

# Re Think!

It's time to innovate Oxy-Fuel cutting.



The next step  
in Oxy-Fuel Cutting  
from the market leaders!

## Automated Oxy-Fuel Cutting Systems

FIT+ with Tool-Free nozzle exchange

FIT+ two with integrated ignition

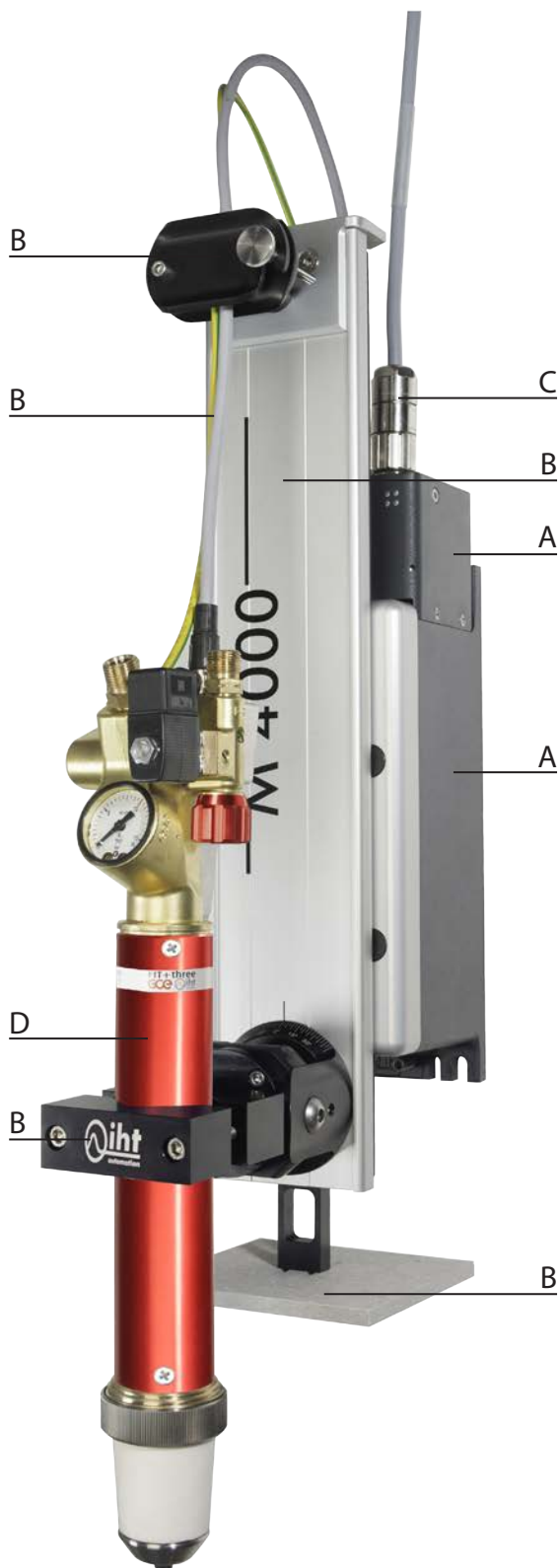
FIT+ three with integrated ignition and height sensing

M 4000 FIT+ with integrated ignition and height control



Gas Control Equipment

# M 4000 FIT+



## Oxy-Fuel Height Control System with Cutting Torch and Integrated Ignition

- Fully integrated Oxy-Fuel Cutting System with Cutting Torch, Ignition, Height Sensing and Lifter all in one package
- Fits on all carriages
- Easy integration with the CNC controller
- Works with all common CNC controllers on the market
- Optional fieldbus connectivity
- Modular approach allows highest flexibility
- Selection of best components ensures high cutting quality and productivity

## Application Fields

- Oxy-Fuel cutting machines for straight cutting of up to 300 mm thick sheets
- Single or multi torch applications
- 100 % compatible with the IHT M 4000 PCS and M 4000 BAS plasma systems
- Cut sheets up to 100 mm thickness when used with active height sensor and up to 300 mm with Splash Protector

