

CNC Automatic Turning

SPRINT 50/65 Next Generation

SPRINT 50
SPRINT 65



SPRINT 50 / 65 Next Generation

**Highly productive automatic turning
with the TWIN design, three turrets
and a B-axis.**

02

110 Seconds



1

**280
Seconds**

Medical – Hip joint socket
made of titanium.

150 Seconds



2

90 Seconds



3

1: Fluid / Hydraulic – Drive sleeve made of steel, 110 sec. machining time
2: Engineering – Drive shaft made of aluminium, 150 sec. machining time
3: Automotive – Control valve made of stainless steel, 90 sec. machining time



Highlights

Machining of longer work pieces with two turrets and the TWIN design

- + Patented and proven TWIN design
- + Two separate work areas through the unique work area design featuring two turrets and cross stroke of the counter spindle / tailstock* combination
- + Cross travelling counter spindle for front machining of long parts at the main and counter spindle

Three tool holders for highly productive machining of short work pieces

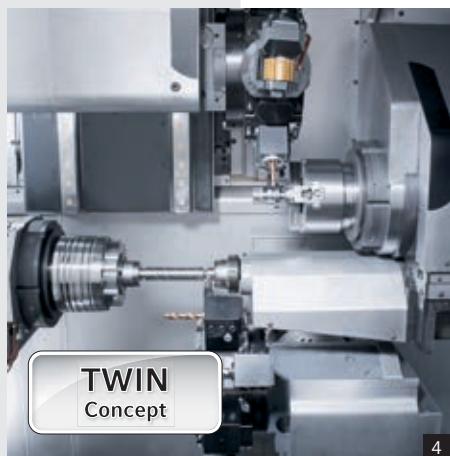
- + Collision-free machining with 3 turrets at the main and counter spindle
- + 36 positions for driven tools (comes standard)
- + Up to three Y- and Z-axes* for demanding complete machining

03

Unique – three turrets with a B-axis for the machining of negative angles

- + Lower turret as a B-axis with a wear-free torque drive
- + Highest stability with hydraulic clamping in the B-axis with 2,100 Nm

* Optional



4



5



6

SPRINT 50 / 65 Next Generation

Next generation for highly productive automatic turning.

The next generation SPRINT 50 and 65 are designed for bar machining of work pieces up to Ø 90 mm. In addition to the superior performance with three turrets, including the B-axis for machining of negative angles, the machine is also available as a three turret version without a B-axis or with two turrets in the TWIN design.

< 1 sec. chip-to-chip time

- + Shortest idle times through the new and fast turret with indexing times of < 0.2 or < 0.5 sec. (30° / 180°)
- + 0.9 sec. spindle run-up time from 0 to 4,000 rpm, 7,000 rpm max. speed (SPRINT 65 max. 1.3 sec run-up time) for the main and counter spindle

3D control with exclusive DMG Technology Cycles

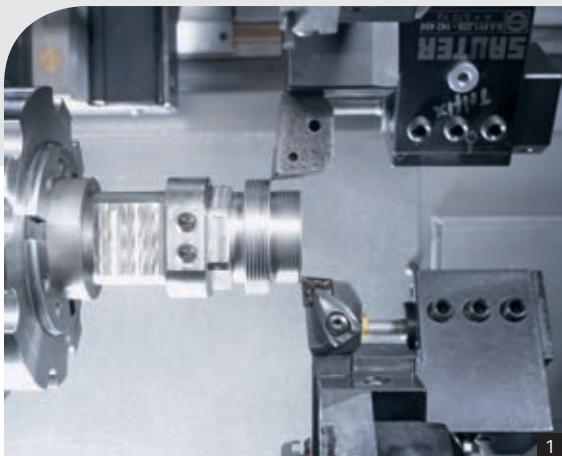
- + Siemens 840D solutionline with ShopTurn 3G for convenient programming using animated images
- + Exclusive DMG Technology Cycles for the easiest, conversational programming through parameterised input screens, e.g. gear milling or eccentric machining

< 30 sec. tool setup through VDI with TRIFIX®

- + Consistent precision of < 6 µm
- + Highest stability with the VDI 30 interface or VDI 25 on the SPRINT 50
- + Backlash-free and resilient double centring
- + Increased rigidity through greater flat contact surface area using a hole pattern

0.7 to 1g acceleration

- + Highest dynamics through accelerations of 0.7 to 1g in the linear axes
- + Rapid traverse with 60 m/min (SPRINT 65: 40 m/min)



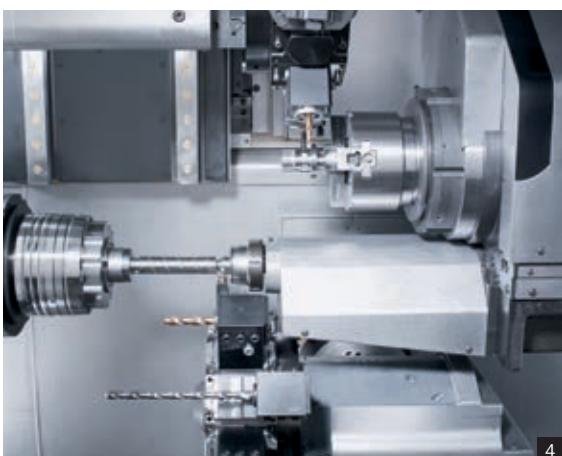
1



2



3

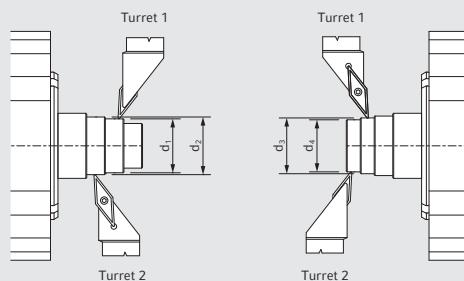
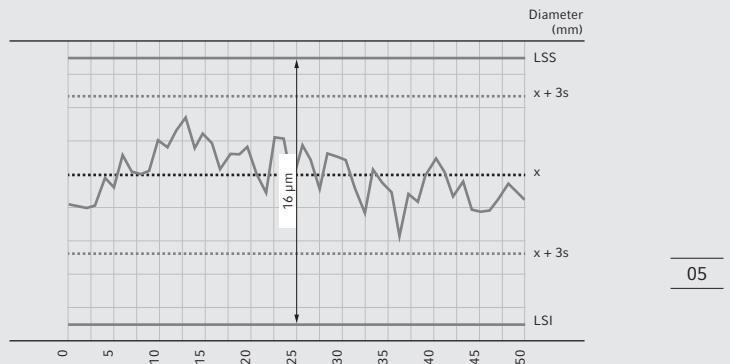


4

Medium and high quantity work piece production with the greatest precision.

Process / machine capability (C_{pk})

Diameter quality IT6 (16 μm) / Material 9SMnPb28



	mm	C_{pk}
d_{1h6}	31	1.70
d_{2h6}	32	1.68
d_{3h6}	34	1.72
d_{3h6}	33	1.68

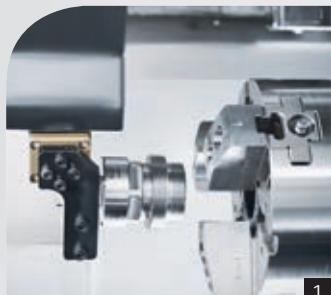
Test conditions: Machine without software compensation and temperature sensor; SPRINT 50 with 3 m bar loader and 80-bar coolant system

SPRINT 50 / 65 Next Generation

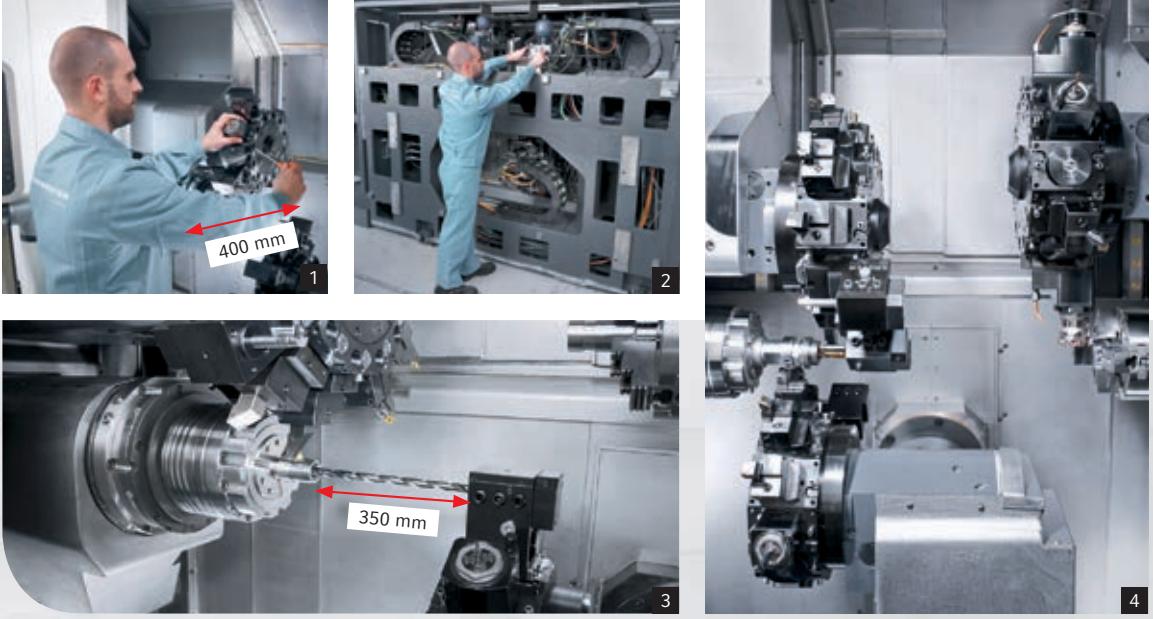
100 % production-optimised design.

