Pos.	Qty.	Article Description	Price / €

Complete machine description

1 1 **Partly refurbished**
vertical CNC-machining centre model Mill 800
Year of construction: 2006, weight: 7.800 kg

Machine-No. 418-25

Scope of delivery:

Column moving machining centre with fix table
Machine base with integrated chip output to the left
Linear-guideways with long-term-grease lubrication

Drilling capacity in steel 60	ø 42 mm (with insert drill)
Tapping capacity	M 30
Milling capacity in steel 60	600 cm³/min.

NC swivel head package - 12.000 rpm
Motor spindle for swivel head, grease lubrication
12,5 kW at 100 % ED
34,0 kW at 10 % ED, watercooled
20 - 12.000 rpm, 140 Nm
acceleration and deceleration 0 - 12.000 rpm 0,9 sec. each
tool clamping with disk springs, hydraulic knock out,
tool shaft for HSK-A 63 DIN 69893
tool magazine prepared
for tool holders according to HSK-A 63 DIN 69893
Drilling capacity Ø 42 mm (with insert drill),
Tapping capacity M 30, Milling capacity 600 cm³/min in steel.

NC swivel axis ± 100 °
- 30 rpm, lowest increment 0,001°
- repetition accuracy ± 10" with direct measuring system
- driving torque 280 Nm
- with hydraulic clamping system, max. torque through clamping 1400 Nm

Hydraulic unit
for continuous duty
pressure: 210 bar incl. valves for supply and pressure stage
for clamping of swivel head and automatic knock out of tool

flood coolant, pump capacity 20 l/min at 4 bar

CMS-GmbH
take-off Gewerbepark 125
D-78579 Neuhausen ob Eck
Amtsgericht Stuttgart HRB 451099
Tel.: +49 (0)7461 / 940 3700
Fax: +49 (0) 7461 / 940 53700
cms@chiron.de
www.cms-retrofit.de
Geschäftsführer:
Rui Böninger
Deutsche Bank Tuttlingen
BLZ 653 700 75, Kto.-Nr.: 2208 148
Steuer-Nr. 21101/01726, Ust.-Id.-Nr. DE 812948040
IBAN : DE42653700750220814800
SWIFT : DEUTDESS653

5-axes-machining
for the machining of three-dimensional curved or tilted
surfaces with 3 linear and 2 additional axes (TRAORI & CYCLE 800).
- 5-axes-transformation with tool orientation
  and tool center poin magement.
  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  withdrawn orientated and defined.

Travel:

X-axis	800 mm
Y-axis	480 mm
Z-axis	horizontal spindle 715 mm / vertical spindle 630 mm

Automatic tool changer, protected against chips

No. of tools	60
Tool shaft	HSK A 63 DIN 69893
Max. tool dia.	75 mm
if all magazine pos. are occupied	
Max. tool dia.	160 mm
if adjacent places are free	
Max. tool length	320 mm
Max. tool weight	4,0 kg
Tool change time	approx. 1,5 s (depends on CNC)
Chip-to-chip-time	approx. 5,0 s (depends on CNC)

AC-servo motors for x-, y- and z-axes
digital direct drives with indirect absolute path measuring system
rapid traverse in all axes 40 m/min.

SIEMENS CNC-control 840D
(PCU 50 / NCU 572.5, 6 measurement cycles, 1 canal)
incl. 15" TFT colour LCD screen
full keyboard KB 483 C / machine control panel MCP 483 C
control panel logic Windows XP
NC-memory 256 KB
(max.200 programmes storage capacity)
for ISO 66025 programming
hard disk with approx. 2 GB for free disposal

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drilling cycles G81-G89
drilling and milling cycles
M- and T- functions
circular interpolation (360 degrees)
re-start into program
Subroutines, parameter programming
simultaneous programming
contour programming
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 and dynamic pilot control

CHIRON Powersafe
Software package for selective shutdown of installed consumers like axis motors, drives, spindles, seal air, airsensoring 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 programm to recovery the production readiness.

