ₂ , 300/20 bar	W21,8x1/14"	G3/4", DN20
0768146	MM400-2	O, D, N, CO ₂ , 300/40 bar	W21,8x1/14"	G3/4", DN20
0768145	MM400-2 PH	O, D, N, CO ₂ , 300/20 bar, with preheater	W21,8x1/14"	G3/4", DN20
0768133	MM400-2	Hydrogen/methan, 300/20 bar	W21,8x1/14"LH	G3/4", DN20
0768135	MM400-2	Propane, 25/4 bar	W21,8x1/14"LH	G3/4", DN20
0768136	MM400-2	Acetylene, 25/1,5 bar	W21,8x1/14"LH	G3/4", DN20



O, D, N, CO₂, H, P



Acetylene

SE LINE HEADERS

High pressure manifold extension unit. SE-line manifolds contain collecting tubes in adjustable positions. The axial distance between the tube and the wall bracket is changeable. This enables SE-line application for both M70 line and M400 line manifolds. The tube and the wall bracket are made of stainless steel. Connection blocks are made of brass. One block will always include an outlet connection for the optional fitting of a gauge or contact alarm gauge.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
9625640	SE-1	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625690	SE-1	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625650	SE-2	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625700	SE-2	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625660	SE-4	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625710	SE-4	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH



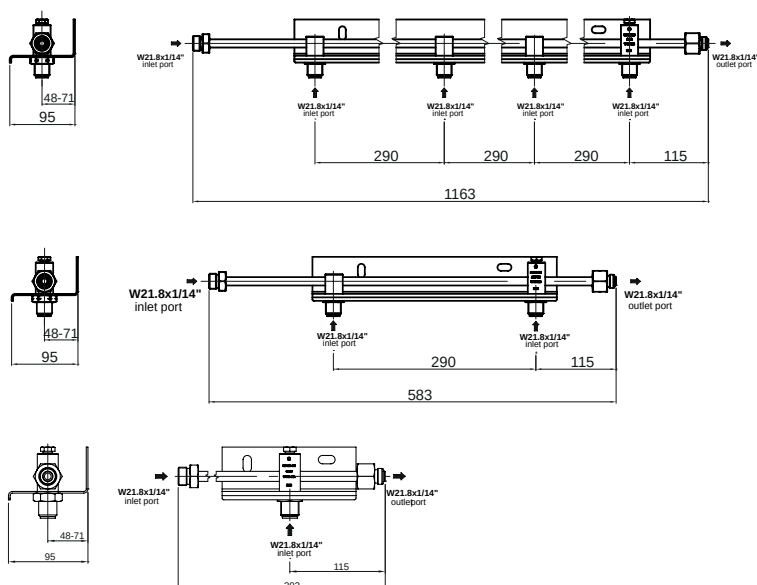
9625640



9625650



9625660



SHUT-OFF VALVES DN4 AND DN8 FOR EXTENSION UNITS



BV777105

BV777209

SOV DN4 should be used for extension modules of M70 Line manifolds. BV 300 DN8 are designed for M400 Line manifolds.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
BV777105	BV 300 DN8	O, D, N, CO ₂ , 300 bar	W21,8×1/14"	W21,8×1/14"LH
BV777106	BV 300 DN8	Inert, 300 bar	W21,8×1/14"	W21,8×1/14"LH
BV777107	BV 300 DN8	H, M, P, 300 bar	W21,8×1/14"LH	W21,8×1/14"
BV777209	BV 300 DN8	Acetylene, 25 bar	W21,8×1/14"LH	W21,8×1/14"

HIGH PRESSURE ACETYLENE BALL VALVE



High pressure acetylene isolating valve and manual quick acting shut-off valve according to ISO 14114 and ISO 15615.

Art. Nr.	Connection
SPP27990019	G1/2"

NON RETURN VALVES



Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0764935	Non return valve	O, D, N, CO ₂ , 300 bar	W21,8×1/14"	W21,8×1/14"
0764936	Non return valve	H, M, 300 bar	W21,8×1/14"LH	W21,8×1/14"LH
0764937	Non return valve	Acetylene, 25 bar	W21,8×1/14"LH	W21,8×1/14"LH
0764976	Non return valve	Propane, 20 bar	W21,8×1/14"LH	W21,8×1/14"LH

CYLINDER WALL BRACKET



Art. Nr.	Description
14037116	for 1 cylinder
14037117	for 2 cylinders
14037118	for 3 cylinders

HIGH PRESSURE ACCESSORIES



Art. Nr.	Description	Gas, Max. pressure	Inlet	Outlet
215191005	Tube 90° SS	A, P, H, M; 300 bar	W21,8×1/14"LH female	W21,8×1/14"LH male
215191010	Tube 90° SS	O, D, N, CO ₂ ; 300 bar	W21,8×1/14" female	W21,8×1/14" male
200059835P	Double nut	All gases; 300 bar	W21,8×1/14"	W21,8×1/14"LH
215191081	Plug with nut	A, P, H, M; 300 bar	W21,8×1/14"LH	
215191080	Plug with nut	O, D, N, CO ₂ ; 300 bar	W21,8×1/14"	
0764982	Manifold adaptor for flexible hose - O, D, N, CO ₂			
0764983	Manifold adaptor for flexible hose - A, P, H, M			
311837121815P	Alu sealing gasket (package of 5 pcs), 18×12,0×1,5			
311325111032P	Cu sealing gasket (package of 10 pcs), 18×12,7×1,5			

GAS PREHEATER - GGP 200



H28054801

Inlet pressure up to 300bar for inert gases. The expansion of high compressed gases i.e. CO₂ and argon CO₂ mixtures can cause freezing in regulators. This could require a gas preheater to prevent freezing of the pressure regulator and other components of gas manifolds. Use of a preheater is recommended for higher stability of gas flow in central gas supply systems. GGP 200 is a reliable CE marked product.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
H28054801	GGP 200	Oxygen / Inert, 300 bar	W21,8×1/14"M	W21,8×1/14"F
19008004	GGP 200	Oxygen / Inert, 300 bar	W21,8×1/14"F	W21,8×1/14"M

TECHNICAL DATA

Power supply	230 V - 50 Hz
Heating power	200 W
Connecting plug	IP 44 with 2 m cable
Protection class	IP 44
Max. working temperature	40°C, +/-3°C
Safety switch	80°C, +/-5°C
Outer diameter	90 mm
Length	aprox 150 mm
Weight	aprox 2,3 kg

OUTLET CONNECTIONS



Purge valve blow-out tube for M70line and M400line manifolds. Inlet connection with sleeve nut, W21,8x1/14".

Art. Nr.	Description
0764896	Purge valve outlet W21,8x1/14"

HIGH PRESSURE FLEXIBLE HOSES



MM2534

The high pressure flexible hoses are produced in accordance to ISO 14113. The PTFE inner liner is covered by stainless steel braided mantle. Cylinder and manifold connectors are made of brass. The hose for oxygen service contains heat sink at the manifold end.

Art. Nr.	Gas type	Pressure	Lenght	Specification
MM2599	Oxygen	300 bar	2000 mm	Incl. heat sink
MM2534	Argon, Nitrogen	300 bar	2000 mm	
MM2535	Argon, Nitrogen	300 bar	3000 mm	
MM3365	CO ₂	300 bar	2000 mm	
MM2539	Hydrogen, Propane	300 bar	2000 mm	
MM2540	Hydrogen, Propane	300 bar	3000 mm	
MM3514	Acetylene	30 bar	2000 mm	Incl. non-return valve

SAFETY RELIEF VALVES



Safety relief valves protect pipe works and components of the gas supply system against abnormal pressure increase. They are CE marked and produced and tested according to PED 97/23/EC.

Art. Nr.	Gas type	Opening pressure	Inlet connection
MM1968P	O, D, N, CO ₂ , H	28 bar (406 psi)	G 1/2" m
MM3401P	N (Argon, Nitrogen)	52 bar (754 psi)	G 1/2" m
MM3382P	P (Propane)	6 bar (87 psi)	G 1/2" m
MM3306ACP	A (Acetylene)	1,9 bar (27,5 psi)	G 1/2" m

SAFETY VALVE MOUNTING KIT



It is adopter for easy and stabile installation of the safety valve downstream the high pressure manifold.

Art. Nr.	Gas type	Connections
0764985	All	G 3/4"

WELDING AND BRAZING SOCKETS G3/4"



Accessories for 400-line manifolds according to EN 560.

Art. Nr.	Material	Out diam.	Lenght
0764986	Stainless steel	19 mm	50 mm
0764977	Brass	19 mm	50 mm
0764978	Carbon steel	19 mm	50 mm

SLEEVE NUTS



Accessories according to EN 560.

Art. Nr.	Material	Connection
14099732P	Brass	G3/4"

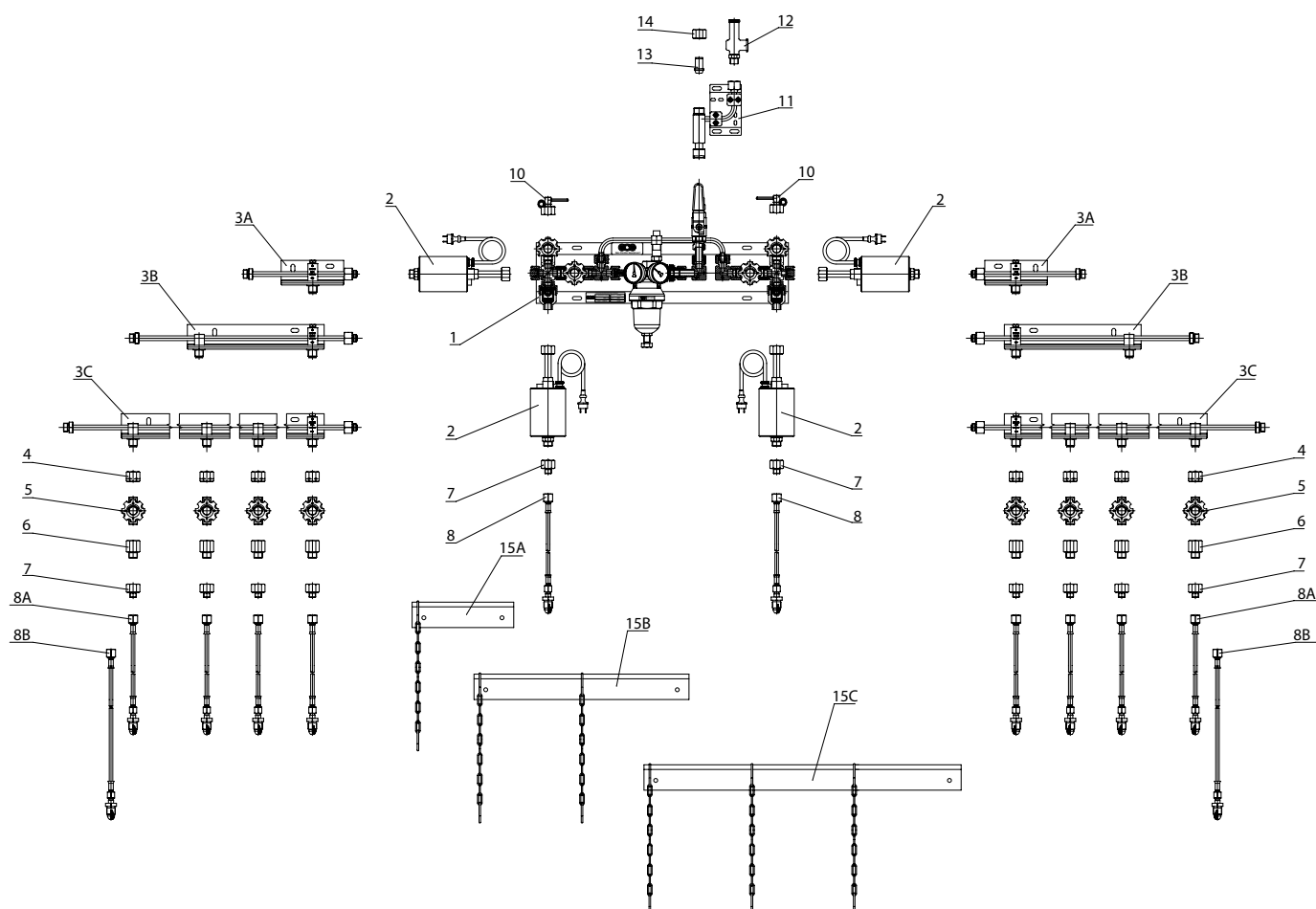
CONTACT ALARM GAUGES



The contact alarm gauge can be fitted on the high pressure side of the manifold in order to monitor the cylinder pressure. When the preset value is reached the alarm signal is sent to alarm unit.

