

**Data sheet No. 20385350 / 15.09.2022**

Item	Qty	Description
1000	1	<b>Vertical CNC-machining center CHIRON FZ 15 KW</b>
1040	1	<b>Year of construction:</b> 2002 <b>Condition:</b> completely refurbished
		<b>According to described below scope of delivery</b>
2000	1	<b>Column moving machining centre</b> with machine bed in mineral cast technique and workpiece swivel table Suitable for dry-machining with optimized chip drop Guideways with long-term-grease lubrication
2020	1	<b>Machine enclosure</b> with sliding doors, electrically interlocked, 2200 mm high above floor, incl. machine lamp service friendly with removable side walls vertical bellows
2040	1	<b>Mini-operating panel</b> with start and receipt push buttons, for pallet recognition M61/M62
2060	1	<b>Workpiece swivel table 0/180 degrees</b> with centre divider made of sheet metal clamping surface 2 x 660 mm x 400 mm with thread and locating hole grid M16 x $\varnothing$ 15 H7 x 50 mm workpiece swivel time appr. 2,4 s weight-dependent, self-regulating through self-learning speed-control table loading capacity per side 0 - max. 300 kg, max. 100 kg weight difference between the two table sides
2080	1	<b>Travel:</b> X-axis 550 mm Y-axis 400 mm Z-axis 360 mm with variable tool changing level
2100	1	<b>Workpiece swivel table 0/180 degrees</b> with centre divider made of sheet metal clamping surface 2 x 660 mm x 400 mm with thread and locating hole grid M16 x $\varnothing$ 15 H7 x 50 mm workpiece swivel time appr. 2,4 s weight-dependent, self-regulating through self-learning speed-control table loading capacity per side 0 - max. 300 kg, max. 100 kg weight difference between the two table sides
2120	1	<b>Main Spindle drive with AC-motor</b> 7,5 KW at 100 % 15,0 KW at 25 % for main spindle Spindle speed range: 20 - 12.000 rpm - max.95 Nm
		Drilling capacity in 60 pc $\varnothing$ 36 mm Tapping capacity M 24 Milling capacity in steel 250 cm <sup>3</sup> /min

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- 2140 1 **Automatic tool changer**  
 No. of tools 48  
 Tool shaft HSK A 63 DIN 69893  
 Max. tool dia. 82 mm if all magazine pos. are occupied  
 Max. tool dia. 125 mm if adjacent places are free  
 Max. tool length 250 mm  
 Max. tool weight 5,0 kg  
 Chip-to-chip-time appr. 2,4 s (depends on CNC)
- 2160 1 **AC-servo motors**  
 for x-, y- and z-axes  
 digital direct drives with direct absolute path measuring system ( **Glass scales**)  
 overpressured in all axes  
 rapid traverse in all axes 60 m/min.  
 acceleration: 0,5 g in X and Y axis  
 0,7 g in Z axis
- Remark:  
 With normal conditions the machine does not have to be anchored to the floor.  
 (For slippery floors we recommend anchoring.)
- 2180 1 **FANUC 18 i - 3-axes continuous path control**  
 9.5" LCD monochrom screen  
 memory capacity 512 KB (max. expansion to 1,5 MB)  
 drilling cycles G81-G89  
 absolute path measuring system  
 M- and T-functions  
 circular interpolation (360 degrees)  
 re-start into program  
 makro B sub-routines  
 look ahead  
 simultaneous programming  
 automatic corner override  
 99 tool offsets  
 cutter radius - contour compensation  
 6 zero shifts G54-G59  
 metric/inch switch  
 3 D-interpolation/helical interpolation  
 S-analogue  
 rigid tapping  
 orientated spindle stop  
 Slot for PCMCIA memory card  
 Interface RS 232C on the side at the control panel  
 software-limitswitch  
 NC-diagnosis  
 machine diagnosis
- FANUC Tool lifetime control with:**  
 tool place organization  
 sister tool organization

