



INDUSTRIAL GAS EQUIPMENT AND WELDING PRODUCTS

EDITION 1/2012

GCE IN GLOBAL LEAD

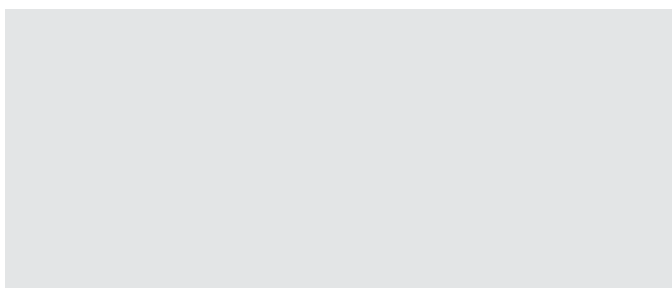


GCE BUSINESS IN GENERAL

GCE's main business originally concentrated on the oxy-acetylene cutting and welding market, but with almost 100 years of experience in the handling of high pressure gases, the product range has grown rapidly. Today's product portfolio fits a large variety of applications, from simple pressure regulators and blowpipes for welding and cutting to highly sophisticated gas supply systems for the medical and electronics industry and analytical laboratory equipment.

GCE Group includes four business areas:

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



ORIGINS

The origins of GCE (Gas Control Equipment) go back as far as the beginning of the twentieth century when oxy-acetylene cutting and welding methods were first invented. GCE group as an independent entity was formed in 1987 through the merging of gas equipment activities by two of the world's leading industrial gas and welding equipment companies into one independent entity. The GCE Group has grown rapidly since its establishment and is leading the restructuring of the European gas-equipment industry through mergers and acquisitions. Through the years, GCE Group's R&D work has resulted in innovative solutions that have quickly become field standards.

GCE TODAY

The GCE Group's headquarters are located in Malmö, Sweden, and its main production units are in Chotebor, Czech Republic and Shanghai, China. The company operates over 15 subsidiaries round the world having sales and marketing offices in almost all European countries as well as in China, Russia, India and Panama. The group currently employs more than 1200 people worldwide. Over 8 000 customers across the world are served daily by GCE.

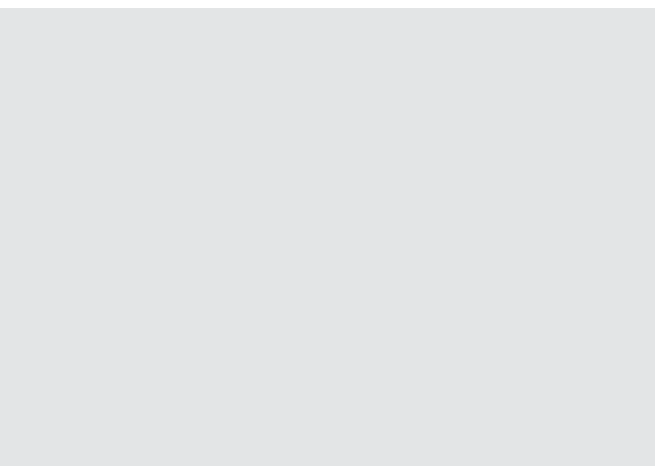
A COMPLETE RANGE FOR CUTTING & WELDING

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

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

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

GCE Group's ranges include various types of gas equipment enabling safe handling of gases in central gas supply systems and brewery equipment, to machine cutting products. We offer cylinder valves and combination valves, pressure control units, gas manifolds, outlet points, shut-off valves, alarm and safety units, high-pressure flexible hoses and accessories for different applications, gases, pressures and flow rates. All products have to meet demanding requirements for rugged durability, leak-proof sealing and overall safety. Uniquely qualified in this area, GCE stands at the forefront of international development of these products.



GCE SERVICES

GCE's main customers in industrial area are wholesalers and local distributors, though in some markets gas companies also distribute equipment and cooperate with GCE Group.

For these companies we provide local commercial support, professional support and marketing activities. Key end-customers such as shipyards, repair shops and OEM customers, such as welding machine manufacturers, account for a significant part of the sales volume.

GLOBAL LEADER IN OXY-FUEL TECHNOLOGY

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

GCE QUALITY

PROVEN QUALITY FOR BEST SAFETY PERFORMANCE

Safety is first priority, and that quality is essential for performance and optimal cost effectiveness. Our wide range of products and solutions is well established in the market, and recognised for its high safety and superior, consistent quality. Today's wide product portfolio corresponds to a large variety of applications. This brings wide complexity of technical problems and a need for extensive testing before introduction to the markets. All products are thoroughly type tested in well equipped GCE testing laboratories and many of them are even externally tested and certified by renowned Testing Institutes and notified bodies.

FULL COMPLIANCE WITH STANDARDS AND NORMS

In addition to company certification conforming to the ISO 9000 quality standard, our products are tested and certified by BAM, BSI, Det Norske Veritas, US DOT, UL, CEN, DIN and SIS, among others. All sales units connected with medical products have EN approvals for CE marking and some have also been approved in accordance with the ISO 14000 environmental standard. We are also independently certified by many of our key customers.



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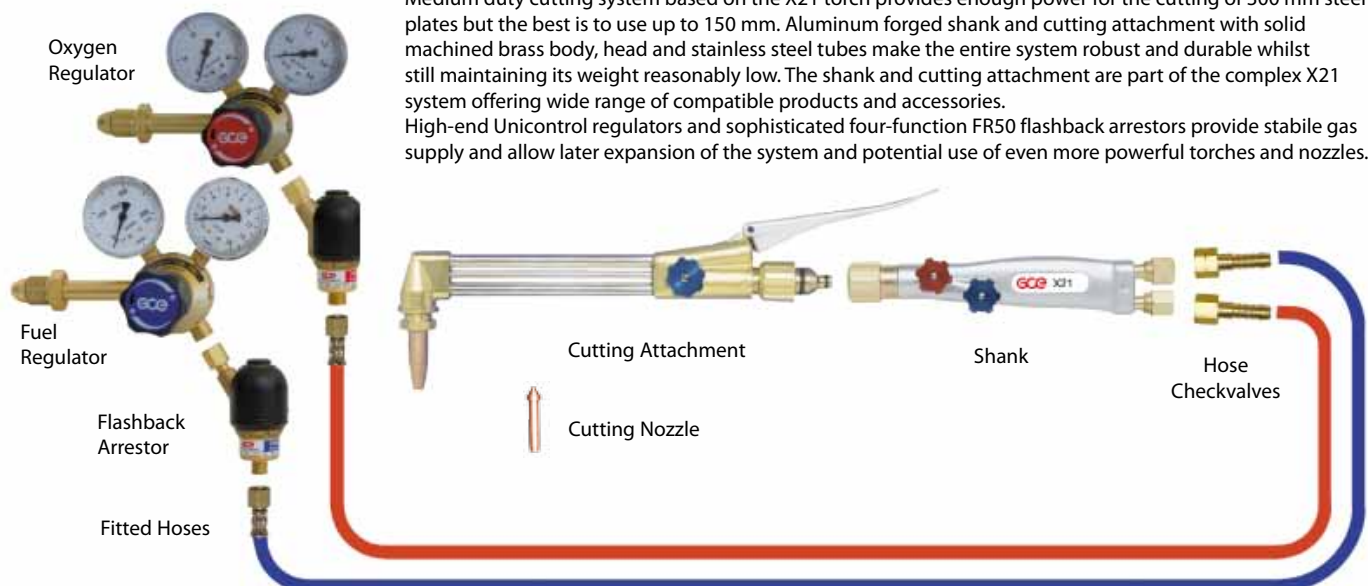
PRODUCT SELECTION GUIDE

OXY-FUEL CUTTING SYSTEMS

The matrix below works as a basic guideline for the selection of suitable product combinations for flame cutting of carbon steel. The material thickness is the basic factor in determining the combination of cutting equipment. Where more than one variant is recommended they are listed in order of their power / performance, the most powerful listed last. In the case of special applications or atypical setups it is always recommended to consult with GCE experts.

Plate thickness	Nozzle	Torch	Checkvalve	Hose	Flashback Arrestors	Regulators
10 mm	AFN ANM/ PNM ANME / PNME	X21 X511	M16x1,5 / M16x1,5 LH	Diam. 6,3 mm	FR20 FR34 FR50	FIXICONTROL UNICONTROL MULTISTAGE
20 mm						
30 mm						
50 mm	AGN Coolex® PNME Coolex® ANM / PNM ANME / PNME HA317/HP337 LH/LS	X21 X511	M16x1,5 / M16x1,5 LH			
75 mm						
100 mm						
125 mm						
150 mm						
175 mm	ANM / PNM ANME / PNME HA317/HP337 LH/LS	X21 X511		Diam. 8 mm	FR34 FR50	UNICONTROL MULTISTAGE
200 mm						
225 mm						
250 mm						
275 mm						
300 mm						
400 mm	HA317/HP337	X511		Diam. 10 mm	FR50 FR19N	CENTRAL GAS SUPPLY
500 mm						
600 mm	Consult with GCE	Consult with GCE				

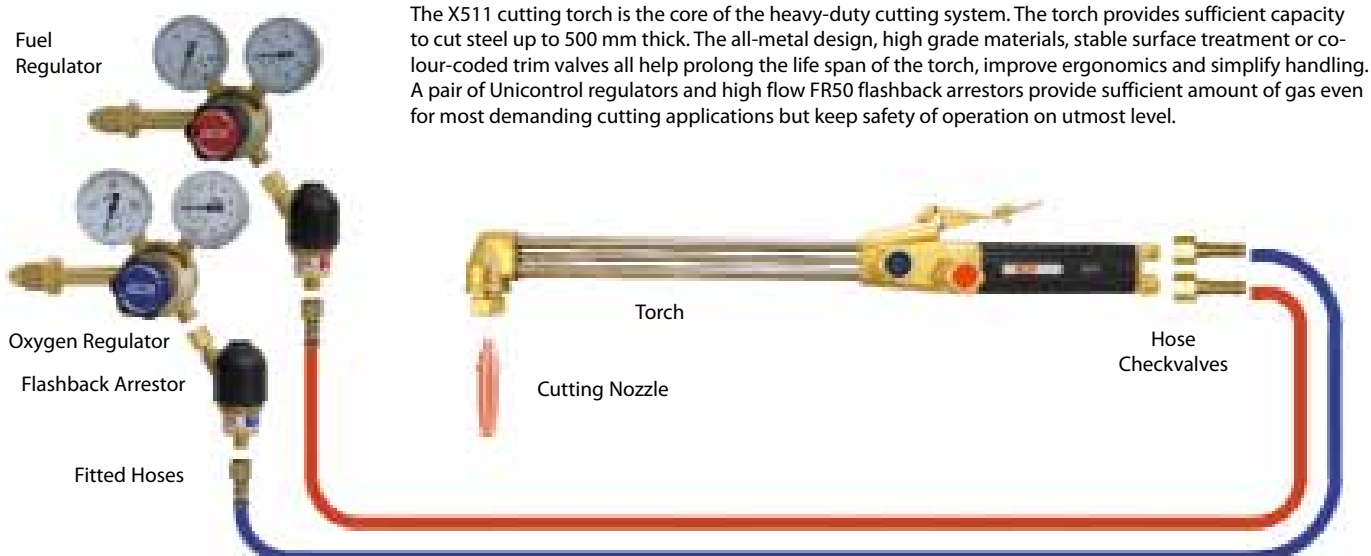
1. RECOMMENDED MEDIUM CUTTING SYSTEM



Medium duty cutting system based on the X21 torch provides enough power for the cutting of 300 mm steel plates but the best is to use up to 150 mm. 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 X21 system offering wide range of compatible products and accessories. High-end Unicontrol regulators and sophisticated four-function FR50 flashback arrestors 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	Flashback Arrestor	Regulators
3 - 10	0768691	0768652	0766278 - X21 Shank + 0767941 - X21 Cutting Attachment	0764436 - BV12 M16x1,5RH x 6,3 + 0764437 - BV12 M16x1,5LH x 6,3	Hose 6,3 x 13,3	0762493 FR-50 OXY G3/8" RH + 0762494 FR-50 FUEL G3/8" LH	0783742 / 0783955 UNICONTROL OXYGEN + 0783741 / 0783957 UNICONTROL ACETYLENE
10 - 25	0768692	0768653					
25 - 40	0768693	0768696					
40 - 60	0768694	0768697					
60 - 150	0768695	0768654					

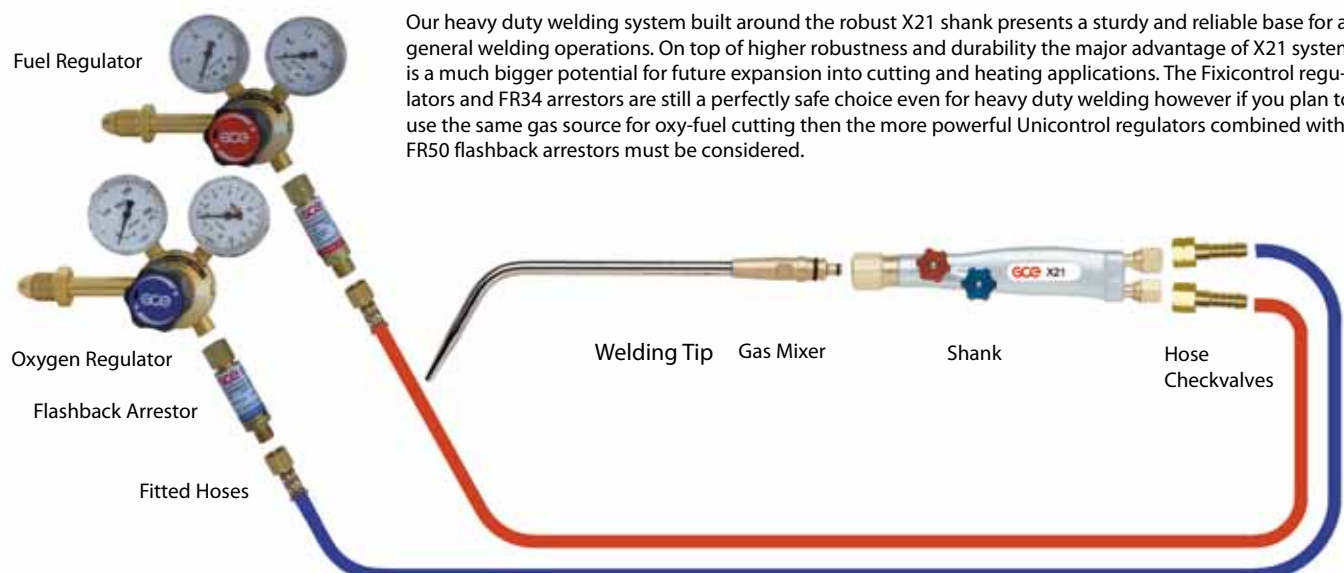
2. RECOMMENDED HEAVY CUTTING SYSTEM



The X511 cutting torch is the core of the heavy-duty cutting system. The torch provides sufficient capacity to cut steel up to 500 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 Unicontrol regulators and high flow FR50 flashback arrestors provide sufficient amount of gas even for most demanding cutting applications but keep safety of operation on utmost level.

Plate thickness	Nozzle ACE	Nozzle PROP	Torch	Checkvalve	Hose	Flashback Arrestor	Regulators
3 - 6	0768670	0769494	X511 cutting torch	0764438 - BV12 M16x1,5RH x 8 + 0764439 - BV12 M16x1,5LH x 8	Hose 8 x 15	0762493 FR-50 OXY G3/8" RH + 0762494 FR-50 FUEL G3/8" LH	0783742 / 0783955 UNICONTROL OXYGEN + 0783741 / 0783957 UNICONTROL 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	0766279 - 470 mm 0766280 - 855 mm 0766281 - 1155 mm				

3. RECOMMENDED WELDING SYSTEM



Our heavy duty welding system built around the robust X21 shank presents a sturdy and reliable base for all general welding operations. On top of higher robustness and durability the major advantage of X21 system is a much bigger potential for future expansion into cutting and heating applications. The Fixicontrol regulators and FR34 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 the more powerful Unicontrol regulators combined with FR50 flashback arrestors must be considered.

Plate thickness	Welding tip	Torch	Checkvalve	Hose	Flashback Arrestor	Regulators
1 - 8 mm	9389430P	0766278 - Shank X21	0764436 - BV12 M16x1,5RH x 6,3	Hose 6,3 x 13,3	0764442 FR-34R OXY G3/8" + 0764443 FR-34R FUEL G3/8" LH	0783742 / 0783955 UNICONTROL OXYGEN + 0783741 / 0783957 UNICONTROL ACETYLENE
	9389540P		0764437 - BV12 M16x1,5LH x 6,3			

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 FR-50 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 m³/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 m³/h.

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

RECOMMENDED HEATING SYSTEM

Fuel Regulator

Oxygen Regulator

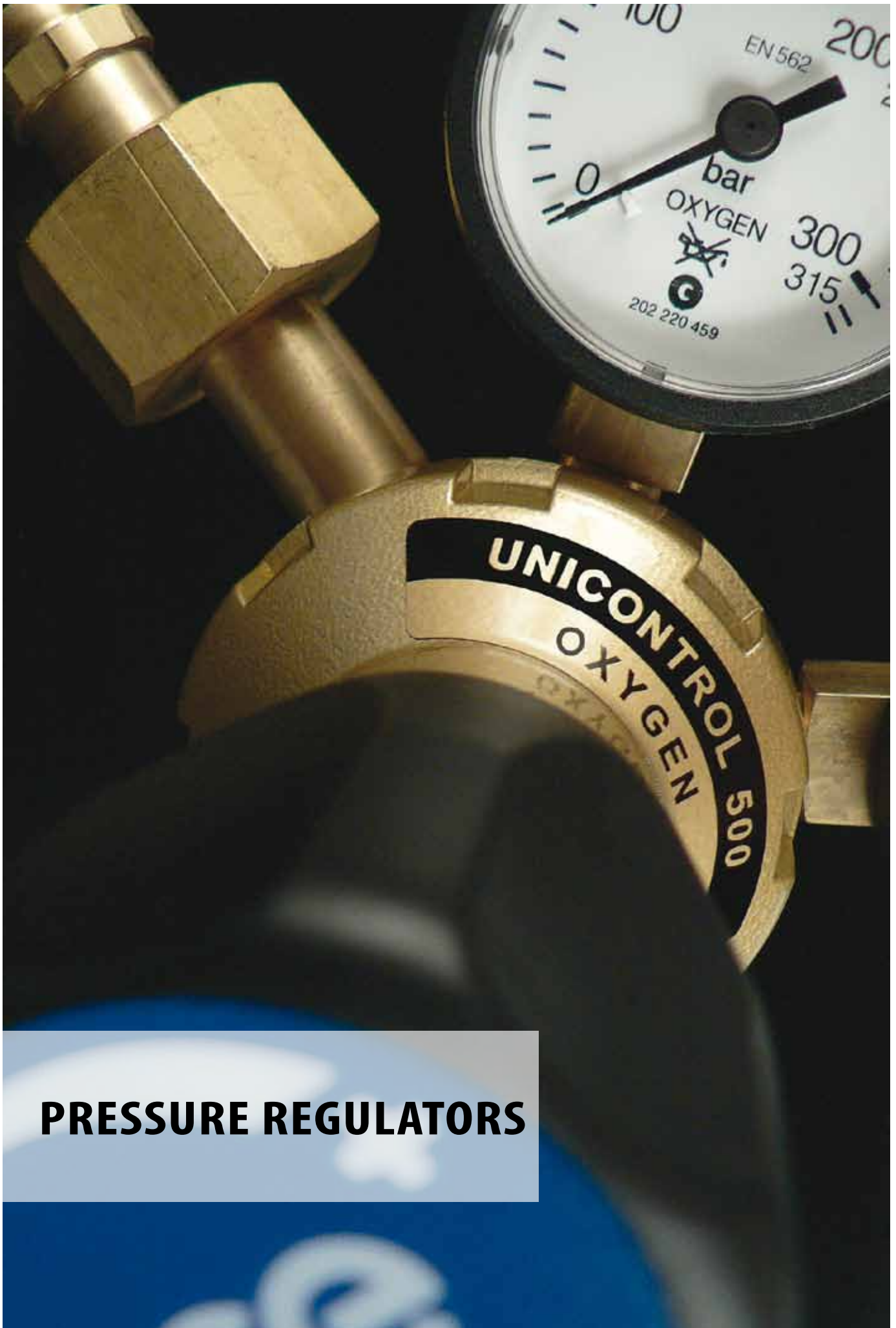
Flashback Arrestor

Fitted Hoses

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 FR50 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
202232217	0766278 - Shank X21	0764438 - BV12	Hose 8 x 15	0762493	0783742 / 0783955
202232218		M16x1,5RH x 8		FR-50 OXY G3/8" RH	UNICONTROL OXYGEN
202232219		+		+	+
202232220		0764439 - BV12		0762494	0783741 / 0783957
		M16x1,5LH x 8		FR-50 FUEL G3/8" LH	UNICONTROL ACETYLENE



PRESSURE REGULATORS

PRESSURE REGULATORS

Pressure Regulator is a device for regulating a generally variable inlet pressure to an as constant as possible outlet pressure.

(EN ISO 2503)

By name and definition, a pressure regulator is simply a kind of valve designed to regulate and stabilize system pressure downstream of its placement. The gas cylinder content is consumed stepwise during the operation and thus the pressure upstream of regulator varies from full cylinder pressure to values close to zero. The task of the pressure regulator is to cope with such variation and maintain outlet parameters as stable as possible.

REGULATOR PRINCIPLE

A pressure regulator maintains downstream pressure by automatically modulating the level of the regulator heart valve opening and gas stream throttling.

