CUTTING AND WELDING
GAS CONTROL EQUIPMENT

GCE GROUP OVERVIEW

The GCE Group has an extensive product range to serve customers within Industrial, Medical, High Purity and special gas applications.
The GCE Group offers local sales and supply companies in the following locations: Austria, Benelux, Czech Republic, France, Germany, Hungary, Italy, Poland, Portugal, Romania, Spain, Sweden, Switzerland, United Kingdom, China and Russia. In addition GCE has recently opened new sales offices in India, Middle East (Dubai), Panama and Mexico and has its main production facilities based in the Czech Republic and China. GCE has a central distribution centre based in Kladno, just north of Prague.

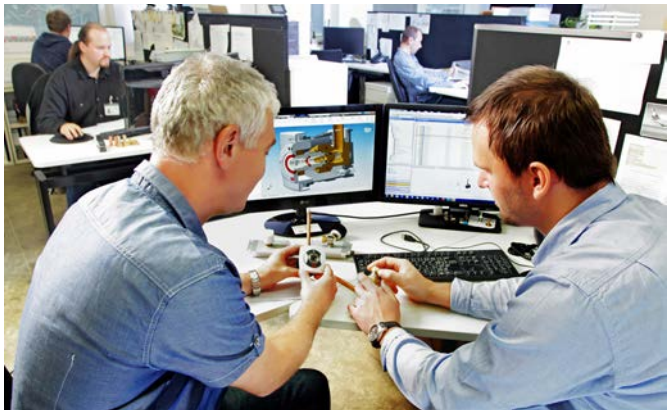
GLOBAL BRAND RECOGNITION

GCE is associated with leading trademarks and brands such as DruVa, Mediline, Mujelli, Propaline, Kayser, Krass, Butbro, Charledave, Propaline, Rhöna, Sabre medical, Murex, AGA, BOC, Linde and ESAB. Our quality management system is certified to ISO 9001 and our products are tested and approved by BAM, BSI, Norske Veritas, US Dot, UL, CEN, DIN and SIS.

All GCE medical production facilities have EN approvals for CE marking and an increasing number of GCE facilities has systems that have been granted approval to the environmental standard ISO 14000.

MARKET LEADERS

The GCE Group is today an europe´s leading company in the field of gas control and involved in the development and manufacturing of



all types of equipment for pressure and flow control of high pressure gases. GCE's main business was originally concentrated in the oxy-acetylene cutting and welding market. However, with almost 100 years of experience in the handling of high pressure gases, the product range has grown to include high purity and medical gas equipment.

GCE CORPORATE RESPONSIBILITY

GCE provides high quality premium products. Today's portfolio fits a large variety of applications, from pressure regulators and blowpipes for cutting and welding to sophisticated gas supply systems for medical and electronics industry applications.

HISTORY

The origins of GCE go back to the beginning of the twentieth century when oxy-acetylene cutting and welding methods were first invented. GCE itself was formed in 1987 through the merging of two gas equipment activities from the world's leading industrial gas companies into one entity.

The GCE Group has grown rapidly since its foundation and leads the restructuring of the European gas equipment industry through mergers and acquisitions. Headquarters are based in Malmö, Sweden with the Group having activities in all European markets, and developing businesses in Russia, China, India and South America.

The major Production centres are located in Europe and Asia. Worldwide in excess of 850 people are employed within the GCE group today.

GCE CUTTING AND WELDING TECHNOLOGIES

Welding is one of the leading processes within metal fabrication. Driven by innovations it is widely used as the main technology in areas such as construction, automotive, the transport sector, shipyard industries, offshore and several others.
Metal sheets are fabricated by thermal cutting processes and joined to ensure a rigid and high quality construction. High quality standards and fundamental safety precautions are prerequisite in all works related to cutting and welding technologies.

GCE Cutting and Welding Technologies (GCE CWT) is one of the global market leaders in gas welding, oxy-fuel cutting, brazing and heating processes. GCE CWT provides a full range of gas pressure regulators, arc welding, gas economizers, safety equipment and a comprehensive global range of torches specially designed to meet international standards and local market requirements.
With strong focus on innovations and global market coverage GCE provides solutions which fit to the customer needs. Experienced sales teams supported by application, marketing and technical experts promote the latest GCE solutions within global distribution network on daily basis. Dedicated production team cooperates in two main production facilities and the complete organisation is formed as a Value stream team creating added value to all stakeholders.

SIMPLY SAFE

Safety is always a primary concern in an oxygen/fuel process and GCE is fully committed to the elimination of all risks in this process. It is not only visible on the complete range of safety devices for oxy-fuel applications. Safety is the main objective within all range of GCE CWT products, applications and as well as within internal production processes.

QUALITY TIME

All equipment from GCE is engineered and produced with highest focus on quality. High quality is the base for all activities and by using Lean processes and 6-Sigma tools we constantly refine and develop existing procedures. All GCE CWT products are designed, tested and manufactured within the quality management system ISO 9001 and in accordance with following regulations and global standards (selected short-list) :

- 2014/68/EC, Pressure Equipment Directive
- 2006/42/EC Machinery Directive
- ISO 2503, Cylinder regulators
- ISO 5172, Cutting, welding, heating torches and nozzles
- EN 730, ISO 5175, Safety devices
- ISO 3821, Rubber hoses
- EN 561, Quick couplers
- ISO 5171, Pressure gauges

ALL SYSTEMS GO

GCE is one of the global drivers of oxy-fuel innovations. Well known solutions are innovative safety systems, pressure regulators and heating equipment. A new program of Intelligent Torches and Systems for oxy-fuel cutting has been launched recently and there is still significant potential to increase the efficiency of oxy-fuel cutting technology. This is the reason for GCE to continuously develop the GCE FIT+® cutting torch solutions. Together with our partner, IHT Automation, GCE believes that a higher level of integrated automation is the future of oxy-fuel cutting. The current result of the development is the range of automated cutting systems which became as simple as a “plug and play” solution.

CUSTOMERS FIRST

Everything we do is conducted in close co-operation with our customers and users. GCE is a service-oriented company which keeps close contact with both its customers and end-users. Thanks to a high level of experience and technical competence within cutting and welding technologies GCE has today a global network of loyal distributors which enables to develop right solutions for the global as well as for local markets.
It’s no coincidence that, where the challenge and demands are the greatest, you will find GCE hard at work.

GCE LOCAL OFFICE

Here in the UK GCE has its own sales office based at Haydock, St Helens. Our sales team has acquired many years of experience in all aspects of Gas Control Equipment and is on hand to offer help and advice.

GCE SALES OFFICE

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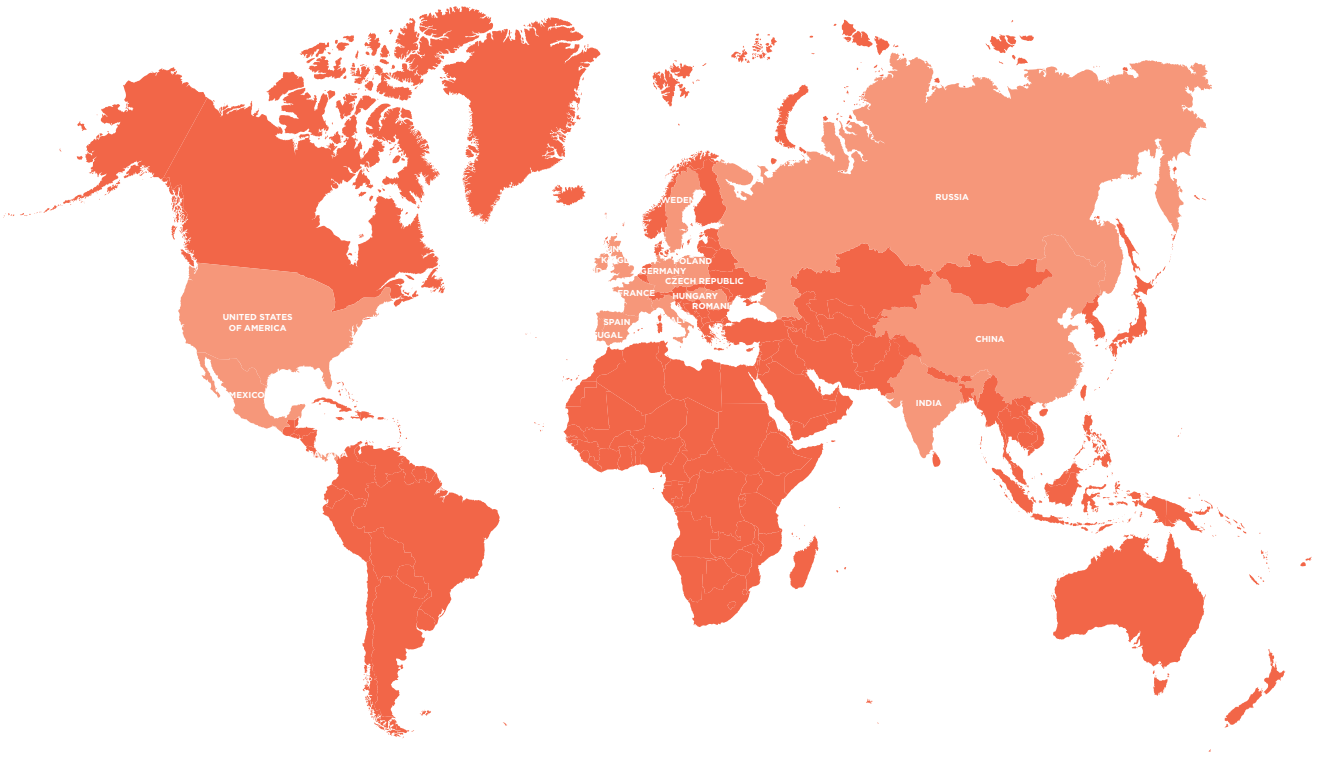
Penny Lane, Haydock
ST Helens
WA11 9DB
Phone: +44 (0)1942 29 29 50
Fax: +44 (0)1942 29 29 77

Email: sales.gb@gcegroup.com

Please see our website for our current terms and conditions

www.gcegroup.com



CONTENT

CYLINDER REGULATORS

SPECIAL CYLINDER REGULATOR
GCE ECOSAVER+®

The GCE ECOSAVER+® **keeps a constant level of gas pressure and flow** in the downstream system during the welding process. This prevents pressure and flow surges from being created in the system. Surges can cause gas waste and give rise to a poor weld.

Weld quality and gas consumption are optimised when the GCE ECOSAVER+® is used as a part of the control system.

FEATURES / ADVANTAGES / BENEFITS

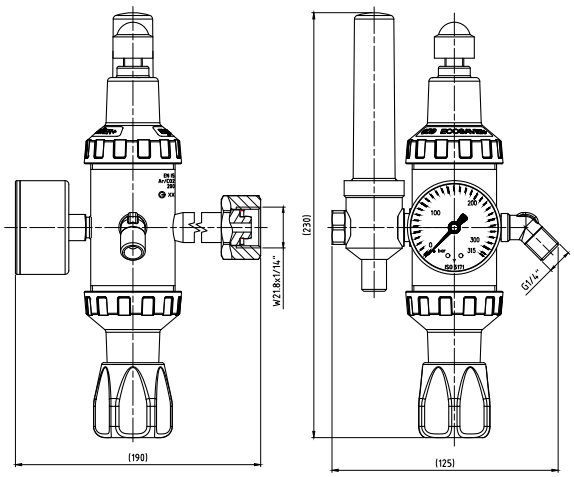
- Excellent stability of the outlet pressure
- Ergonomic and robust design
- Variants for all shielding gases
- 300 bar inlet pressure variants available
- In accordance with standards EN ISO 2503, ISO 5171
- Precise scale of the gauge/flowmeter for simple recognition of the values
- Regulation of the outlet pressure thanks to the robust encapsulated valve

ECOSAVER+®

TECHNICAL DATA

Gas	Ar, Ar/CO_2, Forming Gas	CO_2
Body	Brass	
Bonnet	Zn/Al alloy Die Cast	
Stems, nuts and fittings	Brass	
Diaphragm	EPDM	
Seat sealing	PA/CR	
Inlet/ Outlet connection	Gas specific connection	
Maximal inlet pressure	200 or 300 bar	200 bar
Outlet pressure/ flow range	0-30 l/min 2 x 0 - 30 l/min	
Temperature range	From -20°C to 60°C	
Weight	Approx. according to gas variant: 2,2 kg	
Pressure relief valve	Used in all variants	

DIMENSIONS



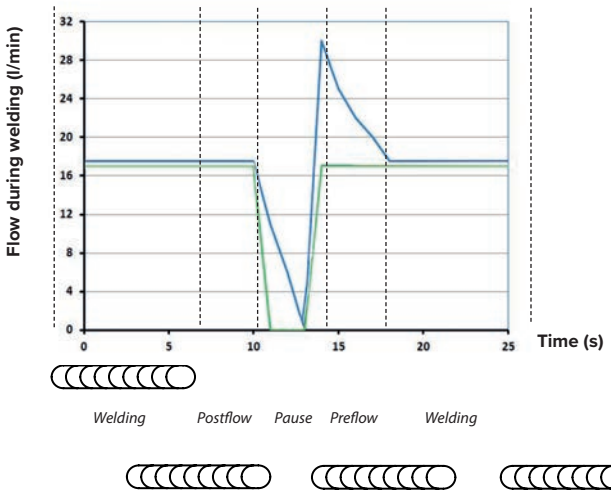
THE BASIC PRINCIPLE OF GAS SAVING

An unwanted waste of gas can occur very often during welding operations .

If the gas flow is interrupted with a standard pressure regulator during the welding process, the outlet pressure in the connecting hose increases above the optimal level.

When the welding process starts again, the volume of the gas, higher than is really needed, surges through the system to the atmosphere.

Ecosaver+ minimises the amount of such **wasted gas** accumulated in the connecting hoses. Thanks to special technology, the optimal, predefined gas flow is delivered to the welding torch during the entire welding process.



ECOSAVER+®

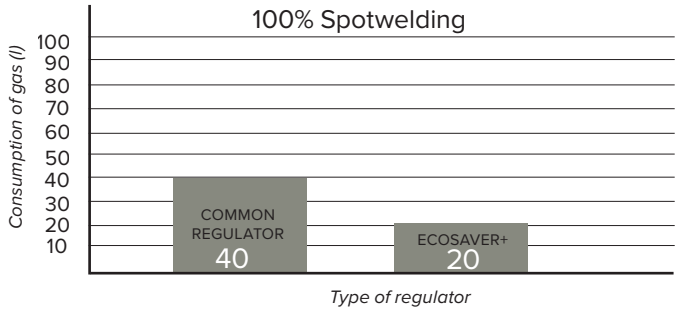
MAIN ADVANTAGES

- Saved gas during the welding operation **of about 40 %***
- High accuracy due to the regulation of the flow
- Continuous supply of the gas during the welding operation
- Specially designed for shielding applications
- Ideal for arc welding technology (MIG/MAG/TIG)
- No pressure increase in the downstream equipment during work interruption
- Easier setting
- Less cylinder changing
- Safer work
- An investment which pays for itself in approximately four months depending on operating conditions
- Ergonomic handwheel for perfect grip

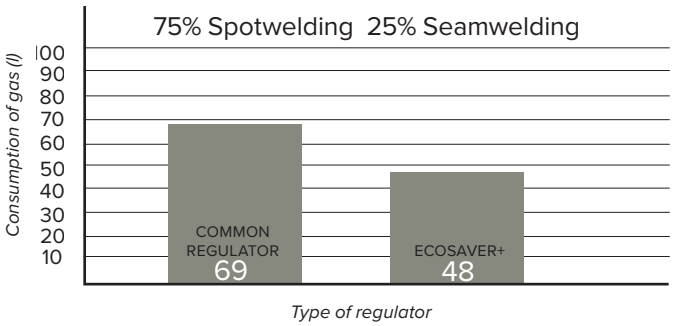
**The 40% lower consumption of gas was validated by an independent test executed under following conditions: 600 welded 3 mm long joints ; Gas: Argon; Compared regulator Dincontrol Flow: 17l/min; Type of welding: MIG*

The real amount of the saved gas depends on many factors. To demonstrate how the results differ with processes performed, we undertook various tests. To measure gas consumption, we used a digital counter flowmeter at the welding torch to ensure that the gas flow was the same for both outlet points, the one with Ecosaver+ and the other with common regulator.
During the first test with spot welding operation with Ecosaver + a save of 50 % shielding gas was achieved compared to the same operation with a normal outlet point, as reported on the Graph 1.
During the second test with short welding operation with Ecosaver + was achieved a save of 31 % shielding gas compared to the same operation with a normal outlet point, as reported on the Graph 2.

Graph 1



Graph 2



ECOSAVER+®

PRODUCT ADVANTAGES

Flowmeter with dual scale for Argon and CO_2

EN ISO 2503

Inlet connection according to national standard

High pressure gauge according to ISO 5171 class 2,5

Outlet connection according EN560

Robust encapsulated valve with integrated filter

Robust ergonomic handwheel

ORDERING INFORMATION

Art. Nr.	Type	Inlet Pressure	Outlet Flow	Inlet Connection	Outlet Connection
F21710004	Twin Flow	200 bar	2x30 l/min	W21.8x1/14"	G1/4"
F21710005	Outlet point	40 bar	30 l/min	G3/8"	G1/4"
F21710006	Regulator	200 bar	30 l/min	S21,7x1,14"	M12x1
F21710007	Regulator	300 bar	30 l/min	W30x2"	G1/4"
F21410008	Regulator	200 bar	30 l/min	W21.8x1/14"	G1/4"
F21710010	Regulator	200 bar	30 l/min	0,960"x14NGO	9/16"
F21710011	Regulator	200 bar	30 l/min	G5/8"	G3/8"
F21710013	Outlet point	40 bar	15 l/min	G3/8"	G1/4"
F21710014	Regulator	200 bar	15 l/min	W21.8x1/14"	G1/4"
F21710015	Regulator	200 bar	15 l/min	G3/4"	G1/4"

UNIVERSAL CYLINDER REGULATOR FOR INDUSTRIAL GAS APPLICATIONS

GCE FG300

GCE FG300 - the trusted partner for every user in industrial cutting and welding applications. Compact and lightweight body with high performance internal gas regulation ensures operators will enjoy consistent gas supply with fine pressure adjustment.

Variants with side entry, bottom entry, pressure gauges, and flow meter compatible with all common cylinder valves and inlet pressures up to 300 Bar.

European design and manufacture to ISO 2503 standard.

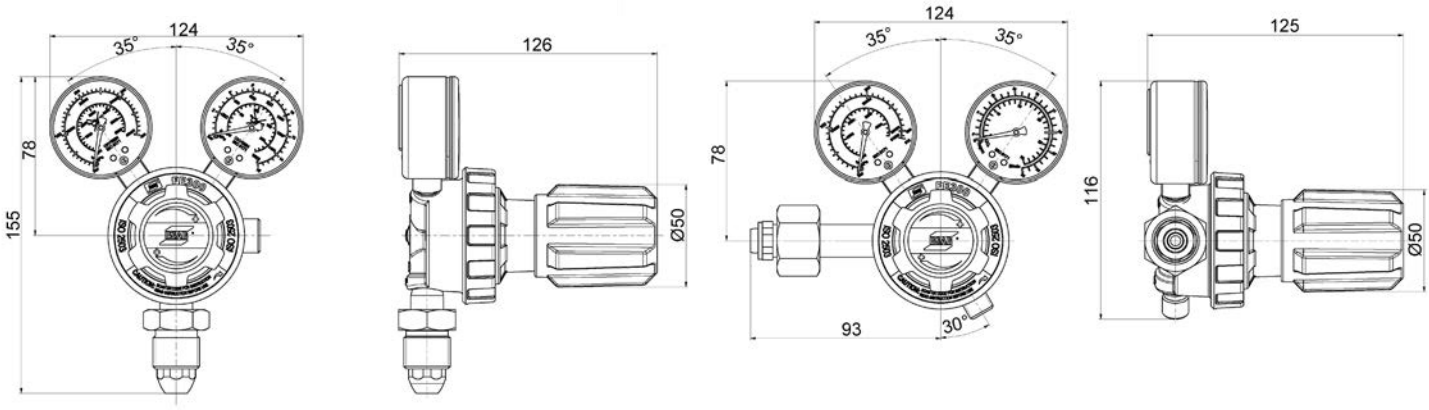
FEATURES / ADVANTAGES / BENEFITS

- High-performance regulator for all common technical gas applications needs.
- Safety focused design following **ISO 2503.**
- **Compact, durable construction** saving costs related to services, spares and replacements.
- Encapsulated regulating technology for precise and stable control.
- Easy handling for the operator by ergonomic arrangement.
- Side and Bottom entry design variants compatible with all common cylinder valves
- Three scale pressure gauges to ISO 5171 with high contrast pointer for better gas pressure clarity.
- European design and manufacture

TECHNICAL DATA

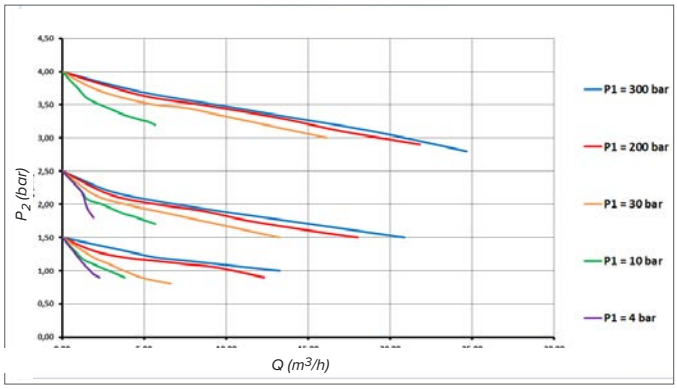
Gas	O_2, N_2, H_2, He	Ar, Ar/CO_2	CO_2	Acetylene	Propane
Body	Brass forged				
Bonnet	Zn/Al alloy Die Cast				
Stems, nuts and fittings	Brass				
Diaphragm	EPDM				NBR
Seat sealing	PA			CR	
Inlet/ Outlet connection	Gas specific connection				
Maximal inlet pressure	200 or 300 bar		200 bar	25 bar	
Outlet pressure/ flow range	0-10 bar	0-16l/min 0-30 l/min 0-40l/min		1,5 bar	4 bar
Temperature range	From -20°C to 60°C				
Weight	Approx. according to gas variant: 1,9 kg				

DIMENSIONS

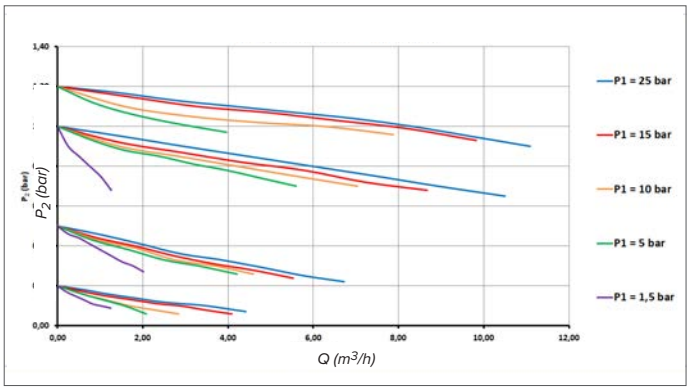


FLOW CHARTS

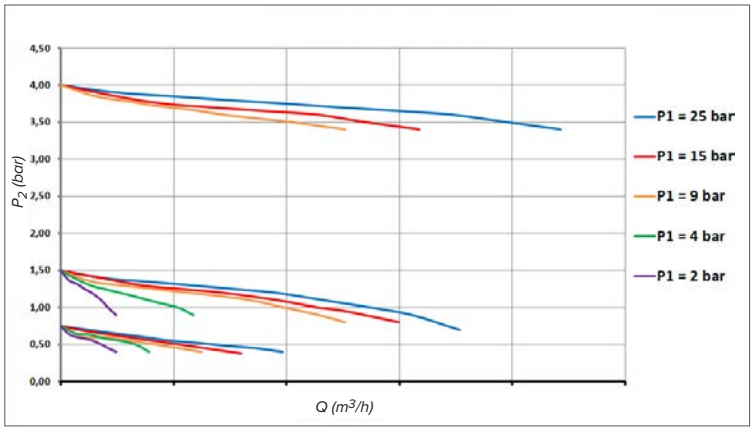
Oxygen 300/4 bar



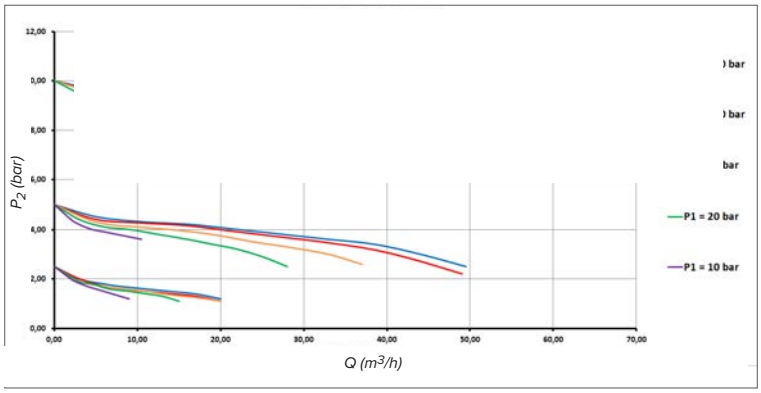
Acetylene 25/1,2 bar



Propane 25/4 bar



Compressed gases 300/10 bar (measured by air)



Conversion coefficient							
Test gas	Air	Oxygen	Nitrogen	Argon	Hydrogen	Helium	CO_2
Air	1	0,950	1,02	0,851	3,81	2,695	0,808

Flow of the gas (A)

*A=Q*f*

Q… Air Flow

f… Conversion coefficient

FG300

PRODUCT ADVANTAGES

Triple scale gauges
According to ISO 5171, with high contrast pointer for better gas pressure clarity.

Encapsulated regulating valve technology.
Encapsulated regulating technology for precise parameters and stability, tested for many years.

Accurate parameter setting with an optimized pressure adjusting mechanism.

Inlet connection
Side and bottom entry variants available, variants fit on all types of cylinder valves.

