

Pos.	Qty.	Article Description	Price / €
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## Complete machine description

- 1 1 **Vertical CNC-machining centre model FZ 08 K SMHS**  
**Completely refurbished pre-owned machine**  
**Year of construction: 2004, weight: 3.400 kg**

**Machine-No. 414-15**

Scope of delivery:

**Column moving machining centre with fixed table**  
 Guideways with long-term-grease lubrication

**Digital main drive with water-cooled motor spindle**  
 with air purge and monitoring of the tool clamping

7 kW at 100 %  
 9 kW at 25 %

spindle speed range up to 30.000 rpm; 11 Nm  
 acceleration from 0 to 30.000 rpm  
 or deceleration in 1,9 seconds  
 warranty: 4.000 h

Drilling capacity in steel Ø 12 mm  
 Tapping capacity M 8  
 Milling capacity in steel 30 cm<sup>3</sup>

**NC swivel head**  
 swivel range -20° / +115°  
 rapid traverse 60 rpm  
 lowest increment 0,0001°  
 with direct measuring system ± 5"

**Travel:**  
 X-axis 450 mm  
 Y-axis 270 mm  
 Z-axis 310 mm (plus distance from spindle nose to table surface, according to data sheet)



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### Automatic tool changer

trough robust, fully enclosed Pick-up magazine chain with mechanical tailgate protection and cone cleaning.

No. of tools	40
Tool shaft	HSK-A 40 DIN 69893
Max. tool dia.	50 mm
Max. tool dia.	100 mm if adjacent places are free
Tool length	160 mm
Max. tool weight max.	1,2 kg (max. magazine loading 20 kg)
Tool change time	appr. 0,8 s
Chip-to-chip-time	appr. 1,9 s
Chip-to-chip-time with 90°	appr. 2,3 s

### Fixed table with chip pan

clamping surface	770 mm x 290 mm
with thread and locating hole grids	M16 x ø 15 H7 x 50 mm
table loading capacity	max. 500 kg

**AC-servo-motors feed drives for X-, Y- and Z-axes** with glass scale package, digital direct drives with direct absolute path measuring system overpressured in all axes  
 rapid traverse in X-, Y- and Z-axes 75 m/min,  
 acceleration X-axis 1 g, Y-axis 1,5 g, Z-axis 2 g

#### Remark:

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

### SIEMENS CNC-control 840D

(PCU 70 / NCU 573.5, 6 measuring cycles, 1 canal)  
 incl. 10,4" TFT colour LCD screen / full keyboard OP010S  
 control panel logic Windows NT  
 NC-memory 256 KB  
 (max.200 programmes storage capacity)  
 for ISO 66025 programming  
 hard disk with approx. 2 GB for free disposal  
 power meter in screen  
 screen switch off  
 look ahead function with dynamic pilot control  
 bellshape acceleration ramp  
 software limit switch  
 access authorization via key switch for  
 tool corrections, CNC-program modification,  
 and machine parameter



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orientated spindle stop  
rigid tapping  
re-start into program  
Subroutines, parameter programming  
simultaneous programming  
support through cycles

drilling cycles G81-G89  
drilling and milling cycles  
M- and T- functions  
tool offsets for geometry, wear  
4 zero offsets G54-G57  
30 zero shifts programmable with G-functions  
tool radius correction for  
intersection computing  
insert of chamfer and radius  
crossing radius  
contour programming  
dimension metric or inch  
scaling function  
mirror function  
polar coordinates  
circular interpolation (360 degrees)  
3D and helical interpolation

drip feed function through V24 interface  
Universal interface RS 232C (1x V24) at control panel  
Ethernet connection RJ45 in control panel

NC-diagnosis with help function  
machine-diagnosis

### **CHIRON Powersafe**

Software package for selective shutdown of installed consumers like axis motors, drives, spindles, seal air, airsensing and ancillary equipment in production breaks or during programmable points in time using a shift calendar. Definable point in time at which the machine starts demand-oriented automatically with a variable warmup program to recovery the production readiness.

### **CHIRON Maintenance Management in the screen display of the pending maintenance:**

- advance warning = "prepare maintenance"
- warning = "carry out maintenance"
- machine stop = "catch up on maintenance"



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Abridged instructions for the pending maintenance with graphic illustration on CD-ROM. Password protected confirmation of the performed maintenance through the maintenance staff.

