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**HAGEN & GOEBEL**

**Horizontal CNC - controlled  
Workpiece - Endmaching - Machine  
Type E1S  
150 CNC / 200 CNC / 300 CNC**

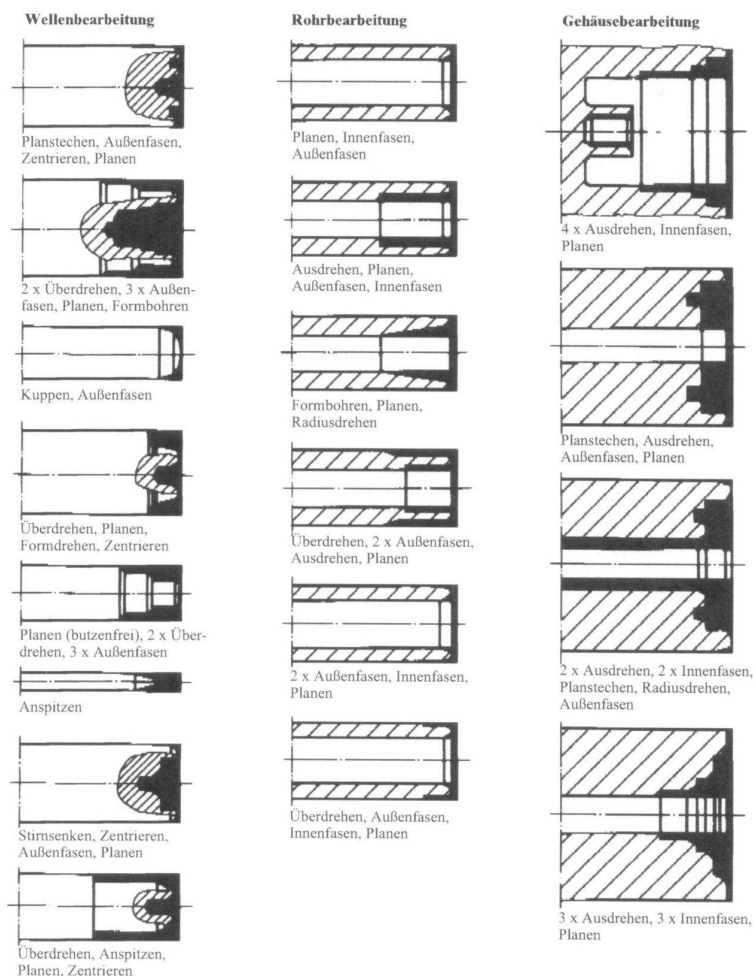


**Hagen & Goebel Werkzeugmaschinen GmbH**  
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## Concept and application of Hagen & Goebel CNC- controlled end finishing machine type E 1 S

The horizontal CNC - end processing machines type E1S are designed to work on round workpieces of any length, fast and uncomplicated the workpiece ends by means of a finishing head with inserts. Through machining-specific arrangements of inserts a variety of machining operations can be performed quickly and reliably in one stroke at the same time.

### Examples of possible end treatments:



(Excerpt: Brochure Fa. Guehring "End Processing System GE 100")

