

III TECHNICAL DATA:**E 90 | E110**Working range:

Distance between centres	mm	2000/3000	
	mm	4500/6000	
Height of centres	mm	450	550
Swing over bed	mm	900	1100
Swing over cross slide	mm	530	730
Width of bed	mm	600	
Travel of cross slide	mm	590	
Travel of top slide rest	mm	250	
Length of cross slide	mm	1230	
Width of cross slide	mm	345	
Carriage guide length	mm	860	
Cross sect. of lathe tool (Height/Width)	mm	40 x 40	

Turning spindle:

Spindle head acc. DIN 55027	size	11
Spindle dia. in front bearing	mm	178
Spindle borehole	mm	128
Inside taper of main spindle	metr.	140

Main drive:

Drive output at 60 %/ 100 % duty c.	kW	45/37
Max. torque at lathe spindle at 60 %/ 100 % duty cycle	Nm	6000
Overall speed range	min ⁻¹	1-1120(1-1400)
Speed range, gear stage I	min ⁻¹	1-350
Speed range, gear stage II	min ⁻¹	4-1120(4-1400)

E 90 | E110Feed drive:

3-ph servo drives:

Feed range long. / cross mm/rev 0-10

Feed force, longitudinal kN 20

Feed force, cross kN 20

Rapid traverse rate:

longit./cross m/min 7 / 3.5

Tailstock:

Quill diameter mm 140

Quill stroke mm 300

Inside taper of quill Mk 6

Tapping range:

Metrical threads mm 0.1 - 250

Inch threads G/1" 1/4 - 56

Modular threads 0,125 - 28

DP threads 1 - 224

machine dimensions:Overall length mm 4400/5400
6900/8400

Overall width mm 2600

Overall height mm 2120

Weight of machine kg 8500/9500 | 9500/10500
10500/11500 | 11500/12500Steady rest (Option):

Clamping range mm 40-300

Clamping range mm 250-500

Follower rest (Option):

Clamping range mm 20 - 220

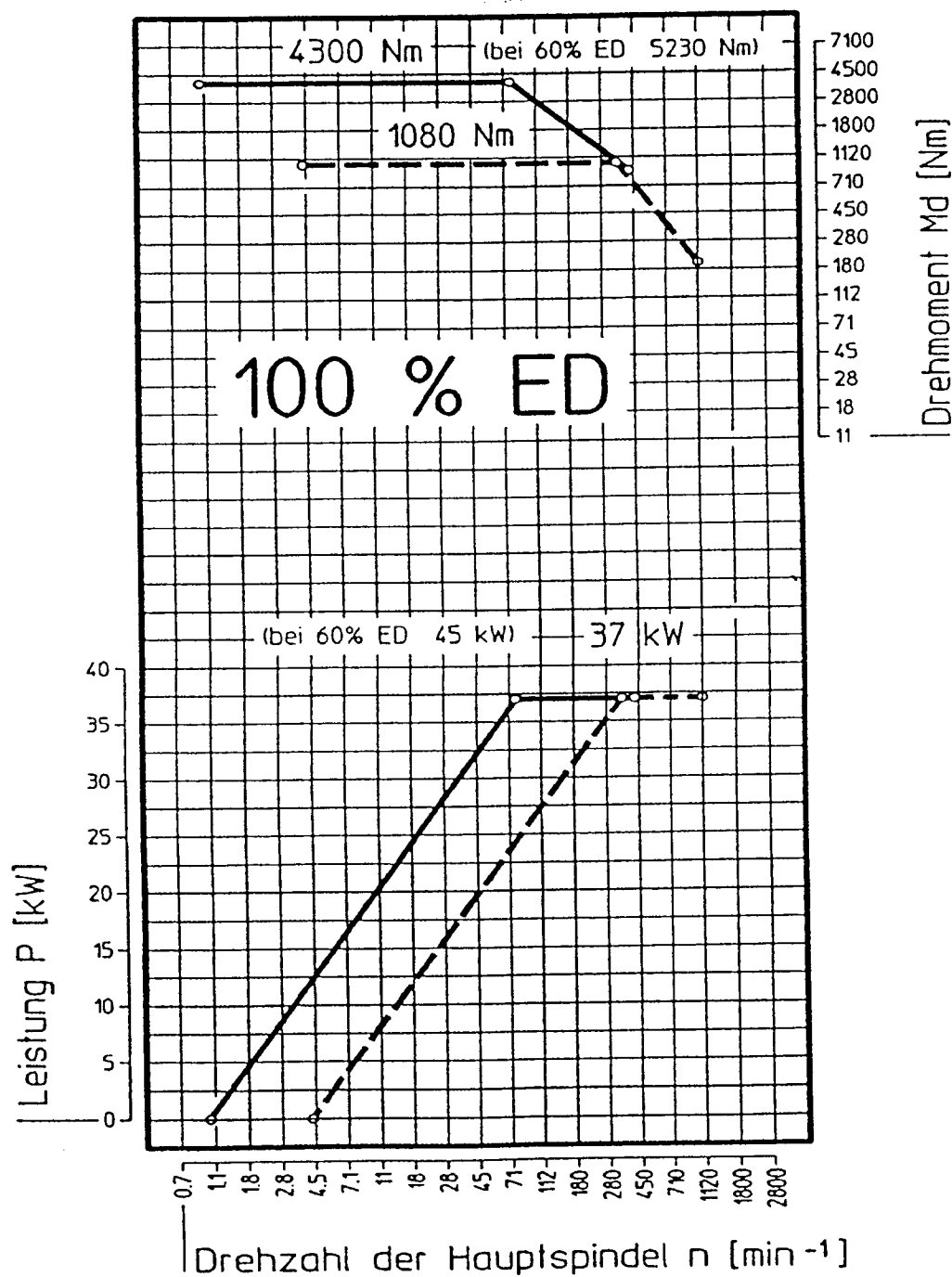
IV TORQUE - OUTPUT - SPEED - DIAGRAM:

