

Datasheet No. 20464495 / 01.10.2026

Item	Qty	Description
1000	1	Vertical CNC-machining center FZ 12K S FX 251-71 Condition: partly refurbished Year of construction: 2011
1040	1	According to described below scope of delivery
1060	1	Moving column machine with machine bed in mineral casting technology and NC swivel device Drilling capacity in St 60 $\varnothing$ 25 mm (with indexable insert drill) Thread cutting M 20 Milling capacity in St 60 150 cm ³ /min.
1080	1	Digital main drive with spindle with air purge and monitoring of the tool clamping 24,5 kW at 100 % 40 kW at 25 % spindle speed range up to 15.000 rpm; max. 45 Nm
1100	1	Travel: X-axis 550 mm Y-axis 400 mm Z-axis 360 mm (plus distance from spindle nose to table surface, according to data sheet)
1120	1	Automatic tool changer through robust, full enclosed pick up tool changer, with mechanical impact protection an 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 Tool length max. 250 mm Max. tool weight max. 3 kg Tool change time appr. 0,9 s (depends on CNC) Chip-to-chip-time appr. 2, 2 s (depends on CNC)
1140	1	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 1,5 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.)

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1160	1	Automatic central grease lubrication
1180	1	2 axis rotary table type CASD 280 consisting of: Interface for 4th and 5th axis smallest increment 0,0001° Tilting axis tilting angle: $\pm 120^\circ$ repetition accuracy $\pm 5''$ with absolute, direct path measuring system ECN 225 drive through backlash-free, pretensioned precision gear very high overload capability max. transmittable torque 1.500 Nm spindle rev. 50 rpm rotary table faceplate dia. 280 mm with thread and locating hole grid M 16 x $\varnothing$ 15H7 x 50 mm repetition accuracy $\pm 5''$ with absolute, direct path measuring system ECN 225 digital direct drives through torque motor max. transmittable torque 180 Nm with pneumatic clamping system max. torque if the table is clamped 800 Nm max. transport weight (workpiece weight): 320 kg spindle rev. 200 rpm clamping surfaces to the right and left of the rotary table faceplate with thread and locating hole grid M 16 x $\varnothing$ 15H7 x 50 mm Counter bearing without drive total torque of tilting axis and counter bearing via clamping system 2.000 Nm Central Pneumatic or Hydraulic Turning Supply 6-fold, integrated in A- and C-axis, with 6 O-ring connections in the center of the face plate Remark: power-actuated clamping fixtures on the faceplate require additional connections and clamping circuits.
1200	1	Turnable control panel with additional window at the machine enclosure, for good view into the working area during setup

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- 1220 1 **SIEMENS CNC-control 840D**
 (PCU 50.3 / NCU 573.5)
 incl. 10,4" TFT colour LCD screen / full keyboard OP010S
 control panel logic Windows XP
 NC-memory 256 KB
 (max.200 programmes storage capacity)
 for ISO 66025 programming
 hard disk with approx. 20 GB for free disposal
 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 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 (1 x V24) at control panel
 USB-interface 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
- 1240 1 **5-axes-machining**
 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 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.

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| 1260 | 1 | <p>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 sphere in the work area and then correcting the machine transformation parameters for turning and tilting axes. For machines with 2-axis swivel rotary table or swivel head with rotary table. Incl. control expansion stage.</p> <p>Prerequisite:
 Spindle probe, measuring ball and 5-axis milling package for machines with Siemens or Fanuc control.</p> |
| 1280 | 1 | <p>Spline Interpolation</p> |
| 1300 | 1 | <p>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 USB flash drive.
 Password protected confirmation of the performed maintenance through the maintenance staff.</p> |
| 1340 | 1 | <p>Working hours and piece counter
 in the screen</p> |
| 1360 | 1 | <p>Socket 230 V
 at control panel</p> |
| 1380 | 1 | <p>Socket for portable mini-hand wheel
 without emergency stop button,
 at control panel</p> |
| 1400 | 1 | <p>Cabinet cooler as a door mounting unit</p> |
| 1420 | 1 | <p>Signal lamp on machine enclosure for 3 signals
 Signal "red" = failure
 Signal "white" = load machine
 Signal "green" = machine is running</p> |
| 1440 | 1 | <p>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</p> |
| 1460 | 1 | <p>Oil-free air service unit
 with automatic condensate separator,
 pressure control of the air supply
 and micro filter 0,01 µm for air purge</p> |

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| 1480 | 1 | <p>Installation elements
 For installation in an oil pan the installation directly on the sheet metal is not allowed. For out of it resulting problems there is no warranty. The machine documents for approval contain a proposal for the appropriate execution of the oil pan.</p> |
| 1500 | 1 | <p>Wash gun</p> |
| 1520 | 1 | <p>Chip conveyor (scratch band)
 instead of standard coolant equipment
 discharge height 490 mm
 tank capacity 100 l,
 pump capacity 110 l/min at 1,3 bar
 coolant cleaning through slot filter box</p> |
| 1540 | 1 | <p>Coolant equipment KF 150 / KFA 500
 (for cast iron slurry, Al with Si $\geq 12\%$)
 tank capacity 500 l,
 pump capacity from 80 l/min at 3,0 bar
 up to 100 l/min at 1,8 bar
 high pressure pump capacity 20 l/min at 30 bar
 coolant filtration for high pressure and flood coolant
 with compact paper bond filter KF 150,
 filtration 50 μm nominal.
 twin filter in the high pressure circuit for the protection of the machine.
 incl.
 Fixture washing
 with nozzles controlled with m-functions
 for washing the working area</p> |
| 1560 | 1 | <p>Recooling unit
 with absolut control of coolant temperature,
 for single spindle machines.
 (retrofitting not possible)
 (For the machining with cutting oil
 we recommend a recooling unit.)</p> |
| 1580 | 1 | <p>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</p> |
| 1600 | 1 | <p>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
 and flow control switch
 - Solenoid valve, controlled via machine program
 We recommend for tool holders the use of our
 patented coolant tube with sieve.</p> |

