

Complete machine description

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| 1 | 1 | Partly refurbished
vertical CNC-machining centre model DZ 12 KW
Year of construction: 2012, weight: 7.700 kg | |
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Machine-No. 328-03

Scope of delivery:

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

Main Spindle drive with 2 AC-motors

blocking air admitted, with monitoring of the tool clamping
 7,5 kW at 100%
 11,0 kW at 10%
 Spindle speed till 12.000 min⁻¹ – 45 Nm
 Spindle speed acceleration from 0 – 12.000 – min⁻¹
 or deceleration in 0,6 seconds

Drilling capacity in pc. 60	2 x Ø 25 mm (with insert drill)
Tapping capacity	2 x M 20
Milling capacity in pc. 60	2 x 150 cm ³ / min.

Travel:

X-axis	550 mm
Y-axis	320 mm
Z-axis	360 mm

Spindle dist. X-Axis 250 mm

Automatic tool changer

by robust, full encased Pick-up chain magazine
 with mechanical drift cover and cone cleaning, via air blow

Tool places	2 x 16
Tool shaft	HSK-A 63 DIN 69893
Tool-Ø	max. 85 mm
Max. tool length	240 mm
Tool weight	max.53 kg
Tool change time approx.	0,9 s (depends on CNC)
Chip-to-chip-time approx.	2,4 s (depends on CNC)



Integrated Workpiece swivel table IWW 0/180 degrees

With gaps underneath the trunnion fixture for optimal chip drop, with center divider workpiece swivel time appr. 2,4 s weight-dependent, self-regulating through self-learning speed-control table loading capacity per side 0 - max. 160 kg, max. 100 kg weight difference between the two table sides. Per table side integrates:

- NC-rotary-table, type AWU 160 P with pneumatic clamping repetition accuracy $\pm 15''$, face plate dia. 160 mm, with center bore dia. $50 +0.012$ mm, fixture pin dia. 16 h7, 4 fixture bores M10,
- CHIRON standard fixture for rotary table bridge size 620 mm counter bearing with pneumatic clamping flange plate incl. connecting couplings and quick-locator, on side of the rotary table flange plate incl. connecting couplings and quick-locator, on side of the counter bearing 2 x 4-core energy supply pneumatic or hydraulic swing radius 240 mm
- 4th or 5th NC-axes, complete
- pneumatic supply without control

Digital direct drive for y-, x- and z-axes

with indirect absolut path measuring system, rapid traverse in X, Y-axes 40m/min and Z-axis **75 m/min** Acceleration X- and Y-axes 1,0 g, Z-axis 75 m/min.

Remark:

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

FANUC 31i A5 - 5-axes continuous path control

10,4" color screen
memory capacity 512 KB (free available max. 1000 programs)
drilling cycles G73-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



Pos.	Qty.	Article Description	Price / €
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999 tool offsets
 cutter radius - contour compensation
 54 zero shifts G54-G59, G54.1 P1 - P48
 metric/inch switch
 3 D-interpolation/helical interpolation
 S-analogue
 orientated spindle stop
 Slot for PCMCIA memory card
 Interface RS 232C on the side at the control panel
 Ethernet connection RJ45 in control panel
 software-limit switch
 NC-diagnosis
 machine diagnosis
 high-speed skip and macro common variables

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.
 Password protected confirmation of the performed maintenance through the maintenance staff.

Thermodrive

with indirect path measuring system

Working hours and piece counter
 in the screen

Socket 230 V

at control panel

Socket for portable mini-hand wheel

without emergency stop button,
 at control panel

Cabinet cooler as a door mounting unit

Signal lamp on machine enclosure for 3 signals

Signal "red" = failure
 Signal "white" = load machine
 Signal "green" = machine is running



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

Mini-operating panel

with start and receipt push buttons, for pallet recognition M61/M62

Coolant equipment with chip conveyor (scratch band)

discharge height 1050 mm
tank capacity 230 l, discharge backwards
pump capacity 110 l/min. at 1,3 bar

Oil-free air service unit

with automatic condensate separator,
pressure control of the air supply
and micro filter 0,01 µm for air purge

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.

Wash gun

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

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 installed at the swivel centre divider
controlled with m-functions
for washing the working area



Pos.	Qty.	Article Description	Price / €
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2 x Machine preparation

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 2 flow control switches
- 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.

(Subject: required high pressure equipment)

Automatic loading door of total enclosure

opening and closing, actuating to closing via two-hand push buttons

Automatic central oil lubrication

Exhaust fan with air cleaner

exhaust capacity 800 m³/h

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.

CHIRON Lasercontrol Single F500

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



Electric interface for loader with "Profibus" - Fanuc

on W-machines for loading through manual or automatic loading door for automatic loading system, with DP/DP-coupler (slave) in the electrical cabinet, according to documentation of CHIRON loader interface, consisting of: circuit diagram, signal description and functional diagram, interface tested according to Chiron-description, incl. key-operated switch and indicator lamp in the control panel "with loader", incl. direct door switch in position "door open"

Deviation from the standard interface and set up will be charged according to effort.

Waiting periods during set up will also be charged.

Recommended options:

- automatic doors, if necessary
- tool life control
- tool breakage control
- fixture washing
- chip conveyor, if not included in basic machine
- air sensing
- automatic central lubrication

Note:

The machine has to be anchored with robot loading or linkage. Anchoring the machine to the ground can be made by Chiron if wanted. This outlay will be charged according to effort.

Pneumatic- and Hydraulic Connections

Hydraulic unit

continuous duty

pressure: 200 bar

incl. valves for supply of 2 clamping devices and 2 pressure switches for clamping control

Central hydraulic and pneumatic supply

prepared for max. 20 connections,

6 connections are installed including connecting couplings,

4 for hydraulic, max. 200 bar and

2 for pneumatic without control.

Installation up to the outside of machine bed, with electrical control for clamping ON - OFF via push button at control panel



Pos.	Qty.	Article Description	Price / €
4		<p>Extension hydraulic unit for further clamping circuits 1 additional clamping circuit, double acting</p>	
8		<p>Further hydraulic connection(s) including 1 connecting coupling, max. 200 bar, addition to central hydraulic and pneumatic supply (a total of max. 20 connections is possible)</p>	
2		<p>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.</p>	
2		<p>4 + 4-core pneumatic- or hydraulic turning supply for CHIRON standard fixture 4 x through rotary table and 4 x through counter bearing</p> <p>FANUC Tool lifetime control with: - Tool place organization - Sister tool organization</p> <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> <p>Documentation Operating manuals, programming and operating manuals 1-fold on a USB-Stick. Please refer to the manufacturer's instructions for each component.</p> <p>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</p>	



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Main circuit

total power supply 400 / 230V \pm 10 %, 50 cycles N/PE,
neutral conductor, load possible, pressure supply
6 bar, \pm 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.

