

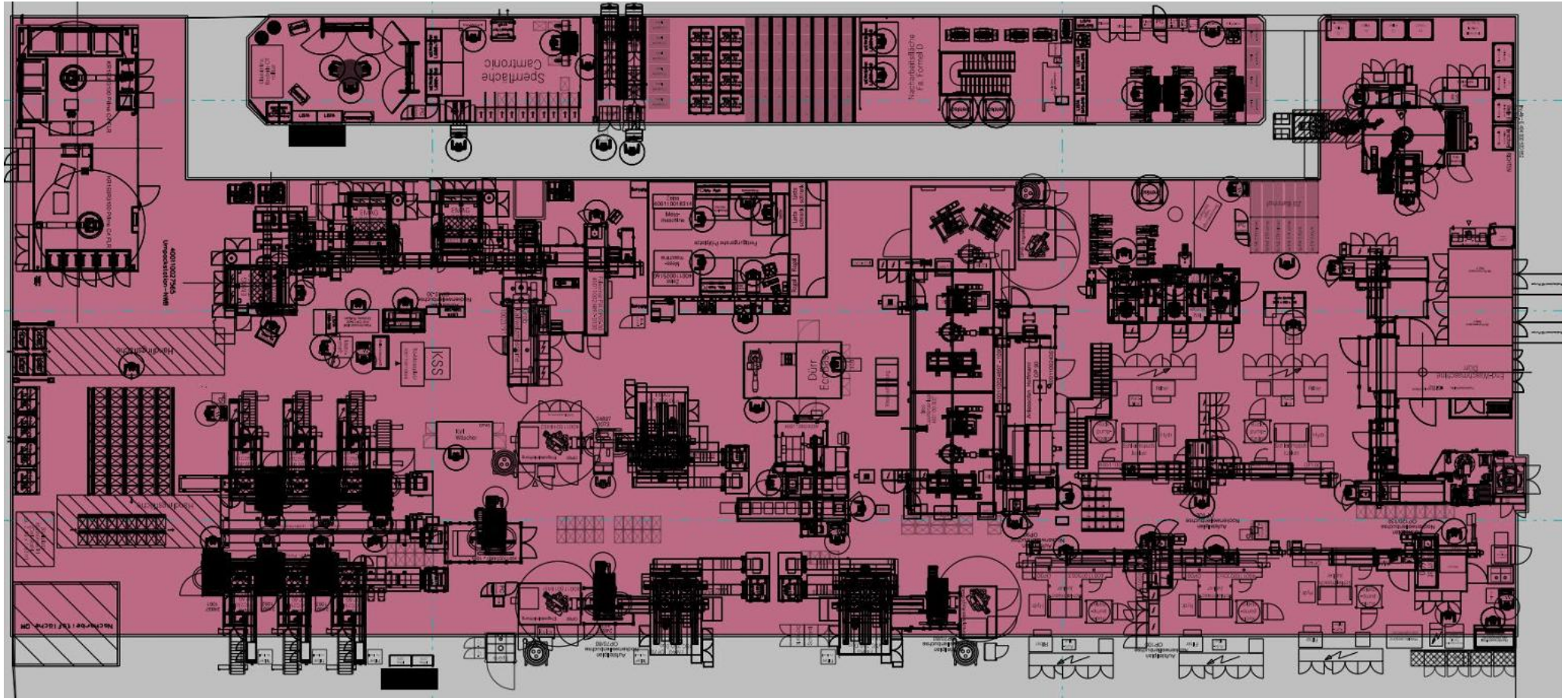
Project presentation: Camshaft production line