Drehmoment = Torque

Drehzahl der Hauptspindel = Speed of main spindle

Getriebestufe = gear stage

Leistung = Power



—○— Gelriebestufe I 1 - 350 min⁻¹

- - -○- Gelriebestufe II 4 - 1120 min⁻¹

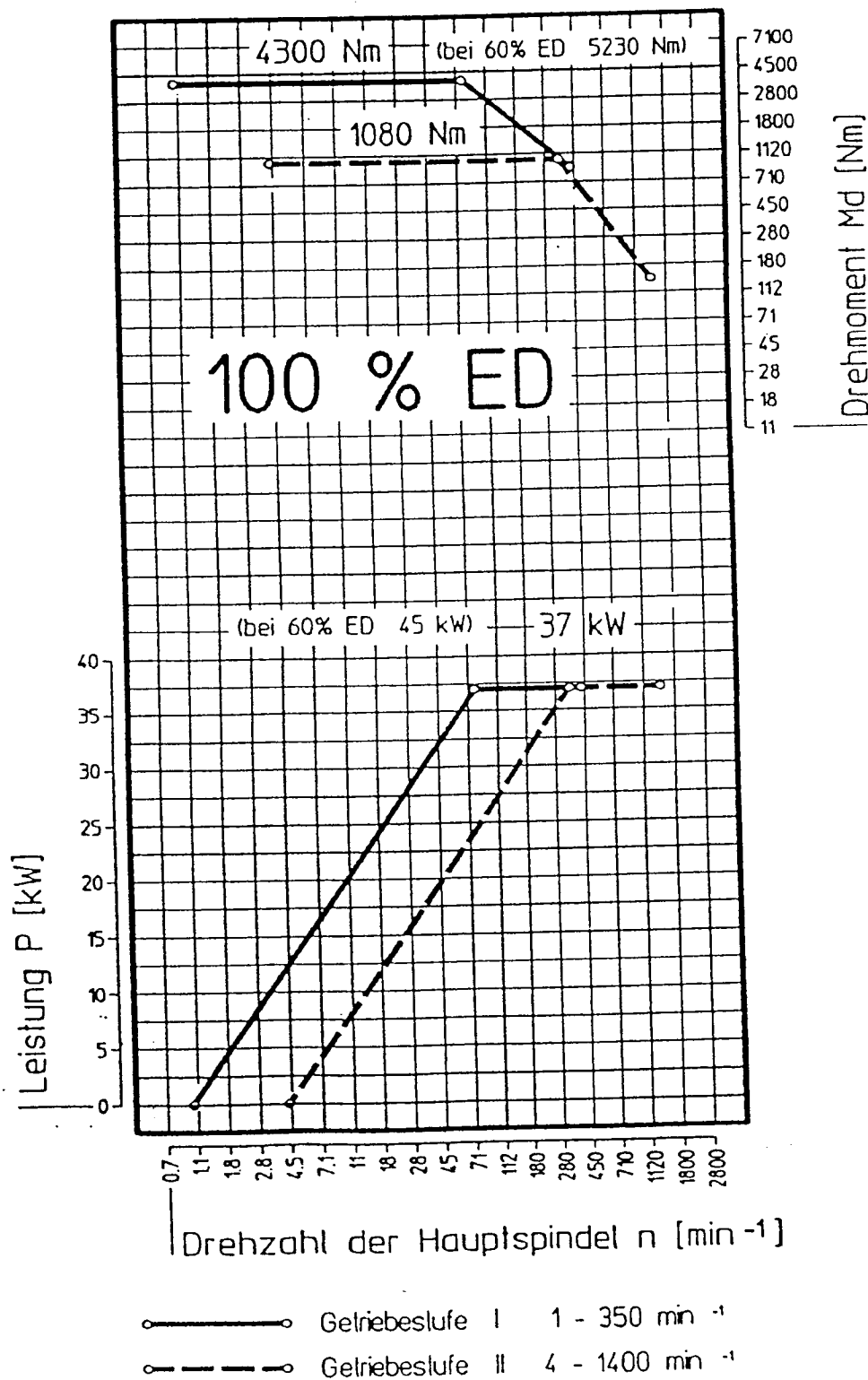
TORQUE - OUTPUT - SPEED - DIAGRAM:

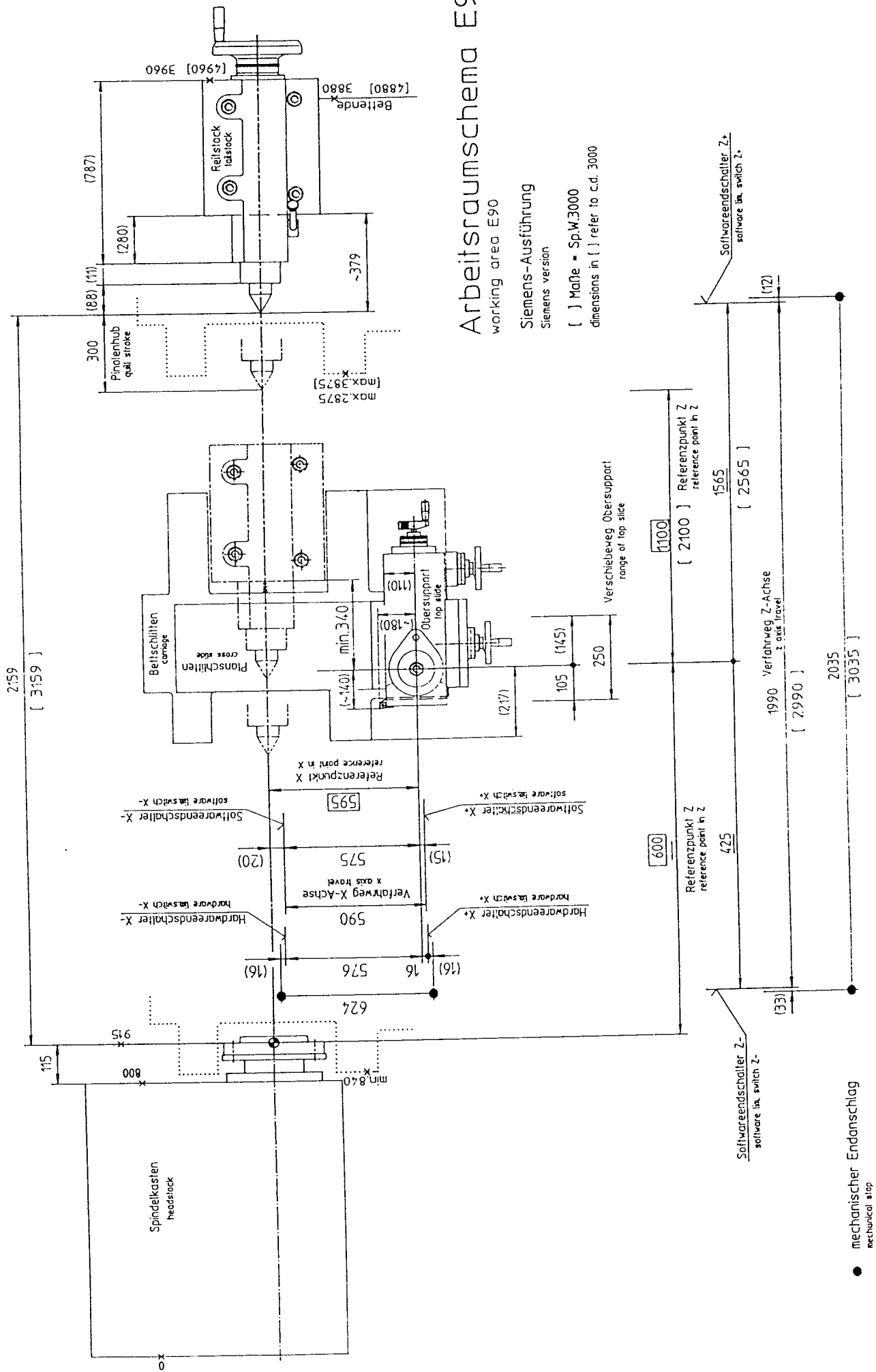
Drehmoment = Torque

Drehzahl der Hauptspindel = Speed of main spindle

Getriebestufe = gear stage

Leistung = Power





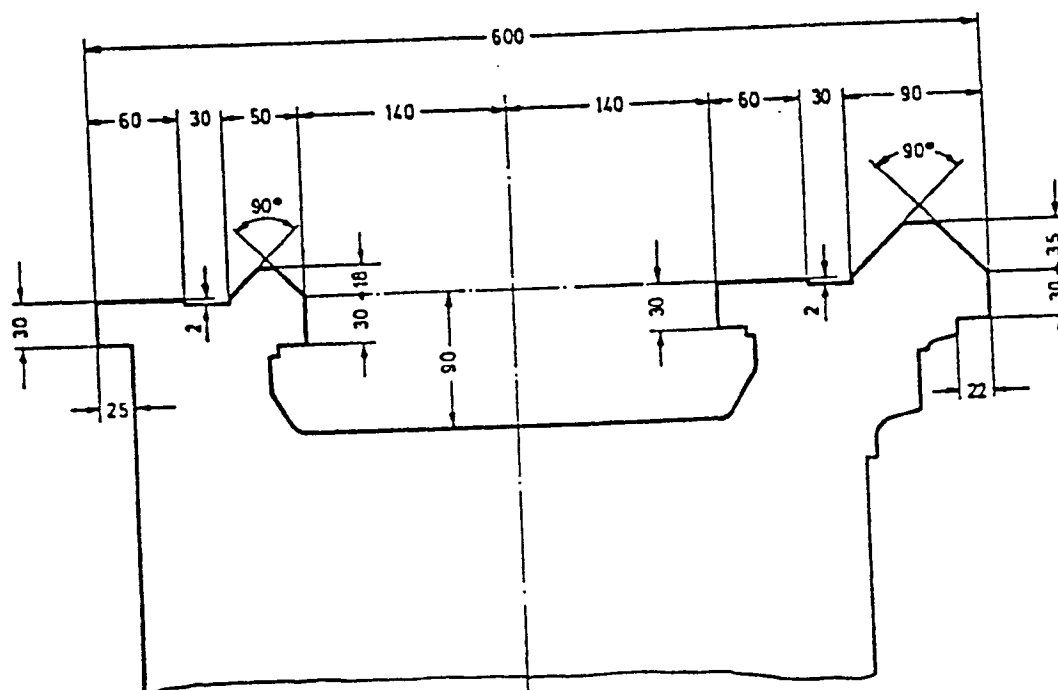
E 90 / E 110

