Wear part and spare part catalog
for oxyfuel mechanized cutting

All for your daily service:
Cutting nozzles · Cutting torches · Gas supply systems
accessories

Oxyfuel cutting

Oxyfuel cutting is the major thermal cutting application for low- and non alloyed steel.
By low costs, premium cutting quality and cut surfaces are assured. The process is flexible, i.e. used on CNC cutting machines, portables and as well with manual cutting torches.

Performance and economy of the cutting process is highly influenced by operation the right cutting torches and cutting nozzles.

Furthermore gas supply systems and the properties of fuel gases take a major part to influence the cutting process.

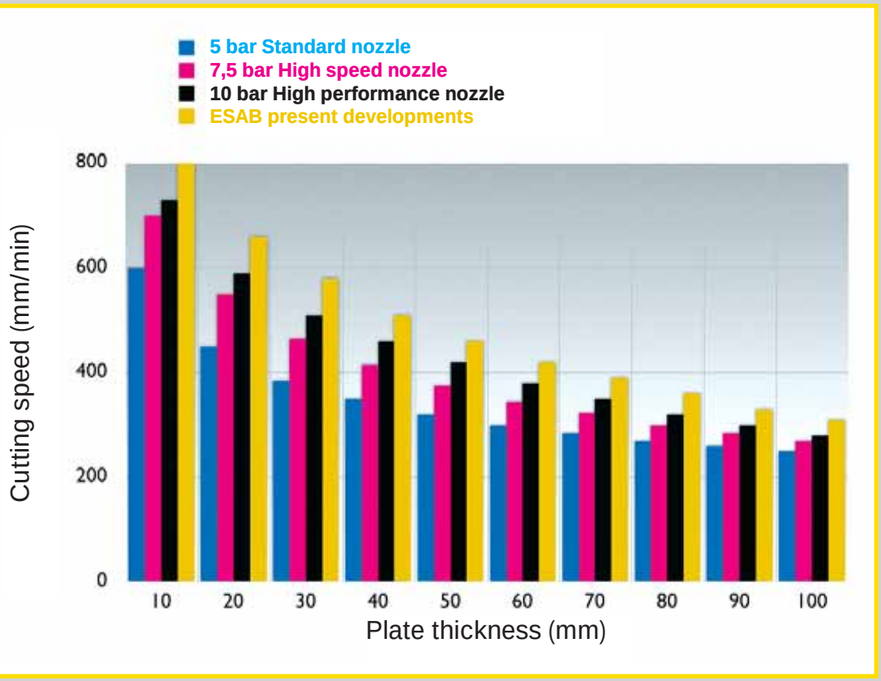
This catalogue gives a summary about the ESAB genuine oxyfuel product range.

ESAB products fullfill the valid technical standards, European directives and regulations.

Table of Content

Machine cutting nozzles

Machine cutting nozzles



Standard-nozzles 5 bar Type
IAA 250 K
IPA 250 K
GAA 300 L

High speed nozzles 7,5 bar Type
IAD 300 L
IPB 300 L
GPB 300 L
GYB 300 L

High performance nozzles 10 bar Type
IAC 300 L
GAC 100 L
IPD 300 L

ESAB present developments

Today's, labour costs and hourly rates for machines genarate the majority of the costs for mechanised cutting.

A higher cutting speed enables to reduce the major costs and makes cutting once more efficient.

ESAB offers a range in 3 performance classes, which allow an individual solution of the cutting task.

Only ESAB genuine nozzles assure the demands on cut quality, reliability and mostly safety of the complete cutting system.

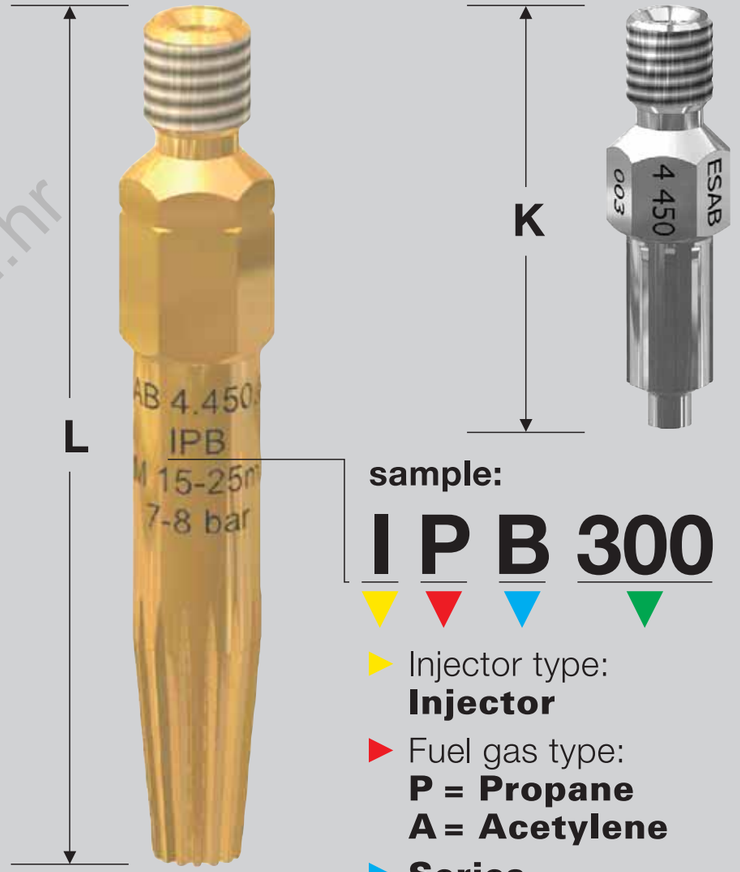
GENUINE ESAB CUTTING NOZZLES

ESAB

ESAB naming of nozzles EN ISO 5172

Long version

Short version



sample:

I P B 300 L

- Injector type:
  Injector
- Fuel gas type:
  P = Propane
  A = Acetylene
- **Series**
- **Max. cutting range**
- Long:
  L = Long version
  K = Short version

Standard nozzle IAA 250 K for Injector cutting torches – Acetylene

IAA 250 K is a two piece cutting nozzle and operates with with an convergent- divergent cutting channel for cutting ox-pressures between 4-7,5 bar.

The ring shaped preheating flame profile wraps totally the cutting oxygen jet for equal preheating.

Application:

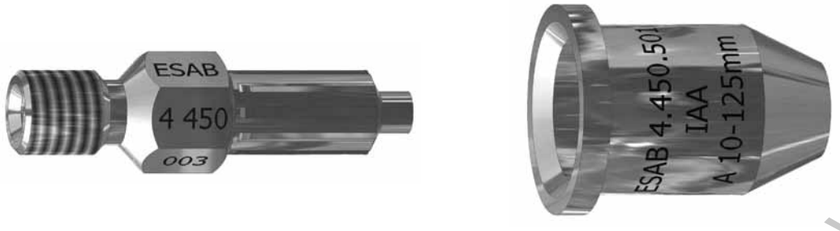
- straight cutting and contour cutting 3-250 mm in acc. to EN ISO 9013
- hole piercing up to 80 mm
- Fits into torch series, *COOLJET*-BIE and BID

Customer benefits:

- good value standard system
- chrome plated for longer service life
- easy and safe to handle

Cutting data:

- Cutting and consumption table 0.300.038



Cutting range	Art. No. Cutting nozzle	Art. No. Heating nozzle
2 - 4 mm	0004450000	0004450500
4 - 10 mm	0004450001	
10 - 20 mm	0004450002	0004450501
20 - 40 mm	0004450003	
40 - 75 mm	0004450004	
75 - 125 mm	0004450005	
125 - 200 mm	0004450006	0004450502
200 - 250 mm	0004450007	

High speed nozzle IAD 300 L for Injector torches – Acetylene

The IAD 300 L provide a higher cutting speed and uses the high performing properties of acetylene gases.The cutting nozzle operates with an expansion cutting oxygen channel for pressures between 6,5 and 8,5 bar.

Especially the nozzle size 7-15 mm produces excellent cuts free from slag, even with oversized nozzle to plate distances.

Application:

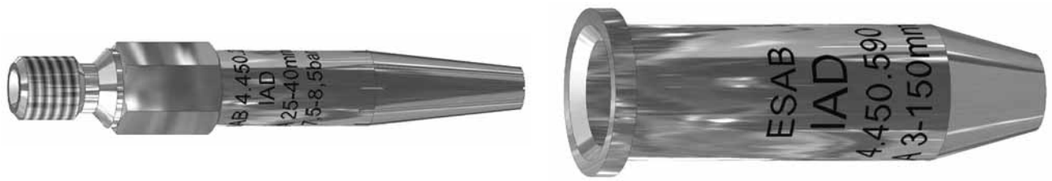
- straight cutting and contour cutting 3-300 mm in acc. to EN ISO 9013
- Hole piercing up 150 mm
- Fits into torch series *COOLJET*-BIE, BID and *MULTIJET*-BIF

Customer benefits:

- up to 15% higher cutting speed compared to standard nozzles
- No additional adaptation required to the oxygen supply
- chrome plated for longer service life
- insensitive against nozzle to plate variations

Cutting data:

- Cutting and consumption table 0.300.053 for BIE und BID
- 0.300.055 for *MULTIJET*-BIF



Cutting range	Art. No. Cutting nozzle	Art. No. Cutting nozzle
3 - 6 mm	0004450290	0004450590
7 - 15 mm	0004450291	
15 - 25 mm	0004450292	
25 - 40 mm	0004450293	
40 - 60 mm	0004450294	
60 - 100 mm	0004450295	
100 - 150 mm	0004450296	
150 - 240 mm	0004450297	0004450591
240 - 300 mm	0004450298	

High performance nozzle IAC 300 L for Injector torches – Acetylene

The IAC 300 L provides a super high cutting speed and makes cutting more economical. IAC operates with an expansion cutting oxygen channel (Laval) for oxygen pressures between 8,5 and 11 bar. Together with acetylene shortest preheating times will be ensured.

In addition IAC shows excellent hole piercing performance and makes here with cutting much more efficient.
The use of this nozzle presume an oxygen supply pressure of min.11 bar at torch inlet.

Application:

- Straight cutting and contour cutting 3-300 mm in acc. to EN ISO 9013
- Hole piercing up to 150mm
- Fits into torch series *COOLJET*-BIE, BID and *MULTIJET*-BIF

Customer benefits:

- Up to 35% higher cutting speed compared to standard nozzles
- Short preheating time
- Excellent hole piercing properties, also above 150mm
- Chrome plated for a longer service life
- Premium cut quality at high cutting speeds
- Together with *COOLJET* and *MULTIJET* highest cutting economy will be achieved

Cutting data:

- Cutting and consumption table 0.300.047 for *COOLJET*-BIE und BID
- Cutting and consumption table 0.300.054 for *MULTIJET*-BIF

Cutting range	Art. No. Cutting nozzle	Art. No. Heating nozzle
3 - 6 mm	0004450220	
7 - 15 mm	0004450221	
10 - 25 mm	0004450222	0004450526
25 - 50 mm	0004450223	or
50 - 75 mm	0004450224	0004450594
60 - 100 mm	0004450225	(Heating nozzle IAC-S)
100 - 150 mm	0004450226	
150 - 240 mm	0004450297	0004450591 or
240 - 300 mm	0004450298	0004450595 (Heating nozzle IAC-S)

Standard nozzle for Injector torches

IPA 250 K for Propane and mixed fuel gases · **IMA 250 K for** Natural gas

IPA 250 K is two piece cutting nozzle and operates with a convergent - divergent channel for cutting ox-pressures between 4-7,5 bar.

IMA systems consists of the same inner nozzle. The external nozzle is designed with a special flame stabilisation for the use of natural gas.

For mixed fuel gases an external nozzle with lower flame stabilisation than for propane will be used.

Application:

- Straight cutting and contour cutting up to 3-250mm in acc.to EN ISO 9013
- Hole piercing up to 125 mm
- Fits into torch series, *COOLJET*-BIE and BID

Customer benefits:

- Good value standard system
- Easy and safe to handle
- Outer nozzle chrome plated

Cutting data:

- Cutting and consumption table 0.300.039 Propane
- Cutting and consumption table 0.300.040 Natural gas

Cutting range	Art. No. Cutting nozzle	Art. No. Heating nozzle
2 - 4 mm	0004450020	
4 - 10 mm	0004450021	0004450521 (propane)
10 - 20 mm	0004450022	0004800269 (mixed fuel gas)
20 - 40 mm	0004450023	0004450561 (natural gas)
40 - 75 mm	0004450024	
75 - 125 mm	0004450025	
125 - 200 mm	0004450026	0004450522 (propane)
200 - 250 mm	0004450027	0004800279 (mixed fuel gas)
		0004450562 (natural gas)

High speed nozzle IPB 300 L for Injector torches Propane/Natural gas/mixed fuel gases

The IPB 300 L enables a higher cutting speed and is designed for the use with all slow burning fuel gases. The IPB operates with an expansion cutting oxygen channel (laval) for oxygen pressures between 6 and 8,5 bar.

The preheating heating flame geometry allows the use for bevel cutting in triple torch units also with natural gas results. It's easy and safe handling, variety in all cutting processes and excellent cutting results makes it user friendly.

Application:

- Straight cutting and contour cutting 3-300 mm in ac. to EN ISO 9013
- Hole piercing up to 150 mm
- Bevel cutting X and Y (please note systems GPB/GYB)
- Fits into torch series *COOLJET*-BIE, BID and *MULTIJET*-BIF

Customer benefits:

- Up to 15% higher cutting speed compared to standard nozzles
- Cutting system for all purpose
- Provides cutting capacity above mentioned cutting range
- Outer nozzle chrome plated for longer service life
- Excellent cutting performance also on bevel cuts below 45° cut angel
- UL listed in USA
- Insensitive against nozzle to plate and pressure variations
- No additional adaptation required to the oxygen supply

Cutting data:

- Cutting and consumption table 0.300.035 Propane

Cutting range	Art. No. Cutting nozzle	Art. No. Heating nozzle
3 - 6 mm	0004450040	0004450545 Propane and Natural gas 0004450547 mixed fuel gases
6 - 15 mm	0004450041	
15 - 25 mm	0004450042	
25 - 40 mm	0004450043	
40 - 60 mm	0004450044	
60 - 100 mm	0004450045	
100 - 200 mm	0004450046	
200 - 250 mm	0004450047	0004450546 Propane/Natural gas
250 - 300 mm	0004450048	0004450584 mixed fuel gases

High performance nozzle IPD 300 L for Injector torches Propane/mixed fuel gases

The IPD 300 L provides a super high cutting speed and makes cutting more economical

It enables extreme quick preheating of material also with propane and fullfill the increasing demands on cutting productivity.

IPD operates with an expansion cutting oxygen channel (Laval) for oxygen pressures between 8,5 and 11 bar.

The user needs to ensure oxygen pressure supply of min 11,0 bar at torch inlet.

Application:

- Straight cutting and contour cutting 3-300 mm in acc. to EN ISO 9013
- Hole piercing up to 150 mm
- Fits into torch series *COOLJET*-BIE, BID and *MULTIJET*-BIF

Customer benefits:

- Highest cutting speed and cutting economy, up to 35% compared to standard nozzles
- Quick preheating
- Excellent hole piercing performance
- Chrome plated against premature wear
- High cutting quality at high cutting speed
- Together with *COOLJET* and *MULTIJET* highest cutting economy will be achieved
- UL listed in USA

Cutting data:

- Cutting and consumption table 0.300.051 Propane

Cutting range	Art. No. Cutting nozzle	Art. No. Heating nozzle
3 - 5 mm	0004450260	0004450560 Propane, mixed fuel gas
6 - 10 mm	0004450261	
10 - 25 mm	0004450262	
25 - 50 mm	0004450263	
50 - 75 mm	0004450264	
75 - 100 mm	0004450265	
100 - 200 mm	0004450046	0004450545 Propane 004450547 mixed fuel gases
200 - 250 mm	0004450047	0004450546 Propane
250 - 300 mm	0004450048	0004450548 mixed fuel gases

Standard nozzle mix GAA 300 L for Acetylene

The GAA 300 L is a compact and robust. The main application is bevel cutting with triple torch units and on all cutting applications where high heat radiation will occur, i.e. welding edge preparation with more than one torch.

It‘s unique design secures high sustained backfire resistance and high reliability. In addition the nozzles provides 100% concentricity less adjustment work of cutting channel, which simplifies and reduces the time for machine setting a lot when using VBA- triple torch units.

The accuracy of bevel shape (Alpha°) will remain exactly also after change of nozzle. GAA operates with convergent divergent cutting oxygen channel for oxygen pressures between 4 and 7,5 bar.

Application:

- Bevel cutting X und Y profile with all triple torch units
- Straight and contour cuts in acc. to EN ISO 9013
- Hole piercing up to 130 mm
- Fits into torch series BGB and all torches for triple heads with 30° IC cone

Customer benefits:

- Absolute backfire resistant
- High thermal resistance
- 100% concentricity
- Robust
- 100% quality approved
- Chrome plated

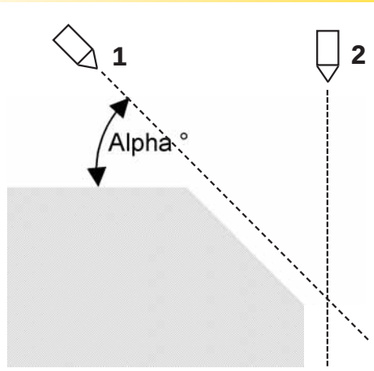
Cutting data:

- Cutting and consumption table 0.300.031

Only ESAB patend protected nozzles offer these advantages

Cutting range	Art. No. Cutting nozzle
2 - 4 mm	0004450070
4 - 10 mm	0004450071
10 - 20 mm	0004450072
20 - 40 mm	0004450073
40 - 75 mm	0004450074
75 - 125 mm	0004450075
125 - 200 mm	0004450076
200 - 250 mm	0004450077
250 - 300 mm	0004450078

Torch position



High performance nozzle mix GAC 100 L for Acetylene

The GAC 100 L offers in addition to the excellent properties of the GAA 300L, further advantages.

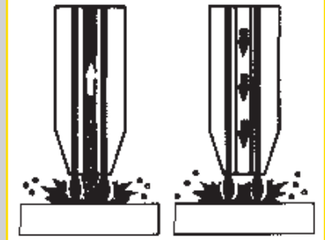
The COOLEX system enables up to 2 times higher service life by efficient cooling of the cutting oxygen channel.

During preheating the plate material, a small amount of heating oxygen (COOLFLOW) streams into the cutting channel. The outcome is an efficient cooling of nozzle interior.

Further more the nozzle operates with the high performance cutting oxygen channel for oxygen pressures between 8,5 and 11 bar. This enables a higher cutting speed up to 30% compared to standard nozzle type.

