

Pos.	Qty.	Article Description	Price / €
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## Complete machine description | FZ 12 KW no. 253-42

- |   |   |  |  |
|---|---|--|--|
| 1 | 1 | <b>Completely refurbished<br/>vertical CNC-machining centre model CHIRON FZ 12 KW<br/>Year of construction: 2007, weight: 7.500 kg</b> |  |
|---|---|--|--|

**Machine-No. 253-42**



Machine image similar.  
The equipment of the sample photo isn't binding.

GB | Data sheet | ref 253-42.docx

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Geschäftsführer:  
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Deutsche Bank Tuttingen  
BLZ 653 700 75, Kto.-Nr.: 2208 148  
Steuer-Nr. 21101/01726, Ust.-Id.-Nr. DE 812948040  
IBAN : DE42653700750220814800  
SWIFT : DEUTDESS653



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Scope of delivery:

100	1	Drilling capacity	Ø 25 mm (with insert drill)
		Tapping capacity	M 20
		Milling capacity	120 cm <sup>3</sup> /min

**Column moving machining centre** with machine bed in mineral cast technique and workpiece swivel table  
Guideways with long-term-grease lubrication

200	1	<b>Digital main drive with spindle</b> 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; 45 Nm acceleration from 0 to 15.000 rpm or deceleration in 0,6 seconds
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300	1	<b>NC swivel head</b> swivel range -10° / +100° rapid traverse 52 rpm lowest increment 0,001° with direct measuring system ± 5"
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400	1	<b>Travel:</b> X-axis 550 mm Y-axis 320 mm Z-axis 360 mm (+ distance spindle-taper to clamping surface acc. to data sheet)
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500	1	<b>Automatic tool change</b> through robust, full enclosed pick up tool changer, with mechanical impact protection an cleaning of the tool taper through air blow No. of tools 44 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. 2,4 s (depends on CNC)
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600 1 **Workpiece swivel table 0/180 degrees**  
 with centre divider made of sheet metal  
 clamping surface 2 x 660 mm x 350 mm  
**without locating hole grid**  
 workpiece swivel time appr. 2,0 s weight-dependent, self-regulating through  
 self-learning speed-control  
 table loading capacity per side 300 kg,  
 max. 100 kg weight difference between the two table sides

700 1 **AC-servo motors for x-, y- and z-axes**  
 digital direct drives with indirect absolut path measuring system  
 rapid traverse in all axes 75 m/min.  
 Acceleration: X-axis 1 g, Y-axis 1,5 g, Z-axis 2,0 g

Remark:  
 With normal conditions the machine does not have to be anchored to the  
 floor.  
 (For slippery floors we recommend anchoring.)

800 1 **SIEMENS CNC-control 840D**  
 (PCU 50 / NCU 572.5, 10 measuring cycles, 1 channel)  
 incl. 10,4" TFT colour LCD screen / full keyboard OP010S  
 control panel logic Windows XP  
 NC-memory 256 KB (extendible till max. 1,5 MB)  
 (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



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insert of chamfer and radius  
 Universal interface RS 232C (1 x V24) at control panel  
 USB-interface at the 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

**Selectable operator Level (3 steps)**  
 with different keys

**Additional button for indexing in the loading station**  
 indexing 4 x 90° or 2 x 180° for NC rotary tables,  
 4th or 4th and 5th axis  
 Operating via two hand start

**Walk switch**

**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.

**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 programm to recovery the production  
 readiness.



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- 900 1 **Remote diagnosis and tele service**  
 For the optimization of the maintenance process and trouble shooting through shorter diagnosis times. 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, analysis of operation sequences and support with programming problems. Access to PLC for diagnosis, trouble shooting and programming.

Notification service with SMS / E-mail e. g. at end of job or in the case of breakdown.  
 Simple backup through use of the existing infrastructure of the internet.  
 Safe access through defined user rights, access control and encryption of data.  
 Access through Ethernet connection RJ45 or telephone line (preferably ISDN RJ45 or analog RJ11) with router.

**For this option you need a contract with CHIRON.**

**Precondition:**

Internet connection through in-house net or telephone line including the wiring to the machine.

