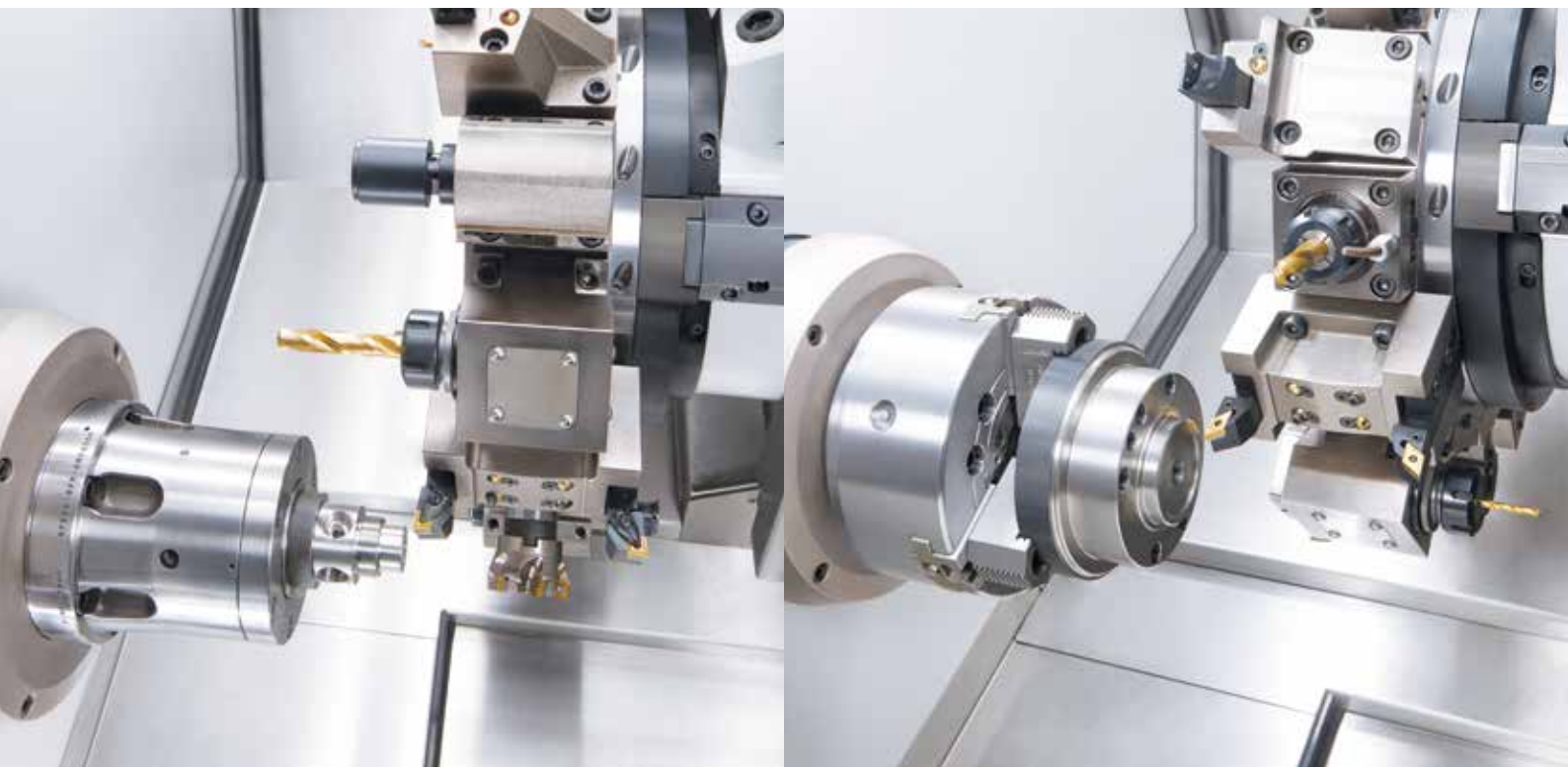


CNC-TURNING CENTRES

B620-M-S-SM-Y-YS





High-tech universal turning centre.

The new B620 represents the “state of the art” of multifunction turning centers. The modular concept and the high versatile options provide a wide spectrum of machining possibilities ranging from universal turning to complete machining of complex parts thanks to the CNC automatic tailstock, second spindle, rotary tools, spindle C-axis and Y-axis. The B620 is available in six versions with bar capacity of 51 or 70 or 80 mm.

STANDARD FEATURES

- Rigid cast-iron machine bed
- Powerful synchronous integral spindle motors
- 15 position Biglia servo turret **with direct drive to the driven tools**
- Rigid tapping
- CNC automatic tailstock
- Synchronized sub-spindle with B-axis load detection system and parts ejector
- Parts catcher and Bar-feeder interface
- Chip conveyor with coolant supply (medium pressure) including filter
- Cooling system
- Two colour alarm lamp
- Electrical cabinet air conditioned
- CNC with 15" Touch screen monitor





Machine configurations

B620

- Standard machine with CNC automatic tailstock

B620M

- Rotary tools (15)
- C-axis
- CNC automatic tailstock

B620S

- Synchronized sub-spindle

B620SM

- Rotary tools (15)
- C-axis on the main spindle
- Synchronized second spindle with C-axis