Colour coded handwheel
Simple identification of the gas, ergonomic and robust design, easy handling for the operator.

ORDERING INFORMATION

Article number	Gas	Inlet position	Inlet pressure	Outlet pressure	Inlet connection	Outlet connection	Type
FS21650001	OXYGEN	bottom	300 bar	4 bar	G5/8" BSP	G3/8" BSP	
FS21650002	OXYGEN	side	300 bar	4 bar	G5/8" BSP	G3/8" BSP	
FS21650003	OXYGEN	bottom	300 bar	10 bar	G5/8" BSP	G3/8" BSP	
FS21650004	OXYGEN	side	300 bar	10 bar	G5/8" BSP	G3/8" BSP	
FS21650005	OXYGEN	bottom	300 bar	10 bar	G5/8" BSP	G3/8" BSP	no gauge
FS21650006	ACETYLENE	bottom	25 bar	1,5 bar	G5/8" LH BSP	G3/8" LH BSP	no gauge
FS21650007	ACETYLENE	bottom	25 bar	1,5 bar	G5/8" LH BSP	G3/8" LH BSP	
FS21650008	ACETYLENE	side	25 bar	1,5 bar	G5/8" LH BSP	G3/8" LH BSP	
FS21650009	PROPANE	side	25 bar	4 bar	G5/8" LH BSP	G3/8" LH BSP	no gauge
FS21650010	Ar/CO_2	bottom	300 bar	0 - 40 l/min	G5/8" BSP	G3/8" BSP	
FS21650011	Ar/CO_2	side	300 bar	0 - 40 l/min	G5/8" BSP	G3/8" BSP	
FS21650012	Ar/CO_2	bottom	300 bar	4,5 bar PRESET	G5/8" BSP	G3/8" BSP	HP gauge only
FS21650019	PROPANE	side	25 bar	4 bar	G5/8" LH BSP	G3/8" LH BSP	LP gauge only

FLOWMETERS

Article number	Gas	Flow	Working pressure	Inlet connection	Outlet connection
0870776	Ar/CO_2	16 l/min	4,5 bar	G3/8"	G3/8"
0870673	Ar/CO_2	30 l/min	4,5 bar	G3/8"	G3/8"

PREMIUM CYLINDER REGULATOR SERIES

GCE PROSTAGE®

GCE ProStage® two-stage regulator fits to users working with Plasma and Hi-Tec Oxy-Fuel applications with need of very accurate outlet pressure and flow.

GCE ProStage® regulators designed to provide accurate, fluctuation free delivery for precision applications such as shielding gas arc welding, CNC oxy-fuel cutting or laboratory use use of technical gases. The first stage reduces the inlet pressure by over 90% and the large second stage diaphragm ensures accurate delivery pressure with keeping of enough flow for medium gas consumption applications.

GCE ProStage® regulators are precision built to latest EN ISO 2503 and EN ISO 7291 standards to provide maximum accuracy and safety. These regulators have the additional feature of being able to pipe away gases from the relief valve port, and comply with the stringent requirements of EN ISO 7291 even for strict manifold application.

FEATURES / ADVANTAGES / BENEFITS

The GCE ProStage® two stage regulators provide a precise and constant control of outlet pressure regardless variations of the inlet pressure which occurs when the gas content in the gas cylinder decrease over time

- Two-stage regulation for **constant** outlet pressure, flow and stability
- Optimum safety through pre-set first stage pressure reduction
- High-performance regulator following specific needs of technical gas applications
- Highly accurate via sensitive adjustment of second stage outlet.
- **Robust** rubber gauge protection preventing damages and impurities
- **Compact, durable construction saving cost**
- **Safety protected** with integrated pressure relief valve for overpressure protection
- **Easy handling**, ergonomic
- Design according to ISO 5171& ISO 2503
- Excellent pressure/flow characteristics.
- Up to **300 bar** cylinder pressure
- European design and manucfature
- Available with NEVOC connection

TECHNICAL DATA

Gas	O_2, N_2, H_2, He, Inert, Ar, Air, CO_2
Body	Brass forged
Bonnet	Zn/Al alloy Die Cast
Stems, nuts and fittings	Brass
Diaphragm	EPDM
Seat sealing	PA
Inlet/ Outlet connection	Gas specific connection
Maximal inlet pressure	80, 200, 300 bar
Outlet pressure	0-1,5 bar 0-4bar 0-5 bar 0-7 bar 0-10 bar 0-20 bar
Temperature range	From -20°C to 60°C
Weight	Approx. according to gas variant: 2,4 kg
Pressure relief valve	Used in all variants

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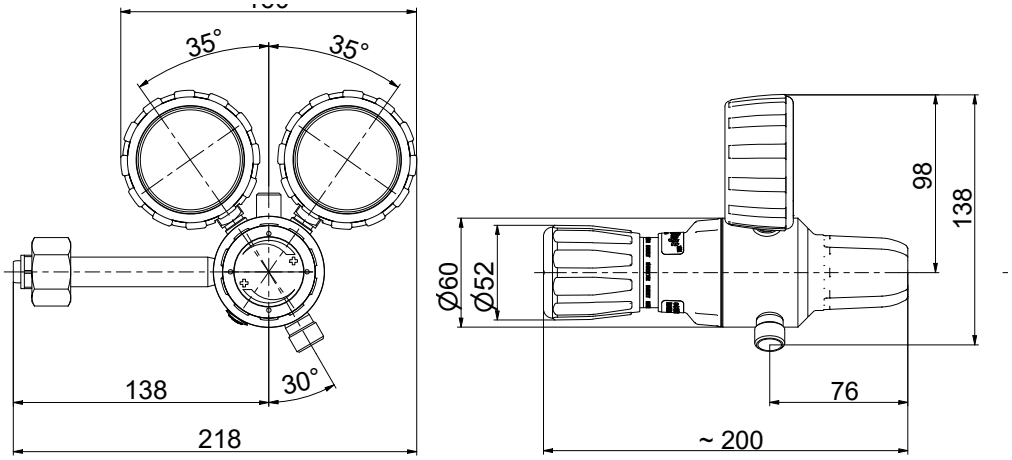

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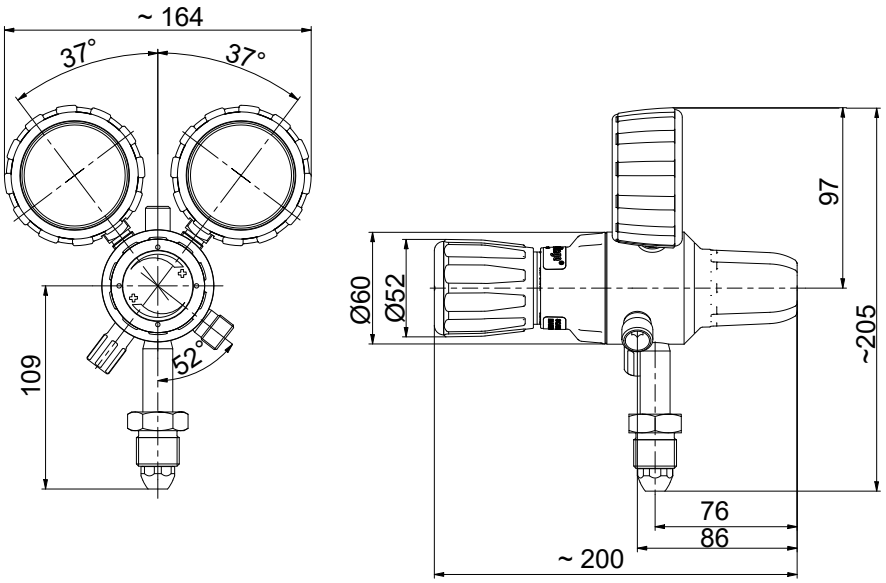
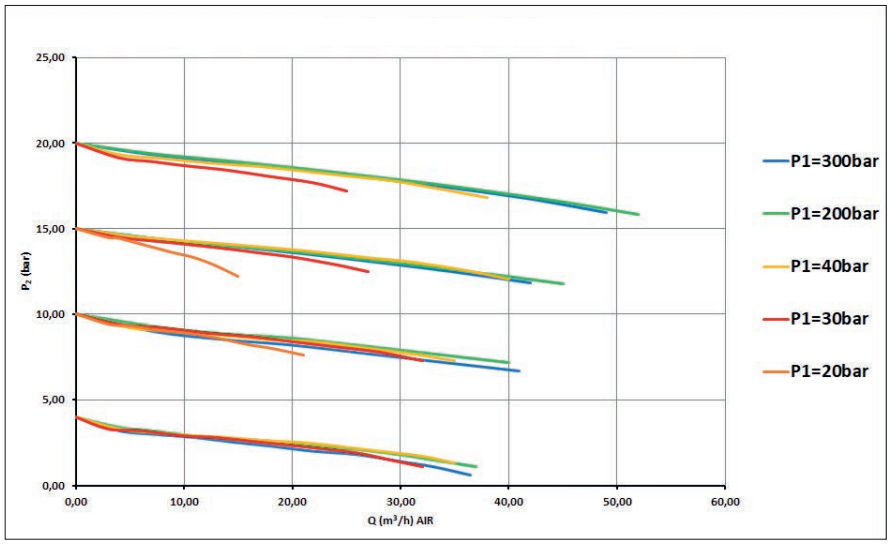
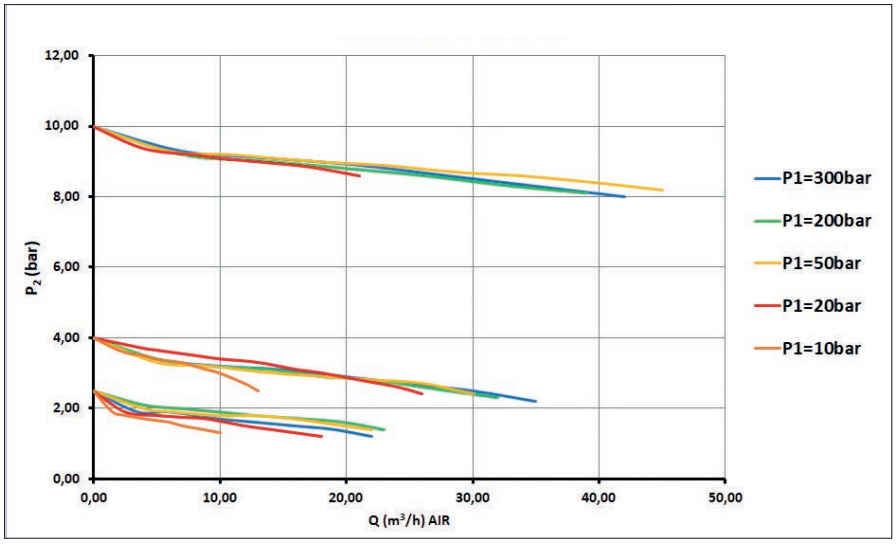


FLOW CHARACTERISTICS

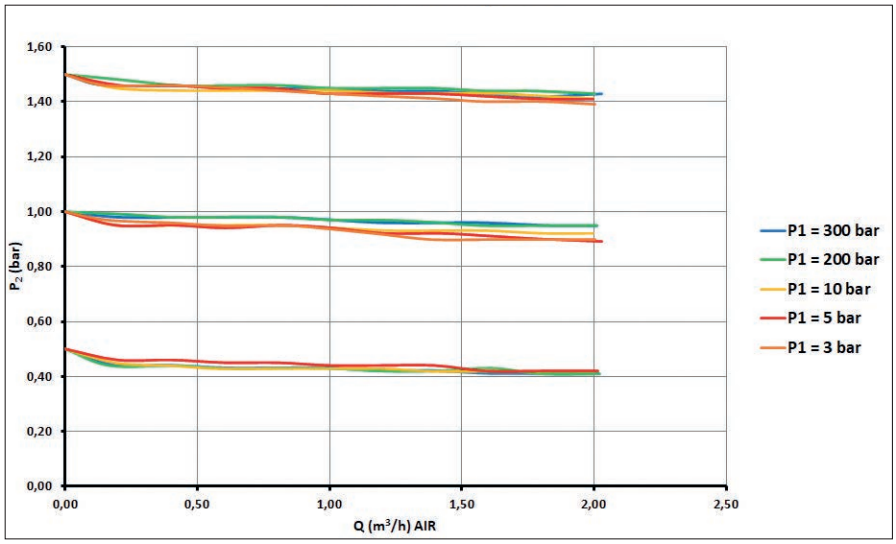
300/20 bar



300/10 bar

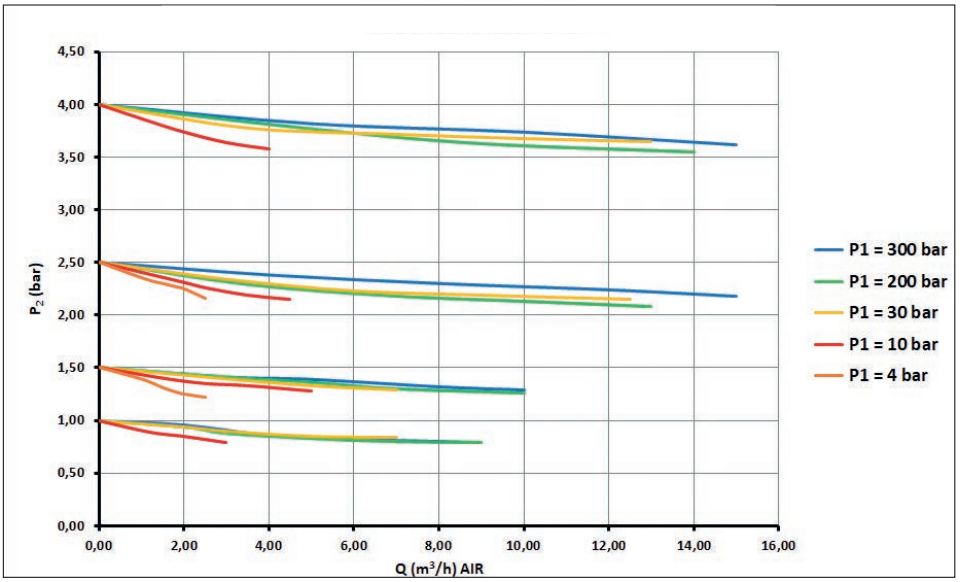


300/1,5 bar



FLOW CHARACTERISTICS

300/4 bar



Conversion coefficient							
Test gas	Air	Oxygen	Nitrogen	Argon	Hydrogen	Helium	CO_2
Air	1	0,950	1,02	0,851	3,81	2,695	0,808

Flow of the gas (A)

$$A = Q * f$$

Q… Air Flow
f… Conversion coefficient

PRODUCT ADVANTAGES

A two-stage regulator providing a precise and constant control of the outlet pressure.

Optimum safety through ***pre-set first stage pressure reduction.***

Highly accurate via ***sensitive adjustment of second stage outlet.*** *Safe operation thanks to* ***pre-adjusted pressure relief valve.***

Constant outlet pressure regardless of variations of inlet pressure.

On-line Instructions for Use *accessible via QR code*

PRODUCT ADVANTAGES

***Exact gas pressure measurement**. Easy reading of the gas parameters on a three-unit scale with a contrast pointer.*

***Advanced Gauge Cover cap** giving an optimal protection from results of potentially rough handling and contributing to even better safety of the operation.*

Encapsulated regulating valve technology
Stabile gas outlet pressure and optimal flow performance for the gas application.

*Each regulator stage is protected by **pressure relieve valve.***

User friendly
Ergonomic Handwheel
for easy set-up.

ORDERING INFORMATION

Art. Nr.	Gas	Inlet pressure	Outlet pressure	Inlet connection	Outlet connection	Inlet Postion
PS0762143	Acetylene	25 bar	1,5 bar	G5/8" LH	G3/8" LH	BE
PS0762196	Acetylene	25 bar	1,5 bar	G5/8" LH	G3/8" LH	SE
PSF21210011	Argon	300 bar	0 - 32 l/min	G5/8"	G3/8"	BE
PSF21200019	Argon	300 bar	0 - 32 l/min	W30R	G3/8"	SE
PS0762153	Carbon dioxide	200 bar	10 bar	0.860 - 14 TPI	G3/8"	SE
PS0762197	Carbon dioxide	200 bar	4 bar	0.860 - 14 TPI	G3/8"	SE
PSF21200021	Helium	300 bar	10 bar	G5/8"	G3/8"	BE
PS0762151	Helium	300 bar	10 bar	G5/8"	G3/8"	SE
PS0762150	Helium	300 bar	4 bar	G5/8"	G3/8"	SE
PS0762149	Hydrogen	300 bar	10 bar	G5/8" LH	G3/8" LH	BE
PS0762148	Hydrogen	300 bar	4 bar	G5/8" LH	G3/8" LH	BE
PS0762147	Inert	300 bar	10 bar	G5/8"	G3/8"	BE
PS0762146	Inert	300 bar	4 bar	G5/8"	G3/8"	BE
PS0762181	Inert	300 bar	2 bar	G5/8"	G3/8"	BE
PSF21200015	Inert	300 bar	10 bar	G5/8"	G3/8"	SE
PSF21200016	Inert	300 bar	10 bar	W30 x 2	G3/8"	SE
PS0762182	Inert	300 bar	2 bar	G5/8"	G3/8"	SE
PS0762152	Nitrous oxide	100 bar	10 bar	W11/16" - 20 TPI	G3/8"	BE
PS0762145	Oxygen	300 bar	10 bar	G5/8"	G3/8"	BE
PS0762144	Oxygen	300 bar	4 bar	G3/8"	G3/8"	BE
PS0762199	Oxygen	300 bar	10 bar	G5/8"	G3/8"	SE
PSF21200012	Oxygen	300 bar	10 bar	W30 x 2	G3/8"	SE
PS0762198	Oxygen	300 bar	4 bar	G5/8"	G3/8"	SE

CYLINDER REGULATOR

JETCONTROL 600 (S SERIES)

JETCONTROL 600 (S Series) are single stage, two gauge cylinder regulators extensively used in oil refineries, refrigeration laboratories or industrial processes requiring precise and stable delivery of high pressure industrial gases. It is excellent tool for high pressure testing of vessels and various pipelines for gas and liquid supply.

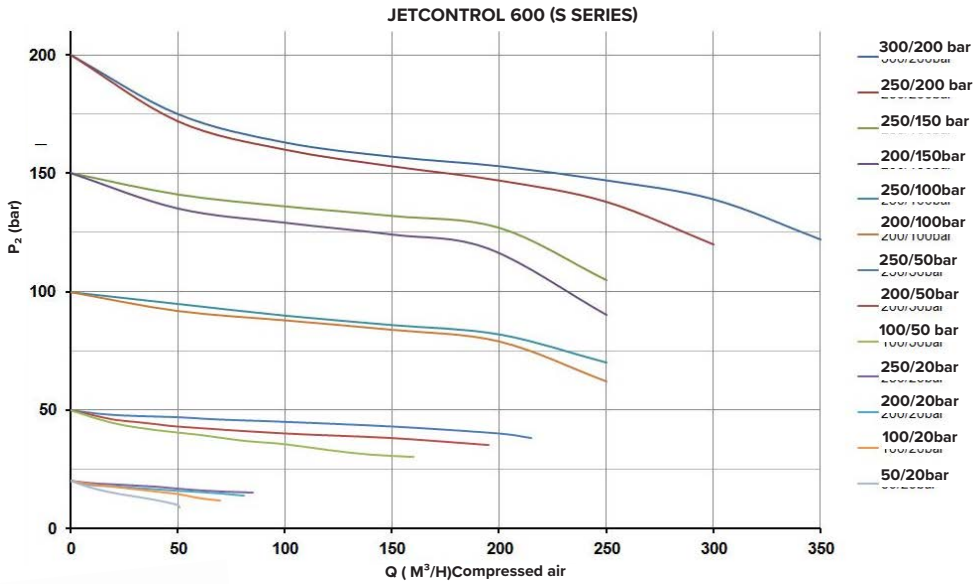
Regulators are primarily designed, tested and manufactured to operate on max. inlet pressure up to 300 bar and providing pressure outlet up to 206 Bar. Its robust design, top grade materials and strictly controlled manufacturing and testing procedures guarantee high operational safety even if working with small molecular gases (like helium or hydrogen) at very high pressures.

Key components are manufactured from high tensile brass, use of extra safe and accurate bulkhead gauges, double layer high grade stainless steel diaphragms and efficient metal filters help to prolong regulator service life and ensure trouble-free operation of JETCONTROL 600 (S Series) regulators

FEATURES / ADVANTAGES / BENEFITS

- Robust design for high outlet pressure up to 206 bar.
- Smooth outlet pressure adjustment thanks to massive T-bar with long lever to generate bigger torque and with bronze bushing to reduce friction
- Top safe bulkhead design, high accuracy pressure gauges.
- Inlet connection complying to local standards with both side entry and bottom entry orientation.
- Body and bonnet made of a special high tensile Brass alloy.
- Easy connection of the outlet pipe with Parker fittings
- Double layer stainless steel diaphragm
- Higher corrosion resistance with transparent powder painting

TECHNICAL DATA				
Gas	N_2	Ar	He	H_2
Body	High tensile brass, chemically stabilized and transparent powder painted			
Bonnet	High tensile brass, chemically stabilized and transparent powder painted			
Stems, nuts and fittings	High tensile brass			
Diaphragm	Stainless steel, two layer			
Seat sealing	PA			
Inlet/Outlet connection	Gas specific connection, outlet with Parker fitting			
Maximal inlet pressure	300 bar			
Outlet pressure range	0-28 bar 0-103 bar 0-206 bar			
Temperature range	From -20°C to 60°C			
Weight	Approx. 2kg			
ISO 2503				



JETCONTROL 600 (S SERIES) BOTTOM ENTRY RANGE

Art. Nr.	Type	Gas	Inlet (bar)	Outlet (bar)	Flow m^3/h	Inlet (form)	Outlet (form)
0762864	S 400	Inert	300	28	36	G5/8”	
0762865	S 1500	Inert	300	100	120	G5/8”	
0762866	S 2500	Inert	300	170	150	G5/8”	
0762867	S 1500	Oxygen	230	100	115	G5/8”	
0762511	S 2500	Oxygen	230	170	140	G5/8”	

0762866

Outlet connections on S series regulators with delivery pressures above 28 bar are compression type, suitable for 1/4” OD tube pipework connection.

Art. Nr.	Type	Inlet (bar)	Outlet (bar)	Inlet (form)	Outlet (form)
0762584	RS 400	300	28	G5/8”	W11×1,25
0762583	RS 600	300	41	G5/8”	W11×1,25
0762590	RS 750	300	52	G5/8”	W11×1,25

This range of regulators is specifically designed to meet the needs of the heating, ventilation and air conditioning (HVAC) trades, for purge and leak test applications. The regulators are supplied with JIC fitting outlets.

SPECIAL PURPOSE REGULATORS

M600 SERIES

0762396

M600 SERIES - improved delivery pressure control is achieved from two stage regulation. Typical applications are those left unattended for periods of time such as cable pressurisation, chemical and laboratory. Range up to 41 bar delivery pressure.

Art. Nr.	Gas	Entry	Inlet (bar)	Outlet (bar)	Inlet (form)	Outlet (form)	Flow m^3/h
0762372*	CO_2	side	200	41	G5/8”	G3/8”	80
0762397	Flammable	bottom	300	41	G5/8”	G3/8”L	108
0762396	Inert	bottom	300	41	G5/8”	G3/8”	108
0762377	Inert	side	300	41	G5/8”	G3/8”	108
0762399	Oxygen	bottom	230	41	G5/8”	G3/8”	100

** for CO regulators use heaters*

OR14 SERIES

0783594

OR14 SERIES - offering some of the highest flows in the GCE BUTBRO range through the use of a special monel tied valve, these are intended for cylinder and pipeline applications. The G5/8 inlet adaptor can be removed to reveal a 1“ BSP flat seat female fitting. Range up to 14 bar delivery pressure.

Art. Nr.	Gas	Entry	Inlet (bar)	Outlet (bar)	Inlet (form)	Outlet (form)	Flow m^3/h
0783594	Oxygen	rear	230	14	G5/8”	G5/8”	120

S151 OL2 SERIES

0772037

S151 OL2 SERIES - pipeline regulator with excellent outlet pressure stability, with rear entry to suit panel or line mounting. The large outlet configuration is necessary to give high flow from a relatively low inlet pressure source. Max inlet 24 bar and delivery up to 10 bar.

Art. Nr.	Gas	Entry	Inlet (bar)	Outlet (bar)	Inlet (form)	Outlet (form)
0772037	Oxygen	rear	24	10	G1	G3/4”

S151 OL2 pipeline regulator is fitted with 1” BSP RH female inlet and 3/4” BSP RH male outlet.

MAPP GAS

50530

Art. Nr.	Gas	Gauges	Inlet (bar)	Outlet (bar)	Inlet Connection	Outlet Connection	Nominal Flow m^3/h
50530	Mapp	0	small cylinders	small cylinders	10	G 1/4” LH	G 1/4” LH

CYLINDER REGULATOR

GAS ECONOMISIER GS40

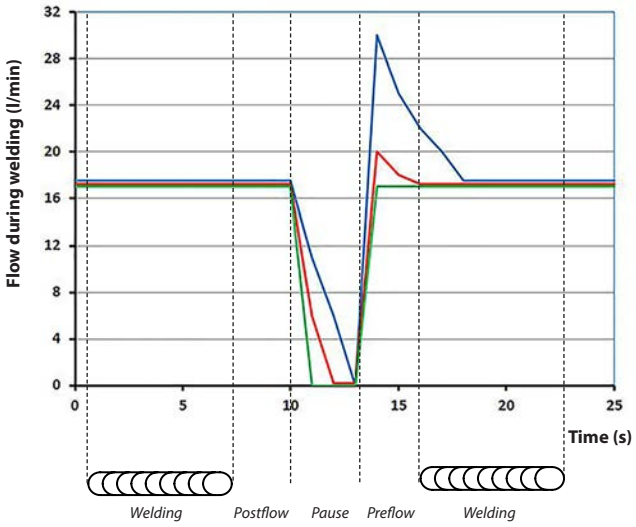
The GCE Gas economiser is the leading accessory for shielding gas arc welding as MIG, MAG and TIG welding technologies. With its small and compact design, the GS40 can be installed downstream most common cylinder pressure regulators or outlet point regulators with flow control. GS40 stabilizes flow and optimises shielding gas pressure in the hose during welding process.Cost of the shielding gas is important factor influencing total cost balance of the welding operation. The savings with GS40 represents up to 0,5ltr of the shielding gas on each average weld. Optimal gas delivery with proper defined pressure and flow-rate improves quality of welding. Cost saving and quality improvement in this area give the advantage to the user on the competitive market.

