



MACHINE CUTTING EQUIPMENT

**CUTTING TORCHES AND NOZZLES
FOR HIGH QUALITY AND PERFORMANCE**

GCE WORLDWIDE



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 Technology
- Valves
- Healthcare
- Druva

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 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.

A COMPLETE RANGE FOR CUTTING & WELDING

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

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

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

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

GLOBAL LEADER IN OXY-FUEL TECHNOLOGY

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

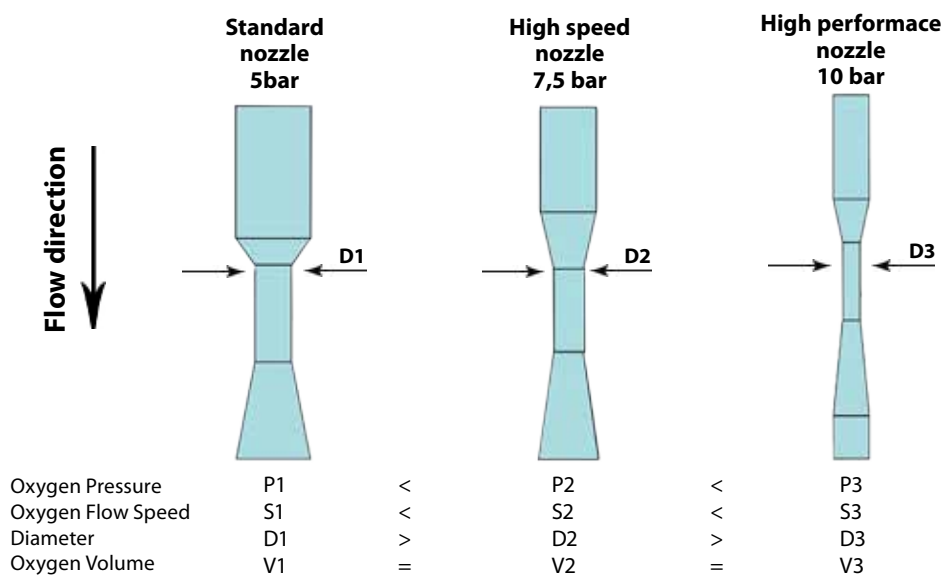
CONTENT

MACHINE CUTTING EQUIPMENT OVERVIEW (GENERAL INFORMATION)	2
MACHINE CUTTING TORCH GCE FIT+®	4
Machine Cutting Torch GCE FIT+® - Injector type.....	5
Tool-free Heating Nozzles GSF	5
Tool-free Cutting Nozzles ASF - Acetylene	5
Tool-free Cutting Nozzles PSF - Propane/Natural Gas and Mixed Fuel Gases.....	5
Tool-free rapid Cutting Nozzles ARC/PRC	6
MACHINE CUTTING TORCH BIR+™	7
Machine Cutting Torch BIR+™ - Injector type	7
Cutting Nozzles AC - Acetylene	7
Cutting Nozzles A-SD – Acetylene.....	8
Cutting Nozzles A-HD - Acetylene	8
Cutting Nozzles PUZ – Propane/Natural Gas and Mixed Fuel Gases.....	9
Cutting Nozzles P-SD - Propane/Natural Gas and Mixed Fuel Gases.....	9
Cutting Nozzles P-HD - Propane/Natural Gas and Mixed Fuel Gases.....	9
MACHINE CUTTING TORCHES JETSTREAM, FIT™ AND BM31CF	10
Machine Cutting Torch JETSTREAM - Injector Type	10
Cutting Nozzles MA133 - Acetylene	11
Cutting Nozzles JETEX® – Acetylene.....	11
Cutting Nozzles MP133 - Propane, Natural Gas	12
Cutting Nozzles MY133 - Mixed Fuel Gases.....	12
Cutting Nozzles PROPEX - Propane	12
MACHINE CUTTING TORCH BGR™ (X541)	13
Machine Cutting Torch BGR™ (X541) - Nozzle Mix Type	13
Cutting Nozzles A-MD COOLEX® - Acetylene	13
Cutting Nozzle TRITEX - Acetylene	13
Cutting Nozzles K50 PUZ and K70 PUZ - Propane, Natural Gas	14
Heavy-duty Cutting Nozzles PNMH - Propane, Natural Gas	14
GCE PROFIT® PORTABLE STRAIGHT LINE CUTTING MACHINE	15
Portable Straight Line Cutting machine	15
PORTABLE SHAPE CUTTING MACHINE SCM	16
Shape Cutting Machine SCM - Acetylene / Propane, Natural Gas.....	16
SCM Accessories.....	16
Cutting Nozzles ANME - Acetylene	16
Cutting Nozzles PNME - Propane.....	16
MACHINE CUTTING ACCESSORIES	17
APPENDIX	19
Adjustment Recommendation for Perfect Machine Cutting.....	19
Fuel Gases	20
Fuel Gases Properties	20

MACHINE CUTTING EQUIPMENT OVERVIEW

CUTTING SYSTEM	MIXING TYPE	GAS TYPE	STANDARD	HIGH SPEED	HIGH PERFORMANCE	RAPID CUTTING	HEAVY-DUTY
GCE FIT+®	Injector	A		ASF		ARC	
		P,M		PSF		PRC	
BIR+™	Injector	A	AC	ASD	AHD		
		P,M	PUZ	PSD	PHD		
FIT™, Jetstream	Injector	A		MA133		JETEX	
		P,M		MP133		PROPEX	
		Y		MY133		PROPEX	
BGR™, X541	Nozzle mixing	A		AMD COOLEX®	TRITEX		
		P,M	K50/K70 PUZ				PNMH

DESIGN OF CUTTING OXYGEN CHANNEL

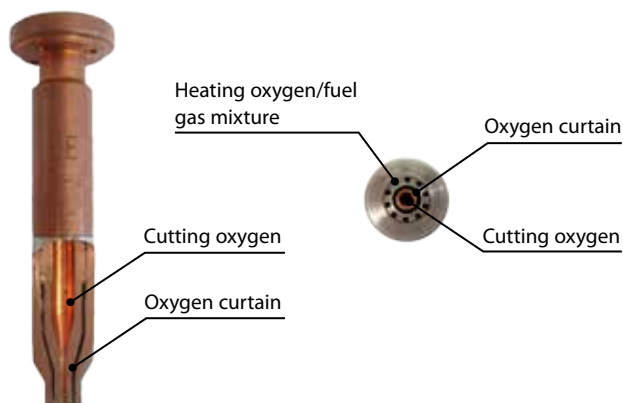


RAPID CUTTING SYSTEM

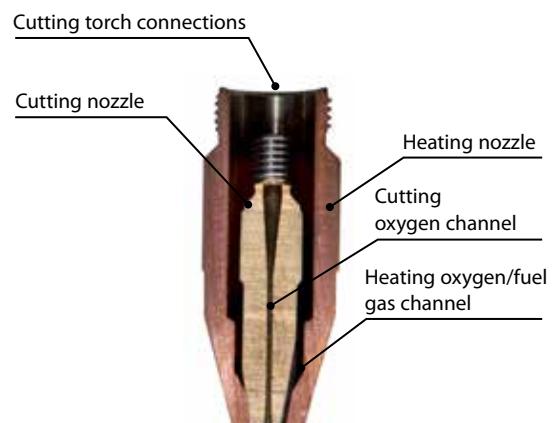
The rapid cutting system is designed for cutting of thin and medium dimensioned steel plates and long strips cutting. The nozzle operates with an oxygen curtain, which has the function of a shielding gas protecting oxygen stream against contamination.

The system provides a high cutting quality with smooth cut surfaces and sharp cutting top edges even achieving very high cutting speeds, 25-50 % more than conventional nozzles. Its unique design offers a wide cutting range while cutting different plate thickness by reducing the number of nozzle exchanges.