Plant list

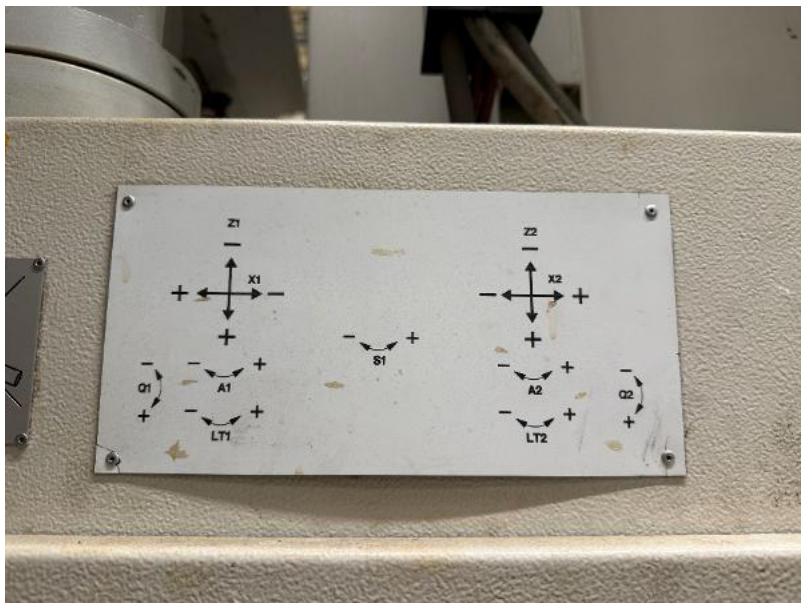
Pos.	Manufacturer	Function	YOM	Type
1	EMAG	Vertical lathe with loading system	2011	VTC 250
2	EMAG	Vertical lathe with loading system	2010	VTC 250
3	EMAG	Vertical lathe with loading system	2010	VTC 250
4	GROB	Cold rolling mill	2011	C6
4.1	Felsomat, Marposs, etc.	Loading Capacity for GROB C6		
5	EMAG	Vertical lathe with loading system	2010	VTC 250-L
6	EMAG	Vertical lathe with loading system	2010	VTC 250-L
7	EMAG	Vertical lathe with loading system	2010	VTC 250-L
8	EMAG	Vertical lathe with loading system	2010	VTC 250-L
9	EMAG	Vertical lathe with loading system	2010	VTC 250-L
10	EMAG	Vertical lathe with loading system	2010	VTC 250-L
11	DÜRR	Cleaning system	2010	Ecoclean
12	Marposs	Measuring machine		
13	SHL	Robotic deburring cell	2011	
14	SHL	Robotic deburring cell	2011	
15	EMAG	Vertical lathe with loading system	2010	VSC 250 Duo DD
16	EMAG	Vertical lathe with loading system	2010	VSC 250 Duo DD
17	EMAG	Vertical lathe with loading system	2012	VSC 250 Duo DD
17.1	SHL	Robotic deburring cell	2012	
18	DÜRR	Cleaning system	2013	EcoCBase W3
19	Marposs	Measuring machine		
20	Hans Hoffmann	Annealing furnace	2011	D0
21	SITEC	Hardening plant		
22	JUNKER	Grinding machine with loading system	2012	Jucam 3000/61
23	JUNKER	Grinding machine with loading system	2011	Jucam 3000/61

Pos.	Manufacturer	Function	YOM	Type
24	JUNKER	Grinding machine with loading system	2010	Jumat 3000/50S
25	Marposs	Measuring machine		
26	JUNKER	Grinding machine with loading system	2011	Jucam 3000/51S
27	JUNKER	Grinding machine with loading system	2011	Jucam 3000/51S
28	IWM	Assembly line		
29	MAE	Reference cell		
30	DÜRR	Final Cleaning Station	2011	42 XE-HD
31		Repackaging station without electronic components		
32		Robotic cell		

