SINCE **1944**

DM V/VC series

Vertical Machining Center (En)

DM V series
DM 42V / DM 42VL / DM 52VL / DM 65V / DM 65V(#50) / FM 50V

DM VC series (Moving Column Type)
DM 43VC / DM 43VCD

FFG DMC

www.ffg-dmc.com

* Specifications in this catalog are subject to change without prior notice.
* Please contact us or visit our site for more. product information.

FFG DMC

FFG DMC CO.,LTD.
631-821,86,Sandan 2-gil, Jinbuk-myeon, Masanhappo-gu,
Changwon-si, Gyeongsangnam-do, Korea
Phone : +82-(0)55-340-8200
Fax : +82-(0)55-340-8394
E-mail : sales@dmcmt.com
www.ffg-dmc.com

DM V/VC Series

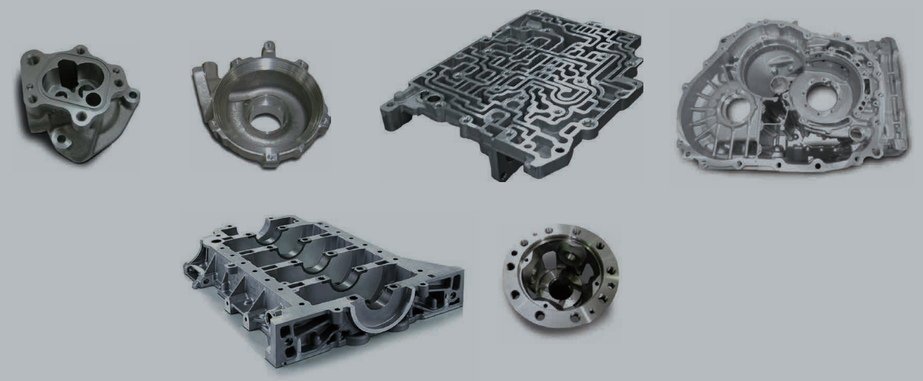
DM V series

DM 42V / DM 42VL / DM 52VL /
DM 65V / DM 65V(#50) / FM 50V

DM VC series (Moving Column Type)

DM 43VC / DM 43VCD

High-efficiency, high-productivity Vertical Machining Center



DM 42VL

Travel(X/Y/Z)(mm)(inch)	765 × 420 × 510(30.12×16.54×20.08)
Rapid traverse rate(X/Y/Z)(m/min)(ipm)	36/36/30(1,417.32/1,417.32/1,181.10)
Max. Spindle Speed(rpm)	8,000(12,000)
Max. No. of Tools(pcs)	24(30, 40)

DM 52VL

Travel(X/Y/Z)(mm)(inch)	1,020× 520 × 510(40.16×20.47×20.08)
Rapid traverse rate(X/Y/Z)(m/min)(ipm)	36/36/30(1,417.32/1,417.32/1,181.10)
Max. Spindle Speed(rpm)	8,000(12,000)
Max. No. of Tools(pcs)	24(30, 40)

FM 50V

Travel(X/Y/Z)(mm)(inch)	800 × 520 × 510(31.50×20.47×20.08)
Rapid traverse rate(X/Y/Z)(m/min)(ipm)	60/60/36(2,362.20/2,362.20/1,417.32)
Max. Spindle Speed(rpm)	15,000
Max. No. of Tools(pcs)	30

DM 43VCD

Travel(X/Y/Z)(mm)(inch)	600 × 430 × 570(23.62×16.93×22.44)
Rapid traverse rate(X/Y/Z)(m/min)(ipm)	48/48/36(1,889.76/1,889.76/1,417.32)
Max. Spindle Speed(rpm)	8,000(12,000)
Max. No. of Tools(pcs)	30(24, 40)

High Productivity

Spindle

4 sets P4 grade high precision bearing support 8,000 (10,000 / 12,000) r / min high-speed spindle to achieve a long time and stable cutting operation.

- Belt & Direct drive
- STD option: OIL COOLING SYSTEM(12,000rpm)
- Side lattice structure: reduce weight, enhance rigidity, dissipate heat

Standard MAX 8,000r/min

Option MAX 12,000r/min
(Oil cooling system)

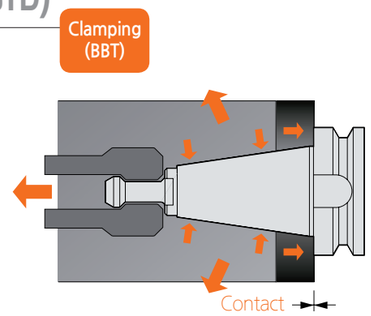
Spindle Specification

	DM 42V	DM 42VL	DM 52VL	DM 65V	DM 65V(#50)	FM50V
Spindle taper	BBT 40	BBT 40	BBT 40	BBT 40	BBT 50	BBT 40
Max.spindle speed(rpm)	8,000	8,000(12,000)			6,000	15,000
Main spindle motor(kw(hp))	11/7.5(15/10)	15/11(20/15)	15/11(20/15)	15/11(20/15)	15/11(20/15)	22/15(25/20)
Max. spindle torque(kgf.m(N.m))	7.1/5(70/49)	9.7/7.1(95.4/70)	9.7/7.1(95.4/70)	9.7/7.1(95.4/70)	19.31/14.23(190/140)	15.2/10.4(149.8/102)
Spindle driving type	BELT	BELT	BELT	BELT	BELT	Direct

	DM 43VC	DM 43VCD
Spindle taper	BBT 40	BBT 40
Max.spindle speed(rpm)	8,000(12,000)	8,000(12,000)
Main spindle motor(kw(hp))	15/11(20/15)	15/11(20/15)
Max. spindle torque(kgf.m(N.m))	9.7/7.1(95.4/70)	9.7/7.1(95.4/70)
Spindle driving type	BELT	BELT(Direct)

Face Contact High Speed Spindle(STD)

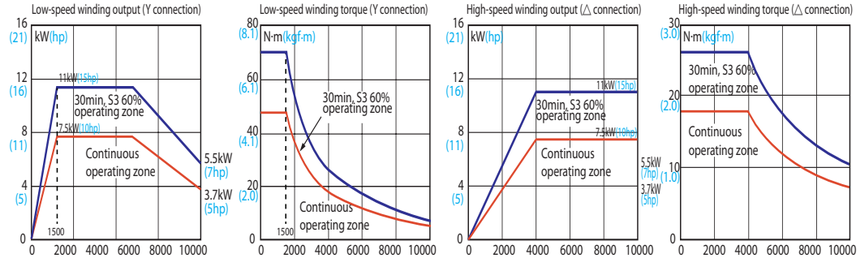
- Face Contact High Speed Spindle Spindle(STD)(BBT 40/50)
- Use high-speed Face Contact spindle(BBT) with high principal axis and taper to increase clamping force,reduce vibration and achieve high-speed cutting.
- Increase STD diameter to improve rigidity and ATC repeatability, prevent high-speed rotation of Z-axis displacement so the machine life is increased.



