

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 cm³

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 kgm²
face plate dia. 160 mm,
with hydr. clamping

Automatic central grease lubrication

Exhaust fan with air cleaner

exhaust capacity 500 m³/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 6th side
installed on NC-Slide
Technical description NC-index device:
- - Part accuracy $\pm 30''$
- - max. spindle speed range 80min^{-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

Machine preparation for coolant flowing through spindle

With rotary feedthrough at the hollow shaft and
high pressure piping with flow control switch.

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



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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

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°

