



SIMULTANEOUS 5-AXIS HORIZONTAL
MACHINING CENTER WITH LARGE TILTING TABLE

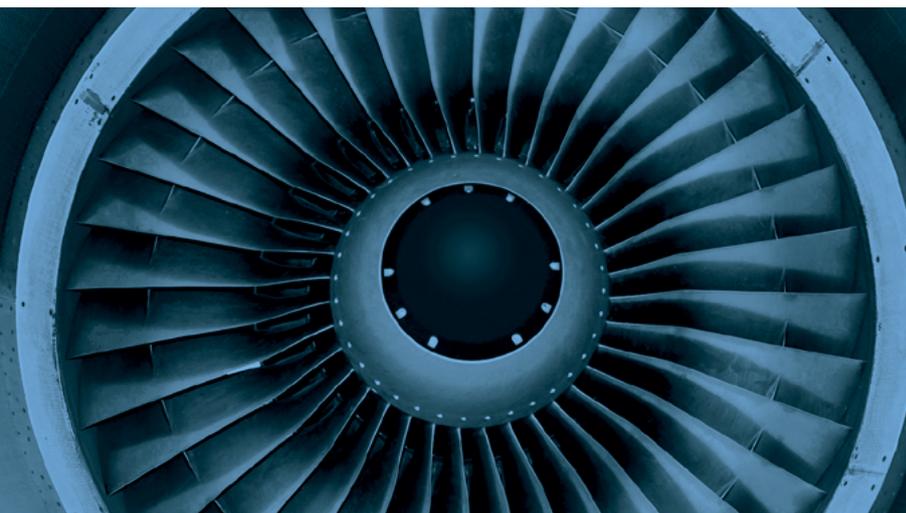
HFP

1540

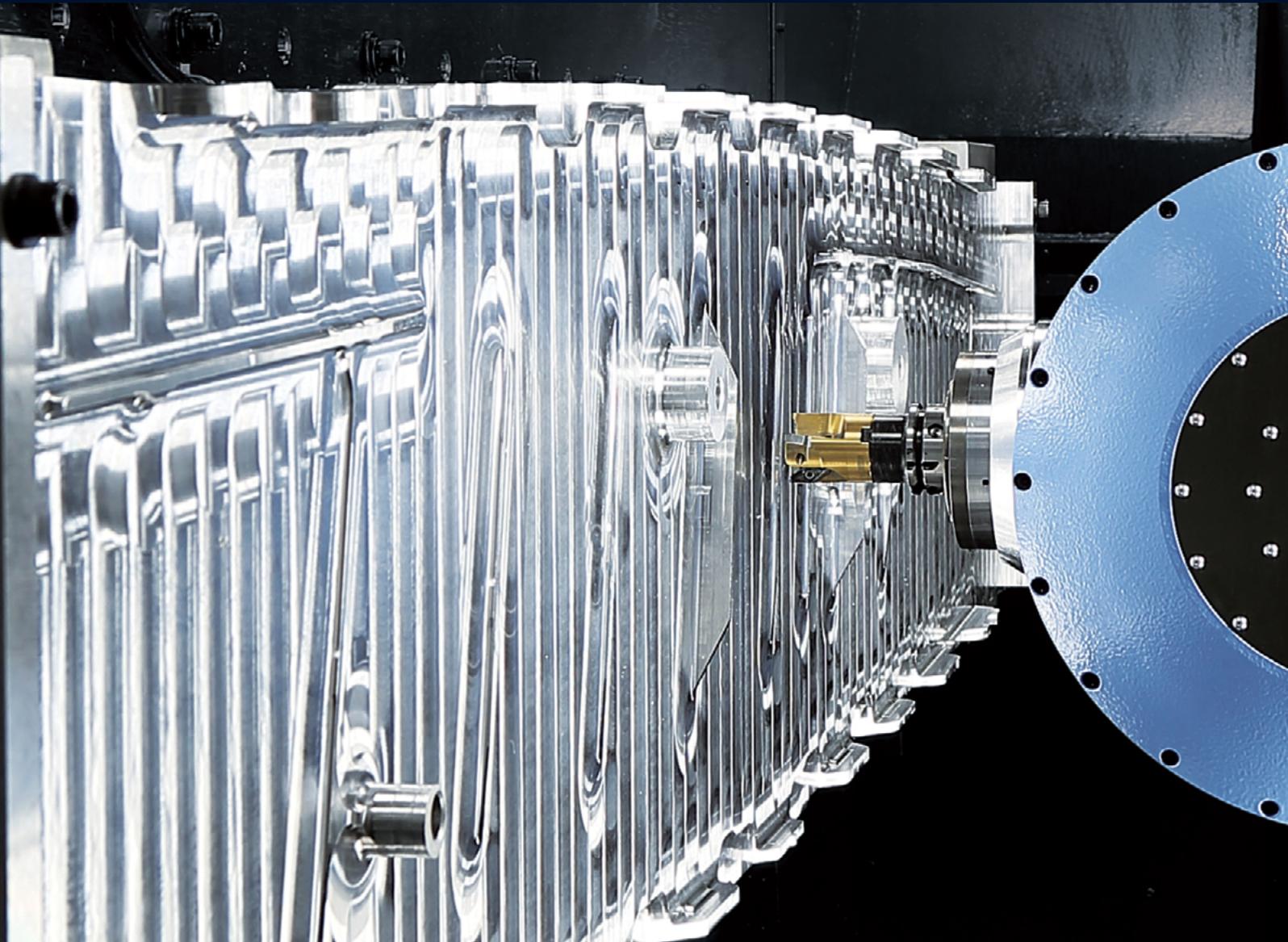


HFP 1540

For machining large complex Aluminum aerospace parts, the HFP1540 maximizes productivity by using a high-speed universal head and a high-efficiency chip removal system. The machine's rigid structure ensures stability and accuracy over long machining runs, and its tilting table and pallet changer deliver the ultimate in productivity and flexibility.



