

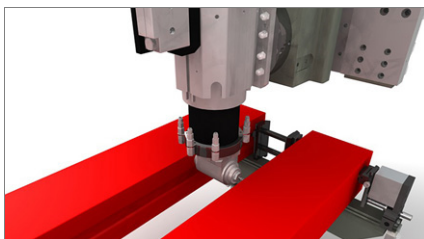


emmegi

Aluminium

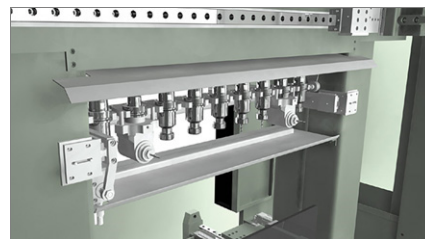
ASP  
Steel  
Pvc

en #3



Parallel Machining

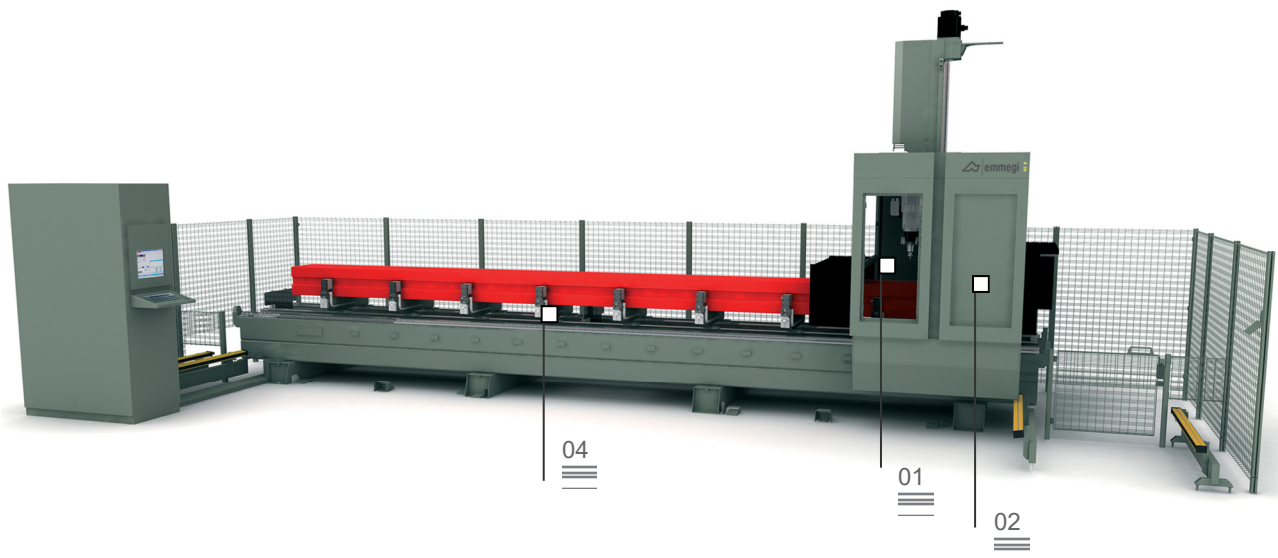
01



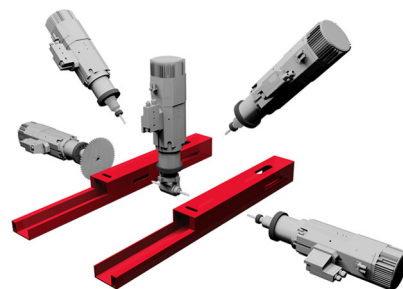
Tool magazine

02

## Diamant Machining centre



4-axis CNC machining centre with mobile gantry structure, designed for milling, drilling, thread-cutting and slotting operations at any angle from 0° to 180° on bars or workpieces made of aluminium, PVC, light alloys in general and steel. The mobile part of the machine consists of a gantry provided with precision rack drive. The 7.5 kW electro-spindle with HSK63F toolholder, allows performing machining operations with excellent results in terms of rapidity and accuracy. The 9-place tool magazine is located behind the mobile gantry. The machine can be used in dynamic double mode which allows minimizing machine downtimes as it is possible to carry out the workpiece change operations (loading/unloading) and automatic positioning of the vices in concurrent operation time. It is also possible to load, then machine, workpieces with different codes and machining operations between the two work areas. The column is provided with a guard which, besides protecting the operator, allows reducing the environmental noise impact



Double mode

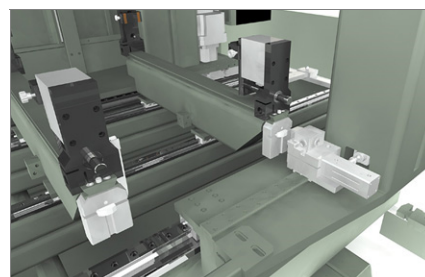
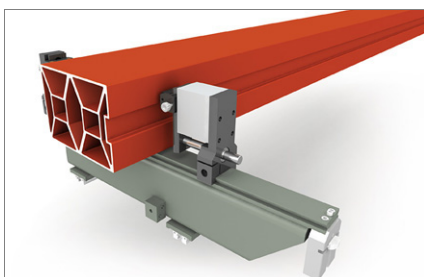
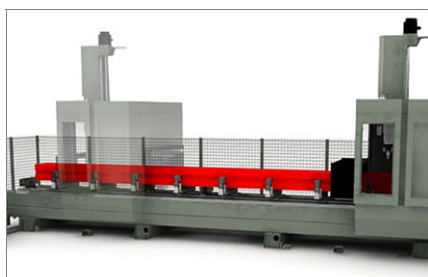
03

Vices

04

Automatic vice positioning

05



The images are only given for illustrative purposes

# Diamant

## Machining centre

### 01

#### Parallel machining

When the machine is provided with the accessory for clamping two parallel bars, it is possible to perform drilling and milling operations in the internal faces which are not accessible by the electro-spindle; such facility allows greater utilization of the machine capacity, with considerable saving in machining time.

