DN SOLUTIONS

MULTI-PURPOSE DOUBLE COLUMN MACHINING CENTER

DCM-H series

DCM 3150H/3160H/3180H
DCM 2640H/2650H

DCM H series

High rigidity, High precision, High productivity machine

The DCM H series is a multi-purpose double column machining center for applications such as heavy duty machining of large parts and high precision dies and molds. Designed with the highest specifications in its class, the DCM H series provides a broad range of machining capabilities and optional equipment, together with many convenient functions for the operator. Various types of head attachments can be used, complex shape processing and multi-face processing are possible, and high productivity is provided.

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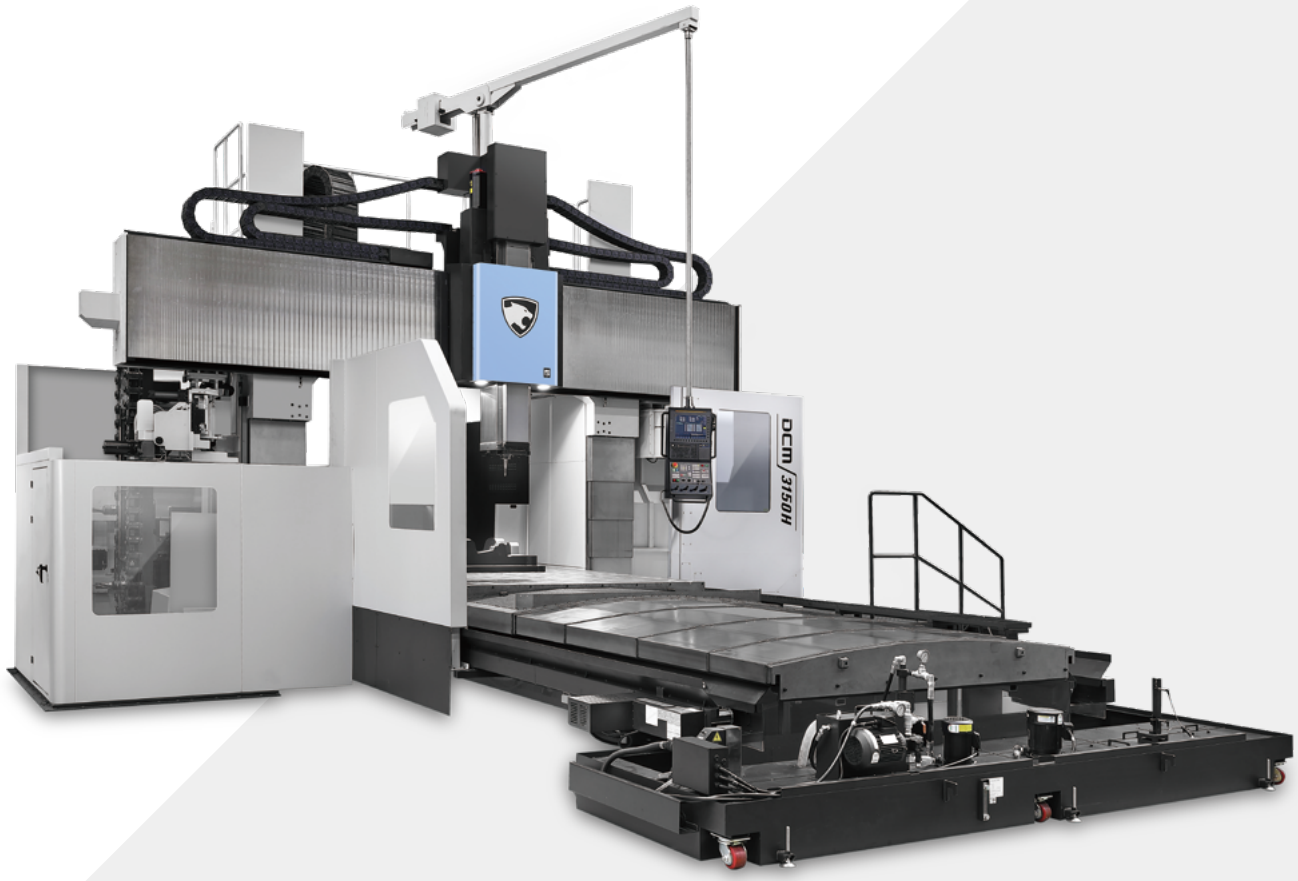


HIGH PRODUCTIVITY

Rapid transfer speeds and ATC/AAC structure optimization have dramatically improved productivity by minimizing non-cutting time.

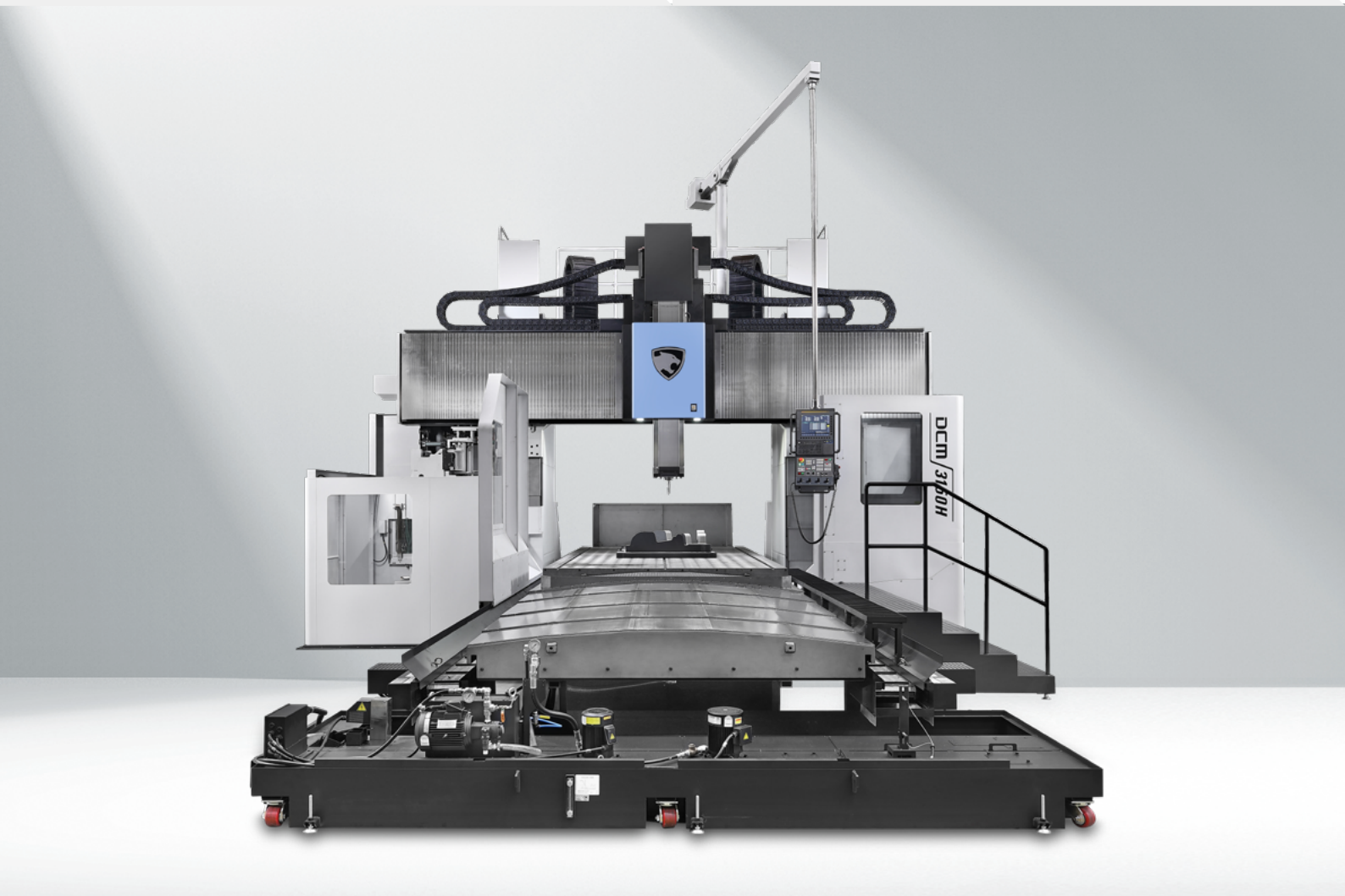
HIGH-PRECISION, HIGH-RIGIDITY, HIGH-RELIABILITY STRUCTURE

High-rigidity casting structure, high-rigidity roller guide applied to X, Y, and W axes, Z-axis high-rigidity ram structure, and double ball screw applied to enable high-precision feed and heavy-duty cutting.

CONVENIENT OPERATION

Face machining support system, AFC, etc. make it easy to operate the machine

Also, it is easy to manage by improving chip processing capability, mobile control panel, and machining surface illumination.



BASIC STRUCTURE

The majority of workpieces can be processed with various lineup. And it dramatically improved productivity by improving rapid travel speed and optimizing ATC/AAC structure.