FEATURES / ADVANTAGES / BENEFITS

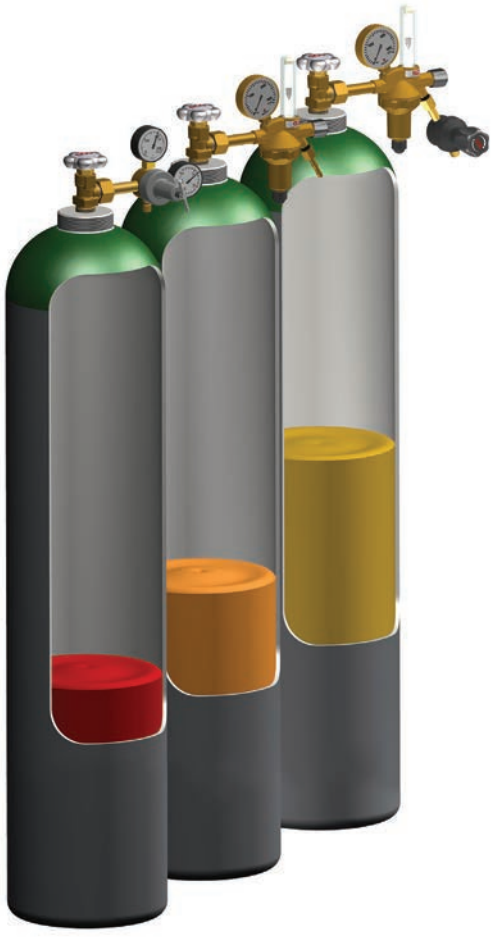
- Shielding gas saving up to 40%.
- Savings represents up to 0,5 ltr of the shielding gas on each average weld.
- Increases welding quality by delivering of the optimal amount of the shielding gas.
- Minimizes weld porosity.
- Stabilizes outlet pressure of the standard cylinder regulator which eliminates gas flow surges and flow turbulences.
- Can be installed with all common shielding gas regulators including outlet point regulators.
- Adjustable variant to be used with regulators with flow-meters.
- Fixed variant for regulators with litre-scaled pressure gauges.

TECHNICAL DATA	
Gas	Ar, Ar/CO_2, CO_2
Body	Aluminium
Bonnet	Zn/Al alloy Die Cast
Stems, nuts and fittings	Brass
Diaphragm	EPDM
Seat sealing	PA
Inlet/Outlet connection (EN 560)	Country specific connection
Maximal inlet pressure	30 bar
Outlet Pressure range	0-32l/min
Temperature range	From -20°C to 60°C
Weight	Approx. according to gas variant: 0,4 kg

PRINCIPLE OF GAS SAVING



- Regulator without gas economiser
- Regulator with GS40F
- Regulator with GS40A



Art. Nr.	Type	Max. inlet pressure (bar)	Inlet / Outlet connection
F21310010	Adjustable	30	9/16 UNF
F21310005	Adjustable	30	G1/4"
F21310008	Adjustable	30	G3/8"
F21310011	Fixed	30	9/16 UNF
F21310006	Fixed	30	G1/4"
F21310009	Fixed	30	G3/8"

COMBINED TORCH SYSTEMS
WELDING TORCHES

LIGHTWEIGHT CUTTING AND WELDING SYSTEM

GCE X10™ ORBIT ORIGINAL

GCE continues to introduce the new torch design across the extensive GCE X10™ Welding product range. Now it's time to present the GCE X10™ ORBIT ORIGINAL torch program.
The GCE X10™ ORBIT ORIGINAL with its new design is a light weight constructed welding blowpipe. Designed with safety in mind and engineered from highest quality materials to complement the operator in production or light gauge maintenance welding and brazing.
The neat design and light weight makes the torch perfect suitable for brazing operations. The trim valves are easy to adjust and control to set whatever flame required.

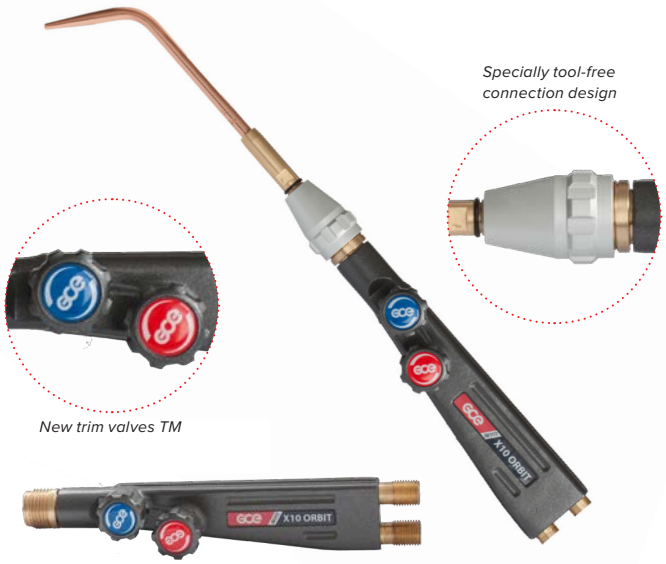
FEATURES / ADVANTAGES / BENEFITS

- **High operating safety.** The shank is manufactured from a solid drilled aluminum forging, no risk for any leakage.
- **Light weight.** Perfect suitable for precise soldering and brazing operations.
- **New trim valve design** for easy and precise setting of the flame.
- **Conform to EN standard EN ISO 5172.**

GCE X10™ ORBIT

TECHNICAL DATA	
Hose connections:	1/4" BSP (other threads available on request)
Welding capacity:	8 mm
Welding nozzles:	Lightweight, Swaged Nozzles Size 1-25 D.H. Solid Copper Tips Sizes 1-25

TOOL - FREE!



Connection according to EN560

SHANK

Article number	Inlet Connection	Outlet Conenction
G0766229	G1/4"x G1/4" LH	G 1/2"

MIXER

Article number	Description
0766231	GCE X10™ ORBIT MIXER

WELDING TIPS

Article number	Range	Size
0766232 (62401)	to 1 mm	Size 1
0766233 (62402)	1-1,5 mm	Size 2
0766234 (62403)	1,5-2 mm	Size 3
0766235 (62405)	2-2,5 mm	Size 5
0766236 (62407)	2,5-3 mm	Size 7
0766237 (62410)	3-4 mm	Size 10
0766238 (62413)	4-5 mm	Size 13
0766239 (62418)	5-6 mm	Size 18
0766240 (62425)	6-8 mm	Size 25

HEATING NOZZLE & NECK

Article number	Description
81666	GCE X10™ ORBIT Heating Nozzle and Neck

GCE X10™ ORBIT ORIGINAL WELDING OUTFITS

Article number	Description	Consisting of:
F23220019	GCE X10™ ORBIT Welding Set	Shank, Mixer, Heating Neck, Regulator Unicontrol Ace, Regulator Unicontrol Oxy, Safe Guard 3 Oxy, Safe Guard Fuel, Hose Twin Oxy/Ace, Welding Attachment 1, 2, 3, 5, 7, 10, Goggles, Lighter with Cup, Spanner, Cleaning needles, Data Card
GF23220012	GCE X10™ ORBIT Mapp Welding Set Outfit	Shank, Mixer, Regulator Mapp, Regulator Unicontrol Oxy, Safe Guard 2 Oxy, Safe Guard 2 Fuel, Welding Attachment 5, 7, 10, Blue Hose, Hose 6x13, Data Card

COMBINED WELDING & CUTTING TORCH FOR MEDIUM DUTY APPLICATIONS

GCE X20®MK 4/5

GCE continues introducing the new torch design across the extensive Cutting & Welding product range. Now it's time to present the X20™ MK 4/5 torch programme.

The X20™ MK 4/5 is a high pressure, sturdily constructed and well balanced welding and cutting torch replacing the MK 4/5, together with additional improved progressive features. Each component (shank, mixer, cutting attachment) is inter-changeable with other leading makes of type 3/4/5 equipment. It has new design and well balanced front mounted colour coded control valves, employing stainless valve spindles. Providing fine adjustment and leak-free conditions. The shank is common to both welding and cutting heads, the same quick positive positioning and leak-free means of attachment being used for both. GCE X20™ MK 4/5 torch and nozzles conform to the EN ISO 5172.

FEATURES / ADVANTAGES / BENEFITS

WELDING AND HEATING

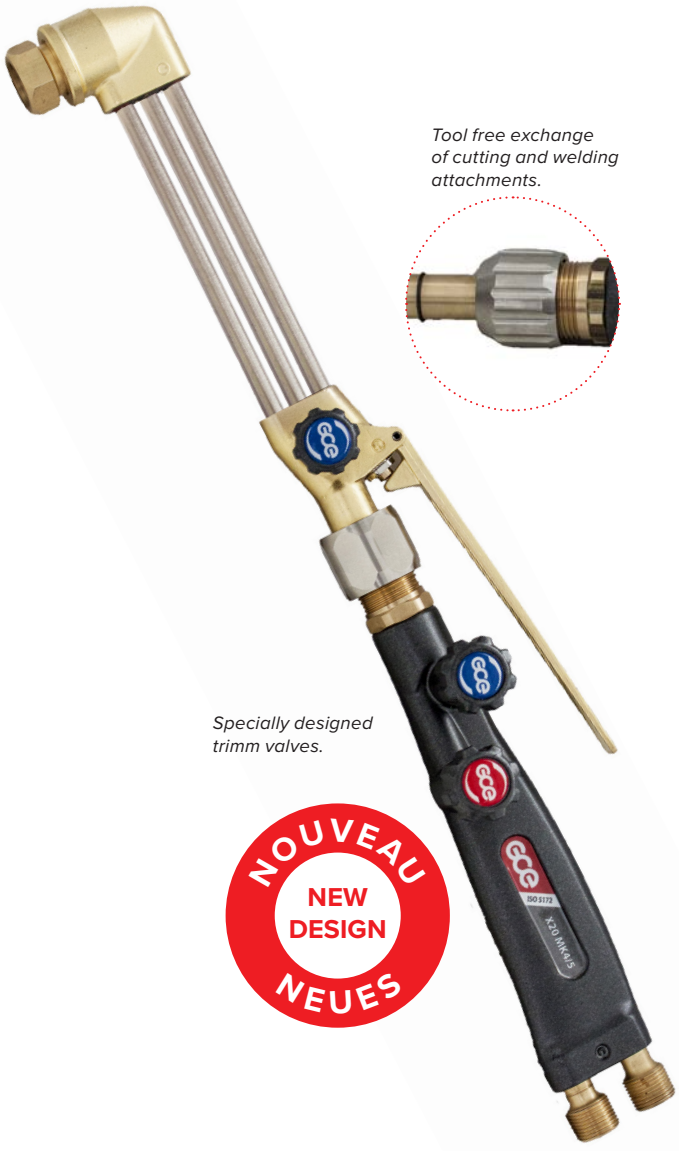
• Designed for welding work from 1 mm to over 25 mm thickness using type **X20™ MK 4/5** swaged nozzles sizes 1 - 90 ft³/h litres.
• The mixer seats on serrated toothed faces allowing the operator a selection of positive nozzle positioning through 360°.
• Can also be used for heating, with either acetylene or propane heating nozzles, together with a heating neck.

CUTTING

•The cutting head is nozzle mixing, enabling the operator to use either acetylene or propane fuel gases by fitting the appropriate nozzle.
• A range of ANM and PNM nozzles are available for clean efficient cutting of material thickness from sheet metal to 150 mm.
• Its versatility allows gouging, flame cleaning etc., to be supplied to customer's requirements.

PROPANE SUPER HEATING

• Using a propane super heating mixer and 10" or 28" stainless steel super heating neck an intense heat output of up to 175 KW/h is obtained.
• Ideal for heating castings and similar large articles.



GCE X20™ MK 4/5 ORIGINAL

TECHNICAL DATA	
Hose connections:	3/8" (other threads available on request)
Welding capacity:	25 mm
Cutting capacity:	150 mm
Welding nozzles:	Type 2/3/4/5 Swaged Welding Nozzles Sizes 1-90
Cutting nozzles:	ANM (Acetylene) Cutting Nozzles
	PNM (Propane) Cutting Nozzles
	ANME (Acetylene) Extended Cutting Nozzles
	PNME (Propane) Extended Cutting Nozzles
	FGA
Heating nozzles:	AHT (Acetylene) Heating Nozzles
Super heating nozzles:	Super Heating Nozzles (Propane) Sizes 1H-5H

SHANK **X20™ MK 4/5 ORIGINAL**

Article number	Description	Inlet connection	Outlet connection
G0766241	X20™ MK 4/5	G1/4 × G3/8" LH	M21,5 × 1,5

CUTTTING ATTACHMENT

Art. Nr.	Type	Gas	Version	Nozzle type
G0766242	nozzle mix	A/P	Lever	ANM, ANME, PNM, PNME, FGA

CUTTING NOZZLES

ANM

Art. Nr.	Thickness mm (“)	Size	Acetylene		Oxygen	
			Pressure Bar (Psi)	Flow rate (m³/h)	Pressure Bar (Psi)	Flow rate (m³/h)
0768554	3-6 (0-1/4“)	1/32“	0,2 (2)	0,3	2 (25)	1,25
0768555	5-12 (1/4-1/2“)	3/64“	0,2-0,3 (2-3)	0,5	2 (30)	2,3
0768556	10-75 (1-3“)	1/16“	0,2 (2)	0,45	3-4 (50-60)	4,5-5,45
0768557	70-100 (3-4“)	5/64“	0,2 (2)	0,79	3-5 (45-70)	7,4-9,8

ANME

Art. Nr.	Thickness mm (“)	Size	Acetylene		Oxygen	
			Pressure Bar (Psi)	Flow rate (m³/h)	Pressure Bar (Psi)	Flow rate (m³/h)
0768670	3-6 (0-1/4“)	1/32“	0,3 (4)	0,3	2,5-3,5 (40-50)	1,25-1,65
0768635	5-12 (1/4-1/2“)	3/64“	0,3 (4)	0,5	2,5-3,5 (40-50)	1,25-1,65
0768599	10-75 (1/2-3“)	1/16“	0,3 (4)	0,45	3,5-4,5 (50-65)	3,2-4,45
0768636	70-100 (3-4“)	5/64“	0,5 (7)	0,6	4,5-5,5 (65-80)	8,4-9,8

PNM

Art. Nr.	Thickness mm (“)	Size	Acetylene		Oxygen	
			Pressure Bar (Psi)	Flow rate (m³/h)	Pressure Bar (Psi)	Flow rate (m³/h)
0768880	3-6 (1/4)	1/32“	0,3 (4)	0,3	2 (30)	2.3
0768865	5-12 (1/2)	3/64“	0,3 (4)	0,4	2 (30)	3.4
0768879	10-75 (2)	1/16“	0,3 (4)	0,45	3 (45)	4.7
0768878	70-100 (4)	5/64“	0,5 (7)	0,6	3,5 (50)	10

PNME

Art. Nr.	Thickness mm (“)	Size	Acetylene		Oxygen	
			Pressure Bar (Psi)	Flow rate (m³/h)	Pressure Bar (Psi)	Flow rate (m³/h)
0769494	3-6 (1/4)	1/32“	0,3 (4)	0,3	2,5-3,5 (40-50)	1,8-2,95
0769495	5-12 (1/2)	3/64“	0,3 (4)	0,4	3-4 (45-60)	3,3-4,95
0769496	10-75 (2)	1/16“	0,3 (4)	0,45	3,5-4,5 (50-65)	5-8,6
0769497	70-100 (4)	5/64“	0,5 (7)	0,6	4,5-5,5 (65-80)	9,4-12,8

FGA

Art. Nr.	No. of slots	Acetylene		Oxygen		Width mm (“)	Depth mm (“)
		Pressure Bar (Psi)	Flow rate (m³/h)	Pressure Bar (Psi)	Flow rate (m³/h)		
0768698	N°1	1 (10)	1,1	4-5(60-72)	4-4,76	8 (1/4“-5/16“)	3-9 (1/8“-3/8“)
0768661	N°2	1 (10)	1,3	5-6 (72-90)	6,3-7,3	8-11 (5/16“-1/2“)	6-11 (1/4“-1/2“)
0768699	N°3	1 (10)	1,5	6-8 (90-120)	9,3-10,9	9-12 (3/8“-1/2“)	9-12 (3/8“-1/2“)

SUPERHEATING ADAPTOR

Art. Nr.	Description
0768929	Superheating adaptor for nozzle mix cutters

MIXER

Art. Nr.	Description
0766243	GCE X20™ MK 4/5 ORIGINAL Welding Mixer
0766253	GCE X20™ MK 4/5 ORIGINAL Propane Superheating Mixer

HEATING NOZZLE & NECK

Art. Nr.	Description
68666	GCE X20™ MK 4/5 ORIGINAL Brass Heating Neck (for AHT heating nozzles)
68777	GCE X20™ MK 4/5 ORIGINAL Long Brass Heating Neck (for AHT heating nozzles)
0766255	GCE X20™ MK 4/5 ORIGINAL Superheating 28" Neck

WELDING NOZZLES

Art. Nr.	Size	Output
0766244 (68501)	to 1 mm	size 1
0766245 (68502)	1 - 1,5 mm	size 2
0766246 (68503)	1,5 - 2 mm	size 3
0766247 (68505)	2- 2,5 mm	size 5
0766248 (68507)	2,5 - 3 mm	size 7
0766249 (68510)	3 - 4 mm	size 10
0766250 (68513)	4 - 5 mm	size 13
0766251 (68518)	5 - 6 mm	size 18
0766242 (68525)	6 - 8 mm	size 25

AHT HEATING NOZZLES

Art. Nr.	Description	Output
48425	AHT 25 heating tip	52 000 Btu/H
48450	AHT 50 heating tip	91 000 Btu/H
48410	AHT 10 heating tip	139 000 Btu/H

SUPER HEATING NECKS AND NOZZLES

Art. Nr.	Description
0766255 (78777)	Superheating 28" neck

Art. Nr.	Previous Art. Nr.	Pressure Propane (bar)	Pressure Oxygen (bar)	Flow Propane (l/h)	Flow Oxygen (l/h)	Heat(W)
78995	**0769476**	0,14	0,7	830	350	21101
		0,49	2,1	1900	7300	47771
78994	**0769475**	0,21	1,1	1200	4800	29893
		0,46	2,5	2100	8700	55097
78993	**0769474**	0,28	1,8	2100	8300	53632
		1,1	5,0	4100	16500	105799
78992	**0769473**	0,35	2,5	2700	10600	69165
		1,3	5,7	4800	18800	118987
78991	**0769472**	0,85	3,5	3200	12700	82353
		2,1	8,7	7000	28000	181118

COMPLETE KITS

Art. Nr.	Description	Consisting of
G77000	GCE X20™ MK 4/5 ORIGINAL COMBINED WELDING & CUTTING OUTFIT	Shank, Mixer, Cutting Attachement, Cutting Nozzle ANM 5-12, 10-75, Welding attach 2, 5, 7, 10, 13, 18, 25, Cleaning needles, Data Card
G77777	GCE X20™ MK 4/5 ORIGINAL COMPLETE WELDING & CUTTING OUTFIT	Shank, Mixer, Cutting Attachement, Welding Nozzle 2, 5, 7, 13, Cutting Nozzle ANM 10-75, Plug G3/8, Regulator Unicontrol Ace, Regulator Unicontrol Oxy, Combination Spanner, Spindle Key, Lighter with Cup, Goggles, Hose Twin Oxy/ACE 5m, Cleaning Needles
G77778FB	GCE X20™ MK 4/5 ORIGINAL COMPLETE WELDING & CUTTING OUTFIT	Shank, Mixer, Cutting Attachement, Welding Nozzle 2, 5, 7, 13, Cutting Nozzle ANM 10-75, Plug G3/8, Regulator Unicontrol Ace, Regulator Unicontrol Oxy, Safe Guard 3 Oxy, Safe Guard 3 Fuel, Combination Spanner, Spindle Key, Lighter Gun, Goggles, Cleaning Needles, Hose Twin Oxy/ACE 5m, Data Card

MANUAL TORCHES - CUTTING TORCHES AND NOZZLES

X511® ORIGINAL

GCE X511® Original, the solution for all Industrial Cutting applications.

The GCE X511® Original cutting torch ranges is made for perfect cutting, developed to meet industry's highest demand. The design and profi le is chosen to give perfect balance and optimum control in continuous operation.

SAFE AND SECURE

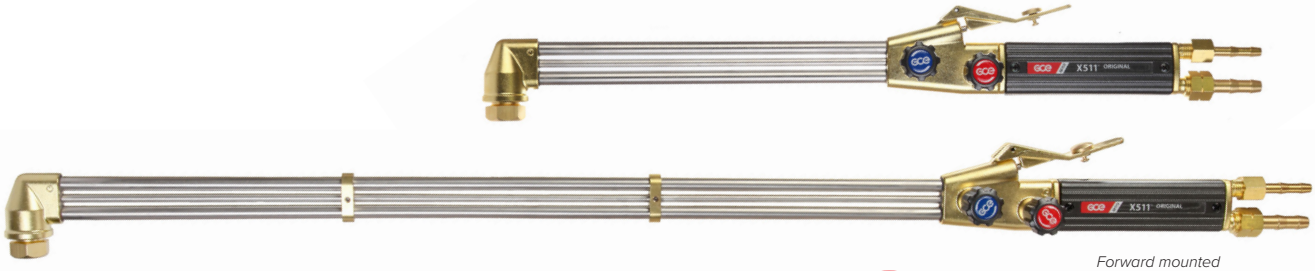
The main body components are brass, designed to withstand rough treatment. The strong metal handle in combination with stainless steel tubes makes the torch robust and safe to use.

EASY TO HANDLE

The well designed control knobs make it simple and fast to control the flame and the valves are designed to give smoothest possible control. The position of the lever gives ease and comfort of operation.

HIGH CAPACITY

The X511 Diamond cutting torch is made for nozzle mix nozzles and has capacity for cutting 500 mm (=20 inch). All standard three cone nozzles fit.



Forward mounted valves

FEATURES / ADVANTAGES / BENEFITS

- High quality brass cutter with stainless steel tubes
- Oval handle for positive grip
- The new trim valve design for regulation of preheating oxygen and fuel gas are forward mounted for easiest control of the flame
- The cutting oxygen lever is specially designed to give maximum control of all operations, ideal for piercing, gouging and rivet cutting
- Length, balance and profile are chosen for best control of operation
- Low weight
- The knob valves have a self centering stainless steel valve stem for positive seating and long life
- Large capacity, cuts sheet 500 mm thick

NEW NEW DESIGN NEW

TECHNICAL DATA	
Length	Weight
470 mm	1,18 kg
855 mm	1,50 kg
1155 mm	1,85 kg

Art. Nr.	Description	Head Angles	Inlet	Quantity
0767699 (87090)	18" (460 mm)	90°	G3/8"- G3/8" LH	1
0767692 (87097)	36" (900 mm)	75°	G3/8"- G3/8" LH	1
0767690	18" (470 mm)	75°	G3/8"- G3/8" LH	1
0767696	42" (1080 mm)	75°	G3/8"- G3/8" LH	1

CUTTER HEAD NUTS

Art. Nr.	Description		Quantity
9427210	Nozzle nut X511	M 22×1.5	5

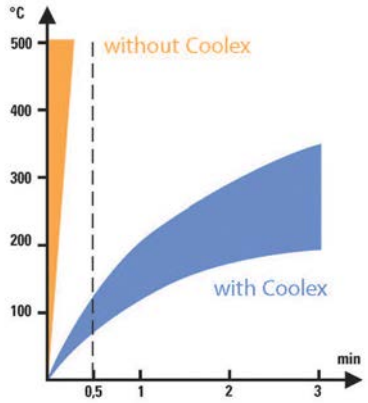
PREMIUM NOZZLES FOR GCE X511 ORIGINAL CUTTING TORCH COOLEX® – 3 CONE SEALED CUTTING NOZZLES

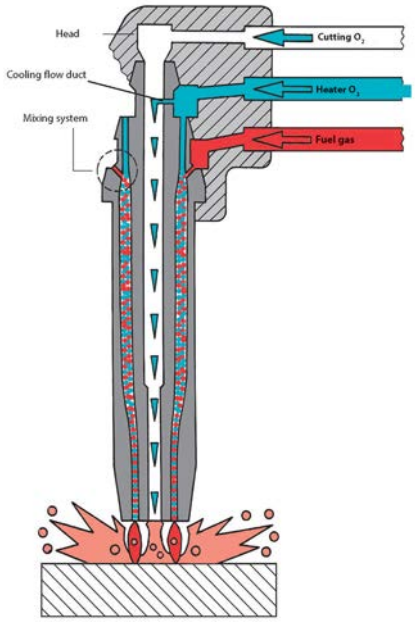
COOLEX® is the generic name for GCE,s 3-cone sealed cutting nozzles which are an innovative development based on conventional cutting nozzles. The COOLEX® nozzles have a cooling flow duct patented by GCE.

In a conventional cutting nozzle, hot gas penetrates from the heating flame into the cutting duct, causing inappropriate heating of the cutting nozzle, often up to 500°. The COOLEX® nozzles with a cooling flow duct reduce the temperature of the nozzles and increase the operational function and the life time of the nozzle.

