MV 2 Series

MV 204/214 - C / E / V / P

QUASER
we cut faster

Vertical Machining Centre

The MV range of vertical machining centres offers high speed, high power machining and a rigid cast iron frame with large X & Y travels on a compact footprint.

Control: (F):FANUC (T):HEIDENHAIN (M):MITSUBISHI (S):SIEMENS

Technical data		MV204					MV204 MV214			
		C			E / V		P			
Spindle code		10B	10C	12C	9B	12B	9B	12B	15C [2]	20C
Work range										
Table size (mm)		1,400 x 700					1,400 x 700	1,700 x 700		
Travel X / Y / Z (mm)		1,270 / 700 / 610 [1]					1,270 / 700 / 610 [1] 1,524 / 700 / 610 [1]			
Spindle nose to table surface (mm)		150~ 760 [1]					150~ 760 [1]			
Table load capacity (kg)		1,000					1,800/ 2,000			
Feed drive										
Feed force X / Y / Z (N)	F	10,472 / 10,472 / 10,472	-		6,283 / 6,283 / 11,519		11,519 / 11,519 / 11,519			
	T	-			9,268 / 9,268 /13,666		11,310 / 11,310 / 19,897			
	M	-	7,173 / 7,173 / 17,671		-		-			
	S	6,283 / 6,283 / 14,137			-		14,137 / 14,137 / 14,137			
Rapid movement X / Y / Z (m/min.)		24 / 24 / 16			36 (F) / 36 (F) 32 (T)		36			
Acceleration X / Y / Z (m/s²)	F	3 / 3 / 3	-		3 / 3 / 3		4 / 4 / 4			
	T	-			4 / 3 / 4		5 / 5 / 4 4 / 4 / 4			
	M	-	3 / 3 / 3		-		-			
	S	3 / 3 / 3			-		4 / 4 / 3			
Dia. & pitch of the ball screw		Ø45 / P = 12 / 12 / 8 (M) Ø45 / P = 12 / 12 / 12 (S) (F)			Ø45 / P = 12 / 12 / 12 (F) (T)		Ø45 / P = 12 / 12 / 12 (F) (T) (S)			
Accuracy Positioning / Repeatability										
ISO 230-2		0.008 / 0.004								
JIS 6338 (300mm)		± 0.003 /± 0.002								
VDI 3441		0.008 / 0.004								
Main spindle										
Spindle model		40 Taper								
Tool changer										
Tool selection		Random								
Magazine positions	Std.	30					30 / 48			
	Opt.	-			48 / 60		48 & 60/ 60			
Max. tool diameter (mm)		76.2								
Max. tool dia. Due to neighbor pots are empty		125								
Max. tool length (mm)		300								
Max. tool weight (kg)		7								
CTC time-ISO 10791-9 (sec.)-60Hz		5.7 (F) 5.5 (S)	5 (M) 5.5 (S)		6		5.5			

Continued »

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Control: (F):FANUC (T):HEIDENHAIN (M):MITSUBISHI (S):SIEMENS

Technical data		MV204				MV204 MV214		
		C			E / V	P		
Coolant system								
Coolant tank capacity (Liter)		600						
Pump capacity [3]								
- Nozzle coolant		60L / min, 3.5 bar						
-Through spindle coolant		-			25L / min, 20 bar			
- Wash down		60L / min, 3.5 bar			60L / min, 4.5 bar			
Machine size						3,050	3,280	
Height (mm)		3,280			3,050	3,200	3,350	
Floor space W x D (mm)	30 ATC	3,920 x 3,240			3,700 x 3,240	3,700 x 3,240/ -		
	48 ATC	-			3,700 x 3,610	3,700 x 3,610 / 4,520 x 3,710		
	60 ATC	-			3,700 x 3,970	3,700 x 3,970 / 4,520 x 4,070		
Weight (kg)		9,300			9,500 - 10,000	9,500 - 10,100 / 10,100 - 11,000		
Connections								
Main power		220V / 60Hz or 400V / 50Hz						
Power consumption (KVA)		19 (F) 24 (S)	24 (S) 19 (M)	28 (S) 30 (M)	28 (F) 30 (T)	36 (F) 42 (T) 28.6(S)	33 (F) 42 (T)31.9(S)	31 (F)

Note: [1] For detailed specification of Z axis travel 800mm, please refer to page 22~24.
[2] when MC-4.1 R equipped with option itemα L26, its KVA would be 44
[3] At 60 Hz.

