

**IBARMIA.**

# T EXTREME

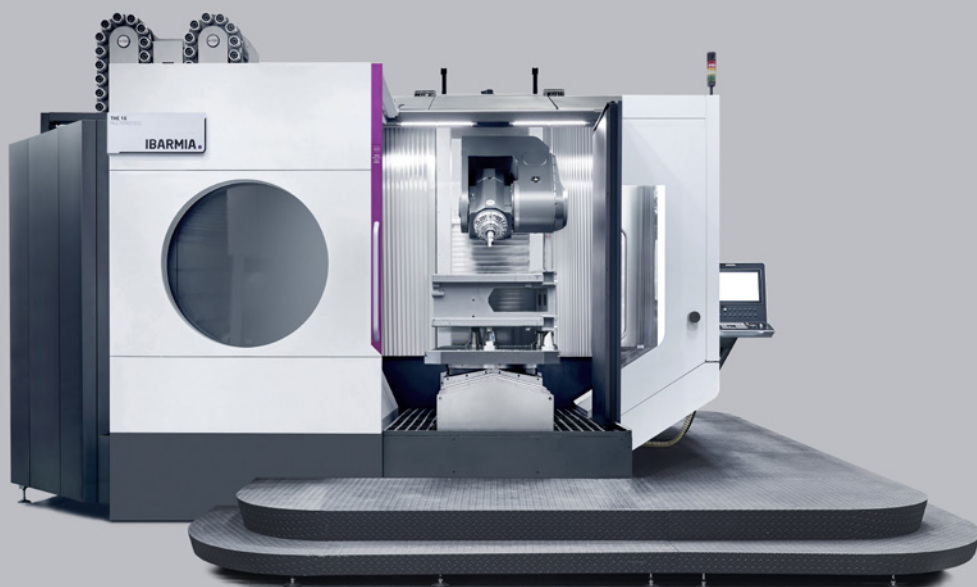
36 / 30 / 22 / 16 / 12

## 5 AXIS UNIVERSAL MACHINING CENTERS

Universal machining centers for 5 axis machining of big diameter parts focused on high productivity by integrating different degrees of automation systems.



