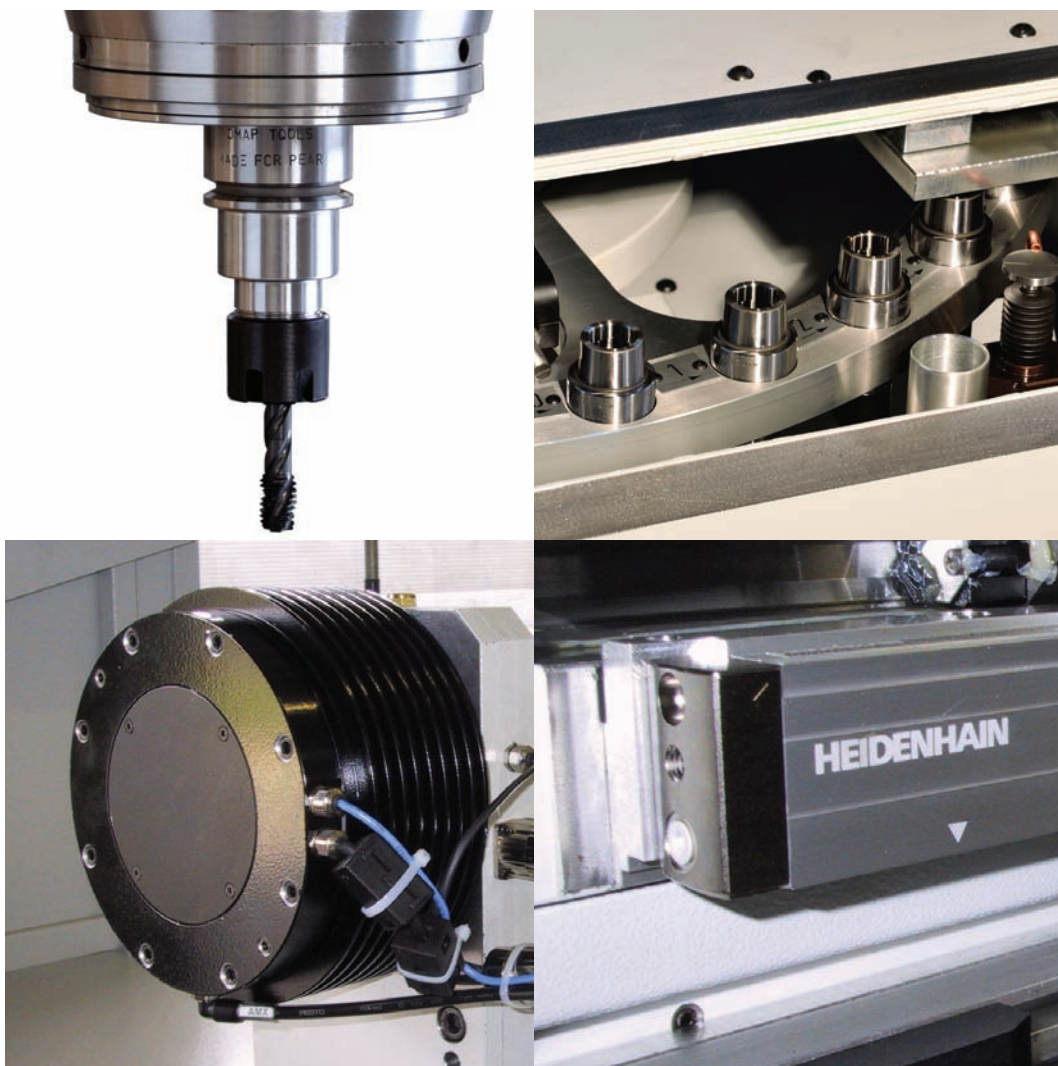


MACHINING CENTER EC68



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*Other files available
for additional information
regarding this machine*