THE RESULTS :

- Lower temperature
- Fewer operational interruptions





COOLEX CUTTING NOZZLES

HA311 COOLEX®

HA317 COOLEX®

PNME COOLEX®

COOLEX A 341 BENT RIVET NOZZLE FOR ACETYLENE

HP337 COOLEX®

G1 COOLEX® ACETILENO

COOLEX A 361 GOUGING AND RIVET CUTTING NOZZLE FOR ACETYLENE

FGA COOLEX: ACETYLENE

HP331 COOLEX®

AGN COOLEX

CUTTING TORCHES AND ACCESSORIES

UNIVERSAL

GCE BUTBRO cutters are engineered from solid brass stampings with silver soldered joints and provide a lightweight, well balanced, durable cutter giving reliability. With rear mounted valves and cutting lever and round handle. Cutter employs the nozzle mix principle, in which the combustible gas mixing is confined to the cutting nozzle. This results in a cutter which is highly resistant to backfire and flashback. A wide range of accessories are available for this cutter, such as attachments for heating, gouging, sheet metal nozzles, circle attachments, spade guide, power attachments, etc., to give maximum possible versatility. GCE BUTBRO torches and nozzles conform to BS EN ISO 5172.

88090C

88094C

TECHNICAL DATA	
Hose connections:	3/8” BSP (other threads available on request)
Cutting capacity:	300 mm (12”)
Cutting nozzles:	ANM (Acetylene) Cutting Nozzles
	PNM (Propane) Cutting Nozzles
	ASNM Sheet Metal Nozzles
	AGNM Gouging Nozzles
	ARCNM Rivet Cutting Nozzles
Gas:	Acetylene or Propane

Art. Nr.	Description	Head Angles	Quantity
88090C	18” (460 mm)	90°	1
88092C	18” (460 mm)	180°	1
0767949	35” (920 mm)	75°	1
88098C	33” (850 mm)	90°	1
0764511	45” (1150 mm)	90°	1

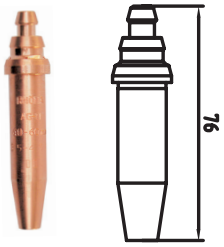
CUTTER HEAD NUTS

For use with NM250 cutters and type 3/4/5 cutting attachments.

Art. Nr.	Description	Description	Quantity
9427210	Nozzle nut	7/8” * 20 UNS	1

CUTTING NOZZLES

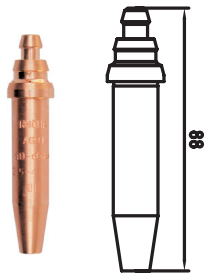
ANM SHORT PATTERN



Standard cutting nozzle for simple usage in the narrow areas.
6 heating holes, 76 mm long.
USE:
Acetylene fuel gas.

Art Nr.	Material Tk'ness		Nozzle size	Operating pressure				Gas consumption						Approx. Cutting Speed	
				Oxygen		Acetylene		Cutting Ox		Heating Ox		Acetylene			
	(mm)	in		bar	PSI	bar	PSI	l/h	ft³/h	l/h	ft³/h	l/h	ft³/h	mm/m	in/m
	Sheet		ASNM	1,5	20	0,14	2	800	28	85	3	85	3	-	-
0768554 (10132)	6	1/4	1/32	1,8	25	0,14	2	800	28	480	15	400	14	510	20
0768555 (10364)	13	1/2	3/64	2,1	30	0,21	3	1900	67	570	20	510	18	480	19
0768556 (10116)	25	1	1/16	2,8	40	0,14	2	4000	140	540	19	470	17	400	16
0768556 (10116)	50	2	1/16	3,2/3,5	45/50	0,14	2	4500	160	620	22	560	19	300	12
0768556 (10116)	75	3	1/16	3,5/4,2	50/60	0,14	2	4800	170	680	24	620	22	205	8
0768557 (10564)	100	4	5/64	3,2/4,8	45/70	0,14	2	6800	240	850	30	790	27	150	6
0768558 (10332)	150	6	3/32	3,2/5,5	45/80	0,21	3	9400	330	960	34	850	30	125	5
0768559 (10018)	200	8	1/8	4,2	60	0,28	4	14800	510	1380	48	1250	44	100	4
0768559 (10018)	250	10	1/8	5,3	75	0,28	4	31500	760	1560	55	1420	50	75	3
0768559 (10018)	300	12	1/8	6,3	90	0,28	4	25000	880	1560	55	1420	50	50	2

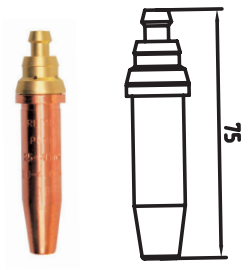
ANME LONG PATTERN



Longer cutting nozzle allowed precise homogenous mixture of the acetylene and oxygen for faster preheating of the material.
6 heating holes, 88 mm long.
USE:
Acetylene fuel gas.

Art Nr.	Material Tk'ness		Nozzle size	Operating pressure				Gas consumption						Approx. Cutting Speed	
				Oxygen		Acetylene		Cutting Ox		Heating Ox		Acetylene			
	mm	in		bar	PSI	bar	PSI	l/h	ft³/h	l/h	ft³/h	l/h	ft³/h	mm/m	in/m
	Sheet		ASNM	1,5	20	0,14	2	800	28	85	3	85	3	-	-
0768670 (45132)	6	1/4	1/32	1,8	25	0,14	2	800	28	480	15	400	14	510	20
0768635 (45364)	13	1/2	3/64	2,1	30	0,21	3	1900	67	570	20	510	18	480	19
0768599 (45116)	25	1	1/16	2,8	40	0,14	2	4000	140	540	19	470	17	400	16
0768599 (45116)	50	2	1/16	3,2/3,5	45/50	0,14	2	4500	160	620	22	560	19	300	12
0768599 (45116)	75	3	1/16	3,5/4,2	50/60	0,14	2	4800	170	680	24	620	22	205	8
0768636 (45564)	100	4	5/64	3,2/4,8	45/70	0,14	2	6800	240	850	30	790	27	150	6
0768662 (45332)	150	6	3/32	3,2/5,5	45/80	0,21	3	9400	330	960	34	850	30	125	5
0768598 (45764)	200	8	7/64	4,2	60	0,28	4	14800	510	1380	48	1250	44	100	4
0768598 (45764)	250	10	7/64	5,3	75	0,28	4	31500	760	1560	55	1420	50	75	3
0768598 (45764)	300	12	7/64	6,3	90	0,28	4	25000	880	1560	55	1420	50	50	2
0768598 (45764)	300	12	7/64	6,3	90	0,28	4	25000	880	1560	55	1420	50	50	2
0769041 (45018)	190-300		1/8												

PNM SHORT PATTERN

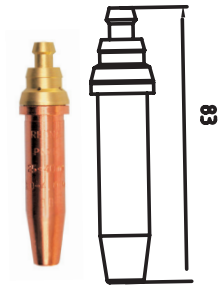


Standard cutting nozzle for simple usage in the narrow areas.
9 spline inner, 76 mm long.
USE:
Propane fuel gas.

Art. Nr.	Range	Size
0768880 (18132)	3 - 6 mm	1/32”
0768865 (18364)	5 - 12 mm	3/64”
0768879 (18116)	10 - 75 mm	1/16”
0768878 (18564)	70 - 100 mm	5/64”
0769481 (18332)	90 - 150 mm	3/32”
0769482 (18018)	190 - 300 mm	1/8”

Material Tk'ness		Nozzle	Operating pressure Oxygen		Propane		Gas consumption Cutting Ox		Heating Ox		Propane		Approx. Cutting Speeds	
mm	in	size	bar	PSI	bar	PSI	l/h	ft³/h	l/h	ft³/h	l/h	ft³/h	mm/m	in/m
6	1/4	1/32	2,1	30	0,2	3	1000	36	1300	48	300	12	430	17
13	1/2	3/64	2,1	30	0,2	3	1800	65	1600	57	300	14	360	14
25	1	1/16	2,8	40	0,2	3	3000	140	1700	62	400	15	280	11
50	2	1/16	3,2	45	0,3	4	4500	160	1800	66	400	16	205	8
75	3	1/16	3,5	50	0,3	4	4800	170	2000	73	500	18	205	8
100	4	5/64	3,5	50	0,3	4	7300	260	2600	93	600	23	152	6
150	6	3/32	4,2	60	0,4	6	12300	435	3300	120	800	30	125	5
250	10	1/8	5,6	80	0,6	8	22300	790	4600	165	1100	42	50	2
300	12	1/8	6,7	95	0,8	8	26300	930	5900	210	1400	50	50	2

PNME LONG PATTERN

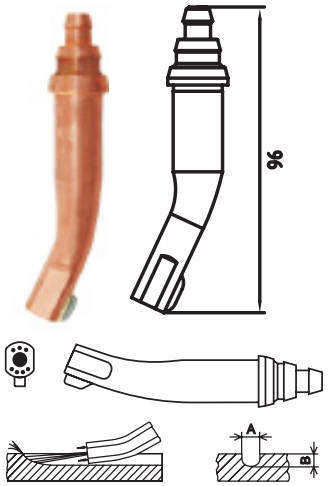


Longer cutting nozzle allowed precise homogenous mixture of the acetylene and oxygen for faster preheating of the material.
9 spline inner, 88 mm long.
USE:
Propane fuel gas.

Art. Nr.	Range	Size
0769494 (46132)	3 - 6 mm	1/32”
0769495 (46364)	5 - 12 mm	3/64”
0769496 (46116)	10 - 75 mm	1/16”
0769497 (46564)	70 - 100 mm	5/64”
0769498 (46332)	90 - 150 mm	3/32”
0769499 (46764)	140 - 200 mm	7/64”
0769501 (46018)	190 - 300 mm	1/8”

Material Tk'ness		Nozzle	Operating pressure Oxygen		Propane		Gas consumption Cutting Ox		Heating Ox		Propane		Approx. Cutting Speeds	
mm	in	size	bar	PSI	bar	PSI	l/h	ft³/h	l/h	ft³/h	l/h	ft³/h	mm/m	in/m
6	1/4	1/32	2,1	30	0,2	3	1000	36	1300	48	300	12	430	17
13	1/2	3/64	2,1	30	0,2	3	1800	65	1600	57	300	14	360	14
25	1	1/16	2,8	40	0,2	3	3000	140	1700	62	400	15	280	11
50	2	1/16	3,2	45	0,3	4	4500	160	1800	66	400	16	205	8
75	3	1/16	3,5	50	0,3	4	4800	170	2000	73	500	18	205	8
100	4	5/64	3,5	50	0,3	4	7300	260	2600	93	600	23	152	6
150	6	3/32	4,2	60	0,4	6	12300	435	3300	120	800	30	125	5
250	10	1/8	5,6	80	0,6	8	22300	790	4600	165	1100	42	50	2
300	12	1/8	6,7	95	0,8	8	26300	930	5900	210	1400	50	50	2

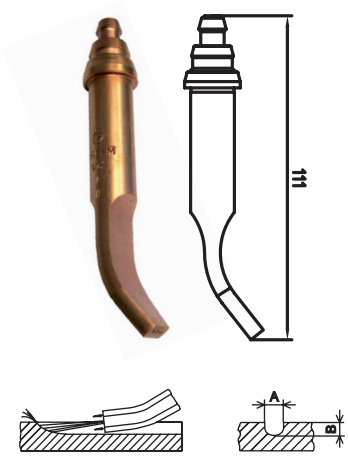
AGNM GOUGING NOZZLES



Special cutting nozzle for removing low quality weld.
94 mm long.
USE:
Acetylene fuel gas.

Art. Nr.	Range	Size	Quantity
0768698	6 - 8 mm Width × 3 - 9 mm Depth	13 - 1/32”	1
0768661	8 - 11 mm Width × 6 - 11 mm Depth	19 - 3/64”	1
0768699	9 - 12 mm Width × 9 - 12 mm Depth	25 - 1/16”	1

ARCNM RIVET CUTTING NOZZLE



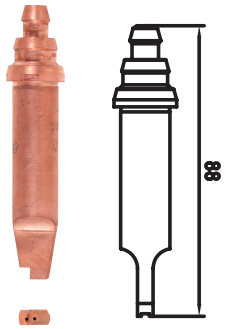
Special cutting nozzle for cutting of the head of the screws or rivet.
USE:
Acetylene fuel gas.

Art. Nr.	Range	Size	Quantity
0769230 (16000)	ø 50 mm	1/16	1

Material Tk'ness mm	Material Tk'ness in	Nozzle size	Operating pressure Oxygen bar	Operating pressure Oxygen PSI	Operating pressure Acetylene bar	Operating pressure Acetylene PSI	Gas consumption Cutting Ox l/h	Gas consumption Cutting Ox ft³/h	Gas consumption Heating Ox l/h	Gas consumption Heating Ox ft³/h	Gas consumption Acetylene l/h	Gas consumption Acetylene ft³/h	Approx. Cutting Speeds mm/m	Approx. Cutting Speeds in/m
8	5/16	13	4,0	60	0,5	7	3680	130	990	35	905	32	610	24
11	7/16	19	5,0	75	0,5	7	9340	330	1870	66	1700	60	1970	42
12	1/2	25	5,5	85	0,55	8	16270	575	2290	81	2100	74	1220	48

Operating pressure Oxygen bar	Operating pressure Oxygen PSI	Operating pressure Acetylene bar	Operating pressure Acetylene PSI	Operating pressure Acetylene in/m
3	*45*	*0,5-1*	*7-15*	*48*

HA311-1 SHEET METAL NOZZLE



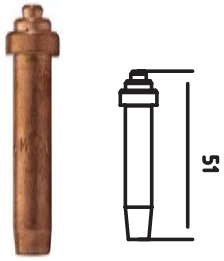
Special cutting nozzle for cutting of thin plates
88 mm long.

Fuel gas: Acetylene

Art. Nr.	Range	Size	Quantity
0768641	0 - 3 mm	0,3	1

AFN TYPE (ORBIT) CUTTING NOZZLES

Fuel gas: Acetylene



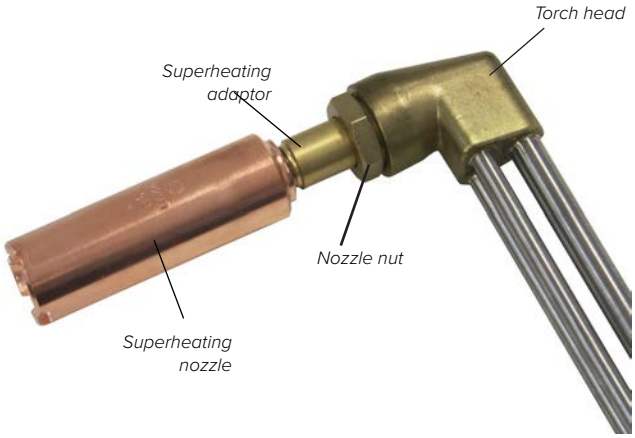
Art. Nr.	Range	Size	Quantity
0769416	0 - 3 mm	Sheet Metal ASFN	1
0768674	3 - 6 mm	size 1/32”	1
0769287	6 - 20 mm	size 3/64”	1
0768825	20 - 30 mm	size 1/16”	1

Material Tk‘ness		Nozzle size	Operating pressure Oxygen		Acetylene		Gas consumptio Cutting Ox		Heating Ox		Acetylene		Approx. Cutting Speeds	
mm	in		bar	PSI	bar	PSI	l/h	ft³/h	l/h	ft³/h	l/h	ft³/h	mm/m	in/m
3	1/8	S/M	2,1	30	0,3	4	650	30	120	4,5	220	8	110	4
6	1/4	1/32	2,1	30	0,15	2	710	25	255	9	255	8	255	8
20	3/4	3/64	2,1	30	0,15	2	1415	50	255	9	225	8	225	8
25	1	1/16	3,8	55	0,15	2	3400	120	255	9	225	8	225	8
50	2	1/16	5,3	75	0,20	3	4530	60	310	11	285	10	285	10

SUPERHEATING NOZZLES

For use on type 3/4/5 blowpipe in conjunction with heavy duty mixer 77555 and necks 78666 or 78777. Can also be used with NM250/Steelmaster in conjunction with superheating adaptor 0768929.
USE:
Propane fuel gas.

Art. Nr.	Size	Output	Quantity
0769472 (78991)	1H	72 000 - 163 000 Btu/H	1
0769473 (78992)	2H	102 000 - 188 000 Btu/H	1
0769474 (78993)	3H	183 000 - 361 000 Btu/H	1
0769475 (78994)	4H	236 000 - 406 000 Btu/H	1
0769476 (78995)	5H	250 000 - 618 000 Btu/H	1
0768929	Superheating adaptor for NM Cutters		



How to fit a superheating adaptor

Place the “three cone end” of the supeheating adaptor into the torch head and fasten using the nozzle nut.

Once the adaptor is in place screw the superheating nozzle onto the adaptor.

DOUBLE ROLLER GUIDE

Steady and guide your torch over large plates and forgings. Fits all nozzle-mix cutters using ANM/PNM type nozzles.
Fixed by clamping around nozzle thus accommodating either 75 or 90 torch heads.

Art. Nr.	Description	Quantity
70510P	Double roller guide	

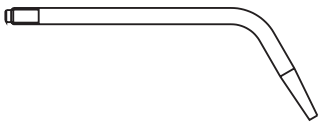
LARGE CIRCLE CUTTING ATTACHMENT

Cut accurate circles with this versatile attachment.
It is adjustable to cut circles from 60 mm (2 1/2”) up to 425 (17”) Dia.

Art. Nr.	Description	Quantity
14008460	Large circle cutting attachment	1

WELDING & HEATING NOZZLES

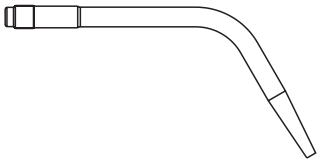
LIGHTWEIGHT SWAGED COPPER NOZZLES



For use on Orbit torch 1/4" × 26 TPI thread.

Art. Nr.	Range	Size	Quantity
0766232 (62401)	to 1 mm	size 1	
0766233 (62402)	1 - 1,5 mm	size 2	
0766234 (62403)	1,5 - 2 mm	size 3	
0766235 (62405)	2 - 2,5 mm	size 5	
0766236 (62407)	2,5 - 3 mm	size 7	
0766237 (62410)	3 - 4 mm	size 10	
0766238 (62413)	4 - 5 mm	size 13	
0766239 (62418)	5 - 6 mm	size 18	
0766240 (62425)	6 - 8 mm	size 25	

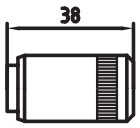
TYPE 2/3/4/5 SWAGED COPPER TUBE NOZZLES



For use on Type 2/3/4/5 Welding torch 7/16" × 27 TPI Thread (Sizes 1-90 Type 2 & 3), 31/64" × 27 TPI Thread (Sizes 45-90 using Heavy Duty Mixer)

Art. Nr.	Range	Size	Quantity
0766244 (68501)	to 1 mm	size 1	
0766245 (68502)	1 - 1,5 mm	size 2	
0766246 (68503)	1,5 - 2 mm	size 3	
0766247 (68505)	2 - 2,5 mm	size 5	
0766248 (68507)	2,5 - 3 mm	size 7	
0766249 (68510)	3 - 4 mm	size 10	
0766250 (68513)	4 - 5 mm	size 13	
0766251 (68518)	5 - 6 mm	size 18	
0766252 (68525)	6 - 8 mm	size 25	

AHT HEATING NOZZLES



For use on type 3/4/5 equipment. In conjunction with necks 68777 or 68666.
USE:
Acetylene fuel gas.

Art. Nr.	Size	Output	Quantity
48425	AHT 25 heating tip	52 000 Btu/H	1
48450	AHT 50 heating tip	91 000 Btu/H	1
48410	AHT 100 heating tip	139 000 Btu/H	1

GAS SAVER

GS 20

The GS20 is a gas saver that is intended for use in welding and soldering work where you regularly interrupt and start again. The GS 20 can save a lot of gas and the use of the GS 20 also results in a safe handling of the burner, which is not lit during breaks.

The pilot flame is lit all the time which makes it easy to light the burner after every break. When hanging up the burner, the fuel gas valve is first closed to avoid bangs that can cause soot in the burner.

FEATURES / ADVANTAGES / BENEFITS

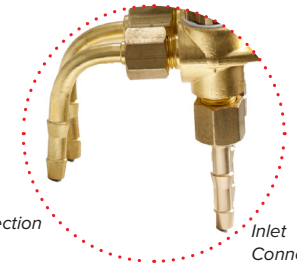
- Considerable savings in gas costs can be achieved by the use of a gas economiser in welding and brazing operations.
- The torch is held on the hooked arm when not in use which shuts of the gas supply to the torch.
- When unhooked the torch can be immediately re-ignited from the pilot light without having to re-adjust the valves.
- With the GS 20 follows inlet and outlet nuts and hose nipples.
- Compatibility for hook up of welding attachment or shank itself.
- Connections according to European standard EN 560.

Compatibility for hook up of welding attachment

Compatibility for hook up of shank itself.

Acetylene Nozzle

Propane Nozzle



Outlet Connection

Inlet Connection

ORDERING INFORMATION

Article number	Gas	Connection	Previous item number
F22510002	Acetylene	G3/8"LH; G1/4"	0767763 0767916 66390
F22510003	Propane	G3/8"LH; G1/4"	0767915 0767917 14008003
F160106	Acetylene	M16x1,5; M16x1,5LH	F160106

For other versions available, please contact your local GCE sales office.

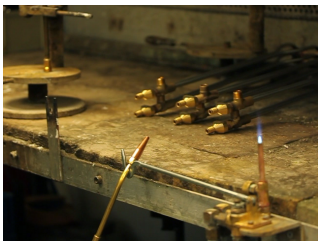
Description	PCE
Gas Saver	1
Inlet nut and hose nipple G3/8"LH	1
Inlet nut and hose nipple G1/4"	1
Outlet nut and hose nipple G3/8"LH	1
Outlet hose nipple G3/8"LH	1
Outlet nut and hose nipple G1/4"	1

DESIGNED TO FOLLOW THE NEEDS OF BRAZING WORKERS AND WELDERS

Easy On

Tiny flame available during work

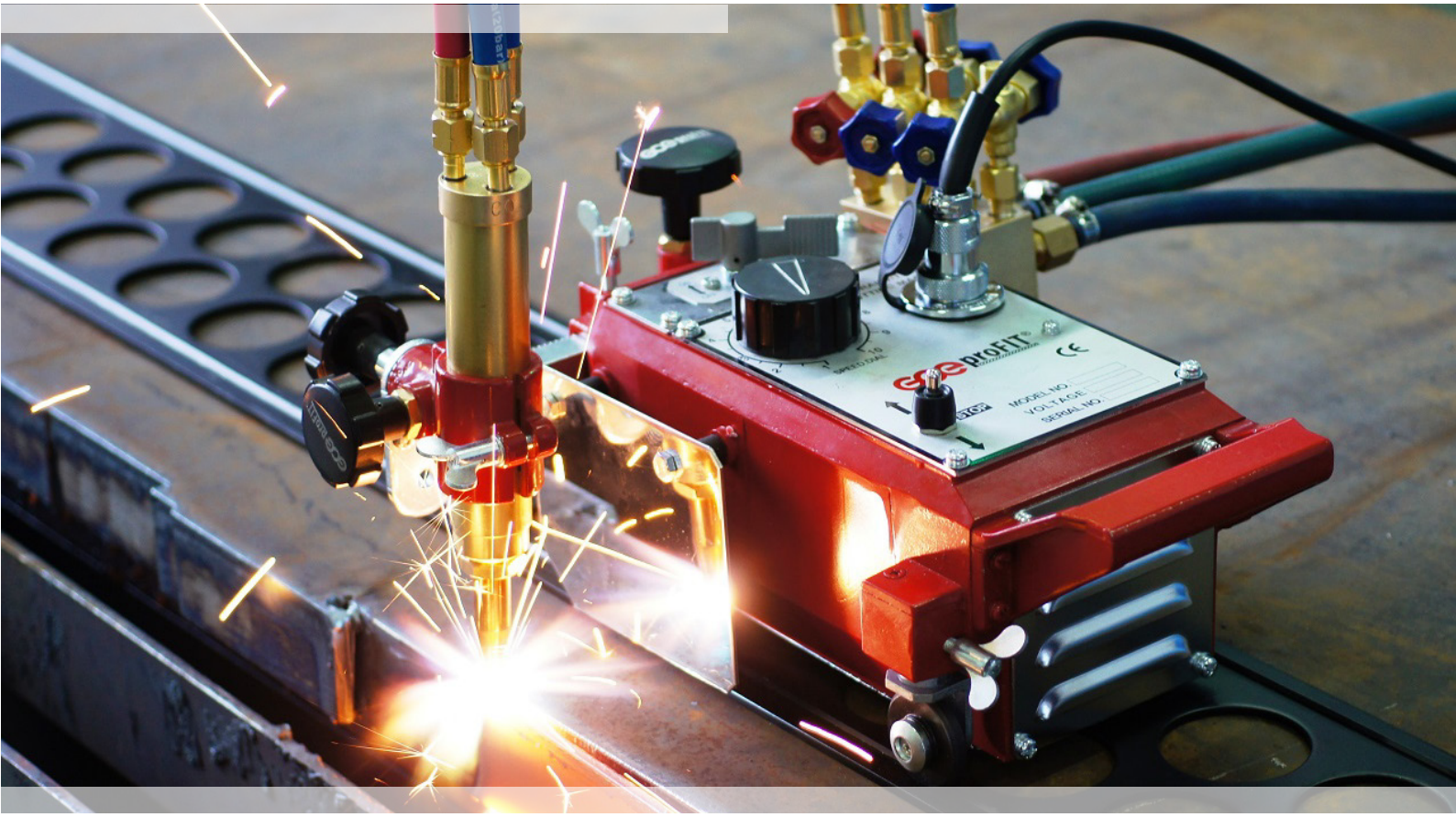
Fluent adjustment of the flame



Automaticaly off when not used

MACHINE CUTTING – PORTABLE MACHINES

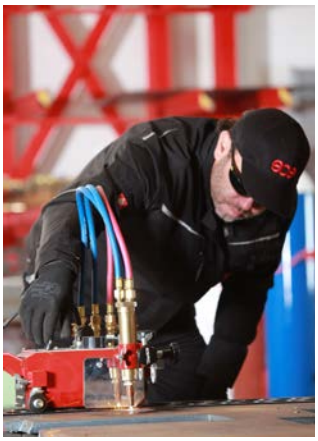
CUTTING EQUIPMENT FOR AUTOMATED CUTTING MACHINES



RANGE OF PORTABLE CUTTING MACHINES GCE PROFIT

GCE PROFIT SLM,
STRAIGHT LINE CUTTING MACHINE

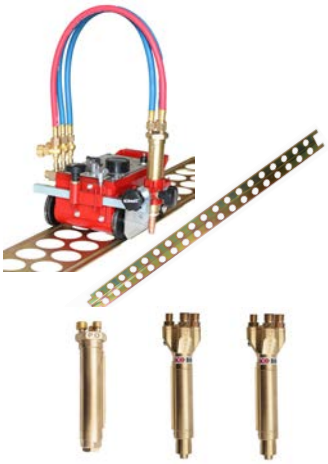
GCE proFIT® SLM is a universal cutting machine with lightweight design mainly for oxy-fuel cutting applications up to 150 mm metal sheet thickness (up to 100 mm with two cutting torches). It is a rugged but precise portable machine which has many features and benefits. For example it can be used for straight cuts guided by the rail, manually-guided shape cuts, circular cuts and Strip Cutting when using two torches. The cutting torch can be fixed in a vertical position or angled for bevel cutting of metal sheet edges. The machine is Ideal for small workshops or as an additional tool to a gantry machine. It can be used indoor but also due to its flexibilty it can be used outdoors on the construction sites.



