DOOSAN

DEM 4000

3-axis Vertical General Machining Center

MACHINE GREATNESS™

DEM 4000

**Doosan's DEM series is a vertical machining center for 3-axis general machining with high rigidity structure.
The model is designed very suitable for basic performance necessary for cutting processing.**

Contents

Faithful to the basics

DEM4000 has high rigidity structure
for excellent basic cutting performance,
High speed belt spindle of 8000 r / min, cam
type, ATC magazine is adopted

NC System with Wide Range of Specifications

DEM4000 has Fanuc and Mitsubishi CNC
Each CNC is optimized for the machine high
Performance.

Best capacity in class

DEM4000 has a table size of 650 x 400 mm,
400kg allowable specification.

Basic Structure

Apply high rigidity structure
Cutting performance for basic cutting

Travel distance

X-axis 550 mm
(21.7 inch)

Y-axis 400 mm
(15.7 inch)

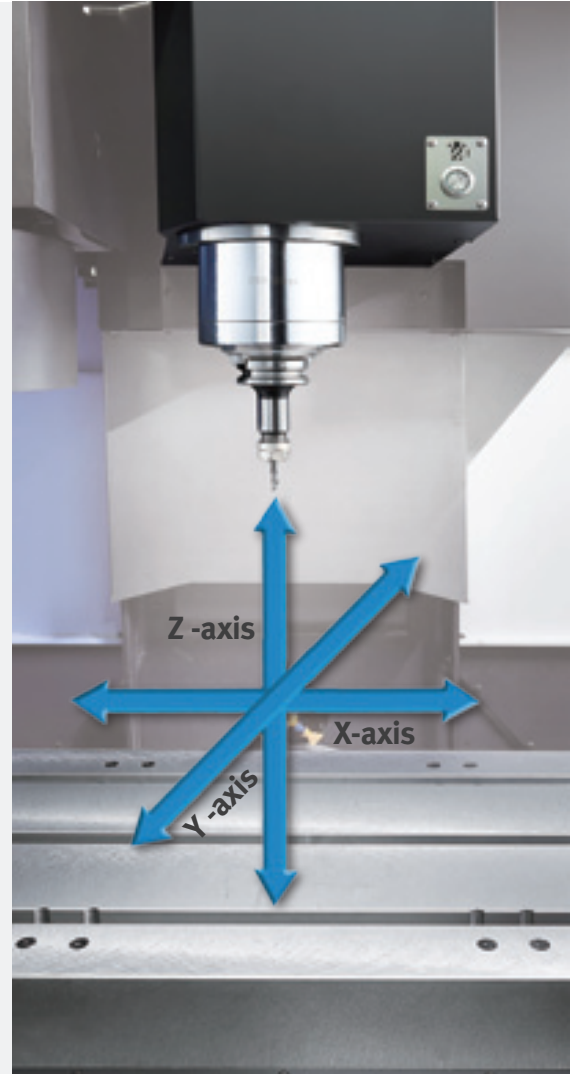**Z-axis 450 mm**
(17.7 inch)

Rapid traverse

X-axis 24 m/min
(944.9 ipm)

Y-axis 24 m/min
(944.9 ipm)

Z-axis 24 m/min
(944.9 ipm)

Z -axis

X-axis

Y -axis

Spindle

High speed belt spindle is applied.

Max. Spindle speed
8000 r/min

Max. Spindle motor power
7.5 kW
(10.1 Hp)

Max. Spindle torque
47.7 N·m
(35.2 ft-lbs)

Magazine

From cam type to armless
Various magazine types
are applied.

magazine

20 ea (CAM)   16 ea (ARMLESS) `option`

CAM

ARMLESS

Cutting Performance

Powerful Cutting

End mills, face mills,
drilling and tapping
each machining provide
high performance.

Tap			Face mill (Ø80 (Ø3.1) mm Face mill)		
NC unit	Tool Diameter (mm (inch)) X Pitch (mm (inch))		NC unit	Chip Removal Rate (cm^3/min (inch^3/min)) X Spindle Speed (r/min) X Feedrate (mm/min (ipm)) X Cutting Depth (mm (inch))	
	SM45C			SM45C	AL6061
DOOSAN FANUC i series (8000 r/min)	M24 x 3.0 (M0.9 x 0.12)		DOOSAN FANUC i series (8000 r/min)	207(81.5) x 1500 x 2700(106.3) x 1.2(0.1)	806(317) x 1500 x 6300(248) x 2.0(0.1)
Mitsubishi M80B (8000 r/min)	M20 x 2.5 (M0.8 x 0.1)		Mitsubishi M80B (8000 r/min)	242(95) x 1500 x 2700(106.3) x 1.4(0.1) 260(102) x 1500 x 4050(159.4) x 1.0(0.1)	777(306) x 1500 x2700(106.3) x 4.5(0.2) 921(362) x 1500 x 7200(283.5) x 2.0(0.1)

* The results, indicated in this catalogue are provides as example. They may not be obtained due to differences in cutting conditions and environmental conditions during measurement.
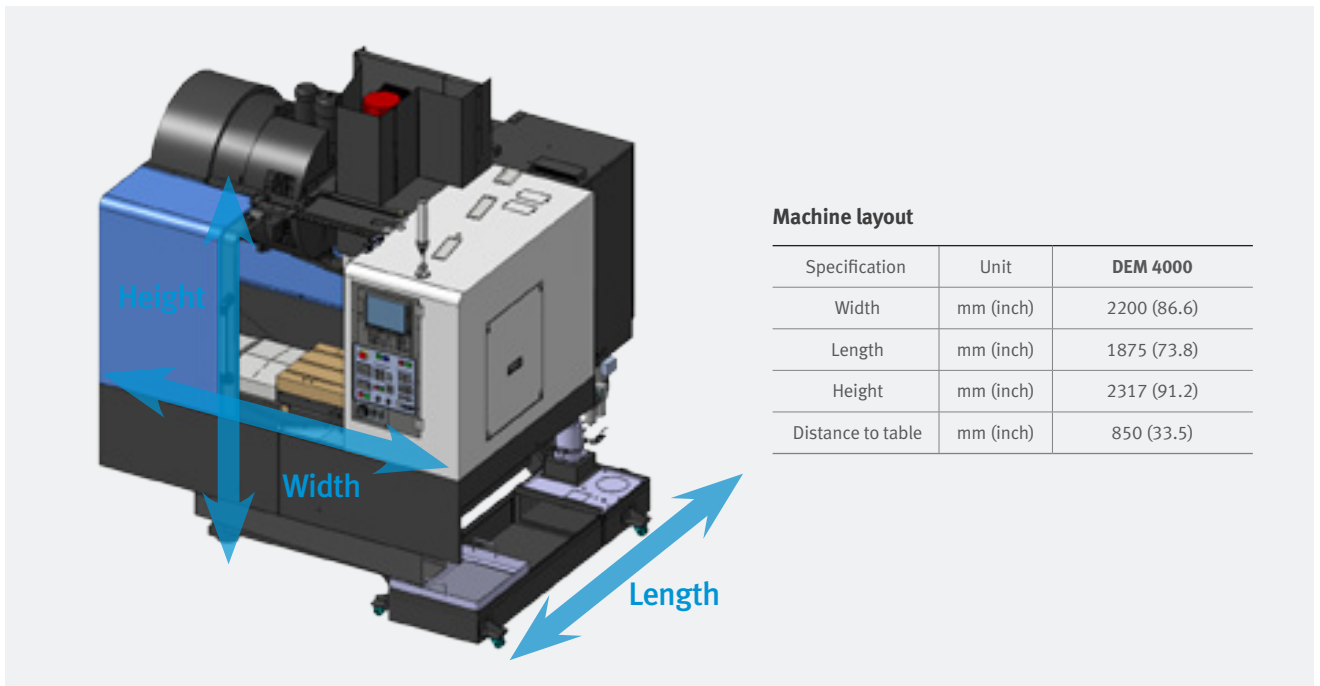
High Rigidity Structure Design Improves Reliability

Improved machine structure and increased rigidity through FEM analysis provide stable machining conditions.

