

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

- 1 1 **Completely refurbished
vertical CNC-machining centre model FZ 12 KS
Year of construction: 2008, weight: 6.800 kg**

Machine-No. 264-28

Scope of delivery:

Column moving machining centre with fixed table and machine bed in mineral cast technique

Guideways with long-term-grease lubrication

Drilling capacity in steel	Ø 18 mm
Tapping capacity	M 16
Milling capacity in steel	80 cm ³ /min

Digital main drive with water-cooled motor spindle

with air purge and monitoring of the tool clamping

24 kW at 100 %

36 kW at 25 %

spindle speed range up to 24.000 rpm; 29 Nm

acceleration from 0 to 24.000 rpm

or deceleration in 0,7 seconds

NC swivel head

swivel range -10° / +100°

rapid traverse 52 rpm

lowest increment 0,001°

with direct measuring system ± 5"

VC01100085

Travel:

X-axis 550 mm

Y-axis 320 mm

Z-axis 360 mm

VC01102980



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Automatic tool change

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

No. of tools	48
Tool taper	HSK-A 50 DIN 69893
Max. tool dia.	max. 60 mm
Max. tool dia. for adjacent place with max. dia 40 mm	max. 100 mm
Max. tool dia. for adjacent place with max. dia 20 mm	max. 125 mm
Tool length	max. 250 mm
Max. tool weight	max. 5 kg
Tool change time appr.	0,9 s (depends on CNC)
Chip-to-chip-time appr.	2,4 s (depends on CNC)

Fixed table with chip pan

clamping surface	820 mm x 440 mm
with 3 T-slots	2 x 18 H12, 1 x 18 H 8
table loading capacity	max. 500 kg

AC-servo-motors

feed drives for X-, Y- and Z-axes,
digital direct drives with direct absolute path measuring system
(glass scales)
overpressured in all axes
rapid traverse in X-, Y- and Z-axes 75 m/min,
acceleration X-axis 1 g, Y-axis 1,2 g, Z-axis 1,5 g

Remark:

With normal conditions the machine does not have to be anchored to the floor.

(For slippery floors we recommend anchoring.)

VC01107565

SIEMENS CNC-control 840D

(PCU 50 / NCU 573.5, till 12 measuring cycles, for free form milling, 1 channel)
incl. 10,4" TFT colour LCD screen / full keyboard OP010S

control panel logic Windows XP

NC-memory 3 MB (till max. 6 MB extendible)

(max.200 programmes storage capacity)

for ISO 66025 programming

hard disk with approx. 2 GB for free disposal

drilling cycles G81-G89



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drilling and milling cycles
 M- and T- functions
 circular interpolation (360 degrees)
 re-start into program
 Subroutines, parameter programming
 simultaneous programming
 contour programming with cycle support
 support through cycles
 polar coordinates
 tool offsets for geometry, wear
 tool radius correction for intersection computing
 crossing radius
 4 zero offsets G54-G57
 30 zero shifts programmable with G-functions
 3D and helical interpolation
 screen switch off
 mirror function
 scaling function
 insert of chamfer and radius
 Universal interface RS 232C (2 x V24) at control panel
 Ethernet connection RJ45 in control panel
 orientated spindle stop
 drip feed function through V24 interface
 dimension metric or inch
 software limit switch
 NC-diagnosis
 machine-diagnosis
 absolute indirect path measurement systems
 power meter in screen
 rigid tapping
 look ahead function

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.

Remote diagnosis and tele service

For the optimization of the maintenance process and trouble shooting through shorter diagnosis times. Detailed information about the machine status is available to support both, internal and also optionally external experts,



independent from time and location.
This way a faster and more qualified support is possible.
Possibility of remote control of the NC-control, analysis
of operation sequences and support with programming problems.
Access to PLC for diagnosis, trouble shooting and programming.

Notification service with SMS / E-mail e. g. at end of job or in
the case of breakdown.
Simple backup through use of the existing infrastructure of the
internet.
Safe access through defined user rights, access control and
encryption of data.
Access through Ethernet connection RJ45 or telephone line
(preferably ISDN RJ45 or analog RJ11) with router.

Modem and Router will be placed free for disposal.
If this parts or this service will not be used, the Modem
and / or Router is going to be removed by our service-staff

It's a contract with CHIRON necessary for this option.

Precondition:

Internet connection through in-house net or telephone line
including the wiring to the machine.

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".
Abridged instructions for the pending
maintenance with graphic illustration on CD-ROM.
Confirmation of the performed maintenance
through the maintenance staff by password.

5-axes-machining

for the machining of three-dimensional curved
surfaces with 3 linear and 2 additional axes.
- 5-axes-transformation with tool orientation
and tool center point management.
The machining task is programmed completely
in Cartesian coordinates with Cartesian
position and orientation. The movements of
all 5 axes resultant from that are computed
internally with the 5-axes-transformation.



- 5-axes-tool-offset.
The length of the tool is automatically computed and compensated in the movements of the axes.
- Oriented tool withdrawal.
With the interruption of machining (e. g. tool breakage), the tool can be withdrawn orientated and defined.

