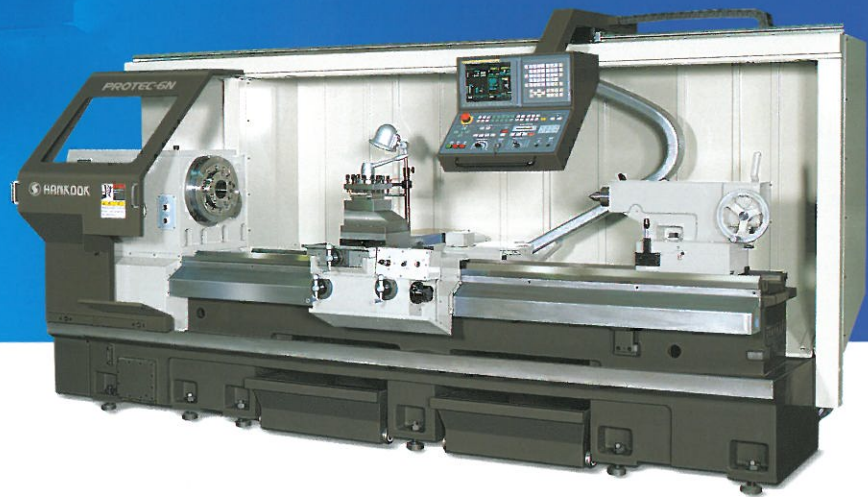


High Precision Semi-CNC Lathes
PROTEC 6N-7NA/7NB



 **HANKOOK**



High Precision Semi-CNC Lathes

PROTEC 6N-7NA/7NB

Combine advantages of full CNC lathe and manual lathe

High precision and accuracy comparable to full CNC lathe
Simple, convenient and versatile operation of manual lathe
Most effective machine at most competitive price
For your satisfaction with various machining needs

Features

- Swing up to 750mm(29.5")-7N
- Up to 4,000mm (157.5") shaft turning length-7N
- 3,000kg (6,600lbs) load capacity between centers
- Extra wide one-piece cast iron bed
- Induction-hardened and precision-ground guide ways
- High precision ball screws for both axes
- Servo motor for both axes
- Large spindle bore 176mm(7")-7NB
- Square tool post featuring Curvic coupling
- Two speed tailstock spindle
- Guidance hand-wheel(simultaneous 2 axes control)
- X/Z axes electronic hand wheels (MPG)
- Full length rear chip guard and single front door
- Full automatic lubrication to all critical areas

Bed

- The bed is a heavy one-piece casting with thick ribbing to prevent twisting and deformation
- High-qualified cast iron is excellent dampening characteristics
- The flat bed design is suitable for heavy shafts as the weight of work- piece is directly downward onto the bed ways

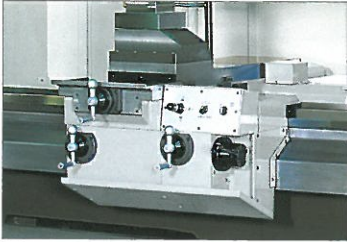
Headstock

- Two points support system of main spindle, double-row cylindrical roller bearing with angular ball bearing in front, and double-row cylindrical roller bearing at rear.
- 2 steps gear change for high torque driving with low speed.
- All spindle bearings are precision class and permanently grease lubricated to minimize thermal growth.
- Spindle bore, 85mm(6N), 105mm(7NA) and 176mm(7NB)
- Main spindle gears and other bearings are forced-lubricated.

Tailstock

- The heavy duty tailstock has a M.T # 6 center and quill diameter 112mm(4.4") to load heavy shafts up to 3 tons(6600lbs).
- The quill stroke of 200mm(7.9") and speed reduction gear box(ratio 1:1/4) for drilling operation.
- Tailstock body feed is accomplished by a drive hook engaged with the carriage.