By changing the area of opening as upstream pressures and downstream flow-rate vary, pressure drop through the heart valve changes proportionally to maintain the downstream pressure at a relative constant level and relatively independent from remaining cylinder content and - to some extent - independent to gas amount consumed.

Heart-valve opening or closing is driven and actuated by forces balance on regulator diaphragm. Ideally all forces caused by inner pressure conditions and forces generated by spring compression become perfectly balanced and the heart valve seat allows just the requested quantity of gas to expand into the low pressure chamber causing a steady, constant pressure gas stream.

In reality all conditions fluctuate and the heart-valve spindle constantly moves up or down to reflect changing conditions and regulate the opening appropriately. For that reason the proper design of diaphragm, right choice of heart-valve geometry and high-grade materials are key in regulator functionality and reliability. GCE utilize its more than 70 years of experience in regulator business to optimize product design and choose optimal technical solutions.

PRODUCT SELECTION

To ensure a suitable level of accuracy in pressure maintenance and provide demanded gas flow-rate there are various models of pressure regulators available to meet specific flow and pressure requirements. To ensure the regulator functions correctly and thus a steady and sufficient gas supply, the user should always observe and consider the operating parameters before purchase of product. Your basic selection criteria should be at least the following:

Gas Media

The intended working gas selection affects not only connection style but even inner design of the regulator and material compatibility of product with selected media. Never use regulators with other gases than specified by product marking even if inlet connection would allow. Such misuse could result in product damage and in potential health and safety hazards.

Gas Pressures

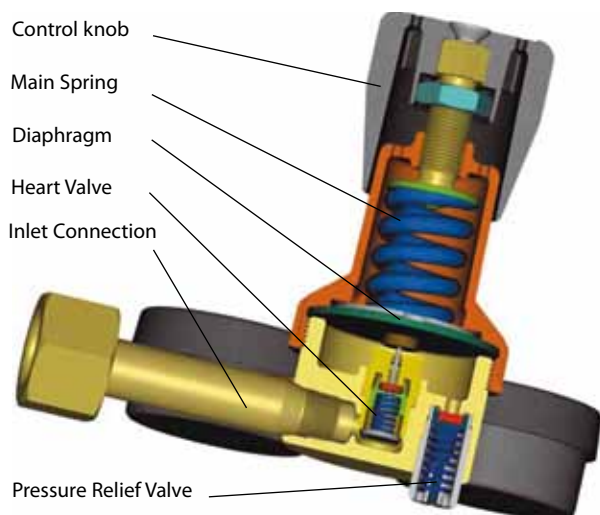
Consider the pressure range available on cylinder side and mainly the pressure requested on regulator output. Standard cutting, welding or heating operations can be served by FIXI\UNI\S2+ regulator series but even for special high-pressure applications the Jet-CONTROL 600 is available. Due to safety reasons all GCE regulators have maximum outlet pressure restricted close to nominal value stated in catalogue so pay attention for the right selection.

Gas Flow

Not only gas pressure but also expected gas amount is equally important when selecting the correct regulator. Smaller FIXICONTROL regulators provide enough gas for basic cutting and welding but for heavy-duty applications higher product lines must be used. For industrial application where the supply of extreme gas volume is needed the special CR60 product line is recommended. Similarly the capacity of gas source must be thoroughly considered too.

Pressure Stability

The pressure stability of the regulator is mostly affected by product size and design. Larger diameter of diaphragm dramatically improve stability, that is why UNICONTROL offers better parameters than smaller FIXICONTROL, but in many specific cases only S2+ MULTISTAGE regulator can provide ultimate stable pressure supply. If in doubt consult your GCE experts for the best selection.



SAFETY

Despite GCE designers and engineers paying utmost attention to pressure regulator safety there is still big responsibility laid on the end user. Pressure regulators are devices dealing with high gas pressures and - especially in cutting and welding applications - dealing with gases which can be potentially dangerous. Any contamination of oxygen washed surfaces by hydrocarbons (oil, grease, organic substances etc.) can lead to fire or explosion so cleanliness is of paramount importance for maintaining safe working conditions. Mechanical damage of connection components can result in leakage or release of broken particles and consequential damage of system. Potential leakage of flammable gases, especially if leaking gas accumulates, sooner or later results in ignition and fire. High attention must be paid to perfect condition of regulator safety valves. GCE regulators are robust and durable devices but appropriate handling, maintenance and care are necessary for their safe and reliable operation. Read and follow all recommendations mentioned in Instruction for Use provided with the product.

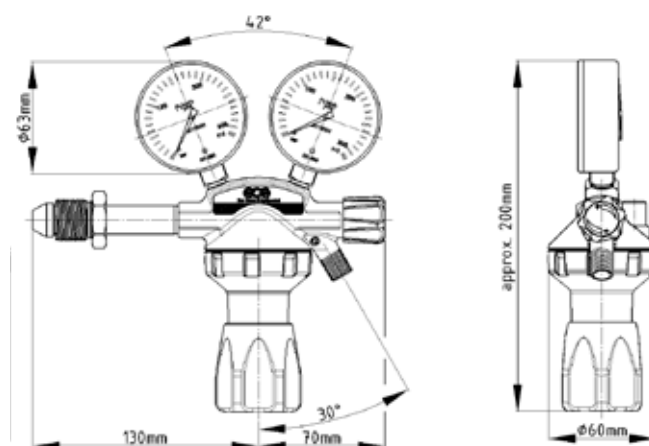
DINCONTROL - HEAVY DUTY CYLINDER PRESSURE REGULATOR

DinCONTROL is a pressure regulator fully conforming to all paragraphs of International Standard ISO2503. The main focus during product design and manufacture was on providing excellent performance, robustness and durability and guaranteeing its uncompromised safety. The DinCONTROL regulator uses a filter protected, fully encapsulated heart valve, well proven over several generations of GCE regulators. The body is made of solid forged, high quality brass and the zinc die-cast bonnet is protected by a double layer powder-painting to guarantee corrosion resistance even in very aggressive environments. The outlet shut-off valve allows downstream devices to be easily isolated

These regulators are independently type-tested and certified by BAM Berlin (The German State Testing Institute) to work safely with up to 200 bar inlet pressure



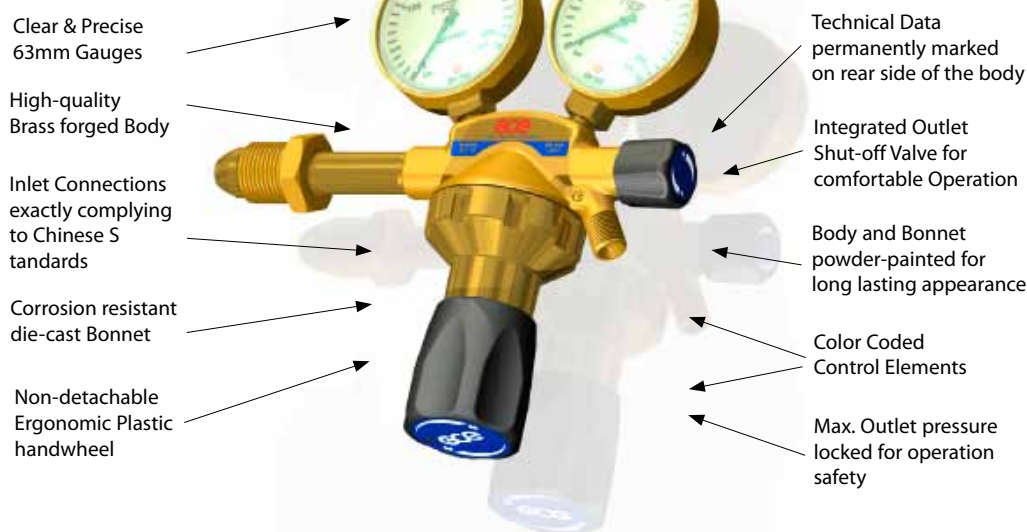
DIMENSIONS SCHEME



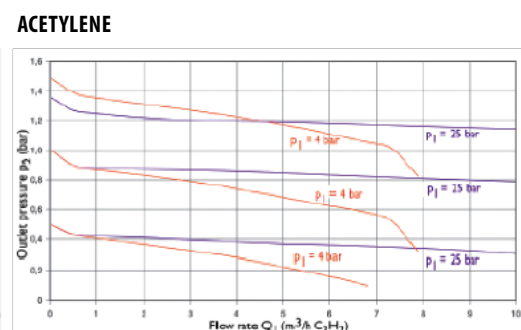
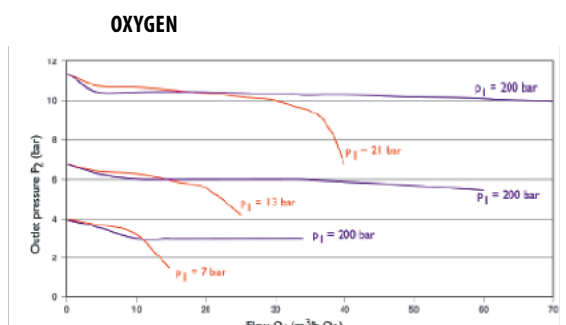
TECHNICAL DATA

Body	Forged Brass, double-layer powder painted.
Bonnet	Die-cast Zinc alloy, chemically stabilized and powder painted
Diaphragm	55 mm EPDM fabric-reinforced rubber
Heart Valve	Encapsulated unit, brass body sealed by PA or high-grade chloroprene rubber
Pressure Gauges	Non-bulkhead 63mm gauges, precision, class 2,5%
Inlet Stem & Nut	Brass, geometry complying with GB 15383 Chinese Standard
Safety Valve	Non-adjustable, plastic housing
Setting	Ergonomic PA handwheel, adjustable limitation of P2 max
Shut-off Valve	O-ring sealed, brass spindle, PA knob
Weight	1.5 - 1.9 kg

PRODUCT FEATURES



REGULATOR PARAMETERS



150 BAR SERVICE

Art. Nr.	Gas	Max inlet pressure	Outlet pressure	Nominal flowrate	ISO 2503 class	Inlet connection	Outlet connection	Pressure/flow indication
0783931	OXYGEN	150 bar	10 bar	30 m³/h	O3	G 5/8" RH (F)	M16x1.5 RH	2 gauges (63 mm)
0783932	OXYGEN	150 bar	6 bar	15 m³/h	O2	G 5/8" RH (F)	M16x1.5 RH	2 gauges (63 mm)
0783933	ACETYLENE	25 bar	1.5 bar	5 m³/h	A2	Yoke	M16x1.5 LH	2 gauges (63 mm)
0783934	AIR	150 bar	10 bar	30 m³/h	D3	G 5/8" RH (F)	M16x1.5 LH	2 gauges (63 mm)
0783935	NEUTRAL (Ar/N/He)	150 bar	10 bar	30 m³/h	N3	G 5/8" RH (F)	M16x1.5 RH	2 gauges (63 mm)
0783936	NEUTRAL (Ar/N/He)	150 bar	20 bar	60 m³/h	N5	G 5/8" RH (F)	M16x1.5 RH	2 gauges (63 mm)
0783937	ARGON / CO2	150 bar	N/A	3-30 l/min	N10	G 5/8" RH (F)	M16x1.5 RH	2 gauges (63 mm)
0783938	ARGON / CO2	150 bar	N/A	3-30 l/min	N10	G 5/8" RH (F)	M16x1.5 RH	2 gauges + 36 V Heater, no plug
0783939	ARGON / CO2	150 bar	N/A	3-30 l/min	N10	G 5/8" RH (F)	M16x1.5 RH	1 gauge + flow tube
0783940	HYDROGEN	150 bar	10 bar	30 m³/h	H3	W 21.8x1/14"	M16x1.5 LH	2 gauges (63 mm)

* 36 V Heater, no plug

200 BAR SERVICE

Art. Nr.	Gas	Max inlet pressure	Outlet pressure	Nominal flowrate	ISO 2503 class	Inlet connection	Outlet connection	Pressure/flow indication
0783941	OXYGEN	200 bar	12 bar	30 m³/h	O3	G 5/8" RH (M)	M16x1.5 RH	2 gauges (63 mm)
0783942	OXYGEN	200 bar	6 bar	15 m³/h	O2	G 5/8" RH (M)	M16x1.5 RH	2 gauges (63 mm)
0783943	ACETYLENE	25 bar	1.5 bar	5 m³/h	A2	G 5/8" LH (M)	M16x1.5 LH	2 gauges (63 mm)
0783944	NEUTRAL (Ar/N/He)	200 bar	10 bar	30 m³/h	N3	G 5/8" RH (M)	M16x1.5 RH	2 gauges (63 mm)
0783945	NEUTRAL (Ar/N/He)	200 bar	20 bar	30 m³/h	N5	G 5/8" RH (M)	M16x1.5 RH	2 gauges (63 mm)
0783946	ARGON / CO2	200 bar	N/A	3-30 l/min	N10	G 5/8" RH (M)	M16x1.5 RH	2 gauges (63 mm)
0783947	ARGON / CO2	200 bar	N/A	3-30 l/min	N10	G 5/8" RH (M)	M16x1.5 RH	2 gauges (63 mm) + Heater
0783948	ARGON / CO2	200 bar	N/A	3-30 l/min	N10	G 5/8" RH (M)	M16x1.5 RH	1 gauge + flow tube
0783949	ARGON / CO2	200 bar	N/A	3-30 l/min	N10	G 5/8" RH (M)	M16x1.5 RH	1 gauge + flow tube + Heater
0783950	HYDROGEN	200 bar	10 bar	30 m³/h	H3	G 5/8" LH (M)	M16x1.5 LH	2 gauges (63 mm)

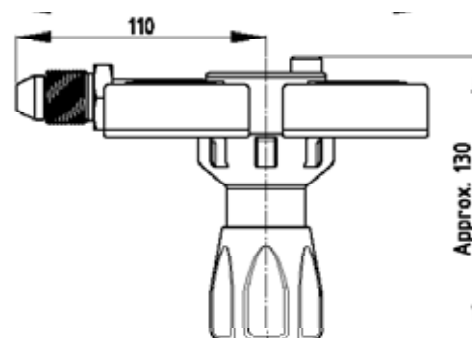
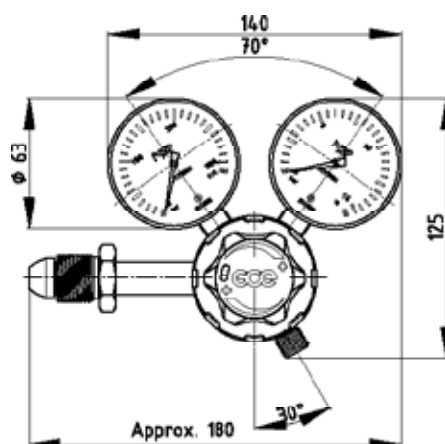
UNICONTROL - SINGLESTAGE CYLINDER REGULATORS

UniCONTROLS are pressure regulators fully conforming to all paragraphs of International Standard ISO2503. The main focus during product design and manufacture was on providing excellent performance, robustness and durability and guaranteeing its uncompromised safety. The UniCONTROL regulators use a filter protected fully encapsulated heart valve, well proven over several generations of GCE regulators. The body is made of solid forged, high quality brass, polished and chemically stabilized. The zinc die-cast bonnet is protected by a double layer powder painting to guarantee corrosion resistance even in very aggressive environments. For operational safety the integrated Pressure Relief Valve, located on the rear of the body is designed to prevent end users from changing the factory setting.

These regulators are independently type-tested and certified by BAM Berlin (The German State Testing Institute) to work safely with up to 200 bar inlet pressure.



DIMENSIONS SCHEME



TECHNICAL DATA

Body	Forged Brass, chemically stabilized (acid bright dipped)
Bonnet	Die-cast Zinc alloy, chemically stabilized and powder painted
Diaphragm	Diam. 55 mm fabric-reinforced EPDM rubber
Heart Valve	Encapsulated unit, brass body sealed by PA or high-grade chloroprene rubber
Pressure Gauges	Non-bulkhead 63mm gauges, class 2,5%, scale calibrated in Bar
Inlet Stem & Nut	Brass, geometry complying with GB 15383 or BS-341 standard
Safety Valve	Non-adjustable, plastic housing
Control elements	Ergonomic PA control knob, captive pressure adjusting screw
Weight	1.4 - 1.7 kg

PRODUCT FEATURES

Colour Coded
Control Elements

Non-detachable
Ergonomic Plastic
control knob

Max. Outlet pressure
locked for operation
safety

Inlet Connections
exactly complying
with GB 15383 or
BS-341 Standards

Corrosion resistant
die-cast Bonnet



Clear & Precise 63 mm
Gauges

Technical Data
permanently marked
on rear side of the body

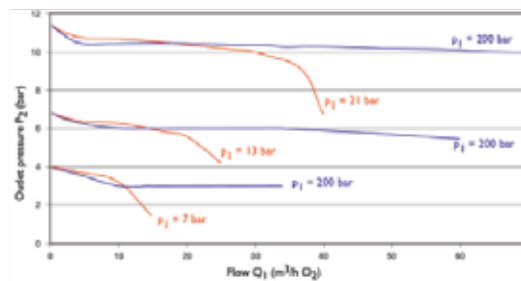
Safety valve located on
rear side of body – not
adjustable for operation
safety

Bonnet powder-painted
for corrosion resistance

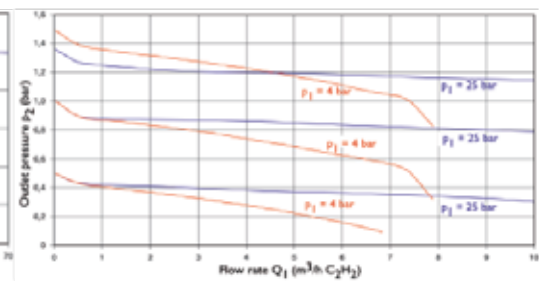
Body forged from
high-quality Brass

REGULATOR PARAMETERS

OXYGEN



ACETYLENE



The capacity graphs show the outlet pressure as a function of the flowrate at different inlet pressures.

150 BAR SERVICE

Art. Nr.	Gas	Max inlet pressure	Outlet pressure	Nominal flowrate	ISO 2503 class	Inlet connection	Outlet connection	Pressure/flow indication
0783742	OXYGEN	150 bar	10 bar	30 m3/h	O3	G 5/8" RH (F)	M16x1.5 RH	2 gauges (63 mm)
0783951	OXYGEN	150 bar	6 bar	15 m3/h	O2	G 5/8" RH (F)	M16x1.5 RH	2 gauges (63 mm)
0783741	ACETYLENE	25 bar	1.5 bar	5 m3/h	A2	Yoke	M16x1.5 LH	2 gauges (63 mm)
0783952	AIR	150 bar	10 bar	30 m3/h	D3	G 5/8" RH (F)	M16x1.5 LH	2 gauges (63 mm)
0783743	NEUTRAL (Ar/N/He)	150 bar	10 bar	30 m3/h	N3	G 5/8" RH (F)	M16x1.5 RH	2 gauges (63 mm)
	CO2							
0783747	ARGON / CO2	150 bar	N/A	3-30 l/min	N10	G 5/8" RH (F)	M16x1.5 RH	2 gauges (63 mm)
0783953	ARGON / CO2	150 bar	N/A	3-30 l/min	N10	G 5/8" RH (F)	M16x1.5 RH	2 gauges (63 mm) + HEATER
0783748	ARGON / CO2	150 bar	N/A	3-30 l/min	N10	G 5/8" RH (F)	M16x1.5 RH	1 gauge + flowmeter
0783954	ARGON / CO2	150 bar	N/A	3-30 l/min	N10	G 5/8" RH (F)	M16x1.5 RH	1 gauge + flow. + HEATER
0783746	HYDROGEN	150 bar	10 bar	30 m3/h	H3	W 21.8x1/14"	M16x1.5 LH	2 gauges (63 mm)
0783745	LPG	25 bar	4 bar	5 m3/h	P1	M 22 x 1.5 LH	M16x1.5 LH	2 gauges (63 mm)

200 BAR SERVICE

Art. Nr.	Gas	inlet pressure	Outlet pressure	Nominal flowrate	ISO 2503 class	Inlet connection	Outlet connection	Pressure/flow indication
0783955	OXYGEN	200 bar	10 bar	30 m3/h	O3	G 5/8" RH (M)	M16x1.5 RH	2 gauges (63 mm)
0783956	OXYGEN	200 bar	6 bar	15 m3/h	O2	G 5/8" RH (M)	M16x1.5 RH	2 gauges (63 mm)
0783957	ACETYLENE	25 bar	1.5 bar	5 m3/h	A2	G 5/8" LH (M)	M16x1.5 LH	2 gauges (63 mm)
0783958	NEUTRAL (Ar/N/He)	200 bar	10 bar	30 m3/h	N3	G 5/8" RH (M)	M16x1.5 RH	2 gauges (63 mm)
0783959	CO2	200 bar	20 bar	60 m3/h	N5	G 5/8" RH (M)	M16x1.5 RH	2 gauges (63 mm)
0783960	ARGON / CO2	200 bar	N/A	3-30 l/min	N10	G 5/8" RH (M)	M16x1.5 RH	2 gauges (63 mm)
0783961	ARGON / CO2	200 bar	N/A	3-30 l/min	N10	G 5/8" RH (M)	M16x1.5 RH	1 gauge + flowmeter
0783962	HYDROGEN	200 bar	10 bar	30 m3/h	H3	G 5/8" LH (M)	M16x1.5 LH	2 gauges (63 mm)

* M-male, F-female

** 300 bar inlet pressure products available on the request.

FIXICONTROL - MEDIUM DUTY SINGLESTAGE CYLINDER REGULATORS

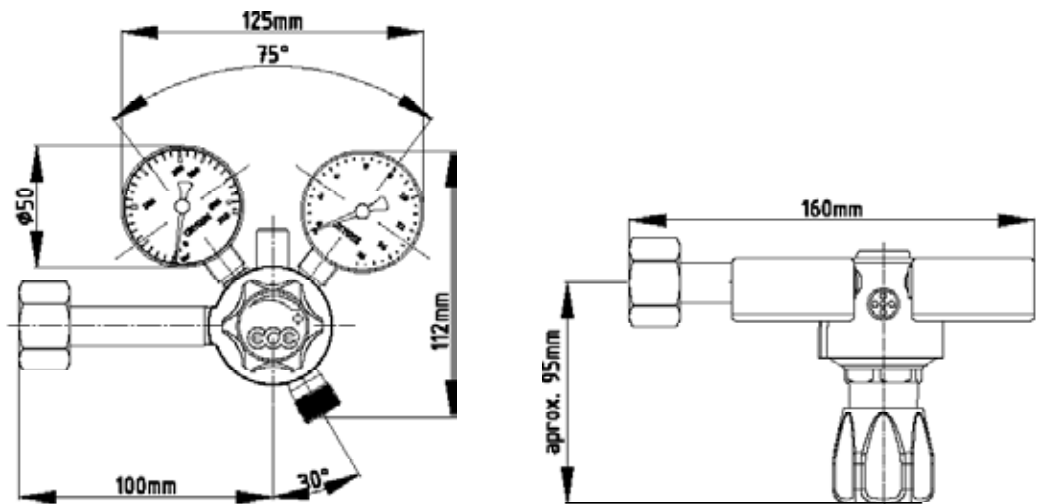
As with all other GCE regulators, the medium duty FixiCONTROL fully conforms with all paragraphs of The International Standard ISO2503. FixiCONTROL regulators are the optimal solution for customers working with mid-range oxy-fuel cutting & welding equipment (cutting steel thickness up to 200 mm) or for customers who are using a shielding gas supply for less demanding arc-welding applications.