X / Y / Z / W axes travel

X-axis **4250** / **5250** / **6250** / **8250** mm
(167.3 / 206.7 / 246.1 / 324.8 inch)

Y-axis **3200**(+500) / **3700**(+500) mm
(126.0(+19.7) inch / 145.7(+19.7) inch)

Z-axis **800** / **1100** mm (1.5 / 43.3 inch)

W-axis **1200** mm (47.2 inch)

Table size

2500 x **5000** / **6000** / **8000** mm
(98.4 x 196.9 / 236.2 / 315.0 inch)

2000 x **4000** / **5000** mm
(98.4 x 157.5 / 196.9 inch)

Load capacity

DCM 3150H / 3160H / 3180H
30 / **35** / **38** ton

DCM 2640H / 2650H
22 / **26** ton

Rapid traverse (X / Y / Z / W axes)

X/Y-axis **22** m/min (866.1 ipm) (X-axis 20m/min – DCM3180H)

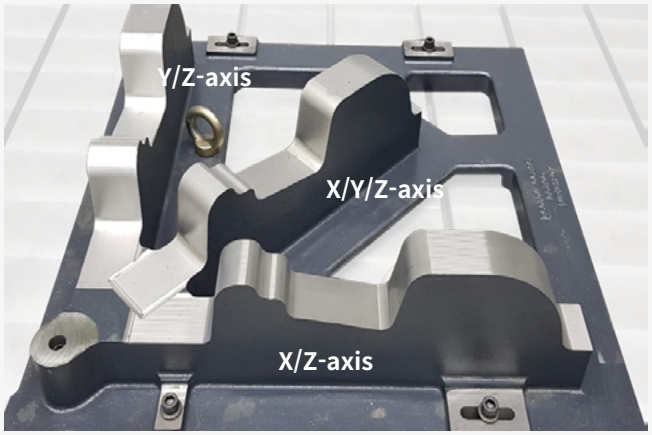
Z-axis **15** m/min (590.6 ipm)

W-axis **5** m/min (196.9 ipm)

(67% improvement over previous model)

ATC/AAC Reduce exchange time (DCM 3150H)

- Vertical tool change time 74 → 40 sec
  (46% reduction compared to the previous model)
- Dummy ↔ Angle head exchange time
  149 → 52.5 sec
  (65% reduction compared to the previous model)



Improved machining productivity

- 3D Shape machining time
  (Machining condition selection function : G5.1Q1R10)
  1hr 29min 59sec → 1hr 18min 9sec
  (13% reduction compared to the previous model)

HIGH-RIGIDITY, HIGH-PRECISION SPINDLE

A ductile casting and double ball screw structure were applied to the ram with a cross section of 380 X 380 mm (15.0 X 15.0 inch). Significantly improved rigidity and precision And with a variety of spindle options, multiple materials can be machined under optimal conditions.

Max. spindle speed

6000 r/min
8000 r/min OPTION
5000 r/min OPTION

Max. spindle motor power

55 / **37** kW
(73.8/49.6 Hp)
60 / **44** kW OPTION
(80.5/59.0 Hp)

Max. spindle torque

1009 N·m
(744.6 ft-lbs)
1306 N·m OPTION
(963.8 ft-lbs)

Ram size

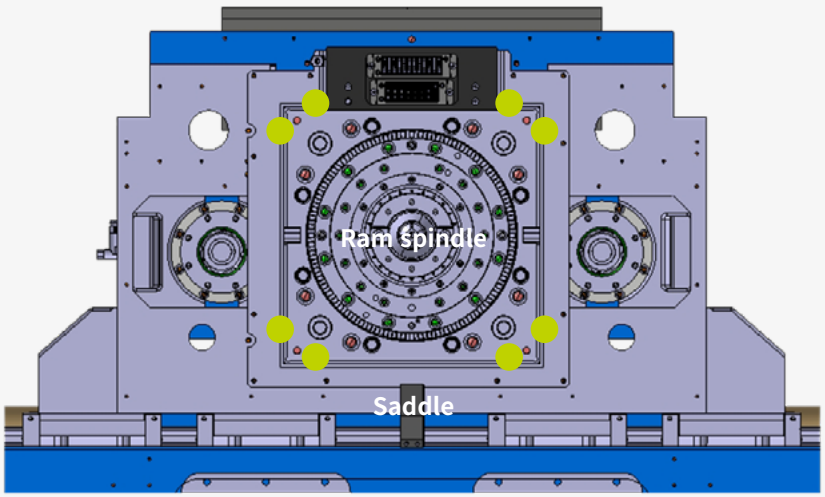
380 x **380** mm
(15.0 x 15.0 inch)

Tool taper

ISO#50

The ram using ductile casting has improved dynamic stiffness by 30% and loop stiffness by 40%.

8 ram spindle and saddle contact surfaces

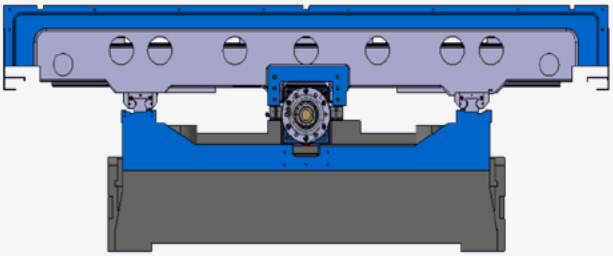


HIGH-RIGIDITY, HIGH-PRECISION STRUCTURE

Designed for the long-term high-precision and heavy-duty machining of large workpieces.

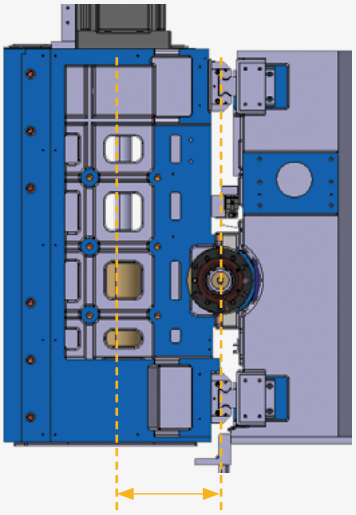
Bed and column structure

- The structure of the DCM H series minimizes the effects of vibration on workpieces when being machined. The machines' symmetrical design and rigid construction and the incorporation of effective thermal compensation systems reduces displacement during machining operations.
- The bed has a M-type cast structure - excellent for vibration absorption and for ensuring high precision machining.
- The table optimizes the spacing of support points so that it can support the weight of the workpiece well.



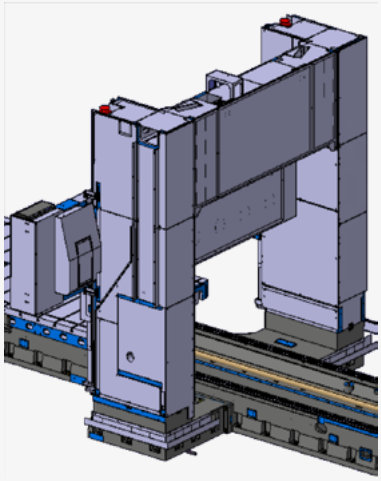
Cross-beam structure

- The cross beam guideway has a L-shaped design for increased rigidity which ensures greater accuracy Y-axis travel(ram and saddle).



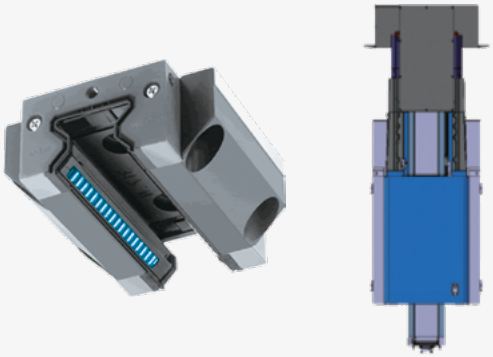
High rigidity prismatic column and crossbeam

- The high-rigidity prismatic column and crossbeam have sufficient rigidity against processing force to maintain high precision.
- The left-right symmetrical structure maintains stable precision for a long time against thermal displacement and changes in the external environment.



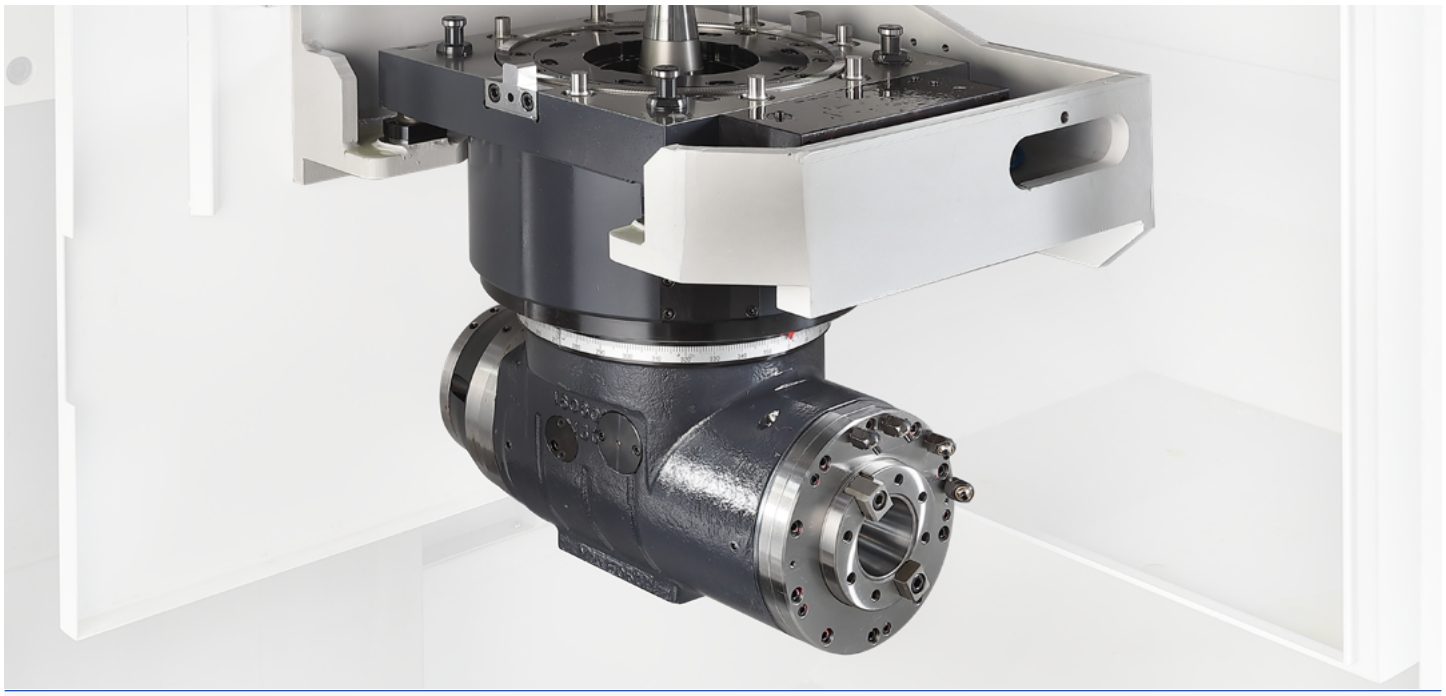
High Rigidity Precision Travel System

- The roller guideways applied to the X, Y, and W axes maintain high rigidity and excellent feed precision
- The double ball screw applied to the Z-axis improves the straightness of the Z-axis and provides high-speed, high-precision control.
- Cooling function applied to ball screw support bearing as standard to minimize thermal displacement of shaft system



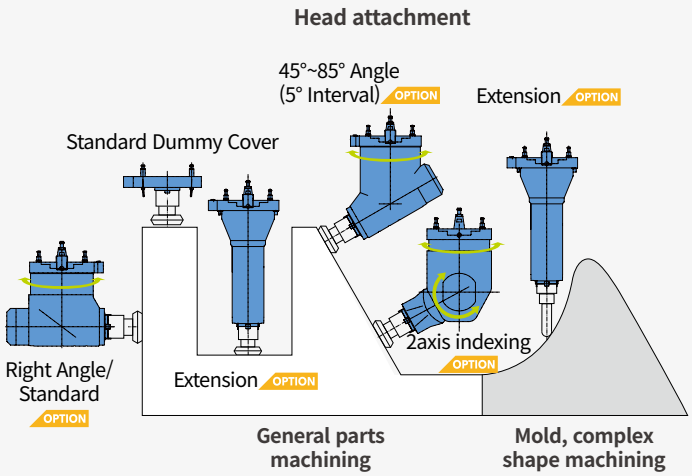
VARIOUS AUTO-CHANGE HEAD ATTACHMENTS

Different auto-change head attachments enable the machining of a range of complex shapes and features, and the use of different machining processes - i.e. simultaneous 5-axis machining of mold tools through to angled head machining of parts/contours (1 degree indexing), and face machining.



