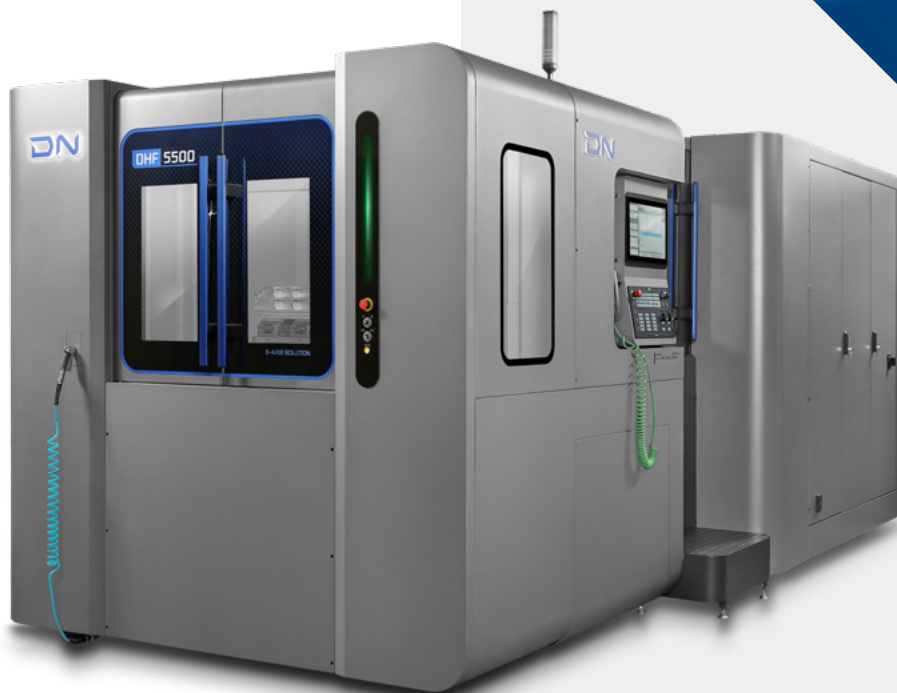


HORIZONTAL MACHINING CENTER WITH SWIVEL ROTARY TABLE
(SIMULTANEOUS 5-AXIS)

DHF 5500



DHF 5500

A horizontal machining center with a rigid structure based on a horizontal spindle and a tilting rotary table, delivering stable cutting performance and high reliability even in heavy-duty machining. Automation with a pallet system and simultaneous 5-axis machining in a single setup reduce process time and ensure stable quality. A large and rigid frame with an efficient cooling system enables high uptime and stable productivity during long unmanned operation. High-precision positioning control and thermal stability ensure consistent quality in complex part machining, reducing variation and supporting stable mass production.

CONTENTS

Product Overview	Basic Information	Detailed Information	Customer Support Service
	04 Basic Structure	07 Standard / Optional Specifications	14 Why DN Solutions
	05 Machining area	08 Peripheral Equipment	15 Customer Support and Services
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	06 Magazine	10 Power Torque	
		11 External Dimensions	
		12 Pallet Interface	
		13 Machine Specifications	



**SIMULTANEOUS 5-AXIS
MACHINING IN A SINGLE SETUP
FOR HIGH PRODUCTIVITY**



- Tilting table design enables multi-angle machining in a single setup
- Complex parts can be machined without process splitting
- Simultaneous 5-axis machining ensures both accuracy and productivity
- Reduced part movement between processes minimizes idle time