Enhanced dynamic rigidity against vibration in X/Z directions

The systems dynamic rigidity has been enhanced by reducing head weight and modifying the bed and ATC structure.

Enhanced dynamic rigidity the bed structure
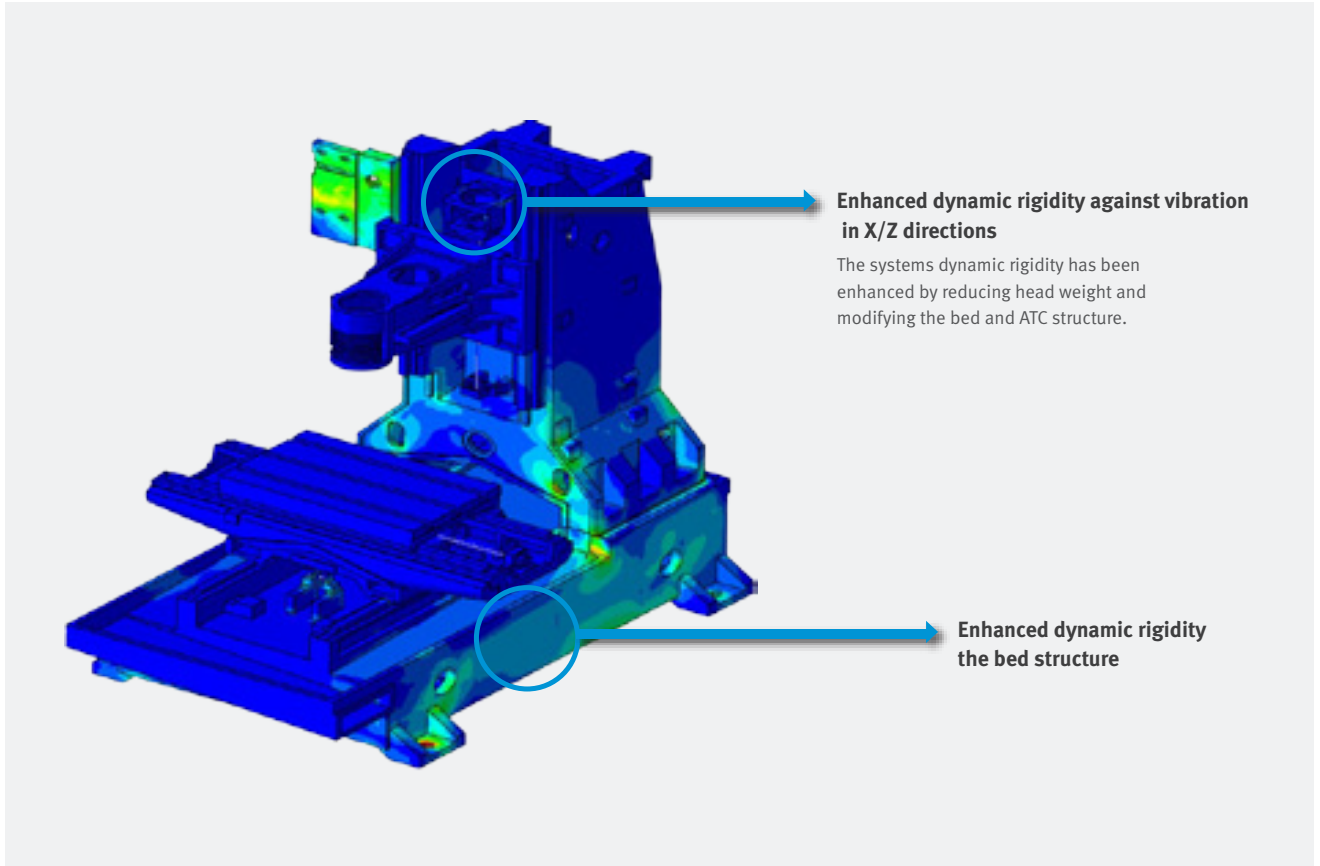
Optimal design considering customer's environment

Easier equipment operation by achieving compact size considering installation in apartment-type factories or places with limited space.

Machine layout

Specification	Unit	**DEM 4000**
Width	mm (inch)	2200 (86.6)
Length	mm (inch)	1875 (73.8)
Height	mm (inch)	2317 (91.2)
Distance to table	mm (inch)	850 (33.5)

Standard/Optional Specifications

Choose from a variety of options to suit customer's work environment.

● Standard ○ Optional X Not applicable

NO.	Description	Features		Doosan Fanuc i	Mitsubishi M80B
1	Spindle	MAX. SPINDLE SPEED	8000 R/MIN	●	●
3	Tool	TOOL SHANK TYPE	BT40_DIN_15	○	○
4			CAT40_DIN_15	○	○
5			DIN40_DIN_15	○	○
6		TOOL STORAGE CAPACITY	20 EA	●	●
7			16 EA	○	○
8	Coolant	FLOOD	0.25 KW_0.13 MPA_20 L/MIN	●	●
10			0.7 MPa (1.8 kW)	○	○
11		TSC	2 MPa (1.5kW)	○	○
12		OIL SKIMMER	OIL SKIMMER	○	○
13	Chip disposal	CHIP CONVEYOR	AUGAR TYPE CHIP CONVEYOR	○	○
14			HINGED TYPE CHIP CONVEYOR	○	○
15		COOLANT GUN	COOLANT GUN	○	○
16		AIR GUN	AIR GUN	○	○
17	Automation & Measurement	AUTO. WORKPIECE MEASUREMEN	NONE	●	●
19			OMP60_RENISHAW	○	○
20			OMI-2T_ONLY_RENISHAW	○	○
21			OMI-2T_OMP60_RENISHAW	○	○
22			OMI-2T_OMP60_OTS_RENISHAW	○	○
23		AUTO. WORKPIECE MEASUREMEN	NONE	●	●
24			TS27R_RENISHAW	○	○
25			OMI-2T_ONLY_RENISHAW	○	○
26			OMI-2T_OTS_RENISHAW	○	○
27			OMI-2T_OMP60_OTS_RENISHAW	○	○
28		AUTOMATIC POWER OFF	NONE	●	●
29			AUTOMATIC POWER OFF	○	○
30	Accuracy	AICC	NONE	●	●
31			AICC I_40 BLOCKS	○	○
32	Convinient & etc	RAISED BLOCK	NONE	●	●
33			150mm	○	○
34			200mm	○	○
35			300mm	○	○
36		ADDITIONAL AXIS PREPARATION	NONE	●	●
37			1 AXIS_WIRE AND PIPING_PNE	○	○
38		CALIBRATION BLOCK	NONE	●	●
39			CALIBRATION BLOCK	○	○
40		PNEUMATIC FIXTURE INTERFACE	NONE	●	●
41			A LINE_1 PAIR	○	○
42			A LINE_2 PAIR	○	○
43			A LINE_3 PAIR	○	○
44		TEST BAR	NONE	●	●
45			TEST BAR GAUGE	○	○
46		AIR CONDITIONER	NONE	●	●
47			AIR CONDITIONER	○	○
48		EXTRA M CODE	NONE	●	●
49			EXTRA M CODE_4EA	○	○
50		MANUAL HANDLE INTERRUPTION	NONE	●	●
51			MANUAL HANDLE INTERRUPTION	○	○
52		CUSTOMIZED SPECIAL OPTION ✶✶	RAISING BLOCK (150/200/300 mm (5.9/7.9/11.8 inch))	○	○
53			SPINDLE	○	○
54			CHIP CONVEYOR	○	○

✶ Please contact DOOSAN to select detail specifications. ✶✶ Special Quotation.

