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# 0. GENERAL

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## 0.1 TECHNICAL SPECIFICATION

	Metric System of Measurement	American System of Measurement
<b><u>General Machine Data</u></b>		
Height of center above flat guideways	500 mm	19.685 inches
Swing above bed	1000 mm	39.370 inches
Width of Bed	530 mm	20.866 inches
Maximum Boring Depth using 3 Bore Tube Support Bearings	10000 mm	393.700 inches
Total weight of Machine	35 tonnes	77,161.0 pounds
<b><u>Bore Diameters</u></b>		
Full Boring	200 mm	7.874 inches
Core Boring min.	50 mm	1.969 inches
Core Boring max.	355 mm	13.973 inches
Boring without Spotdrilling up to	355 mm	13.973 inches
Boring with Spotdrilling greater than	355 mm	13.973 inches
<b><u>Boring Saddle</u></b>		
Boring rate, infinitely variable:	min. 5 mm/min. max. 5000 mm/min.	0.197 inches/min. 196.850 inches/min.
Rapid adjustment	5000 mm/min.	196.850 inches/min.
Feed power	80 kN	
<b><u>Guide Saddle</u></b>		
Boring rate, infinitely variable:	min. 5 mm/min. max. 5000 mm/min.	0.197 inches/min. 196.850 inches/min.
Rapid adjustment	5000 mm/min.	196.850 inches/min.
Feed power	63 kN	
<b><u>Workpiece Headstock</u></b>		
RPM of Main Spindle in two Stages :		
1st Stage	2,9 ... 280 min. <sup>-1</sup>	
2nd Stage	11,5 ... 1120 min. <sup>-1</sup>	
Main Spindle Diameter at forward bearing	160 mm	6.299 inches
Bore diameter of main spindle	104 mm	4.094 inches
Spindle Head with short-nosed Socket in accordance with DIN 55027	size 11	
Maximum Torque at Main Spindle	10 kNm	

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	Metric System of Measurement	American System of Measurement
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**Main Drive**

Total control range	1:100	
Continuous power range	1:4,5	
Continuous torque range	1:20	
Installed drive performance	55 kW	74,8 hp
Motor safety classification	IP 54	

**Tool Headstock**

RPM of Main Spindle in two Stages :		
1st Stage	2,9 ... 280 min. <sup>-1</sup>	
2nd Stage	11,5 .. 1120 min. <sup>-1</sup>	
Main Spindle Diameter at forward bearing		
	240 mm	9.449 inches
Bore diameter of main spindle		
	163 mm	6.417 inches
Spindle Head with short-nosed Socket in accordance with DIN 55027		
	size 15	
Maximum Torque at Main Spindle		
	10 kNm	

**Roller Steady**

Clamping diameter of steady :	min. 63 mm	2.480 inches
	max. 560 mm	22.047 inches

**Maximum allowable workpiece weights :**

with one roller steady	6.3 tonnes	13888.98 pounds
with two roller steadies	8 tonnes	17636.80 pounds
with three roller steadies	10 tonnes	22046.00 pounds

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## 0.2 FOUNDATION

In order to actually utilize the high precision and performance of the machine to the fullest, a perfect foundation is absolutely essential. Exact dimensions of the foundation are specified in Chapter 8 of this manual.

The following recommendations should be observed when constructing the foundation

1. The quality of the concrete used in construction of the foundation must be at least equivalent to :

**- B 25 DIN 1045**

2. Because of the high ground pressure exerted, the load-bearing capacity of the existing surface must not be exceeded.

The total load can be assumed as :

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weight of machine
+ maximum workpiece weight
+ weight of foundation
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= total weight
+ 20 % of total weight
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= total surface load
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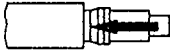



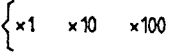







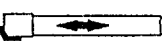
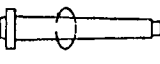




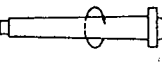

3. The prescribed foundation is to be formed as a single block extending down to the bed rock and provided with protective cladding where this is necessary.
  4. If there is any cause for doubt, a structural or civil engineer should be consulted.
  5. Precautionary measures for accident prevention are to be planned and implemented with due consideration for local circumstances.
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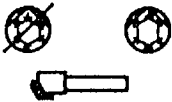





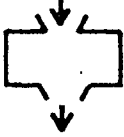
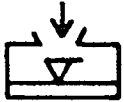