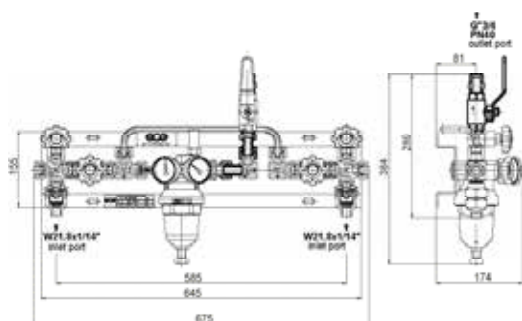
Art. Nr.	Connection	Gas	Pressure range (bar)
SPK27990015	G1/4", rear inlet	O, D, N, H	400/300
SPK27990037	G1/4", rear inlet	A	40/30

Pos.	Item	Oxygen 300/10bar	"Argon 300/10bar Nitrogen 300/10bar"	CO2 300/10bar	Hydrogen 300/10bar	Propane 25/2,5bar	Acetylene 25/1,5bar	Acetylene 25/1,5bar
1	MM400-2	0768132	0768132	0768146	0768132	0768133	0768135	0768136
2	Preheater	x	x	x	19008004	x	x	x
3/A	SE-1	9625640	9625640	9625640	9625640	9625690	9625690	9625690
3/B	SE-2	9625650	9625650	9625650	9625650	9625700	9625700	9625700
3/C	SE-3	9625660	9625660	9625660	9625660	9625710	9625710	9625710
4	Double nut	200059835P	200059835P	200059835P	200059835P	200059835P	200059835P	200059835P
5	Shut-off valve	BV777105	BV777105	BV777105	BV777105	BV777107	BV777107	BV777209
6	Non-return valve	0764935	0764935	0764935	0764935	0764936	0764976	0764937
7	Hose Adaptor	0764982	0764982	0764982	0764982	0764983	0764983	0764983
8/A	Flexible hose 2000 mm	MM2599	MM2534	MM2534	MM3365	MM2539	MM2539	MM3514
8/B	Flexible hose 3000 mm	x	MM2535	MM2535	x	MM2540	MM2540	x
10	Purge valve outlet	0764896	0764896	0764896	0764896	0764896	0764896	0764896
11	Safety valve adaptor	0764985	0764985	0764985	0764985	0764985	0764985	0764985
12	Safety valve	MM1968P	MM1968P	MM3401P	MM1968P	MM1968P	MM3382P	MM3306ACP
13A	Outlet pipe adaptor - carbon steel	0764978	0764978	0764978	0764978	0764978	0764978	0764978
13B	Outlet pipe adaptor - brass	0764977	0764977	0764977	0764977	0764977	0764977	x
13C	Outlet pipe adaptor - stainless steel	0764986	0764986	0764986	0764986	0764986	0764986	0764986
14	Sleeve nut	14099732P	14099732P	14099732P	14099732P	14099732P	14099732P	14099732P
15A	1 Cylinder wall bracket	14037116	14037116	14037116	14037116	14037116	14037116	14037116
15B	2 Cylinders wall bracket	14037117	14037117	14037117	14037117	14037117	14037117	14037117
15C	3 Cylinders wall bracket	14037118	14037118	14037118	14037118	14037118	14037118	14037118
16	Sealing washer Al	x	x	x	x	311837121815P	311837121815P	311837121815P
17	Sealing washer Cu	311325111032P	311325111032P	311325111032P	311325111032P	x	x	x

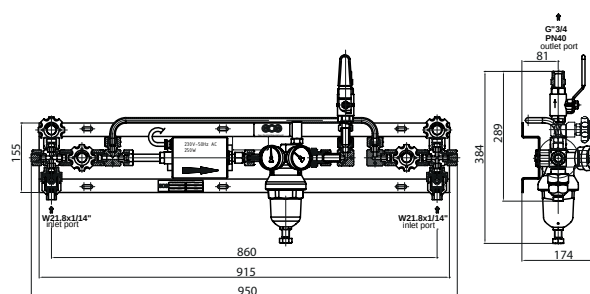


TECHNICAL DATA

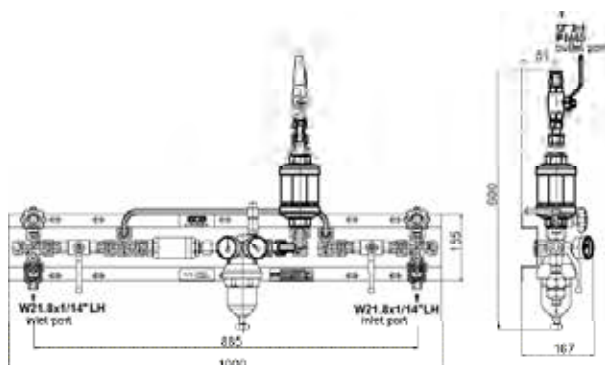
	Oxy, Inert, CO ₂	Acetylene	Hydrogen	Propane
Regulator type	MR400/MR60 (40 bar)	MR60	MR400	MR60
Body, bonnet material	Brass	Brass (Cu<65%)	Brass	Brass
Connectors & fittings material	Brass, stainless steel	Brass (Cu<65%), stainless steel	Brass, stainless steel	Brass, stainless steel
Diaphragm material	Butyl	Butyl	NBR	NBR
Seat sealing material	PA/PTFE (40 bar)	PTFE	PA	PTFE
Wall bracket	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Maximal inlet pressure	300 bar	30 bar	300 bar	30 bar
Maximal flow rate	400 Nm ³ /h	28 Nm ³ /h	450 Nm ³ /h	50 Nm ³ /h
Nominal flow rate	250 Nm ³ /h	25 Nm ³ /h	270 Nm ³ /h	35 Nm ³ /h
Temperature range	from -20 °C to 60 °C	from -20 °C to 60 °C	from -20 °C to 60 °C	from -20 °C to 60 °C



O, D, N, CO₂, H, P



CO₂ with preheater



Acetylene



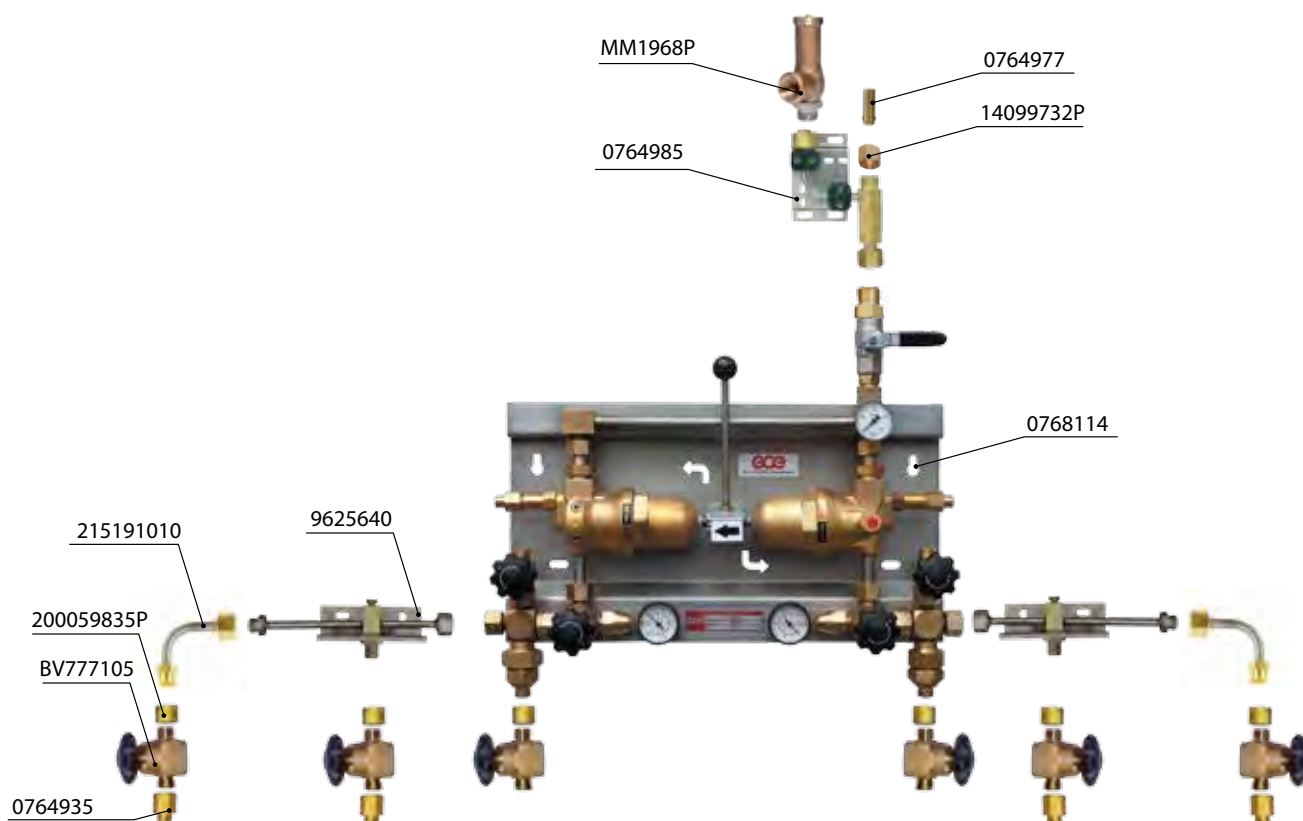
PROLINE AUTOCHANGE MANIFOLD HIGH FLOW

The MS400 semi-automatic manifold reduces compressed gases of max. 300bar to a continuous gas supply of 18-22bar or 37-43bar. It is designed for two types of gas source (cylinders or cylinder bundles). However, only on side at a time is the operating one and the other is then the reserve side.

The MS400 will ensure continuity of gas flow by automatically changing from a nearly empty side to a full (reserve) side. MS400 is a complete valve unit with high pressure filters, isolating valves, purge valves, regulators, auto-change unit and a low pressure pipe with line shut-off valve. Components are assembled and fitted on the stable stainless steel plate. The inlet x-block contains a spare port for extensions for more gas sources.

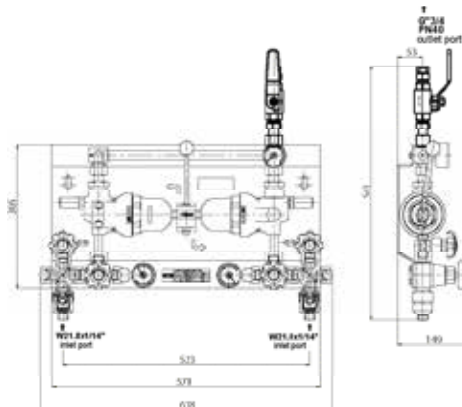
MS400 can be used for oxygen and inert gases as nitrogen, argon, CO₂ and their mixtures. The variant for fuel gas can be used for hydrogen, methane and their mixtures. It is the optimal solution for continuous gas supply for industrial applications as e.g. welding & cutting, assisting gas supply for laser cutting and many other applications. There are also variants with contact gauges giving alarm information about switching over to reserve side.

MS400 for 2x3 Oxygen cylinders with SE-1, shut-off valves, non-return valves and safety valve assembly



MS400 MANIFOLD UNIT

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0768114	MS400	O, D, N, CO ₂ , 300 bar/20 bar	W21,8x1/14"	G3/4", DN20
0768164	MS400 CG	O, D, N, CO ₂ , 300 bar/20 bar, with contact gauge	W21,8x1/14"	G3/4", DN20
0768191	MS400 CG	O, D, N, CO ₂ , 300 bar/40 bar, with contact gauge	W21,8x1/14"	G3/4", DN20
0768192	MS400	O, D, N, CO ₂ , 300 bar/40 bar	W21,8x1/14"	G3/4", DN20
0768193	MS400	Hydrogen/methan; 300 bar/20 bar	W21,8x1/14" LH	G3/4", DN20
0768212	MS400 CG	Hydrogen/methan; 300 bar/20 bar, with contact gauge	W21,8x1/14" LH	G3/4", DN20



SE LINE HEADERS

High pressure manifold extension unit. SE-line manifolds contain collecting tubes in adjustable positions. The axial distance between the tube and the wall bracket is changeable. This enables SE-line application for both M70 line and M400 line manifolds. The tube and the wall bracket are made of stainless steel. Connection blocks are made of brass. One block will always include an outlet connection for the optional fitting of a gauge or contact alarm gauge.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
9625640	SE-1	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625690	SE-1	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625650	SE-2	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625700	SE-2	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH
9625660	SE-4	O, D, N, CO ₂ , 300 bar	W21,8x1/14"	W21,8x1/14"
9625710	SE-4	All fuel gases, 300 bar	W21,8x1/14"LH	W21,8x1/14"LH



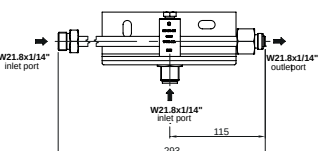
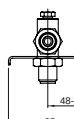
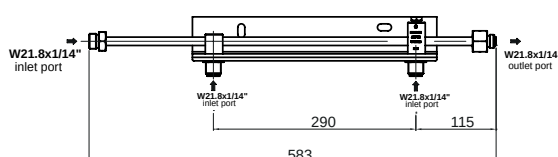
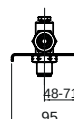
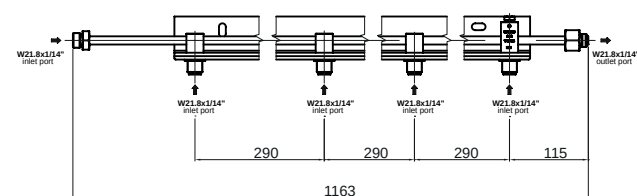
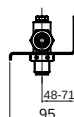
9625640



9625650



9625660



SHUT-OFF VALVES DN8 FOR EXTENSION HEADERS



BV777105

SOV DN4 should be used for extension modules of M70 Line manifolds. BV 300 DN8 are designed for M400 Line manifolds.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
BV777105	BV 300 DN8	O, D, N, CO ₂ , 300 bar	W21,8×1/14"	W21,8×1/14"LH
BV777106	BV 300 DN8	Inert, 300 bar	W21,8×1/14"	W21,8×1/14"LH
BV777107	BV 300 DN8	H, M, P, 300 bar	W21,8×1/14"LH	W21,8×1/14"

NON RETURN VALVES



Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0764935	Non return valve	O, D, N, CO ₂ , 300 bar	W21,8×1/14"	W21,8×1/14"
0764936	Non return valve	H, M, 300 bar	W21,8×1/14"LH	W21,8×1/14"LH
0764937	Non return valve	Acetylene, 25 bar	W21,8×1/14"LH	W21,8×1/14"LH
0764976	Non return valve	Propane, 20 bar	W21,8×1/14"LH	W21,8×1/14"LH

CYLINDER WALL BRACKET



Art. Nr.	Description
14037116	for 1 cylinder
14037117	for 2 cylinders
14037118	for 3 cylinders

HIGH PRESSURE ACCESSORIES



Art. Nr.	Description	Gas, Max. pressure	Inlet	Outlet
215191005	Tube 90° SS	A, P, H, M; 300 bar	W21,8×1/14"LH female	W21,8×1/14"LH male
215191010	Tube 90° SS	O, D, N, CO ₂ ; 300 bar	W21,8×1/14" female	W21,8×1/14" male
200059835P	Double nut	All gases; 300 bar	W21,8×1/14"	W21,8×1/14"LH
215191081	Plug with nut	A, P, H, M; 300 bar	W21,8×1/14"LH	
215191080	Plug with nut	O, D, N, CO ₂ ; 300 bar	W21,8×1/14"	
0764982	Manifold adaptor for flexible hose - O, D, N, CO ₂			
0764983	Manifold adaptor for flexible hose - A, P, H, M			
311837121815P	Alu sealing gasket (package of 5 pcs), 18×12,0×1,5			
311325111032P	Cu sealing gasket (package of 10 pcs), 18×12,7×1,5			

GAS PREHEATER - GGP 200



H28054801

Inlet pressure up to 300bar for inert gases. The expansion of high compressed gases i.e. CO₂ and argon CO₂ mixtures can cause freezing in regulators. This could require a gas preheater to prevent freezing of the pressure regulator and other components of gas manifolds. Use of a preheater is recommended for higher stability of gas flow in central gas supply systems. GGP 200 is a reliable CE marked product.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
H28054801	GGP 200	Oxygen / Inert, 300 bar	W21,8×1/14"M	W21,8×1/14"F

TECHNICAL DATA

Power supply	230 V - 50 Hz
Heating power	200 W
Connecting plug	IP 44 with 2 m cable
Protection class	IP 44
Max. working temperature	40°C, +/-3°C
Safety switch	80°C, +/-5°C
Outer diameter	90 mm
Length	aprox 150 mm
Weight	aprox 2,3 kg

OUTLET CONNECTIONS



Purge valve blow-out tube for M70line and M400line manifolds. Inlet connection with sleeve nut, W21,8x1/14".

