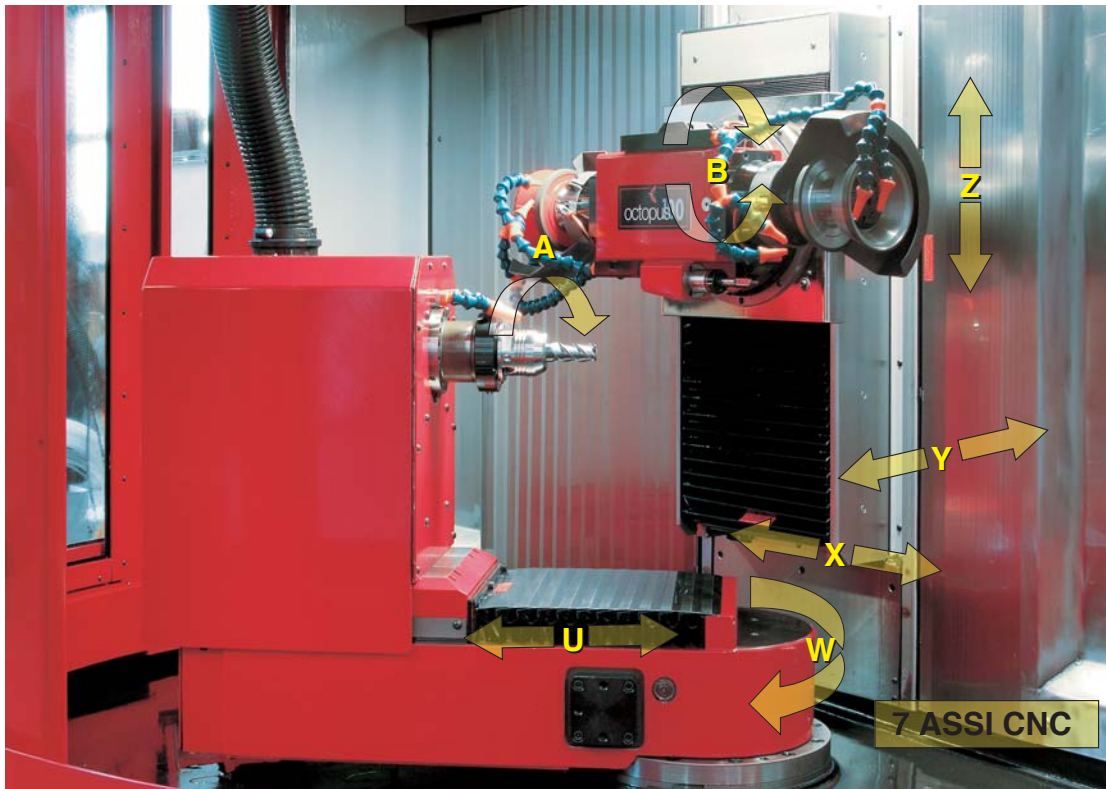OCTOPUS100

Octopus100
7-axes cnc tool & cutter grinder

Octopus 100 offers the flexibility and ergonomic features required for the grinding process of cutting tools. Suitable for regrinding or production of small and medium size cutting tools such end mills with square end, corner chamfer, corner radius and ball nose straight flutes, drills, special drill points, step drills and single-point cutting tools.