Layout

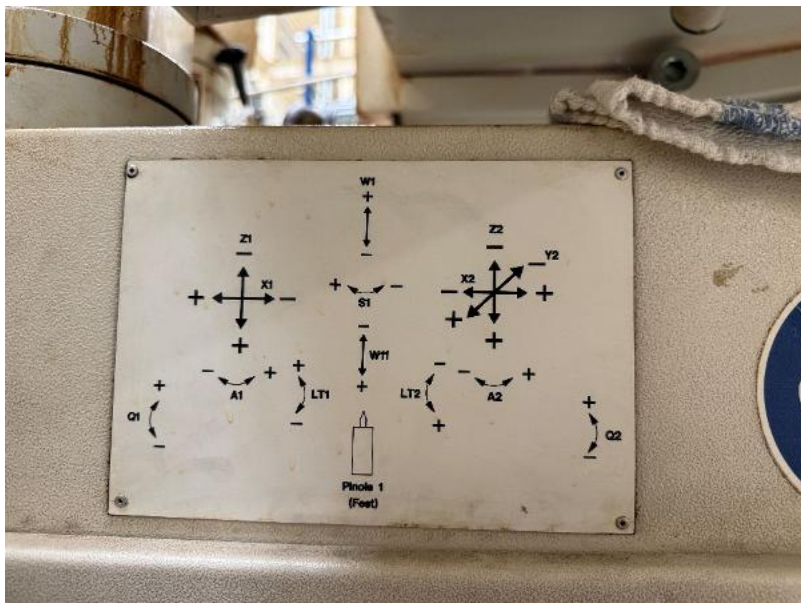


1 EMAG VTC 250

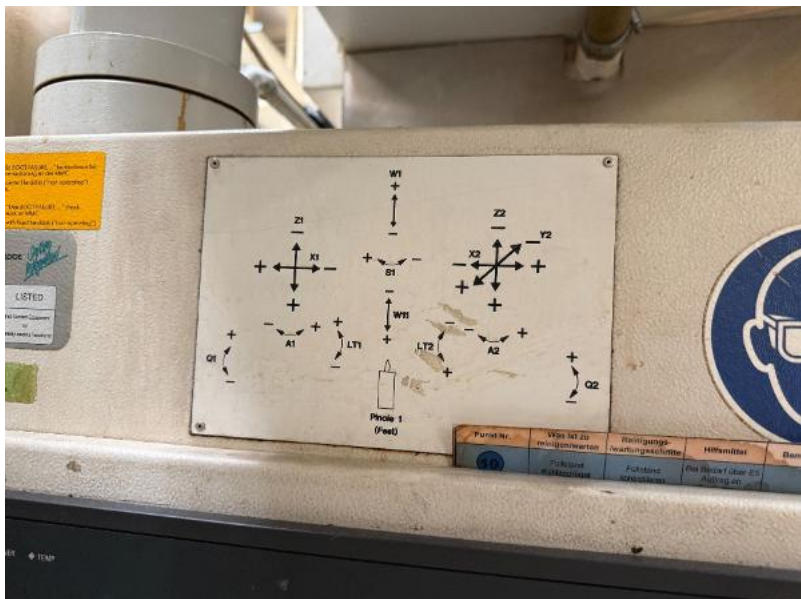




Max. turning length:	730 mm
Max. turning diameter:	250 mm
Max. speed:	3.500 rpm
Max. torque:	256 Nm
Spindle bore:	50 mm
Max. workpiece weight:	20 kg
Max. workpiece diameter:	90 mm