Highlights

- 06
- + **Optimal chip flow** through vertical or steep covers in the work area made of stainless steel with low-maintenance bronze scrapers: comes as standard equipped for wet, oil and dry machining
 - + **Vertical machine bed with a 9.6 m² footprint, including the chip conveyor and optimal accessibility:** easy setup through 70 % shorter access distance (SPRINT 65 footprint: 11.4 m²)
 - + **Driven tools, chip conveyor and work piece unloading comes as standard:** complete solution for your production
 - + **6-sided complete machining** of bar parts in two operations at the main and counter spindles through synchronous transfer without speed reduction
 - + **Up to ø 90 mm bar machining** (ø 65 mm as standard), or ø 50 mm on the SPRINT 50
 - + **Deep-hole drilling with up to 350 mm long tools** at the main and counter spindle (50 SPRINT: 300 mm)



1: Integrated work piece removal comes as standard, work pieces up to: ø 50 × 150 mm / 2.5 kg (SPRINT 50), ø 65 × 200 mm / 4 kg (SPRINT 65) 2: Machined part conveyor is optional



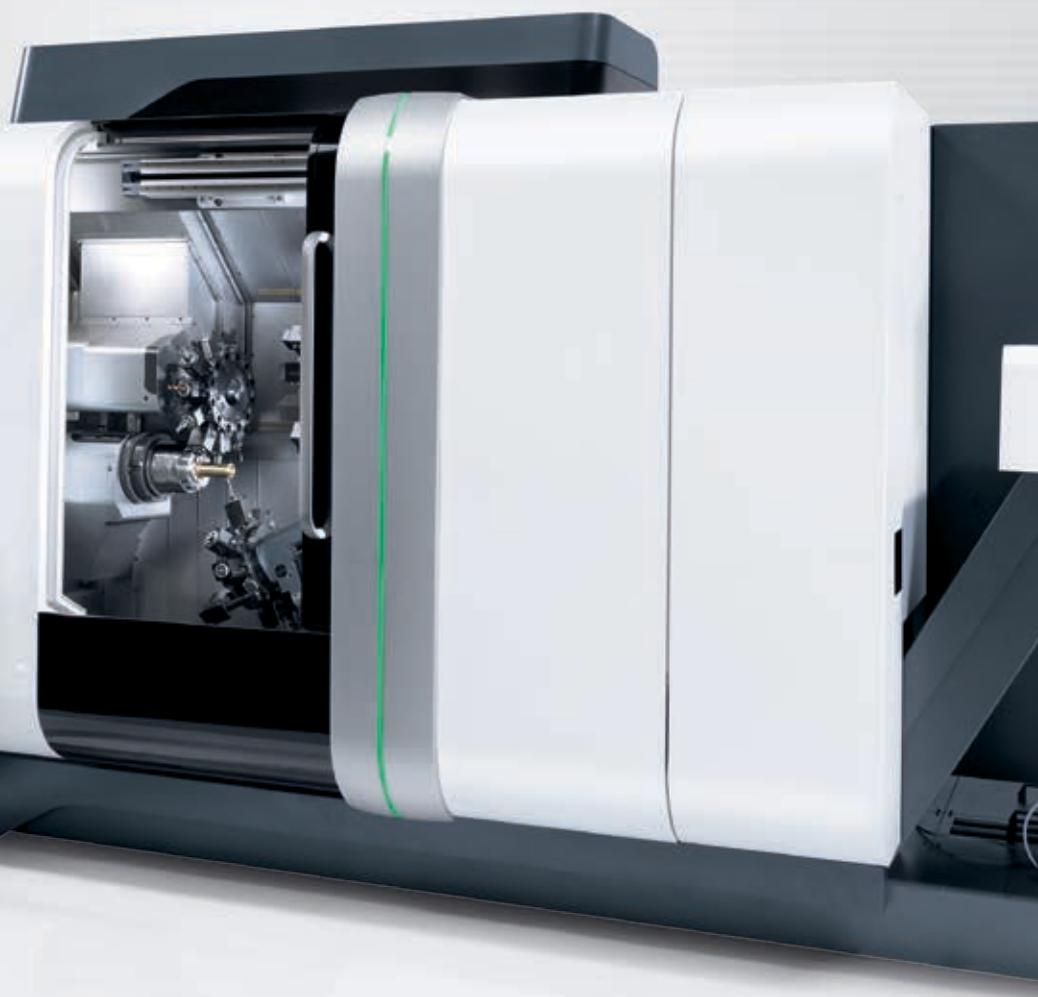
Optimal Accessibility – Maintenance-friendly Design

1: **70 % less distance**, 400 mm (SPRINT 50), 490 mm (SPRINT 65) from the front of the machine to the turret as a result of the vertical machine design

2: **Perfect accessibility** to all maintenance areas, including the coolant tank with digital push-button switches and clearer hydraulics layout

3: **Maintenance-free oil/air lubrication** for the turret, main and counter spindles on the SPRINT 50

4: **Vertical or steep steel covers** in the work area with low-maintenance bronze scrapers



SPRINT 50 / 65 Next Generation

Highly dynamic drives in all axes for fast machining and minimal idle time.

Optimal Chip Flow

Free chip flow due to the vertical machine bed, which prevents thermal impact

3-Point Support

Thermally stable and inherently rigid cast iron bed with 3-point mounting, allowing installation without the need for a special foundation

08

Highest Stability

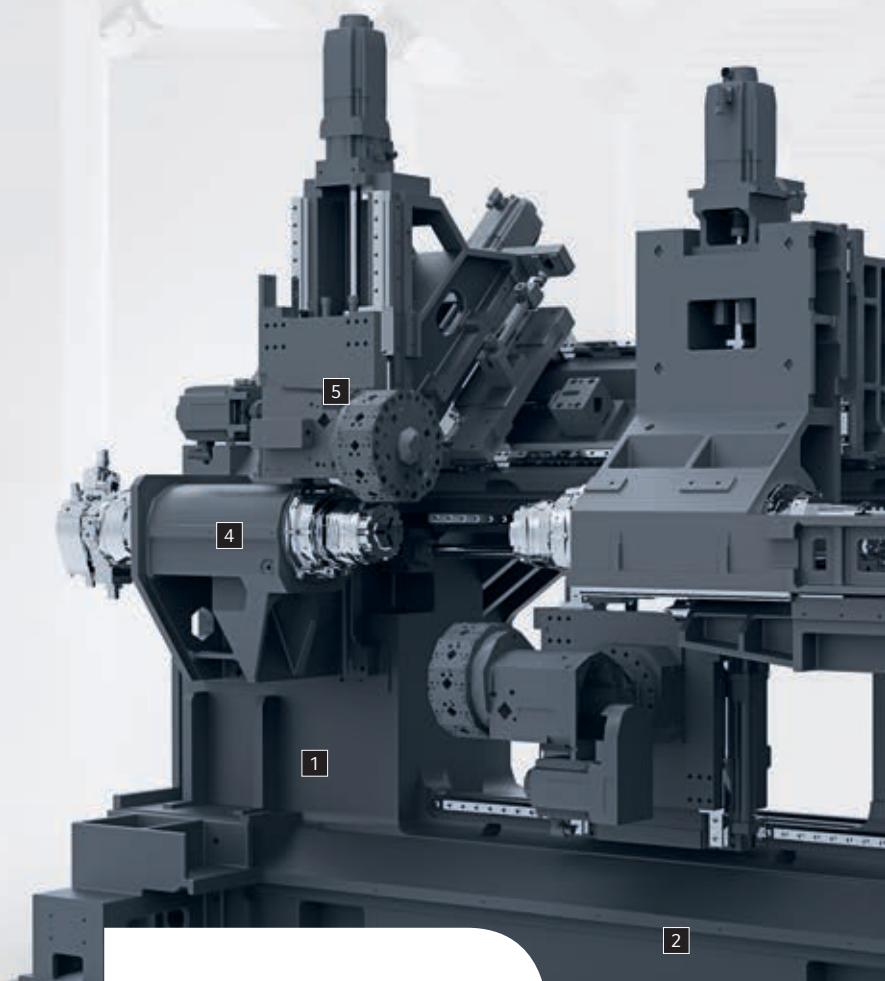
Constant rigidity through the robust and backlash-free recirculating roller guides with wide spacing of 370 / 680 mm (SPRINT 50), 370 / 750 mm (SPRINT 65)

Maximum Precision

Highest consistent precision through liquid-cooled main and counter spindles

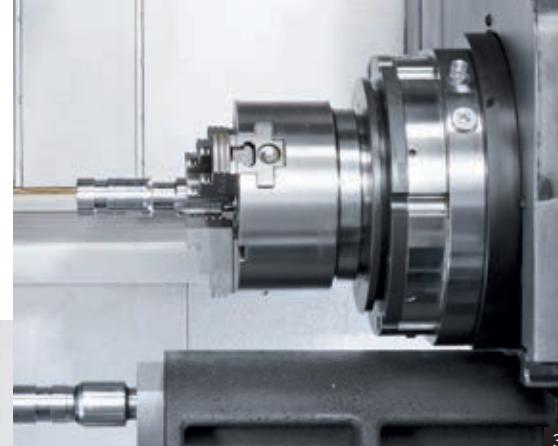
Maintenance-Free Design

Maintenance-free, highly dynamic and heavy-duty oil/air lubrication for the turret, main and counter spindles on the SPRINT 50



9.6 m²

footprint for the SPRINT 50, including the chip conveyor (11.4 m², SPRINT 65).



Operating Principle

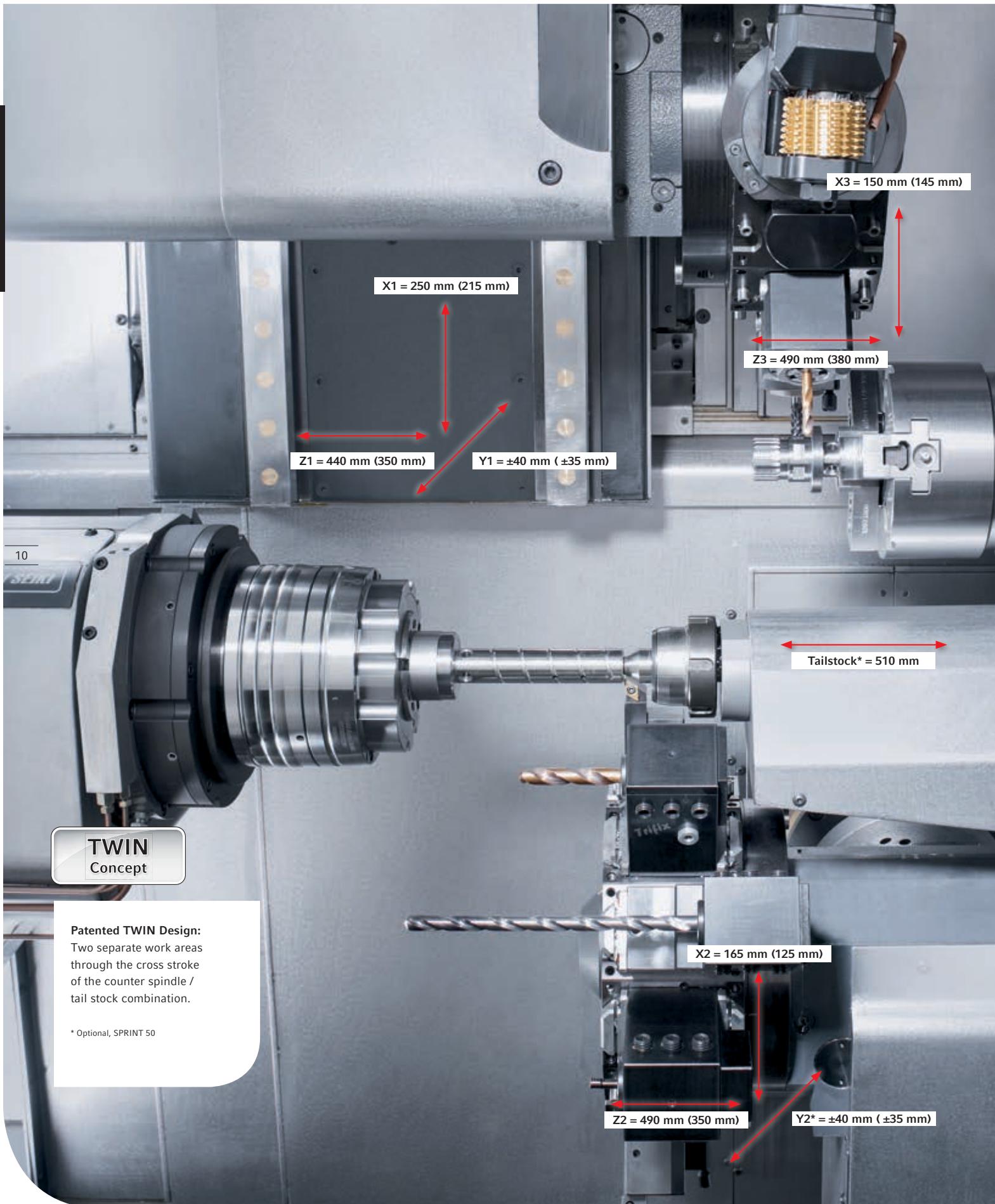
1: 0.9 second spindle run-up time from 0 to 4,000 rpm,
7,000 rpm max. speed on the main and counter spindles
(SPRINT 65 max. 1.3 sec. run-up time)