Diverse Options

4-axis Auxiliary device Interface/Pneumatic Jig Line

- 4-axis Auxiliary device Interface
- Pneumatic jig line

Pneumatic

Electronic

Servo drive function & equipment

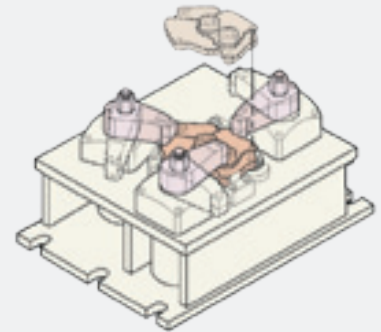Auxiliary axes controller
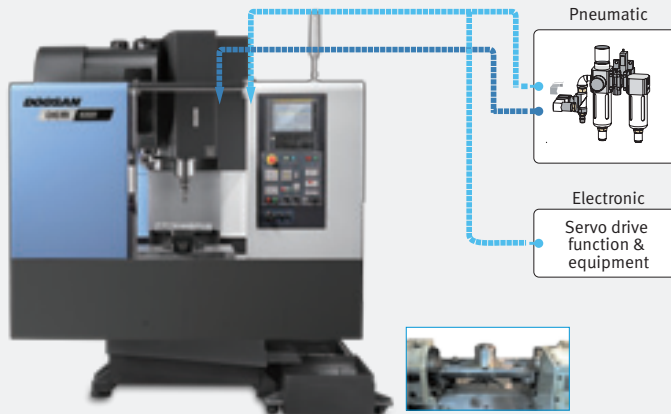
• DEM 4000 ecommendation
 Rotary Table : Ø200

Checklist for pneumatic lines for work clamping
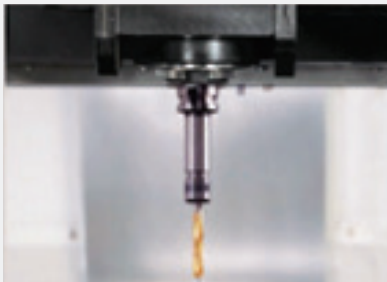
Pneumatic line for jig   ☐ P/T   ☐ A/B
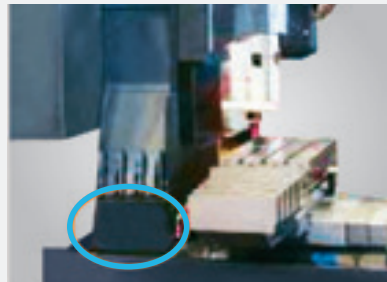
☐ Customer requirements
 _____ L/min at _____ MPA

Number of jig ports
☐ 1pair (2-PT 1/4" port)
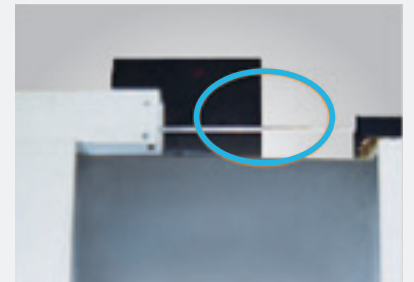☐ 2pair (4-PT 3/8" port)
☐ 3pair (6-PT 1/4" port)

• Please contact us for further detailed specifications.
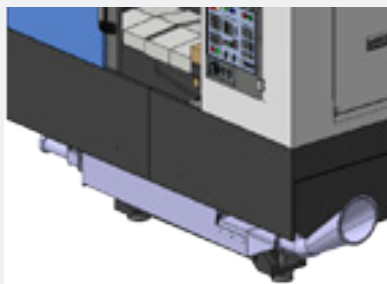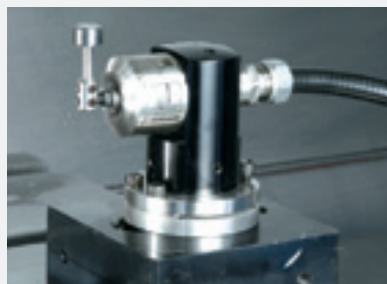

Through-spindle coolant system
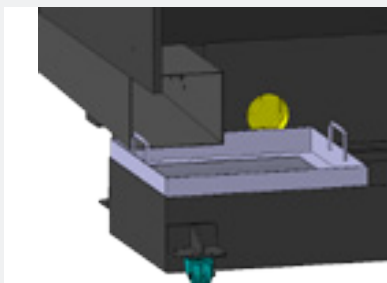

Raised column(150mm)

Auto Door

Chip Conveyor

Auto Tool Measurement Device

Chip box

Oil Skimmer

DOOSAN Fanuc i Plus

DOOSAN Fanuc i Plus is optimized for maximizing customer productivity and convenience.

10.4 inch screen + New OP

DOOSAN Fanuc i Plus' operation panel enhances operating convenience by incorporating common-design buttons and layout, and features the Qwerty keyboard for fast and easy operation.

DOOSAN Fanuc i Plus
- 10.4 inch color display
  Intuitive and user-friendly design

USB & PCMCIA card QWERTY keyboard
- EZ-guide i standard
- Ergonimic operator panel
- 2MB Memory
- Hot key
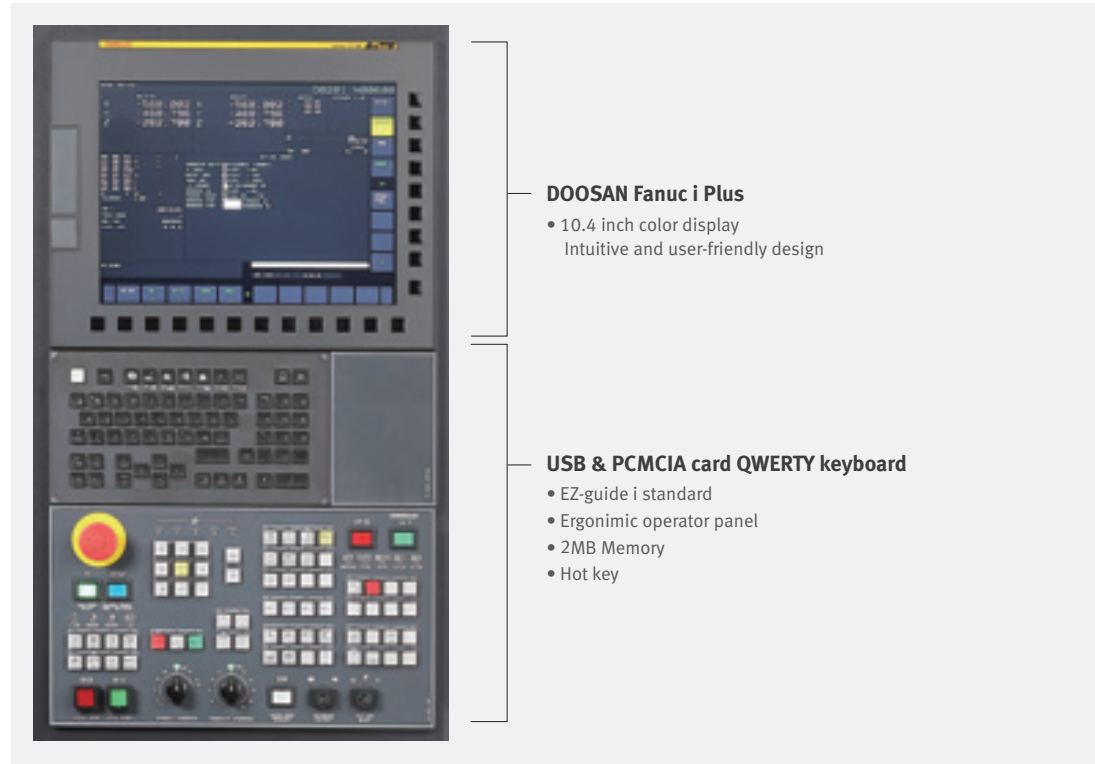
iHMI Touch screen option

iHMI provides an intuitive interface that utilizes a touch screen for quick and easy operation and provides a variety of applications that can help machine operation.