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Pos.	Qty.	Article Description	Price / €

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.
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

Cabinet cooler as a door mounting unit

Signal lamp on control panel for 3 signals
Signal "red" = failure
Signal "white" = machine loaded
Signal "green" = machine is running

Machine enclosure
bolted on, with loading door, electrically interlocked,
2.500 mm high above floor, incl. machine lamp

Installation elements

Production package with high pressure pump HL 450 / 900 consisting of:

- Coolant equipment
tank capacity 1000 l,
pump capacity from 200 l/min at 2,1 bar
up to 250 l/min at 1,8 bar
high pressure pump capacity 20 l/min at 30 bar, inclined bed filter
brand. Polo, duplex filter with
coolant filtration 50 µm nominal
incl. bed flushing system (with Y480 mm or 500 mm)

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- Chip conveyor (scratch band)
with rear discharge, discharge height 1.050 mm,
tank capacity 150 l
lift pump capacity max. 300 l/min. at 1,3 bar

- Flow control switch in TTC line

- Machine preparation
for through tool coolant system including:
sealing system in the DIN 69893 HSK A63* 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

* 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 cannel.
- Reduction of the wear at the
O-ring seal in the collet.

Fixture washing incl. coolant connection

Wash gun

Automatical central grease lubrication

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

Glass scales
Overpressured in all axes
X, Y, Z = 800 x 500 x 550 mm
At NC-swivel head Y,Z = 480 x 715 / 630 mm

Pneumatic supply 0,6 bar

Increased windows in the front doors, safety glass

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Pos.	Qty.	Article Description	Price / €

Technology package for turning from bar

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

NC-feeding unit as bar feeder
rapid traverse 60 m/min,
stroke max. 1.100 mm, depending on fixture
incl. interface NC axis

NC-turning unit with clamping vice
for the machining of the 6th side, installed on NC-feeding unit,
incl. interface NC axis,
incl. rotary table clamping hydraulic
incl. pneumatic connection, uncontrolled, for air purge.
Technical description for NC-turning unit:
indexing accuracy ±15", max. spindle rotation speed 45 rpm,
with hydraulic clamping, controlled via NC-program

Technical description zero point clamping system
2 x clamping modul
Inside micrometer 150 +/-0,01 mm
Unlocking pressure 6 bar external
(it´s necessary to dock a pneumatic hose)
Media transfer A/B and pneumatic supply

Vice with interface for zero point clamping system
Stroke per chuck: 8 mm
Clamping/unclamping pneumatic
Clamping force max. 1.200 dN

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CHIRON Lasercontrol Single F500
min. tool Ø > 1mm,
for tool breakage control,
for automatic tool measurement,
for automatic temperature compensation in 2 axes,
including process-orientated measuring,
software for measuring cycles and strategy program,
and test mandrel with tool holder
incl. transmitter and receiver, gland and shutter

Switch for end of bar

Bar feeding from left side

Note: After alignment the machine has to be anchored to the floor.
At bar lengths > 800 mm a hydrostatic bar loader (Option) is necessary.
additionally necessary: fixture washing, hydraulic unit, unloading of finished parts

Bar-leading with hydrodynamic storage for a bar
bar-lenght up to 1600 mm from dia. 4 to 65 mm,
ideal material leading by changeable leading-channels,
manual loading,
bar feed and extraction of rest pieces is effected
by Chiron CNC-machining-center,
rest piece lenght min. 70 mm,
best run characteristics by soft vibration construction,
oil-aggregate,
bar feed is effected by Chiron CNC-machining-center,
mechanic loader interface
electric loader interface (Harting plug) with adaptation,
installation, commissioning, documentation

Pneumatic gripper with transport belt
included in the working area on the right side.

The pneumatic gripper transfers the part to the transport belt.
The belt will be timed acc. the width of parts.
Executed as follows:
- Pneumatic connection controlled
- Gripper with form clamping jaws
- Transport belt, length approx.. 1 m,

incl. coolant return to the machine.

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CHIRON Tool lifetime control with:
tool place organization
sister tool organization

Ethernet connection RJ45 at the electric cabinet
Instead in the control panel

Portable mini-hand wheel
for conventional travel, without emergency stop button,
including connecting cable 900 mm.
(This way the emergency stop button at the
control panel is within the reach of the operator.)

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 airsensoring.
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

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
grey white acc. to RAL 5023
basalt grey acc. to RAL 7012

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

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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.

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