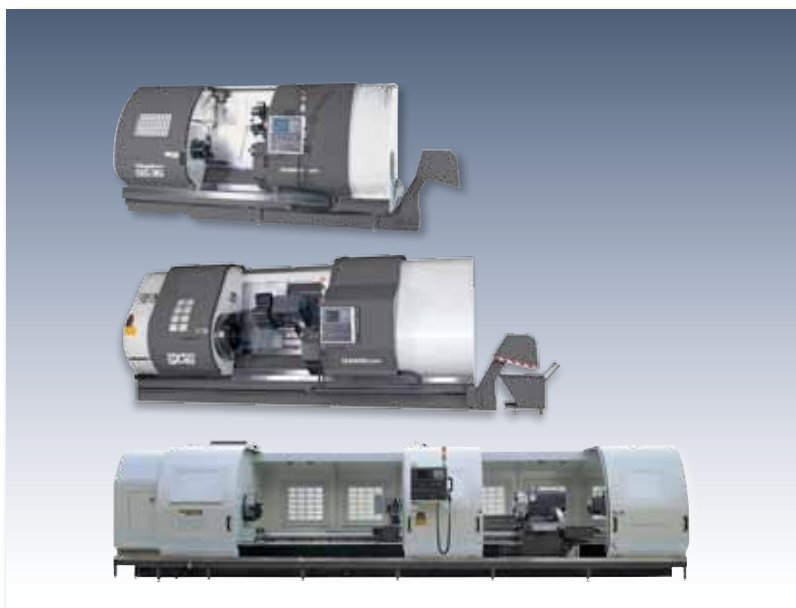


DUGARD

Machine Tools Since 1939

Mega Slant and Mega Turn Heavy Duty CNC Lathes



www.dugard.com

Dugard SS and SA Series

Machine Features

- 60° for SA-Series, 45° for SS-Series slant bed construction ensures maximum stability and convenient chip disposal
- Powerful spindle motor. High torque output at low speed is excellent for heavy duty machining
- Fast tool change - in less than one second
- Programmable tailstock for convenient operation
- Fully enclosed splash guard provides operational safety
- Bed is made of Meehanite cast iron
- High precision ball screw assures backlash free transmission
- Bed slideways are protected by telescopic guard
- Bed slideways are hardened and precision ground, Turcite-B is used on sliding elements
- Independant coolant system for headstock ensures normal temperature at high speed running
- Optical scale on X, Z axes ensures high positioning accuracy

SS Series



Bore 6"
Centre distance 1,700mm



Bore 12.5"
Centre distance 3,200mm
Double Chuck

SA Series

SA-35

- Swing over bed - 890mm (35")
- Distance between centres 700~5,200mm
- 12 station turret
- Fanuc 18iT control
- Spindle motor - 50/60HP
- Spindle bore 6" ~16"

Slant Bed CNC Lathes



SS-27

- Swing over bed - 700mm (27.5")
- Distance between centres 700~5,200mm
- 12 station turret
- Fanuc 18iT control
- Spindle motor - 40/50HP
- Spindle bore 5"~12.5"

SS-31

- Swing over bed - 790mm (31")
- Distance between centres 700~5,200mm
- 12 station turret
- Fanuc 18iT control
- Spindle motor - 40/50HP
- Spindle bore 5"~14"

SS-35

- Swing over bed - 890mm (35")
- Distance between centres 700~5,200mm
- 12 station turret
- Fanuc 18iT control
- Spindle motor - 40/50HP
- Spindle bore 5"~14"



Bore 22"
Centre distance 2,200mm
Double Chuck

SA-40

- Swing over bed - 1,020mm (40")
- Distance between centres 700~5,200mm
- 12 station turret
- Fanuc 18iT control
- Spindle motor - 50/60HP
- Spindle bore 6"~21"