## CNC Connections

- In: Automatic, control of torch height On / Off
- In: Clearance Setpoint (0-10 V), torch height setting during cutting process
- In: Piercing Setpoint (0-10 V), torch height setting during piercing process
- In: Ignite, start ignition command
- In: Manual Up, manual torch movement
- In: Manual Down, manual torch movement
- Out: Error/Collision
- Out: In Position, confirmation of set position
- Out: Upper Limit, highest possible point
- Power: 24 V DC, use of IHT power supply strongly recommended

## MACHINE CUTTING SYSTEM



Item No.	Description	Position
140700	M 4000 FIT+ Basic kit	A
140710	Guiding Rail kit 220+	B
140711	Guiding Rail kit 350	B
140712	Guiding Rail kit 500	B
100196	Linear Drive Cable, IHT 7500-2-901 (10 / 20 / 30 m)	C
140113	Sensor Torch FIT+ three 220/45PMY DIG (cutting torch with digital torch controller)	D
140114	Sensor Torch FIT+ three 220/45A DIG (cutting torch with digital torch controller)	D

For heating and cutting nozzles see page 11

## ACCESSORIES



Item No.	Description
140522	Heat Shield FIT+ three
100777	Splash Protector

## SPARE PARTS



Item No.	Description
140303	Cutting Torch FIT+ three 220/45PMY red (without torch controller)
140304	Cutting Torch FIT+ three 220/45A red (without torch controller)
140502	FIT+ three Torch Controller DIG
140550	FIT+ three Clearance Sensor Kit

## TOOLS



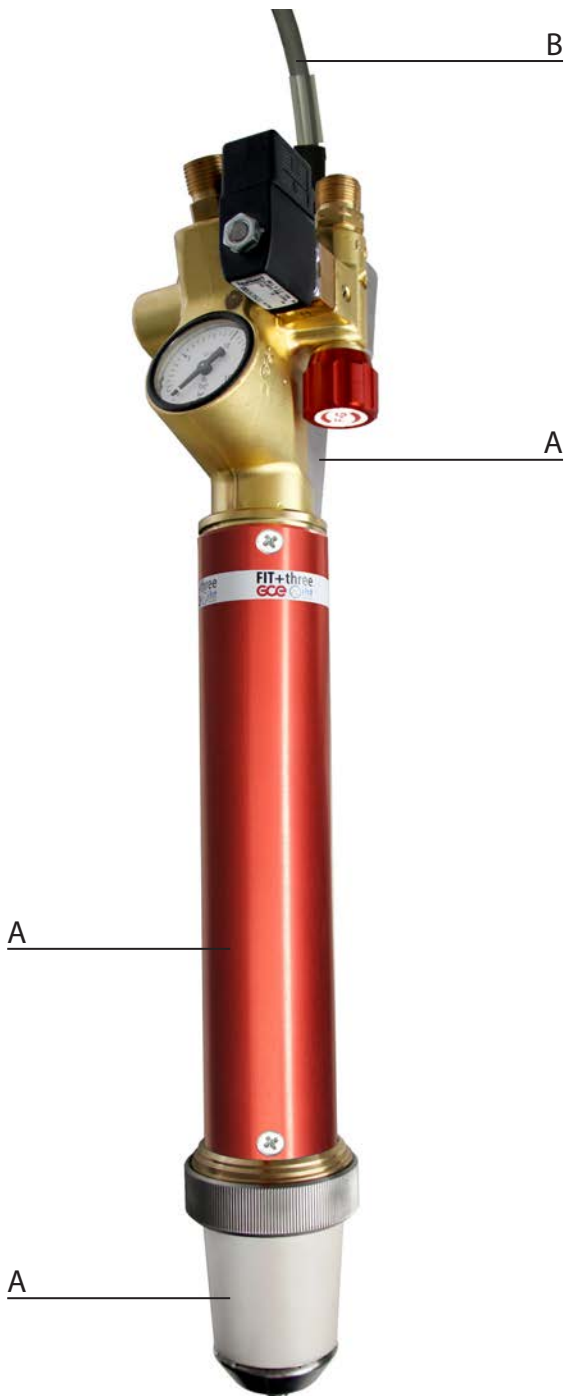
Item No.	Description
100775	Clearance Sensor Tool
100778	Pin Tool