**COMPACT AND RIGID
STRUCTURE WITH
A TILTING ROTARY TABLE**

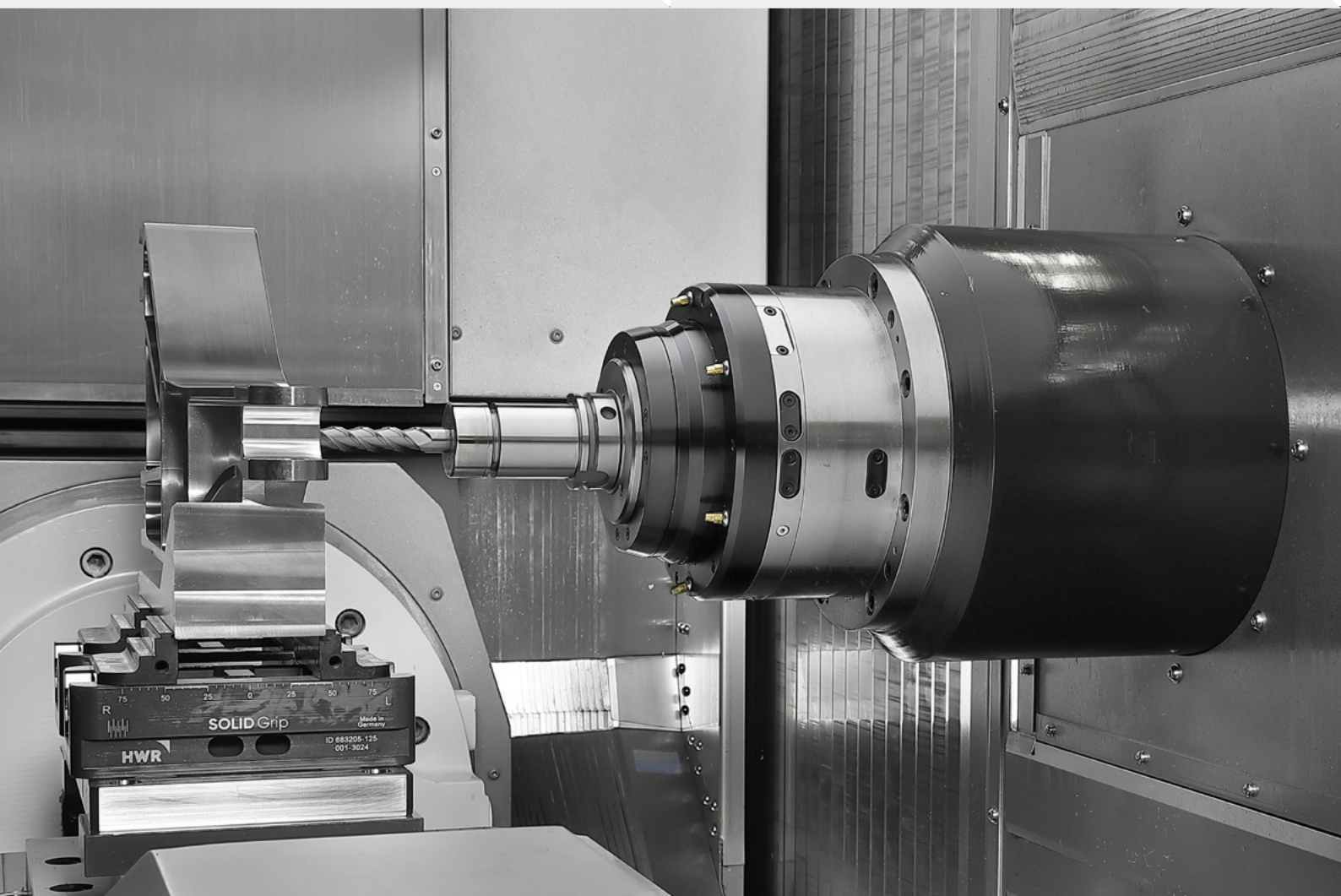


- High-rigidity structure maintains accuracy during heavy-duty machining
- Stable quality is ensured even in continuous operation
- Vibration control improves surface finish
- 3-point support and 4-point leveling ensure stable installation

**USER-FRIENDLY FEATURES
FOR CONVENIENCE AND
STABLE MACHINING**



- Improved chip management enhances operational efficiency
- Reduced installation and maintenance time
- High-precision positioning with linear scales
- Thermal deformation minimized with cooling bar system



BASIC STRUCTURE

The DHF 5500 is a high-precision, high-productivity simultaneous 5-axis horizontal machining center. It provides excellent machining stability with a structure optimized for complex parts and dual z-axis ball screws. It will provide the best solution for all industries.

X / Y / Z Travel distance

X-axis

900 mm (35.4 inch)

Y-axis

950 mm (37.4 inch)

Z-axis

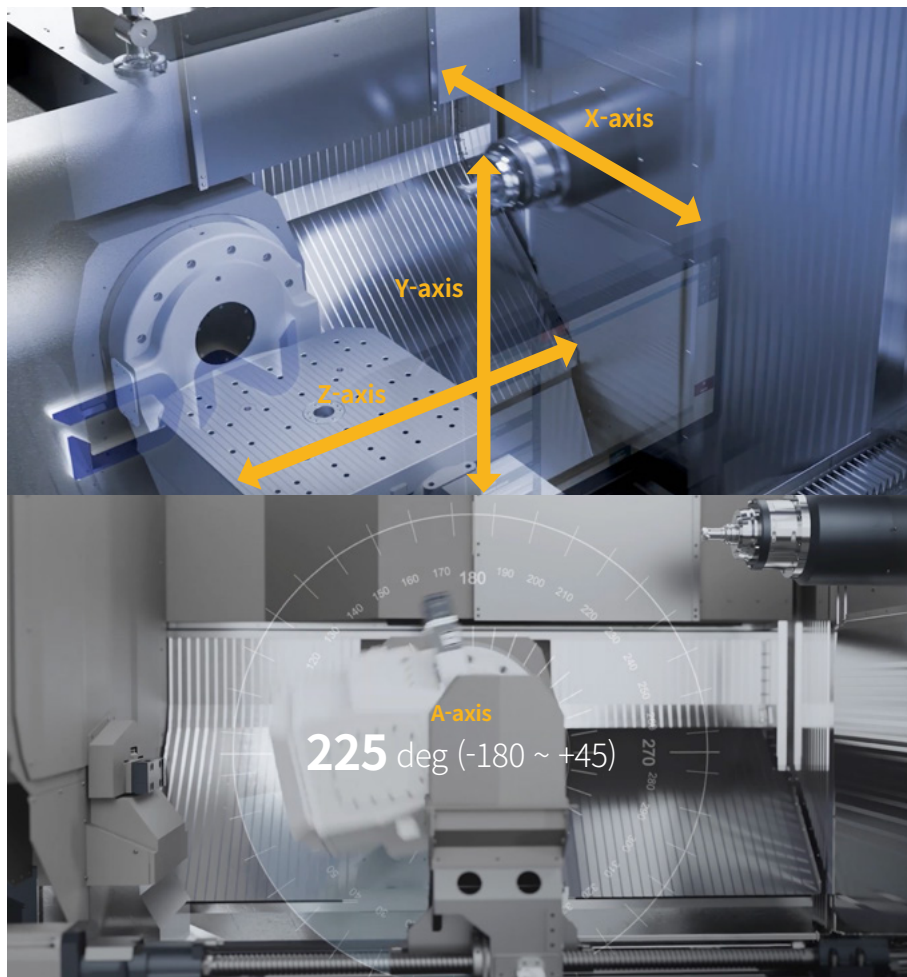
900 mm (35.4 inch)

A-axis

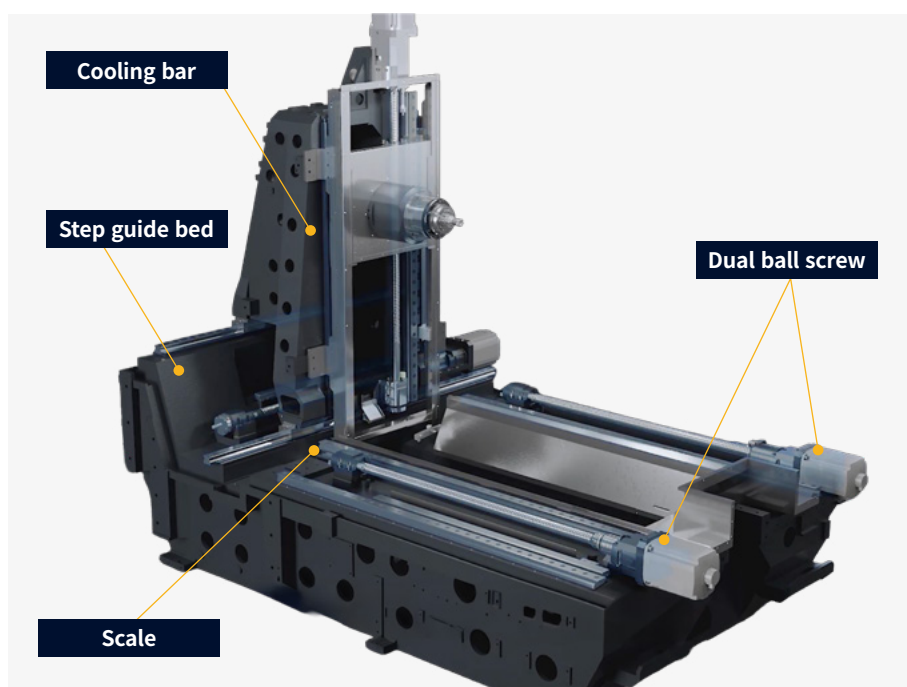
225 deg (-180 ~ +45)