- 1000 1 **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.  
 Confirmation of the performed maintenance through the maintenance staff by password.
- 1100 1 **Thermodrive**  
 at indirect absolut path measuring system
- 1200 1 **Working hours and piece counter**  
 in the screen
- 1300 1 **Socket 230 V**  
 at control panel
- 1400 1 **Socket for portable mini-hand wheel**  
 without emergency stop button, at control panel (EUCHNER)



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|------|---|--|--|
| 1500 | 1 | <b>Cabinet cooler as a door mounting unit</b>  |  |
| 1600 | 1 | <b>Signal lamp on machine enclosure for 3 signals</b><br>Signal "red" = failure<br>Signal "white" = load machine<br>Signal "green" = machine is running  |  |
| 1700 | 1 | <b>Machine enclosure with full enclosed workspace</b><br>with loading doors, electrically interlocked,<br>including replaceable safety windows,<br>workspace enclosure with stainless steel covers.<br>2140 mm high above floor, including machine lamp<br>mounted on the top of the center divider  |  |
| 1800 | 1 | <b>Mini-operating panel</b><br>with start and receipt push buttons, for pallet recognition M61/M62   |  |
| 1900 | 1 | <b>Chip conveyor (scratch band)</b><br>instead of standard coolant equipment<br>discharge height 490 mm<br>tank capacity 100 l,<br>pump capacity 110 l/min at 1,3 bar<br>coolant cleaning through slot filter box  |  |
| 2000 | 1 | <b>Coolant equipment KF 150 / FKA 500</b><br>(also for sludge generating materials, e.g. grey cast iron, GGG, Al with Si<br>>/= 12%)<br>tank capacity 500 l<br><br>low pressure pump capacity from 80 l/min. at 3.0 bar<br>up to 100 l/min at 1,8 bar<br>high pressure pump capacity 20 l/min at 30 bar<br><br>full stream purification via compact paper bond filter KF 150,<br>with coolant purification 50 µm nominal<br>twin filter in the high pressure circuit for<br>the protection of the machine<br><b>Fixture washing</b><br>with nozzles controlled through m-functions<br>for washing in the machining station |  |



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| 2100 | 1 | <p><b>Machine preparation</b><br/>for through tool coolant system including:</p> <ul style="list-style-type: none"> <li>- Sealing system in the DIN 69893 HSK A50 collet</li> <li>- coolant distributor installed at the main spindle drive</li> <li>- Coolant leakage sensor</li> <li>- Implemented mud flap in the high pressure piping</li> <li>- Solenoid valve, controlled via machine program</li> </ul> <p>We recommend for tool holders the use of our patented coolant tube with sieve.</p> <p>Advantages: <span style="float: right;">- Decrease of the clogging</span></p> <ul style="list-style-type: none"> <li>in the internal coolant channel.</li> <li>- Reduction of the wear at the O-ring seal in the collet.</li> </ul> <p>(Subject: required high pressure equipment)</p> |  |
| 2200 | 2 | <p><b>Adaptor for multi spindle heads</b><br/>angular heads and speed increased spindle<br/><b>without support</b></p>   |  |
| 2300 | 1 | <p><b>Oil-free air service unit</b><br/>with automatic condensate separator,<br/>pressure control of the air supply<br/>and micro filter 0,01 µm for air purge</p>   |  |
| 2400 | 1 | <p><b>Installation elements</b></p>  |  |
| 2500 | 1 | <p><b>Discharge of the shaft for torque value support</b></p>  |  |
| 2600 | 2 | <p><b>Increased chain place for angle heads</b></p>  |  |
| 2700 | 1 | <p><b>Viewing window as safety glued glass</b></p>   |  |
| 2800 | 1 | <p><b>Automatic loading door of total enclosure</b><br/>opening and closing, actuating to closing via<br/>two-hand push buttons</p>  |  |



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2900 2 **NC-rotary-table package complete installed consisting of:**

- 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

3000 2 **CHIRON standard fixture for rotary table**

- with pneumatic actuated counter bearing  
 bridge size 620 mm  
 existing of:
- base plate (instead of the adaptor plate from the rotary table package)  
 detachable to machine table
  - 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

3100 1 **CHIRON Lasercontrol Single F500**

for tool breakage control,  
 distance from transmitter to receiver  $\leq 1000$  mm,  
 min. tool  $\varnothing > 1$ mm,  
 incl. test mandrel with tool holder,  
 transmitter and receiver,  
 gland and shutter

3200 1 **Preparation for probe OMP40 (without device)**

- interface MI 12
- bracket with infrared sensor OMM-E
- process oriented measuring
- software for measuring cycles and strategy program

3300 1 **Thermocontrol**

(deactivated with use of measuring systems e.g.  
 spindle probe, stationary 3D probe or laser control)





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| 3400 | 1 | <b>Pressure relief flap</b>  |  |
| 3500 | 1 | <b>Canal for pressure relief flap</b><br>(removable for maintenance work)  |  |
| 3600 | 1 | <b>Electrical main switch</b><br>at the pneumatic equipment  |  |
| 3700 | 1 | <b>Cutting tools</b><br>The cutting tools have to be balanced according to DIN 69 888, class G 6,3, 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°