These regulators have both body and bonnet made of high-quality forged + chemically stabilized brass. Both inlet and outlet pressure / flow are measured and indicated by two 50mm pressure gauges. The regulator itself and all downstream devices are protected by an integrated non-adjustable Pressure Relieve Valve.

These regulators are independently type-tested and certified by BAM Berlin (The German State Testing Institute) to work safely with up to 200 bar inlet pressure.



DIMENSIONS SCHEME



TECHNICAL DATA

Body	Forged Brass, chemically stabilized
Bonnet	Forged Brass, chemically stabilized
Diaphragm	Diam. 43 mm, fabric-reinforced EPDM rubber
Heart Valve	Encapsulated unit, brass body sealed by PA or high-grade chloroprene rubber
Pressure Gauges	Non-bulkhead 50mm gauges, class 2,5%, scale calibrated in Bar
Inlet Stem & Nut	Brass, geometry complying with GB 15383 Chinese Standard
Safety Valve:	Non-adjustable, plastic housing
Control elements	Ergonomic PA control knob, captive pressure adjusting screw
Weight	approx. 1.1 kg

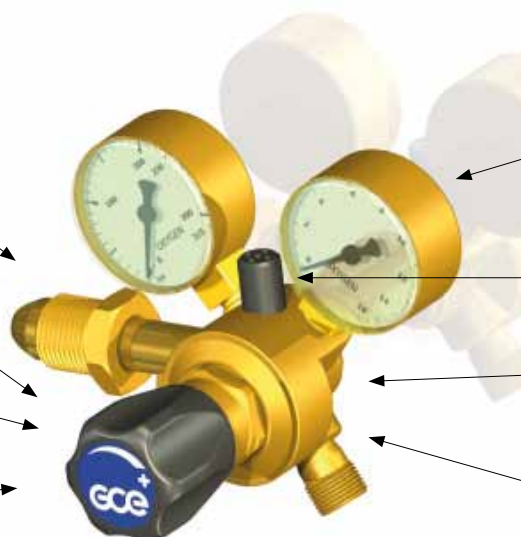
PRODUCT FEATURES

Inlet Connections exactly complying with GB 15383 Chinese Standard

Non-detachable Ergonomic Plastic control knob

Max. Outlet pressure locked for operation safety

Color Coded Control Elements



Precise & Easy Legible 50 mm Gauges

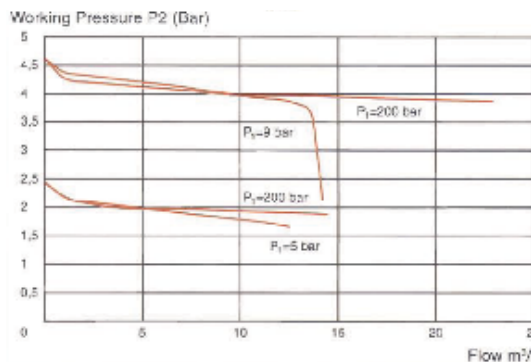
Safety valve located on top side of body – not adjustable for operation safety

Technical Data permanently marked on body

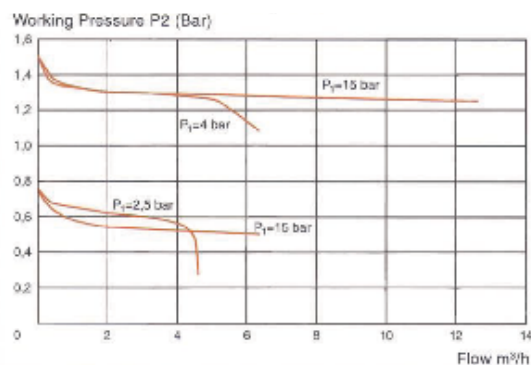
Body and Bonnet forged from high-quality Brass

REGULATOR PARAMETERS

OXYGEN



ACETYLENE



The capacity graphs show the outlet pressure as a function of the flow rate at different inlet pressures.

PRODUCT VARIANTS



Art. Nr.	Gas	Max inlet pressure	Outlet pressure	Nominal flowrate	ISO 2503 class	Inlet connection	Outlet connection	Pressure/flow indication
0871010	OXYGEN	150 bar	6 bar	15 m ³ /h	O2	G 5/8" RH (F)	M16x1.5 RH	2 gauges (50 mm)
0871011	ACETYLENE	25 bar	1,5 bar	5 m ³ /h	A2	Yoke	M16x1.5 LH	2 gauges (50 mm)
0871012	AIR	150 bar	6 bar	15 m ³ /h	D2	G 5/8" RH (F)	M16x1.5 RH	2 gauges (50 mm)
0871013	NEUTRAL (Ar/N/He)	150 bar	6 bar	15 m ³ /h	N2	G 5/8" RH (F)	M16x1.5 RH	2 gauges (50 mm)
0871014	ARGON / CO2	150 bar	N/A	3-30 m ³ /h	N10	G 5/8" RH (F)	M16x1.5 RH	2 gauges (50 mm)

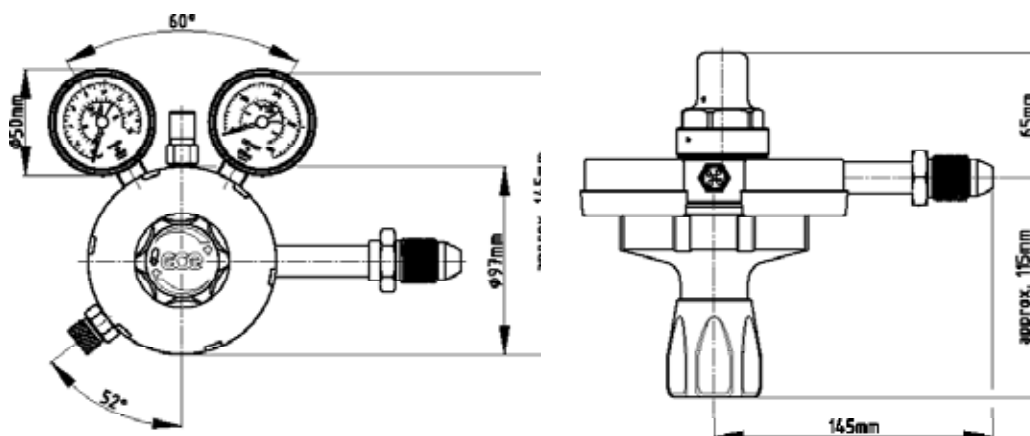
S2+ MULTISTAGE - HEAVY DUTY DOUBLESTAGE CYLINDER REGULATORS

GCE multi-stage regulators are designed to provide accurate, fluctuation free delivery for precision applications such as machine cutting or laboratory use. The first stage reduces the inlet pressure by over 90% and the large second stage diaphragm ensures accurate delivery pressure. GCE multistage 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.



DIMENSIONS SCHEME



TECHNICAL DATA

Body	Forged Brass, chemically stabilized and gold powder-painted
First stage Bonnet	Forged Brass, chemically stabilized and powder painted
Second stage Bonnet	Die-cast Zinc alloy, chemically stabilized and powder painted
First stage Diaphragm	Diam. 40 mm, pre-shaped stainless steel
Second stage Diaphragm	Diam. 82 mm EPDM fabric-reinforced rubber
Heart Valves	Brass body sealed by PA (first stage) or high-grade chloroprene rubber (second stage)
Pressure Gauges	Safe design, bulkhead 50mm gauges, dual scales, accuracy class 2,5%
Inlet Stem & Nut	High-tensile brass, geometry complying with GB 15383 or BS-341 standard
Safety Valves	On both regulator stages, non-adjustable,
Control elements	Plastic handwheel + captive pressure adjusting screw
Setting	Ergonomic PA handwheel, adjustable limitation of P2 max
Weight	approx. 2.55 kg

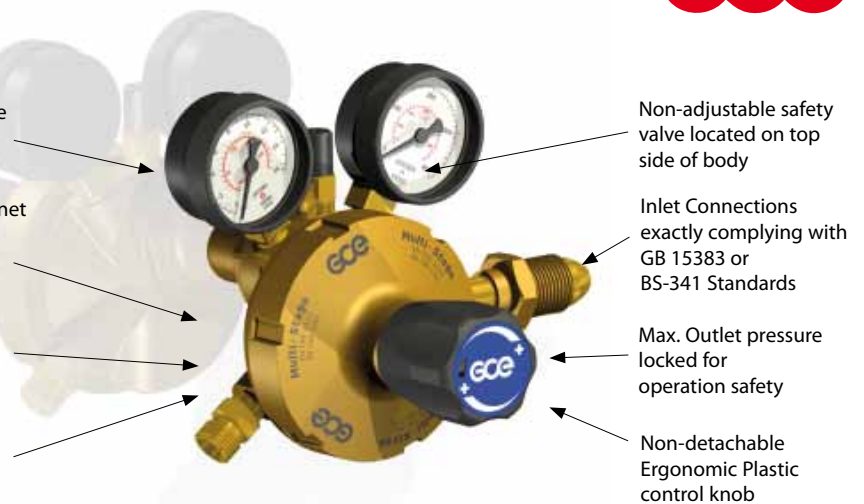
PRODUCT FEATURES

Top-safe & Accurate Bulkhead 50 mm Gauges

Body and 1st. Bonnet forged from high-quality Brass

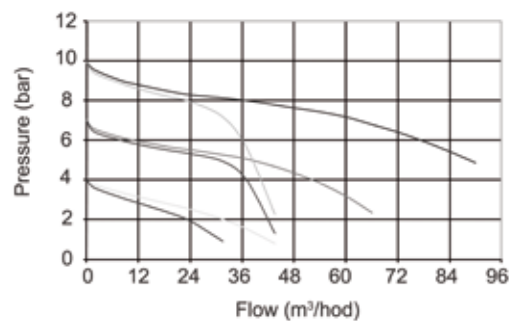
Technical Data permanently marked on body

Powder-painted surface for high corrosion resistance

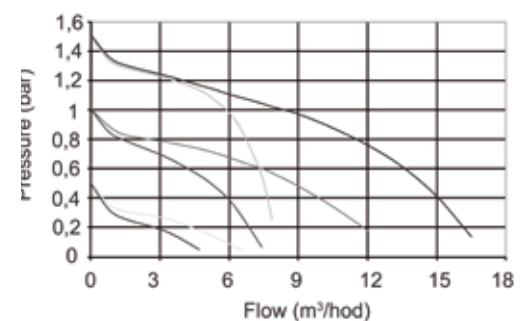


REGULATOR PARAMETERS

OXYGEN



ACETYLENE



150 BAR SERVICE

Art. Nr.	Gas	Max inlet pressure	Outlet pressure	Nominal flowrate	ISO 2503 class	Inlet connection	Outlet connection	Pressure/flow indication
0772038	OXYGEN	150 bar	0-10 bar	30 m3/h	O3	G 5/8" RH (F)	M 16x1.5 RH	2 gauges (63 mm)
0772039	ACETYLENE	25 bar	0-1.5 bar	5 m3/h	A2	Yoke	M 16x1.5 LH	2 gauges (63 mm)
0772040	NEUTRAL (Ar/N/He)	150 bar	0-10 bar	30 m3/h	N3	G 5/8" RH (F)	M 16x1.5 RH	2 gauges (63 mm)
0772041	CO2	150 bar	0-10 bar	30 m3/h	N	G 5/8" RH (F)	M 16x1.5 RH	2 gauges (63 mm)
0772042	ARGON flow gauge	150 bar	N/A	3-30 l/min	N10	G 5/8" RH (F)	M 16x1.5 RH	2 gauges (63 mm)
0772043	CO2 flow gauge	150 bar	N/A	3-30 l/min	N10	G 5/8" RH (F)	M 16x1.5 RH	2 gauges (63 mm)
0772044	HYDROGEN	150 bar	0-10 bar	30 m3/h	H3	W 21.8x1/14" LH	M 16x1.5 LH	2 gauges (63 mm)

200 BAR SERVICE

Art. Nr.	Gas	Max inlet pressure	Outlet pressure	Nominal flowrate	ISO 2503 class	Inlet connection	Outlet connection	Pressure/flow indication
0772045	OXYGEN	230 bar	0-10 bar	30 m3/h	O3	G 5/8" RH Male	M 16x1.5 RH	2 gauges (63 mm)
0772046	NEUTRAL (Ar/N/He)	230 bar	0-10 bar	30 m3/h	N3	G 5/8" RH Male	M 16x1.5 RH	2 gauges (63 mm)
0772047	O2	230 bar	0-10 bar	30 m3/h	N	G 5/8" RH Male	M 16x1.5 RH	2 gauges (63 mm)
0772048	ARGON flow gauge	230 bar	N/A	3-30 l/min	N10	G 5/8" RH Male	M 16x1.5 RH	2 gauges (63 mm)
0772049	CO2 flow gauge	230 bar	N/A	3-30 l/min	N10	G 5/8" RH Male	M 16x1.5 RH	2 gauges (63 mm)
0772050	HYDROGEN	230 bar	0-10 bar	30 m3/h	H3	G 5/8" Male LH	M 16x1.5 LH	2 gauges (63 mm)

* M-male, F-female.

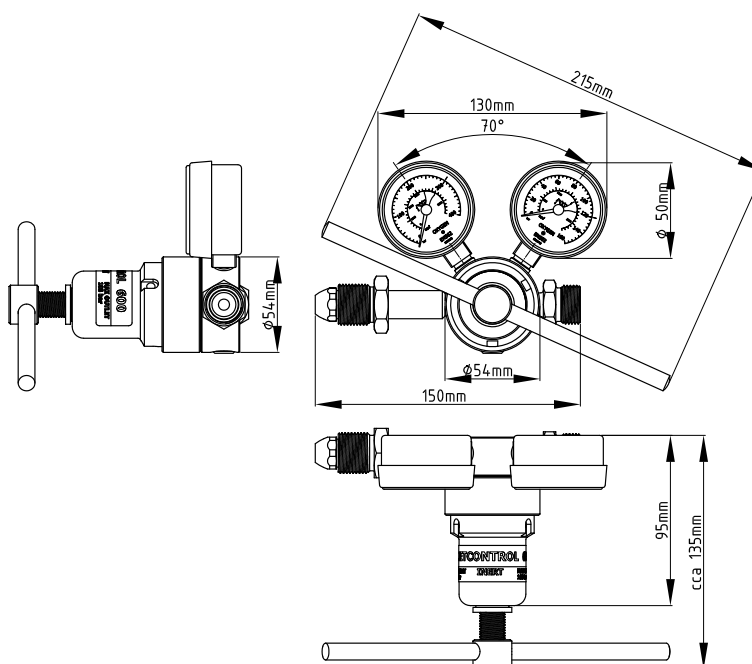
** 300 bar inlet pressure products available on request.

JETCONTROL 600 - HIGH PRESSURE CYLINDER REGULATORS

JETCONTROL 600 are single stage, two gauge cylinder regulators extensively used in oil refineries, laboratories or industrial processes requiring precise and stable delivery of high pressure industrial gasses. 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 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 regulators.



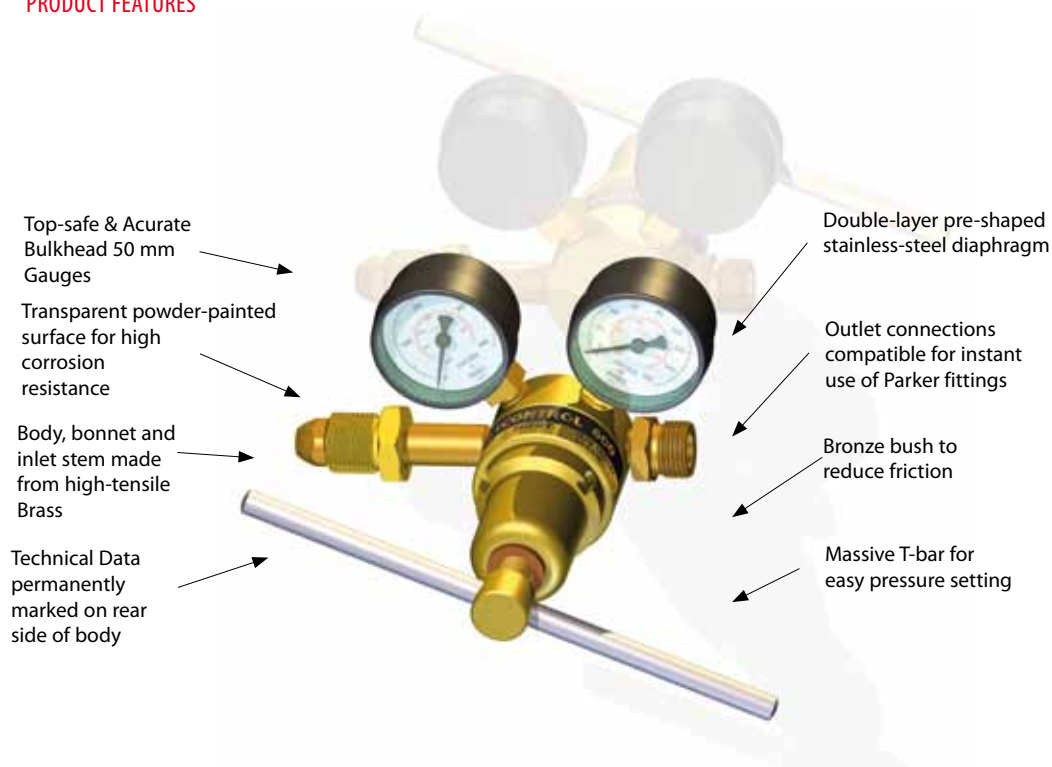
DIMENSIONS SCHEME



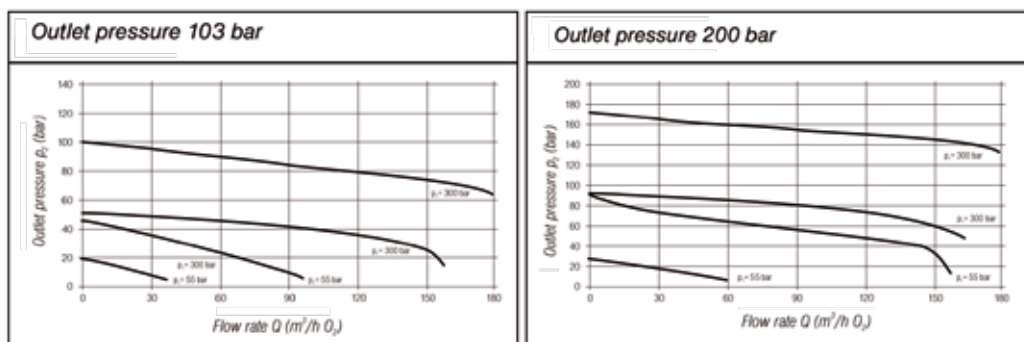
TECHNICAL DATA

Body	High-tensile brass, chemically stabilized and transparent powder-painted
Bonnet	Brass, chemically stabilized and transparent powder-painted
Diaphragm	Two-layer, diam. 40 mm, pre-shaped stainless steel
Heart Valves	Brass body sealed by high-grade PA
Pressure Gauges	Safe design, bulkhead 50mm gauges, scale in Bar, accuracy class 2,5%
Inlet Stem & Nut	High-tensile brass, geometry complying with BS-341 standard
Safety Valve	Not-present, must be an independent part of downstream gas line
Pressure Setting	Stainless steel T-bar, brass pressure adjusting screw in bronze bush