Diverse head attachments for a wide range of machining applications

A range of equipment and utilities are available to ensure, and maintain, high performance machining even when the head attachment is changed.
Provides numerous utilities to ensure the same performance provided by the original ram spindle even after changing a Head Attachment.



Features	Standard dummy cover	Extension OPTION	Right Angle (Standard/ OPTION)
Spindle air curtain	Standard	Standard	-
Flood Coolant / Air Blow	Standard	Standard	Standard
Head attachment tool unclamp	Standard	Standard	Standard
Head attachment spindle air purge	Standard	Standard	Standard
TSC (Through spindle coolant 2.0 or 3.0 Mpa)	OPTION	OPTION	OPTION
TSA (Through spindle air)	OPTION	OPTION	OPTION

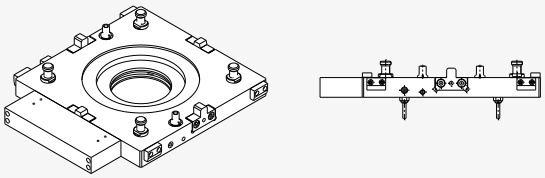
** The provided utility line could be different as choosing the head attachment.*
** 45~85 degree angle attachment (5 degree interval) or special head attachment is being considered, please contact DN Solutions for detailed specifications.*

VARIOUS AUTO-CHANGE HEAD ATTACHMENTS

F frame head attachment

Unit: mm (inch)

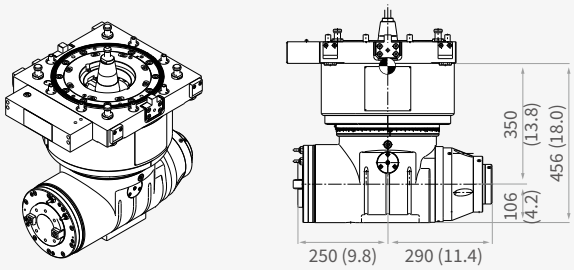
Standard dummy cover



** TSC option applies up to 3.0Mpa*

Right angle

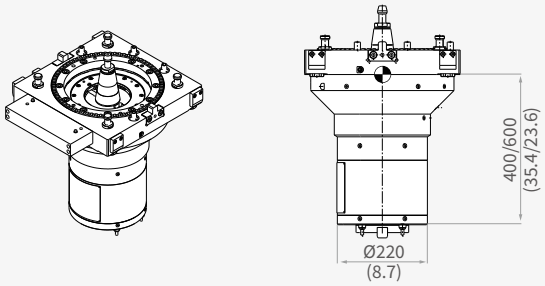
- MAX 4000 r/min, min 5/1 indexing
- MAX 3000 r/min, min 5/1 indexing OPTION
- MAX 6000 r/min, min 5/1 indexing OPTION



** TSC option applies up to 3.0 Mpa*

Extension OPTION

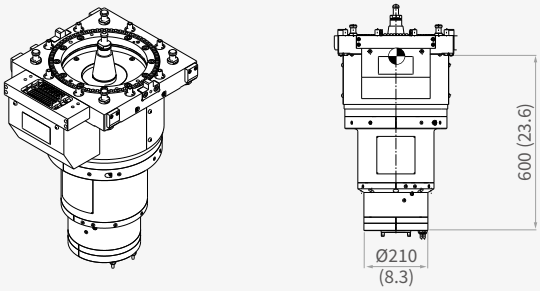
- MAX 6000 r/min



** TSC option applies up to 3.0Mpa*

High-speed extension OPTION

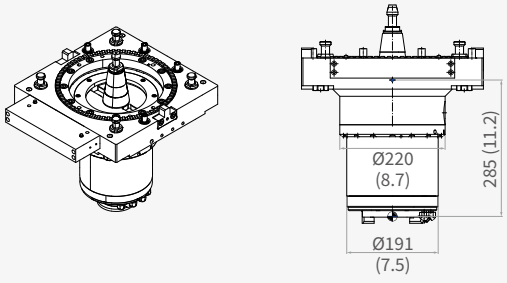
- MAX 6000~12000 r/min, 15/11 kW (20.1/14.8 Hp)



** TSC option is not applied.*

Small extension OPTION

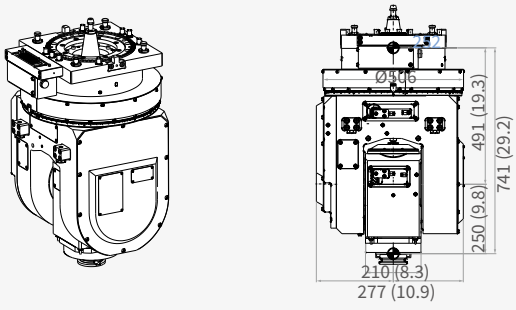
- MAX 8000 r/min



** TSC option applies up to 3.0Mpa*

2axis indexing OPTION

- MAX 6000 r/min, B & C axes 1° indexing



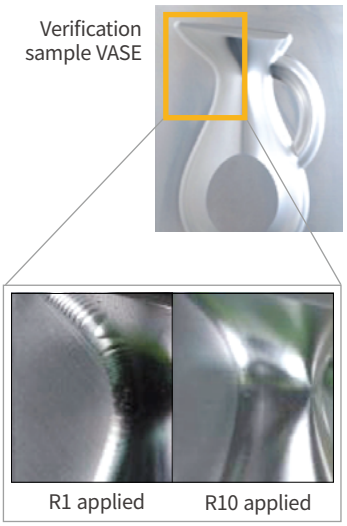
** TSC option is not applied.*

** If the TSC pressure of more than 3.0 Mpa is being considered, please contact DN solutions for detailed specifications.*

HIGH-PRECISION MOLD MACHINING

High-speed, high-precision contouring control

• AICC 1000 block + Machining condition selection function



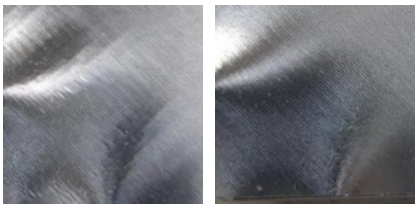
Cutting condition selection function

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.

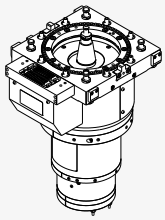
Smooth tolerance control 기능

• Excellent surface, improved machining quality
• Reducing the need for post-processing
• Increased productivity and tool life



High-precision, high-speed head attachments and universal heads designed for mold machining

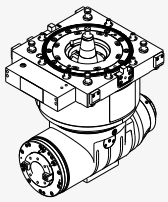
Optimized mold machining can be achieved by selecting various head attachments and ram spindles designed, specifically, for the high-speed machining of molds, mold inserts etc.



Motor Spindle Extension

OPTION

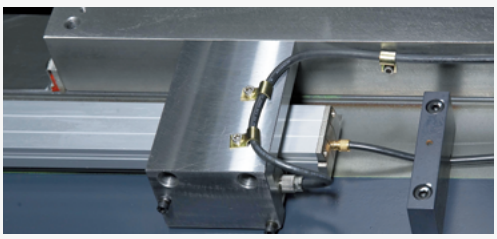
6000~12000 r/min,
23.9 N·m (17.64 ft-lbs)



High-speed Right Angle

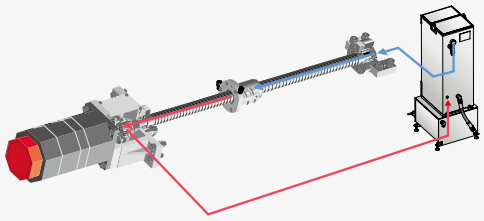
OPTION

6000 r/min, 15 kW (20.1Hp),
409 N·m (301.8 ft-lbs)



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

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



X/Y/Z-axis ballscrew shaft cooling OPTION

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 H
High-quality machining (DN Solutions SUPER QUALITY)	AICCII+MACHINING CONDITION SELECTION		●
	DATA SERVER	1GB	○
		2GB	○
		4GB	○
	HIGH SPEED PROCESSING 1000 BLOCK		●
Tool management			●
Tool shank	BT50		●
	CAT5 0		○
	DIN50		○
Tool magazine	40 tools		●
	60 tools		○
	90 tools		○
	120 tools		○
Work load counter control			●
Electric leakage breaker			○
Electric line filter			○
Ram spindle	6000 r/min (Built-in) 55/37 kW(FANUC)		●
	8000 r/min (Built-in) 55/37 kW(FANUC)		○
	5000 r/min (Built-in) 60/44 kW(FANUC)		○
	Spindle Cooling device		●
	Spindle thermal compensation		●
Feed system	Bearing Housing Cooling(X/Y/Z)		●
	Ball screw through cooling (X/Y/Z)		○
Linear scale feedback system	X / Y/ Z /W-axis		○
Lift-up chip conveyor	HINGED PLATE		○
	MAGNETIC SCRAPER		○
Hydraulic power unit			●
Bellows cover for axis	X/W-axis		●
Sliding covers for axes	Y-axis		●
Easy pattern cycle			●
Automatic tool length measurement	TS27R_RENISHAW		○
	NC4_RENISHAW		○
	MASTER TOOL		○
Automatic workpiece measurement	RMP60_RENISHAW		○
	RMP600_RENISHAW		○
	CALIBRATION BLOCK		○
Automatic attachment changer (AAC)	SWING TYPE	2 stations	●
	ROTARY TYPE	3 stations	○
		4 stations	○
Auto power on			○
Auto power off			●
Tool load monitoring			●
Coolant tank	1000L		●
Periodical checking function			●
Main operation panel (pendent type)	POLE TYPE		●
	STAND TYPE		○
ATC Max. tool weight	30KG(66.1 lb)		●
ATC tool length	400mm(15.7 inch)		●
Chip & coolant protective cover	CHIP COVER		●
	SEMI GUARD		○
	ATC DOOR		○
Coolant	FLOOD		●
	Coolant level switch : Sensing level - Low/ High		●
	Coolant gun		○
	Water soluble Coolant Chiller***		○
	TSC(2.0 Mpa)		○
	TSC(3.0 Mpa)		○
Test bar	BT50/CAT50/DIN50		○

