

HIGH PRODUCTIVITY

Vertical Machining Centers



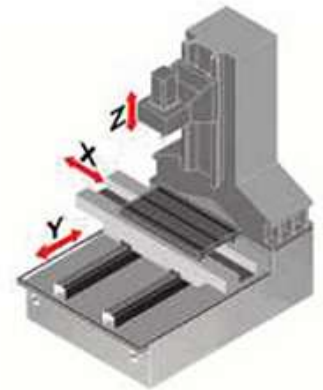
Winner
MCV-400 S
MCV-400 SS

Vertical Machining Centers



The Winner, MCV-400 s & MCV-400 ss are the work-horses which provide high value for investment in-terms of the cost per component. These machines comes with Hardened guideways for Z- axis & LM guideways for X & Y axes. MCV-400 ss comes with roller guideways for X & Y Axes. All machines have structural components made of cast iron which are machined to provide and retain high built in accuracies. The machines are designed, manufactured, assembled and tested to perform under very demanding working conditions.

Axes Configuration



High Speed Spindles

Spindles are considered as a heart of the machining center. AMS follows a stringent procedure in assembling and mounting the spindle on to the machine. Tool shank BT-40 is standard for Winner, MCV-400 S & MCV-400 SS. These spindles are checked for run-out and vibrations before the machining test



BT-40

Ease of Operation

In the design of our machines, in addition to the functional aspects, ergonomics are given equal priority. Optimum job loading height, easy access to the spindle, ease of chip removal, maintenance friendliness, are some of the key aspects considered. We also provide Total Productive Maintenance (TPM) features on the machines as options. It is our continuous endeavor to improve the existing products to cater to the needs and expectations of the customer.

Quality & Inspection



The machine geometric accuracies are fully inspected to assure the highest accuracy standards. The high precision laser unit is applied for inspecting positioning accuracy & repeatability & ball bar tester to inspect the geometric error & ensures superior circular accuracy through parameter adjustment.



Cutting inspection

Heavy cut & NAS test before shipment, each AMS machine is subject to cutting tests which are combined with proper parameter adjustments to guarantee the best possible cutting quality.



Automatic tool changer



Front mounted ATC



Side mounted ATC

12 tool front mounted ATC is standard for Winner
20 tool side mounted ATC is standard for MCV-400 S
& MCV-400 SS & 24 / 30 optional

Rotary table

NIKKEN



UCAM



Rotary table mainly increases productivity & reduces setups. AMS recommends UCAM URH 201 / Nikken 180 LFA for winner & UCAM URH 201 / 251 / 321 model or NIKKEN 180 LFA / 260 FA / 320 FA. Model for MCV-400 S & MCV-400 SS

Coolant system



Std. Coolant tank



Grundfos or Wanner Pump

Through coolant increases tool life, allows higher cutting speeds, and clears chips during deep hole drilling. Two systems are available.

1. CTS with Grundfos Pump (21 bar pressure)
2. CTS with Wanner Pump (50 bar pressure).

Coolant Tank:

Large capacity chip tray, reliable & trouble free, convenient & easy to maintain

Accuracy

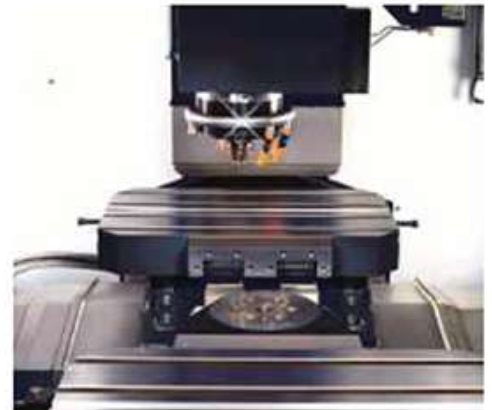
	VDI DGQ 3441	ISO 230-2
Positioning	0.015 mm	0.010 mm
Repeatability	± 0.005 mm	± 0.003 mm

Automatic pallet changer

The automatic pallet changer system on the machine reduces unproductive time during machining. Machining can be carried out on one pallet, while the other can be used for preparation (seating and clamping of work-pieces etc.).