**T SERIES**

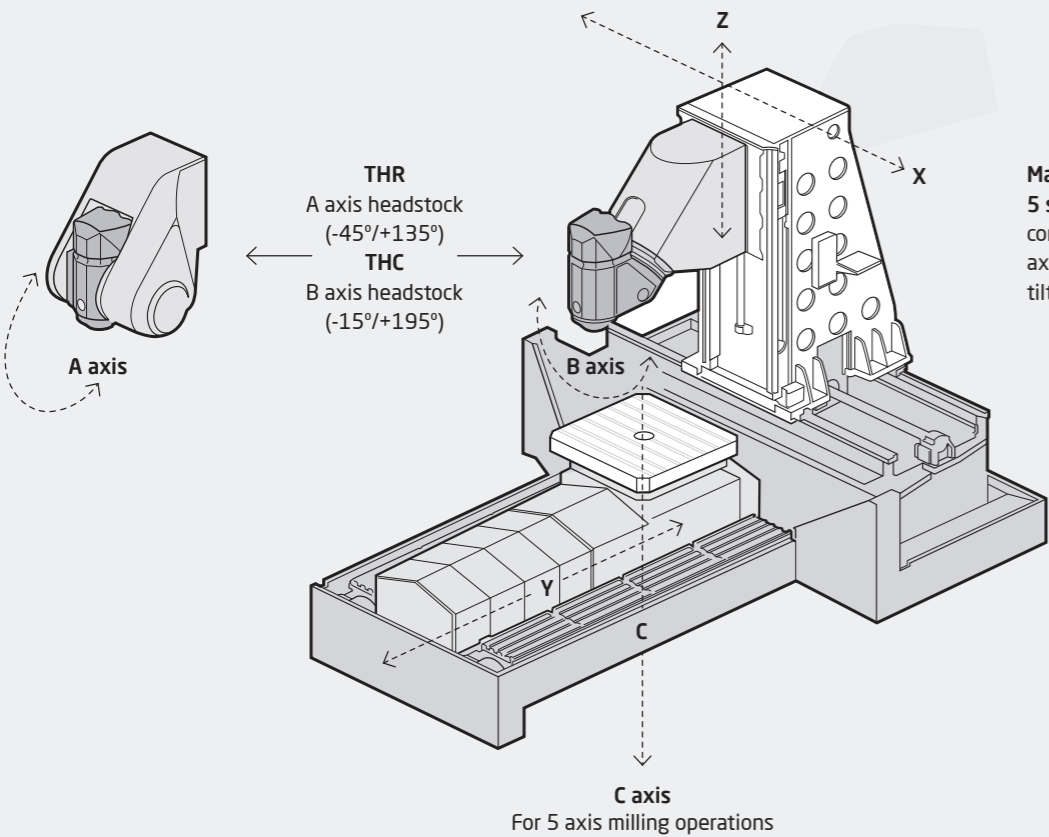


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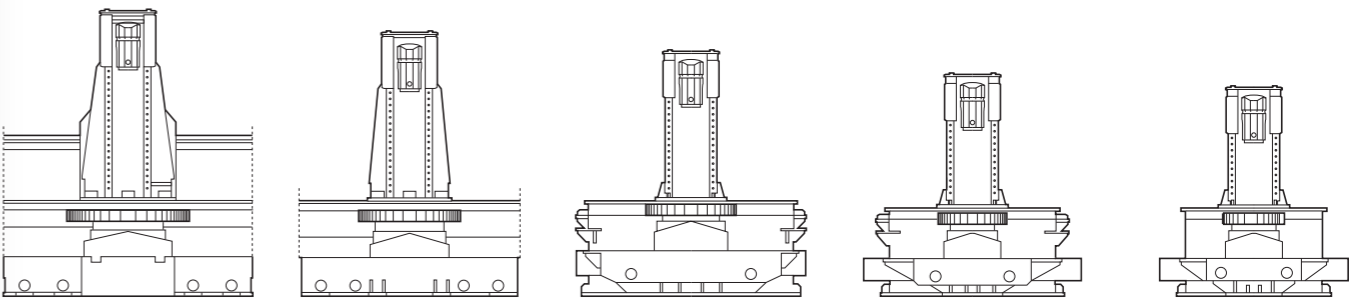
# HIGH PRODUCTIVITY ADVANCED MACHINING

The IBARMIA T SERIES is designed for high productivity in 5 axis machining of heavy pieces thanks to its high load capacity rotary tables and powerful spindles. Its award-winning tilting heads (two models in option) provide the speed, accuracy and reliability required for the most complex jobs. The possibility to adapt the size of each model to specific parts or to provide the most advanced automation solutions for automatic pallet changing and special head changing operations make IBARMIA T SERIES the ideal solution for the most demanding production requirements.



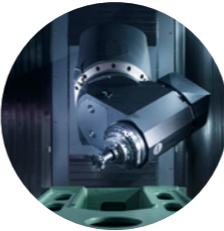
Machining up to 5 simultaneous axes combining the table rotary axis and two available tilting heads.

## T SERIES\_ BODY SIZES



Maximum swing diameter ø 3600 mm Maximum part height h 2150 mm Maximum load capacity 25.000 Kg	Maximum swing diameter ø 3000 mm Maximum part height h 1950 mm Maximum load capacity 20.000 Kg	Maximum swing diameter ø 2200 mm Maximum part height h 1750 mm Maximum load capacity 10.000 Kg	Maximum swing diameter ø 1600 mm Maximum part height h 1450 mm Maximum load capacity 6.000 Kg	Maximum swing diameter ø 1200 mm Maximum part height h 1250 mm Maximum load capacity 4.500 Kg
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## T SERIES\_ SPINDLE HEADS



THC\_ B axis head  
Maintain the same tool center point across the full range  $-15^{\circ}/+195^{\circ}$



THR\_ A axis head  
Fork type spindle head ideal for negative angles  $-45^{\circ}/+135^{\circ}$



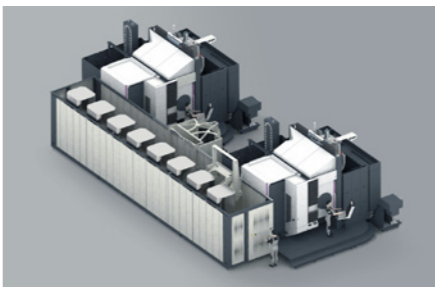
Two Options Available  
Standard: Dynamics and high revolutions; Optional: high torque for the hardest materials.

