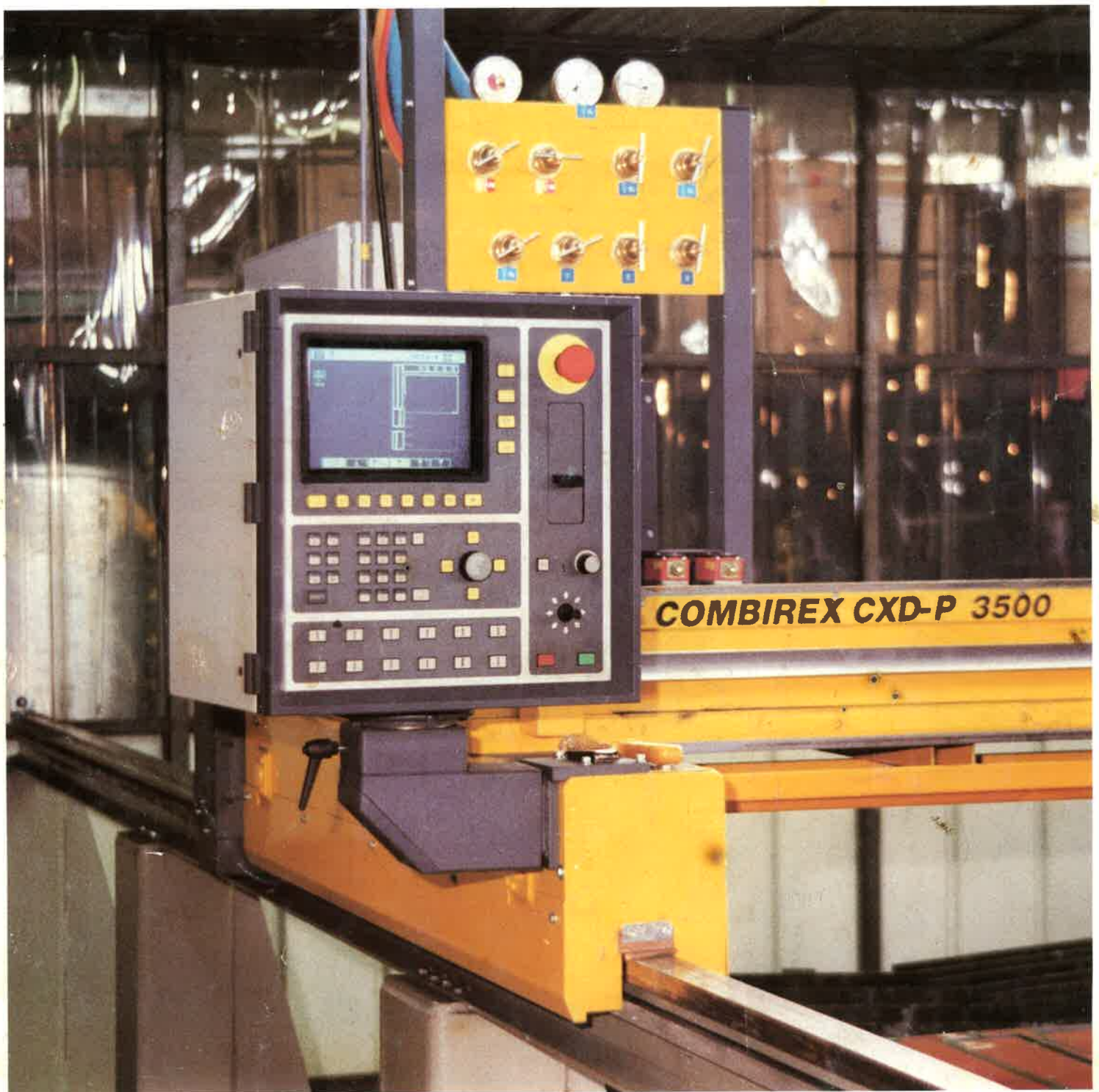




COMBIREX CXD-P

CNC-Gas Cutting Machine

48
CXE-P



COMBIREX CXD-P CNC-Gas Cutting Machine



CNC-Continuous Path Control NCE 390



CNC-Continuous Path Control NCE 510

The COMBIREX CXD-P is a modern numerically controlled gas or plasma cutting machine in portal design with some special features:

A compact design which requires the minimum of floor space, the machine runs on precision machined railway type rails with the outboard rail mounted at a low level to allow for easy loading.