The HFP 1540 features a high-speed universal head designed for machining large aerospace components.



HIGH SPEED & PRODUCTIVITY

- High-speed universal head
 - 30000 r/min
 - 75kW (100.6 Hp)

STABLE STRUCTURE & LARGER CAPACITY

- Integrated frame
- Table size : 4000 x 1500 mm
(157.5 x 59.1 inch)

CHIP DISPOSAL SOLUTION

- Coolant Tank : 1500 liter (396.3 gallon)
- Paper filter : 30 micron
- SCRAPER TYPE CHIP CONVEYOR
 - Width : 700 mm (27.6 inch)
 - Max. Removal Capacity
7000cm³/min (427.2 inch³/min)

BASIC STRUCTURE

The integrated structure maximizes the machine's stability and helps deliver high geometric accuracies.

Travel distance

X AXIS **4200** mm
165.4 inch

Y AXIS **1600** mm
63.0 inch

Z AXIS **550** mm
21.7 inch

Rapid traverse rate

X AXIS **60** m/min
2362.2 ipm

Y AXIS **40** m/min
1574.8 ipm

Z AXIS **60** m/min
2362.2 ipm

Table

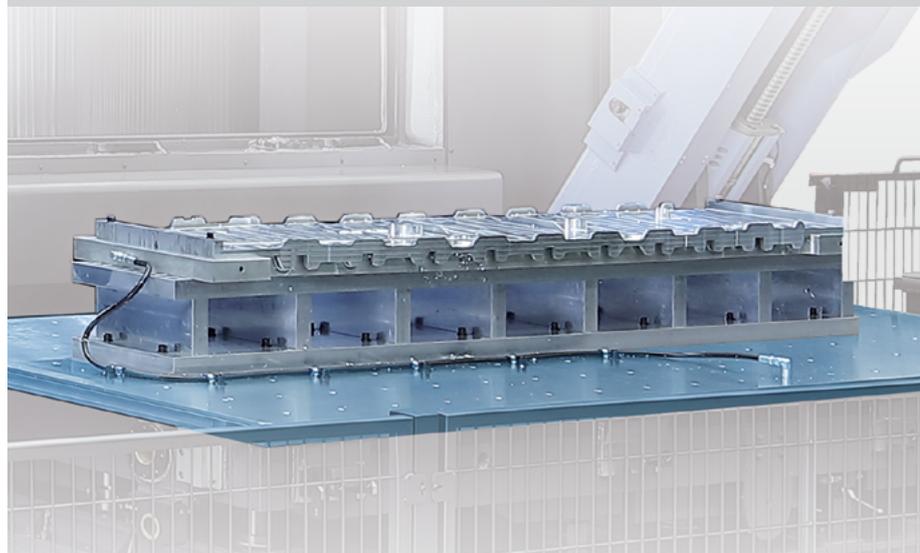
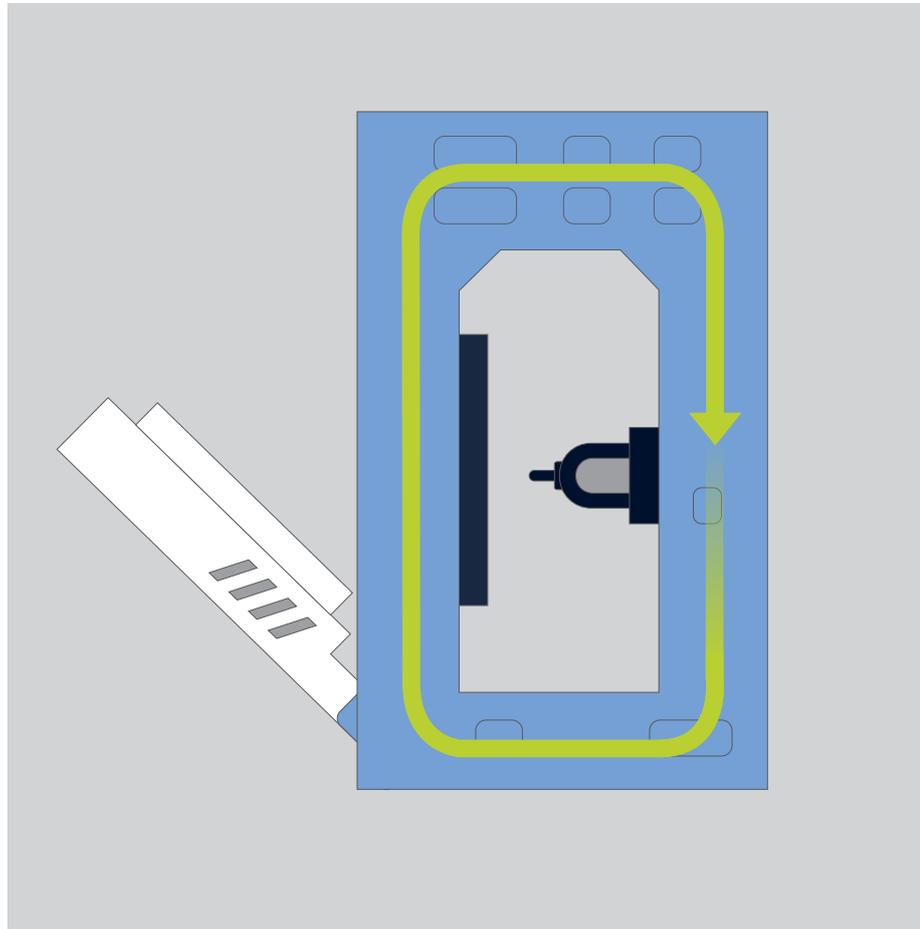
Wide machining area with large tilting table