MV 204/214 - C / E / V / P OPTIONS & ACCESSORIES

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● = Standard ○ = Option × = N/A

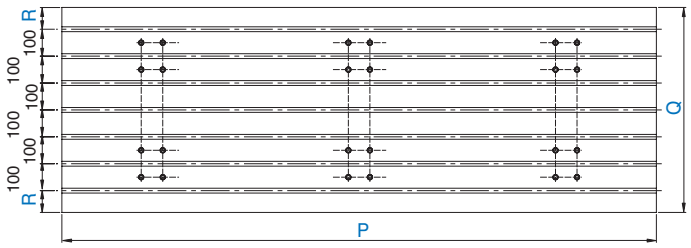
Standard / Option accessories	MV204					MV204 MV214			
	C			E / V		P			
Spindle code	10B	10C	12C	9B	12B	9B	12B	15C	20C
QUASER mill i for MV204E only	○	×	×	○ / ×	○ / ×	×	×	×	×
FANUC 31iB	×	×	×	× / ○	× / ○	○	○	○	○
AICC II (Look-ahead 200 blocks)	○	×	×	○ / ○	○ / ○	○	○	○	○
FANUC - data server	○	×	×	○	○	○	○	○	○
FANUC - high speed processing (Look-ahead 600 blocks)	×	×	×	× / ○	× / ○	○	○	○	○
HEIDENHAIN TNC640	×	×	×	× / ○	× / ○	○	○	○	×
HEIDENHAIN advanced function set 2	×	×	×	× / ○	× / ○	○	○	○	×
SIEMENS 828D	○	○	○	×	×	○	○	○	×
MITSUBISHI M80	×	○	○	×	×	×	×	×	×
MITSUBISHI M830	×	○	○	×	×	×	×	×	×
GB-4.1R Belt spindle 9,000 min	×	×	×	●	×	●	×	×	×
GB-4.1R Belt spindle 12,000 min	×	×	×	×	●	×	●	×	×
GB-4.1 Belt spindle 10,000 min	●	×	×	×	×	×	×	×	×
SC-4.1 Coupling spindle 10,000 min	×	●	×	×	×	×	×	×	×
SC-4.1 Coupling spindle 12,000 min	×	×	●	×	×	×	×	×	×
GC-4.0R / MC-4.1R Coupling spindle 15,000 min	×	×	×	×	×	×	×	● / ○	×
MC-4.0R Coupling spindle 20,000 min	×	×	×	×	×	×	×	×	●
Pull stud for BT tooling	○	○	○	●	●	●	●	●	●
Balance tooling for spindle warm up	○	○	○	●	●	●	●	●	●
Column raiser (150mm)	○	○	○	○	○	○ / ×	○ / ×	○ / ×	○ / ×
Tall column (one piece column) /Z axis travel 800mm	○	○	○	○	○	○	○	○	○
40 Taper 30 position tool magazine	●	●	●	●	●	● / ×	● / ×	● / ×	● / ×
40 Taper 48 position tool magazine	×	×	×	○	○	○ / ●	○ / ●	○ / ●	○ / ●
40 Taper 60 position tool magazine	×	×	×	○	○	○	○	○	○
ATC auto door	×	×	×	○	○	○	○	○	○
Linear encoder	×	×	×	○	○	○	○	○	○
Remote manual pulse generator	●	●	●	●	●	●	●	●	●
Transformer	○	○	○	●	●	●	●	●	●
Spindle ECO cooler	●	●	×	●	●	●	●	×	×
Spindle oil chiller	○	○	●	○	○	○	○	●	●
4th axis preparation	×	×	×	●	●	●	●	●	●
20 bar through spindle coolant	○	×	○	●	●	●	●	●	●
50 bar through spindle coolant	×	×	○	○	○	○	○	○	○
Coolant wash gun / wash down	●	●	●	●	●	●	●	●	●
External chip auger	●	●	●	×	×	×	×	×	×
External chip conveyor	○	○	○	●	●	●	●	●	●
Cutter air blast	●	●	●	●	●	●	●	●	●
Oil-mist collector	○	○	○	○	○	○	○	○	○
Work Probe	×	×	×	○	○	○	○	○	○
Tool length / breakage measurement	○	○	○	○	○	○	○	○	○
Documentation (paper)	○	○	○	○	○	○	○	○	○
Foundation bolts & blocks	●	●	●	●	●	●	●	●	●
Work light	●	●	●	●	●	●	●	●	●
Machine status light	●	●	●	●	●	●	●	●	●
CE & EMC*/ GB	○	○	○	○	○	○	○	○	○