The extensive modular based system gives the possibility of multi tasking operations with a variety of gas cutting, plasma cutting and marking operations.

The machine can be supplied with the choice of two unique ESAB-HANCOCK numerical control systems.

The design is backed by the years of experience which ESAB-HANCOCK have in the production of modern, numerically controlled machines. Consideration has been given to ergonomic design principles for machines of this type.

The cutting quality and machine accuracy comply with DIN 8523 and 2310, quality class 1.

Modern CNC-Continuous Path Controls

The CNC-controls allow for conventional paper tape, manual data input and standard shape techniques. For storing, data

can be transferred to external peripherals such as paper tapes or disc. If the controller is connected to a programming station, data may be transferred in either direction depending on the DNC-link installed.

Operators panel

The operators panel is ergonomically designed with all the Machine, Process and CNC elements combined in groups for ease and simplicity of operation.

In standard format the control panel is situated on the left hand side of the machine or on the right hand on request.

Each of the operating elements and indications for the machine and CNC functions are combined to form groups and ensure simple operation of the machine.

Machine track

The machine tracks are manufactured from high precision machined railway rails which are mounted on free standing columns with the outboard rail mounted at low level for easy loading.

The guiding rail is fitted with rack for the longitudinal rack and pinion machine drive.

Track systems are available in standard basic lengths of 3000 or 4000 mm and can be extended to any length with 2000 mm track extensions.

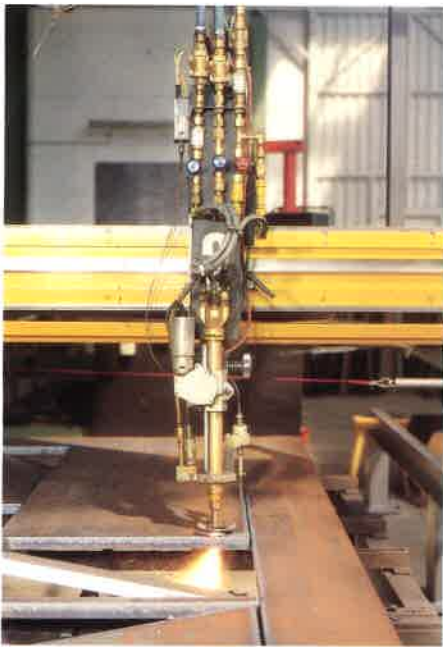
Hose/Cable Conveyor

The machine installation can be enhanced with a variety of longitudinal Hose/Cable conveyor systems, the system selected can be installed overhead, parallel to or floor mounted dependant on machine location.



COMBIREX CXD-P equipped with NCE 390 and two torches for oxy-fuel cutting

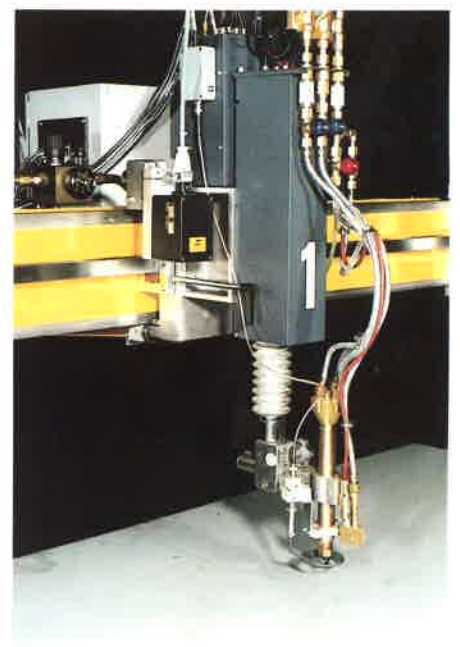
For more detailed information about NCE 280, NCE 290, NCE 390, NCE 510 and NCE 520 see our separate leaflets.