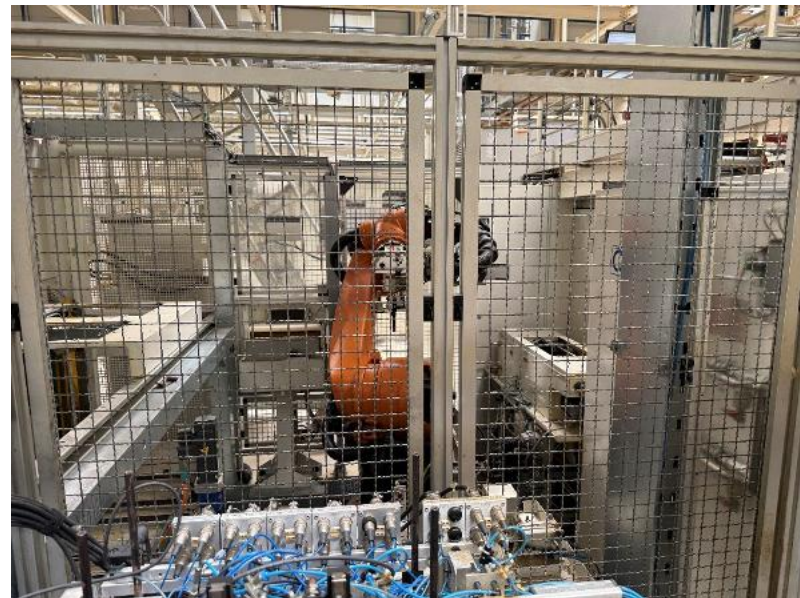
3 EMAG VTC 250





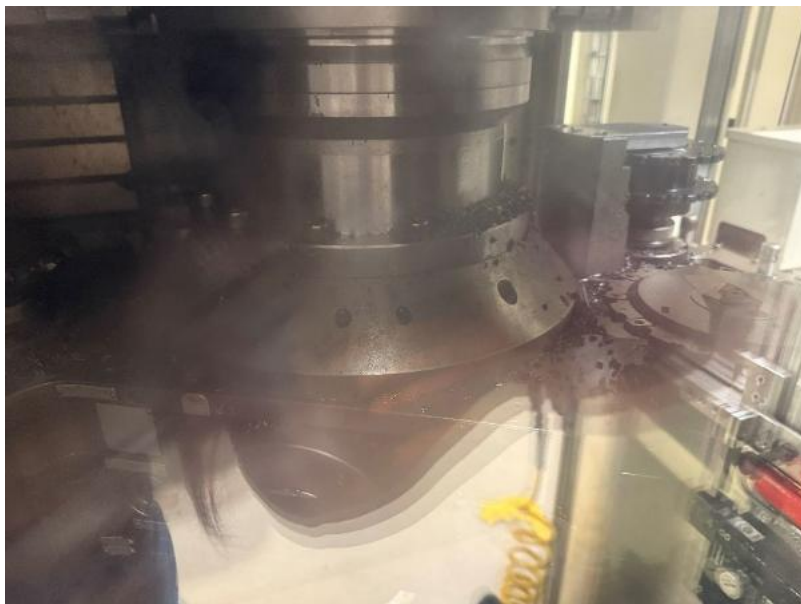
Center height:	1.150 mm
Distance between the front edge of the main spindle and the center of the roller spindle, max./min. (Z-axis):	1.559 / 307 mm
Max. foot circle diameter (X-axis):	80 mm
Min. turning diameter (X-axis):	16 mm
Installed NC axes:	A, B, C, X, Z
Swivel circle diameter:	92 mm
Rolling spindle speed during continuous turning:	0 – 3.000 rpm