Art. Nr.	Description
0764896	Purge valve outlet W21,8x1/14"

HIGH PRESSURE FLEXIBLE HOSES



MM2534

The high pressure flexible hoses are produced in accordance to ISO 14113. The PTFE inner liner is covered by stainless steel braided mantle. Cylinder and manifold connectors are made of brass. The hose for oxygen service contains heat sink at the manifold end.

Art. Nr.	Gas type	Pressure	Lenght	Specification
MM2599	Oxygen	300 bar	2000 mm	Incl. heat sink
MM2534	Argon, Nitrogen	300 bar	2000 mm	
MM2535	Argon, Nitrogen	300 bar	3000 mm	
MM3365	CO ₂	300 bar	2000 mm	
MM2539	Hydrogen, Propane	300 bar	2000 mm	
MM2540	Hydrogen, Propane	300 bar	3000 mm	
MM3514	Acetylene	30 bar	2000 mm	Incl. non-return valve

SAFETY RELIEF VALVES



Safety relief valves protect pipe works and components of the gas supply system against abnormal pressure increase. They are CE marked and produced and tested according to PED 97/23/EC.

Art. Nr.	Gas type	Opening pressure	Inlet connection
MM1968P	O, D, N, CO ₂ , H	28 bar (406 psi)	G 1/2" m
MM1965P	O, D, N, CO ₂ , H ₂	11,2 bar (162 psi)	G 1/2" m
MM3382P	P (Propane)	6 bar (87 psi)	G 1/2" m

SAFETY VALVE MOUNTING KIT



It is adaptor for easy and stable installation of the safety valve downstream the high pressure manifold.

Art. Nr.	Gas type	Connections
0764985	All	G 3/4"

WELDING AND BRAZING SOCKETS G3/4"



Accessories for 400-line manifolds according to EN 560.

Art. Nr.	Material	Out diam.	Lenght
0764986	Stainless steel	19 mm	50 mm
0764977	Brass	19 mm	50 mm
0764978	Carbon steel	19 mm	50 mm

SLEEVE NUTS



Accessories according to EN 560.

Art. Nr.	Material	Connection
14099732P	Brass	G3/4"

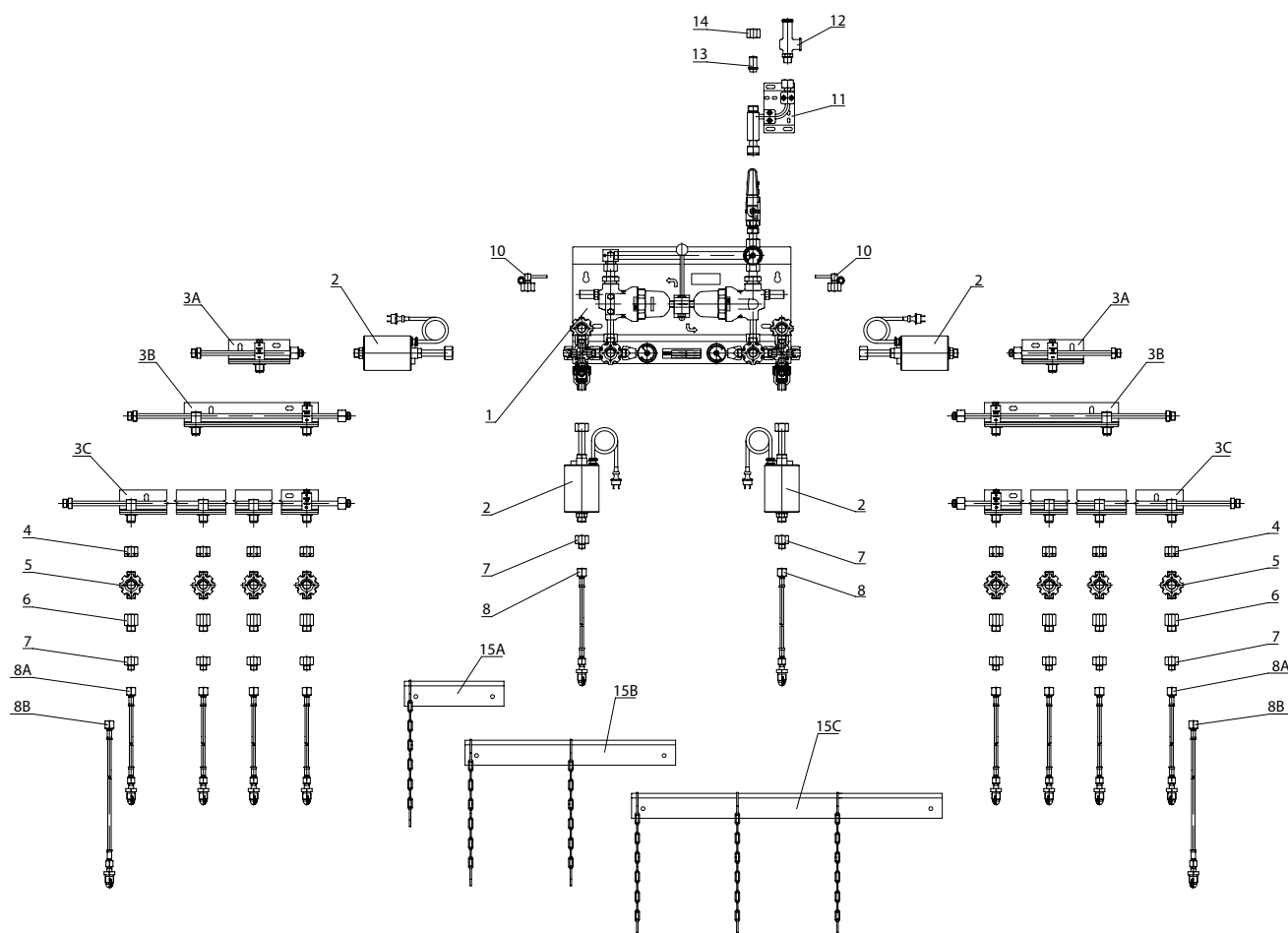
CONTACT ALARM GAUGES



The contact alarm gauge can be fitted on the high pressure side of the manifold in order to monitor the cylinder pressure. When the preset value is reached the alarm signal is sent to alarm unit.

Art. Nr.	Connection	Gas	Pressure range (bar)
XL2340P	G1/4"	O, D, N, H	400/300
SPK27990009	G1/4"	CO ₂	160/120

Pos.	Item	Oxygen 300/20bar	"Argon 300/20bar Nitrogen 300/20bar"	"Argon 300/40bar Nitrogen 300/40bar"	CO2 300/20bar	Hydrogen 300/20bar
1A	MS400	0768114	0768114	0768192	0768114	0768193
1B	MS400 CG (incl. contact alarm gauges)	0768164	0768164	0768191	0768164	0768212
2	Preheater	x	x	x	19008004	x
3/A	SE-1	9625640	9625640	9625640	9625640	9625690
3/B	SE-2	9625650	9625650	9625650	9625650	9625700
3/C	SE-3	9625660	9625660	9625660	9625660	9625710
4	Double nut	200059835P	200059835P	200059835P	200059835P	200059835P
5	Shut-off valve	BV777105	BV777105	BV777105	BV777105	BV777107
6	Non-return valve	0764935	0764935	0764935	0764935	0764936
7	Hose Adaptor	0764982	0764982	0764982	0764982	0764983
8/A	Flexible hose 2000 mm	MM2599	MM2534	MM2534	MM3365	MM2539
8/B	Flexible hose 3000 mm	x	MM2535	MM2535	x	MM2540
10	Purge valve outlet	0764896	0764896	0764896	0764896	0764896
11	Safety valve adaptor	0764985	0764985	0764985	0764985	0764985
12	Safety valve	MM1968P	MM1968P	MM3401P	MM1968P	MM1968P
13A	Outlet pipe adaptor - carbon steel	0764978	0764978	0764978	0764978	0764978
13B	Outlet pipe adaptor - brass	0764977	0764977	0764977	0764977	0764977
13C	Outlet pipe adaptor - stainless steel	0764986	0764986	0764986	0764986	0764986
14	Sleeve nut	14099732P	14099732P	14099732P	14099732P	14099732P
15A	1 Cylinder wall bracket	14037116	14037116	14037116	14037116	14037116
15B	2 Cylinders wall bracket	14037117	14037117	14037117	14037117	14037117
15C	3 Cylinders wall bracket	14037118	14037118	14037118	14037118	14037118
16	Sealing washer Al	x	x	x	x	311837121815P
17	Sealing washer Cu	311325111032P	311325111032P	311325111032P	311325111032P	x



TECHNICAL DATA

	Oxy, Inert, CO ₂	Hydrogen
Regulator type	MR400/MR60 (40 bar)	MR400
Body, bonnet material	Brass	Brass
Connectors & fittings material	Brass, stainless steel	Brass, stainless steel
Diaphragm material	Butyl	NBR
Seat sealing material	PA/PTFE (40 bar)	PA
Wall bracket	Stainless steel	Stainless steel
Maximal inlet pressure	300 bar	300 bar
Maximal flow rate	400 Nm ³ /h	450 Nm ³ /h
Nominal flow rate	250 Nm ³ /h	270 Nm ³ /h
Temperature range	from -20 °C to 60 °C	from -20 °C to 60 °C



ACCESSORIES

LINE FILTER



Nominal flow rate: 800 Nm³/h at 40 bar, pressure drop: max 15 bar.

Art. Nr.	Description	Gas, Pressure	Inlet / Outlet	Filter ability
0760582	FZ 11	O, D, N, CO ₂ , Max 200 bar	M42x1,5	50 µm
SPP27990007	Spare filter insert 5 µm			
SPP27990008	Spare filter insert 50 µm			
SPP27990031	Pressure gauge, 400/300 bar			
SPP27990032	Pressure gauge, 40/20 bar			

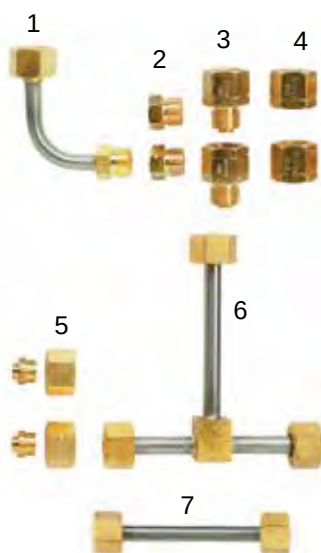
LOW PRESSURE ACETYLENE FILTER



This filter is used for filtering of mechanical particles included in acetylene from pipe works. It should be mounted at the outlet point upstream the isolating valve and regulator.

Art. Nr.	Description	Gas, Pressure	Inlet	Outlet
0863529	F 120 A	Acetylene, Max 1,5 bar	G1/2"	G3/8" LH
SPP27990021	Spare filter insert			

HIGH PRESSURE ACCESSORIES



Art. Nr.	Description	Gas, Max. pressure	Inlet	Outlet	Pos.
215191005	Tube 90° SS	A, P, H, M; 300 bar	W21,8x1/14"LH female	W21,8x1/14"LH male	1
215191010	Tube 90° SS	O, D, N, CO ₂ ; 300 bar	W21,8x1/14" female	W21,8x1/14" male	1
0768159	Tube 90° Cu	O, D, N, CO ₂ ; 300 bar	W21,8x1/14" female	W21,8x1/14" female	1
0768160	Tube 90° SS	A, P, H, M; 300 bar	W21,8x1/14"LH female	W21,8x1/14"LH female	1
9451080P	Tube straight	O, D, N, CO ₂ ; 300 bar	W21,8x1/14"	W21,8x1/14"	7
9451090P	Tube straight	A, P, H, M; 300 bar	W21,8x1/14"LH	W21,8x1/14"LH	7
215191076	Plug	A, P, H, M; 300 bar	W21,8x1/14"LH		2
215191077	Plug	O, D, N, CO ₂ ; 300 bar	W21,8x1/14"		2
215191069	Nipple	A, P, H, M; 300 bar	W21,8x1/14"LH female	W21,8x1/14 male	3
215191068	Nipple	O, D, N, CO ₂ ; 300 bar	W21,8x1/14" female	W21,8x1/14"LH male	3
200059835P	Double nut	All gases; 300 bar	W21,8x1/14"	W21,8x1/14"LH	4
215191081	Plug with nut	A, P, H, M; 300 bar	W21,8x1/14"LH		5
215191080	Plug with nut	O, D, N, CO ₂ ; 300 bar	W21,8x1/14"		5
215191084	T-piece	A, P, H, M; 300 bar	W21,8x1/14"LH female		6
215191085	T-piece	O, D, N, CO ₂ ; 300 bar	W21,8x1/14" female		6
311837121815P	Alu sealing gasket (package of 5 pcs), 18x12,0x1,5				
311325111032P	Cu sealing gasket (package of 10 pcs), 18x12,7x1,5				

HIGH PRESSURE FLEXIBLE HOSES, NEVOC



Art. Nr.	Lenght	Pressure	Gas	Cylinder connection
MM3361	600 mm	300 bar	Inert gas	W30x2
MM3362	2000 mm	300 bar	Inert gas	W30x2

BALL VALVES WITH CONNECTIONS



Accessories according to EN 560.