B-axis

360 deg



Full-axis Linear scale, Ball screw shaft and bearing cooling



MACHINING AREA

The wide machining area and stable servo-type APC with 630mm pallet provide high productivity.
The tilting table enables precise processing even at various and complex angles.
The DHF 5500 will be the optimal solution for various manufacturing environments.

Max. work size

Ø900 x H760 mm
(Ø35.4 x 29.9 inch)

Max. work weight

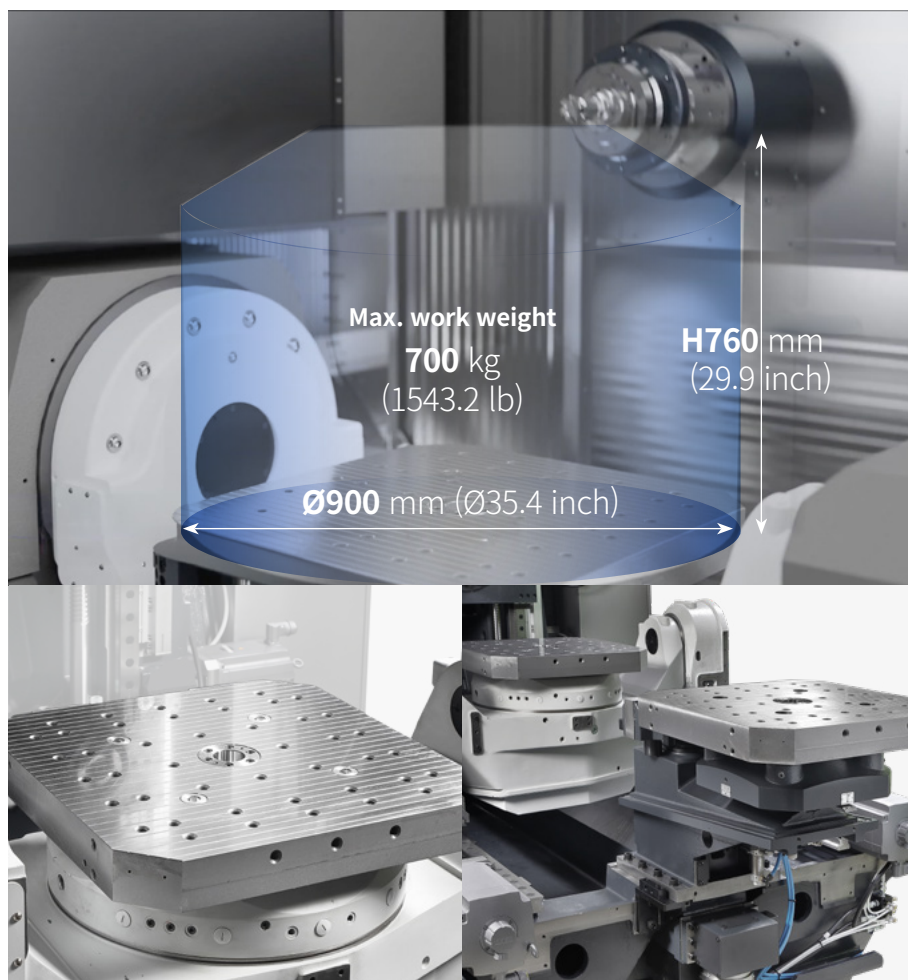
700 kg
(1543.2 lb)

Pallet size

630 X 630 mm
(24.8 x 24.8 inch)

Maximum pallet load

700 kg
(1543.2 lb)



High accuracy equipment

Main products



Titanium Blisk



Turbine casing



Spool



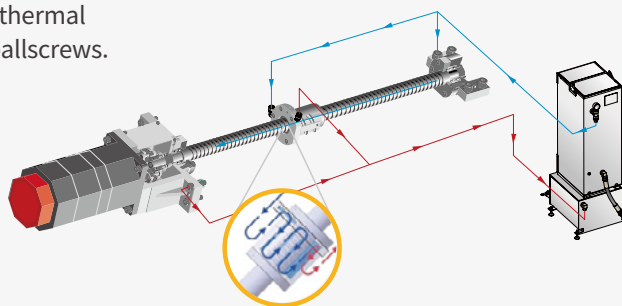
Fan disk



Turbine component

Cooling system

Significantly reduced thermal displacement of the ballscrews.



Linear scales

Maintain high precision over long machining runs and extended operation.



SPINDLE INFORMATION

The high-speed built-in spindle maintains a stable state even at high speeds with excellent rigidity and vibration damping ability. It is a solution that is optimized for high precision and various size processing, and provides high productivity and consistent quality.