B620Y

- Rotary tools (15)
- C-axis
- Y-axis
- CNC automatic tailstock

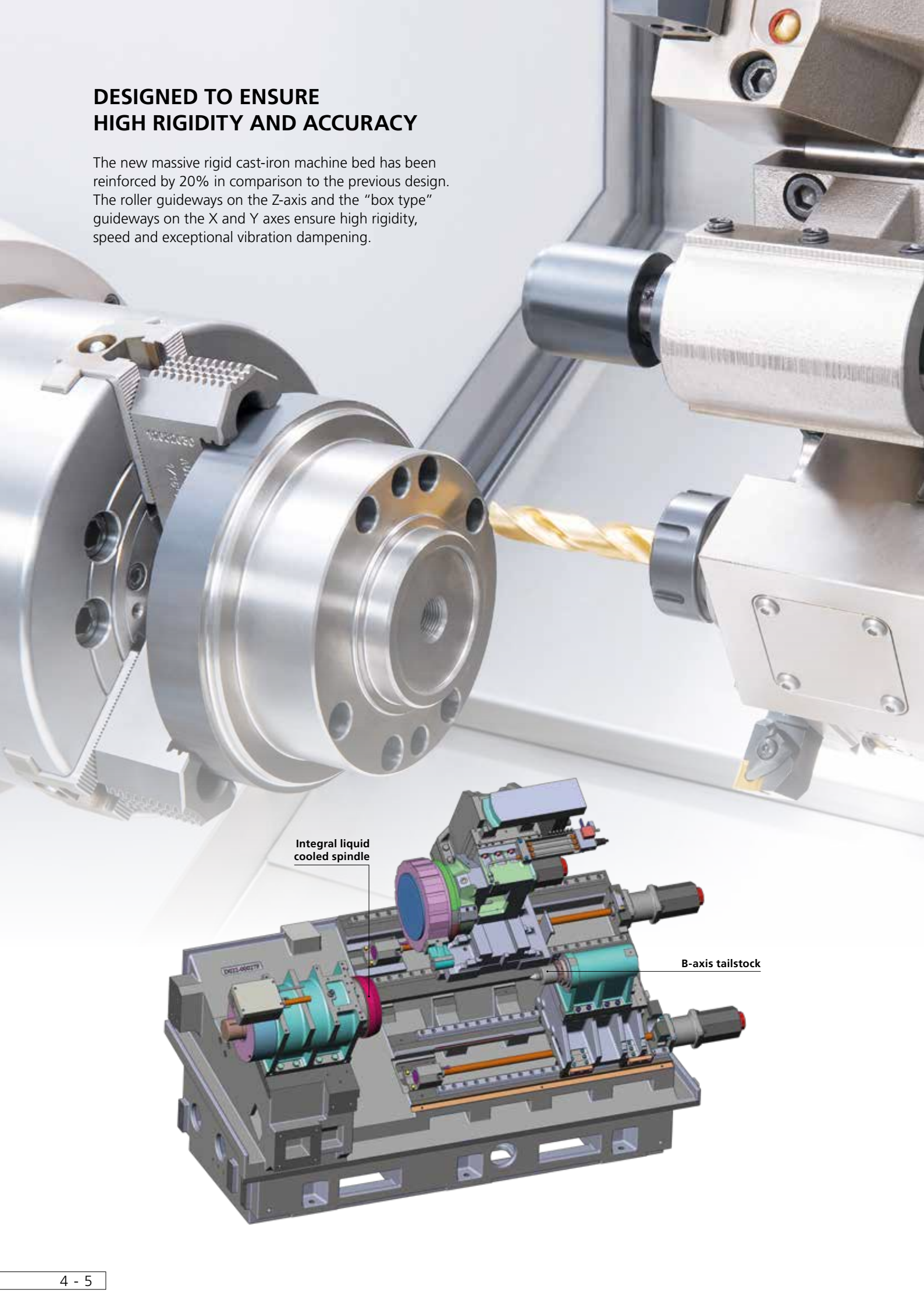
B620YS

- Rotary tools (15)
- C-axis on the main spindle
- Y-axis
- Synchronized second spindle with C-axis



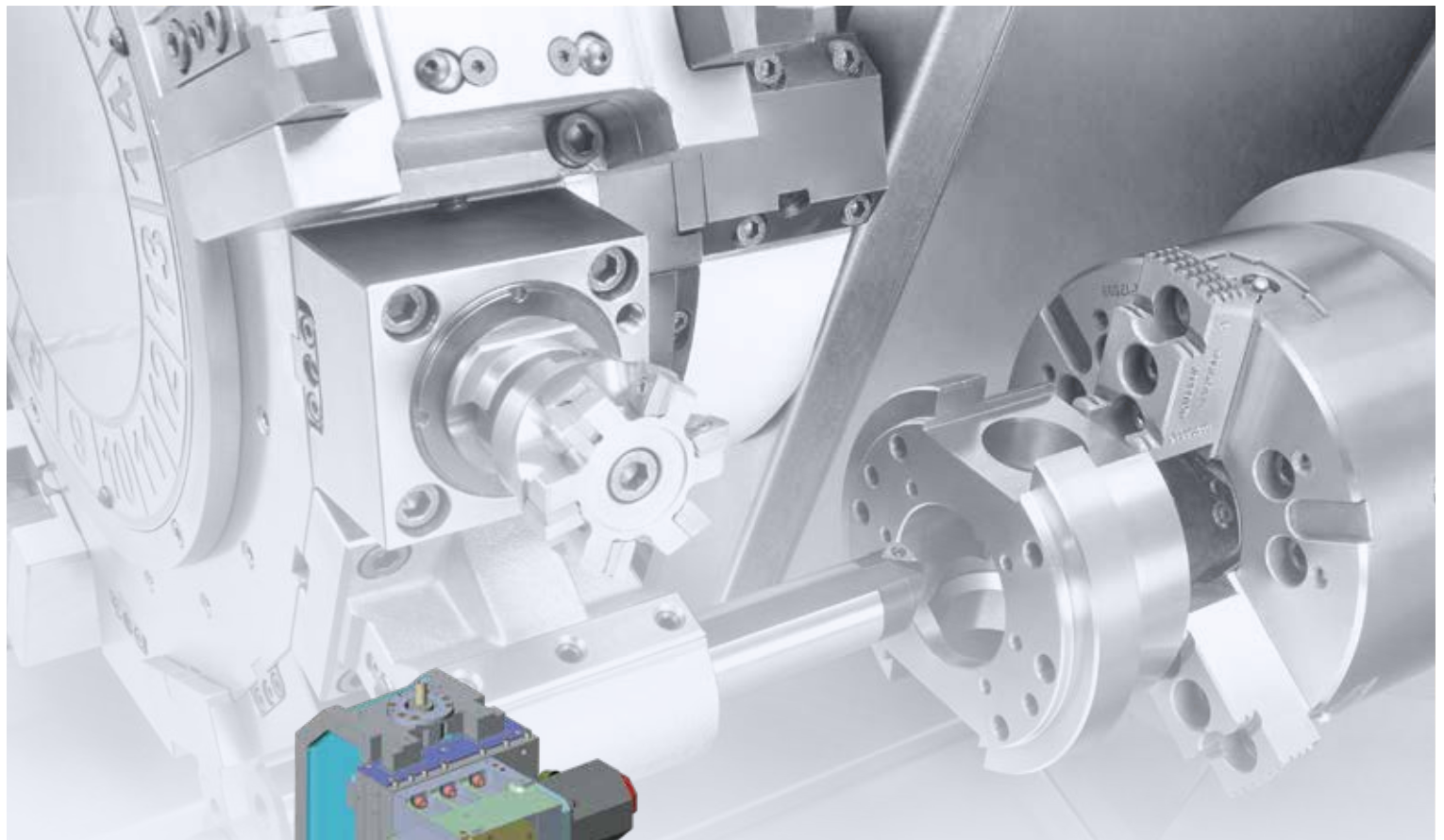
DESIGNED TO ENSURE HIGH RIGIDITY AND ACCURACY

The new massive rigid cast-iron machine bed has been reinforced by 20% in comparison to the previous design. The roller guideways on the Z-axis and the "box type" guideways on the X and Y axes ensure high rigidity, speed and exceptional vibration dampening.