Art. Nr.	Connection	Nominal pressure
9457980P	G1/2"	PN40
94597890P	G1/2"	PN64
9460140P	G3/4"	PN40
9460280P	G3/4"	PN64

ACCESSORIES



Art. Nr.	Description	Gas, Max. pressure	Inlet	Outlet	Pos.
SPP27990022	Elbow	All gases; 64 bar	G1/2"	G1/2"	1
SPP27990023	Elbow	All gases; 64 bar	G3/4"	G3/4"	1
SPP27990024	T-piece	All gases; 64 bar	G1/2"	G1/2"	2
SPP27990025	T-piece	All gases; 64 bar	G3/4"	G3/4"	2
SPP27990026	T-piece	All gases; 64 bar	G1"	G1"	2

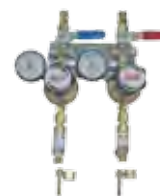
CENTRAL GAS DISTRIBUTION - OUTLET POINTS



PRODUCTS OVERVIEW

UNISSET

- Outlet points for applications and gases variants
- Unicontrol regulator type
- Available as single, double or twin units
- Design with pressure gauges, flow gauges or flowmeters with different outlet pressure and flow rate ranges



UNISSET+

- Outlet points with steel protection
- Unicontrol regulator type
- Design with pressure gauges, flow gauges or flowmeters
- For different outlet pressure and flow rate ranges



HF-SET

- High flow outlet points for 100Nm³/h or 200Nm³/h
- S100 and S200 regulators
- For oxygen and fuel gases
- Different versions as single or triple units
- Designed especially for oxygen cutting machines and other high-flow applications

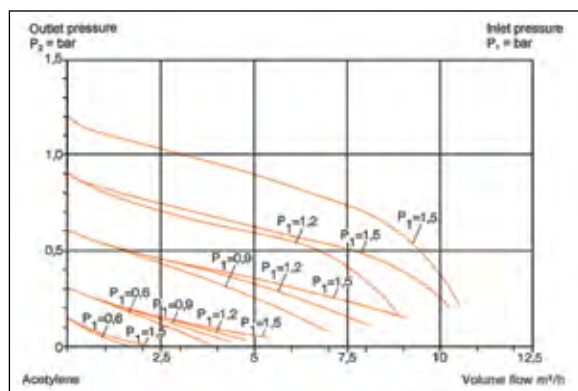


UNISET

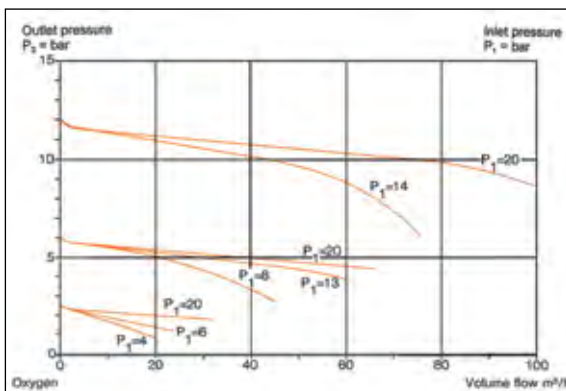
UNISET are new outlet points in GCE's proposal for industrial gases service. They were created using the long term experience with production of central gas supply systems. Variants for oxygen and fuel gases are equipped with three function flashback arrestors (FBA). There are two design types for shielding gases. The first consists of flow-gauge showing flow-rate adjusted by a pressure regulator. The second one is based on a flow-meter with an adjustment valve supplying and indicating the exact flow-rate. Components of the entire range are mounted on a stable steel wall bracket ensuring fast and safe installation. Gas supply can easily be connected to the application with outlet hose nipples.

Oxy/inert is ready for oxygen service and can also be used for argon, nitrogen, helium, carbon dioxide, compressed air and their mixtures. Special oxy-gen variants as well as acetylene and propane variants contain FBA. The fuel gas variant is designed for hydrogen, methane and natural gas. Unisets for shielding gases (Ar and Ar mixtures) show adjusted flow-rate using either pressure gauge with flow-scale or flow-meter. The special twin variant enables the connection of two welding generators at one outlet pipe. This can also be used for the combination of welding and root shielding with identical gas. Flow variant for N₂/H₂ and Ar/H₂ with outlet capacity of 50 l/min is optimal for root shielding application.

FLOW CAPACITY: ACETYLENE



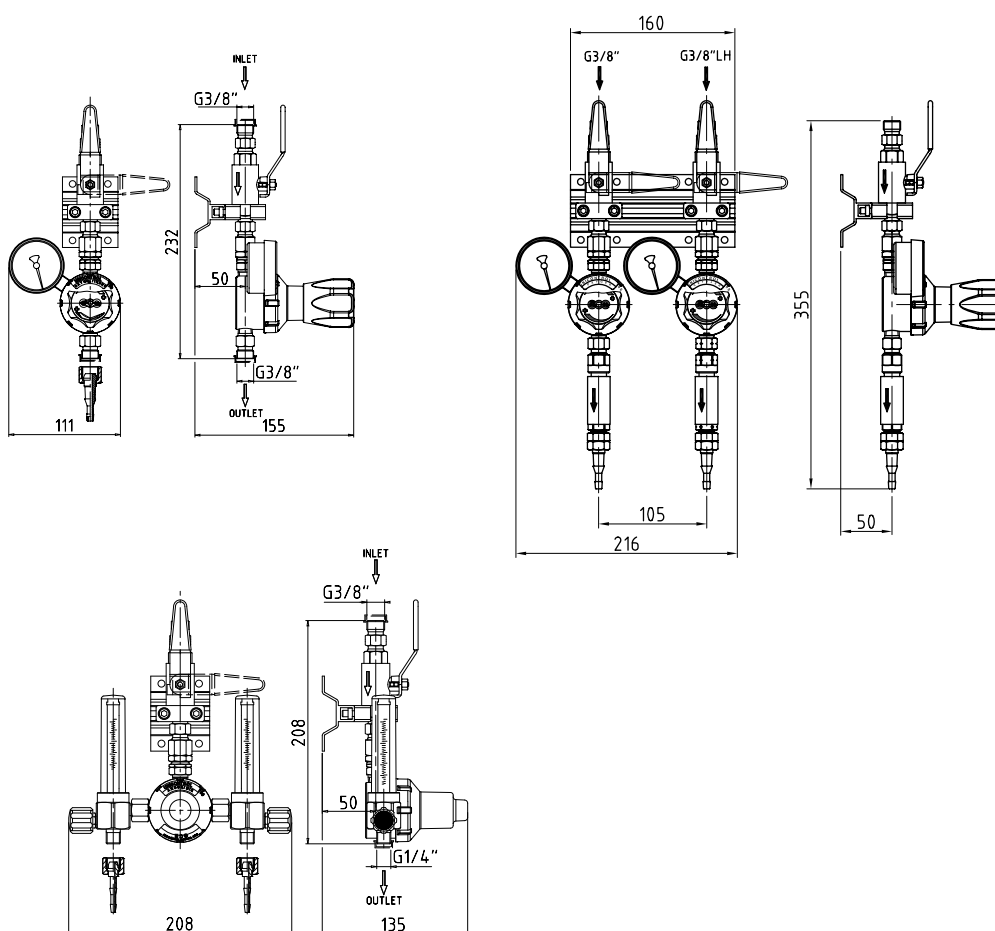
FLOW CAPACITY: OXYGEN



TECHNICAL DATA

Regulator body and bonnet	Brass
Diaphragm	EPDM, NBR
Seat sealing	PA, Chloroprene
Connectors & fittings	Brass

Wall bracket	Steel Zn-coated
Maximal inlet pressure	30 bar Oxygen
Maximal inlet pressure	40 bar Other gases
Temperature range	from -20 °C to 60 °C



UNISET SINGLE UNITS



Single units are prepared for all technical gases and can be used for all industrial processes.

Art. Nr.	Type	Gas	Outlet range	Inlet	Outlet
0768156	Uniset Single	Oxy/Inert	2,5 bar	G3/8"	G3/8" + hose nipple 6,3-8 mm
0768157	Uniset Single	Oxy/Inert	5 bar	G3/8"	G3/8" + hose nipple 6,3-8 mm
0768158	Uniset Single	Oxy/Inert	10 bar	G3/8"	G3/8" + hose nipple 6,3-8 mm
0768109	Uniset Single	Oxy/Inert	16 bar	G3/8"	G3/8" + hose nipple 6,3-8 mm
0768210	Uniset Single	Inert/Inert	40 bar	G1/2"	G3/8" + hose nipple 6,3-8 mm
0768108	Uniset Single	Oxygen	10 bar FBA	G3/8"	G3/8" + hose nipple 6,3-8 mm
0768106	Uniset Single	Acetylene	1,5 bar FBA	G3/8"LH	G3/8"LH + hose nipple 6,3-8 mm
0768107	Uniset Single	Propane	2,5 bar FBA	G3/8"LH	G3/8"LH + hose nipple 6,3-8 mm
0768190	Uniset Single	Hydrogen/methan	16 bar	G3/8"LH	G3/8"LH + hose nipple 6,3-8 mm
0768103	Uniset Single	Ar/Mix	30 l/min Gauge	G3/8"	G1/4" + hose nipple 4-6,3 mm

UNISET FLOW



Single units for shielding gases with flow-meter and dosing valve are giving and showing exact flow-rate.

Art. Nr.	Type	Gas	Outlet range	Inlet	Outlet
0768104	Uniset Flow	Ar/Mix	15 l/min Flow	G3/8"	G1/4" + hose nipple 4-6,3 mm
0768155	Uniset Flow	Ar/Mix	30 l/min Flow	G3/8"	G1/4" + hose nipple 4-6,3 mm
0768260	Uniset Flow	N ₂ /H ₂ , Ar/H ₂	32 l/min Flow	G3/8"LH	G3/8"LH + hose nipple 6,3-8 mm
0768105	Uniset Twinflow	Ar/Mix-Ar/Mix	30 l/min Flow	G3/8"	2x G1/4" + 2x hose nipple 4-6,3 mm

UNISET DOUBLE UNITS



Double units are useful for oxy-fuel applications as well as for arc welding and plasma applications including root shielding. Other gas combination are on request.

Art. Nr.	Type	Gas	Outlet range	Inlet, Outlet
0768250	Uniset Double	Oxy - Ace	10 bar - 1,5 bar FBA	see single units
0768240	Uniset Double	Oxy - Prop	10 bar - 2,5 bar FBA	see single units

UNISET SPARE PARTS, FLOW-METERS

Flow-meters as a spare parts but can be used also for other applications.

Art. Nr.	Type	Gas	Outlet range	Inlet	Outlet
0768170	Flowmeter	Ar/Mix	30 l/min	G3/8"	hose nipple 6,3 mm
0768180	Flowmeter	Ar/Mix	15 l/min	G3/8"	hose nipple 6,3 mm

BRAZING AND WELDING NIPPLES, NUTS



Connecting nipples, outer diameter 12 mm.

Art. Nr.	Type	Material
14018004P	Welding nipple G3/8"	Carbon steel
4A19020P	Welding nipple G3/8"	Stainless steel
14018024P	Brazing nipple G3/8"	Brass
548200018932P	Swivel nut G3/8"LH	Brass
548200018934P	Swivel nut G3/8"	Brass

UNISET+

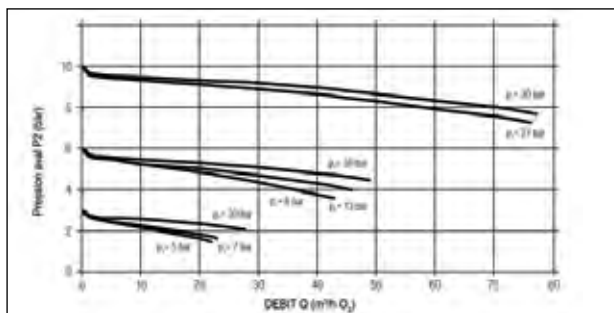
UNISET+ outlet points are an innovation in the field of central gas supply in deed. Excellent protection, given by the external steel cover, is combined with excellent look and easy assembly. Their high precision gives the possibility to use them with any industrial application.

UNISET+ outlet points are based on inlet ball valve and line pressure regulator. All variants include inlet brazing socket for 8 mm tube and outlet hose nipple. Oxygen, acetylene and fuel gas version contain also pressure gauge and outlet safety device MV93. MV93 is flashback arrestor protecting pipe works and gas source against flame coming from application in case of safety issue. There are two types for shielding gases (Ar, Ar/CO₂ and Ar/O₂ mixtures). First of them consists of flow-gauge showing flow-rate adjusted by pressure regulator. The second one is based on flow-meter with dosing valve giving and showing exact flow-rate.

UNISET+ outlet points are also called „Easy Work“ because of fast installation and easy handling. They can be mounted in less than 15 minutes, using appropriate tools.

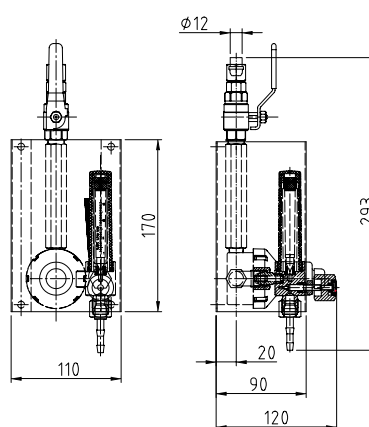
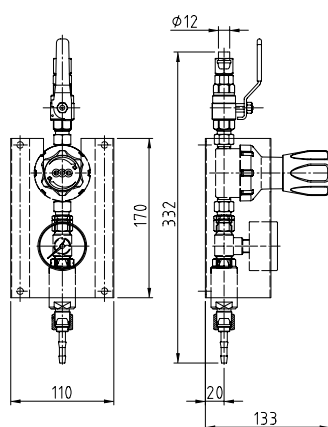
Maintenance operation thus makes very simply to be executed by just removing the metal cover, fully independent from the internal parts.