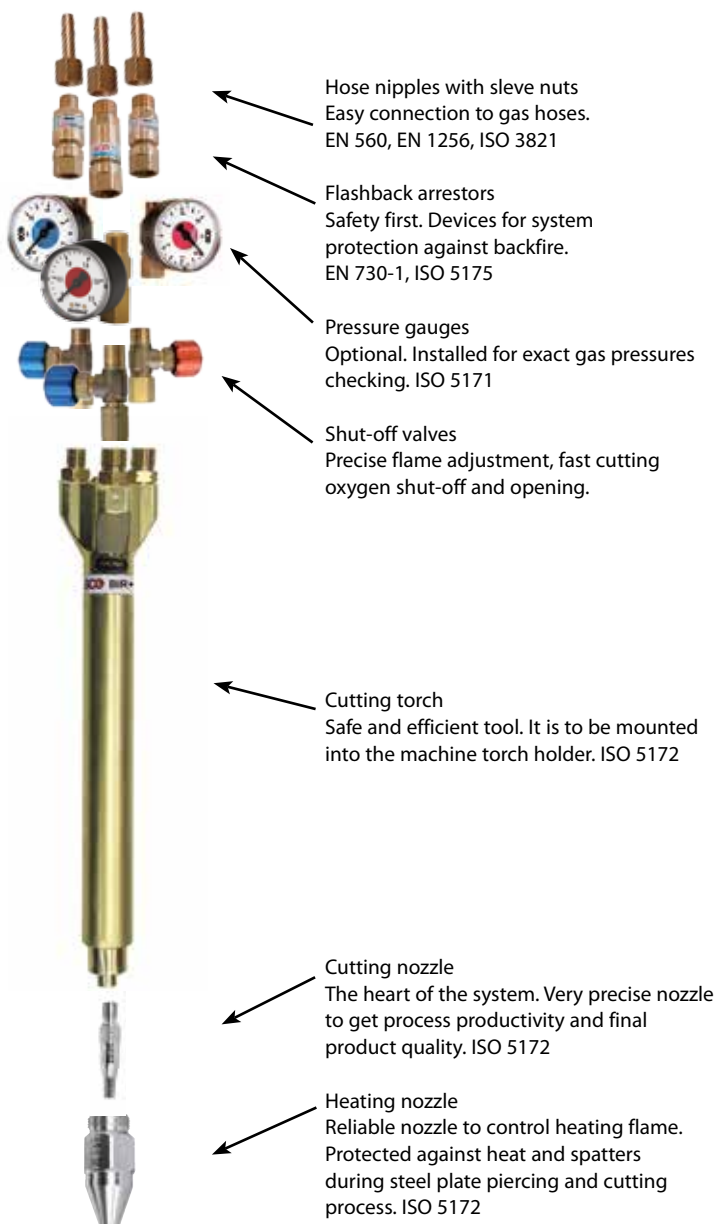
OXYGEN CURTAIN NOZZLE



CONVENTIONAL NOZZLE

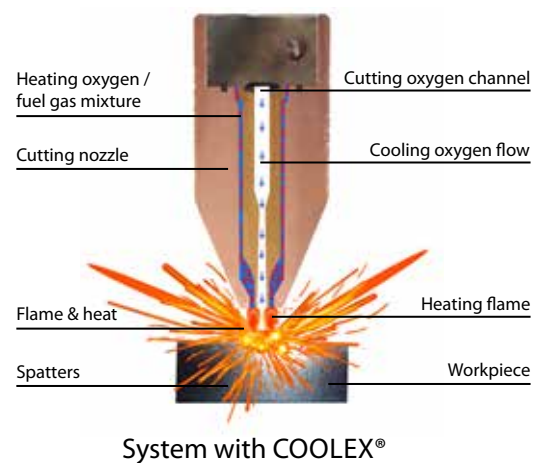
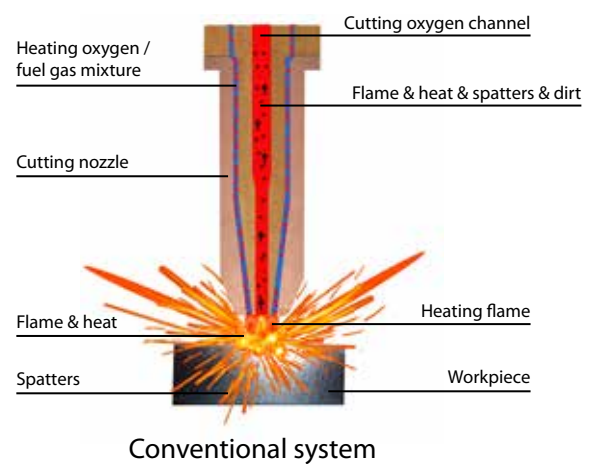


CUTTING SYSTEM DESCRIPTION



COOLEX® - GCE PATENTED SYSTEM

- The BIR+™, FIT™ contain 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 is protected this way also against contamination.
- Longer nozzle life time
- Lower system temperature
- Constant shape of gas channels
- Constant gas flow



GENERAL CONDITIONS FOR HIGH QUALITY AND EFFICIENT CUTTING

GCE machine cutting nozzles are designed to reach the cuts of quality level 1 according to EN ISO 9013. It is possible to reach maximal cutting speed by setting-up recommended cutting parameters of particular nozzles shown below, cutting of straight cuts, by using of clean metal sheet surface, oxygen with purity 99,5% or better. Correct values of gases pressures are to be measured at the torch inlet. Parameters are prepared for mild steel with maximal carbon content of 0,25%. Quality cutting machine with proper gas supply system, original GCE cutting equipment and new, undamaged, original cutting and heating nozzles are to be applied.

MACHINE CUTTING TORCH GCE FIT+®

INNOVATIVE TOOL-FREE SOLUTION

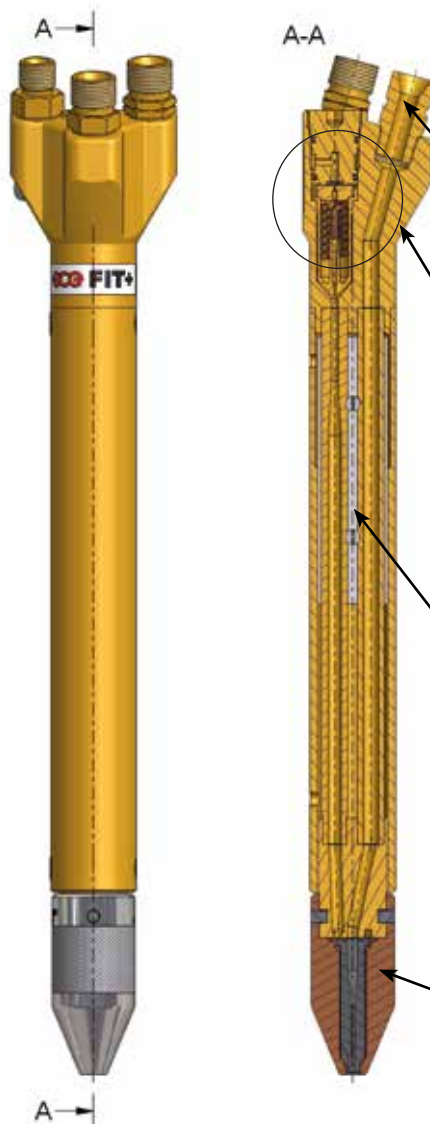
GCE FIT+® is unique system for oxy-fuel machine cutting technology. The long-term partnership with the customers resulted in the product concept creation. This product line is based on the wide experience with cutting application, one of the traditional fields of GCE activities. The main philosophy of GCE FIT+® is to make cutting process safe, efficient and operator friendly.

- High productivity of oxygen machine cutting process due to high-speed cutting nozzles
- Safe operations ensured by integrated COOLEX® and axial injector with application of RMS (Resonator Mixing System) in acetylene variants
- Working efficiency with minimized nozzles exchange time
- Easy handling for machine operators because of Tool-Free nozzles changing system
- Nozzles fixation done manually by special bayonet system, without any wrench
- One type of heating nozzle for all fuel gases
- Extended lifetime of heating nozzle
- Provided in accordance with ISO 5172

APPLICATION FIELDS

- Oxygen cutting of straight and shape cuts in accordance with ISO 9013
- Oxygen cutting 3 - 300 mm
- Hole piercing up to 150 mm
- Applications with different fuel gases
- Prepared for all cutting machines

TOOL-FREE NOZZLES ARE EXCHANGEABLE IN THREE STEPS



INTEGRATED COOLEX® SYSTEM

- special nozzle connecting heating and cutting oxygen flow channels
- cooling of cutting oxygen channel during preheating-period
- lower system temperature
- longer nozzle life-time
- constant shape of gas-flow channels

RMS (RESONATOR MIXING SYSTEM)

- spiral injector
- effective system against backfire
- heating oxygen is coming through cooled copper spiral
- used in acetylene variants

ALUMINIUM COOLER

- heat exchanger made of Al
- mixing tube is cooled by cutting oxygen flow

HIGH-SPEED CUTTING NOZZLES

- high-speed cutting
- up to 8,5 bar cutting oxygen pressure
- convergent – divergent cutting channel
- Laval shape of cutting channel
- one heating nozzle for all fuel gases

GCE FIT+®



MACHINE CUTTING TORCH GCE FIT+®, INJECTOR TYPE



Art. Nr.	Length/diameter*	Fuel gas	Connections
0766121	220/32	Acetylen	G3/8", G3/8"LH, G1/4"
0766164	320/32	Acetylen	G3/8", G3/8"LH, G1/4"
0766223	110/32	Acetylen	G3/8", G3/8"LH, G1/4"
0766122	220/32	PMY	G3/8", G3/8"LH, G1/4"
0766165	320/32	PMY	G3/8", G3/8"LH, G1/4"
0766224	110/32	PMY	G3/8", G3/8"LH, G1/4"

*Other torch variants on request

TOOL-FREE HEATING NOZZLES GSF

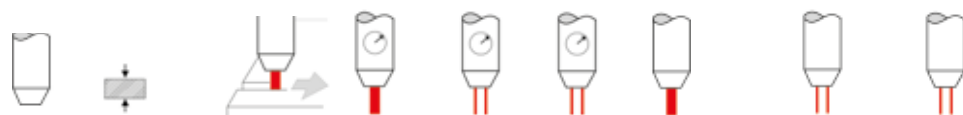


Art Nr.	Fuel Gas	Cutting range
0769932	APMYF	3-150 mm (A), 3-100 mm (PMY)
0769933	APMYF	150 - 300 mm (A), 100 - 300 mm (PMY)

