



HIGH SPEED VERTICAL MACHINING CENTER

DNM S

4500S • 5700S



DNM S SERIES 4500S • 5700S

Building on the pedigree and success of the DNM series, the new DNM S series boasts even greater reliability and performance. In addition, the DNM S series includes grease lubrication on its roller guideways for a more environmentally-friendly lubrication system. The key strengths of the DNM4500S and DNM5700S machines are their high speed, their high productivity and their wide application potential. Other advantages include the machines having the largest machining space in their class, directly coupled spindles, roller guideways and thermal compensation.



The DNM S series of vertical machining centres deliver high speed, high productivity and high precision.



HIGHLY VERSATILE VERTICAL MACHINING CENTERS OFFERING THE LARGEST MACHINING SPACE IN THEIR CLASS

- Although requiring only the same installation floor space as the previous models, the new DNM machines have larger tables with higher maximum table loads, and increased Y-axis travels.

STANDARD DIRECTLY-COUPLED SPINDLES FOR HIGHER PRODUCTIVITY

- Directly-coupled spindles, compared to belt-driven types, reduce vibration and noise thereby improving performance and environmentally-friendliness
- Higher productivity has been achieved by reducing tool change times and by improving acceleration and deceleration times.

AN ENVIRONMENTALLY-FRIENDLY MACHINE DESIGNED FOR STABLE AND EASY OPERATION

- Thermal error compensation functionality, fitted as standard, optimizes machine accuracy by reducing the effects of heat generated during extended machining runs.
- For ease of operation the Ez work function can be accessed and checked in the pop-up window on the NC control's main screen.
- Grease lubrication for axis roller guideways is a standard feature and is a more environmentally-friendly lubrication solution.

BASIC STRUCTURE | TABLE

Basic structure

Designed with a highly-stable and rigid structure, the new DNM S series machines provide customers with impressive Y-axis capacity (400 - 570mm) and the ability to machine a wider range of workpieces.

Travel distance (X / Y / Z axis)

DNM 4500S

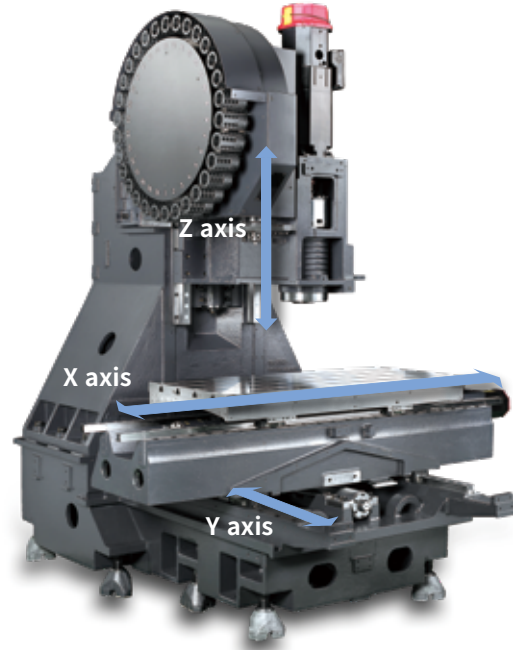
800 / 450 / 510 mm

31.5 / 17.7 / 20.1 inch

DNM 5700S

1050 / 570 / 510 mm

41.3 / 22.4 / 20.1 inch



Axis system

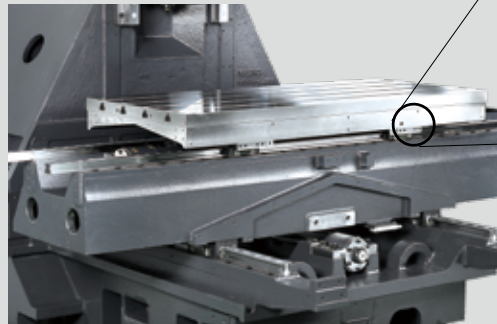
Environmentally friendly grease lubrication is adopted as standard for the axis feed system, and Roller-type LM Guides are provided for rigidity.

Rapid traverse rate (X / Y / Z axis)

42 / 42 / 36 m/min

1653.5 / 1653.5 / 1417.3 ipm

Roller-type LM Guides are a standard feature.



Grease lubrication for all axes is a standard feature.

TABLE

The increased table size and maximum load capacity, within the same footprint as previous models, provides customers with more machining flexibility and the ability to machine larger and heavier workpieces.

Table size (A x B)

DNM 4500S

1000 x 450 mm 39.4 x 17.7 inch

DNM 5700S

1300 x 570 mm 51.2 x 21.3 inch

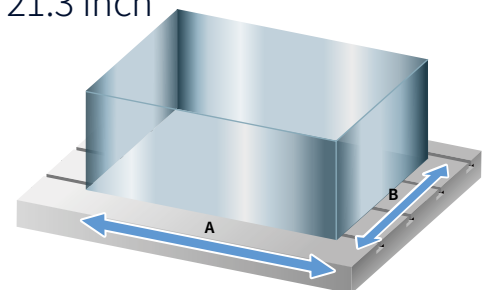
Max weight on table

DNM 4500S

600 kg
1322.8 lb

DNM 5700S

800 kg
1763.7 lb



SPINDLE | TOOL CHANGE SYSTEM | MACHINING PERFORMANCE

Spindle

Directly-coupled spindles are a standard feature and help reduce vibration and noise whilst enhancing productivity and the working environment, and improving machining accuracy.

Max. spindle speed

15000 r/min

20000 r/min option

Max. spindle motor power

18.5 kW 24.8 Hp

15 kW 20.1 Hp option

Max. spindle motor torque

117.8 N·m 86.9 lbf-ft

52.5 N·m 38.7 lbf-ft option



Tool change system

Improved tool change times reduce non cutting time. The highly-reliable tool magazine can accommodate up to 30 tools, as standard.

Tool storage capacity

30 ea / **40, 60** ea option

Tool to Tool time

1.2 sec

Chip to Chip* time

3.2 sec

* The Chip-to-chip time has been tested in accordance with DN Solutions's strict testing conditions, but may vary depending on a customer's operating conditions.

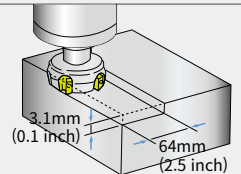


Machining performance

The DNM S series delivers the best cutting performance in its class to optimize productivity.