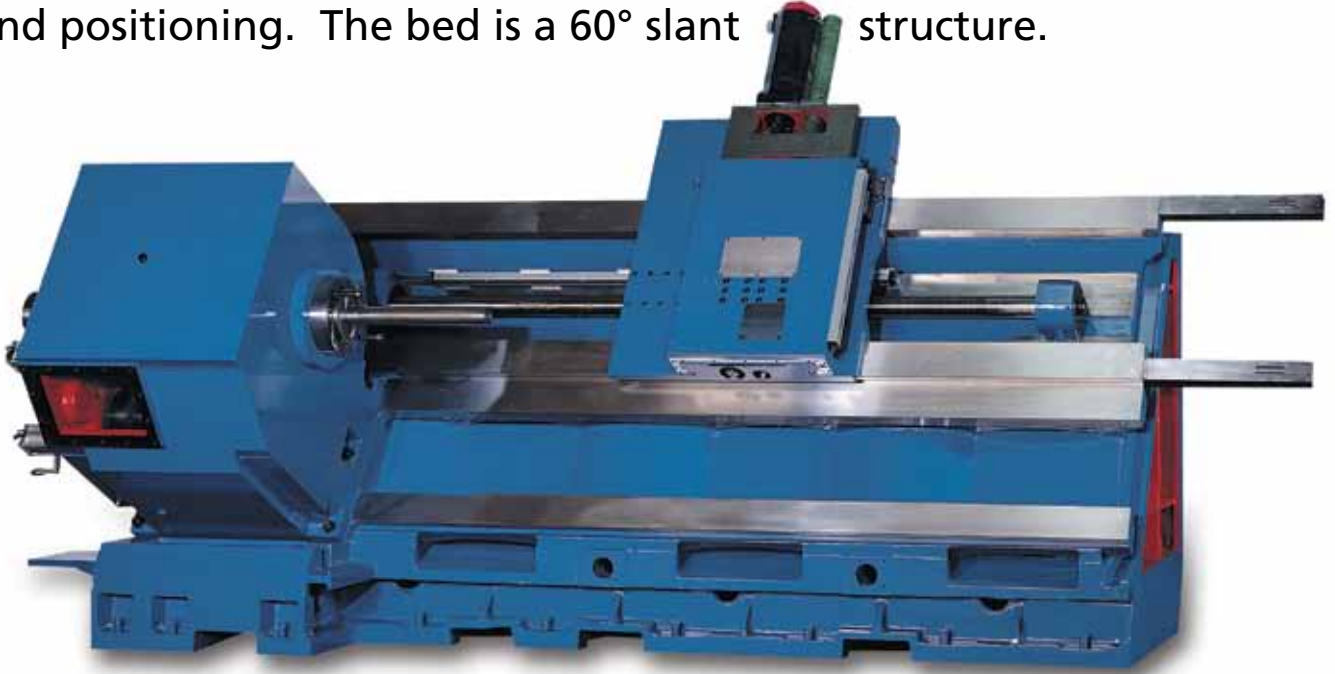
SA-45

- Swing over bed - 1,145mm (45")
- Distance between centres 700~5,200mm
- 12 station turret
- Fanuc 18iT control
- Spindle motor - 50/60HP
- Spindle bore 6"~24"

Dugard SS and SA Series

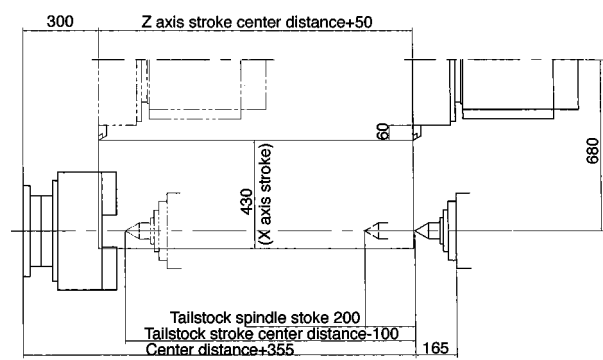
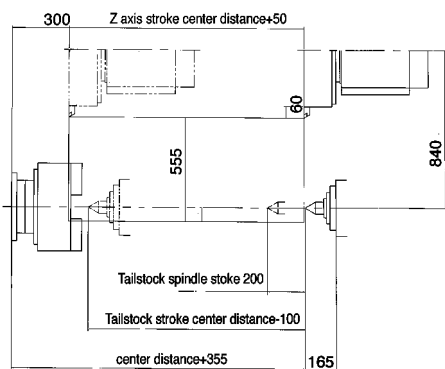
Rugged Construction

The bed is manufactured from high tensile Meehanite cast iron, hardened to hardness over HS70 and precision ground. All sliding elements are coated with Turcite-B and precision scraped to ensure high accuracy of traverse and positioning. The bed is a 60° slant structure.

