

## Complete machine description

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| 1 | 1 | <b>Completely refurbished<br/>vertical CNC-machining centre model DZ 15 KWM</b><br><b>Year of construction: 2008, weight: 10.500 kg</b> |  |
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### Machine-No. 188-71

Drilling capacity in steel	2 x Ø 42 mm (with insert drill)
Tapping capacity	2 x M 30
Milling capacity in steel	2 x 350 cm <sup>3</sup> /min

### Scope of delivery:

**Column moving machining centre**  
with machine bed in mineral cast technique  
and integrated workpiece swivel table  
Suitable for dry-machining with optimized chip drop

### Hauptspindeltrieb mit 2 AC-Motoren

11,0 kW bei 100 % ED  
28,0 kW bei 15 % ED  
Drehzahlbereich: 20 - 12.000 min<sup>-1</sup> - max. 180 Nm

### Travel:

X-axis	630 mm
Y-axis	400 mm
Z-axis	360 mm

(plus distance from spindle nose to table surface, according to data sheet)

Spindle distance in X-axis 320 mm

### Automatic tool changer

No. of tools	2 x 24
Tool shaft	HSK A 63 DIN 69893
Max. tool dia.	78 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)



## **Integrated Workpiece swivel table IWW 0/180 degrees**

for optimal chip drop, with center divider  
workpiece swivel time appr. 3,5 s weight-dependent, self-regulating  
through self-learning speed-control  
table loading capacity per side 0 - max. 180 kg,  
max. 120 kg weight difference between the two table sides.  
Per table side integrates:

- NC-rotary-table, type **AWU 160 P** with pneumatic clamping  
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 800 mm**

**Model: worm gear**

**Driver technology: fabricate Siemens**

**Description: 1FT6064**

counter bearing with pneumatic clamping  
flange plate incl. connecting couplings and quick-locator,  
on side of the rotary table and counter bearing.  
2 x 2-core energy supply pneumatic or hydraulic  
swing radius 225 mm

- 4th or 5th NC-axes, complete
- pneumatic supply without control

## **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.

acceleration: 0,5 g in X-axis  
1,0 g in Y-axis  
1,2 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.)

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

(PCU 50 / NCU 572.5, 6 measuring circuit, 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

hard disk with approx.. 20 GB for free disposal

drilling cycles G81-G89

drilling and milling cycles

M- and T- functions



Pos.	Qty.	Article Description	Price / €
		<p>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 (1 x V24) USB-interface at 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</p> <p><b>CHIRON Powersafe</b> 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 program to recovery the production readiness.</p> <p><b>CHIRON maintenance management on the screen</b> display of the pending maintenance: advance warning = "prepare maintenance" warning = "carry out maintenance" machine stop = "catch up on maintenance"</p> <p>Brief instructions for the pending maintenance with graphic illustration on</p>	



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		USB data-carrier. Password protected confirmation of the maintenance work carried out by the maintenance staff.	
		<b>Operating hours and piece counter</b> on 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>Electrical cabinet cooler mounted to the door</b>	
		<b>Signal lamp on control panel for 3 signals</b> Signal "red" = failure Signal "white" = machine loaded Signal "green" = machine is running	
		<b>Machine enclosure with full enclosed workspace</b> with sliding doors, electrically interlocked, 2200 mm high above floor, incl. machine lamp service friendly with removable side walls workspace enclosure with stainless steel covers	
		<b>Chip conveyor (scratch band) small version</b> with lateral discharge, discharge height 1.050 mm, tank capacity 150 l lift pump capacity max. 300 l/min. at 1,3 bar  (In case of steel machining and other materials with long chips we recommend the use of a screw conveyor)	
		<b>Coolant equipment</b> tank capacity 1400 l, pump capacity from 200 l/min at 3,0 bar high pressure pump capacity 20 l/min at 70 bar, Vario valve, pressure stage Vacuumfilter VRF 250 with coolant flushing 50 µm nominal and sludge removal in the pure water tank	
		<b>Mini-operating panel</b> with start and receipt push buttons, for pallet recognition M61/M62	



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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

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)

Installation elements

## Wash gun

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

## Central pneumatic-connection

uncontrolled with 2 connection couplings

## Automatic loading door of total enclosure

opening and closing,  
incl. two-hand push buttons

## Thrust shaft switch on automatic doors

instead of rubber profile  
(for S + W machines)

## Direct path measuring system

maker HEIDENHAIN, overpressured in all axes  
X-Y-Z-axis = 630 x 400 x 360 mm  
(for m/c with Siemens control)

## CHIRON Tool lifetime control with:

- Tool place organization
- Sister tool organization
- tool data check for geometric values



Pos.	Qty.	Article Description	Price / €
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## Screw conveyor

installed in the machine foot

## Automatically central grease lubrication

## Pneumatic and hydraulic-connections

### 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

### 6 Further hydraulic connection

inclusive connection couplings, max. 200 bar,  
for central hydraulic- and pneumatic connection  
(there are max. 20 lines hydraulic/pneumatic in sum possible)

### 3 Hydraulic unit – extension

for further clamping cycles  
1 additional clamping cycles (double acting)

### CHIRON Variable Clamping Logic

For the definition of different clamping and releasing sequences,  
for a maximum of 10 functions with a maximum of 8 steps.  
Considering of time delay and monitoring of clamping circuits  
e.g. through pressure switches or airsensing.  
The storing of the configuration and reloading,  
allows fast changeover.

### Electric interface for loader with "Profibus" - Siemens 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.



Pos.	Qty.	Article Description	Price / €
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**Recommended options:**

- automatic doors, if necessary
- tool life control
- tool breakage control
- fixture washing
- chip conveyor, if not included in basic machine
- Parts location 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.

**1.2. Safety switch locked currentless co. Euchner TZ1**

Chiron Standard safety switch co. Elan currentless locked.

**Electro technic equipment**

**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

**Analog sensor for request of the planned assets of the tool holder**

**The Maintenance inspection door has to be secured with a roller lever**

**Flow monitoring**

for internal cooling

**Electrical main switch off**

in the pneumatic supply

**Additional Service-doors on the left**

with lock / scanner

Entrance for the technical area of the machine

**Homebutton Pro**



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### 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

### 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.