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2200	1	<b>Working hours and piece counter</b> in the screen
2220	1	<b>Socket 230 V</b> at control panel
2240	1	<b>Cabinet cooler as a door mounting unit</b>
2260	1	<b>Installation elements</b> 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.
2280	1	<b>Wash gun</b>
2300	1	<b>Thermocontrol</b> (deactivated with use of measuring systems e.g. spindle probe, stationary 3D probe or laser control) (not for DZ 08 and machines X > 2000)
3000	1	<b>Automatic grease lubrication</b>
3020	1	<b>Socket for portable mini-hand wheel</b> without emergency stop button, at control panel
3040	1	<b>Automatic loading door of total enclosure</b> opening and closing, actuating via push button at control panel
3060	1	<b>Fully enclosed working area</b>
3080	1	<b>Coolant equipment with chip conveyor (scratch band)</b> discharge height 1.050 mm tank capacity 400 l pump capacity 150 l/min. at 2,0 bar
3100	1	<b>Machine preparation</b> 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 and flow control switch - 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 channel.

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- 3120 1 **Coolant equipment**  
 tank capacity 900 l,  
 pump capacity 200 l/min at 2,0 bar  
 (the pump in the chip conveyor becomes the lift pump)  
 pump capacity 20 l/min at 30 bar  
 coolant filtration for high pressure and flood coolant  
 with vacuum rotation filter VRF 300, filtration 50 µm nominal
- 3140 1 **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
- 3160 1 **Work space washing**  
 with nozzles installed inside the Machine enclosure  
 and washing of centre divider  
 (Subject: Coolant equipment)
- 3180 1 **Fixture washing**  
 with nozzles installed on the swivel centre divider  
 separate controlled with m-functions for washing the working area  
 and the loading station  
 (Subject: Coolant equipment with tank capacity 900 l)
- 3200 1 **NC-rotary-table package complete installed consisting of:**  
 - 2 x NC-rotary-table, type AWU 160 P  
 - 4th and 5th NC-axes, complete  
 - 2 adapter-plates for center height 200 mm  
 - central pneumatic supply without control
- Technical description for NC-rotary-table:  
 center height 165 mm, repetition accuracy  $\pm 15''$ ,  
 load moment of inertia (without turning supply) 1,9 kgm<sup>2</sup>  
 face plate dia. 160 mm, with center bore dia. 50 +0.012,  
 fixture pin dia. 16 h7, 4 fixture bores M10,  
 incl. pneumatic clamping
- 3220 2 **CHIRON standard fixture for rotary table**  
 with pneumatic actuated counter bearing  
 bridge size 580 mm  
 existing of:  
 - base plate (instead of the adaptor plate from the rotary table package)  
 detachable to workpiece changer  
 - counter bearing with pneumatic clamping  
 - flange plate incl. connecting coupling and quick-locator, on side of the  
 rotary table  
 - flange plate incl. connecting coupling and quick-locator, on side of the  
 counter bearing  
 - 2 x 2-core energy supply pneumatic or hydraulic  
 - center height 165 mm below the base plate

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| 3240 | 1 | <b>Pneumatic- and Hydraulic Connections</b>  |
| 3260 | 1 | <b>Central hydraulic and pneumatic supply</b><br>prepared for max. 20 connections,<br>6 connections are installed including connecting couplings,<br>4 for hydraulic, max. 200 bar and<br>2 for pneumatic without control.<br>Installation up to the outside of machine bed, with electrical control<br>for clamping ON - OFF via push button at control panel |
| 3280 | 1 | <b>Hydraulic unit</b><br>continuous duty<br>at switch cycles less than 30 seconds<br>pressure: 210 bar, output: 4,3 ltr/min<br>incl. valves for supply of 2 clamping circuits<br>and 2 pressure switches for electric clamping control   |
| 3300 | 1 | <b>Machine colour</b><br>Two-components-structure varnish - 2 colours<br>light grey      acc. to NCS S1502-B<br>basalt grey     acc. to RAL 7012   |
| 3320 | 1 | <b>Documentation acc. to CE of the first delivery into market</b><br>1 x safety regulations in a folder in English<br>1 x complete documentation on a USB as PDF<br>Language of the operating manuals and safety in English  |
| 3330 | 1 | <b>Warranty</b><br>CMS-full-service-Warranty<br>6 months after commissioning<br>for NC-control and machine<br>excluded wear parts.   |
| 3360 | 1 | <b>Cutting tools</b><br>The cutting tools have to be balanced<br>according to DIN ISO 1940, class G 2,5,<br>in two levels, with max. operating speed   |