Spindle Hsk32
Probe for Hks32
Spindle Hsk40
Control Desk
Z32 NC
Software Peace

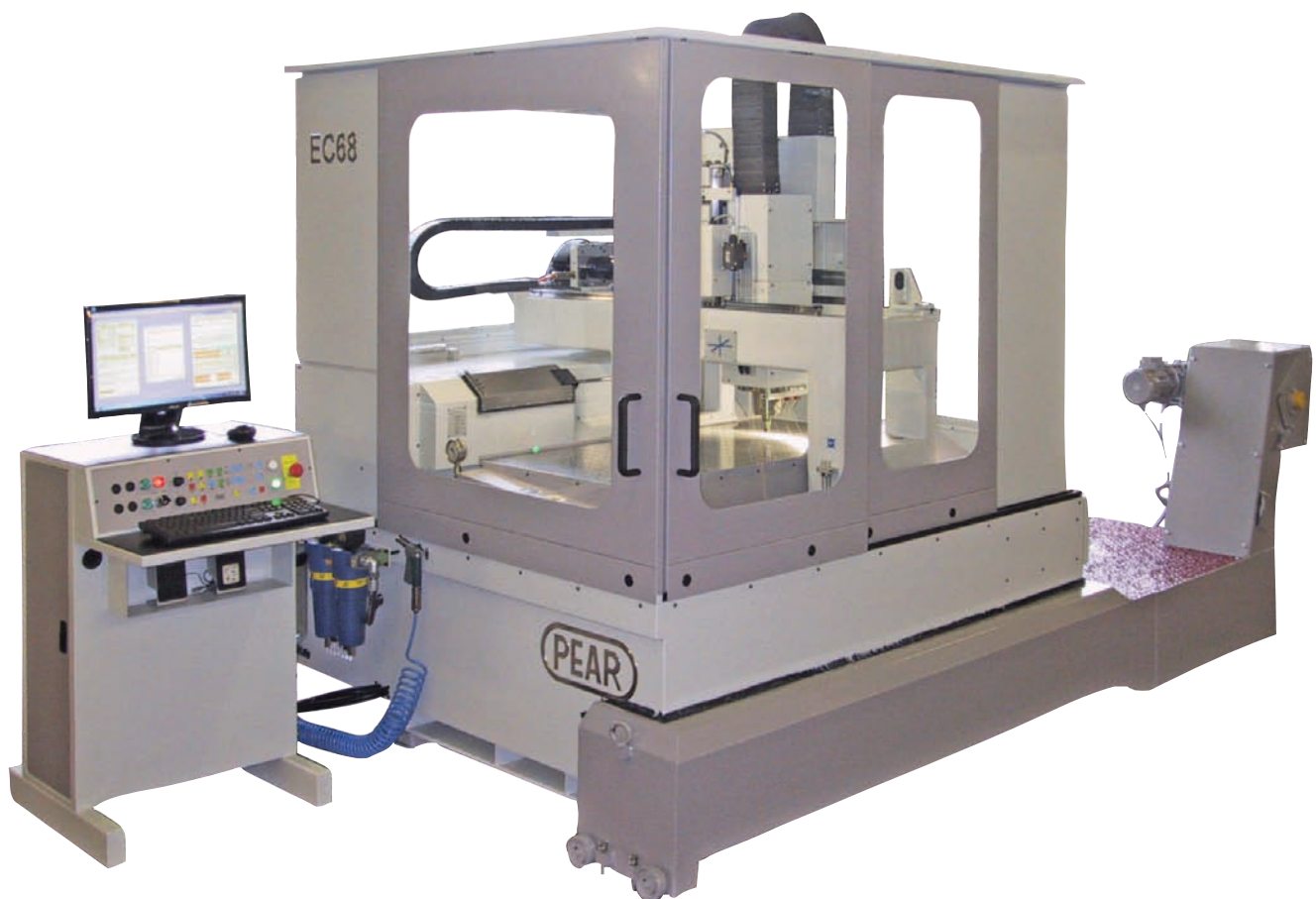
Fields of Application

It is a three-axis machining center which has a field of work, compared to the overall dimensions of the machine, very big. It is used when executing the following processes:

- All classical works of high quality engraving. Thanks to our integrated software on board Peace (optional accessory), all the typical operations of this kind of operations will be easily achievable.
- Technical light milling Machining where are required a degree of finish, accuracy and thermal stability (no drifts due to heating of spindle) particularly high.
- Implementation of fashion accessories. Thanks to the availability, as an optional, of our supplementary table of self-locking pieces, you can assemble a large number of flat bars of brass or other material able to use almost entirely throughout the work area. In this way the machine may have a range of machining particularly important without the presence of human personnel.
- Construction of molds even in the case in which both request the direct machining hardened steel, but where it is required a volume of removal of material compatible with the type of tool holder used and the available spindle power.

Fields of Application

Overview of the machine with several optional accessories installed



Structure

It is a machine structure, introduced by us in 1991, having a double bridge that allows to have the following advantages:

- Overall dimensions small compared to the actual working area available
- Spindle perfectly centered in relation to the structure that supports it and placed on the center of gravity
- All three working movements of the axes are on the spindle and then the work piece is stationary

In order to enhance the benefits of this innovative machine structure, more items have been improved gradually over the past 20 years up to the current version which includes the fruit of experience gained throughout this period of time.

Ball bearing screw characteristics and translation axes guides

- X and Z axis diameter: 25 mm
- Y axis diameter: 32 mm
- Screw pitch X Y Z: 20 mm per revolution
- Material: hardened and ground steel with ceramic material nut balls
- Dimensions roller block size X Y Z axis: size 25

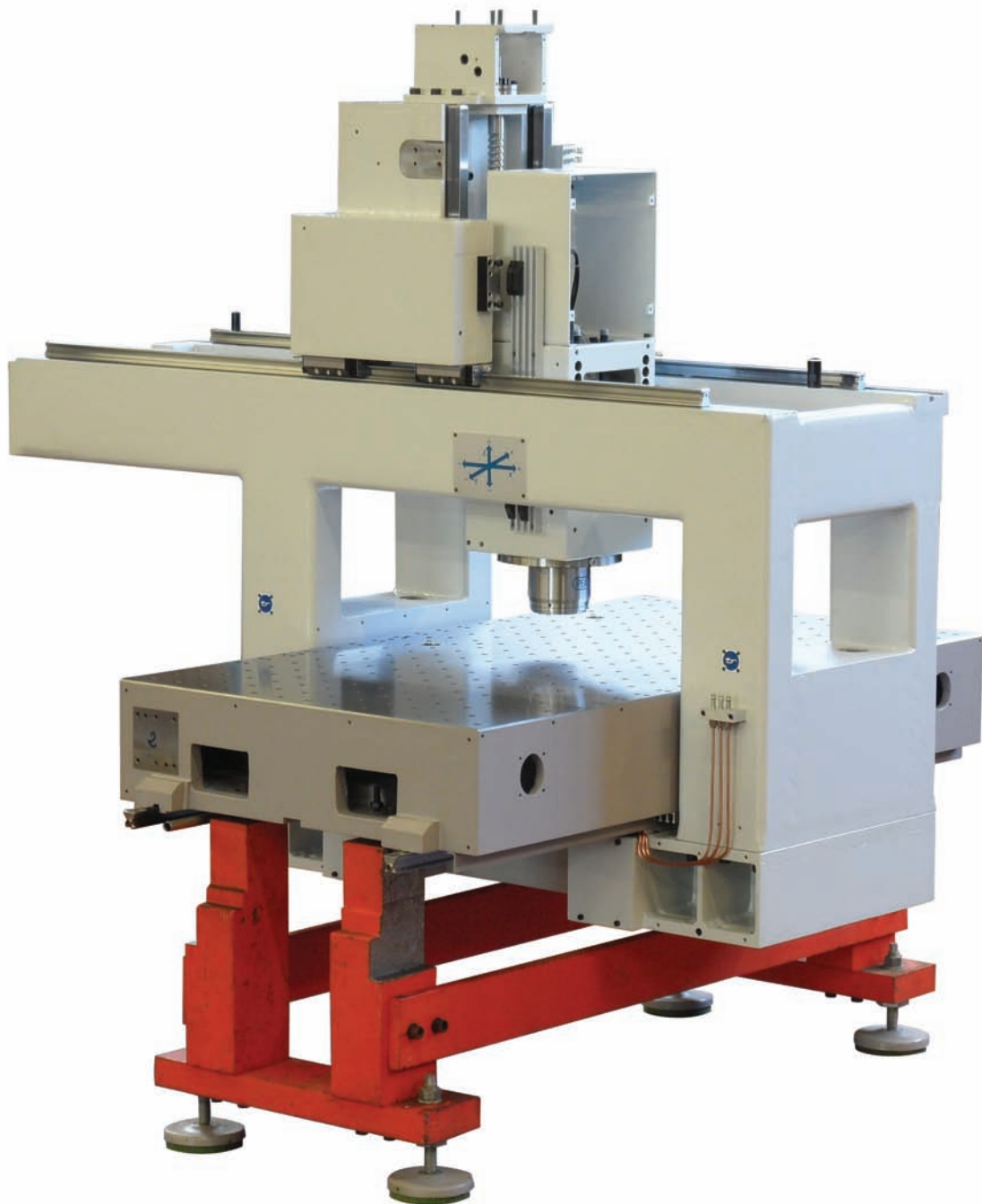
Position transducer axes

Standard: incremental encoders on the screws.

