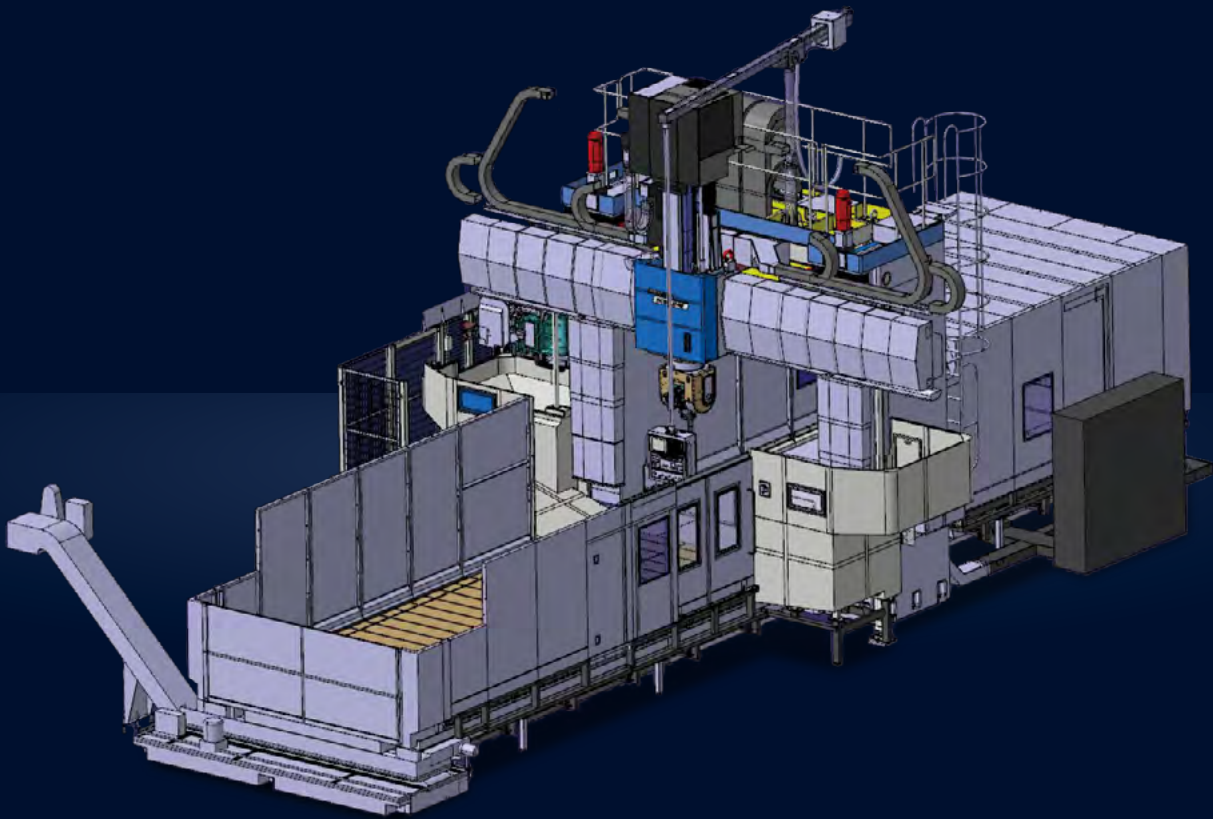




MULTI-PURPOSE DOUBLE COLUMN  
MACHINING CENTER WITH UNIVERSAL HEAD

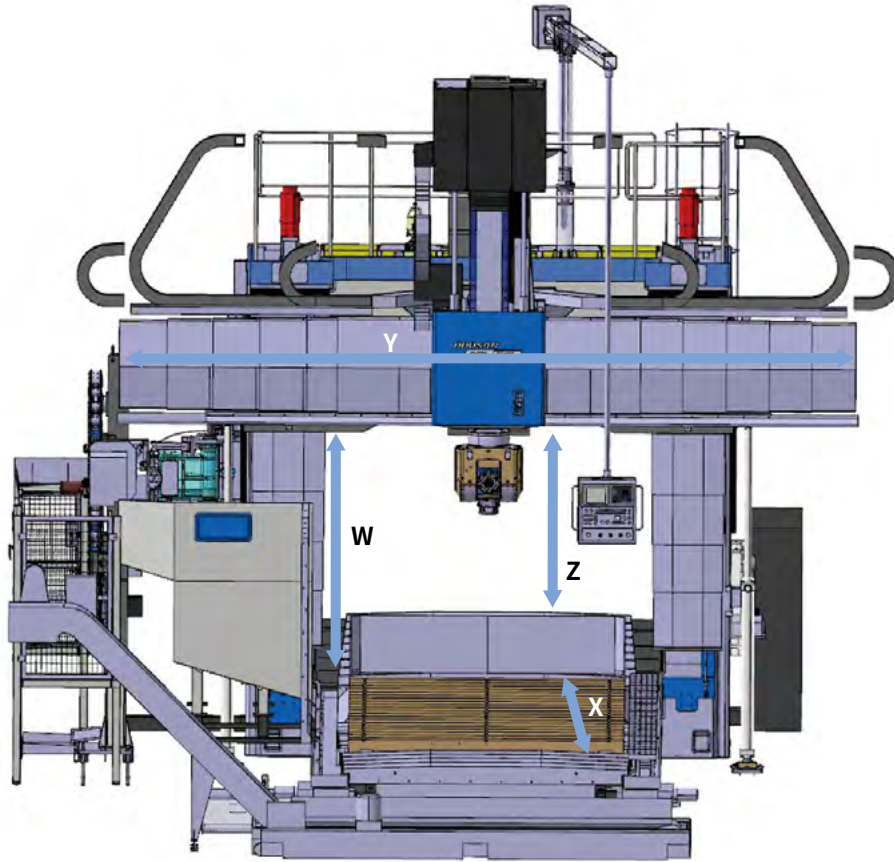
# DCM

**U-head series**



# BASIC STRUCTURE

DCM machines are large, multi-purpose double column machining centers designed for applications that include the heavyduty machining of large parts and high precision dies and molds. With the highest technical specifications in its class, the DCM series provides customers with an extensive range of machining capabilities and functions to help them improve their productivity and performance.



## X x Y x Z x W axes Travel

X-axis

**4250/5250/6250/8250/10250** mm

167.3 / 206.7 / 246.1 / 324.8 / 403.5 inch

Y-axis

**3200/3700/4200/5000** mm

126.0 / 145.7 / 165.4 / 196.9 inch

Z-axis

**1000** mm 39.4 inch

W-axis

**1100/1400/1450** mm

43.3 / 55.1 / 57.1 inch

## Rapid Traverse

DCM 2740U/2750U/2760U/2780U

DCM 3250U/3260U/3280U

DCM 3780U / 37100U

DCM 4280U

X-axis **16** m/min

629.9 ipm

Y-axis **20** m/min

787.4 ipm

Z-axis **15** m/min

590.6 ipm

W-axis **3** m/min

118.1 ipm

X-axis **16** m/min

629.9 ipm

Y-axis **18** m/min

708.7 ipm

Z-axis **15** m/min

590.6 ipm

W-axis **3** m/min

118.1 ipm

※ Specifications and delivery of DCM 3780U / 37100U / 4280U should be reviewed in detail before contract.

## Table Load Capacity

DCM 2740U **20000** kg

44091.8 lb

DCM 2750U **25000** kg

55114.8 lb

DCM 2760U **30000** kg

66137.7 lb

DCM 2780U **40000** kg

88183.6 lb

DCM 3250U **33000** kg

72751.5 lb

DCM 3260U **39000** kg

85979.0 lb

DCM 3280U/3780U/37100U/

DCM 4280U

**45000** kg

99206.6 lb

## Cutting Feedrate

X/Y/Z-axis **10000** mm/min

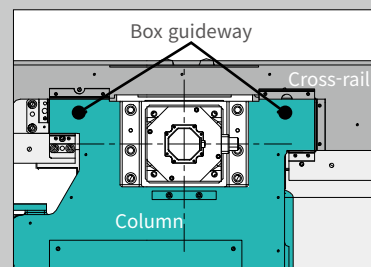
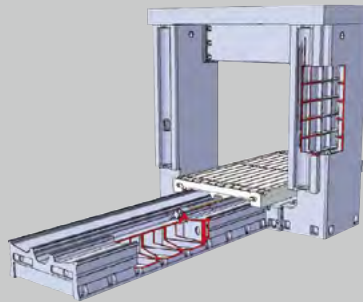
393.7 ipm

# HIGH-RIGIDITY, HIGH-PRECISION STRUCTURE

Designed for large work pieces, the machine enables long-term, heavy-duty cutting with stable machining accuracy.