2: 0.7 to 1 g acceleration for rapid positioning

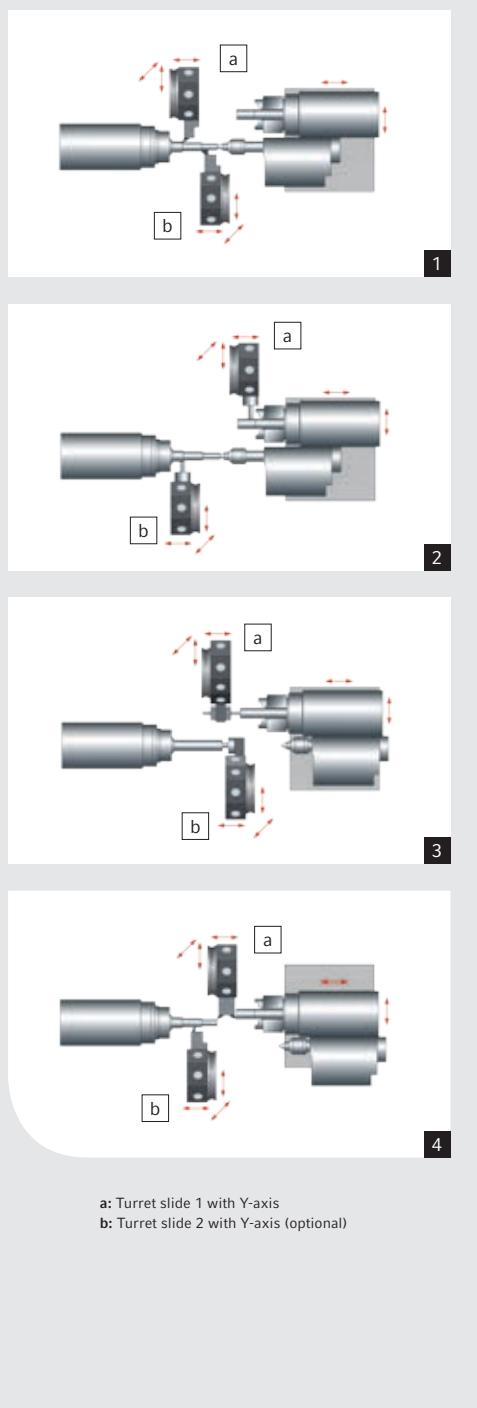
3: 0.8 second chip-to-chip time through the highly dynamic
turret drive for 16 % less idle time (SPRINT 65: 1.0 sec.)

4: Direct Drive turret for up to 12,000 rpm* driven tools
(SPRINT 50: turret with 8,000 rpm)

* Optional, 9,000 rpm as standard



TWIN-Concept – Over 1,500 machines installed.



Machine with two turrets (standard), tailstock and lower Y-axis (optional)

Example 1

- + Collision-free machining with two turrets and a tailstock* on one work piece
- + 4-axis machining of long and slender shafts with support of the separate traversable tailstock*
- + Y-axes for demanding complete machining (lower Y-axis optional)

Example 2

- + Two separate work areas through the cross travel of the counter spindle / tailstock* combination
- + Collision-free machining with two turrets and a tailstock*
- + 2 x 2 axes machining

Example 3

- + Cross travelling counter spindle for front machining of long components on the main and counter spindle
- + Collision-free machining with two turrets and tools up to 350 mm (SPRINT 50: 300 mm)
- + 2 x 2 axes machining

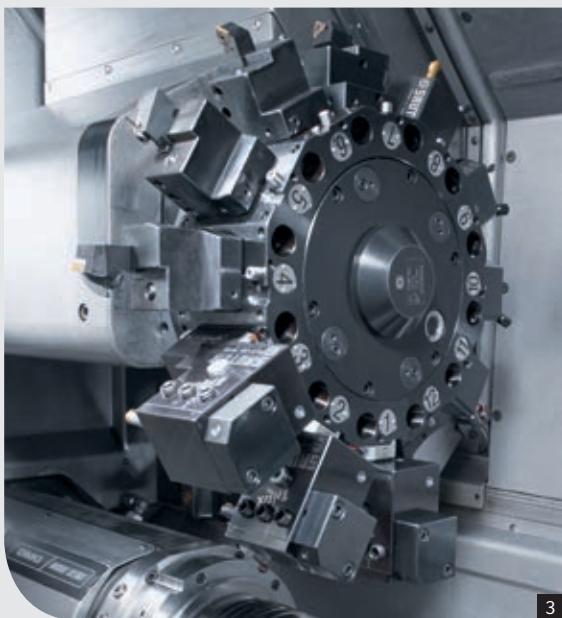
Example 4: 3-tool Strategy*

- + Tool 1 on the main spindle and tool 2 on the counter spindle (dual operation on turret 1)
- + Tool 3 on the main spindle (turret 2)
- + 2 x 2 axes machining

SPRINT 50 / 65 Next Generation

TRIFIX® – Fast and precise setup with VDI compatibility.

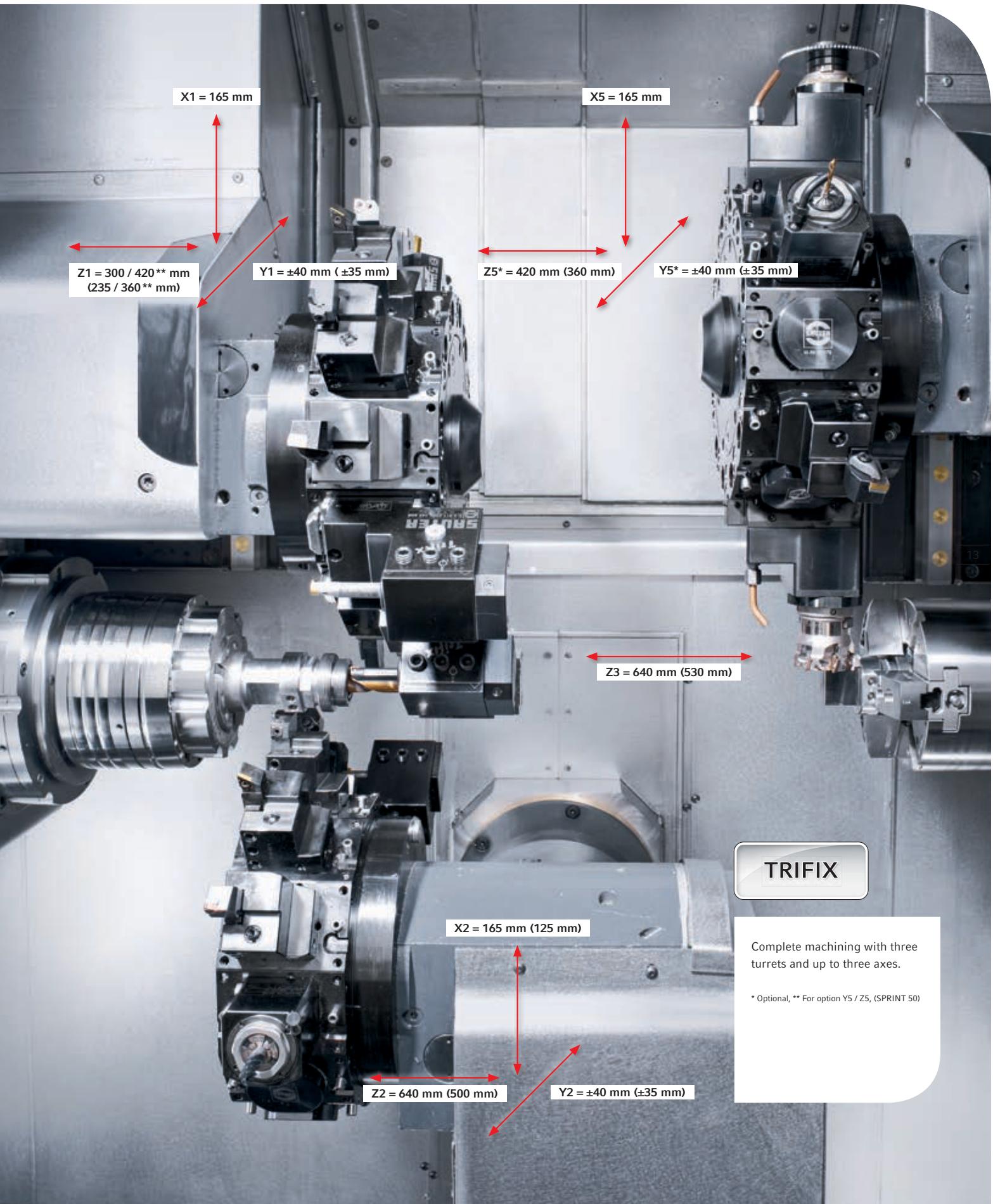
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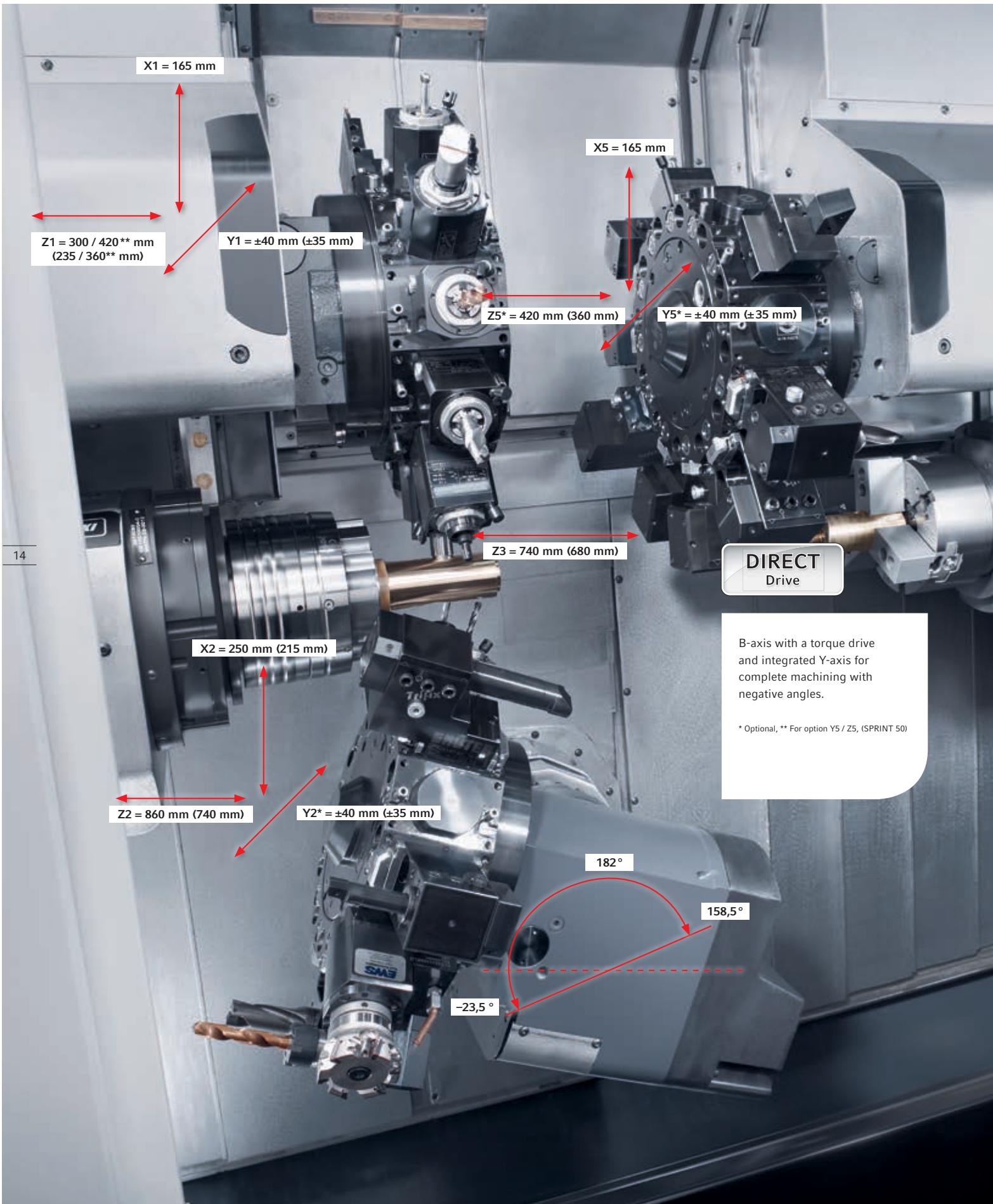