On option: absolute optical scales.

Structure

Machine Vision without protections. The support structure is only an equipment mounting



Structure

Front view of the machine from the operator side



Structure

Front view from the opposite side of the machine operator



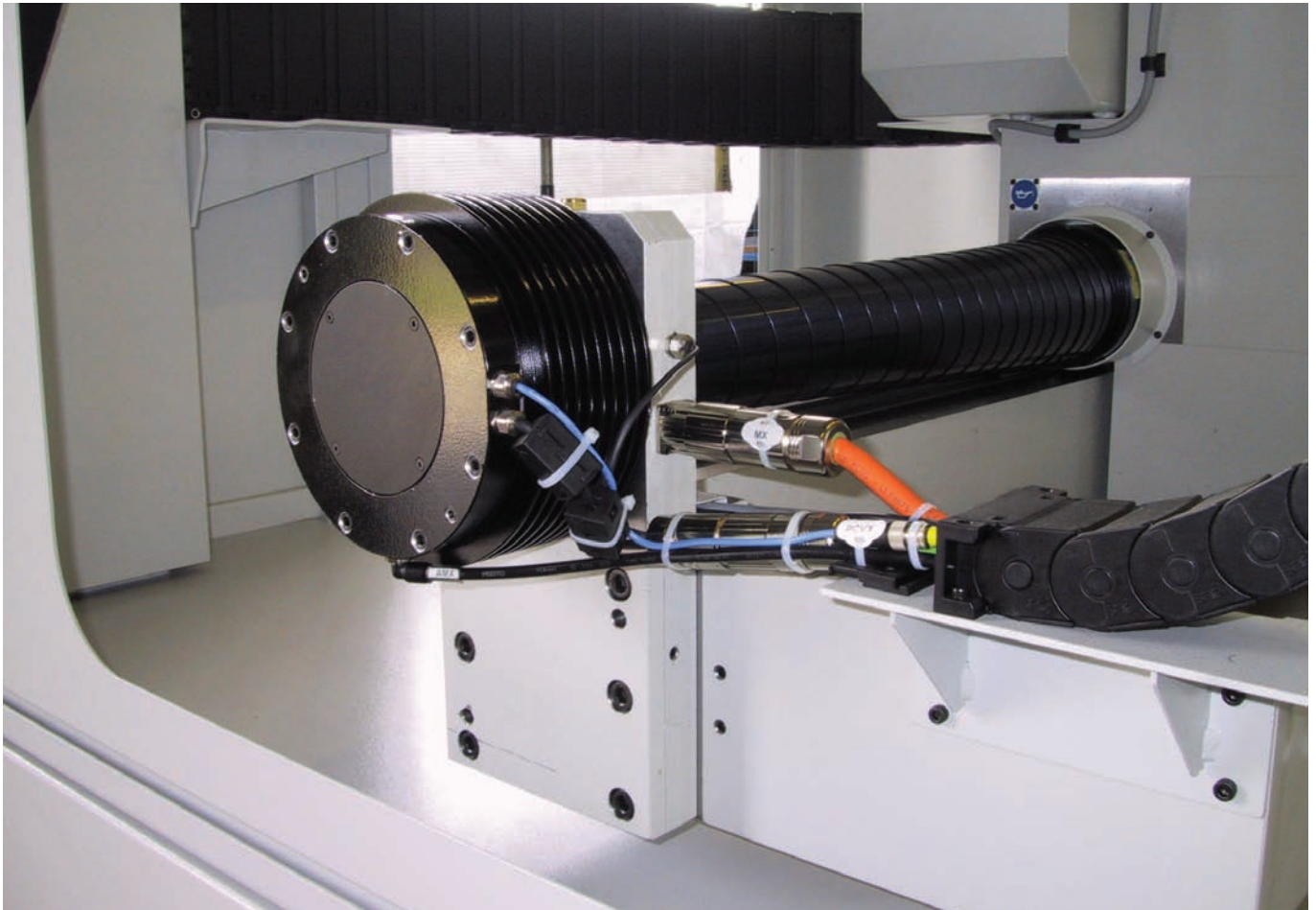
Structure

Rear view of the machine



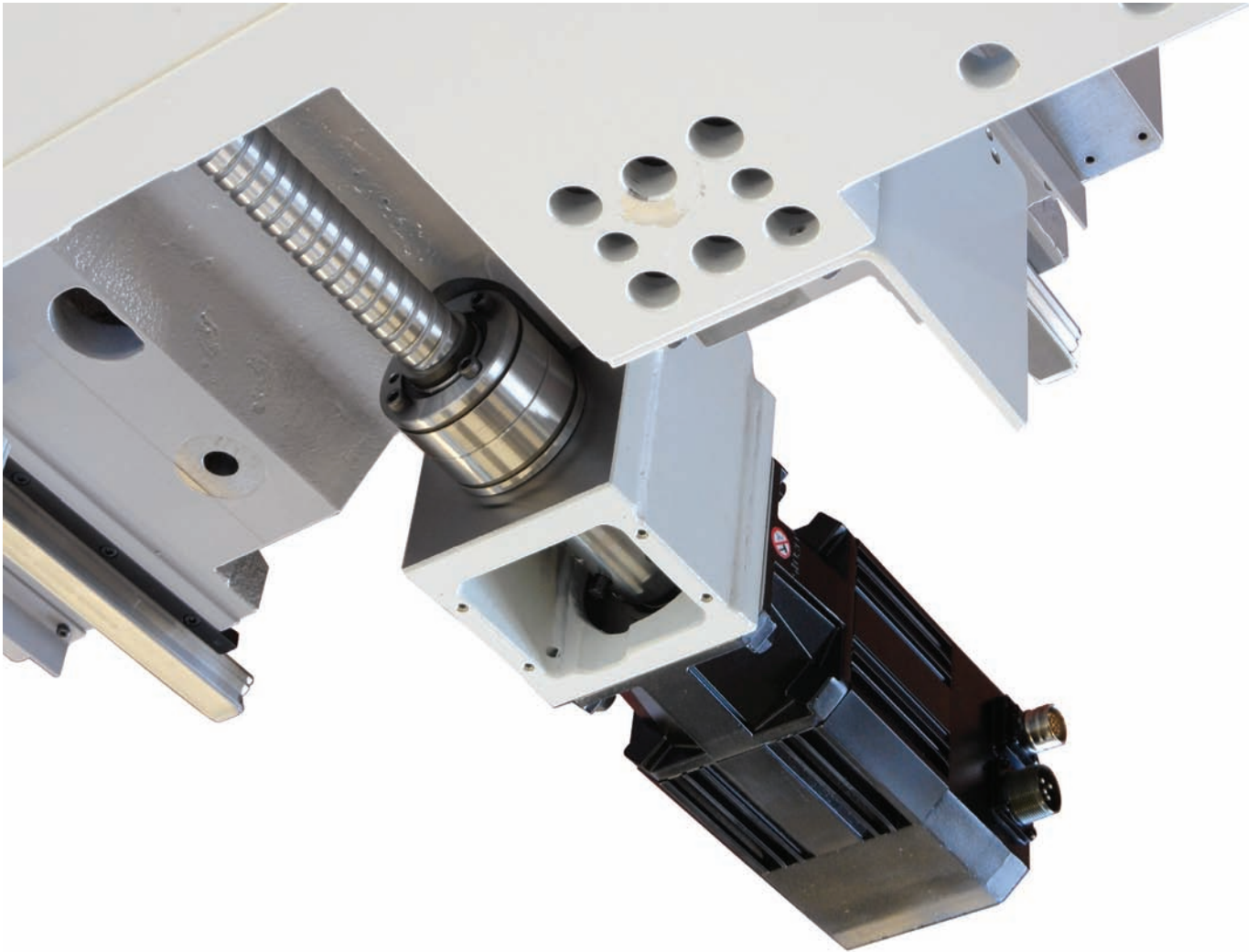
Structure

X axis motor coupled directly to the screw in order to obtain a better degree of finish



Structure

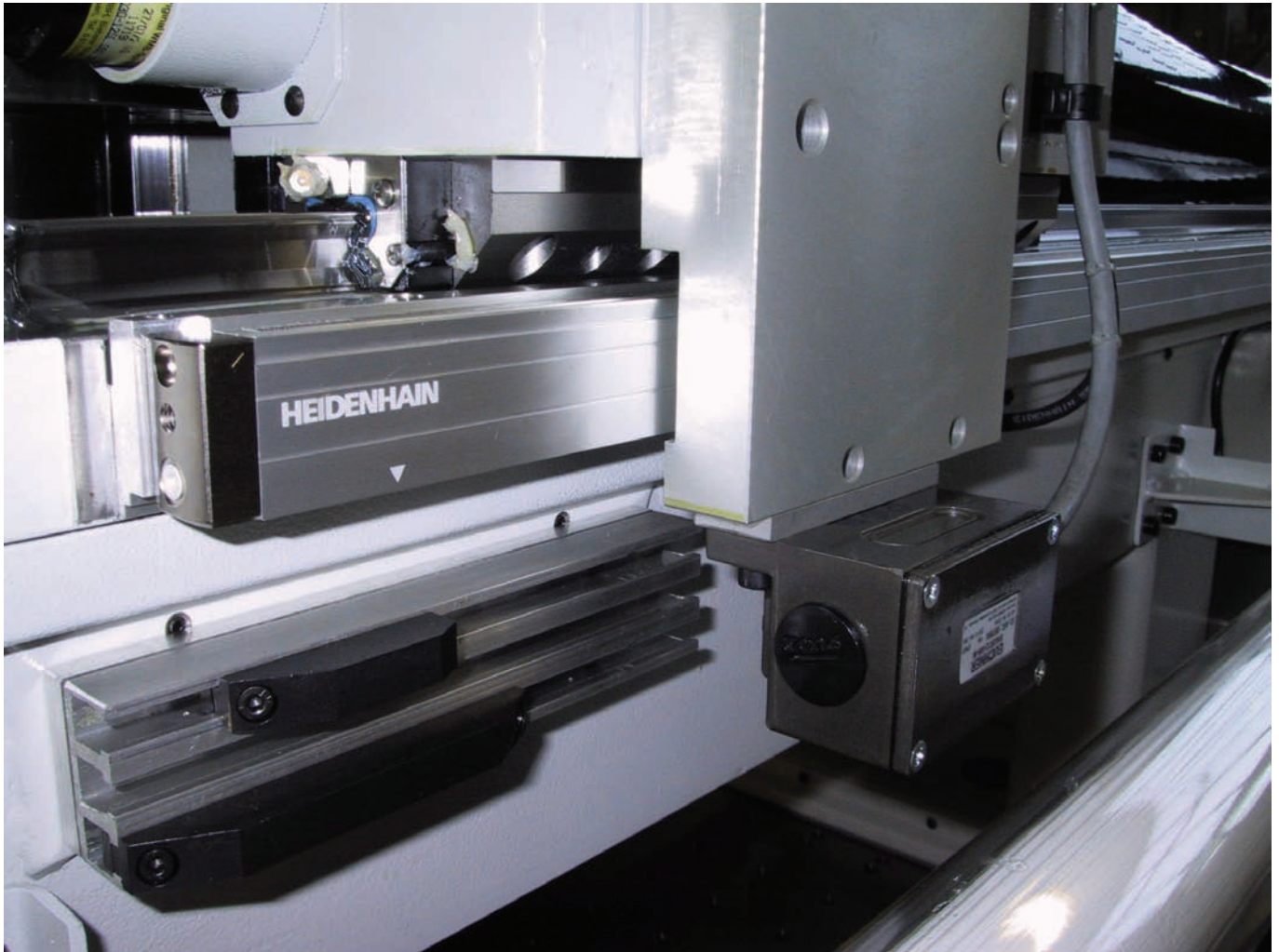
Y-axis motor coupled to the screw via a coupling of conventional construction



Structure

Detail of the Optical Scale Axis Y

As an accessory you can have absolute encoders on linear scales for axes XYZ



Tool Changer

Are available for this type of machine two types of normal production of tool changer. Both are supplied complete with preset tool length, tapping oil deposit and are housed in a special guard with automatic opening/closing.

9-position tool changer

It is a very simple device where the tools are simply deposited on a wire rack.

30-position tool changer

In this case instead was used a rotating axis for positioning in an automatic way the drum that carries the tools in the appropriate position. Note the presence of a micro security to prevent, in the case of macroscopic error by the operator, to mount a tool in a position already occupied.

