

# Horizontal CNC - controlled end machining machine

## Type FEB 3-150





## Concept and applications of Hagen & Goebel CNC – controlled flange and end finishing machine type FEB 3 - 150

The horizontal CNC – controlled flange and endmaching machine type FEB 3-150 was designed to participate in round or profiled workpieces of any length, quickly and easily as the workpiece ends for milling, drilling, de-burring, or threads.

The powerful NC-spindle motor in conjunction with the Siemens CNC control, type 840 Dsl ensures a continuous spindle speed range up to 6,000 rounds per minute.

The massively oversized feed axes (X, Y, Z) allow each a maximum stroke of 150 mm.

On the work table are arranged in front two manual centric vices, type V2 from the Hagen & Goebel product range "Busch". The clamping area is currently at 12-100mm Ø round material. Instead of the standard vices can also custom-or workpiece-specific fixtures be used.

In opposite to the usual horizontal machining centers, the workpieces through the open design of the machine can be changed more quickly and easily. By, for processing task-optimized build the machine could be made very compact. Larger workpiece length is caused on the open design only secondary importance.

Through the use of the CNC control with integrated standard cycles including hole and contours the workpiece ends can to be machined very quickly.

The machine specifications can be adapted to the needs of the customer. Automatic tool changer, internal coolant supply, appropriate speed and extended stroke ranges of the slideway units and more can be realized.

This machine tool and its options are a consistent implementation of long-term experience in the design of developed CNC – controlled machining centers.



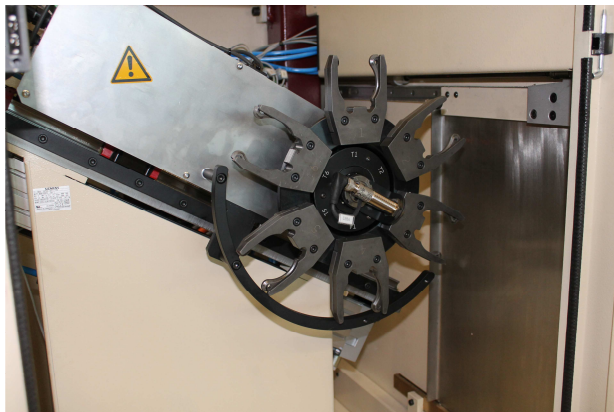
# HAGEN & GOEBEL

More than 80 years of expertise  
in mechanical engineering



(FEB3-150 in standard design with sample parts production)

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(FEB3-150 with automatic tool changer for 6 tools and many other options)

## Technical description

- A tubular frame with an attached workpiece clamping table and integrated 3-axis drilling and milling unit
- Compact machine size
- Integrated control panel below the workpiece table fixed on the machine frame
- 3-axis CNC control Siemens type 840 Dsl integrated in the base of the machine
- Swivelled control panel in the sight of the operator
- Workpiece table with a central T-slot 18H7
- 2 adjustable, manual centric vices type V2 for round material  $\varnothing$  12 - 100mm
- Drilling and milling unit, 3 axis (X, Y, Z), CNC controlled with maximum stroke of each axis of 150mm, 160mm slideway unit widths (Z), 200mm (Y), 350mm (X)
- Integrated spindle unit, type BF4 with front clamping system type HSK-C 63 for easy, manual tool change and maximum tool-chip precision
- Spindle speeds infinitely programmable between "0" and 6.000 rpm.
- Spindle motor power at about 4.1 kW (100%)
- Flood coolant system for external coolant supply. Coolant tank with chip pan in the machine base of the machine integrated
- Guard against chips and coolant system of the processing unit
- Automatic lubrication system of the guideways
- Limit secure, simple sliding cover over the processing area, design according to CE and UVV
- 1 set of documentation in hard copy or in digital format (German language)
- Machine power supply 400 Volt, 28 kVA, fuse 63 amps

## Optional equipment:

- CNC- controller Siemens type 840D or other type
- Second T-slot 18H7 on workpiece table
- Increase of slideway stroke
- Spindle unit with spindle nose type HSK-A 63 or SK 40 and pneumatic unclamp system
- Tool magazine with 6 tool places in pickup magazine
- Changed ratio with spindle speed for example 0 - 3.000 rpm
- Modification for inner coolant system
- Expanded coolant system (higher volume, stronger pump, other filter system)
- Chip conveyor of different types
- Pneumatic moving workpiece stopper
- Modification for hydraulic workpiece clamping systems
- Documents in any other Europe language
- and others