## CONSUMABLES



Item No.	Description
100773	Clearance Sensor type B 14/19
100774	O-Ring (5 pcs)
100780	Contact Pin (5 pcs)

# FIT+ three



## Oxy-Fuel Machine Cutting Torch with Height Sensing and Integrated Ignition

- Increased cutting machine performance thanks to unique IHT height sensing system
- Integrated torch electronics can easily be connected to CNC systems
- Tool free nozzle and sensor system means reduces downtime
- Integrated control valves for heating oxygen and fuel gas for a quicker installation
- Built in pressure gauge for cutting oxygen improves cut quality

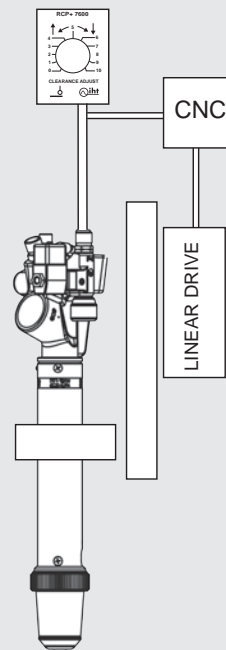
## Application Fields

- Oxy-Fuel cutting machines with integrated z-axis and motor controller
- The Torch Controller, attached to the Sensor Torch handles all required signals shown under CNC connections
- Cutting sheets to 100 mm thickness used with active height sensor and up to 300 mm with Splash Protector

## CNC Connections

- In: Clearance Setpoint (0-10 V)
- In: Ignite
- Out: Clearance Position (0-10 V)
- Out: Error
- Out: Collision
- Power: 24 V DC / 0,6 A

## Height Sensing Process



## MACHINE CUTTING SYSTEM



Item No.	Description	Position
140103	Sensor Torch FIT+ three 220/45PMY ANA (cutting torch with analogue torch controller)	A
140104	Sensor Torch FIT+ three 220/45A ANA (cutting torch with analogue torch controller)	A
140524	TC Cable three ANA, one end with wires (2 / 5 / 10 / 20 m)	B

For heating and cutting nozzle see page 11

## ACCESSORIES



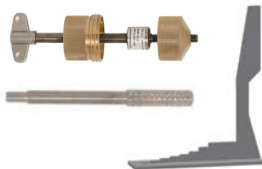
Item No.	Description
140522	Heat Shield FIT+ three
100777	Splash Protector

## SPARE PARTS



Item No.	Description
140303	Cutting Torch FIT+ three 220/45PMY red (without torch controller)
140304	Cutting Torch FIT+ three 220/45A red (without torch controller)
140501	FIT+ three Torch Controller ANA
140550	FIT+ three Clearance Sensor Kit

## TOOLS



Item No.	Description
100775	Clearance Sensor Tool
100778	Pin Tool
100779	Torch Setting Tool

## CONSUMABLES



Item No.	Description
100773	Clearance Sensor type B 14/19
100774	O-Ring (5 pcs)
100780	Contact Pin (5 pcs)

# FIT+ two



## Oxy-Fuel Machine Cutting Torch with Integrated Ignition

- Automatic ignition system build into the torch
- Improved productivity of the Oxy-Fuel cutting machine due to use of high-speed cutting nozzles
- Fast installation and safe operation with integrated control valves
- Easier for machine operators to handle thanks to use of Tool-Free Nozzle changing system
- High speed cutting nozzles for further improved cutting quality

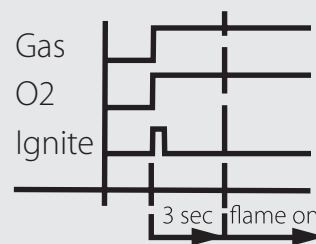
## Application Fields

- Oxy-Fuel cutting of straight and shaped cuts in accordance with ISO 9013
- Oxygen cutting from 3 to 300 mm
- Hole piercing up to 150 mm
- Can be used with with different fuel gases
- Compatible with all cutting machines
- Suitable for new installations as well as retrofitting