FLOW CAPACITY: OXYGEN



TECHNICAL DATA

Regulator body and bonnet	Brass, Zn alloy
Diaphragm	EPDM, NBR
Seat sealing	PA, Chloroprene
Connectors & fittings	Brass
Cover	Stainless steel
Flashback arrestor	Brass Ni-coated
Maximal inlet pressure	30 bar Oxygen
Maximal inlet pressure	40 bar Inert gases
Temperature range	from -20 °C to 60 °C



UNISET+



TYPICAL APPLICATION:

welding, cutting and allied processes

Art. Nr.	Gas	Outlet range	Inlet	Outlet
CE14000	Oxygen	0-10 bar	G3/8"	G3/8"
CE14100	Acetylene	0-1,5 bar	G3/8"	G3/8"LH
CE14105	Hydrogen/methan/LPG	0-4 bar	G3/8"	G3/8"LH
CE14200	Shielding gas	0-32 l/min Gauge	G3/8"	G3/8"
CE14250	Shielding gas	0-30 l/min Flow-meter	G3/8"	G3/8"
CE14300	Inert gases	0-10 bar	G3/8"	G3/8"

HF-SET

HF-set are outlet points for high flow applications. They were originally designed for the installation of oxygen cutting machines but, because of their high flow capacity, they can be used for all industrial processes. Outlet points are based on two regulators. The S100 regulator is prepared for oxygen, acetylene and propane (this can also be used for natural gas). The maximal flow capacity of a S100 regulator is 100 Nm³/h for oxygen and 20 Nm³/h for fuel gases. Options can be added such as flashback arrestor GVA 90 or GVO 90. The S200 regulator is designed for oxygen and has a maximal flow capacity of 200 Nm³/h. The maximal inlet pressure of HF-set outlet points is 30bar for oxygen and 40bar for other industrial gases

HF S100/S200



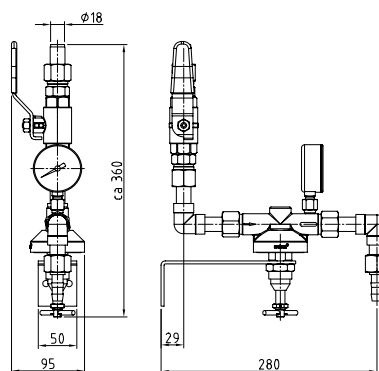
Type S200

Individual high-capacity outlet points for various industrial oxy-fuel applications. There are versions for oxygen with S100 or S200 regulators, version for acetylene and for propane, both with S100 (BG20) regulator. Products can be equipped with flashback arrestor (FBA) GVO90 or GVA90.

Art. Nr.	Description	Flow capacity	Outlet pressure	Inlet	Outlet
14016242	Oxygen S100	100 m ³ /h	10 bar	G3/4"	G3/4", ø12,5
0768195	Oxygen S100	100 m ³ /h	16 bar	G3/4"	G3/4", ø12,5
0768086	Oxygen S200	200 m ³ /h	15 bar	G3/4"	G3/4", ø12,5
0768087	Oxygen S100 + FBA	100 m ³ /h	10 bar	G3/4"	G1/2", ø11
14016243	Acetylene S100 (BG20)	20 m ³ /h	1,5 bar	G1/2"LH	G1/2" LH, ø11
14016244	Propane S100 (BG20)	20 m ³ /h	4 bar	G1/2"LH	G1/2" LH, ø11
0768088	Propane S100 (BG20) + FBA	20 m ³ /h	4 bar	G1/2"LH	G1/2" LH, ø11



Type S100



HF TRIPLE S100



Three outlet points with S100 regulators mounted on the stable wall bracket. Outlets for heating oxygen as well as for fuel gas contain three function flashback arrestor for GVO 90 and GVA 90.

Art. Nr.	Description
14016180	S 100 triple unit oxy/acetylene
14016181	S 100 triple unit oxy/propane

TECHNICAL DATA - MAX. FLOW CAPACITY

Cutting oxygen	100 m ³ /h
Heating oxygen	100 m ³ /h
Fuel gas	20 m ³ /h

HF TRIPLE S200



These triple outlet points are based on S200 regulator for cutting oxygen. Heating oxygen and fuel gas are supplied by S100 regulators, both with twin-connected three function flashback arrestor GVO90 and GVA90.

Art. Nr.	Description
14016182	S 200 triple unit oxy/acetylene
14016183	S 200 triple unit oxy/propane

TECHNICAL DATA - MAX. FLOW CAPACITY

Cutting oxygen	200 m ³ /h
Heating oxygen	100 m ³ /h
Fuel gas	20 m ³ /h

These Point-of-use systems are designed for high performing applications, i.e. machine cutting and automized heating and similar applications, where standard point-of-use stations do not provide sufficient capacity and flow and where it is not necessary to regulate gas pressure at the outlet of the pipeworks.

HF BV, BALL VALVE UNIT



For compressed gases. Inlet: G 3/4" swivel nut with brazing nipple, diameter 19 mm. Outlet: G 3/4" swivel nut with hose nipples, 12,5 and 16 mm.

Art. Nr.	Type	Gas, pressure	Inlet	Outlet
14016175	DN20 Ball valve unit	Oxy/Inert, 40 bar	G3/4" + brazing nipple 19 mm	G3/4" + hose nipples 12,5 mm and 16 mm

HF BV WITH FBA, BALL VALVE UNIT WITH FLASHBACK ARRESTOR



Consists of high performance multi functional safety device GVO 90/GVA 90 and ball valve DN 20, without regulator.

Art. Nr.	Type	Gas, pressure	Inlet	Outlet
14016176	DN20 Ball valve unit with GVO90	Oxygen, 20 bar	G3/4" + brazing nipple 19 mm	G1/2" + hose nipple 11 mm
14016178	DN20 Ball valve unit with GVA90	All fuel gases, 5 bar, 1,5 bar	G1/2" + brazing nipple 19 mm	G1/2"LH + hose nipple 11 mm

HF TWIN



Consists of 2 high performance multi functional safety devices GVO 90/GVA 90 and ball valve DN 20, without regulator.

Art. Nr.	Type	Gas, pressure	Inlet	Outlet
14016177	DN20 Ball valve unit with twin GVO90	Oxygen, 20 bar	G3/4" + hose nipple 12,5 mm	G3/4" + hose nipple 16 mm
14016179	DN20 Ball valve unit with twin GVA90	All fuel gases, 5 bar, 1,5 bar	G3/4" + hose nipple 12,5 mm	G3/4"LH + hose nipple 16 mm
0764926	Twin GVO90 unit	Oxygen, 20 bar	G3/4" + hose nipple 12,5 mm	G3/4" + hose nipple 16 mm
0764927	Twin GVA90 unit	All fuel gases, 5 bar, 1,5 bar	G3/4"LH + hose nipple 12,5 mm	G3/4"LH + hose nipple 16 mm



FLASHBACK ARRESTORS FOR CYLINDER CONSUMPTION OR FOR OUTLET POINTS



Safety device (flashback arrestor) for regulators.

Art. Nr.	Type	Gas	Inlet/Outlet	Max. pressure	Max. flow rate
14008400	GVO 10	Oxygen	G1/4"	15 bar	32,6 Nm ³ /h
14008401	GVO 10	Oxygen	G3/8"	15 bar	32,6 Nm ³ /h
14008402	GVA 10	All fuel gases	G3/8"LH	*	7,6 Nm ³ /h

Attention: Please obtain the regular inspection for safety devices. Note the national laws.

Flow rate values are valid for compressed air.

* Acetylene 1,5 bar, Hydrogen 4 bar, Methane, Propane, Ethylene 5 bar

HIGH PERFORMANCE MULTI FUNCTIONAL FLASHBACK ARRESTOR FOR MANIFOLD CONNECTION OR FOR HIGH FLOW OUTLET POINTS



Art. Nr.	Type	Gas	Inlet/Outlet	Max. pressure	Max. flow rate
14008440	GVO 90	Oxygen	G3/8"	15 bar	54,7 Nm ³ /h
14008131	GVO 90	Oxygen	G1/2"	15 bar	54,7 Nm ³ /h
14008121	GVA 90	All fuel gases	G3/8"LH	*	13,2 Nm ³ /h
14008130	GVA 90	All fuel gases	G1/2"LH	*	13,2 Nm ³ /h
0764975	GVA 90	All fuel gases	G1/2"	*	13,2 Nm ³ /h

Attention: Please obtain the regular inspection for safety devices. Note the national laws.

Flow rate values are valid for compressed air.

* Acetylene 1,5 bar, Hydrogen 4 bar, Methane, Propane, Ethylene 5 bar

DEMAX/SIMAX - 3 FUNCTION MANIFOLD FLASHBACK ARRESTORS



The manifold (line) flashback arrestors of the SIMAX and DEMAX family are products specially designed to provide maximal flow rate with minimal pressure drop necessary for central gas manifolds or cylinder bundle supply systems. Enormous flow capacity, without any compromising or safety, is achieved by the splitting of large gas flow into several sections protected by individual flame arresting units. Complies with EN730, German BAM institute tested.

Many other higher capacity variants (SIMAX 5/8...) are available on request. To reach optimal performance and before

SIMAX / DEMAX offers following safety functions:

- FA Sintered flame arresting element
- NV Non return valve to prevent reverse flow of gases
- TV Thermal trip device, activated by heat to permanently cut off the gas supply.

Art. Nr.	Gas	Description	Function	Max pressure	Connection thread	Weight
0764433	OXY	FBA DEMAX-5 Oxy G1/2" RH	NV, FA, TV	15 bar	G1/2"RH	1,45 kg
0764432	FUEL	FBA DEMAX-5 Fuel G1/2" LH	NV, FA, TV	5 bar	G1/2"LH	1,45 kg
0764435	OXY	FBA SIMAX-3 Oxy G1" RH	NV, FA, TV	15 bar	G1"RH	3,55 kg
0764434	FUEL	FBA SIMAX-3 Fuel G1" LH	NV, FA, TV	5 bar	G1"RH	3,55 kg

GCE SAFE-GUARD-5



The latest innovation from GCE the SAFE-GUARD-5 offers the maximum level of protection required by EN730-1 to prevent dangerous flashbacks from reaching the regulator and cylinder supply sources.

FUNCTIONS

- Flame arresting element (FA)
- Non return valve (NV)
- Pressure sensitive cut off valve (PV)
- Temperature sensitive cut off valve (TV)
- Reset mechanism to clearly advise unit activation (RM)

Art. Nr.	Gas	Inlet connection	Max. pressure	Outlet connection
0764456	Fuel	G3/8" LH Female	A:1,5 bar; HPMYF:5 bar	G3/8" LH Male
0764457	Oxygen	G3/8" Female	10 bar	G3/8" Male
0764458	Oxygen	G1/4" Female	10 bar	G1/4" Male