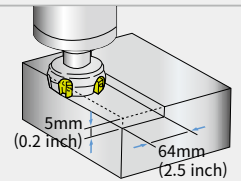
Face mill (ø80mm), 날수 : 6 Carbon steel (SM45C)

Chip removal rate cm ³ /min (inch ³ /min)	Spindle speed r/min	Feedrate mm/min (ipm)
527 (32.2)	1500	2700 (106.3)



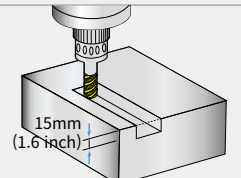
Face mill (ø80mm), 날수 : 6 Aluminium(AL6061)

Chip removal rate cm ³ /min (inch ³ /min)	Spindle speed r/min	Feedrate mm/min (ipm)
1901 (116.0)	1500	5940 (233.9)



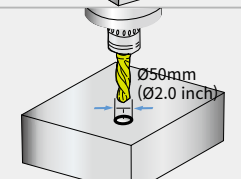
End mill (ø30mm) Carbon steel (SM45C)

Chip removal rate cm ³ /min (inch ³ /min)	Spindle speed r/min	Feedrate mm/min (ipm)
48 (2.9)	222	107 (4.2)



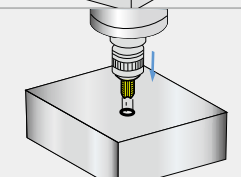
U-Drill (ø50mm) Carbon steel (SM45C)

Chip removal rate cm ³ /min (inch ³ /min)	Spindle speed r/min	Feedrate mm/min (ipm)
501 (30.6)	1500	255 (10.0)



Tap Carbon steel (SM45C)

Tap size mm (inch)	Spindle speed r/min	Feedrate mm/min (ipm)
M 36 x P 4.0	221	884 (34.8)



* The results, indicated in this catalogue, are provided as examples only. Differences in cutting and environmental conditions will, in all likelihood, deliver different results.

STANDARD | OPTIONAL SPECIFICATIONS

Various optional features are available to meet customers' specific machining requirements and applications.

Description	Features		DNM 4500S	DNM 5700S	
Spindle Unit: kW(Hp), N·m(lbf-ft)	15000 r/min	18.5/11(24.8/14.8), 117.8(86.9)_FANUC	●	●	
		17/10 (22.8/13.4), 108.2 (79.9)_HEIDENHAIN	○	○	
		16.5/11 (22.1/14.8), 141.3 (104.3)_SIEMENS	○	○	
Magazine	Tool storage capacity	11/5(14.8/6.7), 52.5(38.7)_FANUC/Siemens/HEIDENHAIN	○	○	
		30 ea	●	●	
		40 ea	○	○	
Tool shank type	BIG PLUS BT40 BIG PLUS CAT40 BIG PLUS DIN40	60 ea	○	○	
			●	●	
			○	○	
Raised column	150 mm (5.9 inch) 200 mm (7.9 inch) 300 mm (11.8 inch)		○	○	
			○	○	
			○	○	
Coolant	FLOOD	0.19 MPa(27.6 psi), 0.4 kW(0.5 Hp)	●	●	
		0.69 MPa(100.1 psi), 1.8 kW(2.4 Hp)	○	○	
	TSC**	None	●	●	
		2 MPa(290.1 psi), 1.5kW(2.0 Hp)	○	○	
		2 MPa(290.1 psi), 4 kW(5.4 Hp)	○	○	
		7 MPa(1015.3 psi), 5.5 kW(7.4 Hp)	○	○	
FLUSHING		○	○		
SHOWER (200 L/min (52.8 gal/min))		○	○		
Chip disposal	Chip conveyor	Chip pan	●	●	
		Hinged type (Left/Right/Rear)	○	○	
		Magnetic scraper type (Left/Right/Rear)	○	○	
		Screw(AUGER) type (Left/Right)	○	○	
		Chip bucket	○	○	
Precision machining option	Linear scale AICC II (200 block) SSP (Smooth Surface Package)	X / Y / Z axis	○	○	
			●	●	
			○	○	
Measurement & Automation	Automatic tool measurement	TS27R_RENISHAW	○	○	
		OTS_RENISHAW	○	○	
	Automatic tool breakage detection		○	○	
	Automatic workpiece measurement	OMP60_RENISHAW	○	○	
	Automatic front door with safety device		○	○	
Others	WORK LIGHT	LED LAMP	●	●	
	OPERATOR CALL LAMP	3-COLOR SIGNAL TOWER(LED)	●	●	
	LEVELING BLOCK & BOLT	-	●	●	
	SMART THERMAL CONTROL	SENSORLESS TYPE(ONLY SPINDLE)	●	●	
	ASSEMBLY & OPERATION TOOLS KIT	-	●	●	
	4TH AXIS PREPARATION CABLING FOR SERVO/1-PNEUMATIC PIPING	FACTORY READY MADE	○	○	
	AIR GUN		○	○	
	Air blower		○	○	
	Coolant gun		○	○	
	Mist collector		○	○	
			○	○	
Customized Special Option	ANCHORING ⁽¹⁾	SLIDE CLAMP & CHEMINCAL ANCHOR BOLT	○	○	
		TSA ⁽²⁾	0.54	○	○
		TOOL TYPE	HSK63A	○	○
	ATC AUTO SHUTTER	30TOOL / 40TOOL	○	○	
	ATC FULL COVER	30TOOL / 40TOOL	○	○	
	Drum chipconveyor	HINGE TYPE	○	○	
		SCRAPER TYPE	○	○	
	Oil lubrication	X, Y, Z AXIS	○	○	
	20 Bar TSC with inverter	50Hz → 60Hz	○	○	
	FINE DUST PROTECTING PACKAGE	WET MACHINING	BELLOWS COVER(X/Y/Z)	○	○
			PROTECT COVER(X-AXIS)	○	○
			BALL SCREW BELLOWS COVER(X/Y)	○	○
		DRY MACHINING	GUIDE WAY DOUBLE WIPER	○	○
			PROTECT COVER(X-AXIS)	○	○
			BALL SCREW BELLOWS COVER(X/Y)	○	○
	AUTO TOOL LENGTH MEASUREMENT	REINSHAW / LTS	GUIDE WAY DOUBLE WIPER	○	○
			AIR OIL SUCTION(ONLY 15k SPINDLE)	○	○
			ATC FULL CLOSED COVER	○	○
			AUTO TOOL BREAKAGE DETECTION	MSC/BK9(NEEDLE TYPE ON MAGAZINE)	○


* Please contact DN Solutions for detailed specification information.