Table size

4000 x 1500 mm
157.5 x 59.1 inch

Max. weight on table

3000 kg 6613.8 lb



HFP1540 operation package

- **Post Processor development and inclusion**
Development and inclusion of a specific Post Processor to enable accurate and time-saving offline part program generation.
- **Simulation machine file**
Provides process verification before machining operations begin
- **Tolerance function**
Optimizes the machining process by allowing customers to select from 6 levels of tolerance required for specific machining operations.

SPINDLE

The high-speed universal head optimises performance for machining complex aerospace parts.

Max. spindle speed

30000 r/min

Max. spindle motor power

75 kW
100.6 Hp

Tool shank

HSK A63

A-axis tilting angle

+105~-105

Magazine

Servo tool magazine for high productivity and reliability

Servo magazine

60 ea
90 / 120 ea option

Drum chip conveyor

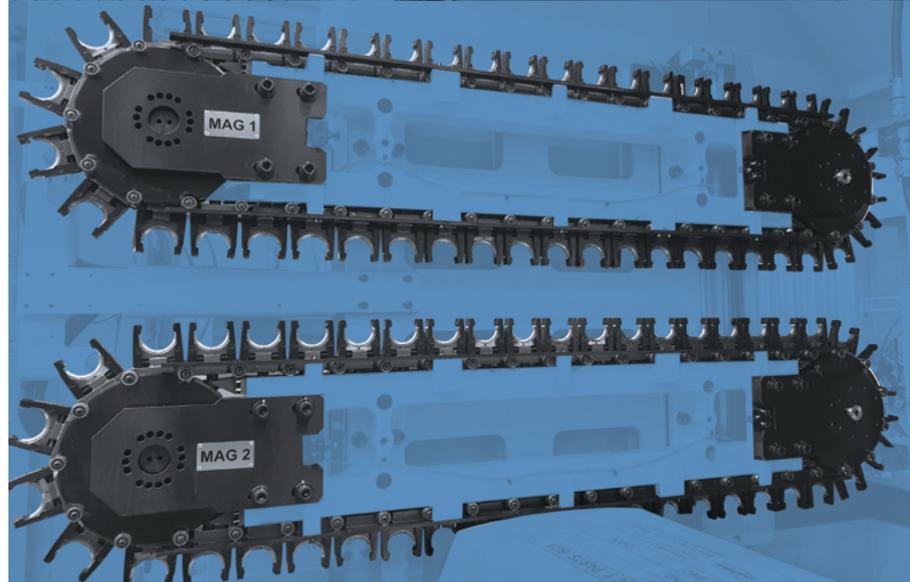
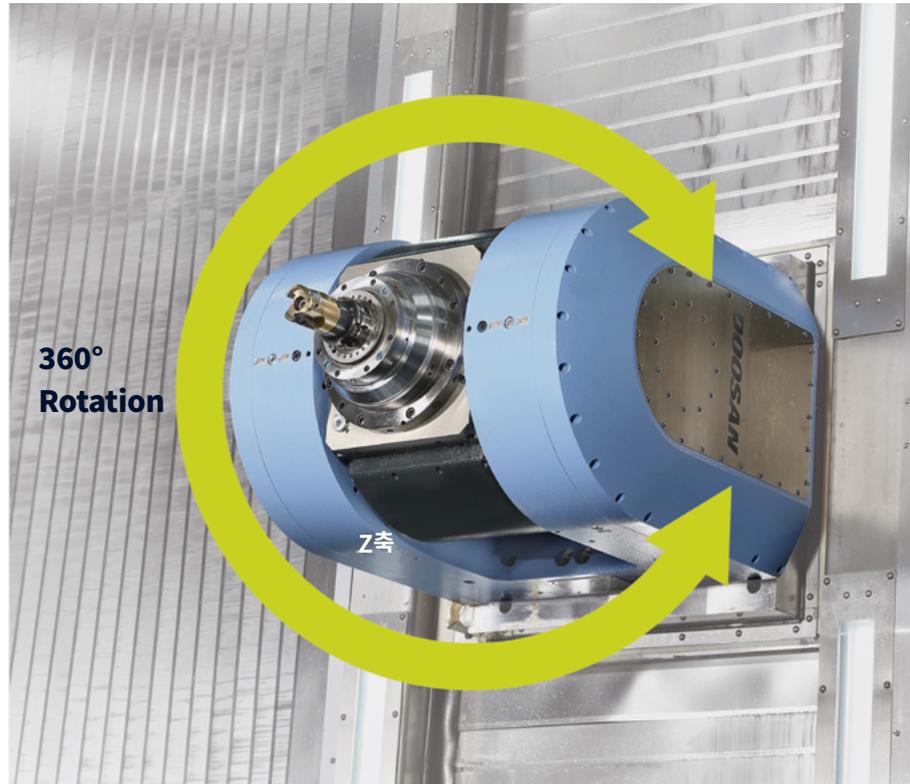
High-speed conveyor maximizes chip removal

Chip conveyor width

700 mm
27.6 inch

Max. removal capacity

7000 cm³/min
427.2 inch



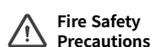
STANDARD | OPTIONAL SPECIFICATIONS

A range of options is available to suit individual requirements.