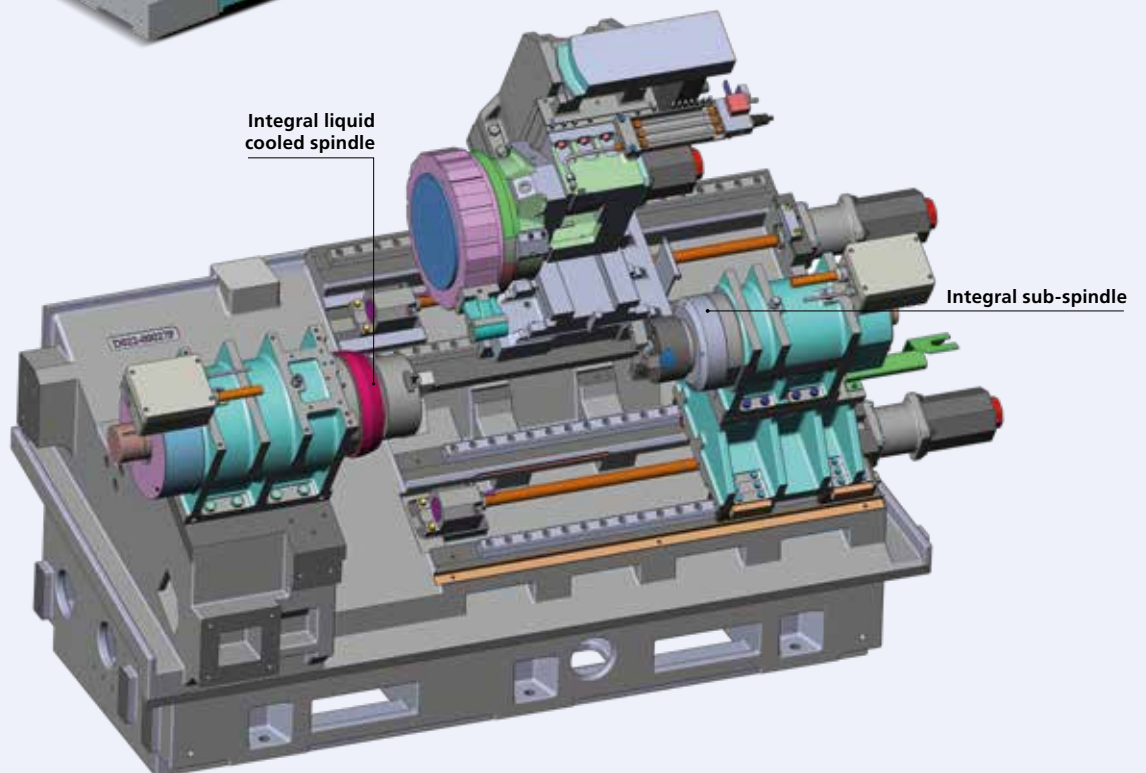


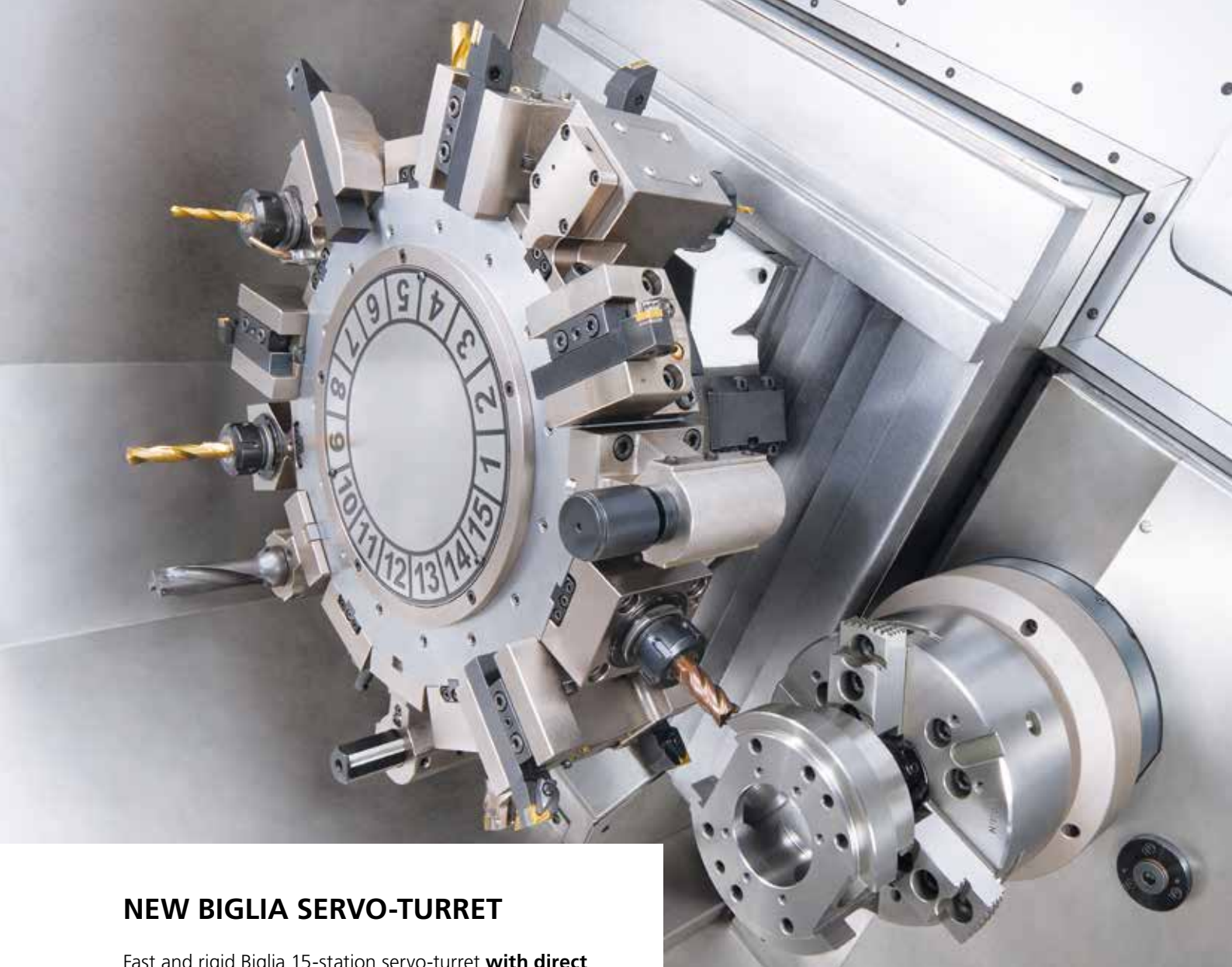
Integral liquid
cooled spindle

B-axis tailstock



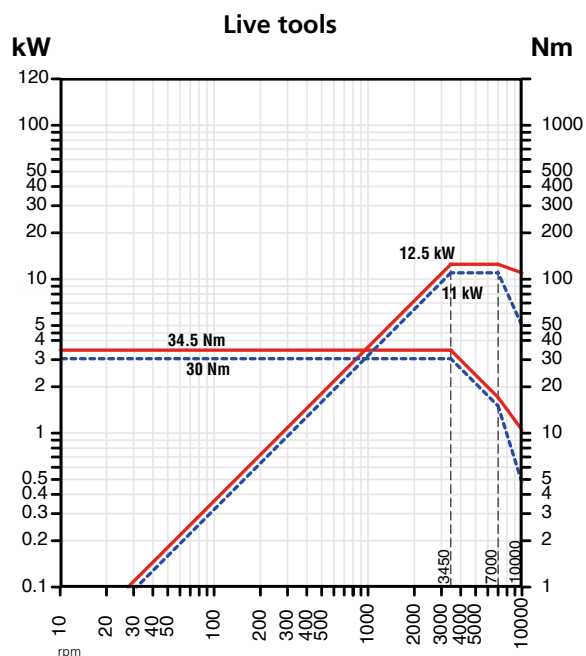
X AND Y CARRIAGES WITH
BOX TYPE GUIDEWAYS





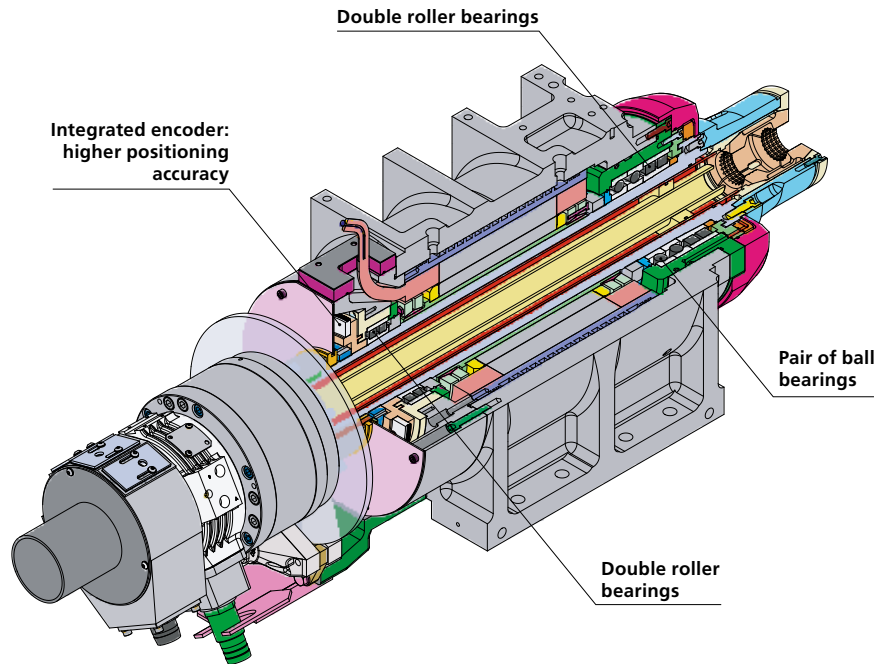
NEW BIGLIA SERVO-TURRET

Fast and rigid Biglia 15-station servo-turret **with direct drive to the rotary tools**. This turret is equipped with a cooled and thermally stabilized direct drive built-in spindle motor integrated in the tool plate featuring 12 kW power, 32 Nm torque and 10.000 rpm which transmits the rotary motion directly to the rotary tool.