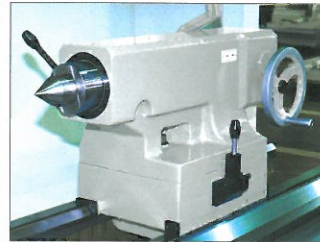




Manual Hand-wheels



Curvic Tool Post



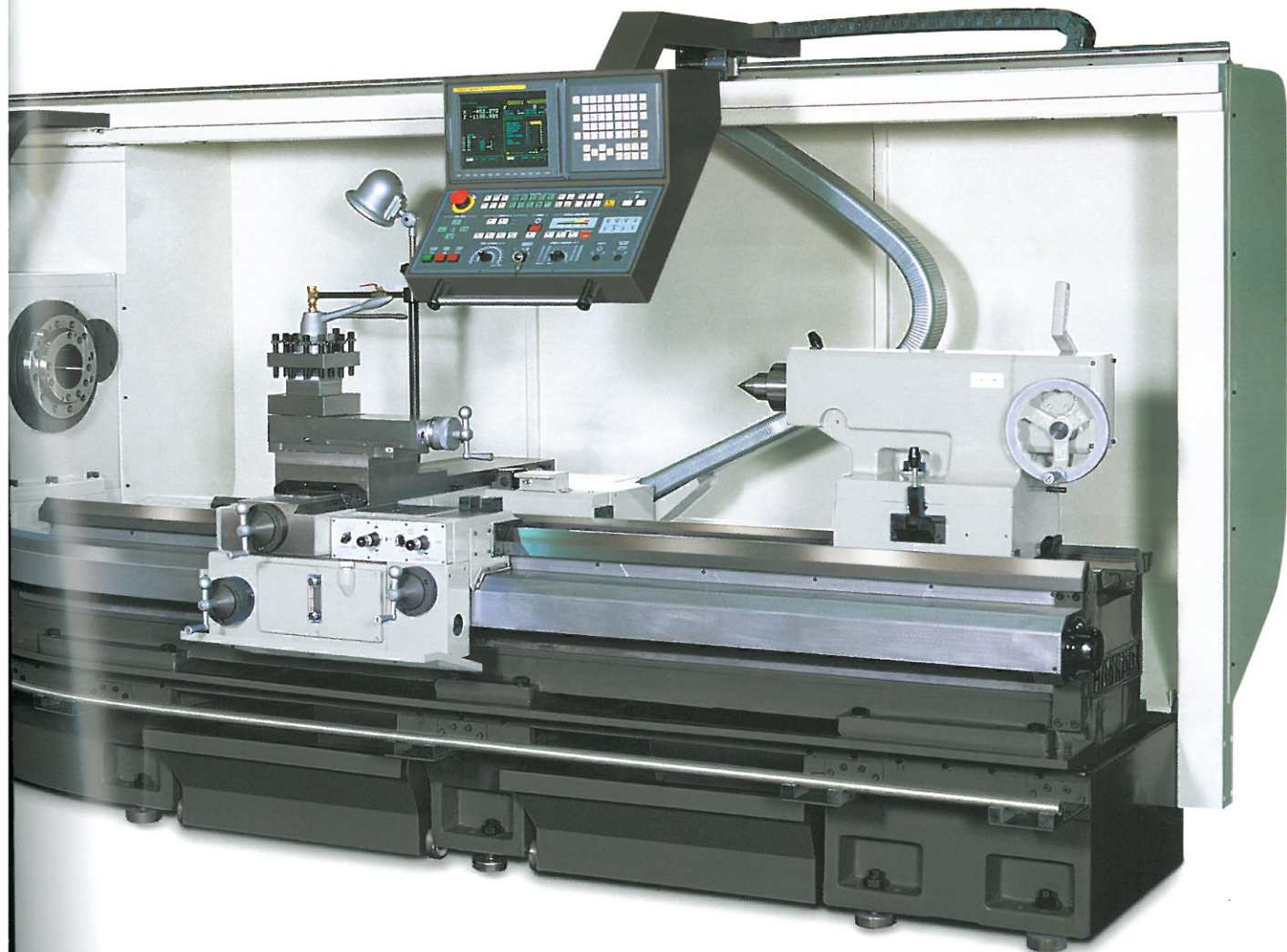
2-speed Tailstock



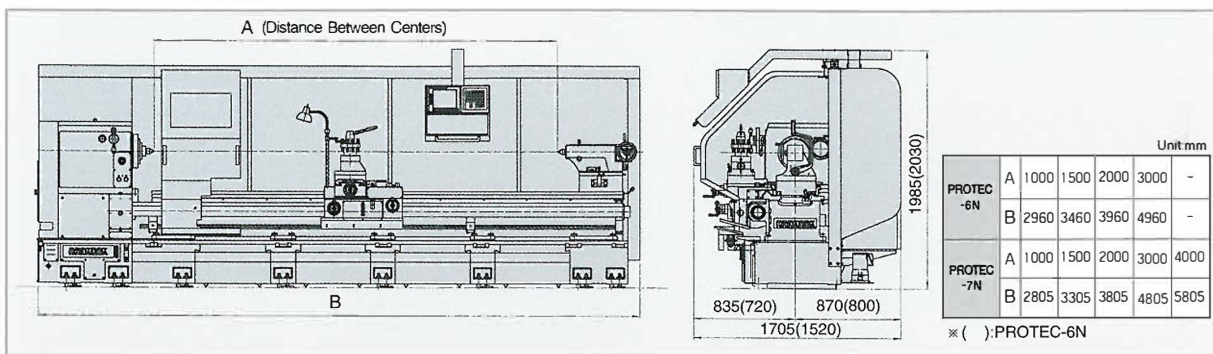
Operation Panel

Carriage

- The extremely rigid extended H-style saddle and wide cross slide allow heavy and interrupted cutting with ultimate stability and high accuracy.
- Even the operators accustomed to manual lathes can operate this machine very easily by operating the handles on the carriage.
- HANKOOK's own designed Guidance Handle can achieve a manual feed, auto. mechanical feed, circular turning (simultaneous 2 axes control).
- High precision ball screw for longitudinal and cross feed to obtain high accurate turning with servomotors. Longitudinal and cross handles have pulse generators, not connected directly with ball screw.
- The fluorine-plastic resin combined way lubrication provides a low friction surface and virtually eliminates guide-way from wearing
- The manually indexed square tool post features Curvic coupling. It can be positioned per every 15 degree increments. Index repeatability is guaranteed within ± 5 seconds.



External Dimensions



Machine Specifications

Items		Unit	PROTEC-6N		PROTEC-7NA		PROTEC-7NB	
Capacity	Swing over bed	mm(inch)	ø 650(25.6)		ø 750(29.5)			
	Swing over carriage	mm(inch)	ø 380(15)		ø 480(18.9)			
	Max. turning diameter	mm(inch)	ø 650(25.6)		ø 750(29.5)			
	Distance between centers	mm(inch)	1000(39.4)	1500(59)	2000(78.7)	3000(118.1)	4000(157.5)	
