

Datasheet No. 20498901 / 06.05.2025

Item	Qty	Description
1000	1	Vertical CNC-machining center FZ12 W high speed Machine no. 265-99
1040	1	Condition: Partly refurbished Year of manufacture: 2013
1060	1	Machine base in mineral casting technology Guideways with long-time greasing Splash guard cover with fully enclosed workspace with loading doors, electrically interlocked, including interchangeable safety windows, workspace partition with stainless steel covers, Height 2,140 mm above floor, including machine lamp Mini-control panel with start and acknowledge push buttons, for pallet organization M61/M62 Workpiece changing mechanism 0/180 degrees with center divider made of sheet steel clamping surface 2 x 660 mm x 350 mm ² with thread and locating hole grid M16 x dia. 15 H7 x 50 mm workpiece change time approx. 2.0 s depending on the weight, self- regulating with self-teaching speed-control table load capacity 300 kg per side, max. 100 kg weight difference between the two table sides Minimum distance spindle nose - table surface 240 mm Travel: X-axis 550 mm Y-axis 320 mm Z-axis 360 mm
1080	1	Spindle head single-spindle for the integration of 1 spindle motor with main spindle
1100	1	Main drive with AC-motor water-cooled, pressurized with sealing air and monitoring of the tool clamping 24.5 kW at 100% duty cycle 40.0 kW at 25 % duty cycle spindle speed range up to 15,000 min ⁻¹ torque max. 45 Nm acceleration from 0 to 15,000 min ⁻¹ or deceleration in 0.6 seconds

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Drilling capacity dia. 25 mm
Tapping capacity M 20
Milling capacity 150 cm³/min
made from steel E355

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| 1120 | 1 | <p>Automatic tool changer
robust, fully enclosed pick up tool changer
with mechanical impact protection and
air blast taper cleaning
No. of tools 64
Tool taper HSK-A 50 DIN 69893
Max. tool dia. max. 60 mm
Tool length max. 250 mm
Max. tool weight max. 3 kg
Tool change time approx. 0.9 s (depends on CNC)</p> |
| 1140 | 1 | <p>60 tool positions
instead of 64 tool positions
(due to preparation for angle drill heads).</p> |
| 1160 | 1 | <p>Feed drive for X-, Y- and Z-axes
digital direct drive with indirect absolute measurement system</p> |
| 1180 | 1 | <p>SIEMENS CNC-control 840D solution line
(TCU / NCU 730.3) 1 channel
incl. 19" TFT color monitor
standard keyboard / control panel OP019
operator interface Operate
NC-memory 5 MB (max. 3 MB freely available)
(max. 200 programs storage capacity)
for executing part programs according to DIN 66025
CF-card with storage capacity 8 GB (max. 3 GB freely available)
power display, operating hour and piece counter on the screen
dark switching of screen
look ahead with dynamic pre-control
Software limit switch
access authorization via key-operated switch for
tool compensations, NC-program changes and machine parameters</p> <p>oriented spindle stop
re-start into program
subroutine technology in high-level language and parameter
simultaneous programming</p> <p>cycle support
drilling cycles G81-G89
drilling and milling patterns
measuring in JOG</p> <p>M and T functions
tool offsets for geometry, wear
4 programmable zero offsets G54-G57
30 zero shifts programmable via G-functions
tool radius correction with intersection computing
insert chamfers and radii</p> |

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crossing radii
contour programming
scaling function
mirror function
polar coordinates
circular interpolation (360 degrees)
3D and helical interpolation

USB-interface at control panel,

sending and receiving CNC-programs in networked operating
by the connection with logical drives, for example
a network, the wiring to the network is not included,

NC-diagnosis with help function
machine-diagnosis

- 1200 1 **CHIRON RemoteLine**
for remote diagnosis and teleservice for optimization of the maintenance process and shortening of troubleshooting through faster diagnosis:
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 for the analysis of operation sequences and support with programming problems.
Access to PLC for diagnosis, troubleshooting and programming.
Notification service by text / email, e.g. at end of job or in the case of breakdown.
Simple backup through use of the existing infrastructure in the internet.
Safe access through defined user rights, access control and encryption of data.
Access through Ethernet connection RJ45.
- During warranty this service, based on CHIRON RemoteLine is **free of charge**. After the warranty has expired, you have the option of extending on an annual basis.
- Pre-requisite:
The connection of the machine to the internet through in-house network has to be provided by customer.