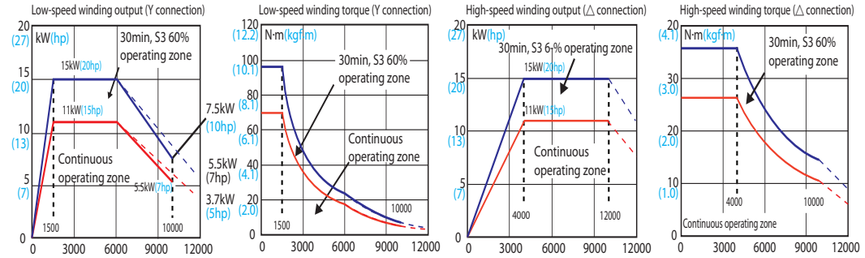
Spindle Output Drawing

Spindle speed[min^{-1}]

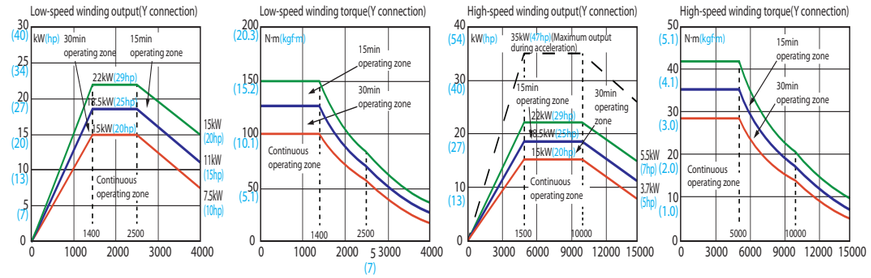
FANUCαil8/10000_DM 42V



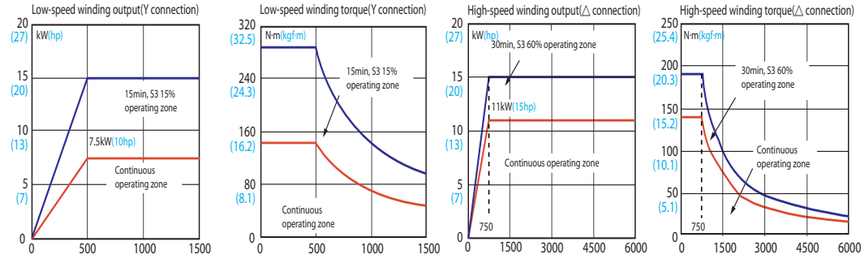
FANUCαil12/12000_DM 42VL/ 52VL/ 65V/ 43VCD



FANUCαiIT 15/15000_FM 50

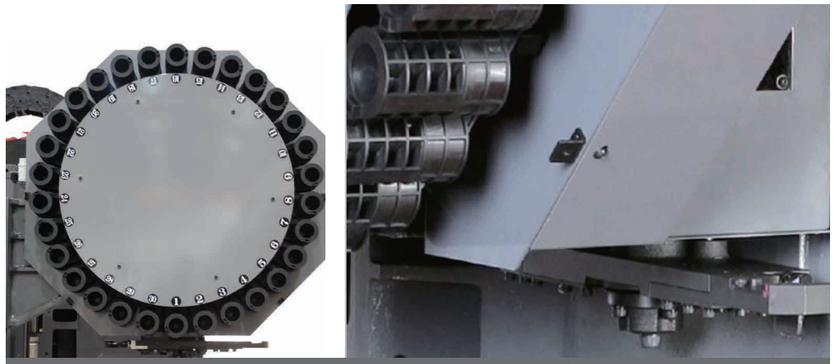


FANUCαiIP 22/6000 DM 65V/ OPT BBT 50



High Productivity

Tool Magazine



TWIN ARM TYPE(CAM type)

Use high-speed Twin arm type (CAM type) tool changer as STD OPT to achieve high productivity.

(T-T) 1.8 seconds

Tool to Tool 1.8 seconds, chip to Chip 3.9 seconds, fast tool changing can minimize non-cutting time.

Detachable magazine

Use frame for a separate magazine,tremor from ATC and magazine won't pass to machine so the machine can keep it's high accuracy.

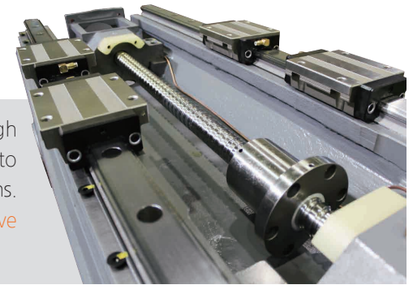
ATC Specification

	DM 42V	DM 42VL	DM 52VL	DM 65V	DM 65V(#50)	FM 50V
Tool storage capacity	24EA	24EA(30,40)	24EA(30,40)	30(40)	24	30
Max. tool diameter [without adjacent](mm(inch))	Ø85[Ø125] (Ø3.35[Ø4.92])	Ø85[Ø125] (Ø3.35[Ø4.92])	Ø85[Ø125] (Ø3.35[Ø4.92])	Ø85[Ø125] (Ø3.35[Ø4.92])	Ø127[Ø200] (Ø5[Ø7.87])	Ø85[Ø125] (Ø3.35[Ø4.92])
Max. tool length	300mm(11.81")	300mm(11.81")	300mm(11.81")	300mm(11.81")	300mm(11.81")	300mm(11.81")
Max. tool weight	7kgf(15.43lbf)	7kgf(15.43lbf)	7kgf(15.43lbf)	7kgf(15.43lbf)	15kgf(33.07lbf)	7kgf(15.43lbf)
Method of tool selction	MEMORY RANDOM	MEMORY RANDOM	MEMORY RANDOM	MEMORY RANDOM	MEMORY RANDOM	MEMORY RANDOM
Tool changing time T-T	1.8sec	1.8sec	1.8sec	1.8sec	2.45sec	2.3sec
Tool changing time C-C	3.9sec	3.9sec	3.9sec	3.9sec	5.5sec	4.2sec

	DM 43VC	DM 430VCD
Tool storage capacity	30EA(24,40)	30EA(24,40)
Max. tool diameter [without adjacent](mm(inch))	Ø85[Ø125](Ø3.35[Ø4.92])	Ø85[Ø125](Ø3.35[Ø4.92])
Max. tool length	300mm(11.81")	300mm(11.81")
Max. tool weight	7kgf(15.43lbf)	7kgf(15.43lbf)
Method of tool selction	MEMORY RANDOM	MEMORY RANDOM
Tool changing time T-T	1.8sec	1.8sec
Tool changing time C-C	3.9sec	3.9sec

AXIS

Best-in-class rapid traverse speeds and wide machining area!



Machine is equipped with high speed, high accuracy, high productivity guide ROLLER, to maintained a stable accuracy under all conditions.
Use the Roller guideways as a OPT to achieve powerful, high speed heaving cutting.

ALL AXES : High precision& pretension double anchor system.

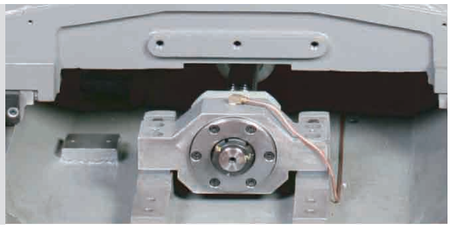


Table moving TYPE

Rapid traverse rate

Unit : m/min(ipm)

	DM 42V	DM 42VL	DM 52VL	DM 65V	DM 65V(#50)	FM50V
X	48(1,889.76)	36(1,417.32)	36(1,417.32)	36(1,417.32)	36(1,417.32)	60(2,362.20)
Y	48(1,889.76)	36(1,417.32)	36(1,417.32)	36(1,417.32)	36(1,417.32)	60(2,362.20)
Z	36(1,417.32)	30(1,181.10)	30(1,181.10)	30(1,181.10)	30(1,181.10)	36(1,417.32)

X/Y/Z Travel

Unit : mm(inch)

	DM 42V	DM 42VL	DM 52VL	DM 65V	DM 65V(#50)	FM50V
X	600(23.62)	765(30.12)	1,020(40.16)	1,280(50.39)	1,280(50.39)	800(31.50)
Y	420(16.54)	420(16.54)	520(20.47)	650(25.99)	650(25.99)	520(20.47)
Z	510(20.08)	510(20.08)	510(20.08)	640(25.20)	640(25.20)	510(20.08)

Column moving TYPE

Rapid traverse rate

Unit : m/min(ipm)

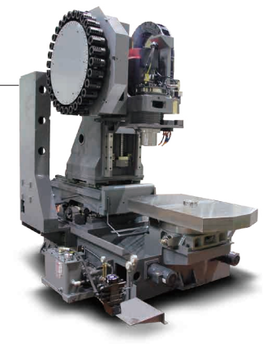
	DM 43VC	DM 43VCD
X	48(1,889.76)	48(1,889.76)
Y	48(1,889.76)	48(1,889.76)
Z	36(1,417.32)	36(1,417.32)

Spacious working area.

