Technical Specifications – CHIRON FZ 15 S

Description:
Production machining center with vertical spindle
Multi Profile system version
Type **FZ 15 S profile system**

0001 – Mobile column machine

According to the description below.

0010 – Machine base made of mineral cast

Protective enclosure with full guarding of the working area.
Loading door with electrical safety.
Interchangeable safety windows.

Separation of the working area by steel lamella table.

Height above floor: 2140 mm

Including lighting.

Fixed table with chip trough prepared for flexible machining system for **bars and profiles**.

Distance spindle nose – rotation axis: **min. 48 mm**

Machining travels:

X-axis: **730 mm**
Y-axis: **400 mm**
Z-axis: **425 mm**

0012 – Machine base rinsing

With coolant connection.

0020 – Single-spindle headstock

Prepared for installation of a main spindle with motor.

0030 – Spindle

Driven by **AC motor**.

With air purge and monitoring of tool clamping.

Power:
13.0 kW at **100% duty cycle**
33.8 kW at **10% duty cycle**

Maximum speed: **15,000 rpm**

For speeds **> 12,000 rpm: 20% duty cycle**

Maximum torque: **140 Nm**

Acceleration from **0 to 12,000 rpm** or deceleration in **1.3 seconds**.

Machining capacities:

Drilling capacity: **Ø 42 mm**
Thread tapping: **M30**
Milling capacity: **500 cm³/min in E355 steel**

0040 – Automatic tool changer (chip resistant)

Tool magazine capacity: **20 tools**

Tool taper: **DIN 69893 HSK A63**

Maximum tool diameter: **65 mm**

Maximum tool diameter without adjacent tools: **175 mm**

Maximum tool weight:
2.5 kg (0.5 kg on 4 positions)

Tool change time (CNC controlled): **approx. 0.9 s**

Chip-to-chip time (CNC controlled): **approx. 1.9 s**

0050 – Feed motors for axes X, Y and Z

Direct digital drive with **direct measuring system**, pressurized.

Rapid traverse speeds:
75 – 75 – 75 m/min

Accelerations:
1.0 – 1.0 – 1.0 g

0058 – Centralized automatic lubrication (grease)

Including **automatic cleaning cycle of the X and Y axes**.

SIEMENS 840D CNC solution line

CNC user interface

CHIRON RemoteLine

On-screen maintenance management

CYCLE 800

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0102 – Complete divider unit installed

Consisting of:

2 synchronized CNC rotary dividers
with direct digital drive via torque motor
and direct measuring system.

Right side fixed, left side movable on guide rails.

Prepared to connect **4th and 5th CNC axes**

Smallest increment: **0.0001°**

Maximum rotation speed: **50 rpm**

Maximum spindle passage: **150 × 150 mm (square section)**
for clamping jaws and material (bar)

Prepared to receive **interchangeable clamping jaws**

Automatic clamping system integrated in the CNC dividers, including a **second pneumatic pressure range** controlled for operating the clamping jaws.

Complete CNC feed unit installed.

Stroke: **0 – 1150 mm with programmable feed**

Speed: **40 m/min**

Mounted directly on the machine frame with **two flat mounting zones**.

0290 – Service and parts hour counter

Displayed on the screen.

0300 – Socket on the control panel

(For execution, see section “electrical connection”).

0320 – Electrical cabinet cooling unit

Mounted on the cabinet door.

0350 – Signal tower

With three signals:

Red signal = fault
White signal = machine loading
Green signal = machine running

0380 – Oil-free maintenance unit (air conditioner)

With electrical switch and automatic water separator.

Air supply pressure monitoring and fine filtration **0.01 µm for compressed air**.

0400 – Levelling elements

When installing the machine in a **retention basin**, it is not permitted to install the levelling elements directly on sheet metal.

Problems resulting from such installation **are not covered by the warranty**.

The drawings provided for approval present a solution for the **construction of the retention basin**.

0499 – Additional equipment for the machine

0500 – Additional coolant equipment

0510 – Chip conveyor (scraper type)

Tank capacity: **320 L**

Pump capacity: **250 L/min at 1.4 bar**

Coolant filtration via **slotted screen filters**

Discharge height: **1050 mm**

Chip evacuation to the rear.

0540 – Coolant system TPF 350 / FKA 900

Also suitable for materials generating **mud-like particles** such as:

- grey cast iron
- aluminium alloys with silicon content ≥ 12%

Tank capacity: **900 L**

With standard pump:
100 L/min at **2.4 bar**
up to 250 L/min at **2.3 bar**

Paper roll filtration system **TPF 350**

Nominal filtration: **50 µm**

0546 – Cable and piping bridge

Between the machine and the coolant system.

0560 – Machine preparation for coolant through the spindle

With rotating seal on the hollow motor shaft and high-pressure supply with flow controller.

Note:

For **SK version form A**.

For **HSK tool holders**, we recommend using the patented coolant pipe with filter screen.

Advantage:
Reduction of blockage of lubrication channels inside the tools.

0570 – Fixture rinsing

With coolant connection.

1000 – Additional coolant equipment

1080 – Basket magazine rinsing

For machining with **heavy chip removal**

Including circular rinsing pipe.

1500 – Additional equipment extraction / fire extinguishers

1560 – Extraction connection

For extraction system of the working area
supplied and installed by the customer.

Connection Ø **175 mm** on top of the machine.

Electrical preparation in the cabinet.

3500 – Additional measuring equipment / tool breakage control

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3540 – Fixed 3D probe

Type **TS 27 R – RENISHAW**

With adapter plate and air blast nozzle for probe tip.

Used for:

- tool breakage detection (in the working area)
- automatic tool length measurement (on FZ machine)
- automatic machine compensation
- measurement during machining process

Software for measurement cycles and strategy programming.

Tool holder with spherical tip **Ø 12 mm**.

3550 – Renishaw RLP40Q probe system

For automatic measurement.

Workpiece measurement and automatic machine compensation.

Probe with **radio module**.

Cone adapted to the machine spindle.

Stylus: **58 mm with ruby ball Ø 4 mm**

Receiver **RMI-Q with integrated interface**

Support arm for radio receiver.

Measurement during machining process.

Software for measurement cycles and strategy programming.

Remark:

Machine compensation using the probe requires an appropriate measuring surface on the machine or the clamping device, or a calibration fixture available as an option.

5500 – Additional CNC control equipment

5863 – Synchronized spindle feed and rotation

For tapping **without compensation chuck**.

6000 – Additional equipment for automation

6374 – Profile bar feeder for bar lengths up to 6 m

For guiding profiles up to **Ø 212 mm**

Consisting of:

Base structure in aluminium profile with **6 adjustable feet**

Raw part unloading and coolant collection tray along the entire length.

Two-part cover with handles and **90° opening angle**, with electrical safety.

Prepared for receiving **interchangeable parts specific to the raw profile**
(interchangeable parts not included).

Including connection to the machining center.