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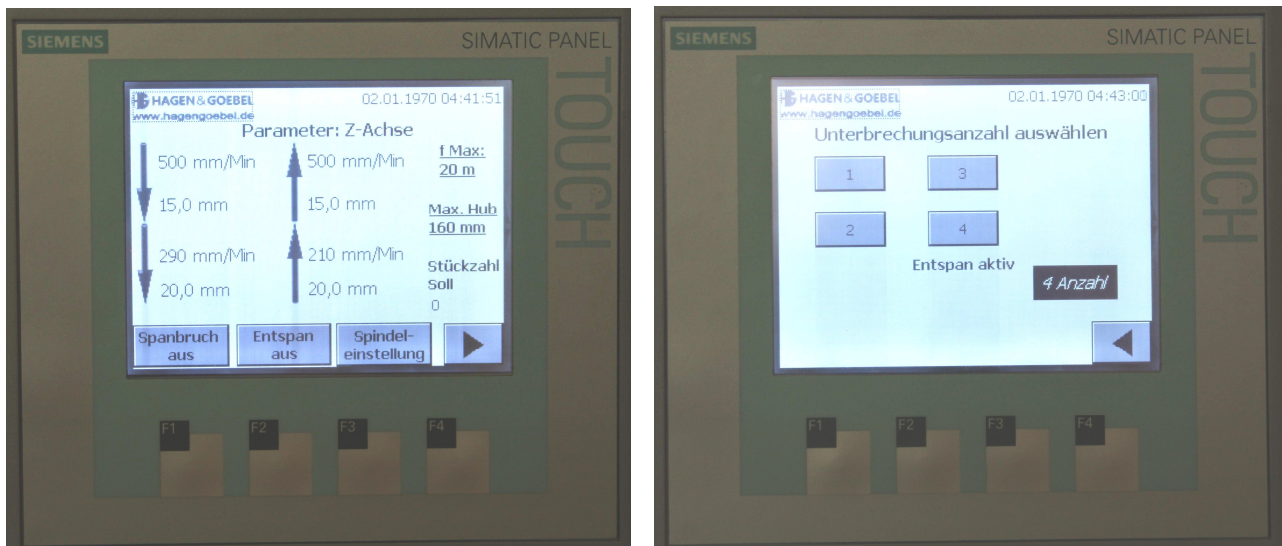


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The powerful main spindle motor provides sufficient power as well as a large speed range for the planned machining. The massively dimensioned feed axis (Z) is equipped with a ballscrew and a strong NC drive motor. A pneumatically or hydraulically actuated centering vice of the PZ series with quickly exchangeable, symmetrical prism jaws is located on the worktable arranged in front of it.

In contrast to the usual horizontal machining centers and lathes, the workpieces can be exchanged quickly and easily thanks to the open design of the machine, either through a sufficiently large front door or through a loading opening in the area of the centering vice. Due to the structure optimized for the machining task the machine can be made very compact. Larger workpiece lengths play a minor role due to the open design.

The very easy to program CNC control, a proprietary development of the company Hagen & Goebel, can be programmed quickly and easily without CNC programming knowledge. To optimize the cutting results, either chip breaking or deburring cycles can be activated by simply selecting them.



Control panel with all important functions incl. "Touchscreen" for easy programming.

To better dissipate machining residues, the machine was designed in a 60 degree slant bed design. Depending on customer requirements, hinged belt conveyors or scraper conveyors are available for chip removal.