Tool holders  
SK 50 / BT 50 / HSK 100 / CAPTO C8  
Total available power from  
Standard: 4000 rpm  
Option: 700 rpm  
Power in S1 (100%); S6 (40%)  
Standard: 74 kW / 84 kW  
Option: 52 kW / 73 kW  
Torque in S1 (100%); S6 (40%)  
Standard: 300 Nm / 452 Nm  
Option: 500 Nm / 700 Nm  
Maximal rotation speed  
Standard: 12.000 rpm  
Option: 7000 rpm

## T SERIES\_ MULTIPALLET SOLUTIONS



1\_ PALLET POOLS  
For T22 / T30 / T36 models  
Due to the big size and loads of these parts, average cycle times and unattended work are key factor. IBARMIA manufactures modular solutions customized from 2 to 4 stations with the capacity to be extended in the future.



2\_ PALLET POOLS  
For T16 / T12 models  
Installations integrating one or various T12 or T16 machines to maximize the productivity even in unattended working cells.



3\_ ROTOPALLET  
Automatic pallet changer for T16 / T12 models  
A rotary double fork device on the frontside of the machine makes a quick change of two pallets. A solution that increases the productivity of the machine with a minimal floor space occupation.

## T SERIES\_ CONSTRUCTION FEATURES



Monoblock T shape machine bed designed to optimize the evacuation of chips. Maximum stability and rigidity ensured by the well proportioned distances between guides.



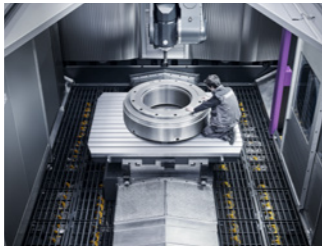
Finite elements optimization of the structures. Bodies of maximum rigidity for an optimum performance throughout the machine's life cycle.



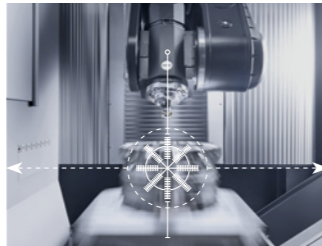
Movement on X / Y / Z axis over linear guides with preloaded rolling shoes with two rows of circulating rollers.



Rectified ball screws of high precision with preloaded double nuts for axis movement, using the rotating nut technique on the longitudinal axis.



Endless screws system on both sides of the working table for an optimum evacuation of chips (double screw in T36 / T30 models, optional in T22 model).



Direct measuring on linear axes X / Y / Z (glass scales). Measuring by rotary scale on rotary axes. Geometric check and volumetric calibration on request.



High dynamics axes incorporating advanced technology spindles up to 12.000 rpm and 84 kW.

## T SERIES\_ STANDARD CHARACTERISTICS



Totally encapsulated working area and safety windows.



Illuminated working area. Working area without horizontal planes and smooth top equipped with interior cleaners.



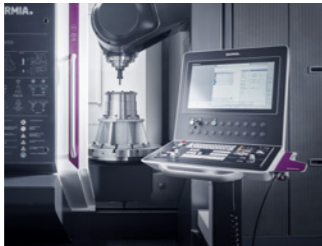
Standard convertible roof facilitating the loading/unloading of pieces by crane.



Chip Conveyor with integrated coolant tank.



Climatized electric cabinet with easy access.



Moving control panel with 19" touch screen. Freedom to choose latest CNC controls of the most prestigious manufacturers: HEIDENHAIN, FANUC, SIEMENS.



60 positions chain driven tool magazine with servomotors.

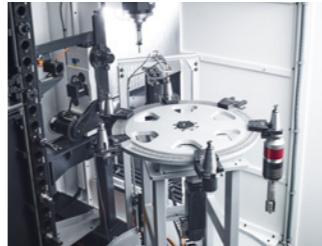
**Other standard items:**

- Servomotors with braking system for the axes.
- Programmable central lubrication system.
- External coolant system around the spindle.
- Stairs to machine access...