** If this option is selected, the TSA(Through Spindle Air) Max.pressure is 0.54MP

(1) Please refer to foundation drawing in relation to anchoring. If more detailed information is required consult with DN Solutions service

(2) If TSC is not required - TSA can be selected as an option.

● Standard ○ Optional X Not applicable

 **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

Grease lubrication system

The standard grease lubrication system eliminates the need for an oil skimmer and reduces lubrication costs by up to 60% compared to oil lubrication.

Yearly maintenance cost

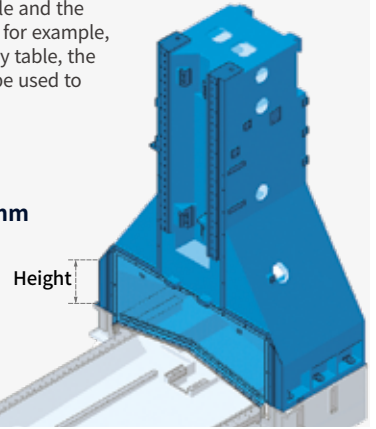
Reduced by
Max. **60%**



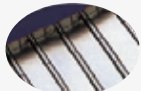
Raised column option

When the distance between the table and the spindle nose needs to be extended, for example, to accommodate a fixture or a rotary table, the solid one-piece raised column can be used to increase the distance required.

Height
150/200/300 mm
5.9/7.9/11.8 inch



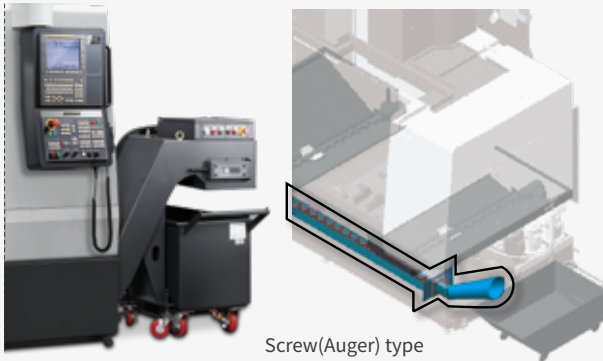
Chip conveyor option



Hinged belt



Magnetic scraper



Screw (Auger) type

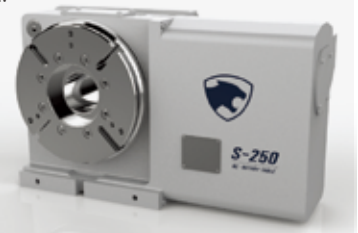
Chip bucket option

Capacity
300 L (79.3 gal)



4th-axis rotary table option

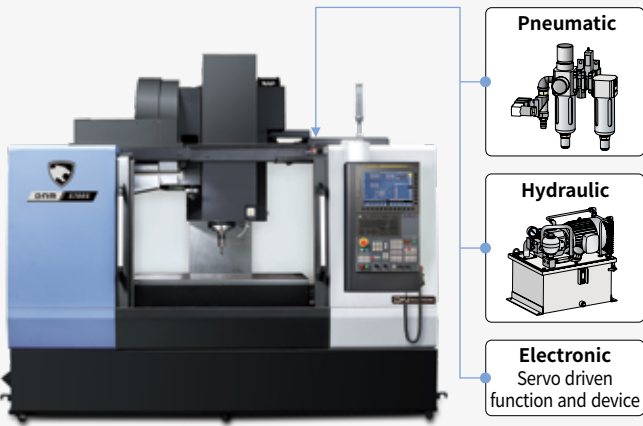
The high-precision split system with its compact and highly rigid design and double piston structure, enables vertical and horizontal use and delivers a strong clamping force.



Chip conveyor type	Material	Description
Hinged belt	Steel	Hinged belt chip conveyor, which is most commonly used for steel work [for cleaning chips longer than 30mm (1.2inch)], is available as an option.
Magnetic scraper	Cast Iron	Magnetic scraper type chip conveyor, which is ideal for die-casting work [for cleaning small chips], is available as an option.
Screw (Auger) type	Steel	Screw (Auger) type chip conveyor is suitable for minimizing installation space. About 85% floor space is required to install Screw (Auger) type chip conveyor compared to Hinged belt type.

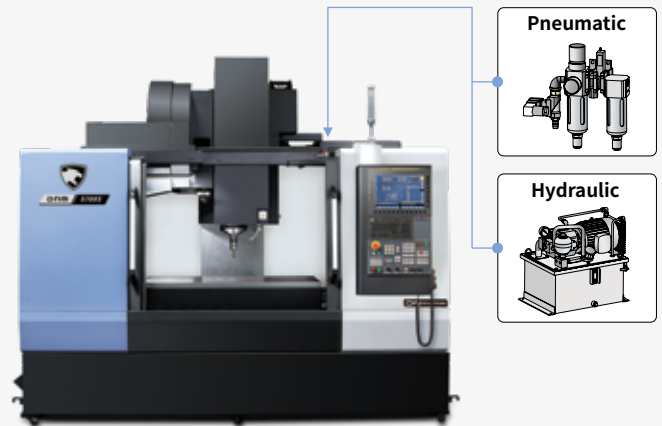
4th axis auxiliary device interface option

Customers who wish to set up a rotary axis on the table in order to increase application potential are encouraged to contact DN Solutions in advance.



Hydraulic / Pneumatic fixture line option

Customers should prepare pipelines for hydraulic/pneumatic fixtures whose detailed specifications should be determined through discussions with DN Solutions.