Two options available 1. Linear pallet changer 2. Rotary pallet changer

Linear APC	Winner	MCV-400 S/MCV-400SS
Pallet size (mm)	600 x 385	650 x 430
Max. load on pallet (Kgf.)	350	350
Pallet changing time (Sec.)	18	18
Machine (width x depth)	2700 x 2900	3300 x 3300



Rotary APC

Rotary APC	Winner	MCV-400 S/MCV-400SS
Pallet size (mm)	600 x 400	700 x 450
Max. load on pallet (Kgf.)	350	350
Pallet changing time (Sec.)	12	12
Machine (width x depth)	2700 x 4200	2700 x 4200

Chip Conveyor



Removing chips is very important in terms of productivity & environmental protection. AMS provides various chip handling systems for better work environment. Coil conveyor & screw conveyor also offered for cast iron and steel applications.

	Al Chips	Cast Iron Chips	Steel (Short Chips)
Scraper	✓	✓	
Slat cum scraper	✓	✓	✓
Magnetic		✓	✓

Tool Management



Work & Tool offset



Touch probe



Tool setter



Tool breakage detection

CNC Control System

Operator friendly control system with 8.4" LCD. Fanuc 0iMF is standard & Siemens 828D / Mitsubishi M70BVU is optional



FANUC 0iMF



Siemens 828D



Mitsubishi M70 BVU

Tooled up Solutions

The application engineering team of AMS has wide experience in identifying the process for machining and providing suitable work holding and tooling solutions. This ranges across the markets from high speed & productivity solutions for the automotive industry to the high precision and accuracy solutions for the aerospace or mould making industry. This not only includes support in selection of the most suitable machines but also designing the fixtures and identification of the ideal cutting tool for the selected process. The entire prove out of the components to meet the desired cycle time can be undertaken when solutions are opted for.

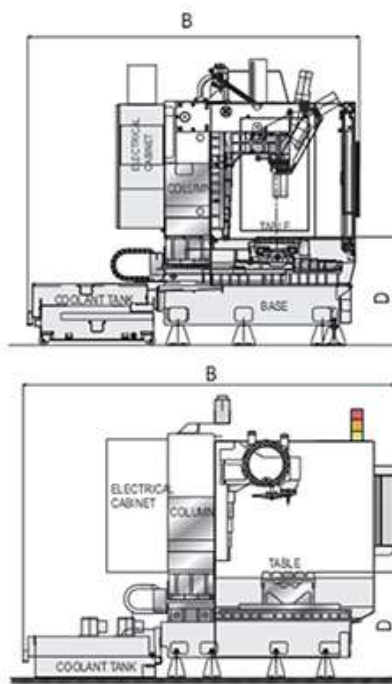
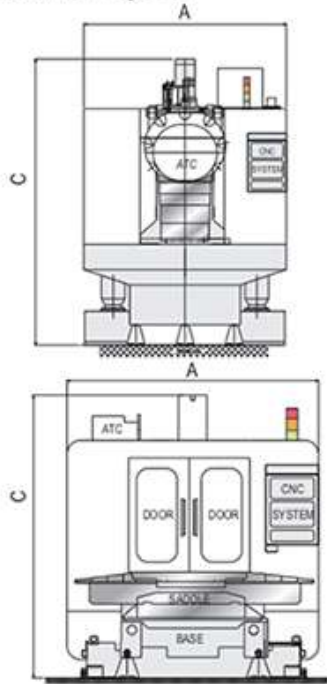


Automation Solutions

It is a constant endeavor to provide better productivity on our products. Our machines are made suitable for automation interface of different types. With the experience of providing machining solutions AMS is capable of augmenting the manufacturing process with integration of automation solutions. Either semi-automated with auto-unloading or fully automated with unmanned operations there are myriad of options to choose from suiting the machining process and layout. Our automation solutions provide enhanced productivity, output consistency and minimized dependency on man power.



Machine Layout



* For Winner

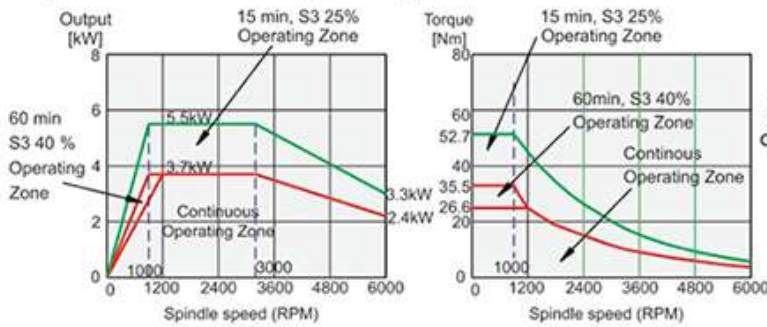
* For MCV-400 S & MCV-400 SS

	A (Width)	B (Depth)	C (Height)	D
Winner	1800	2900	2750	960
MCV-400 S/ MCV-400 SS	1900	3100	2550/2750	960/925