Division	Description		DCM H
Table T-slot	24H8		●
	28H8		○
Chip bucket	Rotary type (380L) (100.4 galon)		○
	Lift type (380L) (100.4 galon)		○
High column & Z-axis expand AIR	Height : 2150mm(84.6inch) / Z STROKE : 1100mm(43.3inch)		○
	AIR BLOWER		●
	AIR PURGE		●
	AIR CURTAIN		●
	AIR GUN		○
	TSA(Through Spindle Air)		○
	AIR DRYER		○
CS control BZ sensor			●
Display unit	15" COLOR LCD		●
Head attachment	DUMMY HEAD		●
	RIGHT ANGLE HEAD (L350/4K R/MIN)		●
	RIGHT ANGLE HEAD (L350/6K R/MIN)		○
	RIGHT ANGLE HEAD (L350/3K R/MIN)		○
	EXTENSION HEAD (L400/6K R/MIN)		○
	EXTENSION HEAD (L600/6K R/MIN)		○
	EXTENSION HEAD (L600/12K R/MIN)		○
	EXTENSION HEAD (L285/8K R/MIN)		○
	INDEX UNIVERSAL HEAD (L741/6K R/MIN)		○
	Special head attachment		○
Auto head attachment offset support	G100		●
Auto head attachment offset measurement	G120		○
indexing angle	5Ń		●
	1Ń		○
MPG	PORTABLE TYPE 1-MPG		●
	MPG WITH LCD DISPLAY		○
	PORTABLE TYPE 3-MPG		○
	HMOP(Handy Machine Operator's Panel)		○
NC controller FANUC	31i-B PLUS		●
Oil skimmer	BELT TYPE		○
Pull stud	MAS 403 P50T-1 (45Ń)		●
	MAS 403 P50T-2 (60Ń)		○
2-side chip conveyor (in machine to tank)	HINGED PLATE		●
Face machining support system			●
Rotary Table	PACKAGE #1 : ONLY WIRING		○
	PACKAGE #2 : HYD. & CONTROL READY		○
	PACKAGE #3 : FULL OPT.		○
Accessories	Electric cabinet light		○
	Electric cabinet air conditioner		○
	Work light (LED: 4ea)		●
	Operator call lamp		●
	Components for installation	Leveling blocks and anchoring bolts	●
		Installation tool kit	●
	Components for maintenance	Maintenance tool kit	○
Installation type	UNDER GROUND FL-960 INSTALL (TABLE TOP_FL0)		●
	GROUND FL0 INSTALL(TABLE TOP_FL-960)		○

● *Standard* ○ *Optional* X *N/A*

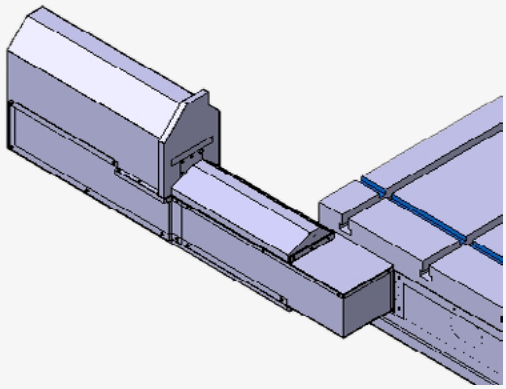
** Please contact your DN Solutions representative for detailed machine information.*
*** Please contact to DN Solutions for SIEMENS, HEIDENHAIN NC.*
1) Depending on the peripheral device or NC SYSTEM configuration, the number of AICC blocks may be changed or limited.
2) Fanuc i plus iHMI can be selected

** When using a semi-synthetic type or synthetic type, contact our sales representative or service center in advance.*
**** Coolant chiller unit is designed for machining conditions using water soluble coolant. In case of machining conditions using non-watersoluble coolant, its high viscosity can result in poor chilling effects or device damage, so prior technical consultation is absolutely necessary.*

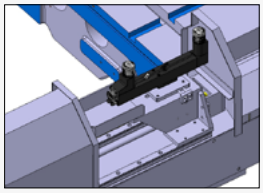
⚠ Fire Safety Precautions | There is a high risk of fire when using non-water-soluble cutting fluids, processing flammable materials, neglecting the controlled and careful use of coolants and modifying the machine without the consent of the manufacturer. Always check the SAFETY GUIDELINES carefully before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

PERIPHERAL EQUIPMENT

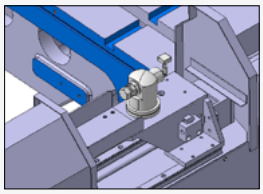
Automatic tool measurement OPTION



NC4



TS27R



Tool length can be measured in the vertical and horizontal direction. The length of tool set up in the spindle is measured automatically, and a specific tool's offset data is entered automatically.

Pendant arm operation panel

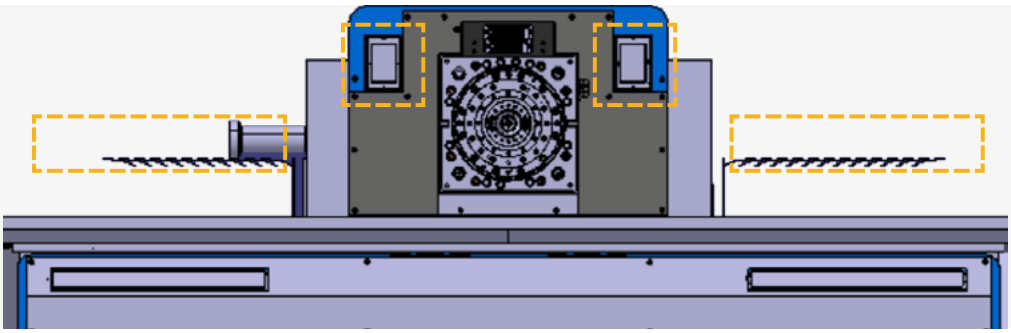
Left-right-up-down and pull-type pendant arm operation panel.

- The pulse handle and manual handle (portable MPG) etc., enable easy job setups can be supplied as a standard feature or as an option.

Hinged Belt	Magnetic Scrapper OPTION
 Portable type 1 MPG	 Portable type 3 MPG
Drum Filter (Single type) OPTION	**Drum Filter (Double type) OPTION**
 MPG with LCD display	 HMOP(Handy Machine Operator's Panel)

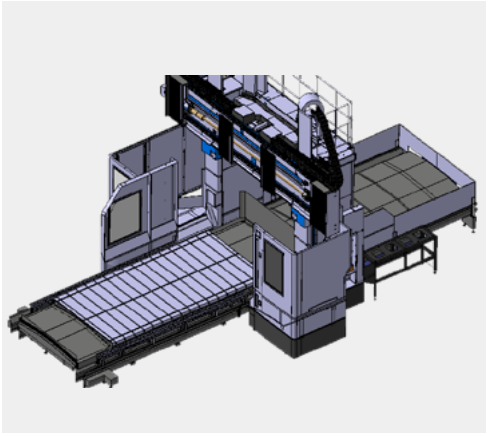
Work light

By arranging 2 LED work lights on the saddle and lower part of the cross, it reduces the operator's eye fatigue.

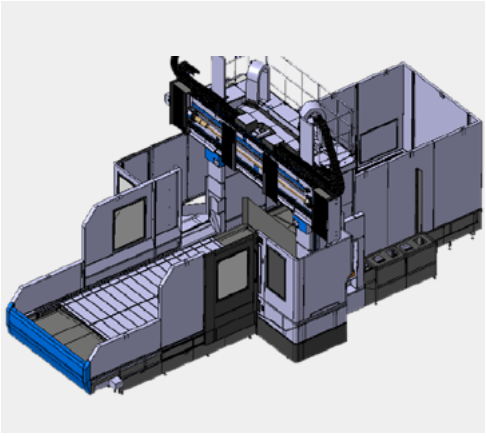


PERIPHERAL EQUIPMENT

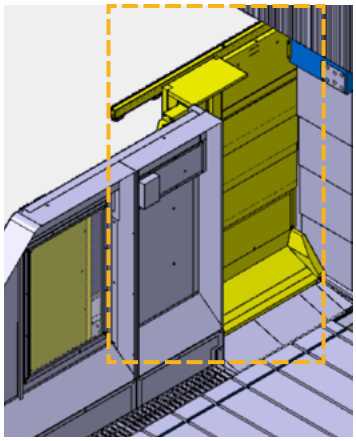
Chip conveyor



Semi-guard OPTION



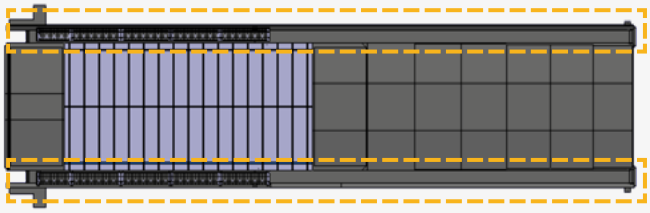
ATC DOOR OPTION



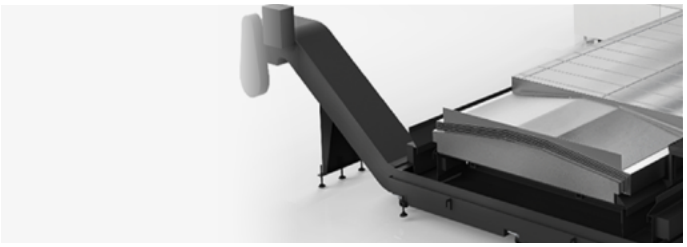
** To maintain the operator's safety and to block coolant splash from the working area, please purchase the optional splash guard. Another measure of protection should be provided if you are not using the splash guard.*

Chip conveyor

Side conveyor(Hinge belt)



Lift up conveyor OPTION

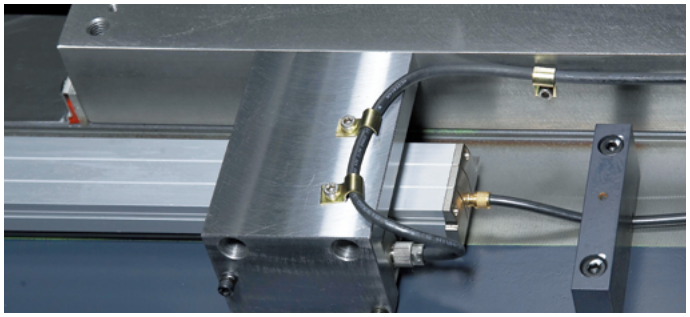


Chip bucket OPTION

Forklift type
The bottom of the chip bucket has a space into which forks can be inserted to allow forklift transportation.