Cutting data:

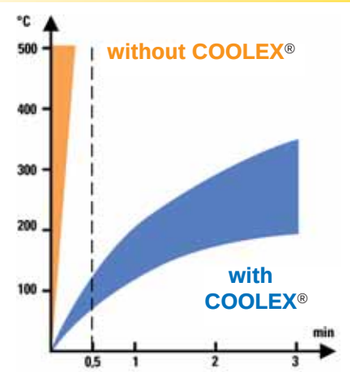
- Cutting and consumption table 0.300.050



Cutting range	Art. No. Cutting nozzle
3 - 5 mm	0004450240
6 - 10 mm	0004450241
10 - 25 mm	0004450242
25 - 50 mm	0004450243
50 - 75 mm	0004450244
75 - 100 mm	0004450245

For cutting above 100 mm, GAA nozzles will be used!

Temperature profile during preheating



High speed nozzle mix GPB / GYB 300 L
for Propane/Natural gas and mixed fuel gases

The GPB/GYB nozzle mix system offers the same cutting properties like the IPB nozzle. It is robust and designed for the use in all triple torch units.

The nozzle system contains 3 parts, cutting nozzle, mixer and heating nozzle which are available individually.

Application:

- Bevel cutting X und Y profile with all triple torch units
- Straight and contour cuts in acc. to EN ISO 9013
- Hole piercing up to 150 mm
- Fits into torch series BGB and all torches for triple heads with 30°IC cone

Customer benefits:

- High precise cutting in triple torch units based on high concentricity
- Robust and heat resistant
- Fits into competitor torch systems
- Chrome plated outer nozzle for longer service life

Cutting data:

- Cutting and consumption table 0.300.036 Propane

nozzle complete

heating nozzle

cutting nozzle

High speed nozzle mix GPB / GYB 300 L
for Propane/Natural gas and mixed fuel gases

Cutting range	GPB 300 L Propane/Natural gas Art. No. cutting nozzle	GYB 300 L mixed fuel gases Art. No. cutting nozzle
3 - 6 mm	0004450090	0004450110
6 - 15 mm	0004450091	0004450111
15 - 25 mm	0004450092	0004450112
25 - 40 mm	0004450093	0004450113
40 - 60 mm	0004450094	0004450114
60 - 100 mm	0004450095	0004450115
100 - 200 mm	0004450096	0004450116
200 - 250 mm	0004450097	0004450117
250 - 300 mm	0004450098	0004450118

nozzle complete

Cutting data:

- Cutting and consumption table 0.300.059 mixed gas

Wear and spare parts

Cutting range	Art. No. Cutting nozzle	Art. No. Heating nozzle	Art. No. Mixer
3 - 6 mm	0004450040	0004450584 (Propane and Natural gas) 0004450586 (mixed fuel gases)	0004454041
6 - 15 mm	0004450041		
15 - 25 mm	0004450042		
25 - 40 mm	0004450043		
40 - 60 mm	0004450044		
60 - 100 mm	0004450045		
100 - 200 mm	0004450046		
200 - 250 mm	0004450047	0004450585 (Propane and Natural gas) 0004450587 (mixed fuel gases)	
250 - 300 mm	0004450048		

Heavy duty cutting nozzle GPA 500 L for Propane/Natural gas

GPA 500L is designed for oxyfuel cutting above 300 mm mm thickness. It's unique design provides high heat resistance.

The wide cutting range requires a proper gas supply for oxygen with flow performance higher than 100 m³/h.

Application:

- Straight and contour cutting 300-500 mm
- Bevel cutting up to 60° with separate preheating
- Application only in single torch units

Customer benefits:

- Use in standard torches BGB type
- High cutting performance
- Proper cutting quality

Cutting data:

- Cutting and consumption table 0.300.030 Propane

Cutting range	Art. No. Cutting nozzle	Art. No. Heating nozzle
200 - 400 mm	0004450088	0004450588
400 - 600 mm	0004450089	(Propane, Natural gas)

Specialised cutting nozzles

Heating nozzle IAC - S

NEW

ESAB provides for use with cutting nozzle type IAC 300L an extra heavy duty external nozzle. It's design makes it a very heat resistant and heat conductive system. The nozzle fits to the torch without extra nozzle nut.

Heating nozzle 3-150 mm
Art. No. 0004450594

Heating nozzle 150-300 mm
Art. No. 0004450595

Customer benefits:

- Robust
- Superior operating performance
- Chrome plated for longer service life
- Fits into all ESAB injector torches

Cutting nozzle IPB 60-100 mm for Flagstone cutting

NEW

This nozzle is designed especially for cutting of flag stones. It could be changed also to a nozzle mix System (GPB). The spare parts mentioned below need to be assembled.

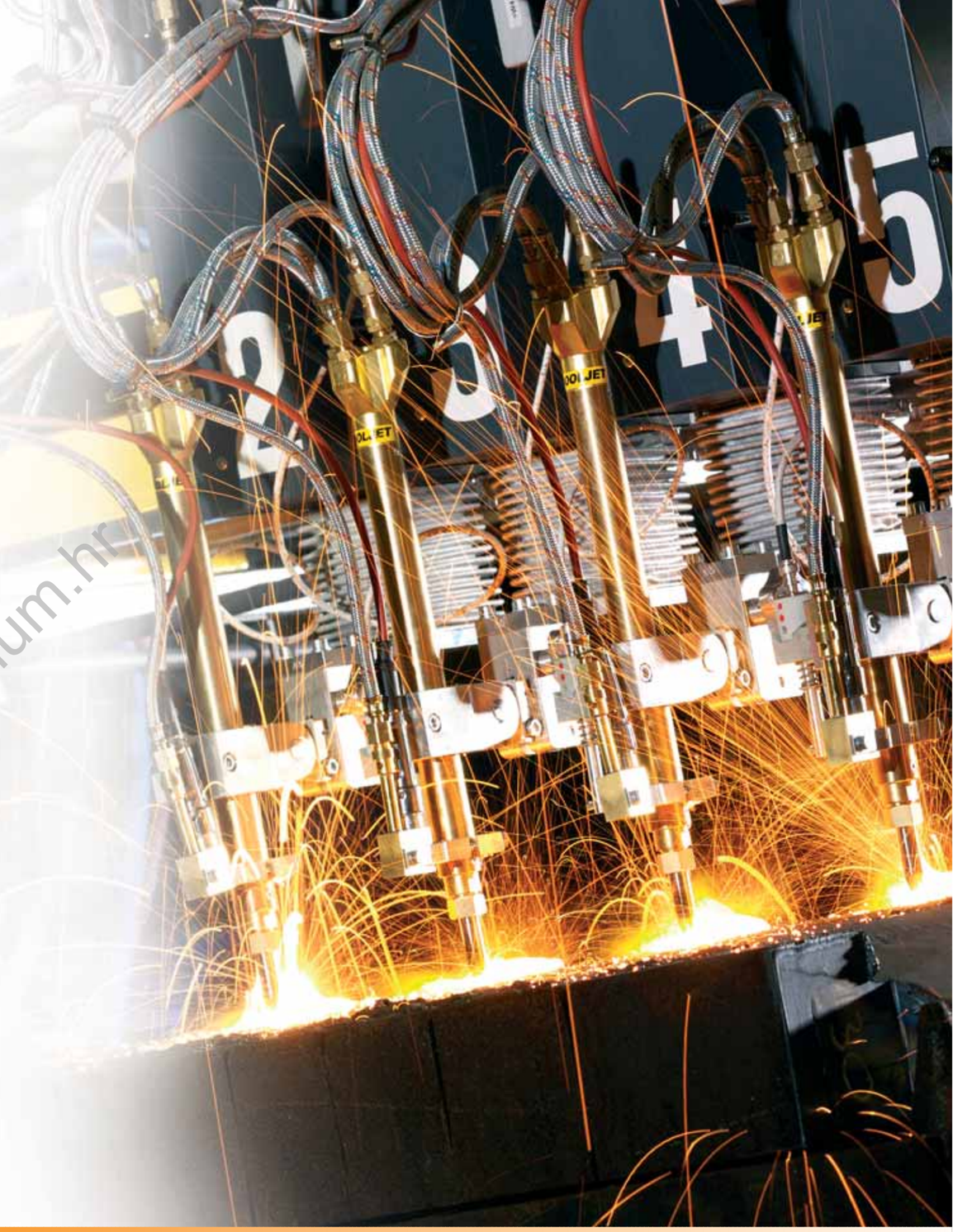
Cutting nozzle
Art. No. 0004450039

Heating nozzle
Art. No. 0004450545

Mixer GPB
Art. No. 0004454041

Heating nozzle GPB
Art. No. 0004450584

Heating nozzle GYB
Art. No. 0004450586



Machine cutting torches

Machine cutting torches

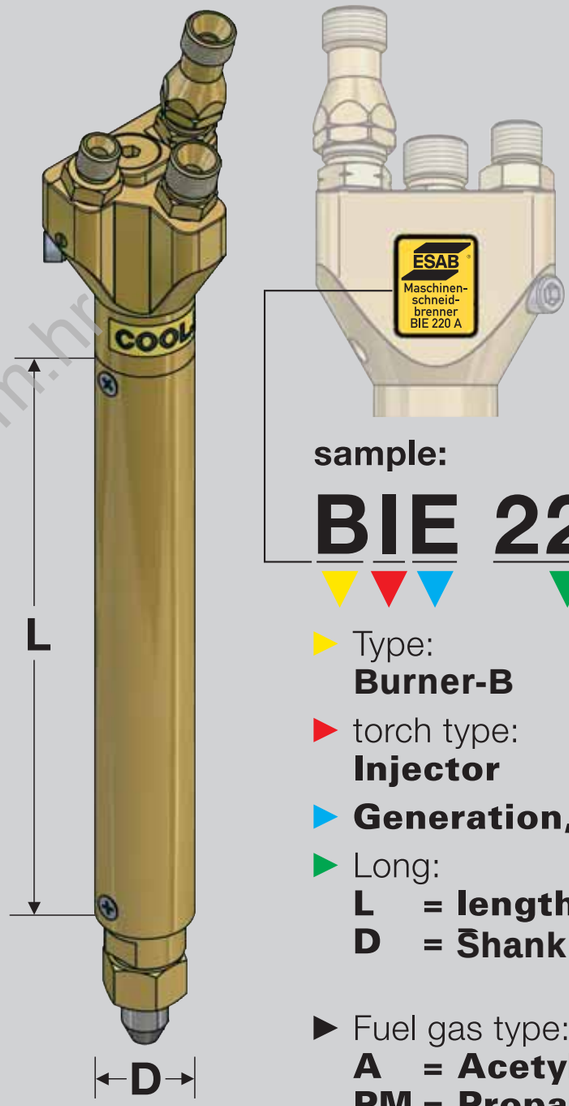
■ **All ESAB machine cutting torches are designed in accordance with EN ISO 5172. Their mechanical properties, the unique design and reliability guarantee a high efficiency for modern oxyfuel machine cutting.**

The combination of genuine ESAB nozzles with ESAB torches results in:

- **Highest cutting speed**
- **Highest cutting accuracy**
- **Smooth and vertical cut surface**
- **Reliable production process**

GENUINE ESAB CUTTING NOZZLES

ESAB naming



sample:

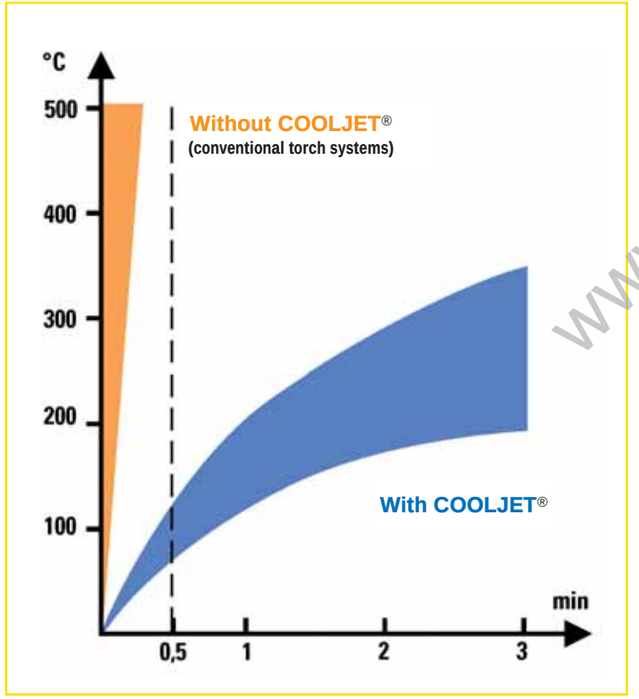
BIE 220 A

- Type:
  Burner-B
- torch type:
  Injector
- **Generation, Series**
- Long:
  L = length of shank
  D = Shank diameter
- Fuel gas type:
  A = Acetylene
  PM = Propane, Natural gas / Methane

COOLJET BIE – highest safety with integrated cooling

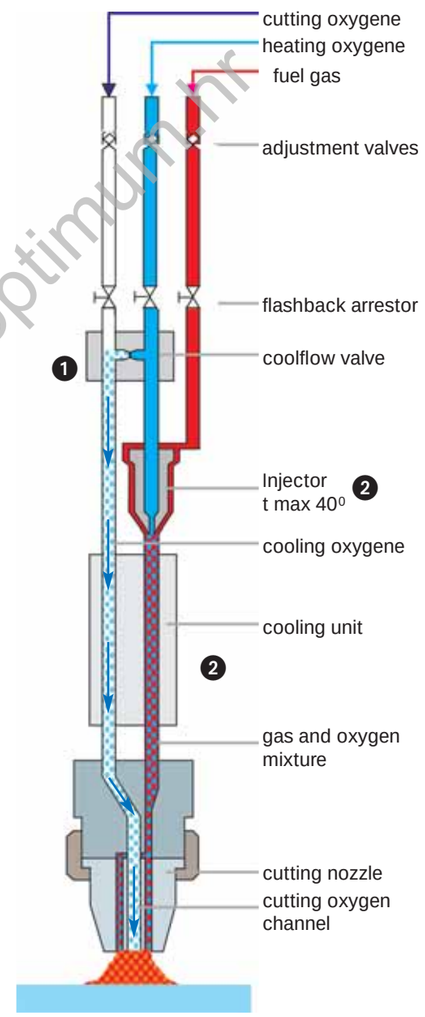
The *COOLJET* machine cutting torch with innovative oxygen cooling enables a better heat conduction and ensures highest reliability for the daily work. The cutting nozzle and the torch stays cool and safe. It reduces maintenance costs and ensures the best cutting quality with the highest cutting speeds.

Temperature profile during preheating



COOLJET BIE flow scheme

COOLJET interior



Integrated cool flow valve

The valve body contains a cool flow valve ❶ During preheating the material a small heating oxygen stream flows into the cutting oxygen channel.This prevents hot gases streaming up into the torch.The cutting nozzle and torch are consequently cooled, preventing spatter and prior breakdown of nozzle.

Injector and cooling unit

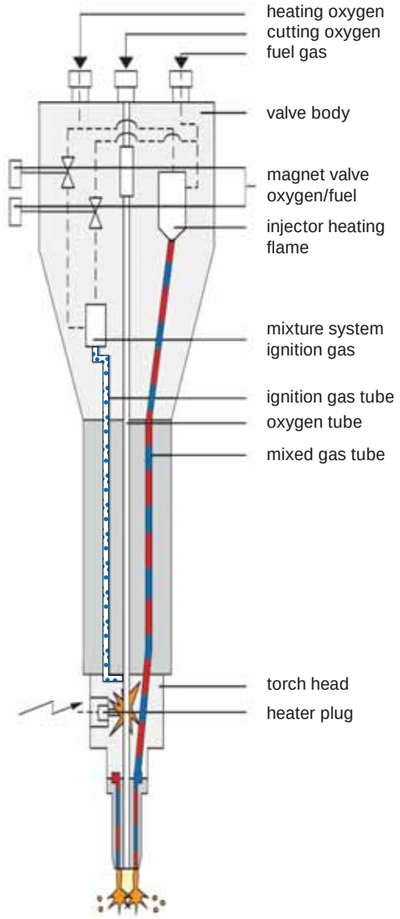
A safety injector ❷ is located in a stable brass body. This guarantees a heat transfer away from injector and ensures proper mixing of fuel gas and heating oxygen. The Aluminium unit ❸ completes the cooling function between the mixing chamber and cutting oxygen tube.

Customer benefits:

- Low maintenance
- Quicker preheating and higher cutting speed
- Longer service life of torches and nozzles
- Up to 2 times Longer service life of torches and nozzles
- Low torch temperature not exceeding 40°C at mixing system
- Highest operation safety during hole piercing and heavy duty cutting
- Extreme back fire resistance
- 3-300 mm cutting range
- Stable flame due to constant gas flows

MULTIJET BIF – with automatic internal ignition

The development of *MULTIJET* machine cutting torch with automatic internal ignition is a drastic improvement in oxyfuel cutting. It provides, more consistent operation. With higher safety by eliminating the conventional external igniter. The *MULTIJET* machine cutting torch comes along with various new benefits for the daily cutting work.



Reasons to use the *MULTIJET* torch:

- Clear Robust design leads to highest reliability
- External attachment eliminated- resulting in a compact design with less collision damage
- Protected internal ignition – less cleaning and maintenance
- Distance between torches can be reduced to a minimum
- Ignition more reliable than conventional external igniter
- Retrofit able to existing ESAB machines
- Can be used with flame and cutting process control
- Exclusively patented by ESAB
- UL (Underwriter Laboratories) listed in US

Customers benefits:

- More automation
- Superior reliability
- More productivity

Overview, torch types BIE/BIF and standard machine cutting torches type BID/BGB/BGC

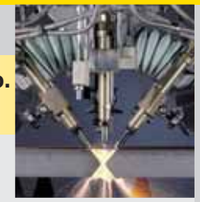
Type	Shank length	Shank diameter	Art. No.
***COOLJET* – Machine cutting torches for use with Acetylene, cutting range 3-300 mm**			
BIE 220 A without rack	220 mm	32 mm	0002221218
BIE 320 A without rack	320 mm	32 mm	0002221248
BIE 320 A with rack M 1,25	320 mm	32 mm	0002221246
***COOLJET* – Machine cutting torches for use with Propane, mixed fuel gases*) cutting range 3-300 mm**			
BIE 220 PMY without rack	220 mm	32 mm	0002221219
BIE 320 PMY without rack	320 mm	32 mm	0002221249
BIE 320 PMY with rack M 1,25	320 mm	32 mm	0002221247
***COOLJET* – Machine cutting torches for use with Ethylene, cutting range 3-300 mm**			
BIE 220 F without racke	220 mm	32 mm	0002221217
BIE 320 F without rack	320 mm	32 mm	0002221245
***MULTIJET* – Machine cutting torch for use with Acetylene, cutting range 3-300 mm, cut- and flame monitoring**			
BIF 220 A without rack	220 mm	40 mm	0002221250
***MULTIJET* – Machine cutting torch for use with Propane, Natural gas and mixed gases, cutting range 3-300 mm cut- and flame monitoring**			
BIF 220 PM without rack	220 mm	40 mm	0002221251

*) depending on Natural gas quality, *COOLJET* torches may replaced by BID or *MULTIJET* torches.