TOOL-FREE CUTTING NOZZLES ASF - ACETYLENE



HIGH SPEED CUTTING



Art Nr.	Cutting range (mm)	Cutting speed (mm/min)	Cutting oxygen (bar)	Heating oxygen (bar)	Fuel gas (bar)	Cutting oxygen (Nm ³ /h)	Heating oxygen (Nm ³ /h)	Fuel gas (Nm ³ /h)
0769923	3 - 5	875 - 765	2,0 - 3,0	2,0 - 2,5	0,6	0,4 - 0,5	0,4	0,30
0769924	6 - 10	765 - 720	4,0 - 5,0	2,5	0,6	1,2 - 1,5	0,5	0,35
0769925	10 - 25	720 - 515	6,5 - 7,5	2,5	0,6	3,2 - 3,7	0,5	0,35
0769926	25 - 40	515 - 430	6,5 - 8,5	2,5	0,6	4,6 - 5,5	0,5	0,35
0769927	40 - 60	430 - 375	6,5 - 8,5	2,5	0,6	5,6 - 7,1	0,5	0,35
0769928	60 - 100	375 - 275	6,5 - 8,0	2,5	0,6	9,1 - 11,0	0,5	0,35
0769929	100 - 150	275 - 210	6,5 - 7,0	3,5	0,6	12,1 - 12,9	0,6	0,50
0769930	150 - 230	210 - 140	6,5 - 7,5	6,5 - 7,5	0,6	19,4 - 22,0	1,1	0,85
0769931	230 - 300	150 - 110	6,5 - 7,5	6,5 - 7,5	0,6	28,5 - 32,5	1,1	0,85

TOOL-FREE CUTTING NOZZLES PSF - PROPANE, NATURAL GAS AND MIXED GASES



HIGH SPEED CUTTING



Art Nr.	Cutting range (mm)	Cutting speed (mm/min)	Cutting oxygen (bar)	Heating oxygen (bar)	Fuel gas (bar)	Cutting oxygen (Nm ³ /h)	Heating oxygen (Nm ³ /h)	Fuel gas (Nm ³ /h)
0769913	3 - 6	795 - 730	2,0 - 5,0	1,5 - 2,0	0,2	0,5 - 1,0	1,0	0,25
0769914	7 - 15	690 - 575	5,0 - 7,0	2,0	0,2	1,6 - 2,0	1,3	0,32
0769915	15 - 25	575 - 480	6,0 - 7,0	2,0	0,2	2,5 - 3,1	1,3	0,32
0769916	25 - 40	480 - 420	6,0 - 7,5	2,0	0,2	3,8 - 4,5	1,3	0,32
0769917	40 - 60	415 - 355	5,5 - 7,5	2,0	0,2	4,2 - 5,6	1,3	0,32
0769918	60 - 100	350 - 275	6,0 - 8,5	2,0	0,2	7,6 - 10,6	1,3	0,32
0769919*	100 - 150	270 - 195	6,5 - 7,5	2,5	0,3	11,5 - 13,0	1,4	0,35
0769920	100 - 200	270 - 180	7,5 - 9,5	3,0	0,3	13,3 - 15,6	2,4	0,60
0769921	200 - 250	180 - 130	6,5 - 8,5	3,0	0,3	18,0 - 22,0	2,4	0,60
0769922	250 - 300	130 - 110	6,5 - 8,5	3,5	0,3	23,0 - 30,0	2,5	0,62

* It is special nozzle designed for effective hole piercing. It is to be used in combination with GSF 3-100 mm.

RAPID CUTTING NOZZLES

The rapid cutting system is designed for cutting of thin and medium dimensioned steel plates and long strips cutting. The nozzle operates with an oxygen curtain, which has the function of a shielding gas protecting oxygen stream against decontamination. The system provides a high cutting quality with smooth cut surfaces and sharp cutting top edges even achieving very high cutting speeds. Its unique design offers a wide cutting range while cutting different plate thickness by reducing the number of nozzle exchanges. Both cutting and heating nozzles are delivered assembled as one item.

ARC - ACETYLENE



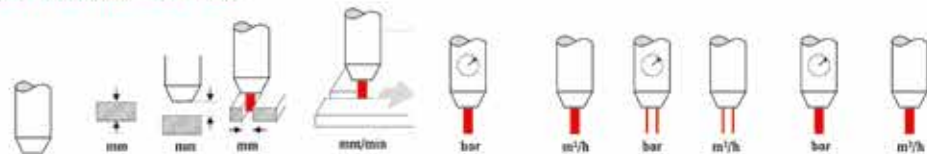
Art. Nr.					Acetylene	Heating oxygen		Cutting oxygen		
F25510003	3	4,0	2,6	1100 - 1050	0,2 - 0,8	0,5	1,5	0,6	8,0	5,7
	5	4,0	2,6	1000 - 950	0,2 - 0,8	0,5	1,5	0,6	8,0	5,7
	10	6,0	2,6	920 - 870	0,2 - 0,8	0,5	1,5	0,5	8,0	5,7
	15	6,0	2,7	820 - 780	0,2 - 0,8	0,5	1,5	0,6	10,0	7,0
	20	6,0	2,7	740 - 680	0,2 - 0,8	0,5	1,5	0,6	10,0	7,0
	25	6,0	2,7	670 - 610	0,2 - 0,8	0,5	1,5	0,6	10,0	7,0
	30	6,0	2,7	600 - 550	0,2 - 0,8	0,5	1,5	0,6	10,0	7,0
F25510004	40	6,0	2,7	480 - 420	0,2 - 0,8	0,5	1,5	0,6	10,0	7,0
	3	4,0	3,0	1100 - 1050	0,2 - 0,8	0,5	1,5	0,6	8,0	9,2
	5	4,0	3,0	1000 - 950	0,2 - 0,8	0,5	1,5	0,6	8,0	9,2
	10	6,0	3,0	920 - 870	0,2 - 0,8	0,5	1,5	0,5	8,0	9,2
	15	6,0	3,2	820 - 780	0,2 - 0,8	0,5	1,5	0,6	10,0	11,1
	20	6,0	3,2	740 - 680	0,2 - 0,8	0,5	1,5	0,6	10,0	11,1
	25	6,0	3,2	670 - 610	0,2 - 0,8	0,5	1,5	0,6	10,0	11,1
	30	6,0	3,2	600 - 550	0,2 - 0,8	0,5	1,5	0,6	10,0	11,1
	40	6,0	3,2	480 - 420	0,2 - 0,8	0,5	1,5	0,6	10,0	11,1
	50	9,0	3,3	460 - 380	0,2 - 0,8	0,7	2,25	0,8	10,0	11,1
70	12,0	3,5	320 - 260	0,2 - 0,8	0,7	2,25	0,8	10,0	11,1	

RAPID CUTTING



Ask for delivery time.

PRC - PROPANE, NATURAL GAS



Art. Nr.					Fuel gas	Heating oxygen		Cutting oxygen		
F25510001	5	6,0	2,8	930 - 850	0,2 - 0,8	0,4	1,5	1,6	8,0	5,7
	10	6,0	2,8	840 - 760	0,2 - 0,8	0,4	1,5	1,6	8,0	5,7
	15	6,0	2,9	760 - 700	0,2 - 0,8	0,4	1,5	1,6	10,0	7,0
	20	6,0	2,9	690 - 610	0,2 - 0,8	0,4	1,5	1,6	10,0	7,0
	25	6,0	2,9	620 - 540	0,2 - 0,8	0,4	1,5	1,6	10,0	7,0
	30	6,0	2,9	540 - 460	0,2 - 0,8	0,4	1,5	1,6	10,0	7,0
	40	6,0	2,9	410 - 360	0,2 - 0,8	0,4	1,5	1,6	10,0	7,0
F25510002	5	6,0	3,0	930 - 850	0,2 - 0,8	0,4	1,5	1,6	8,0	9,2
	10	6,0	3,2	840 - 760	0,2 - 0,8	0,4	1,5	1,6	8,0	9,2
	15	6,0	3,2	760 - 700	0,2 - 0,8	0,4	1,5	1,6	10,0	11,1
	20	6,0	3,2	690 - 610	0,2 - 0,8	0,4	1,5	1,6	10,0	11,1
	25	6,0	3,2	630 - 550	0,2 - 0,8	0,4	1,5	1,6	10,0	11,1
	30	6,0	3,2	570 - 490	0,2 - 0,8	0,4	1,5	1,6	10,0	11,1
	40	6,0	3,2	490 - 440	0,2 - 0,8	0,4	1,5	1,6	10,0	11,1
	50	9,0	3,3	410 - 350	0,2 - 0,8	0,5	2,2	2,1	10,0	11,1
	70	12,0	3,5	300 - 260	0,2 - 0,8	0,5	2,2	2,1	10,0	11,1

RAPID CUTTING



Ask for delivery time.

