DUGARD

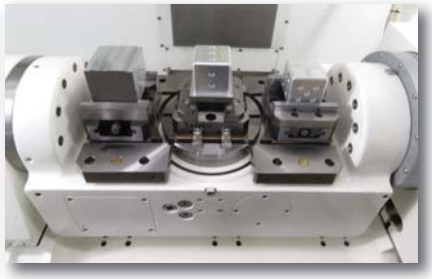
Expertise with Imagination

DUGARD VMCs

760 Y+

Dugard Vertical Machining Centre

Ultra compact with impressive travels



DUGARD Machine Tools

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Dugard 760Y+ VMC

Increased productivity with reduced maintenance and operating costs

A new era in multi-purpose and versatile machining centres. Compact, durable, powerful, strong and accurate, the Dugard 760Y+ starts a revolution in the market: a small C frame machine giving powerful and precise results for manufacturers of dies and molds, aerospace, automotive, semi-conductor, sub-contractors and general machining.

With the Ethernet/IP system and the ergonomic design, the Dugard 760Y+ is one of the most easy to operate and maintenance free machines on the market.

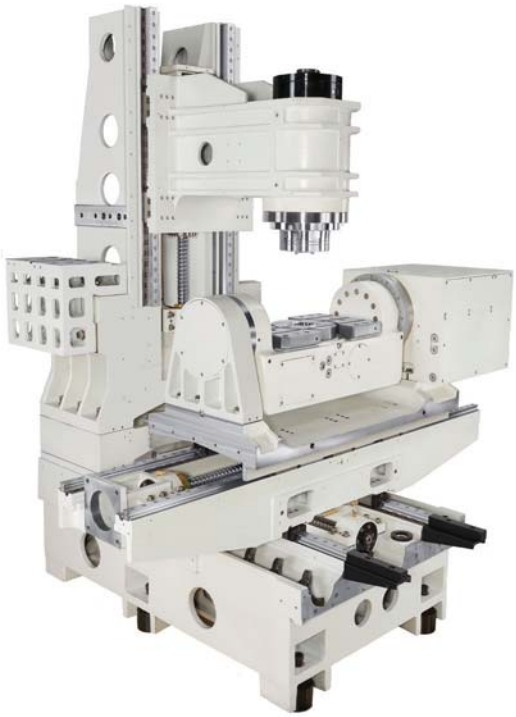
Structure

The heavily ribbed structure is made of FC300 Meehanite© casting that has been been FEA analysed for strength and stability. All castings are designed to reach the maximum level of rigidity for the best machining performance.

The compact C-frame with proven design and placement for all components, gives the Dugard 760Y+ one of the smallest footprints in it's class.

The 760Y+ also features a heavy duty roll-erways system, giving up to 40% more rigidity than traditional linear ways.

Machine Options



Integrated 5 axis table with hydraulic clamping

Integrated twin pallet system

State of the Art Controls

Choice of various controls to meet your requirements. Each one features user-friendly operation, powerful functions and maximum dependability

Mitsubishi M830W

- **15" TFT LCD colour monitor**
- **20m/min** feedrate
- **30GB** data server
- **1000 programmes** in editing memory
- **999 sets** tool compensation
- **54 sets** work piece coordinate
- **2700 blocks** look-ahead
- **400 sets** tool life management
- **700 sets** variable command
- **64 bits** microprocessor
- **2048KB** programme memory

Fanuc 0iMF

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

Heidenhain TNC 640

- 15"TFT LCD colour monitor
- 21GB NC programme memory
- Intelligent machining
- Fast USB 2.0 interface for increased connectivity