## T SERIES\_ MAIN CONFIGURATION OPTIONS



Tool management\_ 120-240-360 positions chain driven tool magazine with servomotors.



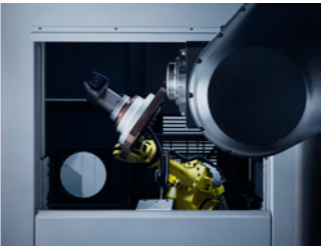
Tool management\_ Pick-ups for special tools (heavier and/or longer tools).



Tool management\_ S.A.S post for agile manual feeding of tools to the magazine.



Tool management\_ Rack type robotized magazines available.



Tool management\_ Random system tool magazines managed by arm robot to combine tool and head change.



Working table management\_ Manual fast pallet changin system.

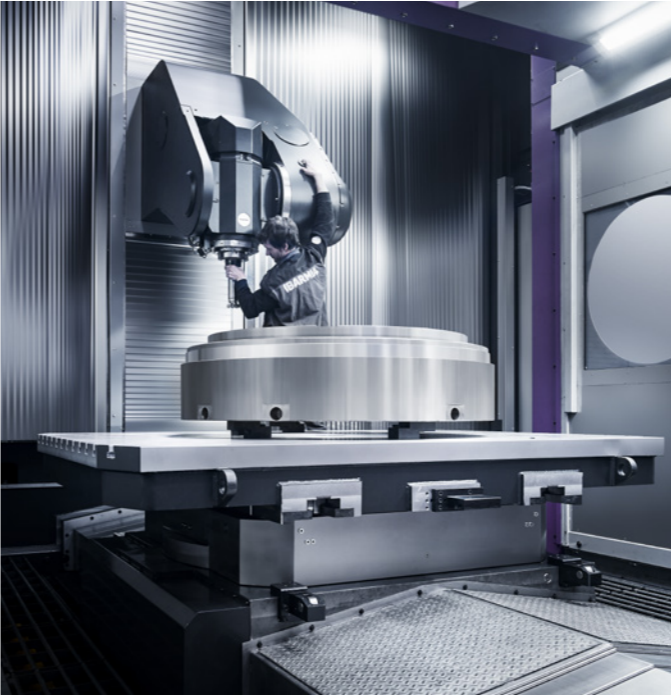


Working table management\_ Various automatic pallet changer levels. See the section "Multipallet solutions".

**Other optional items:**

- Coolant through spindle.
- Tool measuring and touch systems.
- "Illumination" pack: LED lights with acoustic signal integrated into the machine.
- CNC control with touch screen up to 24".

## T EXTREME



Machining up to 5 continuous axes in one clamping, combining tilting heads with heavy load capacity rotary tables.



### C axis vertical rotary tables

- Max load from 4000 to 25.000 kg.
- Torque in S1 from 1850 to 12.000 Nm.
- Direct measuring by rotary scale on the rotary axis.
- Positioning accuracy +/-4".



### High productivity concept

The automation system options allow machining single and medium to large batches of big diameter parts. IBARMIA offers different automation degrees for a perfect adaptation to the specific production requirements of each case.