MACHINE CUTTING TORCH BIR+™

MACHINE CUTTING TORCH BIR+™, INJECTOR TYPE



GCE BIR+™

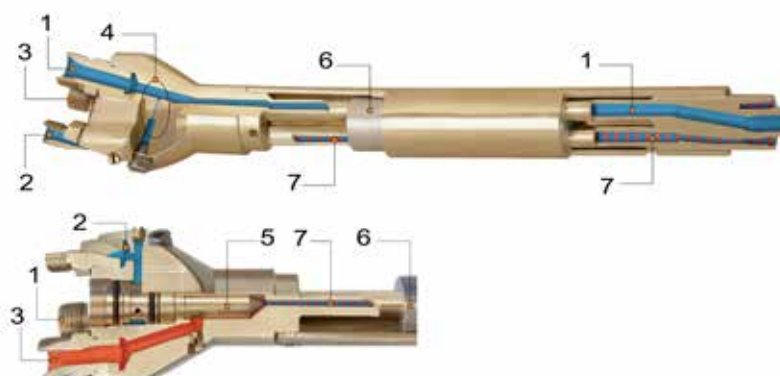
COOLEX® inside - unique cooling system. Stable and safe brass injector is placed in the massive torch body. Aluminium cooling heat exchanger downstream the injector completes cooling function of the BIR+™. Heat is transported away from the injector which protects the torch against backfire. These features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

Suitable for use with cutting nozzle types (AC, ASD, AHD) for acetylene and (PUZ, PSD, PHD) for propane, natural gas and mixed fuel gases.

Art. Nr.	Length / diameter	Gas	Connection
14055239	110/32	A	G3/8", G3/8"LH, G1/4"
14055218	220/32	A	G3/8", G3/8"LH, G1/4"
14055241	320/32	A	G3/8", G3/8"LH, G1/4"
14055217	220/32	F	G3/8", G3/8"LH, G1/4"
14055242	110/32	PM	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"

Other lengths and diameters on customer request.

FEATURES OF MACHINE CUTTING TORCH BIR+™



- 1 Cutting oxygen
- 2 Heating oxygen
- 3 Fuel gas
- 4 COOLEX® flow valve
- 5 Injector
- 6 Aluminium cooling body
- 7 Fuel gas/oxygen mixture

CUTTING NOZZLES AC – ACETYLENE

Cutting nozzle



Heating nozzle

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.

Art. Nr	mm	mm/min	Cutting oxygen bar	Heating oxygen bar	Acet. bar	Cutting oxygen m³/h	Heating oxygen m³/h	Acet. m³/h
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						

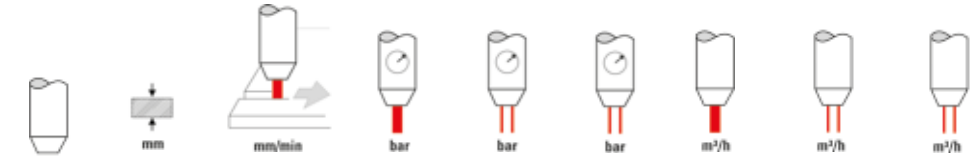
CUTTING NOZZLES ASD – ACETYLENE

Cutting nozzle



Heating nozzle

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							

HIGH SPEED CUTTING

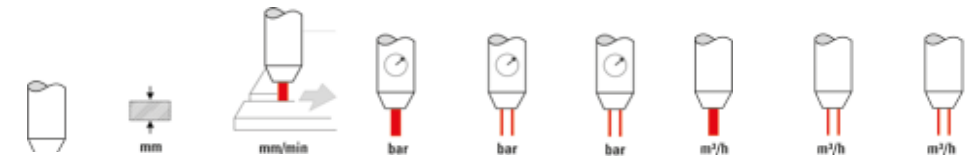
CUTTING NOZZLES AHD – ACETYLENE

Cutting nozzle



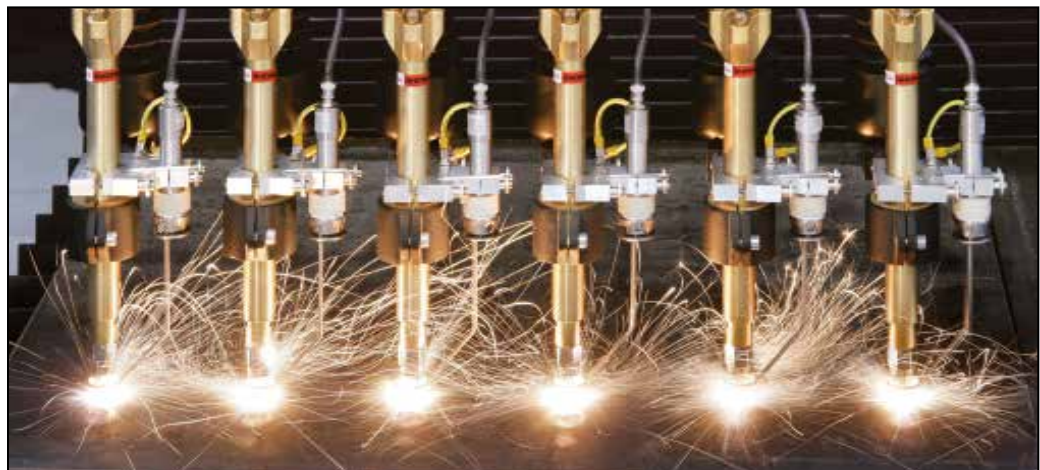
Heating nozzle

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							

HIGH PERFORMANCE CUTTING



BIR+™ multi-torch hole piercing

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

Cutting nozzle



Heating nozzle

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.

Art. Nr.	mm	mm/min	Cutting oxygen bar	Heating oxygen bar	Fuel gas bar	Cutting oxygen m ³ /h	Heating oxygen m ³ /h	Fuel gas m ³ /h
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						

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

Cutting nozzle



Heating nozzle

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 m ³ /h	Heating oxygen m ³ /h	Fuel gas m ³ /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
14001250*	100 - 150	270 - 180	6,5 - 7,5	2,5	0,3	11,5 - 13,0	1,4	0,35
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
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!

HIGH SPEED CUTTING

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 m ³ /h	Heating oxygen m ³ /h	Fuel gas m ³ /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						

HIGH PERFORMANCE CUTTING

MACHINE CUTTING TORCHES JETSTREAM, FIT™ AND BM31CF

MACHINE CUTTING TORCHES – INJECTOR TYPE

The nozzle seat is designed for fixing of the GCE nozzles with original flat nozzle seat: MA133, MP133, JETEX and PROPEX.

TORCH TYPE JETSTREAM

Art. Nr.	Length/diam.	Gas	Connection	Including
203021311	220/32	A	2×UNF 9/16", 1×UNF 9/16"LH	BV12 + hose nipple 3×6,3 + valves
203021315	400/32	A	2×UNF 9/16", 1×UNF 9/16"LH	BV12 + hose nipple 3×6,3 + valves
203021301	220/32	A	G3/8", G3/8"LH, G1/4"	BV12 + hose nipple 2×8, 1×6,3 + valves
203021306	400/32	A	G3/8", G3/8"LH, G1/4"	BV12 + hose nipple 2×8, 1×6,3 + valves
203021313	220/32	PM	2×UNF 9/16", 1×UNF 9/16"LH	BV12 + hose nipple 3×6,3 + valves
203021317	400/32	PM	2×UNF 9/16", 1×UNF 9/16"LH	BV12 + hose nipple 3×6,3 + valves
203021304	220/32	PM	G3/8", G3/8"LH, G1/4"	BV12 + hose nipple 2×8, 1×6,3 + valves

TORCH TYPE FIT™

Art. Nr.	Length/diam.	Gas	Connection
0766107	220/32	PM	G3/8", G3/8"LH, G1/4"
0766123	400/32	A	G3/8", G3/8"LH, G1/4"
0766106	220/32	A	G3/8", G3/8"LH, G1/4"
0766124	400/32	PM	G3/8", G3/8"LH, G1/4"



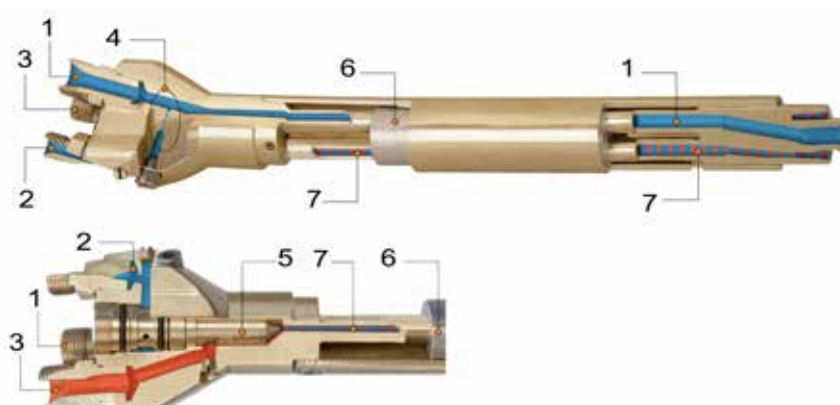
FEATURES OF MACHINE CUTTING TORCHES JETSTREAM AND FIT™

COOLEX® INSIDE

COOLEX® is unique cooling system - for more information see page 2. Then stable and safe brass injector is placed in the massive torch body. Aluminium cooling heat exchanger downstream the injector completes cooling function of the torches. 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.