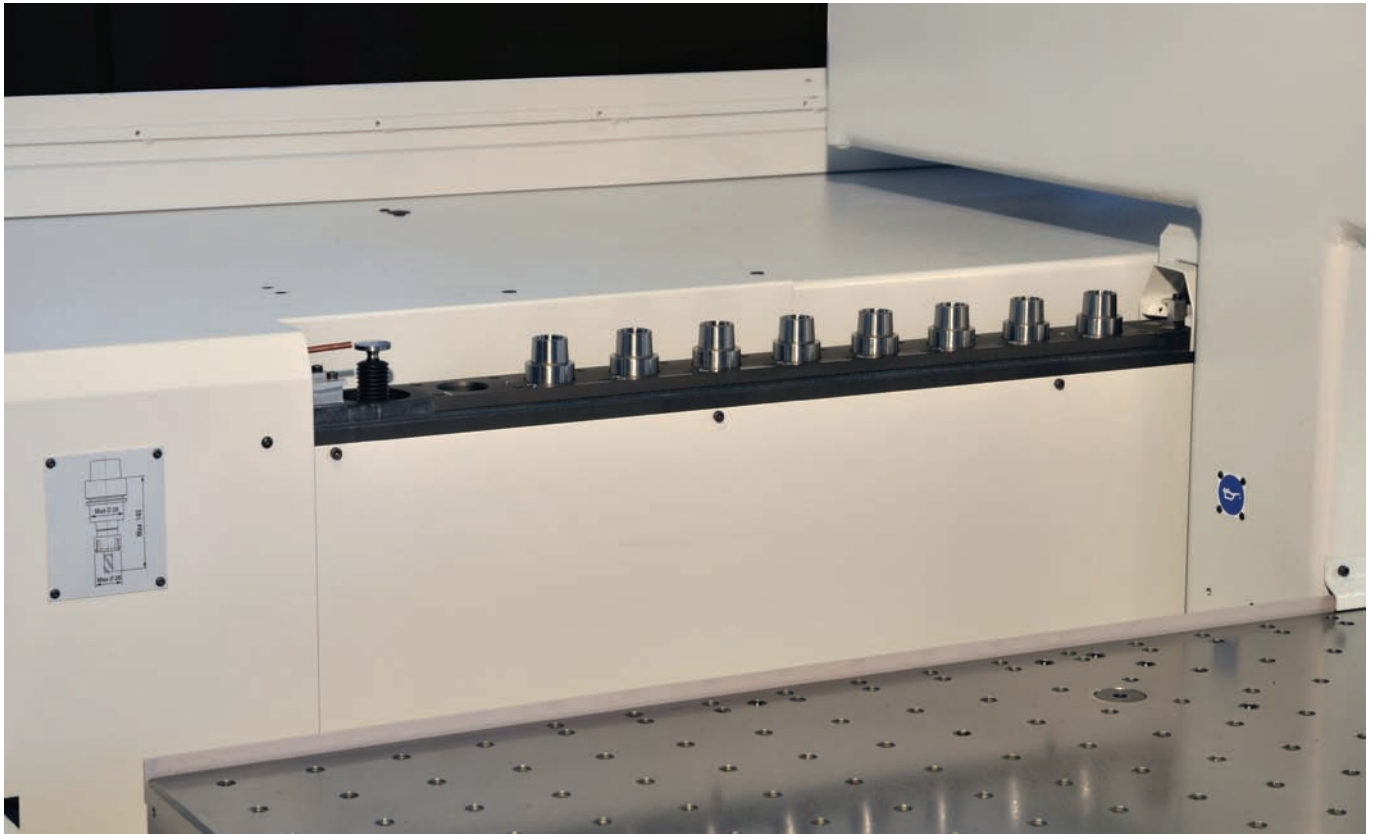
Tool changer according a specific request

The structure of this model of machine allows to achieve in a simple way more models of tool changer having a number of positions particularly important (from 70 to 200)

Tool Changer

Tool Changer which is Usually Supplied with 9 Positions

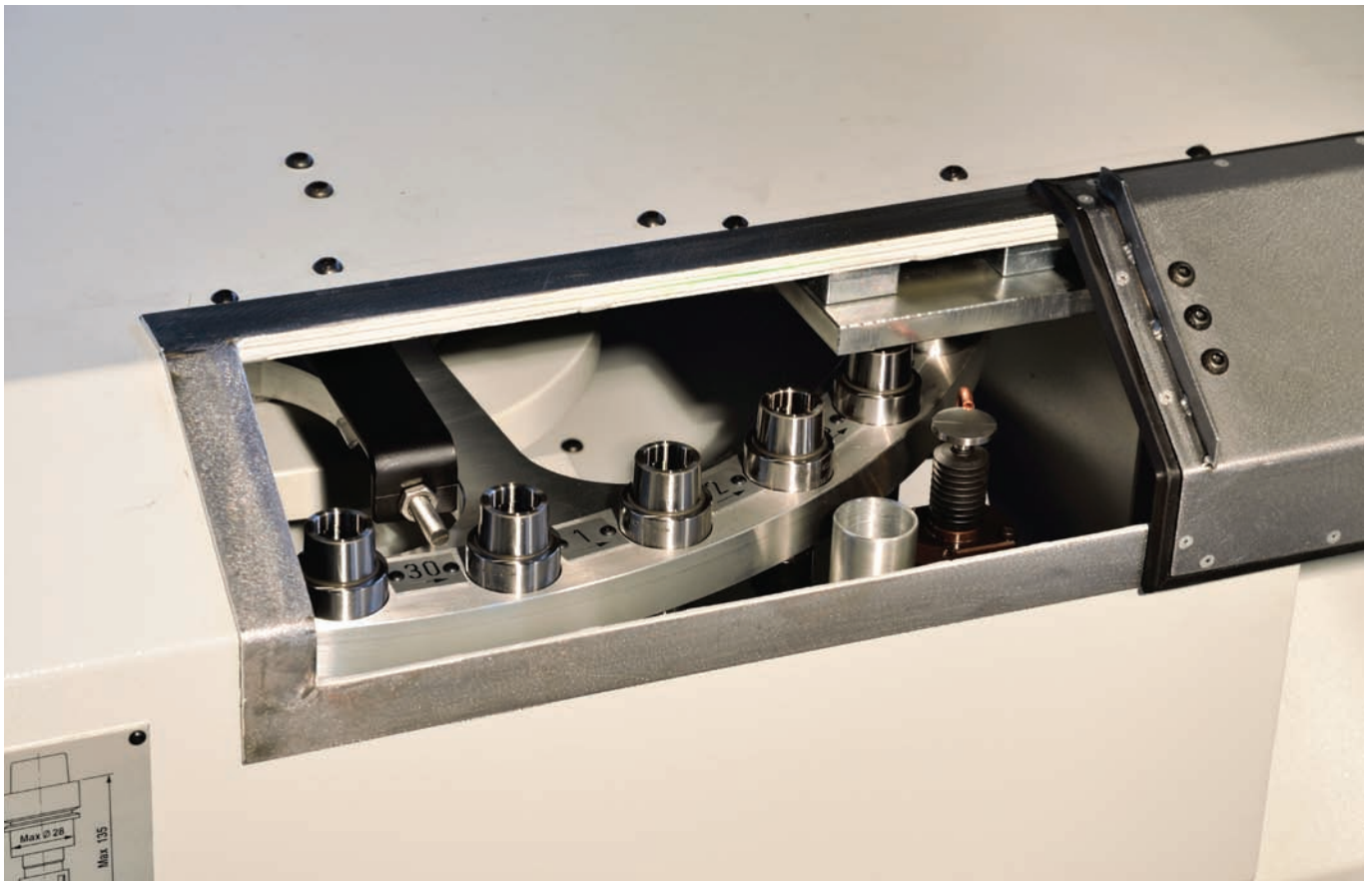
Even in this case, the preset length of tools is located in a protected position