- **PLANNING**
  Tool information such as tool offset and tool life can be checked and set, and scheduler function is provided.

- **MACHINING**
  MDI, EDIT, MEM, JOG screen can be changed by using touch function, and it is quick and easy to move to sub menu by using soft key.

- **IMPROVEMENT**
  User can set up to record data for analysis and monitor the specific signals by setting up the maintenance and inspection function. Also user can add items.

- **UTILITY**
  View and search PDF and TEXT files, create notes from text / images / drawings, and link to web pages.
  For users who are familiar with the DDOOSAN Fanuc i Plus screen, the screen can be switched.

Mitsubishi M80B

Mitsubishi CNC is optimized for the DEM4000 according to various customer's CNC needs

Provide an easy-to-use environment
- 15-inch wide display screen
- Touch screen
  (Can be operated while wearing gloves)

Mitsubishi M80B Features
- USB & SD card available
- SD Card slot allows memory expansion up to 32GB
- QWERTY keyboard applied
- Easy to add buttons when optional
- Newly designed operator panel for ease of use
- Maximum reading (M80B standard)
  -High speed high precision control 1 : 337 BLOCK
  -High speed and high precision control 2 : 675 BLOCK

Easy operation functions

TOUCH SCREEN
- Display panel is basically equipped with touch screen. it's fulfilled convenient operation like a smartphone.
- It is easy to move / zoom / shrink and edit a program.

NVAI MILL

We select machining process on screen with information such as tool / work / which is set in advance and program for each process is generated automatically by inputting data

3D SOLRID PROGR AM CHECK

You can visually check the cutting shape by drawing the work shape and the tool movement path of the cutting process three-dimensionally without executing the program in auto-mode.

Pocket Cycle

Home Cycle

Outline Cycle
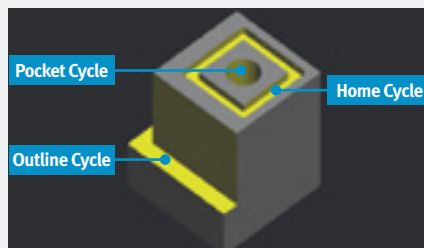
G-CODE Guidance

Programming is convenient with the function that guides the format when entering G code in the part program edit screen.

ALARM / PARAMETER Guidance

In the event of an alarm, the alarm guidance function allows you to check the contents and measures directly in the NC. In addition, the parameter guidance function allows you to find and set machining-related parameters directly without manual.
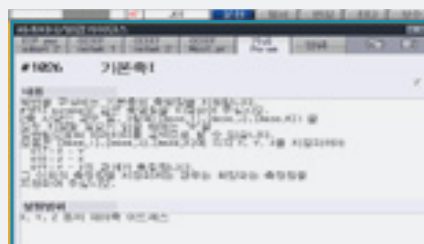
Manual Numerical Command Function

Separate programming for commands such as M code, S code and T code Manual value command without MEM / MDI mode.
You can easily perform the operation you want.
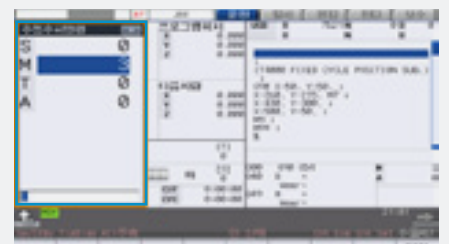
Spindle Power – Torque Diagram

Max. Spindle speed **8000** r/min

Max. Spindle torque **47.75** N·m
(35.2 ft-lbs)

Torque : N·m (ft-lbs)

Power : kW (Hp)

47.75 (35.2)
35.01 (25.8)
32.79 (24.2)
26.26 (19.4)
15.92 (11.7)
11.67 (8.6)
11.01 (8.1)
7.96 (5.9)
7.34 (5.4)
5.13 (3.8)

S3 25%
S3 40%
Cont.

7.5 (10.1)
6.92 (9.3)
6.15 (8.2)
5.50 (7.4)
5.0 (6.7)
4.30 (5.8)

0   1500 4500 8000
    2000 6000

Spindle speed : r/min

Table

18H8

12 (0.5)
32 (1.3)
30 (1.2)

DETAIL A

75 (3.0)
125 (4.9)
125 (4.9)
75 (3.0)
400 (15.7)

A

325 (12.8)   325 (12.8)
650 (25.6)

Product Overview

Basic Information

Basic Structure
Cutting Performance

Detailed Information

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Dimensions

DEM 4000_CAM Type_ISO #40-20Tool

Unit : mm (inch)

Top View

Front View

1780 (70.1)

625 (24.6)
(DOOR OPEN RANGE)
275 (10.8)   650 (25.6)   275 (10.8)
(X-STROKE 1/2) (TABLE SIZE) (X-STROKE 1/2)
1990 (78.3)   210 (8.3)
2200 (86.6)

R645 (R25.4)
645 (25.4)
550 (21.7)
1875 (73.8)
1260 (49.6)
1837 (72.3)
2457 (96.7)
50 (2.0)
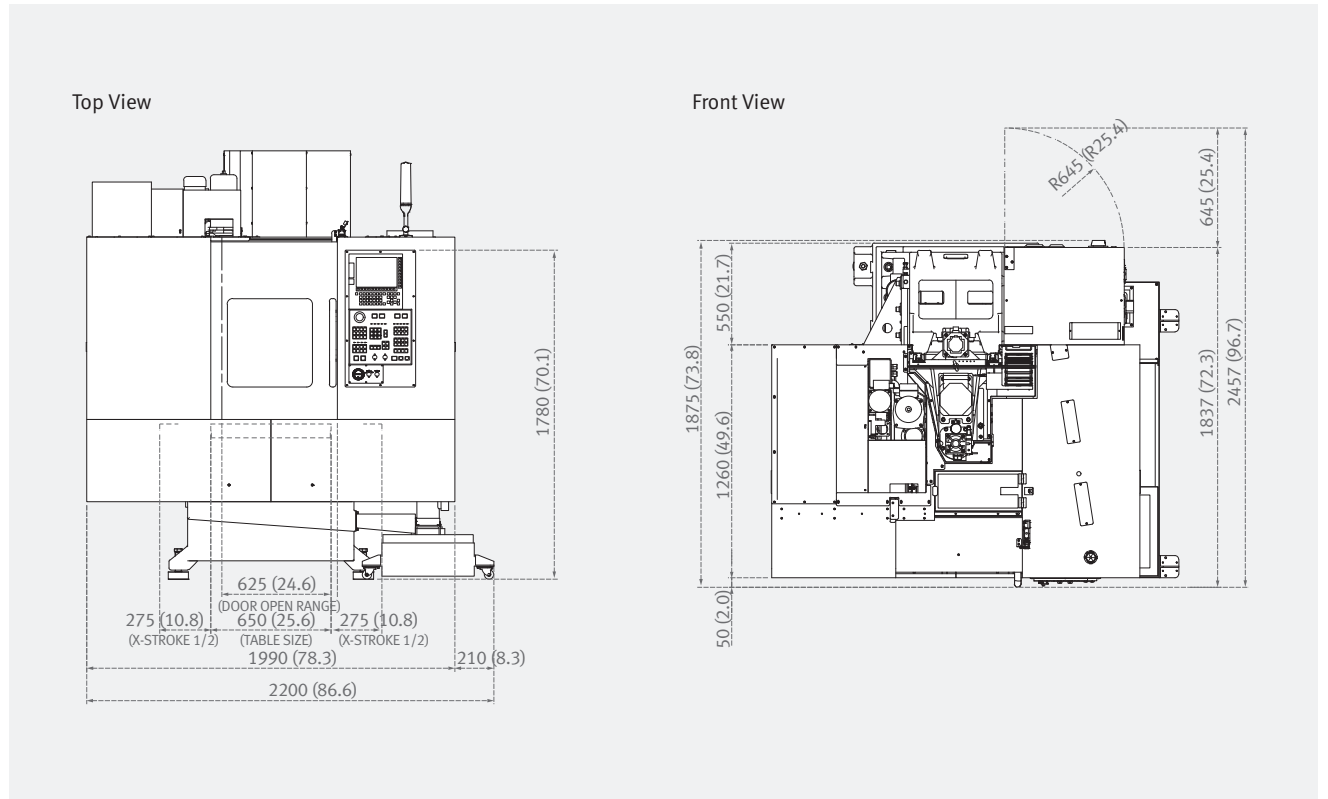
DEM 4000_Armless Type_BT40-16Tool