DN SOLUTIONS FANUC i PLUS

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

15 inch screen + new operation panel

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

DN Solutions Fanuc i Plus

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

USB & PCMCIA card

QWERTY keyboard

- EZ-guide i standard
- Ergonomic operator panel
- 2MB Memory
- Hot key



iHMI touchscreen option

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	DN Solutions Fanuc i (Oi Plus)
		DNM 4digit
Controlled axis	Controlled axes	3 (X,Y,Z)
	Simultaneously controlled axes	4 axes
	Additional controlled Axis	●
Data input/output	Fast data server	○
	Memory card input/output	●
	USB memory input/output	●
	Large capacity memory(2GB)*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	Tilted working plane indexing command	○
	AI contour control I	G5.1 Q_, 40 Blocks
	AI contour control II	G5.1 Q_, 200 Blocks
	AI contour control II	G5.1 Q_, 600 Blocks
	AI contour control II	G5.1 Q_, 1000 Blocks *1)
Operation guidance function	High smooth TCP	X
	EZ Guidei (Conversational Programming Solution)	●
	iHMI with Machining Cycle	X
Setting and display	EZ Operation package	●
	CNC screen dual display function	●
Network	FANUC MTConnect	⊗
	FANUC OPC UA	⊗
Others	Display unit	10.4" color LCD
		15" color LCD
		15" color LCD with Touch Panel
	Part program storage size & Number of registerable programs	640M(256KB)_500 programs
		1280M(512KB)_1000 programs
		2560M(1MB)_1000 programs
		5120M(2MB)_1000 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

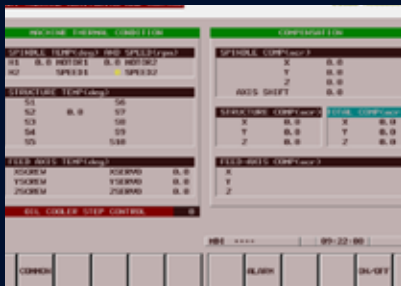
● Standard ○ Optional X N/A ⊗ Available
Network: FANUC MT Connect and FANUC OPC UA available.

EZ WORK

The software developed by DN Solutions features numerous functions designed for convenience and ease of operation.

EZ work

The EZ work delivers speed and efficiency. This menu-driven innovation not only helps customers reduce setup times, but also simplifies common tasks and procedures, reducing the potential for errors. EZ work reduces operating time, protects machinery, enhances quality and speeds up maintenance interventions.



Thermal Compensation

A function to maintain high-precision machining quality by analyzing and correcting the amount of thermal displacement of a structure through a temperature sensor



M/G-Code List

Functional description of M code and G code



Tool Management

Function to manage tool information [Tool information / Tool No. / Tool condition (normal, large diameter, worn / damaged, used for the rst time, manual) / Tool name]



Operation Rate

Machine operation history management function by date based on load



Adaptive Feed Control

Function to control feedrate so that the cutting can be carried out at a constant load (To adapt to the spindle load set up with constant load feedrate control function)



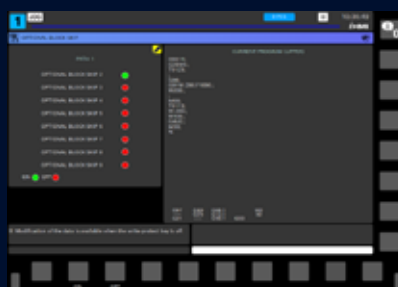
Spindle Warm Up

A function that assists spindle warm-up for spindle life when the spindle has not been used for a certain period of time



ATC Recovery

Function to view detailed info with recommended actions and to perform step-by-step operation manually (when an alarm is triggered during an ATC operation)



Addition of Optional Block Skip

In addition to the OPTIONAL BLOCK SKIP of the operation panel, the function to skip a specific block selected in the machining program

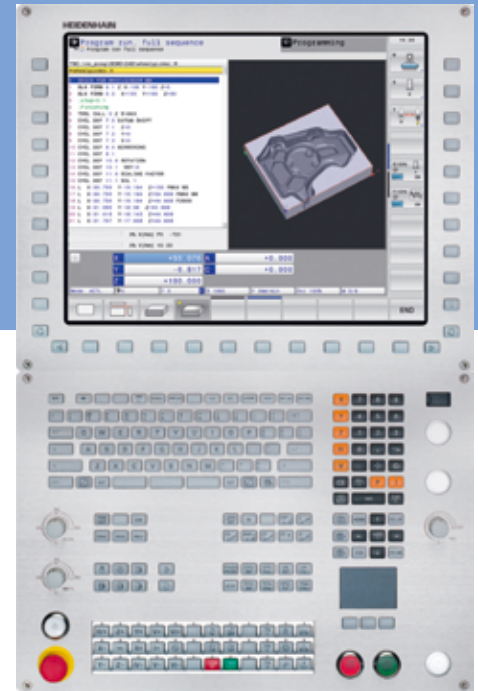
CONVENIENT OPERATION

HEIDENHAIN TNC620

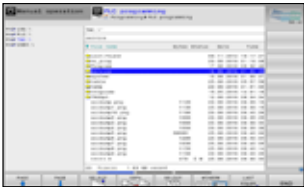
Superior hardware specifications

The TNC 620 features optimized motion control, short block processing times and special control strategies. Together with its uniform digital design and its integrated digital drive control (including inverters), it enables you to achieve high machining speeds and the best possible contour accuracy.

- 15.6" display
- 21GB Storage memory
- 1024 look ahead blocks
- High user convenience with folder structure data management



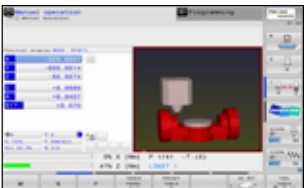
Conversational convenient function



Data are controlled in the folder structure; convenient communication via USB devices



KinematicOpt & KinematicComp option
(Touch probe cycle for automatic measurement)



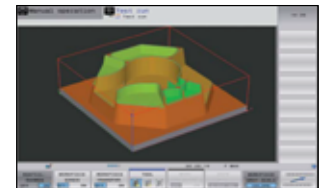
Collision protection system option



Adaptive feed control option



Various built-in pattern cycles for a wider scope of application (Software standard)



Graphic simulation

NUMERIC CONTROL SPECIFICATIONS



HEIDENHAIN

Item		Specifications	TNC620 DNM
Controlled axis	Controlled axis		3 (X,Y,Z)
	Simultaneously controlled axis		4 axis
Data input/output	USB memory input/output		●
Interface function	Embedded ethernet		●
Feed function	Look-ahead	5000 blocks	●
Axis compensation	KinematicsOpt	Automatic measurement and optimization of machine kinematics	○
Collision monitoring	Dynamic collision monitoring (DCM)		X
Network	MTCConnect		⊗
Others	Display unit	15.1 inch TFT color flat panel	●
		15.1 inch TFT color with Touch Panel	○
		19 inch TFT color flat panel	○
		19 inch TFT color with Touch Panel	○
	Part program storage size & number of registerable programs	21GB 1.8GB	X ●

● Standard ○ Optional X Not Available ⊗ Available

CONVENIENT OPERATION

SIEMENS 828D

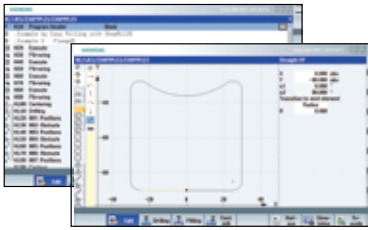
15.6" screen + new operation panel

The newly-designed operation panel improves the customer convenience by incorporating and using common-design buttons and layouts, and includes the familiar QWERTY keyboard for fast and easy operation.