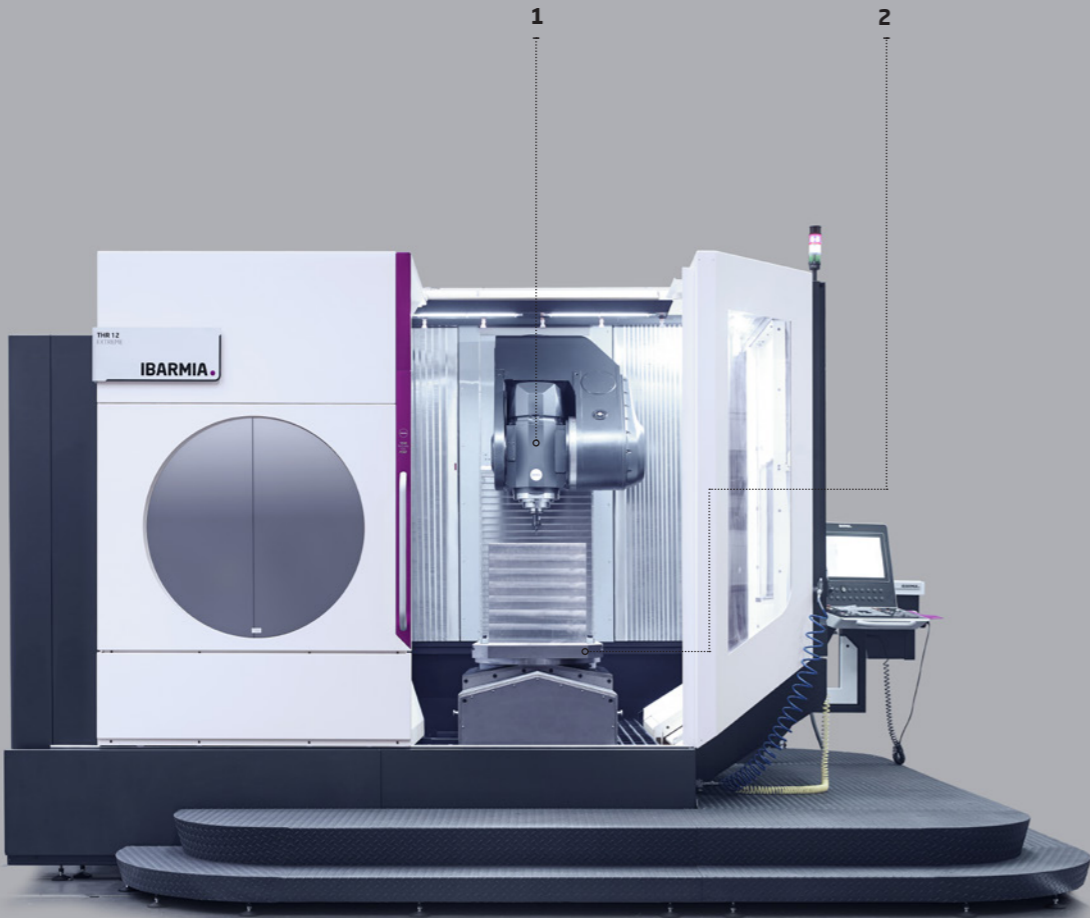
T EXTREME

POWER &  
CAPACITY IN HIGH  
PRODUCTIVITY  
5 AXIS MILLING  
CENTERS

The T EXTREME is a perfect machine for machining single complex parts and/or large batch manufacturing in one clamping.

1\_ B - A axis torque motor continuous milling heads. Direct measuring by encoder installed on the rotary axis. Up to 84 kW / 12.000 rpm.

2\_ C axis rotary tables. Parts up to ø3600 mm and 2150 mm height. Up to 25.000 kg.



Two spindle heads available  
Continuous tilting heads with torque motor and  
direct measuring systems in the axes.



THC  
B axis head



THR  
A axis head

T EXTREME  
TECHNICAL DATA

STROKES

-X axis travel (length)	3600 mm
-Y axis travel (cross)	2300 mm
-Z axis travel (vertical)	1900 mm
-B - A axis heads tilting range	B: -15° / +195° - A: -45° / +135°
-Maximum swing diameter	3600 mm
-Piece maximum height	2150 mm
-Distance spindle nose-table. Vertical (B axis)	100 / 2000 mm
-Distance spindle nose-table. Horizontal (B axis)	100 / 2000 mm
-Distance spindle nose-table. Vertical (A axis)	-115 / 1785 mm
-Distance spindle nose-table. Horizontal (A axis)	260 / 2160 mm

TABLE

-Table dimensions	1600 x 1600 mm
-Maximum table load capacity	25.000 kg
-Nominal speed	1,5 rpm
-Maximum speed	5 rpm
-Nominal torque	18.000 Nm

TILTING HEAD

-Turning torque	1210 Nm
-Position clamping force	7000 Nm

MAIN SPINDLE

-Tool holder	Standard: SK 50 - Option: BT 50 / HSK A-100 / Capto C8
-Maximum speed	Standard: 12.000 rpm - Option: 7000 rpm
-Maximum power	Standard: 84 kW - Option: 75 kW
-Maximum torque	Standard: 452 Nm - Option: 871 Nm