1–2: Tools with TRIFIX® interface for the highest stability and 6 µm repeatability 3: 12x turret with TRIFIX® intake for < 10 µm positioning accuracy

Highlights

- + **Highest stability and consistent precision:**
VDI 30 interface, backlash-free and resilient double centring and increased rigidity through greater flat contact surface area using a hole pattern
(SPRINT 50: VDI 25)
- + **< 6 µm repeat accuracy** (same tool, same place)
- + **< 10 µm repeat accuracy** from one station to another
- + Completely aligned driven tools

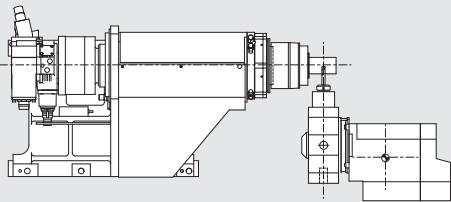




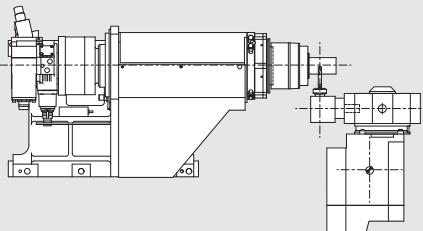
B-axis for complete machining with negative angles.

B-axis on the main spindle

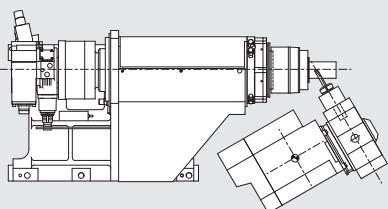
$\alpha: 0^\circ$ radial tool holder



$\alpha: 90^\circ$ axial tool holder

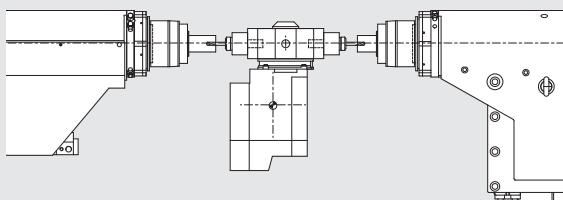


$\alpha: 150^\circ$ radial tool holder



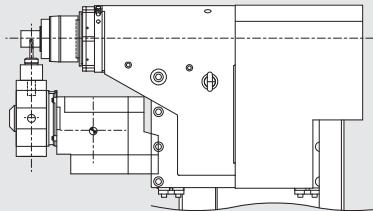
B-axis on the main spindle

$\alpha: 0^\circ$ radial tool holder

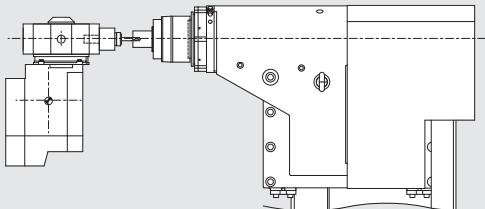


B-axis on the counter spindle

$\alpha: 0^\circ$ radial tool holder



$\alpha: 90^\circ$ radial tool holder

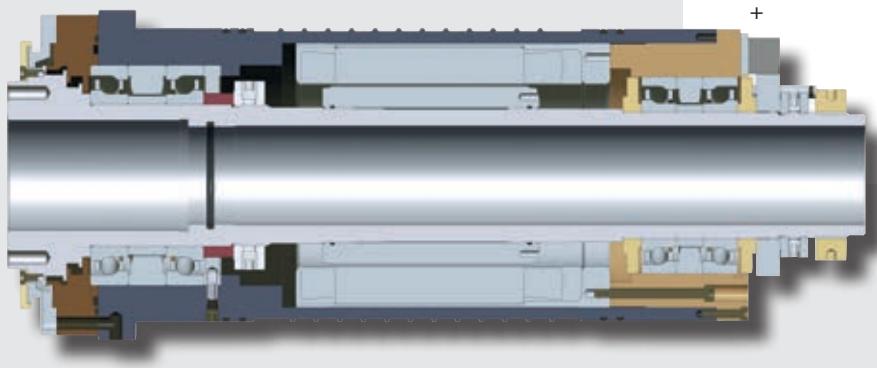


Highlights

- + B-axis with wear-free torque drive
- + Y-axis comes as standard
- + 2,100 Nm hydraulic clamping
- + 182° swivel range (-23.5° / $+158.5^\circ$)
- + Highest long-term precision through the use of linear scales
- + Liquid cooling of all drives
- + Up to 150 mm (SPRINT 65: 100 mm) additional horizontal travel of the counter spindle (W-axis)
- + Only available for machines with three turrets

SPRINT 50 / 65 Next Generation

Liquid-cooled main and counter spindles with synchronous spindle motor.



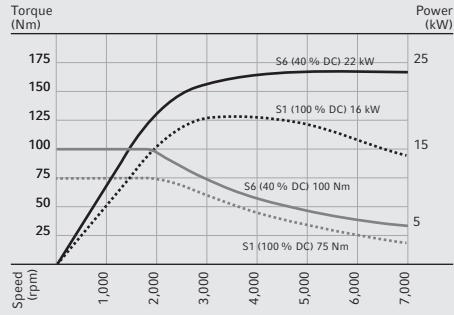
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Highlights

- + Integrated spindle motor (ISM) with synchronous drive and C-axis (0.001°)
- + Hydraulic clamping system
- + Maintenance-free oil/air lubricated bearings for the SPRINT 50
- +

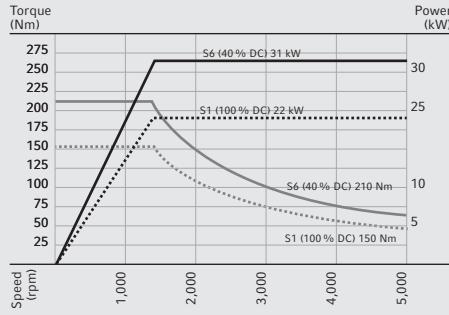
SPRINT 50

Main and counter spindle



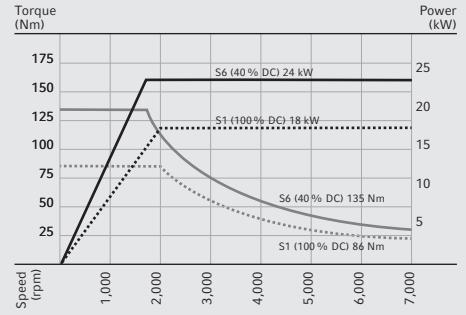
SPRINT 65

Main spindle



SPRINT 65

Counter spindle



		SPRINT 50		SPRINT 65	
		Main spindle	Counter spindle	Main spindle	Counter spindle
Maximum speed	rpm	ISM 52 / 7,000		ISM 76 / 5,000	ISM 52 / 7,000
Run-up time to 4,000 rpm	sec.	0.9		1.3	1.0
Torque / Power (40 % DC)	Nm / kW	100 / 22		210 / 30.8	136 / 24
Max. bar passage	mm	51		76 (90)*	51 (65)*

Turning performance

4-axis with two tool carriers

Material	9SMNPb28	9SMNPb28	9SMNPb28
Bar diameter	ø 42	ø 60	ø 42
Removal rate	675	918	742
Depth of cut	4	5	4
Feed rate	0.3	0.35	0.35
Spindle speed	2,130	1,385	2,080

Turning performance

2-axis with a tool carrier

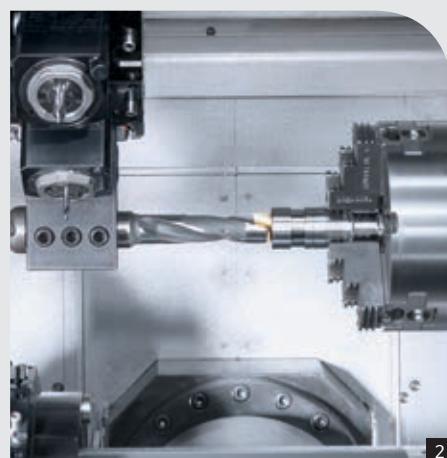
Material	9SMNPb28	9SMNPb28	9SMNPb28
Bar diameter	ø 42	ø 65	ø 50
Removal rate	450	900	675
Depth of cut	9	10	9
Feed rate	0.2	0.3	0.25
Spindle speed	1,900	1,470	1,910

Drilling performance

Material	9SMNPb28	9SMNPb28	9SMNPb28
Full drill	ø 25*	ø 34*	ø 28*
Feed rate	0.45	0.6	0.5

* Optional

** Limited by the spindle torque, not the machine stability



1: Turning at the main spindle with work piece support from the tailstock
2: Drilling at the counter spindle

1: Direct Drive turret with up to 12,000 rpm for the highest machining performance **2:** Drilling and tapping with two turrets at the main spindle **3:** Roughing at the counter spindle

SPRINT 50 / 65 Next Generation

Direct Drive turret with up to 12,000 rpm, for more productivity with the highest metal removal rates.

