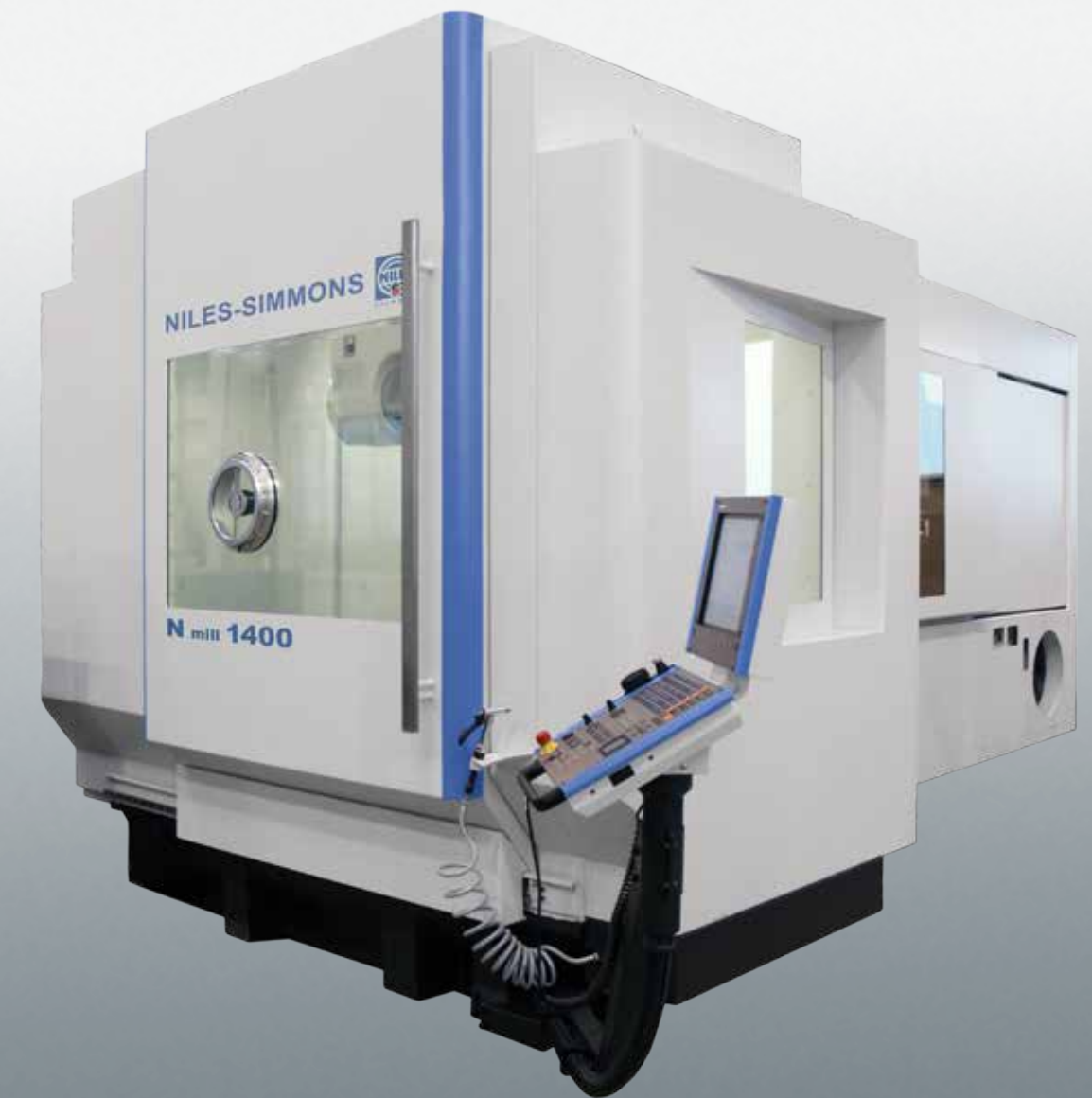


## 5-Axis Milling Center Nmill 1000/1400

Compact



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**NILES-SIMMONS** 

# Compact



Nmill 1400



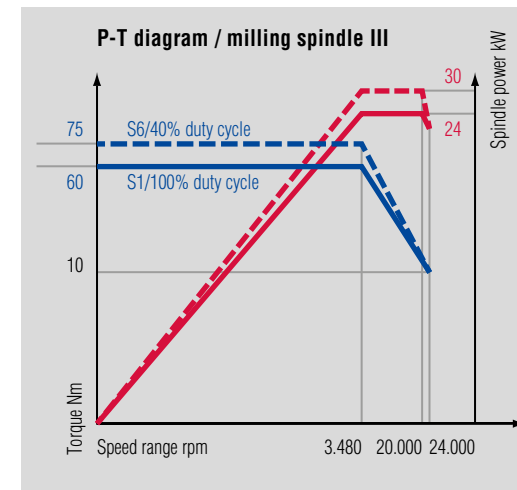
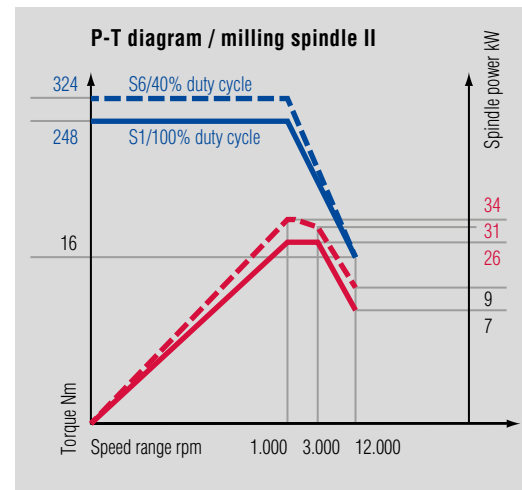
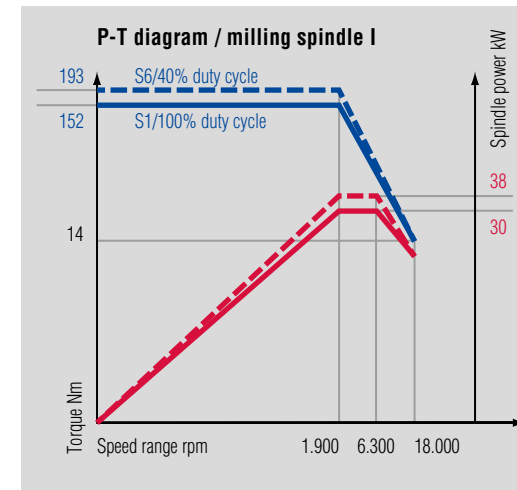
100% made in Germany – developed and produced in Chemnitz

- ➔ Large working space with excellent ergonomics and low space requirement
  - ➔ Heavy cast-iron base and supports with a high-precision guidance system and thermostable structure
  - ➔ NC rotary table with dynamic direct drive with hydraulic clamping at desired angle, rotary transmission for additional functions, optional speed range up to 500 rpm with automatic alignment function
  - ➔ Complete machining from roughing to finishing is augmented by milling/turning function
  - ➔ Reliable high-precision spindles with oil-air lubricant with HSK63/HSK100 interface, swivelling A-Axis can be hydraulically clamped at desired angle
- ➔ The Nmill design has been proven 100 times
  - ➔ Model for turning that has an optional hydraulic clamping function for the spindle
  - ➔ Uses the latest generation of control technology from HEIDENHAIN and SIEMENS
  - ➔ New comfortable operating design with 19" TFT monitors with NILES-HMI