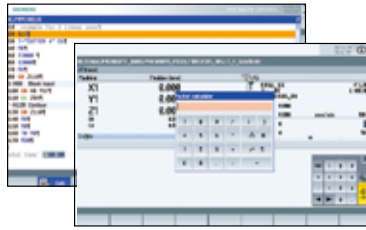
- 15.6" display
- 10MB high capacity user memory
- USB & ethernet (standard)
- QWERTY keyboard (standard)
- High-speed calculation and simulation can be fulfilled by improved processor functionality



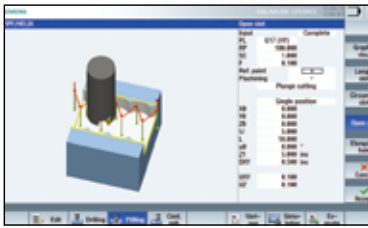
Conversational convenient function



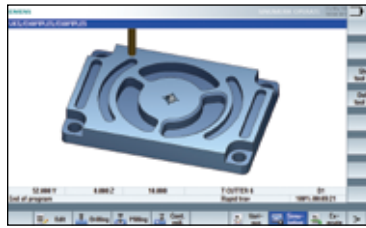
Shop Mill Part Programming



Smart function



Advanced program language programGUIDE



Simulation and machining contour monitoring



Side screen widget

NUMERIC CONTROL SPECIFICATIONS

SIEMENS

	Item	Specifications	S828D
			DNM
Controlled axis	Controlled axes (제어축수)	-	3축
	Simultaneously controlled axes (동시 제어축수)	-	3축
Data input/output	Memory card input/output	(Local drive)	X
	USB memory input/output		●
Interface function	Ethernet	(X130)	●
Operation	On network drive	(without EES option, Extcall)	○
	On USB storage medium, e.g. memory stick	(without EES option, Extcall)	●
Program input	Workpiece coordinate system	G54 - G57	●
	Addition of workpiece coordinate system	G505 - G599	●
Interpolation & Feed function	Advanced surface		●
	Top surface		○
Programming & Editing function	Look ahead number of block	S/W version 4.8	450
	3D simulation, finished part		●
	Simultaneous recording		●
	Measure kinematics		X
Operation Guidance Function	DXF Reader for PC integrated in SINUMERIK Operate		○
	ShopMill		●
Setting and display	EZ Work		●
	Operation via a VNC viewer		●
Network	MTConnect		⊕
	OPCUA		○
Etc. function	15.6" color display with touch screen		●
	19" color display without touch screen		X
	21.5" color display with touch screen		X
	CNC user memory	10 MB	●
	Expansion by increments	2 ~ 12 MB	○
	Collision avoidance		X
Collision avoidance ECO (machine, working area)		X	

POWER | TORQUE

FANUC

FANUC 15000 r/min

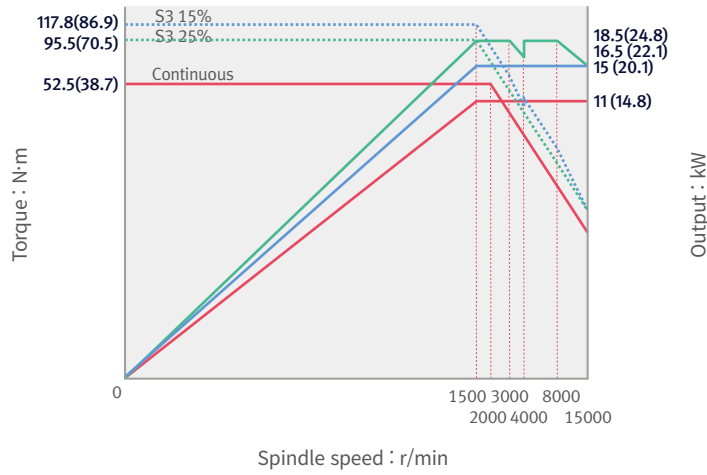
15000 r/min

Max. spindle power:

18.5 kW (24.8 Hp)

Max. spindle torque:

117.8 N·m (86.9 lbf-ft)



FANUC 20000 r/min option

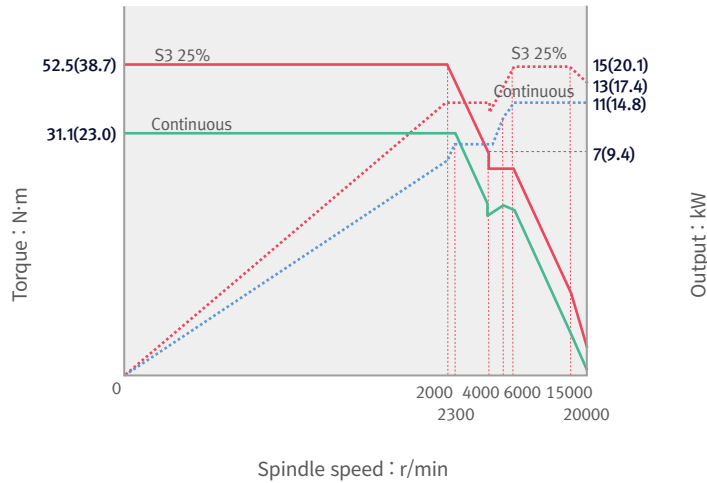
20000 r/min

Max. spindle power:

15 kW (20.1 Hp)

Max. spindle torque:

52.5 N·m (38.7 lbf-ft)



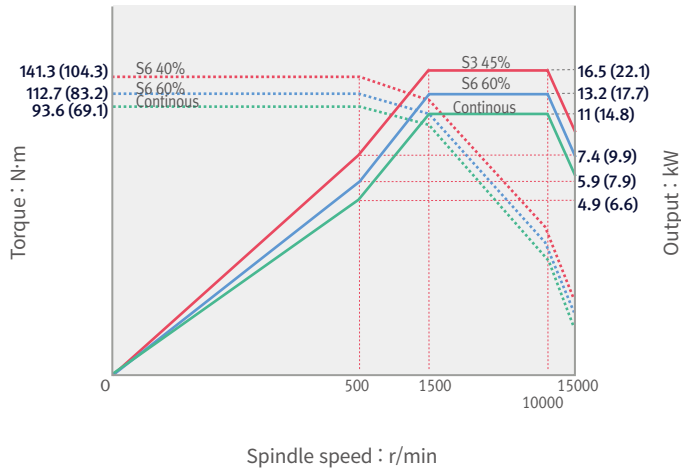
POWER | TORQUE

HEIDENHAIN | SIEMENS

HEIDENHAIN

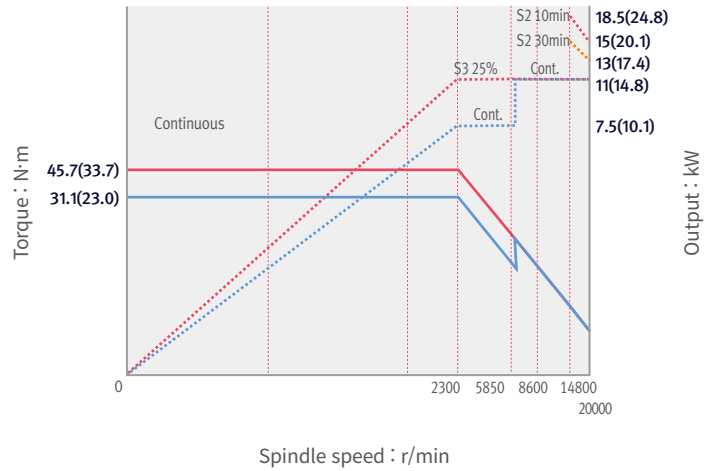
15000 r/min

Max. spindle power: 16.5 kW (22.1 Hp)
 Max. spindle torque: 141.3 N·m (104.3 lbf-ft)



20000 r/min option

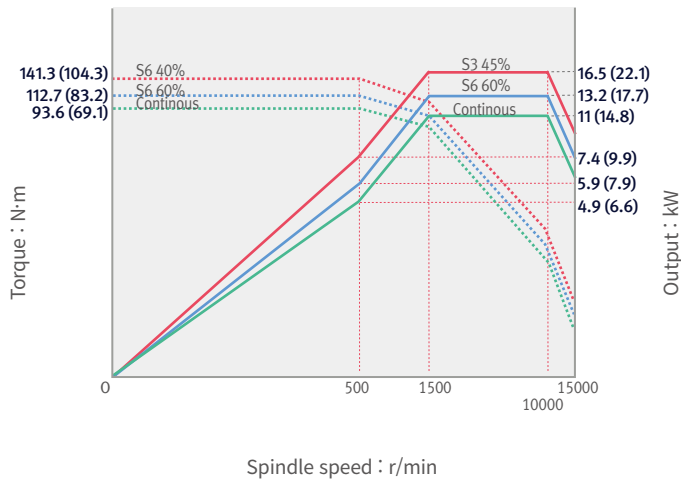
Max. spindle power: 18.5 kW (24.8 Hp)
 Max. spindle torque: 45.7 N·m (33.7 lbf-ft)



SIEMENS

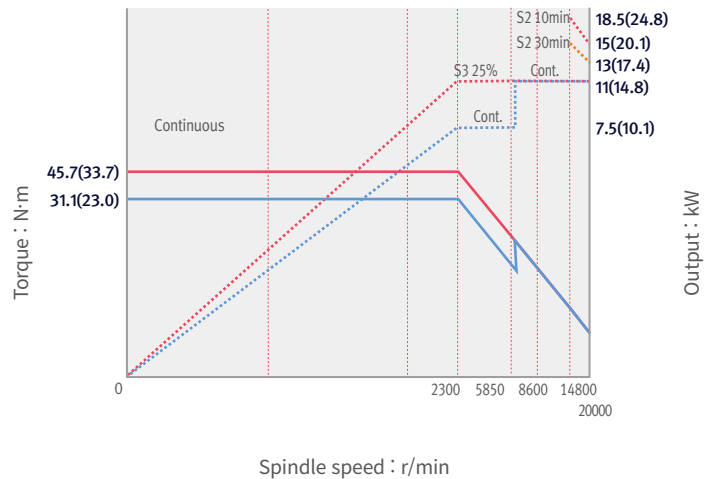
15000 r/min

Max. spindle power: 16.5 kW (22.1 Hp)
 Max. spindle torque: 141.3 N·m (104.3 lbf-ft)



20000 r/min option

Max. spindle power: 18.5 kW (24.8 Hp)
 Max. spindle torque: 45.7 N·m (33.7 lbf-ft)