## Connections

- In: Ignite 24 V DC / 1 mA, start ignition command
- Out: Error
- Power 24 V DC / 1 A
- Earth / Ground

## Ignition Process



## MACHINE CUTTING TORCH



Item No.	Description
140203	Cutting Torch FIT+ two 220/40 PMY
140204	Cutting Torch FIT+ two 220/40 A

For heating and cutting nozzles see page 11

## SPARE PARTS / CONSUMABLES / TOOLS

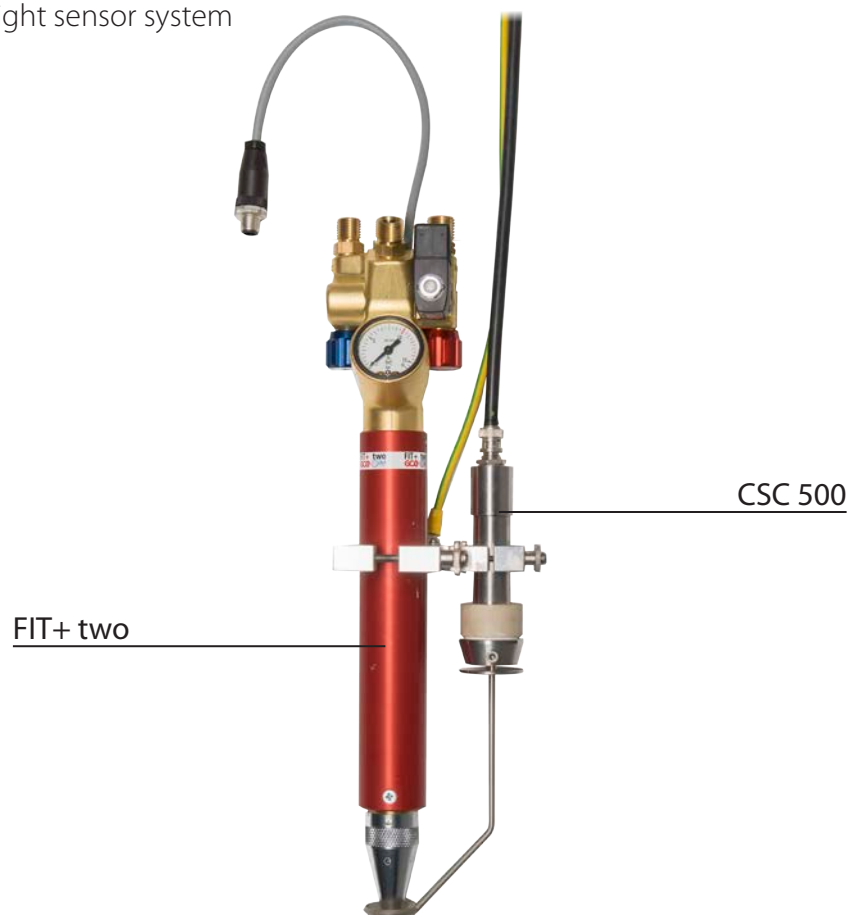
See page 11

## ACCESSORIES



Item No.	Description
100383	CSC 500 Height Sensor system with Ring (Ø 34 mm)

Cutting torch FIT+ two and height sensor system with ring electrode (Ø 34 mm)



# GCE FIT+®



## Oxy-Fuel Machine Cutting Torch

- Unique system for Oxy-Fuel machine cutting technology
- The product concept created based on the long-term partnership with the customers
- 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 Resonator Mixing system in acetylene variants
- Working efficiency with minimized nozzle exchange time
- Easy to handle for machine operators because of Tool-Free nozzle changing system
- Nozzle fixation done manually by special bayonet system, without a wrench
- One type of heating nozzle for all fuel gases
- Extended lifetime of consumable nozzles
- Conform to ISO 5172