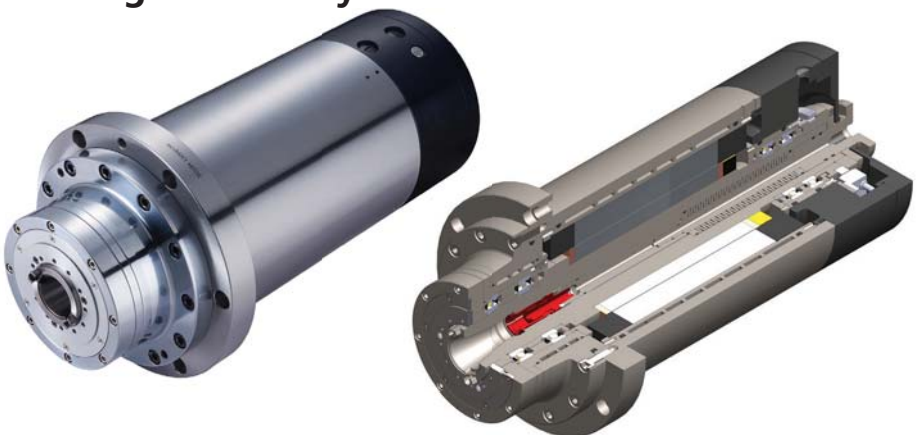
Siemens 828D

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

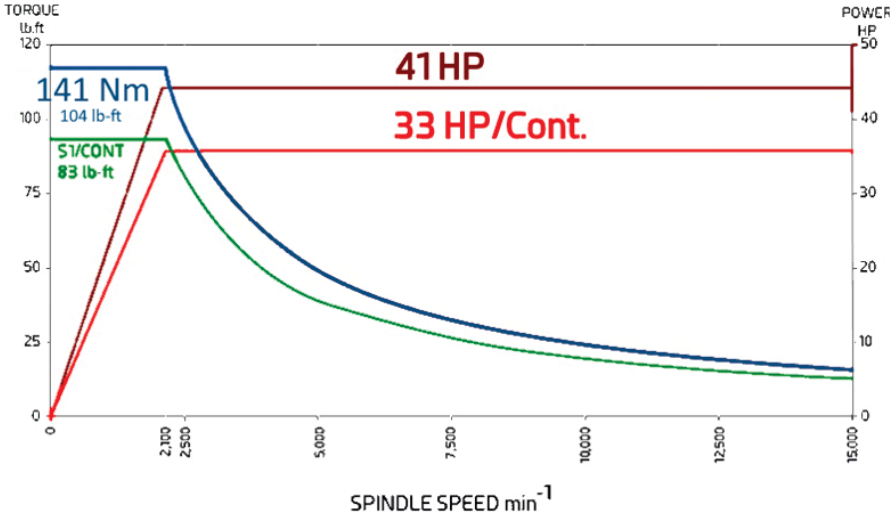
Built-In Spindle (Mitsubishi model only)

Low service cost - spindle bearings can easily be rebuilt

- **31kW/ 25kW** power
- **141 N-m** torque
- **15,000rpm** speed
- **2.5 sec** from 0~15,000rpm



The spindle is built with off the shelf standard bearings which can be replaced without removing the rotor. This makes the machine simple and fast to maintain. Rebuild costs are very low due to the availability of the parts and the short service time