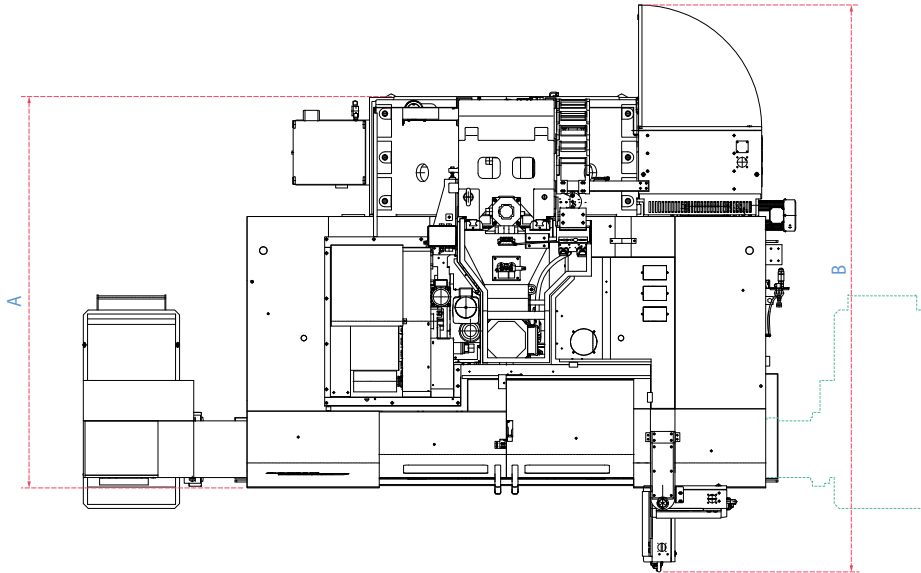


DIMENSIONS

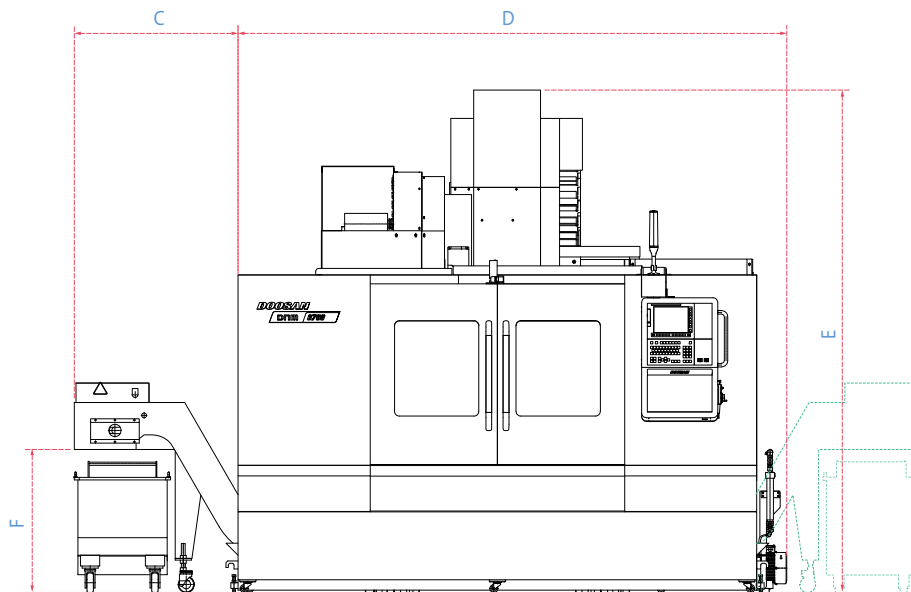
DNM S series (Left or Right side chip conveyor)

Unit: mm (inch)

Top View



Front View



Model	A (Length)	B ¹	C ²	D (Width)	E (Height)	F ³
DNM 4500S	1966 (77.4)	3219 (126.7)	1010 (39.8) [414 (16.3)]	2634 (103.7)	2985 (117.5)	883 (34.8) [440 (17.3)]
DNM 5700S	2221 (87.4)	3349 (131.9)	1010 (39.8) [398 (15.7)]	3145 (123.8)	2985 (117.5)	883 (34.8) [440 (17.3)]

¹ Max. machine length (including electric cabinet door and operation panel swiveling)

² Additional width to accommodate the side chip conveyor. [] indicates the additional width required to accommodate a screw (auger) type chip conveyor.

³ Height from the floor to the chip outlet. [] indicates the height when a screw (auger) type chip conveyor is installed.

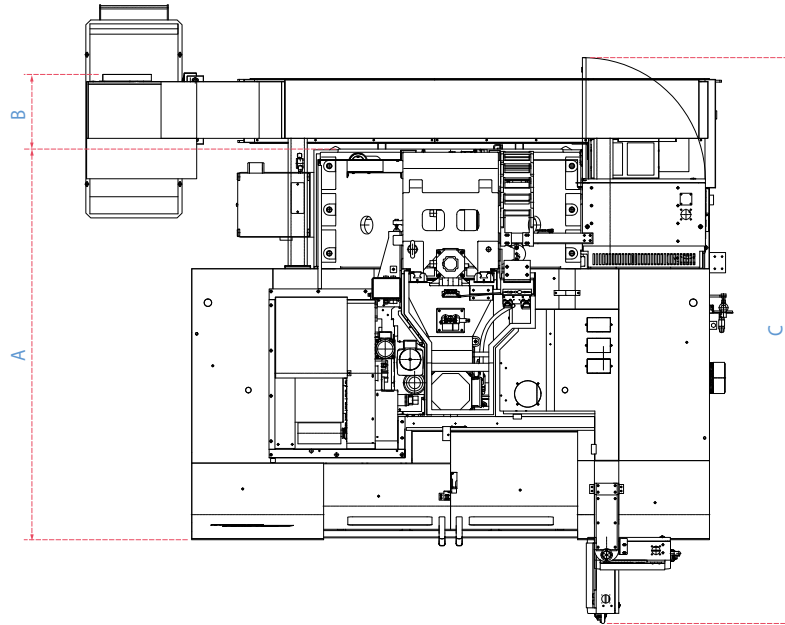
* Some peripheral equipment can be placed in other places

DIMENSIONS

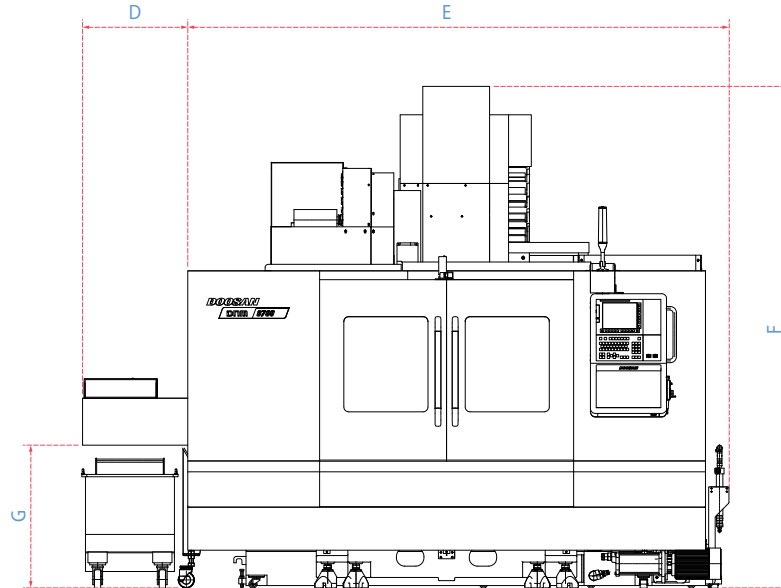
DNM S series (Rear side chip conveyor)

Unit: mm (inch)

Top View



Front View



Model	A (Length)	B ¹	C ²	D ³	E (Width)	F (Height)	G		
							SCRAPER	HINGED	SCREW
DNM 4500S	1966 (77.4)	458 (18.0)	3219 (126.7)	880 (34.6)	2607 (102.6)	2985 (117.5)	883 (34.8)	865 (34.1)	440 (17.3)
DNM 5700S	2221 (87.4)	458 (18.0)	3349 (131.9)	650 (25.6)	3105 (122.2)	2985 (117.5)	883 (34.8)	865 (34.1)	440 (17.3)