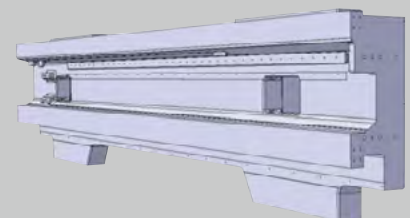
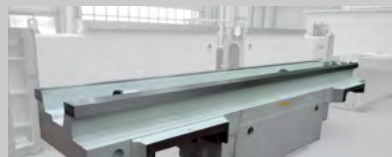
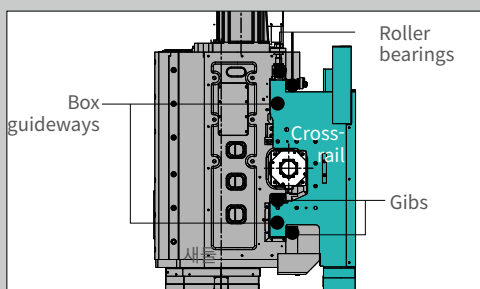
## Bed and Column Structure

- The structure of the DCM series minimizes the effects of vibration on workpieces under loads produced by both vertical and horizontal cutting during machining of 5 faces. Symmetrical structure design and the application of effective compensation reduces thermal displacement during machining.
- The bed is made of an M-type cast structure excellent for vibration absorption to ensure a high level of machining accuracy.
- The column provides extremely high rigidity thanks to its square-structured latticed-rib casting, which is excellent for vibration damping, and wide box guideways that are heat-treated and precision-ground. The integrated column design provides a high degree of machining accuracy at all heights from the machine table, from heavy duty cutting to high precision finishing.



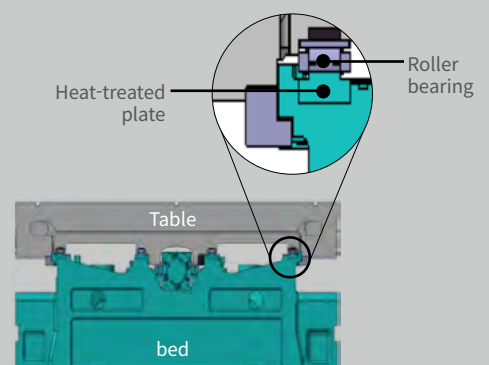
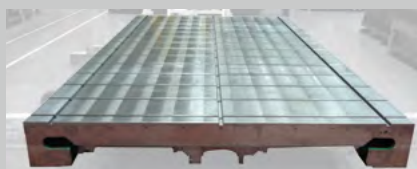
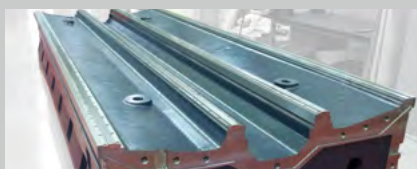
## Cross-rail Structure

- The guide-structure of the cross-rail supports the kinetic load of the saddle and ram spindle to maintain a high degree of accuracy for every type of work from heavy-duty cutting to finish cutting. In addition, the hybrid-type structure combined with roller bearings and gibs enables smooth traveling.
- The cast structure optimized for vibration damping, and the wide box guideway heat-treated and precision-ground are composed of highly rigid, square, sliding surfaces.



## Bed and Table Structure

- The bed supports traveling motion with four rows of heat-treated, precision-ground guideways.
- A roller bearing pack for heavy-duty cutting and slide bearings for effective vibration damping are equipped at the bottom of the table to ensure a high level of cutting accuracy.



# SPINDLE INFORMATION

High speed, High accuracy built in type universal head

## Max. spindle speed

**15000** r/min

**30000** r/min option

## Max. power

**45.9/34** kW 61.6/45.6 Hp

**90/78.5** kW option

120.7/105.3 Hp

## Max. torque

**41.6** N·m 30.7 ft-lbs

**49.9** N·m 36.8 ft-lbs option

• B axis 0.001° Continuous

• C axis 0.001° Continuous



## RAM HEAD

The highly-rigid, square-type box guideway ram has a cross section of 380 x 380mm (14.96 x 14.96 inch), which is the biggest in its class. This helps optimize the heavy-duty machining of both vertical and horizontal applications.

## Ram size

**380 x 380** mm

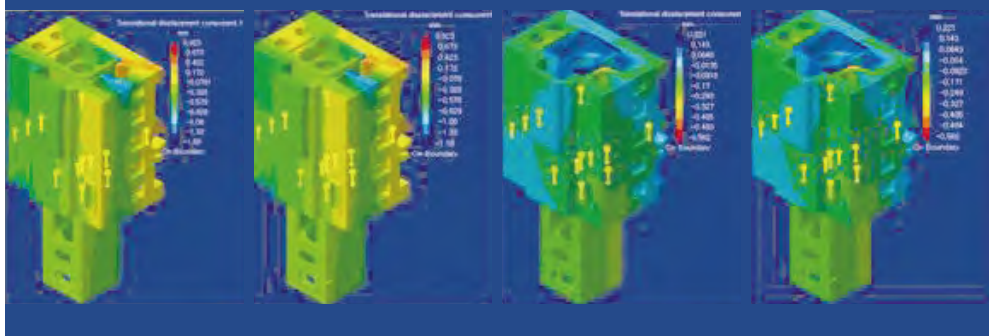
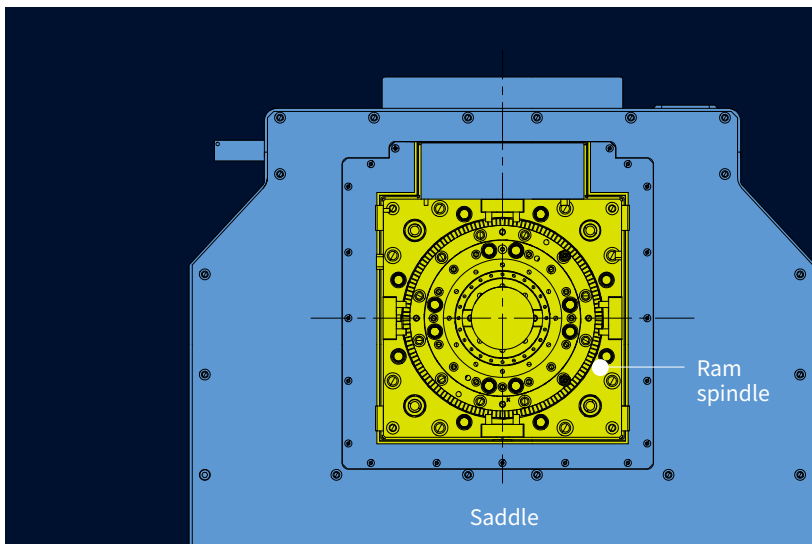
15.0 inch X 15.0 inch

## Tool taper

**ISO#50**

## Stress analysis of ram spindle unit

The ram spindle unit, through using stress analysis techniques, has been designed to deliver high-performance under any load.

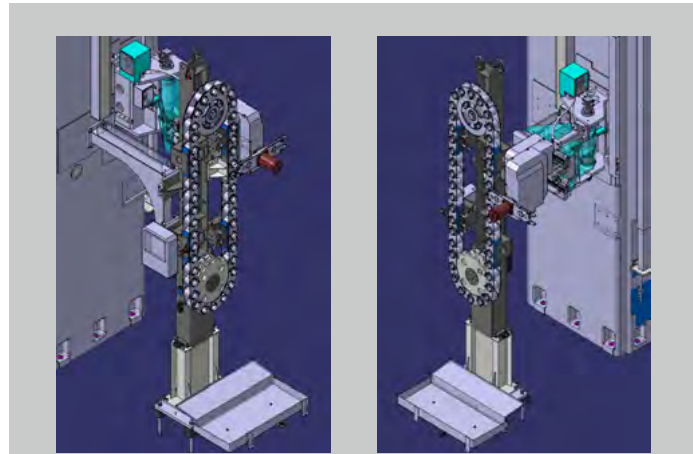




# AUTOMATIC TOOL CHANGER

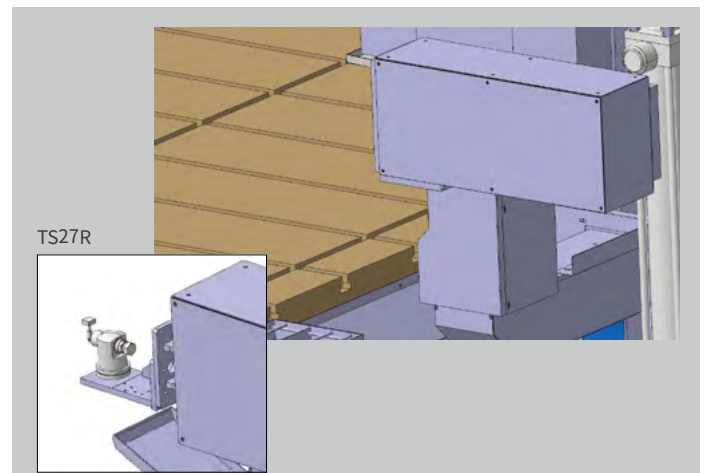
## Automatic tool changer

Servo motor and hydraulic driven ATC have high reliability and minimize equipment downtime.

