

2. Technology Specifications

2-1 Machine Specifications

Items	Unit	PROTEC		
		9NA	9NB	9NC

General

Machine length	mm	4470	5470	6470	7470	8470	9470	10470	
Machine width	mm	2105							
Machine height	mm	1850							
Height from floor to spindle center line	mm	1165							
Machine weight	9NA	kg	6800	7800	8800	9800	10800	11800	12800
	9NB/9NC		7020	8100	9200	10300	11400	11500	13600

Capacity

Swing over bed	mm	ø 950						
Swing over carriage	mm	ø 630						
Max. turning diameter	mm	ø 950						
Max. turning length	mm	1845	2845	3845	4845	5845	6845	9845
Distance between centers	mm	2000	3000	4000	5000	6000	7000	8000
Max. load between centers	kg	5000						

Spindle

Spindle speeds	-	rpm	1.2~1000	3~800	2~630
	H Max.		1000	800	630
	M Max.		375	-	-
	L Max.		123	260	205
Spindle speed range	step	manual 3	manual 2		
Spindle nose type	-	A2-11*			A2-15*
Spindle bore	mm	ø105	ø176	ø 254	
Spindle center taper	-	MT #6			

Bed

Bed width	mm	630						
Bed length	mm	3715	4715	5715	6715	7715	8715	9715

PROTEC-9N Series

Chapter 2 Machine Specifications

Items	Unit	PROTEC							
		9NA		9NB		9NC			

Carriage

Max. travel	X-axis	mm	535							
	Z-axis	mm	1845	2845	3845	5845	6845	7845	8845	
Rapid traverse	X-axis	m/min	4							
	Z-axis	m/min	6							
Ball screw (diameter×pitch)	X-axis	mm	ø40 x 10							
	Z-axis	mm	ø63 x 20							
Cross side width	mm	320								
Turret head type	-	H-4								
Number of tool positions	-	4								
Tool site	mm	32×32								

Tail Stock

Taper in tailstock spindle	-	MT No. 6	
Tailstock quill stroke	mm	250	
Tailstock quill diameter	mm	ø112	ø 160

Motor

Main spindle motor	kW	AC 18.5/22	AC 22/26
X-axis servo motor	kW	AC 2.1	
Z-axis servo motor	kW	AC 3.3	
Lubricant pump motor for headstock	kW	0.2	
Coolant pump motor	kW	0.25	
Lubricant pump motor for headstock	kW	0.025	

Coolant & Lubrication Unit

Coolant tank capacity	ℓ	300	
Coolant pump discharge	ℓ/min	95	
Lubricant tank capacity	headstock	ℓ	25
	carriage	ℓ	6.5
Lubricant pump discharge	headstock	ℓ/min	7.5
	carriage	ℓ/min	0.3

Items	Unit	PROTEC		
		9NA	9NB	9NC
Coolant & Lubrication Unit				
Max. output pressure	headstock	kg/cm ²	5	
	carriage	kg/cm ²	12	

Environmental Conditions		
Power supply	Volts	AC 200/220V ±10
Total power handling capability	kw(KVA)	AC 34 (47)
Operating ambient temperatures	-	0° - 40°C
Relative humidity	-	less than 75%