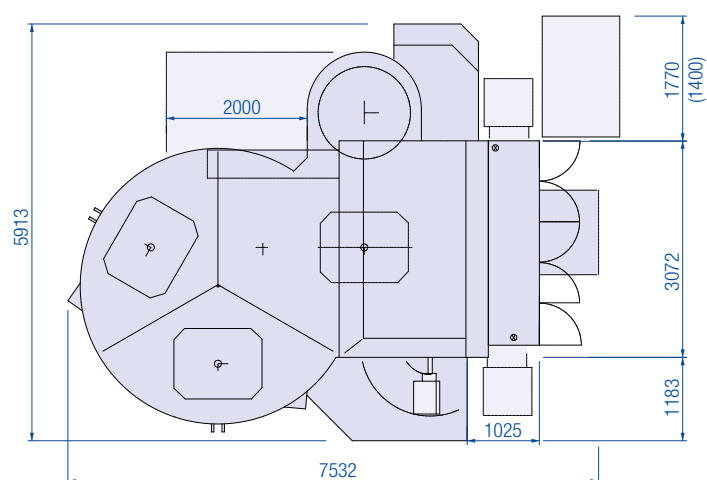
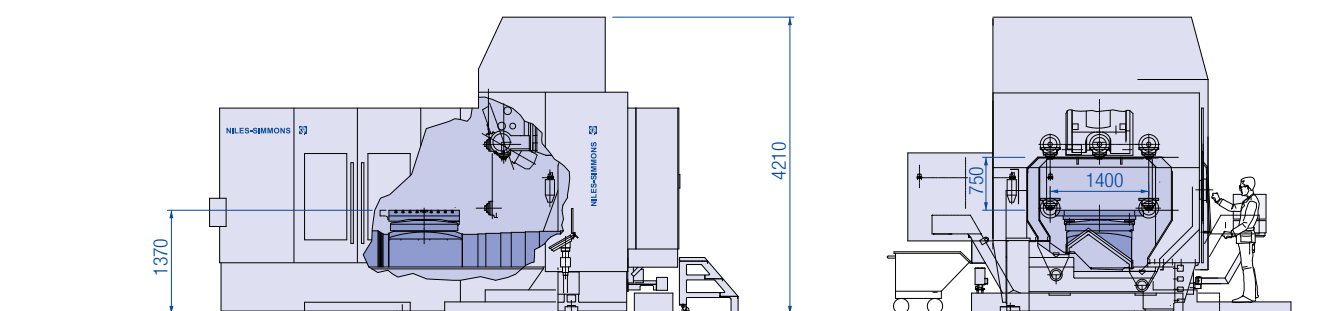
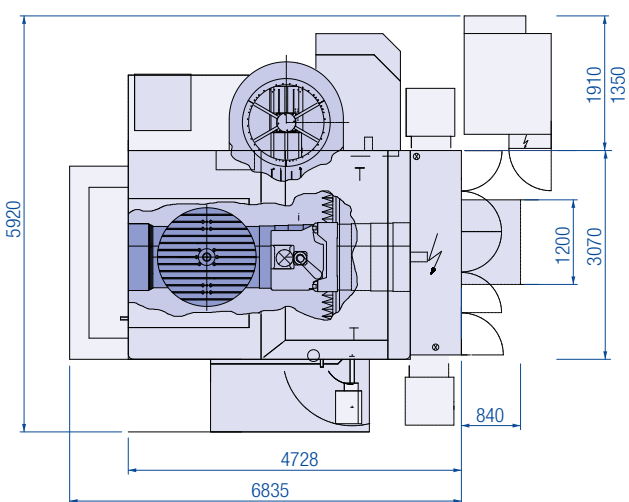
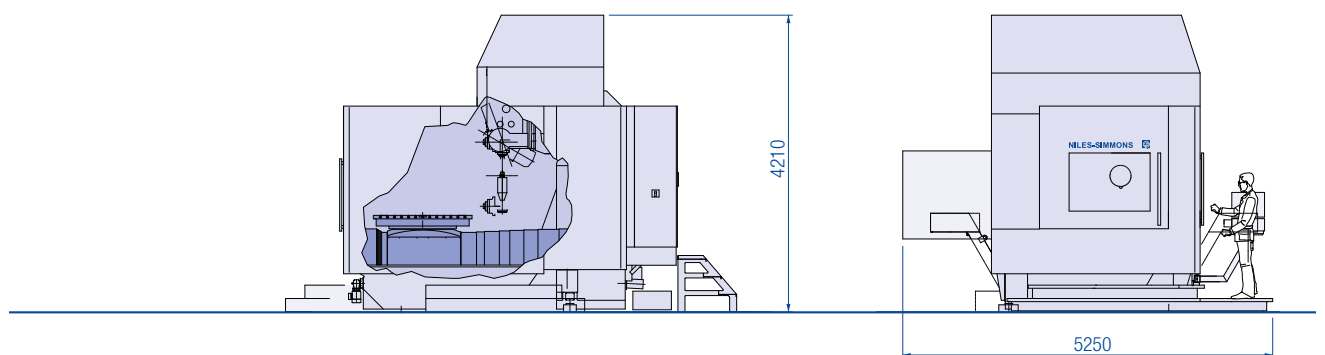
**Technical Features / Options:**  
The technical features and optional packages of the Nmill 1000 and Nmill1400 are tailored to meet various machining and operating conditions. The new milling/turning function opens up the area of application and enables complete machining tasks to be executed in a flexible way.

