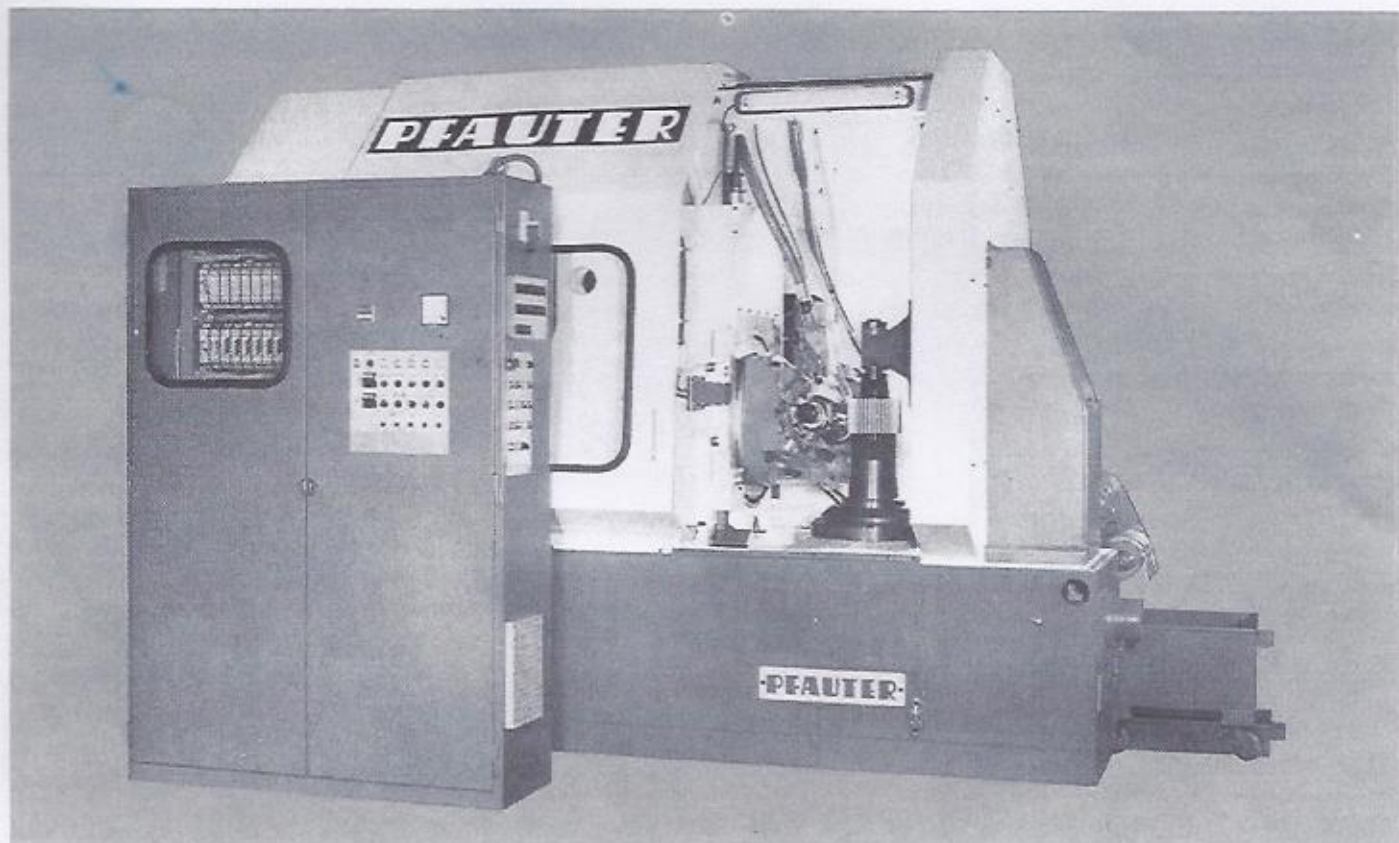
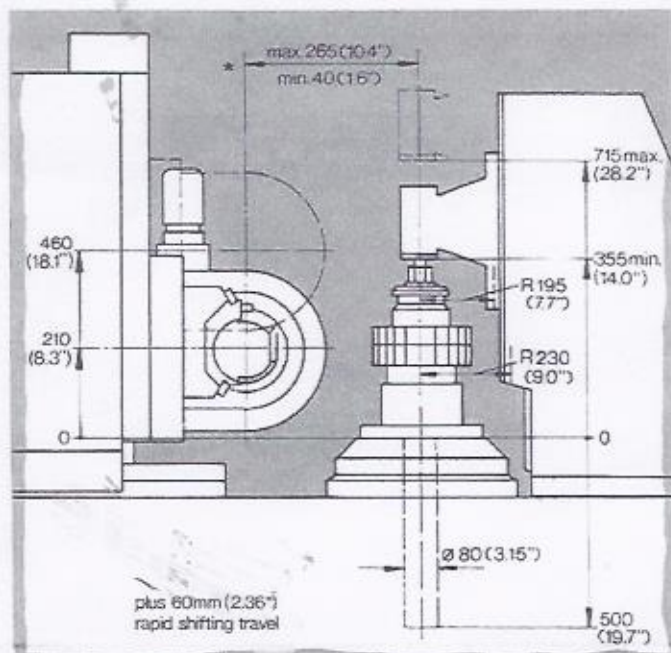


