

Complete machine description

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| 1 | 1 | Completely refurbished
vertical CNC-machining centre model FZ 15 KS FX
Year of construction: 2001, weight: 8.700 kg | |
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Machine-No. 129-19

Scope of delivery:

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

Drilling capacity in steel Ø	36 mm (with insert drill)
Tapping capacity	M 24
Milling capacity in steel	250 cm ³ /min

Main Spindle drive with AC-motor

9,5 KW at 100 %
14,0 KW at 15 %
Spindle speed range: 20 - 20.000 rpm - max.90 Nm

Travel:

X-axis	550 mm
Y-axis	400 mm
Z-axis	360 mm

Automatic tool changer

Tool places	48
Tool shaft	HSK A63 DIN 69893
Tool-Ø	max. 82 mm
Tool-Ø if adjacent places are free	max. 125 mm
Tool length	max. 250 mm
Tool weight	max. 5,0 kg (optional max. 10,0 kg)
Chip-to-chip-time	approx. 2,4 s (depends on CNC)



Pos.	Qty.	Article Description	Price / €
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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.)

2 axis rotary table type ZAS 280

consisting of:
4th and 5th axis
smallest increment 0,001°

Tilting axis

Tilting angle: $\pm 100^\circ$
Tilting accuracy $\pm 8''$ 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 2.000 Nm
max spindle rev. 16 rpm

rotary table faceplate dia 280 mm
with thread and pin hole grid M16 x \varnothing 15 H7 x 50 mm
incl hydraulic clamping system
Tilting accuracy $\pm 8''$ with
absolute, direct path measuring system RCN 220
max. transport weight (workpiece weight): 300 kg
via worm drive system
max. transmittable torque 700 Nm
max. torque if the table is clamped 1.500 Nm
Max spindle rev. 25 rpm

Counter bearing incl. hydraulic clamping system
without drive
max. torque via clamping system 2.000 Nm

Hydraulic unit for clamping of faceplate and counter bearing



Pos.	Qty.	Article Description	Price / €
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Central Pneumatic or Hydraulic Turning Supply
 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.

SIEMENS CNC-control 840D

(MMC 103./ NCU 573.2, 6 measuring cycles, 1 canal)
 incl. 10,4" TFT colour LCD screen / full keyboard OP032S
 Hard disk, NC-memory 1,5 GB programmes storage capacity
 Dialog programming, milling simulation
 reloading block by block from the hard disk
 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
 crossingradius
 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 spindlestop
 drip feed function through V24 interface
 dimension metric or inch
 software limitswitch
 NC-diagnosis
 machine-diagnosis
 absolute indirect path measurement systems
 rigid tapping



Pos.	Qty.	Article Description	Price / €
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CMS Powersafe

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.

Working hours and piece counter

in the screen

Socket 230 V

at control panel

Cabinet cooler as a door mounting unit

Machine enclosure

with loading door, electrically interlocked, 2200 mm high above floor, incl. machine lamp service friendly with removable side walls vertical bellows

Chip conveyor (scratch band)