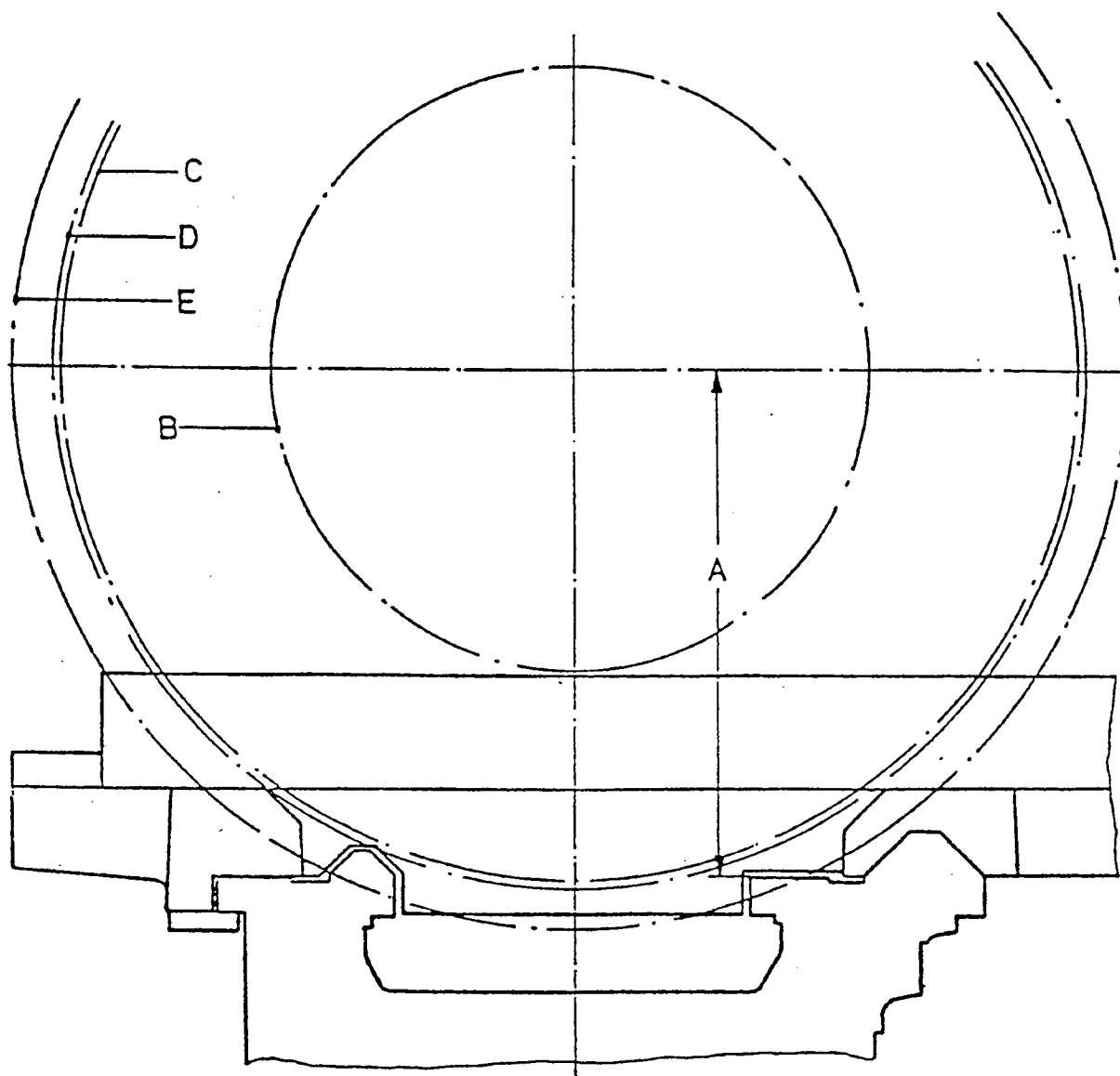
Version 1.1 / 95-01

3 TECHNICAL DESCRIPTION Page: 9

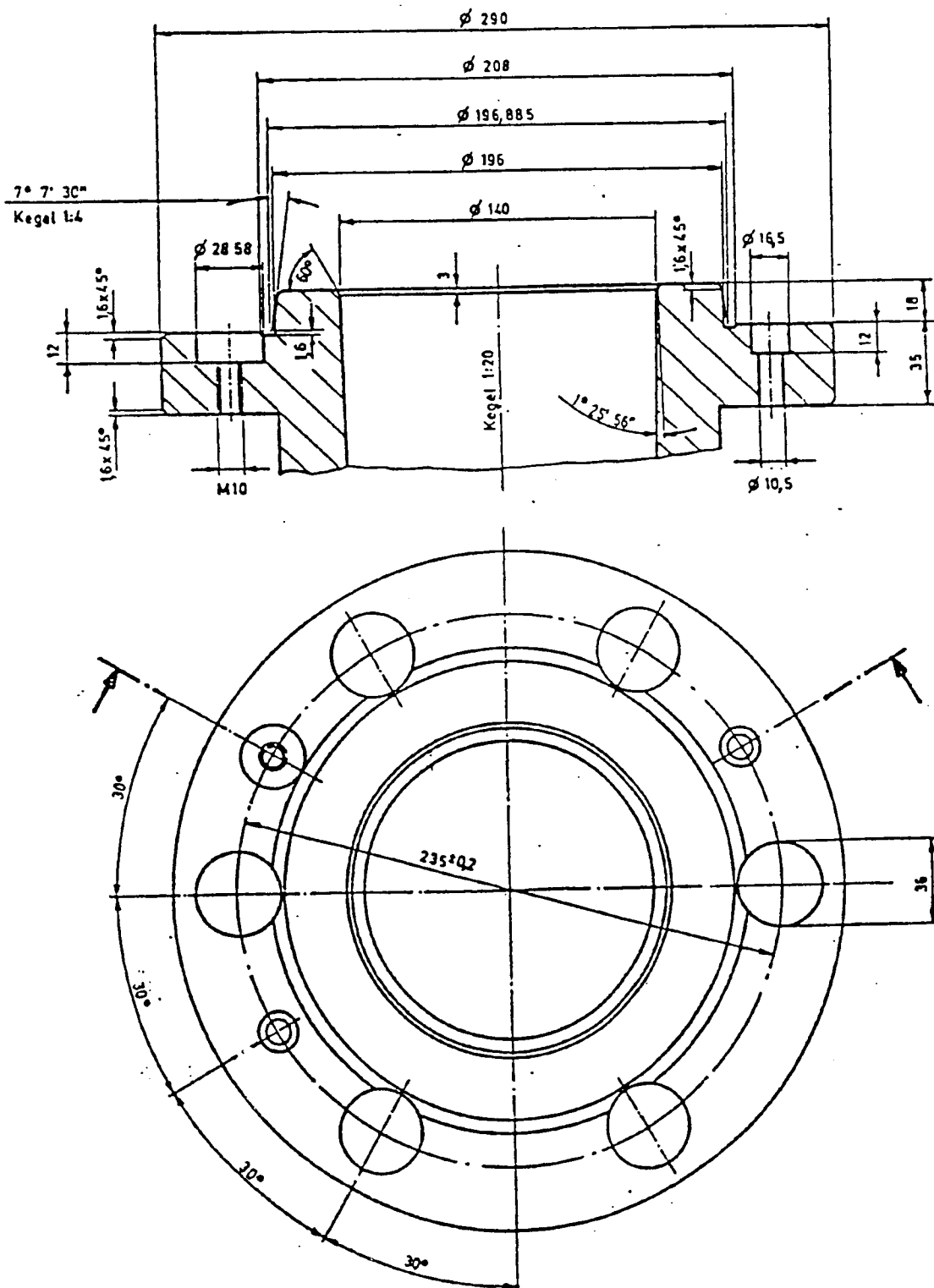
WEILER 
WERKZEUGMASCHINEN

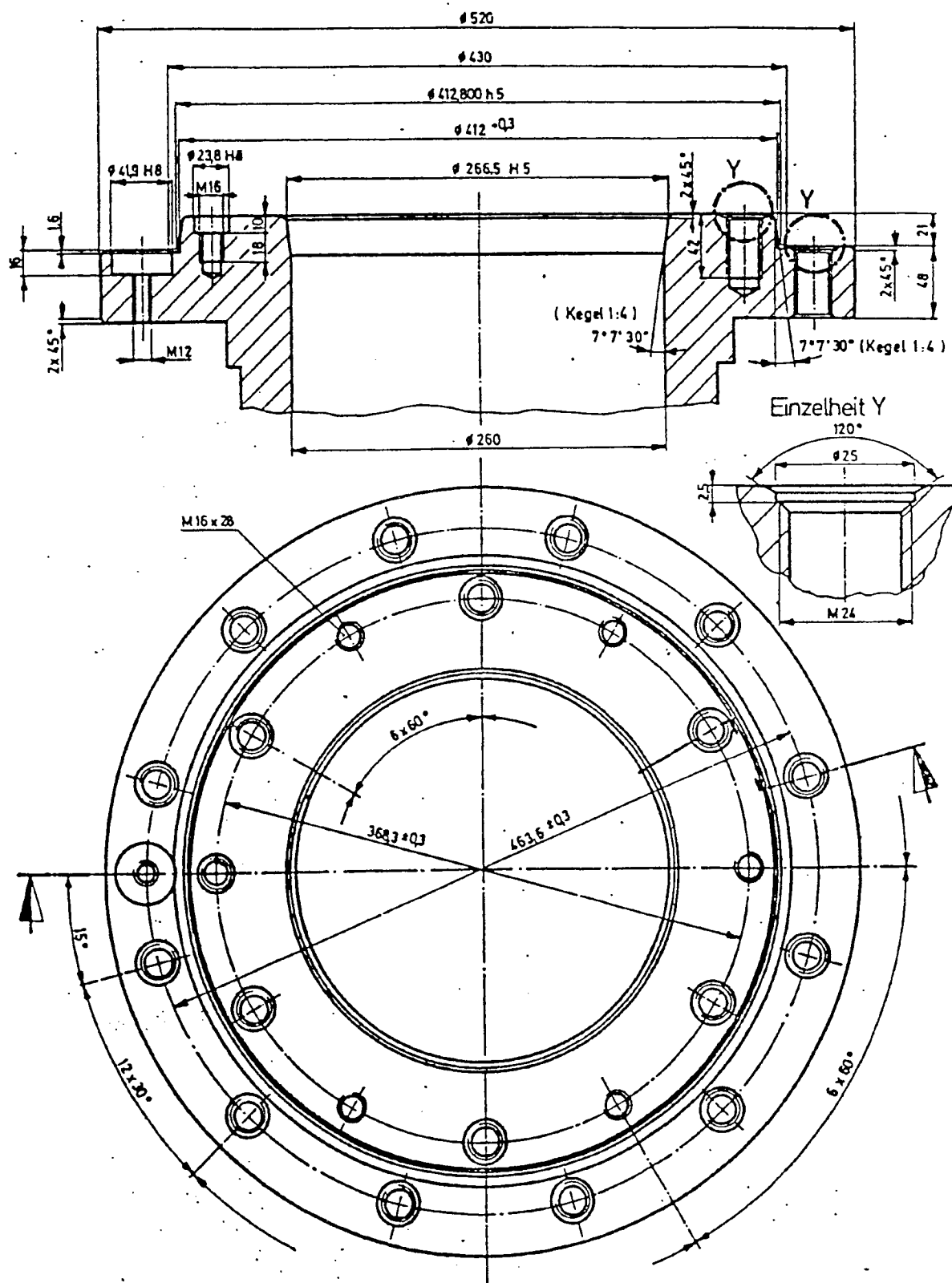
VII CROSS SECTION / SWINGS:





Type		E 90	E 110
A	HEIGHT OF CENTRES	450	550
B	SWING OVER CROSS SLIDE	530	730
C	SWING OVER BED CONTOUR	890	1060
D	SWING OVER BED	900	1100
E	SWING OVER RECESS	960	1130

VIII SPINDLE HEAD:SPINDLEHEAD, size 11, acc. DIN 55027



IX COMPONENT DESCRIPTION:**Bed:**

- High rigidity and flexural strength thanks to the wide "Meehanite" bed.
- Induction-hardened slideways with high-precision grinding.
- Spacious openings for chip flow.