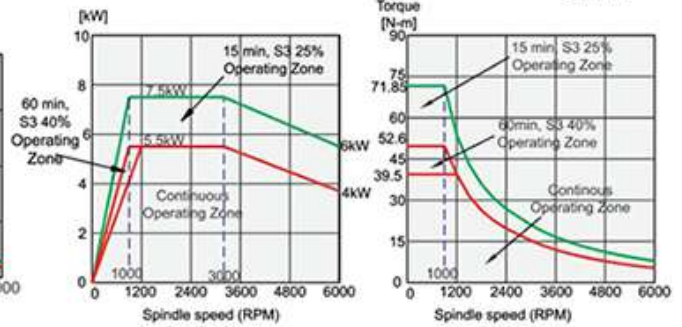
* All dimensions in mm

Spindle Power Torque Diagram

Winner

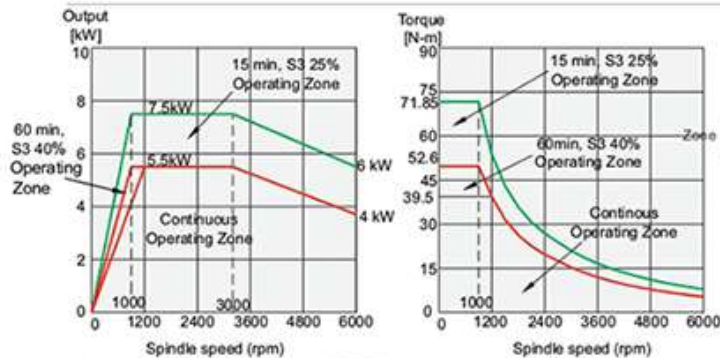


Make : Fanuc, Rated Power : 5.5 / 3.7 kW, Max. Spindle Speed : 6000 rpm

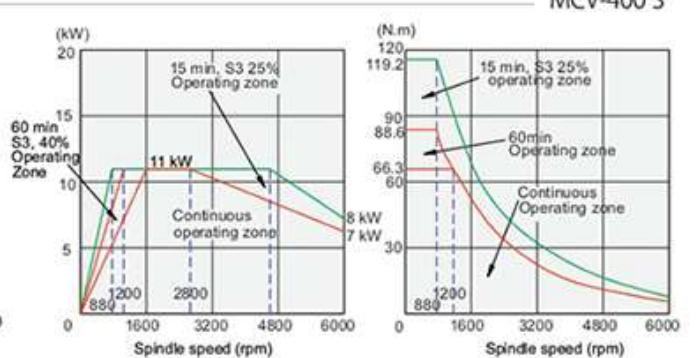


Make : Fanuc, Rated Power : 7.5 / 5.5 kW (Opt.), Max. Spindle Speed : 6000 rpm

MCV-400 S

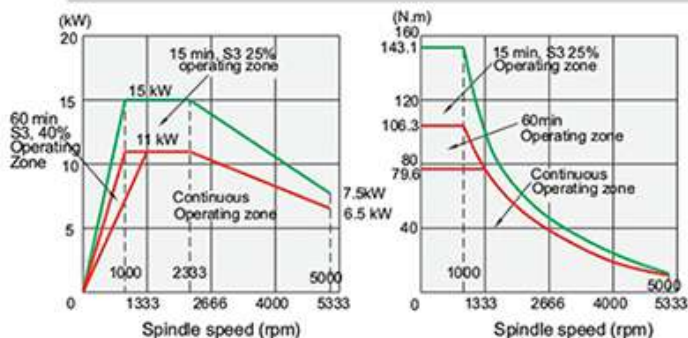


Make : Fanuc, Rated Power : 7.5/5.5 kW
Max. Spindle Speed : 6000 rpm

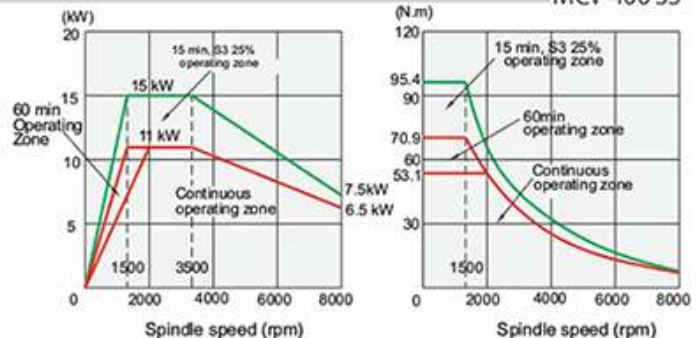


Make : Fanuc, Rated Power : 11/7.5 kW (Opt.)
Max. Spindle Speed : 6000 rpm

MCV-400 SS



Make : Fanuc, Rated Power : 15/11 kW (Std.)
Max. Spindle Speed : 5000 rpm



Make : Fanuc, Rated Power : 15/11 kW (Opt.)
Max. Spindle Speed : 8000 rpm

Specifications

	Unit	Winner	MCV-400 S	MCV-400 SS
CAPACITY				
Table longitudinal travel (X - Axis)	mm	500	600	600
Table cross travel (Y - Axis)	mm	400	450	450
Headstock travel (Z - Axis)	mm	350	500	500
Spindle nose face to table top	mm	180 - 530	160 - 660	125 - 625
Table height from floor	mm	960	960	925
TABLE				
Table size	mm x mm	800 x 400	900 x 450	900 x 450
T - slot (No. x size x pitch)		4 x 14 x 100	4 x 18 x 100	4 x 18 x 100
Max. load on table Standard / Option	kgf	400	400	800
SPINDLE & AXES				
Spindle taper		7 / 24 No.40	7 / 24 No.40	7 / 24 No.40
Spindle speed - Std.	rpm	60 - 6000	60 - 6000	45 - 4500
Spindle speed - Opt.	rpm	80 - 8000	80 - 8000	60 - 6000
Spindle power - Std.	kW	5.5/3.7	7.5/5.5	15/11
Spindle power - Opt.	kW	7.5/5.5	11/7.5	
Rapid traverse - X / Y / Z	m / min	40 / 40 / 30	30 / 30 / 30	32 / 32 / 32
Feed rate	mm / min	1 - 10000	1 - 10000	1 - 10000
Guideways Type		X,Y-LM. Z-Box	Box	X,Y-LM. Z-Box
AUTOMATIC TOOL CHANGER				
Tool change system		Disc Armless	Twin Arm	Twin Arm
Tool storage capacity - Std. / Opt.	Nos.	12	20 / 24 / 30	24 / 30
Pull stud		DIN 69872 / MAS - 403	DIN 69872 / MAS - 403	DIN 69872 / MAS - 403