4.1 Felsomat, Marposs, etc.

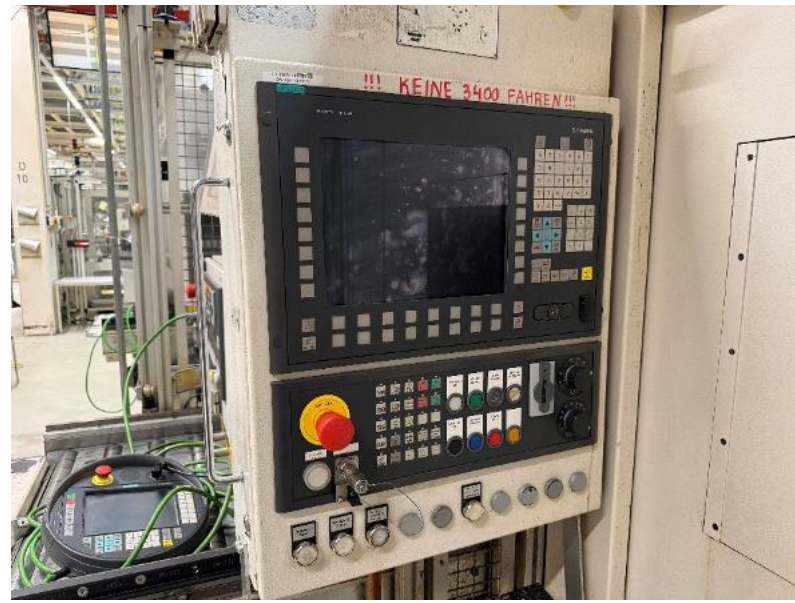




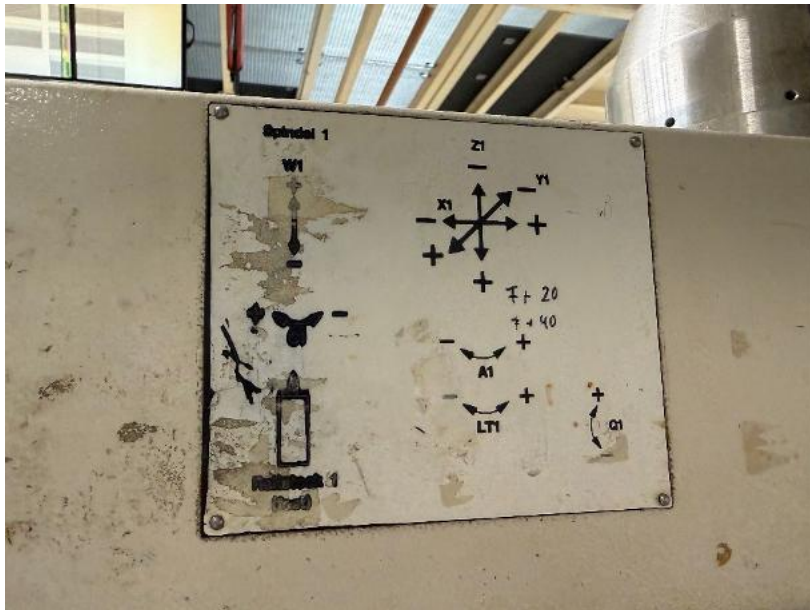




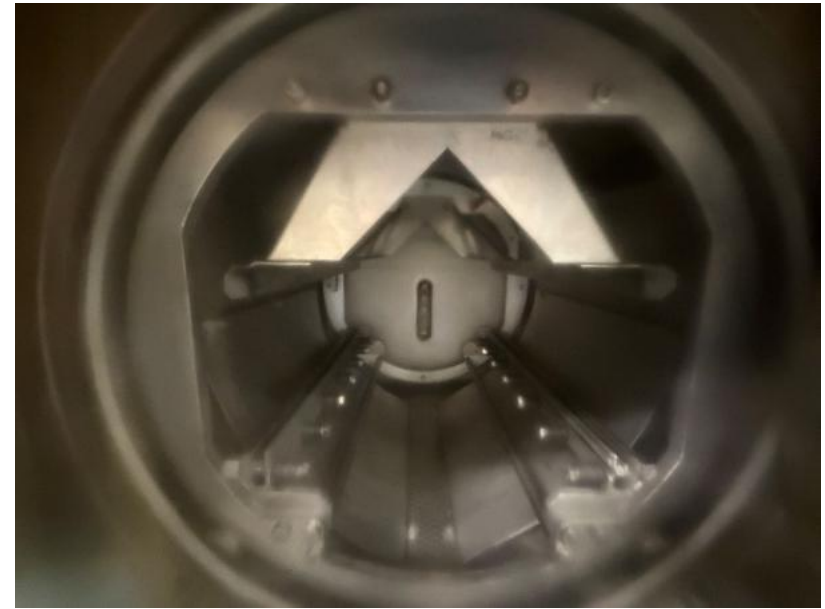
Max. turning length:	700 mm
Max. turning diameter:	140 mm
Max. speed:	5.000 rpm
Max. torque:	256 Nm
Spindle bore:	52 mm
Max. workpiece weight:	20 kg