Description	Features		HFP 1540
Spindle	HSK-A63 SPINDLE 30K		●
	Through spindle coolant ready		●
Table	1500 x 4000 mm (59.1 x 157.5 inch)		●
ATC & magazine	Tool magazine capacity	60 Pots	●
		90 / 120 Pots	○
NC	SIEMENS 840D + 19" SCREEN		●
Feed	Scale feedback system		●
	B/S SHAFT COOLING		●
Coolant	Flood coolant		●
	Through spindle coolant	70 Bar	●
	Oil mist collector		○
	Coolant chiller		●
	Coolant level switch : Sensing level - Low / High		●
Electric & software	MPG DISPLAY TYPE		●
	Thermal compensation		●
	IKC (Intelligent kinematic compensation)	S/W+RECEIVER	●
Measuring system	Tool measuring system	NC4	○
	Work measuring system	RMP 60	●
		RMP 600	○
Chop disposal	Paper filter		●
	Air blow		●
	Shower coolant		●
ETC	APC		○
	Vacuum supply system		●
	Leveling block & anchoring bolts		●
	Spindle monitoring system (15 inch)		○
	HFP operation package		○

* Please contact DN Solutions to find put more about specifications and options

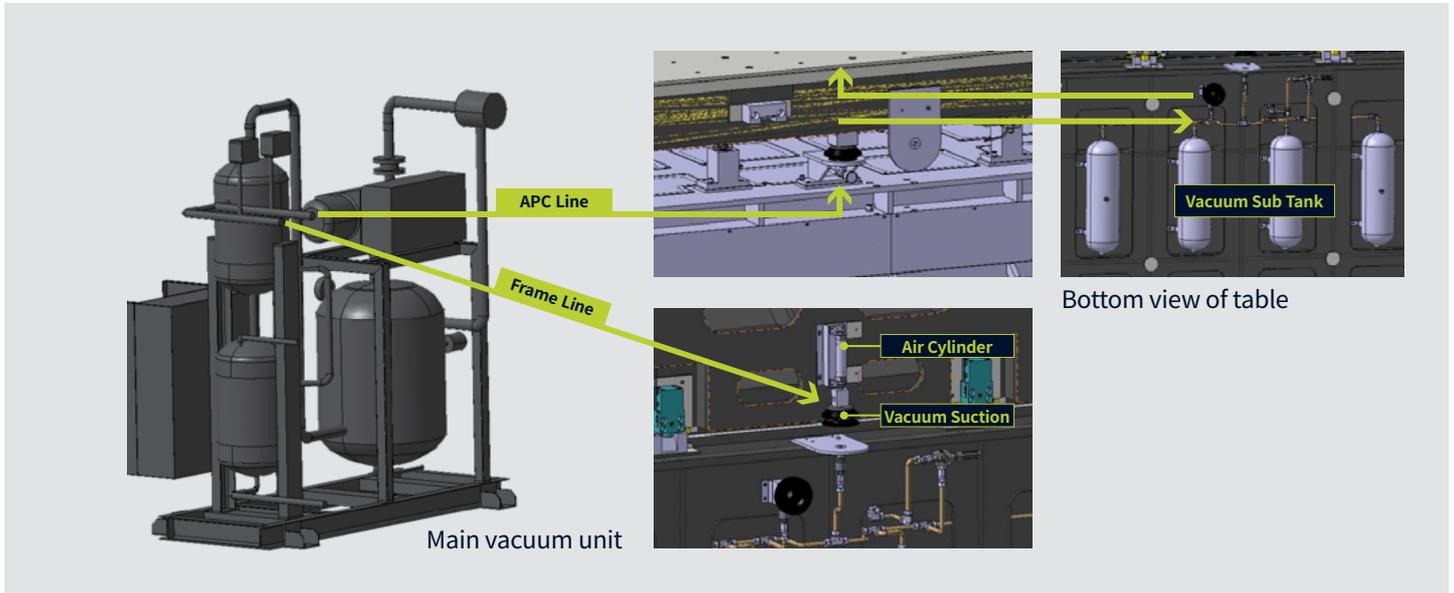
● Standard ○ Optional x Not applicable



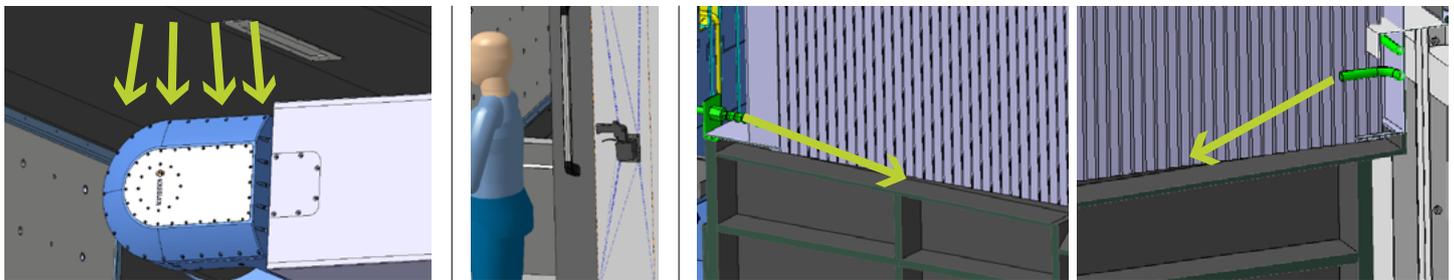
There is a high risk of fire when using non-water-soluble cutting fluids, processing flammable materials, neglecting the controlled and careful use of coolants and modifying the machine without the consent of the manufacturer. Always check the SAFETY GUIDELINES carefully before using the machine.

PERIPHERAL EQUIPMENT

Table vacuum system for workpieces



Chip removal system



Detachable chip conveyor



- The chip conveyor can be separated into 3 discrete pieces as shown above.