Max. tool dia with all pockets full	mm	125	80 / 75	80 / 75
Max. tool dia with adjacent pockets empty	mm		155 / 125	155 / 125
Max. tool length	mm	250	250	250
Max. tool weight	kgf	6	8	8
Chip to chip time**	sec.	4.4	4.8	4.8
Tool shank type		BT - 40	BT - 40	BT - 40
CNC System Std-FANUC				
		0iMF	0iMF	0iMF
Opt.- Siemens		828D		
Opt.- Mitsubishi		M70 BVU	M70 BVU	M70 BVU
Basic machine weight	kgf	4400	5100	5200
Power supply (Basic Machine)	kVA	15	15	25

** Valid for Standard machine *All specifications are subject to change without prior notice

Operator Friendly Features (Optional)

- AMS - Tool load monitoring system
- AMS - Intelligent controller Interface environment
- AMS - Machine intelligent monitor
- AMS - On screen user assistance
- AMS - Thermal error compensation
- AMS - Power backup system
- Programming assistance
- On screen energy meter (Std.)
- Remote diagnosis

Standard Features

- Hardened guideway for all axes (Winner)
- Hardened guideway for Z axis (Winner & MCV-400 SS)
- Rigid tapping
- Tool shank: BT-40
- Spindle power: 5.5/ 3.7 (Winner). 7.5 / 5.5 kW (MCV-400 S), 15 / 11 kW (MCV-400 SS)
- Spindle speed: 6000 rpm for Winner & MCV-400 S, 4500 rpm for MCV-400 SS
- Three tier indication lamp
- Full guarding
- Coolant tank & Chip tray
- Laser calibration & ball bar test
- 12 tool front mounted ATC (Winner)
- 20 tool side mounted ATC (MCV-400 S & MCV- 400 SS)
- Panel cooler for electrical cabinet

Optional Features

- Increased day light area
- Wider guarding
- Through spindle coolant system
- Flood coolant, chip flushing & Coolant gun
- Chip conveyor
- Higher spindle speed
- Spindle power – 11 / 7.5 kW (MCV-400)
- Automatic pallet changer – Linear / rotary type
- 24 / 30 tool ATC (MCV-400 S & MCV-400 SS)
- Front Auto door
- CNC Rotary table / Index table
- TPM Friendly machine
- Tooled up solutions & Automation

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