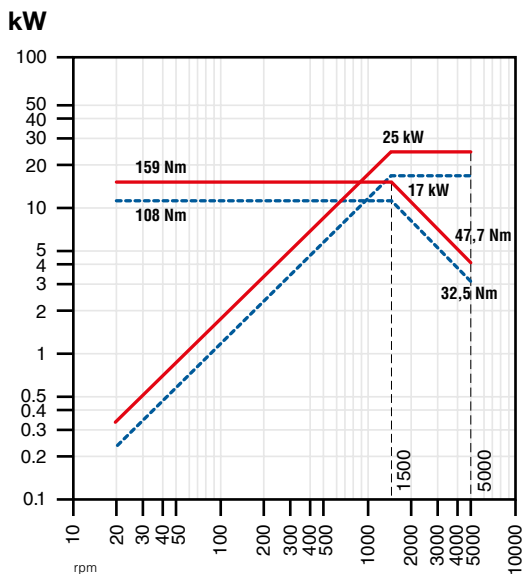


INTEGRAL MOTOR SPINDLES

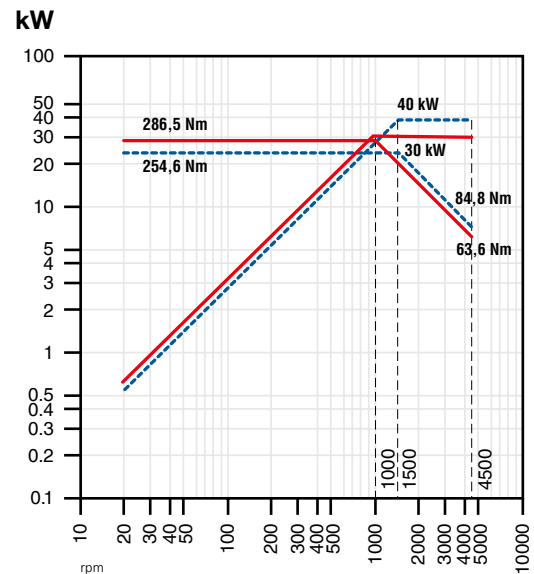
The new liquid cooled integral motor spindles are driven by high-torque motors with unequalled power. They allow higher spindle speed. Also, the combination of the roller and ball bearings, plus the high torque and constant horsepower range, allow powerful cutting as well as exceptional finish and roundness accuracy.



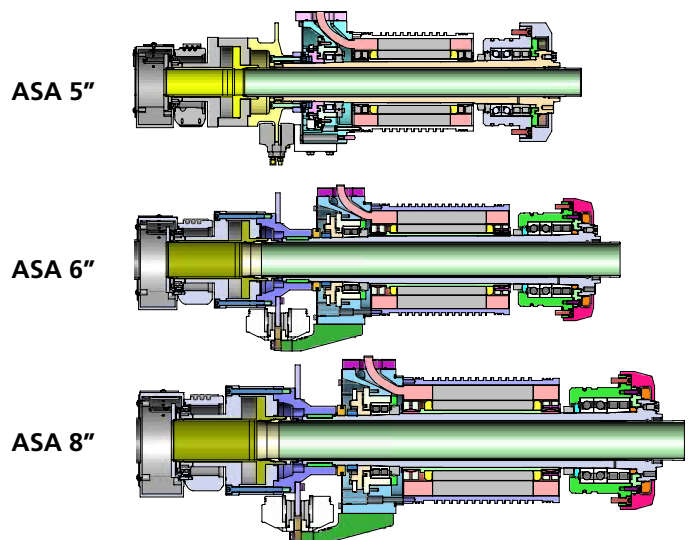
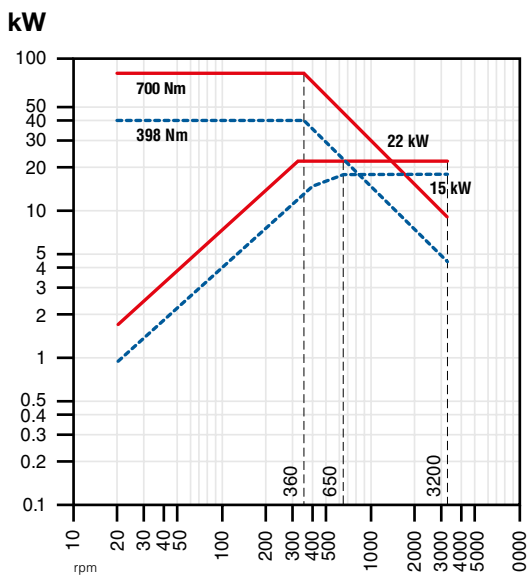
Main spindle - ASA 5" Sub-spindle



ASA 6" Main spindle



ASA 8" Main spindle





ROTARY TOOLS, C-AXIS AND Y-AXIS: complete machining in one set-up



Operations performed with the Y-axis

- 1 Flat milling in repeated cuts
- 2 Irregular slot milling (roughness-finishing)
- 3 Key-way milling
- 4 Thread milling
- 5 Drilling and milling grid holes

The operations 2-3-4-5 can be performed with axial tools also on the surface of the workpiece.

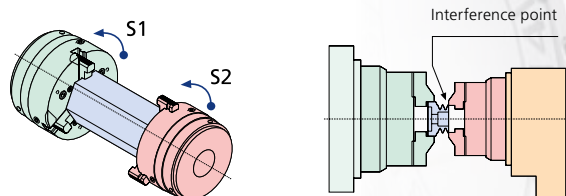


POLYGON TURNING

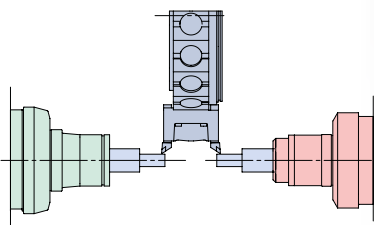
This optional feature allows to turn polygons and threads provided the suitable driven tools are used.
The gear hobbing tool allows machining of gears.

SUB-SPINDLE WITH C-AXIS: complete machining in one set-up

SPINDLE SYNCHRONISATION
LOAD MONITORING WHEN THE WORKPIECE
IS TRANSFERRED FROM THE MAIN
TO THE SUB-SPINDLE



SIMULTANEOUS MACHINING
Thanks to this option, two tools can work
simultaneously on both spindles.
Cycle time is drastically reduced.



Turn operations on the sub-spindle with the static toolholders



Machining on the sub-spindle with the rotary tools and C-axis





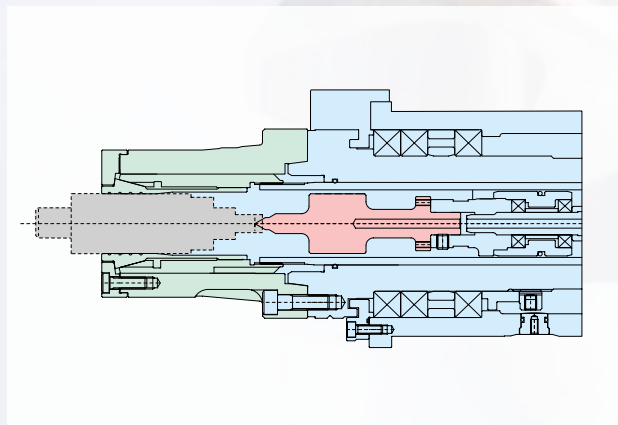
CNC AUTOMATIC TAILSTOCK

The tailstock body is operated by a servo motor and ballscrew (B-axis). This solution improves operating flexibility since position and thrust are CNC-controlled. It can also be used to perform simultaneously both drilling and turning.