X/Y/Z Travel

Unit : mm(inch)

	DM 43VC	DM 43VCD
X	600(23.62)	600(23.62)
Y	430(16.93)	430(16.93)
Z	570(22.44)	570(22.44)



High Productivity

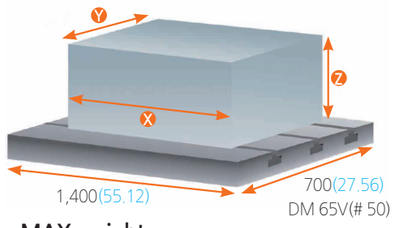
Best machining capabilities and pallet load weight in same class.

Standard table

Designed with best-in-class stroke, it can be easily machining.

Model	DM 42V	DM 42VL	DM 52VL
Table Size[mm(inch)]	700×400 (27.56x15.75)	920×440 (36.22x17.32)	1,100×550 (43.31x21.65)
Maximum load[kgf(lbf)]	250(551.15)	600(1,322.75)	700(1,543.21)

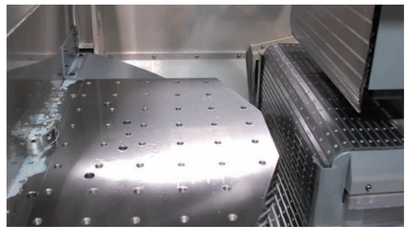
Model	DM 65V	DM 65V(#50)	FM 50V
Table Size[mm(inch)]	1,400×700 (55.12x27.56)	1,400×700 (55.12x27.56)	950×550 (37.4x21.65)
Maximum load[kgf(lbf)]	1,500(3,306.89)	1,500(3,306.89)	700(1,543.21)



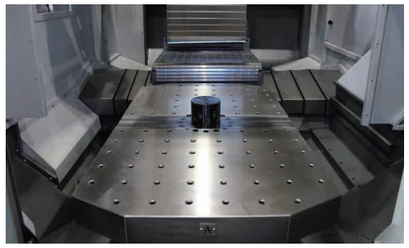
MAX weight

Table moving DM 65V(# 50) : 1,500kgf(3,306.89lbf)

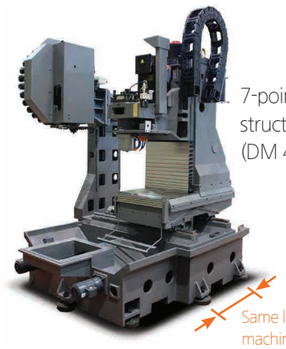
Dual table(DM 43VCD)



- Use 2 Piece curvic Coupling to achieve best-in-class [Ø370mm(14.57")]
- 2X3 LM Block reinforce rigid
- Work setting is possible
- Hydraulic rotary joint(standard applications) 2X3 port
- APC time : 5sec, Permissible Load : 2-300kgf, Repeatability 5㎛ (0.0002")



Model	DM 43VCD
Table Size[mm(inch)]	2-700×475(27.56×18.70)
Maximum load[kgf(lbf)]	2-300(2-661.38)



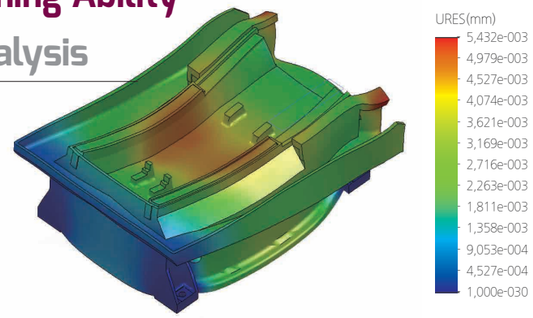
7-points support structure (DM 43VCD)

Same location machining position and center of gravity makes stable structure

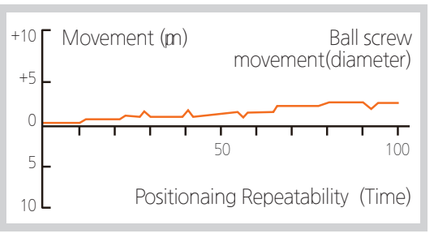
Accuracy & Machining Ability

BED structural analysis

BED structure (5㎛ (0.0002") than generated) doesn't deform when the load is 6Ton(13,228lbs)

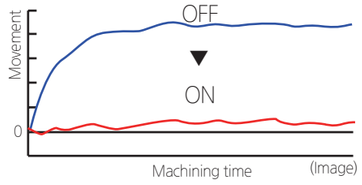


Ball Screw



- Above data are based on our in-house testing standards and can be circumstantial depending on working environment.

Thermal displacement automatic correction SYSTEM Option

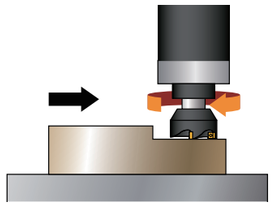


OPT ① - Predict the heat displacement from the operation of each axis (X, Y, Z).
- No sensor has no effect on the machining time.
- Not reflect Coolant temperature and ambient temperature, etc. external factors.
- It can affect the precision depends on the conditions.

OPT ② Z-Axis thermal calibration equipment - thermal sensor

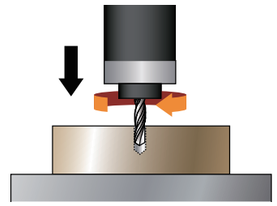
OPT ③ Spindle thermal displacement compensation - spindle thermal displacement sensors

Machining capabilities <DM 52VL>



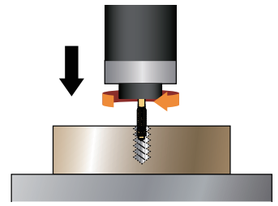
FACE MILL 〈Material(JIS):S45C(Carbon steel)〉

Dia. of tool	Ø80mm(3.15") x 6F
Cutting depth	3mm(0.12")
Cutting width	70mm(2.76")
Cutting speed	286mm/min(11.26ipm)
Spindle speed	1,137r/min
Feed rate	0.9mm/rev(0.036ipr)
Chip emissions	210cc/min



DRILL 〈Material(JIS):S45C(Carbon steel)〉

Dia. of tool	Ø32mm(1.26")
Cutting depth	40mm(1.57")
Cutting speed	24mm/min(0.94ipm)
Spindle speed	268r/min
Feed rate	0.2mm/rev(0.008ipr)
Chip emissions	43cc/min



TAP. 〈Material(JIS):S45C(Carbon steel)〉

Tap spec/Pitch	M24 x P3.0
Machining depth	40mm(1.57")
Cutting speed	8mm/min(0.31ipm)
Tool rotating speed	106r/min
Feed rate	3mm/rev(0.12ipr)

DM V/VC series

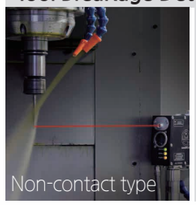
LED Working Light

+ Long-life LED lighting creates well-lighted work environments.

