

Pos.	Qty.	Article Description	Price / €
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## Complete machine description

- 1 1 **Completely refurbished vertical CNC-machining centre model FZ 15 S FX**  
**Year of construction: 2008, weight: 6.920 kg**

**Machine-No. 219-32**

Scope of delivery:

- 1 **Column moving machining centre** in steel- concrete- composite design with swing setup  
 Suitable for dry-machining with optimized chip drop  
 Guideways with long-term-grease lubrication

**Main Spindle drive with AC-motor**

12,0 KW at 100 %

28,0 KW at 15 %

Spindle speed range: 20 - 12.000 rpm - max. 180 Nm

Drilling capacity in steel Ø	42 mm (with insert drill)
Tapping capacity	M 30
Milling capacity in steel	500 cm <sup>3</sup> /min

- 1 **Travel:**  
 X-axis 550 mm  
 Y-axis 400 mm  
 Z-axis 425 mm with variable work changing level

- 1 **Automatic tool changer**  
 Tool places 20  
 Tool shaft SK A40 DIN 69871 + 72  
 Tool-Ø max. 65 mm  
 Tool-Ø if adjacent places are free max. 175 mm  
 Tool weight max. 2,5 kg (5,0 kg on 4 places)  
 Chip-to-chip-time approx. 2,1 s (depends on CNC)

- 1 **AC-servo motors for x-, y- and z-axes**  
 digital direct drives with indirect absolute path measuring system  
 rapid traverse in all axes 60 m/min with 1,0 g acceleration

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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1		<p><b>2 axis rotary table type ZASD 280</b>  consisting of:  4th and 5th axis  smallest increment 0,001°</p> <p>Tilting axis  Tilting angle: <math>\pm 110^\circ</math>  Tilting accuracy <math>\pm 6''</math> with  absolute, direct path measuring system RCN 220  via worm drive system  incl. hydraulic clamping system  max. transmittable torque 1.100 Nm  max. torque if the table is clamped 3.800 Nm  max spindle rev. 30 rpm</p> <p>rotary table faceplate dia 280 mm  with thread and pin hole grid M16 x <math>\varnothing</math> 15 H7 x 50 mm  incl hydraulic clamping system  Tilting accuracy <math>\pm 8''</math> with  absolute, direct path measuring system RCN 220  max. transport weight (workpiece weight): 320 kg  max. transmittable torque 700 Nm  max. torque if the table is clamped 2.800 Nm  Max spindle rev. 100 rpm</p> <p>Clamping surfaces to the right and left  of the rotary table faceplate  with thread and locating hole grid M 16 x <math>\varnothing</math> 15H7 x 50 mm</p> <p>Counter bearing incl. hydraulic clamping system  without drive  max. torque via clamping system 3.800 Nm</p> <p><b>Hydraulic unit</b>  for permanent operations  pressure: 210 bar, flow rate: 4,3 ltr./min.  incl. valves for supply and clamping circuit  for clamping of faceplate and counter bearing  complete with hydraulic connection</p> <p><b>Central Pneumatic or Hydraulic Turning Supply</b>  4-fold, integrated in A- and B-axis,  with 4 O-ring connections in the center of the face plate  Remark:  power-actuated clamping fixtures on the faceplate  require additional connections and clamping circuits.</p>	



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1		<p><b>Turnable control panel</b> with additional sliding door at the machine enclosure, electrically interlocked, for good view into the working area during setup</p>	
1		<p><b>HEIDENHAIN CNC-control iTNC 530</b> with SIEMENS servo motors incl. 15,1" TFT flat colour LCD screen / full keyboard TE530B Mainframe MC422C, single processor version hard disk 6 GB for ISO 66025 programming and Heidenhain plain language 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 free contour programming for workpieces without complete NC dimensions support through cycles polar coordinates swivelling of machining plane TCPM (tool center point management) tool offsets for geometry, wear tool radius correction for intersection computing crossing radius 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 (V24) and RS 422 Fast-Ethernet-Interface 100BaseT orientated spindle stop drip feed function from hard disk or through V24 interface, dimension metric or inch software limit switch NC-diagnosis machine-diagnosis absolute direct path measurement systems rigid tapping look ahead function tool magazine with firm place coding tool management with lifetime control and sister tool organization</p>	



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1		<b>Portable handwheel</b> (for machines with Heidenhain iTNC530)	
1		<b>CHIRON Maintenance Management in the screen</b> 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.	
1		<b>Working hours and piece counter</b> in the screen	
1		<b>Socket 230 V</b> at control panel	
1		<b>Cabinet cooler as a door mounting unit</b>	
1		<b>Signal lamp on machine enclosure for 3 signals</b> Signal "red" = failure Signal "white" = load machine Signal "green" = machine is running	
1		<b>Machine enclosure</b> with loading door, electrically interlocked, 2200 mm high above floor, incl. machine lamp service friendly with removable side walls vertical bellows	
1		<b>Chip conveyor (scratch band)</b> discharge height 1050 mm, tank capacity 300 ltr, pump capacity 150 ltr/min at 1,3 bar, incl. bed flushing system	
1		<b>Installation elements</b>	
1		<b>Wash gun</b>	



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1		<p><b>Coolant equipment KF 400 / FKA 900</b>            (for cast iron slurry, Al with Si <math>\geq</math> 12%)            tank capacity 900 l,            pump capacity from 100 l/min at 2,5 bar            up to 250 l/min at 2,3 bar            high pressure pump capacity 28 l/min at 30 bar            high pressure circuit with filtration via paper bond filter KF 400,            filtration 50 <math>\mu</math>m nominal.            twin filter in the high pressure circuit for the protection of the machine.</p>	
1		<p><b>Machine preparation</b>            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</p> <p>We recommend for tool holders the use of our 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.            (Subject: required high pressure equipment)</p>	
1		<p><b>Probe for automatic measuring in the machine</b>            HEIDENHAIN probe package TS230            - probe with built in interface cable connection,            tracing pin 40 mm with ruby ball <math>\varnothing</math> 4 mm            - strategy program            with shank taper 40 DIN 69871 and radial aligning fork            (only with HEIDENHAIN control possible)            Remark:            For the carrying out of machine compensations with probe a suitable reference surface at the machine or at the fixture or an optional gauge block (VCS12100800) are necessary.            (for machines with basket changer)</p>	
1		<p><b>Fully enclosed working area</b></p>	
1		<p><b>Exhaust fan with air cleaner</b>            exhaust capacity 800 m<sup>3</sup>/h</p> <p>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.</p>	



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### 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.