TOOL-SETTER

This device makes tool-setting simple, fast and accurate. The tool tip is brought into contact with the probe and the tool offset value is automatically stored into relevant table of the CNC control.



PARTS-EJECTOR

The sub-spindle is equipped with a parts-ejector featuring collet cleaning system and sensor to detect that the finished part has been ejected.

Increased productivity



PARTS-CATCHER

Two styles of automatic parts-catcher systems are available on the B620:

- 1) The common parts-catcher arm system with parts bucket that allows the unloading of finished parts on to a front parts conveyor. (Standard feature) (unloading from the main and the sub-spindle)
- 2) The new parts-catcher arm system that takes the finished part from the sub-spindle and unloads it directly on to a secondary parts conveyor for unloading from the side (suitable for delicate parts). (Option)

Unloading sequence of the parts-catcher arm on the sub-spindle:

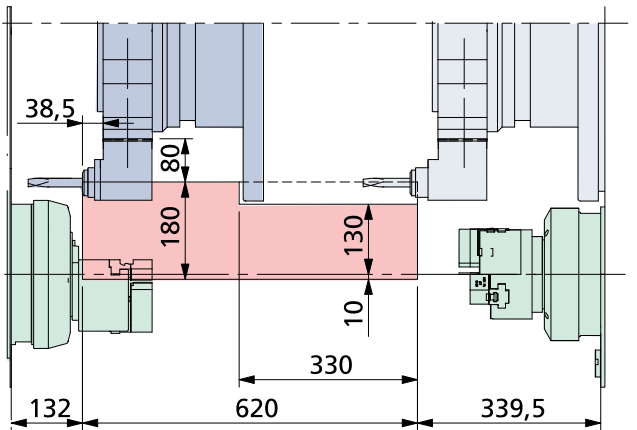
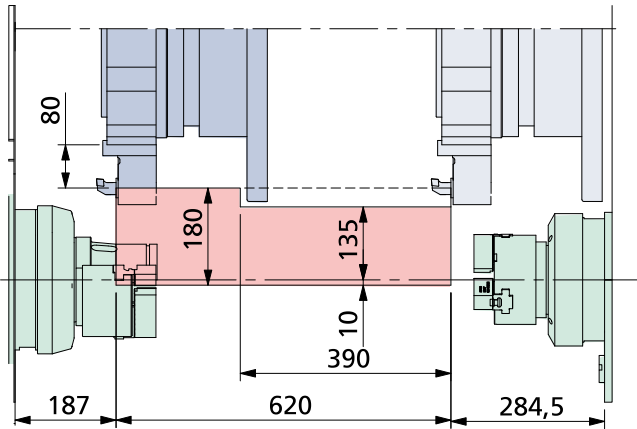
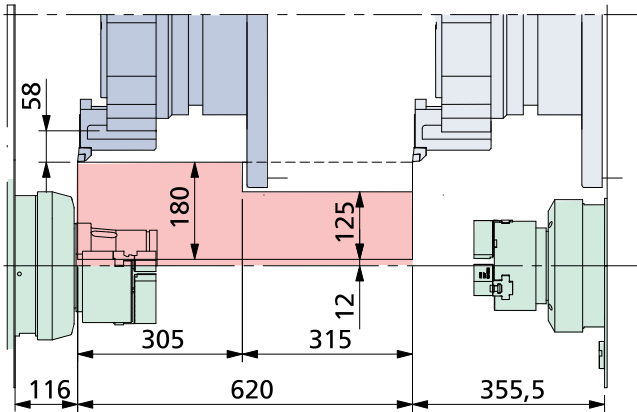
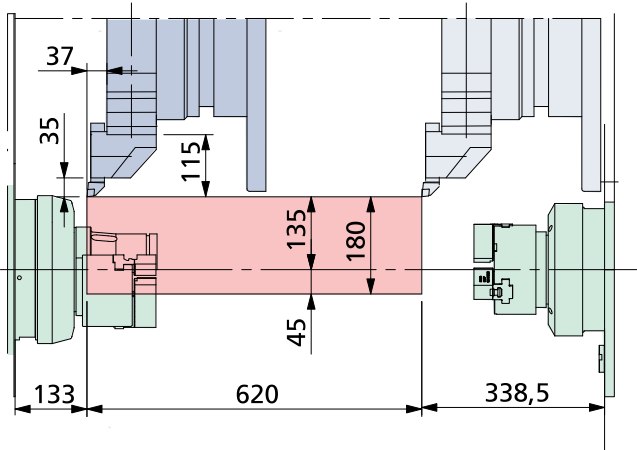
- 1) Pick-up of finished part
- 2) Unloading on to the primary parts conveyor
- 3) Unloading of parts from the side



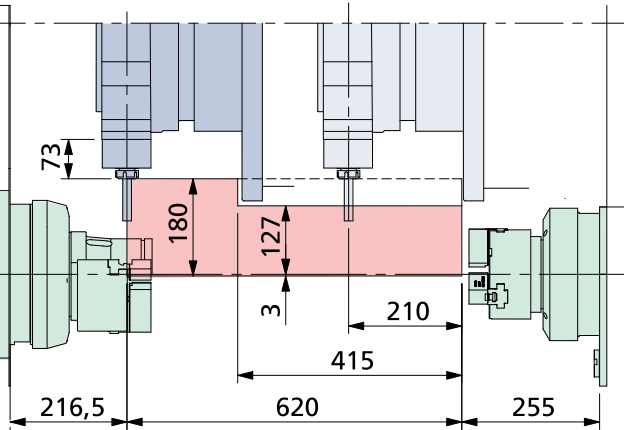
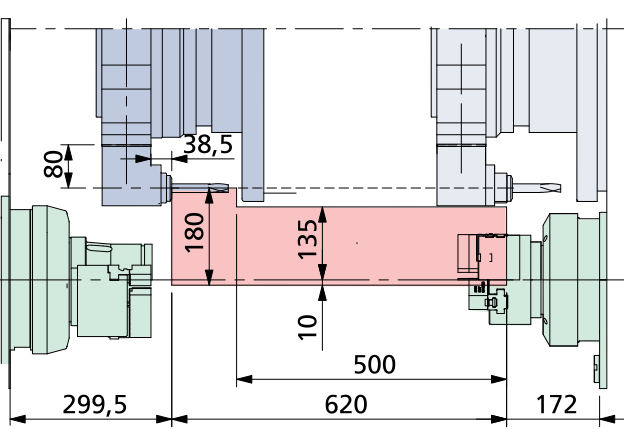
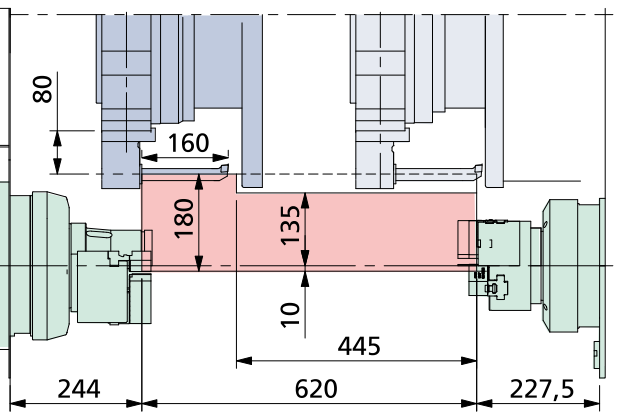
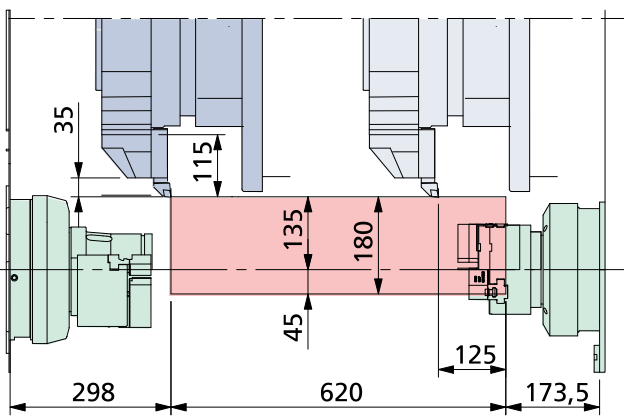
PARTS-CATCHER ON SUB-SPINDLE SIDE