FEATURES / ADVANTAGES / BENEFITS

- Lightweight portable machine for one-hand manipulation
- Easy installation and operation
- Interlocking, 1,8 m long guide rail
- All common fuel gases service
- Nozzle mixing (IC 30° cone) cutting torches or BIR+, an injector cutting torch technology
- Basic one-torch configuration can be extended for two-torch operation
- Strip cutting and bevel cutting with two torches
- Precise drive system is ensuring constant cutting speed
- Exact adjustment of the torch position
- High speed of motor drive enables machine to be used also for plasma cutting

TECHNICAL DATA	
Cutting capacity:	up to 150 mm with one torch, up to 100 mm with two torches
Cutting speed:	50 – 1600mm/min
Operation:	forward and reverse with variable speed
Power supply:	230V AC / 50 Hz
Oxygen inlet connection:	G1/4“, up to 8 bar, hose min. DN8
Fuel gas inlet connection:	G3/8“LH, up to 1 bar, hose min. DN8
Body dimensions:	175 × 350 × 140 (W × L × H in mm)
Weight:	9,5kg (with one torch configuration)
Rail:	Zn- coated, 1,8m



Art. Nr.	Description
0870613	GCE proFIT SLM 230V with nozzle-mixing cutting torch
0870614	GCE proFIT SLM 230V without cutting torch
0870615	GCE proFIT SLM 110V with nozzle-mixing cutting torch
0870617	Rail track 1,8m, Zinc coated
0870618	Rail track 1,2m, Zinc coated
F25310012*	Cutting torch BIR+ 110/32PMY, G1/4, G3/8, G3/8LH
F25310013*	Cutting torch BIR+ 110/32A, G1/4, G3/8, G3/8LH
F25310014*	Cutting torch nozzle mixing, G1/4, G3/8, G3/8LH
F25310015*	Cutting torch nozzle mixing, 9/16 UNF
0870616	Extension kit for 2-torches
0870665	Circle cutting kit

** One of these torches has to be selected and ordered for the machine item 0870614*

BASIC MACHINE PACKAGE INCLUDES:

- Equipment for one torch-cutting application
- One nozzle mix cutting torch with basic cutting nozzle

(The basic package of machine 0870614 does not include cutting torch. One of the torches above needs to be selected.)-

- Torch holder, torch bar, stainless steel heat shield
- Internal gas hoses, gas manifold with shut-off valves
- Power cable 8m with plug DIN

(*Guide rail is not included, to be ordered and delivered separately.)*

RANGE OF PORTABLE CUTTING MACHINES GCE PROFIT

GCE PROFIT PCM, PIPE CUTTING MACHINE

GCE proFIT® PCM is a universal manually driven cutting machine for oxy-fuel applications with lightweight design, ideal for cutting of pipes up to 100 mm of tube wall thickness.

TECHNICAL DATA	
Cutting capacity:	up to 100mm of tube wall thickness
Cutting speed:	manually driven
Operation:	forward and reverse manually operated
Oxygen inlet connection	G1/4“, up to 8 bar, hose min. DN8
Fuel gas inlet connection:	G3/8“LH, up to 1 bar, hose min. DN8
Body dimensions:	(400 × 500 ×600) (Wx L x H in mm)
Weight:	15 kg
Chain links:	Zn- coated, length 1300 mm, for tube diameter 1000 mm

Art. Nr.	Description
0870648	GCE proFIT PCM 230V with nozzle-mixing cutting torch
3C00448	Additional chain links, 82 detachable links, 2,4m

BASIC MACHINE PACKAGE INCLUDES:

- Manually driven machine
- One nozzle mix cutting torch with basic cutting nozzle
- Torch holder, torch bar, chain tightening mechanism
- Internal gas hoses, gas manifold with shut-off valves
- Basic chain for tube diameter up to 1000 mm
- For ANME/PNME cutting nozzle please see page 43/44

EXPLORE OUR HIGH-END **SOLUTIONS**

FOR AUTOMATED CUTTING WITH

GCE FIT+ RANGE

For more information please see the separate catalogue
or visit our website gcegroup.com

SAFETY DEVICES FOR REGULATORS
SAFETY DEVICES FOR TORCHES
QUICK COUPLINGS

SAFETY DEVICES - FLASHBACK ARRESTORS

If using high quality equipment kept in good condition and if such equipment is used properly maintaining all health and safety rules, oxy-fuel cutting and heating equipment is safe to handle. There is no substitute for proper training, safety procedures and adequate caution among those that operate oxy-fuel equipment. The right torch, nozzle and a stable source of gas as well as their professional handling is essential but still may not be sufficient. Daily practice shows that Backfire and Flashbacks not only may happen but happen quite frequently. Extra hardware in the form of reliably working flashback arrestors provides an additional safety barrier protecting the cutting/welding operator and surrounding property against health and safety risks and material damages.

NATURE OF OXY-FUEL RISKS

In the course of proper operation the highly flammable mixture of gases is precisely mixed in the injector, mixer or directly in the cutting nozzle and then ignited and fully combusted right and only at the cutting / welding nozzle orifice. In reality the equipment may get damaged or worn, the gas supply pressure unstable or skills and concentration of the operator not reach necessary levels. Any of these reasons and several others may initiate a chain of events resulting in an accident. The most common mishaps are as follows:

BACKFLOWING

Backflow is a dangerous situation whereby oxygen is pushed into the flammable gas hose (or vice versa) creating a highly flammable/ explosive gas mixture inside the flexible hoses. A damaged injector or mixer or – more often - clogged or blocked welding tip or damaged cutting nozzle can also cause a change of inner pressure conditions in the system resulting in backflow. Another case is where the reverse flow of a gas occurs when one cylinder runs out during operation, creating an imbalance of pressure in the system. The non-return valve units – both in check valves and/or flashback arrestors are the only

FLASHBACK

A flashback is a momentary or sustained retrogression of the flame upstream of the mixer, usually in the torch or hoses. This is a potentially dangerous situation, particularly if the flame reaches the hoses, where an explosion will occur, causing a rupture or separation of the hose.

SUSTAINED BACKFIRE

Sustained backfire is the continuous burning of the flame back inside the torch, usually at the mixer or injector. Flames can also travel further upstream and in extreme cases can reach the regulator and gas cylinders. Sustained backfires are often accompanied by a hissing or squealing sound and/or a smoky, sharp pointed flame. The user should immediately close all torch valves to avoid damage or injury. If a sustained backfire continues to burn without closing torch valves, severe damage to the torch, as well as an increased risk of fire, would result

FLASHBACK ARRESTORS

Flashback arrestors (FBAs) are common safety devices that stop or impede the progress of a flame upstream of the insertion point, avoiding back flow and build up of explosive mixtures inside of hoses and can protect the system in case of fire and stop pressure wave in the gas lines. Different FBA provides a different combination of basic safety features:
GCE flashback arrestors are designed to protect the operator. Attention to the following points will greatly reduce the risk of backfire:

- Ensure all equipment is in good condition and regularly checked.
- Ensure all hose connectors are gas tight.
- Follow the manufactures instructions for the torch.
- Ensure pressure settings are correct.
- Purge hoses before lighting torch.
- Keep hands and tools clean. (Oil or grease can cause an explosion when in contact with oxygen).
- In the event of a backfire do not re-ignite the torch until the cause has been determined and remedied.

GCE flashback arrestors require no routine maintenance other than regular checks for external leaks applicable to all gas equipment.
GCE flashback arrestors are sealed and tested during manufacture and no attempt should be made to dismantle or repair the unit. Should there be any doubt about the performance of the unit it should be replaced or returned to the manufacture for service.

SAFETY DEVICES FOR REGULATORS

SAFE-GUARD-5

The latest innovation from GCE the SAFE-GUARD-5 offers the maximum level of protection required by ISO 5175-1 to prevent dangerous flashbacks from reaching the regulator and cylinder supply sources.

There are many conditions that can cause a flashback, the fitting a flashback arrestor is commonsense. By using the Safe-Guard-5 on regulator outlets you reach the highest level of safety available on the market

FEATURES / ADVANTAGES / BENEFITS

- Maximum number of safety features defined by ISO 5175
- High visibility of trip/reset lever coupled with quick acting reset even when pressurised
- Angled inlet to minimise hose damage
- 100% production flame tested for Flashback resistance
- Inspection dates can be marked on product for easy reference

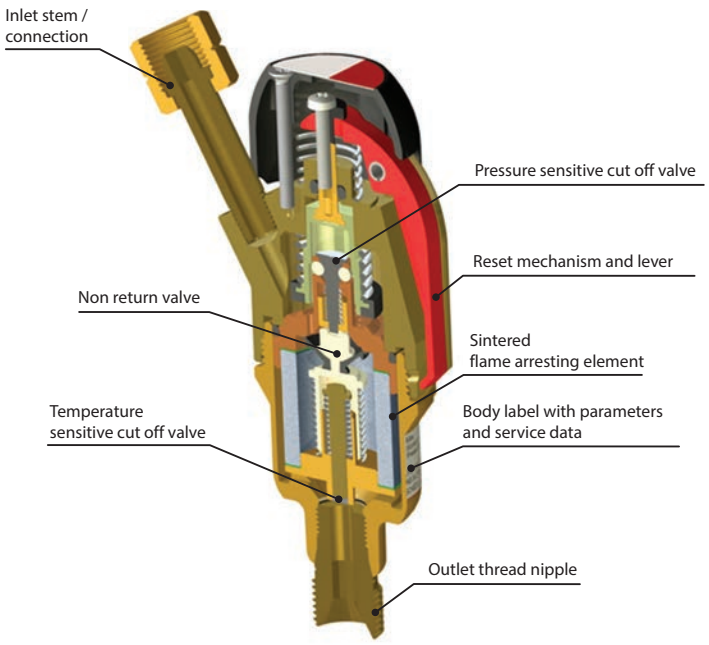
FUNCTIONS :

- **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)**

INTERNAL SAFETY DEVICES

GCE – SIMPLY SAFE

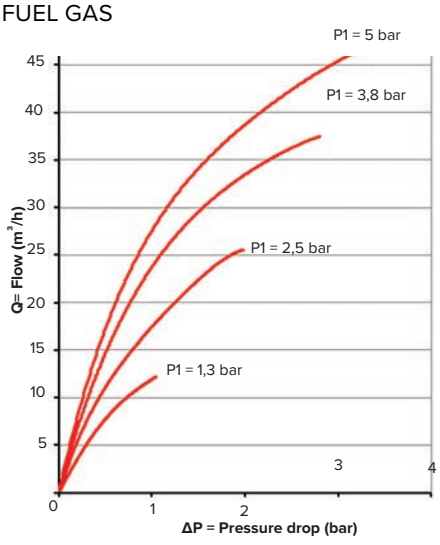
Flash back arrestors must be present on regulators/gas outlets for acetylene by regulations in many countries. In some also required for oxygen. Sever accidents are reported frequently due to disrespects of safety.



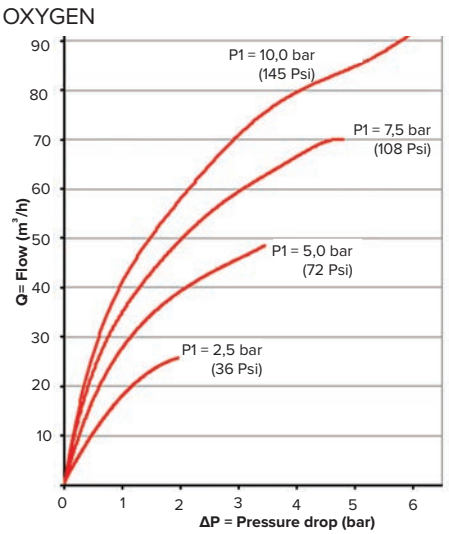
CONVERSION COEFFICIENT			
	OXYGEN	**HYDROGEN**	**ACETYLENE**
Gas	O_2	H_2	C_2H_2
Coefficient	× 0,95	× 3,75	× 1,04
	PROPANE	**METHANE**	**ETHYLENE**
Gas	C_3H_8	CH_4	C_2H_4
Coefficient	× 0,8	× 1,33	× 1,02

FLOW CHART

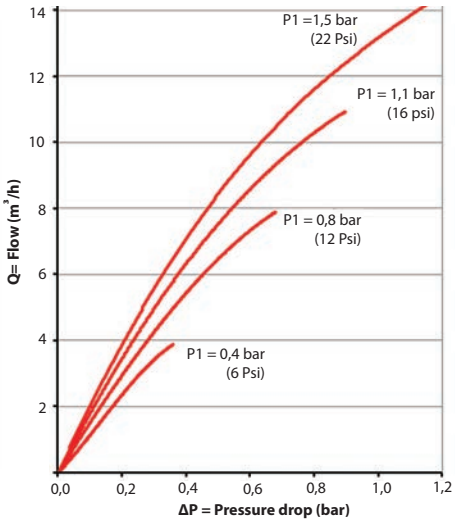
FUEL GAS



OXYGEN



ACETYLENE



Art. Nr.	Gas	Working pressure	Inlet connection	Outlet connection
0764457	Oxygen	0 - 10,0 bar	G3/8"	G3/8"
0764456	Fuel gas	1,5 - 5,0 bar*	G3/8" LH	G3/8" LH
0764462	Oxygen	0 - 10,0 bar	9/16 UNF	9/16 UNF
0764461	Fuel gas	1,5 - 5,0 bar*	9/16 LH UNF	9/16 LH UNF

** Acetylene 1-5 bar, Propane/Hydrogen/Methane/Natural gas 5,0 bar*

SAFETY DEVICES FOR REGULATORS

SAFE-GUARD-3

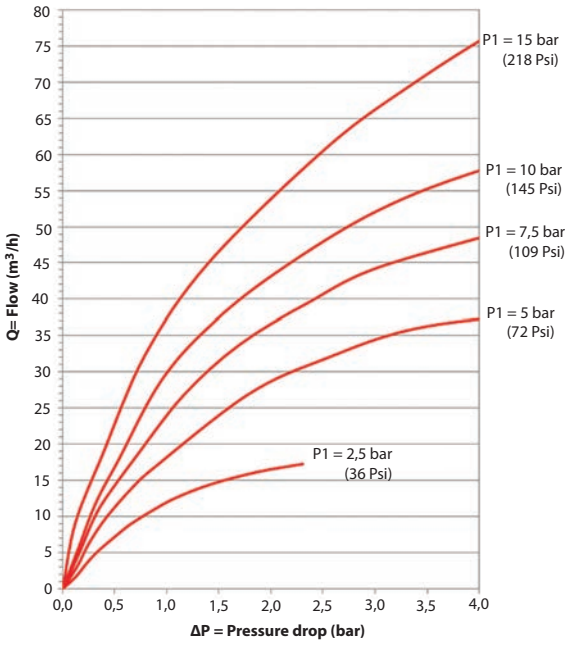
The new Safe-guard 3 for regulator mounting has been redesigned incorporating an improved sintered filter and thermal trip device. Complies with ISO 5175-1..

FEATURES / ADVANTAGES / BENEFITS

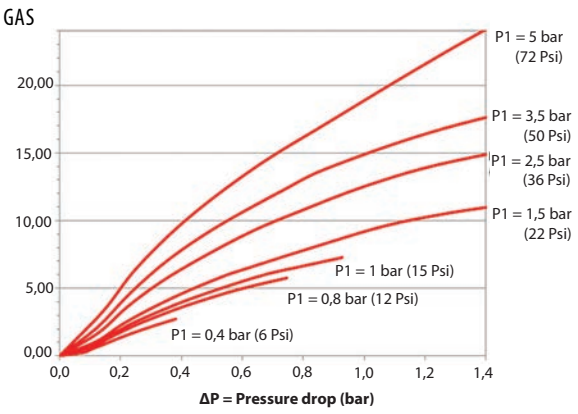
- FA Sintered flame arresting element
- NV Non return valve to prevent reverse flow of gases
- TV Thermal trip device, activated by heat to permanently cut off the gas supply.

FLOW CHART

OXYGEN



GAS



Art. Nr.	Gas	Maximal working pressure	Inlet connection	Outlet connection
0764470	Oxygen	25 bar	G3/8”	G3/8”
0764471	Fuel gas	1,5 - 5,0 bar*	G3/8” LH	G3/8” LH
0764474	Oxygen	25 bar	9/16 UNF	9/16 UNF
0764475	Fuel gas	1,5 - 5,0 bar*	9/16 LH UNF	9/16 LH UNF

** Acetylene 1-5 bar; Propane/Methane/Natural gas 5,0 bar; Hydrogen 3,5 bar*

SAFETY DEVICES FOR REGULATORS

SAFE-GUARD-2/MV93

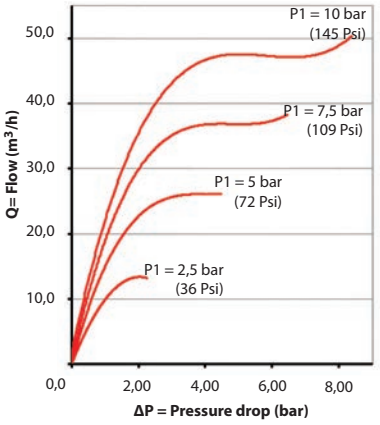
A lightweight torch flashback arrestor specially designed for torch fitting. The unit incorporates the following features:

FEATURES / ADVANTAGES / BENEFITS

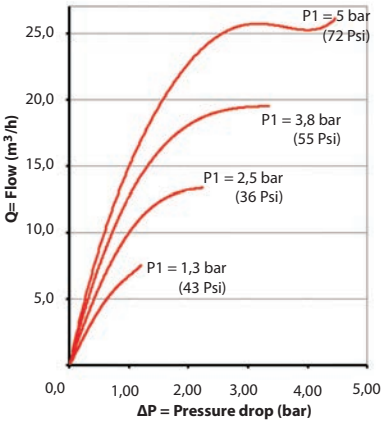
- FA SINTERED FLASH ARRESTOR element to quench a flashback.
- NV NON-RETURN VALVE to prevent reverse flow of gases.
- FILTER gauze to prevent foreign matter entering unit. Conforms to ISO 5175-1.

FLOW CHART - MV93

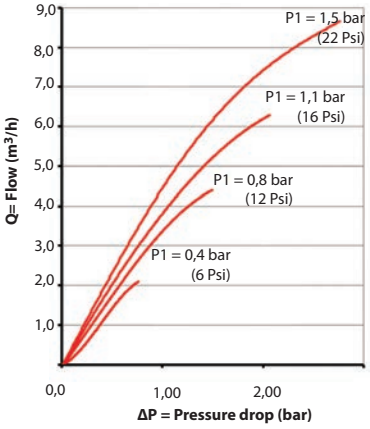
OXYGEN



PROPANE, METHANE, ETHYLENE



ACETYLENE



Art. Nr.	Gas	Connection torch	Connection hose	Suitable for hose	Quantity
81900	Oxygen	G3/8”	G3/8”	Add to existing 6/8/10 inst.	1
81950	Fuel	G3/8” LH	G3/8” LH	Add to existing 6/8/10 inst.	1
81910	Oxygen	G1/4”	G1/4”	Add to existing 6 install.	1
81960	Fuel	G1/4” LH	G1/4” LH	Add to existing 6 install.	1

FLASHBACK ARRESTOR MV 93-TF - G 3/8"

Art. Nr.	Gas	Connection		Inlet connection		Quantity
80900	Oxygen	G3/8"	Ø 6/10 mm hose nipple		1	
80950	Fuel	G3/8" LH	Ø 6/10 mm hose nipple		1	

FLASHBACK ARRESTOR MV 93-TF - G 1/4"

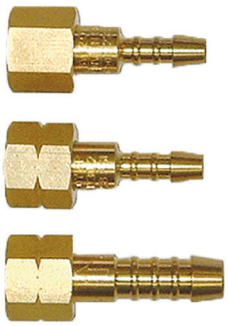
Art. Nr.	Gas	Connection		Inlet connection	Quantity
80910	Oxygen	G1/4"	Ø 6/10 mm hose nipple		1
80960	Fuel	G1/4" LH	Ø 6/10 mm hose nipple		1

FLASHBACK ARRESTOR MV 93-TT - 7/10 HOSE NIPPLE

Art. Nr.	Gas	Inlet connection	Quantity
80700	Oxygen	Ø 7/10 mm hose nipple	1
80750	Fuel	Ø 7/10 mm hose nipple	1

SAFE-GUARD-1/BV12

Hose check valves prevent the reverse flow of gases beyond the torch inlets. GCE hose check valves are manufactured to our own approved design and the unique method of assembly eliminates the use of soldered or bonded joints. They are suitable to use with Oxygen, Acetylene, Propane or Natural Gas and operate effectively on either nozzle mix or injector type torches or machine cutting torches.



BV 12 RANGE INCLUDING NUT

Art. Nr.	Gas	Connection torch	Suitable for hose	Quantity
871121	Oxygen	G3/8”	6 mm hose	1
871122	Fuel	G3/8” LH	6 mm hose	1
871111	Oxygen	G3/8”	8 mm hose	1
871112	Fuel	G3/8” LH	8 mm hose	1
871101	Oxygen	G3/8”	10 mm hose	1
871102	Fuel	G3/8” LH	10 mm hose	1
871131 S	Oxygen	G1/4”	6 mm hose	5
871132 S	Fuel	G1/4” LH	6 mm hose	5

QUICK COUPLINGS IN ACCORDANCE WITH EN561/ISO7289

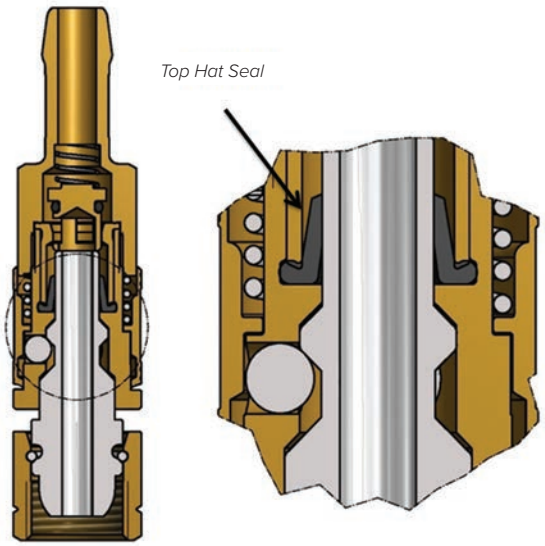
QUICK COUPLINGS

GCE offers a range of Quick Couplings suitable for easy and quick connection to regulators, cutting & welding torches and gas hoses.

They are manufactured in accordance with EN561/ISO7289 standard. The couplings are made of brass and the hose pins made of stainless steel. The couplings are color coded depending on which gas they are used for and available for oxygen, fuel and inert gases.

FEATURES / ADVANTAGES / BENEFITS

- Robust design - For heavy duty usage
- Colour coding - according to gas type
- Pull design - Easy connection without accidental disconnection
- Stainless Steel Coupling Pin - Longer life
- Gas cut-o - Automatically cut o gas ow when disconnected
- To Hat Seal - gives an excellent sealing without any risks for leakage.



Top Hat Seal

ISO Connector

ISO Coupling Pin

ISO Coupling Threaded

Quick Coupler QC010

Quick Coupler QC020

QUICK COUPLER QC030

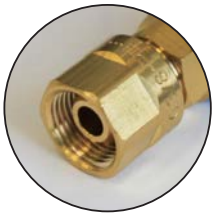
DESCRIPTION

Quick connection according to EN561 ISO 7289.

Standard hose connection according to EN 560.

Stainless steel Coupling pin with colour coding by O-ring for better recognizing. According to ISO 7289.

Color coded sleeve for easy gas identi cation.



Standard hose connection according to EN 560. Marking of thread dimension for easy identi cation.

Hose nipples design according to EN 1256 available for most common sizes of hoses.

NEW TYPE OF MOUNTING

1. Coupling pin put into the Quick connector.

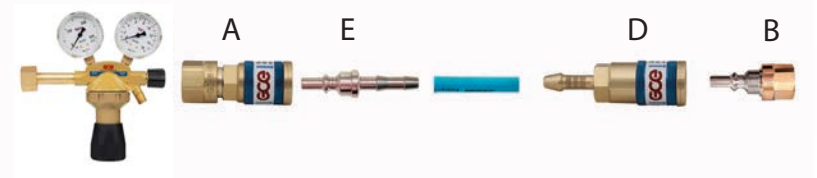
1. Pull the “blue” sleeve of the Quick connector and insert the coupling pin into the Quick connector.

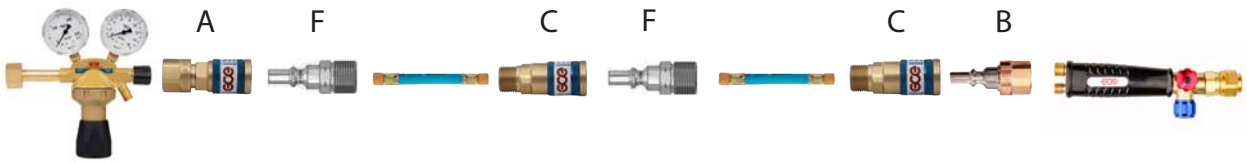
1. Mounting is nished. O-ring is visible.