- When cleaning the chip conveyor, it is possible to use the vacuum to remove coolant after dismantling section # (1) and opening the top cover.

CONVENIENT OPERATION

SIEMENS 840D

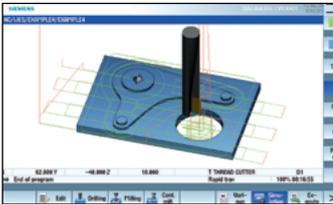
19" screen + new operation panel

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.

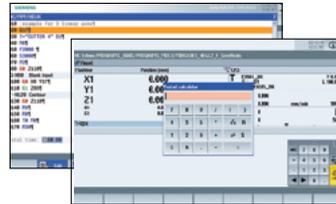
- 19" display
- 10MB high capacity user memory
- USB & ethernet (standard)
- QWERTY keyboard (standard)
- High-speed calculation and simulation can be fulfilled by improved processor functionality



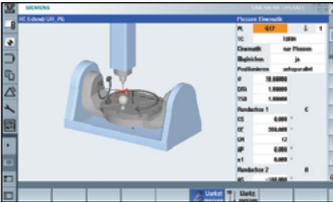
Conversational convenient function



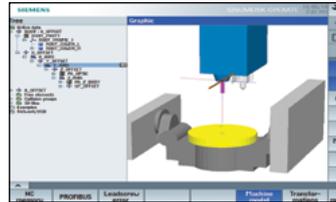
Simulation and machining contour monitoring



Smart function



5-axis kinematic measuring cycles



3D collision avoidance and collision avoidance ECO



Shop mill part programming

NUMERIC CONTROL SPECIFICATIONS

SIEMENS

Item	Specifications	S840Dsl	
		HFP 1540	
Controlled axis	Controlled axes	5 axes	●
	Simultaneously controlled axes	5 axes	●
Data input/output	Memory card input/output	(Local drive)	●
	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	1000
	3D simulation, finished part		●
	Simultaneous recording		●
	Measure kinematics		●
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		X
	19" color display without touch screen		●
	21.5" color display with touch screen		○
	CNC user memory	10 MB	●
	Expansion by increments	2 ~ 12 MB	○
Collision avoidance		●	
Collision avoidance ECO (machine, working area)		X	