PRODUCT FEATURES



REGULATOR PARAMETERS

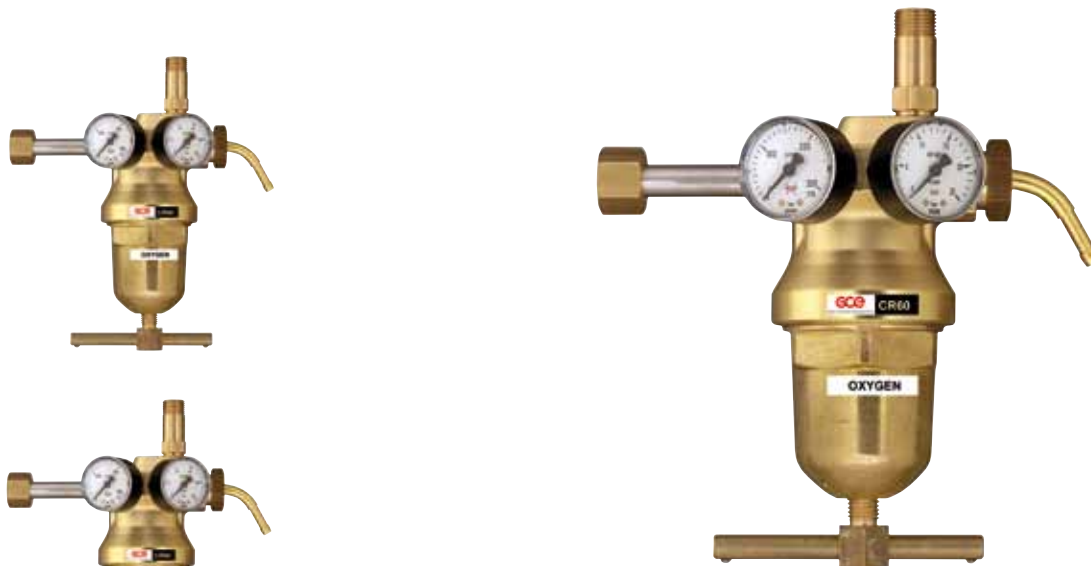


Art. Nr.	Gas	ISO 250 Class	Inlet pressure	Outlet pressure	Inlet Connection	Outlet connection	Pressure/ Flow Indication
0766021	OXYGEN	N/A	150 bar	150 bar	G 5/8" RH (F) - GB15383-94	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)
0766022	OXYGEN	N/A	200 bar	200 bar	G 5/8" RH bulnose (M)	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)
0766023	OXYGEN	N/A	150 bar	100 bar	G 5/8" RH (F) - GB15383-94	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)
0766024	OXYGEN	N/A	200 bar	100 bar	G 5/8" RH bulnose (M)	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)
0766025	NEUTRAL (Ar/N/He)	N/A	150 bar	150 bar	G 5/8" RH (F) - GB15383-94	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)
0766026	NEUTRAL (Ar/N/He)	N/A	200 bar	200 bar	G 5/8" RH bulnose (M)	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)
0766027	NEUTRAL (Ar/N/He)	N/A	150 bar	100 bar	G 5/8" RH (F) - GB15383-94	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)
0766028	NEUTRAL (Ar/N/He)	N/A	200 bar	100 bar	G 5/8" RH bulnose (M)	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)
0766029	HYDROGEN	N/A	150 bar	150 bar	G 5/8" LH (F) - GB15383-94	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)
0766030	HYDROGEN	N/A	200 bar	200 bar	G 5/8" LH bulnose (M)	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)
0766031	HYDROGEN	N/A	150 bar	100 bar	G 5/8" LH (F) - GB15383-94	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)
0766032	HYDROGEN	N/A	200 bar	100 bar	G 5/8" LH bulnose (M)	W21,8x1/14" + 6mm nipple	2 gauges (50 mm)

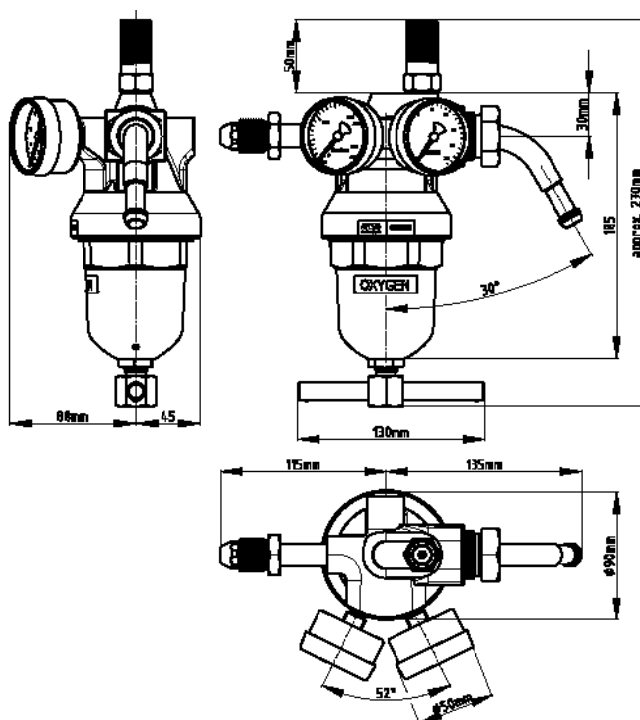
CR60 - HIGH FLOW CYLINDER REGULATORS

The high-flow CR60 pressure regulators have considerably higher capacity than other common cylinder regulators and are designed for use when particularly large flows of gas are required. The large diaphragm, physically separated from the main gas stream provides the regulator with its outstanding performance, excellent parameters and high freeze resistance.

The valve seats are made of material specially selected for use with all common industrial gases. Robust brass body and bonnet combined with stainless-steel inlet stem predetermines CR60 for heavy duty applications even in harsh industrial environments. All CR60 regulators are equipped with independently set and tested safety valves and each piece of CR60 has been individually tested before delivery.



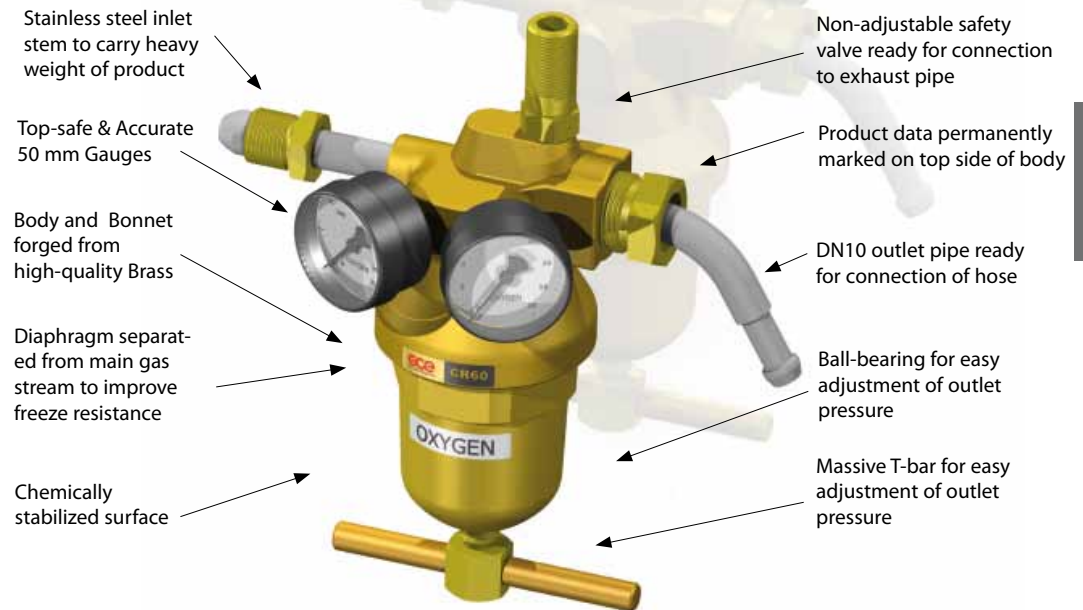
DIMENSIONS SCHEME



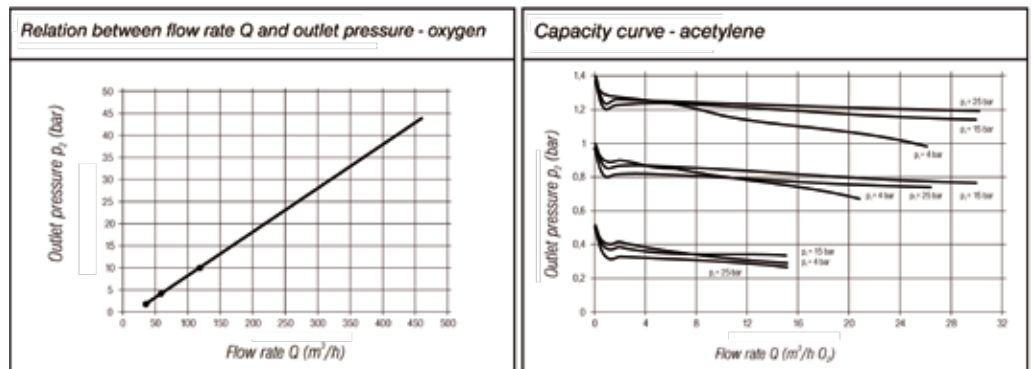
TECHNICAL DATA

Body	Forged brass, chemically stabilized and electro-polished
Bonnet	Forged brass, chemically stabilized and electro-polished
Diaphragm	Diam. 78 mm, two-layer, fabric reinforced EPDM rubber
Heart Valves	Stainless steel body sealed by high-grade PTFE
Pressure Gauges	Safe design, bulkhead 50mm gauges, scale in Bar, accuracy class 2,5%
Inlet Stem & Nut	High-tensile brass, geometry complying with BS-341 standard
Safety Valve	Not-present, must be a independent part of downstream gas line
Pressure Setting	Stainless steel T-bar, brass pressure adjusting screw in bronze bush

PRODUCT FEATURES



REGULATOR PARAMETERS



Art. Nr.	Gas	ISO 2503 Class	Inlet pressure	Outlet pressure	Inlet connection	Outlet connection	Pressure/flow indication
0762917	OXYGEN	N/A	150 bar	15 bar	G 5/8" RH (F)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)
0762918	OXYGEN	N/A	200 bar	15 bar	G 5/8" RH bulnose (M)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)
0762919	OXYGEN	N/A	150 bar	50 bar	G 5/8" RH (F)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)
0762920	OXYGEN	N/A	200 bar	50 bar	G 5/8" RH bulnose (M)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)
0762921	NEUTRAL (Ar/N/He)	N/A	150 bar	15 bar	G 5/8" RH (F)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)
0762922	NEUTRAL (Ar/N/He)	N/A	200 bar	15 bar	G 5/8" RH bulnose (M)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)
0762923	NEUTRAL (Ar/N/He)	N/A	150 bar	50 bar	G 5/8" RH (F)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)
0762924	NEUTRAL (Ar/N/He)	N/A	200 bar	50 bar	G 5/8" RH bulnose (M)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)
0762925	HYDROGEN	N/A	150 bar	15 bar	G 5/8" LH (F)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)
0762926	HYDROGEN	N/A	200 bar	15 bar	G 5/8" LH bulnose (M)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)
0762927	HYDROGEN	N/A	150 bar	50 bar	G 5/8" LH (F)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)
0762928	HYDROGEN	N/A	200 bar	50 bar	G 5/8" LH bulnose (M)	G 1" RH + 8mm hose addaptor	2 gauges (50 mm)

SPECIAL PURPOSE REGULATORS

"M600" SERIES



"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.	Type	Gas	Entry	Inlet (bar)	Outlet (bar)	Flow m ³ /h
0762398	M 600	CO ₂	side	200	41	80
0762397	M 600	Flammable	bottom	300	41	108
0762396	M 600	Inert	bottom	300	41	108
0762377	M 600	Inert	side	300	41	108
0762399	M 600	Oxygen	bottom	230	41	100

"OR14" SERIES



"OR14" series – offering some of the highest flows in the GCE 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.	Type	Gas	Entry	Inlet (bar)	Outlet (bar)	Flow m ³ /h
0783595	HR 14	Hydrogen	rear	230	14	450
0783594	OR 14	Oxygen	rear	230	14	120

"S151" SERIES



"S151" series – this pipeline regulator is ideal for tank systems, 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.	Type	Gas	Inlet thread	Outlet thread	Entry	Inlet (bar)	Outlet (bar)
0772037	S 151	Oxygen	G1"	G3/4"	rear	24	10



FLASHBACK ARRESTORS

SAFETY EQUIPMENT

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 devices able to minimize this serious risk.

FLASHBACK

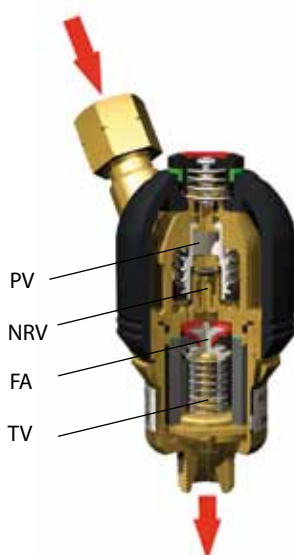
A flashback is a momentary or sustained retrogression of the flame upstream of the mixer, usually in the torch or hoses. This is a potentially dangerous situation, particularly if the flame reaches the hoses, where an explosion will occur, causing a rupture or separation of the hose.

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:



NON-RETURN VALVE (NRV)

Device which prevents the passage of gas in the opposite direction to normal flow. NRV is an essential unit preventing gas back flow.

FLAME ARRESTOR (FA)

Unit designed to extinguish fire and stop burning propagation by high heat dissipation when passing internal FBA sintered filter. A negative feature of every sintered Flame Arresting filter is flow restriction and pressure drop which gets worse when the filter gets clogged by gas impurities or burning products.

TEMPERATURE-SENSITIVE CUT-OFF VALVE (TV)

Device which stops gas flow if the surrounding or internal temperature reaches a specific level. The flow is stopped by a spring valve actuated by the melting of a thermal fuse and is not resettable.

PRESSURE SENSITIVE CUT-OFF VALVE (PV)

Device which stops the gas flow in case of a reverse-pressure wave travelling upstream through the system towards FBA. The pressure sensitive valve on a GCE FBA is resettable.

Check valves and FBA are not designed to substitute proper practice for safe operation. Thorough training and 100% focus on operation is irreplaceable. All the same a flashback arrestor – if properly chosen and installed effectively prevents a flashback from invading the gas supply system or cylinder.

HOSE CHECK VALVES



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. Maximal working pressure of BV12 checkvalves is 15 Bar which makes products suitable even for heavy-duty applications like flame straightening or machine cutting torches. BV12 checkvalves are recommended to be used in combination with 2 or 3-function GCE flashback arrestors applied on the regulator side of the hose.

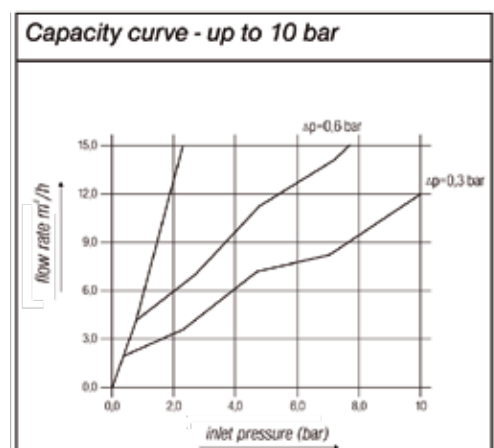
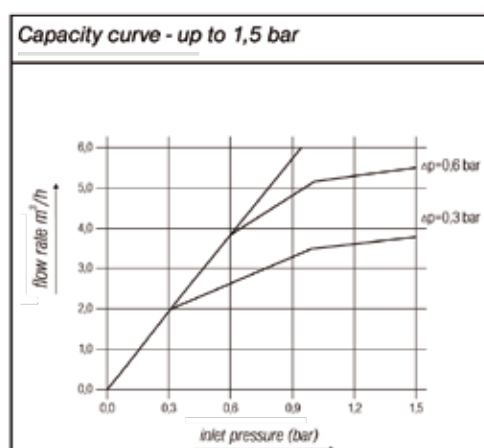
Art. Nr.	Gas	Description	Application	Safety functions	Max operation pressure	Connection thread	Weight
0764436	OXY	BV12-6,3mm / M16x1,5 RH	Torch mounted	1-function - NRV	15 bar	M16x1.5 RH	0,10 kg
0764437	FUEL	BV12-6,3mm / M16x1,5 LH	Torch mounted	1-function - NRV	15 bar	M16x1.5 LH	0,10 kg
0764438	OXY	BV12-8mm / M16x1,5 RH	Torch mounted	1-function - NRV	15 bar	M16x1.5 RH	0,10 kg
0764439	FUEL	BV12-8mm / M16x1,5 LH	Torch mounted	1-function - NRV	15 bar	M16x1.5 LH	0,10 kg

FR20 - 2 FUNCTION FLASHBACK ARRESTORS

FR20 is a robust but lightweight torch flashback arrestor specially designed for torch fitting. Its all-brass design and high-grade soft sealing elements makes FR20 fully compatible with all common technical gases. The unit incorporates the following features:

- FA SINTERED FLASH ARRESTOR element to quench a flashback.
- NV NON-RETURN VALVE to prevent reverse flow of gases.

High capacity sintered metal filter prevents foreign matter entering the unit but guarantees capacity enough for all manual and medium-duty machine cutting applications. All FR20 flashback arrestors conform to EN 730.



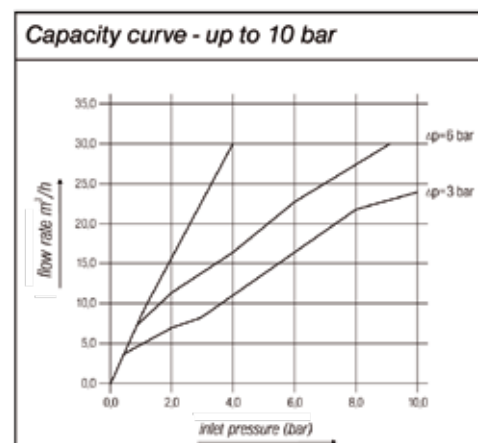
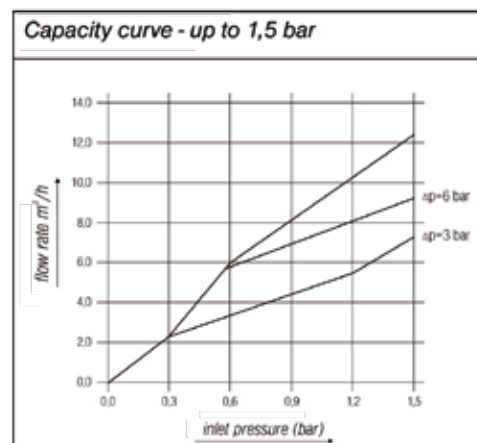
Art. Nr.	Gas	Description	Application	Safety functions	Max operation pressure	Connection thread	Weight
0764440	OXY	Flashback Arrestor FR20 T OXY	Torch mounted	2-functions - NRV, FA	10 bar	M16x1.5 RH	0.13 kg
0764441	FUEL	Flashback Arrestor FR20 T FUEL	Torch mounted	2-functions - NRV, FA	5 bar*	M16x1.5 LH	0.13 kg

* ACE / 1.5 bar

FR34 - 3 FUNCTION FLASHBACK ARRESTORS

The FR34 flashback arrestors are basic models of 3-function FBA designed to be mounted on the regulator side. Flow capacity of FR34 is sufficient for a whole range of manual cutting or welding applications and even for basic machine cutting up to 200 mm. These arrestors fully comply with EN730 and ISO 5175. FR34 offer three safety functions:

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



Art. Nr.	Gas		Application	Safety functions	Max operation pressure	Connection thread	Weight
0764442	OXY	Flashback Arrestor FR34 R OXY	Regulator mounted	3-functions - NRV, FA, TV	15 bar	M16x1.5 RH	0.16 kg
0764443	FUEL	Flashback Arrestor FR34 R FUEL	Regulator mounted	3-functions - NRV, FA, TV	5 bar*	M16x1.5 LH	0.16 kg

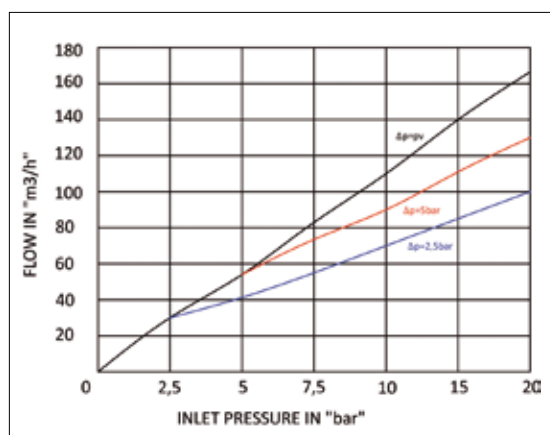
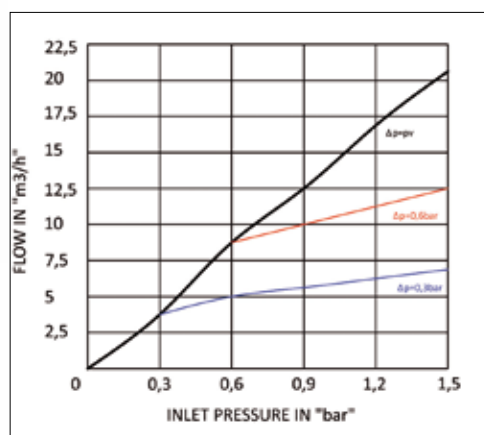
* ACE / 1.5 bar, H / 3.5 bar

* ACE / 1.5 bar, H / 3.5 bar

FR91N - 3 FUNCTION HIGH FLOW FLASHBACK ARRESTORS

The FR91N are for regulator mounting has been redesigned incorporating an improved sintered filter and thermal trip device. Complies with EN730.