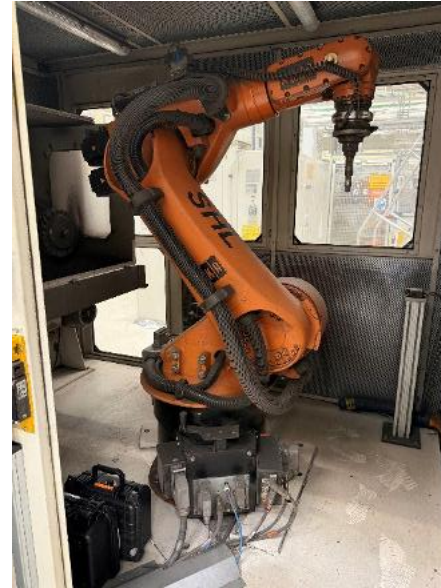




11 DÜRR Ecoclean











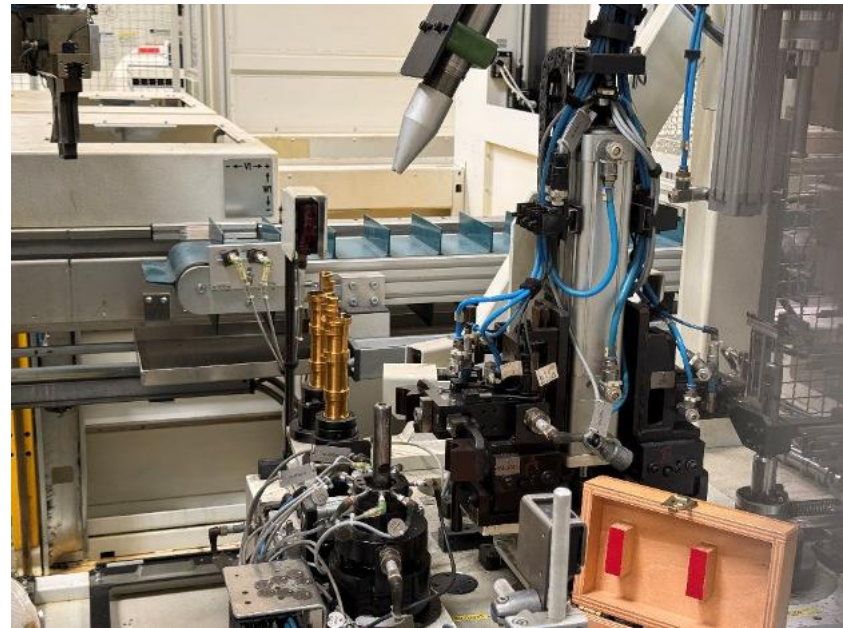


Max. turning diameter:	250 mm
Max. speed:	4.500 rpm
Max. torque:	250 Nm
Spindle bore:	52 mm
Max. workpiece weight:	20 kg
Max. workpiece diameter:	240 mm