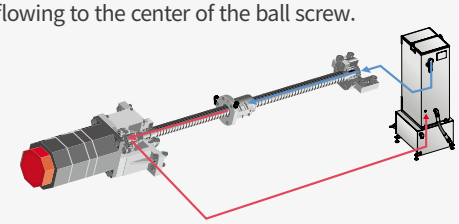
Rotation type
The chip bucket is fitted with a rotating joint that allows it to be tilted and empied quickly.

X/Y/Z/W-axis Linear scale OPTION



X/Y/Z-axis ball screw shaft center cooling OPTION

Use a high efficiency cooler to cool the ball screw and minimize thermal displacement. For quick cooling, you can select a hollow shaft with coolant flowing to the center of the ball screw.

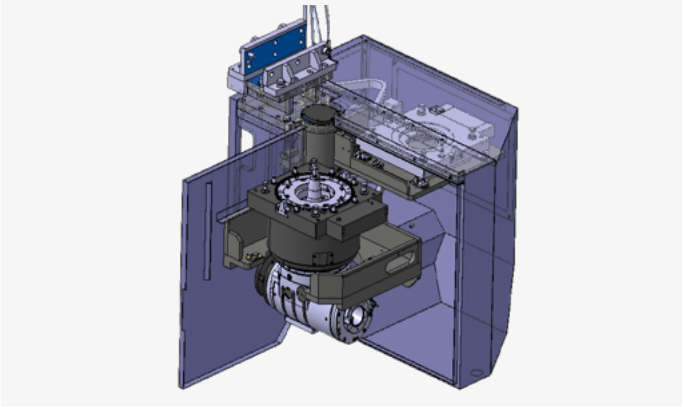


PERIPHERAL EQUIPMENT

Automatic head attachment changer

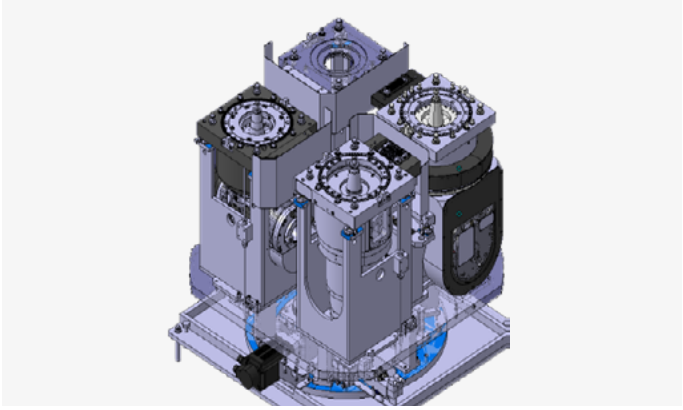
Swing AAC-2 stations

Two types of head attachment-dummy cover and 90 degree are supplied as standard to minimize the time required to change a head attachment.



Rotary AAC-3 & 4 stations OPTION

Various attachment options are available.



AAC and Attachment configuration

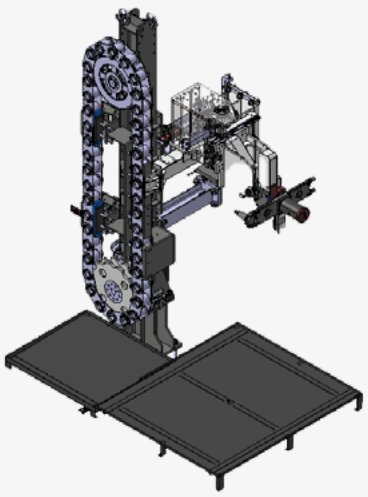
Attachment	2 stations	3 stations	4 stations
DUMMY	○	○	○
Right ANGLE	○	○	○
EXTENSION 285, 400L		○	○
EXTENSION 600L			○
2AXIS INDEXING			○

AAC and column options

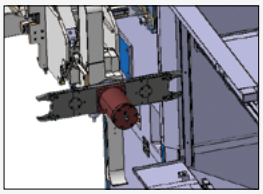
AAC	Z800 & STD. Columns	Z1100 & +300mm High column
2 stations	○	○
3 stations	○	X
4 stations	X	○

Automatic tool changer

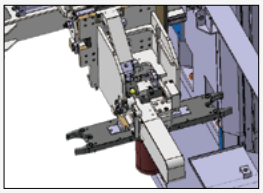
One arm performs the tool changes for both the horizontal and vertical spindle. The servomotor magazine and hydraulic ATC have high reliability and are synchronized with the W-axis position to minimize non-cutting time.

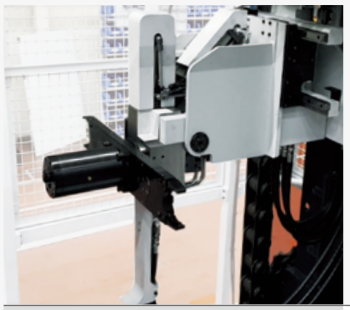


Horizontal type



Vertical type





Horizontal ATC operation with a 90° head attach mounted.

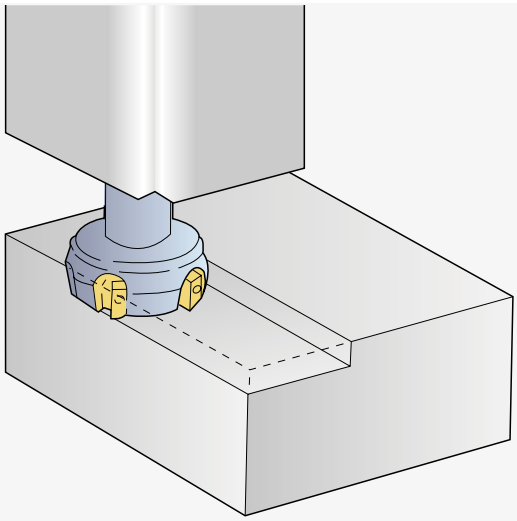
※ *Picture-Vertical ATC in operation*

Max. No. of tools	40 {60, 90, 120 OPTION} EA
Max. tool diameter	130 (5.1 inch) {near pot empty : 250 (9.8 inch)} mm
Max. tool length	400mm (15.7 inch)
Max. tool weight	Max. tool weight 30 kg (66.1 lb)
Tool selection type	Fixed address
Tool changing time (T-T)	5.5 s

MACHINING CAPACITY

Heavy-duty cutting capacity

Face mill



Material : SM45C					
Max. Cutting Capacity (Standard)	**FACE CUTTER**				
	Cutter Dia.	Spindle speed	Feedrate	Chip removal rate	Condition
	125 mm (4.9 inch)	350 r/min	1400 mm/min (55.1 ipm)	980 cm^3/min (59.8 $inch^3$/min)	Z-800, W-700
	125 mm (4.9 inch)	350 r/min	1400 mm/min (55.1 ipm)	1260 cm^3/min (76.9 $inch^3$/min)	Z-400, W-1100
	U-DRILL				
	Drill Dia.	Spindle speed	Feedrate	Chip removal rate	Condition
	70 mm (2.8 inch)	350 r/min	196 mm/min (7.7 ipm)	754 cm^3/min (46.0 $inch^3$/min)	Z-550, W-800
	MAX. TAPPING				
	Thread	Spindle speed	Feedrate	Reamark	
	M42xP4.5	190 r/min	855 mm/min (33.7 ipm)	Fine.	