Torch carriage A0 with automatic, capacitive height control



Torch carriage A2 with exchange unit for Teach-Trace and oxy-fuel equipment



Torch with automatic, capacitive height control and electric ignition in working position

Longitudinal carriage

The longitudinal carriage is made up of a torsion-free rectangular section with precision guide strips. This guarantees smooth running of the torch carriages. The portal is guided at the main guide rail.

Co-ordinate drive

Two separate drive units are used for moving the machine carriage in the longitudinal and transverse directions by rack and pinion. A motor-powered carriage is used for transverse motion. The carriage is connected via a steel band to which the slave carriages are clamped. Mirror-image working is possible. Electromagnetic clutches allow for easy and accurate positioning of the machine by hand.

Speeds

The positioning and cutting speeds can be set to between 50 and 6000 mm/min.

Torch carriage A0

with motorized height adjustment via the burner rack.

The A0 torch carriage is equipped with adjustable running wheels, guide rollers and counter-rollers and is moved on the transverse beam of the longitudinal carriage. A clamping device holds the torch carriage on the steel band. An adjustable fore and aft longitudinal mechanism enables easy positioning of the machine cutting torches to the plate edge. The motorized height adjustment is up to 230 mm. The nozzle to workpiece distance is adjusted by means of electric motor operated by a switch at the operator's panel.

Torch carriage A0

with automatic, capacitive height adjustment.

The A0 motorized height control can be fitted with automatic height adjustment.

The additional contact-free nozzle height feature guarantees that the gap between the cutting nozzle and the surface of the workpiece remains constant throughout the entire cutting process. This feature is ideal when several machine cutting torches are used simultaneously and when cutting thin sheets.

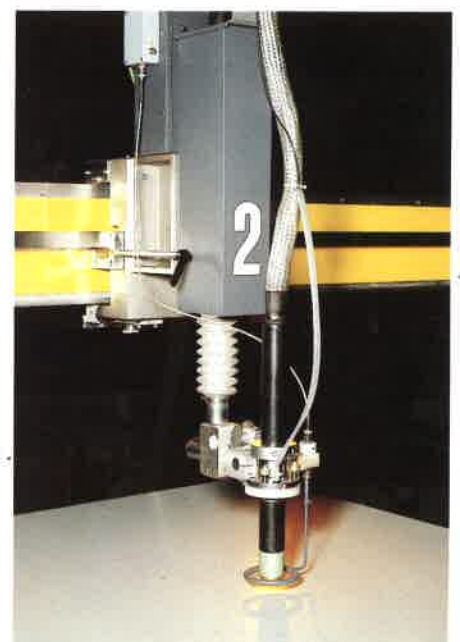
Torch carriage A2

with motorized height adjustment via motor driven slide

The torch carriage A2 is moved on the transverse beam of the longitudinal carriage and clamped to the steel band as torch carriage A0. The torch can be moved in vertical direction via the motor driven slide up to approx. 120 mm. In addition the torch can be set manually in vertical direction by approx. 230 mm. The nozzle to workpiece distance is adjusted by means of electric motor drive, which is manually operated by a switch at the operator's panel.