- Basic Configuration**
- Closed machine housing
  - Panes made of composite safety glass
  - 2 integrated screw conveyors
  - Direct absolute measuring systems
  - Integrated safety/functional safety
  - 3-point support without foundation
  - External coolant/air cooling
  - Spray gun
  - Front /side chip conveyor
  - Mobile handwheel with spiral cable

- Options**
- Triple pallet changer
  - Internal coolant supply, unregulated
  - 40 bars of pressure | flow rate 25 l/min
  - Internal coolant supply, regulated
  - 80 bars of pressure | flow rate 18 l/min
  - Rotoclear on front/side
  - Minimum lubrication
  - Coolant Mist extraction
  - Tool probing by using lasers
  - Table top load cell
  - Sensor for measuring workpiece
  - Air through the spindle
  - Cooling using cooling lubricant
  - Higher precision
  - Import of CAD data
  - Etched table surface
  - Thermal and vibration sensors
  - Remote diagnosis
  - Automatic compensation function
  - Tailored solutions



Machine Type		Nmill 1000	Nmill 1400	Nmill 1400T
<b>Axes</b>				
Longitudinal	X mm	1000	1400	1400
Cross	Y mm	1150	1150	1150
Vertical	Z mm	895	895	895
Swivel Axis, Spindle	A degrees	+16/-120	+16/-120	+16/-120
Number of simultaneous axis	n	5	5	5
<b>Work table</b>				
Table size, Dia	mm	1000	1100	1000
Max. Table load	kg	1100	1600	1400
Table slots, distance / width	mm	100/18-H12	100/18-H12	radial/4x18H7; 4x18H12
Max. speed range	rpm	40	40	500
<b>Working Spindle</b>				
Working Spindle HSK A63, 15.000 rpm	kW	38	38	-
Spindle torque 40 % duty cycle	Nm	193	193	-
Working Spindle HSK T63, 18.000 rpm	kW	38	38	38
Spindle torque 40 % duty cycle	Nm	193	193	193
Working Spindle HSK A63, 24.000 rpm	kW	30	30	-
Spindle torque 40 % duty cycle	Nm	75	75	-
Working Spindle HSK A100, 10.000 rpm	kW	-	34	-
Spindle torque 40 % duty cycle	Nm	-	325	-
Working Spindle HSK T100, 12.000 rpm	kW	-	-	34
Spindle torque 40 % duty cycle	Nm	-	-	325
<b>Feed drives</b>				
Max. feed rate	rpm	15	15	15
Rapid Traverse	rpm	30	30	30
Feed force	N	11000	11000	11000
<b>Automation</b>				
Pallet magazine	Pockets	-	3	-
Pallet size	Ø mm	-	1000/840	-
Tool magazine HSK 63	Pockets	30, 46, 92	30, 46, 92	30, 46, 92
Tool magazine HSK 100	Pockets	30/170	30/170	30/170
Max. tool diameter / length	mm	160/400	160/400	160/400
Max. tool weight	kg	12	12	12
Chip-to-chip time	s	11	11	11
<b>Accuracy data</b>				
Positioning deviation M ISO 230-2 (97) XYZ	mm	0,004	0,004	0,004
<b>Control unit</b>				
HEIDENHAIN		TNC 640	TNC 640	TNC 640
SIEMENS		840 DsL	840 DsL	840 DsL
<b>Machine housing</b>				
Closed machine housing		yes	yes	yes
Opening width Machine/WPC	mm	1450	1450/1000	1450
Chip removal				
Chip conveyor / Discharge	front / lh	yes	yes	yes
Integrated screw conveyor		2	2	2
<b>Coolant</b>				
Dry machining, external air cooling	Nozzles	3	3	3
Wet machining, external coolant supply	Nozzles	3	3	3
Pressure	bar	6	6	6
Flow rate	l/min	25	25	25
<b>Weight</b>				
Machine weight, app.	kg	12000	12600..17100	12600