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



Art. Nr.	Gas		Application	Safety functions	Max operation pressure	Connection thread	Weight
0764444	OXY	Flashback Arrestor FR91N OXY	Regulator mounted	3-functions - NRV, FA, TV	15 bar	M16x1.5 RH	0.35 kg
0764445	FUEL	Flashback Arrestor FR91N FUEL	Regulator mounted	3-functions - NRV, FA, TV	5 bar*	M16x1.5 LH	0.35 kg

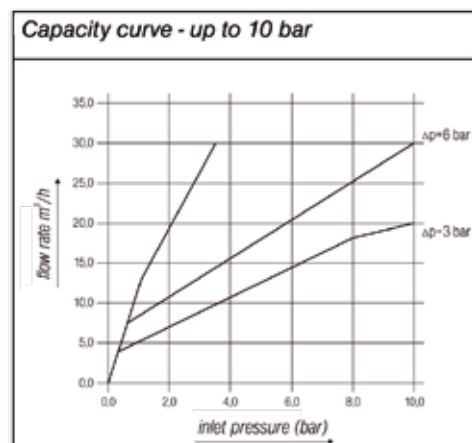
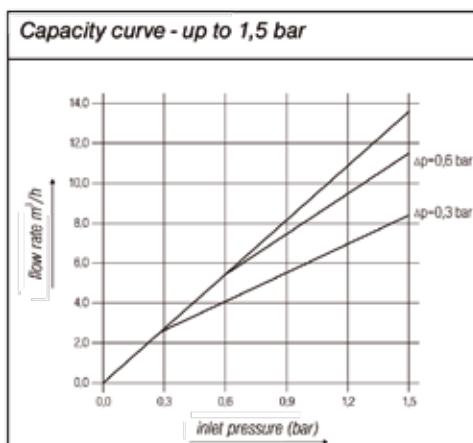
* ACE / 1.5 bar, H / 4 bar

FR50 - 4 FUNCTION HIGH FLOW FLASHBACK ARRESTORS



FR50 is a regulator mounted safety device suitable for all welding and cutting operations, fully complying with EN730, this „lift to reset“ unit incorporates the following features:

- FA Sintered flame arresting element
- NV Non return valve to prevent reverse flow of gases
- PV Pressure trip device, activated by pressure wave accompanying a flashback
- TV Thermal trip device, activated by heat to permanently cut off the gas supply
- SI Status indicator shows green when unit is ready for use. In the event of a flashback the item can be reset by lifting and releasing the bonnet.



Art. Nr.	Gas	Application	Safety functions	Max operation pressure	Connection thread	Weight
0762493	OXY	Flashback Arrestor FR50 OXY	Regulator mounted	4-functions**	10 bar	M16x1.5 RH 0.55 kg
0762494	FUEL	Flashback Arrestor FR50 FUEL	Regulator mounted	4-functions**	5 bar*	M16x1.5 LH 0.55 kg

* ACE / 1.5 bar
** NRV, FA, TV, PV

DEMAX/SIMAX - 3 FUNCTION MANIFOLD FLASHBACK ARRESTORS



The manifold (line) flashback arrestors of the SIMAX and DEMAX family are products specially designed to provide maximal flow rate with minimal pressure drop necessary for central gas manifolds or cylinder bundle supply systems.

Enormous flow capacity without any compromising of safety is achieved by the splitting of massive gas flow into several sections protected by individual flame arresting units. Sintered stainless steel filters in every unit provide flame arresting function, each of them is fitted by reliable non-returning valves and integrated thermal (melting) fuses. Individual units are arranged into compact clusters fitted by connection flanges allowing easy integration in to manifold pipelines.

Many other higher capacity variants (SIMAX 5/8...) are available on request.

To reach optimal performance and before choosing and purchasing GCE recommend consulting our experts who can give advice on your individual application.

Complies with EN730, German BAM institute tested.

SIMAX / DEMAX offers following safety functions:

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

Art. Nr.	Gas	Application	Safety functions	Max operation pressure	Connection thread	Weight
0764446	OXY	Flashback Arrestor DEMAX-3 OXY	Manifold / Pipeline	3-functions - NRV, FA, TV	10 bar	G1/2"RH 1.45 kg
0764447	FUEL	Flashback Arrestor DEMAX-3 FUEL	Manifold / Pipeline	3-functions - NRV, FA, TV	5 bar *	G1/2"LH 1.45 kg
0764448	OXY	Flashback Arrestor SIMAX-3 OXY	Manifold / Pipeline	3-functions - NRV, FA, TV	10 bar	G 1"RH 3.55 kg
0764449	FUEL	Flashback Arrestor SIMAX-3 FUEL	Manifold / Pipeline	3-functions - NRV, FA, TV	5 bar*	G 1"RH 3.55 kg-

* ACE / 1.5 bar

A welder wearing a red helmet and jacket is working on a metal piece. A large spray of sparks is emanating from the torch, which is positioned over the metal. The welder is looking down at the work. The background is a blurred industrial setting.

TORCHES AND NOZZLES

GCE COMBINED TORCHES AND CUTTERS

GCE combined torches and cutter are produced according to international standard EN ISO 5172. Whole product development in GCE is fully focused on safety, high performance and quality. GCE use just high-grade materials and skilled professionals to provide products ready to satisfy all customer requirements and needs. Our target is to help them succeed in high demanding cutting and welding business.

GCE torches must fully pass through tightness test by compressed air in water bath without any leakage.

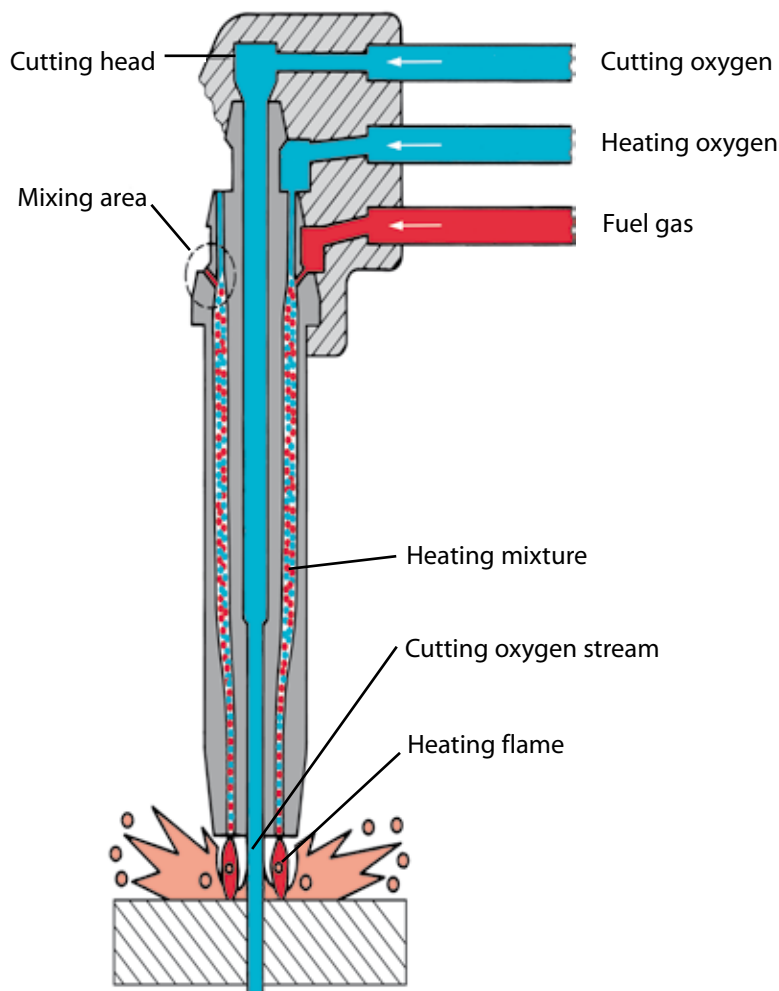
We in GCE are ready to help with special requirements and prepare customer's solution in unique applications as heating, flame cleaning, surface hardening, etc.

As a tool to satisfy all customers needs in oxy-fuel technology we offer our high performance X21 combine torch where all welding, cutting and heating attachments are available. As a solution for customers requiring powerful tool for oxy-fuel cutting we can provide X511 cutter with cutting capacity up to 500 mm. GCE provides also consumables (cutting and welding nozzles) for all above mentioned equipment.



One part of our cutting equipment works on the extremely safe nozzle-mixing principle. This means that the highly explosive preheating mixture of oxygen and fuel gas (acetylene, propane or natural gas) is mixed in very small volume only within the cutting nozzle. This solution brings important safety advantages in case of backfire or flashback caused by uneven operation. Only a very small amount of the gas mixture within the nozzle can be ignited so it is almost impossible to destroy the cutting torch by this type of incident. Despite the nozzle mixing system providing an unprecedented level of flashback resistance, GCE still strongly recommend the use of flashback arrestors to protect the operator's health and safety.

NOZZLE-MIXING SCHEME

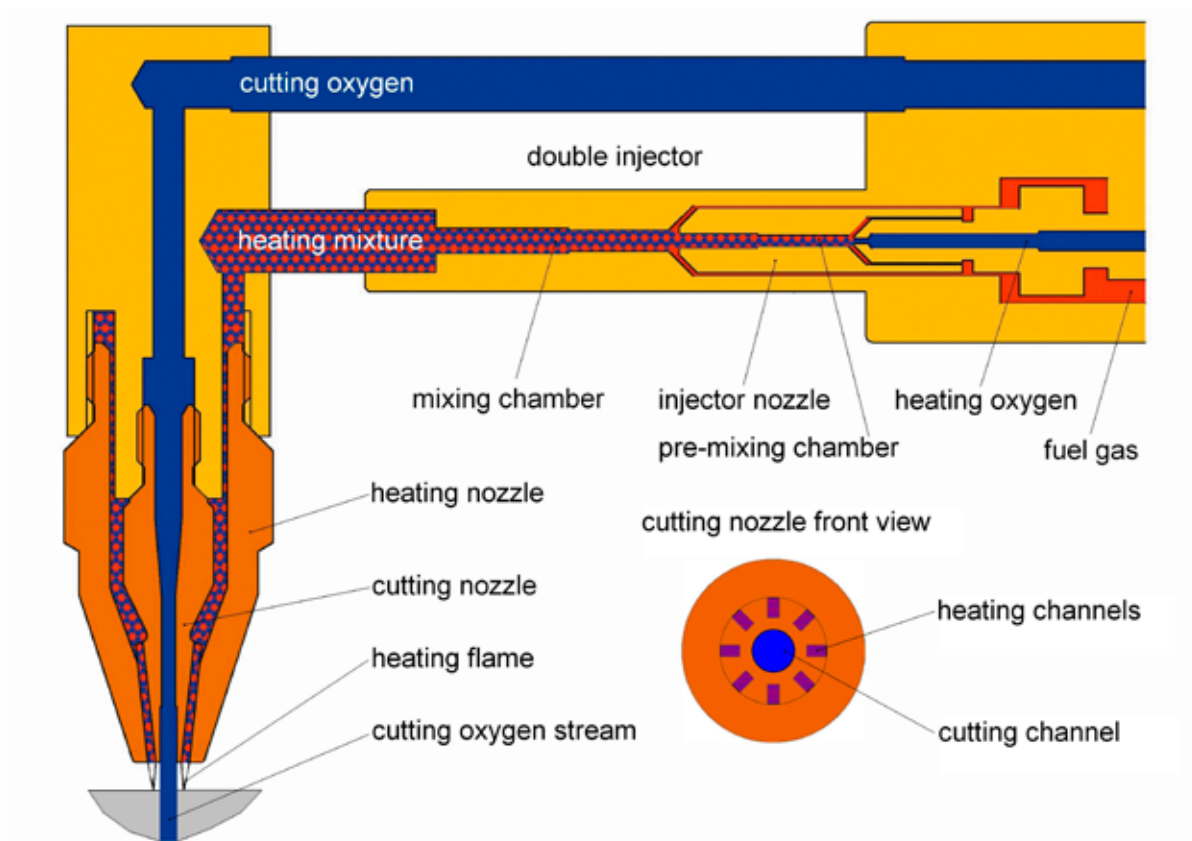


INJECTOR TORCHES

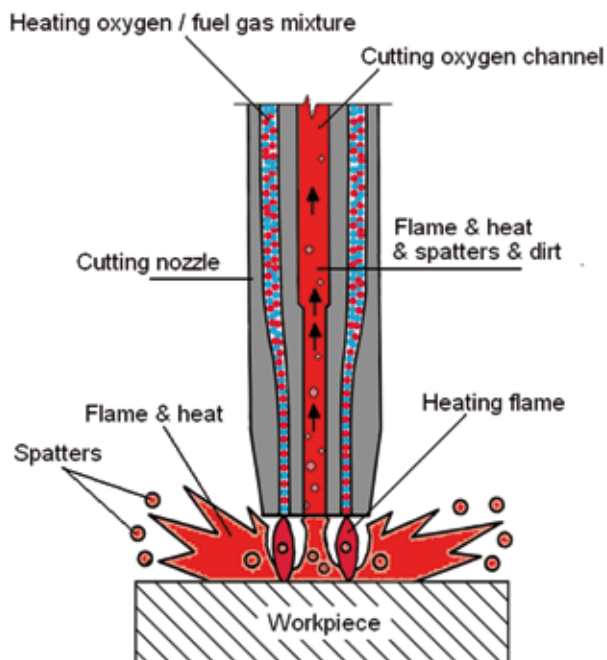
Second part of our cutting equipment works on the highly sophisticated double injector principle. This means that the highly explosive preheating mixture of oxygen and fuel gas (acetylene, propane or natural gas) is mixed in two stages which bring extremely safe function even for deeply low fuel gas pressure. This solution brings important safety advantages in case of backfire or flashback caused by uneven operation. Thanks to tight gap between injector nozzle and injector body from where fuel gas is sucked out and small hole for heating oxygen developing suction effect, is guaranteed extinction of any undesirable flame there.

Despite the double injector system providing an unprecedented level of flashback resistance, GCE still strongly recommend the use of flashback arrestors to protect the operator's health and safety.

DOUBLE INJECTOR SCHEME



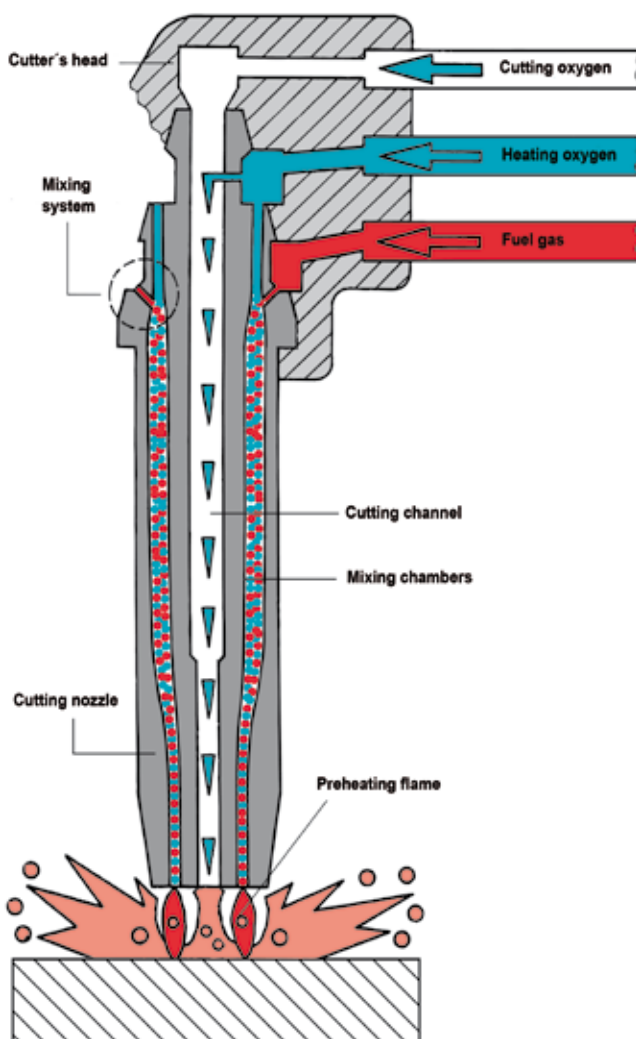
COOLEX® SYSTEM IN CUTTING NOZZLES



WHAT HAPPENS WHILE PREHEATING?

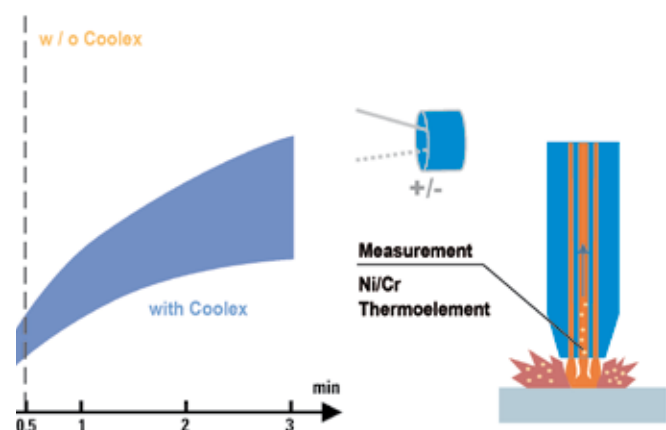
Problems with conventional cutting tools

- hot gases streaming into the cutting channel
- cutting channel gets dirty
- spatter will fasten on hot nozzle surface



COOLEX® SYSTEM WORKS IN PREHEATING PROCESS

- Decrease nozzle temperature
- Keep cutting channel clean
- Increase cutting performance
- Increase cutting nozzle lifetime



CUTTING AND WELDING SETS

Fully equipped CW X21 set with Coolex® cutting nozzles up to 60 mm and welding ability from 0,5 mm to 14 mm. Flashback arrestors FR34 R guarantee system safety and wide range of accessories help keep X21 set working in all conditions.

Art. Nr.	Description
0764342	Set X21 Professional, 150 bar
0764344	Set X21 Professional, 200 bar

TECHNICAL DATA

Shank X21 Oval	
Cutting attachment	
6 Welding attachments:	0,5 - 1 mm
	1 - 2 mm
	2 - 4 mm
	4 - 6 mm
	6 - 9 mm
	9 - 14 mm
3 Cutting nozzles Coolex®:	10 - 25 mm
	25 - 40 mm
	40 - 60 mm
Regulator DinCONTROL Oxygen	
Regulator DinCONTROL Acetylene	
Double hose 5 m	
FBA FR34 R Oxygen	
FBA FR34 R Fuel gas	
Accessories:	Cleaning needles
	Lighter
	Goggles
	Gloves

Basic CW X21 set with selection of most common equipment for cutting up to 40 mm and welding from 1 mm to 9 mm. Flashback arrestors FR34 R guarantee system safety.

Art. Nr.	Description
0764343	Set X21 Basic, 150 bar
0764345	Set X21 Basic, 200 bar

TECHNICAL DATA

Shank X21 Oval	
Cutting attachment	
4 Welding attachments:	1 - 2 mm
	2 - 4 mm
	4 - 6 mm
	6 - 9 mm
2 Cutting nozzles Coolex®:	10 - 25 mm
	25 - 40 mm
Regulator UniCONTROL Oxygen	
Regulator UniCONTROL Acetylene	
Double hose 5 m	
FBA FR34 R Oxygen	
FBA FR34 R Fuel gas	
Accessories:	Cleaning needles
	Lighter
	Goggles

X 21

SHANK X 21 OVAL

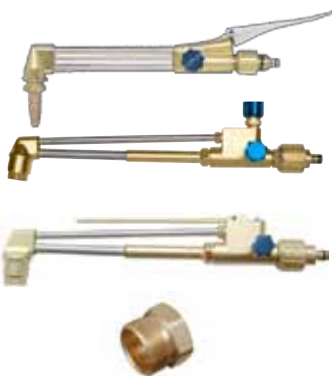
Stabile ergonomically shaped forged aluminium shank. Color coded aluminium valve knobs for easy regulation. Valves with stainless steel spindles for long lifetime.



Art. Nr.	Description	Oxygen	Fuel gas
0766278	X21 shank	M16x1,5	M16x1,5LH

CUTTING ATTACHMENT X 21

Forged body and head connected by stainless steel tubes provide stabile performance for cutting steel thickness up to 300 mm.