GAS LEAK DETECTION SPRAY

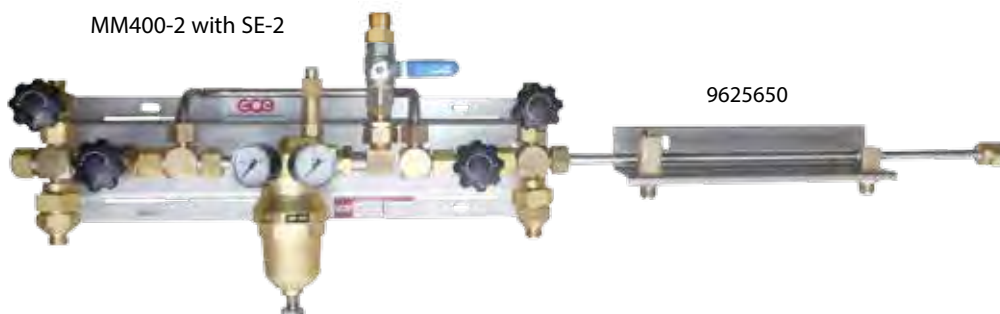


Art. Nr.	Description
22028	Gas leak detection spray 400 ml

APPLICATION EXAMPLES

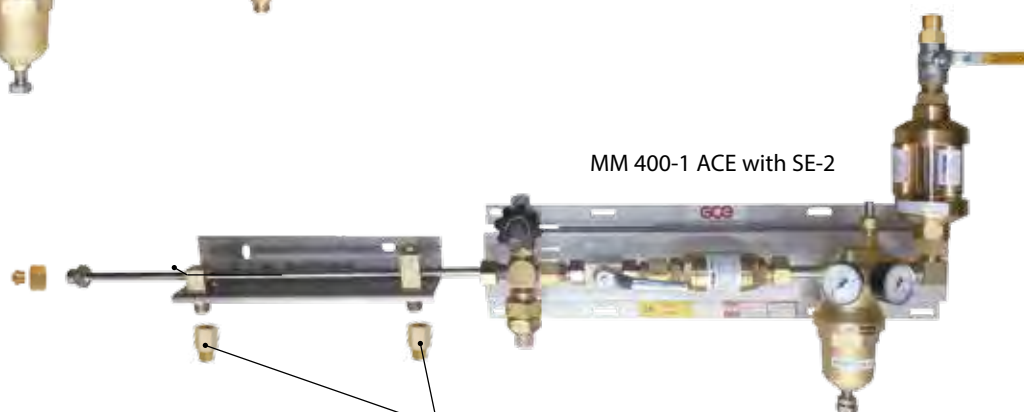
SE Line application examples

MM400-2 with SE-2



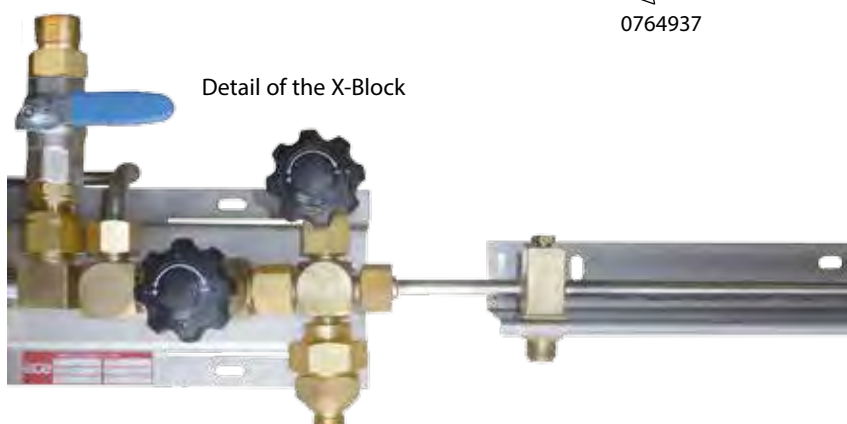
9625650

MM 400-1 ACE with SE-2



0764937

Detail of the X-Block

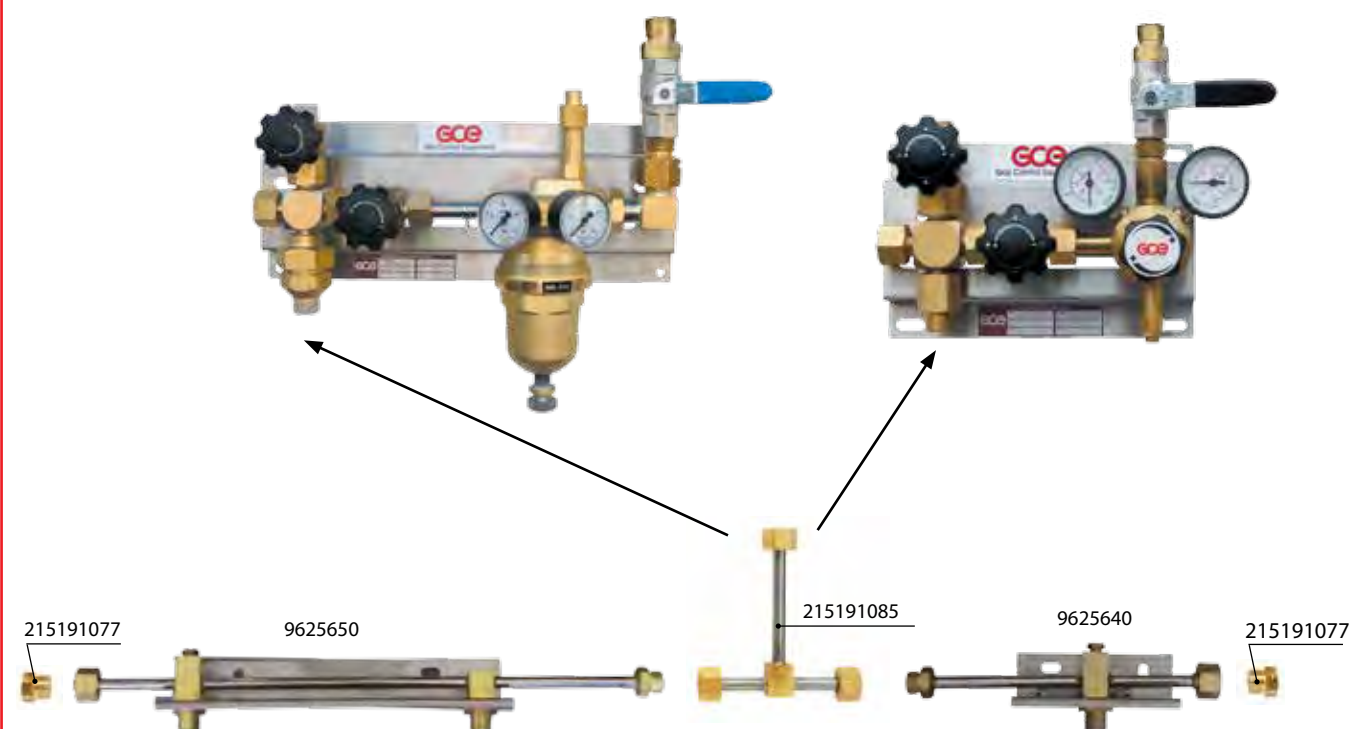


High pressure components of MM400 manifold

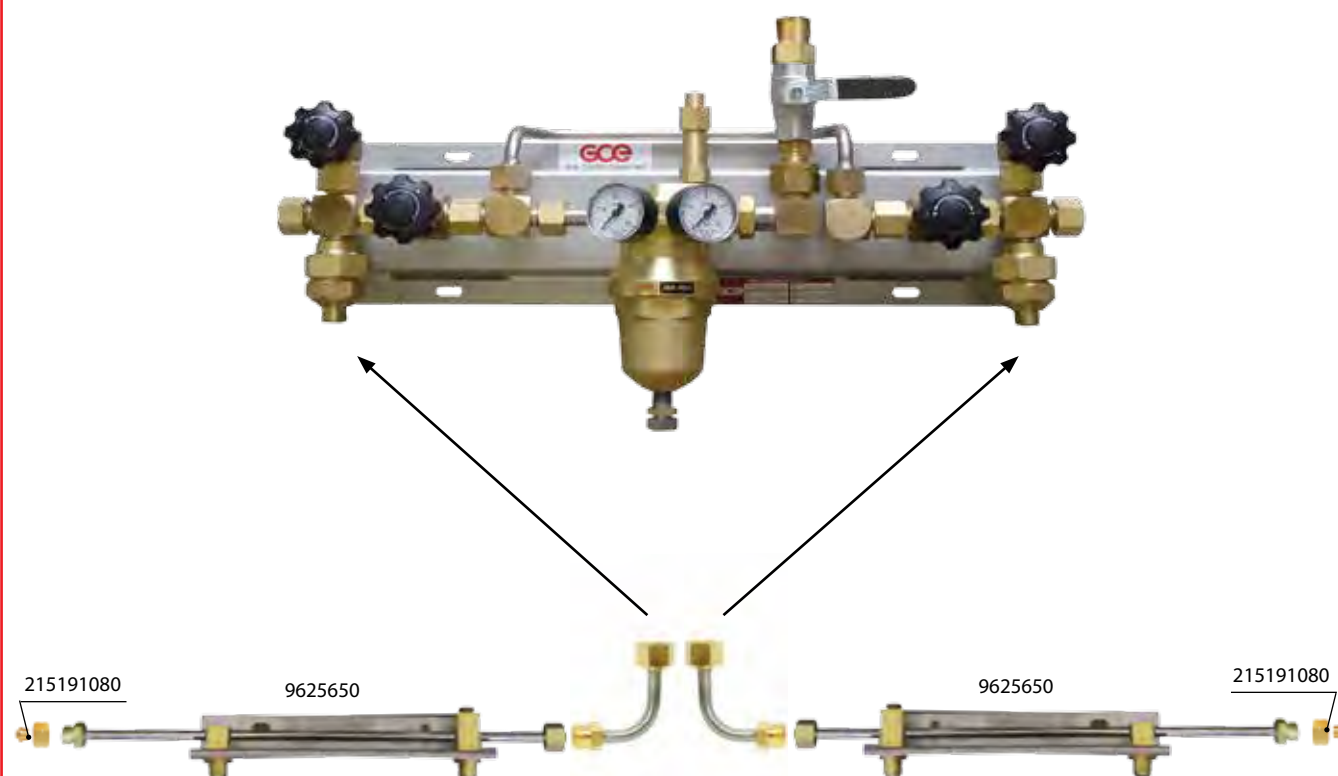


High pressure acetylene safety devices of MM400 manifold

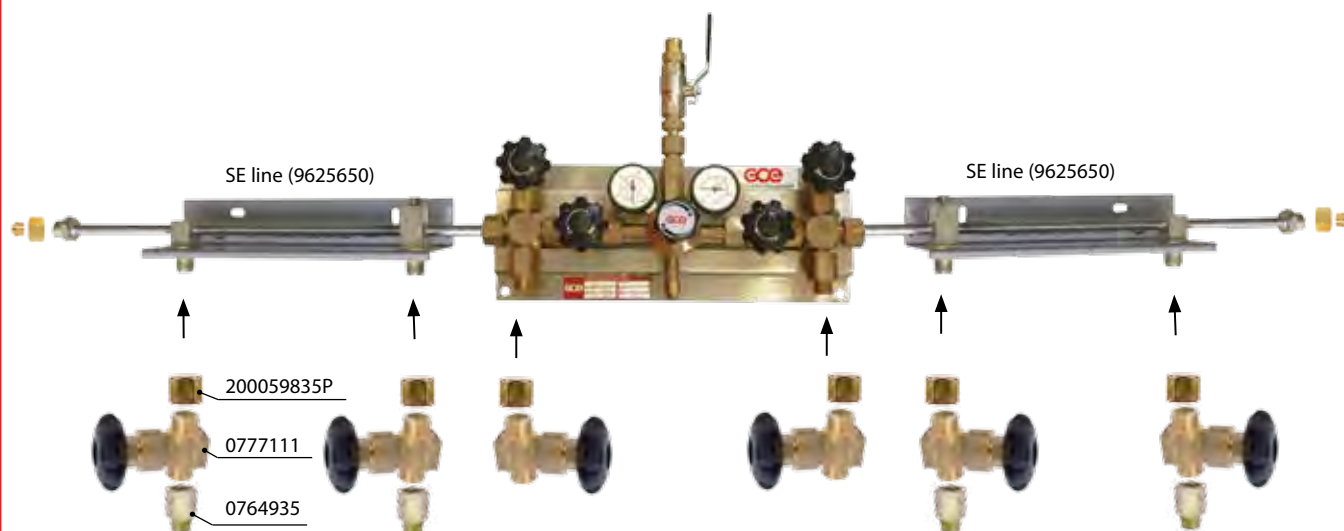
SE Line mounting examples with T-piece



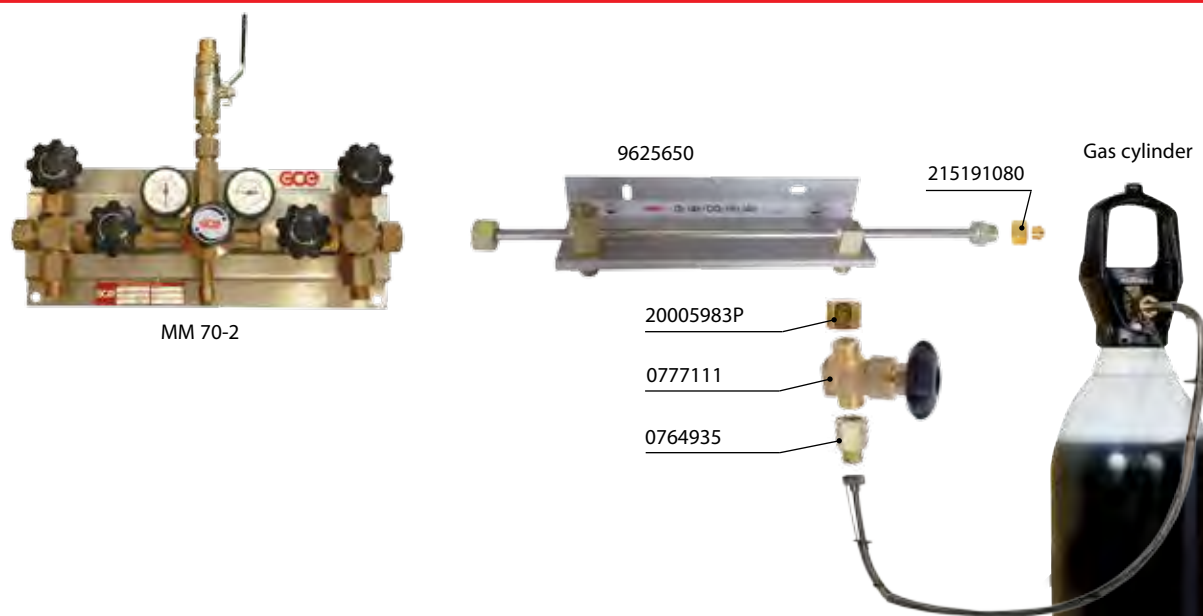
SE-Line mounting example with elbow



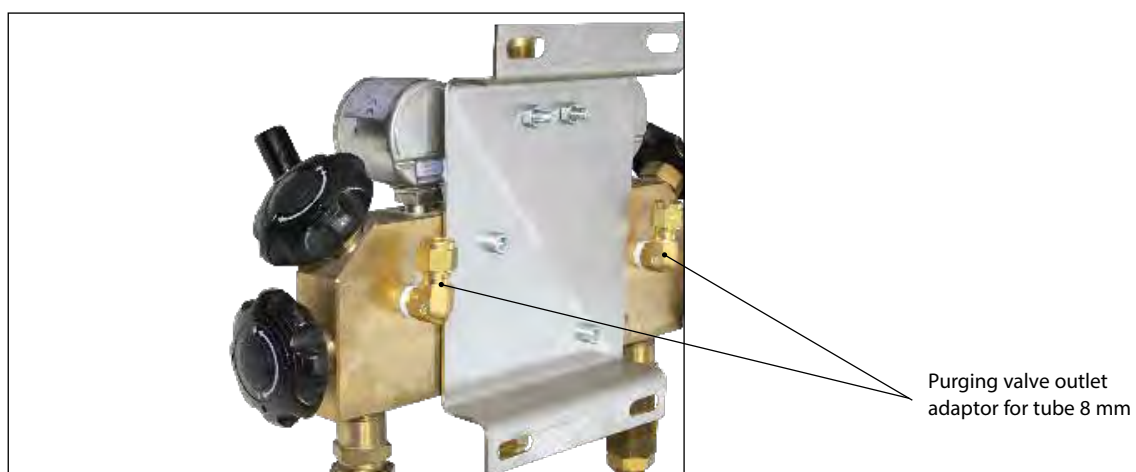
MM70-2 with SE-2



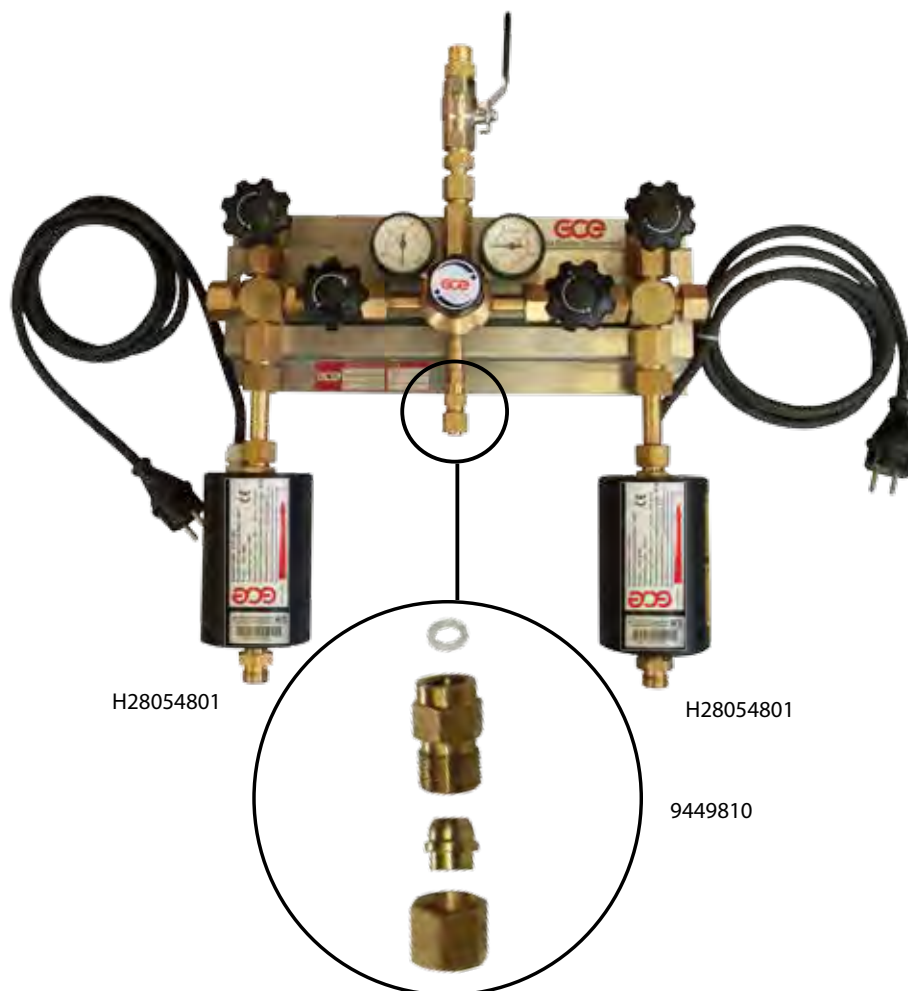
SE Line mounting



Maxiflow detail view on the back side

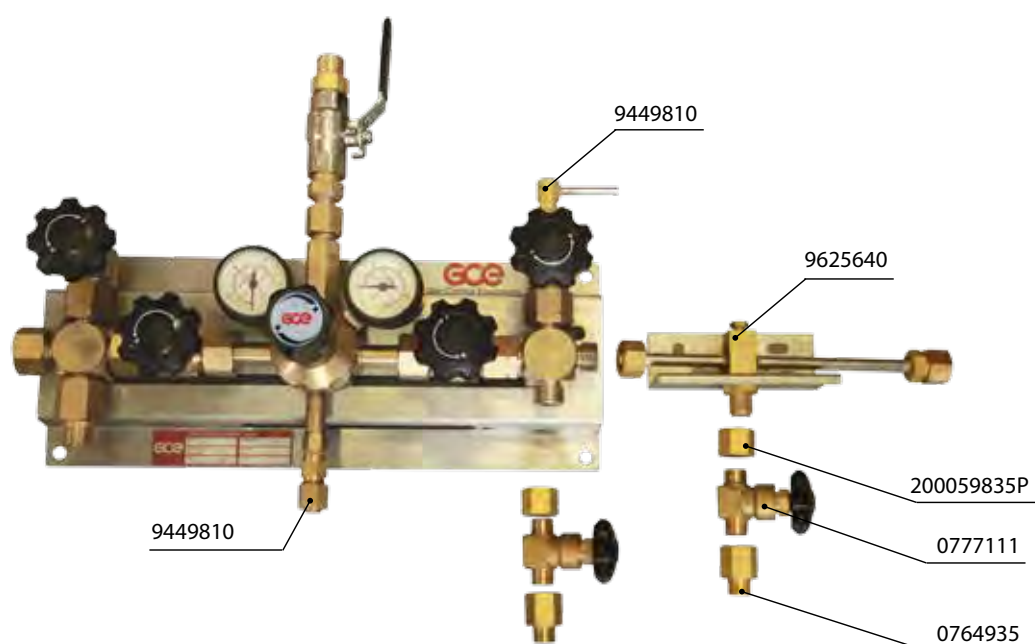


MM70-2 for CO₂ with two preheaters and assembly of pressure relief outlet