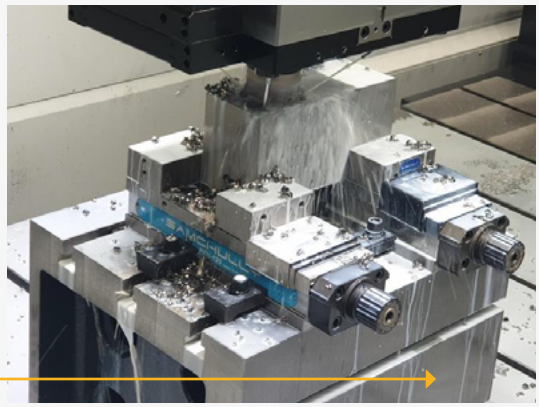
Titanium machinability test

Tool Information (D100 cutter)

- Cutter : 5M5P100R30 (Ingersoll)
- Insert tip : SDES130516N-PF1 IN4035 (Ingersoll)

Cutting Condition

- V = 50m/min / S=160rev/min
- F = 576mm/min / Fz=0.4mm/tooth (9 teeth)
- Ae =100mm(full dia.)
- Ap =4.7mm (Spindle Load meter = 71%)



450mm Block

** 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.*

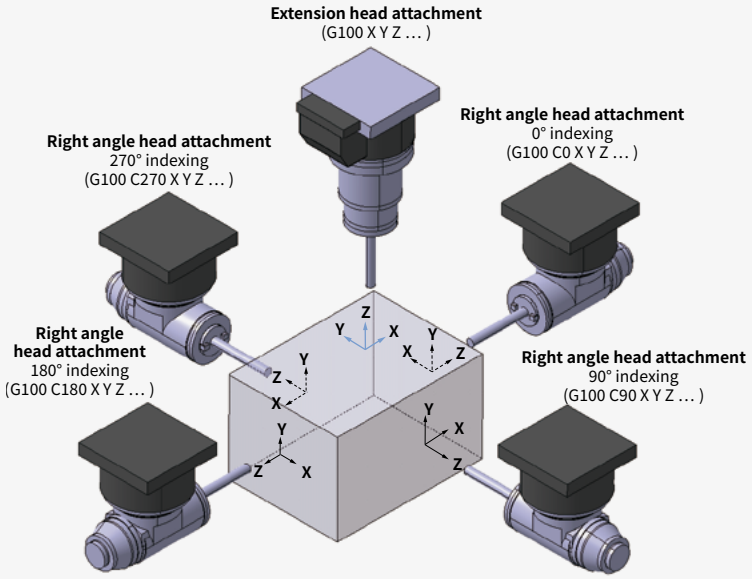
CONVENIENT MACHINING

Face machining support system

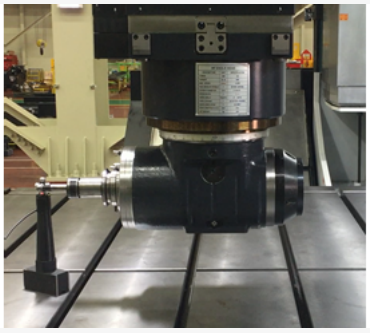
Support functions for face machining

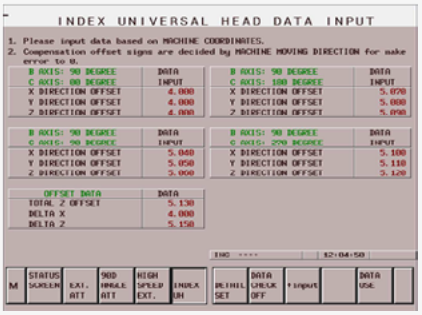
- 3-dimensional work-coordinate conversion system
- Tool end point shift within work coordinate system
- AAC control and head attachment position control by M-Code
- Head attachment offset calibration function (G100)

**These functions are provided as standard when the face machining head attachment is supplied.*

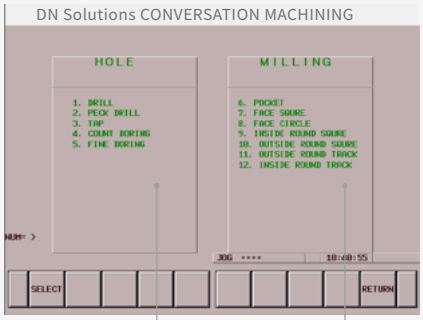


- Automatic head attachment offset measurement(G120) OPTION

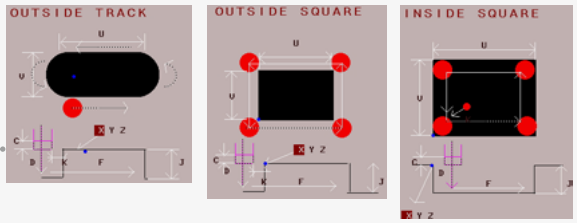




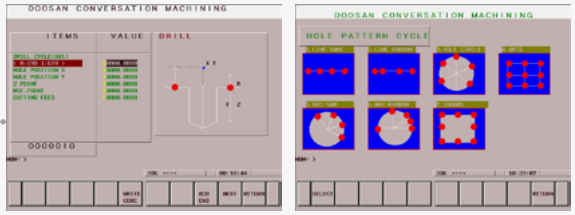
Easy pattern cycle



Programming time can be dramatically reduced by creating cutting programs and inputting the major parameters of the cutting pattern cycle required for parts cutting. The function is embedded in the CNC for convenient use in the field. Up to 12 complex pattern cycles including hole 5 patterns and milling 7 pattems are available.



Example) Milling pattern

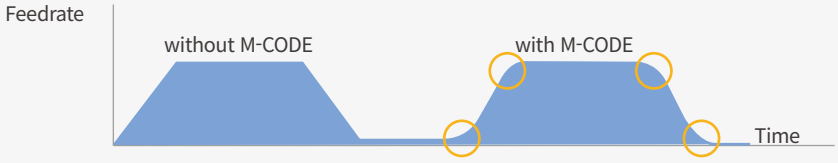


Example) Hole pattern

CONVENIENT MACHINING

Work load counter control

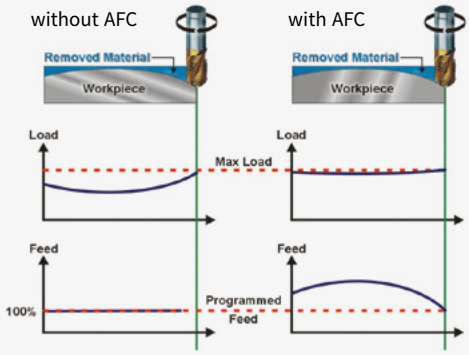
If customer selects proper M-Code according to weight of the work piece, the machine can decide itself the best moving pattern of the table. And machining can progress by this decision.

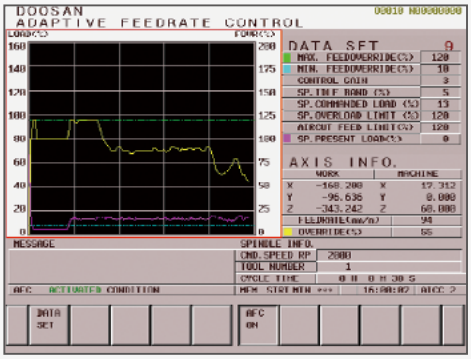


M-Code	Weight of work piece
M380	5 tons(11023.0 lb) or less
M381	10 tons(22045.9 lb) or less
M382	15 tons(33068.9 lb) or less
M383	20 tons(44091.8 lb) or less

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

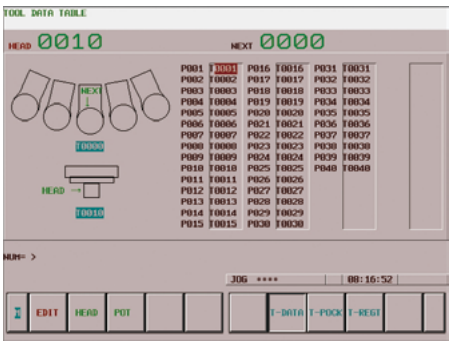
In-process monitoring minimizes the risk of damage to the workpiece during cutting operations.

Tool load monitoring

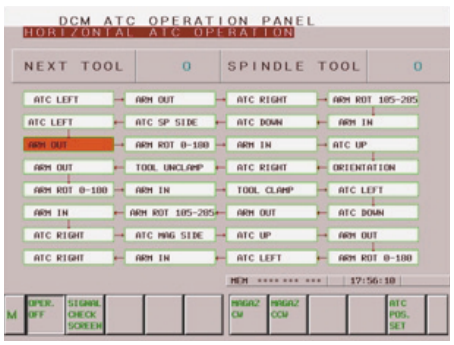
During cutting operations, abnormal loads caused by wear and tear of the tool are detected, and an alarm is triggered to prevent further damage from occurring.

Tool management OPTION

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



ATC manual operation screen



FANUC 31i-B PLUS

FANUC 31i-B PLUS maximizes customer productivity and convenience.

15” Touch screen + New OP

DN Solutions Fanuc 31i-B 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 31iB5 PLUS

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

USB and PCMCIA card QWERTY keyboard

- EZ-Guide i standard
- Ergonimic 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

Division	Item	Specifications	FANUC 31i-B PLUS DCM H series
Controlled axis	Controlled axes		4 (X,Y,Z,W)
	Simultaneously controlled axes		3 axis
	Additional controlled axis	Add 1 Axis (5th Axis)	○
Data input/output	data server		○
	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
Feed function	AI contour control II	G5.1 Q_, 1000 Blocks *1)	●
Operation Guidance Function	EZ Guidei (Conversational Programming Solution)		●
	iHMI with Machining Cycle	Only with 15” Touch LCD standard *2)	●
	EZ Operation package		●
Setting and display	CNC screen dual display function		●
Network	FANUC MTConnect		✪
	FANUC OPC UA		✪
Others	Display unit	15" color LCD with Touch Panel	●
	Part program storage size & number of registerable programs	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

● Standard ○ Optional X Not applicable ✪ Available
Network: FANUC MTConnect and FANUC OPC UA available.

SPINDLE POWER | TORQUE

FANUC

6000 r/min

Max. spindle speed

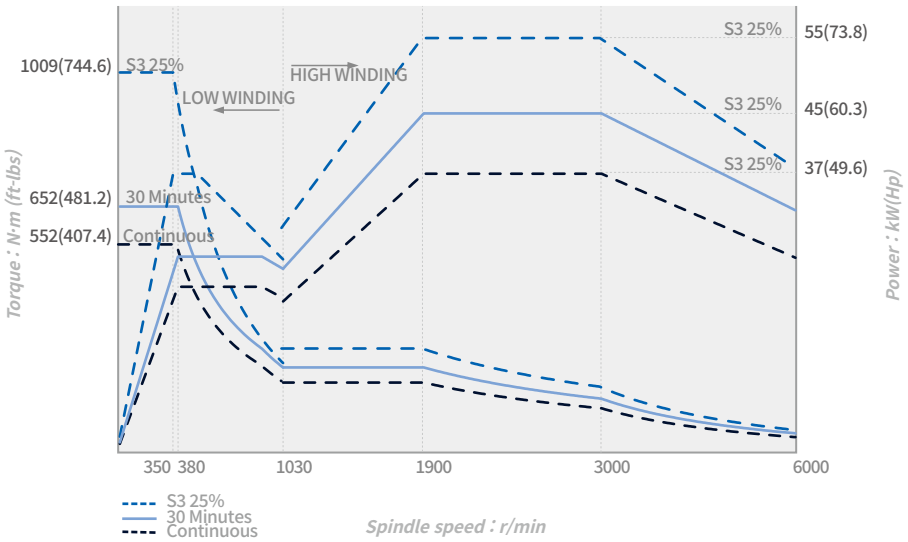
6000 r/min

Max. spindle motor power

55 kW (73.8 Hp)