## Application Fields

- Oxygen cutting of straight and shaped cuts in accordance with ISO 9013
- Oxygen cutting from 3 to 300 mm
- Hole piercing up to 150 mm
- Can be used with with different fuel gases
- Compatible with all cutting machines
- Suitable for new installations as well as retrofitting



## MACHINE CUTTING TORCH



Item No.	Description
0766121	Cutting Torch GCE FIT+ 220/32A
0766164	Cutting Torch GCE FIT+ 320/32A
0766223	Cutting Torch GCE FIT+ 110/32A
0766122	Cutting Torch GCE FIT+ 220/32PMY
0766165	Cutting Torch GCE FIT+ 320/32PMY
0766224	Cutting Torch GCE FIT+ 110/32PMY

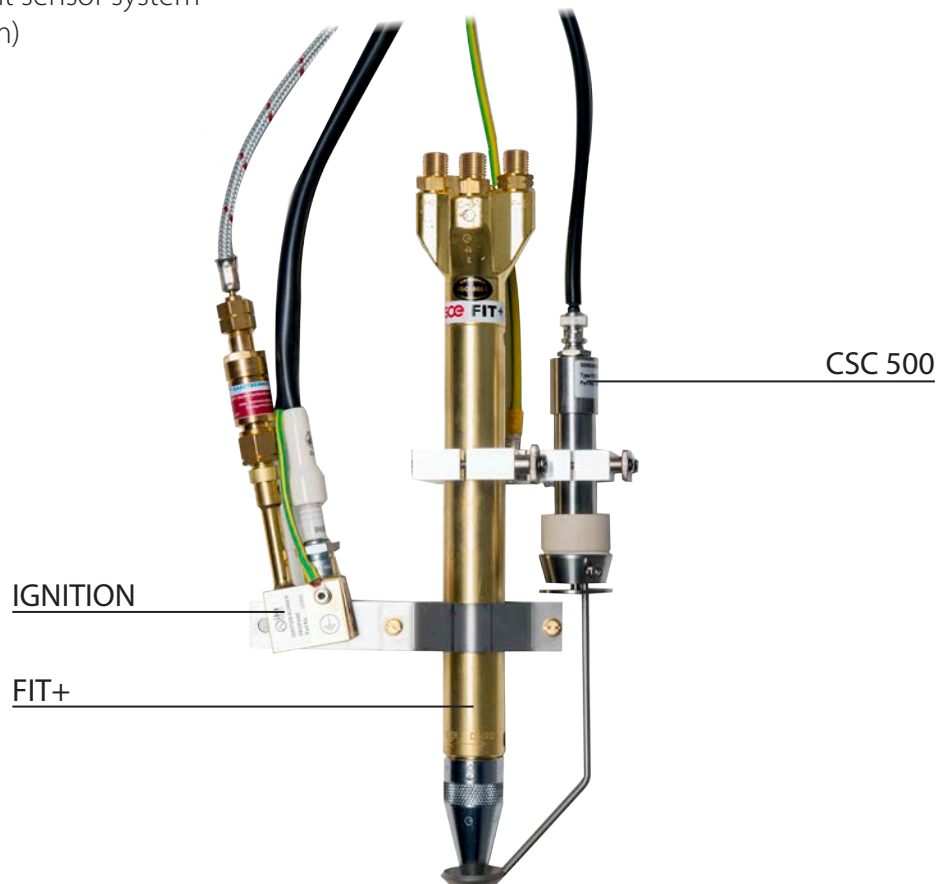
For heating and cutting nozzles see page 11

