AUTOMATIC CUTTING MACHINES

OXYFUEL PLASMA WATERJET

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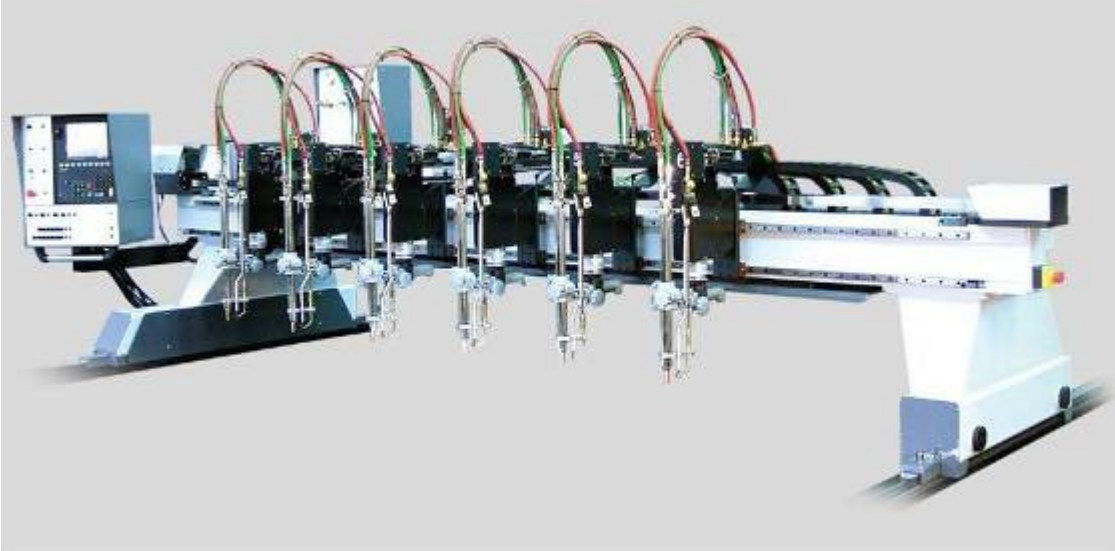
OXYCUT

GAS and PLASMA cutting machine

OxyCut represents a high performance and reliable cutting machine of a gantry construction designed for gas and optionally plasma cutting purposes. The machine is equipped with an efficient and user-friendly CNC control system Edge II having a TFT colour monitor with touch screen.



Standard Features

- Very good cutting quality as a result of double side drive system with one motor in longitudinal axis
- Sharp angles and corners, as well as high contour precision resulting from rack and pinion drives and the application of fast CNC-Controls under Windows® XP™
- High safety and environmental standards, and less pollution through a sectional under table section system
- Network connection CNC-Control with programming directly on the machine

Application:	Gas and/or plasma cutting system
Cutting thickness of Gas Torch:	150 mm
Cutting thickness of Plasma Torch:	Depends on plasma source
Cutting area:	**from 1000 mm x 2000 mm to** 5000 mm x 25000 mm
Guides and Drives:	High-precision racks on both axes, double side driven gantry with one motor
Cutting Accuracy:	ISO 9013
Drives motors:	Service free, processor controlled DC-Servos
Type of height control:	Based on arc voltage control/capacitive sensor
Measuring system:	IRC (Increment sensors)
Repeating accuracy:	± 0,1 mm in compliance with DIN 28 206
Positioning speed:	15 000 mm/min
Energy sources:	220V, 50Hz, 16A, compressed air 6 bar

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Drives

Mechanical construction of OxyCut machines is dictated by optimum price/quality ratio. The gantry is dually driven via bevelled racks and preloaded split pinions with mechanical backlash elimination. Motion is developed by dc motors CONTROL TECHNIQUES. Position is measured by rotary incremental encoders mounted on motor shafts.

Guides

Guides in longitudinal direction are built of S49 type rails on which racks are mounted. All power cables and gas hoses moving with the gantry are placed in a flexible segmental cable duct which protects the cabling from excessive bending and wear.

CNC Cutting Table with Sectional Evacuation

The cutting table is of a sturdy construction, so that it can withstand high loads(plates up to 100mm thickness optionally). Fine grate under the lamellae protects small cutting parts from falling through. The table is detached from the guides, so that the manipulation with plates does not negatively influence the positioning precision of the machine. The exhaust gases are evacuated through a channel system to which a filtering device or a ventilator can be attached. The cutting table with evacuation sections (800mm wide) provides for extremely low pollution levels in the workshop.

CNC Control System Hypertherm Edge II for Windows® XP™ with Integrated Network Card

Edge II represents a PC based control system. The control system consists of two complete PC's – one of them used for real-time control, the other one for user interface and application programs. The user-interface PC is equipped with 256 MB RAM, 40 GB hard disk drive, 3.5"TFT color monitor with touch screen, keyboard and mouse. The control system is integrated into a distribution box, which is located next to the cutting table. The user interface is easy to use, which results in short training time for machine operators. Optionally, the system can be equipped with modem, thus enabling remote diagnostics and servicing.

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- Processing of NC-Data (ESSI, ISO/DIN standards), and parts from the Macro Library
- Extensive Macro Library directly in the control system (optionally).
- Loading part programs in compliance with DIN 66025
- Jog modus
- Repeating the work program
- Graphic representation of cutting process
- Breaking and re-starting the cutting process
- Test-Run – Running the NC-program without actually cutting the material (for test purposes)
- Kerf compensation
- Look Ahead System with automatic calculation of acceleration and cutting speed curves allowing optimal path control, taking into account permissible machine stressing and required contour precision
- Minimum idle time thanks to fast NC-Program loading
- Background editing.
- Full network support (integrated network card)
- Remote diagnostics and servicing (optional)...

Laser Pointer

For easier and more efficient operation the torch tool station is equipped with a laser pointer, which is used for visual control of manual torch positioning into specific points over the processed plate. By the help of laser pointer functions like zero point location or plate rotation setting are performed much faster thus increasing the throughput of the machine.

Database of Parameters of Control System MSNC-500/Windows® 2000™

Extensive macro library with a database of parameters directly on CNC-control system enables fast transfer of set parameters for different materials and thickness and thus remarkably reduces the preparation time for the cutting process. It offers to the personal not only optimal torch parameters for high-quality cutting but it can be easily extended and changed.

Automatic Torch Height Control based on Plasma Arc Voltage

The initial height sensing is done mechanically, during cutting the distance between the torch and the plate is kept constant by means of measuring and controlling the plasma arc voltage (via servo motor in Z-axis, which gives the torch tool station the necessary dynamic). Fast and reliable torch height control results in high quality of cutting and long service life of consumables. Moreover, the torch is mounted into a protective holder, which guarantees the power to be switched off in case of torch collision, thus reducing the machine downtime caused by repairs.