Unit : mm (inch)

Top View

Front View

1780 (70.1)

625 (24.6)
(DOOR OPEN RANGE)
275 (10.8)   650 (25.6)   275 (10.8)
(X-STROKE 1/2) (TABLE SIZE) (X-STROKE 1/2)
1990 (78.3)   210 (8.3)
2200 (86.6)

R645 (R25.4)
645 (25.4)
550 (21.7)
1875 (73.8)
1260 (49.6)
1837 (72.3)
2457 (96.7)
50 (2.0)

* Some peripheral equipment can be placed in other places
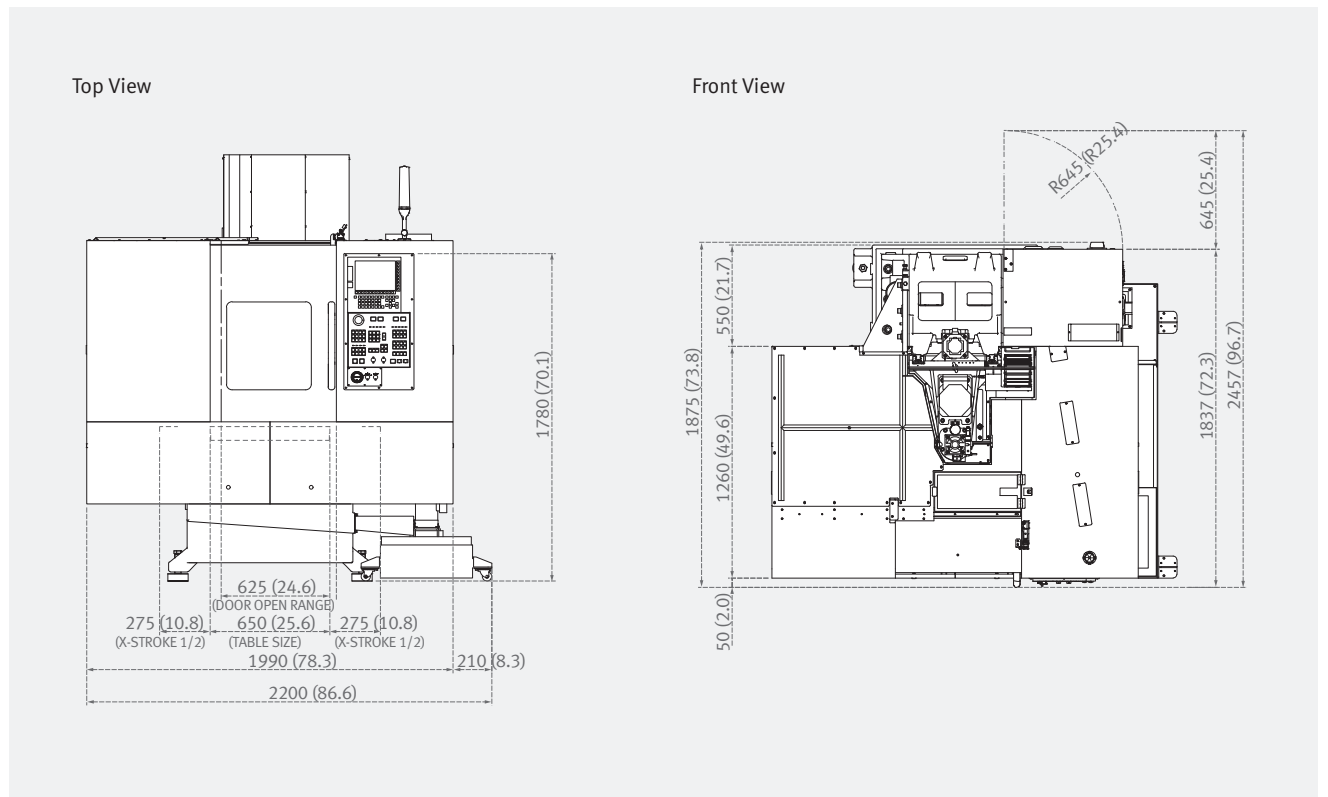
Machine Specifications

DEM 4000

Description			Unit	DEM 4000	
				DOOSAN Fanuc i Plus	Mitsubishi M80B
Travel	Stroke	X axis	mm (inch)	550 (21.7)	
		Y axis	mm (inch)	400 (15.7)	
		Z axis	mm (inch)	450 (17.7)	
	Height Spindle to Table		mm (inch)	120 ~ 570 (4.7~22.4)	
Feedrate	Rapid traverse	X axis	m/min (ipm)	24 (944.9)	
		Y axis	m/min (ipm)	24 (944.9)	
		Z axis	m/min (ipm)	24 (944.9)	
	Cutting feed		m/min (ipm)	12000 (472441.0)	
Table	Table size		mm (inch)	650 X 400 (25.6 X 15.7)	
	Max. Load		kg (lb)	400 (881.8)	
	Table type			T-SLOT (3-125 x 18H8)	
Spindle	Max speed		r/min	8000	
	Spindle taper			ISO #40, 7/24 TAPER	
	Max power		kW (Hp)	7.5 (10.1)	
	Max torque		N·m (ft-lbs)	47.7 (35.2)	
Automatic Tool Changer (ATC)	CAM type	Capacity	ea.	20	
		select type		Randon	
		Max diameter	mm (inch)	80 {125}* (3.1 {4.9}*)	
		Max length	mm (inch)	300 (11.8)	
		Max weight	kg (lb)	8.0 (17.6)	
		T-T-T	sec	1.6	
		C-T-C	sec	4.0	
	Armless Type	Capacity	ea.	16	
		select type		Fix	
		Max diameter	mm (inch)	80 {125}* (3.1 {4.9}*)	
		Max length	mm (inch)	300 (11.8)	
		Max weight	kg (lb)	8.0 (17.6)	
		T-T-T	sec	5.7	
		C-T-C	sec	7.7	
Power consumption			kVA	20.5	
Machine size			W	2200 (86.6)	
			L	1875 (73.8)	
			H	2317 (91.2)	
Machine weight			kg (lb)	3100 (6834.2) (CAM TYPE) 2900 (6393.3) (ARMLESS TYPE)	