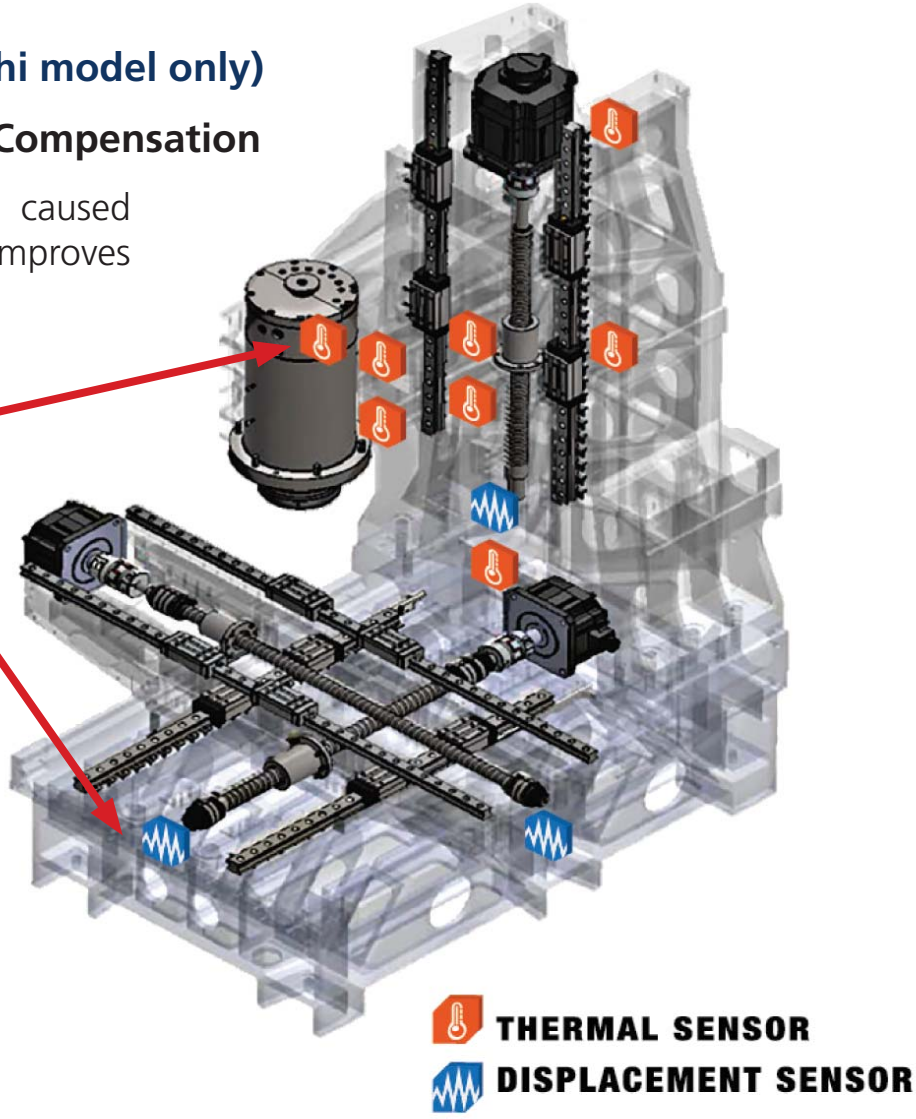
Swarf Management System

The swarf management system includes base wash, dual augers and swarf conveyor, virtually eliminating swarf build-up. Coolant flows along the inside perimeter, flushing swarf down into the dual augers which evacuates swarf to the front conveyor. All mounting hardware is bolted from the outside leaving a clean surface for swarf evacuation

DYPEC® (Mitsubishi model only)

Dynamic Predictive Error Compensation

Corrects positioning error caused by thermal changes which improves accuracy and part finishes



Thermal sensors

Displacement sensors

Before Compensation

X - 7 micron

Y - 10 micron

Z - 25 micron

After Compensation

X - 2 micron

Y - 6 micron

Z - 8 micron

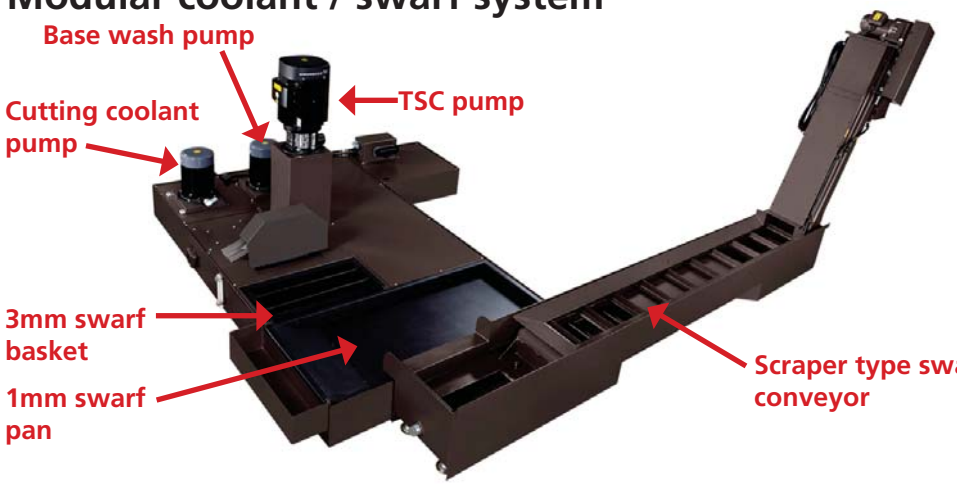
Bottom cover

Top cover

Telescopic cover

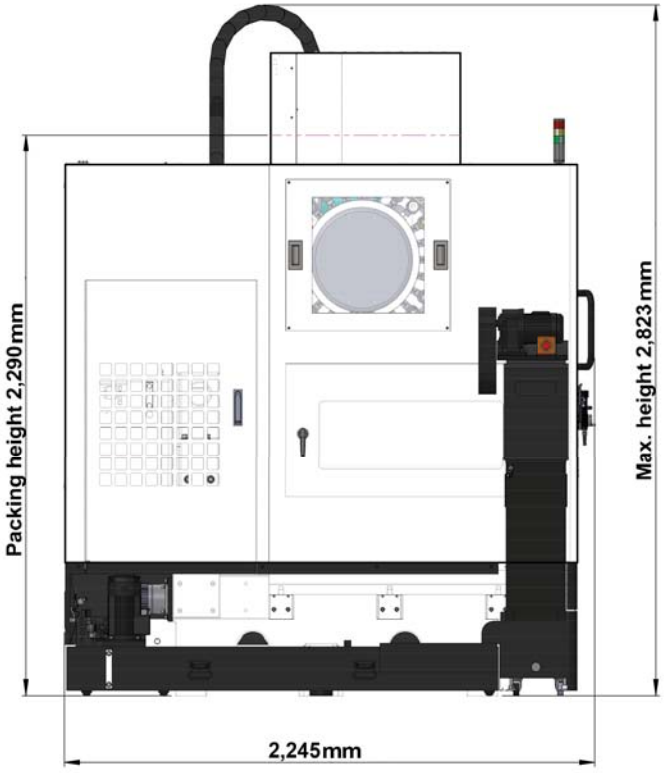
Triple protection on linear guides and ball screws: bottom cover, top cover and telescopic cover