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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)

1640	1	CHIRON Lasercontrol 40 min. tool Ø 0,5 mm, max. tool Ø 40 mm, for tool breakage control (in one working area), 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
1660	1	Automatic loading door of total enclosure opening and closing, actuating to closing via two-hand push buttons
1680	1	Suction point for customer specific installation Ø 200 mm on top of the machine enclosure and electrical preparation in cabinet
1700	1	Pneumatic- and Hydraulic Connections
1720	1	Hydraulic connection for 210 bar with 2 hoses and hydraulic installation from the central turning supply of ZAS / CASD up to outside of machine bed, electrical control for clamping ON - OFF via push button at control panel
1740	1	Hydraulic unit continuous duty pressure: 210 bar incl. valves for supply of 1 clamping device and 1 pressure switch for clamping control
1760	1	Parts location air sensing with 1 switch, completely installed, including energy-efficient shutdown during machining. Remark: Maximum 3 nozzles per switch. Precondition: Processed faces or aluminium die casting (not on partition or ejector flags), no grey cast iron. At rotary table and standard fixture for rotary table are additional turning supplies necessary.

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| 1780 | 1 | Options of SIEMENS 840D |
| 1800 | 1 | Universal-Interface RS 232C (1x24V)
at electrical cabinet.
instead of at control panel |
| 1820 | 1 | 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.

Precondition: PCU 50 |
| 1840 | 1 | NCU 573.5
up to 12 measuring circuits,
for the machining of three-dimensional curved surfaces
incl. NC-memory extension up to 3 MB
(memory expandible up to max. 6 MB) |
| 1860 | 1 | SIEMENS Tool lifetime control with:
- tool place organization
- sister tool organization |
| 1880 | 1 | Universal, automatic load- and unloading-system
with 6-axis robot and pallet stack FLEXCELL UNO
fully integrated, with floor space-saving design.
Unlimited access to the working respectively loading
area of the machine for changeover operations or
manual loading through revolving door.
Integrated safety enclosure with drip pan for spilled coolant.
Including tray for NIO parts, electric interface for loader and
direct door switch in position 'door open'.

New raw part pallets respectively finished part pallets
can be added respectively withdrawn without interruption.
Pallet stack prepared to contain pallets 300 x 400 mm.
Stack height: max. 24 pallets at a maximum of 20 mm (pallet with
workpiece),
when the pallets are higher, the number of pallets will reduce
correspondingly (12, 8 or 6 pallets at a maximum of 45 mm,
70 mm or 95 mm).
Load: maximum 5 kg per pallet with 24 pallets, in total maximum 120 kg.

Robot: FANUC LR Mate 200 iC 5L with Fanuc R-30iA control,
incl. pneumatically activated single gripper prepared
for the integration of workpiece-specific gripping fingers,
max. weight of workpiece approx. 2 kg.
Incl. button 'Start/stop' for a defined stop and restarting of
the robot, button 'Home position' to move the robot to the home
position and button "Emptying cycle" to emptying the machine
The pallet handling within the FLEXCELL UNO is performed by the robot.

Air blow system for workpiece and fixture cleaning
mounted to the robot incl. controlled pneumatic connection |

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Remark: workpiece-specific items such as pallets, pallet inlays, gripper fingers, and robot programming are not in the scope of supply of the load- and unloading-system.

(for 1 x FZ / D 08 S / FX / W Magnum, FZ / DZ 12 S / FX / W)

Precondition for S machine:

Automatic doors

Recommended options of the machine:

automatic doors, at W machines, depending on the application
signal lamp, if not included in basic machine
tool life control
tool breakage control
fixture washing
chip conveyor, if not included in basic machine
parts location air sensing
automatic central lubrication, if not included in basic machine

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| 1900 | 1 | <p>Double gripper
instead of single gripper, pneumatically activated,
prepared for installation of workpiece-specific gripping fingers,
max. weight of workpiece approx. 1,5 kg.</p> <p>(for FLEXCELL UNO 08 / 12)</p> |
| 1920 | 1 | <p>Air blow system
for workpiece and fixture cleaning
mounted to the robot
incl. controlled pneumatic connection</p> <p>(for FLEXCELL UNO)</p> |
| 1940 | 1 | <p>Tray for SPC parts
to withdraw workpieces from automatic cycle,
selection through NC-program
or via button 'Measuring parts request'.</p> <p>(for FLEXCELL UNO 08 / 12)</p> |
| 1960 | 1 | <p>Cutting tools
The cutting tools have to be balanced
according to DIN 69 888, class G 6, 3,
in two levels, with max. operating speed</p> |
| 1980 | 1 | <p>Machine colour
two-components-structure varnish - 3 colours
window grey acc. to RAL 7040
blue acc. to NCS S2050-R80B
basalt grey acc. to RAL 7012</p> |