Type	Shank length	Shank diameter	Art. No.
Machine cutting torches BID for use with Acetylene, cutting range 3-300 mm			
BID 220 A without rack	220 mm	32 mm	0002221220
BID 320 A with rack M1,25	320 mm	32 mm	0002221006
Machine cutting torches BID for use with Propane, mixed fuel gases, cutting range 3-300 mm			
BID 220 PMY without rack	220 mm	32 mm	0002222221
BID 320 PMY with rack M1,25	320 mm	32 mm	0002221007

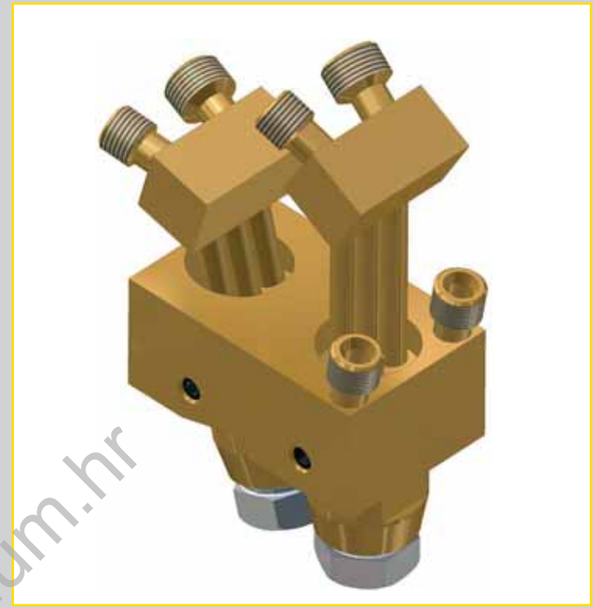
Type	Shank length	Shank diameter	Art. No.
Machine cutting torches BGB for nozzle mix, cutting range 3-500 mm			
BGB 220 APMY without rack	220 mm	32 mm	0002222221
BGB 320 APMY with rack M1,25	320 mm	32 mm	0002221008
Machine cutting torch BGC for cut- and flame monitoring, cutting range 3-500 mm			
BGC 220 APMY without rack	220 mm	32 mm	0002221242

Machine cutting torches for triple torch units



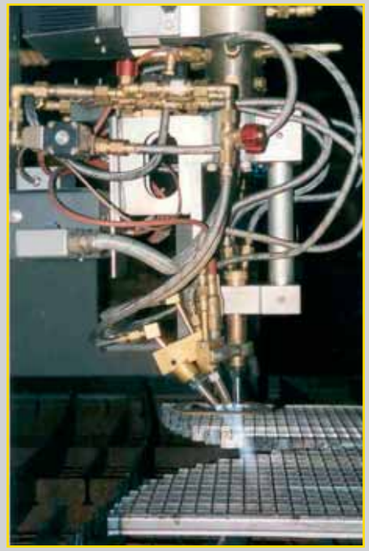
Description	Shank length	Rack	Art. No.	
Machine cutting torch for triple torch unit type MS90, manual revolving with supportet wheel + 90°, cutting range 3-150 mm, shank diameter 28 mm				
Torch for nozzle mix APMY	193 mm	M 1,25	3x	0002221074
Injector torch for Acetylene	193 mm	M 1,25	3x	0002221076
Injector torch for Propane	193 mm	M 1,25	3x	0002221078
COOLJET torch for Acetylene	193 mm	M 1,25	3x	0002221082
COOLJET torch for Propane	193 mm	M 1,25	3x	0002221083
Machine cutting torch for triple unit type MR90, manual revolving, axis centred + 90°, cutting range 3-150 mm, shank diameter 28 mm				
Torch for nozzle mix APMY	193 mm	M 0,70	2x outside	0002221077
Torch for nozzle mix APMY	100 mm	---------	1x middle	0002221225
Injector torch for Acetylene	193 mm	M 0,70	2x outside	0002221044
Injector torch for Acetylene	100 mm	---------	1x middle	0002221223
Injector torch for Propane	193 mm	M 0,70	2x outside	0002221045
Injector torch for Propane	100 mm	---------	1x middle	0002221224
Machine cutting torch for triple torch unit type IR, manual and endless revolving cutting range 3-150 mm, shank diameter 28 mm				
Torch for nozzle mix APMY	193 mm	M 0,70	2x outside	0002221077
Torch for nozzle mix APMY	100 mm	---------	1x middle	0002221225
Injector torch for Acetylene	193 mm	M 0,70	2x outside	0002221044
Injector torch for Acetylene	100 mm	---------	1x middle	0002221223
Injector torch for Propane	193 mm	M 0,70	2x outside	0002221045
Injector torch for Propane	100 mm	---------	1x middle	0002221224
COOLJET injector torch, propane	193 mm	M 0,70	2x outside	0002221048
COOLJET injector torch, propane	100 mm	---------	1x middle	0002221239
Machine cutting torch for triple torch unit type VBA, variable bevel adjustment cutting range 3-150 mm, shank diameter 28 mm				
Torch for nozzle mix APMY	193 mm	M 0,70	3x	0002221077
Injector torch for Acetylene	193 mm	M 0,70	3x	0002221044
Injector torch for Propane	193 mm	M 0,70	3x	0002221045
COOLJET injector torch, propane	193 mm	M 0,70	3x	0002221048

Specialized preheating torches



Special torch for grid cutting

Art. No. 0002220726



Preheating nozzles without cutting channel for grid cutting torch

Preheating nozzle for Acetylene
Art. No. 0004450068

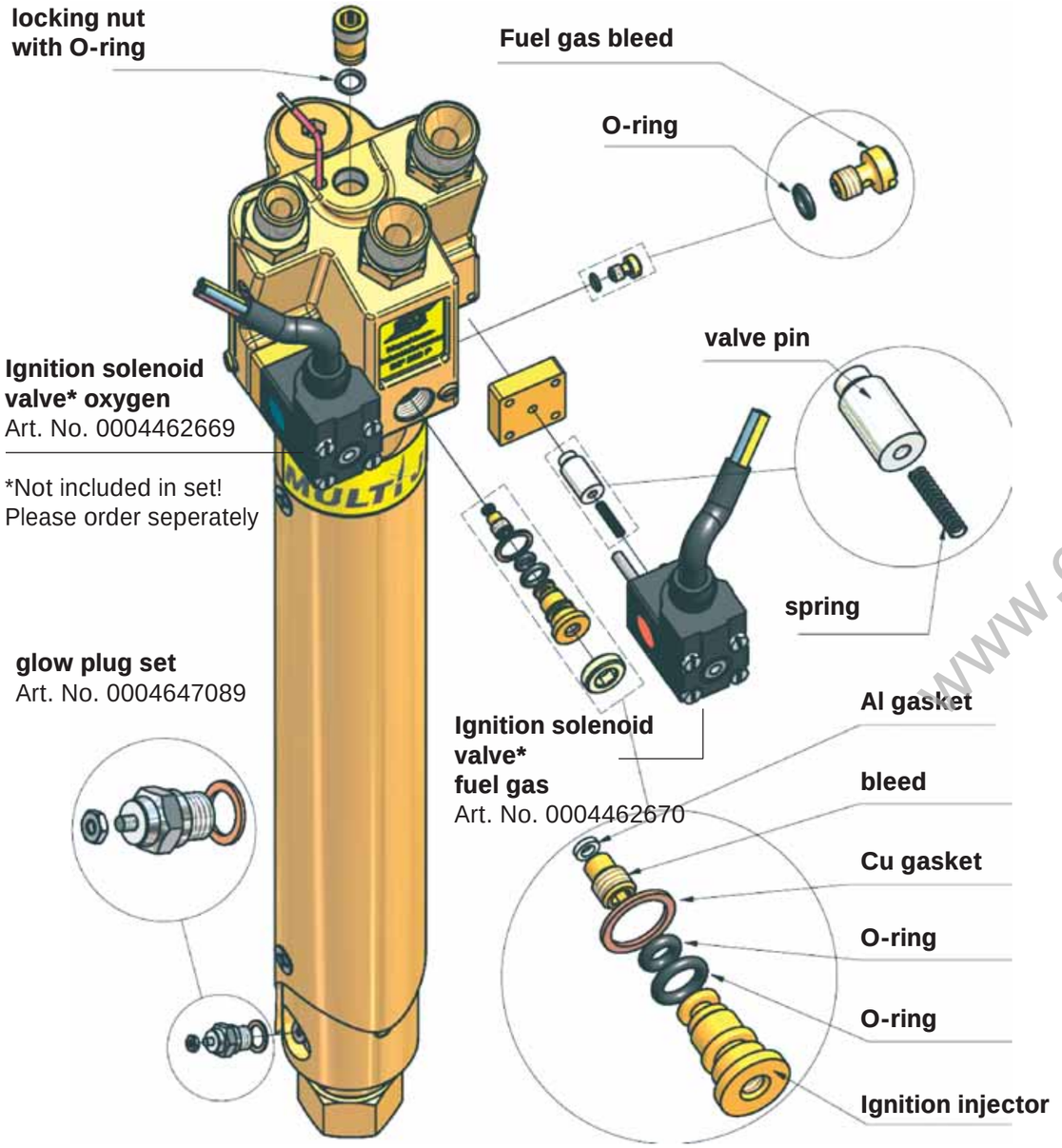
Preheating nozzle for Propane
Art. No. 0004450069

Spare part kits *MULTIJET*

Propane set
Art. No. 0002221257

Acetylene set
Art. No. 0002221256

Ignition transformer (not pictured)
Art. No. 0002256477



Spare parts for machine cutting torches, cutting torch accessoires

1 Nozzle nuts for injector cutting torches for *COOLJET* BIE / BID / *MULTIJET* BIF
Art. No. 0004400110

2 For BGB/BGC cutting torches and torch heads for nozzle mix
Art. No. 0003551506

3 Sensor retainer for flame monitoring with *MULTIJET* and BGC torches
Art. No. 0002221263

4 Nozzle adapter with O-ring for slitting adapter BI 2 and bevel cutting device
Art. No. 0002221093

5 Swivel nut for slitting adapter BI2
Art. No. 0004400111

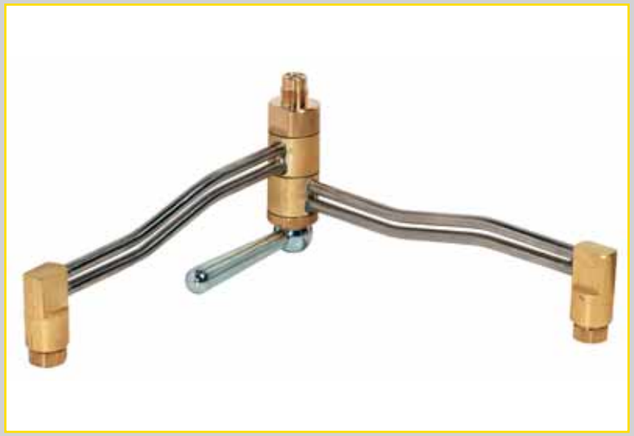
6 Nozzle retainer for slitting adapter
Art. No. 0004404702

Further spare parts on special request!

Normally ESAB does not provide internal spare parts for machine cutting torches BIE and BID. If any repair is required needed please use the ESAB torch exchange system. Send back an old ESAB one and you will receive a new torch for a good value price. Only ESAB genuine exchange torches will guarantee safe function and prevent further breakdowns.

Please require information from our spare and wear part sales.

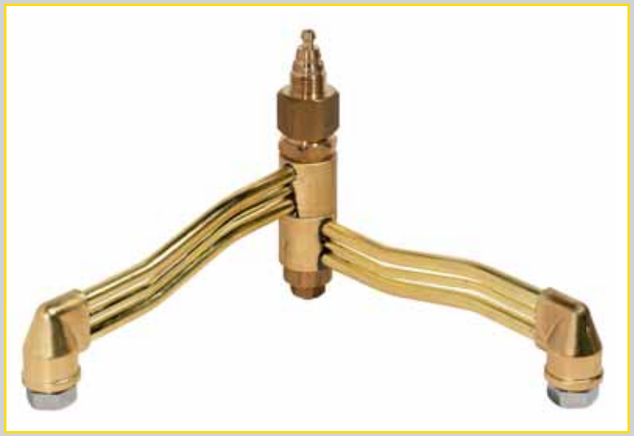
Torch accessories and tools



Slitting adapter Type BI 2 for Injector torches BIE/BID

Used in operations requiring parallel cuts as in coupon or slot cutting.
Working range 30-400 mm
Cutting capacity 3-60 mm
Not suitable for *MULTIJET*-BIF

Art. No. 0002221091



Slitting adaptor Type BG 2 for nozzle mix

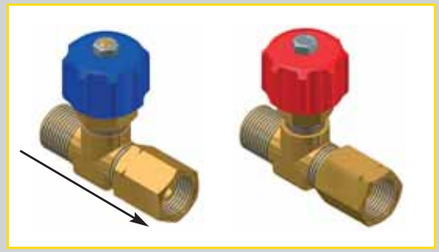
Working range 30-400 mm
Cutting capacity 3-60 mm

Art. No. 0002221092

Bevel cutting device for injector torches type BIE/BID

Bevel adjustment 0-60°
Cutting capacity 3-60 mm
Not suitable for *MULTIJET*-BIF

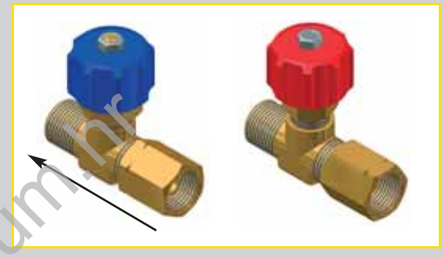
Art. No. 0002221264



Adjustment valve preheating oxygen
G1/4" r.h. Art. No. 0004460081

Shut off valve cutting oxygen
G3/8" r.h. Art. No. 0004460120

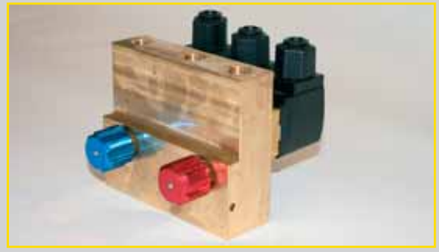
Adjustment valve fuel gas
G3/8" l.h. Art. No. 0004460021



☐ **Adjustment valves with reverse flow direction**

Adjustment valve preheating oxygen
G1/4" r.h. Art. No. 0004460011

Adjustment valve fuel gas
G3/8" l.h. Art. No. 0004460031



Valve block with adjustment valves and solenoid valves Art. No. 0002215051

☐ **Safety device EN 730 – 1**

Preheating oxygen
G1/4" r.h. Art. No. 0004414048

Cutting oxygen*
G3/8" r.h. Art. No. 0004414002

Fuel gas
G3/8" l.h. Art. No. 0004414047

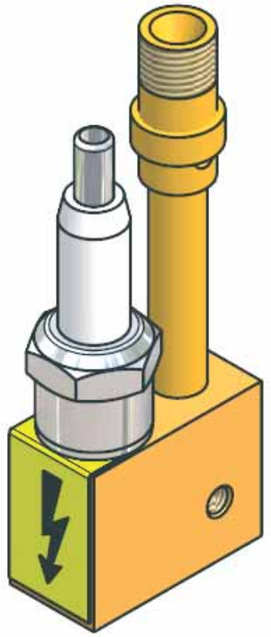
☐ **Safety device EN 730 – 1 with reverse flow direction**

Preheating oxygen
G1/4" r.h. Art. No. 0004414033

Cutting oxygen*
G3/8" r.h. Art. No. 0004414040

Fuel gas
G3/8" l.h. Art. No. 0004414035

* especial high flow performance

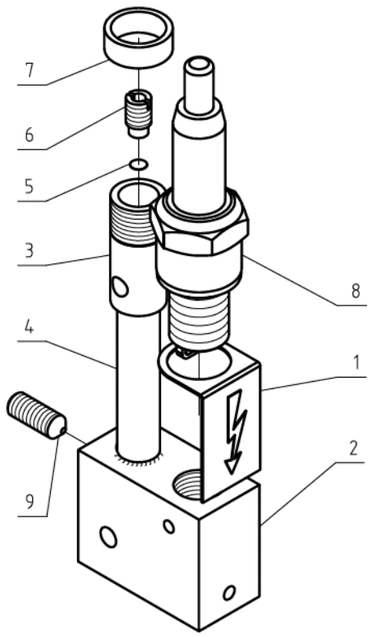


Igniter for Acetylene
Art. No. 0002803152

Propane and Natural gas
Art. No. 0002803153

Igniter for Ethene and Propylene
Art. No. 0002220525

Not pictured
Ignition box
Art. No. 0004647069



Spare parts:

Adjusting collar Pos. 7
Art. No. 0003800049

Sparking plug Pos. 8
Art. No. 0004647001

Attention! Item 9 only for Propane igniters
Art. No. 0006117039

Further spare parts on special request!

Designation	Gas type	Art. No.
1 Powder marking equipm.	A, P, M	0003700040
2 Powder nozzzle size 8	Acetylene	0003700008
2 Powder nozzzle size 10	Acetylene	0003700025
2 Powder nozzzle size 8	Propane	0003700011
2 Powder nozzzle size 10	Propane	0003700029
2 Powder nozzzle size 8	Natural gas	0003700012
2 Powder nozzzle size 10	Natural gas	0003700029

1

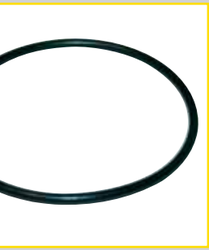
2

3

4

5

6



7

3 **Oxygen preheating device for Powder marking equipment**
Art. No. 0003700038

4 **Marking powder 100 g**
Zink colour
Art. No. 0003700010
Blue colour
Art. No. 0615116066

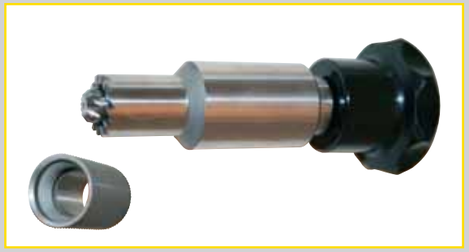
5 **Compressed air punch marker**
Art. No. 0002074055
spring
Art. No. 0614743009
centre punch
Art. No. 0614954002

6 **Repair kit with O-ring for powder marking equipment**
Art. No. 0003700045

7 **Hand tightening nut for powder marking equipment**
Art. No. 0003700021

Maintenance and service tools for cutting torches

Seating tool for nozzle seats with 30° IC cone,
for torch series BGB,BGC, and all nozzle heads
Art. No. 0002322006



Seating tool for injector torch nozzle seats,
torch series BIE, BID, BIF
Art. No. 0002322001

Attention! Seat tooling please carry out gently and careful!
In case of any question please contact your ESAB specialist near by.