Max. spindle speed, Power
(High-speed built-in spindle)

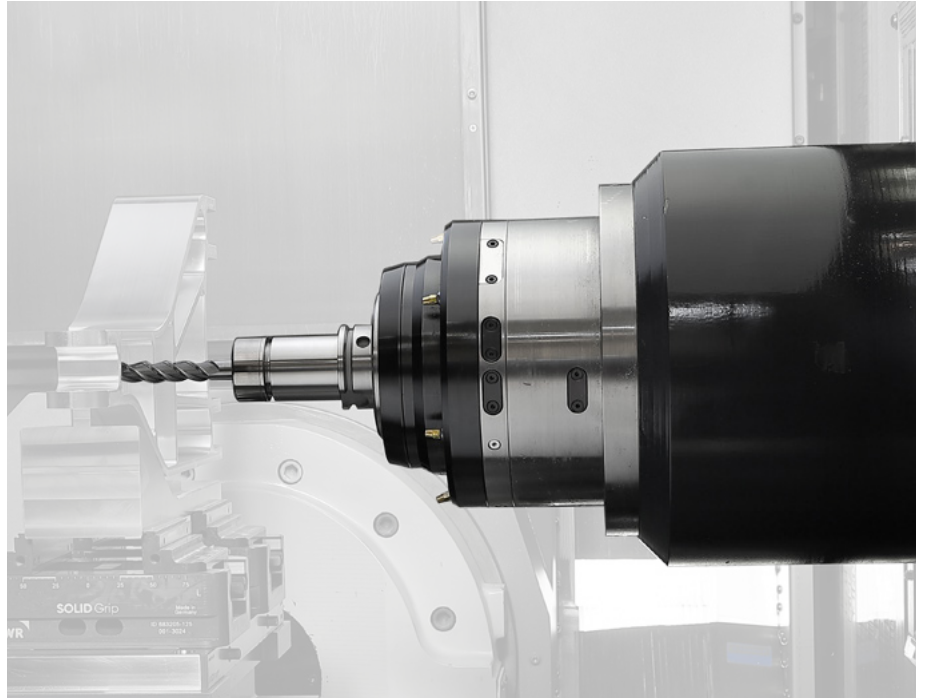
15000 r/min (SIEMENS)
25/45 kW (33.5/60.3 Hp) S1/S6(15%)
204 N·m (150.6 ft-lbs)

20000 r/min (SIEMENS)
24/30 kW (32.2/40.2 Hp) S1/S6(40%)
155 N·m (114.4 ft-lbs)

30000 r/min (SIEMENS)
40/55 kW (53.6/73.8 Hp) S1/S6(10%)
43 N·m (31.7 ft-lbs)

Tool shank

HSK A63 / BT40



MAGAZINE

The DHF 5500 offers a magazine solution that can be expanded from a minimum of 61 to a maximum of 275 to allow for machining multiple parts. It improves productivity by minimizing tool change speed and seek time.

Tool storage capacity

61 Tools (Pot type)
Continuous : 75 mm (3.0 inch)
Without adjacent tools : 140 mm (6.7 inch)

Others (121/171/275)
Continuous : 75 mm (3.0 inch)
Without adjacent tools : 170 mm (6.7 inch)

Max. tool length

550 mm (21.7 inch)

Max. tool weight

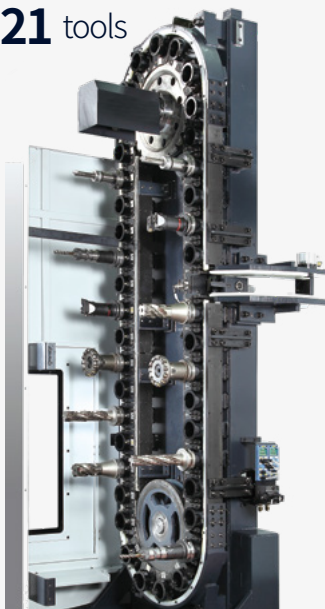
12 kg (26.5 lb)

Tool to tool

T-T-T 1.3 sec

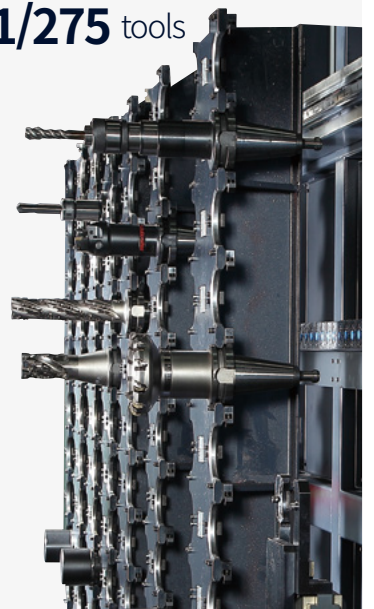
Pot type magazine

61/121 tools



Matrix type magazine

171/275 tools



STANDARD | OPTIONAL SPECIFICATIONS

A range of options is available to suit individual requirements.

Description	Features		DHF 5500
Spindle	15000r/min(SIEMENS)	45kW(60.3Hp), 204N.m(150. ft-lbs)	●
	20000r/min(SIEMENS)	30kW(40.2Hp), 155N.m(114.3. ft-lbs)	○
	30000r/min(SIEMENS)	55kW(73.7Hp), 43N.m(31.7. ft-lbs)	○
Magazine	Tool storage capacity	61 ea	●
		121/171/275 ea	○
Tool shank type	BIG PLUS BT40		●
	BIG PLUS CAT40		○
	BIG PLUS DIN40		○
	HSK A63		○
Coolant	FLOOD		●
	FLUSHING		●
	SHOWER		●
	Water soluble Coolant Chiller**		○
	Coolant level switch : Sensing level - Low / High		●
Chip disposal	Chip conveyor	Scraper type	●
	Chip bucket	Forklift type	○
		Rotation type	○
	Air blower		○
	Air gun		○
	Coolant gun		○
Precision machining option	Linear scale	X / Y / Z-axis	●
	Data Server 2G/4G/16GB		X
Measurement & automation	Automatic tool measurement	NC4	○
	Automatic workpiece measurement	RMP600_RENISHAW	○
Others	LED Work light		●
	Signal tower		●
	Tool load monitoring		○
	Automatic power off		○
Customized special option	Spin window for main door (Electric type)		○

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

** Technical consultation is mandatory for the chilling of non-water soluble coolant

* Please contact DN Solutions for detailed specification information.