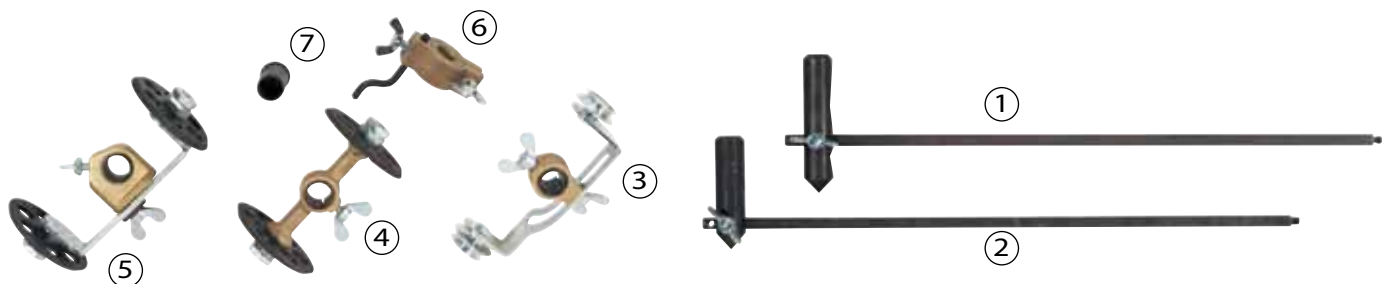


Art. Nr.	Description	Head angle	
0767947	290 mm	180°	Nozzle mix
0767940	290 mm	75°	Nozzle mix
0767941	290 mm	90°	Nozzle mix
0764124	290 mm	90°	Injector
0764123	290 mm	90°	Injector

4181840	Nozzle nut for nozzle mix	
4182790P	Nozzle nut for injector	5 pcs in package

ACCESSORIES

Art. Nr.	Description	Position
219100280	Radius arm with centre point, big wheel	1
548219100297P	Radius arm with centre point, small wheel	2
214100454	Twin wheel cutting guide, small wheels	3
548219100295	Twin wheel cutting guide, big wheels	4
219100296	Twin wheel cutting guide, big wheels for bevel cutting	5
202130143	Hole cutting support	6
548219100509	Insert	7



WELDING ATTACHMENT X 21



Art. Nr.	Description	Acetylene flow (l/h)	Welding thickness (mm)
99389430P	Size 0A	40	0,2 - 0,5
9389440P	Size 1A	80	0,5 - 1
9389450P	Size 2A	160	1 - 2
9389460P	Size E2A	230	1,5 - 3
9389470P	Size 3A	315	2 - 4
9389480P	Size E3A	400	3,5 - 5
9389490P	Size 4A	500	4 - 6
9389500P	Size E4A	650	5 - 7
9389510P	Size 5A	800	6 - 9
9389520P	Size E5A	1000	8 - 12
9389530P	Size 6A	1250	9 - 14
9389540P	Size 7A	1800	14 - 20
9389550	Size 8A	2500	20 - 30
219100228	Size 9A	5000	30 - 50
4184620P	Connection nut X 21	5pcs in package	

HEATING ATTACHMENTS X 21



Art. Nr.	Fuel	Nozzle size	Fuel gas flow
202232217	Propane	5S	1000 l
202232218	Propane	D2	2000 l
202232219	Propane	D3	4000 l
202232220	Propane	D5	7000 l



Flame picture for nozzle D

CAUTION:

When heating nozzle's propane consumption is higher than 1,5 m³/h single bottle is not reliable source.
Max propane supply from a 33-kg bottle = approximately 1,6 m³/h.
Reliable function of these torch is guaranteed just with supply from propane bundle or tank!



Art. Nr.	Fuel	Nozzle size	Fuel gas flow
202232210	Acetylene	6	1000 l
202232211	Acetylene	7	2500 l
202232212	Acetylene	9	5000 l



Flame picture for nozzle 7 and 9

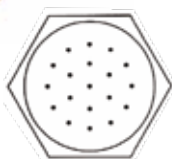
CAUTION:

When the torch head size is 7 and 9 acetylene consumption is too high for single bottle.
Max. acetylene supply from a 50-liter bottle = approximately 1 m³/h.
Reliable function of these torch is guaranteed just with supply from acetylene bundle!

ACETYLENE HEATING NOZZLES



Nozzle size 4 and 6 with channel's location



Nozzle size 7 and 9 with channel's location

Art. Nr.	Typ	Nozzle size
14067535	NEF/B	6
14004169	NEF/B	7
14004170	NEF/B	9

TORCH PERFORMANCE DATA

Nozzle size	Oxygen pressure	Acetylene pressure (bar)	Oxygen consumption (m ³ /h)	Acetylene consumption (m ³ /h)
6	2,5	0,5	1,1	1,0
7	3,0	0,5	2,3	2,15
9	3,0	0,5	4,3	4,1

CAUTION:

When the torch head size is 7 and 9 acetylene consumption is too high for single bottle.

Max. acetylene supply from a 50-liter bottle = approximately 1 m³/h.

Reliable function of these torch is guaranteed just with supply from acetylene bundle!

HEATING NOZZLES



Nozzle 5S channel's location



Nozzle D channel's location

Art. Nr.	Nozzle size
14003133	5S
14003235	D2
14003236	D3
14003225	D5

TECHNICAL DATA

Nozzle size	Oxygen pressure	Propane pressure (bar)	Oxygen consumption (m ³ /h)	Propane consumption (m ³ /h)
5S	5	0,5	3,3	1,03
D2	5	0,5	6,5	2,03
D3	6	0,8/1,3	13,0/18,6	4,0/5,5
D5	6	1,3	23	6,6

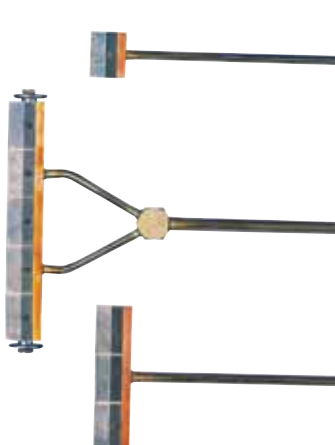
CAUTION:

When heating nozzle's propane consumption is higher than 1,5 m³/h single bottle is not reliable source.

Max propane supply from a 33-kg bottle = approximately 1,6 m³/h.

Reliable function of these torch is guaranteed just with supply from propane bundle or tank!

CLEANING TORCHES X 21



Art. Nr.	Fuel gas	Dimension
202235735	AC	50 mm
202235736	AC	150 mm
14014217	AC	150 mm with wheels
202235731	AC	250 mm

TORCH PERFORMANCE DATA

Head width (mm)	Oxygen pressure (bar)	Acetylene pressure (bar)	Oxygen consumption (m ³ /h)	Acetylene consumption (m ³ /h)
50	3	0,5	1,25	1
150	5	0,7	3,75	3
250	5	0,7	6,25	5

CAUTION:

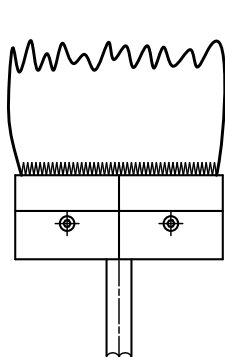
When the torch head width is 150 and 250 mm acetylene consumption is too high for single bottle.
Max acetylene supply from a 50-liter bottle = approximately 1 m³/h.
Reliable function of these torch is guaranteed just with supply from acetylene bundle!



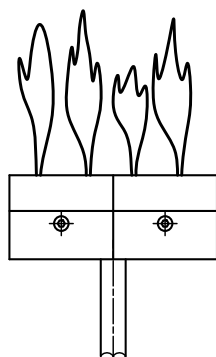
Heating heads are one-row drilled.

HOW TO USE TORCH FOR CONCRETE CLEANING

Only oxygen-acetylene flame provide the best result if set as shown bellow.



Neutral flame



Flame with excess of oxygen.
Flame colour is light blue.

FLAME CLEANING

The flame cleaning is used as surfaces preparation for protective layers or coatings application to protect material against corrosion or other stresses. The main flame cleaning usage is on steel structures, bridges, reservoirs as well as for use on concrete and natural stone.

The flame cleaning is thermal process engineering, using the acetylene-oxygen flame acting the specific mechanical-chemical way on steel surfaces to remove mill scale, rust, paint etc.

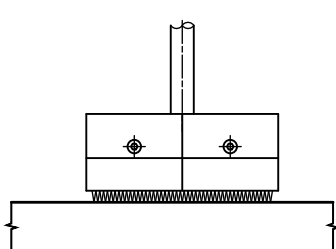
- The technological properties of steel are not changed
- Flame cleaning is environmentally friendly
- Cleaning process is reliable in any weather

Flame cleaning can easily be used from a sheet thickness from 5 mm.

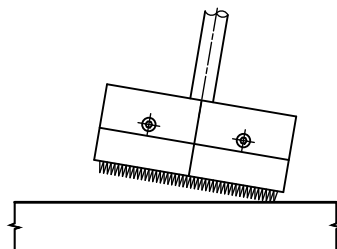
Adequate gas supply is the basis for the safe handling of flame cleaning torches!

CAUTION:

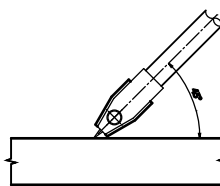
When the torch head width is 100, 150, 200 and 250 mm acetylene consumption is too high for single bottle.
Max acetylene supply from a 50-liter bottle = approximately 1 m³/h.
Reliable function of these torch is guaranteed just with supply from acetylene bundle!



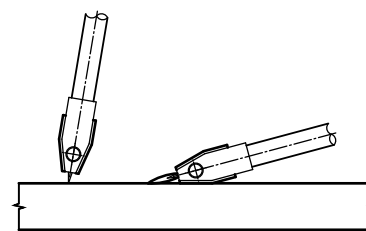
Right position



Wrong position



Right working angle



Wrong working angle

Torch carefully bring near to surface under 45° inclination.
The flame tips cone touch the surface.

HEATING NOZZLES

SUPERHEATING NOZZLES

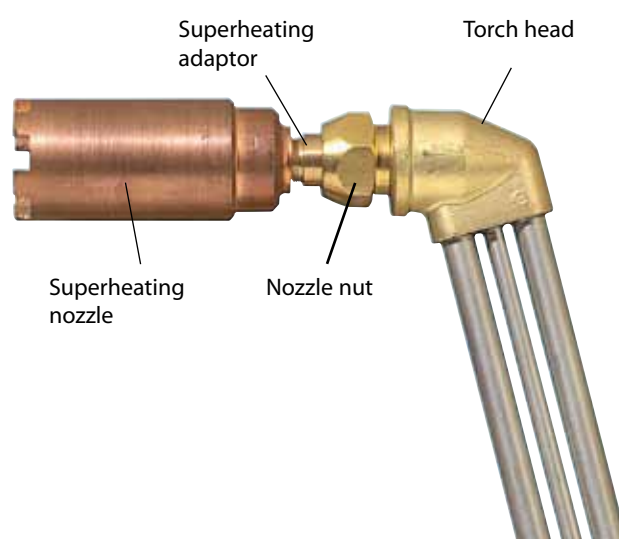


For use in cutting attachment X21 and cutter X511 in conjunction with superheating adaptor 0766256.
Fuel gas: Propan

Art. Nr.	Size	Propane flow (l/h)	Quantity
0769472	1H	1900	1
0769473	2H	2100	1
0769474	3H	4100	1
0769475	4H	4800	1
0769476	5H	7000	1
0766256	Superheating adaptor for NM Cutters		1

USAGE OF SUPERHEATING ADAPTOR

Three cone end of Superheating adaptor place into torch head and fasten by nozzle nut. After adaptor is in place take superheating nozzle and screw it on the adaptor's thread.



SUPERHEATING NOZZLE PERFORMANCE CHART

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

Nozzle Type	Propane pres. bar	Oxygen pres. bar	Propane cons. l/h	Oxygen cons. l/h	Heating power (app.) W
1H	0,14	0,7	830	350	21101
	0,49	2,1	1900	7300	47771
2H	0,21	1,1	1200	4800	29893
	0,46	2,5	2100	8700	55097
3H	0,28	1,8	2100	8300	53632
	1,1	5,0	4100	16500	105799
4H	0,35	2,5	2700	10600	69165
	1,3	5,7	4800	18800	118987
5H	0,85	3,5	3200	12700	82353
	2,1	8,7	7000	28000	181118

CAUTION

When heating nozzle's propane consumption is higher than 1,5 m³/h single bottle is not reliable source.
Max propane supply from a 33-kg bottle = approximately 1,6 m³/h.
Reliable function of these torch is guaranteed just with supply from propane bundle or tank!

X511

X511

X511 is a cutter developed to meet industry's highest demands. It is easy to handle, safe and robust. The X511 cutting torch is made for nozzle mix nozzles and has capacity for cutting 500 mm (=20 inch). All standard three cone nozzles fit.

Easy to handle

- Oval handle for positive grip.
- The valves 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 washing.
- Length, balance and profile are chosen for best control of operation.
- Low weight.

Safe and robust

- All three valves are forward mounted.
- The knob valves have a self centering stainless steel valve stem for positive seating and long life.
- A real brass cutter with stainless steel tubes.
- The control knobs are mounted by means of a spring steel pin to ensure that the knobs will not fall off by rough treatment, but still be easy to service.
- Strong metal handle.
- Large capacity.
- Accessories for all applications.



Art. Nr.	Length (mm)	Head angle	Connection	
			Oxygen	Fuel gas
0766279	470	90°	M16x1,5	M16x1,5LH
0766280	855	75°	M16x1,5	M16x1,5LH
0766281	1150	75°	M16x1,5	M16x1,5LH

CUTTING NOZZLES

AGN COOLEX®

6 heating holes, 88 mm long. Fuel gas: Acetylene



Art. Nr.	Description	Cutting thickness (mm)	Fuel gas	Packaging
0768691	AGN Coolex®	3 – 10	AC	GCE red box
0768692	AGN Coolex®	10 – 25	AC	GCE red box
0768693	AGN Coolex®	25 – 40	AC	GCE red box
0768694	AGN Coolex®	40 – 60	AC	GCE red box
0768695	AGN Coolex®	60 – 150	AC	GCE red box

Cutting thickness (mm)	Pressure Oxygen (bar)	Pressure Acetylene (bar)	Consumption Oxygen (m³/h)	Consumption Acetylene (m³/h)
3 – 10	2,5 – 3,5	0,3	1,25 – 1,65	0,3
10 – 25	3,0 – 4,0	0,3	2,12 – 3,2	0,4
25 – 40	3,5 – 4,5	0,3	3,2 – 4,45	0,45
40 – 60	4,5 – 5,0	0,5	4,5 – 5,5	0,5
60 – 150	4,5 – 5,5	0,5	8,4 – 9,8	0,6

PNME COOLEX®

9 spline inner, 88 mm long. Fuel gas: Propane



Art. Nr.	Description	Cutting thickness (mm)	Fuel gas	Packaging
0768652	PNME Coolex®	3 – 10	PM	GCE red box
0768653	PNME Coolex®	10 – 25	PM	GCE red box
0768696	PNME Coolex®	25 – 40	PM	GCE red box
0768697	PNME Coolex®	40 – 60	PM	GCE red box
0768654	PNME Coolex®	60 – 150	PM	GCE red box

Cutting thickness (mm)	Pressure Oxygen (bar)	Pressure Acetylene (bar)	Consumption Oxygen (m³/h)	Consumption Acetylene (m³/h)
3 – 10	2	0,3	2,1	0,3
10 – 25	3	0,3	3,2	0,4
25 – 40	3	0,3	5,2	0,6
40 – 60	3,5	0,3	7,4	0,8
60 – 150	3,5	0,3	13,6	1

HA317 COOLEX®

The nozzles of the HA317 Coolex® series are especially constructed for scrap cutting, and have been given the following characteristics:

- Quick starting thanks to a very efficient heating flame
- Reliability in operation and great staying power thanks to unique cooling
- Every nozzle covers a wide range of thickness, so that time-consuming nozzle changes can be avoided



The heating flame of the HA317 Coolex® nozzle is larger than on ordinary nozzles. Furthermore, the cooling flow through the cutting oxygen channel contributes to a more efficient flame, which makes the start-up time extremely short.

Art. Nr.	Description	Cutting thickness (mm)	Fuel gas	Packaging
0768560	HA317 – 1 Coolex®	3-50	AC	red plastic tube
0768561	HA317 – 2 Coolex®	50-100	AC	red plastic tube
0768562	HA317 – 3 Coolex®	100-200	AC	red plastic tube
0768563	HA317 – 4 Coolex®	200-300	AC	red plastic tube
0768564	HA317 – 5 Coolex®	300-500	AC	red plastic tube

Cutting thickness (mm)	Pressure Oxygen (bar)	Pressure Acetylene (bar)	Consumption Oxygen (m³/h)	Consumption Acetylene (m³/h)
3 – 50	1,0 – 3,1	0,3 – 0,8	3,2 – 6,3	0,74
50 – 100	1,8 – 4,9	0,3 – 0,8	6,4 – 12,4	1,05
100 – 200	4,2 – 7,4	0,5 – 0,8	14,5 – 23,0	1,2
200 – 300	4,3 – 7,3	0,5 – 0,8	24,0 – 35,7	1,3
300 – 500	5,9 – 8,5	0,8	39,6 – 53,3	1,9

HP337 COOLEX®

The nozzles of the HP337 Coolex® series are especially constructed for scrap cutting, and have been given the following characteristics:

- Quick starting thanks to a very efficient heating flame
- Reliability in operation and great staying power thanks to unique cooling
- Every nozzle covers a wide range of thickness, so that time-consuming nozzle changes can be avoided

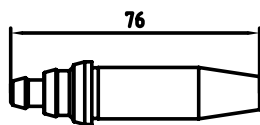


The heating flame of the HP337 Coolex® nozzle is larger than on ordinary nozzles. Furthermore, the cooling flow through the cutting oxygen channel contributes to a more efficient flame, which makes the start-up time extremely short.

Art. Nr.	Description	Cutting thickness (mm)	Fuel gas	Packaging
0768681	HP337 – 1 Coolex®	3 – 50	PM	red plastic tube
0768682	HP337 – 2 Coolex®	50 – 100	PM	red plastic tube
0768683	HP337 – 3 Coolex®	100 – 200	PM	red plastic tube
0768684	HP337 – 4 Coolex®	200 – 300	PM	red plastic tube
0768685	HP337 – 5 Coolex®	300 – 500	PM	red plastic tube

Cutting thickness (mm)	Pressure Oxygen (bar)	Pressure Acetylene (bar)	Consumption Oxygen (m³/h)	Consumption Acetylene (m³/h)
3 – 50	4	1	9,5	0,9
50 – 100	5	1	15	1,25
100 – 200	7	1	31,4	1,6
200 – 300	8	1	49,2	2,3
300 – 500	12	1	84	3

ANM SHORT PATTERN

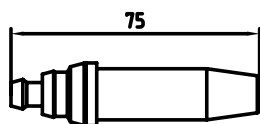


6 heating holes, 76 mm long. Use: Acetylene fuel gas.

Art. Nr.	Range	Size	Quantity
0768554	3 – 6 mm	1/32"	1
0768555	5 – 12 mm	3/64"	1
0768556	10 – 75 mm	1/16"	1
0768557	70 – 100 mm	5/64"	1
0768558	90 – 150 mm	3/32"	1
076855	190 – 300 mm	1/8"	1

Cutting thickness (mm)	Pressure Oxygen (bar)	Pressure Acetylene (bar)	Consumption Oxygen (m³/h)	Consumption Acetylene (m³/h)
3 – 6	1,8	0,14	1,28	0,4
5 – 12	2,1	0,21	2,47	0,51
10 – 75	2,8 – 4,2	0,14	4,54 – 5,48	0,47 – 0,62
70 – 100	3,2 – 4,8	0,14	7,65	0,79
90 – 150	3,2 – 5,5	0,21	10,36	0,85
190 – 300	4,2 – 6,3	0,28	16,18 – 26,56	1,25 – 1,42

PNM SHORT PATTERN

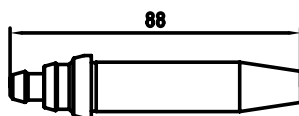


9 spline inner, 76 mm long. Fuel gas: Propane

Art. Nr.	Range	Size	Quantity
0768880	3 – 6 mm	1/32"	1
0768865	5 – 12 mm	3/64"	1
0768879	10 – 75 mm	1/16"	1
0768878	70 – 100 mm	5/64"	1
0769481	90 – 150 mm	3/32"	1
0769482	190 – 300 mm	1/8"	1

Cutting thickness (mm)	Pressure Oxygen (bar)	Pressure Propane (bar)	Consumption Oxygen (m³/h)	Consumption Propane (m³/h)
3 – 6	2,1	0,2	2,3	0,3
5 – 12	2,1	0,2	3,4	0,3
10 – 75	2,8 – 3,5	0,2 – 0,3	4,7 – 6,8	0,4 – 0,5
70 – 100	3,5	0,3	9,9	0,6
90 – 150	4,2	0,4	15,6	0,8
190 – 300	5,6 – 6,7	0,6 – 0,8	26,9 – 32,3	1,1 – 1,4

ANME LONG PATTERN



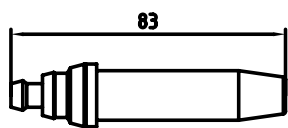
6 heating holes, 88 mm long. Fuel gas: Acetylene

Art. Nr.	Range	Size	Quantity
0768670	3 – 6 mm	1/32"	1
0768635	5 – 12 mm	3/64"	1
0768599	10 – 75 mm	1/16"	1
0768636	70 – 100 mm	5/64"	1
0768662	90 – 150 mm	3/32"	1
0768598	140 – 200 mm	7/94"	1
0769041	190 – 300 mm	1/8"	1

Cutting thickness (mm)	Pressure Oxygen (bar)	Pressure Acetylene (bar)	Consumption Oxygen (m³/h)	Consumption Acetylene (m³/h)
3 – 6	1,8	0,14	1,28	0,4
5 – 12	2,1	0,21	2,47	0,51
10 – 75	2,8 – 4,2	0,14	4,54 – 5,48	0,47 – 0,62
70 – 100	3,2 – 4,8	0,14	7,65	0,79
90 – 150	3,2 – 5,5	0,21	10,36	0,85
190 – 300	4,2 – 6,3	0,28	16,18 – 26,56	1,25 – 1,42

PNME LONG PATTERN

9 spline inner, 88 mm long. Fuel gas: Propane

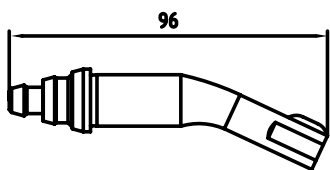


Art. Nr.	Range	Size	Quantity
0769494	3 – 6 mm	1/32"	1
0769495	5 – 12 mm	3/64"	1
0769496	10 – 75 mm	1/16"	1
0769497	70 – 100 mm	5/64"	1
0769498	90 – 150 mm	3/32"	1
0769499	140 – 200 mm	7/94"	1
0769501	190 – 300 mm	1/8"	1

Cutting thickness (mm)	Pressure Oxygen (bar)	Pressure Propane (bar)	Consumption Oxygen (m³/h)	Consumption Propane (m³/h)
3 – 6	2,1	0,2	2,3	0,3
5 – 12	2,1	0,2	3,4	0,3
10 – 75	2,8 – 3,5	0,2 – 0,3	4,7 – 6,8	0,4 – 0,5
70 – 100	3,5	0,3	9,9	0,6
90 – 150	4,2	0,4	15,6	0,8
190 – 300	5,6 – 6,7	0,6 – 0,8	26,9 – 32,3	1,1 – 1,4

AGNM GOUGING NOZZLES

94 mm long. Fuel gas: Acetylene



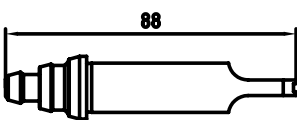
Art. Nr.	Range	Size	Quantity
0768698	6 - 8 mm Width x 3 - 9 mm Depth	size 13 - 1/32"	1
0768661	8 - 11 mm Width x 6 - 11 mm Depth	size 19 - 3/64"	1
0768699	9 - 12 mm Width x 9 - 12 mm Depth	size 25 - 1/16"	1



Size	Pressure Oxygen (bar)	Pressure Acetylene (bar)	Consumption Oxygen (m³/h)	Consumption Acetylene (m³/h)
13	4,0 – 5,0	0,6	4,0 – 4,7	1,1
19	5,0 – 6,0	0,7	6,3 – 7,3	1,3
25	6,0 – 7,0	0,8	9,3 – 10,0	1,5

HA311-1 SHEET METAL NOZZLE

88 mm long. Fuel gas: Acetylene

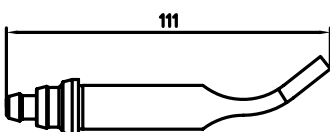


Art. Nr.	Range	Size	Quantity
0768641	0 - 3 mm	0,3	1

Cutting thickness (mm)	Pressure Oxygen (bar)	Pressure Acetylene (bar)	Consumption Oxygen (m³/h)	Consumption Acetylene (m³/h)
0 – 3	1,5	0,14	800	85

ARCNM RIVET CUTTING NOZZLE

Fuel gas: Acetylene



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



LS NOZZLES

Cutting nozzles for injector cutting attachments.



