

DUGARD

Machine Tools That Create Solutions Since 1939

Dugard E Range of Cost Effective High Performance Vertical Machining Centres



Incredible value for money with a comprehensive choice of b



Dugard 760E

- X/Y/Z travel - 762/410/460mm
- 7.5/10kW spindle drive
- 20~11,000rpm speed range
- 36/36/30 m/min rapids
- 20 station twin arm ATC
- BT40 spindle (CAT flange opt)
- 2100 x 1935mm footprint

Dugard 1000E

- X/Y/Z travel - 1050/540/560mm
- 11/15kW spindle drive
- 20~10,000rpm speed range
- 32/32/24 m/min rapids
- 24 station drum type ATC (24 and 28 station twin arm ATC opt)
- BT40 spindle (CAT flange opt)
- 3300 x 2280mm footprint



Dugard 1350E

- X/Y/Z travel - 1350/640/660mm
- 11/15kW spindle drive
- 20~10,000rpm speed range
- 30/30/25 m/min rapids
- 24 station drum type ATC (24 and 28 station twin arm ATC opt)
- BT40 spindle (CAT flange opt)
- 3800 x 2495mm footprint



ed sizes, compact footprint and heavy cast iron construction

Dugard 1600E



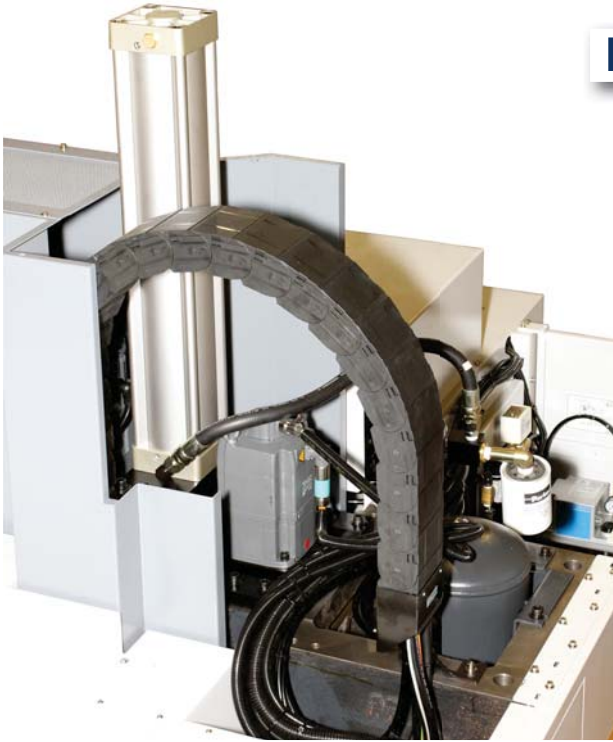
- X/Y/Z travel - 1630/850/850mm
- 15/18.5kW spindle drive
- 20~11,000rpm speed range
- 33/33/25 m/min rapids
- 24 station drum type ATC (24 and 28 station twin arm ATC opt)
- BT40 spindle (CAT flange opt)
- 4300 x 3580mm footprint

Dugard 2000E



- X/Y/Z travel - 2060/850/815mm
- 15/18.5kW spindle drive
- 20~11,000rpm speed range
- 33/33/25 m/min rapids
- 24 station drum type ATC (24 and 28 station twin arm ATC opt)
- BT40 spindle (CAT flange opt)
- 5300 x 3580mm footprint

Pneumatic Counter Balanced Head



Z-axis pneumatic counter balance system, replacing the more common counter balance weight system. These pneumatic cylinders are directly mounted to the column and vertically moving head casting, this simple and directly mounted system reduces the need for weights and chains within the column, and can react to the machines vertical movements quickly with lower friction and vibration levels.

Cartridge Belt Drive Spindle

Simple design giving high torque and durability through a timing belt suitable for most machining applications.

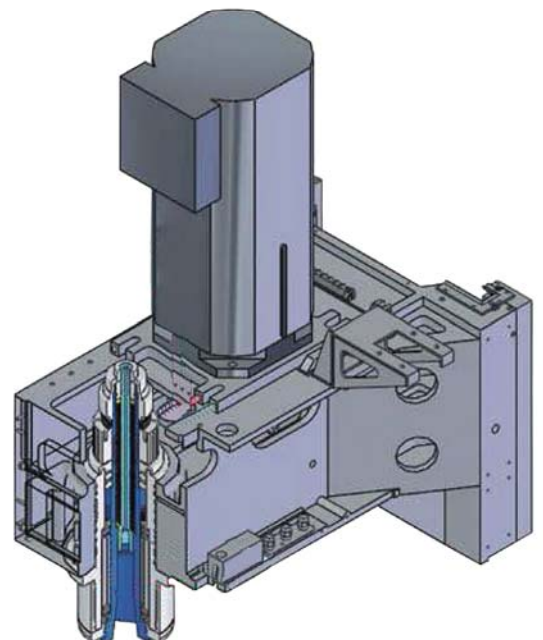
Impressive spindle speeds with low friction design for efficient acceleration and deceleration. High tool clamping force secures tool holder for high speed rotation. Labyrinth seal with positive air pressure prevents spindle contamination