POWER | TORQUE

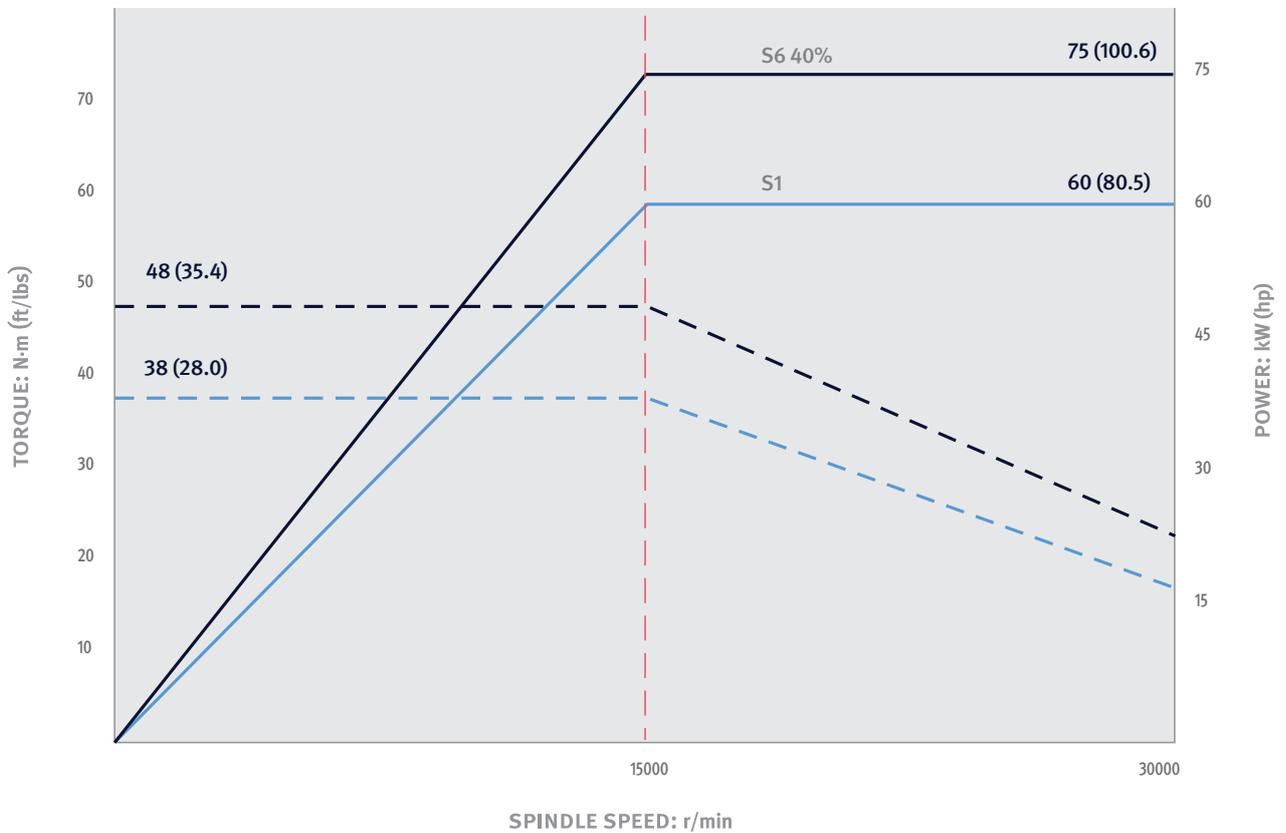
SIEMENS

30000 r/min Built-in

MAX. SPINDLE SPEED **30000** r/min

MAX. SPINDLE TORQUE **48** N·m
35.4 ft-lbs

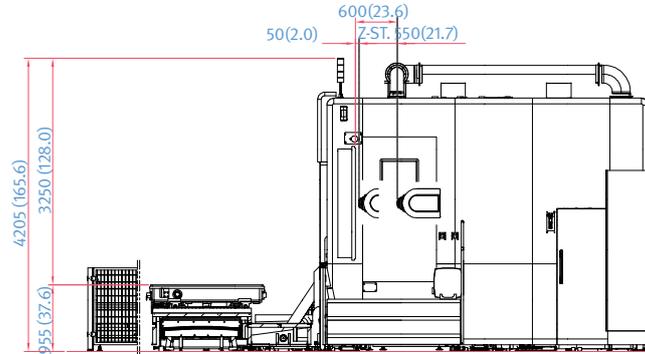
MAX. SPINDLE POWER **75** kW
100.6 Hp



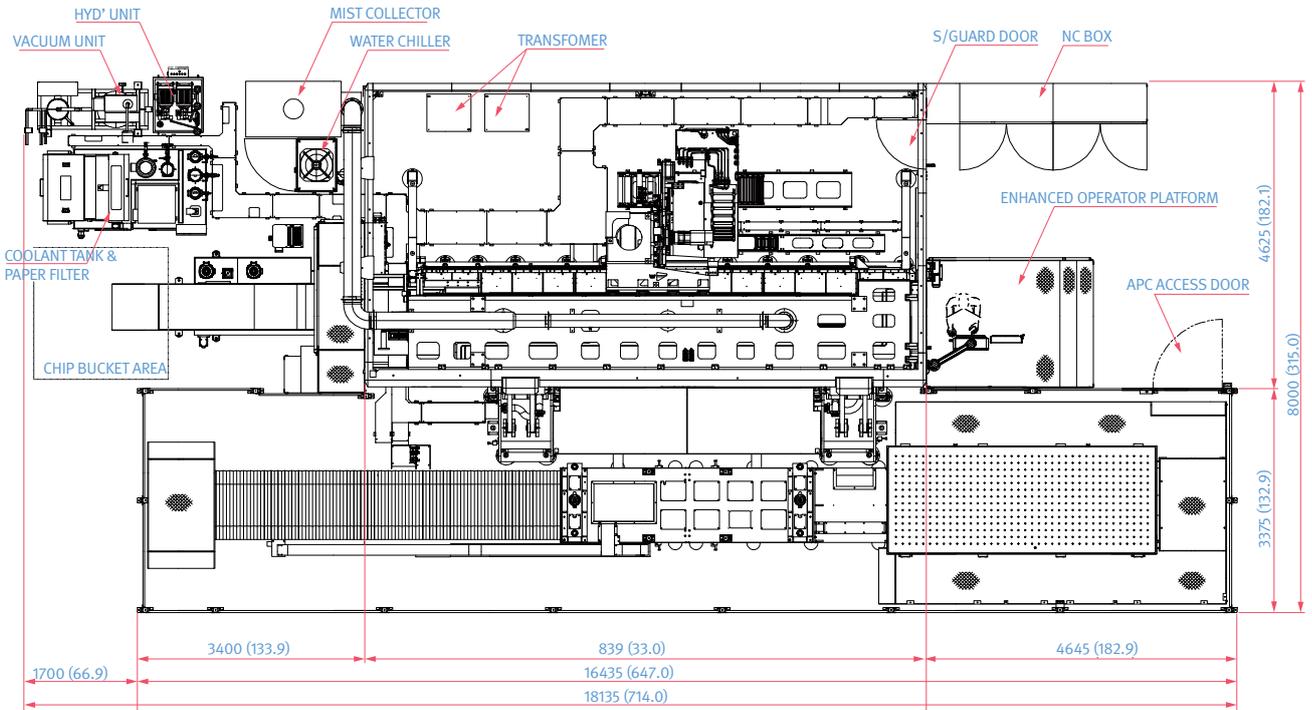
DIMENSIONS

SIDE

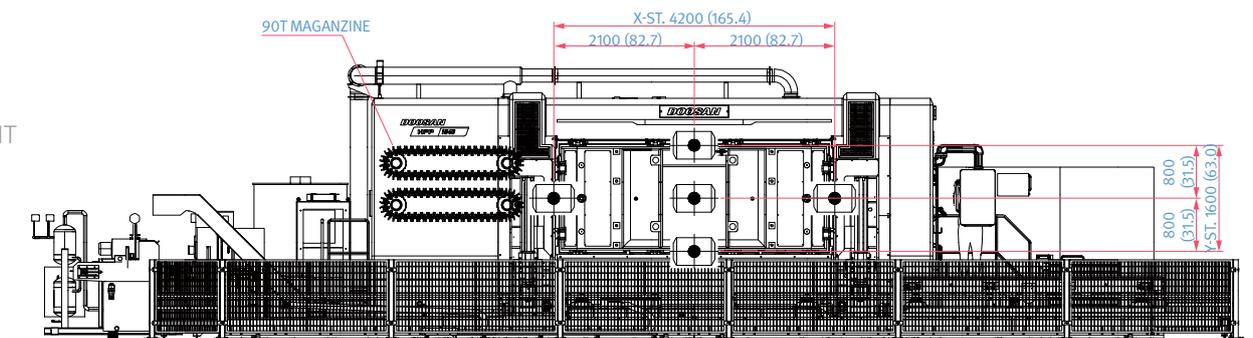
Units : mm (inch)