## Technical data

### Axis travel (stroke)

X - axis	150 mm
Y - axis	150 mm
Z - axis	150 mm

### Main spindle

Spindle speed, steppless adjustable	at about 50-6.000 rpm
Spindle drive motor (continuous)	4,1 kW
Type of spindle taper, manual front clamping system	HSK-C size 63
High precision spindle bearing, front (inner diameter)	d Ø 60 mm
other specifications similar to our standard spindle unit, type BF4	

### Coolant system

Coolant tank capacity	at about 90 l
Coolant pump capacity	100 l/min
Pressure, max.	at about 1,3 bar

### Axis measuring system

X-, Y-, Z- axis	indirect by pulse coder
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### Feeding system

Cutting feedrate of X-, Y-, Z-axis	1~15.000 mm/min
Axial force X-, Y-, Z- axis	at about 13.000 N

### Rapid speed

Rapid traverse rate X, Y, Z	15 m/min
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### Workpiece table size (W\*L)

300 \* 1470 mm

### Standard centric vices (2 EA)

Manual clamp/unclamp by hand lever

Clamping range with hardened and grinded standard prismatic jaws	Ø 12-100 mm
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### Power source

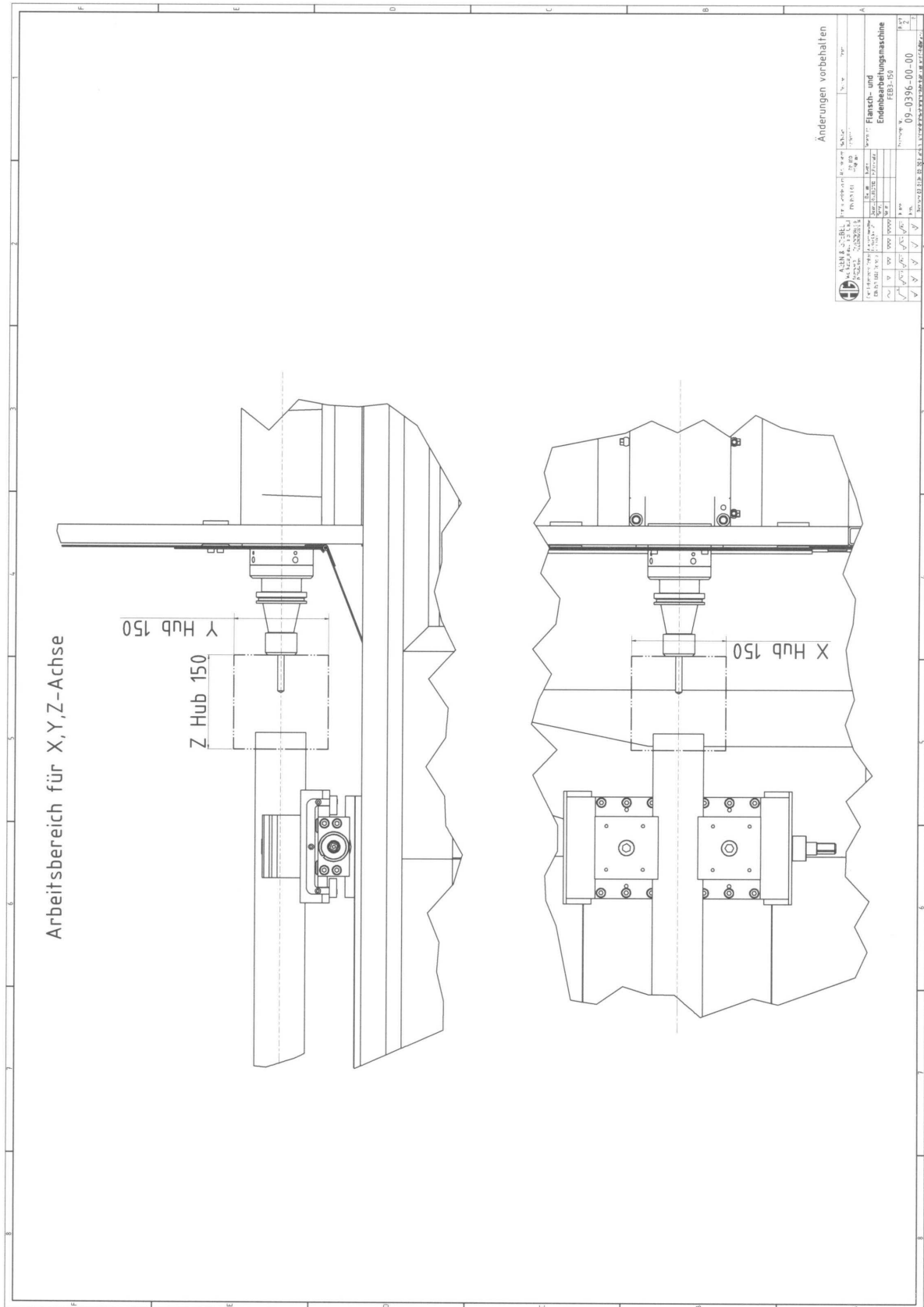
Voltage	3 phases 400 V; 50 Hz
Electrical power supply	28 kVA, 63 Ampere