RMS - RESONATOR MIXING SYSTEM

RMS is based on spiral injector covered in massive brass body. Spiral injector ensures quality oxygen-fuel gas mixing with keeping of maximal safety level. Any heat transported into the injector nozzle is effectively cooled by oxygen flow. RMS is active protection of acetylene JETSTREAM and FIT™ variants against flashback ensuring high equipment life time and safety environment.



- 1 Cutting oxygen
- 2 Heating oxygen
- 3 Fuel gas
- 4 COOLEX® flow valve
- 5 Injector
- 6 Aluminium cooling body
- 7 Fuel gas/oxygen mixture

CUTTING NOZZLES MA133 – ACETYLENE

High speed machine cutting nozzle with flat seat. 2-part design with chrome plated outer heating nozzle. Both cutting and heating nozzles are delivered assembled as one item.



HIGH SPEED CUTTING

Art. Nr.	mm	mm/min	Cutting oxygen	Heating oxygen	Acet.	Cutting oxygen	Heating oxygen	Acet.
202150330	3 - 8	900 - 650	3 - 5	1,5	0,2 - 0,8	1,25 - 1,85	0,55	0,5
202150331	8 - 15	800 - 600	5 - 6	1,5	0,2 - 0,8	2,15 - 2,6	0,55	0,5
202150332	15 - 30	680 - 460	6 - 7	1,5	0,2 - 0,8	3,6 - 4,15	0,55	0,5
202150333	30 - 50	450 - 360	6,5 - 7,5	1,5	0,2 - 0,8	5,2 - 5,85	0,55	0,5
202150334	50 - 70	475 - 340	7,5	2,3	0,2 - 0,8	7,8 - 8	0,715	0,65
202150335	70 - 100	365 - 250	7 - 8	2,3	0,2 - 0,8	11,1 - 12,3	0,715	0,65
202150336	100 - 200	250 - 150	5,5 - 7,5	2,0 - 2,5	0,6	11,7 - 15,7	0,75 - 0,85	0,58 - 0,77
202150337	200 - 300	180 - 110	5,5 - 6,5	4 - 5	0,6	28,6 - 31	1,12 - 1,47	1,02 - 1,34

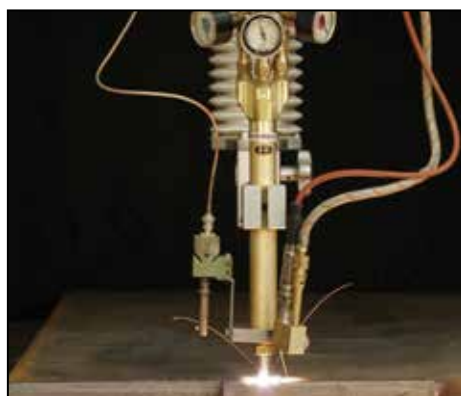
CUTTING NOZZLES JETEX® – ACETYLENE

Rapid cutting nozzles with an oxygen curtain and flat seat. Both cutting and heating nozzles are delivered assembled as one item.



RAPID CUTTING

Art. Nr.	mm	mm	mm	mm/min	Acetylene	Heating oxygen	Cutting oxygen
202150191	3	4,0	2,6	1100 - 1050	0,2 - 0,8	0,5	8,0
	5	4,0	2,6	1000 - 950	0,2 - 0,8	0,5	8,0
	10	6,0	2,6	920 - 870	0,2 - 0,8	0,5	8,0
	15	6,0	2,7	820 - 780	0,2 - 0,8	0,5	10,0
	20	6,0	2,7	740 - 680	0,2 - 0,8	0,5	10,0
	25	6,0	2,7	670 - 610	0,2 - 0,8	0,5	10,0
	30	6,0	2,7	600 - 550	0,2 - 0,8	0,5	10,0
	40	6,0	2,7	480 - 420	0,2 - 0,8	0,5	10,0
202150192	3	4,0	3,0	1100 - 1050	0,2 - 0,8	0,5	8,0
	5	4,0	3,0	1000 - 950	0,2 - 0,8	0,5	8,0
	10	6,0	3,0	920 - 870	0,2 - 0,8	0,5	8,0
	15	6,0	3,2	820 - 780	0,2 - 0,8	0,5	10,0
	20	6,0	3,2	740 - 680	0,2 - 0,8	0,5	10,0
	25	6,0	3,2	670 - 610	0,2 - 0,8	0,5	10,0
	30	6,0	3,2	600 - 550	0,2 - 0,8	0,5	10,0
	40	6,0	3,2	480 - 420	0,2 - 0,8	0,5	10,0
	50	9,0	3,3	460 - 380	0,2 - 0,8	0,7	10,0
	70	12,0	3,5	320 - 260	0,2 - 0,8	0,7	10,0



Cutting with Jetstream



Preheating with FIT™

CUTTING NOZZLES MP133 – PROPANE, NATURAL GAS

High speed machine cutting nozzle with flat seat. 2-part design with chrome plated outer heating nozzle. Both cutting and heating nozzles are delivered assembled as one item.



Art. Nr.	mm	mm/min	Cutting oxygen	Heating oxygen	Fuel g.	Cutting oxygen	Heating oxygen	Fuel g.
202150320	3 - 10	750 - 600	4 - 5	2	0,1 - 0,8	2	2	0
202150321	10 - 15	635 - 540	5 - 6	2	0,1 - 0,8	2,32 - 2,6	2	0
202150322	15 - 30	580 - 440	6 - 7	2	0,1 - 0,8	3,6 - 4	1,6 - 1,75	0,40 - 0,44
202150323	30 - 50	470 - 380	6,5 - 7,5	2	0,1 - 0,8	4,85 - 5,7	2	0
202150324	50 - 70	400 - 300	7 - 7,5	2	0,1 - 0,8	7,4 - 7,75	2	1
202150325	70 - 100	320 - 250	7 - 8	2	0,1 - 0,8	11,1 - 12,3	2	1
202150326	100 - 200	250 - 150	5,5 - 7,5	2	0,3 - 0,8	11,7 - 15,7	2	1
202150327	200 - 300	180 - 110	5,5 - 6,5	3	0,3 - 0,8	26,8 - 31	3	1

HIGH SPEED CUTTING

CUTTING NOZZLES MY133 – MIXED FUEL GASES

High speed machine cutting nozzle with flat seat. 2-part design with chrome plated outer heating nozzle. Both cutting and heating nozzles are delivered assembled as one item.



Art. Nr.	mm	mm/min	Cutting oxygen	Heating oxygen	Fuel gas	Cutting oxygen	Heating oxygen	Fuel gas
202150340	3 - 10	750 - 600	4 - 5	2	0,1 - 0,8	2	2	0
202150341	10 - 15	635 - 540	5 - 6	2	0,1 - 0,8	2,32 - 2,6	2	0
202150342	15 - 30	580 - 440	6 - 7	2	0,1 - 0,8	3,6 - 4	1,6 - 1,75	0,40 - 0,44
202150343	30 - 50	470 - 380	6,5 - 7,5	2	0,1 - 0,8	4,85 - 5,7	2	0
202150344	50 - 70	400 - 300	7 - 7,5	2	0,1 - 0,8	7,4 - 7,75	2	1
202150345	70 - 100	320 - 250	7 - 8	2	0,1 - 0,8	11,1 - 12,3	2	1
202150346	100 - 200	250 - 150	5,5 - 7,5	2	0,3 - 0,8	11,7 - 15,7	2	1
202150347	200 - 300	180 - 110	5,5 - 6,5	3	0,3 - 0,8	26,8 - 31	3	1

HIGH SPEED CUTTING

CUTTING NOZZLES PROPEX – PROPANE

Rapid cutting nozzles with an oxygen curtain and flat seat. Both cutting and heating nozzles are delivered assembled as one item.



Art. Nr.	mm	mm	mm	mm/min	Fuel gas	Heating oxygen	Cutting oxygen
202150370	5	6,0	2,8	930 - 850	0,2 - 0,8	0,4	8,0
	10	6,0	2,8	840 - 760	0,2 - 0,8	0,4	8,0
	15	6,0	2,9	760 - 700	0,2 - 0,8	0,4	10,0
	20	6,0	2,9	690 - 610	0,2 - 0,8	0,4	10,0
	25	6,0	2,9	620 - 540	0,2 - 0,8	0,4	10,0
	30	6,0	2,9	540 - 460	0,2 - 0,8	0,4	10,0
	40	6,0	2,9	410 - 360	0,2 - 0,8	0,4	10,0
202150371	5	6,0	3,0	930 - 850	0,2 - 0,8	0,4	8,0
	10	6,0	3,2	840 - 760	0,2 - 0,8	0,4	8,0
	15	6,0	3,2	760 - 700	0,2 - 0,8	0,4	10,0
	20	6,0	3,2	690 - 610	0,2 - 0,8	0,4	10,0
	25	6,0	3,2	630 - 550	0,2 - 0,8	0,4	10,0
	30	6,0	3,2	570 - 490	0,2 - 0,8	0,4	10,0
	40	6,0	3,2	490 - 440	0,2 - 0,8	0,4	10,0
	50	9,0	3,3	410 - 350	0,2 - 0,8	0,5	10,0
	70	12,0	3,5	300 - 260	0,2 - 0,8	0,5	10,0

RAPID CUTTING

MACHINE CUTTING TORCH BGR™ (X541)

MACHINE CUTTING TORCH BGR™ (X541) – NOZZLE MIX TYPE



Suitable for use with nozzle mix tips for all fuel gases. The torch types BGR™ are defined for the adaptation of 30° nozzle cones (IC). The outer design corresponds to the BIR™ torch types and is robust and reliable.