## 0.3 SYMBOLS

to be continued

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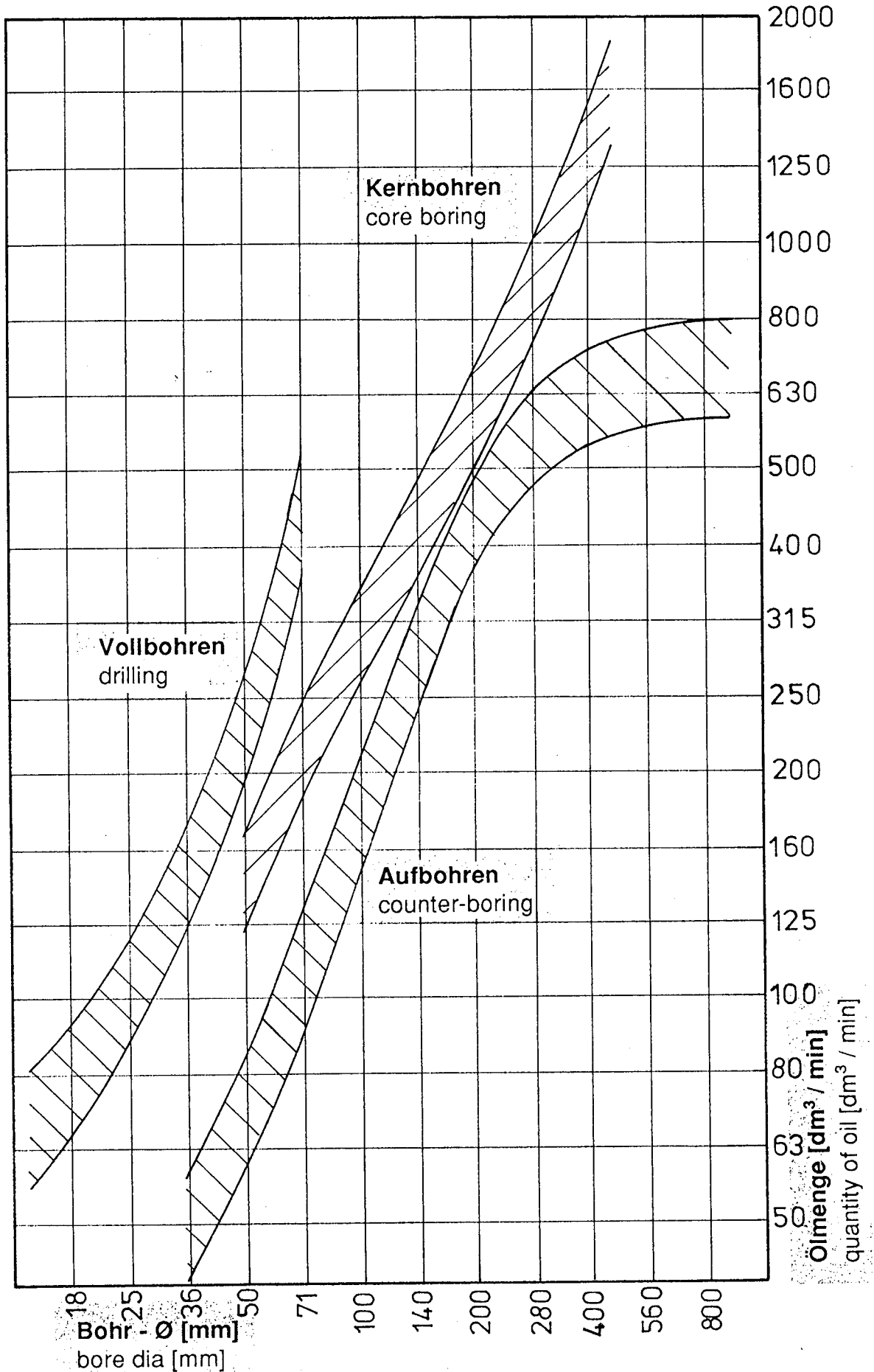
### 0.3 SYMBOLS

	Pressing-up (Guide saddle)		Main spindle advance (Workpiece headstock)
	Taring		Main spindle "OFF" (Workpiece headstock)
	Select feed range (Guide saddle)		Main spindle advance (Workpiece headstock) inching mode
	Relieve contact force (Guide saddle)		Main spindle retreat (Workpiece headstock) inching mode
	Rapid traverse (Guide saddle)	A or 1	Gear stage A
	Feed in direction of arrow "ON" (Guide saddle)	B or 2	Gear stage B
	Feed in direction of arrow "ON" (Guide saddle)		<i>Filter</i>
	Boring tool		Main spindle contra-rotation / synchro-rotation (tool headstock)
	Gear stage		Main spindle contra-rotation (Tool headstock)
NC I	NC - Control "ON"		Main spindle synchro-rotation (Tool headstock)
NC O	NC - Control "OFF"		Main spindle "ON" (Tool headstock)
	Main spindle advance (Workpiece headstock)		Main spindle "OFF" (Tool headstock)