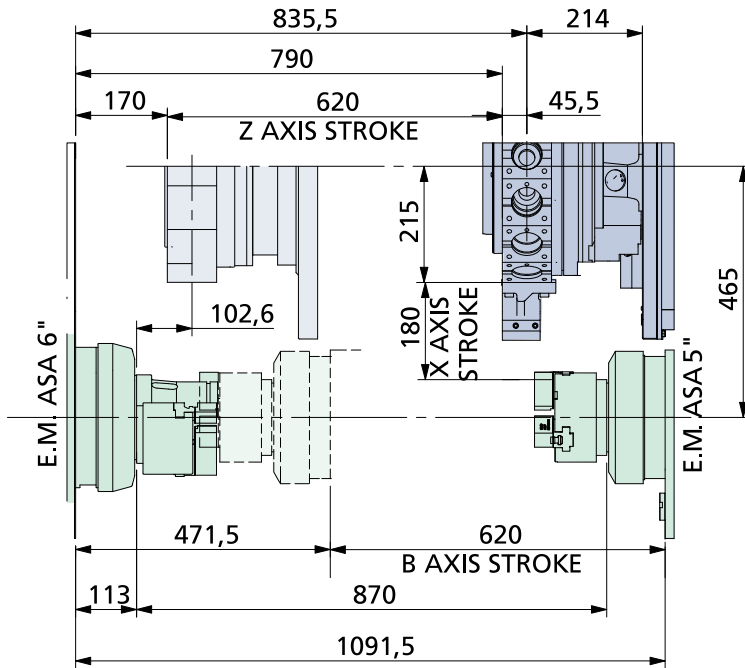
MACHINING FIELD TO THE MAIN SPINDLE



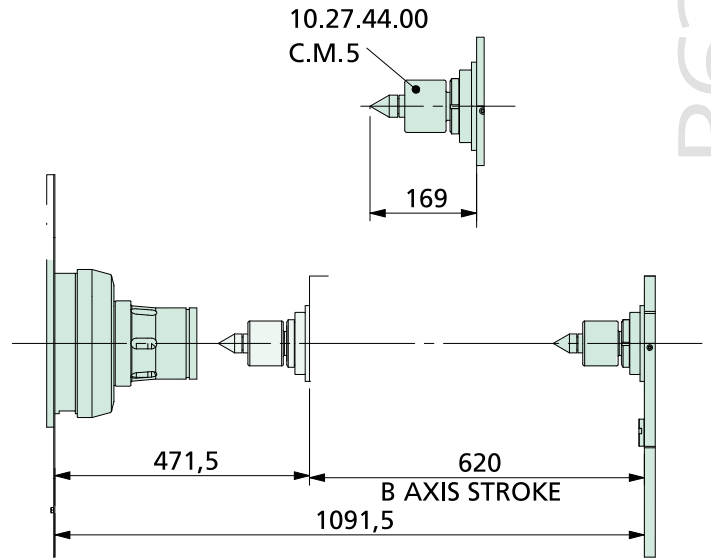
MACHINING FIELD TO THE SUB-SPINDLE



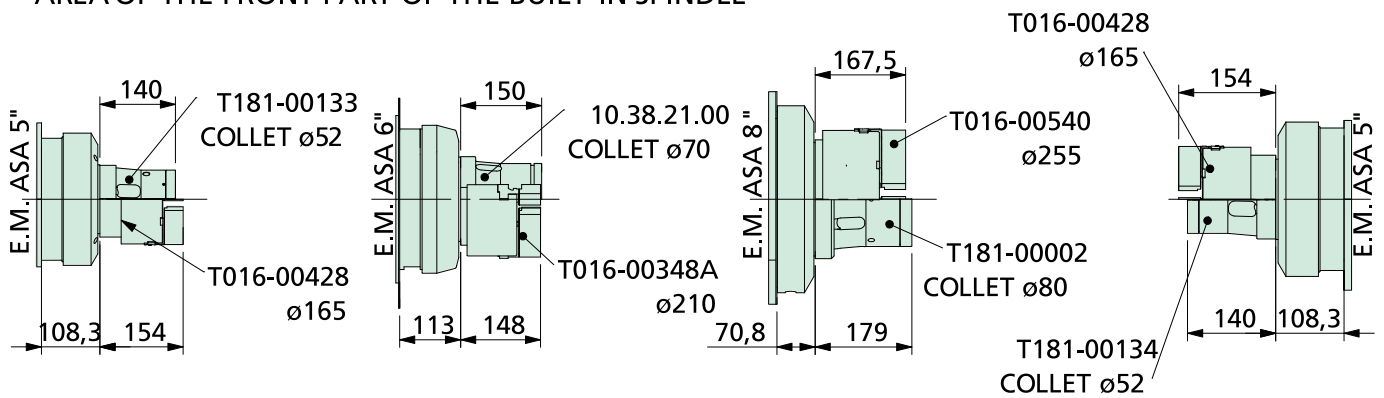
STROKE OF AXES



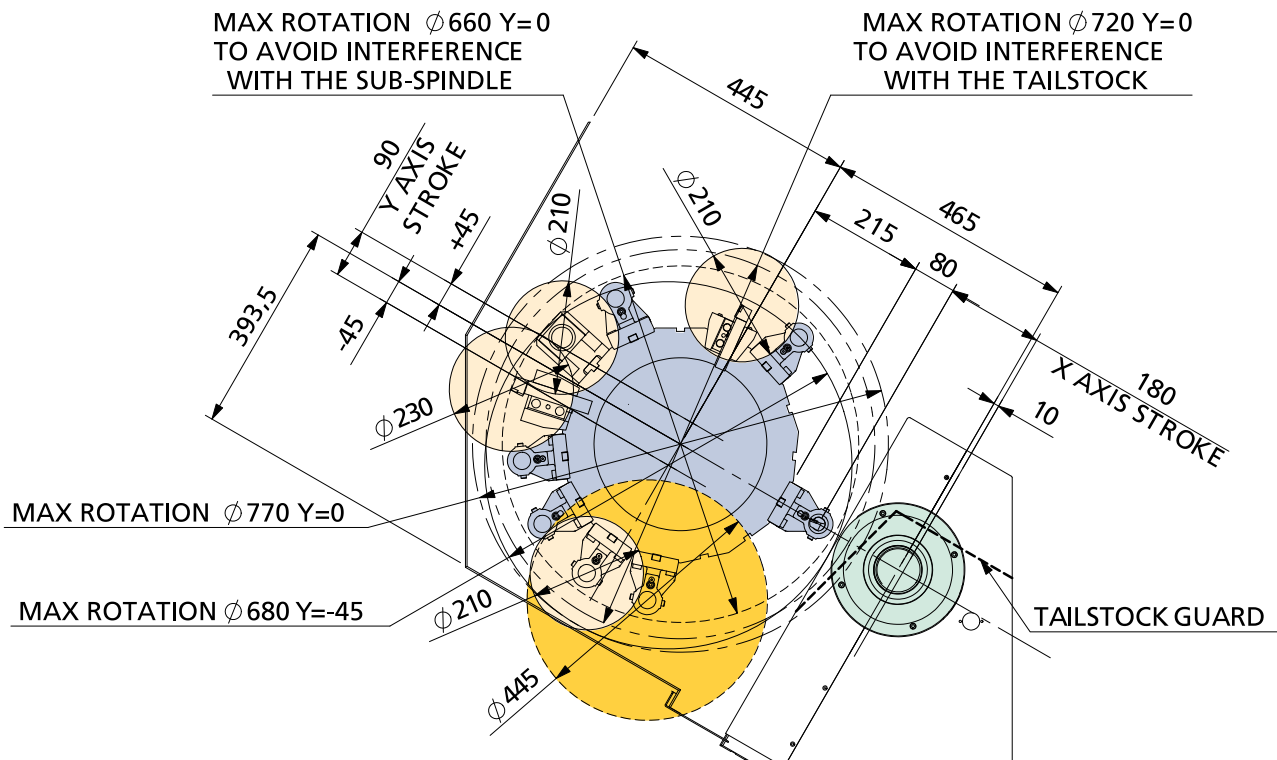
TAILSTOCK

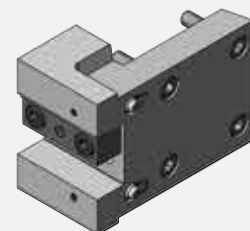
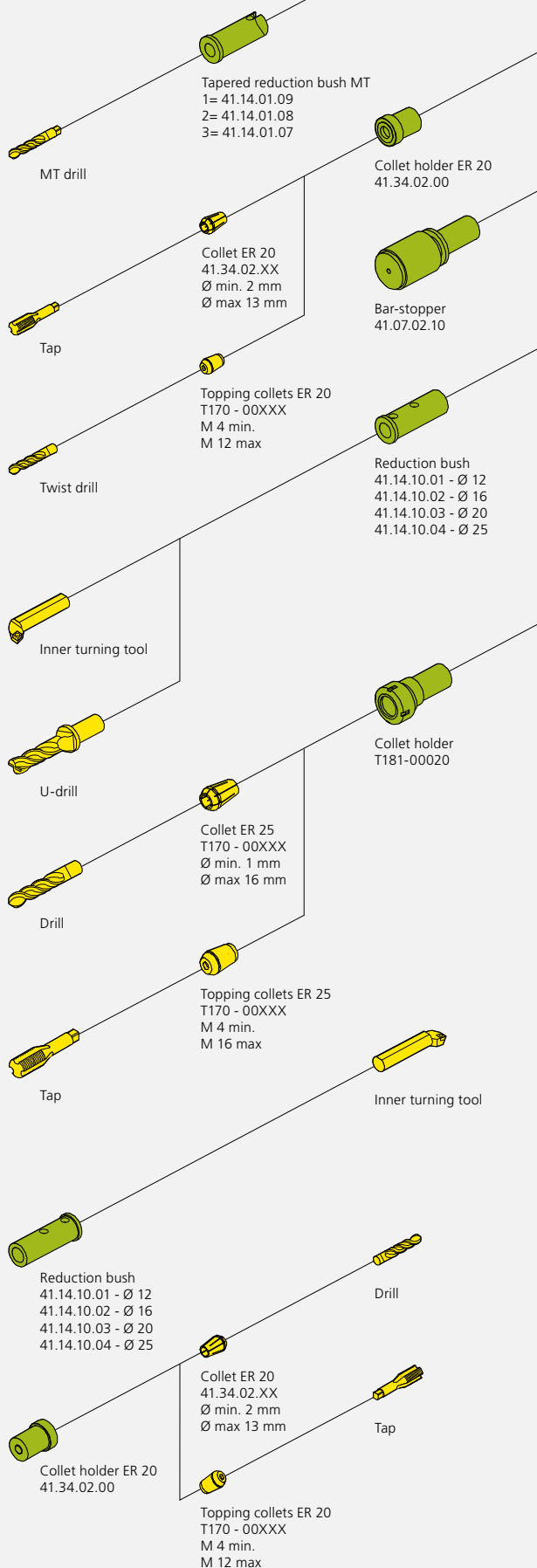


AREA OF THE FRONT PART OF THE BUILT-IN SPINDLE



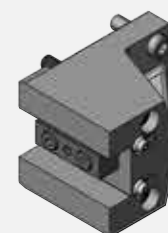
TURNING FIELD/ MILLING FIELD





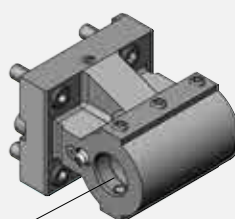
Radial short-style
toolholder
20x20
10.88.02.00

Radial short-style
toolholder
25x25
41.03.37.00



Tool holder
20x20
10.57.60.00

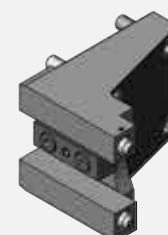
Tool holder
25x25
10.88.16.00



Boring bar holder Ø32
10.57.75.00

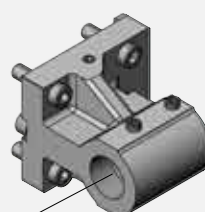


Coolant plug