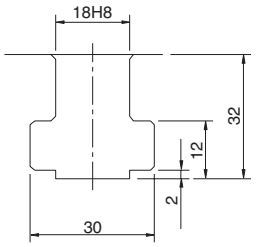
Note: * Standard for Eu area except C type.
- Machine specification might be different from the catalog if there is any specification update.
- For C series ambient temperature greater then 35°C , the cabinet heat exchanger is required.

MV 2 DIMENSIONS

Table dimensions:

	MV204C	MV204/205	MV214/215	MV234/235
P	1,400	1,400	1,700	2,210
Q	700	700	700	762
R	100	100	100	81
T-Slots No.	6	6	6	7

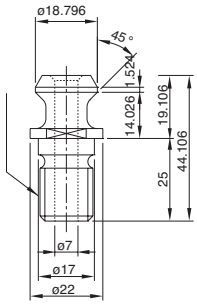




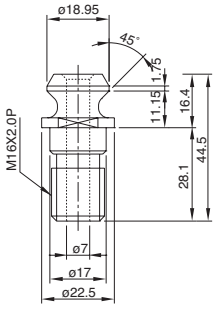
Pull stud and applicable tools: ISO-40

B	tool median point distance	tool middle point distance
D	tool weight	tool weight
MOMENT=D*B(≦10.29N-m)		MOMENT=D*B(≦9.85N-m)

BT 40



ISO (7388-B)



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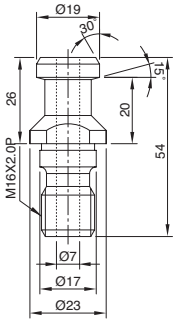
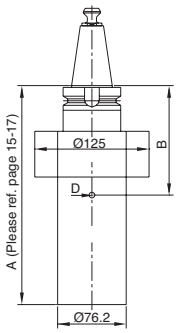
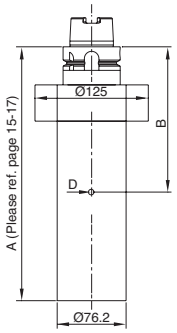


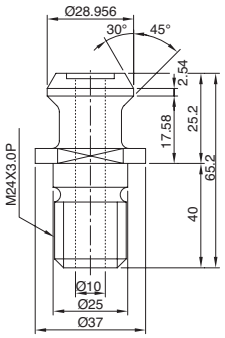




Pull stud and applicable tools: ISO-50

B	tool median point distance
D	tool weight
	MOMENT=D*B(≦25.72N-m)

BT 50



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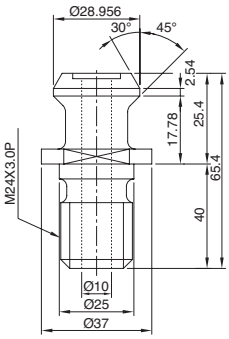

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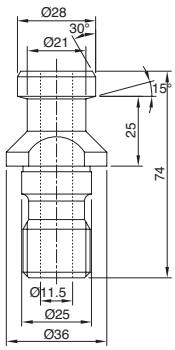
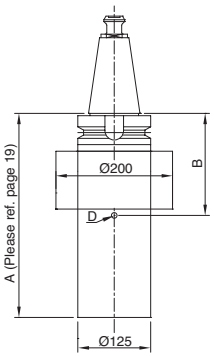
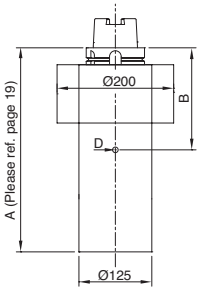