FEED

Maximum working feed X-Y-Z axes	30 n/min
-Rapid feed for positioning X-Z axes	40 n/min
-Rapid feed for positioning Y axis	30 n/min
-X-Y-Z axes acceleration	1,5 / 1,5 / 2 m/s²
-Rapid feed for positioning in B-A axes	50 rpm

ACCURACY VDI / DGQ3441

-Positioning Tp X-Y-Z (1000 mm)	10 µm
-Repeatability	5 µm
-Measuring system on B - A axes	Rotary scale
-Positioning accuracy B - A axes	+/-5 s
-Positioning accuracy C axis	+/-4 s

CAPACITIES

-Milling capacity in steel St 60	1100 cm³/min
-Drilling capacity in steel St 60	ø 70 mm
-Tapping capacity in steel St 60	M 45 mm

TOOL MAGAZINE

-Number of tools	Standard: 60. Option: 120, 240, 360
-Maximum tool length	450 mm
-Maximum tool weight	20 kg
-Maximum tool diameter with full magazine	125 mm
-Maximum tool diameter with free spaces	250 mm
-Tool changing time	6 s
-Chip to chip time	8 s

CNC CONTROL

-Available digital controls	Fanuc / Heidenhain / Siemens
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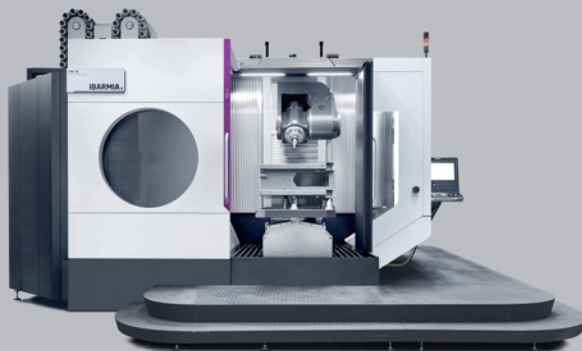
T 36	T 30	T 22	T 16	T 12
3600 mm	3000 mm	2200 mm	1600 mm	1200 mm
2300 mm	2000 mm	1600 mm	1300 mm	1100 mm
1900 mm	1700 mm	1500 mm	1200 mm	1000 mm
B: -15° / +195° - A: -45° / +135°				
3600 mm	3000 mm	2200 mm	1600 mm	1200 mm
2150 mm	1950 mm	1750 mm	1450 mm	1250 mm
100 / 2000 mm	100 / 1800 mm	100 / 1800 mm	100 / 1300 mm	100 / 1100 mm
100 / 2000 mm	100 / 1800 mm	100 / 1800 mm	100 / 1300 mm	100 / 1100 mm
-115 / 1785 mm	-115 / 1585 mm	-115 / 1385 mm	-115 / 1085 mm	-115 / 885 mm
260 / 2160 mm	260 / 1960 mm	260 / 1760 mm	260 / 1460 mm	260 / 1265 mm
1600 x 1600 mm	1250 x 1600 mm	1250 x 1250 mm	1000 x 1000 mm	800 x 800 mm
25.000 kg	20.000 kg	10.000 kg	6000 kg	4000 kg
1,5 rpm				
5 rpm	5 rpm	5 rpm	8 rpm	8 rpm
18.000 Nm	13.000 Nm	6000 Nm	3800 Nm	2800 Nm
1210 Nm				
7000 Nm				
Standard: SK 50 - Option: BT 50 / HSK A-100 / Capto C8				
Standard: 12.000 rpm - Option: 7000 rpm				
Standard: 84 kW - Option: 75 kW				
Standard: 452 Nm - Option: 871 Nm				
30 n/min				
40 n/min				
30 n/min				
1,5 / 1,5 / 2 m/s²	1,7 / 1,8 / 2,2 m/s²	2 / 2,1 / 3,3 m/s²	2,2 / 2,7 / 3,6 m/s²	2,3 / 3,1 / 3,7 m/s²
50 rpm				
10 µm				
5 µm				
Rotary scale				
+/-5 s				
+/-4 s				
1100 cm³/min				
ø 70 mm				
M 45 mm				
Standard: 60. Option: 120, 240, 360				
450 mm				
20 kg				
125 mm				
250 mm				
6 s				
8 s				
Fanuc / Heidenhain / Siemens				

# IBARMIA.



## YOUR MACHINE TOOL POINT

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