**Production Hobbing Machine
with numerical control**
**PFAUTER
PA 320 NC**

Standard machine specifications

Pfauter PA 320 NC production hobbing machine with numerical control, stationary work table, automatic one-cut cycle, infinitely variable axial feed, automatic hob shifting, hydraulically actuated tailstock and complete electrical equipment including motors for 230/460 V, 60 cycles. Control voltage 110 V.


Technical data – Capacities and limits

Maximum workpiece diameter	13.8" (350 mm)
Maximum pitch (module) in steel with a tensile strength of approx. 38 tons/sq. in. (600 N/mm ²)	D.P. 3
Maximum axial hob slide travel	9.8" (250 mm)
Min. number of teeth (1-start index drive)	6
Min. center distance workpiece/hob	1.6" (40 mm)
Max. center distance workpiece/hob	10.4" (265 mm)
Work table diameter	11.8" (300 mm)
Index worm gear diameter	12.8" (324 mm)
Table bore diameter	3.1" (80 mm)
Maximum helix angle	± 40°
Maximum hob diameter	6.4" (163 mm)
Maximum hob length	9.1" (230 mm)
Maximum hob shift travel	6.7" (170 mm)
Coolant reservoir capacity	93 gals. (380 liters)
Pump capacity	32 gals./min (120 l/min)
Total electric power rating	30 kVA
Weight	20,800 lbs. (9,400 kg)
Length	165" (4,200 mm)
Width	91" (2,300 mm)
Height	102" (2,600 mm)

Standard equipment

Hob head with tangential slide for hob shifting – automatic incremental hob shifting – main drive with interchangeable 4-step V-belt pulleys – double index worm drive – hydraulic movement of radial slide to cutting depth and work loading and unloading position – automatic work cycles for climb or conventional hobbing of spur and helical gears – magnetic chip conveyor – tailstock column with rigid tailstock arm moved up and down hydraulically – hob cooling and lubricating system – complete enclosure of work area – automatic cycle interlocked with splashguard doors to prevent starting while doors are open – hydraulic equipment – automatic pressurized lubrication of all lubrication points – oil bath lubrication of all drives – electrical equipment including motors and control cabinet – programmable controller (PC) – locking control panel – machine in metric design.

Special equipment

Differential drive – main drive with pole-reconnectable motor or infinitely variable D. C. motor – automatic two- and multi-cut work cycles – radial feed equipment – automatic dwell equipment – two-start index drive – swing away tailstock – extended tailstock column with axial travel 550 mm (21 in.) – power clamping base – automatic interlock of work arbor in tailstock – automatic feed control – dead and live centers – crown hobbing equipment – taper hobbing equipment – combined crown and taper hobbing equipment – oil mist separator – separate lubrication and hydraulic systems – electromagnetic interlock of splashguard door – coolant centrifuge.

