

Pos.	Qty.	Article Description	Price / €
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## Komplette Maschinenbeschreibung

- 1 1 **Completely refurbished vertical CNC-machining centre model FZ 12 KW**  
**Year of construction: 2005, weight: 7.500 kg**

### Machine-No. 253-11

Scope of delivery:

Drilling capacity	Ø 25 mm (with insert drill)
Tapping capacity	M 20
Milling capacity	120 cm <sup>3</sup> /min

**Column moving machining centre** with machine bed in mineral cast technique and workpiece swivel table  
 Guideways with long-term-grease lubrication

### Digital main drive with spindle

with air purge and monitoring of the tool clamping  
 7,5 kW at 100 %  
 13,0 kW at 25 %  
 spindle speed range up to 15.000 rpm; 70 Nm

### Travel:

X-axis	550 mm
Y-axis	320 mm
Z-axis	360 mm

### Automatic tool changer

through robust, full enclosed pick up tool changer, with mechanical impact protection and cleaning of the tool taper through air blow

No. of tools	24
Tool taper	HSK-A 50 DIN 69893
Max. tool dia.	max. 60 mm
Tool length	max. 250 mm
Max. tool weight	max. 3 kg
Tool change time appr.	0,9 s (depends on CNC)
Chip-to-chip-time appr.	2,4 s (depends on CNC)

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**Workpiece swivel table 0/180 degrees**

with centre divider made of sheet metal  
 clamping surface 2 x 660 mm x 350 mm  
 with thread and locating hole grid M16 x ø 15 H7 x 50 mm  
 workpiece swivel time appr. 2,0 s weight-dependent, self-regulating  
 through self-learning speed-control  
 table loading capacity per side 300 kg,  
 max. 100 kg weight difference between the two table sides

**AC-servo motors for x-, y- and z-axes**

digital direct drives with indirect absolut path measuring system  
 rapid traverse in all axes 75 m/min.  
 Acceleration: X-axis 1 g, Y-axis 1,5 g, Z-axis 2,0 g

**Remark:**

With normal conditions the machine does not have to be anchored to the floor.  
 (For slippery floors we recommend anchoring.)

**Fanuc 18i MB – 5 axes continuous path control**

10,4“ LCD monochrom screen  
 Memory capacity 256 KB  
 Drilling cycles G81-G89  
 Absolute path measuring system  
 M- and T-functions  
 Circular interpolation (360 degrees)  
 Re-start into program  
 Makro B subroutines  
 Look ahead  
 Simultaneous programming  
 Automatic corner override  
 32 tool offsets  
 cutter radius – contour compensation  
 6 zero shifts G54-G59  
 metric/inch switch  
 3D-Interpolation/helical interpolation  
 S-analogue  
 Rigid tapping  
 Orientated spindle stop  
 Slot for PCMCIA memory card  
 Interface RS 232C on the side at the control panel  
 Software-limitswitch  
 NC-diagnosis / machine diagnosis

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		<p><b>CHIRON Maintenance Management in the screen</b>            display of the pending maintenance:            advance warning = "prepare maintenance",            warning = "carry out maintenance",            machine stop = "catch up on maintenance".            Abridged instructions for the pending maintenance with graphic illustration on CD-ROM.            Confirmation of the performed maintenance through the maintenance staff by password.</p> <p><b>Thermodrive</b>            at indirect absolut path measuring system</p> <p><b>Working hours and piece counter</b>            in the screen</p> <p><b>Socket 230 V</b>            at control panel</p> <p><b>Socket for portable mini-hand wheel</b>            without emergency stop button,            at control panel</p> <p><b>Cabinet cooler as a door mounting unit</b></p> <p><b>Signal lamp for 3 signals</b>            Signal "red" = failure            Signal "white" = machine loaded            Signal "green" = machine is running</p> <p><b>Machine enclosure</b>            2140 mm high above floor with sliding doors,            electrically interlocked, incl. machine lamp            service friendly with removable side walls            working area with vertical bellows</p> <p><b>Mini-operating panel</b>            with start and receipt push buttons, for pallet recognition M61/M62</p> <p><b>Oil-free air service unit</b>            with automatic condensate separator,            pressure control of the air supply            and micro filter 0,01 µm for air purge</p> <p><b>Installation elements</b></p>	