Working hours and piece counter

in the screen

Socket 230 V

at control panel

Socket for portable mini-hand wheel

without emergency stop button,

Cabinet cooler as a door mounting unit

Signal lamp on machine enclosure for 3 signals

Signal "red" = failure
Signal "white" = load machine
Signal "green" = machine is running

Extension of the signal lamp of approx. 50 cm.

Machine enclosure with full enclosed workspace

with loading doors, electrically interlocked, including replaceable safety windows, workspace enclosure with stainless steel covers. 2140 mm high above floor, including machine lamp

Oil-free air service unit

with automatic condensate separator, pressure control of the air supply and micro filter 0,01 µm for air purge

Installation elements

Wash gun

mounted on the right side

Tool place for max. tool dia. up to 125 mm

instead of max. tool dia 60 mm,
for every large tool place the total number decreases at 1,
tool dia. up to 100 for adjacent place with max. dia 40 mm
tool dia. up to 125 for adjacent place with max. dia 25 mm



in compliance with interference outline in the tool magazine.

Max. tool weight max. 5 kg
(for option of 48 and 64 tool places)

Chip conveyor (scratch band)

instead of standard coolant equipment
discharge height 1050 mm
tank capacity 230 l,
pump capacity 110 l/min at 1,3 bar
coolant cleaning through slot filter box

Machine preparation

for through tool coolant system including:

- Sealing system in the DIN 69893 HSK A50 collet
- 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

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.

(Subject: required high pressure equipment)

Flow control switch

for flood coolant

Flow control switch

for coolant through tool

Flow control switch

for fixture washing

Automatic grease lubrication

Suction point

for customer specific installation
Ø 200 mm on top of the machine enclosure
and electrical preparation in cabinet

Electric interface for loader with "Profibus" - Siemens



on S- machines for loading through side wall of machine
(mechanical feasibility must be checked for respective machine series)
for automatic loading system,
with DP/DP-coupler (slave) in the electrical cabinet,
according to documentation of CHIRON loader interface,
consisting of: circuit diagram, signal description and
functional diagram,
interface tested according to Chiron-description,
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.

Recommended options:

- Modification of side wall
- tool life control
- tool breakage control
- fixture washing
- chip conveyor, if not included in basic machine
- air sensing
- automatic central lubrication

Note:

The machine has to be anchored with robot loading or
linkage. Anchoring the machine to the ground can be made
by Chiron if wanted. This outlay will be charged according
to effort.

Window variants as safety combine glass plates

Technology package for turning from bar Ø 65

Lathe spindle

water-cooled motor spindle, installed horizontal,
with hollow shaft as opening for bars up to Ø 65 mm
14,1 kW at 100 %, 42,5 kW at 5 %
spindle speed range 15 - 4.500 rpm - 90 Nm
with direct measuring system
and hydraulic clamping 800 Nm
collet chuck with integrated hydraulic actuation
extension hydraulic unit for clamping collet chuck
and clamping spindle incl. hydraulic connection
incl. Dual Check Safety or Safety Integrated



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NC-feeding unit as bar feeder

rapid traverse 60 m/min,
stroke max. 440 mm, depending on fixture

NC-turning unit with rolling application

installed on NC-feeding unit,
for support of work piece clamping
Technical description of NC-turning unit:
indexing accuracy $\pm 30''$, max. spindle speed 80 rpm
with pneumatic clamping

Hydraulic unit

for permanent operations
pressure: 100 bar, flow rate: 4,3 l/min.

Machine table with 2 mounting surfaces

instead of fixed table

CHIRON Lasercontrol Single F500

min. tool $\varnothing > 1$ mm,
for tool breakage control,
incl. test mandrel with tool holder
incl. transmitter and receiver, gland and shutter

Bar feeding from left side

Remark:

After alignment the machine has to be anchored to the floor.
At bar lengths > 800 mm a bar loader (option)
with hydrodynamic bearing is necessary.

additionally necessary: fixture washing, removal of the finished part

Fixture washing

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

MCIS DNC

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.

3 operator stages with 3 keys

Tool lifetime control with:



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- tool place organization
- sister tool organization
- working area organization by 4-figure program no. in the display
(only at machines with several working areas)

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

Function Home Button pro

- Home after tool changing disruption
- Home after work piece disruption
- Retreat from thread
- Home after work disruption in the process

CHIRON Kinematics Fit without measuring ball

To ensure best milling results 5-axis-machines need calibration from time to time. This option provides automatic measuring of the machine kinematics by sampling a measuring ball in the working area and subsequent adjustment of the machine-transformation parameters for rotation and swivel axes.

For machines with 2 axis rotary table or swivel head with rotary table.

Incl. option for NC control.

Precondition: spindle probe, measuring ball and 5-axes-machining at machines with Siemens or Fanuc control

Preparation for probe OMP 40

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
window grey acc. to RAL 7040



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		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.

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.