LS nozzle 1-4



LS nozzle 5-6



Heating nozzle for 1-4



Heating nozzle for 5-6

Art. Nr.	Range	Fuel gas	Cutting thickness (mm)
0771027	INNER NOZZLE LS 1 B	AC	3-8
0771028	INNER NOZZLE LS 2 B	AC	8-20
0771029	INNER NOZZLE LS 3 B	AC	20-50
0771030	INNER NOZZLE LS 4 B	AC	50-100
0771031	INNER NOZZLE LS 5 B	AC	100-200
0771032	INNER NOZZLE LS 6 B	AC	200-300
0771033	OUTER NOZZLE L 1-4 K	AC	3-100
0771034	OUTER NOZZLE L 5-6 KP	AC	100-300

LH NOZZLES

Cutting nozzles for injector cutting attachments.



LH nozzle 1-4



LH nozzle 5-6



Heating nozzle for 1-4



Heating nozzle for 5-6

Art. Nr.	Range	Fuel gas	Cutting thickness (mm)
0771035	INNER NOZZLE LH 1 B	PB	3-8
0771036	INNER NOZZLE LH 2 B	PB	8-20
0771037	INNER NOZZLE LH 3 B	PB	20-50
0771038	INNER NOZZLE LH 4 B	PB	50-100
0771039	INNER NOZZLE LH 5 B	PB	100-200
0771040	INNER NOZZLE LH 6 B	PB	200-300
0771033	OUTER NOZZLE L 1-4 K	PB	3-100
0771041	OUTER NOZZLE L 5-6 KA	PB	100-300

The Flamtech torch is excellent for flame straightening, hot bending, forming and preheating.

FLAME STRAIGHTENING

Steel constructions usually get deformed when they are welded. The material gains a lot of tension during work and sometimes becomes unacceptably deformed. Flame straightening is a suitable and sometimes the only possible method to straighten the material out. During flame straightening heat is applied to a limited spot on the material. The heated part has a tendency to expand. As longitudinal expansion is prevented by the surrounding cold metal, a convexity is created in the heated part. When cooling, the material will shrink. Heating of steel should not exceed 600-700 °C; the material has then a dark red colour. Be advised by your supplier on suitable pre-heating temperatures for different materials.

HOT BENDING AND FORMING

These methods have, more or less, the same demands for a short and rapid heating process as needed for the flame straightening.

PREHEATING (increased working temperature)

The Flamtech torch is ideal when pre-heating before welding. The duration of the preheating depends on what kind of material is used, the thickness of it, and which welding method has been chosen.



Art. Nr.	Description	Fuel gas
14077007	Heating torch FLAMTECH 1100 mm	APMY
14077010	Heating torch FLAMTECH 800 mm	APMY
14077008	Heating nozzle MA3	AC
14077009	Heating nozzle FA6	AC
17077006	Heating nozzle MY3	PM
14077012	Heating nozzle FY6	PM
0766110	Heating nozzle FY10	PM

The Flamtech torch is also available with water cooling of the nozzle. Quotation on request.
The material in the Flamtech shall be recycled by scrapping at an authorized scrapping firm.

TECHNICAL DATA

	Pressure		Flow	
	Oxygen (bar)	Acetylene (bar)	Oxygen (m ³ /h)	Acetylene (m ³ /h)
MA3	2	1	9,35	8,5
FA6	1,5	0,7	11	10

	Oxygen (bar)	Propane (bar)	Oxygen (m ³ /h)	Propane (m ³ /h)
MY3	2	0,5	24	6
FY6	2	0,3	34	8,5
FY10	2	0,5	40	10

CAUTION

When heating nozzle's propane consumption is higher than 1,5 m³/h single bottle is not reliable source.
Max propane supply from a 33-kg bottle = approximately 1,6 m³/h.
Reliable function of these torch is guaranteed just with supply from propane bundle or tank!

CAUTION

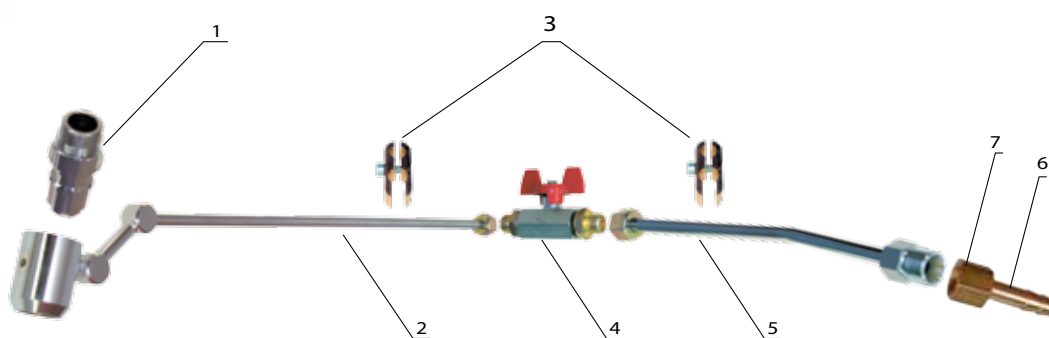
When heating nozzle's acetylene consumption is too higher than 1 m³/h single bottle is not reliable source.
Max. acetylene supply from a 50-liter bottle = approximately 1 m³/h.
Reliable function of these torch is guaranteed just with supply from acetylene bundle!

IRON POWDER FEEDING IPF2007



High quality steel, copper and copper alloy as well as nickel, aluminium and aluminium alloy, and also casting is not possible to cut with a normal fuel gas - oxygen process. The problem is the ignition point of the slag. At this cutting process iron powder will be blown with compressed air into the flame. The iron powder burns in the flame and in the cutting oxygen jet. Through this the energy of the flame is increased. The method of powder cutting is used mainly at scrapping.

Art. Nr.	Product	Pack	Position
IPF2007	Iron Powder Feeding	1 piece	
14030002	Complete powder cutting attachment	1 piece	
14030004	Powder head	1 piece	1
14030003	Powder head with tube	1 piece	2
14030007	Tube holder	1 piece	3
14030006	Valve	1 piece	4
14030005	Powder tube	1 piece	5
14099611	Hose nipple	1 piece	6
14099672	Connection nut G 3/8"	1 piece	7



TECHNICAL DATA

IRON POWDER FEEDING

Powder filling	Max. 50 kg
Working pressure	0,5 – 0,7 bar
Air demand	2 m ³ /h
Recommended inlet pressure	5 – 8 bar
Safety valve opens at	0,6 bar

WELDING HOSE

Inlet	Ø 8 mm
Outlet	Ø 6,3 mm

RECYCLING

The material in the powder dispenser shall be recycled by scrapping at an authorized scrapping firm.

POWDER CUTTING TORCHES

Cutter X511/75° (0766280) can be used together with the powder feeding device.



POWDER CUTTING NOZZLES



Art. Nr.	Product	Gas		Pack
14001276	HP337 Powder	Propane	0-50 mm	1 piece
14001277	HP337 Powder	Propane	50-100 mm	1 piece
14001278	HP337 Powder	Propane	100-200 mm	1 piece
14001279	HP337 Powder	Propane	200-300 mm	1 piece

FLAME STRAIGHTENING TORCHES

Flame straightening is a targeted flame heating of metal constructions. Material is short time heated at the very limited areas. This is only possible when flames with high energy (heat flux) are used. The use of an acetylene-oxygen flame is the best solution for this application. Crucial for successful flame straightening process is the knowledge of material behavior under the heat.

FLAME STRAIGHTENING TORCHES 3/2 FLAMES

Option to use 3 or 2 flames thanks to independent shut of valve for one nozzle. Length 680 mm.

Art. Nr.	Nozzle size	Gas
14070514	4	AC
0766276	DS1	PM



FLAME STRAIGHTENING TORCHES 5/3 FLAMES

Option to use 5 or 3 flames thanks to independent shut of valve for two nozzles. Length 680 mm.

Art. Nr.	Nozzle size	Gas
202232267	4	AC



NOZZLES FOR STRAIGHTENING TORCHES



Art. Nr.	Nozzle size	Inner thread
14099881	3	M10 x 1,5
14099882	4	M10 x 1,5

TORCH PERFORMANCE DATA

Nozzle size	Acetylene pressure	Oxygen pressure (bar)	Acetylene consumption (bar)	Oxygen consumption (m³/h)
3	2,5	0,5	0,3	0,315
4	2,5	0,5	0,475	0,5

HEATING NOZZLES DS - CHROMIUM PLATED

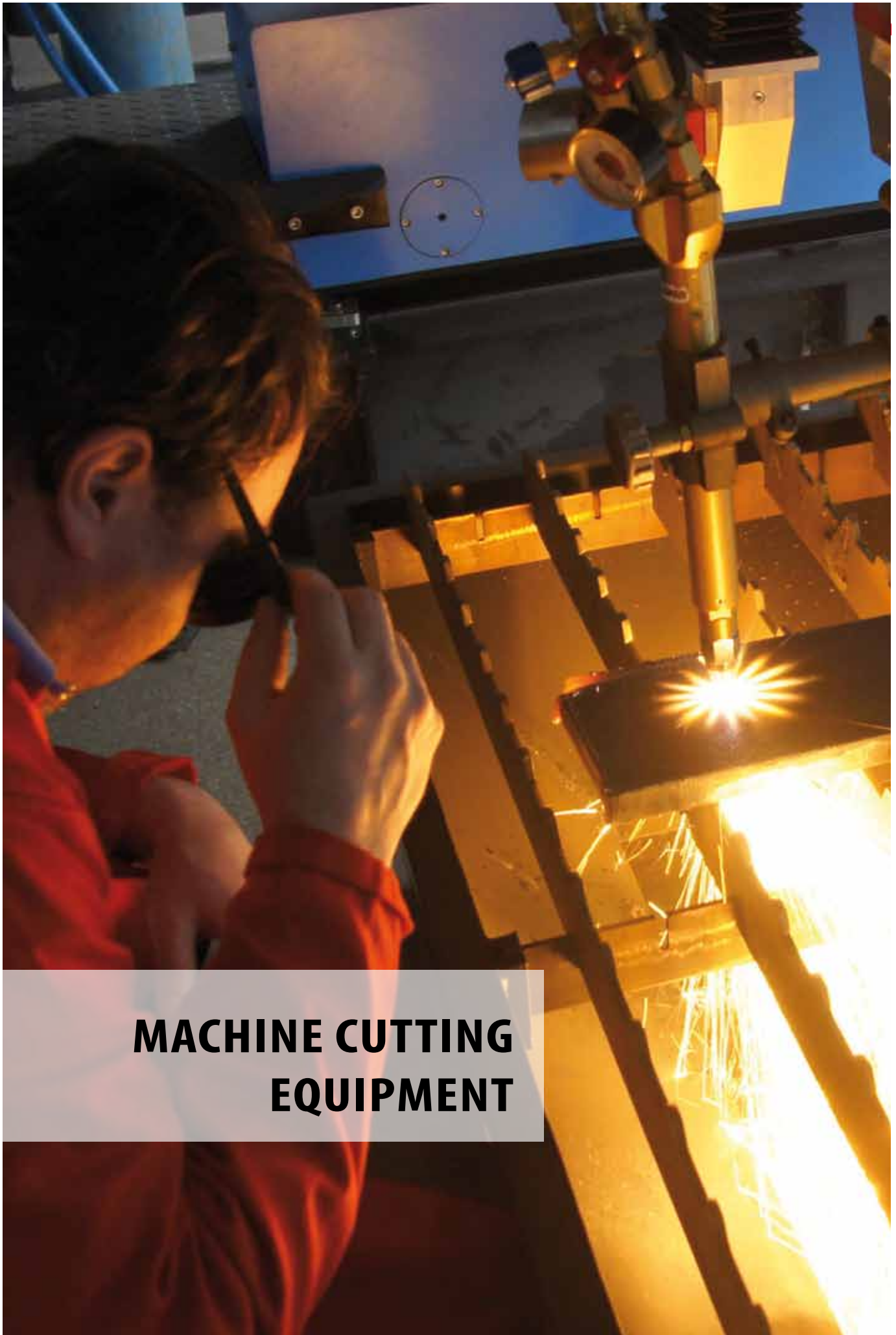


Nozzle DS channel's location

Art. Nr.	Nozzle size
14003220	DS1

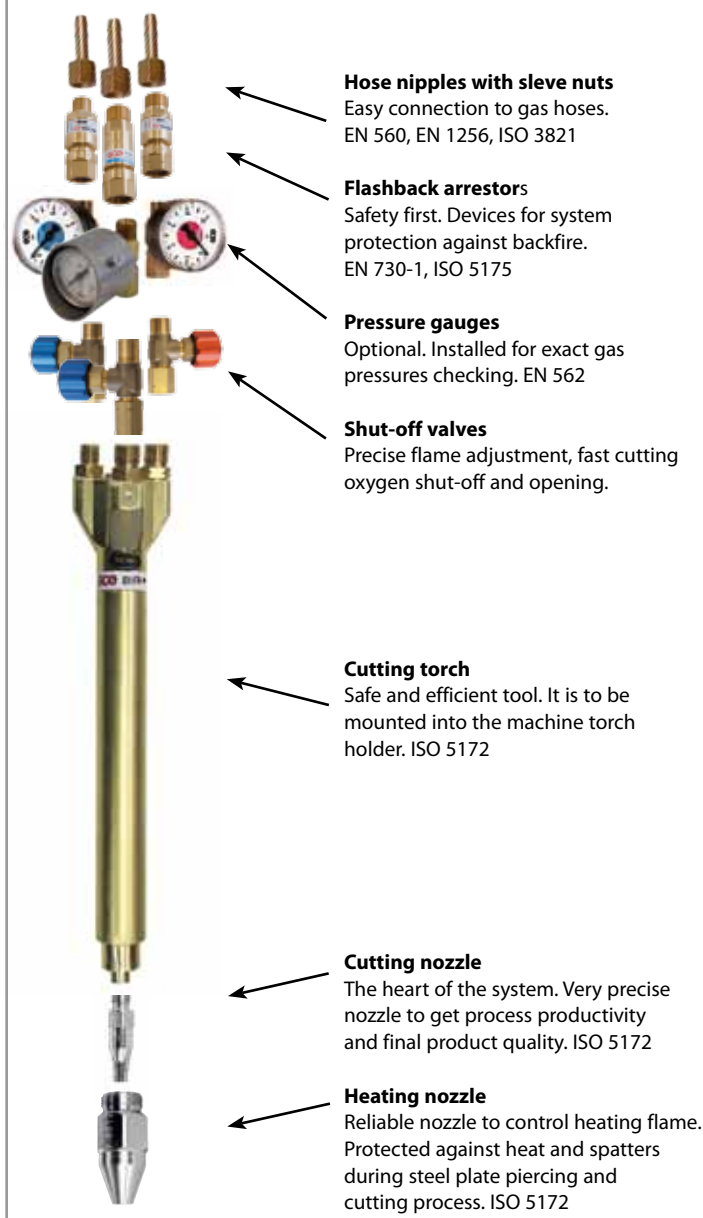
TECHNICAL DATA

Nozzle size	Oxygen pressure	Propane pressure (bar)	Oxygen consumption (bar)	Propane consumption (m³/h)
DS1	3	0,5	1,8	0,5



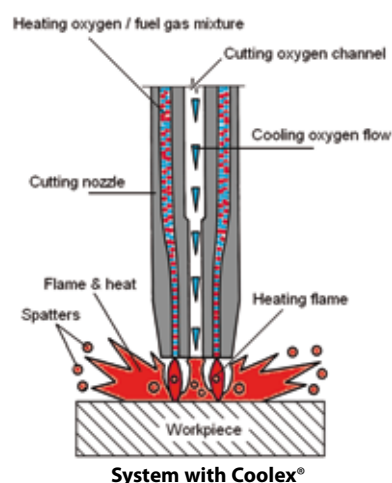
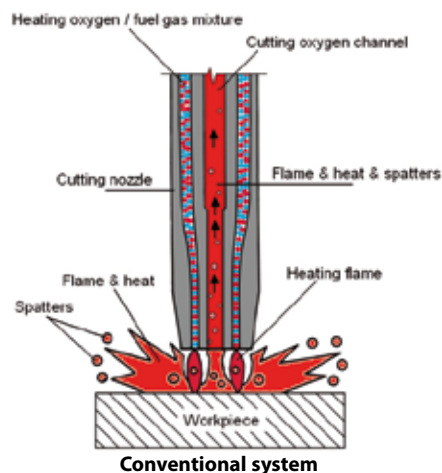
MACHINE CUTTING EQUIPMENT

BIR+ CUTTING TORCH

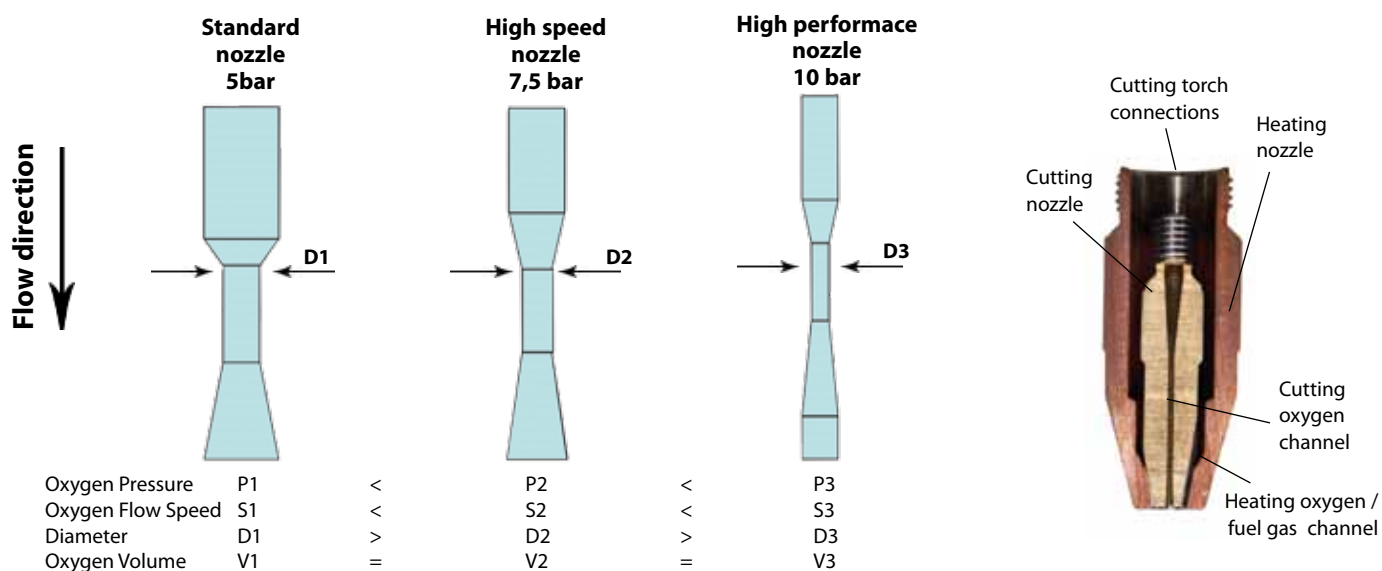


COOLEX® - GCE PATENTED SYSTEM

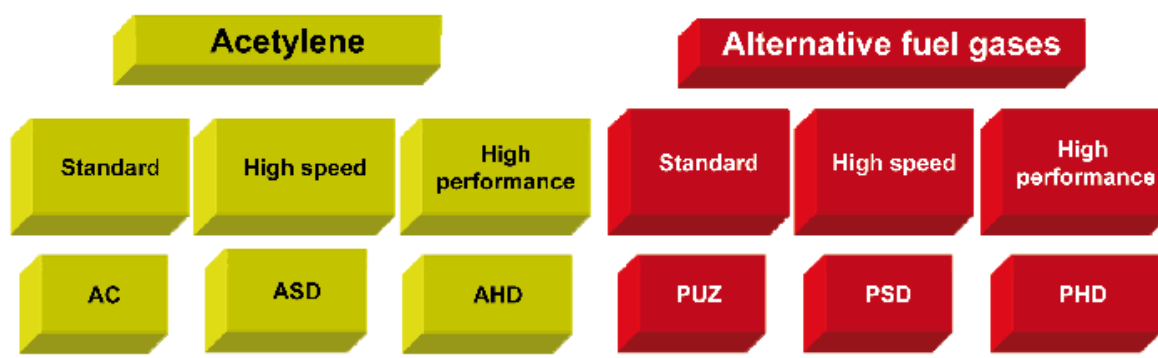
- The BIR+ contains a cool flow valve which provides a small amount of oxygen during preheating of the basic material. This small oxygen flow is streaming through the cutting oxygen channel to cool down the complete torch system and prevents the reverse flow of hot gases in to the cutting nozzle. The nozzle will be protected against early contamination.
- Longer nozzle life time
- Lower system temperature
- Constant shape of gas channels
- Constant gas flows



DESIGN OF CUTTING OXYGEN CHANNEL



OVERVIEW OF CUTTING NOZZLES FOR BIR+



HIGH PERFORMANCE NOZZLES

CUTTING NOZZLES AHD – ACETYLENE

Cutting nozzle



Heating nozzle



High performance machine cutting nozzle, chrome plated cutting nozzle and heating nozzle. Minimal order quantity of cutting nozzles: 5 pieces, heating nozzles: 1 piece

Art. Nr.	mm	mm/min	Cutting oxygen bar	Heating oxygen bar	Acet. bar	Cutting oxygen m³/h	Heating oxygen m³/h	Acet. m³/h
14001519	3 - 5	800 - 750	2,0 - 3,0	2,5	0,5	0,4 - 0,5	0,4	0,35
14001520	6 - 10	750 - 700	4,0 - 5,0	3	0,5	1,0 - 1,2	0,5	0,4
14001521	10 - 25	725 - 530	9,0 - 12,0	3	0,5	2,7 - 3,6	0,5	0,4
14001522	25 - 50	530 - 420	8,5 - 11,5	3	0,5	3,6 - 4,6	0,5	0,4
14001523	50 - 80	420 - 330	9,0 - 12,0	3	0,5	6,7 - 8,6	0,5	0,4
14001524	80 - 100	300 - 280	9,5 - 11,5	3	0,6	8,9 - 10,1	0,5	0,4
14001525	100 - 150	280 - 210	6,5 - 7,0	4	0,6	12,1 - 12,9	0,6	0,5
14001526	3 - 150	Heating nozzle						

CUTTING NOZZLES PHD – PROPANE/NATURAL GAS AND MIXED FUEL GASES

Cutting nozzle



Heating nozzle



High performance machine cutting nozzle, cutting nozzle and heating nozzle chrome plated. Minimal order quantity of cutting nozzles: 5 pieces, heating nozzles: 1 piece.