Standard accessories

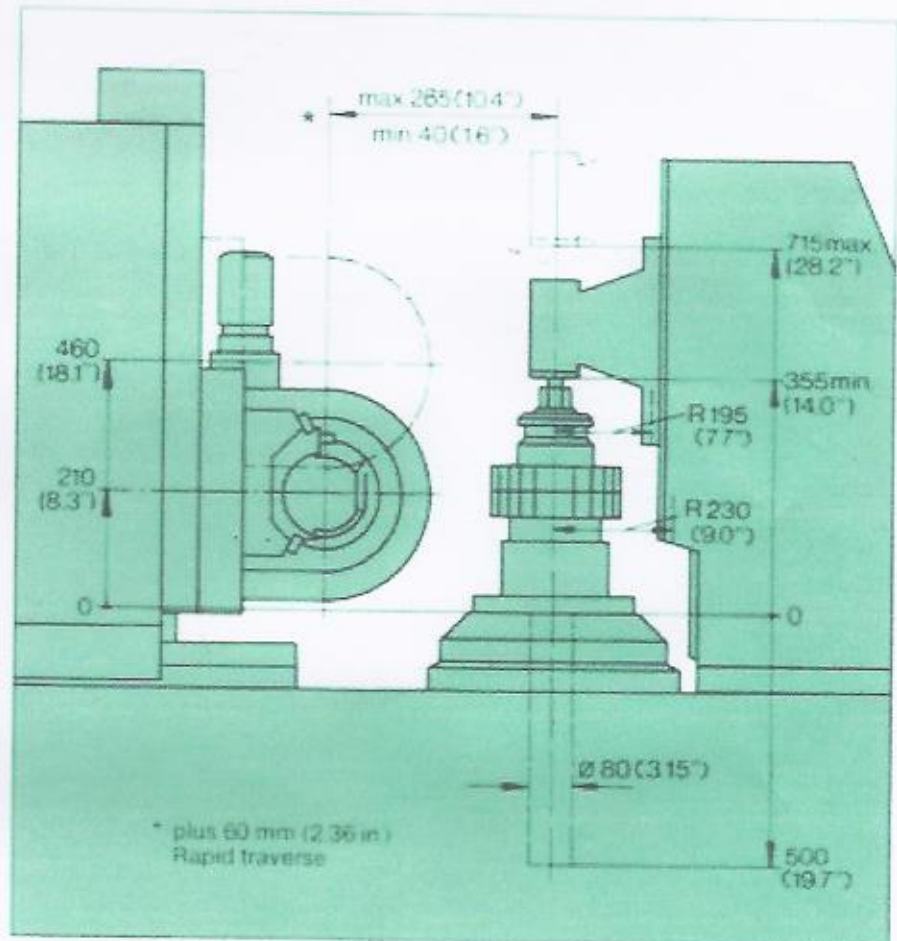
1 machine lamp – 1 hob arbor 32 mm (1.25 in.) diameter with spacers and nut – 1 hob setting gage – 1 set of pulleys for 4 hob speeds – 1 set of 4 index change gears for one workpiece – 1 set of tools for operation and maintenance of machine – 1 operator's manual – 1 service manual.

Special accessories

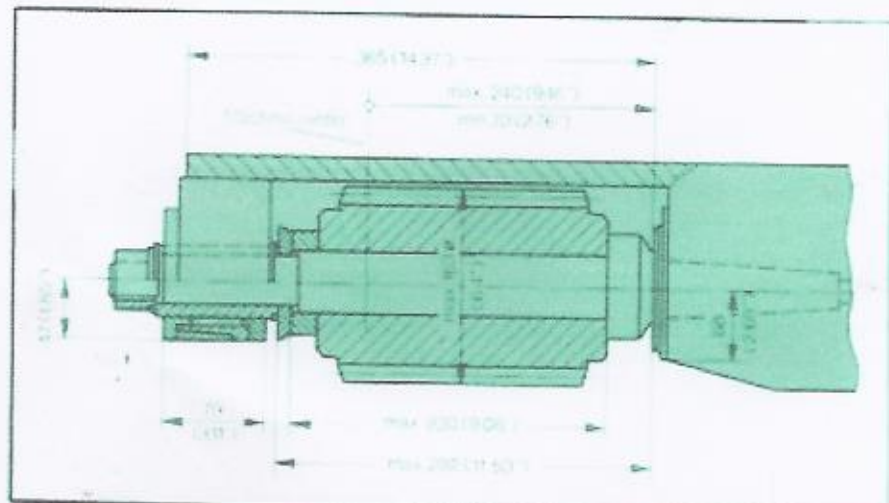
Supplementary set of index and differential change gears dependent on the number of starts of the index drive – additional set of pulleys for 4 hob speeds – supplementary set of 6 index change gears for prime numbers 101 to 113 (with reduced module) – leveling wedges – accessory cabinet – hob arbors 27 mm (1.1 in.) or 40 mm (1.6 in.) diameter with spacers and nut.

We are constantly updating our equipment. For this reason all designs, dimensions and weights are subject to change without notice. Please request a current quotation.