MM70-2 Manifold application

MM70-2 extended with pressure relief valve outlet, purge valve outlet. Right bank is extended for 2 cylinders with SE-1 and shut-off valve and non-return valve.



Purge valve with outlet connection mounted on X-block



Relief valve outlet with brazing nipple

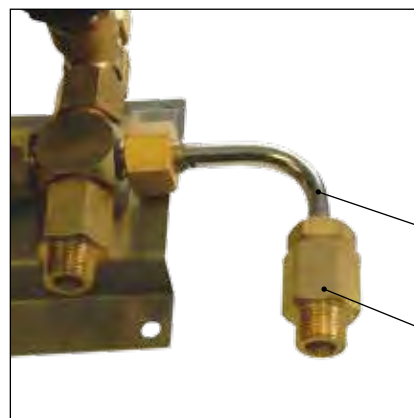


9449810

Simple extension for 2 cylinders with non-return valve



0764896

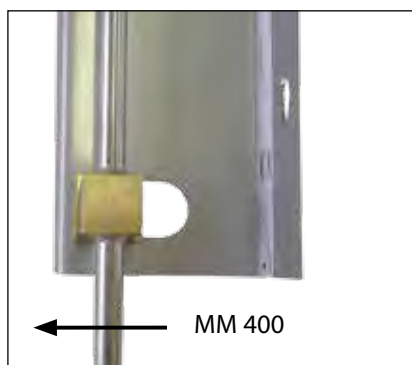


215191010

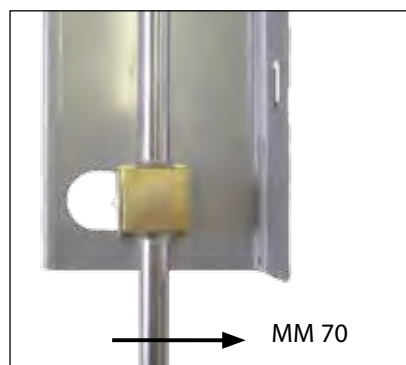
0764935

Simple extension for 2 cylinders with non-return valve

Two axial positions of collecting tube in the bracket. See SE Line prepared for extension of M70 Line in the right picture and position prepared for M400 Line is in the left picture.

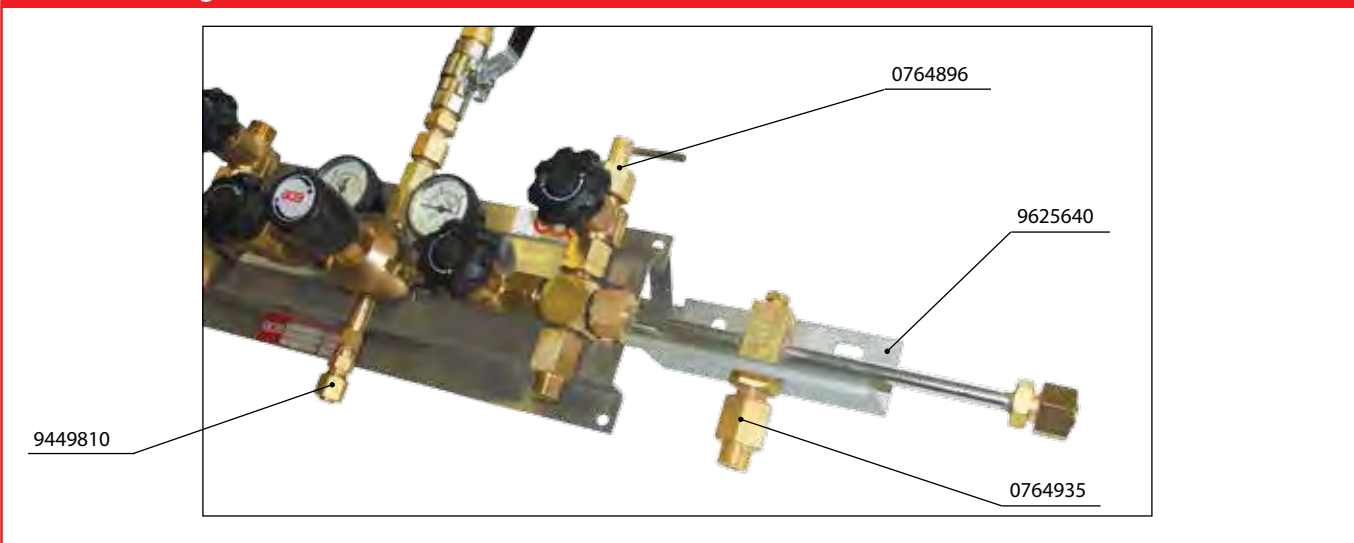


MM 400

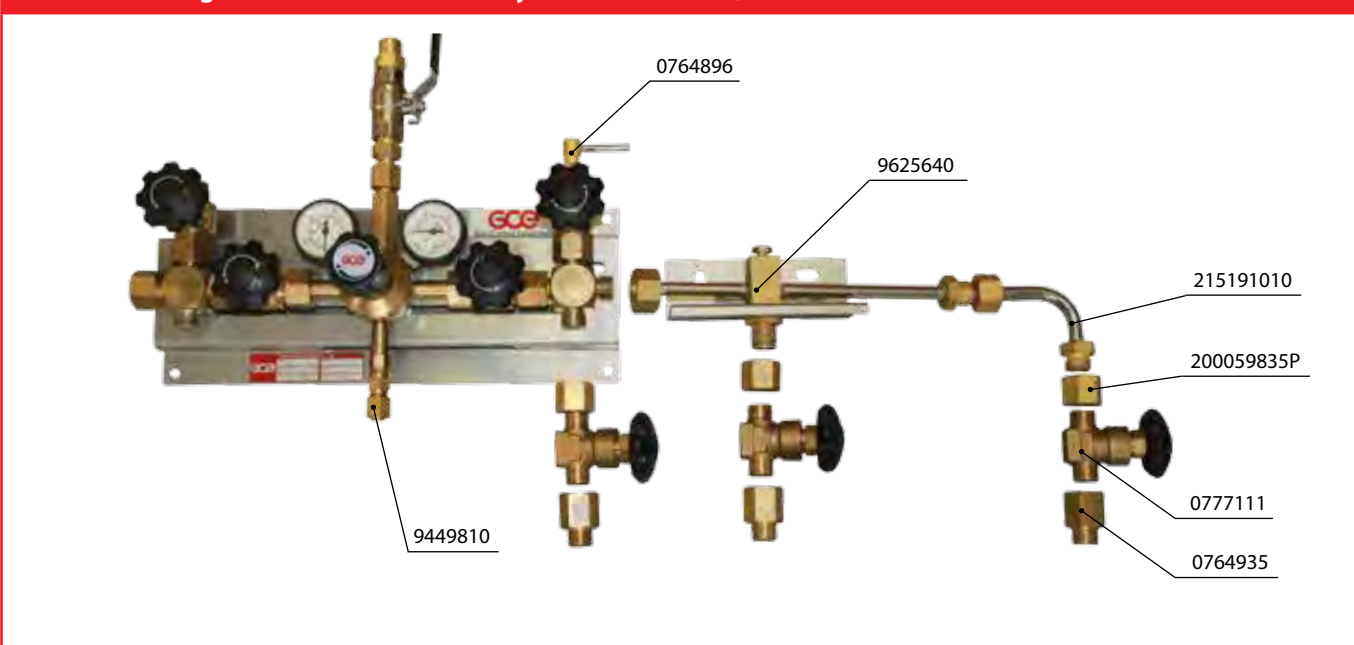


MM 70

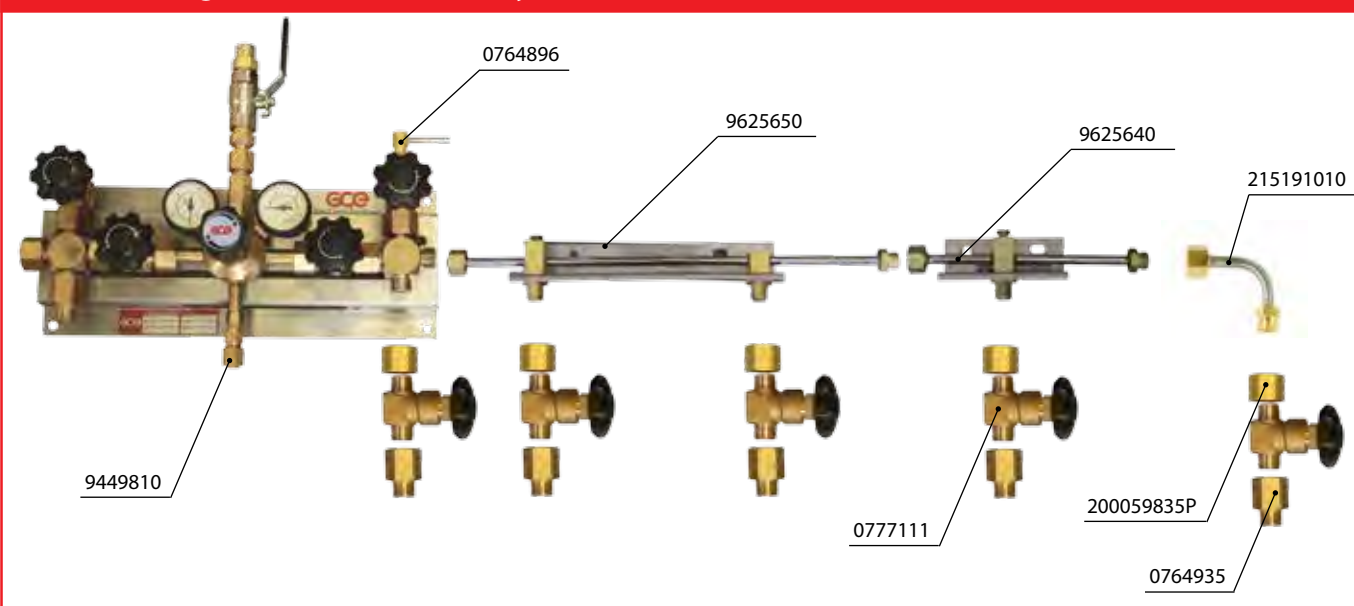
MM70-2 with right bank extended with SE-1 and non-return valve