Tool Changer

Tool Changer with 30 Positions to Provide on Request

Note the presence of the safety switch to prevent tools to be mounted on already occupied position



Specifications

Overall dimensions	1,750x3,000x2,300 mm
Net working travels	X=600, Y=800, Z=300 mm
Maximum workpiece thickness under the bridge	240 mm
Preset tool length standard accessory	
Total weight	2.500 Kg

AXES

Working speed	from 0 to 30,000 mm per min
Rapid traverse rate	30 meters per min
Maximum thrust on each axis	500 N
Acceleration on three axes	4,000 mm per sec ²
Positioning precision (VDI 3441)	± 0,015 mm
Repeatability accuracy (VDI 3441)	± 0,005 mm
Positioning precision with optical scales (VDI 3441)	± 0,008 mm
Repeatability accuracy with optical scales (VDI 3441)	± 0,001 mm

WORKING TABLE

Dimensions	660x1,220 mm
Threaded holes clamping pieces	M8x16
Total number of holes	344
Distance between holes	50x50 mm

SPINDLE Hsk32

Maximum distance from maximum thickness piece to attack tool holder	135 mm
Minimum distance between the work plan and attack tool holder	75 mm
Minimum distance between the work plan and the standard tool nut	10 mm
Tool holder DIN 69893	Hsk32/E
Maximum RPM	30,000/40,000
Spindle power continuous duty (S1)	5 Kw
Max torque spindle	4.1 Nm
Rigid tapping standard	

TOOL CHARGER

Number of tools available	9
Maximum tool Ø	28 mm
Max tool locked with standard collect Ø	10 mm
Max tool locked with special collect Ø	13 mm
Tool change time chip to chip average	10 sec
Time to swap tools	3 sec