It has been designed to save space, easy use and quick maintenance.
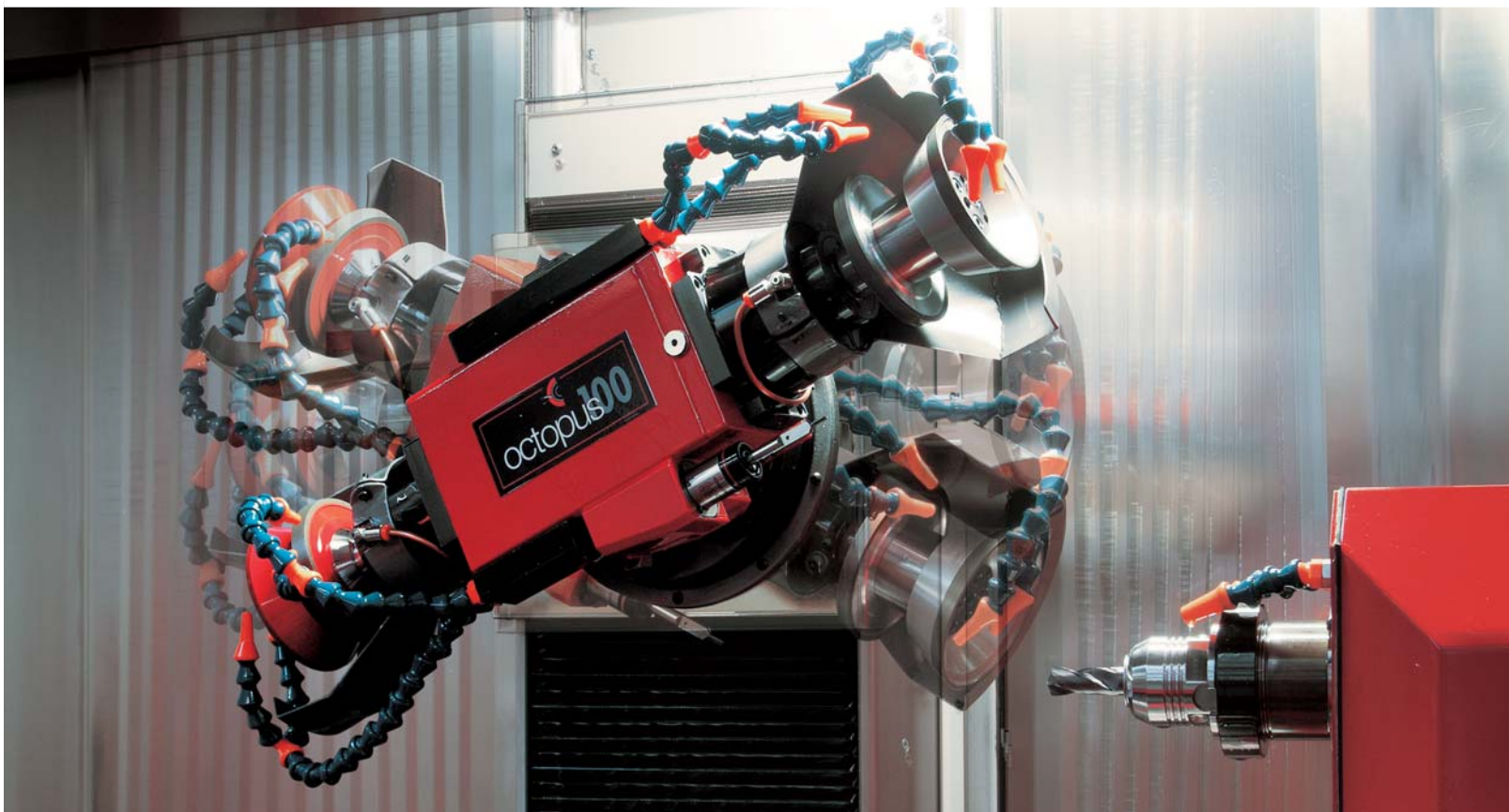
OCTOPUS 100

Z

B

A

Y

X

U

W

7 ASSI CNC

The kinematics of Octopus 100 is composed of 4 linear and 3 rotary axes assembled in two clearly defined areas of the machine base. Linear axes X, Y, Z and rotary axis B are assembled on a solid cast iron tower on the back of the machine base, while workhead unit A is assembled on rotary axis W, which contains linear positioning axis U. Linear axis U has been designed to make ball nose or corner radius grinding: U axis positions the center of the tool radius in the center of rotation of W axis.

The double end spindle assembled on Z axis swings 255°
(+45° -30° from the horizontal position).
Rh and Lh hand tools can be made or re-sharpened without
interferences.