MM70-2 with right bank extended for 3 cylinders with SE-1, shut-off valves and non-return valves



MM70-2 with right bank extended for 5 cylinders with SE-2, SE-1, shut-off valves and non-return valves



TECHNICAL DATA

FUEL GASES



Methane (Natural Gas) - CH_4



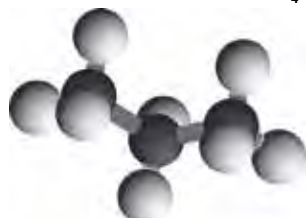
Ethane - C_2H_6



Ethene (ethylene) - C_2H_4



Ethine (acetylene) - C_2H_2



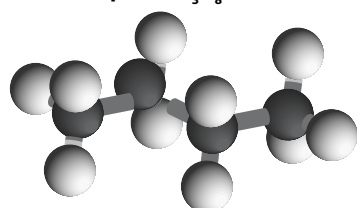
Propane - C_3H_8



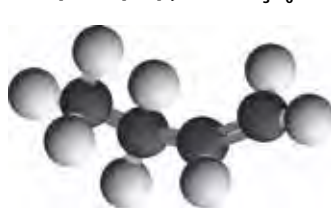
Propene (propylene) - C_3H_6



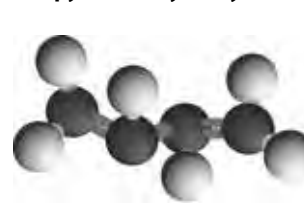
Propyne (methylacetylene) - C_3H_4



n. - Butane - C_4H_{10}

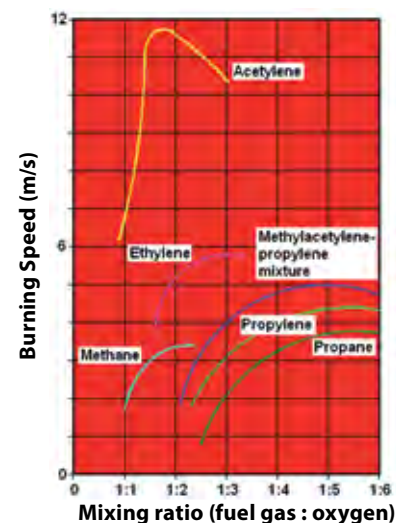
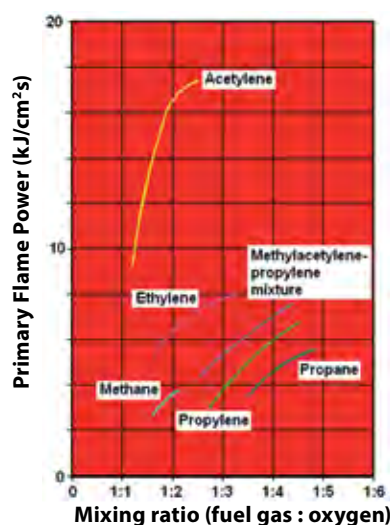
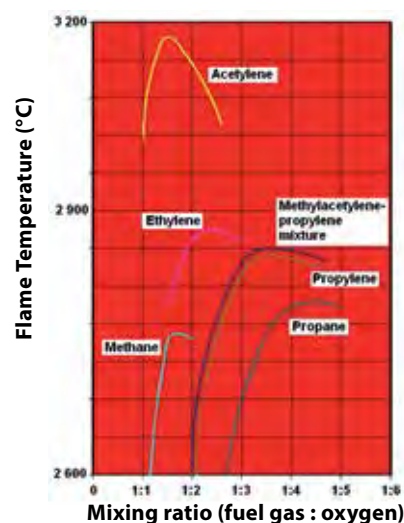


1 - Butene - C_4H_8



Butadiene - C_4H_6

FUEL GASES PROPERTIES



FUEL GASES PROPERTIES

Fuel gas type			Heating power		Mixing ratio		Flame temperature (°C)		Density		Relative density to air
					V oxygen/ V fuel gas				1 bar, 15°C	liquid form	
			MJ/m³	MJ/kg	N	M	N	M	kg/m³	kg/l	1 bar at 15°C
Hydrogen	H ₂	H	10,758	119,533	0,36	0,42	2 835	2 856	0,09	0,07	0,007
Methane	CH ₄	M	31,814	44,186	1,6	1,8	2 770	2 786	0,72	0,42	0,566
Acetylene	C ₂ H ₂	A	56,93	48,678	1,1	1,5	3 106	3 160	1,11	0,62	0,923
Ethylene	C ₂ H ₄	F	55,674	47,6	1,8	2,4	2 902	2 924	1,17	0,57	0,98
Propylene	C ₃ H ₆	Y	89,999	46,153	2,8	3,5	2 872	2 896	1,95	0,58	1,506
Propane	C ₃ H ₈	P	93,557	46,315	3,75	4,3	2 810	2 828	2,02	0,53	1,589

Glossary: V - volume, N - mixing ratio with neutral flame, M - mixing ratio with maximal flame temperature

CYLINDER CONNECTION FOR WORKING PRESSURES UP TO 200 BAR

Gas/Country Standard	Sweden SS 2238	Czech Republic ČSN 078600	Germany DIN 477	France NF E 29-650	UK BS 341	Spain MIE-AP7	Italy UNI 11144
Oxygen	W21,8	W21,8	G3/4	SI22,91	G5/8	W22,91	W21,7
Acetylene	G3/4	Yoke	Yoke or M24×2LH	Yoke or W22,91LH	G5/8 LH	Yoke or W22,91LH	Yoke or G5/8LH
Argon	W24,32	W21,8	W21,8	SI21,7	G5/8	W21,7	W24,5
Nitrogen	W24,32	W24,32	W24,32	SI21,7	G5/8	W21,7	W21,7
Air	G5/8	G5/8	G5/8	SI30×1,75	G5/8	M30×1.75	W30
Hydrogen	W21,8LH	W21,8 LH	W21,8 LH	SI21,7LH	G5/8 LH	W21,7LH	W20 LH
Carbon dioxide	W21,8	G3/4	W21,8	SI21,7	W0,860	W21,7	W21,7

EXPLOSIBILITY

Fuel gas		Explosibility limit (%)		
			% of fuel gas in Oxygen	% of fuel gas in Air
Acetylene	C ₂ H ₂	High	93	80
		Low	2,5	2,5
Propane	C ₃ H ₈	High	45	9,5
		Low	2,2	2,2
Natural gas (Methan)	CH ₄	High	60	15
		Low	5	5
Hydrogen	H ₂	High	94	74,5
		Low	4	4

MAXIMAL FLOW RATE OF ACETYLENE PER 40L OR 50L CYLINDER AT 15°C

Short-term consumption (max.10 min.)	max. 1 m ³ /hour	
For a 1 shift (approx. 8 hours)	max. 0,5 m ³ /hour	
Continuous consumption	max. 0,35 m ³ /hour	

CONVERSION OF PRESSURE UNITS

	bar	mbar	kPa	MPa	atm	psi
bar	1	1 × 10 ³	100	0,1	0,986	14,504
mbar	1 × 10 ⁻³	1	0,1	1 × 10 ⁻⁴	9,869 × 10 ⁻⁴	0,0145
kPa	1 × 10 ⁻²	10	1	1 × 10 ⁻³	9,869 × 10 ⁻³	0,145
MPa	10	1 × 10 ⁴	1 × 10 ³	1	9,869	145,038
atm	1,013	1013	1,013 × 10 ²	0,101	1	14,696
psi	0,0689	68,948	6,895	6,89 × 10 ⁻³	6,895 × 10 ⁻²	1

FLOW RATES CONVERSION COEFFICIENT

Test gas	Gas conversion coefficient (ISO 7291)								
	Air	Oxygen	Nitrogen	Argon	Hydrogen	Helium	Acetylene	LPG	CO ₂
Air	1	0,95	1,02	0,851	3,81	2,695	1,05	0,800	0,808
Nitrogen	0,983	0,93	1	0,837	3,75	2,65	1,03	0,784	0,792

Standard atmosphere at 23 °C and 1,013 bar (0,1013 MPa), ISO 554

GAS CYLINDER IDENTIFICATION - COLOUR CODING ACCORDING TO EN 1089-3 FOR INDUSTRIAL GASES

O ₂	
AIR Ar+CO ₂	
Ar	
C ₂ H ₂	
CO ₂	
H ₂ CH ₄	
He	
N ₂	
AsH ₃ CO NH ₃	
O ₂ +N ₂ O O ₂ +CO ₂ O ₂ +He	
N ₂ O	


DNV BUSINESS ASSURANCE
MANAGEMENT SYSTEM CERTIFICATE
Certificate No. 109396-2012-AQ-CZS-NA

This is to certify that the Management System of:
GCE Holding AB
Källvatnengatan, SE-200 21, Malmö, Sweden
has been found to conform to the standard:
ISO 9001:2008
This Certificate is valid for the following product or service ranges:

Design, production, sales and servicing of equipment for use of technical gases in industry. Pressure regulators, closing, combined and special valves, cutting, welding, heating and brazing torches, safety equipment, speciality torches, fittings, accessories for industrial purposes.

Initial Certification date:
28 February 1997

This Certificate is valid until:
28 February 2015

The audit has been performed under the supervision of
Evangelos Lavandis
Lead Auditor

Place and date:
Høvik, 28 February 2012
for the Accredited Unit:
DET NORSKE VERITAS
CERTIFICATION AS, NORWAY
Bjerg Synnøve Nesgård
Management Representative


MSYS 002


Security in action

Certificate of conformity

We GCE, s.r.o., Žitkova 381, 58381 Chotěboř, Czech Republic confirm that our product range:

Central gas supply systems for industrial applications (CGS)

is developed and manufactured according to the valid and accepted international standards and in accordance with the sound current engineering practice, especially with respect to following:

- The use of materials in the gas welded area which meets the gas type specific requirements.
- Design and production procedures of the gas supply equipment meets the used pressure gas type specific requirements.
- Proper cleaning of all gas welded components for high pressure oxygen applications.
- Special cleaning procedures for high purity and ultra high purity gas application.
- All products go through a final functional and leak test.
- All products are packed according to the application to avoid inadmissible contamination.
- An applied quality assurance system according to ISO 9001:2008 is established.

We also confirm that product range:

Pressure regulators for CGS

is developed and manufactured according to ISO 7281:2010. Gas welding equipment - Pressure regulators for manifold systems used in welding, cutting and allied processes up to 500 bar.

We also confirm that product range:

Acetylene manifold systems

is developed and manufactured according to ISO 14114:1999. Gas welding equipment - Acetylene manifold systems for welding, cutting and allied processes - General requirements and according to ISO 15418:2013. Gas welding equipment - Acetylene manifold systems for welding, cutting and allied processes - Safety requirements in high-pressure devices.

The safety instructions of the product manual delivered with the goods have to be followed. This certificate confirms the conformity of a.m. European regulation.

Chotěboř, 17th July 2013

Vít Leszkow
GCE
Quality department


Security in action


Security in action

Certificate of conformity
Information about PED-directive (97/23/EC)
related to GCE, s.r.o. products

We GCE, s.r.o., Žitkova 381, 58381 Chotěboř, Czech Republic, according to our risk analysis, confirm that our product range:

Central gas supply systems for industrial applications (CGS)

are produced according to the European Regulation below:

Regulation 97/23/EC of the European Parliament and the Council of 29th May 1997, Pressure Equipment Directive.

The safety instructions of the product manual delivered with the goods have to be followed. This certificate confirms the conformity of a.m. European regulation.

Chotěboř, 17th July 2013

Vít Leszkow
GCE
Quality department


Security in action

Certificate of conformity
Information about ATEX-directive (94/9/EC)
related to GCE, s.r.o. Central gas supply systems
for industrial applications (CGS)

We GCE, s.r.o., Žitkova 381, 58381 Chotěboř, Czech Republic, according to our risk analysis, confirm that our product range:

Non electrical components for CGS

does not contain any own potential source of ignition and therefore are not subject to the European Regulation below:

Regulation 94/9/EC of the European Parliament and the Council of 23rd March 1994, Equipment intended for use in potentially explosive atmospheres (ATEX).

The safety instructions of the product manual delivered with the goods have to be followed.

Chotěboř, 17th July 2013

Vít Leszkow
GCE
Quality department

GCE Group is one of the world's leading companies in the field of gas control equipment. The headquarters are in Malmö, Sweden, and the two major supply units are located in Europe and Asia. The company operates 15 subsidiaries around the world and employs more than 850 people. GCE Group includes four business areas –Cutting & Welding, Process Applications, Medical and High Purity. Today's product portfolio corresponds to a large variety of applications, from single pressure regulators and blowpipes for cutting and welding to sophisticated gas supply systems for medical and electronics industry applications.



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Gas Control Equipment