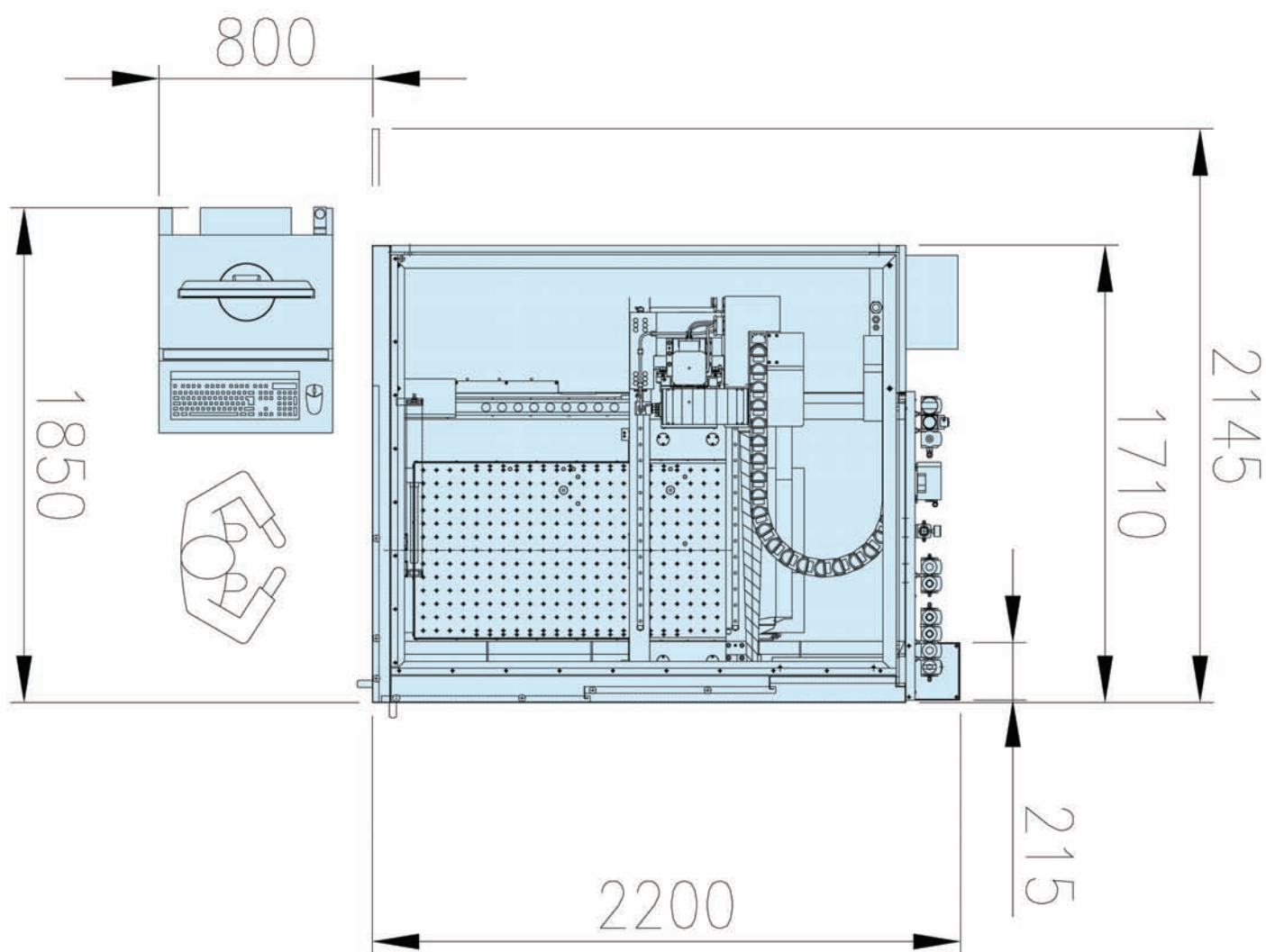
Specifications

MAIN OPTIONS

- Tool changer with 30 positions
- Absolute encoder position made with optical scales
- Electric spindle with 40,000 rpm
- Upper closure encasing
- Continuous dividing head model DC12 (Max Ø 120 mm) manually tilting
- Continuous dividing head model DC22 (Max Ø 220 mm) not tilting
- Tracing head DIGIT2
- Software Peace integrated on the machine to simplify programming to the maximum
- Vacuum Pump
- Coolant system
- Air blow on the tool
- Additional automatic locking table for variable-format pieces
- Chip conveyor
- Minimal quantity lubrication of the tool