TOP



FRONT



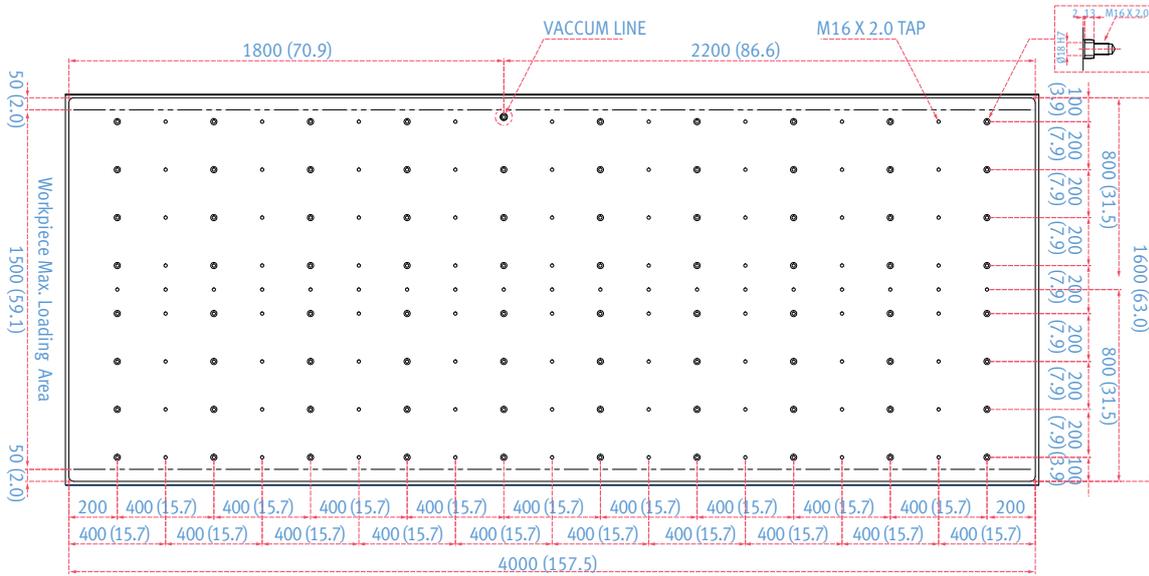
* Please comply with our company's installation guideline, such as ground condition and anchoring, in order to achieve the maximum precision and performance of the machine.

* Some peripheral equipment can be placed in other places

DIMENSIONS

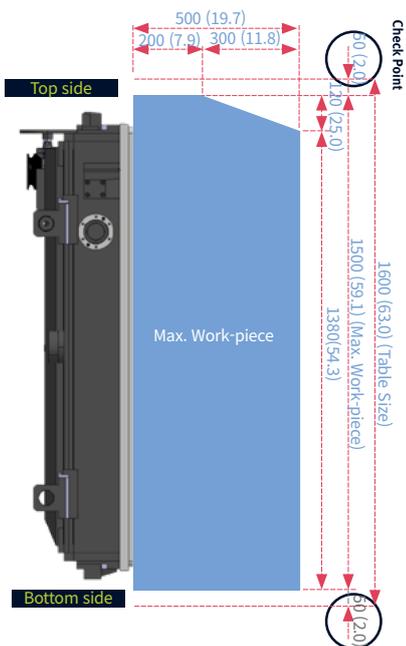
TABLE

Units : mm (Inch)