- 1220 1 **CHIRON maintenance management on 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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Brief instructions for the pending maintenance with graphic illustration on USB data-carrier.
Password protected confirmation of the maintenance work carried out by the maintenance staff.

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| 1240 | 1 | Operating hours and piece counter
on the screen |
| 1260 | 1 | Socket at control panel
(for description see "main circuit") |
| 1280 | 1 | Socket for portable hand wheel
with EMERGENCY-STOP button, at control panel |
| 1300 | 1 | Electrical cabinet cooler
as door mounting unit |
| 1320 | 1 | Signal lamp for 3 signals
Signal "red" = failure
Signal "white" = load machine
Signal "green" = machine is running |
| 1340 | 1 | Wash gun
with 1 connection and quick coupling each
in loading and working area |
| 1360 | 1 | Oil-free air service unit with electric main switching-off
and automatic condensate separator,
pressure control of the air supply
and micro filter 0.01 µm for sealing air |
| 1400 | 1 | - Additional equipment for the machine - |
| 1420 | 1 | Coolant Package |
| 1440 | 1 | Chip conveyor (scraper belt)
tank capacity 60 l
pump capacity 110 l/min at 1.3 bar
coolant purification through slotted filter box |
| 1450 | 1 | Coolant equipment KF 150 / FKA 500
(also for sludge generating materials, e.g. grey cast iron, GGG, Al with Si
>= 12%)
tank capacity 500 l

low pressure pump capacity from 40 l/min. at 3.0 bar
up to 120 l/min at 3.0 bar
high pressure pump capacity 28 l/min at 30bar

full stream purification via compact paper bond filter KF 150,
with coolant purification 50 µm nominal
twin filter in the high pressure circuit for
the protection of the machine |

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1480	1	<p>Machine preparation for internally rinsing tools through spindle according to DIN 69893 HSK-A 50. with rotary feedthrough at the hollow shaft humidity sensor with installed dirt trap and flow control switch Solenoid valve, controlled via NC- program</p> <p>For tool holders we recommend the use of the patented coolant tube with sieve. Advantage: Decrease the risk of clogging in the internal coolant bores.</p>
1500	1	<p>Fixture washing incl. coolant supply in the working area</p>
1520	1	- Further additional equipment coolant -
1540	1	<p>Work space washing with nozzles installed inside the splash guard cover and washing of central splash guard</p>
1560	1	- Additional equipment exhaust / fire extinguishing -
1580	1	<p>Extraction connection for customer-side extraction of the working area, with connection Ø 200 mm at the top of the machine and electrical preparation in the control cabinet</p>
1600	1	- Additional equipment rotary tables / basic fixtures -
1620	1	<p>Integrated workpiece changing device IWW 0/180° for optimum chip removal with center partition made of sheet steel with 2 integrated single-spindle, two-axis tables, type CASD 160 Workpiece changing time approx. 3.5 s, depending on weight Self-regulating thanks to self-learning speed control. Integrated on each table side: 2-axis swivel device CASD 160 consisting of: 4th and 5th NC axis, smallest input step 0.0001° Unregulated pneumatic connection for sealing air Controlled pneumatic connection for spindle clamping Swivel axis as B axis Swivel angle + 130°/-70° System accuracy ± 5" with absolute, direct ECN 225 position measuring system Digital direct drive via torque motor Max. transferable torque 440 Nm Spring-loaded spindle clamping Holding torque 410 Nm Speed 100 rpm NC rotary table Faceplate Ø 245 mm as C-axis with faceplate design with tapered mount incl. media connection diagram (265-84)</p>

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for existing customer fixtures,
M16 x Ø 15 H7 x 50 mm
System accuracy $\pm 5''$
with absolute, direct ECN 225 position measuring system
digital direct drive via torque motor
max. transferable torque 180 Nm
with pneumatic spindle clamping
holding torque 410 Nm
max. transport load 80 kg on the faceplate
max. speed 200 rpm
Central hydraulic or pneumatic rotary feedthrough
6-wire, integrated in B and C axes
with 6 O-ring connections in the center of the faceplate

Note:

Adjustment: Workpiece changer 0/180°
from the basic machine.
Project workspace drawing no. 3149250.
The specified position dimension 81.4 mm (Y direction)
is to be increased, i.e. move the IWW table assembly in Y.