TORCH TYPE BGR™

Art. Nr.	Length/dia	Gas	Connection	Note
14056220	220/32	APMY	G3/8", G3/8"LH, G1/4"	
14056320	320/32	APMY	G/8", G3/8"LH, G1/4"	incl. rack m 1,25

TORCH TYPE X541

Art. Nr.	Length/dia	Gas	Connection	Note
203021310	150/32	APMY	G3/8", G3/8"LH, G1/4"	BV12, hose nipple 2x8 and 1x6,3, valves
203021298	220/32	APMY	G3/8", G3/8"LH, G1/4"	BV12, hose nipple 2x8 and 1x6,3, valves
203021299	320/32	APMY	G3/8", G3/8"LH, G1/4"	BV12, hose nipple 2x8 and 1x6,3, valves

GCE BGR™

CUTTING NOZZLES A-MD COOLEX® – ACETYLENE

Nozzle with 2-piece design, outer nozzle and inner nozzle chrome plated, simple cleaning procedure, COOLEX® inside. Special acetylene high speed mixing cutting nozzle. Both cutting and heating nozzles are delivered assembled as one item.



HIGH SPEED CUTTING

Art. Nr.	mm	mm/min	Cutting oxygen	Heating oxygen	Acet.	Cutting oxygen	Heating oxygen	Acet.
14001450	3 - 5	800 - 750	2 - 3	1	0,3	0,4 - 0,55	1	0,5
14001451	6 - 10	750 - 700	4 - 5	1	0,3	1,2 - 1,4	1	0,5
14001452	10 - 25	650 - 500	6,5 - 7,5	1	0,3	3,2 - 3,7	1	0,5
14001453	25 - 40	500 - 420	6,5 - 8	1	0,3	4,6 - 5,5	1	0,5
14001454	40 - 60	420 - 360	6,5 - 8,5	1,5	0,3	5,6 - 7,1	1	0,7
14001455	60 - 100	360 - 270	6,5 - 8	1,5	0,3	9,1 - 11	1	0,7
14001456	100 - 150	270 - 210	6,5 - 7	1,5	0,4	12,2 - 12,9	1	0,7
14001457	150 - 230	210 - 130	6,5 - 7,5	2	0,4	19,4 - 22	2	1,4
14001458	230 - 300	140 - 110	6,5 - 7,5	2	0,6	28,5 - 32,5	2	1,4

CUTTING NOZZLE TRITEX – ACETYLENE

Modern high performance cutting oxygen channel, outer and inner nozzle chrome plated. 2-piece design, simple cleaning procedure, COOLEX® inside. Special acetylene high performance mixing cutting nozzle. Both cutting and heating nozzles are delivered assembled as one item.



HIGH PERFORMANCE CUTTING

Art. Nr.	mm	mm/min	Cutting oxygen	Heating oxygen	Acet.	Cutting oxygen	Heating oxygen	Acet.
219144464	3 - 5	760 - 700	3 - 4	1	0,6	0,5 - 0,6	1	0,5
219144465	6 - 10	700 - 650	5 - 7,5	1	0,6	1,6 - 2,1	1	0,5
219144466	10 - 25	725 - 530	9 - 11	1	0,6	4,2	1	0,5
219144467	25 - 50	530 - 410	9 - 11	1	0,6	4,3 - 5,2	1	0,5
219144468	50 - 75	410 - 330	10 - 11	1,5	0,7	6,7 - 8,1	0,55 - 0,7	0,5 - 0,7
219144469	75 - 100	330 - 280	10 - 11	1,5	0,7	8,9 - 10,2	1	0,7
219144470	100 - 150	280 - 210	9 - 10	1,5	0,7	9,5 - 11,5	0,8 - 1,3	0,7 - 1
219144471	150 - 240	210 - 130	6,5 - 7,5	2	0,8	19 - 22	1,5 - 1,8	1,2 - 1,5
219144472	240 - 300	130 - 110	6,5 - 7,5	2	0,8	28 - 32	3	2,2

CUTTING NOZZLES K50 PUZ AND K70 PUZ – PROPANE, NATURAL GAS

Standard mixing cutting nozzle for application on all cutting devices. 2 - part design of inner cutting nozzle based on PUZ. Outer heating nozzle is chrome plated for longer life time. Both cutting and heating nozzles are delivered assembled as one item. K50 is for cutting up to 100mm, K70 for cutting of 100-300mm steel plate thickness.



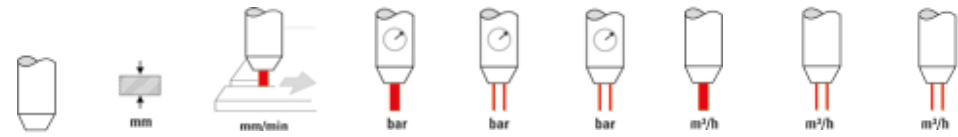
Cutting nozzle complete



Nozzle adapter



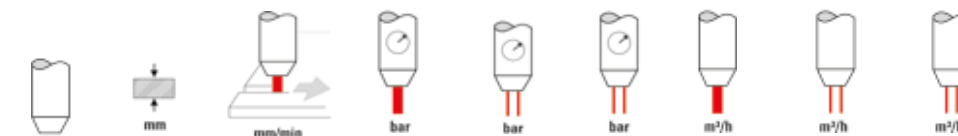
Heating nozzle



Art. Nr.	mm	mm/min	Cutting oxygen bar	Heating oxygen bar	Fuel g. bar	Cutting oxygen m ³ /h	Heating oxygen m ³ /h	Fuel g. m ³ /h
14001749	3 - 10	660 - 550	2 - 3	2,5	0,3	1,3 - 1,7	1,4	0,36
14001750	10 - 25	560 - 400	3 - 4,5	3	0,3	1,7 - 2,6	1,6	0,41
14001751	25 - 40	400 - 340	4 - 5	3	0,3	2,8 - 3,4	1,6	0,41
14001753	40 - 60	340 - 300	4,5 - 5,5	3	0,3	4,6 - 5,6	1,6	0,41
14001755	60 - 100	310 - 260	5 - 6	3	0,3	8,1 - 9,5	1,6	0,41
14001761	100 - 200	260 - 180	5,5 - 6,5	3,5 - 5,5	0,4	12,6 - 14,4	1,8 - 2,6	0,49 - 0,7
14001762	200 - 300	180 - 110	6,5 - 8,5	5,5 - 7,5	0,4	23,1 - 29,1	2,6 - 3,4	0,7 - 0,92
14050765	Spare part, nozzle adapter (3 cone, 30° International Cone)							
14001763	Spare part, heating nozzle separate							

HEAVY-DUTY CUTTING NOZZLES PNMH - PROPANE, NATURAL GAS

PNMH nozzles are designed for heavy-duty cutting for thicknesses above 300mm. Massive copper design provides high heat resistance. The wide cutting range requires proper gas supply system with high flow capacity components (pipeworks, pressure regulators, rubber hoses, isolating valves, solenoid valves, proportional valves, flashback arrestors, etc).



Art. Nr.	mm	mm/min	Cutting oxygen bar	Heating oxygen bar	Fuel g. bar	Cutting oxygen m ³ /h	Heating oxygen m ³ /h	Fuel g. m ³ /h
1299895	300	150	7,7	5	0,5	30	6,5 1,	1
1299896	400	100	10,2	7	0,6	46	10,5	1,8
1299896	500	85	11,2	7	1	55	10,5	4,8
1263580	300-500	Heating nozzle PM						



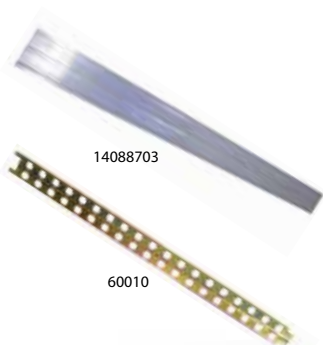
500 mm steel plate cutting

GCE proFIT®

PORTABLE STRAIGHT LINE CUTTING MACHINE



GCE proFIT®



Art. Nr.	Description
548900060001	GCE proFIT® machine with one nozzle mix torch, without track
548900060000	GCE proFIT® machine without torch, without track

TECHNICAL DATA

Cutting capacity	up to 150 mm with one torch, up to 100 mm with two torches
Cutting speed	75 - 700 mm/min
Operation	forward and reverse with variable speed
Circle cutting diameter	110 – 1340 mm (optional up to 2340 mm)
Max. strip width	485 mm (cutting with two torches paralel)
Power supply	230V AC / 50 Hz
Engine supply	24V DC
Oxygen inlet connection	G1/4", up to 8 bar, hose min. DN8
Fuel gas inlet connection	G3/8"LH, up to 1 bar, hose min. DN8
Machine dimensions	180 × 380 × 160 (W × L × H) without torch, hoses and torch bar
Weight	13 kg with one torch, 16 kg with two torches

BASIC MACHINE PACKAGE INCLUDES:

- equipment for one torch-cutting application
- one nozzle mix cutting torch (only for 548900060001)
- torch holder, torch bar, stainless steel heat shield, circle cutting pole, circle centre-piece
- internal gas hoses, gas manifold with shut-off valves
- 10 m electric cable with plug DIN
- nozzle mounting and cleaning accessories, flame lighter
- guide rail and cutting nozzles are delivered separately from the machine



GCEproFIT® in operation

CUTTING TORCHES

There is one nozzle mix and two variants of injector cutting torch available. Injector cutting torch BIR Mini shall be used with two-piece cutting nozzles screwed into the torch head. FIT Mini is designed with reliable and unique flat seat. Fuel gas type has to be considered in case of injector torch. All torches are in accordance with ISO 5172.