Tool life management

+ Make good tool life management to reduce tool trouble.
+ Use standards to reduced failure rates.

Tool BreaKage Detection

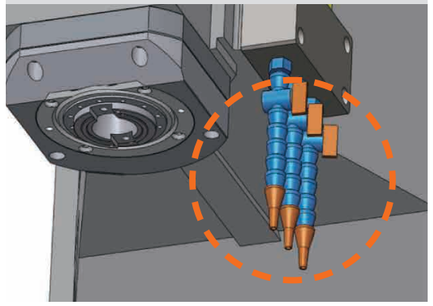


Lubrication unit(3ℓ/0.79gal)

Attach aerosol to air unit.

Organized utility

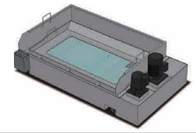
Coolant



+ The nozzle is attached to the spindle.
  It can be injected directly into the machining point. (Coolant: STD 3ea, OPT 1ea)

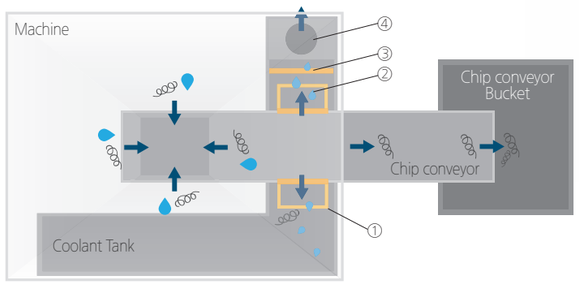
Easy Clean-up Removable Coolant Tank

+ Big size tank
+ Drawer-type oil tank with wheels is detachable from the coolant tank for easy daily maintenance.



Coolant Tank Capacity	230ℓ (60.76gal): DM 42V 350ℓ (92.46gal): DM42VL, FM50V 400ℓ (105.67gal): DM 52VL, DM 43VC, DM 43VCD 430ℓ (113.59gal): DM65V(#50)
Hydraulic Tank Capacity	13ℓ (3.43gal): DM 43VCD

3 steps filter coolant tank
Easy Clean-up & Prevent Coolant over flow



Coolant
Chip
Flow

① 1st step : Mesh filter
② 2nd step : Bucket mesh
③ 3rd step : Mesh filter
④ 4th step : Motor suction filter

Tool measurement device

+ It can measure tool breakage, wear and offset values, etc. automatically to increase convenience.

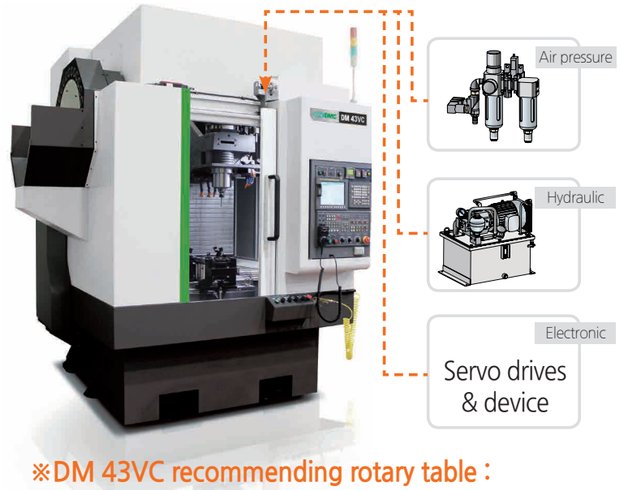
Workpiece measuring equipment

+ Through the contact signal between the measurement device and workpiece, it can be measured workpiece's machining benchmark, and automatic setting coordinate values of the basic coordinate system -Applided for Steel spindle Bearing

DM V/VC series

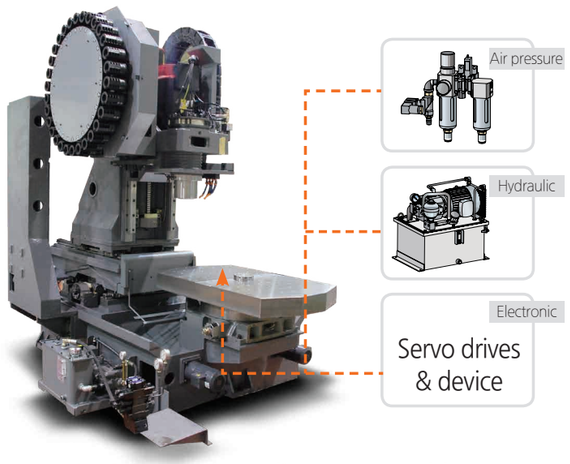
User-Friendly, Safe and Designed for Operator Efficiency / Ergonomics

DM 43VC
(4 axis additional equipment interface /oil/air pressure tool line)



※DM 43VC recommending rotary table :
Ø310mm(12.20")

DM 43VCD
(4 axis additional equipment interface /oil/air pressure tool line)

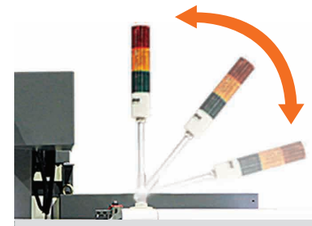


※ DM 43VCD recommending Rotary Table :
Ø210mm(8.27")

Bed Shower Coolant

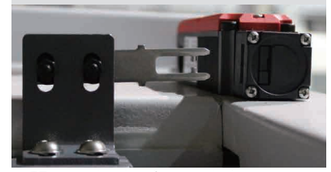
+ Use high capacity PUMP to make sure chip processing smoothly.

Patrol light



+ LED 3 color wrapped folded when shipping

Front Door Interlock Device



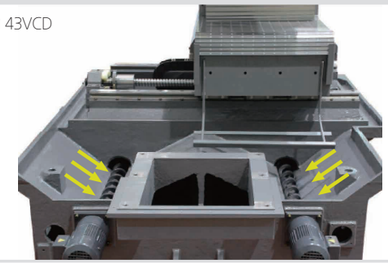
+ CE standard safety switch can sense door open and close; door is closed during operation

Portable MPG

+ Use a removable MPG to make
Easy setting of the workpiece and tools.

Easy chip evacuation

DM 43VCD



+ Using Chip Fan at front of machine to collect the Chip Cutting Oil dropped from around the table , and through chip conveyor easy to collect the chips.
*Using chip rear-discharge 2ea big SCREW[Ø100mm(3.94")], easy to chip discharge.

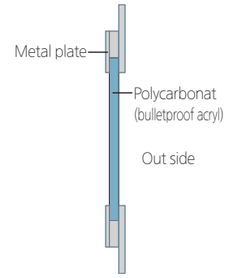
Option

Coolant gun

Air gun

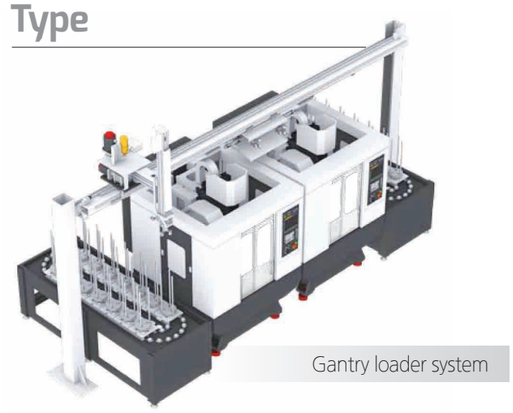
RS232C (Input/output interface)