*{ } : Option

Product Overview

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Detailed
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Service

DEM 4000

NC Unit Specifications

● Standard ○ Optional ✗ Not applicable

FANUC

Division	Item	Spec	DOOSAN Fanuc i Plus
Axes contro	Controlled axes	3 (X,Y,Z)	X, Y, Z
	Additional controlled axes	4 axes in total	○
	Max simultaneously controlled axes	Positioning(G00)/Linear interpolation(G01) : 4 axes Circular interpolation(G02, G03) : 2 axes	●
	Control axis detach		○
	Backlash compensation		●
	Emergency stop / overtravel		●
	HRV control	DEM4000 : HRV 2	●
	Least command increment	0.001 mm / 0.0001"	●
	Least input increment	0.001 mm / 0.0001"	●
	Increment system C	IS-C	●
	Machine lock	all axes / Z axis	●
	Mirror image	Reverse axis movement (setting screen and M - function)	●
	Stored pitch error compensation	Pitch error offset compensation for each axis	X
	Interpolation type pitch error compensation		●
	Stored stroke check1	Overtraval controlled by software	●
	Position switch		●
	Absolute pulse coder		●
Interpolation & Feed function	2nd reference point return	G30	●
	3rd / 4th reference return		●
	Circular interpolation	G02, G03	●
	Nano interpolation		●
	Inverse time feed		X
	Cylindrical interpolation	G07.1	○
	Linear interpolation	G01	●
	Helical interpolation		●
	Bell-type acceleration/deceleration before look ahead interpolation		●
	Smooth backlash compensation		●
	Dwell	G04	●
	Exact stop check	G09, G61 (mode)	●
	Feed per minute	mm / min	●
	Feedrate override	0 - 200 % (10% unit)	●
	Jog override	0 - 200 % (10% unit)	●
	Automatic corner override	G62	●
	Automatic corner deceleration		●
	Cutting feedrate clamp		●
	Rapid traverse bell-shaped acceleration/deceleration		●
	Manual handle feed	Max. 3unit	1 unit
	Manual handle feed rate	x1, x10, x100 (per pulse)	●
	Handle interruption		●
	Manual handle retrace		○
	Override cancel	M48 / M49	●
	Positioning	G00	●
	Rapid traverse override	F0 (fine feed), 25 / 50 / 100 %	●
	Reference point return	G27, G28, G29	●
	Skip function	G31	●
	AI APC	20 BLOCK	X
	AICC I	40 BLOCK	●
	Note1) AICC2 (400block) of 0iMF must be changed to High Speed Main board. Ask R&D center for information		
pindle & M code function	M- code function		●
	Spindle orientation	M 3 digits	●
	Spindle serial output		●
	Spindle speed command	S5 digits	●
	Spindle speed override	10 - 150 (10% increments)	●
	Spindle output switching 1st		●
	Retraction for rigid tapping		●
	Rigid tapping	G84, G74	●
Tool function	Number of tool offsets	400 ea	400 ea
	Tool nose radius compensation	G40, G41, G42	●
	Tool length compensation	G43, G44, G49	●
	Tool life management		●
	Addition of tool pairs for tool life management		●
	Tool number command	T2 digits	●
	Tool offset memory C	Geometry / Wear and Length / Radius offset memory	●
	Tool length measurement		●
	Tool length offset		●
	Tool offset	G45 - G48	●

FANUC

● Standard ○ Optional X Not applicable

Division	Item	Spec	DOOSAN Fanuc i Plus
Programming & Editing functio	Absolute / Incremental programming	G90 / G91	●
	Automatic Coordinate system setting (자동좌표계설정)		●
	Background editing		●
	Canned cycle	G73, G74, G76, G80 - G89, G99	●
	Circular interpolation by radius programming		●
	Custom macro		●
	Addition of custom macro common variables	#100 - #199, #500 - #999	●
	Macro executor		○
	Macro executor + C language executor		●
	Fanuc picture executor		●
	Decimal point input		●
	Extended part program editing		X
	Part program storage	512KB(1,280m)	X
	Part program storage	2MB(5,120m)	5120m
	Inch/metric conversion	G20 / G21	●
	Label skip		●
	Maximum commandable value	±99999.999mm(±9999.9999 inch)	●
	Number of Registered programs	400 ea	X
	Number of Registered programs	1000 ea	1000 ea
	Optional block skip	9 BLOCK	○
	Optional stop	M01	●
	Program file name	32 characters	●
	Sequence number	N 8-digit	N8 digit
	Playback function		●
	Program protect		●
	Program stop / end	M00 / M02,M30	●
	Programmable data input	Tool offset and work offset are entered by G10, G11	●
	Sub program	Up to 10 nesting	●
	Tape code	ISO / EIA Automatic discrimination	●
	Thread cutting		○
	Program restart		●
	Workpiece coordinate system	G52 - G59	●
	Addition of workpiece coordinate system	G54.1 P1 - 48 (48 pairs)	48 pairs
OTHERS FUNCTIONS (Operation, setting & Display, etc)	Machining condition selection function	AICC I required	○
	Alarm display		●
	Alarm history display		●
	Actual cutting speed display		●
	Clock function		●
	Coordinate system rotation	G68,G69	●
	Cycle start / Feed hold		●
	Display of PMC alarm message	Message display when PMC alarm occurred	●
	Dry run		●
	Embeded Ethernet		●
	Graphic display	Tool path drawing	●
	Help function		●
	Loadmeter display		●
	MDI / DISPLAY unit	ONG Keyboard for data input, 10.4" Color LCD	●
	I/O interface	RS - 232C	●
	Memory card interface		●
	USB memory interface	Only Data Read & Write	●
	Operation functions	Tape / Memory / MDI / Manual	●
	Operation history display		●
	DNC operation with memory card		●
	Optional angle chamfering / corner R		●
	Run hour and part number display		●
	Search function	Sequence NO. / Program NO.	●
	Self - diagnostic function		●
	Servo setting screen		●
	Single block		●
	External data input		●
	Stored stroke check 2		●
	Multi language display		●
	Cs contouring control		●
	Reader/Puncher interface (for 2ch)		●
	High speed skip function		●
	Polar coordinate command	G15 / G16	●
	Programmable mirror image	G50.1 / G51.1	●
	Scaling	G50, G51	●
	Single direction positioning	G60	●
	Pattern data input		○
	Tape format for FS10/11		○
	Figure copying	G72.1, G72.2	○
	Machining time stamp function		○
	CNC screen display		●
	CNC screen dual display function		●
	One touch macro call		●
	Dynamic graphic display (with 10.4" Color TFT LCD)	- Machining profile drawing. - When the EZ Guide i is used, the Dynamic graphic display cannot application	●