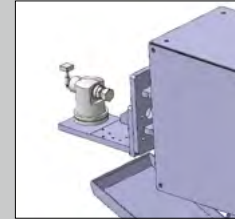


|                           |  |
|---------------------------|--|
| <b>Tool taper</b>         | HSK-A63 / HSK-A100                                       |
| <b>Max. No. of tools</b>  | 40 / 60 EA   |
| <b>Max. tool weight</b>   | 8 kg (HSK-A63) / 18 (HSK-A100)                           |
| <b>Max. tool diameter</b> | 80 mm (3.1 inch)<br>[near pot empty : 150 mm (5.9 inch)] |
| <b>Max. tool length</b>   | 300 mm (11.8 inch)                                       |
| <b>Tool changing time</b> | 5 sec  |

## Automatic tool measurement



TS27R



The length of tool set up in the spindle is measured automatically, and a specific tool's offset data is entered automatically.



## High accuracy

To maintain and manage precision performance, various functions are provided as standard.

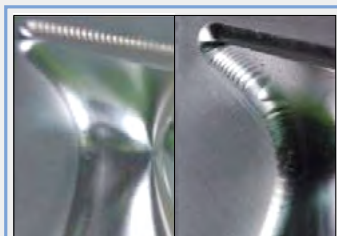
### High-speed, high-precision contouring control

- DSQ standard : AICC 1000 block + Machining condition selection function

\* DSQ : DN Solutions Super Quality



Verification sample VASE



DSQ applied

DSQ not applied

### Cutting condition selection function

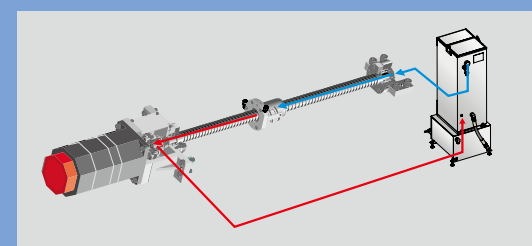
| Cutting condition | R1                  | R2 | R3 | R4 | R5 | R6                       | R7 | R8 | R9        | R10    |
|-------------------|---------------------|----|----|----|----|--------------------------|----|----|-----------|--------|
| Quality           | Normal              |    |    |    |    |                          |    |    | Excellent |        |
| Tool life         | Long                |    |    |    |    |                          |    |    |           | Normal |
| Application       | High-speed roughing |    |    |    |    | High-precision finishing |    |    |           |        |

- Use the R code in the program to change the cutting conditions by up to 10 steps: improved productivity (high-speed roughing, high-precision finishing).
- Various servo-related NC parameters such as acceleration and deceleration, time constants and maximum cutting feed rates can be set automatically.



### X/Y/Z-axis linear scale feedback system

The linear scale feedback system provides high positioning accuracy in the X, Y, Z, and W axes.



### X/Y/Z-axis ballscrew shaft cooling

The heat generated in the ballscrew is removed by a high-efficiency cooler to minimize any thermal deformation. For fast removal of frictional heat, a hollow ballscrew shaft, allowing cooled oil to flow through it, is used.

# STANDARD | OPTIONAL SPECIFICATIONS


A range of options is available to suit individual requirements.

| Division                   | Description                               |   | DCM-U series |
|----------------------------|---|---|--------------|
| Spindle                    | Universal head 15000r/min                 | 45.9/34 kW  | ●            |
|                            | Universal head 30000r/min                 | 90/78.5 kW  | ○            |
| ATC                        | Tool magazine                             | 60 tools  | ○            |
| Rotary table               | PACKAGE #1 : ONLY WIRING                  |   | ○            |
|                            | PACKAGE #2 : HYD. & CONTROL READY         |   | ○            |
|                            | PACKAGE #3 : FULL OPT.                    |   | ○            |
| High column                |   | +350mm  | ○            |
| Coolant                    | Coolant Tank                              | 700L  | ●            |
|                            | FLOOD Coolant                             | 2.5kW   | ○            |
|                            | Coolant gun                               |   | ○            |
|                            | Coolant level switch:                     | Sensing level - Low                               | ○            |
|                            | Oil skimmer                               | BELT TYPE   | ○            |
|                            | TSC / CYLCONE FILTER                      | 1.5 kW_2.0 MPa                                    | ○            |
| Chip disposal              | Lift-up chip conveyor                     | HINGED PLATE                                      | ●            |
|                            |   | MAGNETIC SCRAPER                                  | ○            |
|                            |   | Scraper type with Drum filter                     | ○            |
|                            | 2 side chip conveyor                      | HINGED PLATE                                      | ●            |
|                            |   | MAGNETIC SCRAPER                                  | ○            |
|                            | Belows cover                              | W-axis upper side                                 | ●            |
|                            | Slide cover                               | X/Y/W-axis lower side                             | ●            |
|                            |   | SEMI GUARD(ADD REAR TOP COVER)                    | ●            |
|                            | Chip bucket                               | Rotating (380L)                                   | ○            |
|                            |   | Lift type (380L)                                  | ○            |
|                            | AIR GUN                                   |   | ○            |
|                            | AIR DRYER                                 |   | ○            |
| Precision machining option | Spindle Bearing Housing Cooling           |   | ●            |
|                            | Linear scale                              | X/Y/Z/W axis                                      | ●            |
|                            | BZ sensor for CS contouring control       |   | ●            |
|                            | Water Chiller for U-head cooling          |   | ●            |
|                            | IKC (Intelligent Kinematic Compensation)  | IKC S/W   | ●            |
|                            |   | Datum Ball(D25)                                   | ●            |
|                            | DSQ (DN Solutions SUPER QUALITY)          | DSQ II : DSQ I+DATA SERVER (1GB)                  | ●            |
|                            |   | DSQ III : DSQ II+HIGH SPEED PROCESSING_600 Block) | ○            |
| Measurement & automation   | Automatic tool length measurement         | TS27R_RENISHAW                                    | ○            |
|                            |   | NC4_RENISHAW                                      | ○            |
|                            | Automatic workpiece measurement           | OMP60_RENISHAW                                    | ○            |
|                            |   | RMP60_RENISHAW                                    | ○            |
|                            |   | RMP600_RENISHAW                                   | ●            |
|                            | Automatic workpiece measuring MASTER TOOL | CALIBRATION BLOCK                                 | ●            |
|                            | Auto power on                             |   | ○            |
|                            | Auto power off                            |   | ●            |
| Accessories                | Electric cabinet extra light              |   | ○            |
|                            | Air conditioner for electric box          |   | ○            |
|                            | installation goods                        | Leveling block and anchoring bolt                 | ●            |
|                            | Work light                                | LED lamps : 4EA                                   | ●            |
|                            | Operator call lamp                        |   | ●            |
| Easy convenient functions  | Tool management                           |   | ○            |
|                            | work load balance active control          |   | ●            |
|                            | cutting load monitoring                   |   | ●            |
|                            | periodic check function                   |   | ●            |
|                            | control box (PENDANT TYPE)                | POLE TYPE   | ●            |
|                            |   | PORTABLE TYPE 1-MPG                               | ●            |
|                            | MPG                                       | MPG WITH LCD DISPLAY                              | ○            |
|                            |   | PORTABLE TYPE 3-MPG                               | ○            |
|                            |   | HMOP(Handy Machine Operator's Panel)              | ○            |
| Installation type          | UNDER GROUND                              | FL-960 INSTALL (TABLE TOP_FL0)                    | ●            |
|                            | GROUND                                    | FL0 INSTALL (TABLE TOP_FL-960)                    | ○            |
| Customized special option  | Mist collector                            | 5.5kW   | ○            |
|                            | Coolant Chiller                           |   | ○            |
|                            | High pressure TSC                         | 70bar   | ○            |

\* Please contact DN Solutions for detailed specification information.

