

## Complete machine description

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|---|---|--------------------------------------------------------------------------------------------------------------------------------------|--|
| 1 | 1 | <b>Completely refurbished<br/>vertical CNC-machining centre model FZ 15 W</b><br><b>Year of construction: 2003, weight: 7.820 kg</b> |  |
|---|---|--------------------------------------------------------------------------------------------------------------------------------------|--|

### Machine-No. 147-73

Scope of delivery:

**Column moving machining centre** in steel- concrete- composite design  
with workpiece changing device  
Suitable for dry-machining with optimized chip drop  
Guideways with long-term-grease lubrication

### Main Spindle drive with 2 AC-motors

9,5 KW at 100 %  
14,0 KW at 15 %  
Spindle speed range: 20 – 12.000 rpm - max. 90 Nm

Drilling capacity in St 60	Ø 36 mm with reversible plate drill
Tapping capacity	M 24
Milling capacity in St 60	300 cm <sup>3</sup> /min

### Travel:

X-axis	550 mm
Y-axis	400 mm
Z-axis	425 mm with adjustable tool change level

### Automatic tool changer, protected against chips

Tool places	20
Tool shaft	SK 40 DIN 69871 + 72
Tool-Ø	max. 65 mm
Tool-Ø if adjacent places are free	max. 150 mm
Tool weight	max. 2,5 kg (5,0 kg at 4 places)
Tool change time appr.	0,9 s (depends on CNC)
Chip-to-chip-time approx.	2,1 s (depends on CNC)



Pos.	Qty.	Article Description	Price / €
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### **Workpiece swivel table 0/180 degrees**

with centre divider made of stainless steel  
clamping surface 2 x 660 mm x 400 mm  
with thread and locating hole grid M16 x ø 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

### **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.

### **SIEMENS CNC-control 840D**

(PCU 20 / NCU 572.3, 6 measuring cycles, 1 channel)  
incl. 10,4" TFT colour LCD screen / full keyboard OP010S  
NC-memory 256 KB  
(max.200 programmes storage capacity)  
for ISO 66025 programming  
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 (2 x V24)  
orientated spindle stop  
drip feed function through V24 interface  
dimension metric or inch  
software limit switch



Pos.	Qty.	Article Description	Price / €
		NC-diagnosis machine-diagnosis absolute indirect path measurement systems powermeter in screen	
		<b>CMS Powersafe</b> Software package for selective shutdown of installed consumers such as axis motors, drives, spindles, coolant-pumps and auxiliary equipment during production breaks. Definable point in time at which the machine goes demand-oriented automatically into it's Power Safe mode.	
		<b>Working hours and piece counter</b> in the screen	
		<b>Socket 230 V</b> at control panel	
		<b>Socket for portable mini-hand wheel</b> without emergency stop button, at control panel	
		<b>Cabinet cooler as a door mounting unit</b>	
		<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	
		<b>Chip conveyor (scratch band)</b> with lateral discharge, discharge height 1050 mm, tank capacity 300 ltr., with pump capacity 150 l/min. at 1,5 bar incl. bed flush	
		<b>For machining with high chip volume or additional flushing options</b> and the resultant big coolant flow we recommend, to calm down the coolant and to decrease the cleaning cycles at the chip conveyor and the coolant pipes, coolant equipment with a tank capacity of 900 l.	
		<b>Mini-operating panel</b> with start and receipt push buttons, for pallet recognition M61/M62	
		<b>Installation elements</b>	



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### Wash gun

with each 1 connection and quick coupling  
in loading- and working area

### Central pneumatic connection

Uncontrolled with 2 connection couplings

### 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)  
incl. bed flushing system

### Package m-functions

m72/m73 2 m-function pairs for  
m74/m75 simple ON/OFF function  
m76 m-functions to control a  
m78 peripheral equipment with external setback  
(blocking of the machine course)

### Slot sieve type W = 0,35

### Fully enclosed working area

### Suction point

for customer specific installation  
Ø 200 mm on top of the machine enclosure

### Cutting tools

The cutting tools have to be balanced  
according to DIN ISO 1940, class G 2,5,  
in two levels, with max. operating speed

### Machine colour

Two-components-structure varnish - 3 colours  
light grey acc. to NCS S1502-B  
blue acc. to NCS S2050-R80B  
basalt grey acc. to RAL 7012  
oder wie in Kommission CW beschrieben

### 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.

