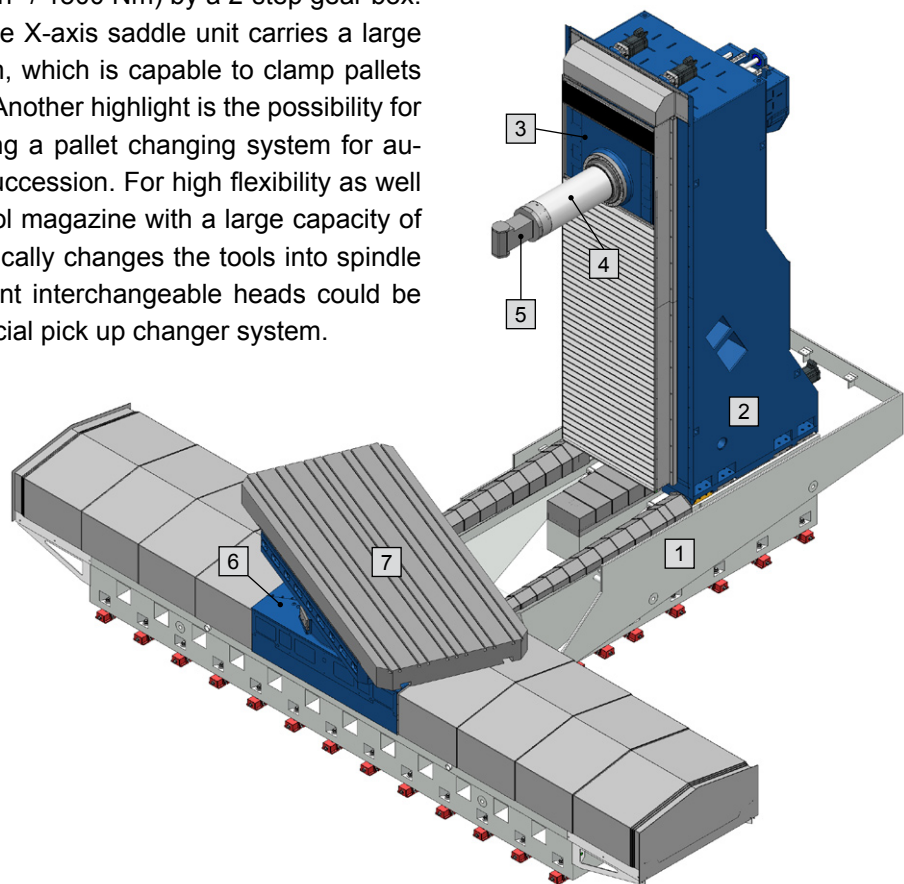


6-Axes Horizontal Machining Center

This machine is a new milestone in the range of large scale horizontal machining centers in regards of dimensions, rigidity and flexibility. Even if the working area is very large for this class of machining centers, the ELHA design team achieved a very compact design, which also fits to tight shop floor conditions. Conceptual the SMX 5239 was designed for cutting of frame parts for sheet metal machine tools. The machine base structure consists of a massive travel column (W-axis) for pre-positioning, which integrates another dynamic 2-axes (Y/Z-axes) unit for main work movements. The Z-axis movement is realized by a turnable, hydrostatic round ram (ELHA patent) with a large diameter of 450 mm, which is designed for adapting various interchangeable working heads for different operations. The tool spindle is integrated in the hydrostatic round ram and provides high speed and torque (6500 min⁻¹ / 1500 Nm) by a 2-step gear box. In front of the base machine, the X-axis saddle unit carries a large NC rotary table with Ø2000 mm, which is capable to clamp pallets with a size of 4500 x 2000 mm. Another highlight is the possibility for unmanned production by utilizing a pallet changing system for automatic change of 3 pallets in succession. For high flexibility as well as for shortest setup times a tool magazine with a large capacity of 360 tools (HSK A-100) automatically changes the tools into spindle by robot. Finally up to 3 different interchangeable heads could be changed automatically by a special pick up changer system.



- [1] foundation (composite material)
- [2] travel column (W)
- [3] cross slide (Y)
- [4] turnable ram (Z)
- [5] interchangeable head
- [6] rotary and sliding table (X)
- [7] pallet

Technical Details

Travel path

X-axis (rotary table)	5600 mm
Y-axis (cross slide)	3500 mm
Z-axis (ram)	1000 mm
W-axis (column)	2650 mm
palette changer	1250 mm
head changer	2300 mm
positioning accuracy	0.02 / 4500 mm

Main drive

max. capacity S1 / S6-60%	37.7 kW
max. torque S1 / S6 (gear 1)	1500 / 1920 Nm
max. torque S1 / S6 (gear 2)	300 / 384 Nm
max. speed (gear 1 / 2)	1300 / 6500 rpm