Headstock:

- A two-stage gear unit combined with the adjustable three-phase current main motor makes for an ample range of speeds and a high torque.
- Case-hardened, high-precision ground gear wheels to guarantee quiet running.
- The sturdy main spindle with spindle head acc. to DIN 55027 and the precision bearings yield excellent concentricity and rigidity.
- The forward and backward movement of the main spindle is controlled by a safety control lever mounted on the top slide rest.

- A separate lube oil tank serves for the proper recooling of the lubricant.
- Filter unit integrated into the oil flow.
- Integrated pressure switch to monitor the lubricating system.

Main drive:

- The adjustable three-phase motor for the main spindle is located on a bracket mounted on the left-hand machine socle.
- Power transmission to the gear unit ensured by quiet-running narrow V-belts.

Top slide rest:

- High precision guaranteed by the 90° prismatic flat guideway.
- The cross slide with its dovetail guides and T slots provides an option for mounting an additional tool support system.
- The clearance of the cross slide guideways is regulated by an adjustable taper gib.

- The ball thread screws with pre-loaded nuts arranged along the longitudinal and cross axes are completely maintenance-free.
- All guides are protected by scrapers and an extra cover along the front way.
- The automatic central lubricating system and the fact that the lubricating intervals can be adjusted make maintenance work on the machine superfluous.
- The top slide rest is equipped with a quick-change tool holder, allowing first-rate cutting performance.
- High feed forces due to the use of highly-dynamic three-phase servomotors with integrated encoders.
- The longitudinal and cross slides are moved by electronic handwheels which are inactive in case of normal feed or rapid traverse.
- Selection of normal feed or rapid traverse by means of a four-way control lever.

Tailstock:

- High stability thanks to the extra-rigid construction and the large quill diameter with Morse taper core MK6.
- Easy traverse thanks to spring-loaded compensation rollers.
- Quill operation via a handwheel with graduated collar.

E 90 / E 110

Version 1.1 / 95-01

2 SETUP OF THE MACHINE

DMK2E/Page: 2

WEILER 
WERKZEUGMASCHINEN

Item	Quant.	Denomination
1	2	TRANSPORT ROD.(STEEL) Ø100x1900
2	2	LIFTING BELT ACC.DIN 61360
3	2	LIFTING BELT ACC.DIN 61360
4	4	SET COLLAR

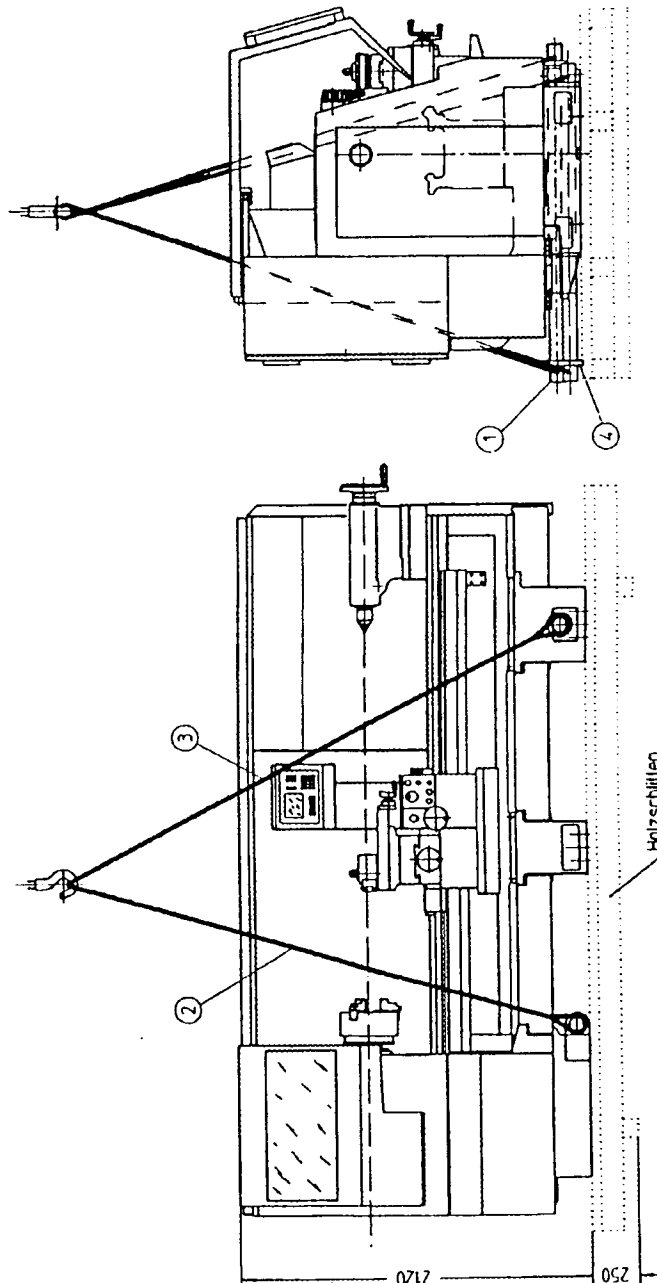
Weight		
	Sp.W.2000	Sp.W.3000
E90	~8500kg	~9500kg
E110	~9500kg	~10500kg