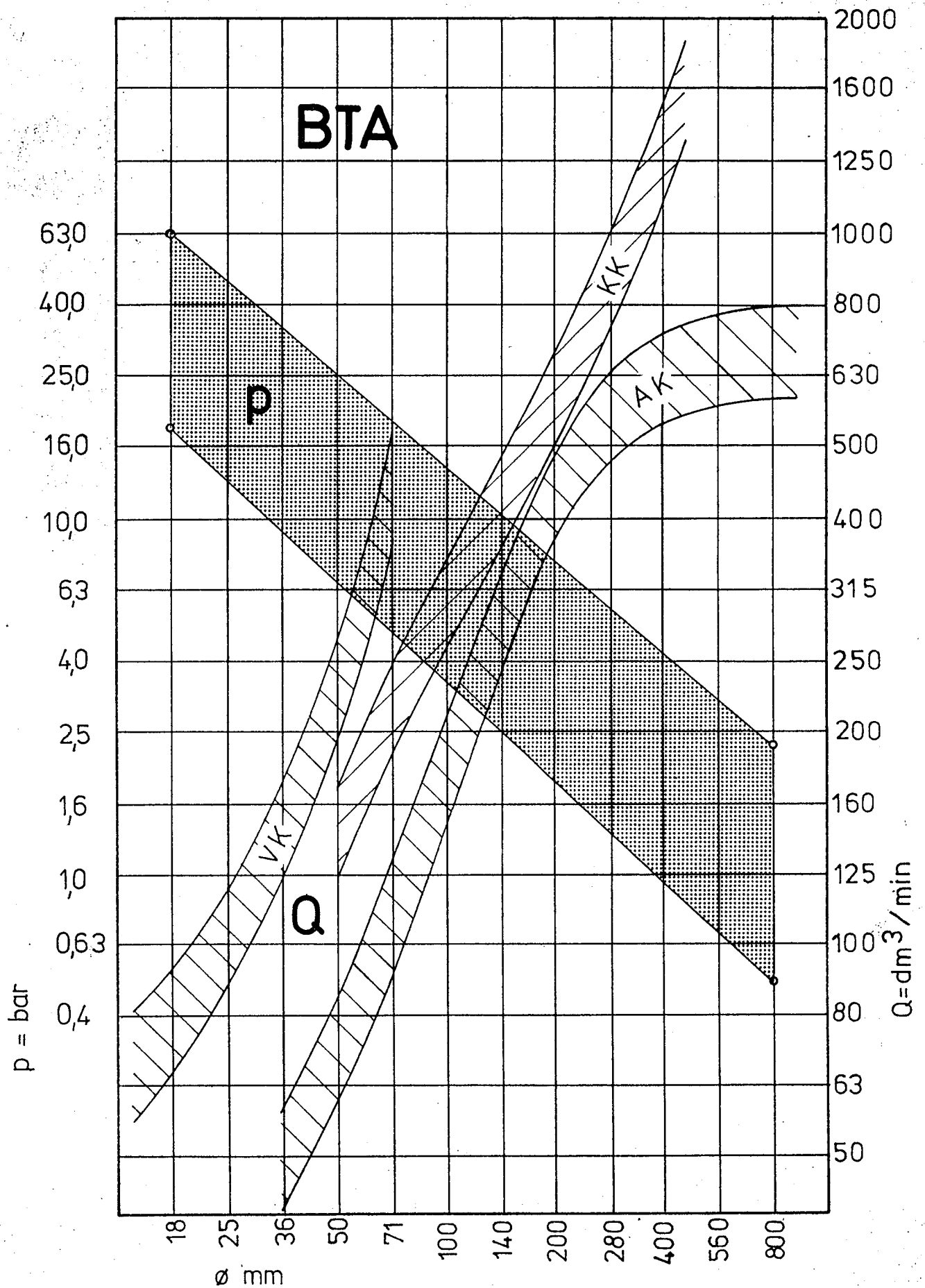
	ON/OFF OPTION		
	Dry boring / wet boring		
	Chip conveyor in direction of arrow ON / OFF / ON		
	Manually operated		
	Lubrication general		
	Manual lubrication (grease lubrication)		
	Tank		
	Change oil tank contents		
	Refill to standard level		
	Reposition Mode Start		
	Break Mode Start		

## 0.4 CALCULATION TABELS

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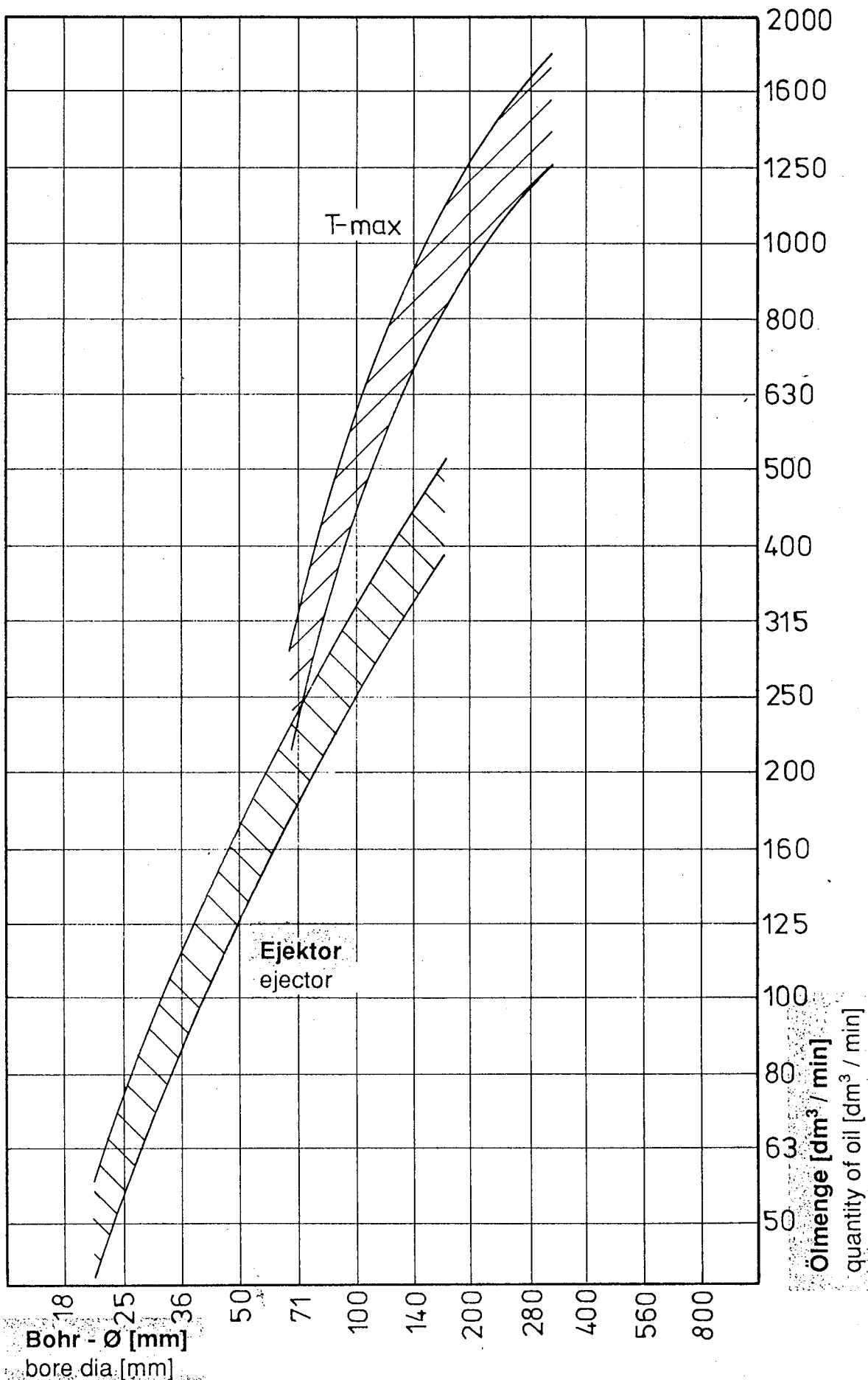