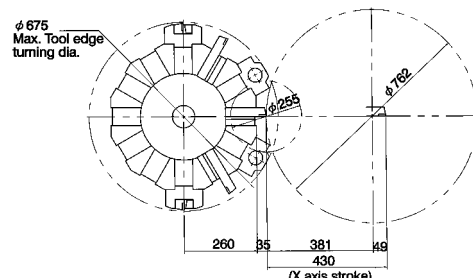
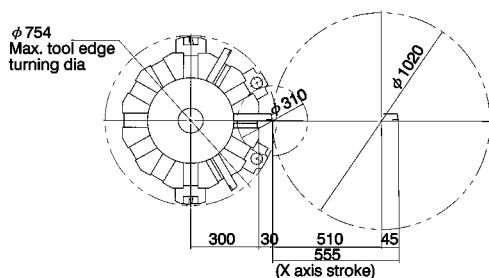


SA35 Centre Distance 1,700mm
Spindle Bore 6" (Ø153mm)

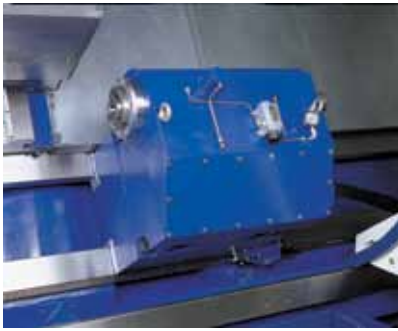
Turret Working Range



Turret Tooling Capacity



Slant Bed CNC Lathes



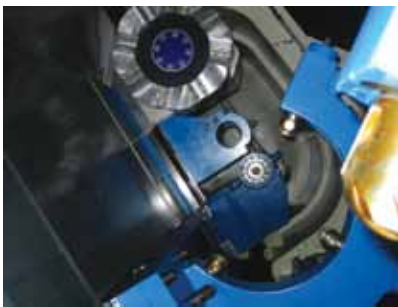
Massive Tailstock

The heavy tailstock construction assures maximum stability in heavy duty machining. Extra long quill travel reduces interference with the tool turret. Tailstock motions are programme controlled for operational convenience.



Fast and Precise Turret

The turret employs a conical clutch for high accuracy positioning, and features bi-directional random tool selection. Tool change is quickly accomplished in only one second (adjacent tool), and 2.7 seconds (opposite tool). CF axis turret is optional.



Boring Bar Holder (optional)

The boring bar holder is designed for providing chatter-free turning especially when performing deep hole machining. The boring bar holder is supplied as optional with specifications made to meet specific customer requirements.

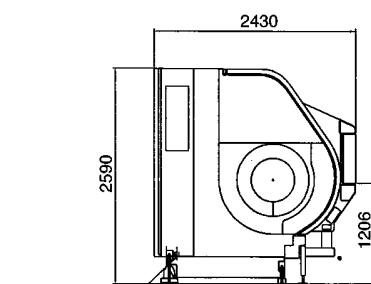


Precision Spindle

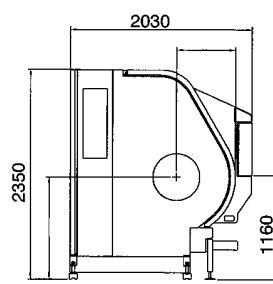
The spindle is precision manufactured from high quality alloy steel. It runs on large angular contact roller bearings to resist radial and axial load in heavy duty machining. Four ranges of variable spindle speed suits various workpiece materials.