Max. spindle torque

1009 N·m (744.6 ft-lbs)



8000 r/min OPTION

Max. spindle speed

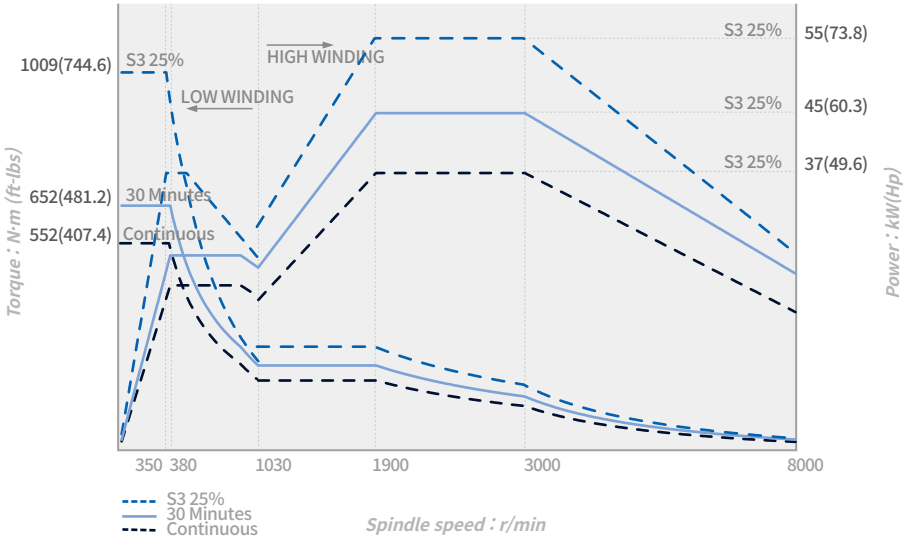
8000 r/min

Max. spindle motor power

55 kW (73.8 Hp)

Max. spindle torque

1009 N·m (744.6 ft-lbs)



5000 r/min OPTION

Max. spindle speed

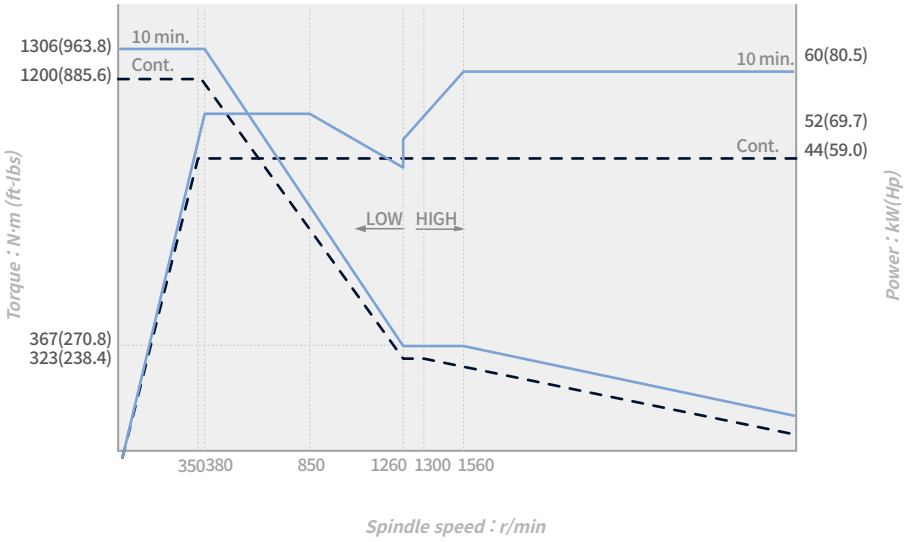
5000 r/min

Max. spindle motor power

60 kW (80.5 Hp)

Max. spindle torque

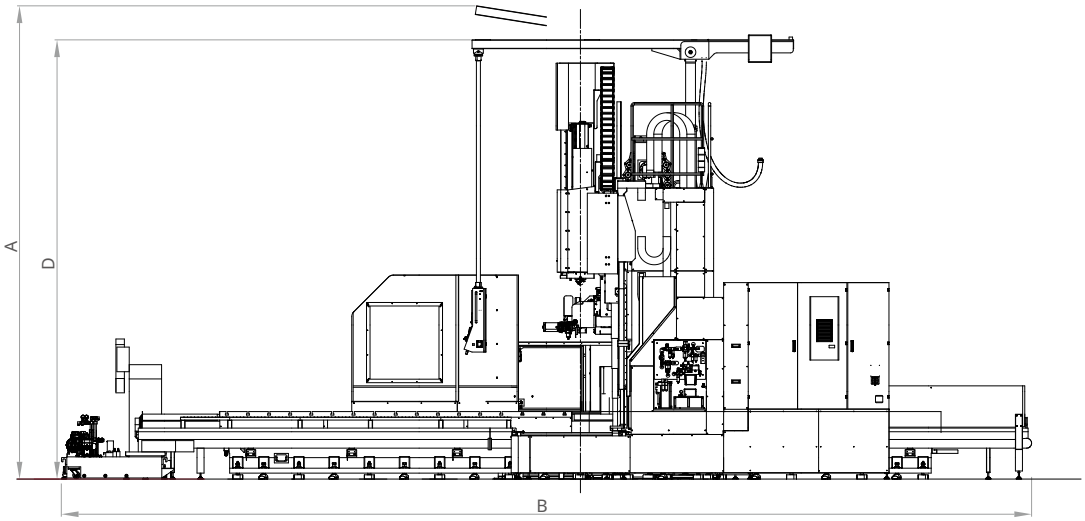
1306 N·m (963.8 ft-lbs)



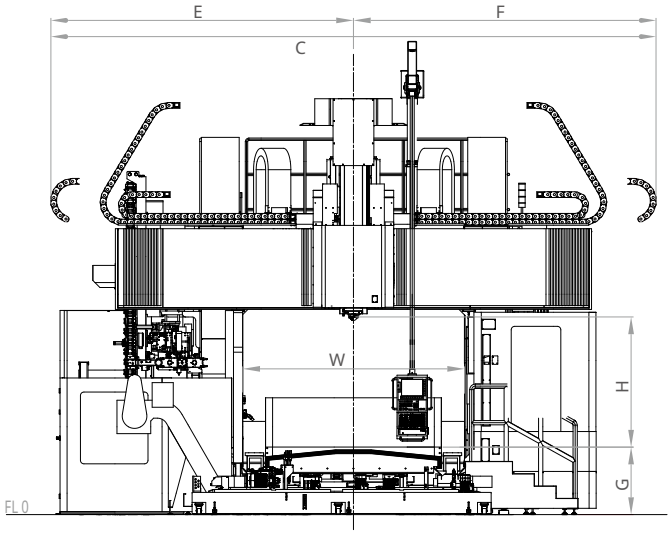
EXTERNAL DIMENSIONS

SIDE

Unit: mm (inch)



FRONT



Model		A	B	C	D	E	F	G	H	W
DCM 2640H	Z800	6750 (265.7)	11765 (463.2)	8200 (322.8)	6400 (252.0)	4100 (161.4)	4100 (161.4)	960 (37.8)	1850 (72.8)	2650 (104.3)
	Z1100	7350 (289.4)			7000 (275.6)				2150 (84.6)	
DCM 2650H	Z800	6750 (265.7)	13670 (538.2)		6400 (252.0)				1850 (72.8)	
	Z1100	7350 (289.4)			7000 (275.6)				2150 (84.6)	
DCM 3150H	Z800	6750 (265.7)	13800 (543.3)	8600 (338.6)	6400 (252.0)	4300 (169.3)	4300 (169.3)	960 (37.8)	1850 (72.8)	3150 (124.0)
	Z1100	7350 (289.4)			7000 (275.6)				2150 (84.6)	
DCM 3160H	Z800	6750 (265.7)	16100 (633.9)		6400 (252.0)				1850 (72.8)	
	Z1100	7350 (289.4)			7000 (275.6)				2150 (84.6)	
DCM 3180H	Z800	6750 (265.7)	20250 (797.2)		6400 (252.0)				1850 (72.8)	
	Z1100	7350 (289.4)			7000 (275.6)				2150 (84.6)	

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

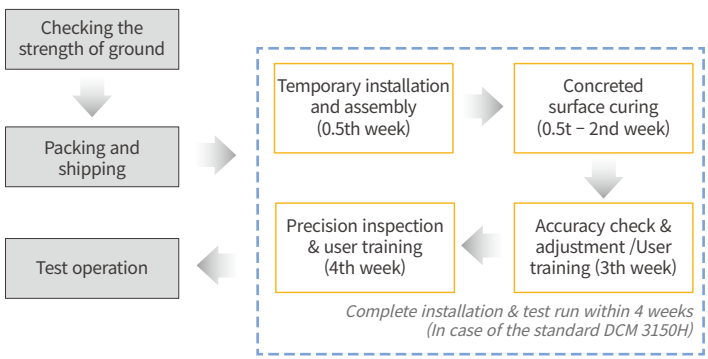
Installation precautions

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)]

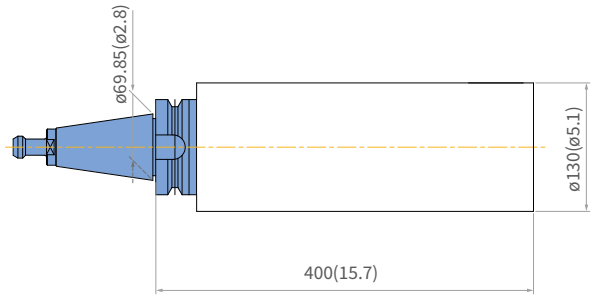
** The installation plan may vary according to the size of the machine, optional devices, and the conditions and environment of the site.*