	SPRINT 50	SPRINT 65
Turret	Direct Drive-Turret	
Maximum speed	8,000	9,000 (12,000)*
Torque / Power (40% DC)	Nm / kW	12 / 6.3
TRIFIX® tool interface	12 × VDI 25	12 × VDI 30
Width across flats	mm	240
Indexing time (30° / 180°)	sec.	0.116 / 0.386
Chip-to-chip time	sec.	0.8
		0.95

Turning performance 1:1 tool drive

Material	mm	9SMnPb28	9SMnPb28
Removal rate	cm³/min	95	143
Spindle speed	rpm	2,550	1,989
Torque / Power	Nm / kW	11 / 2.9	18 / 3.8
Feed rate	mm / tooth	0.25	0.25
Depth / width of cut	mm	3 / 25	3 / 32

Turning performance with gear reduction

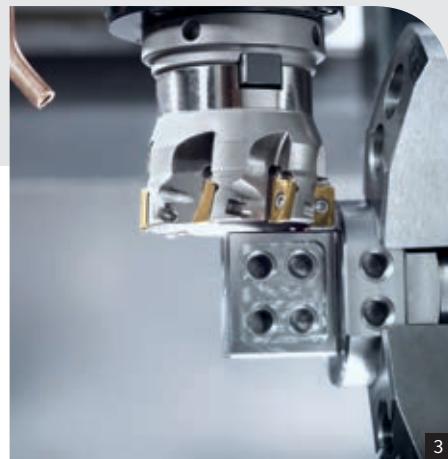
Material	mm	9SMnPb28	9SMnPb28
Tool drive	2:1	2:1	
Removal rate	cm³/min	160	286
Spindle speed	rpm	2,550:2	3,978:2
Torque / power	Nm / kW	11 / 2.9 (x2)	20 / 8.4 (x2)
Feed rate	mm / tooth	0.25	0.25
Depth / width of cut	mm	5 / 25	6 / 32

Tapping

Material	9SMnPb28	9SMnPb28
Thread size	M12×1.75	M16×2
Spindle speed	rpm	240
Feed rate	m/min	10

* Standard for the lower turret on machines with a B-axis

** Optional



Highlights

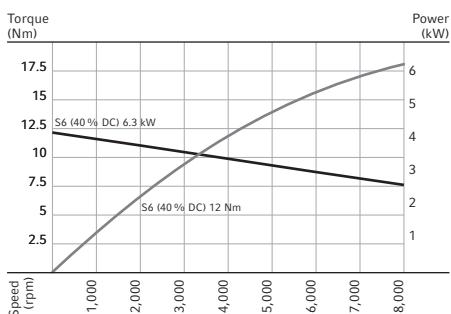
- + **Turret for 12 tools** and < 1 sec. chip-to-chip time
- + **Highest stability** through the VDI 30 tool carrier (SPRINT 50: VDI 25) including TRIFIX® precision interface for < 6 µm repeat accuracy
- + **Driven tools: in all 12 positions as standard:** 8,000 rpm max. speed (SPRINT 50), 12,000 rpm max. speed; 9,000 rpm as standard (SPRINT 65)

Direct Drive turret with up to 12,000 rpm

- + **Wear-resistant direct drive** with low heat generation due to elimination of gears
- + **Quieter running** through the gearless drive
- + **Higher speed, power and torque than conventional drives:** 12x VDI 30 turret with 9,000 or 12,000 rpm, 8.4 kW and 20 Nm
- + **Maximum machining performance** due to the compact design of the turret and tools with gear reduction

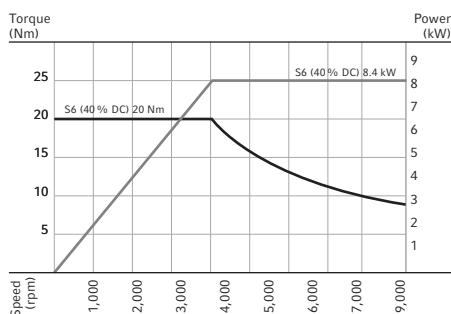
SPRINT 50

Turret – Standard



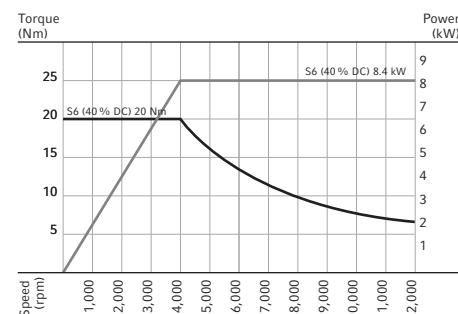
SPRINT 65

Direct Drive Turret – Standard



SPRINT 65

Direct Drive Turret – High-speed option



SPRINT 50 / 65 Next Generation

TWIN-Concept.

TWIN
Concept

**Control piston / SPRINT 50**

Two turrets, counter spindle / tailstock combination and two Y-axes

Hydraulic / CK45

ø 42 mm (h11)

ø 41.2 × 195 mm

225 sec.

Simultaneous machining with two Y-axes on the main spindle

Toothed shaft / SPRINT 50

Two turrets, counter spindle / tailstock combination and two Y-axes

Machine construction / CK40

ø 50 mm (h11)

ø 48 × 170 mm

180 sec.

Machining with tailstock, deep hole drilling and hobbing

Drive shaft with spline / SPRINT 50

Two turrets, counter spindle / tailstock combination and two Y-axes

Automotive / 16MnCr5

ø 50 mm (h11)

ø 49.3 × 152 mm

150 sec.

Machining with tailstock, two Y-axes and hobbing

Industry / Material

Bar diameter

Work piece dimensions

Machining time

Highlight

**Draw-in bolts / SPRINT 65**

Two turrets, counter spindle / tailstock combination and two Y-axes

Hydraulic / CK45

ø 46 mm (h11)

ø 45 × 160 mm

145 sec.

Machining with tailstock

Bolts / SPRINT 65

Two turrets, counter spindle / tailstock combination and two Y-axes

Machine construction / CK40

ø 52 mm (h11)

ø 51.3 × 210 mm

180 sec.

Machining with tailstock and deep-hole drilling

Axe pin / SPRINT 65

Two turrets, counter spindle / tailstock combination and two Y-axes

Automotive / 16MnCr5

ø 52 mm (h11)

ø 50 × 155 mm

180 sec.

Machining with tailstock and deep-hole drilling

Industry / Material

Bar diameter

Work piece dimensions

Machining time

Highlight

SPRINT 50 / 65 Next Generation

Three turrets and three turrets with a B-axis.



Nozzle / SPRINT 50
Three turrets and three Y-axes

Industry / Material

Bar diameter

Work piece dimensions

Machining time

Highlight

Hydraulic / Stainless steel (AiSi 303)

ø 50 mm (h11)

ø 48 × 62 mm

210 sec.

Drilled holes with driven tools up to 8,000 rpm

Connector / SPRINT 50
Three turrets and three Y-axes

Machine construction /
Stainless steel (AiSi 303)

ø 50 mm (h11)

ø 47 × 55 mm

220 sec.

Simultaneous machining with three Y-axes

Cam / SPRINT 50
Three turrets, three Y-axes and a B-axis

Machine construction /
Stainless steel (AiSi 304)

ø 45 mm (h11)

ø 44 × 53 mm

300 sec.

4-axis machining with driven tools and helical interpolation



Fitting / SPRINT 65
Three turrets and thee Y axes

Industry / Material

Bar diameter

Work piece dimensions

Machining time

Highlight

Hydraulic / CK40

ø 60 mm (h11)

ø 59 × 120 mm

165 sec.

Simultaneous machining with three Y axes

Basket / SPRINT 65
Three turrets and thee Y axes

Machine construction /
Aluminium 6060

ø 52 mm (h11)

ø 51.3 × 210 mm

212 sec.

Milling with driven tools up to 9,000 rpm

Distributors / SPRINT 65
Three turrets, three Y axes and a B-axis

Hydraulic / Brass

ø 60 mm (h11)

ø 59 × 155 mm

85 sec.

Heavy machining with driven tools

SPRINT 50 / 65 Next Generation

DMG ERGOline® Control with Siemens and ShopTurn 3G.

Highlights

- + DMG ERGOline® Control with a 19" screen and Siemens 840D solutionline Operate
- + ShopTurn 3G shop-floor programming – for up to 30 % greater productivity
- + Up to 60 % faster programming through innovative **multi-channel programming** even for complex components
- + **3D multi-channel work piece simulation**
- + **Absolute flexibility between DIN and shop-floor oriented programming** through DIN / ISO interfaces for combining ShopTurn cycles with DIN functions
- + **Up to 30 % faster setup** with greater flexibility for small and medium batch sizes
- + **Fast, easy and clearly-structured tool management**
- + **Full ShopMill functionality**





1: Clear representation of the block structure
by alignment of synchronous points; colour display
of the machining and idle times as well as the
spindles

2: Tool management: efficient management of the
tool data including sister tools and tool life

3: Display of cycles with animated elements:
graphically simulated workflow with animated ele-
ments in the dialogue for a clear representation

4: Combination of DIN and ShopTurn programming:
the blocks can be filled with technical programme
sections consisting of DIN code, programGUIDE as
well as ShopTurn / ShopMill elements

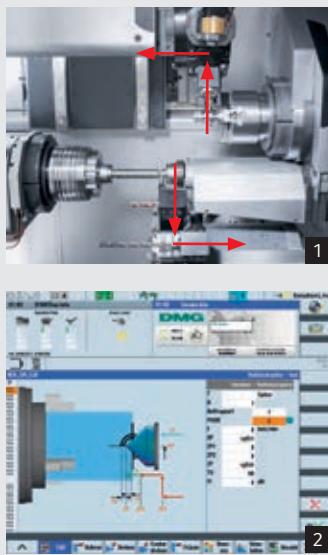
5: 3D simulation: visualisation of multi-channel
machining with 3D views, detailed graphics and
machined workpiece

6: Copy & paste: through block copying, optimal
cutting and pasting of even complex programmes in
two channels simultaneously

SPRINT 50 / 65 Next Generation

Exclusive technology cycles – Easy programming for complex machining.

Exclusive DMG Technology Cycles provide productivity advantages of up to 50 %. Through parameterised, exclusive context menus and easy input of parameters via pre-existing input screens, no programming skills are required (no complicated DIN programming).



Easy Operation

Retraction Cycles

- + Rescue function for retracting axes in the X and Z directions at the touch of a button
- + Operation via SOFTkey®

Turret Centre

- + Spindle position and support position in X and Z are entered directly on the interface
- + Automatic calculation of the approach path

Technology Integration

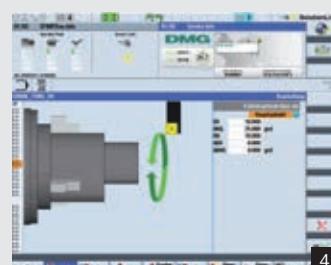
Gear Hobbing

- + Automatic creation of gears and helical gears
- + Shifting for even wear of the milling tool
- + Previously: complex DIN programming needed



Eccentric Turning / Milling

- + Machining of off-centre diameters on a work piece



Multi-thread Cycle

- + Cycle description via a user screen for angle, number of threads and profile



Process Safety

Easy Tool Monitoring

- + Drive load monitoring of the tools during the machining process to prevent damage to the machine and equipment

