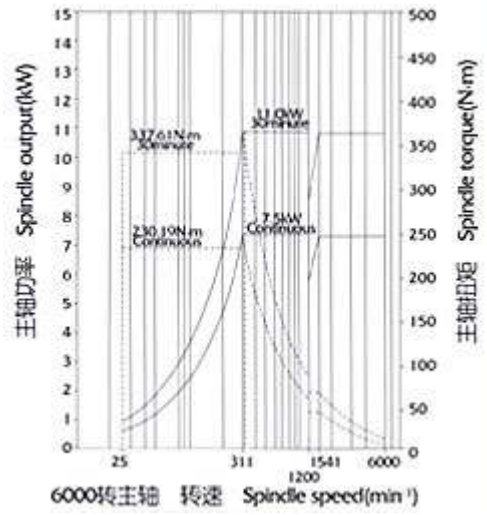
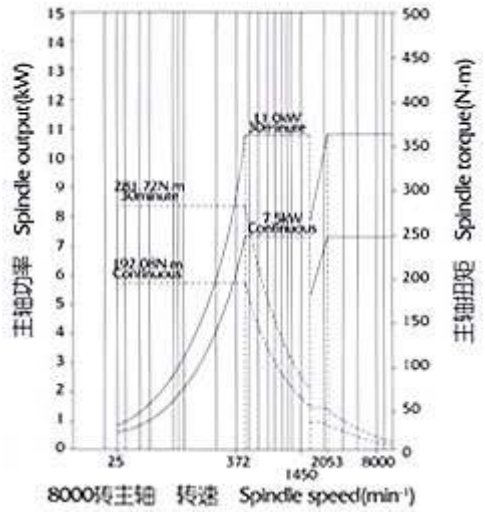
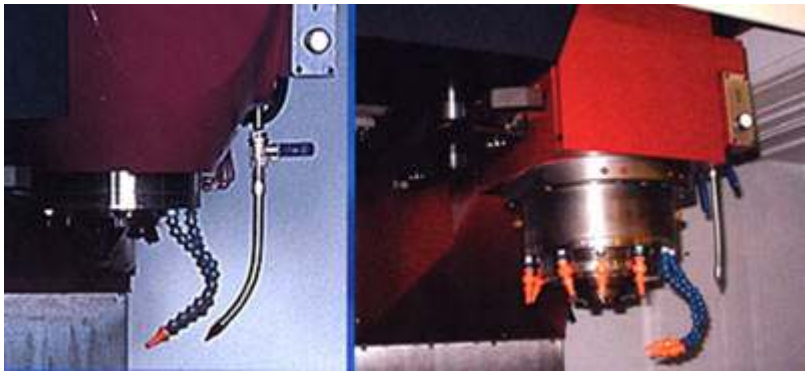
High speed and High power spindle

The two-steps speed chngeble, high- speed, high power internal electric spindle is not only capable to lo-speed high-torque cutting







Spindle specification

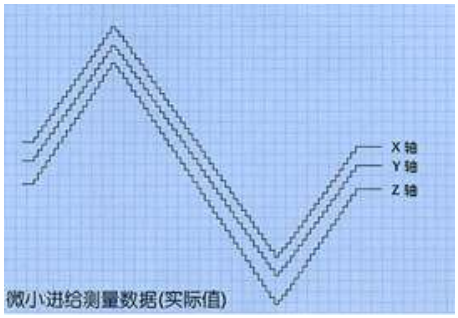
	Spibdle with gear	Electric spindle
No.50	25~6000min^{-1}[11/7.5kW]	35~13000min^{-1}[30/25kW] (opce)
	25~6000min^{-1}[15/11kW](opce)	
	25~8000min^{-1}[11/7.5kW](opce)	
	25~8000min^{-1}[15/11kW](opce)	

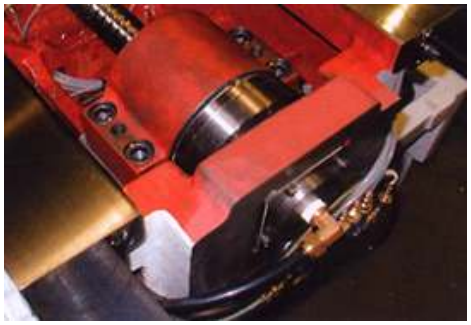
Compact and unrivaledrigidity configuration

Extremely rigid construction with box type and diagonal ribs, which are located in key parts of the body machine, substantially increasing the rigidity of the machine and its ability to dampen vibrations generated during machining. Massive linear guide surfaces allow smooth machining with a smooth surface.

High rigidity & High Accuracy

Ball screws are firmly anchored at both ends and their parallelism is controlled with a linear guide. When rotating the ball screws and heat dilate, which can lead to inaccuracies in machining. Advanced temperature compensation system, this phenomenon is completely reduced, which ensures a stable machining accuracy.