Kühlschmierstoffmengen für Tiefbohren  
 Quantities of cooling lubricant for deep-hole boring  
 Sandvik - System

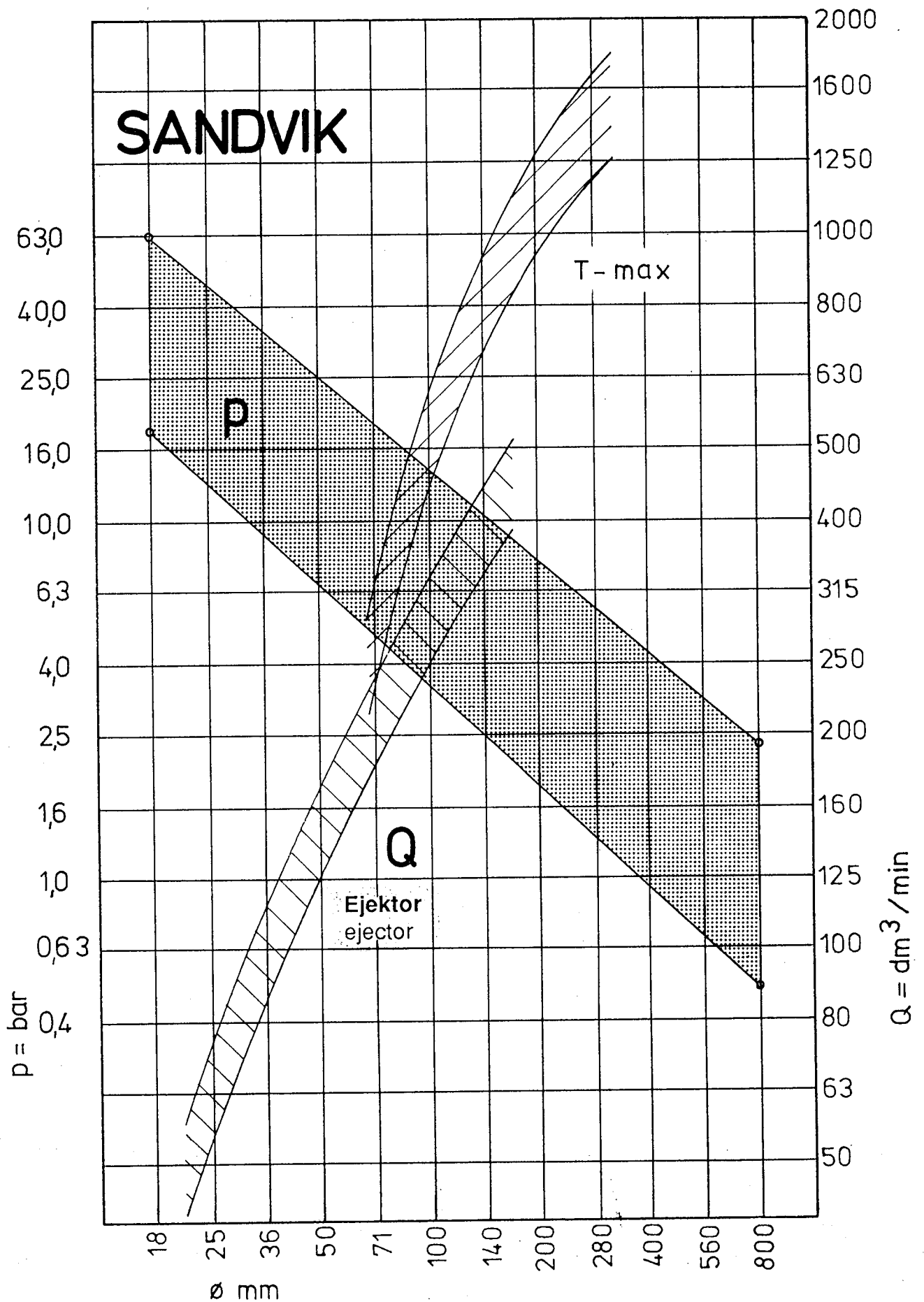
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 Blatt 2  
 Sheet 2



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 Gepr.