● Standard ○ Optional X Not applicable



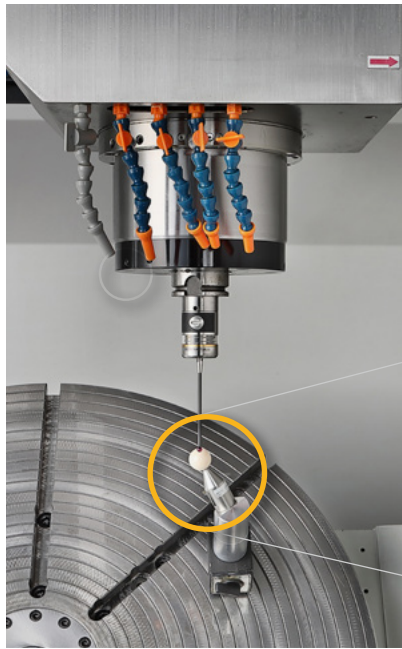
**Fire Safety
Precautions**

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

Intelligent Kinematic Compensation for 5-axis Recommended Option

For high-accuracy 5-axis machining, the Intelligent Kinematic Compensation function is recommended. This function minimizes errors in complex 5-axis machining applications by maintaining the tool point in the correct position relative to the workpiece.



Recommended optional items

1. Software

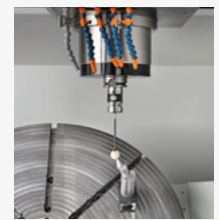


SIEMENS : IKC

2. Receiver



3. Touch Probe OPTION



4. Datum ball OPTION



5. Master tool OPTION



Chip disposal system



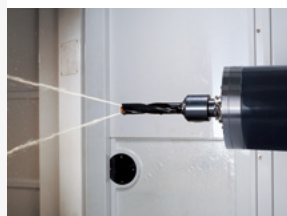
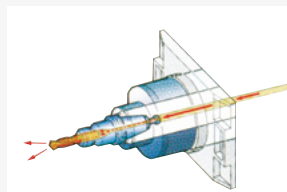
Flushing coolant



Shower coolant)



Coolant gun OPTION



MQL (Minimum Quantity Lubrication) system (Misting device) OPTION

Chip conveyor



Oil skimmer



Mist collector 선택



CONVENIENT OPERATION

SINUMERIK ONE

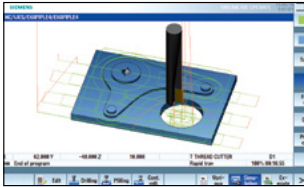
21.5" screen + new operation panel

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.

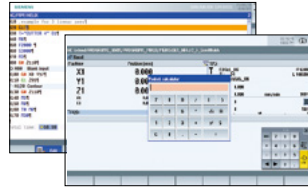
- 21.5" display
- 10MB high capacity user memory
- USB & ethernet (standard)
- QWERTY keyboard (standard)
- High-speed calculation and simulation can be fulfilled by improved processor functionality



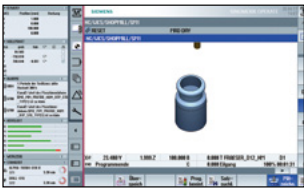
Conversational convenient function



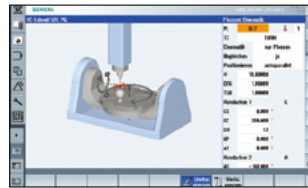
Simulation and machining contour monitoring



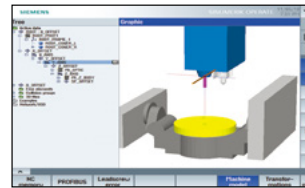
Smart function



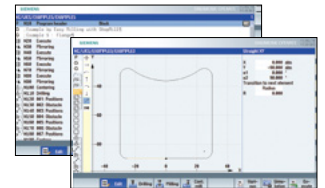
Side screen widget



5-axis kinematic measuring cycles



3D collision avoidance and collision avoidance



Shop mill part programming

NUMERIC CONTROL SPECIFICATIONS

SIEMENS

Description		Specifications	S-ONE DHF 5500
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		1000
	3D simulation, finished part		●
Operation Guidance Function	Simultaneous recording		●
	DXF Reader for PC integrated in SINUMERIK Operate		○
Setting and display	ShopMill		●
	EZ Work		●
Network	Operation via a VNC viewer		●
	MTConnect		✱
Others	OPCUA		○
	21.5" color display with touch screen		●
	CNC user memory	10 MB	●
	Max. CNC user memory	28 MB	○
	Collision avoidance (machine, working area)		●
	Collision avoidance ECO (machine, working area)		X

POWER | TORQUE

SIEMENS

Max. spindle speed

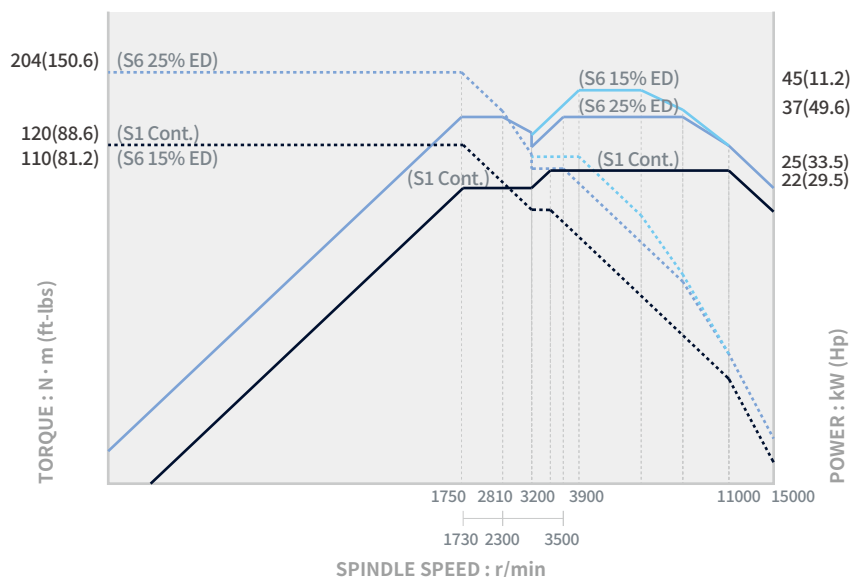
15000 r/min

Max. spindle power

45 kW
(60.3 HP)