COMBINATIONS OF CONNECTIONS

The GCE range of quick couplings has several application possibilities. The type QC-010 is developed special for connection to regulators whereas the others can be used in connections between hoses and hoses to torches.

- A Quick connector Type QC-010
- B Coupling nut
- C Quick connector Type QC-020
- D Quick connector Type QC-030
- E Coupling pin - hose nipple
- F Coupling pin - thread





ISO CONNECTOR

Art. Nr.	Application	Gas	Connection
F28710007	Torch Shank	Fuel gas	G3/8" LH
F28710008	Torch Shank	Fuel gas	9/16 LH UNF
F28710009	Torch Shank	Inert gas	G1/4"
F28710010	Torch Shank	Oxygen	G3/8"
F28710011	Torch Shank	Oxygen	9/16 UNF
F28710012	Torch Shank	Oxygen	G1/4"

ISO COUPLING PIN

Art. Nr.	Application	Gas	Connection
F28710013	Hose	Fuel gas	9 mm
F28710014	Hose	Fuel gas	8 mm
F28710015	Hose	Fuel gas	6,3 mm
F28710016	Hose	Fuel gas	4 mm
F28710017	Hose	Inert gas	6,3 mm
F28710018	Hose	Inert gas	4 mm
F28710019	Hose	Oxygen	6,3 mm
F28710020	Hose	Oxygen	8 mm
F28710021	Hose	Oxygen	9 mm
F28710022	Hose	Oxygen	4 mm

ISO COUPLING THREADED

Art. Nr.	Application	Gas	Connection
F28710023	Hose	Fuel gas	G3/8" LH
F28710024	Hose	Inert gas	G1/4" RH
F28710025	Hose	Oxygen	G1/4" RH
F28710066	Hose	Oxygen	G3/8" RH

QUICK COUPLER QC-010

Art. Nr.	Application	Gas	Connection
F28710026	Regulator	Fuel gas	G3/8" LH
F28710027	Regulator	Fuel gas	M16×1,5 LH
F28710028	Regulator	Fuel gas	9/16 LH UNF
F28710031	Regulator	Oxygen	G3/8"
F28710032	Regulator	Oxygen	G1/4"
F28710033	Regulator	Oxygen	M16×1,5
F28710034	Regulator	Oxygen	9/16 UNF
F28710029	Regulator	Inert gas	G1/4"
F28710030	Regulator	Inert gas	G3/8"

QUICK COUPLER QC-020

Art. Nr.	Application	Gas	Connection
F28710035	Hose	Fuel gas	G3/8" LH
F28710036	Hose	Inert gas	G1/4"
F28710037	Hose	Inert gas	G3/8"
F28710038	Hose	Oxygen	G3/8"
F28710039	Hose	Oxygen	G1/4"

QUICK COUPLER QC-030

Art. Nr.	Application	Gas	Connection
F28710040	Hose	Fuel gas	6,3 mm
F28710041	Hose	Fuel gas	4 mm
F28710042	Hose	Fuel gas	8 mm
F28710044	Hose	Inert gas	4 mm
F28710045	Hose	Oxygen	6,3 mm
F28710046	Hose	Oxygen	4 mm
F28710047	Hose	Oxygen	8 mm

PROPANE EQUIPMENT

AIR PROPANE EQUIPMENT

UNIVERSAL

Ideal for plumbing, heating, and ventilation trades, the GCE air propane shanks are available in two designs where one is equipped with an adjustable pilot flame. Spot/turbo (copper pipe)/special burners connect directly to the shank for all plumbing applications. Heating heads are connected via stainless tubes for larger heating jobs such as road working/roofing/bitumen heating.

SHANK UNIVERSAL

Combined shut-off valve and adjusting knob.

USE: designed for use with soldering, brazing and heating torches UNIVERSAL

With lever and adjustable pilot flame

Art. Nr.	Type	Gas	Working pressure (bar)	Consumption (kg/h)	Lenght (mm)	Weight (kg)	Torch, Tube, Outlet connection	Inlet connection
0763216	Shank with Lever	P, PB	Up to 4,0	12 kg/h	195	0,36	M 14 x 1	G 3/8˝˝LH

PAINT REMOVER FAN BURNER UNIVERSAL

USE: for removing old work and localised heating.

Art. Nr.	Working pressure (bar)	Consumption PB (g/h)	Output (kW)	Connection	Lenght/Width (mm)	Weight (kg)	Quantity
23705	1,5 - 2,0	20	2,83	M14 × 1	170/40mm	0,19	1

SOLDERING TORCH B UNIVERSAL

USE: for soldering and brazing; for point heating.

Art. Nr.	Type	Gas	Working pressure (bar)	Consumption (g/h)	Output (kW)	Lenght (mm)	Weight (kg)	Connection
0763222	B 3 mm	P, PB	1,0 - 2,5	30 - 39	0,39-0,50	120	0,09	M 14 x 1
0763233	B 5 mm	P, PB	1,0 - 1,5	54 - 66	0,69-0,85	120	0,09	M 14 x 1
0763224	B 7 mm	P, PB	1,0 - 1,5	162 - 210	2,08-2,70	138	0,11	M 14 x 1

BRAZING TORCH TURBO UNIVERSAL

USE: for soldering and brazing, especially of copper piping systems.

Art. Nr.	Type	Gas	Working pressure (bar)	Consumpti-on PB (g/h)	Output (kW)	Lenght (mm)	Weight (kg)	For copper pipe	Connection
0763225	TURBO Ø12	P, PB	1,5 - 2,5	63 - 112	0,81 - 1,44	155	0,131	12 mm	M 14 x 1
0763226	TURBO Ø14	P, PB	1,5 - 2,5	210 - 338	2,70 - 4,35	178	0,148	18 mm	M 14 x 1
0763227	TURBO Ø17	P, PB	1,5 - 2,5	272 - 384	3,50 - 4,94	184	0,168	22 mm	M 14 x 1
0763228	TURBO Ø20	P,PB	1,5 - 2,5	432 - 532	5,56 - 6,85	210	0,228	28 mm	M 14 x 1

SHRINKWRAP TORCH S-UNIVERSAL

USE::available in two sizes for shrinkwrapping.

Art. Nr.	Type	Gas	Working pressure (bar)	Connection	Consumption PB (g/h)
32003	S - 30 mm	P, PB	1,5	M14 × 1	1900
33670	S - 40 mm	P, PB	1,5	M14 × 1	2500

HEATING TORCH H UNIVERSAL

USE:for industrial heating; roofing and construction work. Use with neck tube.

Art. Nr.	Type	Gas	Working pressure (bar)	Consumption (g/h)	Output (kw)	Lenght (mm)	Weight (kg)	Connection
0763217	H Ø30	P, PB	1,0 - 4,0	664 - 1056	8,55 - 13,59	88	0,12	M 20 x 1
0763218	H Ø40	P, PB	1,0 - 4,0	1200 - 1902	15,44 - 24,48	90	0,210	M 20 x 1
4069	H Ø45	P, PB	1,0 - 4,0	22500 - 5300	37,9 - 76,2	100	0,25	M 20 x 1
0763219	H Ø50	P, PB	1,0 - 4,0	3780 - 7590	48,68 - 97,69	115	0,30	M 20 x 1
0763220	H Ø60	P,PB	1,0 - 4,0	5030 - 9744	64,74 - 125,41	125	0,34	M 20 x 1
0763221	H Ø80	P.PB	1,0 - 4,0	5650 - 10570	72,72 - 136,04	155	0,63	M 20 x 1

NECK TUBE UNIVERSAL

Manufactured in stainless steel.
USE:
designed to connect UNIVERSAL heating torches to shank UNIVERSAL. Head connection M 20×1 MALE. Torch connection M 14×1 FEMALE.

Art. Nr.	Type	Connection	Weight (kg)	Torch Connection	Weight	Quantity
9381280	75 mm	M14 × 1	0,083	M 20 x 1	0,11 kg	1
9381290	130 mm	M14 × 1	0,113	M 20 x 1	0,11 kg	1
9381300	230 mm	M14 × 1	0,140	M 20 x 1	0,14 kg	1
9381310	350 mm	M14 × 1	0,190	M 20 x 1	0,19 kg	1
9381320	600 mm	M14 × 1	0,288	M 20 x 1	0,29 kg	1
9381330	750 mm	M14 × 1	0,346	M 20 x 1	0,35 kg	1
9381340	1000 mm	M14 × 1	0,443	M 20 x 1	0,44 kg	1

SUPPORT H-UNIVERSAL

USE:
Allows hot heating torches to be rested safety on a horizontal surface. Assembled onto the neck tube of the torch.

Art. Nr.	Weight	Quantity
12476	0,15 kg	1

MULTI-NECK TUBES

USE:
designed to connect UNIVERSAL heating torches to the neck tube.

Art. Nr.	Type	Connection	Width	Weight	Quantity
0763232	2 outlets	M20 × 1	150 mm	0,14 kg	1
0763233	4 outlets	M20 × 1	450 mm	0,29 kg	1

SOLDERING TORCH KIT UNIVERSAL

USE:
for WT soldering iton UNIVERSAL.

Art. Nr.	Connection	Quantity
2527	M14 × 1	1

TECHNICAL DATA	
Working pressure:	1,5 bar
Consumption PB:	120 g/h
Output:	110 kW
Length:	140 mm
Weight:	0,19 kg
Gas:	P, PB

SOLDERING IRON UNIVERSAL

USE:
for soldering jobs and roof making. The soldering iron weight is 350g.

Art. Nr.	Connection	Quantity
2543	M14 × 1	1

TECHNICAL DATA	
Working pressure:	1,5 bar
Consumption PB:	120 g/h
Output:	1,55 kW
Length:	140 mm
Weight:	0,64 kg
Gas:	P, PB

SET UNIVERSAL ROOFER

CONTENT:
Shank with a gas saver, heating torch H60, neck tube 600 mm, PB hose fitted 5m, DN 6,3. Without regulator.

Art. Nr.	Description	Quantity
0764262	UNIVERSAL Roofer (steel)	1

SETS UNIVERSAL PROPALINE

Propaline 1

Shank with a gas saver, heating torch H50, neck tube 350 mm, torch AT, hose nipple, nut G 3/8” LH

Art. Nr.	Description	Quantity
0763248	Propaline 1	1

Propaline 2

Shank with a gas saver, heating torch H40 and H60, support H, neck tube 350 mm and 600 mm, hose nipple, nut G 3/8” LH.

Art. Nr.	Description	Quantity
0763249	Propaline 2	1

Propaline 3

Shank with a gas saver, brazing turbo torch Ø20, Ø17, Ø14, hose nipple, nut G 3/8” LH.

Art. Nr.	Description	Quantity
0763250	Propaline 3	1

Propaline 4

Shank with a gas saver, heating torch H20, neck tube 600 mm, hose nipple, nut G 3/8” LH.

Art. Nr.	Description	Quantity
0763257	Propaline 4	1

Propaline 4

Shank with a gas saver, heating torch H20, neck tube 600 mm, hose nipple, nut G 3/8” LH.

Art. Nr.	Description	Quantity
0763258	Propaline 5	1

Propaline 6

Shank with a gas saver, heating torch H30, neck tube 75 mm, hose nipple, nut G 3/8” LH, lighter.

Art. Nr.	Description	Quantity
0763256	Propaline 6	1

PROPALINE - ACCESSORIES

PROPANE-BUTANE HOSE - FITTED DN 4 × 4

Art. Nr.	Length	Inner Ø	Outer Ø	Quantity
546900002154	1,5 m	4 mm	12 mm	1
546900002162	2,0 m	4 mm	12 mm	1
546900002188	3,0 m	4 mm	12 mm	1
546900002238	4,0 m	4 mm	12 mm	1
546900002196	5,0 m	4 mm	12 mm	1
546900002345	10,0 m	4 mm	12 mm	1

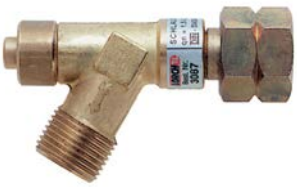
TECHNICAL DATA	
Inlet connection:	G 3/8” LH
Outlet connection:	G 3/8” LH
Pressure class:	PB 30

PROPANE-BUTANE HOSE - FITTED DN 6,3 × 5

Art. Nr.	Length	Inner Ø	Outer Ø	Quantity
546900037184	1,5 m	6,3 mm	17,6 mm	1
546900036202	5,0 m	6,3 mm	17,6 mm	1
546900039792	10,0 m	6,3 mm	17,6 mm	1

TECHNICAL DATA	
Inlet connection:	G 3/8” LH
Outlet connection:	G 3/8” LH
Pressure class:	PB 30

HOSE BREAK VALVE SBS



Designed to fit on outlet connection of the regulator.
USE:
a safety valve for immediate gas flow shut - off in case of sudden flow increasing (hose damage).

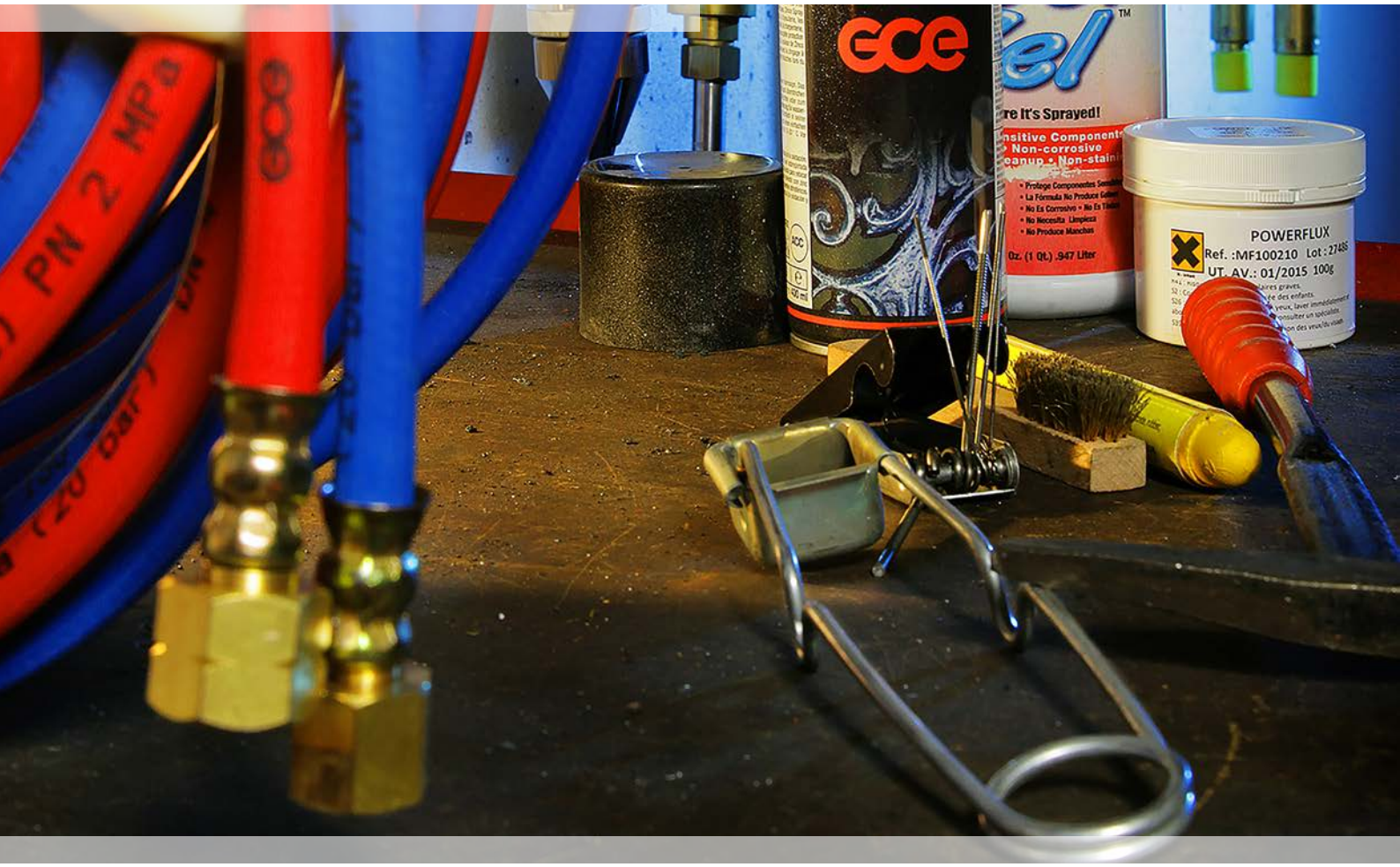
Art. Nr.	Type	Nominal flow rate 1,5 bar	Nominal flow rate 4 bar	Quantity
3087	SBS 1	1,5 kg/h	2,2 kg/h	1
3111	SBS 2	4,0 kg/h	6,0 kg/h	1
3129	SBS 3	6,0 kg/h	8,5 kg/h	1
3202	SBS 4	10,0 kg/h	14,0 kg/h	1

ROTATING HOSE NIPPLE

Designed to fit on outlet connection of the regulator.
USE:
a safety valve for immediate gas flow shut - off in case of sudden flow increasing (hose damage).

Art. Nr.	Connection	Quantity
23507	G 3/8 LH	1

RUBBER HOSES AND ACCESSORIES



RUBBER HOSES - BULK

SINGLE HOSE OXYGEN (BLUE) ISO 3821 (FOR WELDING AND ALLIED PROCESSES)

ISO 3821

WORKING PRESSURE 20 BAR

Rubber hose for use with Oxygen in cutting and welding and allied processes. Not suitable for LPG, MPS and CNG.

- Inner tube: Synthetic rubber resistant to the welding gases
- Reinforcement: High tensile synthetic textile
- External cover: Blue synthetic rubber resistant to abrasion and weather
- Smooth surface

TECHNICAL DATA	
Temperature:	20°C / +60°C
Safety factor:	3:1
Marking:	In compliance with the below mentioned standard
Working pressure:	20 bar
Bursting pressure:	60 bar
Standards:	ISO 3821

Art. Nr.	Ø int × Ø ext	Coil	Stock class
RH001000-050	4×11 mm	50 m	DFW
272063035204	6,3×12,3 mm	20 m	DFW
272063035404	6,3×12,3 mm	40 m	DFW
RH004000-050	6,3×13,3 mm	50 m	DFW
RH005000-050	6,3×16,3 mm	50 m	DFW
RH006000-050	8×15 mm	50 m	DFW
RH007000-050	9×16 mm	50 m	DFW
272100035200	10×17 mm	20 m	DFW
272100035400	10×17 mm	40 m	DFW
RH008000-050	10×17 mm	50 m	DFW

* The full length may be a combination of max two short lengths.

SINGLE HOSE ACETYLENE (RED) ISO 3821 (FOR WELDING AND ALLIED PROCESSES)

ISO 3821

WORKING PRESSURE 20 BAR

Rubber hose for use with Acetylene in cutting and welding and allied processes. Not suitable for LPG, MPS and CNG.

- Inner tube: Synthetic rubber resistant to the welding gases
- Reinforcement: High tensile synthetic textile
- External cover: Red synthetic rubber resistant to abrasion and weather
- Smooth surface

TECHNICAL DATA	
Temperature:	-20°C / +60°C
Safety factor:	3:1
Marking:	In compliance with the below mentioned standard
Working pressure:	20 bar
Bursting pressure:	60 bar
Standards:	ISO 3821

Art. Nr.	Ø int × Ø ext	Coil	Stock class
RH011000-050	4×11 mm	50 m	DFW
272063035205	6,3×12,3 mm	20 m	DFW
272063035405	6,3×12,3 mm	40 m	DFW
RH014000-050	6,3×13,3 mm	50 m	DFW
RH016000-050	8×15 mm	50 m	DFW
RH017000-050	9×16 mm	50 m	DFW
272100035201	10×17 mm	20 m	DFW
272100035401	10×17 mm	40 m	DFW
RH018000-050	10×17 mm	50 m	DFW

* The full length may be a combination of max two short lengths.

According to standards the welding rubber hoses do not expire. It's reasonable to replace them periodically according to their wear and the common sense. Suggested max lifetime is 5 years after installation. The date marked on the hose is the production date.

RUBBER HOSES - BULK

SINGLE HOSE ARGON (BLACK) ISO 3821 (FOR WELDING AND ALLIED PROCESSES)

ISO 3821

WORKING PRESSURE 20 BAR

Rubber hose for use with Argon in cutting and welding and allied processes. Suitable also for hydrogen, CO_2, Nitrogen for welding and cutting. Not suitable for LPG, MPS and CNG.

- Inner tube: Synthetic rubber resistant to the welding gases
- Reinforcement: High tensile synthetic textile
- External cover: Black synthetic rubber resistant to abrasion and weather
- Smooth surface

TECHNICAL DATA	
Temperature:	-20°C / +60°C
Safety factor:	3:1
Marking:	In compliance with the below mentioned standard
Working pressure:	20 bar
Bursting pressure:	60 bar
Standards:	ISO 3821

Art. Nr.	Ø int × Ø ext	Coil	Stock class
272140612040	6×12 mm	40 m	DFW

* The full length may be a combination of max two short lengths.

SINGLE HOSE PROPANE/BUTANE (ORANGE) ISO 3821 (FOR WELDING AND ALLIED PROCESSES)

ISO 3821

WORKING PRESSURE 20 BAR

Rubber hose for use with Propane/Butane in cutting and welding and allied processes. Suitable for Liquid Petroleum Gas (LPG), Methylacetylene-propadiene (MPS) gas, Compressed Natural Gas (CNG).

- Inner tube: Synthetic rubber resistant to LPG and Propane/Butane gases
- Reinforcement: High tensile synthetic textile
- External cover: Orange synthetic rubber resistant to abrasion and weather
- Smooth surface

TECHNICAL DATA	
Temperature:	-20°C / +60°C
Safety factor:	3:1
Marking:	In compliance with the below mentioned standard
Working pressure:	20 bar
Bursting pressure:	60 bar
Standards:	ISO 3821

Art. Nr.	Ø int × Ø ext	Coil	Stock class
272321009131	4×11 mm	50 m	DFW
272063035206	6,3×13,3 mm	20 m	DFW
272321063035	6,3×13,3 mm	50 m	DFW
272080035203	8×15 mm	20 m	DFW
272321009136	8×15 mm	50 m	DFW
272321035090	9 ×16 mm	50 m	DFW
272100035202	10×17 mm	20 m	DFW
272100035402	10×17 mm	40 m	DFW
272321311006	10×17 mm	50 m	DFW

* The full length may be a combination of max two short lengths.

According to standards the welding rubber hoses do not expire. It's reasonable to replace them periodically according to their wear and the common sense. Suggested max lifetime is 5 years after installation. The date marked on the hose is the production date.

RUBBER HOSES - BULK

SINGLE HOSE PROPANE/BUTANE (ORANGE) EN 16436-1

EN 16436-1

Rubber hose for transport od Propane, Butane. Suitable for Liquid Petroleum Gas (LPG), Methyl-acetylene-propadiene (MPS) gas, Compressed Natural Gas (CNG)

- Inner tube: Synthetic rubber resistant to LPG and Peropane/Butane gases
- Reinforcement: High tensile synthetic textile
- External cover: Orange synthetic rubber resistant to abrasion and weather
- Smooth surface

WORKING PRESSURE 30 BAR

TECHNICAL DATA	
Temperature:	-30°C / +70°C
Safety factor:	3:1
Marking:	In compliance with the below mentioned standard
Working pressure:	30 bar
Bursting pressure:	75 bar
Standards:	EN 16436-1

Art. Nr.	Ø int × Ø ext	Coil	Stock class
272030035004	4×12 mm	50 m	DFW
272030005063	6,3×16,3 mm	50 m	DFW

* The full length may be a combination of max two short lengths.

HOSE CLIPS

HOSE CLIPS ONE EAR WITH INSERT

Stainless steel clip with one ear and insert ideal for mounting and to protect the hose from pinches and damages. Ensure uniform compression.

Art. Nr.	Descr.	Material	Hoses	Corrosion	Qt.	Stock class
WP24020	Clip 13 mm 1-EAR	Stainless steel	13-14 mm	> 800h	20	DFW
WP24022	Clip 15 mm 1-EAR	Stainless steel	15-16 mm	> 800h	20	DFW

HOSE CLIPS DOUBLE EAR

Zinc plated steel clip with 2 ears. The 2 ears provide greater adjustability.

Art. Nr.	Descr.	Material	Hoses	Corrosion	Qt.	Stock class
90330	Clip 13-15 mm 2-EARS	Zinc plated steel	13-14 mm	> 96h	20	DFW
90340	Clip 15-18 mm 2-EARS	Zinc plated steel	15-16 mm	> 96h	20	DFW

HOSE CLIPS WITH SCREW

Stainless steel clip with clamping system in zinc plated steel. Useful to clamp a wide range of hoses with a single size. Width is 9×0,6 mm.

Art. Nr.	Descr.	Material	Hoses	Qt.	Stock class
C10000046	Clip SCREW	Stainless steel	8-12 mm	20	DFW
C10000047	Clip SCREW	Stainless steel	10-16 mm	20	DFW
WP90352	Clip SCREW	Stainless steel	12-20 mm	20	DFW

PLIERS FOR HOSE CLIP

Pliers with not sharp jaws to tighten the clips. No damage for both clip and hose.