● Standard ○ Optional x Not applicable

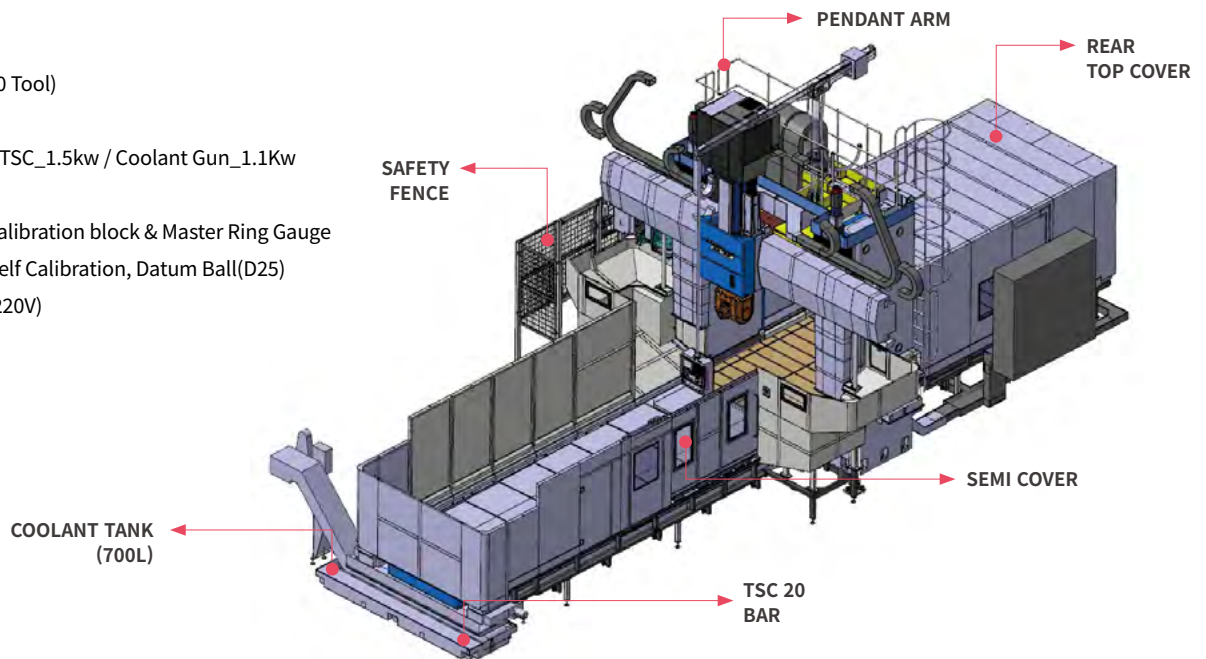
\*When using a semi-synthetic type or synthetic type, contact our sales representative or service center in advance.

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

# PERIPHERAL EQUIPMENT

The following items are applied as standard to ensure precision, easy chip disposal, better environment for DCM Universal series

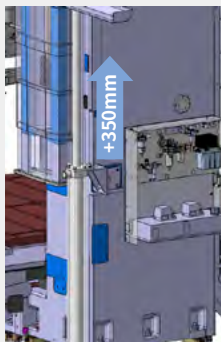
- ① Cooling unit for Universal head (Water Chiller) & Air+Oil Unit
- ② REAR TOP COVER
- ③ SEMI COVER
- ④ ATC & Magazine (HSK 60 Tool)
- ⑤ Linear Scale
- ⑥ Flood Coolant\_1.1Kw / TSC\_1.5kw / Coolant Gun\_1.1Kw
- ⑦ Lift Up Chip Conveyor
- ⑧ RMP600 Part Probe & Calibration block & Master Ring Gauge
- ⑨ DIKC with Datum Ball Self Calibration, Datum Ball(D25)
- ⑩ Transformer (Down to 220V)



## Customized special option

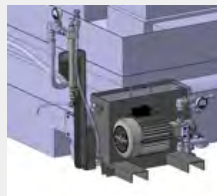
### HIGH Column\_+1050mm

- HIGH COLUMN\_+700- Standard
- TABLE TO SPINDLE NOZE +350



### TSC

- 20 BAR (1.5kW) Standard



- 70 BAR (Variable 10~70 BAR) **option**



### Air Dryer

- Maker : SMC
- Specs: IDF6E
- Capacity(m<sup>3</sup>/min) : 0.75(50Hz), 0.82(60Hz)



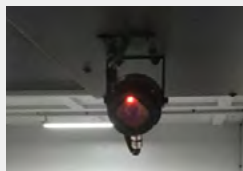
### Automatic Tool Length Measurement System

- Renishaw → TS27R
- Blum → A7, Renishaw → NC4 (Contactless)



### Automatic Workpiece Measurement System

- Renishaw → RMP600 (Standard)
- Heidenhain → TS460 / SE660 **option**



### ATC MAGAZINE (HSK A63/A100)

- 40T
- 60T



# FANUC 31i PLUS

Fanuc 31i Plus maximizes customer productivity and convenience.

## 15" Touch screen + New OP

DN Solutions Fanuc 31iB/B5 Plus' operation panel enhances operating convenience by incorporating common-design buttons and layout. It features a Qwerty keyboard for fast and easy data input and operation.

## Fanuc 31i Plus

- 15-inch color display
- Intuitive and user-friendly design

## USB and PCMCIA card QWERTY keyboard

- EZ-Guide i standard
- Ergonomic operator panel
- 4MB Memory
- Hot keys
- Enhance AICC BLOCK
- Touch pen provided as standard



## iHMI touchscreen

iHMI provides an intuitive interface that uses a touchscreen for quick and easy operation.

## Range of applications

Providing various applications related to planning, machining, improvement and utility, for customer convenience.



# NUMERIC CONTROL SPECIFICATIONS

**FANUC**

|                             | Item   | Specifications   | F31iB5 PLUS                      |
|-----------------------------|--|--|----------------------------------|
|                             |  |  | DCM -U series<br>6 (X,Y,Z,W,B,C) |
| Controlled axis             | Controlled axes                                    |  |                                  |
|                             | Simultaneously controlled axes                     |  | 5 axes                           |
|                             | Additional controlled Axis                         |  | ●                                |
| Data input/output           | data server  |  | ●(1GB)                           |
|                             | Memory card input/output                           |  | ●                                |
|                             | USB memory input/output                            |  | ●                                |
|                             | Large capacity memory(2GB)*2                       | Available Option only with 15" Touch LCD (iHMI Only) *2) | ○                                |
| Interface function          | Embedded Ethernet                                  |  | ●                                |
|                             | Fast Ethernet                                      |  | ○                                |
|                             | Enhanced Embedded Ethernet function                |  | ●                                |
| Operation                   | DNC operation                                      | Included in RS232C interface.                            | ●                                |
|                             | DNC operation with memory card                     |  | ●                                |
| Program input               | Workpiece coordinate system                        | G52 - G59  | ●                                |
|                             | Addition of workpiece coordinate system            | G54.1 P1 X 48 (48 pairs)                                 | ●                                |
|                             | Tool number command                                |  | T4 digits                        |
|                             | Tilted working plane indexing command              | G68.2 TWP  | ●                                |
| Operation Guidance Function | AI contour control II                              | G5.1 Q_, 1000 Blocks *1)                                 | ●                                |
|                             | High smooth TCP                                    |  | ●                                |
|                             | EZ Guidei<br>(Conversational Programming Solution) |  | ●                                |
|                             | iHMI with Machining Cycle                          | Only with 15" Touch LCD standard *2)                     | ●                                |
| Setting and display         | EZ Operation package                               |  | ●                                |
|                             | CNC screen dual display function                   |  | ●                                |
| Network                     | FANUC MTConnect                                    |  | ✳                                |
|                             | FANUC OPC UA                                       |  | ✳                                |
| Others                      | Display unit                                       | 15" color LCD with Touch Panel                           | ●                                |
|                             |  | 10240M(4MB)_1000 programs                                | ●                                |
|                             |  | 20480M(8MB)_1000 programs                                | ○                                |
|                             |  | 2560M(1MB)_2000 programs                                 | ○                                |
|                             |  | 5120M(2MB)_4000 programs                                 | ○                                |
|                             |  | 10240M(4MB)_4000 programs                                | ○                                |
|                             |  | 20480M(8MB)_4000 programs                                | ○                                |

\*1) The number of look-ahead blocks may be changed or limited depending on the peripheral device or the configuration of the internal NC system.