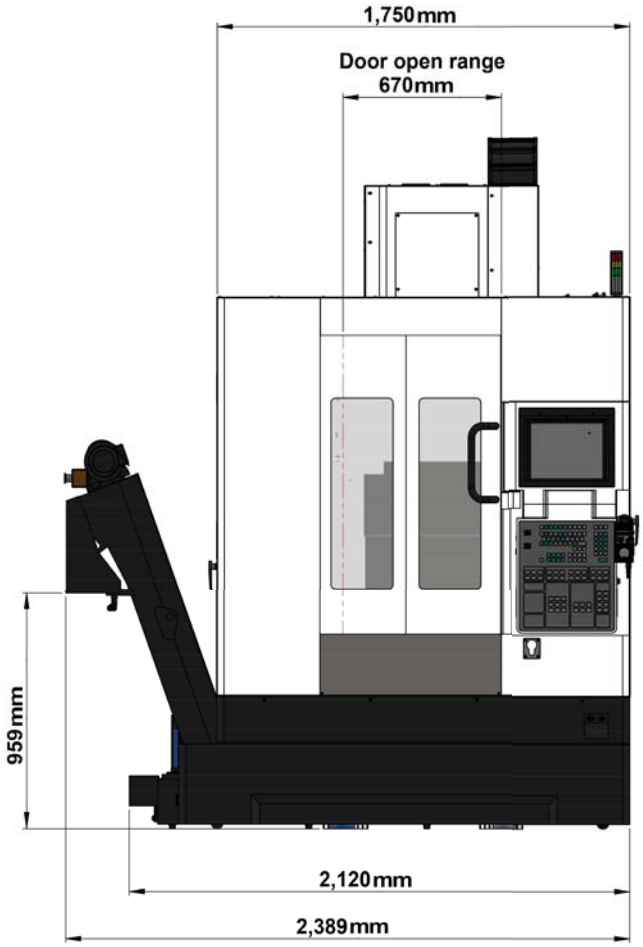
Modular coolant / swarf system

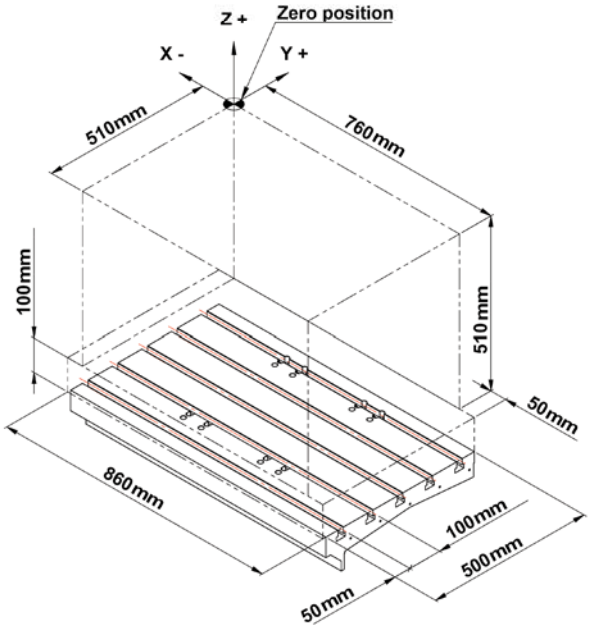


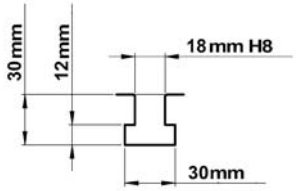
Coolant system, transformer and refrigeration all contained within machine guard