2-Panel Safety Glass

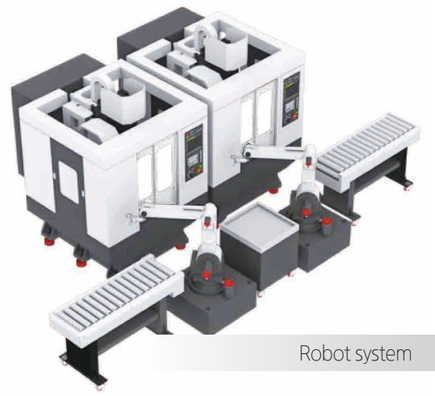


Automation & Variable Options

Type

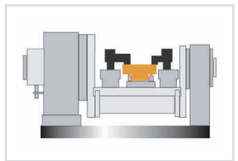


Gantry loader system

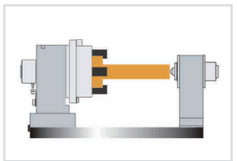


Robot system

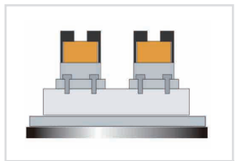
Variety of Jig Setup



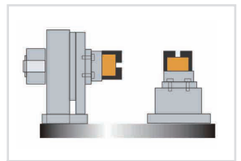
Index Jig



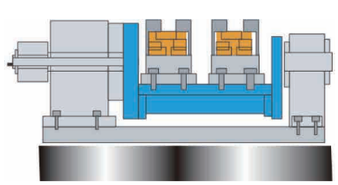
Index Jig & Tailstock Jig



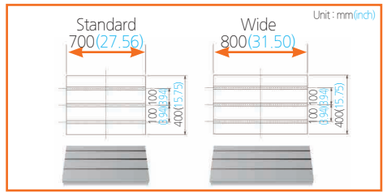
Multi Jig



Multi Jig

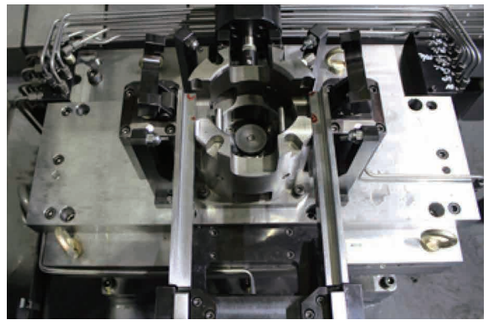


Wide table



DM 65V(#50)

Example



Various standard options and Specialized features for customers

Standard

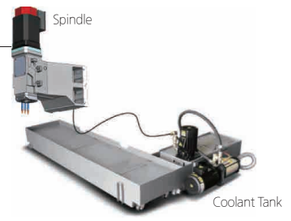
Tool box, Working light(LED), Hydraulic unit, Door interlock, Cutting oil supplying device, Work light, Leveling bolt&place, Splash guard, 3-step patrol light, Auto Lubrication Unit, Portable MPG handle, RS232C+USB Port

Option Equipment

Auto front door(430C)

Column[150mm(5.9")]

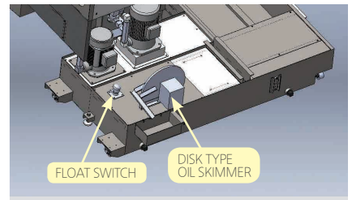
TOP cover



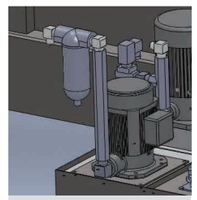
Spindle hollow Coolant

Oil Mist Collector

Oil Skimmer(Belt type)



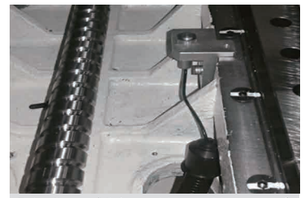
Oil Skimmer(Disk type)



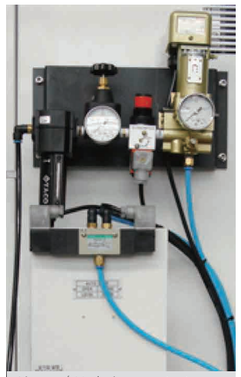
Line Filter(100 Mesh)

Coolant gun(with SOL/Without sensor)

Linear scale(High precision position control)



Point Sensor(High precision position control)



Air zero(Workpiece contact surface check equipment)

Chip bucket
230ℓ (60.76gal) (Swing)
300ℓ (79.25gal) (Swing)
300ℓ (79.25gal) (Fork lift)
380ℓ (100.38gal) (Fork lift)
440ℓ (116.23gal) (Fork lift)

Multi counter

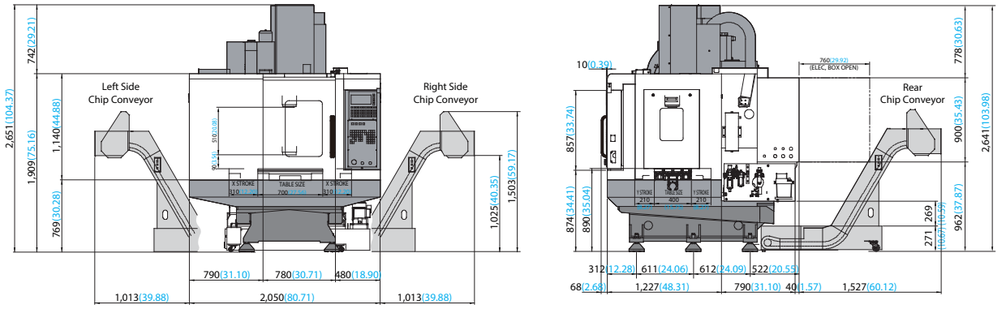
Other soft options selection

- Automatic power-off
- Fixture interface

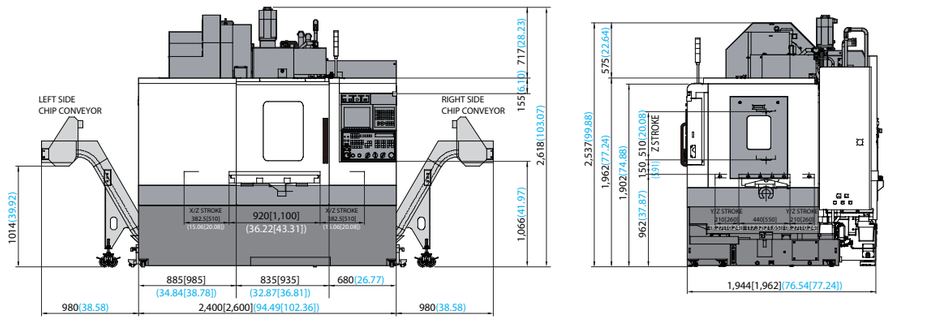
Machine lay-out

Unit : mm(inch)

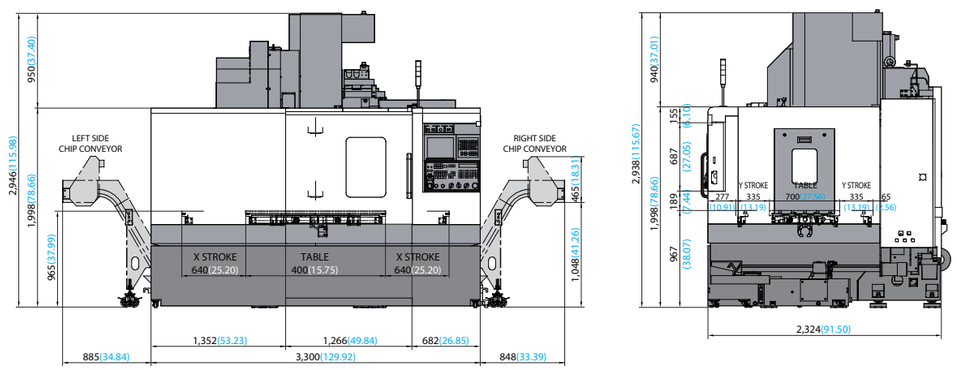
DM 42V



DM 42VL(52VL)