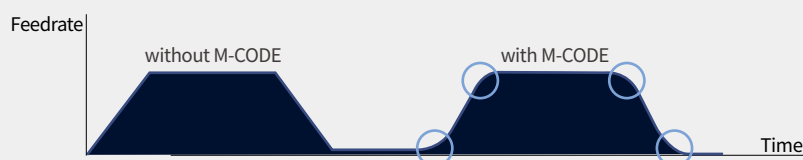
\*2) Available Option only with Fanuc i plus iHMI



# CONVENIENT MACHINING

## Work load counter control

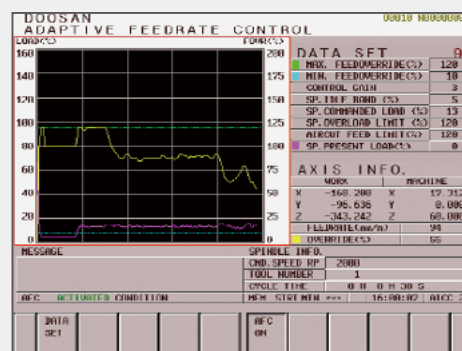
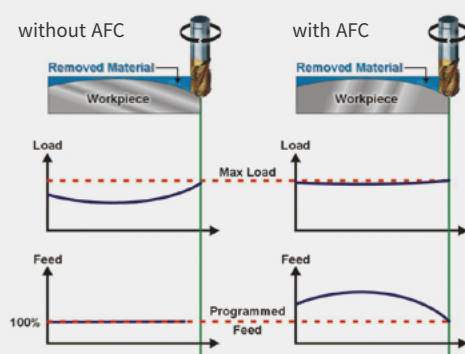
By selecting the appropriate M-Code according to the weight of the workpiece, the machine automatically decides the most effective and efficient moving pattern of the table.



| M-Code  | Weight of work piece        | DCM 2740U | DCM2750U | DCM 2760U | DCM 3250U | DCM 3260U |
|---------|-----------------------------|-----------|----------|-----------|-----------|-----------|
| M380 A1 | 5 tons(11023.0 lb) or less  | •         | •        | •         | •         | •         |
| M380 A2 | 10 tons(22045.9 lb) or less | •         | •        | •         | •         | •         |
| M380 A3 | 15 tons(33068.9 lb) or less | •         | •        | •         | •         | •         |
| M380 A4 | 20 tons(44091.8 lb) or less | •         | •        | •         | •         | •         |

## Adaptive feedrate control(AFC)

If tool overload is detected during operation, the feed rate is controlled to prevent the tool from being damaged.



## Process monitoring function and manual operation screen

In-process monitoring minimizes the risk of damage to the workpiece during cutting operations.

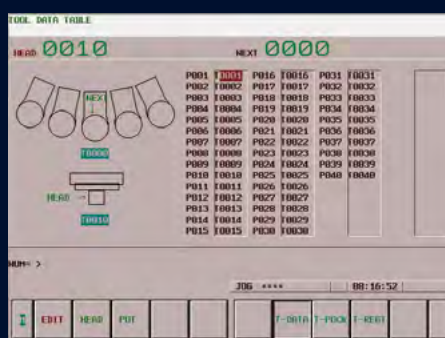
### Tool load monitoring

During cutting operations, abnormal loads caused by wear and tear of the tool are detected, and an alarm is triggered to prevent further damage from occurring.



### Tool management option

This function controls information on the tools in the tool magazine pots.