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| 1640 | 1 | - Additional equipment pneumatics / hydraulics - |
| 1660 | 2 | Pneumatic connection controlled
with A/B connection for pneumatic clamping device
electrically controlled pneumatic connection
for double acting clamping cylinder, 1 pressure regulator,
pressure control switch by means of differential pressure switch
(in case of pressure change automatic pressure sensing) |
| 1680 | 1 | - Additional equipment measuring / tool breakage control - |
| 1700 | 1 | CHIRON lasercontrol single F500
for tool breakage control
min. tool dia. > 1mm
distance from transmitter to receiver ≤ 1.000 mm,
incl. test mandrel with tool holder
transmitter and receiver
shutter with closure |
| 1720 | 1 | Probe for automatic measurement in the machine
Renishaw probe - RLP40Q package
for workpiece measurement and
automatic machine compensation
Probe with optical touch module
and tool taper matching the machine spindle.
Probe tip 58 mm with ruby ball Ø 4
Radio receiver RMI-Q
Process-oriented measurement
Software for measurement cycles and strategy program |

Note:

To perform machine compensation using a probe, a
suitable measuring surface on the machine or clamping device
or an optional calibration block is required.

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1740	1	CHIRON Kinematics Fit without measuring ball To ensure optimum milling results, 5-axis machines must be calibrated at regular intervals. This option offers automatic measurement of the machine kinematics by probing a measuring ball in the working area and subsequently correcting the machine transformation parameters for turning and swiveling axes. For machines with 2-axis swivel rotary table or swivel head with rotary table. Includes control upgrade. Prerequisite: Spindle probe, measuring ball, and 5-axis milling package for machines with Siemens or Fanuc control.
1760	1	Direct measurement system X-axis overpressurized
1780	1	Direct measurement system Y-axis overpressurized
1800	1	Direct measurement system Z-axis overpressurized
1820	1	- Additional equipment machine operation -
1840	1	Automatic central oil lubrication including automatic cleaning cycle in X and Y axis, the cleaning run must be taken into account, when designing the clamping device
1860	1	Sharing in charging station with special sequence via two-hand start (as with machine no. 265-83)
1880	1	Two hand push buttons for clamping OPEN-CLOSED, instead of button in the control panel
1900	1	Portable handwheel for conventional travel with EMERGENCY-STOP button
1920	1	Automatic loading door of splash guard cover opening and closing, actuated via push button at control panel
1940	1	Walk Switch
1960	1	- Additional equipment tooling -
1980	1	Mounting for multi-spindle heads Angle heads and high-speed spindles, without support, including controlled air connection for blowing off the mounting for torque support.

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2000	1	- Additional equipment NC-control -
2020	1	Selectable operator levels (3 steps) with 3 different keys
2040	1	5-axes-milling package for the machining of three-dimensional curved or tilted surfaces with 3 linear and 2 additional axes (TRAORI & CYCLE 800), incl. compressor CompCAD. 5-axes-transformation with tool tracking. The machining task is programmed completely in Cartesian coordinates with Cartesian position and orientation. The resulting movements of all 5 axes are calculated internally with the 5-axes-transformation. 5-axes-tool-length compensation The length of the tool is automatically computed and compensated in the movements of the axes.
2060	1	MCIS DNC Option to send and receive CNC-programs in a network. Program transfer initiated by operator at the control. Client-software and wiring to the network are not included.
2080	1	Feed per revolution for rigid tapping
2220	1	Other options
2280	1	Machine installation / Installation elements The machine has to be installed according to the drawing 'Machine Installation'. When installing in an oil pan, the installation directly on the sheet steel is not permitted. Any resulting problems are not covered by the warranty. The machine documents for approval contain a proposal for the appropriate design of the oil pan.
2300	1	Documentation 1 x safety regulations in a folder in English 1 x complete documentation on a USB as PDF Language of the operating manuals and safety in English
2360	1	Main circuit / Environmental conditions pressure supply 6 bar +1 bar / -0.5 bar for all procedures relative humidity: max. 75 % at 20 degrees Celsius ambient temperature: 15 up to max 40 degrees Celsius The machine has been designed to achieve the best positioning accuracy at an ambient temperature of 23 +/- 1 degrees Celsius. The specified performance data are valid up to a height of 1, 000 m above sea level.

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| 2380 | 1 | Machine color
two-component structured paint - 3 colors
light grey acc. to NCS S1502-B
blue acc. to NCS S2050-R80B
grey basalt acc. to RAL 7012 |
| 2400 | 1 | Viewing panels designed as laminated safety glass panes. |