10.57.75.03

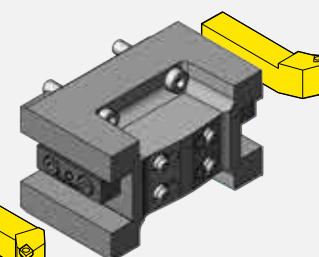


Cut-off
tool holder
20x20
10.57.77.00

Cut-off
tool holder
25x25
0088-00047

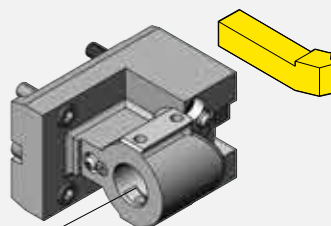


Retractable boring bar holder Ø32
10.57.74.00

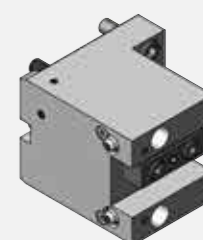


Double
tool-holder
20x20
10.57.76.00

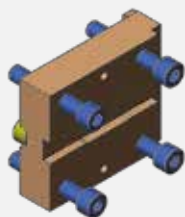
Double
tool-holder
25x25
10.88.10.00



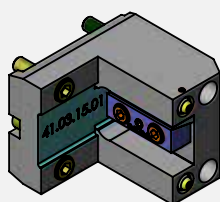
Boring bar holder Ø32
and tool-holder 20x20
10.57.91.00



Frontal
tool-holder
25x25
41.03.36.00



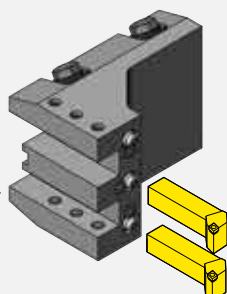
Spacer H=25
10.88.19.00



Radial retractable toolholder 20x20
41.03.15.01

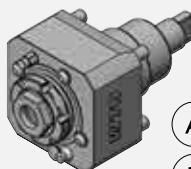


* Base for multiple-holder
10.57.92.00



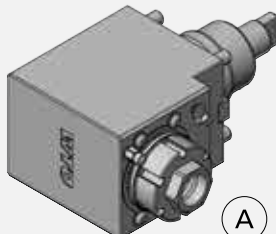
* Vertical double tool-holder
41.03.25.00