Dimensions

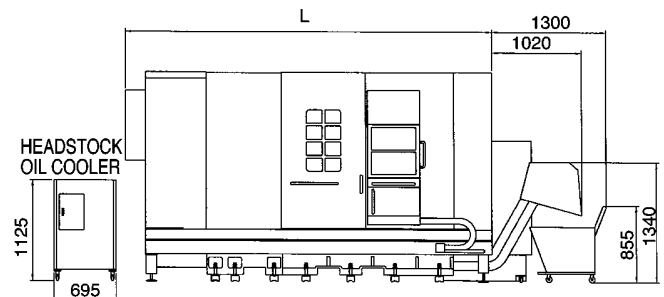
L	SA Series	5565	6065	6565	7065	8065	9065	10065
	SS Series	4840	5340	5840	6340	7340	8340	9340
Centre Distance		700	1200	1700	2200	3200	4200	5200



SA Series



SS Series



Series Specifications

Standard Accessories

- Headstock oil coolant system (18,000 BTU)
- Rotary tailstock quill
- Tailstock power off safety device
- X & Z axes linear scale feedback
- Hydraulic system
- Chip conveyor and bin
- Cabinet refrigeration

Optional Accessories

- C axis
- Double turret
- Tool presetter
- Sub spindle
- Hydraulic steady rest
- Manual steady rest
- 3-jaw chuck
- Power chuck
- Finger chuck
- Tool holders

Specifications are subject to change requests, without notice, for improvement

Item	Unit
Capacity	
Swing over bed	mm (in)
Swing over cross-slide	mm (in)
Max cutting diameter	mm (in)
Distance between centres	mm (in)
Bed and Carriage	
Bed shape	
Bed width/slant angle	mm (in) / °
Carriage bearing on bed way	mm (in)
Width of cross slide	mm (in)
Headstock	
Spindle nose	
Spindle bore	mm (in)
Spindle step	
Spindle speeds	1 range - rpm
	2 range - rpm
	3 range - rpm
	4 range - rpm
Spindle nose / bore / step / rpm	
Turret	
Standard turret model	
Disc shape / no of tool stations	
Tool shank cross section	mm (in)
Tool shank diameter max	mm (in)
Travel	
Cutting tool rate	mm/rev (in/rev)
Rapid travel	m/min (ft/min)
Ball screw diameter	mm (in)
Tailstock	
Quill type	
Quill diameter	mm (in)
Quill travel	mm (in)
Inner taper of quill	
Motor	
Main spindle motor	kW (HP)
X axis servo motor	kW (HP)
Y axis servo motor	kW (HP)
Hydraulic pump motor	kW (HP)
Coolant pump motor	kW (HP)
Headstock oil refrigerator	
Cabinet refrigerator	
Control	
Machine	
700mm centre distance	kg (lb)
Weight	
Each extra 500mm weight	kg (lb)