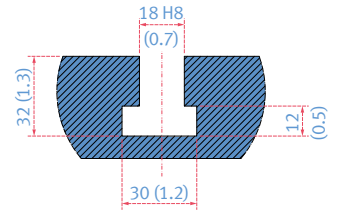
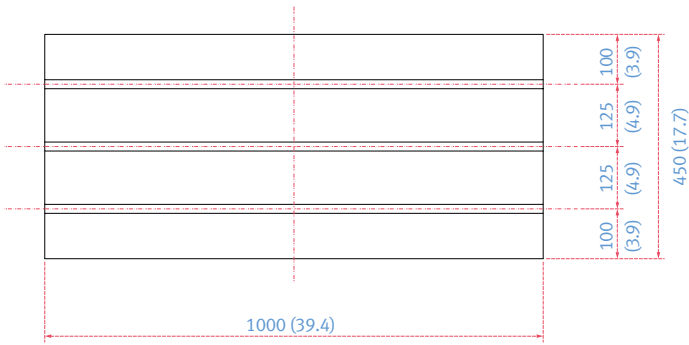
- ¹ Additional length required to accommodate a rear-side chip conveyor.
- ² Max. machine length (including electric cabinet door and operation panel swiveling)
- ³ Additional space required for the machine to accommodate a rear-side chip conveyor.

* Some peripheral equipment can be placed in other places

TABLE DIMENSION

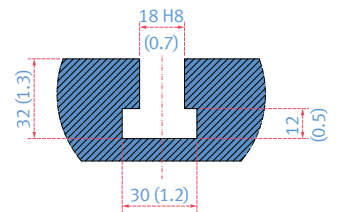
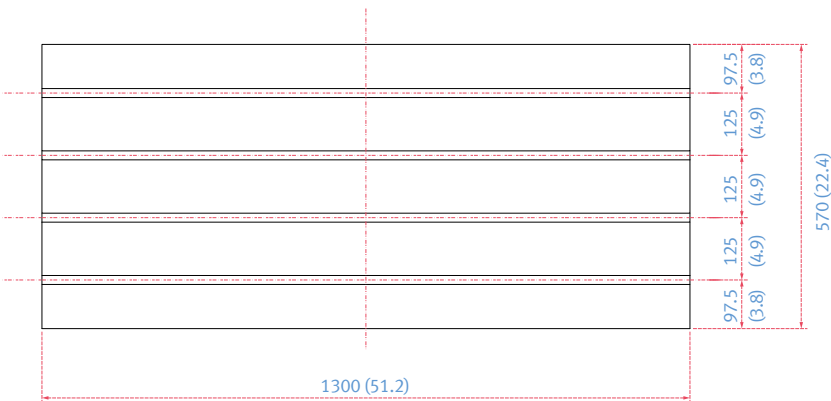
DNM 4500S

Unit: mm (inch)



DNM 5700S

Unit: mm (inch)



MACHINE SPECIFICATIONS

Description		Unit	DNM 4500S	DNM 5700S	
Travels	Travel distance	X axis	mm (inch)	800 (31.5)	1050 (41.3)
		Y axis	mm (inch)	450 (17.7)	570 (22.4)
		Z axis	mm (inch)	510 (20.1)	510 (20.1)
	Distance from spindle nose to table top		mm (inch)	150~660 (5.9~26.0)	
Table	Table size		mm (inch)	1000 x 450 (39.4 x 17.7)	1300 x 570 (51.2 x 22.4)
	Table loading capacity		kg (lb)	600 (1322.8)	800 (1763.7)
	Table surface type		mm (inch)	T-SLOT (3-125(4.9) x 18(0.7)H8)	T-SLOT (4-125(4.9) x 18(0.7)H8)
Spindle	Taper		-	ISO #40	
	Max. spindle speed	Fanuc	r/min	15000 {20000}*	
		Siemens	r/min	15000 {20000}*	
		Heidenhain	r/min	15000 {20000}*	
	Max. Spindle power	Fanuc	kW (Hp)	18.5/11 (24.8/14.8) {15/11 (20.1/14.8)}*	
		Siemens	kW (Hp)	16.5/11 (22.1/14.8) {15/11 (20.1/14.8)}*	
		Heidenhain	kW (Hp)	17/10 (22.8/13.4) {15/11 (20.1/14.8)}*	
	Max. spindle torque	Fanuc	N · m (lbf-ft)	117.8 (86.9) {52.5(38.7)}*	
		Siemens	N · m (lbf-ft)	141.3 (104.3) {52.5(38.7)}*	
Heidenhain		N · m (lbf-ft)	108.2 (79.9) {52.5(38.7)}*		
Feedrates	Rapid traverse rate	X axis	m/min (ipm)	42 (1653.5)	
		Y axis	m/min (ipm)	42 (1653.5)	
		Z axis	m/min (ipm)	36 (1417.3)	
Automatic Tool Changer	Type of tool shank	Tool shank	-	BT 40 {CAT 40 / DIN 40}*	
		Pull stud	-	PS806 {Modified DIN / DIN 69872 #40}*	
	Tool storage capa.		ea	30 {40, 60}*	
	Max. tool diameter	Continuous	mm (inch)	80 (3.1) {76 (3.0)}*	
		Without Adjacent Tools	mm (inch)	125 (4.9)	
	Max. tool length		mm (inch)	300 (11.8)	
	Max. tool weight		kg (lb)	8 (17.6)	
	Max. tool moment		N · m (ft-lbs)	5.88 (4.3)	
	Tool selection			MEMORY RANDOM	
	Tool change time (Tool-to-tool)		sec	1.2	
Tool change time (Chip-to-chip)		sec	3.2		
Power source	Electric power supply(rated capacity)		kVA	33	
	Compressed air supply		MPa (psi)	0.54 (78.3)	
Tank capacity	Coolant tank capacity		L (gal)	280 (74.0)	315 (83.2)
Machine Dimensions	Height		mm (inch)	2985 (117.5)	2985 (117.5)
	Length		mm (inch)	2158 (85.0)	2413 (95.0)
	Width		mm (inch)	2615 (103.0)	3110 (122.4)
	Weight		kg (lb)	5000 (11023)	6500 (14330)
Control	NC system		-	DN Solutions Fanuc i Plus / SIEMENS S828D / HEIDENHAIN TNC620	

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?**

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4	Corporations	200	Service posts
155	Dealer networks	3	Factories



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* Specifications and information contained within this catalogue may be changed without prior notice.