* Only for Y-YS
● With internal coolant



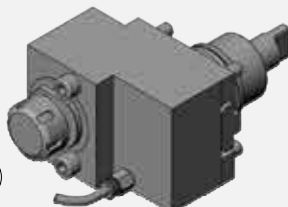
(A)
(B)

Radial live-spindle
T134-00242 ER25-QF
T134-00089C ER32
● T134-00243 ER25-QF
● T134-00092B ER32



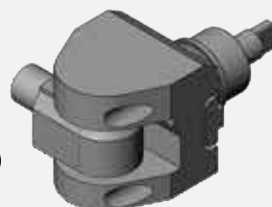
(A)
(B)

Axial live-spindle
T134-00212A ER25
T134-00210A ER32
● T134-00213A ER25
● T134-00211A ER32



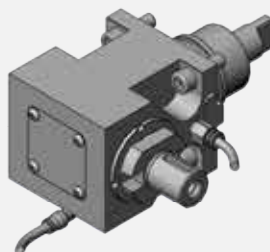
(B)

Radial live-spindle
12.000 rpm
H=108 ● T134-00026A

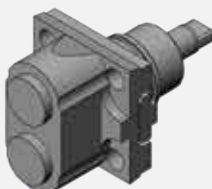


(B)

Adjustable live-spindle
6000 rpm
T134-00251



Polygon live-spindle
T134-00283



(B)

* Radial live spindle, double
6000 rpm
T134-00119



Collet ER32
T170-00XXX
Ø min. 1 mm
Ø max 20 mm



Tapping collets ER32
T170-00XXX
M 4 min.
M 20 max



(A)



Collet ER25
T170-00XXX
Ø min. 1 mm
Ø max 10 mm



Tapping collets ER25
T170-00XXX
M 3 min.
M 10 max



(B)



New Fanuc i-HMI



ERGONOMIC OPERATOR PANEL

CNC FANUC i-HMI:
- 15" colour display
touch screen
- QWERTY keyboard

- BIGLIA operator panel
- Data transmission:
Ethernet gate,
memory card, USB,
RS232 port



INTUITIVE AND EXTREMELY USER-FRIENDLY

The i-HMI is the new human-machine interface, 15" colour display with touch screen. The brand-new i-HMI system offers a high performance operating area where a simple touch allows the operator to gain access to all CNC functions: from work planning to BIGLIA customised pages, real time display of machining conditions and records of specific technical documentation.



DATA DISPLAY

Data displayed while machining includes: actual position of axes, machining feedrates, information on the spindle speed and current absorption, modal G-codes and machining cycle: all this on one screen page and in real time.



MANUAL GUIDE: QUICK AND EASY FOR PROGRAM RELIABILITY

The innovative MANUAL GUIDE software package provides operators with access to a very simple and user-friendly graphics interface, strong "editing" functions and offers a wide selection of machining cycles (turning, milling and drilling). This system allows the execution of even the most complex programs with ease of operation. The 3D simulation facilitates the checking of programmes before machining operations (option).

Biglia customised interface for a more intuitive process



QUICK DATA VIEW

This option can be used with digital documentation in the appropriate folder. Tailstock set-up, BIGLIA customised tool life management, SBS tool load monitoring system, CSS spindle rpm variation – all in a simple and interactive mode.



ANGULAR DISPLACEMENT

For machines equipped with a sub-spindle this enables fast auto setting of the angular displacement for machining polygon bars.



AUTO POWER ON AND WARM-UP (Option)

This function allows the machine to automatically turn on at a preset time, starting an automatic warm-up cycle to bring the machine to a stable operating temperature in order to reach thermal equilibrium before machining.



SBS: TOOL LOAD MONITORING (Option)

This system monitors the loading of the most heavily used tools such as cutting tools, roughening tools, drills or U-drills. It ensures safe automatic machining with limited operator presence (option).



CSS: SPINDLE RPM VARIATION (Option)

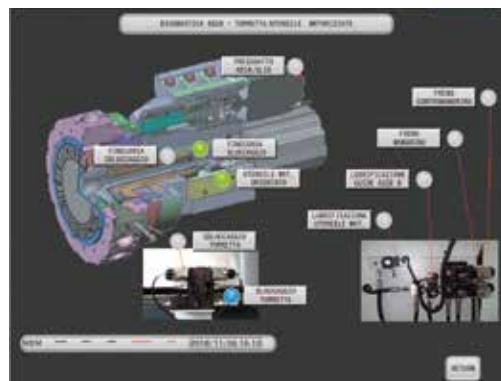
This option allows you to change the spindle rpm to eliminate resonance and vibration problems during embossing machining of parts.



SLO - CHIP BREAK FUNCTION (Option)

Software for «long chip» evacuation. This function oscillates the cutting tool along the cutting direction, breaking chips without compromising either accuracy or quality of the surface finish.

Diagnostics and maintenance



MANAGEMENT, DIAGNOSTICS and MAINTENANCE

Constant and fast monitoring of the main data related to maintenance and machining conditions of the main machine components.

Monitor operating pressures, motors, wears and oil levels along with simple instructions on how and where to troubleshoot.

T E C H N I C A L S P E C I F I C A T I O N S

B620

MACHINE TYPE		B620 ASA 5"	B620 ASA 6"	B620 ASA 8"
MACHINING CAPACITY				
Bar capacity	mm	51	70	80
Max. machining diameter	mm	250	360	360
Max. machining length	mm	620	620	620
Max. swing over diameter	mm	700	700	700
MAIN SPINDLE				
Max. speed	rpm	5000	4500	3200
Spindle nose	ASA	5"	6"	8"
Spindle bore	mm	59,5	77,5	91
Inside diam. of bearings	mm	90	110	130
Chuck diameter	mm	165 / 210	210 / 250	210 / 250
Motor power	kW	17 - 25	30 - 40	15 - 22
Max. torque	Nm	108 - 159	286	398 - 700
SUB-SPINDLE				
Max. speed	rpm	5000		
Spindle nose	ASA	5"		
Spindle bore	mm	59,5		
Drawtube inside diameter	mm	50		
Inside diam. of bearings	mm	90		
Chuck diameter	mm	140 / 165		
Motor power	kW	17 - 25		
Max. torque	Nm	108 - 159		
TURRET				
No of tools	N°	15		
Tool shank for OD / ID turning	mm	20x20 - 25x25 - Ø32		
Turret indexing (1 pos)	sec	0,15		
LIVE TOOLING				
No of live tools	N°	15		
Max. speed	rpm	6000 - 10.000		
Motor power	kW	11 - 12,5		
Max. torque	Nm	30 - 34,5		
C-AXIS				
Min. programmable value	°	0,001		
Max. rapid traverse	rpm	100		
AXES				
X-axis stroke	mm	180		
Z-axis stroke	mm	620		
Y-axis stroke	mm	+45 / -45		
B-axis stroke	mm	620		
X-axis rapid traverse	m/min	18		
Z-axis rapid traverse	m/min	30		
Y-axis rapid traverse	m/min	18		
B-axis rapid traverse	m/min	30		
TAILSTOCK				
Morse taper	MT	5 and 4		
B-axis rapid traverse	m/min	18		
COOLING SYSTEM				
Tank capacity	l	300		
Pump nominal displacement	l/min	60		
Electropump motor rating	kW	1,1		
DIMENSIONS AND WEIGHT				
Machine with swarf conveyor	cm	455,1x206,5x204,2h		
Spindle centre height	mm	1080		
Machine weight with swarf conveyor	kg	6500	6650	6700

MACHINE OVERALL DIMENSIONS

B620