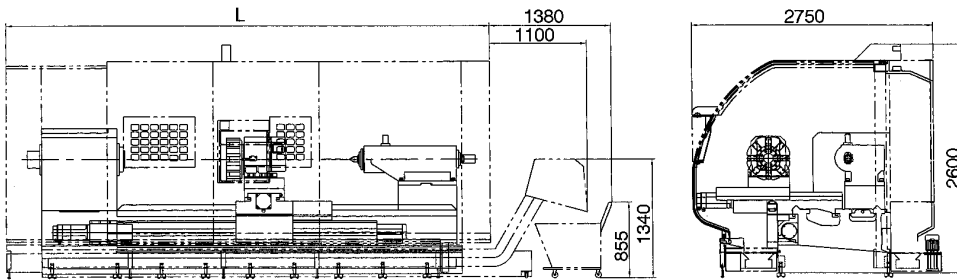
Slant Bed CNC Lathes

SS-27	SS-31	SS-35	SA-35	SA-40	SA-45		
700 (27.5)	790 (31.1)	890 (35)	890 (35)	1020 (40)	1145 (45)		
550 (21.6)	640 (25.2)	740 (29)	740 (29)	870 (34)	995 (39)		
700 (27.5)	790 (31.1)	890 (35)	890 (35)	1020 (40)	1145 (45)		
700 (28), 1200 (47), 1700 (67), 2200 (87), 3200 (126), 4200 (165), 5200 (205)							
One piece bed							
1145 (45) / 45			1430 (53.5) / 60				
830 (32.67)			950 (37.4)				
500 (19.68)			600 (23.6)				
A2-11,	A2-15,	A2-15,	A2-20,	A2-20,	A2-28,	A2-28,	A2-32
153 (6.02)	230 (9.05)	255 (10.03)	318 (12.51)	360 (14.17)	410 (16.14)	535 (21.06)	610 (24.02)
Auto 4 step							
20~140,	16~120,	13~95,	14~100,	12~85,	10~75,	8~60,	4~25
38~280,	30~200,	25~185,	26~180,	23~160,	18~110,	15~95,	8~50
95~550,	70~420,	60~400,	60~350,	55~300,	45~250,	35~200,	20~140
200~1200,	150~700,	120~600,	130~450,	95~400,	65~350,	55~300,	40~220
A2-11 / 132 / 1 / 200~2000 SS only							
Baruffaldi TB320				Baruffaldi TB400			
Polygon disc or VDI disc / 12							
32 x 32 (1.25)							
60 (2.5) - SS, 102 (4) - SA							
X axis: 0.001~250 (0.00004~9.84), Z axis: 0.001~400 (0.00004~15.75)							
X axis: 8 (26.24), Z axis: 10 (32.8)							
X axis: 45 (1.77), Z axis: 63 (2.48)				X axis: 50 (2), Z axis: 80 (3.15)			
Built-in type, Rotating tailstock quill							
160 (6.29)				235 (9.25)			
200 (7.87)							
MT#5				MT#6			
30/37 (40/50) STD, 37/45 (50/60) OPT				37/45 (50/60)			
3.8 (5.1)				4.5 (6)			
3.8 (5.1)				4.5 (6)			
3.7 (5)				5.5 (7.5)			
1.05 (1.4)							
18,000 BTU							
3,000 BTU							
Fanuc 18iT (STD)				Other required (OPT)			
11,000 (24,200)	11,400 (25,080)	11,800 (26,000)	16,500 (36,300)	17,000 (37,400)	17,500 (38,500)		
1,500 (3,300)				2,200 (4,800)			

Dugard CN, LC and BN Series

CN Series

4 bedway design
Bore 9"
Centre distance 4,000mm



CN-35

- Swing over bed - 880mm (35")
- Distance between centres 1,500~12,000mm
- Fancu 18iT control
- Spindle motor - 50/60HP
- 4-way track

CN-40

- Swing over bed - 1,040mm (40")
- Distance between centres 1,500~12,000mm
- Fancu 18iT control
- Spindle motor - 50/60HP
- 4-way track

CN-45

- Swing over bed - 1,135mm (45")
- Distance between centres 1,500~12,000mm
- Fancu 18iT control
- Spindle motor - 50/60HP
- 4-way track

CN-50

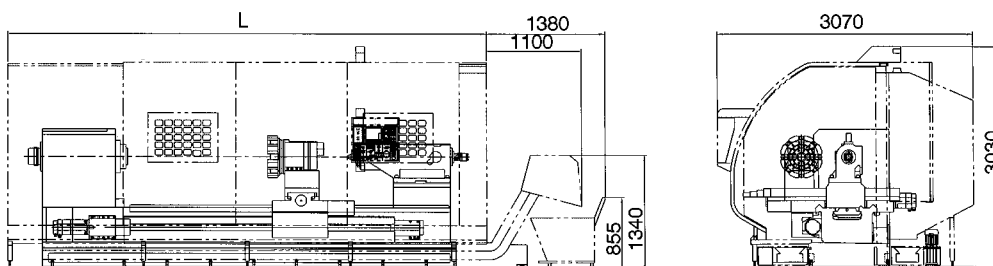
- Swing over bed - 1,275mm (50")
- Distance between centres 1,500~12,000mm
- Fancu 18iT control
- Spindle motor - 50/60HP
- 4-way track

CN Series	L	5470	6470	7470	8470	9470	10470	11470	12470	13470	14470	15470
Centre Distance		2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000