Max. Spindle torque

204 N·m
(150.6 ft-lbs)



Max. spindle speed

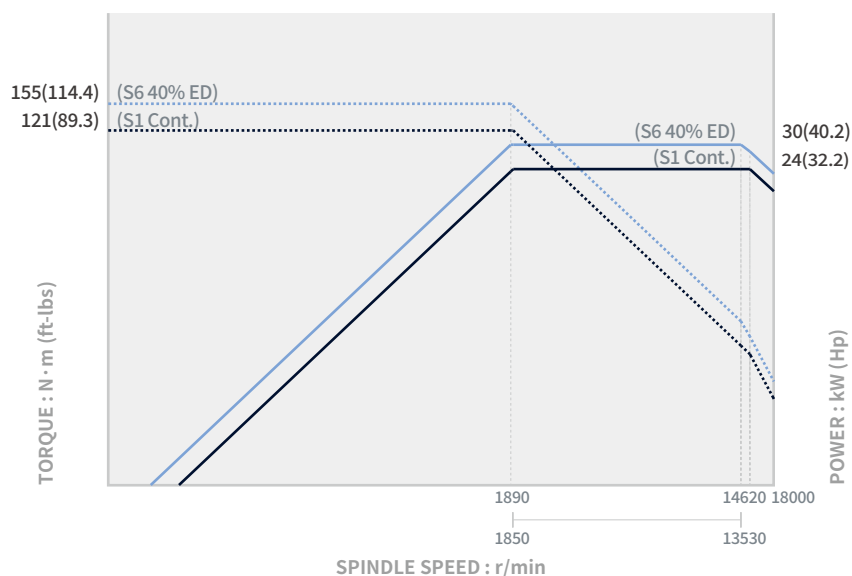
20000 r/min

Max. spindle power

30 kW
(40.2 HP)

Max. Spindle torque

155 N·m
(114.4 ft-lbs)



Max. spindle speed

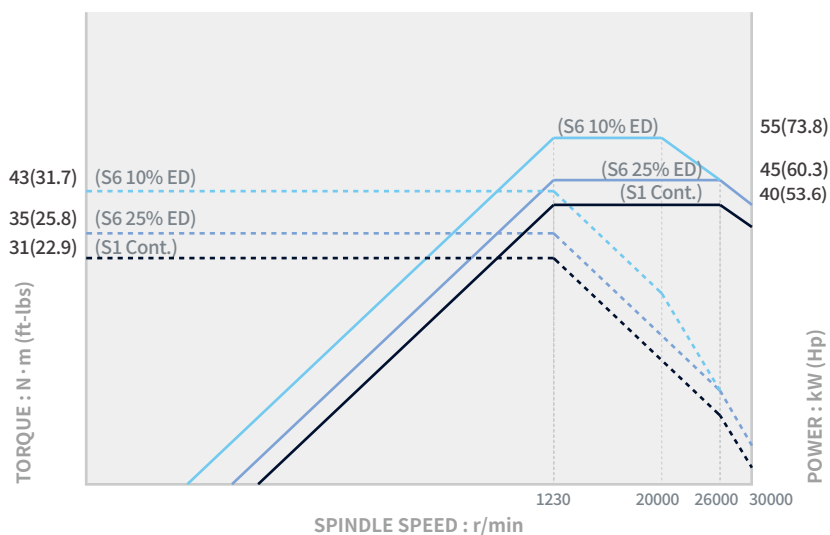
30000 r/min

Max. spindle power

55 kW
(73.8 HP)

Max. Spindle torque

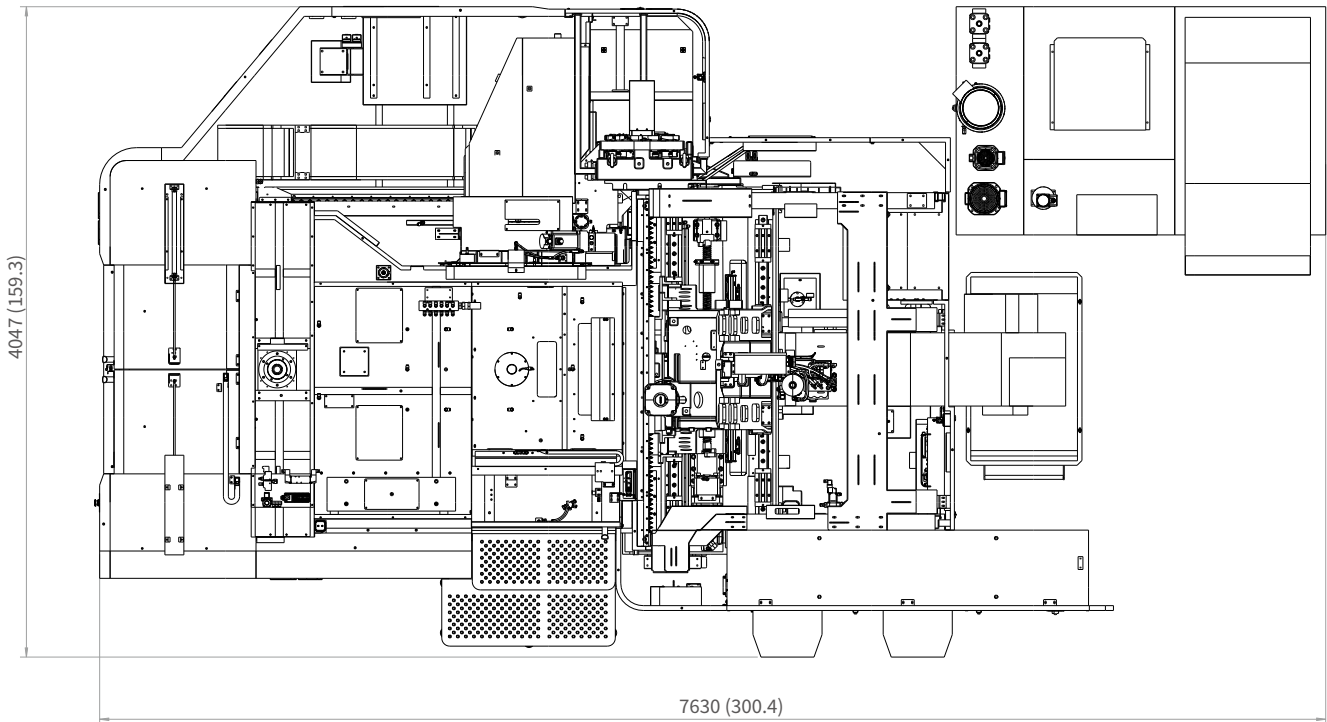
43 N·m
(31.7 ft-lbs)