## 5-Axis Milling Center Nmill 1900

Proven Technology



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# Proven Technology



- Gantry design for maximum robustness with heavy cast iron base and graduated high-precision guidance systems
- Z-Axis with milling spindle unit in a weight-saving robust sandwich construction
- NC rotary table with a dynamic direct drive with hydraulic clamping at desired angle, rotary transmission for additional functions, optional speed range up to 250 rpm with automatic alignment function
- Reliable high-precision spindles with oil-air lubricant with HSK63 and HSK 100 interface, swivelling B-Axis can be hydraulically clamped at desired angle
- Model for turning that has an optional hydraulic clamping function for the spindle

- Uses the latest generation of control technology from HEIDENHAIN and SIEMENS New, comfortable operating design with 19" TFT monitors with NILES-HMI

### Technical Features / Options:

The optional packages are tailored to meet various operating conditions. From single-item to small-batch production, this machine guarantees you remain competitive thanks to customised automation solutions and technology packages. The new milling/turning function opens up the area of application and enables complete machining tasks to be executed in a flexible way.

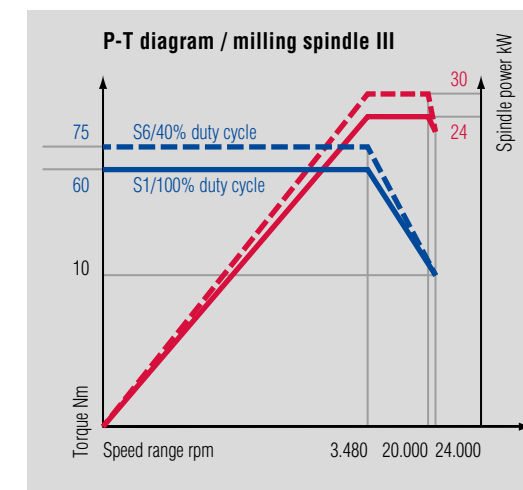
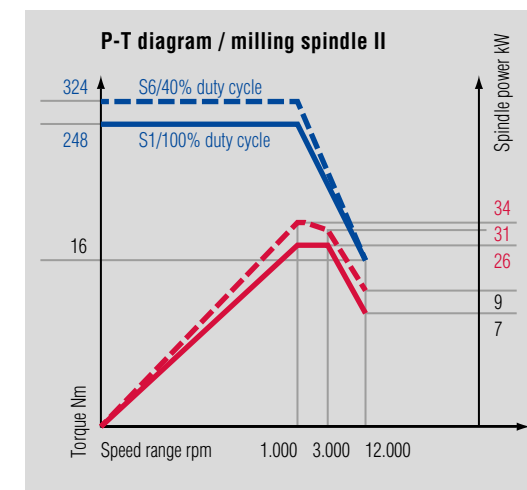
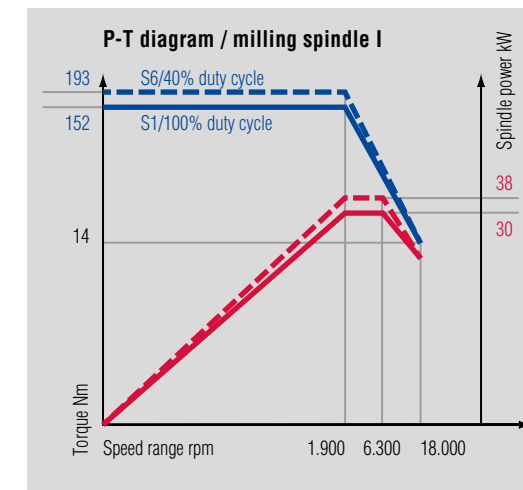
- Basic Configuration**
- Protected operator's cab
  - Panes made of composite safety glass
  - 2 integrated screw conveyors
  - Direct absolute measuring systems
  - Integrated safety/functional safety
  - 3-point support without foundation
  - Outer coolant/air cooling
  - Spray gun
  - Front/side chip conveyor
  - Mobile handwheel with spiral cable