	Load capacity between centers	kg(lbs)			3000(6600)			
Spindle	Spindle bore	mm(inch)	ø 85(3.3)		ø 105(4.1)		ø 176(6.9)	
	Spindle nose	-	A2-11"		A2-11"		A2-11"	
	Spindle center taper	-	MT#5				MT#6	
	Spindle speed	rpm	3~1400		3~1250		3~1000	
	Spindle speed range	-			Manual 2-step			
Carriage	Type of tool post	-			Manual H-4 (Curvic tool post)			
	Tool size	mm(inch)	□25(□1)		□32(□1 1/4), (Option Hyd. H-4: □25)			
	X-axis travel(Cross)	mm(inch)	380(15)		425(16.7)			
	Z-axis travel (Longitudinal)	mm(inch)	1070(42.1)	1570(61.8)	2070(81.5)	3070(120.9)	-	
		PROTEC-6N						
		PROTEC-7N	935(36.8)	1435(56.5)	2070(81.5)	2935(115.5)	3935(154.9)	
	X-axis rapid traverse	m/min(ipm)			3(118)			
	Z-axis rapid traverse	m/min(ipm)			6(236)			
Tailstock	Tailstock quill diameter	mm(inch)	ø 90(3.5)		ø 112(4.4)			
	Tailstock spindle taper	-	MT#5		MT#6			
	Max. quill travel	mm(inch)	200(7.9)		200(7.9)			
Bed	Bed width	mm(inch)	445(17.5)		500(19.7)			
	Bed length	mm(inch)	2600(102.4)	3100(122)	3600(141.7)	4600(181)	-	
	PROTEC-6N							
	PROTEC-7N	2505(98.6)	3005(118.3)	3505(138)	4505(177.4)	5505(216.7)		
Motor	Spindle motor(Cont./30min)	kW(Hp)	AC 7.5/11(10/15)		AC 11/15(15/20)		AC 15/18.5(20/25)	
	X-axis servo motor(Torque/Power)	N·m/kW			8/1.2			
	Z-axis servo motor(Torque/Power)	N·m/kW			22/3			
Machine Weight		kg(lbs)	3300(7300)	3750(8300)	4100(9040)	4700(10400)	-	
	PROTEC-6N							
	PROTEC-7N	3470(7650)	3920(8640)	4220(9300)	4870(10730)	5520(12200)		
CNC Controller		-			FANUC 32i-A			