HOLZSCHLITTEN = PROVISIONAL WOODEN BASE

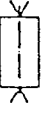
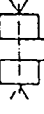
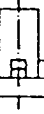
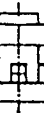
Gewicht:		
	Sp.W.2000	Sp.W.3000
E 90	~8500 kg	~9500 kg
E 110	~9500 kg	~10500 kg

Pos.	Stck.	Benennung
1	2	Transportstange aus Stahl Ø100 x 1900
2	2	Hebeband nach DIN 61360 ca. lg.
3	2	Hebeband nach DIN 61360 ca. lg.
4	4	Stelling

TRANSPORTBILD
E 90 / E 110



VI PERMISSIBLE WEIGHTS OF WORKPIECES

Lathe	Spindle dia. in front Bearing	Spindle borehole	Quill- diameter						
									
Dreh- maschinen Type	Spindel $\varnothing$ in vorderen Lager [mm]	Hauptspindel- bohrung [mm]	Reilock- pindlen $\varnothing$ [mm]	[kg]	[kg]	[kg]	[kg]	[kg]	[kg]
E 35	90	54	65	500	700	900	150	300	
E 50	100	66	70	1000	1300	1500	200	500	
E 70	150	106	115	2500	2800	3000	600	900	
E 80	150	106	115	2500	2800	3000	600	900	
E 90	178	128	140	4500	4900	5300	1600	2000	
E 110	178	128	140	4500	4900	5300	1600	2000	

SURVEY OF MACHINE ELEMENTS

01. Main switch - Q1
02. Oil pressure monitor - S6
03. Encoder for main drive - B1
04. Limit switch for gear stages - S17
05. Gear shifting mechanism
06. Chuck guard
07. Machine lamp - E1
08. Quick-change tool holder
09. Safety limit switch for final posn. monitoring of cross slide - S21
10. Handwheel for top slide rest
11. Control unit with display and keyboard - A10
12. Safety limit switch for tailstock overshoot - S24
13. Mobile chip protector hood
14. Clamping lever for tailstock quill
15. Clamping screw for tailstock
16. Handwheel for quill traverse
17. Clamping lever for top slide
18. Coolant hose
19. Ball thread screw for cross axis
20. Safety limit switch for chuck guard
21. Switch cabinet
22. Filter fan for switch cabinet - M8
23. Oil level gauge and oil outlet for headstock
24. Oil filter for headstock lubricating
25. Oil pump for headstock gear - M6
26. 3-phase servo motor for longit. drive - M3
27. Ball thread screw for longit. axis
28. Electronic handwheel, cross axis - A11
29. Mushroom-type EMERGENCY STOP button - S1
30. Electronic handwheel, longit. axis - A12
32. Extractable chip pan

- 31. Coolant tank
- 33. Safety control lever for main spindle forward and backward motion - S16
- 34. Hole to accomodate steel rod for transport
- 35. Energy line
- 36. Coolant pump with tank - M7
- 37. Main drive motor - M1
- 38. Central lubricating pump - A13 / M5
- 39. 3-phase servo motor for cross drive - M2
- 40. Output indicator - P1
- 41. Selector switch for release of cross slide - S22
- 42. Coolant switch - S5
- 43. Mushroom-type EMERGENCY STOP button - S2
- 44. Key switch for automatic cycle run - S11
- 45. Indicator lamp for general disturbance - H3
- 46. Pushbutton for machine OFF - S3
- 47. Luminous key for machine ON - S4 / H1
- 48. Control key for spindle Jog - S15
- 49. 4-way switch for normal feedrate and rapid traverse - S18/S19
- 50. Step switch for handwheel increment selection - S 14
- 51. Feedrate correction switch - S10
- 52. Luminous key for Cycle START - S12 / H2
- 53. Luminous key for Cycle STOP - S13
- 54. Spindle speed correction switch - S9