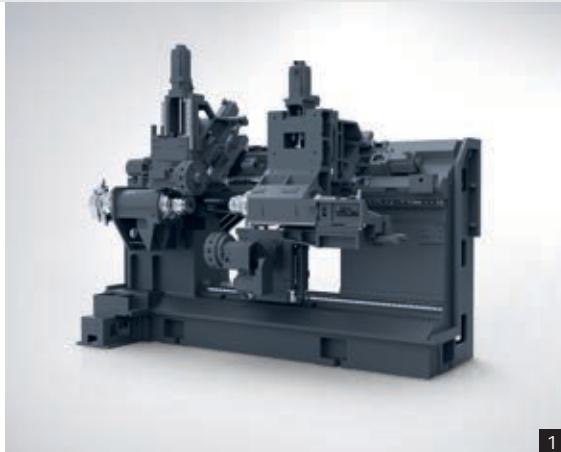


Work Piece Quality

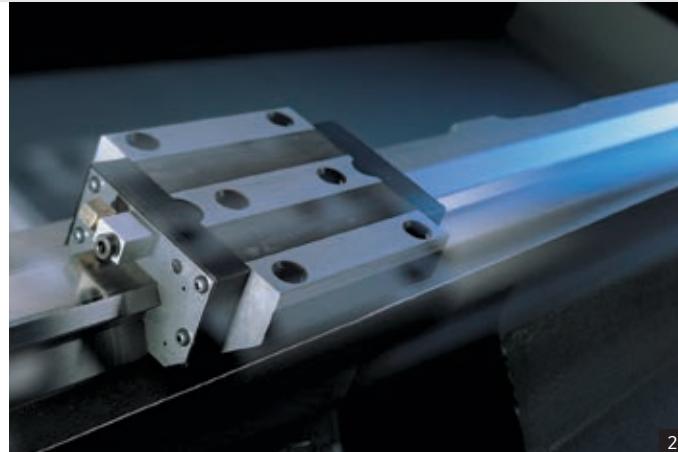
Alternating Speed for Vibration-sensitive Machining

- + Adjustment of the spindle speed on main, counter, or tool spindle to avoid vibration through targeted spindle speed adjustments during machining

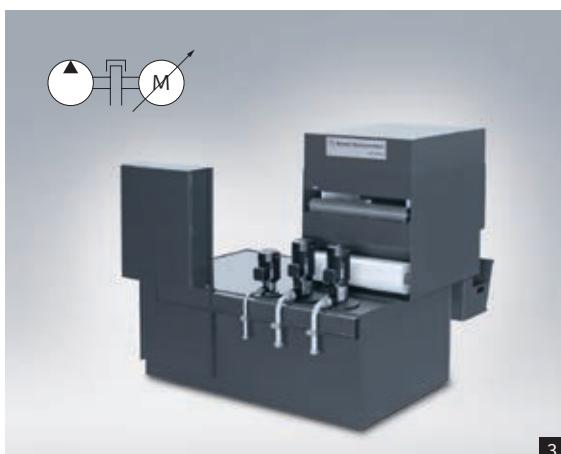




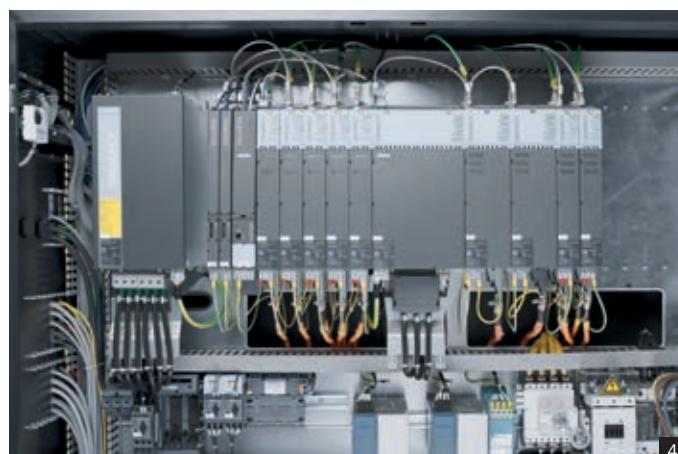
1



2



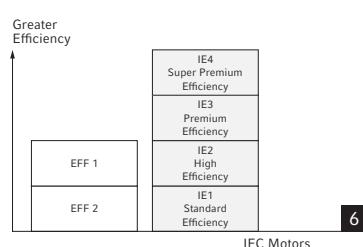
3



4



5



6

Design

FEM-optimised design with high static and low moving mass

Linear Guides

Lowest friction effects through consistent use of rolling bearing technology

Servo Technology / Frequency Control*

Frequency-controlled coolant and hydraulic pumping, instead of constant pumping with throttle technology

Drive

Energy recovery during braking phases of spindles and feed drives

Cooling*

Inverter-controlled systems for needs-based cooling

Motor

Use of the latest drive motors with up to 93% efficiency

Up to 30 % energy savings – Energy efficiency measures for DMG Machines.

Optimal Construction

- + Optimal drive configuration
- + Regenerative drives
- + Regulated accumulator*
- + Minimised friction



Energy Saving

- + **Intelligent technology included as standard reduces energy costs by 20%** over the service life of your DMG Machine Tool
- + **DMG AUTOshutdown**
Intelligent stand-by regulation to minimise unnecessary energy consumption during idle times

27

Intelligent Control

- + Process optimisation
- + DMG Virtual Machine*
- + DMG AUTOshutdown



DMG Virtual Machine* –

100 % control and time calculation

- + Unique – Your DMG Machine 1:1 on a PC
- + Efficient production start through optimal preparation
- + Real “part production time” calculation through integration of the PLC
- + Complete availability of all cycles and NC functions
- + Highest process safety through collision and work area monitoring
- + Realistic machine model with exact work area representation
- + Up to 80 % faster setup and retooling



* Optional

* Optional

Applications and Parts

Machine and Technology

Control Technology

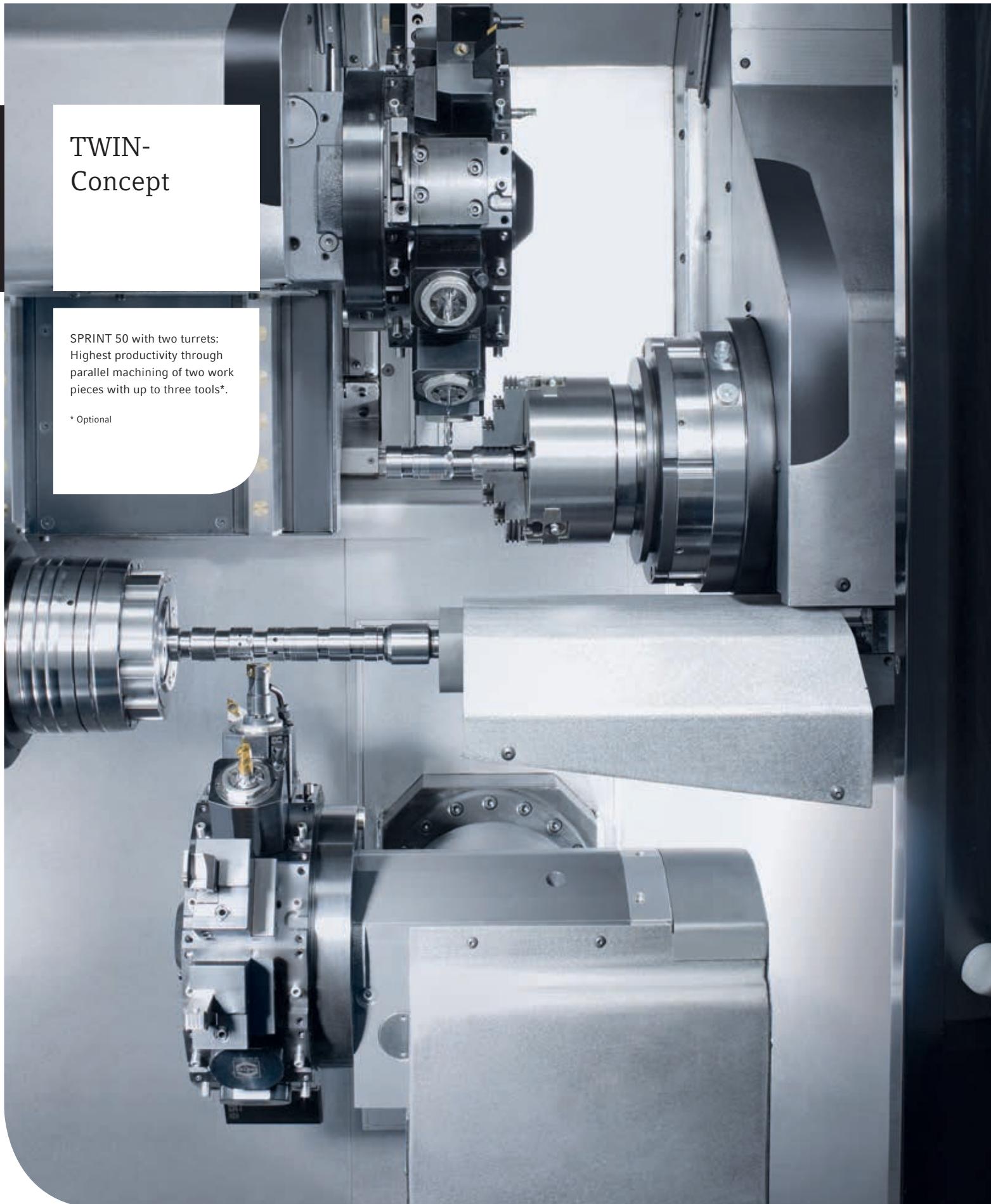
Energy Efficiency

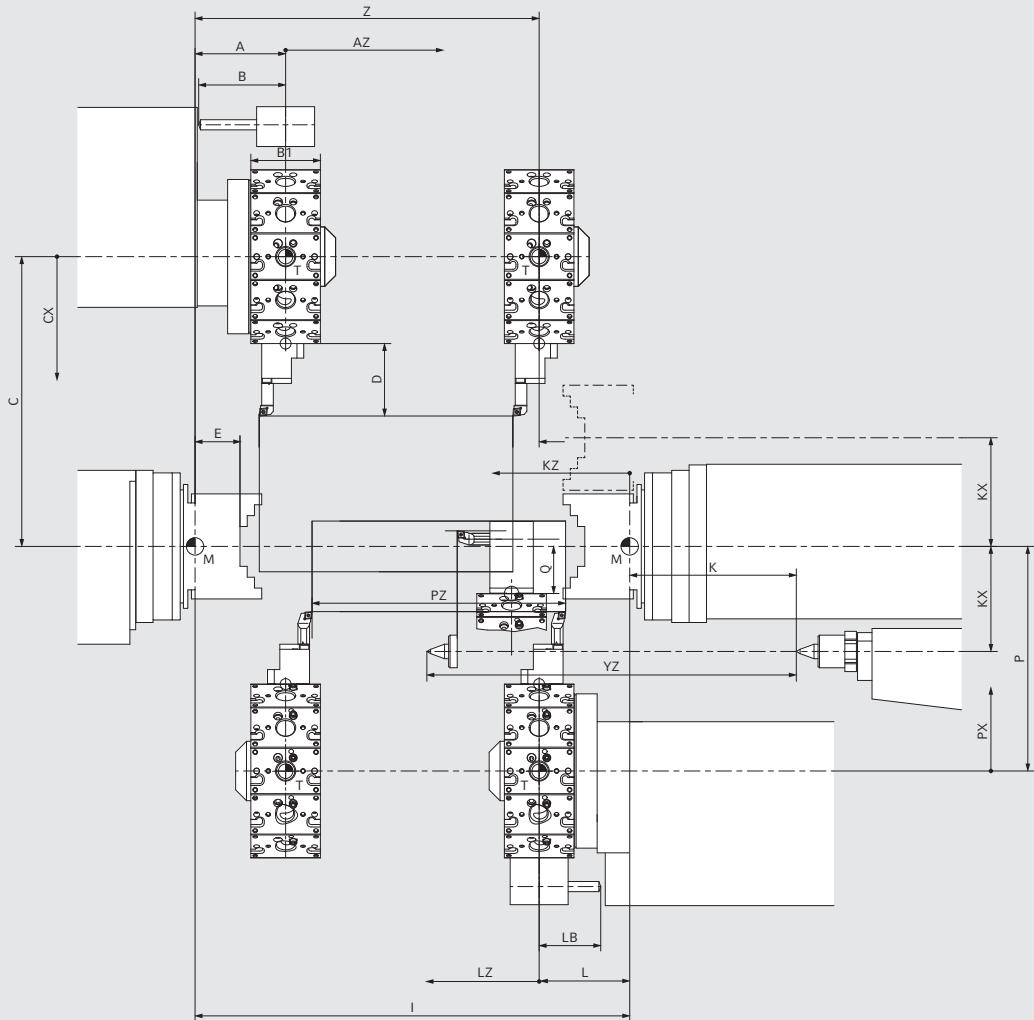
Technical Data

TWIN- Concept

SPRINT 50 with two turrets:
Highest productivity through
parallel machining of two work
pieces with up to three tools*.