BN

Bore 9"
Centre distance 3,000mm



BN Series	L	5560	6560	7560	8560	9560	10560	11560	12560	13560	14560	15560
Centre Distance		2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000

Flat Bed CNC Lathes

LC Series

Bore 6", Centre distance 6,000mm



LC-35

- Swing over bed - 880mm (35")
- Distance between centres 1,500~12,000mm
- Fanuc 18iT control
- Spindle motor - 40/50HP
- 2-way track

LC-40

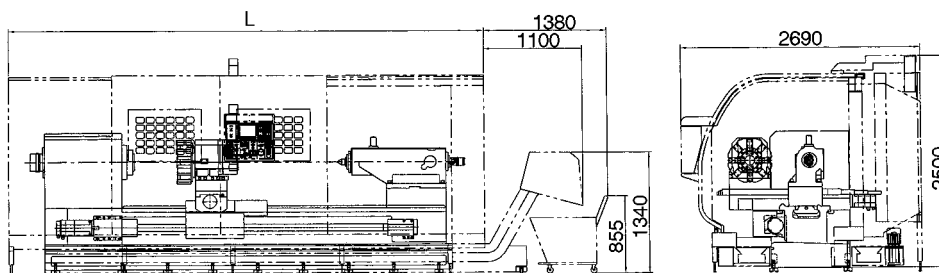
- Swing over bed - 1,040mm (40")
- Distance between centres 1,500~12,000mm
- Fanuc 18iT control
- Spindle motor - 40/50HP
- 2-way track

LC-45

- Swing over bed - 1,135mm (45")
- Distance between centres 1,500~12,000mm
- Fanuc 18iT control
- Spindle motor - 40/50HP
- 2-way track

LC-50

- Swing over bed - 1,275mm (50")
- Distance between centres 1,500~12,000mm
- Fanuc 18iT control
- Spindle motor - 40/50HP
- 2-way track



LC Series	L	5260	6260	7260	8260	9260	10260	11260	12260	13260	14260	15260
Centre Distance		2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000

Series



Bore 10"
Centre distance 2,000mm

BN-45

- Swing over bed - 1,135mm (45")
- Distance between centres 1,500~12,000mm
- Fanuc 18iT control
- Spindle motor - 50/60HP
- 2-way track. 3-V shape

BN-50

- Swing over bed - 1,275mm (50")
- Distance between centres 1,500~12,000mm
- Fanuc 18iT control
- Spindle motor - 50/60HP
- 2-way track. 3-V shape

BN-60

- Swing over bed - 1,527mm (60")
- Distance between centres 1,500~12,000mm
- Fanuc 18iT control
- Spindle motor - 50/60HP
- 2-way track. 3-V shape

BN-70

- Swing over bed - 1,790mm (70")
- Distance between centres 1,500~12,000mm
- Fanuc 18iT control
- Spindle motor - 50/60HP
- 2-way track. 3-V shape

Dugard CN, LC and BN Series

Series Specifications

Standard Accessories

- Coolant system
- Auto lubrication
- Work lamp
- Safe guarding
- Tools and tool box
- Various manuals
- Programmable tailstock
- Turnable tailstock spindle
- Chip conveyor, 2 sets
- Headstock oil cooler
- Cabinet refrigerator

Optional Accessories

- Double turret
- Steady rest (manual or hydraulic)
- Follow rest
- C axis
- Double chuck
- Linear scales