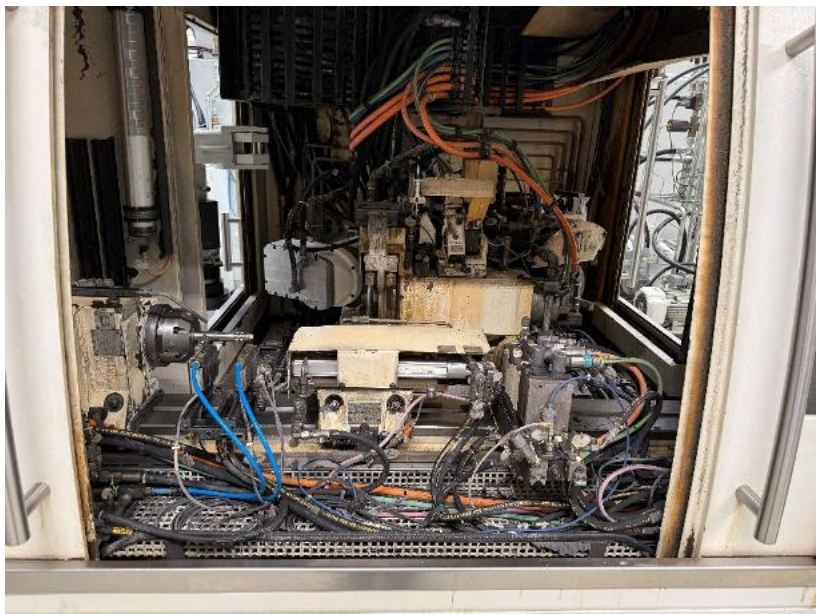


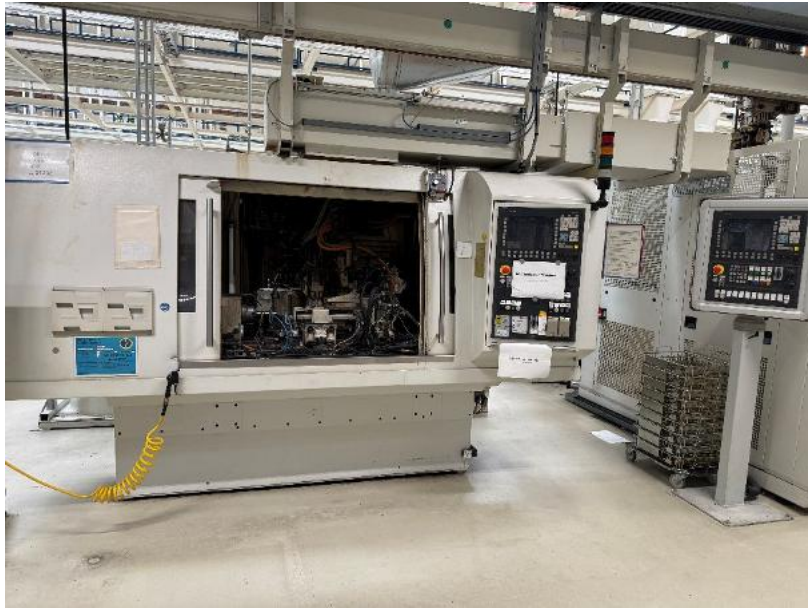




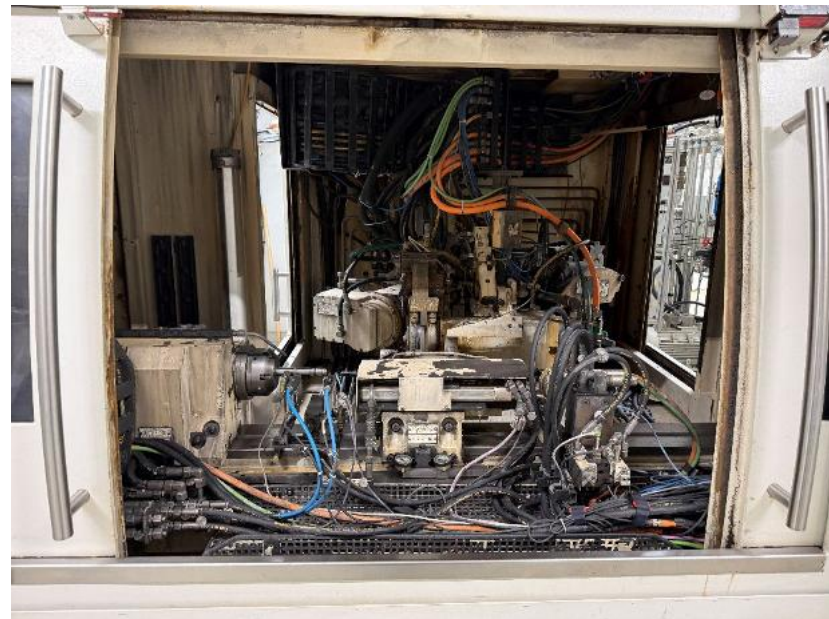
Operating temperature:	60–200 °C
Inlet pressure:	3–6 bar
Type:	electric heating coil
Power source:	400 V three-phase current
Number of heating elements per module:	18
Number of heating zones:	2
Heating capacity:	$18 \times 2.0 \text{ kW} = 36 \text{ kW}$
Motor power:	3,0 kW