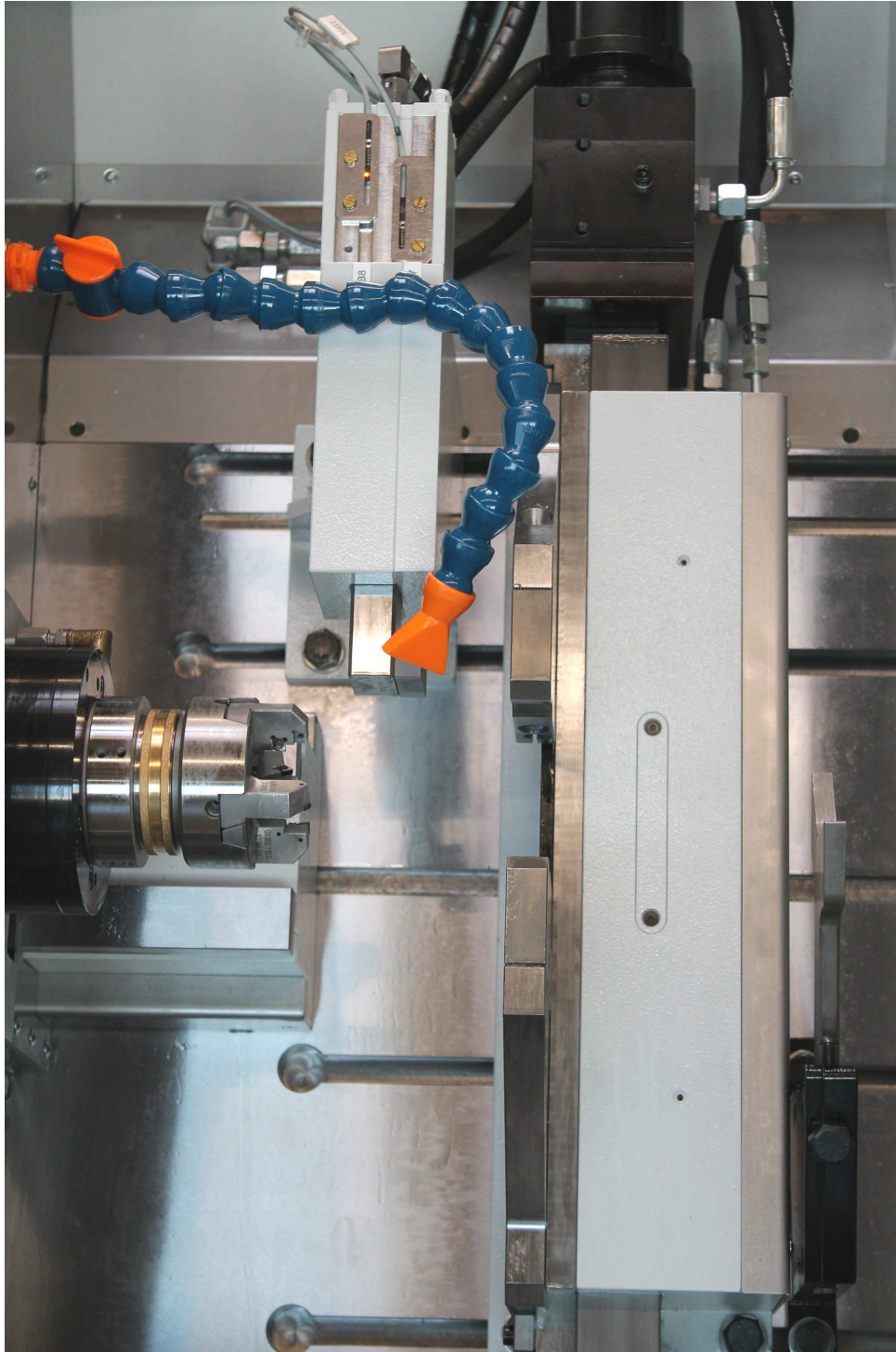
Of course, the machine specification can be specially adapted to the requirements of the customer. Optionally feasible include u.a. an automatic loading door, inner coolant supply, robot interface, rotating beacon, adapted speed and stroke ranges of the processing unit and much more.



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Picture shows: Machine in 60 degree slant bed design with hydraulic centering vice, pneumatic workpiece length stop and prism pre-pad for manual, lateral loading from the outside as well as a customer-specific end processing head.

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Picture shows: Centering vice in pneumatic design with enclosing jaws and end machining tool



Picture shows: Rear length stop with integrated pre-deposit and coolant inlet (option)

Jaw set	PZ100-M75/2	PZ130Hy/M90	PZ250Hy	PZ330Hy	PZ400Hy
1	Ø 5-18mm	Ø 6-15mm	Ø 25-74mm	Ø 25-50mm	Ø 25-50mm
2	Ø 18-32mm	Ø 15-45mm	Ø 74-115mm	Ø 50-120mm	Ø 50-100mm
3	Ø 32-46mm	Ø 45-75mm		Ø 120-170mm	Ø 100-170mm
4	Ø 46-60mm	Ø 75-100mm		Ø 170-220mm	Ø 170-230mm
5	Ø 60-74mm	Ø 100-120mm		Ø 220-280mm	Ø 230-285mm
6	Ø 74-88mm	Ø 120-130mm		Ø 280-330mm	Ø 285-335mm
7	Ø 88-100mm				Ø 335-375mm
8					Ø 375-400mm