Pressure control gauge for inspection of oxygen and fuel gas pressures on cutting torch inlet.
Correct pressure setting minimises cutting faults

Cutting oxygen 0-10 bar, G3/8" r.h.
Art. No. 0004464314

Pre heating oxygen 0-10 bar, G1/4" r.h.
Art. No. 000446313

Fuel gas 0-2,5 bar, G3/8" l.h.
Art. No. 000446303

Pressure control device 0-16 bar for cutting oxygen for torch head assembly.
For pressure monitoring the corresponding cutting nozzle will be screwed into the outlet. For use with BGB nozzle mix add on nozzle adapter.
Art. No. 0004457010

Advantage: Superior pressure testing method and pressure indication

Maintenance and cleaning kits

Cleaning powder KR21
For all injector and nozzle mix cutting – and heating caps
Art. No. 0003770030

Leakage detecting spray
For quick locating of leaking tubes, connection, hoses etc.
Art. No. 0003770031

Nozzle cleaning brush, brass
Art. No. 0003770014

Cleaning brush for heating nozzle
Art. No. 0003770013

Nozzle cleaning needle kit
Art. No. 0003770016

Conical cleaning needle
For high speed and high performance nozzles
Art. No. 0003770020

Manual igniter
Art. No. 0003714008

Saturn shade 5
Universal protective spectacles in shade 5 for cutting and welding inspection. Equipped with abrasion resistant lenses and adjustable temple arms.
CE approves according to EN 166 / EN 175
Art. No. 0003770032

Heavy duty Black Glove
Made of black cow-grain leather. High dexterity with KEVLAR stitching ensures that the glove can resist hard mechanical stress. Fully welted, CE approved, Cat 2.
Art. No. 0003770033

Studs
Height 80 mm, for 10 mm flat steel
Art. No. 0003548079

Robust and lockable steel case with resistant foam insert and tool tray.
The foam insert enables to keep all ESAB cutting nozzles and heating nozzles.
The top cover contains space for operating data and documentation.
Dimensions: W 370 x H 105 x D 315

Case without tools and without nozzles
Art. No. 0002350038

Case with tool set, without nozzles
Art. No. 0002350020

HF-ring for capacitive height control
Art. No. 0003190235
For other ring types take corresponding machine spare part list

Sensor for HF-ring
Art. No. 0002067164

HF-cable
Art. No. 0613366473

Rubber hoses, DIN EN 559

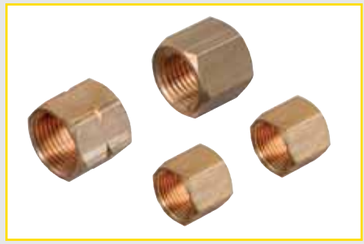
Description			Art. No.
Hoses for Oxygen	LW	4	0004430001
40 m roll	LW	6	0004430002
	LW	8	0004430009
	LW	12,5	0004430023
	LW	16	0004430006
Hoses for all gases	LW	6,3	0004430027
40 m roll	LW	9	0004430028
	LW	11	0004430029
	LW	16	0004430030
Hoses for compressed air	LW	6	0004800546
40 m roll	LW	9	0004430104
	LW	16	0004430103
Hoses for water	LW	6	0004430101
50 m roll	LW	9	0004430114
	LW	16	0004800711

Hoses clamps	Ø 13-15 mm	0006290005
Hoses clamps	Ø 15-17 mm	0006290004
Hoses clamps	Ø 17-20 mm	0006290003
Hoses clamps	Ø 20-23 mm	0006290009
Hoses clamps	Ø 27-31 mm	0006290010

Hoses need to be assembled in accordance to DIN EN 1256

Hose connections, connection nuts, hose nipples according to DIN EN 560

Description	Dimension	Art. No.
Connecting nut	G 1/4“ r.h.	0004400001
	G 1/4“ l.h.	0004400002
	G 3/8“ r.h.	0004400003
	G 3/8“ l.h.	0004400004
	G 1/2” r.h.	0004400013
	G 1/2” l.h.	0004400014
	G 3/4“ r.h.	0004400007
	G 3/4“ l.h.	0004400008
	G 1“ r.h.	0004400009
	G 1” l.h.	0004400010



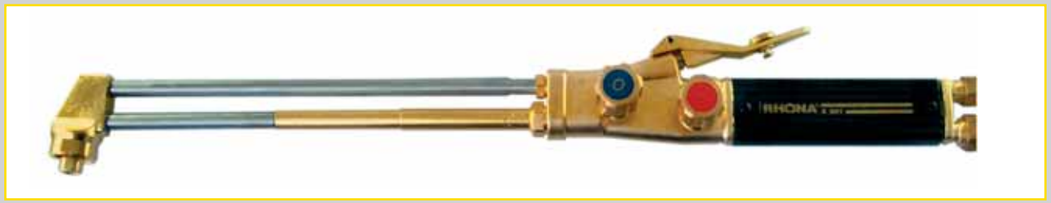
Hose nipples	G 1/4” x 4	0004401028
	G 1/4” x 6,3	0004401003
	G 3/8” x 6,3	0004401004
	G 1/2” x 6,3	0004401005
	G 3/8” x 8	0004401024
	G 3/8” x 9	0004401007
	G 1/2” x 8	0004401025
	G 1/2” x 9	0004401008
	G 1/2” x 11	0004401009
	G 3/4” x 11	0004401013
	G 3/4” x 12,5	0004401021
	G 3/4” x 16	0004401010
	G 1” x 16	0004401011

Description	Dimension	Art. No.
Angled hose nipples 90°	A6 x G 3/8” r.h.	0004401315
	A6 x M 14x1	0004401324
	A9 x G 3/8” l.h.	0004401302
	A9 x G 3/8” r.h.	0004401303
	A9 x G 1/2” r.h.	0004401326
	A9 x G 3/4” r.h.	0004401325
	A11 x G 1/2” l.h.	0004401305
	A16 x G 3/4” r.h.	0004401308
	A16 x G 1” r.h.	0004401319
	A16 x G 1” l.h.	0004401320

Double hose nipples	LW 9	0004401402
	LW 11	0004401404
	LW 12,5	0004401405
	LW 16	0004401406
	LW 19	0004401505

Manual cutting torch and accessoires

Manual cutting torch for nozzle mix



Manual Injector cutting torch

Manual cutting torch for nozzle mix
Art. No. 0004475025

Manual Injector cutting torch for Propane/Natural gas/mixed fuel gases
Art. No. 0004475021

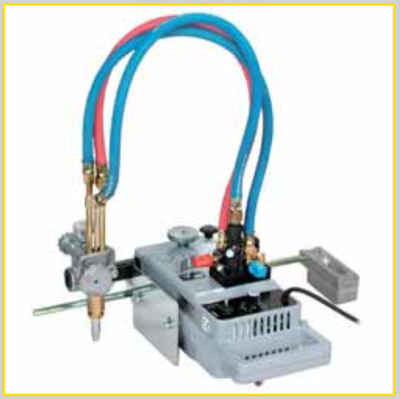
Manual Injector cutting torch for Acetylene
Art. No. 0004475019

Hose reels		Art. No.
	Body length 10 m for Acetylene / Oxygen	0003716035
	Body length 10 m for Propane / Oxygen	0003716034
	Body length 15 m for Acetylene / Oxygen	0003716032
	Body length 15 m for Propane / Oxygen	0003716033

Portable cutting machine IMP

IMP - A rugged, portable, economical machine designed for accuracy and efficiency. The IMP can be equipped with 1 or 2 machine cutting torches for straight and bevel cutting, cutting of contours, strips and circles.

The machine is truly portable because it only weighs 9 kgs complete with single machine cutting torch and hoses. A sturdy handle makes it easy to carry and to steer. For convenience of operation, all the controls are grouped together close to the handle. A new design of clutch makes the positioning and start of a cut an easy operation. Nozzle changing is made easy by standing the machine on its end.



The IMP will be used for:

- Contour cutting by hand guidance of the machine
- Straight cutting with a guide bar or track guidance
- Strip cutting with one machine cutting torch mounted on each side
- Plate edge preparation with both machine cutting torches mounted on one side
- Circle cutting with circle cutting attachment

Cutting machine IMP
Art.-Nr. 65.516.1401
Circle cutting device, connecting cable 10 m. nozzle wrench

Torch assembly consisting of:
Extension arm for single torch,
Gas manifold
Cutting torch for nozzle mix
Nozzle kit up to 60 mm
Torch clamp
Hose package

Torch assembly Acetylene
Art. No. 65.516.1420

Torch assembly Propane / Natural gas
Art. No. 65.516.1421

Aluminium track 2 m length, incl. clamp spring
Art. No. 65.516.1451

Included in delivery
Operating manual
Art. No. 65.516.9821

Technical documentation
Art. No. 65.516.9902

Technical data:	
Weight (kg)	9
Power supply (V/Hz)	230 / 50-60
Power consumption	60
No. of torches	1
Max. cutting thickness (1 Brenner)	3 - 100 mm
Max. cutting thickness (2 Brenner)	3 - 75 mm
Cutting speed (mm/min.)	75 - 1000
Lateral torch movement (mm)	150
Max. parallel cut (mm)	300
Min. parallel cut (mm)	45
Max. / Min. circular cut	1380 / 75

For order information please ask your nearest ESAB partner!

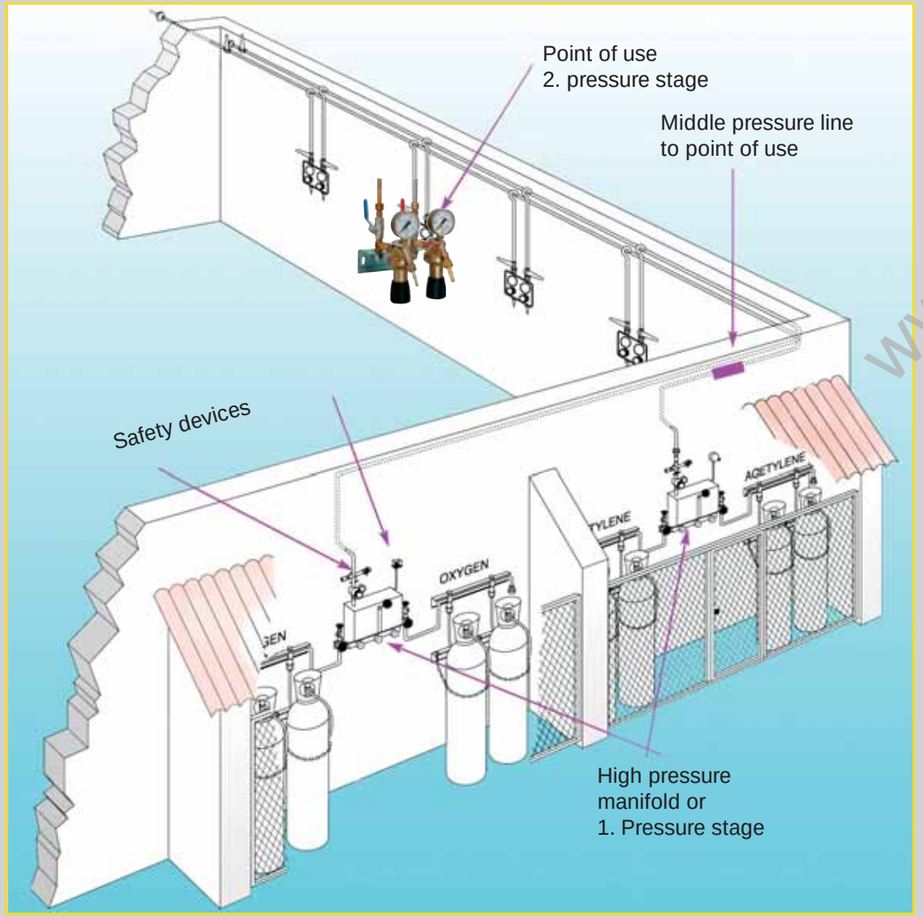
Gas supply

Gas supply – an important requirement

ESAB cutting systems offers on request for each machine the corresponding gas supply system. Subsequent equipment are point of use stations, to be used as a second pressure stage near machine after tank or high – pressure installations.

ESAB Point of use systems are aligned to the particular machine type. They ensure the necessary flows and required pressures for an absolute process reliability.

The assembly and pipe installation work needs to be done in accordance with the national valid rules and technical standards by the customer itself, or by anauthorised installation company. ESAB would therefore recommend skilled and established firms.



Single point of use station, Type 30

Single point of use for fuel gas
Art. No. 0002227558

Single point of use for Propane
Art. No. 0002227559

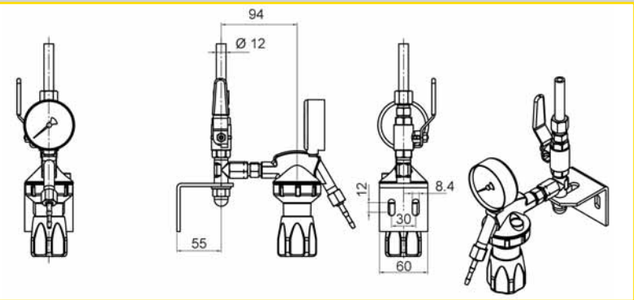
Single point of use for Oxygen
Art. No. 0002227561

Ball valve with angled connection and brazing adapter for fuel gas
Art. No. 0004466405

Ball valve with angled connection for Oxygen
Art. No. 0004466406

Ball valve with angled connection for neutral gases
Art. No. 0004466404

Regulator spare parts for type 30 stations you will find on next pages!



Technical data	Oxygen	Acetylene	Propane/ Natural gas
P1 [bar]	30	1,5	6,0
P2 [bar]	10	1,5	4,0
Q1 [m³/h]	30	5	5
Inlet brazing adapter	12 mm brass	12 mm steel	12 mm steel
Outlet hose socket	G3/8“ r.h./ 9 mm	G3/8“ l.h./ 9 mm	G3/8“ l.h.9 mm

Safety devices DIN EN 730-1
All fuel gas safety device GVA 90 G3/8“ l.h.
Art. No. 0004414022
Preheating oxygen GVO 90 G3/8“ r.h.
Art. No. 0004414045

Point of use station – dual type 30

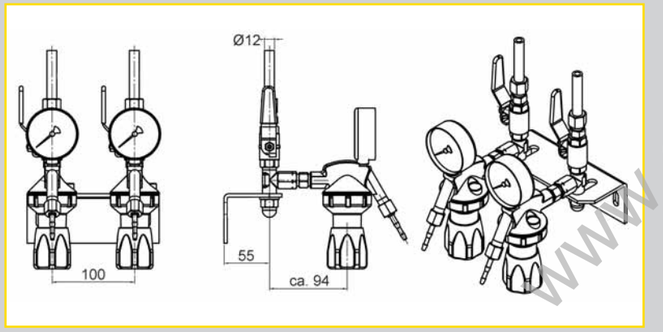
Double station for Oxygen/Acetylene
i.e. for supply to manual cutting torch
Art. No. 0002227562

Double station Oxygen/Propane
Art. No. 0002227563

Ball valve with angled connection for Oxygen
Art. No. 0004466406

Ball valve with angled connection for fuel gases
Art. No. 0004466405

Regulator spare parts for type 30 stations you will find on next pages!



Technical data	Oxygen	Acetylene	Propane/ Natural gas
P1 [bar]	30	1,5	6,0
P2 [bar]	10	1,5	4,0
Q1 [m³/h]	30	5	5
Inlet brazing adapter	12 mm brass	12 mm steel	12 mm steel
Outlet hose socket	G3/8“ r.h./ 9 mm	G3/8“ l.h./ 9 mm	G3/8“ l.h.9 mm

Safety Devices DIN EN 730-1
All fuel gas safety device GVA 90 G3/8“ l.h.
Art. No. 0004414022
Preheating oxygen GVO 90 G3/8“r.h.
Art. No. 0004414045

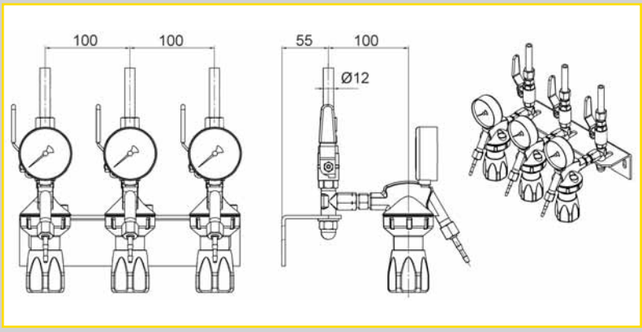
Point of use station – triple type 30

Number of torches
1 torch up to 200 mm
2 torches up to 100 mm

Acetylene
Art. No. 0002227564

Propane / Natural gas
Art. No. 0002227565

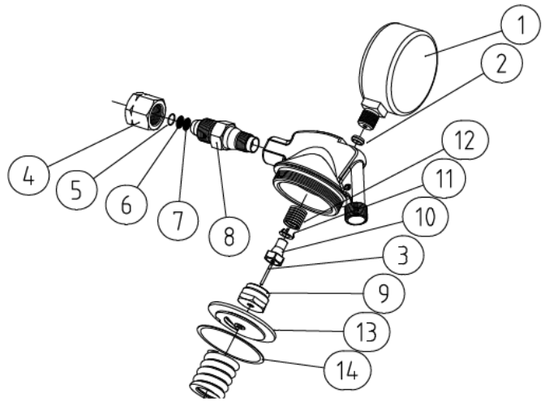
Regulator spare parts for type 30 stations you will find on next pages



Technical data	Cutting oxygen	Preheating oxygen	Acetylene	Propane/ Natural gas
P1 [bar]	30	30	1,5	6,0
P2 [bar]	10	10	1,5	4,0
Q1 [m³/h]	30	30	5,0	5,0
Inlet brazing adapter	12 mm brass	12 mm brass	12 mm steel	12 mm steel
Outlet hose socket	G3/8“ r.h./9mm	G3/8“ r.h./9mm	G3/8“ l.h./9mm	G3/8“ l.h./9mm

Safety Devices DIN EN 730-1
All fuel gas safety device GVA 90 G3/8“ l.h.
Art. No. 0004414022
Preheating oxygen GVO 90 G3/8“r.h.
Art. No. 0004414045

Spare parts for point of use regulator Type 30



Pos. 13
Diaphragm assembly
Art. No. 0004466410

Pos. 1
Pressure gauge O_2, 0-10 bar
Art. No. 0004464305

Pos. 1
Pressure gauge Acetylene 0-1,5 bar
Art. No. 0004464306

Pos. 1
Pressure gauge Propane / Natural gas
Art. No. 0004464361

Pos. 2
Gasket Al for pressure gauge Acetylene
Art. No. 0003730715

Pos. 2
Gasket Cu for pressure gaug O_2
Art. No. 0003730712

Point of use regulator preheating oxygen
with gauge 0-10 bar
Art. No. 0004466407

Point of use regulator cutting oxygen
with gauge 0-10 bar
Art. No. 0004466407

Point of use regulator Acetylene
with gauge 0-1,5 bar
Art. No. 0004466408

Point of use regulator Propane/Natural gas
with gauge 0-4 bar
Art. No. 0004466409

When ordering refer to fuel gas type!