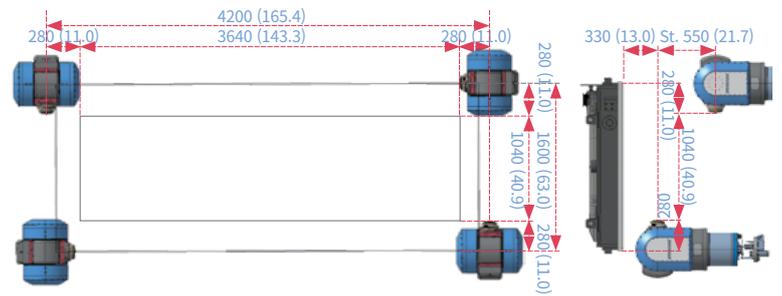


MAX. CUTTING AREA

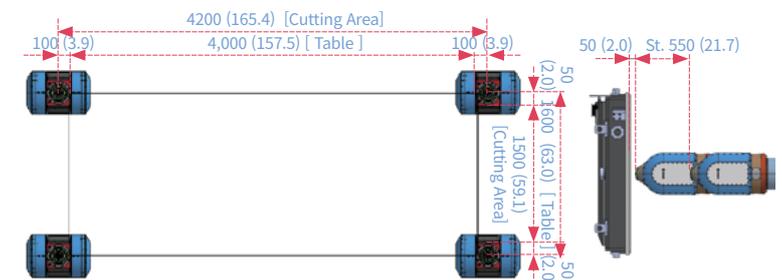
TOOL INTERFERENCE DIAGRAM



INTERFERENCE AREA (A-AXIS 90DEGREE)



INTERFERENCE (A-AXIS 0DEGREE)



MACHINE SPECIFICATIONS

Description			Unit	HFP 1540
Travels	Travel distance	X axis	mm (inch)	4200 (165.4)
		Y axis	mm (inch)	1600 (63.0)
		Z axis	mm (inch)	550 (21.7)
	Distance from spindle nose to table surface		mm (inch)	50 ~ 600 (2.0 ~ 23.6)
Table	Table size		mm (inch)	4000 x 1500 (157.5 x 59.1)
	TAP SIZE x PITCH		mm (inch)	M16 x 200 (M0.6 x 7.9)
	Table loading capacity		kg (lb)	3000 (6613.8)
Spindle	Max. spindle speed		r/min	30000
	Max. Spindle power		kW (Hp)	75 (100.6)
	Max. spindle torque		N·m (ft-lbs)	48 (35.4)
	A-axis angle		deg	± 105
	C-axis angle		deg	± 360
Feedrates	Rapid traverse rate	X axis	m/min (ipm)	60 (2362.2)
		Y axis	m/min (ipm)	40 (1574.8)
		Z axis	m/min (ipm)	60 (2362.2)
Automatic tool changer	Type of tool shank	Tool shank	-	HSK-A63
	Tool storage capa.		ea	60 {90, 120}
	Max. tool diameter	Continuous	mm (inch)	80 (3.1)
	Max. tool length		mm (inch)	300 (11.8)
	Max. tool weight		kg (lb)	4.5 (9.9)
	Tool change time (Tool-to-tool)		sec	6
Machine dimensions	Height		mm (inch)	4205 (165.6)
	Length		mm (inch)	8000 (315.0)
	Width		mm (inch)	18135 (714.0)
	Weight		kg (lb)	74200 (163580.6)
Control	NC system		-	SIEMENS S840D

*{ } : Option

WHY 5-AXIS MACHINING?

Single setup efficiency

5-axis machining allows you to approach the workpiece from all angles, with complete access to five sides of the part in a single setup. This reduces the overall number of part setups compared to traditional machining, which minimizes machine downtime and maximizes chip making time.



Improved part accuracy

When making parts with multi-sided features using traditional 3-axis machining, multiple part setups are required. This means new inaccuracies can arise each time the workpiece is repositioned. 5-axis machining eliminates stacked tolerances and improves overall part dimensional accuracy.

Extended machine shop capability

DN Solutions 5-axis machines open up new doors for your machine shop. The increased efficiency will make you instantly more competitive, and full 5-axis machining capabilities give you the opportunity to quote on jobs that previously weren't possible. So, what are you going to make today?



“Compared with similar machines from Japan or Europe, DN Solutions has the same level of precision and quality at a better value for money.”

– OMGM Group, Italy

“Our DN Solutions 5-axis is making complex, high precision parts for aerospace and defense. Cycle times have been reduced dramatically.”

– Aerotech Precision Manufacturing, Great Britain

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™**



WHAT YOU MAKE AND HOW YOU MAKE IT MATTERS—SO MAKE IT
GREAT WITH DN SOLUTIONS.

UNBEATABLE MACHINES

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

ROBUST PRODUCT LINE

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.

READILY AVAILABLE - ANYWHERE IN THE WORLD

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.

RESPONDING TO CUSTOMERS ANYTIME, ANYWHERE

DN Solutions Global Network

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	Technical centers Technical center, Sales support, Service support, Parts support
4	Corporations	200	Service posts
156	Dealer networks	3	Factories



CUSTOMER SUPPORT AND SERVICES

We're there for you whenever you need us.

We help our customers operate at maximum efficiency by providing them with a range of tried, tested and trusted services - from pre-sales consultancy to post-sales support.



Field services

- On-site service
- 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



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* For more details, please contact DN Solutions.

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