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## Technical description

- Massive welded construction in 60 degrees slant bed - execution
- Spindle unit with HSK-C front clamping system and standard three-phase motor
- Massive feed unit designed to match the spindle unit
- Automatic central lubrication of the slide guide and the ball screw
- Full flow coolant system for external cooling with a flexible jet pipe
- Coolant tank with coolant pump and attached chip tray
- Massive mounting plate for clamping systems with T-slots
- Centering vice including the machine connection and the link to the machine control
- 1 prism centering clamping jaw set with clamping range as desired (see table on page 3)
- Pneumatically or hydraulically extending and retracting length stop, designed to be slidable
- 2 workpiece pre-supports, slidable and height adjustable
- Machine housing with manually operated sliding door
- CNC control with control panel and "touchscreen"
- Fully equipped control cabinet with NC motor modules for the feed drive and the main spindle motor
- Documentation including wiring diagram and data backup on CD-Rom in German language
- Machine available in right or left version (Standard is spindle on left side)

### Optional equipment:

- CNC control Siemens 840Dsl or other controller
- Main spindle motor designed as NC drive motor
- Spindle speed in other speed ranges
- Stroke extension of the feed axis
- Mounting plate in extended or specially adapted design
- Flow coolant system in reinforced version
- Internal coolant supply through the machine spindle incl. stronger coolant pump and special filter system
- Work light
- Centering clamping jaws in enclosing form according to customer's request
- Hinge belt chip conveyor or scraper conveyor
- Machine housing with automatically operated sliding door
- Creation of a customized interface for an automatic loading system (e.g. robot or loading portal)
- Additional equipment with loading robot and adapted workpiece storage
- Additional equipment with loading portal and adapted workpiece storage
- Tool monitoring based on active power measurement for the spindle motor
- Creation of an adapted interface for "Teleservice"
- 3 colors indicator light
- Maintenance packages
- Documentation in another European language
- etc.





## Technical data

	150 CNC	200 CNC	300 CNC
<b><u>Operating area</u></b>			
Z-axis stroke (mm)	150	200	300
<b><u>Axis measuring system</u></b>			
Z-axis	indirect by pulse coder		
<b><u>Feeding system</u></b>			
Feed area of Z-axis by program	Selectable		
Smallest programmable increment	0,01mm	0,01mm	0,01mm
Axial force of Z-axis (max.)	8.000 N	11.000 N	14.000 N
<b><u>Rapid speed</u></b>			
Rapid traverse rate Z-axis	20 m/min	20 m/min	20 m/min
<b><u>Main spindle</u></b>			
Speed range 1 or	100-3.000 1/min	100-2.250 1/min	100 - 750 1/min
Speed range 2 (to be confirmed by order)	100-6.000 1/min	100-4.500 1/min	100-1.500 1/min
Motor power KW (at 50 Hz) at about	4	7,5	15
Tool holder, manual front clamping system	HSK-C Gr.50	HSK-C Gr.63	HSK-C Gr.100
<b><u>Centric vice</u></b>			
Drive system	pneumatic or hydraulic	pneumatic or hydraulic	hydraulic
H&G type designation	PZ100-M75/2 or PZ130Hy	PZ130-M90/2 or PZ250Hy	PZ330Hy or PZ400Hy
Clamping area (with exchange of jaws) or	Ø 5-100mm Ø 6-130mm	Ø 6-130mm Ø 25-250mm	Ø 25-330mm Ø 25-400mm
Centring accuracy	± 0,05 mm	± 0,05 mm	± 0,05 mm
<b><u>Size of machining head</u></b>			
Diameter max.	102 mm	140 mm	220 mm
<b><u>Coolant system</u></b>			
Tank capacity	ca. 120 L	ca. 160 L	ca. 200 L
Coolant pump capacity	100 l/min	100 l/min	100 l/min
Pressure max.	ca. 1,3 bar	ca. 1,3 bar	ca. 1,3 bar
<b><u>Electrical equipment</u></b>			
Operating voltage	400 V; 50 Hz	400 V; 50 Hz	400 V; 50 Hz
Connected load, backup fuse	6kVA, 25A	10kVA, 35A	17,5kVA, 35A
<b><u>Weight</u></b> (except liquids) at about			
	1.700 kg	2.300 kg	ca. 3.000 kg

Reserve technical changes

Status 02'2018

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# HAGEN & GOEBEL

ca. 1950

ca. 1600

ca. 1350

Die Maschine wird auf Holzbohlen ausgeliefert

Änderungen vorbehalten!