Safety Devices DIN EN 730-1
All fuel gas safety device GVA 90 G3/8“ l.h.
Art. No. 0004414022
Preheating oxygen GVO 90 G3/8“r.h.
Art. No. 0004414045

Single point of use station type 100 and 500

Typ 100

Single point of use for Oxygen and compressed gases
Art. No. 0002227560

Single point of use for Acetylene
Art. No. 0002227568

Single point of use for Propane / Natural gas
Art. No. 0002227569

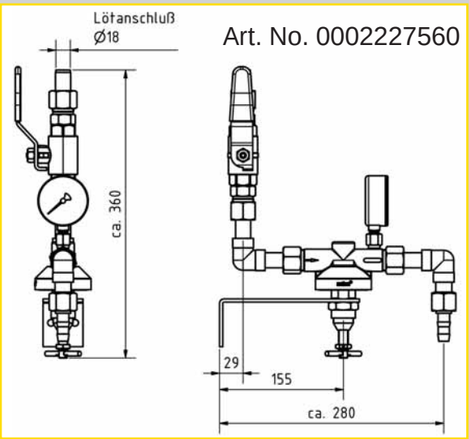
Regulator spare parts type 100 you will find on next pages

Technical data	Oxygen and compressed gases	Acetylene	Propane / Natural gas
P1 [bar]	20	1,5 / 4,0	6,0
P2 [bar]	13	1,5 / 1,5	4,0
Q1 [m³/h]	100	20	20
Inlet brazing adapter	19 mm brass	15 mm brass	15 mm brass
Outlet hose socket	G3/4”r.h./ 16 mm	G1/2”l.h./ 12,5 mm	G1/2”l.h./ 12,5 mm

Typ 500

Oxygen and compressed gase
for ultra high flow requirements
Art. No. 0002227572

Spare parts on special request.



Art. No. 0002227560

Technical data	Oxygen and compressed gases
P1 [bar]	40
P2 [bar]	0,1 - 15
Q1 [m³/h]	500 bei P2 = 15 bar
Inlet	Ball valve DN 25, 1” swivel nut. brazing nipple 25 mm
Outlet hose socket	G3/4”

Point of use station – Type 100

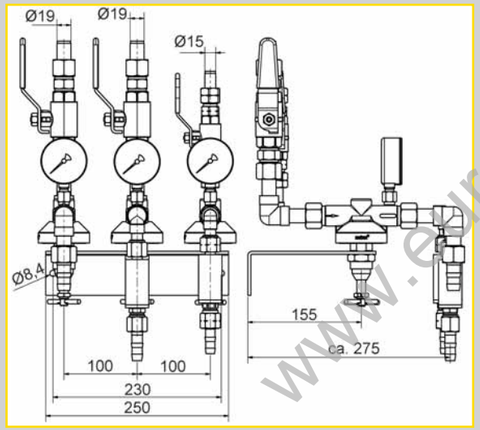
N E W
with higher working pressure

Number of torches
1 torches up to 300 mm
4 torches up to 200 mm

Art. No. 0002227570
Acetylene

Art. No. 0002227571
Propane / Natural gas

Art. No. 0002227272
and Art. No. 0002227273 are designed for 10 bar oxygen working pressure and available on special request



Technical data	Cutting oxygen	Preheating oxygen	Acetylene	Propane / Natural gas
P1 [bar]	20	20	1,5 / 4,0	6,0
P2 [bar]	13	13	1,5 / 1,5	4,0
Flow [m³/h]	100	100	20	20
Inlet brazing adapter	19 mm (brass)	19 mm (brass)	15 mm (brass)	15 mm (brass)
Outlet hose socket	G3/4“ r.h./ 12,5 and 16 mm	G1/2“ r.h./ 12,5 mm	G1/2“ l.h./ 11 mm	G1/2“ l.h./ 11 mm
Safety device	none	1x GVO 90 G1/2“ r.h.	1x GVA 90 G1/2“ r.h.	1x GVA 90 G1/2“ r.h.

Point of use station tripleType 200 H

N E W
With higher working pressure

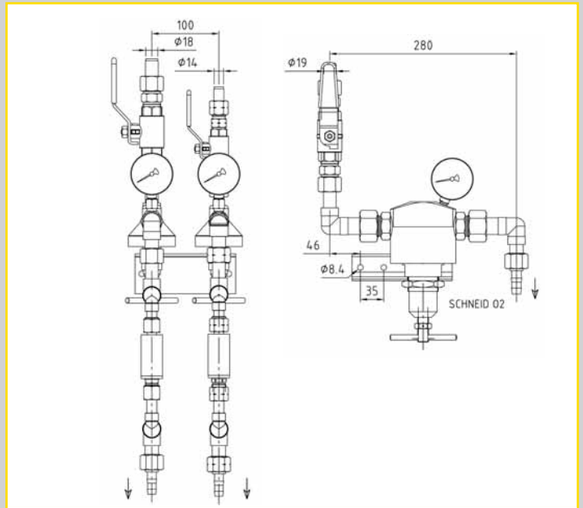
No of torches
4 torches up to 300 mm
6 torches up to 200 mm
8 torches up to 100 mm*

Art. No. 0002227566
Acetylene

Art. No. 0002227567
Propane / Natural gas

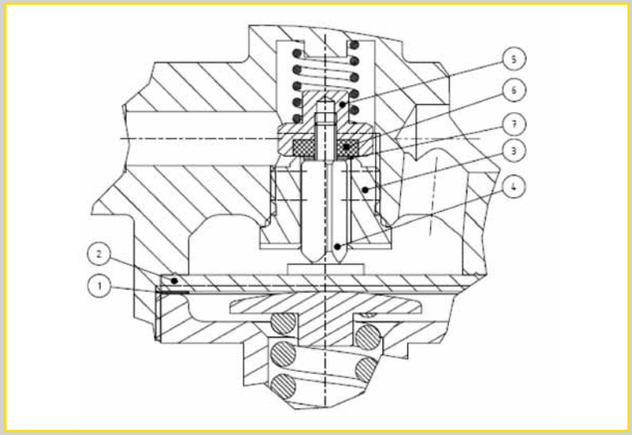
*For higher flow requirements the Type 500 regulator station shall be used (page 51)

The spare parts for preheating oxygen and fuel gas correspond to the spare parts of regulators type 100.



Technical data	Cutting oxygen	Preheating oxygen	Acetylene	Propane / Natural gas
P1 [bar]	30	20	1,5	6,0
P2 [bar]	20	13	1,5	4,0
Flow [m³/h]	300	100	20	20
Inlet brazing adapter	19 mm (brass)	19 mm (brass)	15 mm (brass)	15 mm (brass)
Outlet hose socket	G3/4“ r.h./ 12,5 and 16 mm	G1/2“ r.h./ 12,5 mm	G1/2“ l.h./ 11 mm	G1/2“ l.h./ 11 mm
Safety device	none	2x GVO 90 G1/2“ r.h.	2x GVA 90 G1/2“ r.h.	2x GVA 90 G1/2“ r.h.

Spare parts for point of use station Type 100



Spare part kit (S100/BG20) Art. No. 0004466084
Pos. 1-7

Regulator seat kit (S100/BG20) Art. No. 0004466068
Pos. 3-7

Diaphragm (S100/BG20) Art. No. 0004466083
Pos. 2

Pressure gauge
O_2, 0-10 bar Art. No. 0004464305

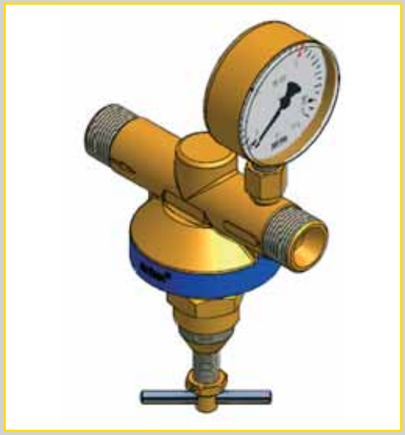
Pressure gauge
O_2, 0-20 bar Art. No. 0004464330

Pressure gauge
Acetylene 0-1,5 bar Art. No. 0004464306

Pressure gauge
Propane / Natural gas, 0-4,0 bar Art. No. 0004464361

Gasket Alu
For pressure gauge acetylene Art. No. 0003730715

Gasket Cu
For pressure gauge oxygen Art. No. 0003730712



Regulator S100
for preheating oxygen
with pressure gauge
0-10bar
Art. No. 0004466079

Regulator S100
for cutting oxygen
with pressure gauge
0-20 bar
Art. No. 0004466130

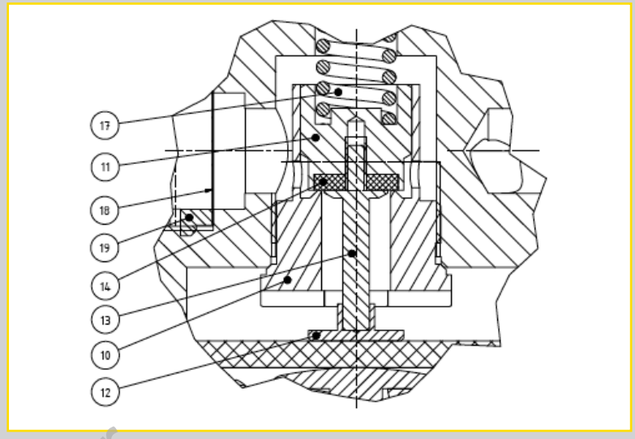
Regulator BG20
for Acetylene
with pressure gauge
0-1,5bar
Art. No. 0004466086

Regulator BG20 for
Propane / Natural gas
with pressure gauge
0-4,0 bar
Art. No. 0004466129

When ordering refer to gas type!

Safety devices DIN EN 730 -1
GVO 90 Heating oxygen G1/2“ r.h. Art. No. 0004414044
GVA 90 all fuel gases G1/2“ l.h. Art. No. 0004414017

Spare parts for point of use station Type 200



Spare part kit (S200/S200H) Art. No. 0004466076
Pos.10, 11,12, 13

Diaphragm S200 Art. No. 0004466093

Pressure gauge
O_2, 0-20 bar Art. No. 0004464330

Gasket Alu
for pressure gauge acetylene Art. No. 0003730715

Gasket Cu
for pressure gauge oxygen Art. No. 0003730712

Regulator cutting S200-H
oxygen with
pressure gauge
0 – 20 bar
Art. No. 004466092

The spare parts for preheating oxygen and fuel gas correspond to the spare parts of regulators-type 100.

Safety devices DIN EN 730 -1
GVO 90 Heating oxygen G1/2“ r.h. Art.-No. 0004414044
GVA 90 all fuel gases G1/2“ l.h. Art.-No. 0004414017

Point of use – without regulators

Cutting – ox
Art. No. 0002227276

Preheating – ox 1 x GVO
Art. No. 0002227277
All fuel gases 1 x GVA
Art. No. 0002227279

Preheating – ox 2 x GVO
Art. No. 0002227278
All fuel gases 2 x GVA
Art. No. 0002227280

Safety devices DIN EN 730 -1
GVO 90 Heating oxygen G1/2“ r.h. Art. No. 0004414044
GVA 90 all fuel gases G1/2“ l.h. Art. No. 0004414017

Technical data	Cutting oxygen	Preheating oxyg. 1xGVO	Preheating oxyg. 2xGVO	Acetylene / Propane	Acetylene / Propane
P1 [bar]	Max. 40	15	15	1,5/5,0	1,5 / 5,0
P2 [bar]	Pressure data depending on flow				
Flow [m³/h]	200 (300)	up to 80	up to 120	up to 20,5	to 35
Inlet brazing adapter	19 mm brass	19 mm brass	19 mm brass	15 mm brass	15 mm brass
Outlet hose socket	G3/4”r.h/ 12,5 mm u. 16 mm	G1/2”r.h/ 12,5 mm	G3/4”r.h./ 12,5 mm u. 16 mm	G1/2”l.h./ 11 mm	G1/2”l.h./ 11 mm
Ball valve Nominal diameter	DN 20	DN 15	DN 15	DN 15	DN 15
Safety device	none	1xGVO 90 G1/2”r.h.	2xGVO 90 G1/2”r.h.	1 x GVA 90 G1/2”l.h.	2xGVA 90 G1/2”l.h.

Cylinder regulators DIN EN ISO 2503

Regulator cylinder/bundle type for
Cutting oxygen Modell CR60
Art. No. 0004466840
P1= 200 bar, P2= 13 bar
Q^{max}= 200m³/h

Cylinder regulator for Acetylene
Typ DIN-Control
Art. No. 0004466830
P1= bis 20 bar, P2= 1,5 bar
Q^{max}= 8 m³/h

Cylinder regulator for Propane
Typ DIN-Control
Art. No. 0004466860
P1= bis 20 bar, P2= 1,5 bar
Q^{max}= 8 m³/h

Cylinder regulator for
Heating oxygen
Typ DIN-Control
Art. No. 0004466838
P1= 200 bar, P2= 10 bar
Q^{max}= 50m³/h

Mentioned article numbers are valid for german application. When ordering local standards please ask your nearest ESAB specialist.

Safety device DIN EN 730 -1
Acetylene und Propane Art. No. 0004414022
Heating oxygen Art. No. 0004414045

Facts about fuel gases and oxygen.

For mechanized oxyfuel cutting acetylene, propane and natural gas are the most popular gases. Sometimes mixed fuel gases such as mixtures with ethane and methyl acetylene are used. Primarily all fuel gases differ in their chemical and physical properties and their mixing ratio with oxygen. Therefore the design of torch and nozzle systems differs accordingly.

Practically the user has to distinguish between general qualification and preferential aptitude of fuel gases. We are willing to advice you together with your supplier of fuel gases which type of gas would be the right one for most of your applications. ESAB provides for all fuel gases corresponding reliable and economical products.

Acetylene C_2H_2

Is manufactured through the chemical reaction between water and calcium carbide and owns an unstable character. Therefore Acetylene is stored dissolved with Acetone together with in special gas cylinders with an pourose mass. Acetylene provides of all fuel gases the highest temperature in the primary flame. This property is especial beneficial while manufacturing bevel cuts for welding edges.

Propane C_3H_8

It's a fuel gas generated during refinement of crude oil. The storage takes place liquefied in cylinders or tanks. Depending on the ambient air temperature different steam pressures will arise. The temperature of primary flame is lower compared to Acetylene, but Propane comprises a high heat value per kilogram gas in the secondary flame. This property is expedient for cutting thick materials.

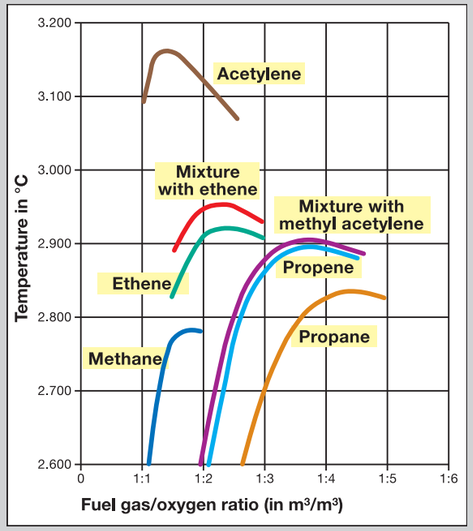
Natural gas / Methane CH_4

Primarily consisting of Methane. Depending on regional resources, properties of combustion may differ strongly. Usually the gas supply raised reasonable through gas pipelines direct to customers distribution network. Methane is available also compressed in gas cylinders. The heat value of primary flame is the lowest compared to all other fuel gases. By increasing the mixing ratio of oxygen the performance of combustion can be raised something.

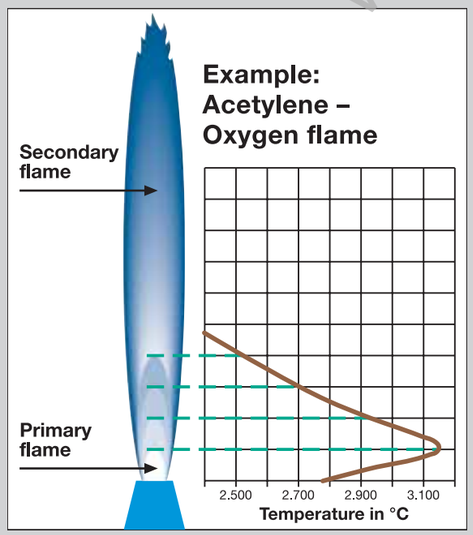
Oxygen O_2

Does not combust oneself, but it stimulates significant the combustion of above mentioned gases. Oxygen needs to be mixed together in corresponding amounts to achieve the highest flame temperature (see picture below). In the presence of oxygen oil and grease can be extremely dangerous and could combust explosively. In addition oxygen is responsible for combustion of the basic material and to blow out the liquid oxides.