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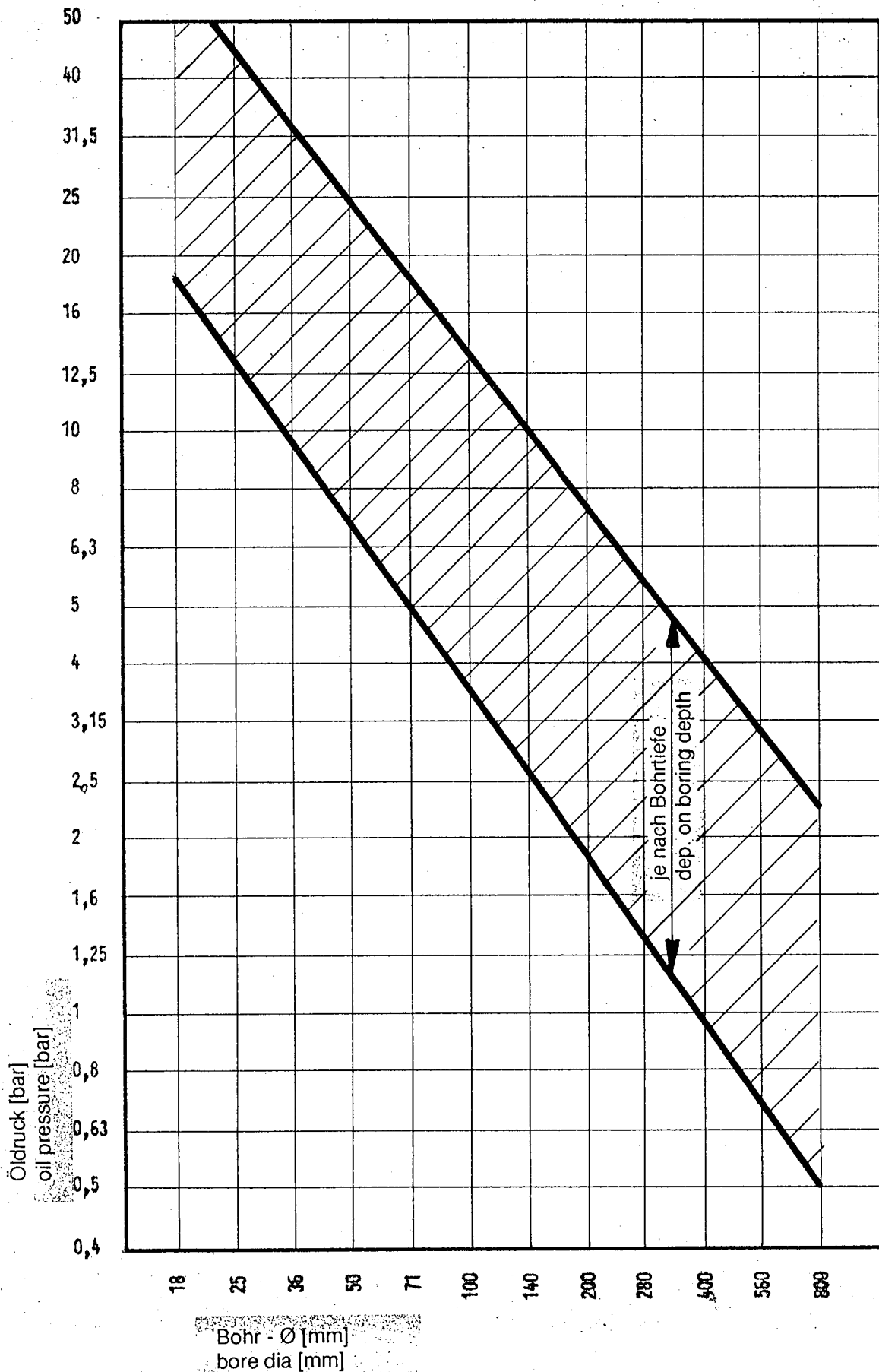