### ATC manual operation screen



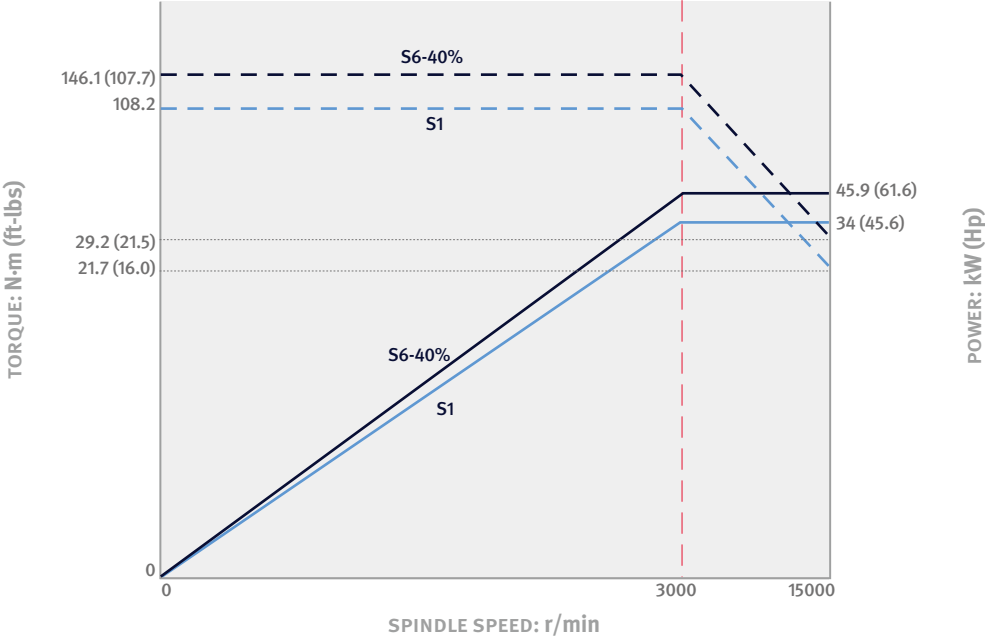
# POWER | TORQUE

15000 r/min

SPEED: **15000** r/min

POWER: **45.9/34** kW  
61.6/45.6 kW

TORQUE: **146** N·m  
107.7 ft-lbs

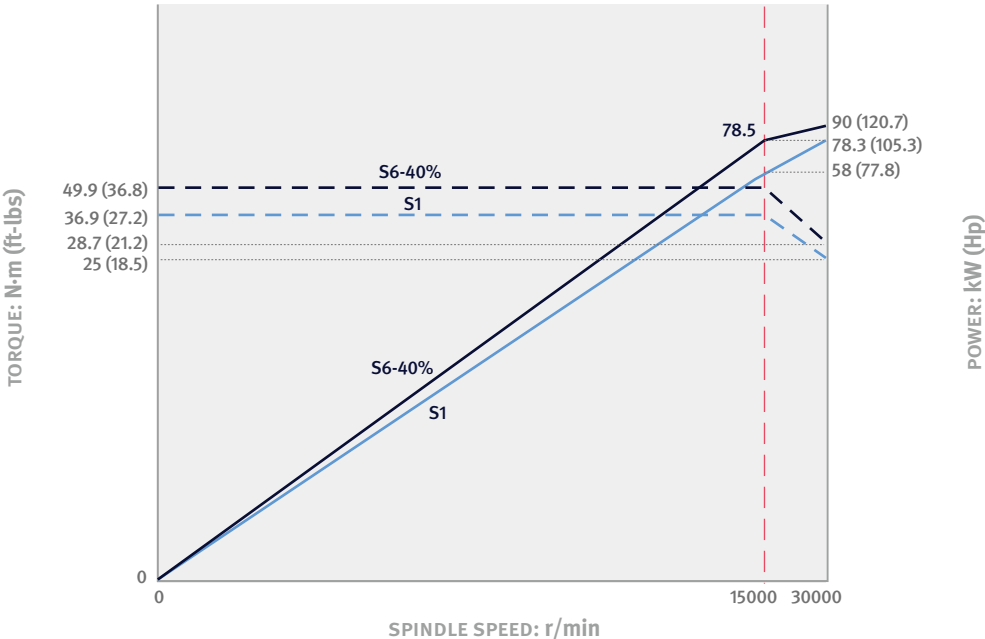


30000 r/min option

SPEED: **30000** r/min

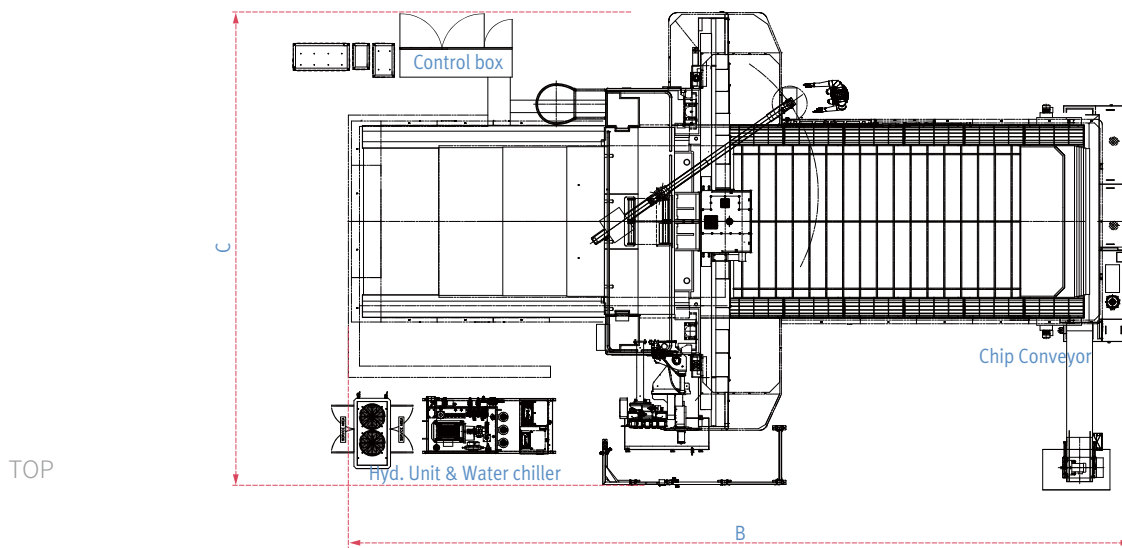
POWER: **90/78.5** kW  
120.7/105.3 kW

TORQUE: **49.9** N·m  
36.8 ft-lbs

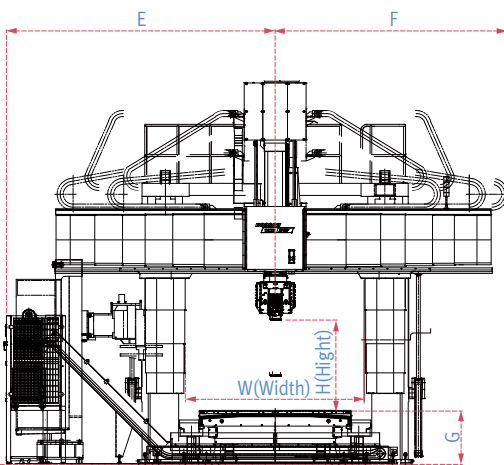


# DIMENSIONS

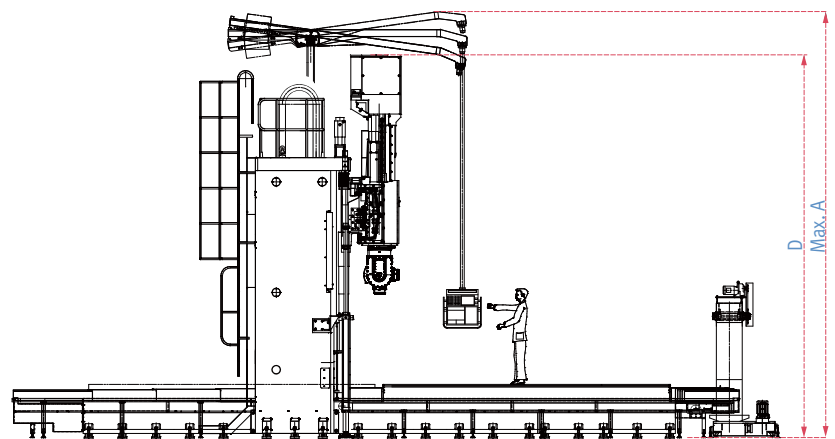
Units : mm (inch)



TOP



FRONT



SIDE

|           |       | A            | B             | C             | D            | E            | F            | G          | H                         | W            |
|-----------|-------|--------------|---------------|---------------|--------------|--------------|--------------|------------|---------------------------|--------------|
| DCM2740U  | Z1000 | 7700 (303.1) | 11200 (440.9) | 8150 (320.9)  | 6850 (269.7) | 3710 (146.1) | 3610 (142.1) | 950 (37.4) | 1610 {1670} (63.4 {65.7}) | 2700 (106.3) |
| DCM2750U  | Z1000 | 7700 (303.1) | 13375 (526.6) | 8150 (320.9)  | 6850 (269.7) | 3710 (146.1) | 3610 (142.1) | 950 (37.4) | 1610 {1670} (63.4 {65.7}) | 2700 (106.3) |
| DCM2760U  | Z1000 | 7700 (303.1) | 15790 (621.7) | 8150 (320.9)  | 6850 (269.7) | 3710 (146.1) | 3610 (142.1) | 950 (37.4) | 1610 {1670} (63.4 {65.7}) | 2700 (106.3) |
| DCM2780U  | Z1000 | 7700 (303.1) | 19710 (776.0) | 8150 (320.9)  | 6850 (269.7) | 3710 (146.1) | 3610 (142.1) | 950 (37.4) | 1610 {1670} (63.4 {65.7}) | 2700 (106.3) |
| DCM3250U  | Z1000 | 7700 (303.1) | 13600 (535.4) | 8650 (340.6)  | 6850 (269.7) | 3960 (155.9) | 3860 (152.0) | 950 (37.4) | 1610 {1670} (63.4 {65.7}) | 3200 (126.0) |
| DCM3260U  | Z1000 | 7700 (303.1) | 15750 (620.1) | 8650 (340.6)  | 6850 (269.7) | 3960 (155.9) | 3860 (152.0) | 950 (37.4) | 1610 {1670} (63.4 {65.7}) | 3200 (126.0) |
| DCM3280U  | Z1000 | 7700 (303.1) | 19710 (776.0) | 8650 (340.6)  | 6850 (269.7) | 3960 (155.9) | 3860 (152.0) | 950 (37.4) | 1610 {1670} (63.4 {65.7}) | 3200 (126.0) |
| DCM3780U  | Z1000 | 7870 (309.8) | 20215 (795.9) | 9220 (363.0)  | 7105 (279.7) | 4210 (165.7) | 4160 (163.8) | 950 (37.4) | 1610 {1670} (63.4 {65.7}) | 3700 (145.7) |
| DCM37100U | Z1000 | 7870 (309.8) | 24235 (795.9) | 9220 (363.0)  | 7105 (279.7) | 4210 (165.7) | 4160 (163.8) | 950 (37.4) | 1610 {1670} (63.4 {65.7}) | 3700 (145.7) |
| DCM4280U  | Z1000 | 7870 (309.8) | 20405 (954.1) | 10100 (397.6) | 7105 (279.7) | 4800 (189.0) | 4800 (189.0) | 950 (37.4) | 1610 {1670} (63.4 {65.7}) | 4200 (165.4) |

※ The dimensions above are the standard type for each model.

{ } option

## Installation precautions

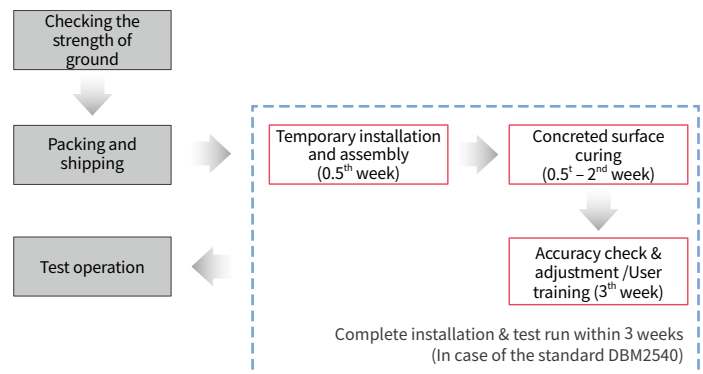
1. Test for bearing capacity of soil should be taken more than four areas. (In particular, places for bed and column where the loads are concentrated must be tested.)
2. Basically, the bearing capacity of soil should exceed the values determined by DN Solutions. (Test for bearing capacity of soil should follow DN Solutions's standards.)
3. Our engineering team may be available even during the foundation work at customer's request.
4. Please comply with our company's installation guideline, such as ground condition and anchoring, in order to achieve the maximum precision and performance of the machine.

## Installation & test run

On-site installation and commissioning will be conducted according to a '5-week' schedule. [Excluding the concreted surface curing period (3rd week)]

※ The installation plan may vary according to the size of the machine, optional devices, and the conditions and environment of the site.