Product Overview

Basic Information

Basic Structure
Cutting Performance

**Detailed
Information**

Options
Applications
Capacity Diagram
Specifications

Customer Support
Service

NC Unit Specifications

MITSUBISHI

● Standard ○ Optional ✗ Not applicable

Division	Item	Spec	M80B
Control Axes	Number of Basic Control Axes (NC Axes)	3 (X,Y,Z)	● 3
	Number of Simultaneous Contouring Control Axes		4
	Tape (RS-232C Input) Mode		●
	Memory Mode		●
	MDI Mode		●
	Display Unit-side High-speed Program Server Mode		●
	Front-side SD Card Mode		●
	Front-side USB Memory Mode		●
Interpolation and Feed	Positioning		●
	Unidirectional Positioning		●
	Linear Interpolation		●
	Circular Interpolation(Center/Radius Designation)		●
	Helical Interpolation		●
	Cylindrical Interpolation	G7.1	●
	Feed per Minute (Asynchronous Feed)	G94	●
	Feed per Revolution (Synchronous Feed)	G95	●
	2nd Cutting Feed Override		●
	Automatic Acceleration/Deceleration after Interpolation		●
	Thread Cutting (Lead/Thread Number Designation)		●
	Synchronous Tapping Cycle	G84	●
	Pecking Tapping Cycle		●
	Deep-hole Tapping Cycle		●
	High-speed Synchronous Tapping (OMR-DD)		●
	Manual Rapid Traverse		●
	Manual Speed Clamp		●
Program Memory & Editing	Program Memory 500kB[1280m] (1000 programs)		●
	Program Editing		●
	Background Editing		●
Operation and Display	Color Touchscreen Display (10.4-type LCD TFT)		●
	Screen Saver		●
	Parameter Guidance		●
	Alarm Guidance		●
	Screenshot Capture		●
	Remote Desktop Connection		●
	VNC Server		●
Input/Output Functions and Devices	Machining Program Input/Output		●
	RS-232C I/F		●
	Front-side SD Card I/F [Up to 32GB]		●
	Ethernet I/F		●
	Display Unit-side Data Server I/F		●
	Front-side USB Memory I/F [Up to 32GB]		●
	Computer Link B		●
Tool Compensation	Tool Length Offset		●
	Tool Position Offset		●
	Tool Radius Compensation		●
	Tool Radius Compensation Diameter Designation		●
	Number of Tool Offset 400 sets		●
	Tool Shape/Wear Offset Amount		●
	Compensation Type Selection by Parameter		●
Coordinate System	Machine Coordinate System		●
	Coordinate System Setting		●
	Automatic Coordinate System Setting		●
	Workpiece Coordinate System Selection (6 Sets)		●
	Extended Workpiece Coordinate System Selection (48 Sets) G54.1P1 to P48		●
	External Workpiece Coordinate Offset		●
	Local Coordinate System		●
	Plane Selection		●
	Origin Set/Origin Cancel		●
	Counter Set		●
	Manual Reference Position Return		●
	Automatic 1st Reference Position Return	G28	●
	2nd, 3rd, 4th Reference Position Return	G30	●
	Reference Position Check		●
	Absolute Position Detection		●

Division	Item	Spec	M80B
Operation Support Functions	Optional Block Skip		●
	Miscellaneous Function Lock		●
	Graphic Trace		●
	Machining Time Computation		●
	High-speed Simple Program Check		●
	Program Search		●
	Sequence Number Search		●
	Tapping Retract		●
Program Support Fucntions	High-speed Machining Mode I (G05P1) Maximum [kBPM]	337 BLOCK	●16.8
	High-speed Machining Mode II (G05P2) Maximum [kBPM]	675 BLOCK	●67.5
	High-accuracy Control (G61.1/G08)		●
	SSS Control		●
	Tolerance Control		●
	High-speed High-accuracy Control I (G05.1Q1) Maximum [kBPM]	337 BLOCK	●33.7
	High-speed High-accuracy Control II (G05P10000) Maximum [kBPM]	675 BLOCK	●67.5
	Machining Condition Selection I		●
	Playback		●
	Interactive Cycle Insertion		●
	Simple Programming (NAVI MILL/LATHE)		●
Machine Accuracy Compensation	Backlash Compensation		●
	Memory-type Pitch Error Compensation[sets]	16SET	●16
	Memory-type Relative Position Error Compensation		●
	External Machine Coordinate System Compensation		●
	Circular Radius Error Compensation		●
	Ball Screw Thermal Expansion Compensation		●
	Position-dependent Gradually Increasing-type Backlash Compensation		●
	Bidirectional Pitch Error Compensation		●
	Smooth High-gain (SHG) Control		●
	Lost Motion Compensation		●
Automation Support Functions	Skip		●
	Multiple-step Skip		●
	PLC Skip		●
	Automatic Tool Length Measurement		●
	Manual Tool Length Measurement 1		●
	Manual Tool Length Measurement 2		●
	Workpiece Position Measurement		●
	Tool Life Management I		●
	Tool Life Management II		●
	Tool Life Management III		●
	200 sets		●
	Auto Power OFF		●
Safety and Maintenance	Emergency Stop		●
	Data Protection Key		●
	Thermal Detection		●
	Battery Alarm/Warning		●
	Stroke End (Over Travel)		●
	Stored Stroke Limit I/II		●
	Stroke Check before Travel		●
	Interlock		●
	External Deceleration		●
	Door Interlock I		●
	Program Display Lock		●
	Data Protection by User's Level		●
	Vertical Axis Pull-up		●
	NC Data Backup		●
	Automatic Backup		●
	Email Notification to Operator		●
	NC Configurator2		●
	Diagnosis Data Output		●
Machine Support Functions	Alarm Message Display		●
	Operator Message Display		●
	Load Meter Display		●
	Ethernet Connection		●
	CC-Link Connection		●
	Position Switch		●24