## ACCESSORIES

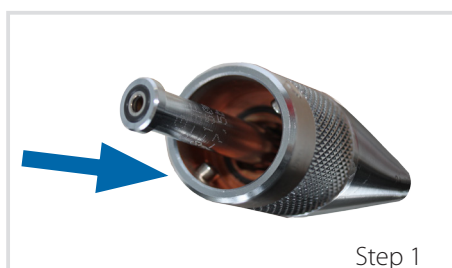
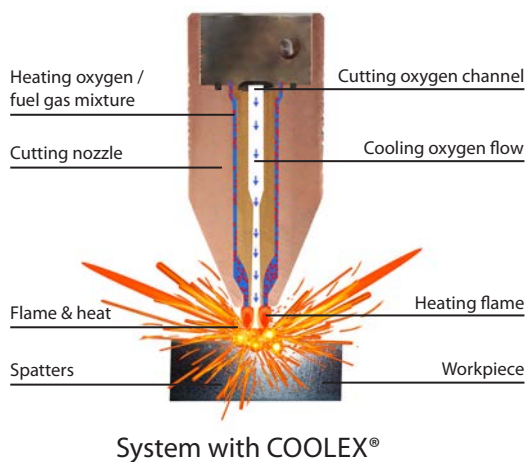
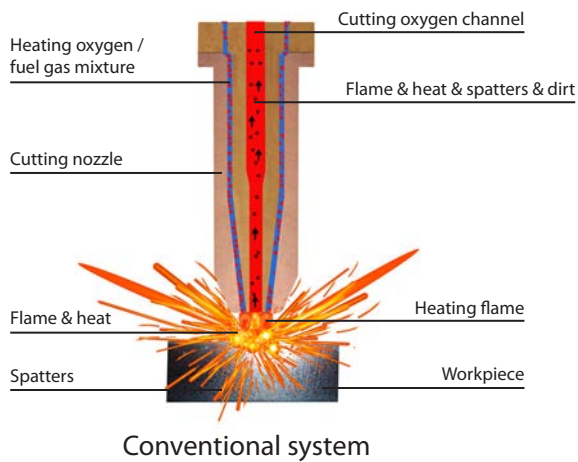


Item No.	Description
100383	CSC 500 Height Sensor system with Ring (Ø 34 mm)
100926	External Ignition System Propane
100925	External Ignition System Acetylene

Cutting torch FIT+ and height sensor system with ring electrode (Ø 34 mm) and external ignition



# General



## General Features and Benefits

- All torches and nozzles conform to ISO 5172
- High speed cutting nozzles with improved performance
- Increased cutting speed with Rapid Cutting oxygen curtain nozzles
- One type of heating nozzle for all fuel gases and all types of cutting nozzles

## Integrated COOLEX® System

- Long torch lifetime
- Higher cutting quality with constant dimensions of the cutting oxygen channel
- Extends operational life of both cutting and heating nozzles

## RMS - Resonator Mixing System in Acetylene Range

- Safe operation with axial spiral injector
- Constant flame power with homogenous mixture of fuel gas and heating oxygen

## Tool-Free Nozzle Connection

- Single handed operation thanks to bayonet type connector
- Less time needed to change nozzles
- Savings in gas use as appropriately sized nozzle can be used for plate being cut

## Gas Connections

- Cutting oxygen G3/8"
- Heating oxygen G1/4"
- Fuel gas G3/8"LH
- Adapters are available for other connections

## 3 Step Nozzle Change, Tool-Free

- Step 1  
Place inner cutting nozzle into outer heating nozzle
- Step 2  
Locate the pins of the outer heating nozzle in the grooves of the torch head
- Step 3  
Manually turn the outer heating nozzle through 90° until the pins reach the end of the groove