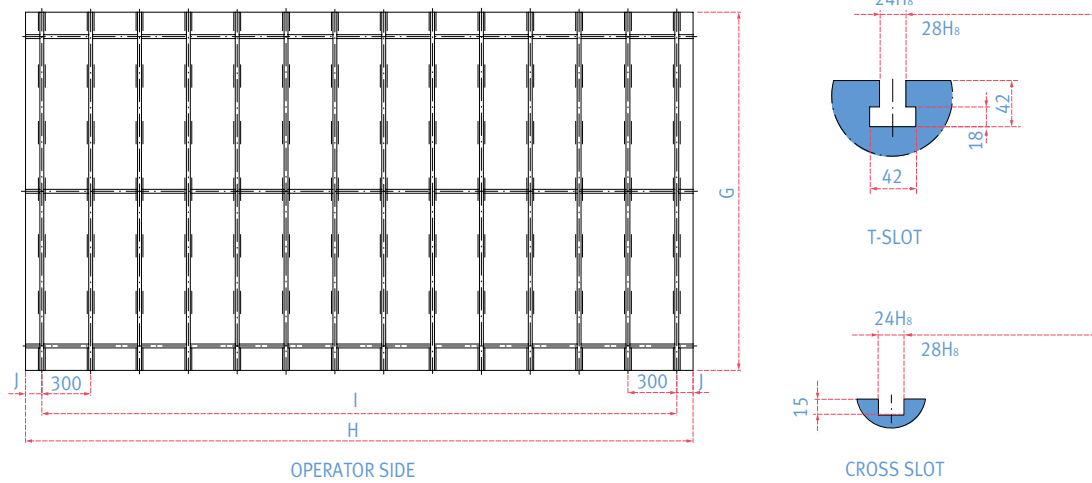
\* Some peripheral equipment can be placed in other areas.



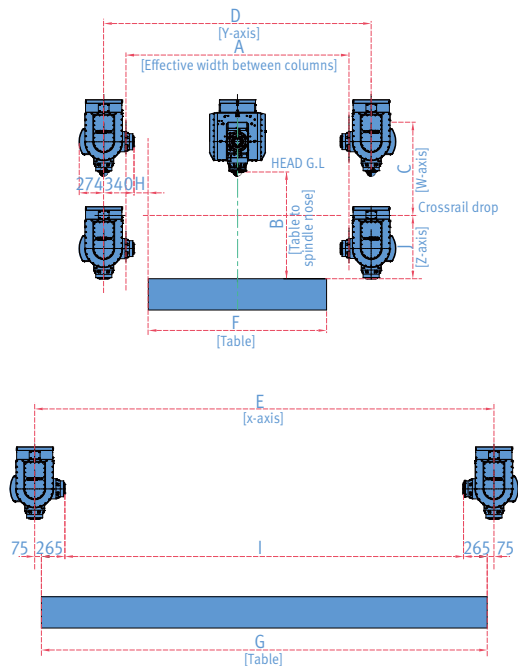
# WORK AREA AND TABLE DIMENSIONS

Units : mm (inch)

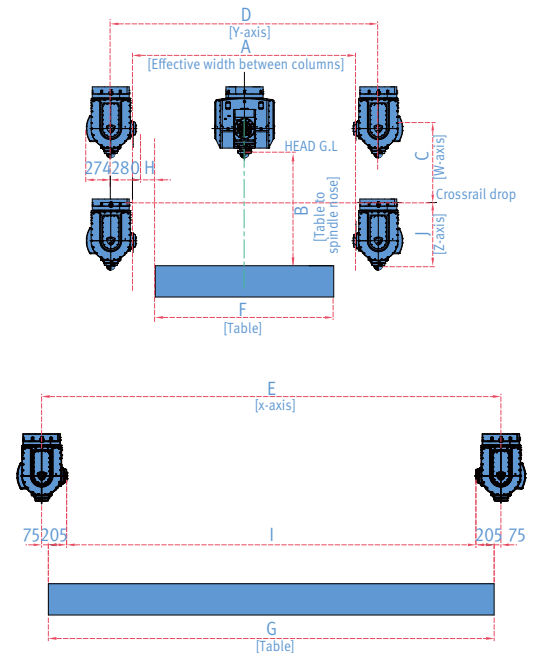
## TABLE



## 15K HEAD



## 30K HEAD



| MODEL     | TABLE TYPE | A            | B                         | C  | D            | E             | F            | G             | H                       | I                           | J           |
|-----------|------------|--------------|---------------------------|--|--------------|---------------|--------------|---------------|-------------------------|-----------------------------|-------------|
| DCM2740U  | 22 x 41    | 2700 (106.3) | 1610 {1670} {63.4 {65.7}} | 1100 (43.3)                                    | 3200 (126.0) | 4250 (165.4)  | 2200 (86.6)  | 4100 (161.4)  | 160 {220} {6.3 {8.7}}   | 3570 {3690} {140.6 {145.3}} | 1000 (39.4) |
| DCM2750U  | 22 x 51    | 2700 (106.3) | 1610 {1670} {63.4 {65.7}} | 1100 (43.3)                                    | 3200 (126.0) | 5250 (206.7)  | 2200 (86.6)  | 5100 (200.8)  | 160 {220} {6.3 {8.7}}   | 4570 {4690} {179.9 {184.6}} | 1000 (39.4) |
| DCM2760U  | 22 x 61    | 2700 (106.3) | 1610 {1670} {63.4 {65.7}} | 1100 (43.3)                                    | 3200 (126.0) | 6250 (246.1)  | 2200 (86.6)  | 6100 (240.2)  | 160 {220} {6.3 {8.7}}   | 5570 {5690} {219.3 {224.0}} | 1000 (39.4) |
| DCM2780U  | 22 x 81    | 2700 (106.3) | 1610 {1670} {63.4 {65.7}} | 1100 (43.3)                                    | 3200 (126.0) | 8250 (324.8)  | 2200 (86.6)  | 8100 (318.9)  | 160 {220} {6.3 {8.7}}   | 7570 {7690} {298.0 {302.8}} | 1000 (39.4) |
| DCM3250U  | 27 x 51    | 3200 (126.0) | 1610 {1670} {63.4 {65.7}} | 1100 (43.3)                                    | 3700 (145.7) | 5250 (206.7)  | 2700 (106.3) | 5100 (200.8)  | 160 {220} {6.3 {8.7}}   | 4570 {4690} {179.9 {184.6}} | 1000 (39.4) |
| DCM3260U  | 27 x 61    | 3200 (126.0) | 1610 {1670} {63.4 {65.7}} | 1100 (43.3)                                    | 3700 (145.7) | 6250 (246.1)  | 2700 (106.3) | 6100 (240.2)  | 160 {220} {6.3 {8.7}}   | 5570 {5690} {219.3 {224.0}} | 1000 (39.4) |
| DCM3280U  | 27 x 81    | 3200 (126.0) | 1610 {1670} {63.4 {65.7}} | 1100 (43.3)                                    | 3700 (145.7) | 8250 (324.8)  | 2700 (106.3) | 8100 (318.9)  | 160 {220} {6.3 {8.7}}   | 7570 {7690} {298.0 {302.8}} | 1000 (39.4) |
| DCM3780U  | 32 x 81    | 3700 (145.7) | 1610 {1670} {63.4 {65.7}} | 1100 (43.3)                                    | 4200 (165.4) | 8250 (324.8)  | 3200 (126.0) | 8100 (318.9)  | 260 {320} {10.2 {12.6}} | 7570 {7690} {298.0 {302.8}} | 1000 (39.4) |
| DCM37100U | 32 x 101   | 3700 (145.7) | 1610 {1670} {63.4 {65.7}} | 1100 (43.3)                                    | 4200 (165.4) | 10250 (403.5) | 3200 (126.0) | 10100 (397.6) | 260 {320} {10.2 {12.6}} | 9570 {9690} {376.8 {381.5}} | 1000 (39.4) |
| DCM4280U  | 35 x 81    | 4200 (165.4) | 1610 {1670} {63.4 {65.7}} | 1100 (43.3)                                    | 5000 (196.9) | 8250 (324.8)  | 3500 (137.8) | 8100 (318.9)  | 410 {470} {16.1 {18.5}} | 7570 {7690} {298.0 {302.8}} | 1000 (39.4) |
|           |            | 15K(30K)     |                           | HIGH +1050 optional 27/32 W-1450, 37/42 W-1400 |              |               |              | 15K(30K)      |                         | 15K(30K)                    |             |