* Optional





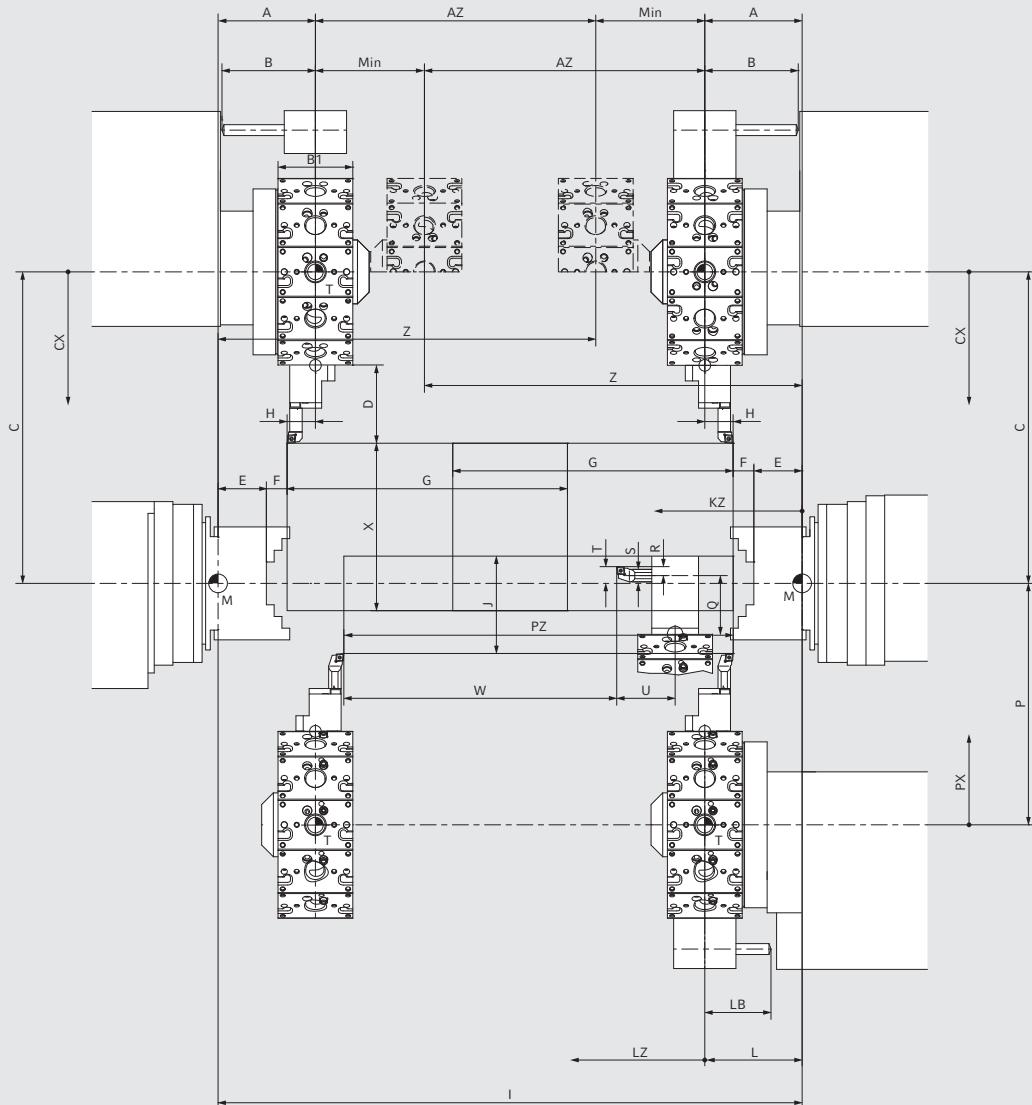
SPRINT 50 / 65 Next Generation

Work areas

SPRINT 50 / 65 with two turrets and a tailstock

		A	AZ	B	B1	C	CX	D	E	I	K	KX
SPRINT 50	mm	125	350	120	96	400	215	100	62	600	230	150
with two turrets and a tailstock	inch	4.92	13.78	4.72	3.78	15.74	8.46	3.93	2.44	23.62	9.06	5.91
SPRINT 65	mm	155	440	155	110	495	250	140	95	750	210	150
with two turrets and a tailstock	inch	6.102	17.32	6.102	4.331	19.49	9.843	5.512	3.74	29.53	8.268	5.906

		KZ	L	LB	LZ	Q	P	PX	PZ	YZ	Z
SPRINT 50	mm	380	125	85	350	75	310	125	350	510	475
with two turrets and a tailstock	inch	14.96	4.921	3.346	13.78	2.953	12.2	4.921	13.78	20.08	18.7
SPRINT 65	mm	490	155	105	490	100	410	165	490	510	595
with two turrets and a tailstock	inch	19.29	6.102	4.134	19.29	3.937	16.14	6.496	19.29	20.08	23.43

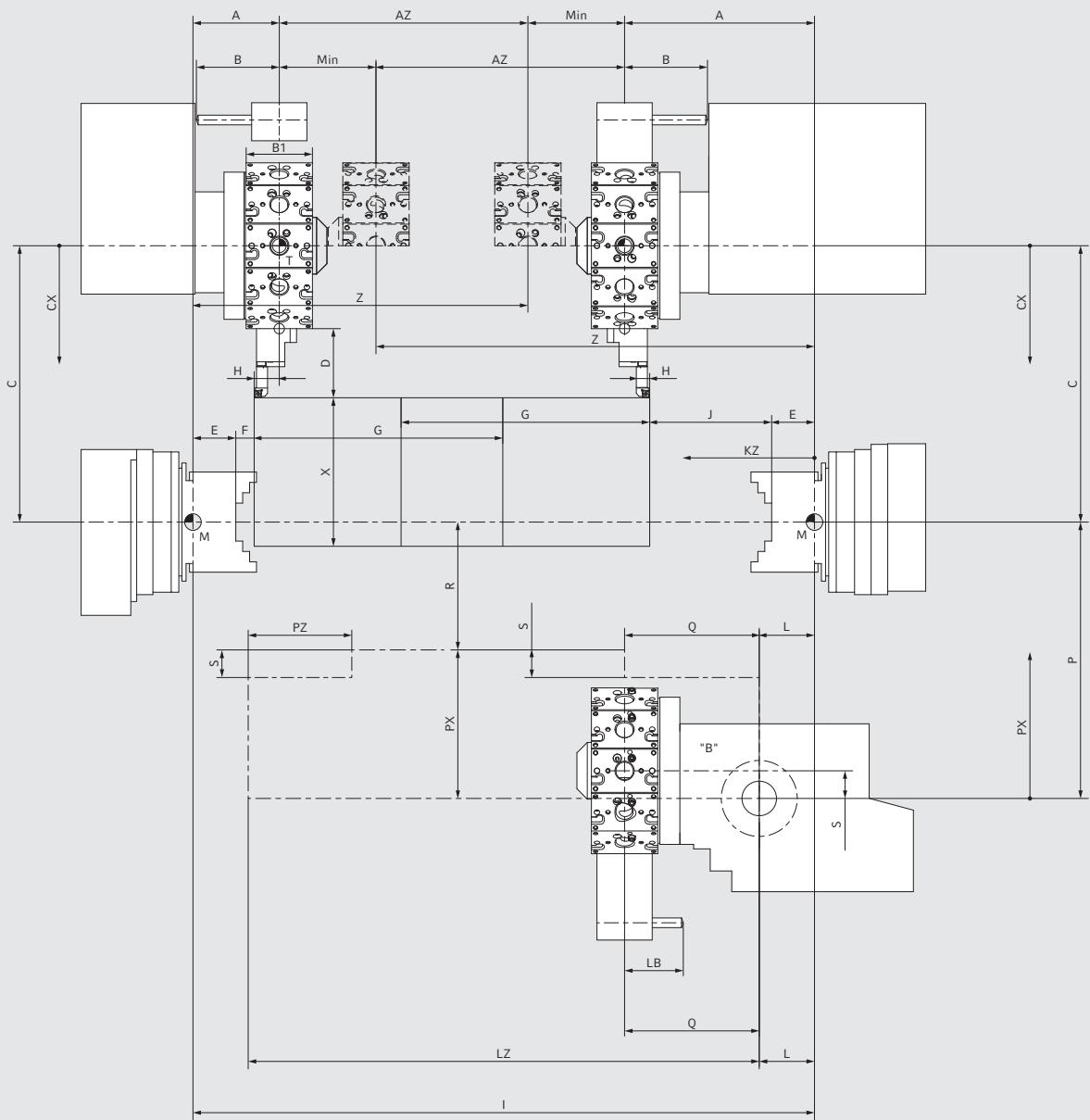


SPRINT 50 / 65 with three turrets

	A	AZ	B	B1	C	CX	D	E	I	KZ	L
SPRINT 50	mm	125	360	120	96	350	165	100	62	750	530
with three turrets	inch	4.92	14.17	4.72	3.78	13.78	6.50	3.94	2.44	29.53	20.87
SPRINT 65	mm	155	300*	155	110	410	165	140	95	900	640
with three turrets	inch	6.102	11.8	6.102	4.331	16.14	6.496	5.512	3.74	35.43	155

* 420 mm on option Y / Z for turret 3 (top right)

	LB	LZ	Min	Q	P	PX	PZ	Z
SPRINT 50	mm	85	500	140	75	310	125	500
with three turrets	inch	3.35	19.69	5.51	2.95	12.20	4.92	19.69
SPRINT 65	mm	105	640	145	100	410	165	640
with three turrets	inch	4.134	25.2	5.709	3.937	16.14	6.496	25.2



SPRINT 50 / 65 with three turrets and a B-axis

	A	AZ	B	B1	C	CX	D	E	I	KZ	L
SPRINT 50	mm	125	360	120	96	350	165	100	62	750	530
with three turrets and a B-axis	inch	4.92	14.17	4.72	3.78	13.78	6.50	3.94	2.44	29.53	20.87
SPRINT 65	mm	155	300*	155	110	410	165	140	95	1.000	740
with three turrets and a B-axis	inch	6.102	11.8	6.102	4.331	16.14	6.496	5.512	3.74	39.37	29.13

* 420 mm on option Y / Z for turret 3 (top right)