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	Projekt: _____		
	Auftraggeber: _____		
	Projektziele: _____		

**ETS-150CNC**

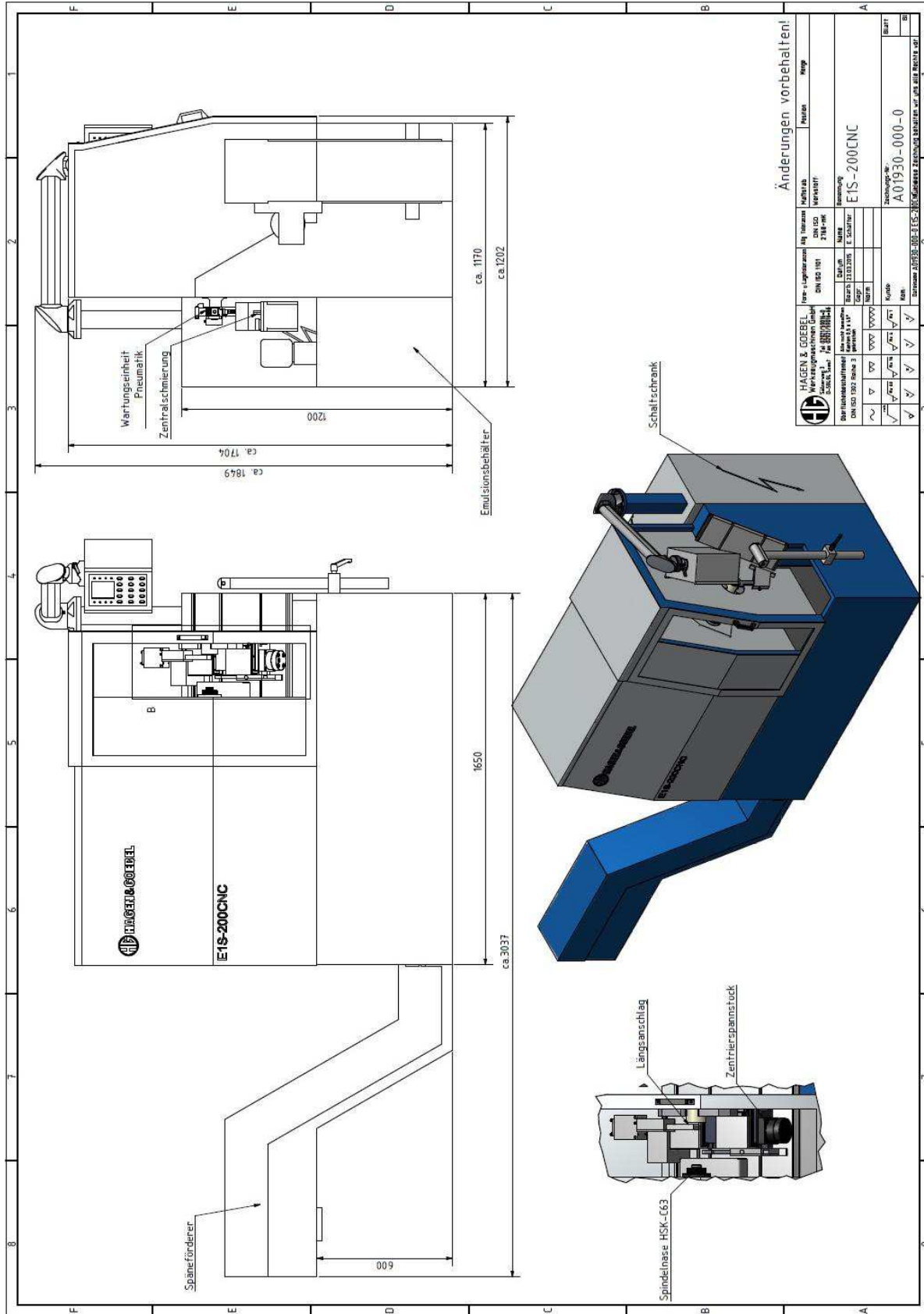
Abmessungen: ETS-150CNC Prospekt



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# HAGEN & GOEBEL

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



Clamp diameter  
up to 660 mm



## Hagen & Goebel Werkzeugmaschinen GmbH

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