COMBIREX CXD-P equipped with NCE 510 and two exchange units for plasma/oxy-fuel cutting



Torch carriage B1 with plasma torch and collision protection



Torch carriage A2 with exchange unit for Teach-Trace and oxy-fuel equipment

Torch carriage A0

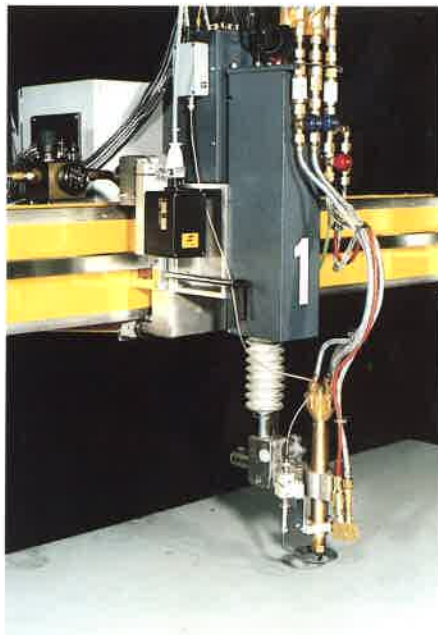
with motorized height adjustment via the burner rack.

The A0 torch carriage is equipped with adjustable running wheels, guide rollers and counter-rollers and is moved on the transverse beam of the longitudinal carriage. A clamping device holds the torch carriage on the steel band. An adjustable fore and aft longitudinal mechanism enables easy positioning of the machine cutting torches to the plate edge. The motorized height adjustment is up to 230 mm. The nozzle to workpiece distance is adjusted by means of electric motor operated by a switch at the operator's panel.

Torch carriage A0

with automatic, capacitive height adjustment.

The A0 motorized height control can be fitted with automatic height adjustment.



Torch with automatic, capacitive height control and electric ignition in working position

The additional contact-free nozzle height feature guarantees that the gap between the cutting nozzle and the surface of the workpiece remains constant throughout the entire cutting process. This feature is ideal when several machine cutting torches are used simultaneously and when cutting thin sheets.

Torch carriage A2

with motorized height adjustment via motor driven slide

The torch carriage A2 is moved on the transverse beam of the longitudinal carriage and clamped to the steel band as torch carriage A0. The torch can be moved in vertical direction via the motor driven slide up to approx. 120 mm. In addition the torch can be set manually in vertical direction by approx. 230 mm. The nozzle to workpiece distance is adjusted by means of electric motor drive, which is manually operated by a switch at the operator's panel.



Torch carriage B1 with motorized, capacitive height adjustment and powder marking device

Torch carriage A2

with automatic, capacitive height control. The A2 motorized height control can be fitted with automatic height adjustment.

The additional contact-free height sensing ring guarantees that the gap between the cutting nozzle and the surface of the workpiece remains constant throughout the entire cutting process.

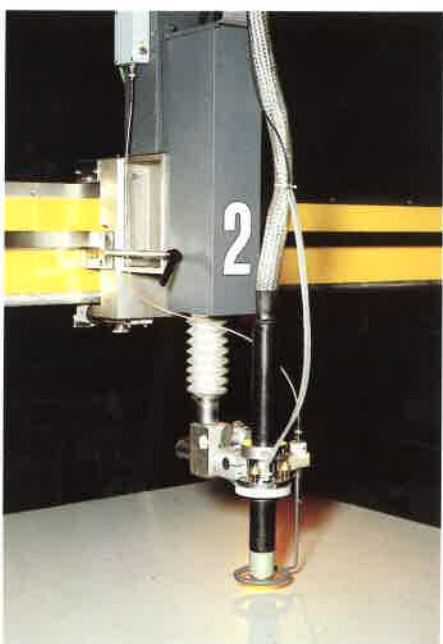
Torch carriage B1

with motorized, capacitive height adjustment.