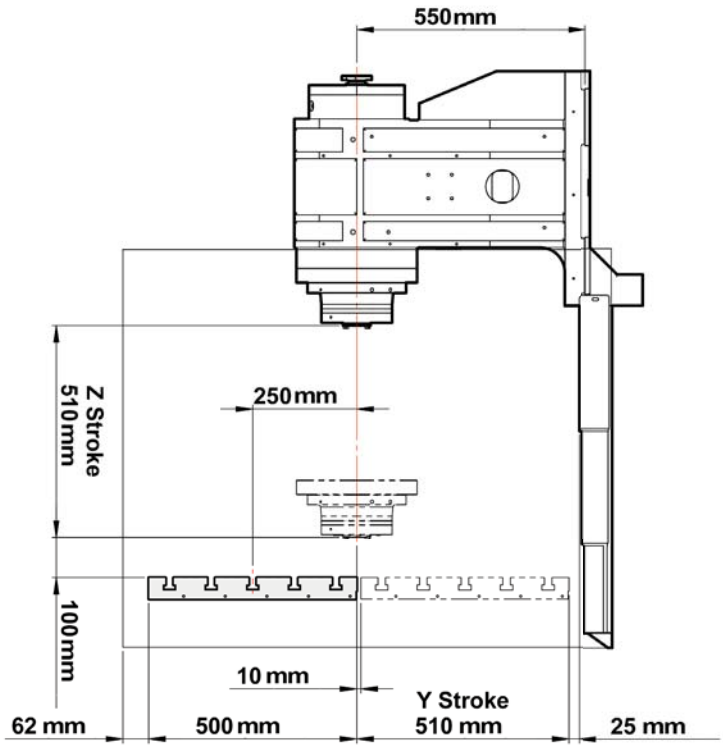
Machine Dimensions











Specification		Mitsubishi M830W	Fanuc 0iMF	Siemens 828D	Heidenhain 640
Travel	X axis	760mm			
	Y axis	510mm			
	Z axis	510mm			
	Spindle nose to table surface	100~610mm			
	Spindle centre to column front	550m	500mm		
	Door open width for workpiece	670mm			
Table	Table size	860 x 500mm			
	T-slots (W x qty)	18mm x 5 (P=100)			
	Max workpiece size	760 x 500 x 500mm			
	Max table load	800mm			
	Table height (from the ground)	840mm			
Spindle	Spindle taper	40 dual contact			
	Spindle drive system	Built-in	Direct coupling		
	Spindle motor power	31kW (2min) / 25kW	18.5kW	22kW	
	Max cutting torque	141Nm	120Nm	135Nm	
	Spindle speed	50~15,000rpm	50~12,000rpm (15,000rpm opt)		
	Max speed for rigid tapping	6000rpm			
Feedrate	X axis rapid feedrate	52m/min	48m/min		
	Y axis rapid feedrate	52m/min	48m/min		
	Z axis rapid feedrate	48m/min	48m/min		
	Cutting feedrate	0~20m/min	15m/min		
Automatic Tool Changer	Magazine capacity	30 tools (40 opt)			
	Tool selection	Bi-direction / random			
	Tool shank type	BT40 JIS6339 / DIN CAT40 69871A			
	Pull stud type	BT40 JIS6339B / DIN CAT40 69872A			
	Max tool diameter x length	Ø70 x 240mm	Ø70 x 300mm		
	Without adjacent tool	Ø150mm	Ø125mm		
	Max tool weight	7kg			
General	Power consumption (200V/3PH)	25KVA			
	Pneumatic supply	300 (0.6MPa) L/min (ANR)			
	Cutting coolant pump motor	1.1kW			
	Base wash pump motor	0.75kW			
	TSC pump motor (opt)	3.0kW			
	Coolant tank capacity	250L			
	Machine dimensions (W x D x H)	2389 x 2050 x 2823mm (2120 x 2050 x 2823mm without conveyor)			
	Machine net weight	5000kg			
	Positioning accuracy / full stroke	0.005mm (VDI 3441)			
	Repeatability accuracy	0.003mm (VDI 3441)			

*Specifications are subject to change without prior notice

Standard Features

- **Heavy duty rollerways**
- **Through spindle coolant**
- **Scraper type swarf conveyor**
- Pull studs
- 30 twin arm ATC
- 15,000rpm built-in spindle (Mitsubishi)
- 12,000rpm direct drive spindle
- Fully enclosed splash guard
- Work light
- Central lubrication system
- Status light

Optional Accessories

- 15,000rpm spindle speed
- 4th axis rotary table
- Integrated 4/5 axis table (Mitsubishi)
- Additional 4/5 axis table
- Twin pallet system (Mitsubishi)
- 40 station chain type tool magazine
- Linear scales - X, Y & Z
- Tool and spindle probes
- Mist filtration system

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