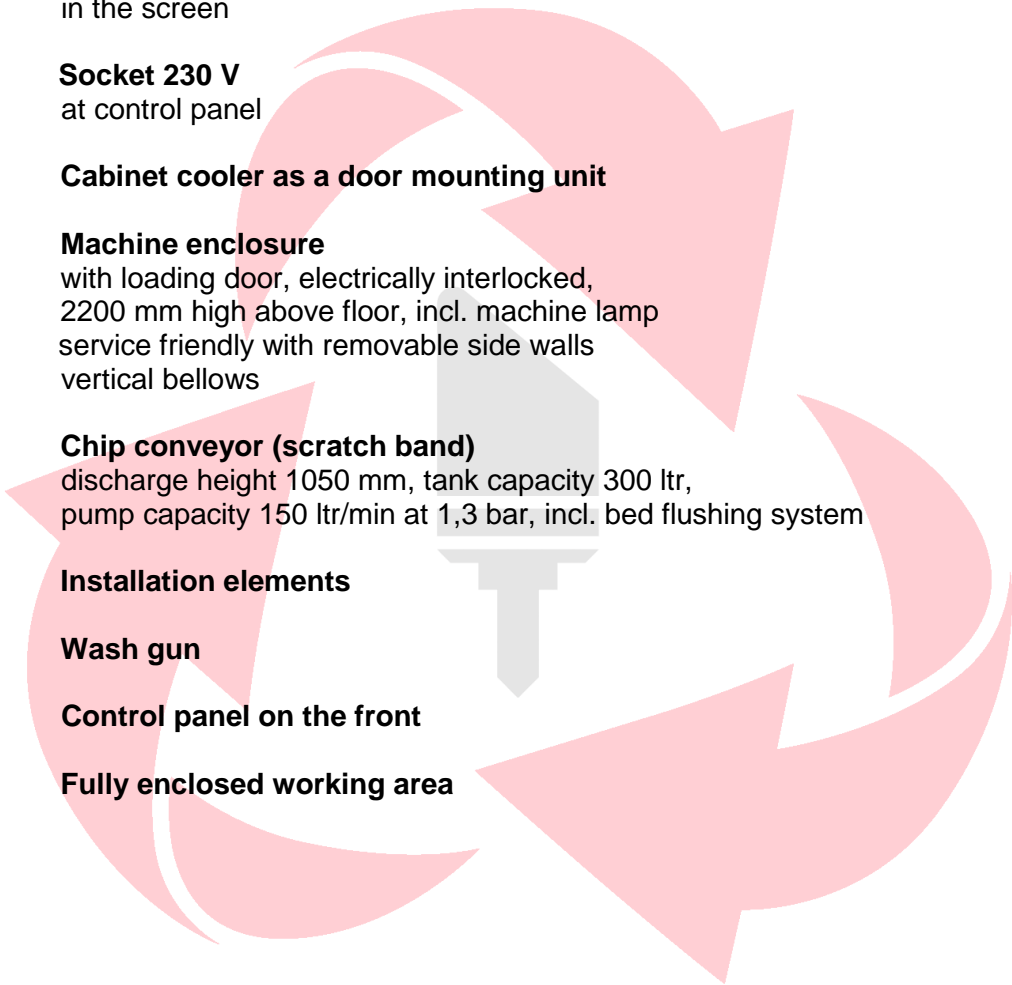
discharge height 1050 mm, tank capacity 300 ltr, pump capacity 150 ltr/min at 1,3 bar, incl. bed flushing system

Installation elements

Wash gun

Control panel on the front

Fully enclosed working area



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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
- 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)

Chip screw

Mounted in the machine food

Coolant equipment PF 50 / FKA 900

(for cast iron slurry, Al with Si \geq 12%)

tank capacity 900 l,

pump capacity from 100 l/min at 2,1 bar

up to 250 l/min at 1,8 bar

high pressure pump capacity 20 l/min at 30 bar

high pressure circuit with filtration via paper bond filter PF50,

filtration 50 μ m nominal.

twin filter in the high pressure circuit for the protection of the machine.

incl. bed flushing system

Electric interface for loader with Harting-plug

for automatic loading system

mounted to the side of the cabinet,

key-operated switch and indicator lamp in the control panel "with loader".

Without commissioning

Central Pneumatic or Hydraulic Turning Supply

4-fold, integrated in A- and B-axis,

with 2 connecting couplings in the center of the face plate

Precondition: hydraulic connection

with hydraulic unit

or controlled pneumatic supply

Prepared for Schunk-clamping system

with uncontrolled line and 1 connection coupling



Pos.	Qty.	Article Description	Price / €
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Pneumatic supply

without control and 1 outlet coupling

Pneumatic connection

for pneumatic clamping device
electrically controlled pneumatic connection,
for double acting; pressure control;
pressure control switch with automatic pressure regulation.
(in case of pressure change automatic pressure sensing)

Extensions of the Sinumerik 840D

PCI / ISA adapter

with 2 plug-ins

Network card

Inkl. Installation
With 3 connections (AUI, RJ45, RG58)
The cabling to the network isn't included.

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 \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.