**Working hours and piece counter**  
in the screen

**Socket 230 V**  
at control panel

**Socket for portable mini-hand wheel**  
without emergency stop button,  
at control panel

**Machine enclosure with full enclosed workspace**  
with loading doors, electrically interlocked,  
including replaceable safety windows,  
workspace enclosure with stainless steel covers,  
2070 mm high above floor, including machine lamp

**Signal lamp on machine enclosure for 3 signals**  
Signal "red" = failure  
Signal "white" = load machine  
Signal "green" = machine is running

**Cabinet cooler**  
as a door mounting unit

**Oil-free air service unit**  
with automatic condensate separator,  
pressure control of the air supply  
and micro filter 0,01 µm for air purge

**Installations elements**

**Wash gun**



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## Coolant equipment FKA/500

with filtration via PF100  
filter performance 100 l/min filter unit (nominal) 50 µm  
Scratchband-chip conveyor  
with discharge height 1200 mm, surge water pump  
100 l/min at 2,6 bar, high pressure system 7 l/min  
at 70 bar and coolant container with container content  
500 liter and machine preparation for through flushing DIN 69893 HSK-A-40.  
High pressure pump manufacture Knoll

### 1 Rotary table package, completely installed consisting of:

- NC rotary table, type AWU 160
- with trough-hole 100 mm and 4 x M10
- prepared for automatically collet chuck KSF80-01
- 4th Axis ready for plug-in
- pneumatic-connection, uncontrolled

Technical description NC rotary table  
Part accuracy  $\pm 15''$ ,  
Load moment of inertia (without rotary distributor) 1,9 kgm<sup>2</sup>  
face plate dia. 160 mm,  
with hydr. clamping

### Automatic central grease lubrication

#### Exhaust fan with air cleaner

exhaust capacity 500 m<sup>3</sup>/h  
mounted and integrated in the machine base

Smoke and gases that arise during the processing are not filtered by this unit.  
In this case we recommend the connection to a central exhaust fan.

#### Socket 230 V

in electrical cabinet, connected before main switch  
(only for power supply with loadable neutral)

#### NC-slide unit as bar feeder

Rapid traverse 60 m/min,  
stroke max. 460 mm, depend on fixture



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### **NC-index device with clamping vice KSP100**

for machining of the 6<sup>th</sup> side  
installed on NC-Slide  
Technical description NC-index device:  
- - Part accuracy  $\pm 30''$   
- - max. spindle speed range  $80\text{min}^{-1}$   
with pneumatic clamping  
Control over NC-program  
pneumatic-connection set

### **Switch for end of bar**

via light barrier  
mounted outside of the machine enclosure

### **Opening at machine enclosure on left hand side**

additionally necessary:  
fixture washing

### **Automatical collect chuck**

for collect chuck brand Ortlieb Type KSF800-01,  
chucking capacity  $\varnothing 10 - 70$  with hydr. activating cylinder,,  
completely added with solenoid valve, control via button  
open/close in the control panel and m-function by NC-program.

### **Preparation probe for automatic measurement in the machine Renishaw probe package OMP 40**

### **Fixture washing**

with nozzles controlled with m-functions  
(Subject: Additional coolant tank)

### **Hydraulic connection for 210 bar**

including 2 connecting coupling A+B  
and hydraulic installation up to connection  
outside the machine base.  
electrical control for clamping open-close via button on control panel

### **Hydraulic unit, make FMB**

continuous duty  
in case, operating cycles are less than 30 seconds  
pressure: 210 bar, supply capacity: 4,3 l/min.  
incl. valves for supply of 2 clamping devices  
and 2 pressure switches for clamping control



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### **CMS variable clamping logic**

To define of various clamping and releasing consequences per tableside max. 5 clamping circuits and max. 5 clamping or unclamping steps, taking account of delay times and clamping circuit monitoring such as pressure switches.

### **SIEMENS tool management**

#### **SINDNC**

Option to send and receive NC-programs in a network. The client-software (e. g. UNIX, Novell, Windows NT) and the wiring to the network is not included.

#### **Cutting tools**

The cutting tools have to be balanced according to DIN ISO 1940, class G 6,3, in two levels, with max. operating speed

#### **Documentation**

Operating manuals, programming and operating manuals 1-fold on a USB-Stick.

Please refer to the manufacturer's instructions for each component.

#### **Machine colour**

Two-components-structure varnish - 3 colours

light grey acc. to NCS S1502-B

blue acc. to NCS S2050-R80B

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.



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### 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.