- Options**
- Triple pallet changer
  - Internal coolant supply, unregulated
  - 40 bars of pressure | flow rate 25 l/min
  - Internal coolant supply, regulated
  - 80 bars of pressure | flow rate 18 l/min
  - Rotoclear on front/side
  - Minimum lubrication
  - Coolant Mist extraction
  - Tool probing by using lasers
  - Tabletop load cell
  - Sensor for measuring workpiece
  - Air through the spindle
  - Cooling using cooling lubricant
  - Higher precision
  - Import of CAD data
  - Etched table surface
  - Thermal and vibration sensors
  - Remote diagnosis
  - Automatic compensation function
  - Tailored solutions

Nmill 1900



100% made in Germany – developed and produced in Chemnitz



Machine Type		Nmill 1900	Nmill 1900T
<b>Axes</b>			
Longitudinal	X mm	1900	1900
Cross	Y mm	1400	1400
Vertical	Z mm	720/905	720/905
Swivel Axis, Spindle	B degrees	-20/ +120	-20/ +120
Number of simultaneous axis	n	5	5
<b>Work table</b>			
Table size, Dia	mm	1600	1500
Max. Table load	kg	4000	4000
Table slots, distance/width	mm	100/ 18 H7	radial/ 4x18H7; 4x18H12
Max. speed range	rpm	30	250
<b>Working Spindle</b>			
Working Spindle HSK A63, 15.000 rpm	kW	38	-
Spindle torque 40 % duty cycle	Nm	193	-
Working Spindle HSK T63, 18.000 rpm	kW	38	38
Spindle torque 40 % duty cycle	Nm	193	193
Working Spindle HSK A63, 24.000 rpm	kW	30	-
Spindle torque 40 % duty cycle	Nm	75	-
Working Spindle HSK A100, 10.000 rpm	kW	34	-
Spindle torque 40 % duty cycle	Nm	325	-
Working Spindle HSK T100, 12.000 rpm	kW	-	34
Spindle torque 40 % duty cycle	Nm	-	325
<b>Feed drives</b>			
Max. feed rate	rpm	15	15
Rapid Traverse	rpm	40	40
Feed force	N	16000	16000
<b>Automation</b>			
Pallet magazine	Pockets	3	-
Pallet size	Ø mm	1000 x 1250	-
Tool magazine HSK 63	Pockets	45,120, 238	45,120, 238
Tool magazine HSK 100	Pockets	30/170	30/170
Max. tool diameter / length	mm	160/500	160/500
Max. tool weight	kg	12	12
Chip-to-chip time	s	15	15
<b>Accuracy data</b>			
Positioning deviation M ISO 230-2 (97) XYZ	mm	0,004	0,004
<b>Control unit</b>			
HEIDENHAIN		TNC 640	TNC 640
SIEMENS		840 DsL	840 DsL
<b>Machine housing</b>			
Closed machine housing		yes	yes
Opening width Machine/WPC	mm	1730/1600	1730
<b>Chip removal</b>			
Chip conveyor / Discharge	front / back	yes	yes
Integrated scrow conveyor		2	2
<b>Coolant</b>			
Dry machining, external air cooling	Nozzles	3	3
Wet machining, external coolant supply	Nozzles	3	3
Pressure	bar	6	6
Flow rate	Liter/min	25	25
<b>Weight</b>			
Machine weight, app.	kg	25000..32000	26000