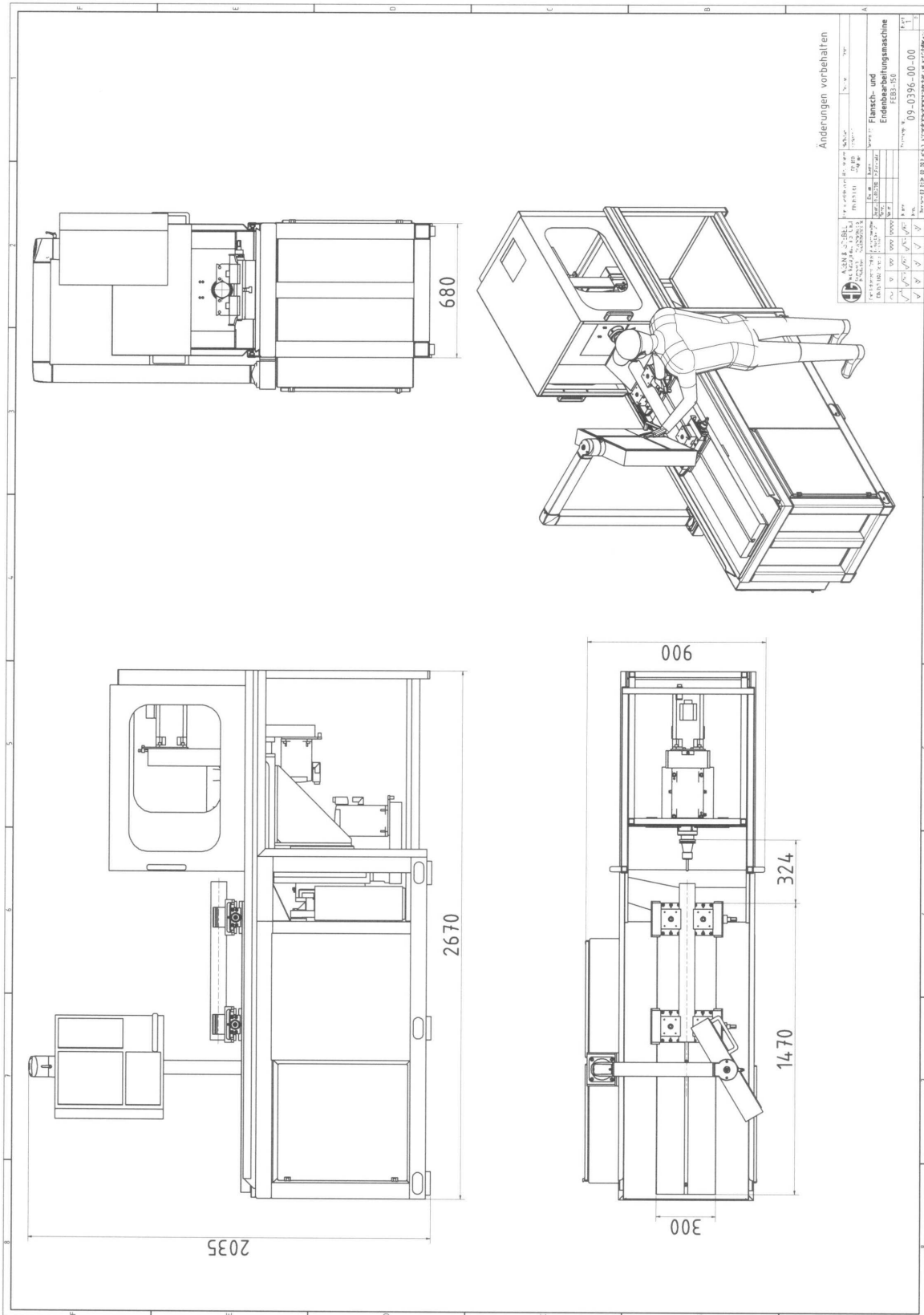
### Mass of machine

at about 2.000 kg

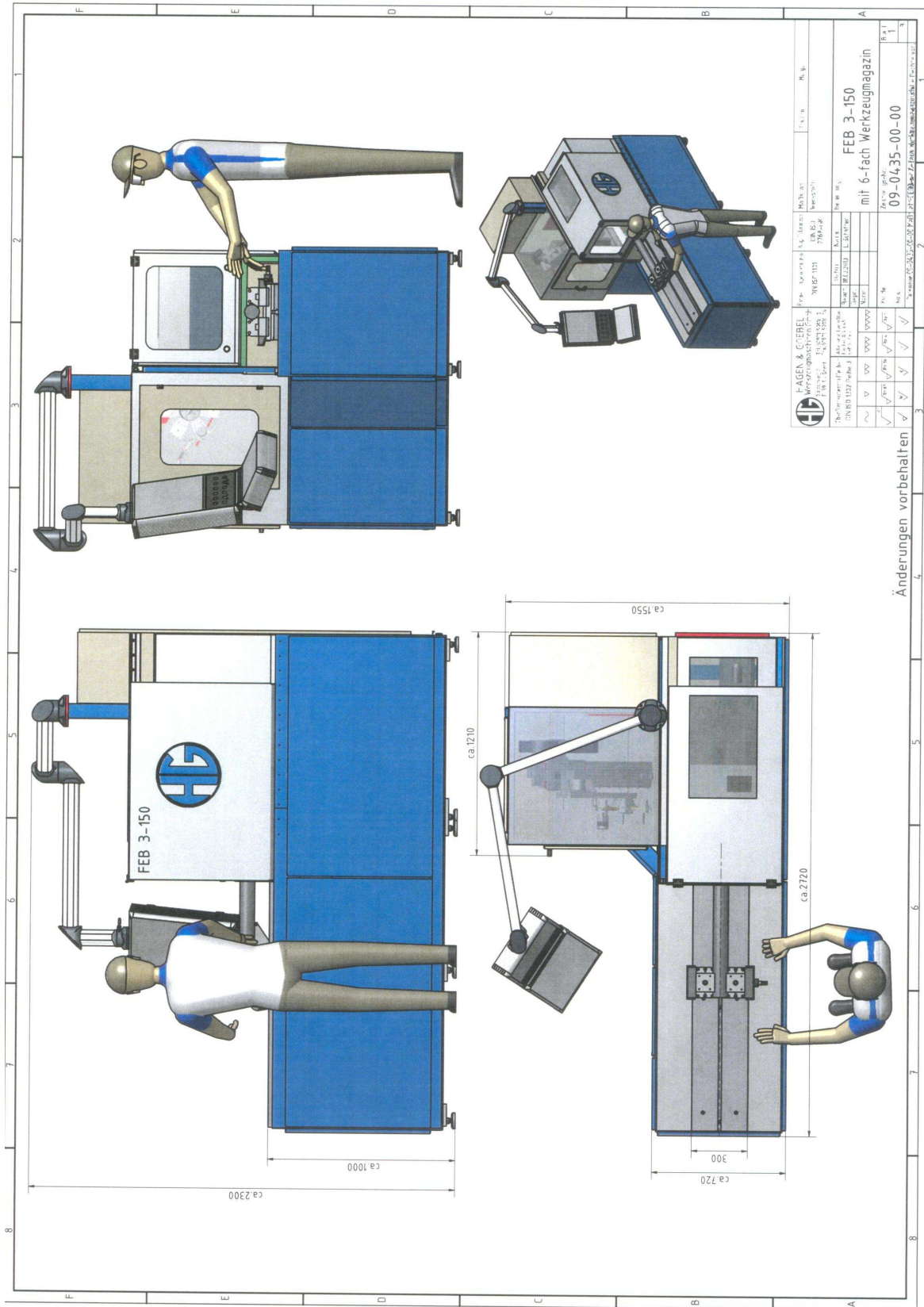
### Machine size L \* W \* H

at about 2.670 mm x 900 mm x 2.035 mm









High performance boring, milling and sawing units in standard and special design



High Performance machines for endmaching and in special design



High Performance tapping machines

other Hagen & Goebel products