Flame temperature



Temperature distribution within an Acetylene oxygen flame



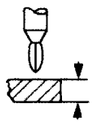
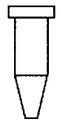
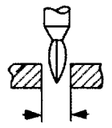
ting and consumption table for standard cutting nozzle mix
e GAA 300 L (acetylene)

		Cutting speed EN ISO 9013			Pressure	
	A	Quality I	Quality II		O	O
[mm]		[mm/min]	[mm/min]	[mm]	[bar] *)	[bar] *
3	4.450.070	760	810	3	2,0	1
4	4.450.070	750	800	3	2,0	
5	4.450.070	740	790	4	2,0	
5	4.450.071	740	790	4	3,5	
6	4.450.071	720	780	4	3,5	
7	4.450.071	680	770	4	4,0	1
8	4.450.071	660	760	4	4,0	1
10	4.450.071	600	740	4	4,5	1
10	4.450.072	600	740	6	5,0	
15	4.450.072	550	680	6	5,0	
20	4.450.072	480	630	6	5,5	
20	4.450.073	480	630	6	6,0	
25	4.450.073	450	570	7	6,0	
30	4.450.073	420	520	7	6,0	
35	4.450.073	400	500	7	6,0	
40	4.450.073	380	480	7	6,0	
40	4.450.074	380	480	7	6,5	
50	4.450.074	350	440	7	6,5	
60	4.450.074	310	390	7	6,5	
75	4.450.074	260	360	7	6,5	
75	4.450.075	260	360	10		
100	4.450.075	220	280	10		
125	4.450.075	190	250			
125	4.450.076	190	250			
150	4.450.076	180				
200	4.450.076					
200	4.450.077					
250	4.450.077					
250	4.450.07					
300	4.450.0					

Cutting data / Cutting and consumption tables

Cutting and consumption table for heavy duty cutting nozzle mix, type GPA 500 L (propane / natural gas)

0.300.030

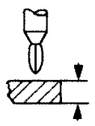
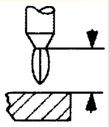
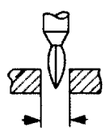
 [mm]			Cutting speed EN ISO 9013 **Quality I** [mm/min]	 O [bar] *)	Pressure  O [bar] *)	 P, M [bar] *)	Consumption  O [m³/h]	 O [m³/h]	 P, M [m³/h]	 [mm]
				Propane						
300	4.450.088	4.450.588	150	7,7	5	0,5	30	6,5	1,1	6 - 8
400	4.450.089	4.450.588	100	10,2	7	1,0	46	10,5	4,8	9 - 12
500	4.450.089	4.450.588	85	11,2	7	0,6	55	10,5	1,8	9 - 12
				Natural gas						
300	4.450.088	4.450.588	150	7,7	5	0,6	30	6,8	3,1	6 - 8
400	4.450.089	4.450.588	100	10,2	7	0,6	46	10,5	1,8	9 - 12
500	4.450.089	4.450.588	85	11,2	7	1,0	55	10,5	4,8	9 - 12

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for standard cutting nozzle mix Type GAA 300 L (acetylene)

0.300.031

 [mm]	 A	Cutting speed EN ISO 9013 **Quality I** [mm/min]	**Quality II** [mm/min]	 [mm]	Pressure  O [bar] *)	 O [bar] *)	 A [bar] *)	Consumption  O [m³/h]	 O [m³/h]	 A [m³/h]	 [mm]
3	4.450.070	760	810	3	2,0	1	0,2	0,65	0,28	0,22	1,0
4	4.450.070	750	800	3	2,0	1	0,2	0,65	0,28	0,22	1,0
5	4.450.070	740	790	4	2,0	1	0,2	0,65	0,28	0,22	1,0
5	4.450.071	740	790	4	3,5	1	0,3	0,98	0,35	0,27	1,3
6	4.450.071	720	780	4	3,5	1	0,3	0,98	0,35	0,27	1,3
7	4.450.071	680	770	4	4,0	1	0,3	1,10	0,35	0,27	1,4
8	4.450.071	660	760	4	4,0	1	0,3	1,10	0,35	0,27	1,4
10	4.450.071	600	740	4	4,5	1	0,3	1,25	0,35	0,27	1,5
10	4.450.072	600	740	6	5,0	1	0,3	2,30	0,44	0,34	1,5
15	4.450.072	550	680	6	5,0	1	0,3	2,30	0,44	0,34	1,6
20	4.450.072	480	630	6	5,5	1	0,3	2,30	0,44	0,34	1,7
20	4.450.073	480	630	6	6,0	2	0,3	2,60	0,58	0,45	1,9
25	4.450.073	450	570	7	6,0	2	0,3	3,80	0,58	0,45	1,9
30	4.450.073	420	520	7	6,0	2	0,3	3,80	0,58	0,45	2,0
35	4.450.073	400	500	7	6,0	2	0,3	3,80	0,58	0,45	2,1
40	4.450.073	380	480	7	6,0	2	0,3	3,80	0,58	0,45	2,2
40	4.450.074	380	480	7	6,5	2	0,3	5,40	0,81	0,63	2,3
50	4.450.074	350	440	7	6,5	2	0,3	5,40	0,81	0,63	2,3
60	4.450.074	310	390	7	6,5	2	0,3	5,40	0,81	0,63	2,4
75	4.450.074	260	360	7	6,5	2	0,3	5,40	0,81	0,63	2,4
75	4.450.075	260	360	10	7,5	3	0,3	8,80	0,81	0,63	2,6
100	4.450.075	220	280	10	7,5	3	0,3	8,80	0,81	0,63	2,8
125	4.450.075	190	250	10	7,5	3	0,3	8,80	0,81	0,63	3,0
125	4.450.076	190	250	10	7,5	3	0,3	14,15	1,24	0,96	5,0
150	4.450.076	180	230	10	7,5	3	0,3	14,15	1,24	0,96	5,0
200	4.450.076	160	190	12	7,5	3	0,3	14,15	1,24	0,96	5,0
200	4.450.077	160	190	12	7,5	3	0,3	23,00	1,59	1,23	6,0
250	4.450.077	130	145	12	7,5	3	0,3	23,00	1,59	1,23	6,0
250	4.450.078	130	145	14	7,5	3	0,3	30,00	1,62	1,25	8,0
300	4.450.078	100	115	14	7,5	3	0,3	30,00	1,62	1,25	8,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for high speed cutting nozzle type IPB 300 L (propane / natural gas)

0.300.035

[mm]			Cutting speed EN ISO 9013 Quality I [mm/min]	Cutting speed EN ISO 9013 Quality II [mm/min]	[mm]	Pressure O [bar] *)	Pressure O [bar] *)	Pressure P, M [bar] *)	Consumption O [m³/h]	Consumption O [m³/h]	Consumption P [m³/h]	Consumption M [m³/h]	[mm]
3	4.450.040	4.450.545	600	700	4 - 6	2,0	1,5	0,1	0,5	0,55	0,14	0,34	1,0
4	4.450.040	4.450.545	600	700	4 - 6	4,0	1,5	0,1	0,7	0,55	0,14	0,34	1,0
5	4.450.040	4.450.545	630	730	4 - 6	4,0	1,5	0,1	0,7	0,55	0,14	0,34	1,0
6	4.450.040	4.450.545	630	730	4 - 6	4,0	1,5	0,1	0,7	0,55	0,14	0,34	1,0
6	4.450.041	4.450.545	630	730	4 - 6	5,0	2,0	0,2	1,6	0,75	0,20	0,47	1,6
8	4.450.041	4.450.545	600	700	4 - 6	5,0	2,0	0,2	1,6	0,75	0,20	0,47	1,6
10	4.450.041	4.450.545	560	660	4 - 6	6,5	2,0	0,2	1,9	0,75	0,20	0,47	1,6
15	4.450.041	4.450.545	520	620	5 -10	7,5	2,0	0,2	2,1	0,75	0,20	0,47	1,6
15	4.450.042	4.450.545	520	620	5 -10	7,0	2,0	0,2	3,4	0,83	0,22	0,52	1,9
20	4.450.042	4.450.545	460	560	5 -10	7,5	2,0	0,2	3,6	0,83	0,22	0,52	1,9
25	4.450.042	4.450.545	420	520	5 -10	8,0	2,0	0,2	3,8	0,83	0,22	0,52	1,9
25	4.450.043	4.450.545	420	520	5 -10	7,5	2,0	0,2	4,5	0,90	0,24	0,56	2,3
30	4.450.043	4.450.545	400	500	5 -10	8,0	2,0	0,2	4,7	0,90	0,24	0,56	2,3
35	4.450.043	4.450.545	380	480	5 -10	8,0	2,0	0,2	4,7	0,90	0,24	0,56	2,4
40	4.450.043	4.450.545	360	430	5 -10	8,5	2,0	0,2	5,0	0,90	0,24	0,56	2,5
40	4.450.044	4.450.545	360	430	5 -10	7,5	2,0	0,2	5,7	0,98	0,26	0,61	2,2
50	4.450.044	4.450.545	310	410	5 -10	8,0	2,0	0,2	6,0	0,98	0,26	0,61	2,3
60	4.450.044	4.450.545	290	390	5 -10	8,5	2,0	0,2	6,2	0,98	0,26	0,61	2,4
60	4.450.045	4.450.545	290	390	6 -10	7,0	2,0	0,2	9,6	1,14	0,30	0,71	3,2
75	4.450.045	4.450.545	270	340	6 -10	7,0	2,0	0,2	9,6	1,14	0,30	0,71	3,3
100	4.450.045	4.450.545	250	330	6 -10	7,5	2,0	0,2	10,2	1,14	0,30	0,71	3,5
100	4.450.046	4.450.545	250	330	8 -12	6,0	3,0	0,2	9,8	1,25	0,33	0,78	3,5
150	4.450.046	4.450.545	210	260	8 -12	7,0	3,0	0,2	11,5	1,25	0,33	0,78	3,7
200	4.450.046	4.450.545	160	170	8 -12	8,0	3,0	0,2	13,3	1,25	0,33	0,78	3,8
200	4.450.047	4.450.546	160	170	12 -15	7,5	3,0	0,2	22,0	1,50	0,44	0,93	4,2
250	4.450.047	4.450.546	120	130	12 -15	7,5	3,0	0,2	22,0	1,50	0,44	0,93	4,2
250	4.450.048	4.450.546	140	150	12 -15	7,5	3,0	0,2	31,0	2,00	0,53	1,25	8,0
300	4.450.048	4.450.546	115	130	12 -15	7,5	3,0	0,2	31,0	2,00	0,53	1,25	8,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for high speed cutting nozzle mix type GPB 300 L (propane / natural gas)

0.300.036

[mm]		Cutting speed EN ISO 9013 Quality I [mm/min]	Cutting speed EN ISO 9013 Quality II [mm/min]	[mm]	Pressure O [bar] *)	Pressure O [bar] *)	Pressure P, M [bar] *)	Consumption O [m³/h]	Consumption O [m³/h]	Consumption P [m³/h]	Consumption M [m³/h]	[mm]
3	4.450.090	600	700	4 - 6	2,0	1,5	0,1	0,5	0,55	0,14	0,34	1,0
4	4.450.090	600	700	4 - 6	4,0	1,5	0,1	0,7	0,55	0,14	0,34	1,0
5	4.450.090	630	730	4 - 6	4,0	1,5	0,1	0,7	0,55	0,14	0,34	1,0
6	4.450.090	630	730	4 - 6	4,0	1,5	0,1	0,7	0,55	0,14	0,34	1,0
6	4.450.091	630	730	4 - 6	5,0	2,0	0,2	1,6	0,75	0,20	0,47	1,6
8	4.450.091	600	700	4 - 6	5,0	2,0	0,2	1,6	0,75	0,20	0,47	1,6
10	4.450.091	560	660	4 - 6	6,5	2,0	0,2	1,9	0,75	0,20	0,47	1,6
15	4.450.091	520	620	5 - 10	7,5	2,0	0,2	2,1	0,75	0,20	0,47	1,6
15	4.450.092	520	620	5 - 10	7,0	2,0	0,2	3,4	0,83	0,22	0,52	1,9
20	4.450.092	460	560	5 - 10	7,5	2,0	0,2	3,6	0,83	0,22	0,52	1,9
25	4.450.092	420	520	5 - 10	8,0	2,0	0,2	3,8	0,83	0,22	0,52	1,9
25	4.450.093	420	520	5 - 10	7,5	2,0	0,2	4,5	0,90	0,24	0,56	2,3
30	4.450.093	400	500	5 - 10	8,0	2,0	0,2	4,7	0,90	0,24	0,56	2,3
35	4.450.093	380	480	5 - 10	8,0	2,0	0,2	4,7	0,90	0,24	0,56	2,4
40	4.450.093	360	430	5 - 10	8,5	2,0	0,2	5,0	0,90	0,24	0,56	2,5
40	4.450.094	360	430	5 - 10	7,5	2,0	0,2	5,7	0,98	0,26	0,61	2,2
50	4.450.094	310	410	5 - 10	8,0	2,0	0,2	6,0	0,98	0,26	0,61	2,3
60	4.450.094	290	390	5 - 10	8,5	2,0	0,2	6,2	0,98	0,26	0,61	2,4
60	4.450.095	290	390	6 - 10	7,0	2,0	0,2	9,6	1,14	0,30	0,71	3,2
75	4.450.095	270	340	6 - 10	7,0	2,0	0,2	9,6	1,14	0,30	0,71	3,3
100	4.450.095	250	330	6 - 10	7,5	2,0	0,2	10,2	1,14	0,30	0,71	3,5
100	4.450.096	250	330	8 - 12	6,0	3,0	0,3	9,8	1,25	0,33	0,78	3,5
150	4.450.096	210	260	8 - 12	7,0	3,0	0,3	11,5	1,25	0,33	0,78	3,7
200	4.450.096	160	170	8 - 12	8,0	3,0	0,3	13,3	1,25	0,33	0,78	3,8
200	4.450.097	160	170	12 - 15	7,5	3,0	0,3	22,0	1,50	0,44	0,93	4,2
250	4.450.097	120	130	12 - 15	7,5	3,0	0,3	22,0	1,50	0,44	0,93	4,2
250	4.450.098	140	150	12 - 15	7,5	3,0	0,3	31,0	2,00	0,53	1,25	8,0
300	4.450.098	115	130	12 - 15	7,5	3,0	0,3	31,0	2,00	0,53	1,25	8,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for high performance cutting nozzle mix type GAC 300 L (acetylene)

0.300.050

[mm]		Cutting speed EN ISO 9013 Quality I [mm/min]	[mm]	Pressure O [bar] *)	Pressure O [bar] *)	Pressure A [bar] *)	Consumption O [m³/h]	Consumption O [m³/h]	Consumption A [m³/h]	[mm]
3	4.450.240	800	3	3,0	0,8	0,2	0,5	0,5	0,39	0,9
5	4.450.240	750	3	4,0	0,8	0,2	0,6	0,5	0,39	0,9
6	4.450.241	750	4	7,0	1,0	0,3	1,4	0,55	0,43	1,3
8	4.450.241	740	4	7,5	1,0	0,3	1,5	0,55	0,43	1,3
10	4.450.241	700	5	8,0	1,0	0,3	1,6	0,55	0,43	1,3
10	4.450.242	720	5	9,0	1,0	0,3	3,5	0,69	0,53	1,6
15	4.450.242	650	5	10,0	1,0	0,3	4,0	0,69	0,59	1,6
20	4.450.242	600	5	10,0	1,0	0,3	4,0	0,69	0,59	1,6
25	4.450.242	530	5	11,0	1,5	0,3	4,2	0,71	0,55	1,6
25	4.450.243	530	7	9,0	1,0	0,3	4,3	0,70	0,54	2,2
30	4.450.243	510	7	9,5	1,0	0,3	4,5	0,70	0,54	2,2
40	4.450.243	450	7	10,0	1,5	0,3	4,8	0,90	0,70	2,2
50	4.450.243	410	7	11,0	1,5	0,3	5,2	0,90	0,70	2,2
50	4.450.244	410	7	10,0	2,0	0,3	7,4	1,50	1,17	2,4
60	4.450.244	370	7	10,0	2,0	0,3	7,4	1,50	1,17	2,4
75	4.450.244	330	7	11,0	2,0	0,3	8,1	1,50	1,17	2,4
75	4.450.245	330	10	10,0	2,0	0,4	9,3	1,50	1,17	2,7
90	4.450.245	300	10	10,0	2,0	0,4	9,3	1,50	1,17	2,7
100	4.450.245	280	10	11,0	2,0	0,4	10,2	1,50	1,17	2,7

Above cutting thickness of 100 mm GAA 300 L nozzles will be used (cutting table 0.300.031)

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for high performance cutting nozzle type IPD 300 L (propane and mixed fuel gases)

0.300.051

[mm]			Cutting speed EN ISO 9013 Quality I [mm/min]	[mm]	Pressure O [bar] *)	Pressure O [bar] *)	Pressure P [bar] *)	Consumption O [m³/h]	Consumption O [m³/h]	Consumption P [m³/h]	[mm]
3	4.450.260	4.450.560	800	3	3,0	1,0	0,10	0,5	0,80	0,17	0,9
4	4.450.260	4.450.560	760	3	3,0	1,2	0,10	0,5	0,90	0,18	0,9
5	4.450.260	4.450.560	730	4	4,0	1,5	0,10	0,6	1,00	0,20	0,9
6	4.450.261	4.450.560	710	4	7,0	1,5	0,15	1,4	1,00	0,21	1,3
8	4.450.261	4.450.560	680	5	7,5	1,8	0,15	1,5	1,10	0,28	1,3
10	4.450.261	4.450.560	650	5	8,0	2,0	0,15	1,6	1,20	0,33	1,3
10	4.450.262	4.450.560	650	5	9,0	2,0	0,20	3,5	1,20	0,33	1,6
15	4.450.262	4.450.560	580	5	10,0	2,0	0,20	4,0	1,20	0,33	1,6
20	4.450.262	4.450.560	550	5	10,0	2,0	0,20	4,0	1,20	0,33	1,6
25	4.450.262	4.450.560	500	7	11,0	2,0	0,20	4,2	1,20	0,33	1,6
25	4.450.263	4.450.560	500	7	9,0	2,0	0,20	4,3	1,20	0,33	2,2
30	4.450.263	4.450.560	470	7	9,5	2,0	0,20	4,5	1,20	0,33	2,2
40	4.450.263	4.450.560	520	7	10,0	2,0	0,20	4,7	1,20	0,33	2,2
50	4.450.263	4.450.560	390	7	11,0	2,0	0,20	5,2	1,20	0,33	2,2
50	4.450.264	4.450.560	390	7	10,0	2,0	0,20	7,4	1,20	0,33	2,4
60	4.450.264	4.450.560	350	7	10,0	2,0	0,20	7,4	1,20	0,33	2,4
75	4.450.264	4.450.560	320	10	11,0	2,0	0,20	8,1	1,20	0,33	2,4
75	4.450.265	4.450.560	320	10	10,0	2,0	0,20	9,3	1,20	0,33	2,7
90	4.450.265	4.450.560	280	10	10,0	2,0	0,20	9,3	1,20	0,33	2,7
100	4.450.265	4.450.560	270	10	11,0	2,0	0,20	10,2	1,20	0,33	2,7
100	4.450.046	4.450.547	250	10	6,0	3,0	0,20	9,8	0,33	0,78	3,5
150	4.450.046	4.450.547	210	10	7,0	3,0	0,20	11,5	0,33	0,78	3,5
200	4.450.046	4.450.547	160	12	8,0	3,0	0,20	13,3	0,33	0,78	3,8
200	4.450.047	4.450.548	160	12	7,5	3,0	0,20	22,0	0,40	0,93	4,2
250	4.450.047	4.450.548	120	12	7,5	3,0	0,20	22,0	0,40	0,93	4,2
250	4.450.048	4.450.548	140	14	7,5	5,0	0,20	31,0	0,53	1,25	8,0
300	4.450.048	4.450.548	115	14	7,5	5,0	0,20	31,0	0,53	1,25	8,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for standard cutting nozzle type IAA 250 K (acetylene)