Stable Thermal Control

Both spindle cartridge and head casting are cooled to maintain thermal stability and spindle life. Physical rigidity is guaranteed by the use of digital FEA (Finite Element Analysis).

This, combined with high quality Meehanite castings and Japanese THK NR-Type high load linear ways, ensures accuracy and cutting performance.



Pre-Tensioned Twin Nut Ballscrew



- Double-anchored ballscrews with twin pre-loaded ball nut giving superior high speed cutting rigidity and accuracy with high speed cutting
- Full laser calibration and ball bar testing to ensure squareness and accuracy

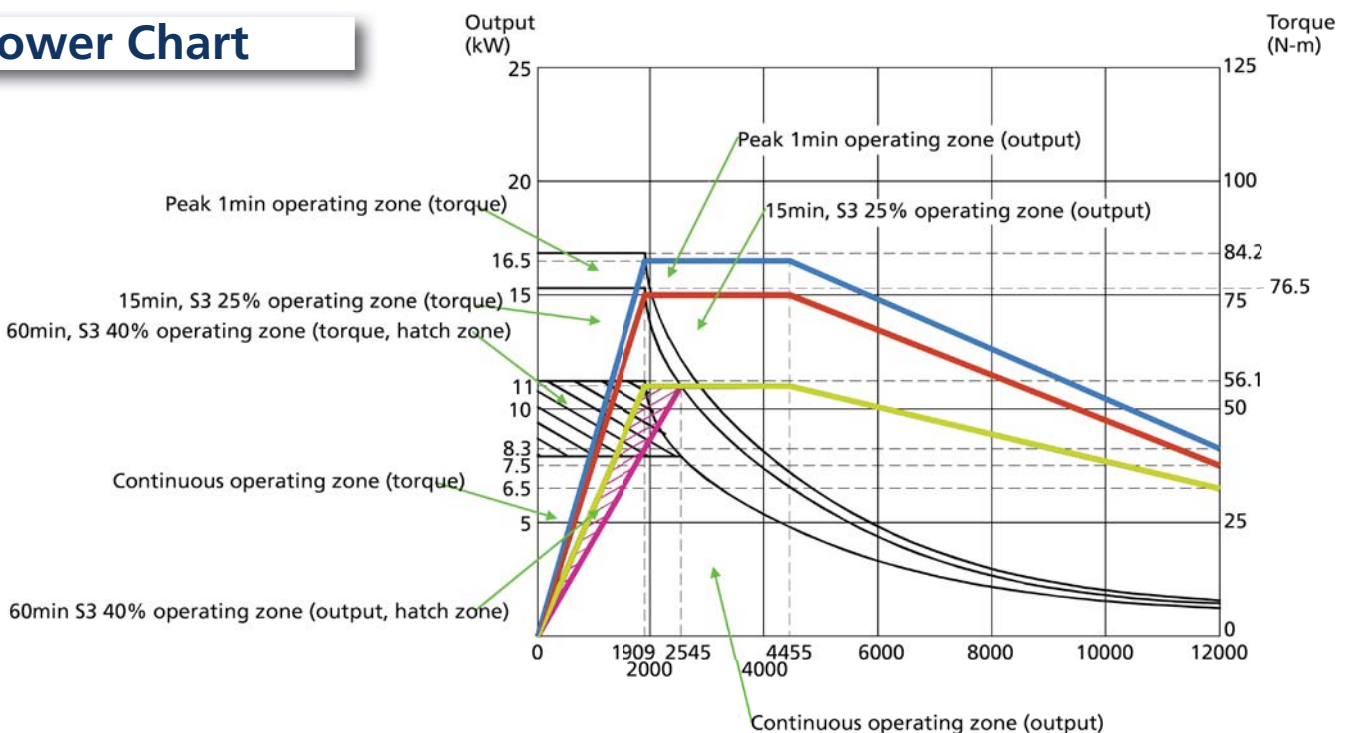
Chip Removal

Built-in swarf auger

This standard feature makes swarf removal from the machine easy and automatic, it also helps coolant to drain from the swarf before leaving the machining area.