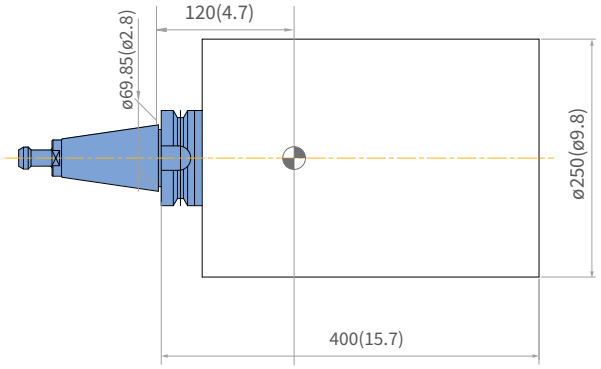
TOOL DIMENSIONS

With an adjacent tool

Units : mm (inch)

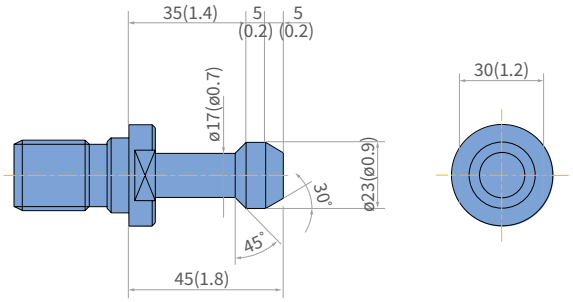


Without adjacent tools

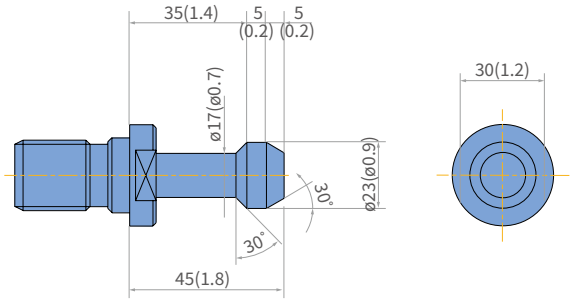


MAX. Moment=35.28 N.m (26.0 ft-lbs)

Pull Stud : MAS 403 P50T-I (45°)



Pull Stud : MAS403 P50T-II (60°) OPTION



Maximum tool weight

- Standard : 30 kg (66.1 lb)
- The center of gravity must be within 120 mm from the gauge line.

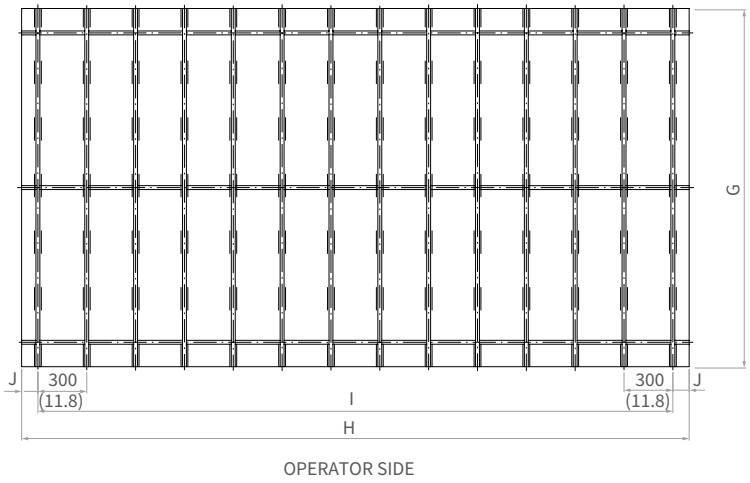
Various tooling applications

- Any type of tooling is applicable.
- Please contact our engineering team if necessary.

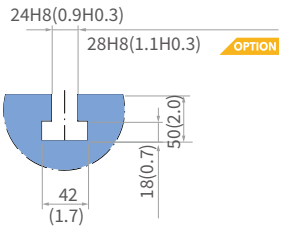
TABLE DIMENSIONS | WORKING RANGE

Table

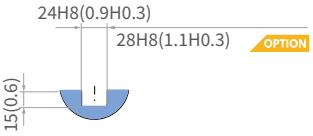
Units : mm (inch)



OPERATOR SIDE

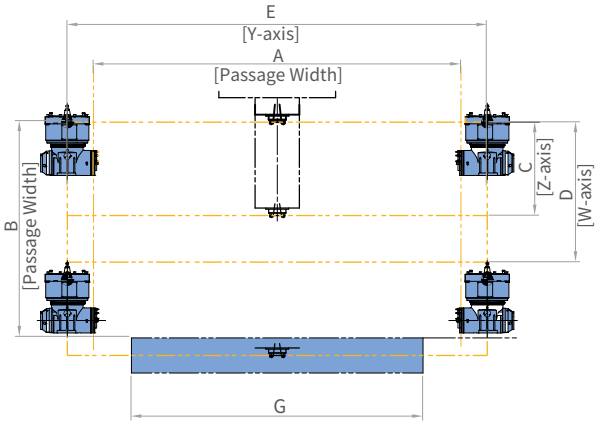


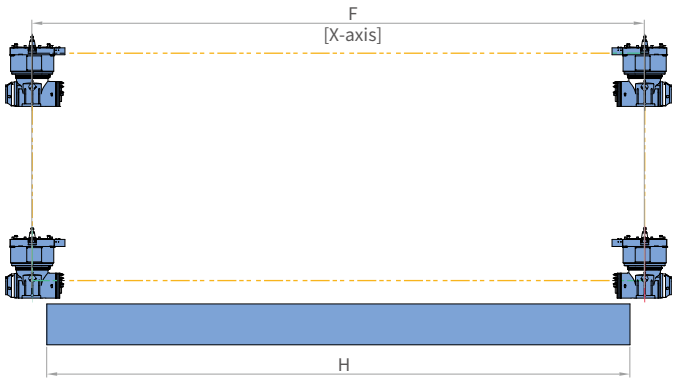
T-SLOT



CROSS SLOT

Working range





Model	Table type	A	B	C	D	E	F	G	H	I	J
DCM 2640H	20 x 40 (0.8 x 1.6)	2650 (104.3)	1850 (72.8) {2150 (84.6)}	800 (31.5) {1100 (43.3)}	1200 (47.2)	3200 (126.0)	4250 (167.3)	2000 (78.7)	4000 (157.5)	3600 (141.7)	200 (7.9)
DCM 2650H	20 x 50 (0.8 x 2.0)						5250		5000 (196.9)	4800 (189.0)	100 (3.9)
DCM 3150H	25 x 50 (1.0 x 2.0)	3150 (124.0)				3700 (145.7)	5250 (206.7)	2500 (98.4)	5000 (196.9)	4800 (189.0)	100 (3.9)
DCM 3160H	25 x 60 (1.0 x 2.4)						6250 (246.1)		6000 (236.2)	5700 (224.4)	150 (5.9)
DCM 3180H	25 x 80 (1.0 x 3.1)						8250 (324.8)		8000 (315.0)	7800 (307.1)	100 (3.9)

{ } : optional

**Depending on the AAC TYPE, there may be some interference sections. When ordering, please contact 'DN Solutions'.*

MACHINE SPECIFICATIONS

Item			Unit	DCM 2640H	DCM 2650H	DCM 3150H	DCM 3160H	DCM 3180H
Travel	Effective width between columns		mm (inch)	2650		3150 (124.0)		
	Table to spindle nose		mm (inch)	1850 {2150} (72.8 {84.6 })				
	X-axis		mm (inch)	4250 (167.3)	5250 (206.7)	5250 (206.7)	6250 (246.1)	8250 (324.8)
	Y-axis(AAC, ATC ST.)		mm (inch)	3200(+500) (126(+19.7))		3700(+500) (145.7(+19.7))		
	Z-axis		mm (inch)	800 {1100} (31.5 {43.3})				
	W-axis		mm (inch)	1200 (47.2)				
Table	Table size(Width X Length)		mm x mm (inch x inch)	2000 x 4000 (78.7 x 157.5)	2000 x 5000 (78.7 x 196.9)	2500 x 5000 (98.4 x 196.9)	2500 x 6000 (98.4 x 236.2)	2500 x 8000 (98.4 x 315.0)
	Load capacity		kg (lb)	22000 (48501.0)	26000 (57319.3)	30000 (66137.7)	35000 (77160.7)	38000 (96520.0)
	T-Slot		mm (inch)	24H8 {28H8} (0.9H0.3 {1.1H0.3})				
Spindle	Tool Shank		mm (inch)	BT50				
	Ram size		mm x mm (inch x inch)	□380 x 380 (□15.0 x 15.0)				
	Max spindle speed		r/min	6000 {8000, 5000}				
	Max. Spindle power		kW (Hp)	55/37 {60/44} (73.8/49.6 {80.5/59.0})				
	Max. spindle torque		N·m (ft-lbs)	1009 {1306} (744.6 {963.8})				
Feedrate	Rapid feedrate(X/Y/Z/W)		m/min (ipm)	22/22/15/5 (866.1/866.1/590.6/196.9)				20/22/15/5 (787.4 /866.1/ 590.6/196.9)
	Cutting feedrate(X/Y/Z)		m/min (ipm)	10/10/10 (393.7/393.7/393.7)				
ATC	Tool type	Tool shank	-	BT50 {CAT 50, DIN 50}				
		Pull stud	-	MAS403 {MODIFIED CAT, DIN 39872 #50}				
	Tool storage capacity		ea	40 {60, 90, 120}				
	Max. tool diameter [Continuous]		mm (inch)	130[250] / (5.1[9.8])				
	Max. tool length		mm (inch)	400 (15.7)				
	Max. tool weight		kg (lb)	30 (66.1)				
	Max. tool moment		N·m (ft-lbs)	35.28 (26.0)				
	Tool selection type		-	Fixed address				
AAC	Type		-	Swing type 2 station {Rotating type3/4 station}				
Machine size	Machine height		mm (inch)	6750 {7350} (265.7 {289.4})				
	Floor space		mm x mm (inch x inch)	8200 x 11710 (322.8 x 461.0)	8200 x 16710 (322.8 x 657.9)	9750 x 15500 (383.9 x 610.2)	9750 x 17800 (383.9 x 700.8)	9750 x 21960 (383.9 x 864.6)
	Machine weight		kg (lb)	45000 (99206.6)	49000 (108024.9)	53000 (116843.3)	58000 (127866.2)	73000 (160935.1)

{ } : optional

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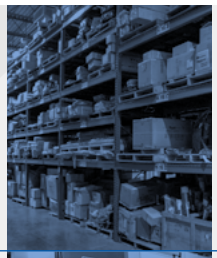

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