

Waterjet Cutting System Cutting Box **ThreeWing**

Simple, Effective and Efficient Functionality to Suit Your Needs

Brief Technical Description

The Cutting Box ThreeWing has been designed for processing of large components, such as moulded carpets and headliners, in the automotive supplies industry. The 3-station turntable offers optimum integration into the production flow by separate loading and unloading zones. This machine can produce up to 1,000 pieces per day using two robots.

The turnkey system is designed as a standalone, self-supporting welded steel frame structure with double-walled sheet metal enclosure and integral soundproofing. The enclosure houses supports for two robots, the turntable and a vacuum clamping system. The box interior is entered through two interlocked safety gates. The cutting fluid runs off through drainage connections. Manual cleaning of the box is facilitated by cleaning hatches. The cutting jet is guided by six-axis ABB industrial robots of Type IRB 2400F that are suspension mounted in the cutting box.

Flow of materials is achieved using a three-station turntable with standard pallet supports. As a result, machine loading does not affect the cycle time. Parts are loaded and unloaded in separate areas. The use of standardised interchangeable pallets as carriers for the workholders keeps toolchange times to a minimum. A pallet coding system ensures optimum operational reliability, even with frequent product type changes.

The high-pressure system in the Cutting Box has been specially developed for the IRB 2400F robot. The optimal guidance of the high-pressure pipework by the six axes of the robot mechanism keeps wear to a minimum and ensures good access for servicing. Two separate safety devices on the loading and unloading side, robot monitoring equipment and special safety elements in the high-pressure system combine to provide a high standard of safety.

The Cutting Box conforms to current ISO and EC directives.



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Only tried and tested standard components such as ABB industrial robots and Siemens PLC controllers are used, so a high degree of availability is guaranteed. The installed KMT Waterjet high-pressure pumps from the "Streamline" range have also been employed in large numbers for many years.

Because the Cutting Box is manufactured entirely in our factory in Ronneby, Sweden, it only takes a few days to install and commission. Additional automation with a loading robot is available as an option.

Specifications

- Interchangeable pallet dimensions..... 2,470 x 1,170 mm
- Max. cutting pressure..... 3800 bar
- Max. robot feedrate..... >2500 mm/s
- Total repeat accuracy..... <± 0.3 mm
- Turntable indexing time..... 9 s
- Noise level on operator side..... < 82 dB(A)