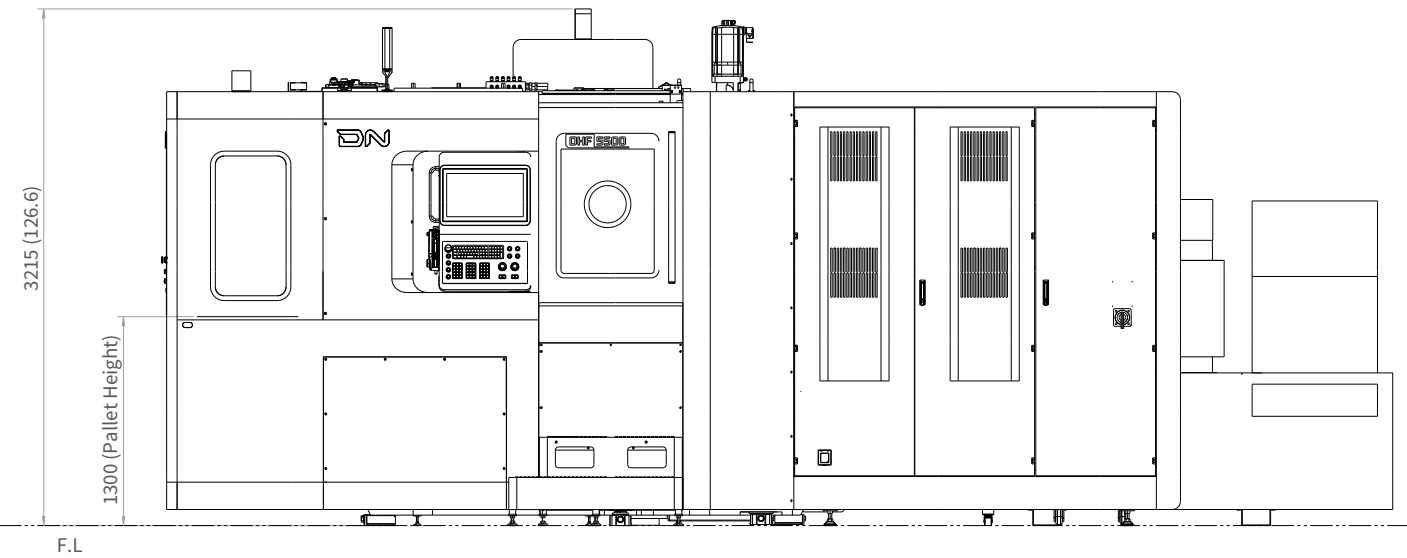
EXTERNAL DIMENSIONS

Units : mm (inch)

TOP



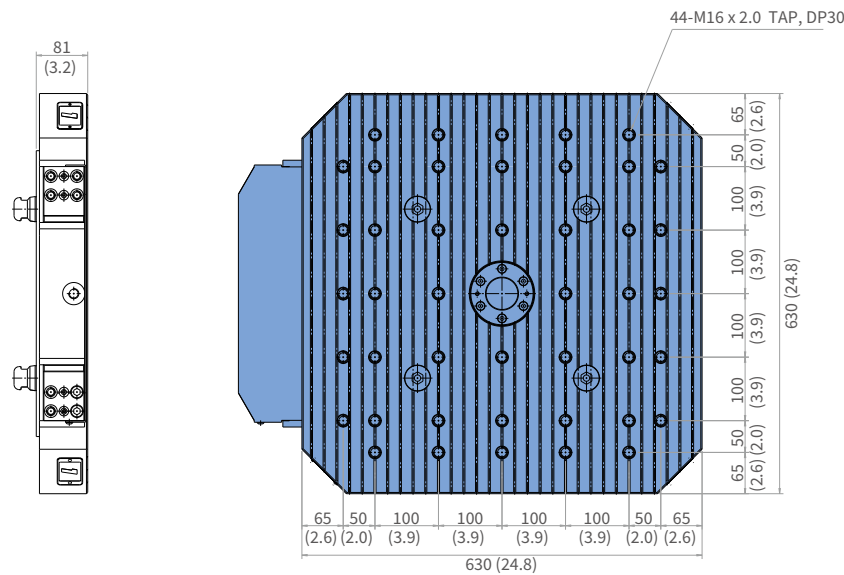
FRONT



* Some peripheral equipment can be placed in other areas.

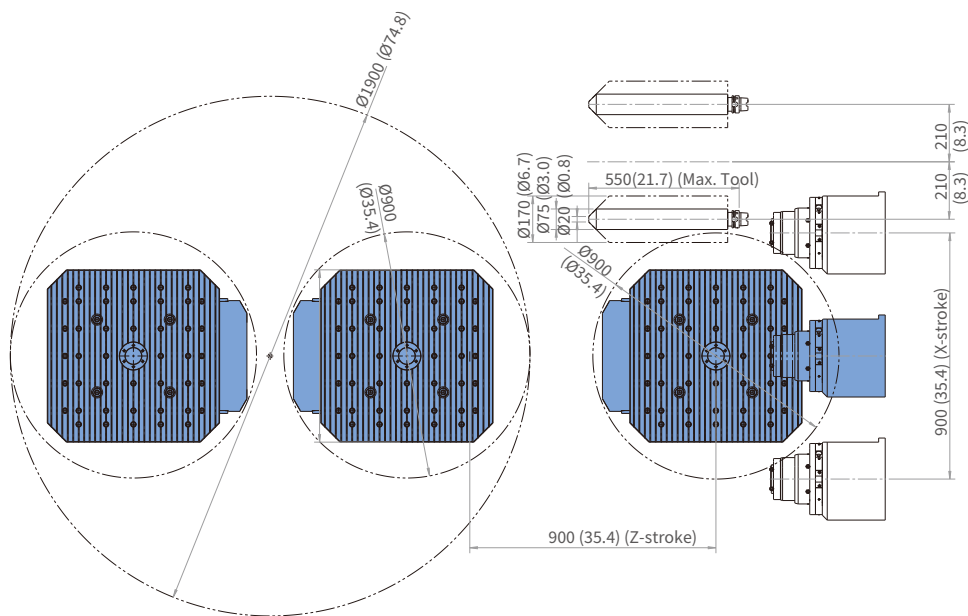
PALLET

Units : mm (inch)