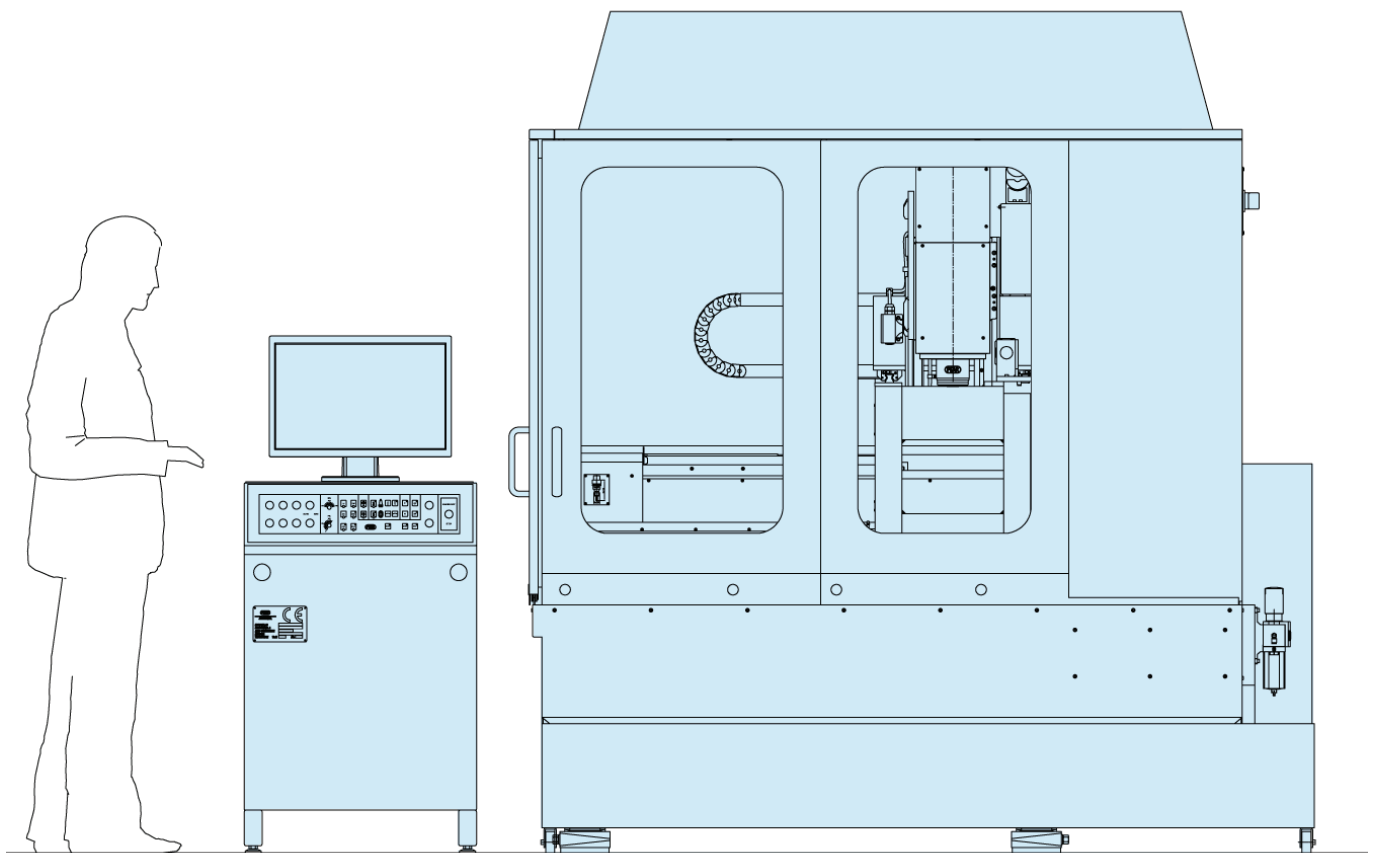
Specifications

Plan view



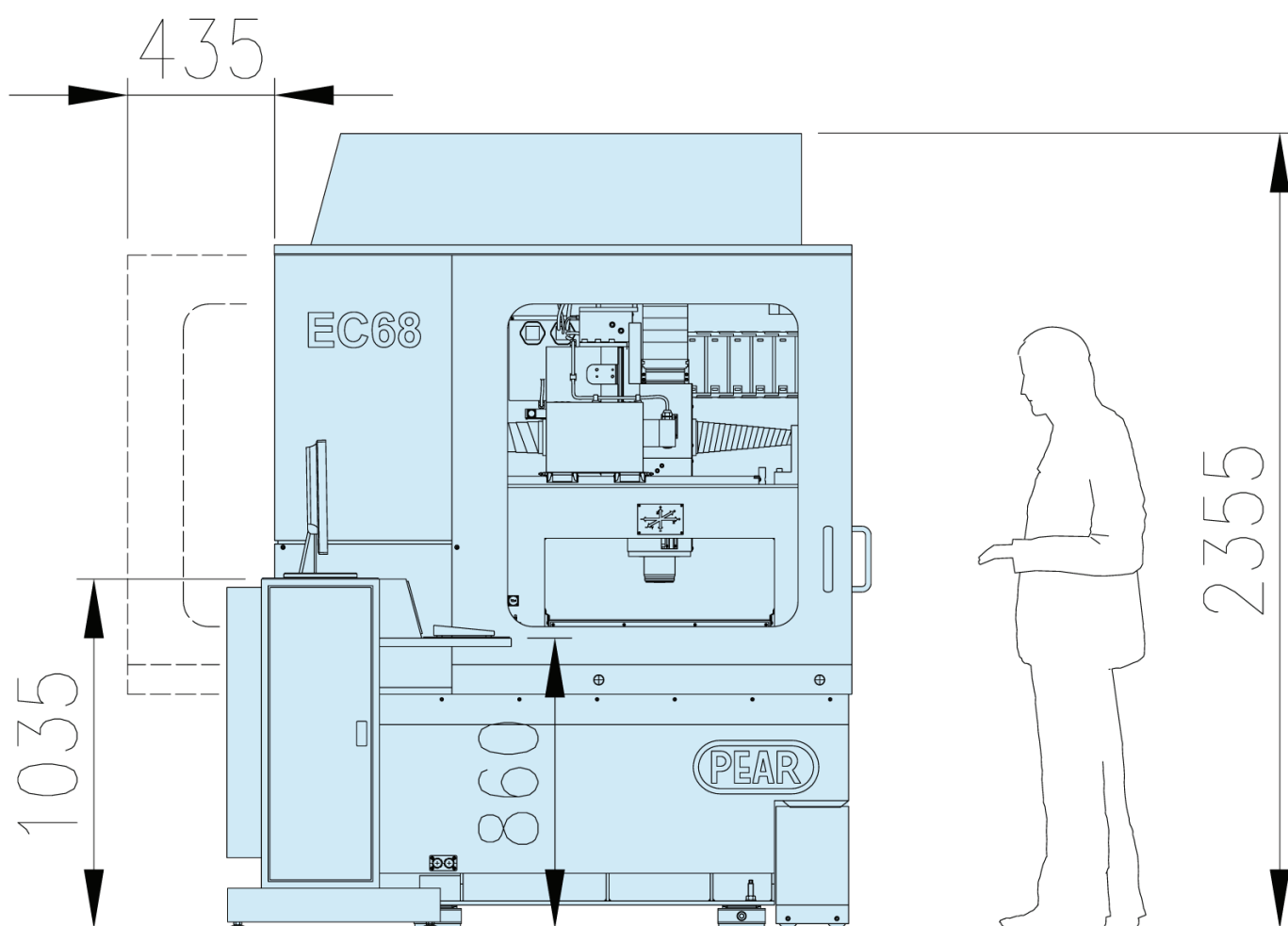
Specifications

Lateral view



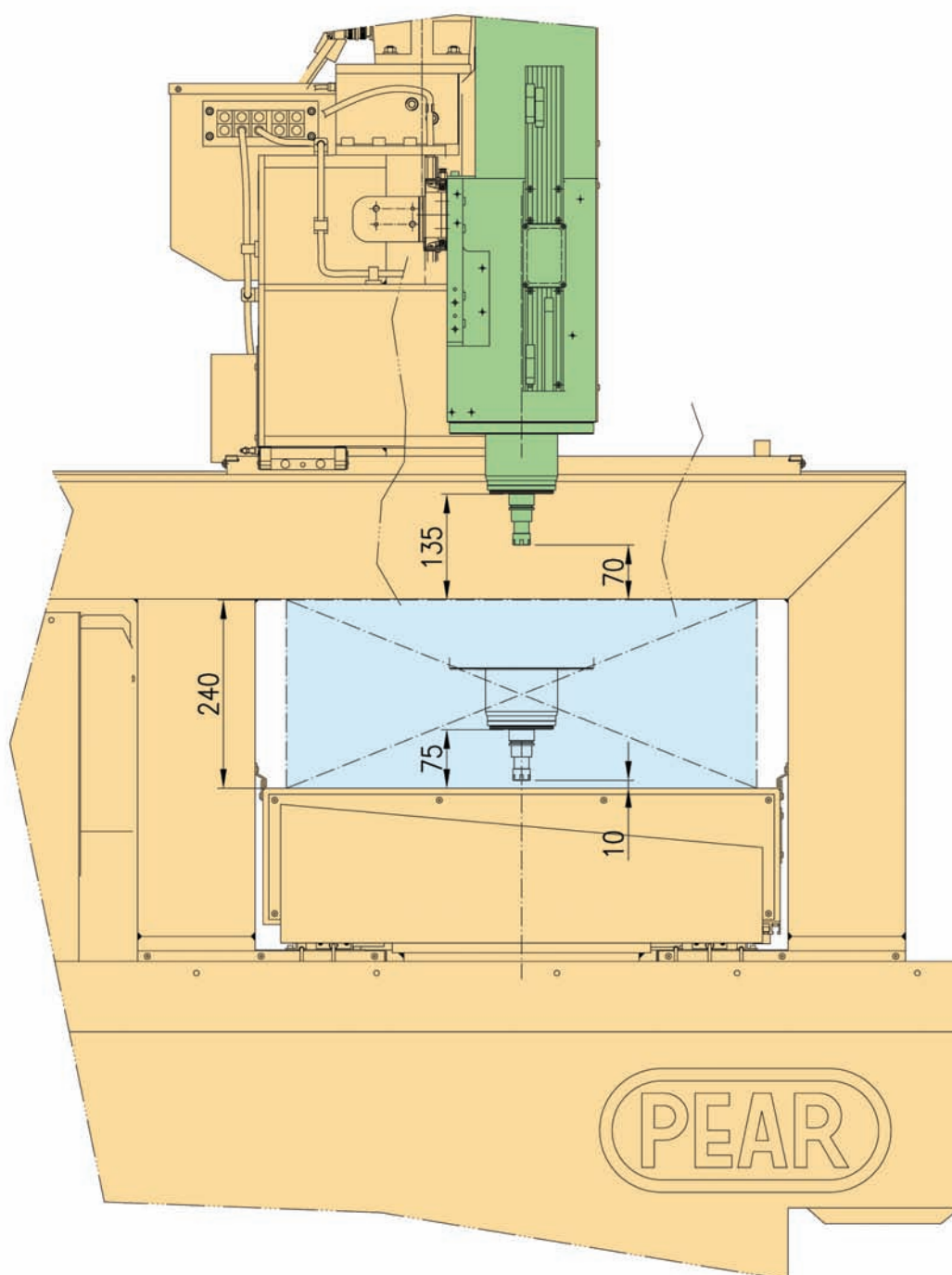
Specifications

Front view



Specifications

This drawing shows the maximum thickness of the work piece and the various lengths max and minimum of the tool



Specifications

Vacuum Pump

Optional accessory that can also be purchased at a later time of purchase





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