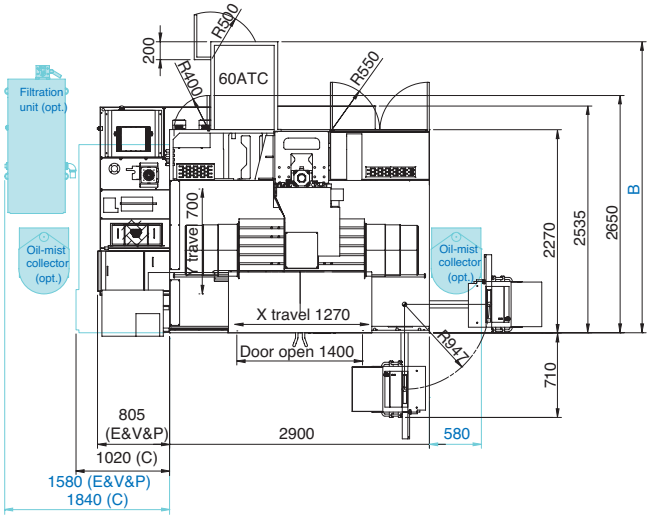


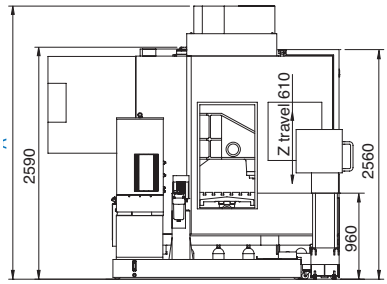


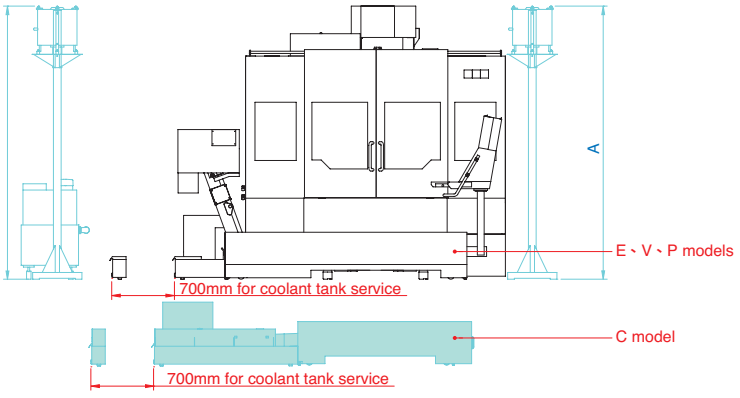
MV 204 / 205 LAYOUT

Max. Machine Height	MV204				MV205	
	C		E & V & P	P	E & P	P
Spindle code	10C / 12C	10B	9B / 12B	15C / 20C	7.5B	15C
A Standard column 1. Z axis travel 610 mm 2. Spindle nose to table surface 150~760 mm (#40) 190~800mm (#50)	3,280		3,050	3,280	3,400	3,325
A Column raiser (150mm) 1. Z axis travel 610 mm 2. Spindle nose to table surface 300~910 mm (#40) 340~950mm (#50)	3,430		3,200	3,430	-	-
A Tall column (one piece column) 1. Z axis travel 800 mm 2. Spindle nose to table surface 150~950 mm (#40) 190~990mm (#50) *Container shipment is not possible	3,470		3,240	3,470	3,600*	3,525*

MV204	B	40 Taper	30 ATC	2,530
			48 ATC	2,900
			60 ATC	3,260
MV205		50 Taper	30 ATC	3,050
			40 ATC	3,650