### 02

#### Tool magazine

The high-speed tool magazine of large capacity, is installed directly on the machine slide; thanks to its drop-away location and dedicated accommodation, it ensures maximum protection of the tool tapers against swarf or accidental collision. The tool magazine can contain up to 9 (8 + blade dia. 250 mm) tools, configurable as required by the operator. Furthermore each toolholder location is provided with a sensor which detects correct positioning of the toolholder taper.

### 03

#### Double mode

Work system which allows minimizing machine downtimes during workpiece loading/unloading. The system allows loading and consequent machining of workpieces with different lengths, codes and machining operations, between the two work areas. Thanks to such solution the machine can be used to great advantage in widely different fields of applications.

### 04

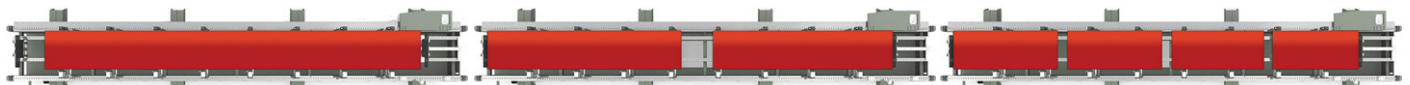
#### Vices

Generously dimensioned vice set, able to ensure correct gripping of profiles, including large ones, made of aluminium, steel, PVC etc. Each vice set is provided with an air-operated device for traversing the vice table in order to make workpiece loading and unloading easier as well as to considerably increase the machinable section.

### 05

#### Automatic vice positioning

The machine software, in relation to the workpiece length and machining operations, is able to determine the exact position for each vice set under fully safe conditions. The automatic vice positioner performs the positioning of each vice set at max. speed and with great accuracy, thus avoiding long down times and risks of collision hence the machine can easily be used also by less skilled operators.



Mode Single-piece  
(right and left)

Double Mode

Multi-piece Mode

| <b>AXIS TRAVEL</b>   |                                       |
|--|---------------------------------------|
| X AXIS (longitudinal) (mm)   | 7690<br>10000                         |
| Y AXIS (cross) (mm)  | 1210                                  |
| Z AXIS (vertical) (mm)   | 910                                   |
| A AXIS (spindle rotation)  | 0° ± 180°                             |
| <b>POSITIONING SPEED</b>   |                                       |
| X AXIS (m/min)   | 80                                    |
| Y AXIS (m/min)   | 64                                    |
| Z AXIS (m/min)   | 64                                    |
| A AXIS (°/min)   | 8100                                  |
| <b>ELECTRO-SPINDLE</b>   |                                       |
| Max. power rating ( S1) kW)  | 7,5                                   |
| Max. speed (rpm)   | 20000                                 |
| Max. torque (Nm)   | 8,2                                   |
| Tool taper   | HSK-63F                               |
| <b>AUTOMATIC TOOL MAGAZINE ON BOARD SLIDE</b>  |                                       |
| Number of tools in magazine  | 9                                     |
| Max. tool size loadable in the magazine  | Ø=63 L=180                            |
| Max. blade size loadable in the magazine   | Ø=250                                 |
| Max. number of angle machining heads loadable in the magazine  | 2                                     |
| <b>MACHINABLE FACES</b>  |                                       |
| With straight tool (top face and side faces)   | 3                                     |
| With angle machining head (top face, side faces and ends)  | 1 + 2 + 2 + 1                         |
| With blade tool (top faces, side faces and ends)   | 1 + 2 + 2                             |
| <b>MACHINING CAPACITY (Base x Height x Length)</b>   |                                       |
| Max. workpiece size, machinable on 1 face, held in standard vice with tool length (A) L=50mm plus toolholder (B) L=138,5mm   | 460 x 380 x 7700<br>460 x 380 x 10000 |
| Max. workpiece size, machinable on 1 face, held in special fixture with tool length (A) L=50mm plus toolholder (B) L=138,5mm | 900 x 380 x 7700<br>900 x 380 x 10000 |
| Max. workpiece size, machinable on 3 faces with tool length (A) L=50mm plus toolholder (B) L=138,5mm                         | 460 x 380 x 7700<br>460 x 380 x 10000 |
| Max. workpiece size, machinable on 5 faces with tool length (A) L=50mm plus toolholder (B) L=138,5mm and angle tools L=60mm  | 460 x 380 x 7400<br>460 x 380 x 9730  |
| <b>TAPPING CAPACITY (with tap on aluminium and through hole)</b>   |                                       |
| With compensating chuck  | M8                                    |
| <b>Rigid tapping</b>   | M10                                   |
| <b>WORKPIECE CLAMPING</b>  |                                       |
| Standard number of air-operated vices  | 6                                     |
| Max. number of air-operated vices  | 12                                    |
| Max. number of vices per area  | 6                                     |