0.300.038

[mm]			Cutting speed EN ISO 9013 Quality I [mm/min]	Cutting speed EN ISO 9013 Quality II [mm/min]	[mm]	Pressure O [bar] *)	Pressure O [bar] *)	Pressure A [bar] *)	Consumption O [m³/h]	Consumption O [m³/h]	Consumption A [m³/h]	[mm]
3	4.450.000	4.450.500	760	810	3	2,0	2	0,5	0,90	0,29	0,26	1,0
4	4.450.000	4.450.500	750	800	3	2,0	2	0,5	0,90	0,29	0,26	1,0
4	4.450.001	4.450.500	750	800	4	2,0	2	0,5	0,90	0,33	0,30	1,3
5	4.450.001	4.450.500	740	790	4	3,5	2	0,5	1,40	0,33	0,30	1,3
6	4.450.001	4.450.500	720	780	4	3,5	2	0,5	1,40	0,33	0,30	1,4
8	4.450.001	4.450.500	660	760	4	4,0	2	0,5	1,55	0,33	0,30	1,4
10	4.450.001	4.450.500	600	740	4	4,5	2	0,5	1,70	0,33	0,30	1,5
10	4.450.002	4.450.501	600	740	5	5,0	3	0,5	2,85	0,40	0,36	1,5
15	4.450.002	4.450.501	550	680	5	5,0	3	0,5	2,85	0,40	0,36	1,6
20	4.450.002	4.450.501	480	630	5	5,5	3	0,5	3,10	0,40	0,36	1,7
20	4.450.003	4.450.501	480	630	7	6,0	3	0,5	4,70	0,44	0,40	1,9
25	4.450.003	4.450.501	450	570	7	6,0	3	0,5	4,70	0,44	0,40	1,9
30	4.450.003	4.450.501	420	520	7	6,0	3	0,5	4,70	0,44	0,40	2,0
35	4.450.003	4.450.501	400	500	7	6,0	3	0,5	4,70	0,44	0,40	2,1
40	4.450.003	4.450.501	380	480	7	6,0	3	0,5	4,70	0,44	0,40	2,2
40	4.450.004	4.450.501	380	480	7	6,5	3	0,5	6,90	0,50	0,45	2,3
50	4.450.004	4.450.501	350	440	7	6,5	3	0,5	6,90	0,50	0,45	2,3
60	4.450.004	4.450.501	310	390	7	6,5	3	0,5	6,90	0,50	0,45	2,4
75	4.450.004	4.450.501	260	360	7	6,5	3	0,5	6,90	0,50	0,45	2,4
75	4.450.005	4.450.501	260	360	7	7,5	3	0,5	10,00	0,66	0,60	2,6
100	4.450.005	4.450.501	220	280	10	7,5	3	0,5	10,00	0,66	0,60	2,8
125	4.450.005	4.450.501	190	250	10	7,5	3	0,5	10,00	0,66	0,60	3,0
125	4.450.006	4.450.502	190	250	10	7,5	5	0,5	15,20	0,90	0,82	5,0
150	4.450.006	4.450.502	180	230	10	7,5	5	0,5	15,20	0,90	0,82	5,0
200	4.450.006	4.450.502	160	190	10	7,5	5	0,5	15,20	0,90	0,82	5,0
200	4.450.007	4.450.502	160	190	12	7,5	5	0,5	26,25	0,98	0,89	6,0
250	4.450.007	4.450.502	130	145	12	7,5	5	0,5	26,30	0,98	0,89	6,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for standard cutting nozzle type IPA 250 K (propane)

0.300.039

[mm]			Cutting speed EN ISO 9013 Quality I [mm/min]	Cutting speed EN ISO 9013 Quality II [mm/min]	[mm]	Pressure O [bar] *)	Pressure O [bar] *)	Pressure P [bar] *)	Consumption O [m³/h]	Consumption O [m³/h]	Consumption P [m³/h]	[mm]
3	4.450.020	4.450.521	580	620	3	2,0	2	0,2	0,90	0,53	0,15	0,6
4	4.450.020	4.450.521	600	640	3	2,0	2	0,2	0,90	0,53	0,15	0,6
4	4.450.021	4.450.521	600	640	4	3,0	2	0,2	1,20	0,63	0,18	1,2
5	4.450.021	4.450.521	630	700	4	3,0	2	0,2	1,40	0,63	0,18	1,3
6	4.450.021	4.450.521	620	670	5	3,5	2	0,2	1,40	0,63	0,18	1,4
8	4.450.021	4.450.521	570	640	5	4,0	2	0,2	1,55	0,63	0,18	1,5
10	4.450.021	4.450.521	520	620	5	4,5	2	0,2	1,70	0,63	0,18	1,6
10	4.450.022	4.450.521	520	620	5	5,0	2	0,2	2,85	0,70	0,20	1,5
15	4.450.022	4.450.521	500	600	5	5,0	2	0,2	2,85	0,70	0,20	1,7
20	4.450.022	4.450.521	450	530	7	5,5	2	0,2	3,10	0,70	0,20	1,9
20	4.450.023	4.450.521	450	530	7	6,0	2	0,2	4,70	0,77	0,22	2,0
25	4.450.023	4.450.521	400	500	7	6,0	2	0,2	4,70	0,77	0,22	2,1
30	4.450.023	4.450.521	350	450	7	6,0	2	0,2	4,70	0,77	0,22	2,2
35	4.450.023	4.450.521	330	430	7	6,0	2	0,2	4,70	0,77	0,22	2,3
40	4.450.023	4.450.521	320	400	7	6,0	2	0,2	4,70	0,77	0,22	2,4
40	4.450.024	4.450.521	320	400	7	6,5	2	0,2	6,90	1,05	0,30	2,0
50	4.450.024	4.450.521	300	380	10	6,5	2	0,2	6,90	1,05	0,30	2,2
60	4.450.024	4.450.521	270	360	10	6,5	2	0,2	6,90	1,05	0,30	2,4
75	4.450.024	4.450.521	250	340	10	6,5	2	0,2	6,90	1,05	0,30	2,6
75	4.450.025	4.450.521	250	340	10	7,5	3	0,2	10,00	1,40	0,40	2,6
100	4.450.025	4.450.521	220	280	10	7,5	3	0,2	10,00	1,40	0,40	2,8
125	4.450.025	4.450.521	190	250	10	7,5	3	0,2	10,00	1,40	0,40	3,0
125	4.450.026	4.450.522	190	250	12	7,5	5	0,2	15,20	2,10	0,60	4,0
150	4.450.026	4.450.522	180	230	12	7,5	5	0,2	15,20	2,10	0,60	4,0
200	4.450.026	4.450.522	160	190	12	7,5	5	0,2	15,20	2,10	0,60	4,0
200	4.450.027	4.450.522	160	190	14	7,5	5	0,2	26,25	2,80	0,80	6,0
250	4.450.027	4.450.522	130	145	14	7,5	5	0,2	26,30	2,80	0,80	6,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for standard cutting nozzle type IMA 250 K (natural gas / methane)

0.300.040

[mm]			Cutting speed EN ISO 9013 Quality I [mm/min]	Cutting speed EN ISO 9013 Quality II [mm/min]	[mm]	Pressure O [bar] *)	Pressure O [bar] *)	Pressure M [bar] *)	Consumption O [m³/h]	Consumption O [m³/h]	Consumption M [m³/h]	[mm]
3	4.450.020	4.450.561	580	620	3	2,0	2	0,2	0,90	0,56	0,40	0,6
4	4.450.020	4.450.561	600	640	3	2,0	2	0,2	0,90	0,56	0,40	0,6
5	4.450.020	4.450.561	630	700	4	3,0	2	0,2	1,20	0,56	0,54	0,6
5	4.450.021	4.450.561	630	700	4	3,0	2	0,2	1,40	0,77	0,55	1,2
6	4.450.021	4.450.561	620	670	5	3,5	2	0,2	1,40	0,77	0,55	1,5
8	4.450.021	4.450.561	570	640	5	4,0	2	0,2	1,55	0,77	0,55	1,7
10	4.450.021	4.450.561	520	620	5	4,5	2	0,2	1,70	0,77	0,55	1,9
10	4.450.022	4.450.561	520	620	5	5,0	2	0,2	2,85	0,84	0,60	1,5
15	4.450.022	4.450.561	500	600	5	5,0	2	0,2	2,85	0,84	0,60	1,7
20	4.450.022	4.450.561	450	530	7	5,5	2	0,2	3,10	0,84	0,60	1,9
20	4.450.023	4.450.561	450	530	7	6,0	3	0,2	4,70	1,05	0,75	2,0
25	4.450.023	4.450.561	400	500	7	6,0	3	0,2	4,70	1,05	0,75	2,1
30	4.450.023	4.450.561	350	450	7	6,0	3	0,2	4,70	1,05	0,75	2,2
35	4.450.023	4.450.561	330	430	7	6,0	3	0,2	4,70	1,05	0,75	2,3
40	4.450.023	4.450.561	320	400	7	6,00	3	0,2	4,70	1,05	0,75	2,4
40	4.450.024	4.450.561	320	400	7	6,5	3	0,2	6,90	1,33	0,95	2,0
50	4.450.024	4.450.561	300	380	10	6,5	3	0,2	6,90	1,33	0,95	2,2
60	4.450.024	4.450.561	270	360	10	6,5	3	0,2	6,90	1,33	0,95	2,4
75	4.450.024	4.450.561	250	340	10	6,5	3	0,2	6,90	1,33	0,95	2,6
75	4.450.025	4.450.561	250	340	10	7,5	3	0,2	10,00	1,61	1,15	2,6
100	4.450.025	4.450.561	220	280	10	7,5	3	0,2	10,00	1,61	1,15	2,8
125	4.450.025	4.450.561	190	250	10	7,5	3	0,2	10,00	1,61	1,15	3,0
125	4.450.026	4.450.562	190	250	12	7,5	5	0,2	15,20	1,96	1,40	4,0
150	4.450.026	4.450.562	180	230	12	7,5	5	0,2	15,20	1,96	1,40	4,0
200	4.450.026	4.450.562	160	190	12	7,5	5	0,2	15,20	1,96	1,40	4,0
200	4.450.027	4.450.562	160	190	14	7,5	5	0,2	26,25	2,52	1,80	6,0
250	4.450.027	4.450.562	130	145	14	7,5	5	0,2	26,30	2,52	1,80	6,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for high performance cutting nozzle type IAC 300 L (acetylene)

0.300.047

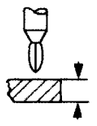
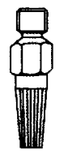
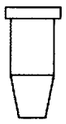
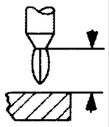
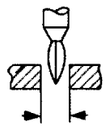
[mm]			Cutting speed EN ISO 9013 Quality I [mm/min]	[mm]	Pressure O [bar] *)	Pressure O [bar] *)	Pressure A [bar] *)	Consumption O [m³/h]	Consumption O [m³/h]	Consumption A [m³/h]	[mm]
3	4.450.220	4.450.526	800	3	3,0	2,0	0,6	0,50	0,35	0,32	0,9
5	4.450.220	4.450.526	750	3	4,0	2,0	0,6	0,60	0,35	0,32	0,9
6	4.450.221	4.450.526	800	4	8,0	2,0	0,6	1,60	0,35	0,32	1,3
8	4.450.221	4.450.526	780	4	8,0	2,5	0,6	1,60	0,42	0,38	1,3
10	4.450.221	4.450.526	760	5	8,0	2,5	0,6	1,60	0,42	0,38	1,3
10	4.450.222	4.450.526	720	5	9,0	3,0	0,6	3,50	0,50	0,40	1,6
15	4.450.222	4.450.526	650	5	10,0	3,0	0,6	4,00	0,50	0,40	1,6
20	4.450.222	4.450.526	600	5	10,0	3,0	0,6	4,00	0,50	0,40	1,6
25	4.450.222	4.450.526	530	5	11,0	3,0	0,6	4,20	0,50	0,40	1,6
25	4.450.223	4.450.526	530	7	9,0	3,0	0,6	4,30	0,50	0,40	2,2
30	4.450.223	4.450.526	510	7	9,5	3,0	0,6	4,50	0,50	0,40	2,2
40	4.450.223	4.450.526	450	7	10,0	3,0	0,6	4,80	0,50	0,40	2,2
50	4.450.223	4.450.526	400	7	11,0	3,0	0,6	5,20	0,50	0,40	2,2
50	4.450.224	4.450.526	415	7	10,0	3,5	0,6	7,40	0,57	0,51	2,4
60	4.450.224	4.450.526	370	7	10,0	3,5	0,6	7,40	0,57	0,51	2,4
75	4.450.224	4.450.526	330	7	11,0	3,5	0,6	8,10	0,57	0,51	2,4
75	4.450.225	4.450.526	330	10	10,0	3,5	0,6	9,30	0,57	0,51	2,7
90	4.450.225	4.450.526	300	10	10,0	3,5	0,6	9,30	0,57	0,51	2,7
100	4.450.225	4.450.526	280	10	11,0	3,5	0,6	10,20	0,57	0,51	2,7
100	4.450.226	4.450.526	280	10	8,0	4,0	0,8	9,50	0,64	0,58	3,5
130	4.450.226	4.450.526	230	10	9,0	4,0	0,8	10,35	0,64	0,58	3,5
150	4.450.226	4.450.526	210	10	10,0	4,0	0,8	11,50	0,64	0,58	3,5
150	4.450.297	4.450.591	210	12	6,5	6,5	0,8	19,00	0,95	0,79	5,0
200	4.450.297	4.450.591	180	12	7,0	7,0	0,8	20,80	1,00	0,83	5,0
240	4.450.297	4.450.591	130	12	7,5	7,0	0,8	22,80	1,00	0,83	5,0
240	4.450.298	4.450.591	130	14	6,5	6,5	0,8	28,00	1,05	0,88	6,0
260	4.450.298	4.450.591	120	14	7,0	7,0	0,8	30,00	1,13	0,94	6,0
300	4.450.298	4.450.591	110	14	7,5	7,0	0,8	32,00	1,13	0,95	6,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for high speed cutting nozzle type IAC 300 L (acetylene)

0.300.053

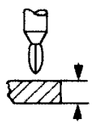
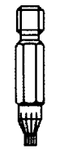
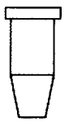
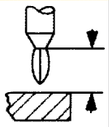
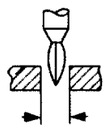
 [mm]			Cutting speed EN ISO 9013 **Quality I** [mm/min]	 [mm]	Pressure  O [bar] *)	 O [bar] *)	 A [bar] *)	Consumption  O [m³/h]	 O [m³/h]	 A [m³/h]	 [mm]
3	4.450.290	4.450.590	760	5	2,0	2,0	0,6	0,50	0,39	0,32	1,0
4	4.450.290	4.450.590	750	5	4,0	2,0	0,6	0,70	0,39	0,32	1,0
5	4.450.290	4.450.590	740	5	4,0	2,0	0,6	0,70	0,39	0,32	1,0
6	4.450.290	4.450.590	720	5	4,0	2,5	0,6	0,70	0,46	0,38	1,0
7	4.450.291	4.450.590	700	6	5,0	3,0	0,6	1,60	0,49	0,40	1,6
8	4.450.291	4.450.590	680	6	5,5	3,0	0,6	1,76	0,49	0,40	1,6
10	4.450.291	4.450.590	650	6	6,5	3,0	0,6	1,90	0,49	0,40	1,6
15	4.450.291	4.450.590	580	6	7,5	3,0	0,6	2,10	0,49	0,40	1,6
15	4.450.292	4.450.590	580	6	6,0	3,0	0,6	2,90	0,50	0,41	1,9
20	4.450.292	4.450.590	500	6	7,0	3,0	0,6	3,40	0,50	0,41	1,9
25	4.450.292	4.450.590	460	6	8,0	3,0	0,6	3,80	0,50	0,41	1,9
25	4.450.293	4.450.590	460	7	7,0	3,0	0,6	4,60	0,50	0,41	2,3
30	4.450.293	4.450.590	430	7	7,5	3,0	0,6	5,20	0,50	0,41	2,3
35	4.450.293	4.450.590	410	7	7,5	3,0	0,6	5,20	0,50	0,41	2,4
40	4.450.293	4.450.590	390	7	8,0	3,0	0,6	5,50	0,50	0,41	2,5
40	4.450.294	4.450.590	390	7	6,5	3,0	0,6	5,60	0,51	0,42	2,2
50	4.450.294	4.450.590	360	7	7,5	3,0	0,6	6,00	0,51	0,42	2,3
60	4.450.294	4.450.590	320	7	8,5	3,0	0,6	7,10	0,51	0,42	2,4
60	4.450.295	4.450.590	320	7	7,0	3,0	0,6	9,60	0,53	0,44	3,2
75	4.450.295	4.450.590	280	7	7,0	3,0	0,6	9,60	0,53	0,44	3,3
100	4.450.295	4.450.590	250	7	7,5	3,0	0,6	10,20	0,53	0,44	3,5
100	4.450.296	4.450.590	250	7	7,0	3,5	0,6	11,50	0,62	0,45	3,5
130	4.450.296	4.450.590	230	8	7,5	3,5	0,6	12,30	0,62	0,45	3,5
150	4.450.296	4.450.590	210	10	8,5	3,5	0,6	13,30	0,62	0,45	3,6
150	4.450.297	4.450.591	210	12	6,5	6,5	0,8	19,00	0,95	0,79	5,0
200	4.450.297	4.450.591	180	12	7,0	7,0	0,8	20,80	1,00	0,83	5,0
240	4.450.297	4.450.591	130	12	7,5	7,0	0,8	22,80	1,00	0,83	5,0
240	4.450.298	4.450.591	130	14	6,5	6,5	0,8	28,00	1,05	0,88	6,0
260	4.450.298	4.450.591	120	14	7,0	7,0	0,8	30,00	1,13	0,94	6,0
300	4.450.298	4.450.591	110	14	7,5	7,0	0,8	32,00	1,13	0,95	6,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for high speed cutting nozzle type IAC 300 L (acetylene) for use with BIF MULTIJET machine cutting torch

0.300.054

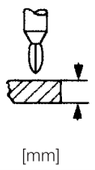
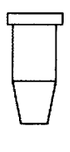
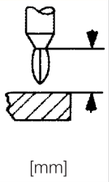
 [mm]			Cutting speed EN ISO 9013 **Quality I** [mm/min]	 [mm]	Pressure  O [bar] *)	 O [bar] *)	 A [bar] *)	Consumption  O [m³/h]	 O [m³/h]	 A [m³/h]	 [mm]
3	4.450.220	4.450.526	800	3	3,0	1,5	0,5	0,50	0,35	0,32	0,9
5	4.450.220	4.450.526	750	3	4,0	1,5	0,5	0,60	0,35	0,32	0,9
6	4.450.221	4.450.526	800	4	8,0	1,5	0,5	1,60	0,35	0,32	1,3
8	4.450.221	4.450.526	780	4	8,0	1,5	0,5	1,60	0,42	0,38	1,3
10	4.450.221	4.450.526	760	5	8,0	1,5	0,5	1,60	0,42	0,38	1,3
10	4.450.222	4.450.526	720	5	9,0	1,5	0,5	3,50	0,50	0,40	1,6
15	4.450.222	4.450.526	650	5	10,0	1,5	0,5	4,00	0,50	0,40	1,6
20	4.450.222	4.450.526	600	5	10,0	1,5	0,5	4,00	0,50	0,40	1,6
25	4.450.222	4.450.526	530	5	11,0	1,5	0,5	4,20	0,50	0,40	1,6
25	4.450.223	4.450.526	530	7	9,0	1,5	0,5	4,30	0,50	0,40	2,2
30	4.450.223	4.450.526	510	7	9,5	1,5	0,5	4,50	0,50	0,40	2,2
40	4.450.223	4.450.526	450	7	10,0	1,5	0,5	4,80	0,50	0,40	2,2
50	4.450.223	4.450.526	400	7	11,0	1,5	0,5	5,20	0,50	0,40	2,2
50	4.450.224	4.450.526	415	7	10,0	2,5	0,5	7,40	0,71	0,65	2,4
60	4.450.224	4.450.526	370	7	10,0	2,5	0,5	7,40	0,71	0,65	2,4
75	4.450.224	4.450.526	330	7	11,0	2,5	0,5	8,10	0,71	0,65	2,4
75	4.450.225	4.450.526	330	10	10,0	2,5	0,5	9,30	0,71	0,65	2,7
90	4.450.225	4.450.526	300	10	10,0	2,5	0,5	9,30	0,71	0,65	2,7
100	4.450.225	4.450.526	280	10	11,0	2,5	0,5	10,20	0,71	0,65	2,7
100	4.450.226	4.450.526	280	10	8,0	2,5	0,8	9,50	0,71	0,65	3,5
130	4.450.226	4.450.526	230	10	9,0	2,8	0,8	10,35	0,71	0,65	3,5
150	4.450.226	4.450.526	210	10	10,0	3,0	0,8	11,50	0,71	0,65	3,5
150	4.450.297	4.450.591	210	12	6,5	3,0	0,8	19,00	0,95	0,79	5,0
200	4.450.297	4.450.591	180	12	7,0	3,2	0,8	20,80	1,00	0,83	5,0
240	4.450.297	4.450.591	130	12	7,5	3,5	0,8	22,80	1,00	0,83	5,0
240	4.450.298	4.450.591	130	14	6,5	4,0	0,8	28,00	1,05	0,88	6,0
260	4.450.298	4.450.591	120	14	7,0	4,5	0,8	30,00	1,13	0,94	6,0
300	4.450.298	4.450.591	110	14	7,5	5,0	0,8	32,00	1,13	0,95	6,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for high speed cutting nozzle type IAD 300 L (acetylene) for use with BIF MULTIJET machine cutting torch