Standard Accessories

- CNC controller FAUC 32i-A
- Spindle motor & electrical equipments
- 3-jaw scroll chuck Ø12" (Ø300mm) : 6N
- 4-jaw independent chuck Ø14" (Ø350mm) : 7NA
Ø14" (ID176mm) : 7NB
- 2-speed tailstock spindle (Only for 7N)
- Curvic tool post Manual H-4
- Coolant system
- Work light
- Live center MT#5 : 6N, MT#6 : 7N
- Center MT#5 : 6N, MT#6 : 7N
- Center sleeve MT#5 × 1/10 Taper #100 : 6N
MT#6 × 1/10 Taper #120 : 7N
- Rear side full splash guard & single front door
- Handle for bite clamping
- Foundation bolts & liners
- Tool box with maintenance tools

Optional Accessories

- 3-jaw scroll chuck Ø10", Ø12", Ø14" : 6N
Ø12", Ø14" : 7NA, Ø20" (ID 176mm) : 7NB
- 4-jaw independent chuck Ø10", Ø12", Ø14", Ø16", Ø18" : 6N
Ø16", Ø18", Ø20", Ø24" : 7NA
Ø24" (ID 176mm) : 7NB
- Face plate Ø560mm : 6N, Ø670, Ø800mm : 7N
- Steady rest (metal jaws) Ø50-300mm : 6N
Ø50-250, Ø250-45mm : 7N
- Steady rest (roller jaws) Ø50-300mm : 6N
Ø50-250, Ø250-450mm : 7N
- Follow rest (metal jaws) Ø30-150mm : 6N, Ø20-200mm : 7N
- Automatic index turret Hydraulic H-4, Electrical V-8 : Only for 7N
- Tool slide Only for manual H-4
- Live center MT#5 : 6N, MT#6 : 7N
- Transformer
- Customized color

Note: Specifications and features are subject to change without prior notice.



HEAD OFFICE & PLANT
HANKOOK MACHINE TOOLS CO., LTD.
 52, Ungnam-dong, Seongsan-gu, Changwon-si,
 Gyeongsangnam-do, Korea.
 TEL: 82-55-282-7781/7660 FAX: 82-55-284-9791
 E-mail: sales@hanmachine.com
www.hanmachine.com

AMERICA OFFICE
Hankook America, Corp.
 1601 Atlantic Drive-#109 West Chicago,
 IL 60185 U.S.A.
 TEL: 1-630-562-9240
 FAX: 1-630-562-9250
 E-mail: hankookamerica@msn.com

EUROPE OFFICE
Hankook Machine Germany GmbH
 Schwalbacher Str. 62
 65760 Eschborn / Germany
 TEL: 49-6196-99849-0 FAX: 49-6196-99849-29
 E-mail: info@hanmachine.de
www.hanmachine.de