Various packs of grinding wheels can be very quickly assembled
on the two coupling cones, it makes a very fast switch from one
type of tool to the other one.
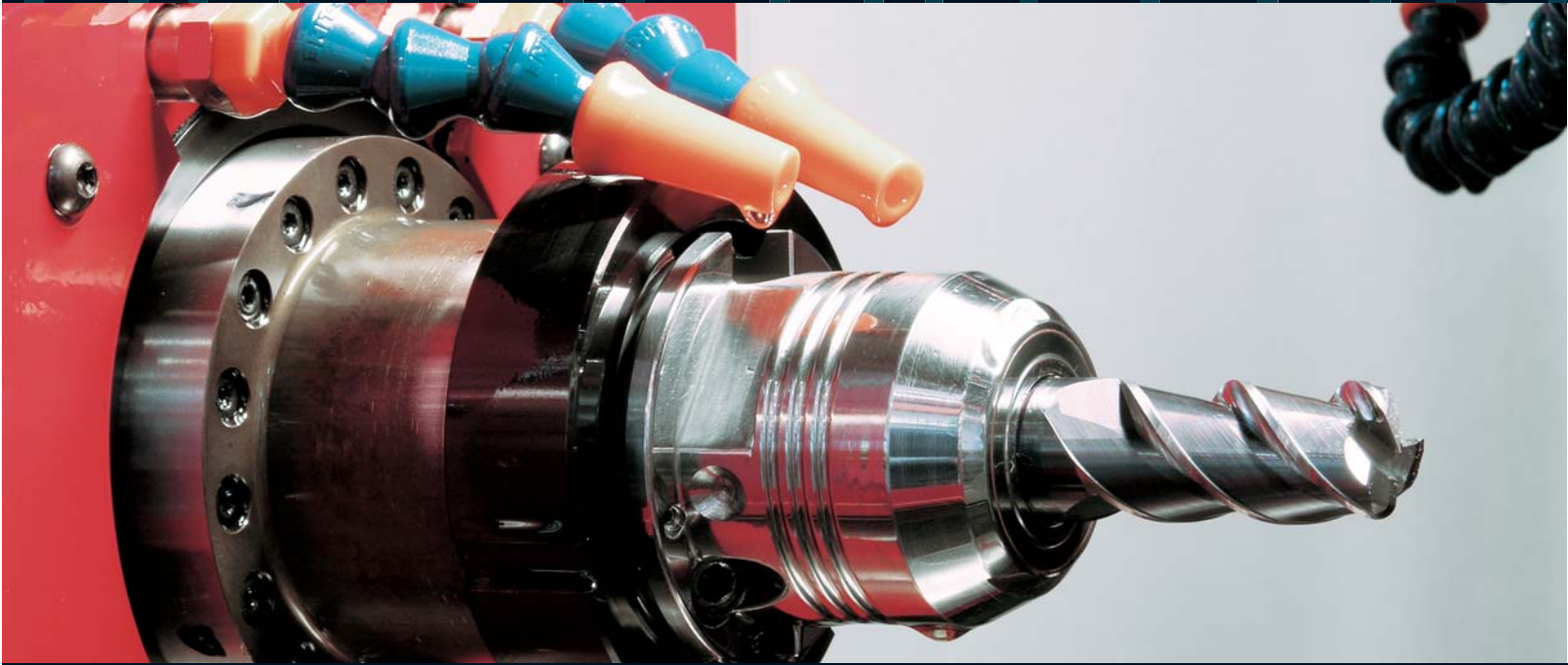
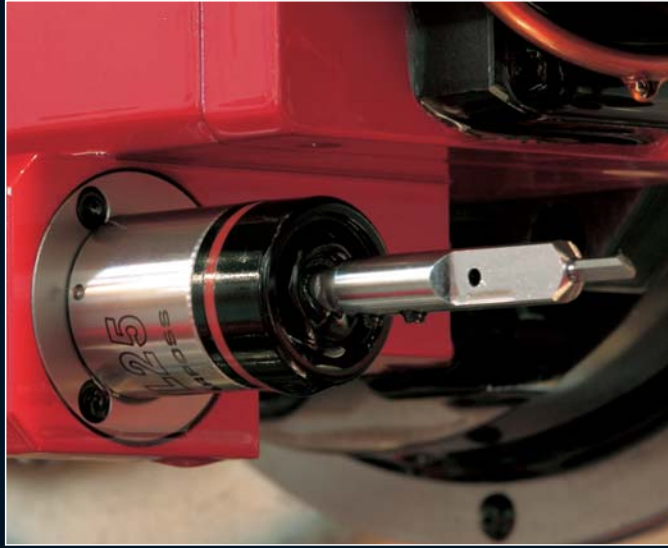To be as interchangeable as possible, the workhead is