Art. Nr.	Descr.	Qt.	Stock class
WP24024	Pliers for hose clip	1	DFW

RUBBER HOSES - BULK

TWIN HOSE OXYGEN/ACETYLENE (BLUE/RED) ISO 3821 (FOR WELDING AND ALLIED PROCESSES)

ISO 3821

WORKING PRESSURE 20 BAR

Rubber twin hose for use with Oxygen/Acetylene cutting and welding and allied processes.
Not suitable for LPG, MPS and CNG

- Inner tube: Synthetic rubber resistant to the welding gases
- Reinforcement: High tensile synthetic textile
- External cover: Blue/red synthetic rubber resistant to abrasion and weather

TECHNICAL DATA	
Temperature:	-20°C / +60°C
Safety factor:	3:1
Marking:	In compliance with the below mentioned standard
Working pressure:	20 bar
Bursting pressure:	60 bar
Standards:	ISO 3821

Art. Nr.	OX Ø int × Ø ext	ACE Ø int × Ø ext	Coil	Stock class
272333044030	4×11 mm	4×11 mm	25 m	DFW
272333044004	4×11 mm	4×11 mm	40 m	DFW
272333166025	6,3×13,3 mm	6,3×13,3 mm	25 m	DFW
272333066617	6,3×13,3 mm	6,3×13,3 mm	40 m	DFW
272333066100	6,3×13,3 mm	6,3×13,3 mm	100 m	DFW
272333086010	6,3×13,3 mm	8,0×15,0 mm	25 m	DFW
272333068022	6,3×13,3 mm	8,0×15,0 mm	40 m	DFW
272333169025	6,3×13,3 mm	9,0×16,0 mm	25 m	DFW
272333069070	6,3×16,3 mm	9,0×16,0 mm	25 m	DFW
272333088050	8×15 mm	8×15 mm	25 m	DFW
272333088100	8×15 mm	8×15 mm	100 m	DFW
272312727025	10×17 mm	10×17 mm	25 m	DFW
272333110081	10×17 mm	10×17 mm	40 m	DFW

* The full length may be a combination of max two short lengths.

TWIN HOSE OXYGEN/PROPANE (BLUE/ORANGE) ISO 3821 (FOR WELDING AND ALLIED PROCESSES)

ISO 3821

WORKING PRESSURE 20 BAR

Rubber twin hose for use with Oxygen/Propane cutting and welding and allied processes.
Suitable for Liquid Petroleum Gas (LPG), Methylacetylene-propadiene (MPS) gas, Compressed Natural Gas (CNG)

- IInner tube OXY: Synthetic rubber resistant to the welding gases
- Inner tube PROP: Synthetic rubber resistant to LPG and Propane/Butane gases
- Reinforcement: High tensile synthetic textile
- External cover: Blue/orange synthetic rubber resistant to abrasion and weather

TECHNICAL DATA	
Temperature:	-20°C / +60°C
Safety factor:	3:1
Marking:	In compliance with the below mentioned standard
Working pressure:	20 bar
Bursting pressure:	60 bar
Standards:	ISO 3821

Art. Nr.	OXY Ø int × Ø ext	PROP Ø int × Ø ext	Coil	Stock class
272333030609	6,3×16,3 mm	9,0×16,0 mm	50 m	DWF

* The full length may be a combination of max two short lengths.

According to standards the welding rubber hoses do not expire. It's reasonable to replace them periodically according to their wear and the common sense. Suggested max lifetime is 5 years after installation. The date marked on the hose is the production date.

RUBBER HOSES - WITH FITTINGS

SINGLE HOSE OXYGEN (BLUE) ISO 3821 WITH FITTINGS AND NON RETURN VALVE (FOR WELDING AND ALLIED PROCESSES)

ISO 3821
EN 1256

Rubber hose for use with Oxygen in cutting and welding and allied processes.
Not suitable for LPG, MPS and CNG

- Inner tube: Synthetic rubber resistant to the welding gases
- Reinforcement: High tensile synthetic textile
- External cover: Blue synthetic rubber resistant to abrasion and weather
- **NON RETURN VALVE** in the outlet

WORKING PRESSURE 20 BAR

TECHNICAL DATA	
Temperature:	-20°C / +60°C
Safety factor:	3:1
Marking:	In compliance with the below mentioned standard
Working pressure:	20 bar
Bursting pressure:	60 bar
Standards:	ISO 3821(hose) EN 1256 (hose assembly)

Art. Nr.	Ø int × Ø ext	Inlet-Outlet	Coil	Stock class
841065	6×13 mm	G3/8“ - G1/4“	5 m	DFW
841067	6×13 mm	G3/8“ - G3/8“	5 m	DFW
841068	6×13 mm	G3/8“ - G3/8“	10 m	MTO
841071	6×13 mm	9/16“UNF - 9/16“UNF	10 m	MTO
841064	6×13 mm	9/16“UNF - 9/16“UNF	20 m	MTO
841089	8×15 mm	G3/8“ - G3/8“	10 m	MTO
841105	10×17 mm	G3/8“ - G3/8“	5 m	DFW
841109	10×17 mm	G3/8“ - G3/8“	10 m	DFW
841102	10×17 mm	G3/8“ - G3/8“	20 m	MTO

SINGLE HOSE ACETYLENE (RED) ISO 3821 WITH FITTINGS AND NON RETURN VALVE (FOR WELDING AND ALLIED PROCESSES)

ISO 3821
EN 1256

Rubber hose for use with Acetylene in cutting and welding and allied processes.
Not suitable for LPG, MPS and CNG

- Inner tube: Synthetic rubber resistant to the welding gases
- Reinforcement: High tensile synthetic textile
- External cover: Red synthetic rubber resistant to abrasion and weather
- **NON RETURN VALVE** in the outlet

WORKING PRESSURE 20 BAR

TECHNICAL DATA	
Temperature:	-20°C / +60°C
Safety factor:	3:1
Marking:	In compliance with the below mentioned standard
Working pressure:	20 bar
Bursting pressure:	60 bar
Standards:	ISO 3821(hose) EN 1256 (hose assembly)

Art. Nr.	Ø int × Ø ext	Inlet-Outlet	Coil	Stock class
849065	6×13 mm	G3/8“ LH - G1/4“ LH	5m	DFW
849064	6×13 mm	G3/8“ LH - G3/8“ LH	5 m	DFW
849068	6×13 mm	G3/8“ LH - G3/8“ LH	10 m	MTO
849071	6×13 mm	9/16“UNF LH - 9/16“UNF LH	10 m	MTO
849067	6×13 mm	9/16“UNF LH - 9/16“UNF LH	20 m	MTO
849089	8×15 mm	G3/8“ LH - G3/8“ LH	10 m	MTO
849105	10×17 mm	G3/8“ LH - G3/8“ LH	5 m	DFW
849109	10×17 mm	G3/8“ LH - G3/8“ LH	10 m	DFW
849102	10×17 mm	G3/8“ LH - G3/8“ LH	20 m	MTO

RUBBER HOSES - WITH FITTINGS

SINGLE HOSE PROPANE/BUTANE (ORANGE) ISO 3821 WITH FITTINGS AND NON RETURN VALVE (FOR WELDING AND ALLIED PROCESSES)

ISO 3821
EN 1256

Rubber hose for use with Propane/Butane in cutting and welding and allied processes.
Suitable for Liquid Petroleum Gas (LPG), Methylacetylene-propadiene (MPS) gas, Compressed Natural Gas (CNG)

- Inner tube: Synthetic rubber resistant to LPG and Propane/Butane gases
- Reinforcement: High tensile synthetic textile
- External cover: Orange synthetic rubber resistant to abrasion and weather
- **NON RETURN VALVE** in the outlet

WORKING PRESSURE 20 BAR

TECHNICAL DATA	
Temperature:	-20°C / +60°C
Safety factor:	3:1
Marking:	In compliance with the below mentioned standard
Working pressure:	20 bar
Bursting pressure:	60 bar
Standards:	ISO 3821(hose) EN 1256 (hose assembly)

Art. Nr.	Ø int × Ø ext	Inlet-Outlet	Coil	Stock class
849113	6×13 mm	G3/8“ LH - G3/8“ LH	5 m	MTO
849114	6×13 mm	G3/8“ LH - G3/8“ LH	10 m	DFW
849117	8×15 mm	G3/8“ LH - G3/8“ LH	10 m	DFW
849119	10×17 mm	G3/8“ LH - G3/8“ LH	5 m	MTO
849120	10×17 mm	G3/8“ LH - G3/8“ LH	10 m	DFW
849121	10×17 mm	G3/8“ LH - G3/8“ LH	20 m	DFW

SINGLE HOSE PROPANE/BUTANE (ORANGE) EN 16436-1 WITH FITTINGS

EN 16436-1
EN 1256

Rubber hose for transport of Propane, Butane.
Suitable for Liquid Petroleum Gas (LPG), Methylacetylene-propadiene (MPS) gas, Compressed Natural Gas (CNG).

- Inner tube: Synthetic rubber resistant to LPG and Propane/Butane gases
- Reinforcement: High tensile synthetic textile
- External cover: Orange synthetic rubber resistant to abrasion and weather

WORKING PRESSURE 30 BAR

TECHNICAL DATA	
Temperature:	-30°C / +70°C
Safety factor:	3:1
Marking:	In compliance with the below mentioned standard
Working pressure:	30 bar
Bursting pressure:	75 bar
Standards:	EN 16436-1 (hose) EN 1256 (hose assembly)

Art. Nr.	Ø int × Ø ext	Inlet-Outlet	Coil	Stock class
546900002154	4×12 mm	G3/8“ LH - G3/8“ LH	1,5 m	DFW
546900002162	4×12 mm	G3/8“ LH - G3/8“ LH	2 m	DFW
546900016956	4×12 mm	G3/8“ LH - G3/8“ LH	2,5 m	DFW
546900002188	4×12 mm	G3/8“ LH - G3/8“ LH	3 m	DFW
546900002238	4×12 mm	G3/8“ LH - G3/8“ LH	4 m	DFW
546900002196	4×12 mm	G3/8“ LH - G3/8“ LH	5 m	DFW
546900002345	4×12 mm	G3/8“ LH - G3/8“ LH	10 m	DFW
546900002071	4×12 mm	G3/8“ LH - M 10×1 LH	2 m	DFW
546900002097	4×12 mm	G3/8“ LH - M 10×1 LH	3 m	DFW
546900002113	4×12 mm	G3/8“ LH - M 10×1 LH	5 m	DFW
546900037184	6×16 mm	G3/8“ LH - G3/8“ LH	3 m	DFW
546900036202	6×16 mm	G3/8“ LH - G3/8“ LH	5 m	DFW
546900039792	6×16 mm	G3/8“ LH - G3/8“ LH	10 m	DFW

RUBBER HOSES - WITH FITTINGS

TWIN HOSE OXYGEN/ACETYLENE (BLUE/RED) ISO 3821 WITH FITTINGS AND NON RETURN VALVE (FOR WELDING AND ALLIED PROCESSES)

ISO 3821
EN 1256

WORKING PRESSURE 20 BAR

Rubber twin hose for use with Oxygen/Acetylene cutting and welding and allied processes.
Not suitable for LPG, MPS and CNG

- Inner tube: Synthetic rubber resistant to the welding gases
- Reinforcement: High tensile synthetic textile
- External cover: Blue/red synthetic rubber resistant to abrasion and weather
- **NON RETURN VALVE** in the outlet

TECHNICAL DATA	
Temperature:	-20°C / +60°C
Marking:	In compliance with the below mentioned standard
Working pressure:	20 bar
Bursting pressure:	60 bar
Standards:	ISO 3821 (hose) EN-1256 (hose assembly)

Art. Nr.	OXY Ø int × Ø ext	OXY Inlet-Outlet	ACE Ø int × Ø ext	ACE Inlet-Outlet	Coil	Stock class
849060	6,3×13,3 mm	G3/8“-G1/4“	6,3×13,3 mm	G3/8“ LH-G1/4“ LH	5 m	DFW
849066	6,3×13,3 mm	G3/8“-G1/4“	6,3×13,3 mm	G3/8“ LH-G1/4“ LH	10 m	DFW
841060	6,3×13,3 mm	G3/8“-G3/8“	6,3×13,3 mm	G3/8“ LH-G3/8“ LH	5 m	MTO
849061	6,3×13,3 mm	G3/8“-G3/8“	6,3×13,3 mm	G3/8“ LH-G3/8“ LH	10 m	MTO
841080	8×15 mm	G3/8“-G3/8“	8×15 mm	G3/8“ LH-G3/8“ LH	5 m	DFW
841081	8×15 mm	G3/8“-G3/8“	8×15 mm	G3/8“ LH-G3/8“ LH	10 m	DFW
849110	10×17 mm	G3/8“-G3/8“	10×17 mm	G3/8“ LH-G3/8“ LH	5 m	MTO
849111	10×17 mm	G3/8“-G3/8“	10×17 mm	G3/8“ LH-G3/8“ LH	10 m	MTO
849112	10×17 mm	G3/8“-G3/8“	10×17 mm	G3/8“ LH-G3/8“ LH	20 m	MTO

RUBBER HOSES - TOOLS

CE

GAS WELDING HOSE REELS

The HOSE REELS OSV is a professional device to distribute the welding gases (oxygen, acetylene, propane) to the workplace without leaving the hoses around the workshop.

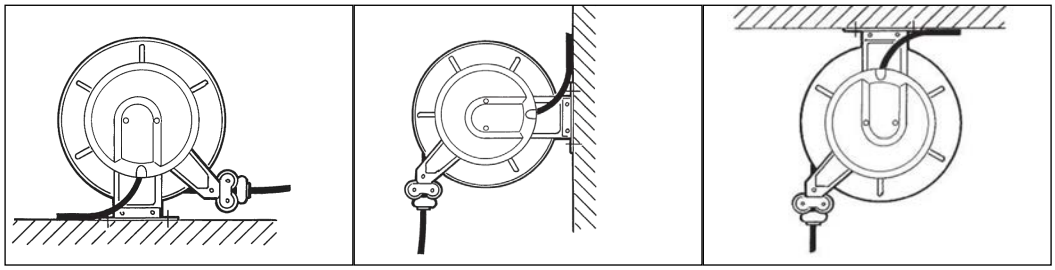
The hose reel is equipped with an AUTOMATIC REWIND system which allows an easy recall of the hose.

Suppled WITHOUT HOSE, it is equipped with G3/8M connections and can be combined with fitted hose (sold separately). In addition, it is equipped with nuts and hose nipples for a full compatibility with different hose sizes and gases.

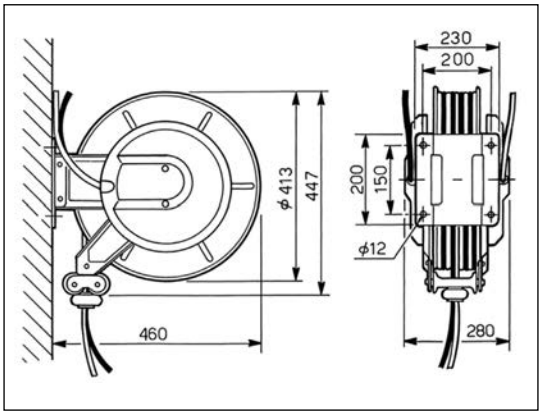
- The hose can be stopped at the desired lenght
- The hot-galvanized steel structure is moulded and coated with electrostatic polyester powder, resistant to UV rays.
- The open structure allows an easy assembly and replacement of the hose and the control of the rewinding
- The hose guide ca be fixed in 3 different positions allowing the installation in multiple positions
- Lateral covers to protect the hose connections

It can host:
hose 6×13 up to 25m
hose 8×15 up to 20m
hose 10×17 up to 15m

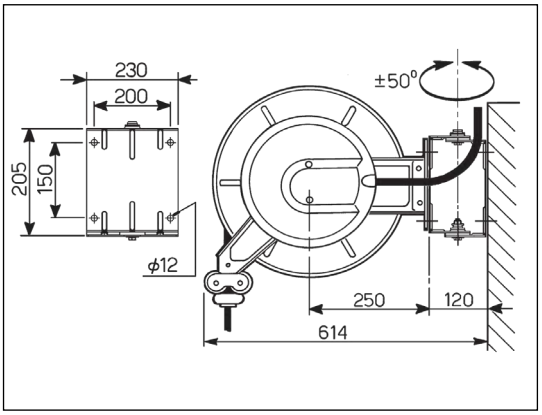
ONLY 20 KG!



Art.Nr.	Description	QTY	Stock class
TH030100	HOSE REELS OSV without hose	1	MTO
TH030200	SWIVEL BRACKET	1	MTO



Standard configuration



Option with Swivel braket

Swivel braket

HOSE CONNECTION AND FITTINGS

HOSE TAILPIECES

Art. Nr.	Hose inner diameter	Suitable for nut	Pack size
31AEN	5 mm (3/16”)	G3/8” LH and RH	1
B599380 (31BEN)	6 mm (1/4”)	G1/4” LH and RH	10
B734980 (31EN)	6 mm (1/4”)	G3/8” LH and RH	10
B599440 (30EN)	8 mm (5/16”)	G3/8” LH and RH	10
9430800 (29AEN)	10 mm (3/8”)	G3/8” LH and RH	5

HOSE SPLICERS

Art. Nr.	Hose inner diameter	Pack size
9429620	6,3 mm (5/16”)	1
14008094	8 mm (5/16”)	1

HOSE CONNECTION NUTS

B599400

B712010

Art. Nr.	Type	Pack size
B599400 (28AENP)	G1/4” RH	10
B712010 (27AEN)	G3/8” RH	10
B712020 (28BEN)	G1/4” LH	10
B599430 (27BENP)	G3/8” LH	10

HOSE COUPLERS

Art. Nr.	Type	Pack size
25A	G1/4” equal RH	1
14008811S	G3/8” equal RH	1
25B	G1/4” equal LH	1
26B	G3/8” × G1/4” unequal LH	1
4403703P	G3/8” equal LH	1

LOW PRESSURE FINE ADJUSTMENT VALVES AND ADAPTORS (10 BAR)

TWIN OUTLET VALVES WITH SWIVEL NUT (”Y” VALVES)

These allow two blowpipes to be used from one regulator outlet.

Art. Nr.	Gas	Swivel nut	Outlet connection
47A	Oxygen	G3/8” RH	G3/8” RH MALE
47B	Acetylene	G3/8” LH	G3/8” LH MALE

‘Y’ PIECES, ‘T’ PIECES FOR BRANCHING TWO HOSE FROM ONE

66A

Art. Nr.	Gas	Type
66A	‘T’ piece with G 3/8” RH/LH nuts and 10 mm nipples	RH
66B	‘T’ piece with G 3/8” LH nuts and 10 mm nipples	LH

GENERAL SAFETY PRECAUTIONS AND RECOMMENDED PROCEDURES

GCE BUTBRO RUBBER HOSE

Use only hose in good condition, fitted with special hose connections attached by permanent ferrules. Do not expose the hose to heat, traffic, slag and sparks from welding and cutting operations, oil or grease. Scrap it as soon as it becomes leaky. Good hose will re-pay the cost many times by long life, safe operation and elimination of waste through leaks.

GCE BUTBRO PRESSURE REGULATORS

Always treat a regulator as a precision instrument. Do not expose it to knocks, jars or violent pressure caused by the sudden opening of the cylinder valve. Release the pressure on the control spring when shutting down. Never use the regulator on any gas except for that for which it was designed do not use regulator with broken gauges.
Never use oil or grease.

GCE BUTBRO BLOW PIPES / CUTTERS

For lighting up and extinguishing any type of blow pipe the maker's instructions should always be followed. To clean the nozzle, use the manufacturer's nozzle cleaner set.

GCE BUTBRO GOGGLES

Goggles should be worn at all times when welding and cutting.

ASSEMBLY OF EQUIPMENT

1. Stand both both cylinders vertical. Oxygen cylinders are painted black. Acetylene are painted maroon, and propane cylinders are painted red.

2. See that joining surfaces in cylinder valves and regulators are free from oil and grease.

3. Open the valve on the oxygen cylinder momentarily in order to snift the cylinder valve, dislodging dirt or obstructions, close valve.

4. Open a fuel gas cylinder valve as in item 3.

5. Check pressure rating on regulator is suitable for cylinder in use. Screw the oxygen regulator in to the oxygen cylinder valve. The cylinder valve and the regulator inlet stem, and the regulator outlet connection have a right hand screw thread.

6. Screw the fuel gas regulator in to the gas cylinder valve.
The cylinder valve, the regulator inlet and the regulator outlet have left hand screw thread.

7. Tighten the regulator in to the cylinder valve Do not use excessive force, but make certain that the joints are gas tight.

8. Connect the hose to the screwed outlets of the regulator by means of screw connections secured in the ends of the hose.
Blow the hose through before attaching to regulator or to the blow pipe in order to remove dust or dirt, or chalk when the hose is new.
OXYGEN MUST NOT BE USED FOR THIS PURPOSE.

9. Connect the other ends of the hose, that fitted with a hose check valve; to the blow pipe, the fuel gas hose to the left hand connections, the oxygen hose to the right hand connection. Keep the blow pipe control valves closed.

10. Fit the appropriate sized nozzle to the blow pipe.
To obtain best possible results from GCE BUTBRO blow pipes
always use GCE BUTBRO precision nozzles.

LIGHTNING UP PROCEDURE WELDING BLOW PIPES

11. Open the cylinder valve slowly by means of the cylinder key. Do not open suddenly or there may be serious damage to the regulator and the possibility of an accident. Open the cylinder valve spindle one turn only.Open the fuel gas control valve on the blowpipe and adjust the regulator to give the correct working pressure (this ensures that any air or oxygen is purged from the hose). Repeat the above procedure for the oxygen side.

12A. Open the fuel gas control valve and light gas preferably by means of a GCE BUTBRO spark light making sure that the spark lighter is held at right angles to the nozzle.

12B. Reduce or increase the acetylene supply to the blow pipe valve until the flame just ceases to smoke.

12C. Slowly turn on the oxygen by the blow pipe control valve until the white inner cone in the flame is sharply defined with the merest trace of an acetylene haze. The blow pipe is now correctly adjusted for welding.

CUTTING BLOW PIPES

A. Proceed with assembly of the equipment exactly as outlined for the welding equipment, but remember the following points.

B. After fitting the correct size cutting nozzle, open the cylinder valves and after purging both hoses set the working oxygen pressure on the regulator with the oxygen passing through the cutting oxygen valve on the cutter, hence out through the nozzle. Shut all the valves on the blow pipe, open the fuel gas valve slowly and ignite the gas. Open the heating oxygen valve on the cutter slowly, and adjust the flame to neutral. Now depress the cutting oxygen lever and again adjust the heating gas controls to give a neutral flame. Depress the cutting oxygen lever, and the cutter is ready for use. These instructions apply to the nozzle mix type cutters since these are of the most modern design.

C. When cutting with a combined welding/cutting torch, the oxygen valve on the shank should remain fully open and all adjustments to the oxygens stream made with the oxygen valve on the cutting attachment, as detailed in (B above).

CLOSING DOWN PROCEDURE

13A WELDING EQUIPMENT
Turn off the acetylene first by the blow pipe control valve and then the oxygen. Close the cylinder valve. Open the blow pipe valves one at a time to release the pressure in the hose, i.e. open the oxygen valve and close it; open the fuel gas valve and close it. Unscrew the pressure regulating screws on the oxygen and acetylene regulators.

13B. CUTTING BLOW PIPES
On completion of the work, close the oxygen cutting valve, then the fuel gas and heating oxygen valves. Close the cylinder valves, open and close the cutter, oxygen and fuel gas valves one at a time to release pressure in the hose, unscrew the pressure regulating screws on the oxygen and acetylene regulators.

14. It is most important to emphasise the earlier instructions, that prior to re-lighting either the welding blow pipe or the cutter, the hoses must be purged to ensure a pure and adequate supply of oxygen/fuel gas. Back-fires may occur by one of a combination of circumstances, e.g. defective equipment, incorrect gas pressures, incorrect lighting-up proceedure or careless handling of the blow pipe in use, such as permitting the nozzle to touch the work, overheating the tip of the nozzle, or working with a loose nozzle. Usually the back-fire is arrested at the injector in case of low pressure equipment or the source where the gases are mixed, e.g. the head of the cutting blowpipe, and if prompt action is taken in turning off first the oxygen, and then the blowpipe may be re-lit as soon as the cause of the trouble has been eliminated.
In some cases, however, a back-fire may pass beyond the torch and go back into either the oxygen or the fuel gas hoses; it is then termed a 'flash-back' and its effect is more serious in that it may result in immediate damage to hoses and regulators. In extreme cases there is also a possibility of injury to the operator. The outward signs of flash-back my be squealing or hissing noise, sparks coming out of the nozzle; heavy black smoke; or the blowpipe handle may get hot. If the flame burns back far enough it may even burst through the hose.
Both blow-backs and flash-backs can be avoided by adherence to recommended procedure in the case of

equipment. Investigation shows that such occurrences often occur purely through overfamiliarity leading eventually to neglect of ordinary safeguards.

For example, the blowpipe settings, or a light being applied before the flow of fuel gas is properly established.

IF THE FLAME SNAPS OUT WHEN THE BLOW PIPE IS IN USE IT IS BECAUSE:
A. The regulator pressure, and/or gas flow, are incorrect - either too high or too low.

B. The nozzle has been obstructed.

C. The nozzle is held too close to the work.

D. The nozzle has become overheated.

When this happens completely shut both the blowpipe valves, check the regulator setting, cylinder pressures, and re-light in accordance with the proceedure. In the case of 'D', close the acetylene valve, reduce oxygen flow to a trickle, and plunge the nozzle and head into cold water.

GCE BUTBRO HOSE CHECK VALVES

The hose check valve is a safeguard which will operate independently and without attention from the operator. The device is essentially a non-return valve, the purpose of which is to prevent back feeding or the reverse flow of gases. It must in all cases be fitted to the inlet connections of the blowpipe.

GCE BUTBRO FLASHBACK ARRESTORS

The GCE BUTBRO flashback arrestor is a device to be fitted in the system to protect the upstream equipment. GCE BUTBRO flashback arrestors can be mounted to regulators, in line or to torches depending on the application. The flashback arrestor will contain between 1 and 5 features, depending on its specification.

FA Sintered flame arresting element to put out the flame.

NV Non return valve to prevent the reverse flow of gases.

PV Pressure trip device to temporarily shut off gas supply. The device can be reset after the problem is corrected.

TV Thermal trip device - to permanently shut off gas supply in the case of overheating.

SI Status indicator shows if the unit is ready for use.

RECOMMENDED MEDIUM DUTY CUTTING SYSTEM

Medium duty cutting system based on the GCE X20 torch provides enough power for the cutting of 150 mm steel plates. Aluminum forged shank and cutting attachment with solid machined brass body, head and stainless steel tubes make the entire system robust and durable whilst still maintaining its weight reasonably low. The shank and cutting attachment are part of the complex GCE X20 system offering wide range of compatible products and accessories.
High-end FG300 regulators and sophisticated five function Safe-guard 5 flashback arrestor provide stable gas supply and allow later expansion of the system and potential use of even more powerful torches and nozzles.