INTERFACE

Units : mm (inch)

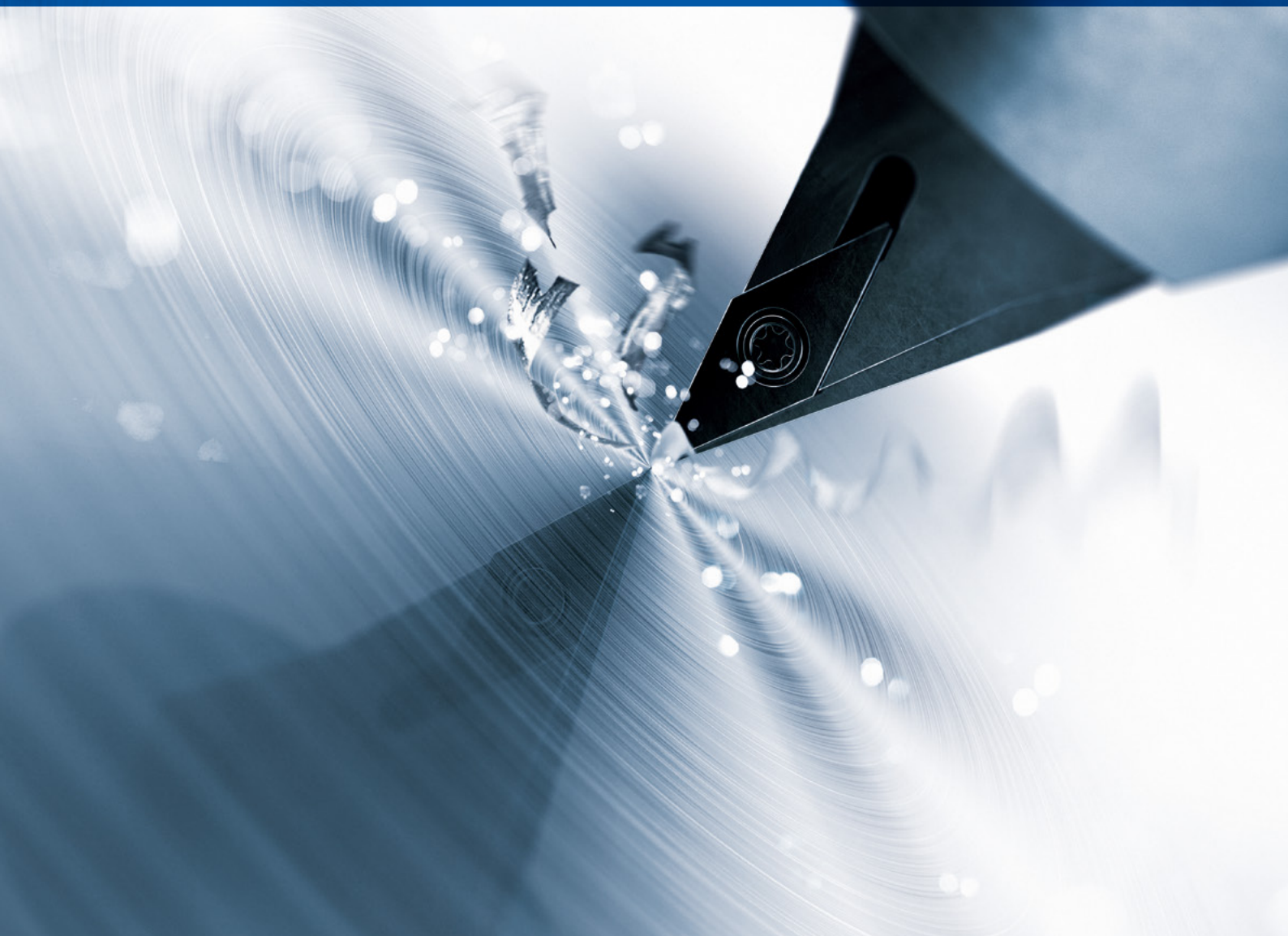


MACHINE SPECIFICATIONS

Description	Item	Specifications	Unit	DHF 5500
Travel	Travel distance	X-axis	mm (inch)	900 (35.4)
		Y-axis	mm (inch)	950 (37.4)
		Z-axis	mm (inch)	900 (35.4)
	Spindle nose to table center		mm (inch)	200~1100 (7.9~43.3)
	Distance from spindle nose to table top		mm (inch)	-250~700 (-9.8~27.6)
Table	Pallet size		mm (inch)	630 x 630 (24.8 x 24.8)
	Maximum workpiece diameter		mm (inch)	Ø900(Ø35.4)
	Maximum workpiece height		mm (inch)	760 (29.9)
	Maximum workpiece weight		kg (lb)	700 (1543.2)
	Pallet exchange time		sec	20
Spindle	Max. spindle speed		r/min	15000 {20000/30000}
	Tool taper		-	ISO #40
	Max. spindle motor power		kW (Hp)	25/45 S6(15%)
	Max. spindle torque		N·m (ft-lbs)	204 (150.6)
Feedrate	Rapid traverse rate	X-axis	m/min (ipm)	60 (2362.2)
		Y-axis	m/min (ipm)	60 (2362.2)
		Z-axis	m/min (ipm)	60 (2362.2)
		A-axis	r/min	25
		B-axis	r/min	60
Automatic tool changer (ATC)	Tool storage capacity		ea	61 {121/171/275}
	Max. tool diameter	Continuous	mm (inch)	75 (3.0)
		Without adjacent tools	mm (inch)	170 (6.7)
	Max. tool length		mm (inch)	550 (21.7)
	Max. tool weight		kg (lb)	12 (26.5)
	Tool change time (Tool-to-tool)		sec	0.9
	Chip to Chip		sec	3.5
Machine dimensions	Height		mm (inch)	3215 (126.6)
	Length		mm (inch)	7630 (300.4)
	Width		mm (inch)	4050 (159.4)
	Weight		kg (lb)	20000 (44091.8)
Control	CNC system		-	SIEMENS S-ONE

WHY DN SOLUTIONS

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...



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

66 COUNTRIES | **140** + SALES NETWORKS | **3** FACTORIES | **6** REGIONAL HQS



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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