Art. Nr.	Description	Gas type	Recomended cutting nozzles	Pos.
0766262	Nozzle mix cutting torch	APMYF	ANME, AMD COOLEX, PNME, K50PUZ	1
0766221	BIR Mini, injector cutting torch	A	AC, (ASD)	2
0766222	BIR Mini, injector cutting torch	PMYF	PUZ, (PSD)	2
0766173	FIT Mini, injector cutting torch	A	MA133	3
0766174	FIT Mini, injector cutting torch	PMYF	MP133, (MY133)	3

ACCESSORIES AND SPARE PARTS

Art. Nr.	Description
14088703	Stabile guide rail track 2 m, extruded aluminium profile with connecting clip
60010	Basic guide rail track 2 m, Zn-coated steel
304605940	Extension kit for second cutting torch (proper torch is to be ordered separately)
14008263	Flashback Arrestor, Heating oxygen, G1/4"
14008278	Flashback Arrestor, Fuel gas, G3/8" LH
14008157	Brass cleaning brush
548904225520	Stainless steel conical cleaning needle for cutting oxygen channels
304604911-JR	Gas manifold for one cutting torch
304605911-JR	Gas manifold for two cutting torches
304604914	Cutting torch holder
304604924	Circle diameter extension

PORTABLE SHAPE CUTTING MACHINE SCM

SHAPE CUTTING MACHINE SCM – ACETYLENE / PROPANE, NATURAL GAS



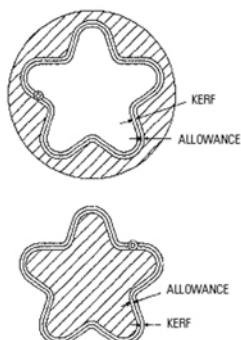
This easy to use machine can reproduce profiles from a reusable steel template. The steel template is traced by a powered magnetic roller with a variable speed SCR control system to provide maximum stability. The template mounting arm is fully adjustable. Templates for internal and external tracing are easily produced by simply incorporating an allowance for the tracing roller diameter and kerf.

The torch uses standard PNME or ANME tips for use with oxy-propane or oxy-acetylene and torch holder for square and bevel cuts and can be swivelled up for easy tip maintenance and replacement.

An automatic switch enables simultaneous use of the cutting oxygen and the drive. The machine can be used for circle cutting up to 700 mm diameter and can cut up to 1700 mm diameter using the extended circle attachment. Weighing only 50 kg this machine is easily portable for use in any location.

Art. Nr. Description

60050 Cutting Machine



TECHNICAL DATA

Weight:	50 kg
Power:	220 V AC
Motor:	24 V DC
Standard circle diameter:	30 - 700 mm
Extended circle diameter:	1700 mm
Square edges length:	30 - 600 mm
Cutting thickness:	3 - 100 mm
Cutting speed:	100 - 1000 mm/min
Cutting accuracy:	+/- 0,5 mm
Template magnet diameter:	10 mm

SCM ACCESSORIES



Art. Nr. Description Recommended cutting nozzels

548904046841 Nozzle mix cutting torch with rack ANME, PNME

548304684924 Hose set

CUTTING NOZZLES ANME – ACETYLENE



Art. Nr.	Thickness mm	Size inch	Cut. speed (mm/min)	Oxygen (bar)	Fuel gas (bar)	Oxygen (m ³ /h)	Fuel gas (m ³ /h)
0768670	3 - 6	1/32	560 - 470	2,5 - 3,5	0,3	1,25 - 1,65	0,3
0768635	5 - 12	3/64	480 - 390	3,0 - 4,0	0,3	2,12 - 3,2	0,4
0768599	10 - 75	1/16	400 - 205	3,5 - 4,5	0,3	3,2 - 4,45	0,45
0768636	70 - 100	5/64	220 - 150	4,5 - 5,5	0,5	8,4 - 9,8	0,6
0768662	90 - 150	3/32	160 - 125	5,5 - 6,0	0,5	9,2 - 14,6	0,75

CUTTING NOZZLES PNME – PROPANE, NATURAL GAS



Art. Nr.	Thickness mm	Size inch	Cut. speed (mm/min)	Oxygen (bar)	Fuel gas (bar)	Oxygen (m ³ /h)	Fuel gas (m ³ /h)
0769494	3 - 6	1/32	550 - 430	2,5 - 3,5	0,2	1,8 - 2,95	0,3
0769495	5 - 12	3/64	440 - 360	3,0 - 4,0	0,2	3,3 - 4,95	0,4
0769496	10 - 75	1/16	380 - 205	3,5 - 4,5	0,2	5,0 - 8,6	0,45
0769497	70 - 100	5/64	220 - 150	4,5 - 5,5	0,4	9,4 - 12,8	0,6
0769498	90 - 150	3/32	160 - 125	5,5 - 6,5	0,4	14,0 - 18,6	0,75

MACHINE CUTTING ACCESSORIES

FLASHBACK ARRESTORS FOR MACHINE CUTTING TORCHES EN 730-1, ISO 5175



Art. Nr.	Gas	Connection (EN 560)
14008408	Cutting oxygen	G3/8"
14008263	Heating oxygen	G1/4"
14008278	Fuel gas	G3/8" LH

NON RETURN VALVE BV 12 M



This non-return valve (EN 730-2) can be connected to the inlets of machine cutting torches BIR™, BGR™ and Jetstream.

Art. Nr.	Connection
0863561	G1/4"
0863563	G3/8"
203011054P	G3/8" LH

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 indication (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
548814071191P	Cleaning needle set (10 pieces)
218190051	Chemical nozzle cleaner

FLAME LIGHTER



Art. Nr.	Description
54800003001BP	Flame lighter (5 pieces)
5480003001XC	Space flint stone (1000 pcs)

LEAK DETECTION SPRAY



Art. Nr.	Description
WP22028	Gas leak detector 400 ml

ADJUSTMENT VALVES



Art. Nr.	Application	Connection (EN 560)
14056015	Cutting oxygen	G3/8"
14056016	Heating oxygen	G1/4"
14056017	Fuel gas	G3/8"LH
203010607P	Oxygen	UNF 9/16"
203010609P	Fuel gas	UNF 9/16"LH

SPANNER



Art. Nr.	Description
163811162890P	Multifunction spanner

HOSE NIPPLES



Art. Nr.	Hose diameter	For nut with connection (EN 560)
4599440P	8 mm	G3/8"
4599380P	6,3 mm	G1/4"

SLEEVE NUTS



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

STRIP CUTTING DEVICE



Max. cutting thickness 75 mm, max. strip 450 mm.

Art. Nr.	Torch	Gas
14055509	for BIR+™	with acetylene, propane, natural gas
14056012	for BGR™/X541	with all fuel gases
202235504	for FIT™/Jetstream	with acetylene, propane, natural gas
F25910001*	for GCE FIT+®	with acetylene, propane, natural gas

* Ask for delivery time.

BEVEL CUTTING DEVICE



Art. Nr.	Torch	Gas
219200073	for BGR™/X541	with acetylene, propane, natural gas
202235166	for FIT™/Jetstream	with all fuel gases
0764659	for BIR+™	with acetylene, propane, natural gas
F25910002*	for GCE FIT+®	with acetylene, propane, natural gas

* Ask for delivery time.