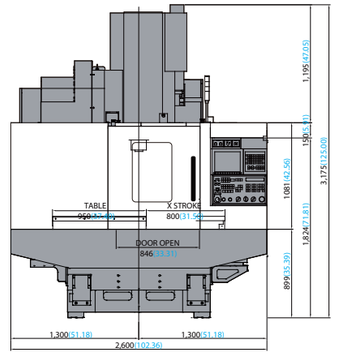
DM 65V

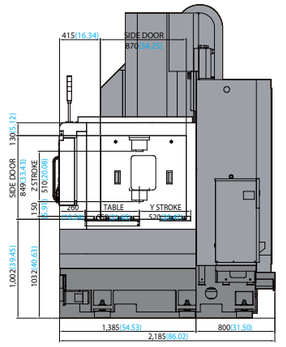


Machine lay-out

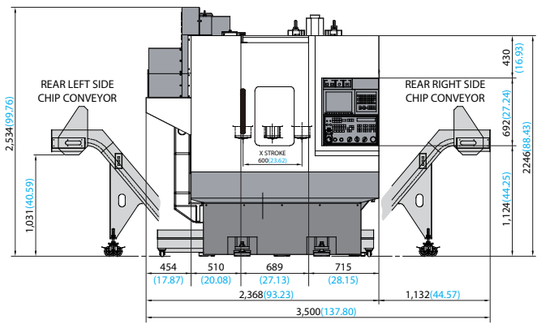
Unit : mm(inch)

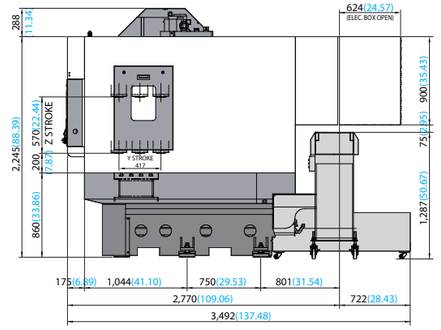
FM 50V



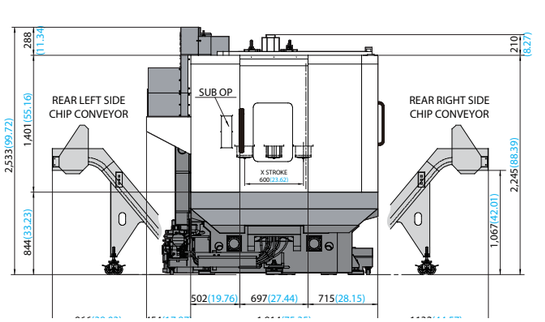


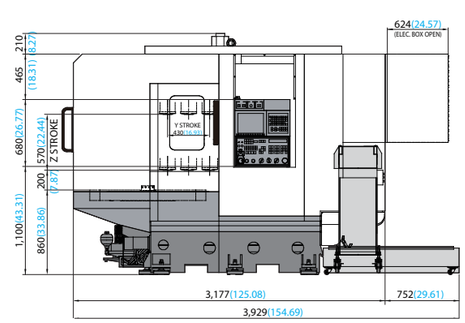
DM 43VC





DM 43VCD

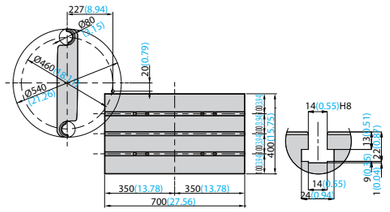




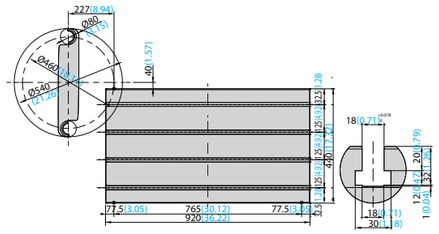
Table

Unit : mm(inch)

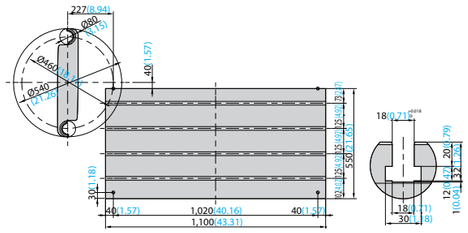
DM 42V



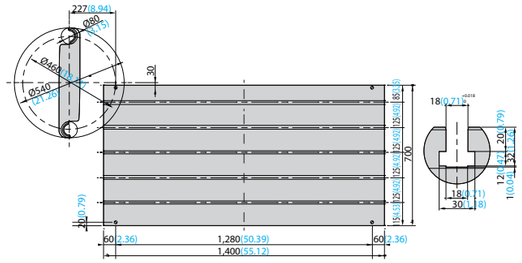
DM 42VL



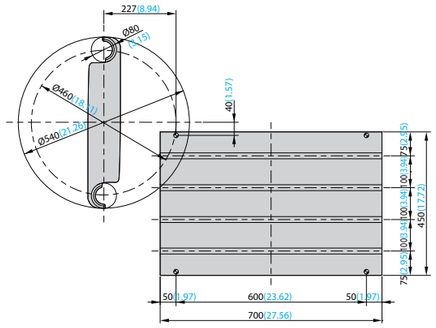
DM 52VL



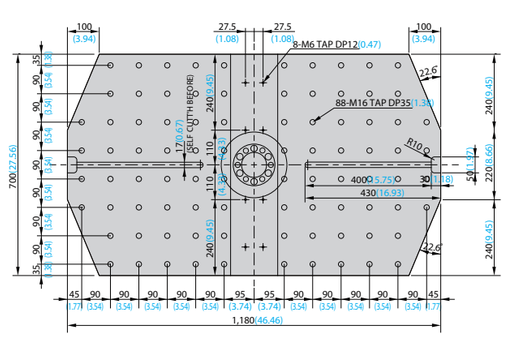
DM 65V



DM 43VC



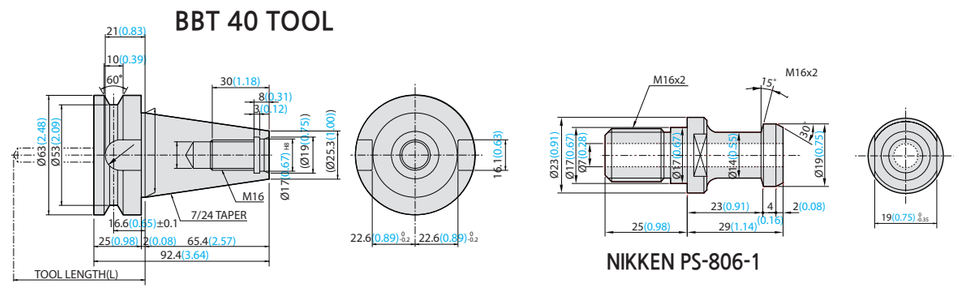
DM 43VCD



Tool Shank

Unit : mm(inch)