The heavy duty torch carriage B1 with bearing guided spindle is a very compact unit to carry a heavy tool, e.g. a marking unit or a three-torch head. The vertical movement is approx. 200 mm.



and two exchange units for plasma/oxy-fuel cutting



Torch carriage B1 with plasma torch and collision protection



Torch carriage B1 with height adjustment and triple nozzle burner arrangement (±90°)

Important characteristics of the COMBIREX CXD-P

- one side low level machine track
- both machine tracks made from precision-machined railway rails
- longitudinal drive with rack and pinion
- longitudinal carriage in portal design
- transverse drive with rack and pinion via steel band
- electromagnetic clutches for longitudinal and transverse drive
- CNC continuous path control NCE
- operator's panel left or right hand
- speeds from 50 up to 6000 mm/min
- standard sizes between 3000 and 4000 mm track width

Machine cutting torches

The COMBIREX can be equipped with torches for either injector or nozzle mix cutting nozzles. Each of the machine cutting torches has manual trimming valves for gas, heating and cutting oxygen. A set of cutting nozzles for the 3-100 mm cutting range is supplied with each machine cutting torch as standard.

Gas supply

The gas distribution manifold for gas, heating and cutting oxygen is designed for connecting 4 machine cutting torches as standard.

Oxy-gas equipment

The machine is equipped with a central solenoid valve control device for switching the cutting oxygen and heating gases, or cutting oxygen on or off. The machine can be equipped with solenoid valves for individual preselection of the gas supply to select individual burner carriages. Either manually or from numerical programme.

In view of facts, the importance of air pollution control is increasing steadily. The effective collection and extraction of the exhaust air right at the workplace and the filtering required before discharge the atmosphere put high demands on the exhaust system and the filter. The tighter and tighter specifications for the cutting of thermal materials require economic cutting systems, optimum exhaust tables and powerful filter units.

ESAB-HANCOCK offer a comprehensive range of environmental engineering. Our range covers exhaust cutting tables, water cutting tables and filter systems for modern cutting technology processes. This equipment either meets or even exceeds the requirements.

We will be glad to assist you in your specific applications.

Electric ignition device

The ignition device is of major benefit when several machine cutting torches are used at the same time. The preheating gases are ignited automatically via switches on the control panel.

Pressure Regulation feature

A pressure regulation (Quick Preheat) feature is incorporated into the machine Gas system to set low (normal) preheat pressures with Central electromagnetic valves and pressure gauges.

A Line or Cylinder Regulator system must be used from the main gas supplies to provide the High Pressure required to the machine.

Automatic hole-piercing feature

The hole-piercing feature operates in fully automatic sequence:

- Electrical ignition of the high heating flame to reduce the preheating period
- Torch lift, machine start-up with reduced speed, controlled opening of the cutting oxygen valves
- Switchover from high heating flame to normal heating flame, torch lowering

and machine acceleration to after the material has been p
- The required preheating peri
delay can be set at the conti
dependent on material thick

Air-water-spray

To obtain better environmental during cutting and cooling of th cuts, it is possible to equip the cutting torches with air-water-s The control of the air and water is carried out through distribut with central solenoid valves.

Plasma cutting

When cutting plain and alloy st as aluminium and copper, the r can be equipped with a plasma A special bracket is available fo native use with a gas cutting to motorized or automatic height a or a dedicated plasma torch ca The automatic height adjustmen depends on the plasma torch ty employed and can carry out the sary adjustments by means of k arc and the capacitive tracing s

Technical Data COMBIREX CXD-P

Sizes

Cutting width (1 single torch)	[mm]
Cutting width (2 single torches) non-mirror image	[mm]
Cutting width (4 single torches) non-mirror image	[mm]
Track length - basic 3000 mm or 4000 mm ¹⁾	
Track height: guiding rail 1020 mm; outbord rail 550 mm	
Cutting length for 4000 mm track	[mm]
Cutting thickness (1 single torch)	[mm]
Cutting thickness (2 single torches)	[mm]
Cutting thickness (4 single torches)	[mm]
Cutting speed	[mm/min]
Positioning speed	[mm/min]
Max. number of single torches ⁵⁾	
Fuel gases ²⁾	
Connection voltage ³⁾	[V/Hz]
Power input	[VA]
Machine length	[mm]
Machine width	[mm]
Machine height	[mm]
Cutting table height ⁴⁾	[mm]

¹⁾ Track extensions in sections of 2000 mm

²⁾ Other kinds of fuel gases on request

³⁾ Other connection voltages on request

⁴⁾ For cutting thickness 200 mm the workpiece supporting height is 600 mm

⁵⁾ Extension to max. 6 torches

We reserve the right to make technical modifications and improvements without



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Electric ignition device

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Pressure Regulation feature

A pressure regulation (Quick Preheat) feature is incorporated into the machine Gas system to set low (normal) preheat pressures with Central electromagnetic valves and pressure gauges.