0.300.055

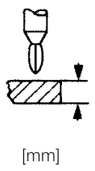
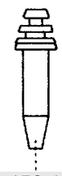
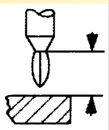
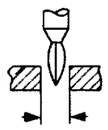
 [mm]			Cutting speed EN ISO 9013 Quality I [mm/min]	 [mm]	Pressure O [bar] *)	Pressure O [bar] *)	Pressure A [bar] *)	Consumption O [m³/h]	Consumption O [m³/h]	Consumption A [m³/h]	 [mm]
3	4.450.290	4.450.590	760	5	2,0	1,5	0,5	0,50	0,39	0,32	1,0
4	4.450.290	4.450.590	750	5	4,0	1,5	0,5	0,70	0,39	0,32	1,0
5	4.450.290	4.450.590	740	5	4,0	1,5	0,5	0,70	0,39	0,32	1,0
6	4.450.290	4.450.590	720	5	4,0	1,5	0,5	0,70	0,46	0,38	1,0
7	4.450.291	4.450.590	700	6	5,0	1,5	0,5	1,60	0,49	0,40	1,6
8	4.450.291	4.450.590	680	6	5,5	1,5	0,5	1,76	0,49	0,40	1,6
10	4.450.291	4.450.590	650	6	6,5	1,5	0,5	1,90	0,49	0,40	1,6
15	4.450.291	4.450.590	580	6	7,5	1,5	0,5	2,10	0,49	0,40	1,6
15	4.450.292	4.450.590	580	6	6,0	1,5	0,5	2,90	0,50	0,41	1,9
20	4.450.292	4.450.590	500	6	7,0	1,5	0,5	3,40	0,50	0,41	1,9
25	4.450.292	4.450.590	460	6	8,0	1,5	0,5	3,80	0,50	0,41	1,9
25	4.450.293	4.450.590	460	7	7,0	1,5	0,5	4,60	0,50	0,41	2,3
30	4.450.293	4.450.590	430	7	7,5	1,5	0,5	5,20	0,50	0,41	2,3
35	4.450.293	4.450.590	410	7	7,5	1,5	0,5	5,20	0,50	0,41	2,4
40	4.450.293	4.450.590	390	7	8,0	1,5	0,5	5,50	0,50	0,41	2,5
40	4.450.294	4.450.590	390	7	6,5	2,0	0,5	5,60	0,60	0,55	2,2
50	4.450.294	4.450.590	360	7	7,5	2,0	0,5	6,00	0,60	0,55	2,3
60	4.450.294	4.450.590	320	7	8,5	2,0	0,5	7,10	0,60	0,55	2,4
60	4.450.295	4.450.590	320	7	7,0	2,5	0,5	9,60	0,71	0,65	3,2
75	4.450.295	4.450.590	280	7	7,0	2,5	0,5	9,60	0,71	0,65	3,3
100	4.450.295	4.450.590	250	7	7,5	2,5	0,5	10,20	0,71	0,65	3,5
100	4.450.296	4.450.590	250	7	7,0	2,5	0,5	11,50	0,71	0,65	3,5
130	4.450.296	4.450.590	230	8	7,5	2,5	0,5	12,30	0,71	0,65	3,5
150	4.450.296	4.450.590	210	10	8,5	2,5	0,5	13,30	0,71	0,65	3,6
150	4.450.297	4.450.591	210	12	6,5	3,0	0,8	19,00	0,95	0,79	5,0
200	4.450.297	4.450.591	180	12	7,0	3,3	0,8	20,80	1,00	0,83	5,0
240	4.450.297	4.450.591	130	12	7,5	3,5	0,8	22,80	1,00	0,83	5,0
240	4.450.298	4.450.591	130	14	6,5	4,0	0,8	28,00	1,05	0,88	6,0
260	4.450.298	4.450.591	120	14	7,0	4,5	0,8	30,00	1,13	0,94	6,0
300	4.450.298	4.450.591	110	14	7,5	5,0	0,8	32,00	1,13	0,95	6,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

Gas pressures monitored on torch inlet!

Cutting and consumption table for high speed cutting nozzle mix type GYB 300 L (mixed fuel gases)

0.300.059

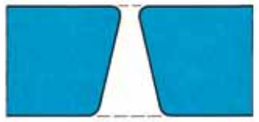
 [mm]		Cutting speed EN ISO 9013 Quality I [mm/min]	Cutting speed EN ISO 9013 Quality II [mm/min]	 [mm]	Pressure O [bar] *)	Pressure O [bar] *)	Pressure Y [bar] *)	Consumption O [m³/h]	Consumption O [m³/h]	Consumption Y [m³/h]	 [mm]
3	4.450.110	600	700	3	2,0	1,5	0,1	0,5	0,55	0,30	1,0
4	4.450.110	600	700	3	4,0	1,5	0,1	0,7	0,55	0,30	1,0
5	4.450.110	630	730	4	4,0	1,5	0,1	0,7	0,55	0,30	1,0
6	4.450.110	630	730	4	4,0	1,5	0,1	0,7	0,55	0,30	1,0
6	4.450.111	630	730	5	5,0	2,0	0,2	1,6	0,75	0,35	1,6
8	4.450.111	600	700	5	5,0	2,0	0,2	1,6	0,75	0,35	1,6
10	4.450.111	560	660	5	6,5	2,0	0,2	1,9	0,75	0,35	1,6
15	4.450.111	520	620	5	7,5	2,0	0,2	2,1	0,75	0,35	1,6
15	4.450.112	520	620	5	7,0	2,0	0,2	3,4	0,83	0,45	1,9
20	4.450.112	460	560	7	7,5	2,0	0,2	3,6	0,83	0,45	1,9
25	4.450.112	420	520	7	8,0	2,0	0,2	3,8	0,83	0,45	1,9
25	4.450.113	420	520	7	7,5	2,0	0,2	4,5	0,90	0,48	2,3
30	4.450.113	400	500	7	8,0	2,0	0,2	4,7	0,90	0,48	2,3
35	4.450.113	380	480	7	8,0	2,0	0,2	4,7	0,90	0,48	2,4
40	4.450.113	360	430	7	8,5	2,0	0,2	5,0	0,90	0,48	2,5
40	4.450.114	360	430	7	7,5	2,0	0,2	5,7	0,98	0,51	2,2
50	4.450.114	310	410	10	8,0	2,0	0,2	6,0	0,98	0,51	2,3
60	4.450.114	290	390	10	8,5	2,0	0,2	6,2	0,98	0,51	2,4
60	4.450.115	290	390	10	7,0	2,0	0,2	9,6	1,14	0,61	3,2
75	4.450.115	270	340	10	7,0	2,0	0,2	9,6	1,14	0,61	3,3
100	4.450.115	250	330	10	7,5	2,0	0,2	10,2	1,14	0,61	3,5
100	4.450.116	250	330	10	6,0	3,0	0,3	9,8	1,25	0,68	3,5
150	4.450.116	210	260	12	7,0	3,0	0,3	11,5	1,25	0,68	3,7
200	4.450.116	160	170	12	8,0	3,0	0,3	13,3	1,25	0,68	3,8
200	4.450.117	160	170	12	7,5	3,0	0,3	22,0	1,50	0,83	4,2
250	4.450.117	120	130	14	7,5	3,0	0,3	22,0	1,50	0,83	4,2
250	4.450.118	140	150	14	7,5	5,0	0,3	31,0	2,00	1,05	8,0
300	4.450.118	115	130	14	7,5	5,0	0,3	31,0	2,00	1,05	8,0

The overleaf values are based on the following assumption:
Oxygen with a minimum purity of 99,5%, non alloyed steel up to 0,3%C, clean surface without Primer coat. The consumption values correspond to standard condition. When profile cutting the speeds given for quality I cuts are to e reduced by about 10%. The speeds are to be reduced for bevel cutting of 30° by about 25%, of 45° by about 45%.

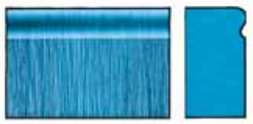
Gas pressures monitored on torch inlet!

Factors effecting machine cut quality

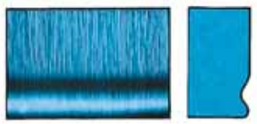
Narrowing of kerf (divergent)
- Forward speed of torch too fast
- Distance between nozzle and sheet metal to big
- Dirty and / or damaged nozzle



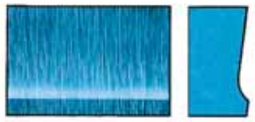
Narrowing of kerf (convergent)
- Forward speed of torch too fast
- Distance between nozzle and sheet metal too big
- Cutting oxygen pressure too high



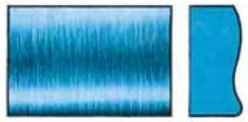
Concave cut surface beneath top edge
- Cutting oxygen pressure too high
- Dirty and / or damaged nozzle
- Distance between nozzle and sheet metal too big



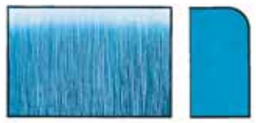
Step at bottem edge
- Forward speed of torch too fast
- Dirty and / or damaged nozzle



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

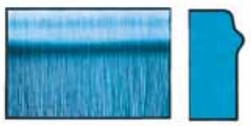


Irregular cut surface profile
- Cutting oxygen pressure too low
- Dirty and / or damaged nozzle
- Forward speed of torch too fast

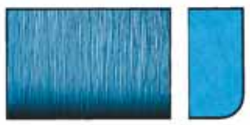


Edge melting on
- Forward speed of torch too slow
- Heating flame too strong
- Distance between nozzle and sheet metal too big to too small
- Nozzle size too big for the thickness to be cut

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

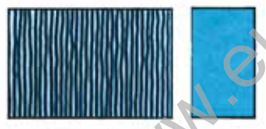


Melted down top edge with adherent slag
- Cutting oxygen pressure too high
- Heating flame too strong
- Distance between nozzle and sheet metal too big



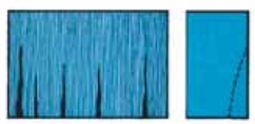
Lewer edge rounded
- Cutting oxygen pressure too high
- Forward speed of torch too fast
- Dirty and / or damaged nozzle

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

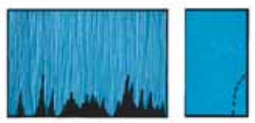


Irregular depth of cut line
- Forward speed of torch too fast or irregular
- Flame too weak

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 bang
- 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 ad 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

Hole piercing data and data for bevel cutting

Adjustment data for IPB nozzles bevel cutting, K-profile, DIN 8551

The pressures are overpressures, measured on blowpipe inlet !

plate [mm]	angel @ [°]	base-hight a [mm]	nozzles burner I	burner II	burner III	distance burner I - II - III [mm]	propane-druck [bar]	Heating-O2 [bar]	cutting-O2 [bar]	cutting-speed [mm/min]	propane-total [l/h]	O2 total amount [m³/h]
12	30	2	7 - 15	7 - 15	7-15			2,5	6,0	460	900	10,5
12	45	2	15-25	7 - 15	15-25			2,5	6,0	400	900	10,5
15	30	2	15 - 25	7 - 15	15 - 25			2,5	7,0	440	1100	12,8
15	45	2	15 - 25	7 - 15	15 - 25			2,5	7,0	400	1100	12,8
20	30	3	25 - 40	15 - 25	25 - 40			2,5	7,0	400	1100	16,0
20	45	3	25 - 50	15 - 25	25 - 40			2,5	7,0	380	1100	16,0
25	30	3	40-60	25 - 40	40-60			2,5	7,0	380	1100	19,0

ESAB cutting systems offers various datafiles for these applications. The basical settings provided by the machine controller may readjusted after machine setting through ESAB service in order to fit to the cutomers condition and cutting task.

Please request ESAB Cutting Systems support.

ESAB

Lochstechdaten für Schneiddüse Typ IAD 300L

[mm]	Düse [mm]	Heiz - O2 Hochdruck [bar]	Heiz - O2 Niederdruck [bar]	Acetylen druck [bar]	Vorwärm-zeit [sec]	Lochstech-zeit [sec]	Startdruck Schneid - O2 [bar]	Enddruck Schneid - O2 [bar]	Vorschub [mm / min]	Düsen-abstand [mm]
15	10-15	5,0	3,0	0,5	10-12	1,5	0,5	6,5	600	5-7
20								7,0	550	
25								7,5	500	
25	25-40	5,0	3,0	0,5	12	2,0	1	6,5	500	5-7
30								7,5	480	
40								8,0	420	
40	40-60	5,0	3,0	0,6	12	2,5	1	6,5	420	7
50								7,0	390	
60								8,0	360	
60	60-100	5,5	3,5	0,6	15-20	2,5-3,5	1,0-1,5	6,5	360	7
80								7,5	300	
100								8,0	270	
100	100-150	5,5	4,0	0,7	20-30	3,5	1,0-1,5	6,5	270	7
120								7,0	240	
130	100-150	5,5	4,0	0,7	20-30	4,0	0,5-1,0	7,5	230	7

Werte gelten unter folgenden Voraussetzungen:
1. Saubere Oberfläche ohne Primerauflage
2. Unlegierter Stahl bis 0,3 % C
3. Drücke gemessen am Brennereingang

Note

Note

Master copy for fax order

Fax-Order (please follow up directly)

Fax with _____ pages

To:

EURO OPTIMUM d.o.o.
Vraždinska 59
HR 10360 POPOVEC

Fax-Number: 01 60 55 478

Sender:

_____
Company

_____
Street

_____
Post Code

_____
Tel.

_____
Fax

_____
Name (Order-No.)

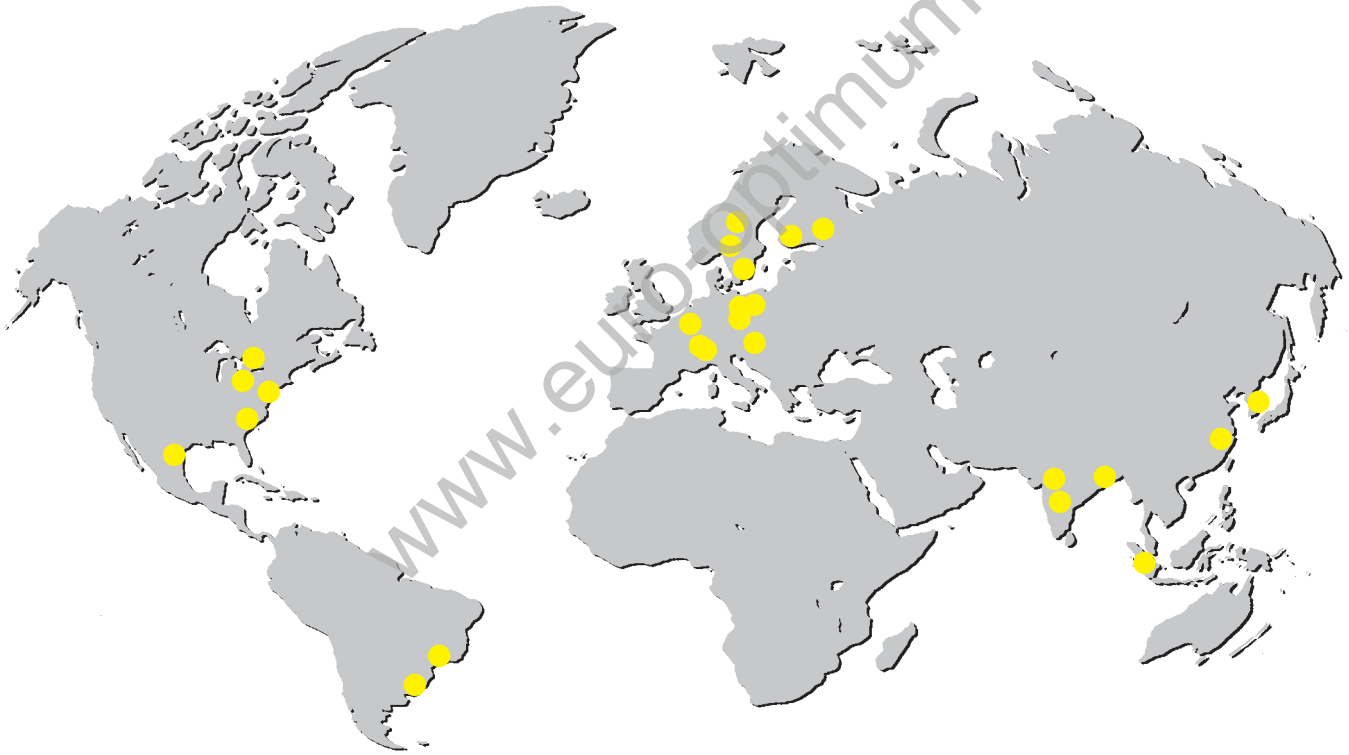
_____
Designated date delivery

Order No.	Amount	Item description	Euro/pc.

euro optimum
www.euro-optimum.hr
www.zavarivanje.eu
+385 91 209 95 98

ESAB. Your partner for welding and cutting.

Seven decades of experience and a consistent focus on the needs of our customers are the basis for the successful and comprehensive range of products for our cutting machines. In accordance with the various thermal cutting methods – plasma cutting, oxyfuel cutting and laser cutting – ESAB has developed a series of machines that efficiently combine the best quality cuts and high cutting speeds and allow an intelligent integration in automated manufacturing processes.



Choose the Original
Choose Success!

ESAB CUTTING SYSTEMS GmbH
Robert-Bosch-Str. 20 · D-61184 Karben - Germany
Tel.: +49 (0) 60 39 / 40-0 · Fax: +49 (0) 60 39 / 40-301
E-Mail: info@esab-cutting.de
www.esab.com

Reg. no. AUTOGEN_EN_2008_05_1.0 · MG · We reserve the right for technical changes and mistakes.