Plate thickness	Nozzle ACE	Nozzle PROP	Torch	Checkvalve	Hose	Flahback Arrestor	Regulators
3 - 6	0768554	0768880	G076624 - X20 Shank + G0766242 - X20 Cutting Attachment	871121 - BV12 G3/8" × 6,3 RH + 871122 - BV12 G3/8" × 6,3 LH	Hose 6,3 × 13,3	0764457 Safe-guard 5 OXY G3/8" RH + 0764456 Safe-guard 5 FUEL G3/8" LH	F21650003 GCE FG300 OXYGEN + F21650007 GCE FG300 ACETYLENE
5 - 12	0768555	0768865					
10 - 75	0768556	0768879					
70 - 100	0768557	0768878					
90 - 150	0768558	0769481					

RECOMMENDED HEAVY DUTY CUTTING SYSTEM

The NM250 cutting torch is the core of the heavy-duty cutting system. The torch provides sufficient capacity to cut steel up to 300 mm thick. The all-metal design, high grade materials, stable surface treatment or colour-coded trim valves all help prolong the life span of the torch, improve ergonomics and simplify handling.
A pair of FG300 regulators and high flow Safe-guard 5 flashback arrestors provide sufficient amount of gas even for the most demanding cutting applications whilst keeping safety a priority.

Plate thickness	Nozzle ACE	Nozzle PROP	Torch	Checkvalve	Hose	Flahback Arrestor	Regulators
3 - 6	0768670	0769494	88090C* - NM250 Cutting Torch 490 mm	871111 - BV12 G3/8" × 8 RH or G3/8 × 10 RH 871101 + 871112 - BV12 G3/8" × 8 LH or G3/8 x 10 LH 871102	Hose 8 × 15	0764457 Safe-guard 5 OXY G3/8" RH + 0764456 Safe-guard 5 FUEL G3/8" LH	F21650003 GCE FG300 OXYGEN + F21650007 GCE FG300 ACETYLENE
5 - 12	0768635	0769495					
10 - 75	0768599	0769496					
70 - 100	0768636	0769497					
90 - 150	0768662	0769498					
140 - 200	0768598	0769499					
190 - 300	0769041	0769501					

* Please see also other cutter options. Universal or Steelmaster (X511)

OXY-FUEL WELDING SYSTEMS

RECOMMENDED LIGHT DUTY WELDING SYSTEM

The GCE X10 Orbit ORIGINAL welding set-up benefits from a lightweight aluminum shank and extremely precise copper welding tips. Its smaller dimensions and perfect balance make the Orbit set ideal for all applications where neat and accurate welding is required. FG300 Regulators recommended for this light-duty kit guarantee perfect pressure stability so important for accurate flame setting. Despite welding being a less risky operation than heavy duty cutting GCE still recommends protecting the system and more importantly the operator by the use of adequately selected flashback arrestors. A pair of 3 function Safe-guard 3 flashback arrestors keep the cost of the system to a reasonable level without any compromising of safety.

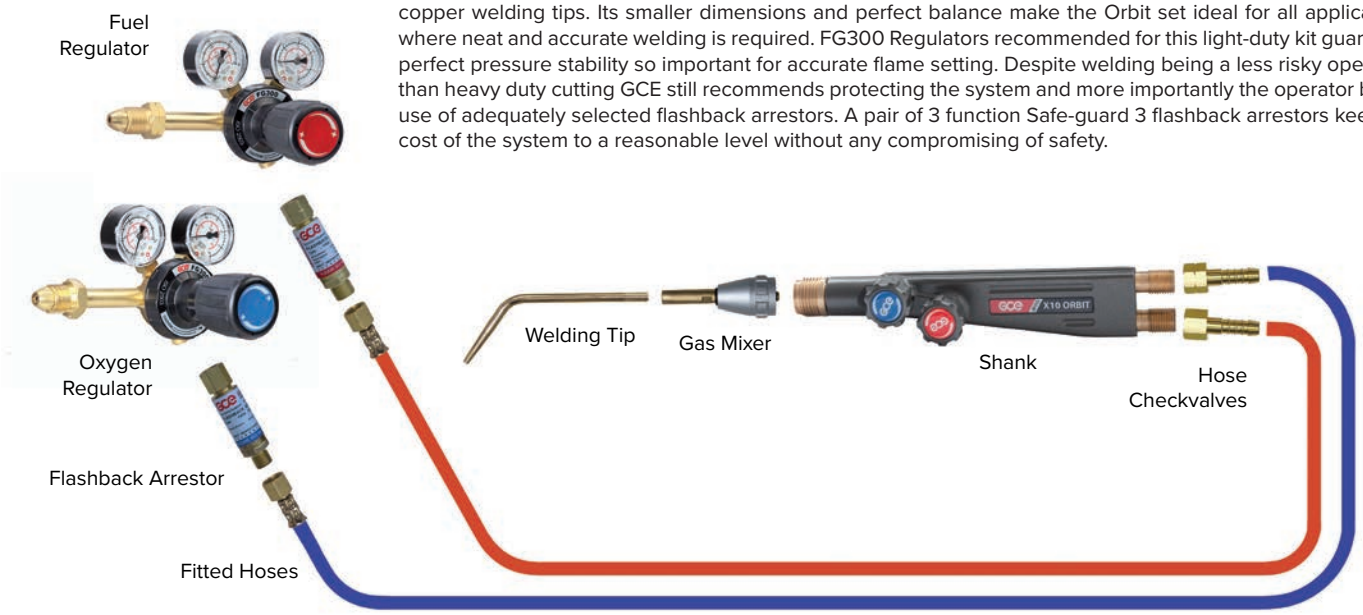


Plate thickness	Welding tip	Torch	Checkvalve	Hose	Flashback Arrestors	Regulators
1 - 8 mm	0766232 - 0766240	G0766229 - Shank X10 + 0766231 - MIXER X10	871131 - BV12 HCV 1/4 × 6,3 RH + 871132 - BV12 HCV 1/4 × 6,3 LH	Hose 6,3 × 13,3	0764470 Safe-guard 3 OXY G3/8" + 0764471 Safe-guard 3 FUEL G3/8"LH	F21650003 GCE FG300 OXYGEN + F21650007 GCE FG300 ACETYLENE

RECOMMENDED HEAVY DUTY WELDING SYSTEM

Our heavy duty welding system built around the robust GCE X20 ORIGINAL shank presents a sturdy and reliable base for all general welding operations. On top of higher robustness and durability the major advantage of MK3 system is a much bigger potential for future expansion into cutting and heating applications. The GCE FG300 regulators and Safe-guard 3 arrestors are still a perfectly safe choice even for heavy duty welding. However, if you plan to use the same gas source for oxy-fuel cutting then it is recommended to use the FG300 regulators combined with Safe-guard 5 flashback arrestors.

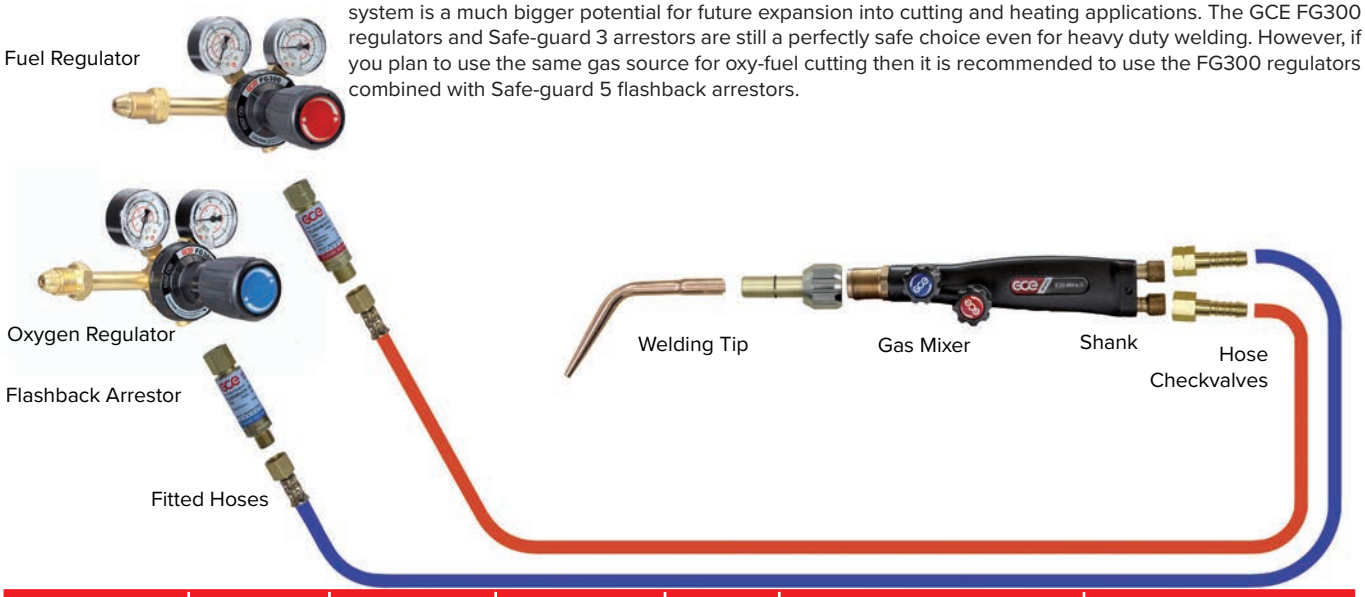


Plate thickness	Welding tip	Torch	Checkvalve	Hose	Flasback Arrestor	Regulators
1 - 8 mm	0766244 - 0766252	G0766244 - Shank X20 + 0766243 - Mixer X20	871121 - BV12 G3/8" × 6,3 RH + 871122 - BV12 G3/8" × 6,3 LH	Hose 6,3 × 13,3	0764470 Safe-guard 3 OXY G3/8" + 0764471 Safe-guard 3 FUEL G3/8"LH	F21650003 GCE FG300 OXYGEN + F21650007 GCE FG300 ACETYLENE

OXY-FUEL HEATING SYSTEMS

The precise selection of the correct heating torch is always entirely dependent on the application you need to solve. It is important to know if you plan on brazing, straightening, surface treatment or other thermal treatment. It is always necessary to know the temperature level you need to reach and the speed of preheating.

If required to straighten a welded construction then a torch with a very concentrated flame is needed.

If required for preheating of metal (casting or forging) a completely different torch must be used to heat up the bigger component's surface.

To keep all heating torches working properly it is necessary to use high flow Safe-guard 5 FBA with powerful UNICONTROL regulators. 8 mm hoses are a key factor in delivering enough gases for reliable performance.

Even proper equipment cannot guarantee reliable function if gas supply is not strong enough.

ACETYLENE TORCHES

Max. acetylene supply from a 50-liter bottle = approximately 1 m^3/h.

Reliable function of these torches is guaranteed only with supply from an acetylene bundle.

PROPANE TORCHES

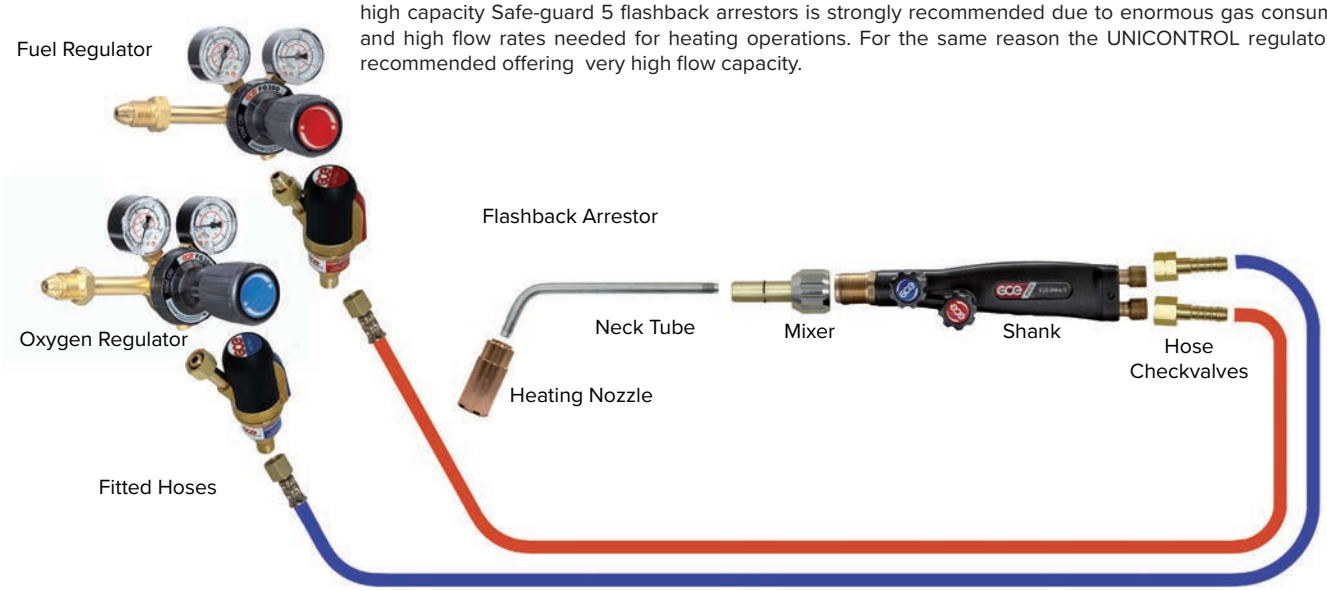
Max. propane supply from a 33-kg bottle = approximately 1,6 m^3/h.

Reliable function of these torches is guaranteed only with supply from a propane bundle or tank.

See also page 27 for typical assemblies and other options for Welding/Cutting and Heating using MK3 equipment.

RECOMMENDED HEATING SYSTEM

GCE recommend the MK3-based heating system for heating, flame straightening, stress-relieving and other related flame applications. GCE offers a wide selection of specialized torches, burners and superheating heads compatible with standard MK3 shank and gas mixer. Despite propane often being the gas of choice the use of high capacity Safe-guard 5 flashback arrestors is strongly recommended due to enormous gas consumption and high flow rates needed for heating operations. For the same reason the UNICONTROL regulators are recommended offering very high flow capacity.



Nozzle	Torch	Checkvalve	Hose	Flashback Arrestors	Regulators
0769472 - 0769476	0766241 - X20 Shank + G0766241 - X20 Mixer + 0766255 X20 Neck Tube	871111 - BV12 G3/8" × 8 RH + 871112 - BV12 G3/8" × 8 LH	Hose 8 × 15	0764457 Safe-guard 5 OXY G3/8" RH + 0764456 Safe-guard 5 FUEL G3/8" LH	F21650003 GCE FG300 OXY + F21650009 GCE FG300 LPG

WELDING, CUTTING & HEATING DATA

WELDING / ORBIT & MK 3/A TORCHES

Mid Steel Tk'ness mm	in	swg	Nozzle size	Operating pressure Acetylene bar	PSI	Oxygen bar	PSI	Gas consumption Acetylene l/h	ft³/h	Oxygen l/h	ft³/h
0,9		20	1	0,14	2	0,14	2	28	1	28	1
1,2		18	2	0,14	2	0,14	2	57	1	57	2
2		14	3	0,14	2	0,14	2	86	3	86	3
2,6		12	5	0,14	2	0,14	2	140	5	140	5
3,2	1/8	10	7	0,14	2	0,14	2	200	7	200	7
4	5/32	8	10	0,21	3	0,21	3	280	10	280	10
5	3/16	6	13	0,28	4	0,28	4	370	13	370	13
6,5	1/4	3	18	0,28	4	0,28	4	520	18	520	18
8,2	5/16	0	25	0,42	6	0,42	6	710	25	710	25
10	3/8	4/0	35	0,63	9	0,63	9	1000	35	1000	35
13	1/2	7/0	45	0,35	5	0,35	5	1300	45	1300	45
25	1+		90	0,63	9	0,63	9	2500	90	2500	90

FLAME CLEANING - MK 3/A TORCHES

Acetylene fuel gas Nozzle Type	Fuel gas pressure bar	PSI	Oxygen pressure bar	PSI	Fuel gas consum. l/h	ft³/h	Oxygen consum. l/h	ft³/h
50 mm flat	0,49	7	0,57	8	1050	37	1200	41
100 mm flat	0,7	10	0,7	10	2000	70	2200	78
150 mm flat	0,85	12	0,85	12	2700	94	3000	104

SUPER HEATING - PROPANE - MK 3/A & SUPER HEATING TORCHES

The flame size and heat output of these nozzles varies considerable with the pressure settings used. Two typical alternatives are given for each size of nozzle.

Nozzle Type	Propane pres. bar	PSI	Oxygen pres. bar	PSI	Propane cons. l/h	ft³/h	Oxygen cons. l/h	ft³/h	Heat output (app.) W	Btu/h
1H	0,14	2	0,7	10	830	29	350	121	244800	72000
	0,49	7	2,1	30	1900	65	7300	255	554200	163000
2H	0,21	3	1,1	15	1200	41	4800	168	348800	102000
	0,46	8	2,5	35	2100	75	8700	304	639200	188000
3H	0,28	4	1,8	25	2100	75	8300	290	622200	183000
	1,1	15	5,0	70	4100	144	16500	575	1227400	361000
4H	0,35	5	2,5	35	2700	94	10600	370	802400	236000
	1,3	18	5,7	80	4800	162	18800	650	1380400	406000
5H	0,85	12	3,5	50	3200	112	12700	444	955400	281000
	2,1	30	8,7	125	7000	246	28000	964	2101200	618000

HEATING - ACETYLENE - MK 3/A TORCH (AHT NOZZLES)

Nozzle Type	Propane pres. bar	PSI	Oxygen pres. bar	PSI	Propane cons. l/h	ft³/h	Oxygen cons. l/h	ft³/h	Heat output (app.) W	Btu/h
A-HT25	0,14	2	0,7	10	830	29	350	121	176800	57000
A-HT50	0,49	7	2,1	30	1900	65	7300	255	309400	91000
A-HT100	2,1	30	8,7	125	7000	246	28000	964	472600	139000

CUTTING - ACETYLENE - ORBIT TORCH

Material Tk'ness mm	in	Nozzle size	Operating pressure Oxygen bar	PSI	Acetylene bar	PSI	Gas consumption Cutting Ox l/h	ft³/h	Heating Ox l/h	ft³/h	Acetylene l/h	ft³/h	Approx. Cutting Speeds mm/m	in/m
3	1/8	S/M	2,1	30	0,3	4	650	30	120	4,5	220	8	110	4
6	1/4	1/32	2,1	30	0,15	2	710	25	255	9	255	8	255	8
20	3/4	3/64	2,1	30	0,15	2	1415	50	255	9	225	8	225	8
25	1	1/16	3,8	55	0,15	2	3400	120	255	9	225	8	225	8
50	2	1/16	5,3	75	0,20	3	4530	60	310	11	285	10	285	10

CUTTING - ACETYLENE - MK 3/A & 18/90 CUTTERS (ANM NOZZLES)

Material Tk'ness mm	in	Nozzle size	Operating pressure Oxygen bar	PSI	Acetylene bar	PSI	Gas consumption Cutting Ox l/h	ft³/h	Heating Ox l/h	ft³/h	Acetylene l/h	ft³/h	Approx. Cutting Speeds mm/m	in/m
Sheet		ASNM	1,5	20	0,14	2	800	28	85	3	85	3	-	-
6	1/4	1/32	1,8	25	0,14	2	800	28	480	15	400	14	510	20
13	1/2	3/64	2,1	30	0,21	3	1900	67	570	20	510	18	480	19
25	1	1/16	2,8	40	0,14	2	4000	140	540	19	470	17	400	16
50	2	1/16	3,2/3,5	45/50	0,14	2	4500	160	620	22	560	19	300	12
75	3	1/16	3,5/4,2	50/60	0,14	2	4800	170	680	24	620	22	205	8
100	4	5/64	3,2/4,8	45/70	0,14	2	6800	240	850	30	790	27	150	6
150	6	3/32	3,2/5,5	45/80	0,21	3	9400	330	960	34	850	30	125	5
200	8	1/8	4,2	60	0,28	4	14800	510	1380	48	1250	44	100	4
250	10	1/8	5,3	75	0,28	4	31500	760	1560	55	1420	50	75	3
300	12	1/8	6,3	90	0,28	4	25000	880	1560	55	1420	50	50	2

GOUGING - MK 3/A & 18/90 CUTTERS (AGNM NOZZLES)

Material Tk'ness mm	in	Nozzle size	Operating pressure Oxygen bar	PSI	Acetylene bar	PSI	Gas consumption Cutting Ox l/h	ft³/h	Heating Ox l/h	ft³/h	Acetylene l/h	ft³/h	Approx. Cutting Speeds mm/m	in/m
8	5/16	13	4,0	60	0,5	7	3680	130	990	35	905	32	610	24
11	7/16	19	5,0	75	0,5	7	9340	330	1870	66	1700	60	1970	42
12	1/2	25	5,5	85	0,55	8	16270	575	2290	81	2100	74	1220	48

CUTTING - PROPANE - MK 3/A & 18/90 CUTTERS (PNM NOZZLES)

Material Tk'ness mm	in	Nozzle size	Operating pressure Oxygen bar	PSI	Propane bar	PSI	Gas consumption Cutting Ox l/h	ft³/h	Heating Ox l/h	ft³/h	Propane l/h	ft³/h	Approx. Cutting Speeds mm/m	in/m
6	1/4	1/32	2,1	30	0,2	3	1000	36	1300	48	300	12	430	17
13	1/2	3/64	2,1	30	0,2	3	1800	65	1600	57	300	14	360	14
25	1	1/16	2,8	40	0,2	3	3000	140	1700	62	400	15	280	11
50	2	1/16	3,2	45	0,3	4	4500	160	1800	66	400	16	205	8
75	3	1/16	3,5	50	0,3	4	4800	170	2000	73	500	18	205	8
100	4	5/64	3,5	50	0,3	4	7300	260	2600	93	600	23	152	6
150	6	3/32	4,2	60	0,4	6	12300	435	3300	120	800	30	125	5
250	10	1/8	5,6	80	0,6	8	22300	790	4600	165	1100	42	50	2
300	12	1/8	6,7	95	0,8	8	26300	930	5900	210	1400	50	50	2

1. Data is for guidance only and may vary with operating conditions, materials etc.
2. Gas pressures are shown in BAR- 1 bar - 1 kg cm² 1 PSI - 0,069 bar.
3. Gas consumption in LITRES PER HOUR (l/h).

NOTES

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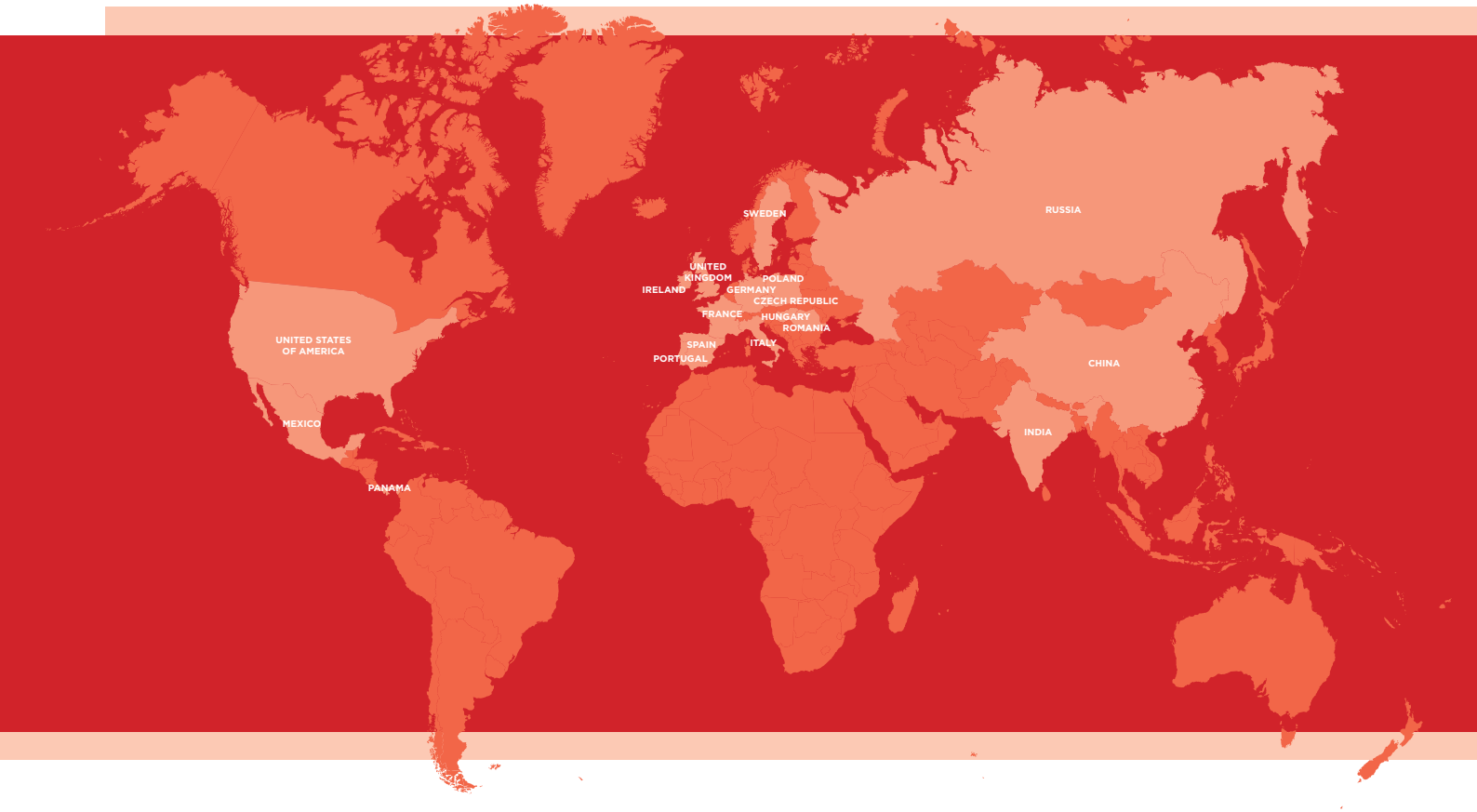

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