Power Chart



Specification	Dugard 760E	Dugard 1000E	Dugard 1350
Travel			
X axis travel	762mm	1050mm	1350mm
Y axis travel	410mm	540mm	640mm
Z axis travel	460mm	560mm	660mm
Spindle nose to table	75~535mm	80~640mm	105~765mm
Spindle centre to column	420mm	550mm	670mm
Table			
Table size	910 x 380mm	1200 x 480mm	1500 x 600mm
T slot	16 x 80 x 4 slots	18 x 80 x 5 slots	18 x 100 x 5 slots
Table load	660kg	1300kg	2300kg
Spindle			
Taper size	BT40/CAT40	BT40/CAT40	BT40/CAT40
Speed	20~11,000rpm	20~10,000rpm	20~10,000rpm
Max motor power output	7.5/10kW Fanuc	11/15kW Fanuc	11/15kW Fanuc
Feed			
Rapid feed X/Y/Z	36/36/30 m/min	32/32/24 m/min	30/30/25 m/min
Cutting feed X/Y/Z	10/10/10 m/min	10/10/10 m/min	10/10/10 m/min
Accuracy			
Positioning	0.01mm	0.01mm	0.01mm
Repeatability	± 0.003mm	± 0.003mm	± 0.003mm
ATC			
Tool storage capacity	20 station - twin arm	24 station - drum type	24 station - drum type
Tool max diameter	75mm	75mm	75mm
Tool max length (mm)	210mm	210mm	210mm
Tool max weight (mm)	7kg	7kg	7kg
Tool to tool change time	2.2 sec	2.2 sec	2.2 sec
General			
Tank capacity	150L	350L	400L
Chip disposal	chip screw	chip screw	chip screw
Air source requirement	7kg	7kg	7kg
Power requirement	25KVA	25KVA	30KVA
Measurement space (W x L)	2100 x 1935mm	3300 x 2280mm	3800 x 2495mm
Weight	3650kg	6600kg	8110kg

Choice of digital controls - meeting all your requirements, each one features



Fanuc 0iMD

- 8.4" TFT LCD colour monitor
- New D series high speed
- PC flash card storage
- Industry standard programming



Siemens 828D

- 10.4" TFT LCD colour monitor
- Shopmill conversational programming
- Super high speed
- USB/PC card storage

	Dugard 1600E	Dugard 2000E
	1630mm	2060mm
	850mm	850mm
	850mm	815mm
	105~920mm	105~920mm
	860mm	860mm
	1750 x 800mm	2150 x 800mm
ots	18 x 125 x 6 slots	18 x 125 x 6 slots
	3000kg	4000kg
	BT40/CAT40	BT40/CAT40
	20~11,000rpm	20~11,000rpm
c	15/18.5kW Fanuc	15/18.5kW Fanuc
	33/33/25 m/min	33/33/25 m/min
in	10/10/10 m/min	10/10/10 m/min
	0.01mm	0.01mm
	± 0.003mm	± 0.003mm
um type	24 station - drum type	24 station - drum type
	75mm	75mm
	210mm	210mm
	7kg	7kg
	2.2 sec	2.2 sec
	640L	700L
	Chip screw	Chip screw
	7kg	7kg
	35KVA	35KVA
m	4300 x 3580mm	5300 x 3580mm
	12,300kg	14,500kg

Standard Equipment

- 24 station drum type ATC (20 station twin arm ATC on the 760E)
- Rigid tapping
- Helical interpolation
- Heavy duty high quality cast iron frame
- Swarf auger
- Fully enclosed guarding
- High power cooling system
- 24 x set of pull studs
- Automatic lubrication

Machine Options

- Fanuc data server
- 20 bar filter type through spindle coolant
- 24 and 28 station twin arm tool changer
- 4th axis interface with servo board and plug
- 170mm dia 4th axis head with motor, c/w 7" 3 jaw chuck and tailstock
- 210mm dia 4th axis head with motor, c/w 7" 3 jaw chuck and tailstock
- Kawata Touchdex 200mm dia mechanical indexer, c/w tailstock unit and 3 jaw chuck
- Renishaw spindle probe
- Renishaw tool setting probe

user-friendly operation, powerful functions and maximum reliability



Mitsubishi M70

- 10.4" TFT LCD colour monitor
- 64 bit processor
- 700M/L memory

Various interfaces for programme saving, loading and software updating including

- CF memory card
- Ethernet



*Specifications are subject to change without prior notice

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