Specifications are subject to change requests, without notice, for improvement

Item	Unit	LC-35	LC-40	LC-45
Capacity				
Centre height	mm (in)	440 (17.5)	505 (20)	568 (22.5)
Swing over bed	mm (in)	880 (35)	1010 (40)	1135 (45)
Swing over cross-slide	mm (in)	510 (20)	640 (25)	765 (30)
Distance between centres	mm (in)	1500 (60), 2000 (80), 2500 (100), 3000		
Bed				
Width	mm (in)	560 (22)		
Headstock				
Spindle nose		A2-11,		A2
Spindle bore	mm (in)	153 (6.02)		230
Spindle step				
Spindle speeds	1 range - rpm	18 ~ 130,		16 ~
	2 range - rpm	35 ~ 260,		30 ~
	3 range - rpm	85 ~ 550,		870 ~
	4 range - rpm	165 ~ 1000,		150 ~
Turret				
Standard tool post				
Number of tool stations				
Tool shank cross section	mm (in)			
Tool shank diameter	mm (in)			
Travel				
Cutting feed rate	mm/rev (in/rev)	X axis: 0.001		
Rapid travel	m/min (ft/min)	X axis:		
Ball screw diameter	mm (in)	X axis: 40 (1.57) Z axis: 63 (2.48)		
Tailstock				
Quill type				
Quill diameter	mm (in)			
Quill travel	mm (in)			
Inner taper of quill				
Motor				
Main spindle motor	kW (HP)	30/37 (40/50) std, 37.5/45 (50/60)		
X axis servomotor	kW (HP)	3.8 (5.1)		
Y axis servomotor	kW (HP)	3.8 (5.1)		
Hydraulic pump motor	kW (HP)			
Coolant pump motor	kW (HP)			
Control		Fanuc		
Machine Weight				
2000mm centre distance	kg (lb)	13000 (28600)	13350 (29370)	13700 (30140)
Each extra 1000mm weight	kg (lb)	1000 (2200)		



Servo Turret

- High stiffness and accuracy (positioning 3"/repeatability 1")
- High loading capacity: 1,500kg-m, 1,600kg-m, 800kg-m



Flat Bed CNC Lathes

LC-50	BN-45	BN-50	BN-60	BN-70	CN-35	CN-40	CN-45	CN-50
638 (25)	568 (22.5)	638 (25)	764 (30)	895 (35)	440 (17.5)	505 (20)	573 (22.5)	638 (25)
1275 (50)	1135 (45)	1275 (50)	1527 (50)	1790 (70)	880 (35)	1010 (40)	1145 (45)	1275 (50)
905 (35)	710 (28)	850 (33)	1102 (43)	1365 (53)	400 (16)	530 (21)	665 (26)	795 (31)
(120), 3500 (140), 4000 (160), 5000 (200), 6000 (240), 7000 (280), 8000 (320), 9000 (360), 10000 (400), 11000 (440), 12000 (480)								
715 (28)				1020 (40)				
- 15, (9.05)	A2-15, 255 (10.03)	A2-20, 318 (12.51)		A2-20, 360 (14.17)		A2-28, 410 (16.14)		
Auto 4 steps								
120,	13 ~ 95,	12 ~ 85,		10 ~ 75,		8 ~ 50,		
200,	25 ~ 185,	23 ~ 170,		20 ~ 150,		15 ~ 100,		
420,	60 ~ 400,	55 ~ 300,		50 ~ 250,		35 ~ 200,		
700,	120 ~ 600,	110 ~ 400,		195 ~ 350,		65 ~ 300,		
Auto 4-way or Polygon Disc or VDI Disc								
H4, H6		12		8 or 12				
32 x 32 (1.25)								
60 (2.5)								
~ 250 (0.00004 ~ 9.84)				Z axis: 0.001 ~ 400 (0.00004 ~ 15.75)				
6 (19.68)			Z axis: 8 (26.24)					
X axis: 45 (1.77) Z axis: 80 (3.15)				X axis: 50 (1.97) Z axis: 80 (3.15)				
Built-in type, Rotating tailstock quill								
235 (9.25)								
200 (7.87)								
MT #6								
opt	37.5/45 (50/60)							
	4.5 (6)							
	4.5 (6)							
	3.7 (5)							
	1.05 (1.4)							
18iT (STD)				Other required (OPT)				
14050 (30910)	16200 (35640)	16600 (36520)	17400 (38280)	18200 (40040)	20700 (45540)	21700 (47740)	22700 (49940)	23700 (52140)
1600 (3520)					2500 (5500)			

Hydraulic Steady Rest

- Suitable for machining long workpieces
- Available to select automatic or manual traverse modes



Tailstock

- Larger tailstock quill diameter and taper
- Tailstock quill travel with limit switch control
- Rotary spindle is standard

European headquarters for Dugard CNC Machine Tools

DUGARD.com

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