NOZZLE NUT



Art. Nr.	Torch
201032270	for FIT™/Jetstream/BM 31 CF
3551506P	for BGR™/X541 (5 pcs)



Bevel cutting with FIT™



Strip cutter for BGR™

ADJUSTMENT RECOMMENDATION FOR PERFECT MACHINE CUTTING



NARROWING OF KERF (DIVERGENT)

- Forward speed of torch too fast
- Distance between nozzle and sheet metal too big
- Dirty and / or damaged nozzle



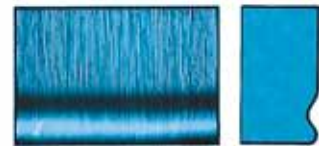
NARROWING OF KERF (CONVERGENT)

- Forward speed of torch too fast
- Distance between nozzle and sheet metal too big
- Cutting oxygen pressure too high



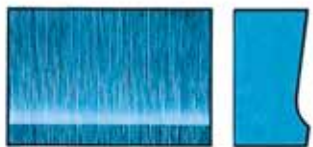
CONCAVE CUT SURFACE BENEATH TOP EDGE

- Cutting oxygen pressure too high
- Dirty and / or damaged nozzle
- Distance between nozzle and sheet metal too big



STEP AT BOTTOM EDGE

- Forward speed of torch too fast
- Dirty and / or damaged nozzle



CONCAVE CUT SURFACE PROFILE

- Forward speed of torch too fast
- Dirty and/or damaged nozzle or nozzle size too small for the thickness to be cut
- Cutting oxygen pressure too low



IRREGULAR CUT SURFACE PROFILE

- Cutting oxygen pressure too low
- Dirty and / or damaged nozzle
- Forward speed of torch too fast



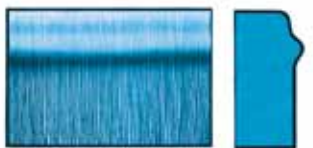
EDGE MELTING ON

- Forward speed of torch too slow
- Heating flame too strong
- Distance between nozzle and sheet metal too big to too small
- Nozzle size too big for the thickness to be cut



STRING OF SOLIDIFIED DROPLETS

- Heating flame too strong
- Distance between nozzle and sheet metal too small
- Scaled or corroded sheet metal surface



MELTED DOWN TOP EDGE WITH ADHERENT SLAG

- Cutting oxygen pressure too high
- Heating flame too strong
- Distance between nozzle and sheet metal too big



LOWER EDGE ROUNDED

- Cutting oxygen pressure too high
- Forward speed of torch too fast
- Dirty and / or damaged nozzle



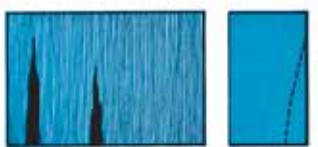
EXCESSIVE CUT DRAG LINE DEPTH

- Forward speed of torch too fast or irregular
- Distance between nozzle and sheet metal too small
- Heating flame too strong



IRREGULAR DEPTH OF CUT LINE

- Forward speed of torch too fast or irregular
- Flame too weak



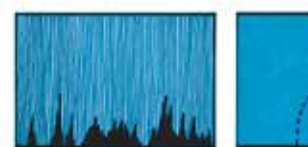
SINGLE GOUGES

- Forward speed of torch too slow
- Scaled or corroded or dirty sheet metal surface
- Distance between nozzle and sheet metal too small
- Flame too weak
- Flame extinguished with a ban
- Sheet metal with finely divided inclusions



GROUPED GOUGE AREAS

- Forward speed of torch too fast
- Scaled or corroded or dirty sheet metal surface
- Distance between nozzle and sheet metal too small
- Flame too weak



GROUPED GOUGES IN THE BOTTOM HALF OF THE CUT

- Forward speed of torch too slow
- Dirty and / or damaged nozzle



FIRMLY ADHERENT SLAG LINE AT BOTTOM EDGE

- Forward speed of torch too fast or too slow
- Distance between nozzle and sheet metal too big
- Cutting oxygen pressure too low
- Nozzle size too small for the thickness to be cut
- Flame too weak
- Scaled or corroded or dirty (colour) sheet metal surface

FUEL GASES



Methane (Natural Gas) - CH_4



Ethane - C_2H_6



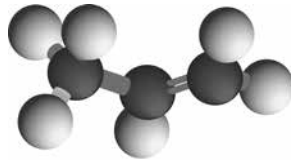
Ethene (ethylene) - C_2H_4



Ethine (acetylene) - C_2H_2



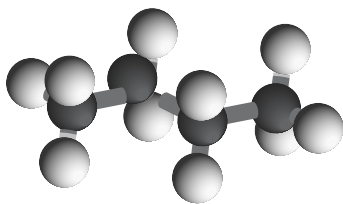
Propane - C_3H_8



Propene (propylene) - C_3H_6



Propyne (methylacetylene) - C_3H_4



n. - Butane - C_4H_{10}

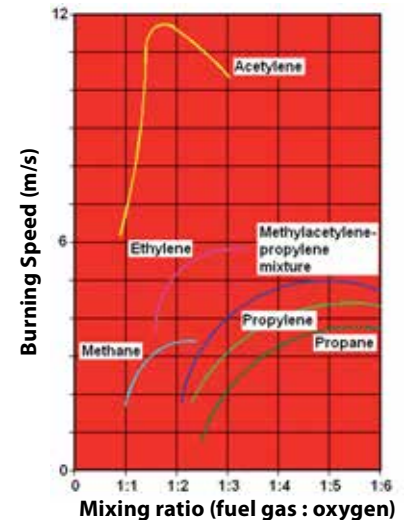
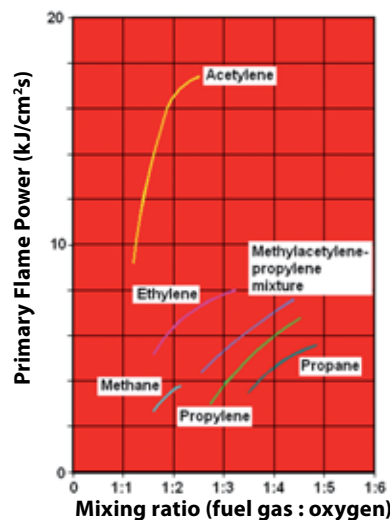
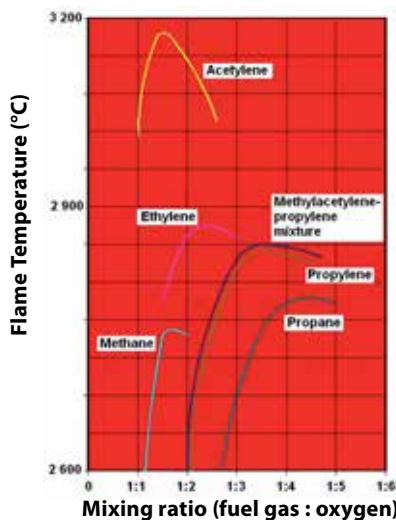


1 - Butene - C_4H_8



Butadiene - C_4H_6

FUEL GASES PROPERTIES



FUEL GASES PROPERTIES

Fuel gas type			Heating power		Mixing ratio		Flame temperature (°C)		Density	
					V oxygen / V fuel gas				1 bar, 15°C	liquid form
			MJ/m ³	MJ/kg	N	M	N	M	kg/m ³	kg/l
Hydrogen	H_2	H	10,758	119,533	0,36	0,42	2 835	2 856	0,09	0,07
Methane	CH_4	M	31,814	44,186	1,6	1,8	2 770	2 786	0,72	0,42
Acetylene	C_2H_2	A	56,93	48,678	1,1	1,5	3 106	3 160	1,17	0,62
Ethylene	C_2H_4	F	55,674	47,6	1,8	2,4	2 902	2 924	1,17	0,57
Propylene	C_3H_6	Y	89,999	46,153	2,8	3,5	2 872	2 896	1,95	0,58
Propane	C_3H_8	P	93,557	46,315	3,75	4,3	2 810	2 828	2,02	0,53

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

CIA - CENTRE OF INDUSTRIAL APPLICATIONS

GCE is one of the worlds leading companies in gas equipment and oxy-fuel applications. GCE has almost 100 years experience in the development, manufacture of oxy-fuel equipment and applications.

The Centre for Industrial Applications was founded in Czech facility in 2008. It is mainly used by customer support to assist transfer of knowledge to the GCE distribution network and to end users of GCE products. The Research and Development team members visit the CIA daily to test new products and applications. CIA is also used to develop training programmes, product demonstrations and professional seminars. An important role of the facility is to assist customers in oxy-fuel applications, identify optimal product set up and process parameters, specifically in:

- CNC oxy-fuel cutting
- Manual oxy-fuel cutting
- Powder cutting
- Oxygen lancing
- Various preheating of metals, glass and plastics
- Flame straightening of steel constructions
- Flame cleaning
- Flame brazing
- Gas welding

CIA is based in Czech Republic. An up to date CNC cutting machine is available along with portable cutting machines and an entire range of GCE oxy-fuel equipment. Supply systems of all common fuel gases are installed with a high capacity oxygen system. This enables the simulation of conditions similar to reality as in most metal fabricating facilities. Solutions of various oxy-fuel technologies can be investigated either in the GCE facility or worldwide on site at the customer. A team of qualified technicians with extensive practical experience is available to provide a comprehensive support service to a worldwide network of GCE products users.



GCE Group is one of the world's leading companies in the field of gas control equipment. The headquarters are in Malmö, Sweden, and the two major supply units are located in Europe and Asia. The company operates 15 subsidiaries around the world and employs more than 900 people. GCE Group includes four business areas – Cutting&Welding technology, Valves, Healthcare and Druva. Today's product portfolio corresponds to a large variety of applications, from single pressure regulators and blowpipes for cutting and welding to sophisticated gas supply systems for medical and electronics industry applications.