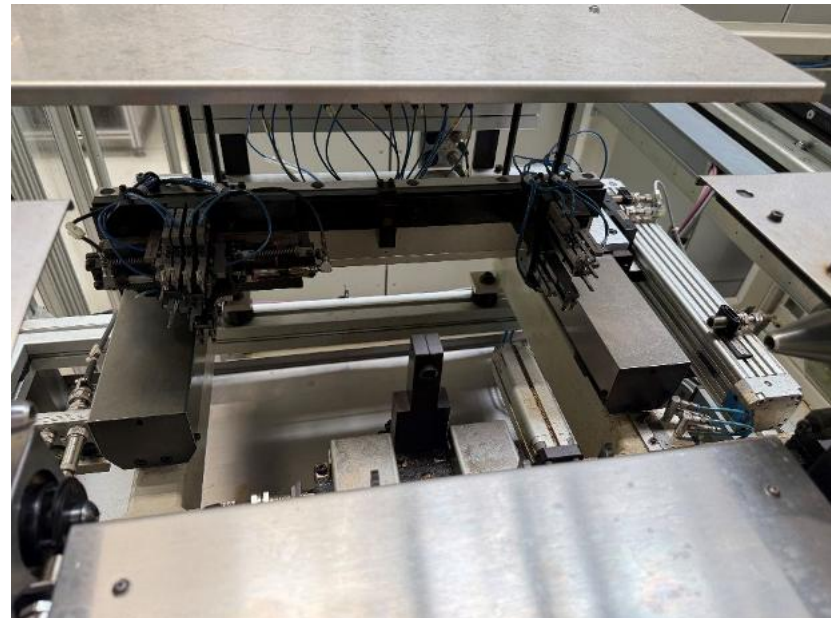


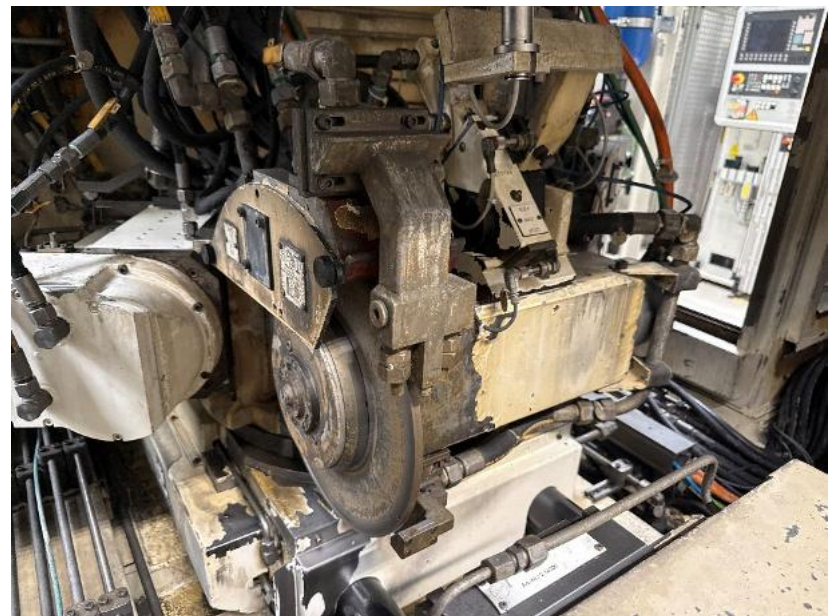
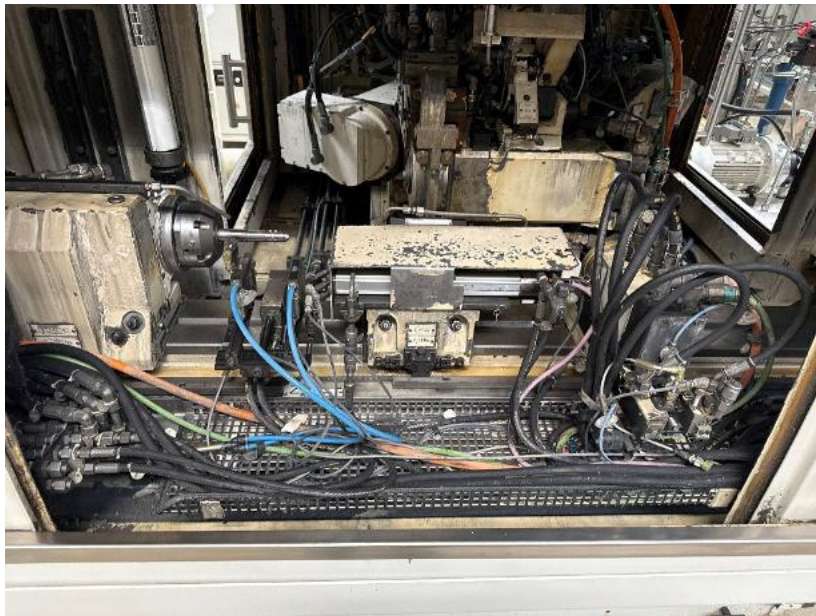
Workpiece diameter:	150 mm
Workpiece length:	max. 500 mm
Workpiece spindle unit	
Dimensions:	Ø 160 x 700 mm
Max. speed:	550 rpm
HF grinding spindle unit I, II	
Dimensions:	Ø 145 x 480 mm
Max. speed:	8.000 rpm
HF grinding spindle unit II	
Dimensions:	Ø 210 x 313 x 487 mm
Max. Speed:	16.000 rpm





Workpiece diameter:	150 mm
Workpiece length:	max. 500 mm
Workpiece spindle unit	
Dimensions:	Ø 135 x 400 mm
Max. speed:	10.000 rpm
HF grinding spindle unit I, II	
Dimensions:	Ø 145 x 480 mm
Max. speed:	6.500 rpm







Workpiece diameter:	150 mm
Workpiece length:	max. 500 mm
Workpiece spindle unit	
Dimensions:	Ø 160 x 700 mm
Max. speed:	550 rpm
HF grinding spindle unit I, II	
Dimensions:	Ø 145 x 480 mm
Max. speed:	8.000 rpm
HF grinding spindle unit II	
Dimensions:	Ø 210 x 313 x 487 mm
Max. Speed:	16.000 rpm