Advanced HQ Funkce

Pre-interpolation acceleration / deceleration:

When cutting circles is to reduce the error contours of the workpiece and prevents the reduction of the radius.

Optimized slowdown in the corners:

Vector monitor command program automatically reduces the travel speed in the corner of the workpiece. This ensures high precision machining of the edges

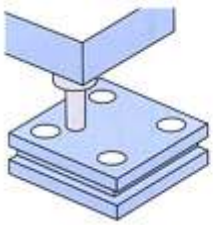
Feed control:

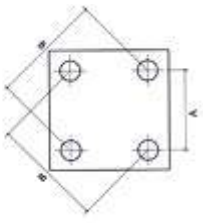
Precision motion control with minimal error servomotor. Optional Hyper HQ control ensures high speed and high precision operation in any part of the program, even when machining complex shapes. This is especially useful when machining contours forms

Japanese sense of accuracy

Positioning accurancy

	MDV55	MDV75
Positioning accurancy	±0.003/full lenght	±0.005mm/X,±0.003mm/YZ
Repeataility accurancy	±0.002/ full lenght	±0.002mm/ full lenght

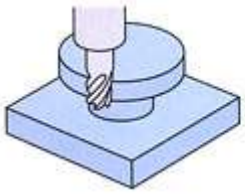




	MDV55	MDV75
A	150	200
B	212.132	282.843

Working accurancy

	MDV55		MDV75	
Item	JIS Standard	Tolerance	JIS Standard	Tolerance
Axis directiion	0.025	0.015	0.025	0.015
Diagonal direction	0.035	0.015	0.035	0.015
Deviation of hole dia	0.02	0.01	0.02	0.01



Circular cutting accurancy

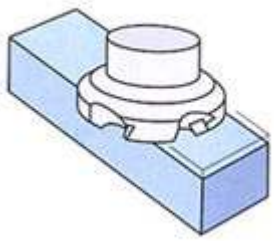
	MDV55		MDV75	
Item	JIS Standard	Tolerance	JIS Standard	Tolerance
Circularity	0.040	0.015	0.040	0.015

Machining capability

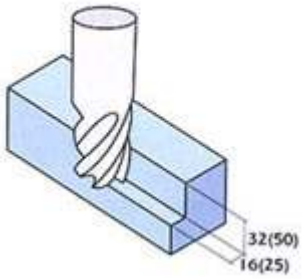
Milling(φ100×5T)

MDV55			
Speindle speed	600min^{-1}	Feed	0.3mm/toth
Cutting feed	188m/min	Cutting amount	432cm^3/min
Cutting widh	80mm	Motor loading	113%
Cutting depth	6mm	Material	45(S43C)
Feed rate	900mm/min		

MDV75			
Speindle speed	600min^{-1}	Feed	0.3mm/ zub
Cutting feed	188m/min	Cutting amount	432cm^3/min
Cutting widh	80mm	Motor loading	104%
Cutting depth	6mm	Material	45(S43C)
Feed rate	900mm/min		



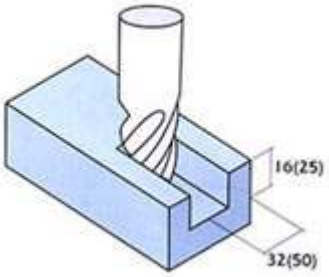
MDV55(end-milling Ø32×6T)			
Speindle speed	250min^{-1}	Feed rate	300mm/min
Cutting feed	25m/min	Feed	0.20mm/ zub
Cutting widh	16mm	Cutting amount	165cm^3/min
Cutting depth	32mm	Motor loading	95%
Material	45(S43C)		



MDV75 end-milling Ø3250×6T)			
Speindle speed	160min^{-1}	Feed rate	130mm/min
Cutting feed	25m/min	Feed	0.14mm/ zub
Cutting widh	25mm	Cutting amount	163cm^3/min
Cutting depth	50mm	Motor loading	100%
Material	45(S43C)		

Groving

MDV55(Millingφ32×6T)			
Speindle speed	250min^{-1}	Feed rate	300mm/min
Cutting feed	25m/min	Feed	0.2mm/ zub
Cutting widh	16mm	Cutting amount	165cm^3/min
Cutting depth	32mm	Motor loading	92%
Material	45(S43C)		



MDV75(Millingφ50×6T)			
Speindle speed	160min^{-1}	Feed rate	120mm/min
Cutting feed	25m/min	Feed	0.125mm/zub
Cutting widh	25mm	Cutting amount	150cm^3/min
Cutting depth	50mm	Motor loading	85%
Material	45(S43C)		