Rotary table / Palette

table diameter	2000 mm
palette size	4500 x 2000 mm
workpiece weight	18 t
palette changer	3

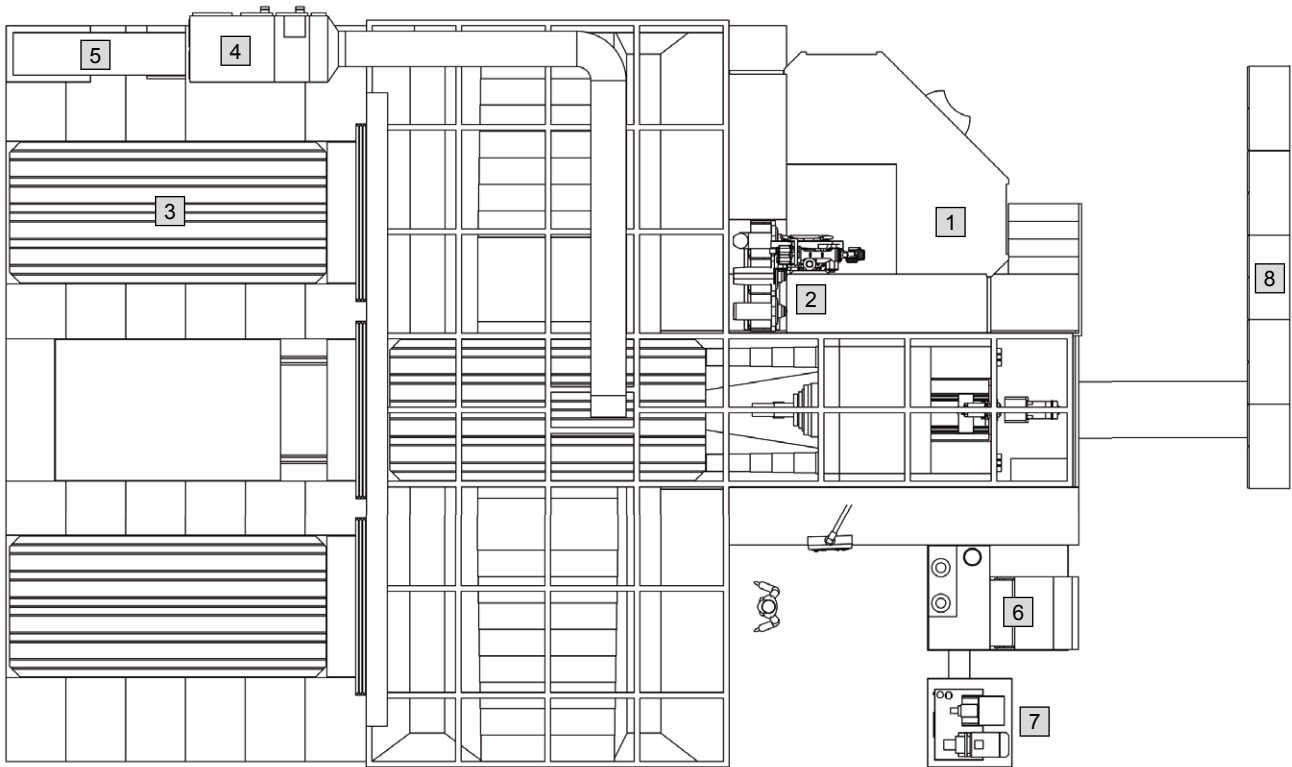
Head changer / Tool changer

interchangeable heads	3
tool places	360
tool holder	HSK-A 100

Dimensions

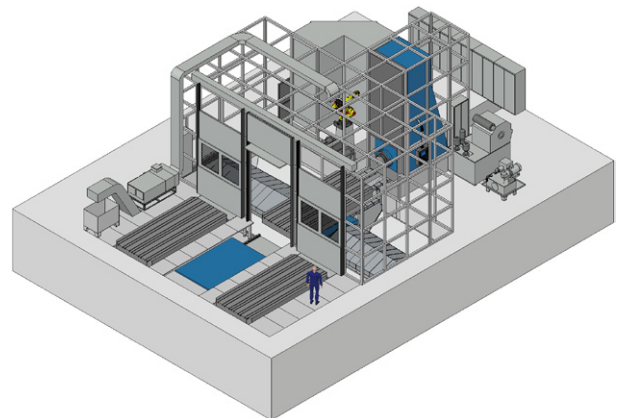
space assignment	18.5x11.8x5.6 m
total weight	180 t

SMX 5239



Complete layout (top view)

- [1] tool magazine (2 tower)
- [2] robot and head changer
- [3] palette changer
- [4] exhaust system
- [5] chip conveyor (3x)
- [6] coolant system
- [7] hydraulic aggregate
- [8] electric switch cabinet



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