Responding to Customers Anytime, Anywhere

AMERICA   EUROPE
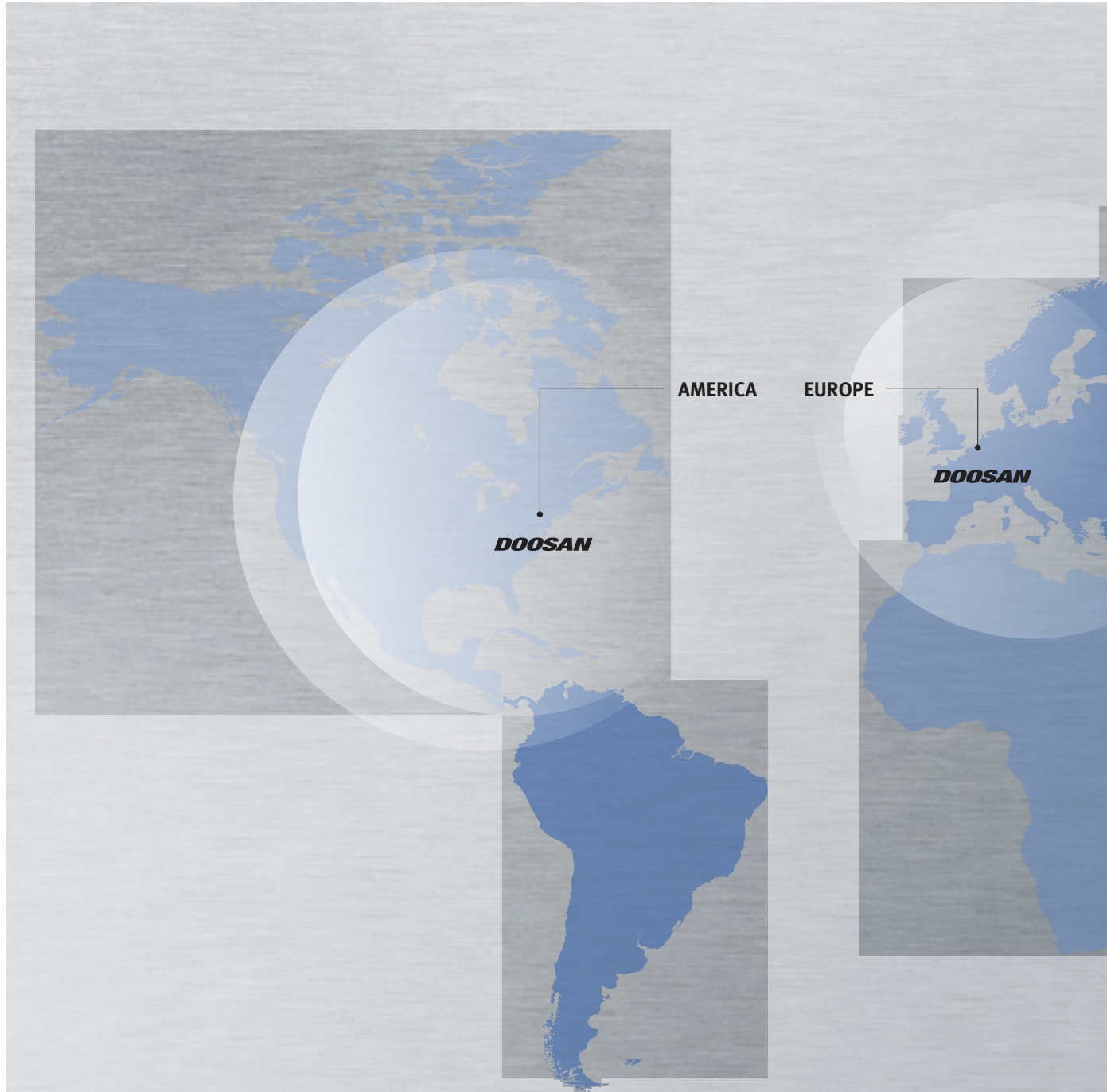
DOOSAN

DOOSAN

Global Sales and Service Support Network

Corporations	Dealer Networks	Technical Centers	Service Post	Factories
4	**164**	**51**	**198**	**3**

Technical Center: Sales Support, Service Support, Parts Support

Doosan Machine Tools' Global Network, Responding to Customer's Needs nearby, Anytime, Anywhere

Doosan machine tools provides a system-based professional support service before
and after the machine tool sale by responding quickly and efficiently to customers' demands.
By supplying spare parts, product training, field service and technical support, we can provide top class support to
our customers around the world.

CHINA (Shanghai)

CHINA (Yantai)

DOOSAN

DOOSAN

DOOSAN

Head Office

Changwon Factory

INDIA
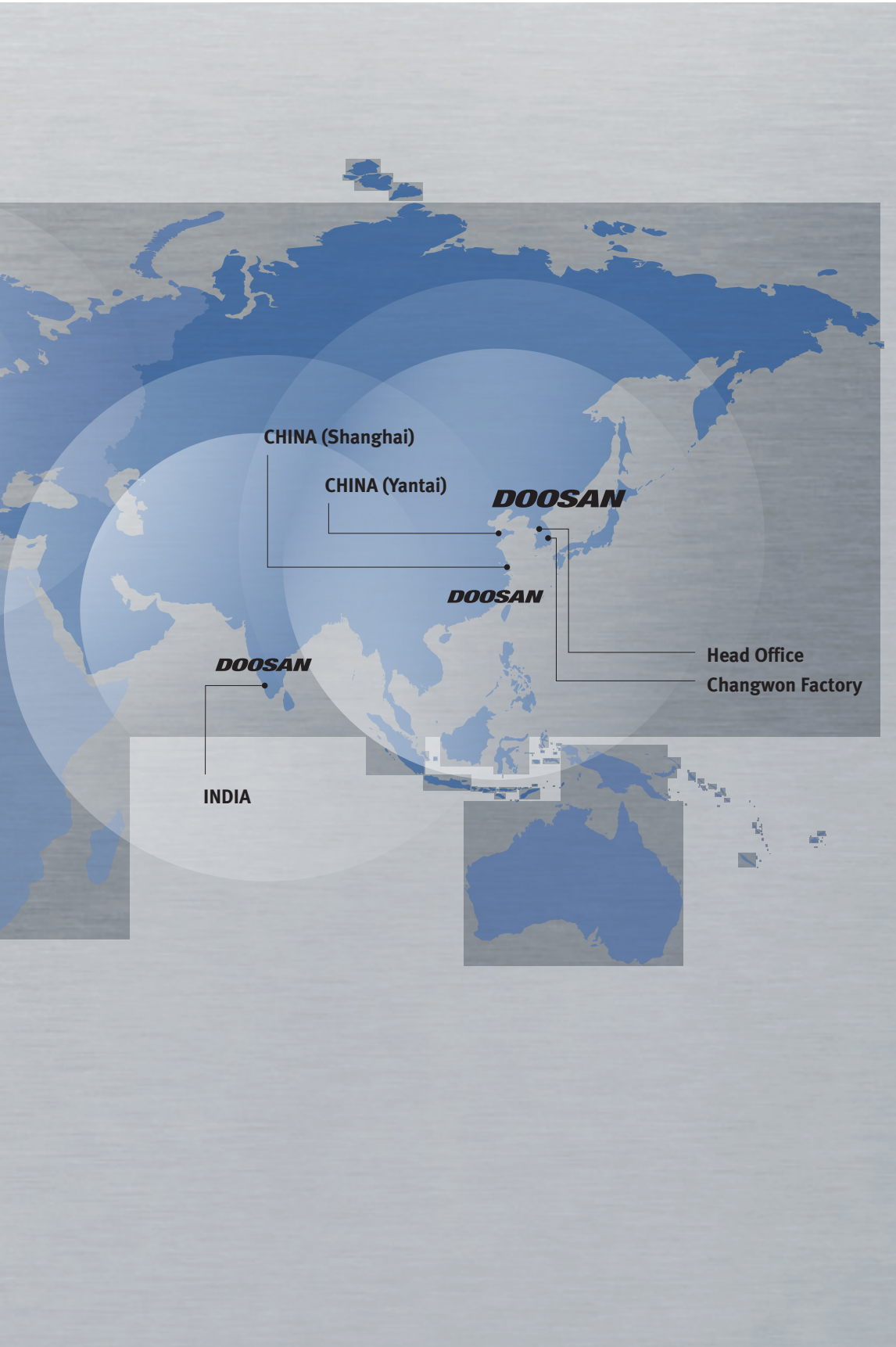
Customer Support Service

We help customers to achieve success by providing a variety of professional services from pre-sales consultancy to post-sales support.

Supplying Parts

- Supplying a wide range of original Doosan spare parts
- Parts repair service

Field Services

- On site service
- Machine installation and testing
- Scheduled preventive maintenance
- Machine repair

Technical Support

- Supports machining methods and technology
- Responds to technical queries
- Provides technical consultancy

Training

- Programming / machine setup and operation
- Electrical and mechanical maintenance
- Applications engineering

Major Specifications

DEM 4000

Description	Unit	DEM 4000
Max. spindle speed	r/min	8000
Max. spindle power	kW (Hp)	7.5 (10.1)
Max. spindle torque	N·m (ft-lbs)	47.7 (35.2)
Tool shank type	-	ISO #40
Travel distance (X / Y / Z)	mm (inch)	550 / 400 / 450 (21.7/ 15.7 / 17.7)
Table size	mm (inch)	650 x 400 (25.6 x 15.7)
Table Loading Capacity	kg (lb)	400 (881.8)
Tool storage capacity	ea	20 {16}*

*{}: Option

Doosan Machine Tools

www.doosanmachinetools.com

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∗ For more details, please contact Doosan Machine Tools.

∗ The specifications and information above-mentioned may be changed without prior notice.

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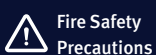
⚠ **Fire Safety Precautions** | There is a high risk or fire when using non-water-soluble cutting fluids, processing flammable materials, neglecting use coolants and modifying the machine without the consent of the manufacturer. Please check the SAFETY GUIDANCE carefully before using the machine.

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