BBT 40 TOOL



NIKKEN PS-806-1

Machine Specifications

Specifications			DM 42V	DM 42VL	DM 52VL
Travel	X-axis travel	mm(inch)	600(23.62)	765(30.12)	1,020(40.16)
	Y-axis travel	mm(inch)	420(16.54)	420(16.54)	520(20.47)
	Z-axis travel	mm(inch)	510(20.08)	510(20.08)	510(20.08)
	Spindle nose to table surface	mm(inch)	150~660(5.91~25.98)	150~660(5.91~25.98)	150~660(5.91~25.98)
	Distance from spindle center to column	mm(inch)	476(18.74)	525(20.67)	525(20.67)
	X/Y/Z axis rapid traverse	m/min(ipm)	48/48/36(1,889.76/1,889.76/1,417.32)	36/36/30(1,417.32x1,417.32x1,181.10)	36/36/30(1,417.32x1,417.32x1,181.10)
	X/Y/Z axis cutting feed rate	m/min(ipm)	10/10/10(393.70/393.70/393.70)	15/15/15(590.55/590.55/590.55)	15/15/15(590.55/590.55/590.55)
	Slide type	-	LM Guide	LM Guide	ROLLER
Table	Table dimensions	mm(inch)	700x400(27.56x15.75)	920x440(36.22x16.54)	1,100x550(43.31x20.47)
	Maximum load	kgf(lbf)	250(551.15)	600(1,322.75)	700(1,543.21)
	Table change time	sec	-	-	-
	Change method	-	-	-	-
	Table driving method	-	-	-	-
Main Spindle	Spindle taper	-	BBT40	BBT40	BBT40
	Spindle speed[OPT]	rpm	8,000	8,000 [12,000]	8,000 [12,000]
	Spindle power output(Max./Cont.)	kW(hp)	11/7.5 (15/10)	15/11 (20/15)	11/15 (15/20)
	Spindle torque(Max./Cont.)	N·m(kgf·m)	7.1/5 (70/49)	9.7/7.1 (95.4/70)	9.7/7.1 (95.4/70)
	Spindle bearing inner diameter	mm(inch)	70(2.76)	70(2.76)	70(2.76)
	Spindle driven method	-	Belt	Belt	Belt
ATC	Tool changing time Tool-Tool	sec	1.8	1.8	1.8
	Tool changing time Chip-Chip	sec	3.9	3.9	3.9
	Tool change type	type	Twin Arm(cam)	Twin Arm(cam)	Twin Arm(cam)
	Method of tool selection	type	Memory random	Memory random	Memory random
	Tool storage capacity	EA	24	24(30,40)	24(30,40)
	Pull stud	type	PS 806	PS 806	PS 806
	Max. tool weight	kgf(lbf)	7(15.43)	7(15.43)	7(15.43)
	Max. tool length	mm(inch)	300(11.81)	300(11.81)	300(11.81)
	Max. tool diameter[without adjacent]	mm(inch)	85[125](3.35[4.92])	85[125](3.35[4.92])	85[125](3.35[4.92])
Tank Capacity	Coolant tank	ℓ(gal)	230(60.76)	350(92.46)	400(105.67)
	Lubrication tank	ℓ(gal)	1.8(0.48)	1.8(0.48)	1.8(0.48)
	Hydraulic tank	ℓ(gal)	-	-	-
General	Floor space(L x W)	mm(inch)	2,050x2,595(80.71x102.17)	2,400x2,100(94.49x82.68)	2,600x2,100(102.36x82.68)
	Machine height(H)	mm(inch)	2,660(104.72)	2,700(106.30)	2,700(106.30)
	Machine weight	kgf(lbf)	4,000(8,818)	5,200(11,464)	5,700(12,566)
	Electric power supply	KVA	24	28	28
CNC controller		-	F 0i-MF	F 0i-MF	F 0i-MF

Machine Specifications

Specifications			DM 65V	DM 65V(#50)	FM 50V
Travel	X-axis travel	mm(inch)	1,280(50.39)	1,280(50.39)	800(31.50)
	Y-axis travel	mm(inch)	650(25.59)	650(25.59)	520(20.47)
	Z-axis travel	mm(inch)	640(25.20)	640(25.20)	510(20.08)
	Spindle nose to table surface	mm(inch)	150~790(5.51~30.71)	150~790(5.51~30.71)	150~660(5.91~25.98)
	Distance from spindle center to column	mm(inch)	707(27.83)	707(27.83)	560(22.05)
	X/Y/Z axis rapid traverse	m/min(ipm)	36/36/30(1,417.32x1,417.32x1,181.10)	36/36/30(1,417.32x1,417.32x1,181.10)	60/60/36(2,362.20/2,362.20/1,417.32)
	X/Y/Z axis cutting feed rate	m/min(ipm)	15/15/15(590.55/590.55/590.55)	15/15/15(590.55/590.55/590.55)	30/30/16(1,181.10/1,181.10/629.92)
	Slide type	-	ROLLER	ROLLER	ROLLER
Table	Table dimensions	mm(inch)	1,400x700(55.12x27.56)	1,400x700(55.12x27.56)	950x550(37.40x21.65)
	Maximum load	kgf(lbf)	1,500(3,306.89)	1,500(3,306.89)	700(1,543.21)
	Table change time	sec	-	-	-
	Change method	-	-	-	-
	Table driving method	-	-	-	-
Main Spindle	Spindle taper	-	BBT40	BBT50	BBT40
	Spindle speed[OPT]	rpm	8,000 [12,000]	6,000	15,000
	Spindle power output(Max./Cont.)	kW(hp)	15/11 (20/15)	15/11 (20/15)	22/15 (30/20.1)
	Spindle torque(Max./Cont.)	N·m(kgf·m)	9.7/7.1 (95.4/70)	19.31/14.23(190/140)	15.2/10.4(149.8/102)
	Spindle bearing inner diameter	mm(inch)	70(2.76)	100(3.94)	70(2.76)(GREASE)
	Spindle driven method	-	Belt	Belt	Direct (Built-in)
ATC	Tool changing time Tool-Tool	sec	1.8	2.45	1.5
	Tool changing time Chip-Chip	sec	3.9	5.5	4.2
	Tool change type	type	Twin Arm(cam)	Twin Arm(cam)	Twin Arm(cam)
	Method of tool selection	type	Memory random	Memory random	Memory random
	Tool storage capacity	EA	30(40)	24(30)	30
	Pull stud	type	PS 806	MAS403 P50T-1	PS 806
	Max. tool weight	kgf(lbf)	7(15.43)	15(33.07)	7(15.43)
	Max. tool length	mm(inch)	300(11.81)	300(11.81)	300(11.81)
	Max. tool diameter[without adjacent]	mm(inch)	85[125](3.35[4.92])	127[200](5[7.87])	85[125](3.35[4.92])
Tank Capacity	Coolant tank	ℓ(gal)	430(113.59)	430(113.59)	350(92.46)
	Lubrication tank	ℓ(gal)	1.8(0.48)	1.8(0.48)	1.8(0.48)
	Hydraulic tank	ℓ(gal)	-	-	-
General	Floor space(L x W)	mm(inch)	3,300x2,350(129.92x92.52)	3,300x2,350(129.92x92.52)	2,600x2,200(102.36x86.61)
	Machine height(H)	mm(inch)	2,940(115.75)	2,940(115.75)	3,175(125.00)
	Machine weight	kgf(lbf)	7,500(16,534)	7,700(16,975)	7,500(16,534)
	Electric power supply	KVA	35	38	47
CNC controller		-	F 0i-MF	F 0i-MF	F 0i-MF

