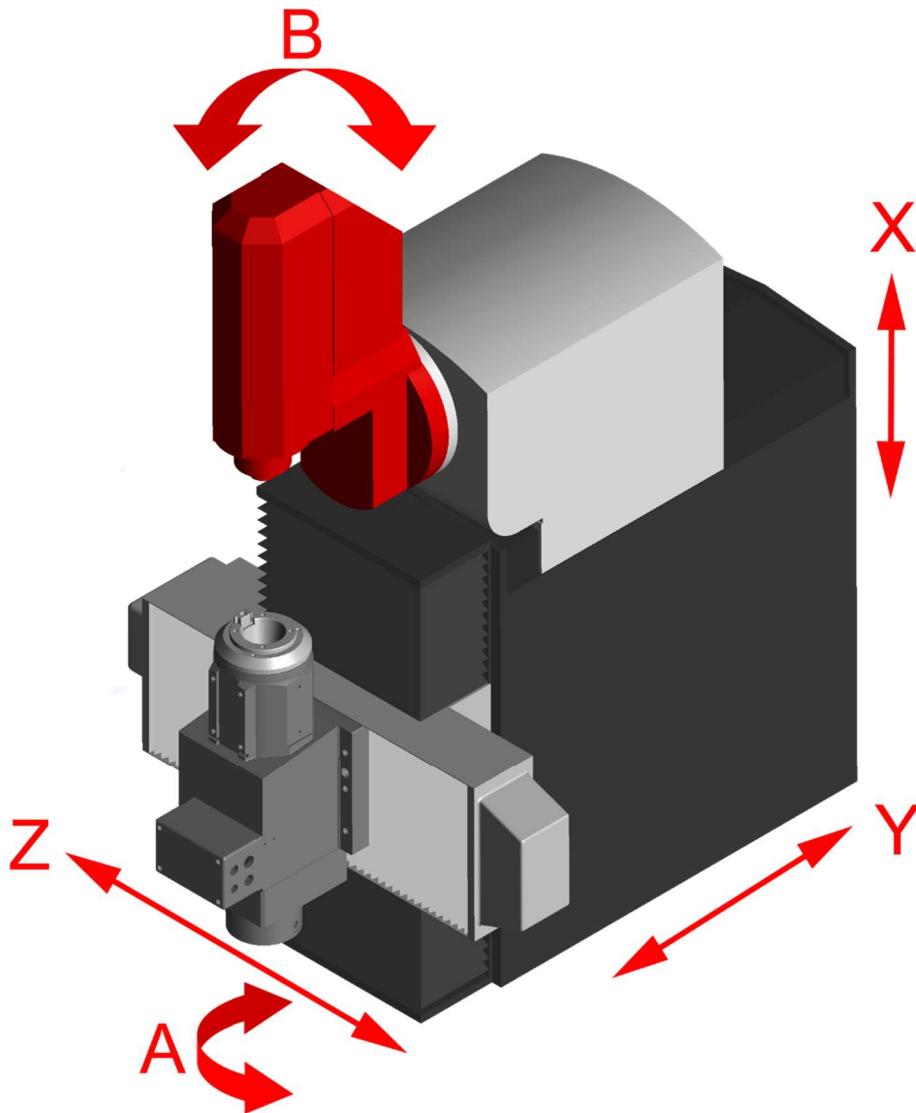


## Grinding machine CA3+

With its vertical tool holder axis, the CA3 + offers fast and ergonomic loading of the tool. This machine is particularly well suited for sharpening and special tool manufacturing.



### Tools & grinding wheels capacities

Max. tool diameter:

320 mm

300 mm if no machining on the periphery (eg Fellows/knives)

Max. tool length:

300 mm

950 mm for 3/4drills grinding (max. diam. 25.4 mm)

195 mm if robot loading (robot type SCARA)

140 mm if loading by machine axis

**Max. wheel diameter:**

125 mm

200 mm If no automatic wheel changer

**Max. tool weight:**

25 kg

3 kg if robot loading (robot type SCARA)

Tool holder axis & electro-spindle

**A axis (tool-holder):**

800 rpm

SA50 passage through the center (diam. 25.4 mm)

(HSKA63, HSKA80, SA40 already developed, others according to project)

**B axis (electro-spindle support):**

240°

**Electro-spindle, wheel holder:**

HSK50 et HSK63, 25 Nm from 10,000 rpm, max. speed 24,000 rpm and from 13kw to 25Kw

Wheel changer

Large autonomy: 15 grinding wheels in store (5 stations with 3 wheels per hub).

Easy management of the wheels on their hubs.

As the changer is bringing the hubs into spindle, the necessary movements for the realization of the tool are not impacted (compact strokes for an optimal precision).

Loading time < 5s.

Automatic tools loading/unloading by the loading robot

Universal Solution:

Large workspace to integrate possible flipping stations, possibilities to modify the clamps, jaws and pallets to adapt to the most numerous needs.

Reliability:

This type of robot has been selected by the nuclear industry on this criterion.

Simplicity of implementation:

80 min. training time. Possibility of loading in tool holders with a concentricity of 0.003 mm. The robot loads either the socket or the tool. The solution is economical since only one socket per diameter is necessary

Autonomy range:

Range diameter: 14 mm (e.g., possibility to load a tool with a diameter between 6 and 20 mm without needing an operator).

Flexible pallets:

Pallets (composed of modular elements) for mixing, according to your needs, the diameters and the number of tools per diameter.

Ergonomic and flexible programming:

Possibility of mixing mills, drills, reamers ... of different lengths and diameters on the same pallet.

By machine axis

Possible implementation in factory or retrofit on customer site (even on machines of about ten years), the assembly is composed of a pallet fixed on the generator and a clamp on the body of the Electro spindle. Pallets (15kg maximum) are set up manually.

Characteristics:

Manufacture or sharpening of a batch of tools all identical (drills, end-mills)

40 to 140 mm length

Diameters and quantities:

Diam. 4 to 6 mm / 200 tools per batch

Diam. 6 to 10 mm / 96 tools per batch

Diam. 6 to 16 mm / 54 tools per batch

By carousel

Automatic loading of the tool with attachment HSKA63 Read and write, automatically, on electronic chip of grinding parameters