

Pos.	Qty.	Article Description	Price / €
------	------	---------------------	-----------

Complete machine description

- 1 1 Completely refurbished vertical CNC-machining centre model MILL 1250
Year of construction: 2007, weight: 9.000 kg**

Machine-No. 454-01

Scope of delivery:

Column moving machining centre

Machine substructure with optimal chip drop
Linear guides with long-term-lubrication

Drilling capacity in steel 60	ø 30 mm (with insert drill)
Tapping capacity	M 20
Milling capacity in steel 60	150 cm ³ /min.

NC swivel head – 20.000 min⁻¹ TORQUE

Motor spindle for swivel head, grease lubrication
60,0 kW at 100 % ED
75,0 kW at 40 % ED, watercooled
Spindle speed 20 - 20.000 rpm, 75 Nm
acceleration and deceleration 0 - 20.000 rpm – each 1,8 seconds
tool clamping with disk springs, hydraulic knock out,
tool shaft for HSK-A 63 DIN 69893

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 2350 Nm

Hydraulic unit

for continuous duty at switch cycles less than 30 seconds
pressure: 170 bar, flow rate: 11,3 l/min.
incl. valves for supply and pressure stage
for clamping of swivel head and automatic knock out of tool

Travel:

X-axis	1250 mm
Y-axis	820 mm
Z-axis	horizontal spindle 715 mm / vertical spindle 630 mm



Pos.	Qty.	Article Description	Price / €
------	------	---------------------	-----------

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 With the interruption of machining (e. g. tool breakage), the tool can be withdrawn orientated and defined.

Automatic tool changer, protected against chips

No. of tools	24
Tool shaft	SK A-40 DIN 69871 + 72
tool dia.	max. 75 mm
tool dia.	
if adjacent places are free	max. 160 mm
Max. tool length	max. 320 mm
Max. tool weight	4 kg
Tool change time	approx. 1,5 s (depends on CNC)
Chip-to-chip-time	approx. 2,9 s (depends on CNC)

Machine table

divided for the setting up a numerical control top plate and a back support with free splinter openings between the table halves directly into the cooling agent plant

AC-servo motors

for x-, y- and z-axes
digital direct drives with direct absolute path measuring system (no time-consuming reference)
rapid traverse in all axes 60 m/min.

Thermdrive

with indirect path measuring system

SIEMENS CNC-control 840D

(PCU 50 / NCU 573.5, 12 measuring circuits for free form milling, 1 canal)
incl. 10,4" TFT colour LCD screen / full keyboard OP010S
NC-memory 3 MB
(max.200 programmes storage capacity)
for ISO 66025 programming
drilling cycles G81-G89
drilling and milling cycles
M- and T- functions
circular interpolation (360 degrees)



Pos.	Qty.	Article Description	Price / €
------	------	---------------------	-----------

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
 crossingradius
 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 spindlestop
 drip feed function through V24 interface
 dimension metric or inch
 software limitswitch
 NC-diagnosis
 machine-diagnosis
 absolute indirect path measurement systems
 powermeter 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.

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



Pos.	Qty.	Article Description	Price / €
------	------	---------------------	-----------

Socket 230 V
at control panel

Socket for portable mini-handwheel
without emergency stop button,
at control panel

2 **Cabinet cooler as a door mounting unit**

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

Machine enclosure
with loading door, electrically interlocked,
suitable for loading by crane
2.500 mm high above floor, incl. machine lamp

Chip conveyor (scratch band)
discharge height 1.050 mm, discharge to the left,
tank capacity 200 ltr., lift pump with 300 ltr./min. at 1,3 bar,

Installation elements

Glass scales
overpressured in all axes
X, Y, Z = 1250 x 840 x 550 mm

Production package with HP pump PF 50 / FKA 900
consisting of:

- Coolant equipment PF 50 / 900
(for cast iron slurry, Al with Si \geq 12%)
tank capacity 900 l,
LP-pump capacity from 100 l/min at 2,1 bar
up to 250 l/min at 1,8 bar
and HP-pump 20 l/min. at 30 bar
coolant filtration with hydrostatic paper bond filter PF 50,
filtration 50 μ m nominal and double act filter for protection of the machine

- Machine preparation
for through tool coolant system including:
- sealing system in the 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
We recommend for tool holders the use of our



Pos.	Qty.	Article Description	Price / €
------	------	---------------------	-----------

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.

Workspace washing

With nozzles installed on the
 Left hand and right hand side of the machine enclosure

70 bar high pressure pump

flow rate 20 l/min at 30 bar - 11 l/min at 70 bar
 with vario pressure control valve
 for 8 programmable pressure stages
 pre-defined pressure steps (20, 30, 40, 50, 55, 60, 65, 70 bar)
 instead of standard high pressure pump

Wash gun

NC-rotary table package, completely installed consisting of:

- **NC rotary table, type AWU 355**
 interface 4th axis
 including adapter plate
 prepared for hydraulic clamping
- **NC-rotary table, type G AWU 355 as counter bearing**
 including adapter plate
 prepared for hydraulic clamping

Direct path measuring system

for NC rotary table
 AWU 100, -160, -200 and -280,
 repetition accuracy $\pm 8''$

Exhaust fan with air cleaner

exhaust capacity 800 m³/h

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.

Visiport

with pneumatic drive
 mounted to the side door
 (for Five Axis and W-machines)



Pos.	Qty.	Article Description	Price / €
------	------	---------------------	-----------

Undervoltage relay

with inadvertently variation of the power supply
the machine will be stopped

Automatic loading door of total enclosure

opening and closing, actuating to closing via
two-hand push buttons

Pneumatic- and hydraulic connections

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)

Rotary distributor on counter bearing side 4-core

2 x hydraulic – 2 x pneumatic

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
per connection

Extension hydraulic unit

for clamping of rotary table or counter bearing
with 1 second pressure stage, 1 additional clamping circuit
and 1 connecting coupling with hydraulic installation up
to outside of machine bed
for one table side (4th axis)

Extension hydraulic unit

of Hydraulic unit from the NC-Tilting head package
pressure: 210 bar
incl. valves for supply of 1 clamping device
and 1 pressure switch for clamping control

CHIRON Tool lifetime control with:

- tool place organization
- sister tool organization
- work field organization via 4-digit program no. in the screen
(just for machines with more than one work field)
- tool data check for geometric values



Pos.	Qty.	Article Description	Price / €
------	------	---------------------	-----------

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 ± 10 %, 50 cycles N/PE,

neutral conductor, load possible, pressure supply

6 bar, ± 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.