equipped with an ISO 40 taper and clamping collar, which can set various types of toolholder, such as manual or automatic hydraulic spindles, clamp holders, chucks with 6 jaws, both types DIN 69871 and BT40 type.
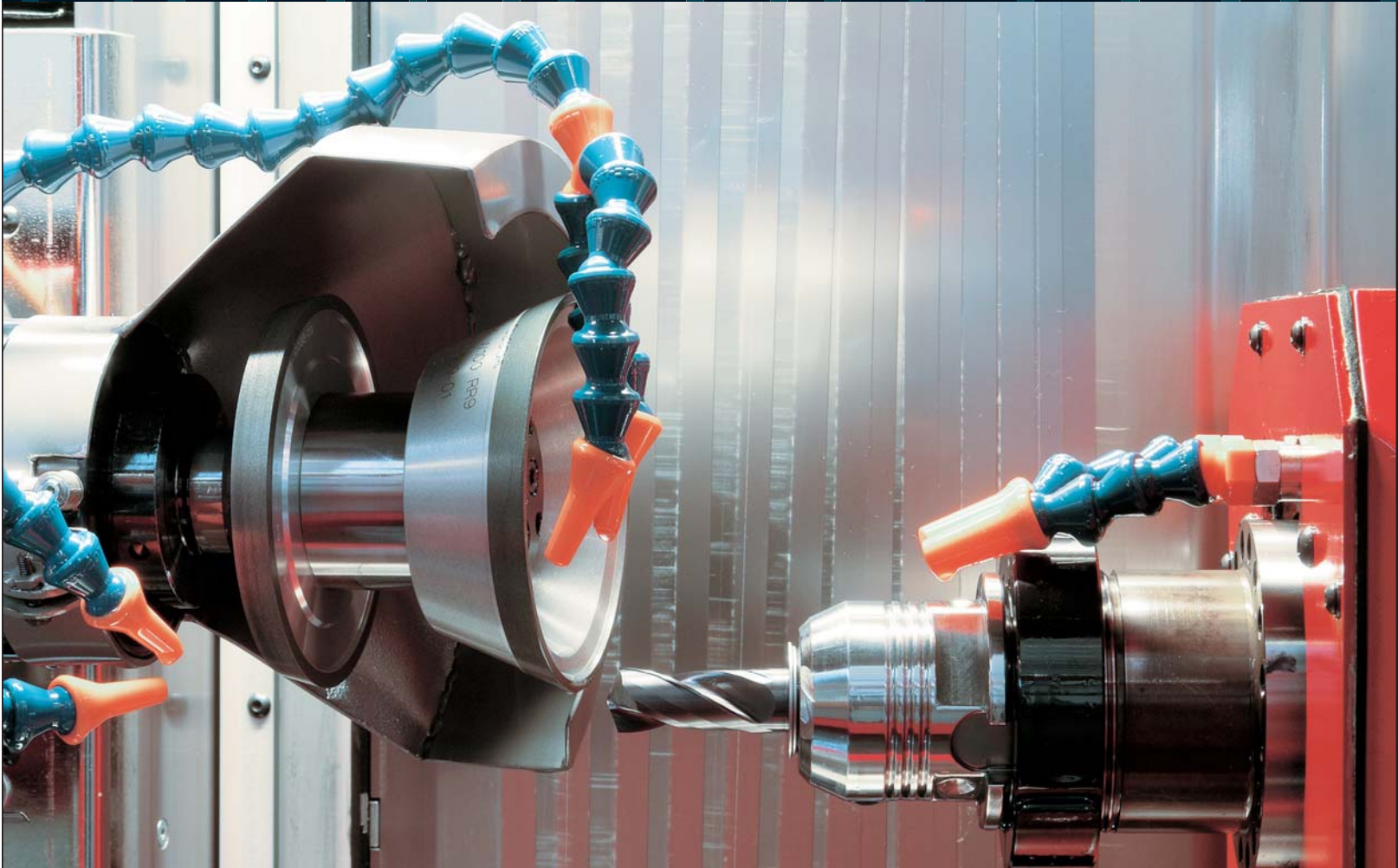
Octopus 100 is equipped with a 3D electronic