Work area
Jit. 22 Workholding fixture
Jit. 23 Hob mounting

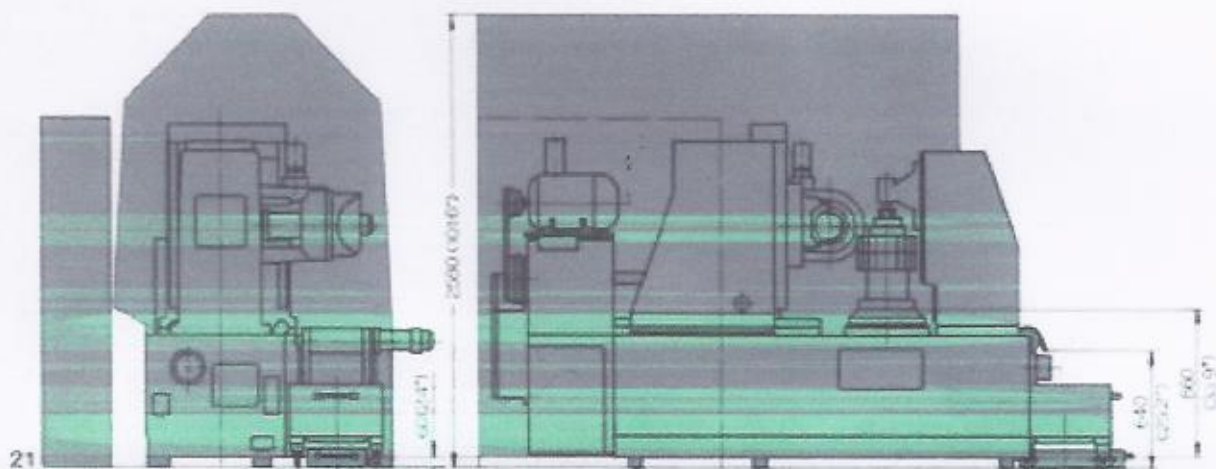


22



23

Technical data

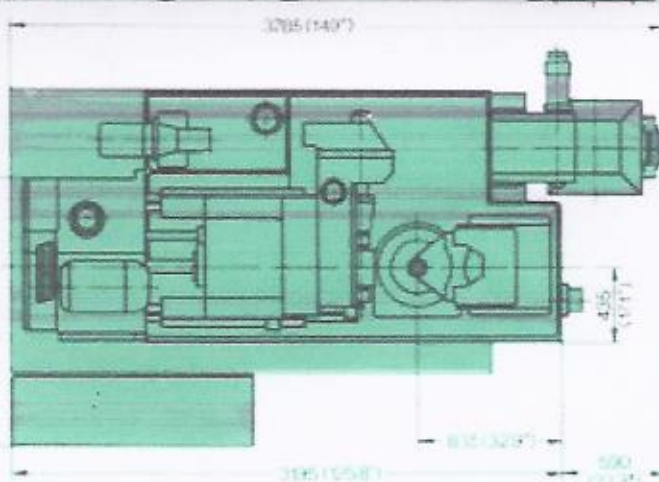


JII. 21
Space requirements
of the PA 320

Capacities

Maximum workpiece diameter	350 mm	13.8 in.
Maximum module (pitch) in steel with a tensile strength of approx. 38 tons/sq in. (600 N/mm ²)	3 mm	D.P. 3
Maximum axial slide travel	250 mm	9.8 in.
Minimum/maximum number of teeth (single-start hob)		
- Standard single-start index drive	6/120	
- Optional two-start index drive	4/ 60	
Maximum hob head swivel		± 40 degrees
Maximum table speed:		
- Standard single-start index drive	25 min ⁻¹	
- Optional two-start index drive	45 min ⁻¹	
Maximum hob shift travel	170 mm	6.7 in.
Hob speed adjustable in steps (other ranges on request)	125 to 280 min ⁻¹	
Axial feed infinitely variable	1 to 15 mm p.r.*	.04 to .63 p.r.*
Coolant pump capacity	120 l/min	32 US Gallon/min
Radial feed infinitely variable (optional equipment)	4 to 138 mm/min	.157 to 5.433 in./min
Maximum radial slide rapid traverse	60 mm	2.4 in.

* mm or in. per workpiece revolution



Electrical data

Voltage	220/380 V
Frequency	50 Hz
(other voltages and frequencies on request)	
Main motor rating	15 kW
D.C. drive (optional) up to	30 kW
Total electric power rating	32 kVA

Work area dimensions

Center distance between workpiece and hob:		
- Minimum	40 mm	1.6 in.
- Maximum	265 mm	10.4 in.
Work table diameter	300 mm	11.8 in.
Table bore diameter	80 mm	3.15 in.
Hob arbor diameter	32 mm	1.25 in.
Hob spindle taper		Morse No. 5
Maximum hob dimensions:		
- Diameter	163 mm	6.4 in.
- Length	230 mm	9.1 in.

Weight and space requirements

Weight of machine	9,400 kg	20,750 lbs.
Floor space required with chip box and open doors:		
- Length	4,600 mm	181 in.
- Width	2,950 mm	116 in.
- Height	2,580 mm	102 in.
Export packing dimensions:		
- Length	4,000 mm	157 in.
- Width	2,200 mm	87 in.
- Height	2,600 mm	102 in.
Additional weight of packing	1,100 kg	2,500 lbs.
Cargo space required	23 m ³	810 cu ft.