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**Wash gun**

with 1 connection and quick coupling each in loading- and working area

**Chip conveyor (scratch band)**

instead of standard coolant equipment  
 discharge height 490 mm  
 tank capacity 100 l,  
 pump capacity 20 l/min at 0,8 bar  
 coolant cleaning through slot filter box

**Coolant equipment KF 150 / FKA 500**

(also for sludge generating materials, e.g. grey cast iron, GGG, Al with Si  $\geq$  12%)  
 tank capacity 500 l

low pressure pump capacity from 40 l/min. at 3.2 bar  
 up to 120 l/min at 3.2 bar  
 high pressure pump capacity 28 l/min at 30bar

full stream purification via compact paper bond filter KF 150,  
 with coolant purification 50  $\mu$ m nominal  
 twin filter in the high pressure circuit for  
 the protection of the machine

**Walk switch**

**Front doors - locking**

with interlocking switch

**Fixture washing**

with nozzles installed an the swivel centre divider  
 controlled with m-functions for washing the working area  
 (Subject: Coolant equipment with tank capacity 900 l)

**Automatic central grease lubrication**

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### Machine preparation

- for through tool coolant system including:
- sealing system in the DIN 69893 HSK A50\* collet or DIN 69871 Form A40
  - coolant distributor installed at the main spindle drive
  - coolant leakage sensor
  - implemented mud flap in the high pressure piping
  - solenoid valve, controlled via machine program

\* At HSK A63 we recommend for tool holders the use of our patented coolant tube with sieve.  
 Advantages: - Decrease of the clogging in the internal coolant channel.  
 - Reduction of the wear at the O-ring seal in the collet.

### Electric cabinet – Indoor light

Connected in front of the main switch

### Electric interface for loader with "Profibus" - Fanuc

for automatic loading system,  
 with DP/DP-coupler (Slave) in the cabinet,  
 for shuttle machining,  
 according to documentation of CHIRON loader interface,  
 consisting of: circuit diagram, signal description and functional diagram,  
 Interface tested according to Chiron-description V03.01,  
 incl. key-operated switch  
 and indicator lamp in the control panel "with loader".

Deviation from the standard interface and set up will be charged according to effort.  
 Waiting periods during set up will also be charged.

### Pneumatic and hydraulic connections

#### Hydraulic connection for 210 bar

with 2 connecting couplings "A + B" and hydraulic installation up to outside of machine bed, electrical control for clamping ON - OFF via push button at control panel

#### Pneumatic connection (A + B)

for pneumatic clamping device electrically controlled pneumatic connection, for double acting; pressure control; pressure control switch with automatic pressure regulation. (in case of pressure change automatic pressure sensing)

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**CHIRON Variable Clamping Logic**

For the definition of different clamping and releasing sequences, for a maximum of 10 functions with a maximum of 8 steps. Considering of time delay and monitoring of clamping circuits e.g. through pressure switches or airsensing. The storing of the configuration and reloading, allows fast changeover.

**Cutting tools**

The cutting tools have to be balanced according to DIN ISO 1940, class G 2,5, in two levels, with max. operating speed

**Machine colour**

Two-components-structure varnish - 2 colours  
light grey acc. to NCS S1502-B  
basalt grey acc. to RAL 7012

**Main circuit**

total power supply 400 / 230V  $\pm$  10 %, 50 cycles N/PE,  
neutral conductor, load possible, pressure supply  
6 bar,  $\pm$  1 bar at all procedures,  
room temperature max 40°

**Information Export**

We point out that the CNC-machining centres are subject to controls. For the export from the European Union an export license is necessary.

**Information Machine safety**

The machine is designed and built in accordance with the European machine guideline, according placing the product on the first time onto the market.  
Other safety features due to special company rules and specifications can be considered. The actual cost will be invoiced.

**Information Coolant lubrication**

The machine is designed for standard water soluble coolant and fully enclosed at the standard version. The machine must be equipped with fume extraction.

The machine contents different plastics, varnish, resin and glue, which are selected carefully for using coolant and cutting oil. The use of aggressive coolant and additive could cause major damages and machine stops. Contact in any case your coolant supplier before machine set-up and installation.