Machine Specifications

Specifications			DM 43VC	DM 43VCD
Travel	X-axis travel	mm(inch)	600(23.62)	600(23.62)
	Y-axis travel	mm(inch)	430(16.93)	430(16.93)
	Z-axis travel	mm(inch)	570(22.44)	570(22.44)
	Spindle nose to table surface	mm(inch)	200~770(7.87~30.31)	200~770(7.87~30.31)
	Distance from spindle center to column	mm(inch)	505(19.88)	505(19.88)
	X/Y/Z axis rapid traverse	m/min(ipm)	48/48/36(1,889.76/1,889.76/1,417.32)	48/48/36(1,889.76/1,889.76/1,417.32)
	X/Y/Z axis cutting feed rate	m/min(ipm)	15/15/15(590.55/590.55/590.55)	15/15/15(590.55/590.55/590.55)
	Slide type	-	LM Guide	LM Guide
Table	Table dimensions	mm(inch)	700x450(27.55x17.71)	2-700x475(2-27.56x18.70)
	Maximum load	kgf(lbf)	1,000(2,204.59)	2-300(2-661.38)
	Table change time	sec	-	5
	Change method	-	-	PACK & PINION
	Table driving method	-	-	HYD
Main Spindle	Spindle taper	-	BBT40	BBT40
	Spindle speed[OPT]	rpm	8,000 [12,000]	8,000 [12,000]
	Spindle power output(Max./Cont.)	kW(hp)	15/11(20.1/14.7)	15/11(20.1/14.7)
	Spindle torque(Max./Cont.)	kgf·m(N·m)	9.7/7.1(95.4/70)	9.7/7.1(95.4/70)
	Spindle bearing inner diameter	mm(inch)	70(2.76)	70(2.76)
	Spindle driven method	-	Belt	Belt(Direct)
ATC	Tool changing time Tool-Tool	sec	1.8	1.8
	Tool changing time Chip-Chip	sec	3.9	3.9
	Tool change type	type	Twin Arm(cam)	Twin Arm(cam)
	Method of tool selection	type	Memory random	Memory random
	Tool storage capacity	EA	30(24,40)	30
	Pull stud	type	PS 806	PS 806
	Max. tool weight	kgf(lbf)	7(15.43)	7(15.43)
	Max. tool length	mm(inch)	300(11.81)	300(11.81)
	Max. tool diameter[without adjacent]	mm(inch)	85[125](3.35[4.92])	85[125](3.35[4.92])
Tank Capacity	Coolant tank	ℓ(gal)	400(105.67)	400(105.67)
	Lubrication tank	ℓ(gal)	3(0.79)	3(0.79)
	Hydraulic tank	ℓ(gal)	-	13(3.43)
General	Floor space(L x W)	mm(inch)	2,375x3,500(93.50x137.80)	2,500x3,940(98.43x155.12)
	Machine height(H)	mm(inch)	2,735(107.68)	2,735(107.68)
	Machine weight	kgf(lbf)	6,500(14,330)	7,000(15,432)
	Electric power supply	KVA	35	35
CNC controller		-	F 0i-MF	F 0i-MF

NC Specifications (FANUC F0i-MF)

○ : Standard, OPT. : Option, (!) : M type, (!!) : 2SO type

Item		Specification	0iMF
Axes Control	Controlled axes		3(X,Y,Z)
	Simultaneously controllable axes		4 axes
	Positioning	G00	○
	Linear interpolation	G01	3 axes
	Circular interpolation	G02, G03	2axes
	Backlash compensation		○
	Emergency stop / overtravel		○
	Follow up		○
	Least command increment	0.001mm / 0.0001"	○
	Least input increment	0.001mm / 0.0001"	○
	Machine lock	All axes / Z axis	○
	Mirror image		○
	Position switch		○
	Stored pitch error compensation		○
	Pitch error offset compensation for each axis		○
	Stored stroke check 1		○
	Overtraval controlled by software		○
Interpolation & Feed Function	2nd reference point return	G30	○
	Circular interpolation	G02, G03	○
	Cylindrical interpolation	G07.1	○
	Dwell	G04	○
	Exact stop mode	G09, G61 (mode)	○
	Feed per minute	mm/min	○
	Feedrate override(10% increments)	0-200 %	○
	Helical interpolation		○
	Jog override (10% increments)	0-200 %	○
	Linear interpolation	G01	○
	Manual handle feed (1 unit)		○
	Manual handle feedrate	0.1 / 0.01 / 0.001 mm	○
	Override cancle	M48 / M49	○
	Positioning	G00	○
	Rapid traverse override	F0 (fine feed), 25 / 50 / 100 %	○
	Reference position return	G28	○
	Reference position return check	G27	○
	Skip function	G31	○
Spindle & M-code function	M-code function	M 3 digits	○
	Spindle orientation		○
	Spindle serial output		○
	Spindle speed command	S5 digits	○
	Spindle speed override (10% increments)	50-120%	○, 400 Pairs
Tool function	Cutter compensation	G40, G41, G42	○
	Number of tool offsets	400 ea	○
	Tool length compensation	G43, G44, G49	○
	Tool life management		○
	Tool number command	T2 digits	○
	Tool offset memory C	Geometry / wear and length / Radius offset memory	○
	Tool offset	G45-G48	○
Programming & Editing function	Absolute / Incremental programming	G90 / G91	○
	Automatic coordinate system setting		○
	Background editing		○
	Canned cycle	G73, G74, G76, G80-G89, G99	○
	Circular interpolation by radius programming		○
	Custom macro		○
	Dcimal point input		○
	I/O interface	RS-232C / LAN PORT	○
	Extemded part program editing		○
	Label skip		

Item		Specification	0iMF
Programming & Editing function	Local / Machine coordinate system	G52 / G53	○
	Maximum commandable value	± 99999.999mm/(± 9999.9999 inch)	○
	No. of registered programs	400ea	○
	Optional block skip		○
	Optional stop	M01	○
	Program file name	32 characters	○
	Playback		○
	program number	04-digits	○
	Program protect		○
	Program stop / end	M00 / M02, M30	○
	Rigid tapping	G84, G74	○
	Sub program	Up to 4 nesting	○
	Tape code	ISO / EIA Automatic discrimination	○
	Thread cutting		○
	Work coordinate system	G54-G59	○
Others functions (Operation, setting & display, etc)	3rd / 4th reference return		○
	Additional work coordinate system	G54.1 P1-48 (48 pairs)	○
	AI APC(Advanced Preview Control)	20 block preview	○
	Alarm display		○
	Alarm history display		○
	Automatic corner override	G62	○
	Clock function		○
	Coordinate system rotation	G68, G69	○
	Cycle start / Feed hold		○
	Display of PMC alarm message	Message display when PMC alarm occurred	○
	Dry run		○
	Embedded Ethernet		○
	Graphic display	Tool path drawing	○
	Help function		○
	High speed skip function		○
	Loadmeter display		○
	Manual handle interruption		○, 10.4", DM42V :8.4"
	MDI / DISPLAY unit	8.4" or 10.4" Color LCD, keyboard for data input (small), soft-keys	○
	Memory card interface		○
	USB interface		○
	Operation functions	Tape / Memory / MDI / Manual	○
	Operation history display		○
	Optional angle chamfering / corner R		○
	Polar coordinate command	G15 / G16	○
	Program restart		○
	Programmable data input	Tool offset and work offset are entered by G10, G11	○
	Programmable mirror image	G50.1 / G51.1	○
	Run hour and part number display		○
	Scaling	G50, G51	○
	Search function	Sequence NO. / Program NO.	○
	Self-diagnostic function		○
	Servo setting screen		○
	Single block		○
	Single direction positioning	G60	○
	Stored stroke check 2,3		○
Optional specifications	Additional controlled axes	5 axes in total	OPT.
	AI contour control I	40 block	OPT.
	AI contour control II	200books	OPT.
	Dynamic graphic display (w/ 10.4" color LCD)	Machining profile drawing	OPT.
	Fast data server	Need option board	OPT.
	Fast ethernet	Need option board	OPT.
	Manual guide i		OPT.