**Kühlschmierstoffdrücke für Tiefbohren**  
 Cooling lubricant pressures for deep-hole boring  
**BTA - System**

**T-A 0718**

Blatt 3  
 Sheet 3

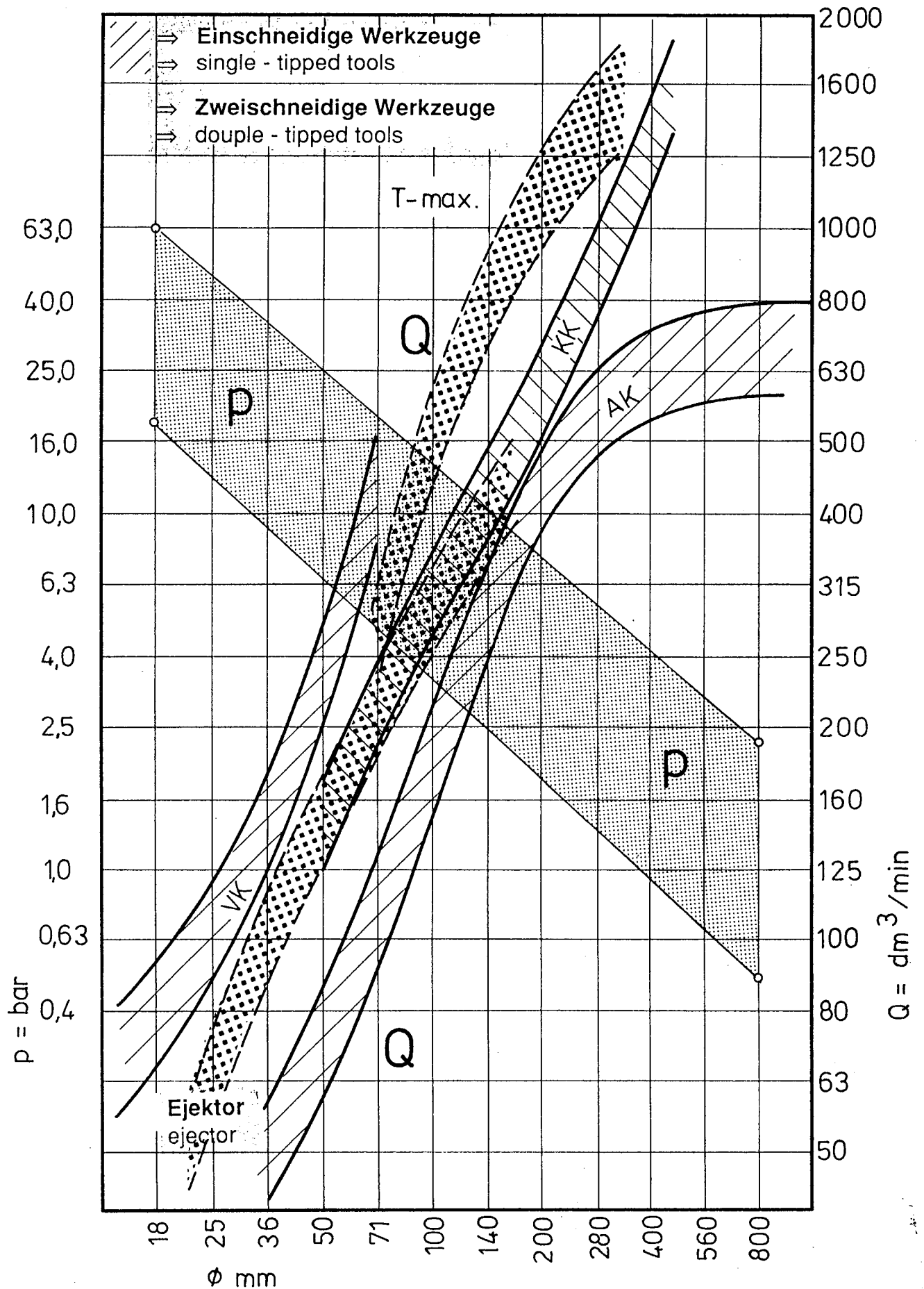