{ } option



# MACHINE SPECIFICATIONS

| Item             |  |        | Unit           | DCM 2740U   | DCM 2750U                  | DCM 2760U                  | DCM 2780U                  | DCM 3250U                   | DCM 3260U                   | DCM 3280U                   | DCM 3780U                   | DCM 37100U                   | DCM 4280U                   |  |
|------------------|--|--------|----------------|---|----------------------------|----------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|-----------------------------|--|
| Travel           | X-axis Travel (Table Longitudinal)             |        | mm (inch)      | 4250 (167.3)  | 5250 (206.7)               | 6250 (246.1)               | 8250 (324.8)               | 5250 (206.7)                | 6250 (246.1)                | 8250 (324.8)                | 8250 (324.8)                | 10250 (403.5)                | 8250 (324.8)                |  |
|                  | Y-axis Travel (Spindle Head Cross)             |        | mm (inch)      | 3200 (126.0)  |                            |                            |                            | 3700 (145.7)                |                             |                             | 4200 (165.4)                |                              | 5000 (196.9)                |  |
|                  | Z-axis Travel (Ram Vertical)                   |        | mm (inch)      | 1000 (39.4)   |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  | W-axis Travel (Vertical Movement of Crossrail) |        | mm (inch)      | 1100 (43.3) {1450:+350(HIGH 1050)}                    |                            |                            |                            |                             |                             |                             |                             | 1400 (55.1)                  |                             |  |
|                  | Effective width between columns                |        | mm (inch)      | 2700 (106.3)  |                            |                            |                            | 3200 (126.0)                |                             |                             | 3700 (145.7)                |                              | 4200 (165.4)                |  |
|                  | Table to spindle nose                          |        | mm (inch)      | 1610 (1670) {1960 (2020)} (63.4 (65.7) {77.2 (79.5)}) |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
| Feedrate         | Rapid traverse (X, Y, Z, W)                    |        | m/min (ipm)    | 16, 20, 15, 3 (629.9, 787.4, 190.6, 118.1)            |                            |                            |                            |                             |                             |                             |                             |                              |                             | 16, 18, 15, 3 (629.9, 708.7, 190.6, 118.1) |
|                  | Max. cutting feedrate (X, Y, Z)                |        | mm/min (ipm)   | 10000, 10000, 10000 (393.7, 393.7, 393.7)             |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
| Table            | Table Size (Width x Length)                    |        | mm (inch)      | 2200 x 4100 (86.6 x 161.4)                            | 2200 x 5100 (86.6 x 200.8) | 2200 x 6100 (86.6 x 240.2) | 2200 x 8100 (86.6 x 318.9) | 2700 x 5100 (106.3 x 200.8) | 2700 x 6100 (106.3 x 240.2) | 2700 x 8100 (106.3 x 318.9) | 3200 x 8100 (126.0 x 318.9) | 3200 x 10100 (126.0 x 397.6) | 3500 x 8100 (137.8 x 318.9) |  |
|                  | Load Capacity                                  |        | kg (lb)        | 20000 (44091.8)                                       | 25000 (55114.8)            | 30000 (66137.7)            | 40000 (88183.6)            | 33000 (72751.5)             | 39000 (85979.0)             | 45000 (99206.6)             |                             |                              |                             |  |
|                  | T-Slot   |        | mm (inch)      | 24H8 {28H8} (0.9 {1.1H8})                             |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
| Spindle (U-head) | Ram size                                       |        | mm (inch)      | 380 x 380 (15.0 x 15.0)                               |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  | Max. spindle speed                             |        | r/min          | 15000 {30000}   |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  | Tool taper                                     |        | -              | HSK-A100 {HSK-A63}                                    |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  | Spindle drive moto (S3 25%/Cont.)              |        | kW (Hp)        | 45.9/34 {90/78.5} (64.6/45.6 {120.7/105.3})           |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  | Max. spindle torque                            |        | N · m (ft·lbs) | 41.6 {49.9} (30.7 {36.8})                             |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  | Rotation angle                                 | B axis | deg            | ±110  |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  |  | C axis | deg            | ±22   |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  | Rotation speed                                 | B axis | r/min          | 20  |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
| C axis           |  | r/min  | 20             |   |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
| ATC              | Tool storage capacity                          |        | ea             | 40 {60}   |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  | Max. tool diameter (adjacent pot empty)        |        | mm (inch)      | 80 (150) (3.1 (5.9))                                  |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  | Max. tool length                               |        | mm (inch)      | 400 (15.7)  |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  | Max. tool weight                               |        | kg (lb)        | 18 (39.7)   |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
|                  | Max. tool moment                               |        | N · m (ft·lbs) | 29.4 (21.7)   |                            |                            |                            |                             |                             |                             |                             |                              |                             |  |
| Machine size     | Machine height                                 |        | mm (inch)      | 7700 {8050} (303.1 {316.9})                           |                            |                            |                            |                             |                             |                             |                             |                              |                             | 7870 {8220} (309.8 {323.6})                |
|                  | Floor space                                    |        | mm (inch)      | 7730 x11200 (304.3 x440.9)                            | 7730 x13375 (304.3 x526.6) | 7730 x15710 (304.3 x618.5) | 7730 x19710 (304.3 x776.0) | 8230 x13375 (324.0 x526.6)  | 8230 x15710 (324.0 x618.5)  | 8230 x19710 (324.0 x776.0)  | 8730 x19710 (343.7 x776.0)  | 8730 x24380 (343.7 x959.8)   | 9970 x20920 (392.5 x823.6)  |  |
|                  | Machine weight                                 |        | kg (lb)        | 65000 (143298.4)                                      | 68000 (149912.1)           | 71000 (156525.9)           | 77000 (169753.4)           | 82000 (180776.4)            | 86000 (189594.7)            | 94000 (207231.5)            | 112000 (246914.1)           | 120000 (264550.8)            | 130000 (286596.7)           |  |

The DN Solutions promise, MACHINE GREATNESS, has two important meanings. The first is simple: DN Solutions makes great machines. The second is a challenge to our end-users. With a product line that is this comprehensive, accurate and reliable, we equip our customers to machine greatness. The big question: **Why should you choose DN Solutions over other options?**

Here's why...



## MACHINE GREATNESS™



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You won't find a more comprehensive range or a better combination of value, performance and reliability anywhere else.

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We offer an impressive range of machine models and hundreds of configurations. Whatever your machining needs and requirements, there's a DN Solutions for you.

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Machining centres (including 5-axis machines), lathes, multi-tasking turning centres and mill-turn machines, and horizontal borers with best-in-class specifications are all available...ready to install.

### EXPERT SERVICE

Our dedicated, experienced and knowledgeable team is totally committed to improving your productivity, growth and success.

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DN Solutions provides systems-based professional support services, before and after the machine tool sale, by responding quickly and efficiently to customers. By supplying spare parts, product training, field service and technical support, we provide the expert care, attention and assistance our customers expect from a market leader.

|  |                 |     |  |
|--|-----------------|-----|--|
| Global sales and service support network |                 | 51  | <b>Technical centers</b><br>Technical center, Sales support,<br>Service support, Parts support |
| 4  | Corporations    | 200 | Service posts  |
| 155                                      | Dealer networks | 3   | Factories  |



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



### Parts supply

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



### Training

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



### Technical support

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



[dn-solutions.com](http://dn-solutions.com)

**Head Office**

22F T Tower, 30, Sowol-ro 2-gil  
Jung-gu, Seoul, Korea, 04637  
Tel: +82-2-6972-0370/0350  
Fax: +82-2-6972-0400

**DN Solutions America**

19A Chapin Road, Pine Brook  
New Jersey 07058, United States  
Tel: +1-973-618-2500  
Fax: +1-973-618-2501

**DN Solutions Europe**

Emdener Strasse 24, D-41540  
Dormagen, Germany  
Tel: +49-2133-5067-100  
Fax: +49-2133-5067-111

**DN Solutions India**

No.82, Jakkuar Village  
Yelahanka Hobli, Bangalore-560064  
Tel: + 91-80-2205-6900  
E-mail: [india@dncompany.com](mailto:india@dncompany.com)

**DN Solutions China**

Room 101,201,301, Building 39 Xinzhuang  
Highway No.258 Songjiang District  
China Shanghai (201612)  
Tel: +86 21-5445-1155  
Fax: +86 21-6405-1472

**Sales inquiry**

[sales@dncompany.com](mailto:sales@dncompany.com)

\* For more details, please contact DN Solutions.

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