A Line or Cylinder Regulator system must be used from the main gas supplies to provide the High Pressure required to the machine.

Automatic hole-piercing feature

The hole-piercing feature operates in fully automatic sequence:

- Electrical ignition of the high heating flame to reduce the preheating period
- Torch lift, machine start-up with reduced speed, controlled opening of the cutting oxygen valves
- Switchover from high heating flame to normal heating flame, torch lowering

and machine acceleration to full speed after the material has been pierced

- The required preheating period and time delay can be set at the control panel dependent on material thickness.

Air-water-spray

To obtain better environmental conditions during cutting and cooling of thin plate cuts, it is possible to equip the machine cutting torches with air-water-sprays. The control of the air and water supply is carried out through distributor pipes with central solenoid valves.

Plasma cutting

When cutting plain and alloy steels, as well as aluminium and copper, the machine can be equipped with a plasma torch. A special bracket is available for alternative use with a gas cutting torch with motorized or automatic height adjustment or a dedicated plasma torch carriage. The automatic height adjustment system depends on the plasma torch type employed and can carry out the necessary adjustments by means of both the arc and the capacitive tracing system.

Teach-Trace equipment

In conjunction with our photoelectrical tracer system ASE any kind of contour shapes can be digitized and transferred to NC data. Depending on the contour (straight lines, arcs, etc.) a reduction of data is established automatically. The traced geometry is transformed into a machine program containing all auxiliary functions like start and stop of cut and location of kerf etc. The program created with Teach Trace can be edited manually and can be transferred to data output devices like tape punch or floppy disk. The photo-electric tracing system ASE 2010 can be assembled on a separate carriage or changeable via torch holder in connection with the torch carriages A 2 or B 1.

Technical Data COMBIREX CXD-P

Sizes		3000	3500	4000
Cutting width (1 single torch)	[mm]	2200	2700	3200
Cutting width (2 single torches) non-mirror image	[mm]	2 x 1050	2 x 1300	2 x 1550
Cutting width (4 single torches) non-mirror image	[mm]	4 x 475	4 x 600	4 x 775
Track length - basic 3000 mm or 4000 mm ¹⁾				
Track height: guiding rail 1020 mm; outboard rail 550 mm				
Cutting length for 4000 mm track	[mm]	2000	2000	2000
Cutting thickness (1 single torch)	[mm]	3-300	3-300	3-300
Cutting thickness (2 single torches)	[mm]	3-200	3-200	3-200
Cutting thickness (4 single torches)	[mm]	3-150	3-150	3-150
Cutting speed	[mm/min]	50-6000	50-6000	50-6000
Positioning speed	[mm/min]	6000	6000	6000
Max. number of single torches ⁵⁾		4	4	4
Fuel gases ²⁾		Acetylene / Propane / Natural gas / Mixed gases		
Connection voltage ³⁾	[V/Hz]	220 / 50		
Power input	[VA]	≈ 1000	≈ 1000	≈ 1000
Machine length	[mm]	1800	1800	1800
Machine width	[mm]	3500	4000	4500
Machine height	[mm]	2400	2400	2400
Cutting table height ⁴⁾	[mm]	700/600	700/600	700/600

¹⁾ Track extensions in sections of 2000 mm

²⁾ Other kinds of fuel gases on request

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⁴⁾ For cutting thickness 200 mm the workpiece supporting height is 600 mm

⁵⁾ Extension to max. 6 torches

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