	LB	LZ	Min	Q	P	PX	PZ	S	Z
SPRINT 50	mm	85	500	140	75	310	125	500	16
with three turrets and a B-axis	inch	3.35	19.69	5.51	2.95	12.20	4.92	19.69	0.63
SPRINT 65	mm	75	860	145	100	435	250	150	80
with three turrets and a B-axis	inch	2.953	33.86	5.709	3.937	17.13	9.843	5.906	3.15

SPRINT 50 / 65 Next Generation

Technical Data

	SPRINT 50 with two turrets	SPRINT 50 with three turrets	SPRINT 50 with three turrets and a B-axis	SPRINT 65 with two turrets	SPRINT 65 with three turrets	SPRINT 65 with three turrets and a B-axis
Work area						
Spindle distance mm	600	750	900	750	900	1,000
Main spindle						
Integrated spindle motor (ISM) with a synchronous drive and C-axis (0.001°) rpm	7,000	7,000	7,000	5,000	5,000	5,000
Drive power (40 / 100 % DC) kW	24 / 16	24 / 16	24 / 16	31 / 22	31 / 22	31 / 22
Torque (40 / 100 % DC) Nm	100 / 75	100 / 75	100 / 75	210 / 150	210 / 150	210 / 150
Run-up to 4,000 rpm sec.	0.9	0.9	0.9	1.3	1.3	1.3
Spindle head diameter, flat flange mm	120h5	120h5	120h5	140h5	140h5	140h5
Bar diameter max mm	52	52	52	76	76	76
Chuck clamping diameter mm	140	140	140	175	175	175
Counter spindle						
Integrated spindle motor (ISM) with a synchronous drive in the C-axis (0.001°) rpm	7,000	7,000	7,000	7,000	7,000	7,000
Drive power (40 / 100% DC) kW	22 / 16	22 / 16	22 / 16	24 / 18	24 / 18	24 / 18
Torque (40 / 100% DC) Nm	100 / 75	100 / 75	100 / 75	135 / 86	135 / 86	135 / 86
Run-up to 4,000 rpm sec.	0.9	0.9	0.9	1.0	1.0	1.0
Spindle head diameter, flat flange mm	120h5	120h5	120h5	140h5	140h5	140h5
Bar diameter max mm	52	52	52	52	52	52
Chuck clamping diameter mm	140	140	140	175	175	175
Turret 1, 2 and 3						
Width across flats mm	240	240	240	310	310	310 ***
Tool interface according to VDI 69880	12 × VDI 25 with TRIFIX®	12 × VDI 25 with TRIFIX®	12 × VDI 25 with TRIFIX®	12 × VDI 30 with TRIFIX®	12 × VDI 30 with TRIFIX®	12 × VDI 30 with TRIFIX®
Number of driven tools	12	12	12	12	12	12
Speed rpm	8,000	8,000	8,000	(12,000)*	(12,000)*	(12,000)* ***
Drive power (40 % DC) kW	6.3	6.3	6.3	8.4	8.4	8.4 ***
Torque (40 % DC) Nm	12	12	12	20	20	20 ***
Chip-to-chip time sec.	0.8	0.8	0.8	1.0	1.0	1.0
Turret slide 1 (top left)						
X / Y* / Z mm	215 / ±35 / 350	165 / ±35 / 235 (360**)	165 / ±35 / 235 (360**)	250 / ±40 / 440	165 / ±40 / 300 (420**)	165 / ±40 / 300 (420**)
Rapid traverse speed in X / Y / Z m/min	30 / 15 / 60	30 / 15 / 60	30 / 15 / 60	30 / 15 / 40	30 / 15 / 40	30 / 15 / 40
Acceleration in X / Y / Z m/s²	7 to 10	7 to 10	7 to 10	7	7	7

	SPRINT 50 with two turrets	SPRINT 50 with three turrets	SPRINT 50 with three turrets and a B-axis	SPRINT 65 with two turrets	SPRINT 65 with three turrets	SPRINT 65 with three turrets and a B-axis
Turret slide 2 (bottom / without a B-axis)						
X / Y* / Z mm	125 / ±35 / 350	125 / ±35 / 500	—	165 / ±40 / 490	165 / ±40 / 640	—
Rapid traverse speed in X / Y / Z m/min	30 / 15 / 60	30 / 15 / 60	—	30 / 15 / 40	30 / 15 / 40	—
Acceleration in X / Y / Z m/s ²	7 to 10	7 to 10	—	7	7	—
Turret slide 3 (top right)						
X / Y* / Z* mm	—	165 / ±35 / 360*	165 / ±35 / 360*	—	165 / ±40* / 420*	165 / ±40* / 420*
Rapid traverse in X / Y / Z m/min	—	30 / 15 / 60	30 / 15 / 60	—	30 / 15 / 40	30 / 15 / 40
Acceleration in X / Y / Z m/s ²	—	7 to 10	7 to 10	—	7	7
Slides for the counter spindle						
X / Z mm	145 / 380	— / 530	— / 680	150 / 490	— / 640	— / 740
Rapid traverse speed in X / Z m/min	30 / 60	— / 60	— / 60	30 / 40	— / 40	— / 40
Acceleration in X / Z m/s ²	7 to 10	7 to 10	7 to 10	7	7	7
Tailstock						
Stroke (hydraulic) mm	510	—	—	510	—	—
Force N	3,000	—	—	4,000	—	—
Centre connection	MK 3	—	—	MK 4	—	—
B-axis (turret 2, bottom)						
Swivel range degrees	—	—	-23.5 / +158.5	—	—	-23.5 / +158.5
Turret 2 (bottom) for the B-axis						
X / Y / Z mm	—	—	215 / ±35 / 740	—	—	250 / ±40 / 860
Rapid traverse speed in X / Y / Z m/min	—	—	30 / 15 / 60	—	—	30 / 15 / 40
Acceleration in X / Y / Z m/s ²	—	—	7 to 10	—	—	7
Machine						
Machine footprint incl. the chip conveyor m ²	9.6	9.6	10.8	11.4	11.4	12.8
Chip conveyor discharge height mm	1,150	1,150	1,150	1,150	1,150	1,150
Machine height mm	2,355	2,355	2,355	2,626	2,626	2,626
Machine weight kg	9,200	9,500	9,700	10,000	10,300	10,500
Control						
DMG ERGOline® Control with a 19" screen						Siemens 840D solutionline Operate with ShopTurn 3G

* Optional

** On option Y / Z for turret 3 (top left)

*** Lower turret: width across flat is 270 mm, max. 9,000 rpm, 6.3 kW, 12 Nm

SPRINT 50 / 65 Next Generation

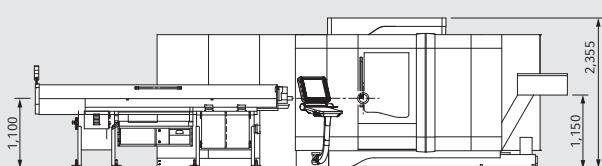
Options/Floor Plans

	SPRINT 50 with two turrets	SPRINT 50 with three turrets	SPRINT 50 with three turrets and a B-axis	SPRINT 65 with two turrets	SPRINT 65 with three turrets	SPRINT 65 with three turrets and a B-axis
Machine options						
Differential pressure for the main and counter spindle (2 pressures)	○	○	○	○	○	○
Driven tools with increased speeds up to 12,000 rpm (not for the bottom turret 2 on machines with a B-axis)	—	—	—	○	○	○
Y-axis for turret 2 (bottom)	○	●	●	○	●	●
Y- / Z-axis for turret 3 (top right)	—	○	○	—	○	○
Tailstock mounted on the counter spindle slides with independent hydraulic movement	○	—	—	○	—	—
Bar machining						
Bar loading magazine for max. bar lengths of 3.2 to 4.4 m	○	○	○	○	○	○
Spindle liner tube for the main spindle	○	○	○	○	○	○
Clamping for the main and counter spindle						
Collet chuck interface without axial movement: SPRINT 50: diameter is max. 50 mm / hexagonal is max. 43 mm / square is max. 35 mm) SPRINT 65: diameter is max. 65 mm / hexagonal is max. 56 mm / square is max. 46 mm)	○	○	○	○	○	○
Chuck machining: SPRINT 50: chuck is ø 140 mm incl. draw tube adapter for the machine SPRINT 65: chuck is ø 175 mm incl. draw tube adapter for the machine	○	○	○	○	○	○
Coolant and chip removal						
Chuck jaw spray	○	○	○	○	○	○
20-bar coolant supply system, 980 l and 50 µm paper band filter and cooling device	○	○	○	○	○	○
20-bar coolant supply system, 980 l and 50 µm paper band filter, cooling device with an additional 80-bar for 4 independent outputs in turret 2 (bottom)	○	○	○	○	○	○
Oil mist extraction device	○	○	○	○	○	○

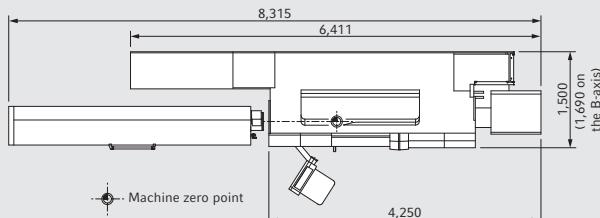
● Standard, ○ Option

SPRINT 50 Next Generation

Front view



Top view



	SPRINT 50 with two turrets	SPRINT 50 with three turrets	SPRINT 50 with three turrets and a B-axis	SPRINT 65 with two turrets	SPRINT 65 with three turrets	SPRINT 65 with three turrets and a B-axis
Control / Software						
Technology cycle: Gear hobbing	○	○	○	○	○	○
Technology cycle: Eccentric turning and milling	○	○	○	○	○	○
Technology cycle: Multi-thread cycle	○	○	○	○	○	○
Technology cycle: Easy Tool Monitoring	○	○	○	○	○	○
Technology cycle: Alternating speeds	○	○	○	○	○	○
Technology cycle: Retraction cycle	○	○	○	○	○	○
Technology cycle: Turret centre	○	○	○	○	○	○
Sister tool management system tool monitor	○	○	○	○	○	○
Programming structure with sub-programmes incl. graphical interface	○	○	○	○	○	○
DMG NetService / DMG Service Agent	○	○	○	○	○	○
Other options						
Machine adaptation for higher environmental temperatures 50° (tropical package)	○	○	○	○	○	○

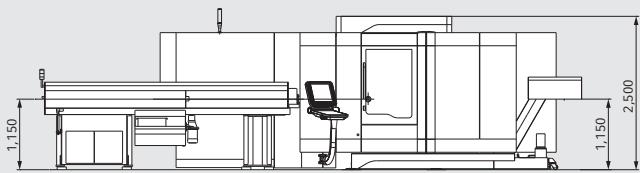
● Standard, ○ Option

DMG MORI SEIKI recommends

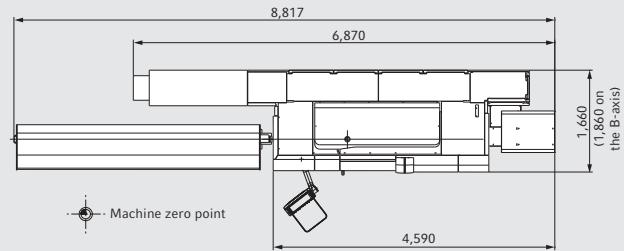


SPRINT 65 Next Generation

Front view



Top view



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