touch probe with probing tip made according to drawings and crash protection pin. The probing software includes axial and radial tool positioning and lead calculation.
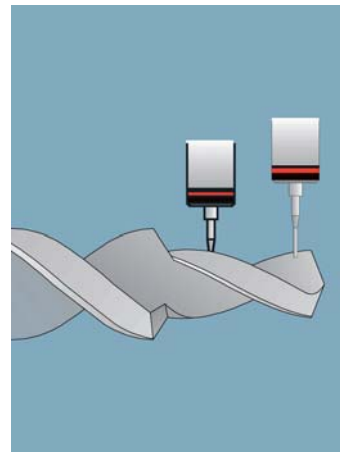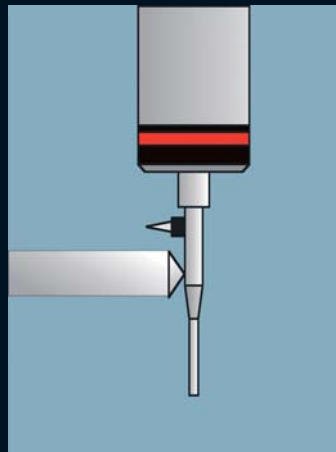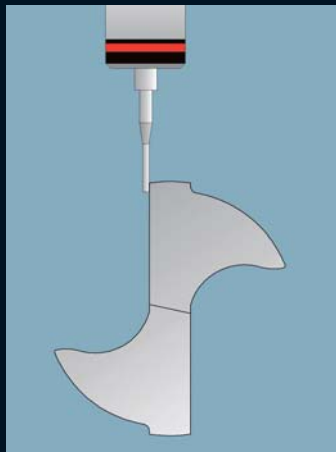
OCTOPUS