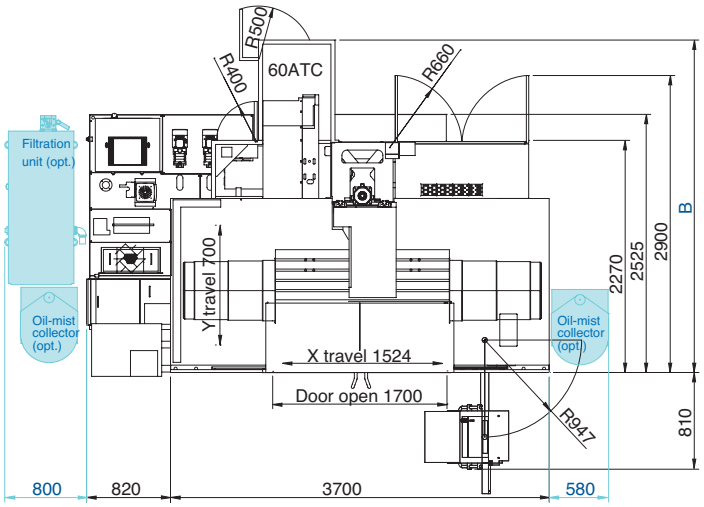


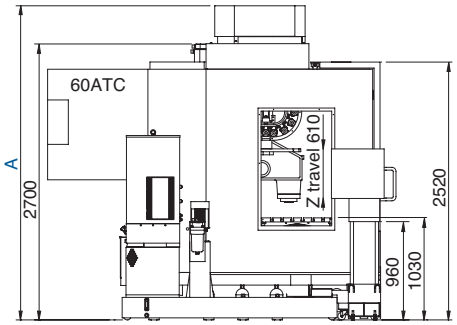
MV 2 Series

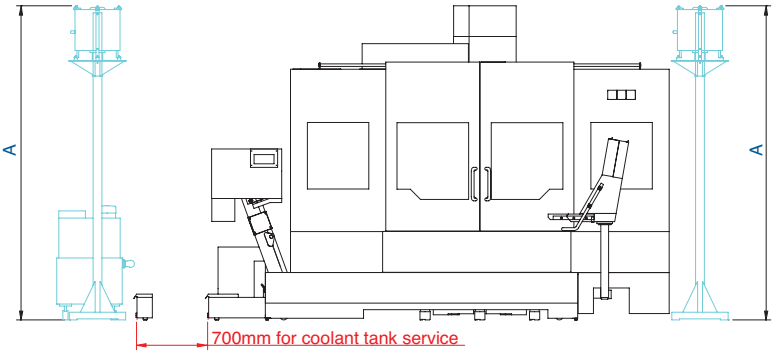
MV 214 / 215 LAYOUT

Max. Machine Height	MV214		MV215	
	P		E & P	P
Spindle code	9B / 12B	15C / 20C	7.5B	15C
A Standard column 1. Z axis travel 610 mm 2. Spindle nose to table surface 150~ 760 mm (#40) 190~ 800mm (#50)	3,200	3,350	3,470	3,390
A Tall column (one piece column) 1. Z axis travel 800 mm 2. Spindle nose to table surface 150~ 950 mm (#40) 190~ 990mm (#50) *Container shipment is not possible	3,390*	3,540*	3,670*	3,590*

MV214	B	40 Taper	48 ATC	2,900
			60 ATC	3,260
MV215		50 Taper	30 ATC	3,050
			40 ATC	3,650







MV 2 Series

MV 234 / 235 LAYOUT

Max. Machine Height	MV234		MV235	
	E & P	P	E & P	P
Spindle code	9B / 12B	15C / 20C	6B / 7.5B	15C
A Standard column 1. Z axis travel 661 mm 2. Spindle nose to table surface 150~811 mm (#40 & #50)	3,150	3,445	3,220	3,395
A Tall column (column raiser) 1. Z axis travel 800 mm 2. Spindle nose to table surface 150~ 950 mm (#40 & #50) *Container shipment is not possible	3,290*	3,590*	3,410*	3,540*

MV234	B	40 Taper	48 ATC	2,990
			60 ATC	3,390
MV235		50 Taper	30 ATC	3,170
			40 ATC	3,790