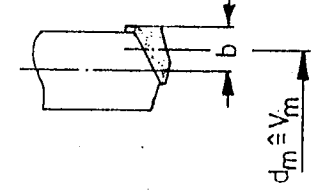
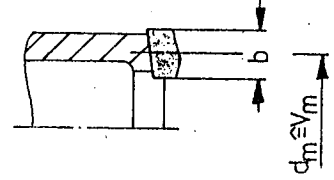
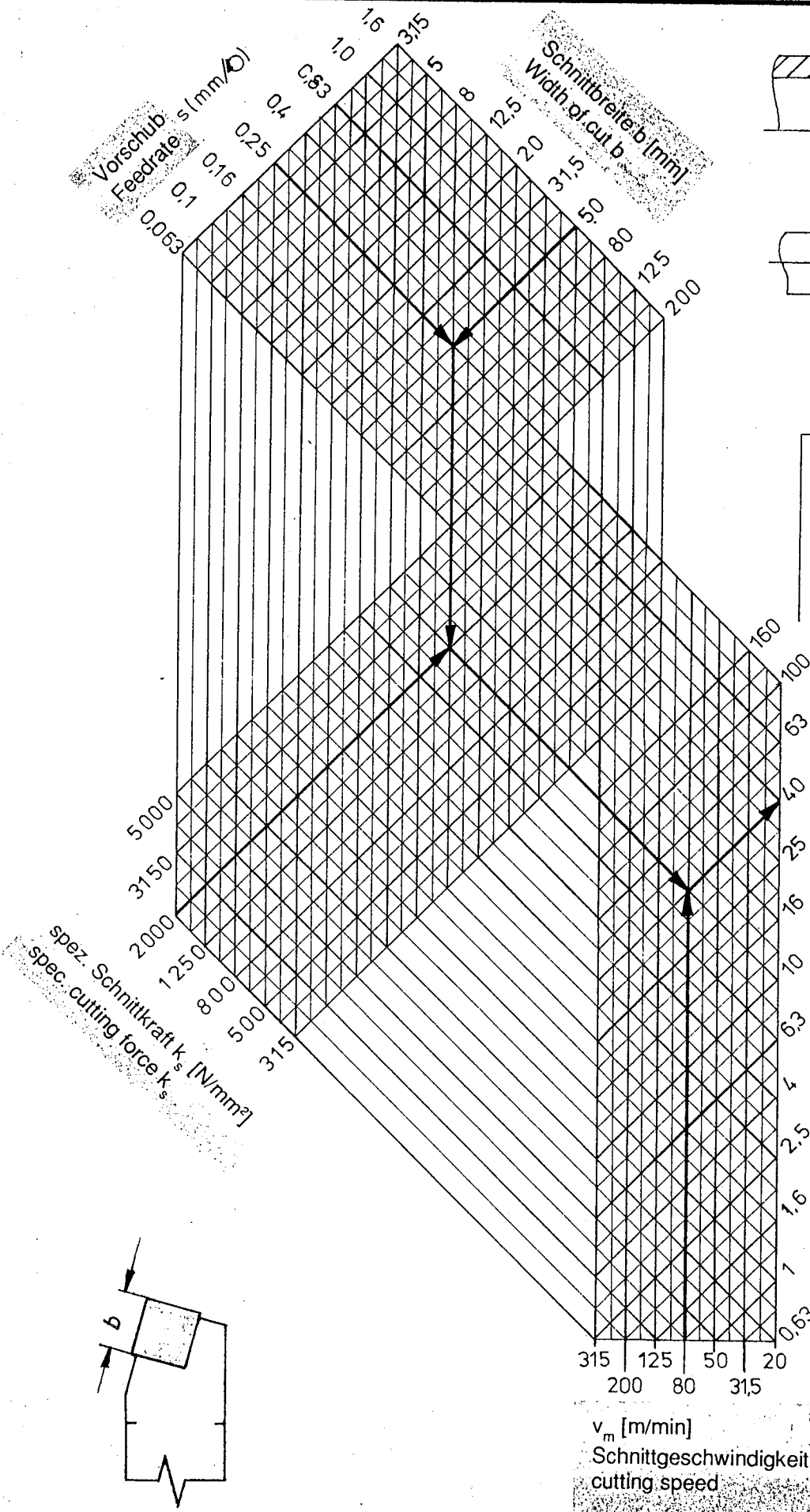
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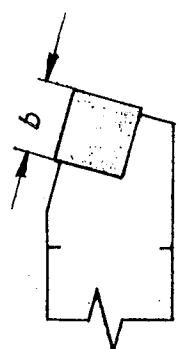