Art. Nr.	mm	mm/min	Cutting oxygen bar	Heating oxygen bar	Fuel gas bar	Cutting oxygen m³/h	Heating oxygen m³/h	Fuel gas m³/h
14001511	3 - 5	800 - 750	2,0 - 3,0	2,0 - 2,5	0,2	0,4 - 0,5	1	0,25
14001512	6 - 10	750 - 690	4,0 - 5,0	2,5	0,2	1,0 - 1,2	1,3	0,33
14001513	10 - 25	690 - 500	9,0 - 12,0	2,5	0,2	2,7 - 3,6	1,3	0,38
14001514	25 - 50	500 - 390	8,5 - 11,0	2,5	0,2	3,6 - 4,6	1,3	0,38
14001515	50 - 80	390 - 320	9,0 - 12,0	2,5	0,2	6,7 - 8,6	1,3	0,38
14001516	80 - 100	320 - 280	9,5 - 11,0	2,5	0,2	8,9 - 10,1	1,3	0,38
14001517	3 - 100	Heating nozzle, propane						
14001518	3 - 100	Heating nozzle, mixed fuel gas						

Machine cutting nozzle for cuts of quality level 1 according to EN ISO 9013. It is possible to reach maximal cutting speed by set-up cutting parameters above, cutting of straight cuts, by using of clean metal sheet surface, quality cutting machine, undamaged cutting nozzle and oxygen with purity 99,5% or better.

This nozzle requires 12 bar oxygen at the torch inlet. Gas pressures are measured at the torch inlet.

HIGH SPEED NOZZLES

CUTTING NOZZLES ASD – ACETYLENE



High speed machine cutting nozzle, chrome plated cutting nozzle and heating nozzle. Minimal order quantity of cutting nozzles: 5 pieces, heating nozzles: 1 piece.

Art. Nr.	mm	mm/min	Cutting oxygen bar	Heating oxygen bar	Acet. bar	Cutting oxygen m³/h	Heating oxygen m³/h	Acet. m³/h
14001217	3 - 5	800 - 750	2,0 - 3,0	2,0 - 2,5	0,6	0,4 - 0,5	0,4	0,3
14001218	6 - 10	750 - 700	4,0 - 5,0	2,5	0,6	1,2 - 1,5	0,5	0,35
14001219	10 - 25	650 - 500	6,5 - 7,5	2,5	0,6	3,2 - 3,7	0,5	0,35
14001220	25 - 40	500 - 420	6,5 - 8,5	2,5	0,6	4,6 - 5,5	0,5	0,35
14001221	40 - 60	420 - 360	6,5 - 8,5	2,5	0,6	5,6 - 7,1	0,5	0,35
14001222	60 - 100	360 - 270	6,5 - 8,5	2,5	0,6	9,1 - 11,0	0,5	0,35
14001223	100 - 150	270 - 210	6,5 - 7,0	3,5	0,6	12,1 - 12,9	0,6	0,5
14001224	150 - 230	210 - 140	6,5 - 7,5	6,5 - 7,5	0,6	19,4 - 22,0	1,1	0,85
14001225	230 - 300	150 - 110	6,5 - 7,5	6,5 - 7,5	0,6	28,5 - 32,5	1,1	0,85
14001226	3 - 150	Heating nozzle						
14001238	150 - 300	Heating nozzle						

CUTTING NOZZLES PSD – PROPANE/NATURAL GAS AND MIXED FUEL GASES



High speed machine cutting nozzle, cutting nozzle and heating nozzle chrome plated. Minimal order quantity of cutting nozzles: 5 pieces, heating nozzles: 1 piece.

Art. Nr.	mm	mm/min	Cutting oxygen bar	Heating oxygen bar	Fuel gas bar	Cutting oxygen m³/h	Heating oxygen m³/h	Fuel gas m³/h
14001227	3 - 6	750 - 740	2,0 - 5,0	1,5	0,2	0,5 - 1,0	1	0,25
14001228	7 - 15	670 - 560	5,0 - 7,0	2	0,2	1,6 - 2,0	1,3	0,32
14001229	15 - 25	560 - 460	6,0 - 7,0	2	0,2	2,5 - 3,1	1,3	0,32
14001230	25 - 40	460 - 400	6,0 - 7,5	2	0,2	3,8 - 4,5	1,3	0,32
14001231	40 - 60	400 - 340	5,5 - 7,5	2	0,2	4,2 - 5,6	1,3	0,32
14001232	60 - 100	340 - 270	6,0 - 8,5	2	0,2	7,6 - 10,6	1,3	0,32
14001233	100 - 200	270 - 180	7,5 - 9,5	4,5	0,6	13,3 - 15,6	2,4	0,6
14001234	200 - 250	180 - 130	6,5 - 8,5	4,5	0,6	18,0 - 22,0	2,4	0,6
14001235	250 - 300	130 - 110	6,5 - 8,5	5	0,6	23,0 - 30,0	2,5	0,62
14001250*	100 - 150	270 - 180	6,5 - 7,5	2,5	0,3	11,5 - 13,0	1,4	0,35
14001236	3 - 100	Heating nozzle						
14001237	100 - 300	Heating nozzle						

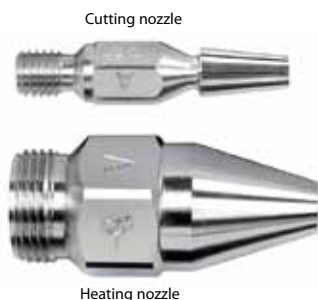
*Cutting nozzle 14001250 preferable for hole piercing. Please use it only together with heating nozzle 14001236 !










Machine cutting nozzle for cuts of quality level 1 according to EN ISO 9013. It is possible to reach maximal cutting speed by set-up cutting parameters above, cutting of straight cuts, by using of clean metal sheet surface, quality cutting machine, undamaged cutting nozzle and oxygen with purity 99,5% or better. This nozzle requires max. 9,5 bar oxygen at torch inlet. Gas pressures are measured at the torch inlet.

STANDARD NOZZLES

CUTTING NOZZLES AC – ACETYLENE

Standard cutting nozzle for application on cutting machines and on all cutting devices. Chrome plated cutting nozzle and heating nozzle. Minimal order quantity of cutting nozzles: 5 pieces, heating nozzles: 1 piece.












										
		mm	mm/min	bar	bar	bar	m ³ /h	m ³ /h	Acet.	m ³ /h
			Cutting oxygen	Heating oxygen	Acet.	Cutting oxygen	Heating oxygen	Acet.		
14001010	3 - 10		730 - 600	2,0 - 3,0	2	0,5	1,3 - 1,7	0,4	0,3	
14001011	10 - 25		620 - 410	4,5 - 5,0	2,5	0,5	2,3 - 2,8	0,5	0,35	
14001012	25 - 40		410 - 340	4,0 - 5,0	2,5	0,5	2,3 - 2,8	0,5	0,35	
14001013	40 - 60		340 - 310	4,0 - 5,0	2,5	0,5	4,1 - 5,1	0,5	0,35	
14001014	60 - 100		320 - 250	5,0 - 6,0	3	0,5	8,1 - 9,5	0,5	0,4	
14001015	100 - 200		270 - 210	6,5 - 7,5	3,5	0,5	12,0 - 13,0	0,6	0,5	
14001016	200 - 300		150 - 110	6,5 - 7,5	6,5 - 7,5	0,5	28,5 - 32,5	1,1	0,8	
14001020	3 - 100		Heating nozzle							
14001021	100 - 300		Heating nozzle							

CUTTING NOZZLES PUZ – PROPANE/NATURAL GAS AND MIXED FUEL GASES

Standard cutting nozzle for application on cutting machines and on all cutting devices, cutting nozzle plain brass, heating nozzle chrome plated. Minimal order quantity of cutting nozzles: 5 pieces, heating nozzles: 1 piece.



										
		mm	mm/min	bar	bar	bar	m ³ /h	m ³ /h	m ³ /h	
			oxygen	Cutting oxygen	Heating gas	Fuel	Cutting oxygen	Heating gas	Fuel	
14001350	3 - 10		600 - 550	2,0 - 3,0	2	0,2	1,3 - 1,7	1,3	0,33	
14001351	10 - 25		560 - 400	4,5 - 5,0	2,5	0,2	2,8 - 3,4	1,5	0,38	
14001352	25 - 40		400 - 340	4,0 - 5,0	2,5	0,2	2,8 - 3,4	1,5	0,3	
14001353	40 - 60		340 - 310	4,5 - 5,5	2,5	0,2	4,6 - 5,6	1,5	0,38	
14001354	60 - 100		310 - 260	5,0 - 6,0	2,5	0,2	8,1 - 9,5	1,5	0,38	
14001355	100 - 200		260 - 180	5,5 - 6,5	3,0 - 5,0	0,3	12,6 - 14,4	1,7 - 2,5	0,50 - 0,70	
14001356	200 - 300		180 - 110	6,5 - 8,5	5,0 - 7,0	0,3	12,6 - 14,4	2,5 - 3,3	0,70 - 0,90	
14001147	3 - 100		Heating nozzle, Propane/ natural gas							
14001148	100 - 300		Heating nozzle, Propane/ natural gas							
14001587	3 - 100		Heating nozzle, mixed fuel gas							
14001588	100 - 300		Heating nozzle, mixed fuel gas							

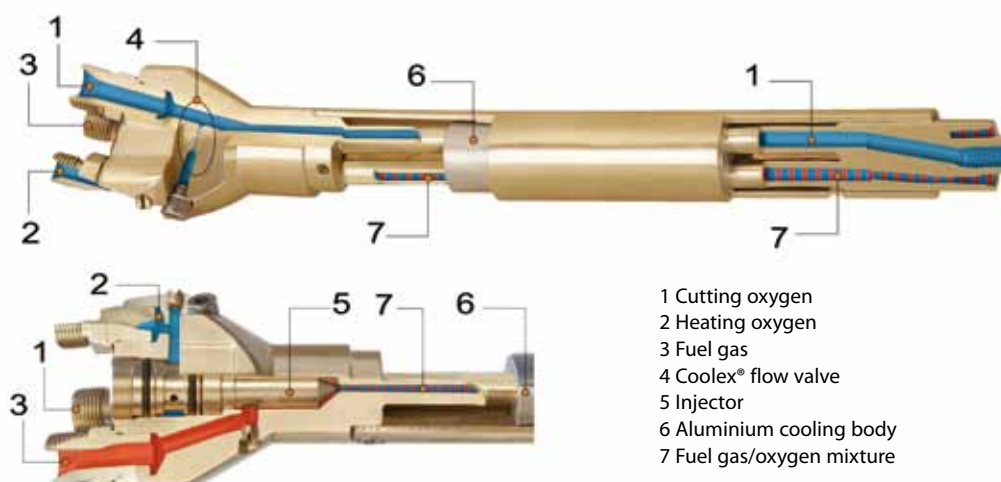
Machine cutting nozzle for cuts of quality level 1 according to EN ISO 9013. It is possible to reach maximal cutting speed by set-up cutting parameters above, cutting of straight cuts, by using of clean metal sheet surface, quality cutting machine, undamaged cutting nozzle and oxygen with purity 99,5% or better. Gas pressures are measured at the torch inlet.

INJECTOR MACHINE CUTTING TORCH BIR+



Coolex® inside - unique cooling system. Stable and safe brass injector is placed in the massive torch body. Aluminium cooling heat exchanger downstream the injector completes cooling function of the BIR+. Heat is transported away from the injector which protects the torch against backfire. These features guarantees high process security, operation safety and long equipment life-time.

Art. Nr.	Lenght/diam.	Gas	Connection
14055218	220/32	A	G3/8", G3/8"LH, G1/4"
14055241	320/32	A	G3/8", G3/8"LH, G1/4"
14055239	110/32	A	G3/8", G3/8"LH, G1/4"
14055219	220/32	PM	G3/8", G3/8"LH, G1/4"
14055240	320/32	PM	G3/8", G3/8"LH, G1/4"
14055242	110/32	PM	G3/8", G3/8"LH, G1/4"



LOW PRESSURE REGULATORS

S100 is high flow regulator with flow capacity up to 100 Nm³/h of oxygen and up to 20 Nm³/h of fuel gases. It can be used up to 300 mm of metal sheet thickness.

S100 HIGH FLOW LINE REGULATOR FOR MACHINE CUTTING



S100 is high flow regulator with flow capacity up to 100 Nm³/h of oxygen and up to 20 Nm³/h of fuel gases. It can be used up to 300 mm of metal sheet thickness.

Art. Nr.	Gas type	Max. inlet pressure	Max. outlet pressure	Inlet connection	Outlet connection
0761861	ODN	40 bar	16 bar	G1/2"m	G1/2"m
0761862	ODN	40 bar	16 bar	G3/4"m	G3/4"m
0761863	ODNCO2	40 bar	10 bar	G3/4"m	G3/4"m
0761866	ODNCO2	40 bar	10 bar	G1/2"m	G1/2"m
0761864	ACE	1,5 bar	1,5 bar	G1/2"LHm	G1/2"LHm
0761865	PROPANE	25 bar	4 bar	G1/2"LHm	G1/2"LHm

LM+ LINE REGULATOR FOR CUTTING MACHINES



LM+ (Linemaster) is low-pressure regulator with flow capacity up to 50 Nm³/h of oxygen and up to 10 Nm³/h of fuel gases. It is designed for operation up to 200 mm of metal sheet thickness.

Art. Nr.	Gas type	Max. inlet pressure	Max. outlet pressure	Inlet connection	Outlet connection
ARV0675	OXYGEN	35 bar	16 bar	G3/8"m	G3/8"m
ARV0689	OXYGEN	35 bar	10 bar	G3/8"m	G3/8"m
ARV0690	FUEL GAS	35 bar*	1,5 bar	G3/8"LHm	G3/8"m

* 1,5 bar Acetylene

MACHINE CUTTING ACCESSORIES

FLASHBACK ARRESTORS FOR MACHINE CUTTING TORCHES EN 730-1



Art. Nr.	Gas	Connection (EN 560)
14008408	Cutting oxygen	G 3/8"
14008263	Heating oxygen	G 1/4"
14008278	Fuel gas	G 3/8" LH

ADJUSTMENT VALVES



Art. Nr.	Application	Connection (EN 560)
14056015	Cutting oxygen	G 3/8"
14056016	Heating oxygen	G 1/4"
14056017	Fuel gas	G3/8"LH

HOSE NIPPLES



Art. Nr.	Hose diameter	For nut with connection (EN 560)
4599380P	6,3 mm	G1/4"
4599440P	8 mm	G3/8"
14099612P	9 mm	G1/2"
14099620P	11 mm	G1/2"
44010212P	12 mm	G3/4"
14099731P	16 mm	G3/4"



Art. Nr.	Connection (EN 560)
4599400P	G1/4"
548200018934P	G3/8"
548200018932P	G3/8"LH
14099240	G1/2"
14099671	G1/2"LH
14099732P	G3/4"

PRESSURE CONTROL GAUGE



To ensure the right pressure values on torch entrance, a pressure control gauge can be fitted to the threaded unions.

Art. Nr.	Pressure (bar)	Connection (EN 560)
14008259	0 - 10	G1/4"
14008569	0 - 10	G3/8"
14008567	0 - 2,5	G3/8" LH
ARV0027	0 - 16	G3/8"

CLEANING ACCESSORIES



Art. Nr.	Description
14008157	Brass cleaning brush
548904225520	Stainless steel conical cleaning needle for cutting oxygen channels

STRIP CUTTING DEVICE



Strip cutting attachment is to be mounted in to the cutting torch, at the torch-nozzle seat. It can be used for cutting of the strips with maximal width of 450 mm and for steel plate thickness up to 75 mm.

Art. Nr.	Torch	Gas
14055509	for BIR+	all fuel gases

BEVEL CUTTING DEVICE



Bevel cutting attachment is to be mounted in to the cutting torch, at the torch-nozzle seat. It is designed for cutting of the bevels $0 \pm 120^\circ$.

Art. Nr.	Torch	Gas
0764659	for BIR+	all fuel gases



ACCESSORIES

ACCESSORIES

TUBE FLOWMETER



Precision Flowmeter with brass finish, G3/8" BSP connections. Tube flowmeter shall be used with either FIXICONTROL or UNICONTROL fix-preset regulators only. Working inlet pressure of Tube Flowmeter is 4.5 Bar.

Art. Nr.	Gas	Max inlet pressure	Nominal pressure	Nominal flowrate	Inlet connection	Outlet connection	Approx. weight
9632200	AR/CO2	4.5 bar	atm.	3-30 l/min	M 16x1,5	M 16x1,5	0.32 kg

GAS ECONOMISER



Art. Nr.	Gas	Max inlet pressure	Inlet connection	Outlet connection	Approx. weight
0767916	OXY/ACE	10 bar	G 3/8" RH/LH	G 3/8" RH/LH	0.47 kg
0767917	OXY/PROP	4.5 bar	G 3/8" RH/LH	G 3/8" RH/LH	0.47 kg

CLEANING NEEDLE



Art. Nr.
548904225520

CLEANING NEEDLES



Art. Nr.	
548814071191P	10 pcs

HOSE COUPLING



Art. Nr.	Type
4591690	G3/8"
4591680	G1/4"
4591750	G3/8" LH
4A39070	M 16x1,5
4A39080	M 16x1,5 LH

HOSE NIPPLE



Art. Nr.	Hose inner diameter	Connection nut size (nut not included)
4599380P	Ø 6,3 mm	G1/4"
4184250	Ø 8 mm	G1/4"
4734980	Ø 6,3 mm	G3/8"
4599440P	Ø 8 mm	G3/8"
4199960	Ø 10 mm	G3/8"

OUTLET NUT



Art. Nr.	Thread size
4599400P	G1/4"
4712020	G1/4" LH
548200018934P	G3/8"
548200018932P	G3/8" LH
4110250	M16x1,5
4110260	M16x1,5 LH

HOSE CLAMP



Art. Nr.
548900063518

WRENCH



Art. Nr.	Type
163811144503	Nozzle wrench
163811966360	Multi-opening wrench

SHIELDING GAS FLOWMETER



Art. Nr.	Type	Flow
548202227514	Argon/CO ₂	0-30 l/min

LIGHTER



Art. Nr.	Type
54800003001B	Flint lighter
54800003001XC	Spare flint stone

GAUGE PROTECTOR



Art. Nr.	Type
321814215000	Gauge core Ø 63 mm

GCE is an experienced developer and producer of gas control equipment since the beginning of the 20th Century. GCE is one of the world's leading manufacturers in this field and now employs over 1200 people around the world. The company has grown through a combination of a dedicated workforce and an in depth knowledge of pressure and flow control related to gas welding and cutting technology, medical systems, process applications and high purity requirements. GCE aim is to support its customers in their demands for safe and reliable products manufactured in accordance with the latest governing standards.