The positionable console contains a modern and efficient SIEMENS SINUMERIK 840Di numeric control that integrates our OCTOSOFT programming software.

OCTOSOFT allows the most different geometric tool sharpening or construction shapes to be obtained. Our team of programmers has developed simple, fast and intuitive software for the operators, who do not need any particular experience in programming CNCs.

OCTOPUS 100 comes with two software packages as part of the standard supply:

OCTOSOFT MILLS for making and sharpening straight end mills with square end, corner chamfer, corner radius and ball nose straight flutes,
OCTOSOFT DRILLS for sharpening standard twist drills, special drill point in both HSS and carbide, with standard and special shapes.

Customized software for specific applications can be supplied on request.
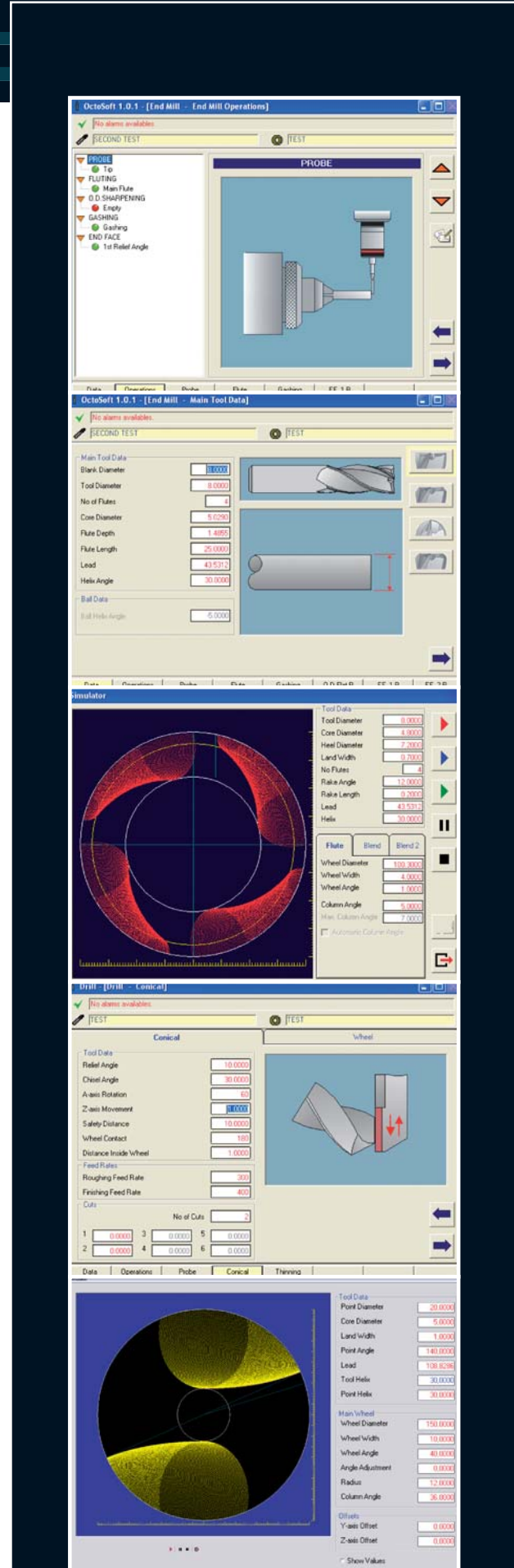
COOLANT
OIL FILTRATION SYSTEM

OCTOPUS 100 is ready to be connected to a central coolant system or to a dedicated filtration system for the machine. The cartridge filtering system includes a 300 liter tank, pump to re-circulate the oil and the high pressure delivery pump. The high pressure pump provides a 60 l/min flow rate at a pressure of 6/8 bar. The filtering system only functions with pure coolant oil and guarantees a 100 l/min filtering capacity at 5 microns.

OCTOPUS100

Workhead
A axis

Tool clamping option	Manual, pneumatic or hydraulic
Min. tool diameter	3 mm
Max. tool diameter	125 mm
Max. tool length	500 mm

Double ended wheel spindle

Wheel diameter	100-125 mm
Wheel bore	32 mm
Number of wheels per side	2 - 3
Spindle power	4 Kw (5.3 HP) Direct
Wheel spindle range, variable speed	4500 rpm

OCTOPUS100

CNC control unit

Control	Siemens Sinumerik 840Di
CNC motors	Siemens digital servomotors
Measuring system	Digital encoders

Dimensions and Weights

Dimensions	mm 1890 x 1650 x 1980 3.2 sqm
Total weight	2000 kg

Power input

Total power input	12 kW
Power supply voltage	400V/3 Phase/50 Hz

Electronic touch probe

3 D touch probe	Marposs TL25G

OCTOPUS100

OCTOPUS100

AXES TRAVEL

Linear axes travel

X Axis, wheel head longitudinal stroke	370 mm
Z Axis, wheel head vertical stroke	250 mm
Y Axis, wheel head cross stroke	175 mm
U Axis, workhead longitudinal stroke	180 mm
V Axis, workhead cross stroke	80 mm (+/-40 mm) Opzionale

Rotary Axes

B Axis, wheel spindle swivel	255° (180° + 45° - 30°)
A Axis, tool rotation	∞
W Axis, rotary table	150° (90° + 45° - 15°)

Axes resolution

Linear axes resolution	0.001 mm
Rotary axes resolution	0.001°
Linear axes maximum feedrate	10 m/min
Maximum speed of rotary axes	7200° (20 rpm)