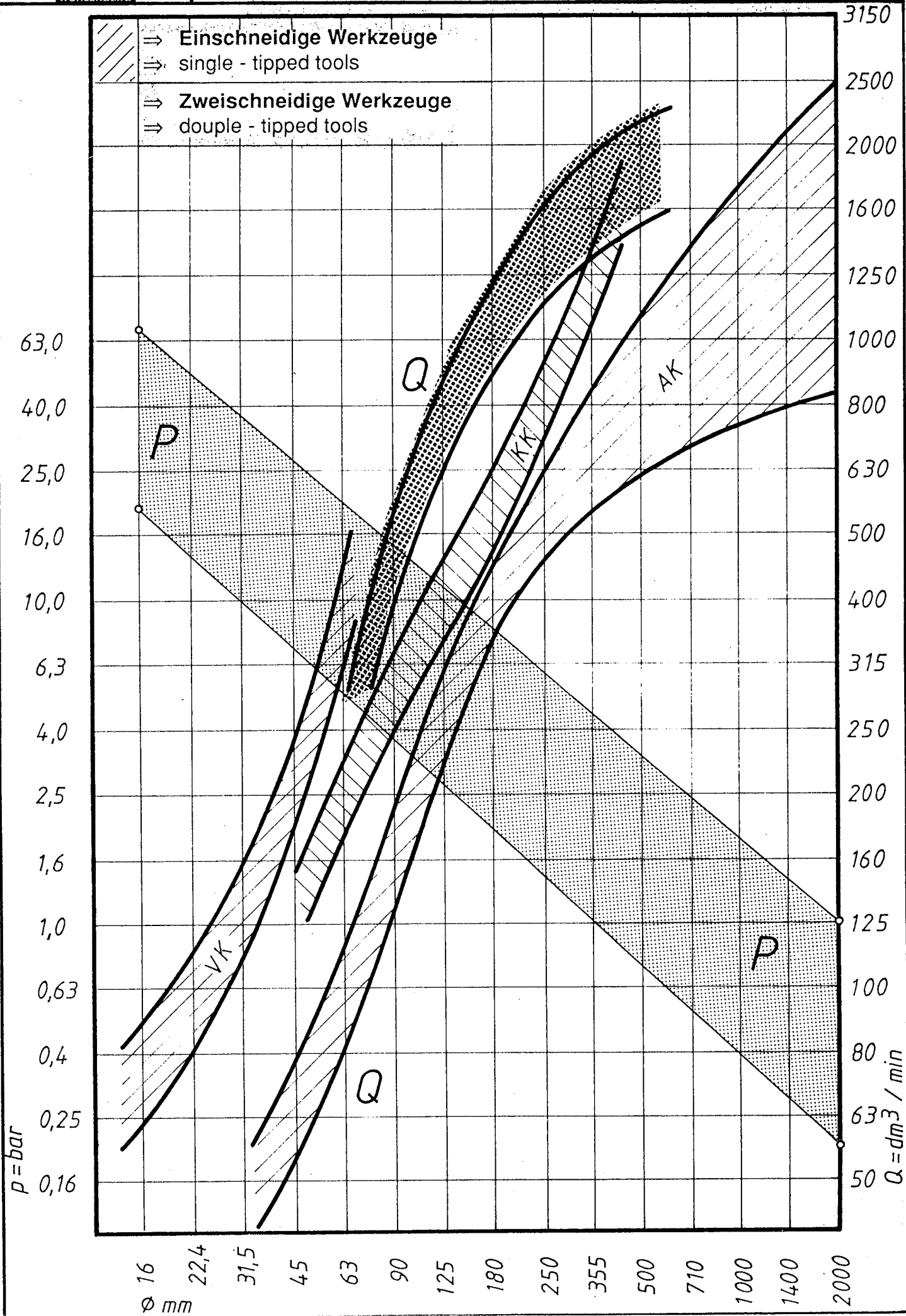


Maschinenleistung  
Drive rating

$$P = \frac{P_z}{\eta (0.9 \dots 0.8)}$$

Zerspanungsleistung  $P_z$  [kW]  
cutting capacity



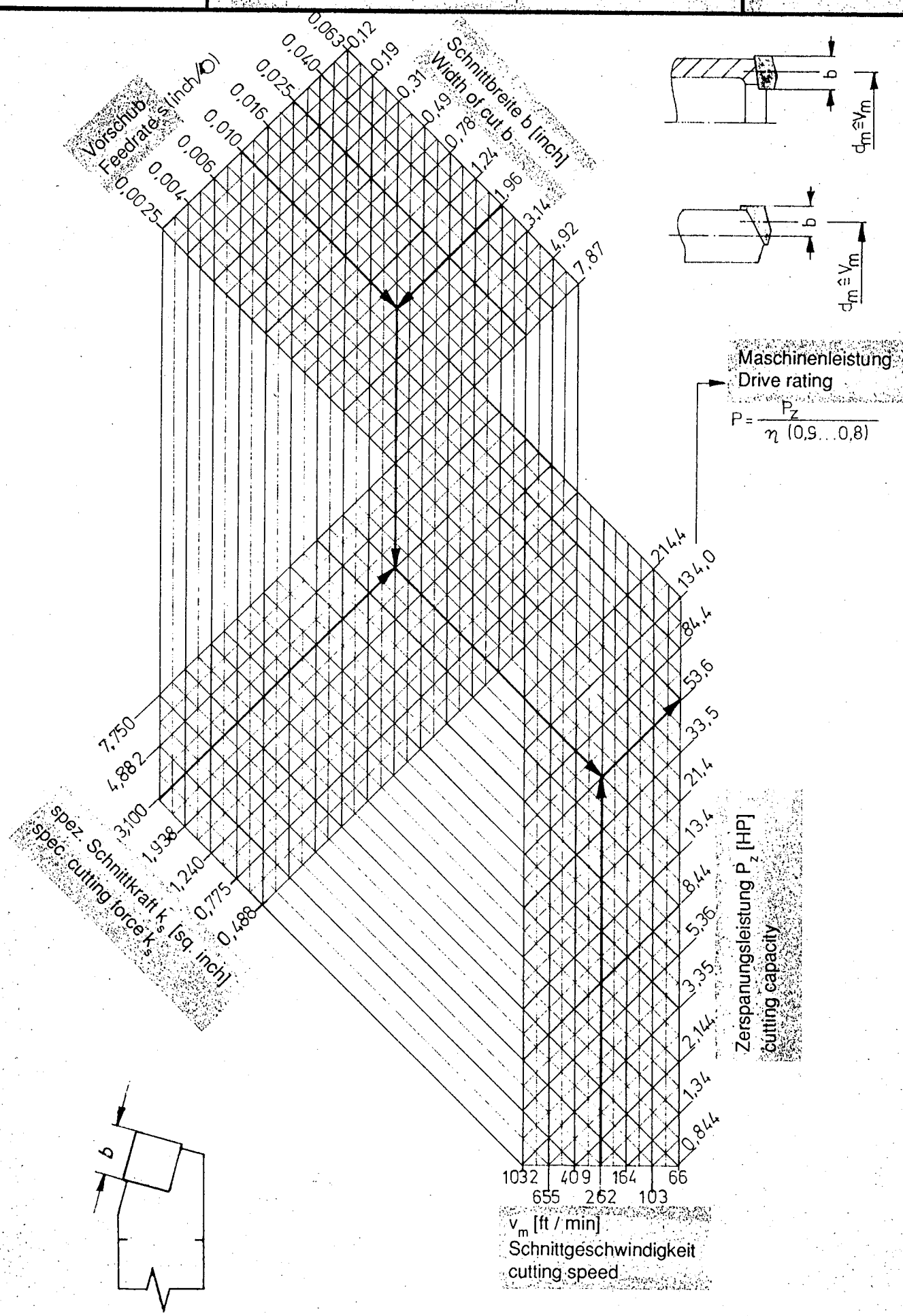




Berechnung der Zerspanungsleistung  
Cutting capacity calculation

T-A 0714

Blatt 2  
Sheet 2



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