## CONSUMABLES AND SPARE PARTS



Item No.	Description
0769932	Heating Nozzle 3-150 mm (A), 3-100 mm (PMY)
0769933	Heating Nozzle 150 - 300 mm (A), 100 - 300 mm (PMY)
0769913	PSF High speed cutting nozzle PMY 3-6 mm
0769914	PSF High speed cutting nozzle PMY 7-15 mm
0769915	PSF High speed cutting nozzle PMY 15-25 mm
0769916	PSF High speed cutting nozzle PMY 25-40 mm
0769917	PSF High speed cutting nozzle PMY 40-60 mm
0769918	PSF High speed cutting nozzle PMY 60-100 mm
0769919*	PSF High speed cutting nozzle PMY 100-150 mm*
0769920	PSF High speed cutting nozzle PMY 100-200 mm
0769921	PSF High speed cutting nozzle PMY 200-250 mm
0769922	PSF High speed cutting nozzle PMY 250-300 mm
F25510001	PRC Rapid cutting nozzle PMY 5-40 mm
F25510002	PRC Rapid cutting nozzle PMY 5-70 mm
0769923	ASF High speed cutting nozzle A 3-5 mm
0769924	ASF High speed cutting nozzle A 6-10 mm
0769925	ASF High speed cutting nozzle A 10-25 mm
0769926	ASF High speed cutting nozzle A 25-40 mm
0769927	ASF High speed cutting nozzle A 40-60 mm
0769928	ASF High speed cutting nozzle A 60-100 mm
0769929	ASF High speed cutting nozzle A 100-150 mm
0769930	ASF High speed cutting nozzle A 150-230 mm
0769931	ASF High speed cutting nozzle A 230-300 mm
F25510003	ARC Rapid cutting nozzle A 3-40 mm
F25510004	ARC Rapid cutting nozzle A 3-70 mm

\*Special nozzle designed for effective hole piercing, to be used in combination with GSF 3-100 mm.

Item No.	Description
0764948	O-Ring kit for cutting and heating nozzles (10+10 pcs)
100269	Ring Electrode Ø 34 mm
100270	Ring Electrode Ø 60 mm

## ACCESSORIES



Item No.	Description
14008408	Flashback arrestor cutting oxygen G3/8"
14008263	Flashback arrestor heating oxygen G1/4"
14008278	Flashback arrestor fuel gas G3/8"LH
14056015	Adjustment valve cutting oxygen G3/8"
14056016	Adjustment valve heating oxygen G1/4"
14056017	Adjustment valve fuel gas G3/8"LH

## TOOLS



Item No.	Description
14008157	Brass cleaning brush
14056010P	Cleaning needle for cutting oxygen channels



Gas Control Equipment



### **GCE Global Leader in Oxy-Fuel Technology**

GCE is a world leading company in the field of Oxy-Fuel and Gas Control Equipment with over 100 years of experience in the handling of industrial, medical and specialty gases. The GCE Group has grown rapidly since its creation and now a leader in the European gas equipment industry. The Group's Headquarter is based in Malmö, Sweden. The major manufacturing centres are located in the Czech Republic, China and Germany. Worldwide the Group now employs in excess of 850 people who are all ready to fulfil the expectations of their customers worldwide.

The Group's product portfolio covers a wide variety of applications, from simple pressure regulators and torches for welding and cutting, to sophisticated gas supply systems for medical and electronic industry applications. Product design is based on knowledge and expertise that has been built up in Oxy-Fuel cutting over the years with the primary concerns being safety and reliability. GCE provides innovative solutions and complete customer service.

***“There is still significant potential to increase the efficiency of Oxy-Fuel cutting technology.”***

Martin Roubicek  
Business Development Manager

### **IHT Automation Focussing on Core Business**

Since its creation, IHT Automation has always focused on the development of new solutions and the improvement of existing products so as to benefit its customers in the cutting industry. One area that always received special attention is the control of the height of the cutting torch. Whether cutting with Oxy-Fuel, Plasma or Laser, maintaining the correct distance between the torch and the work-piece is an often underestimated but critical factor for achieving the perfect cut.

IHT Automation realised the importance of this very early on and now relies on more than 40 years experience in the industry to ensure it provide its customers with the best technical advice and solutions. Great products combined with excellent service and unrivalled technical support makes IHT Automation your ideal partner.

***“A higher level of integrated automation is the future of Oxy-Fuel cutting.”***

Kurt Nachbargauer  
Managing Director

GCE Cutting & Welding Technologies  
info-cwt@gcegroup.com  
www.gcegroup.com

IHT Automation GmbH & Co. KG  
Baden-Baden, Germany  
+49 7221 39419-0  
info@iht-automation.com  
www.iht-automation.com

24052016hz-en