

IBARMIA.

T EXTREME

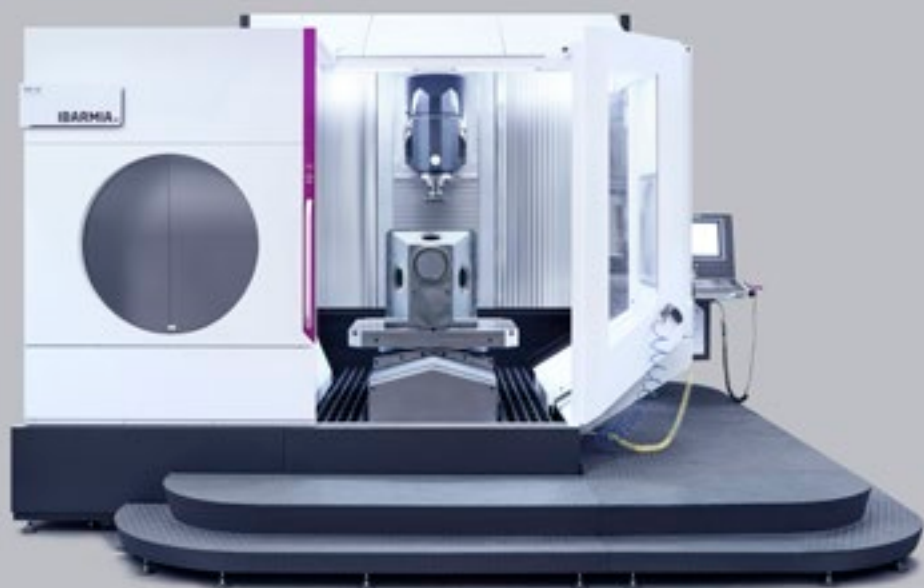
36 / 30 / 22 / 16 / 12

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



www.ibarmia.com

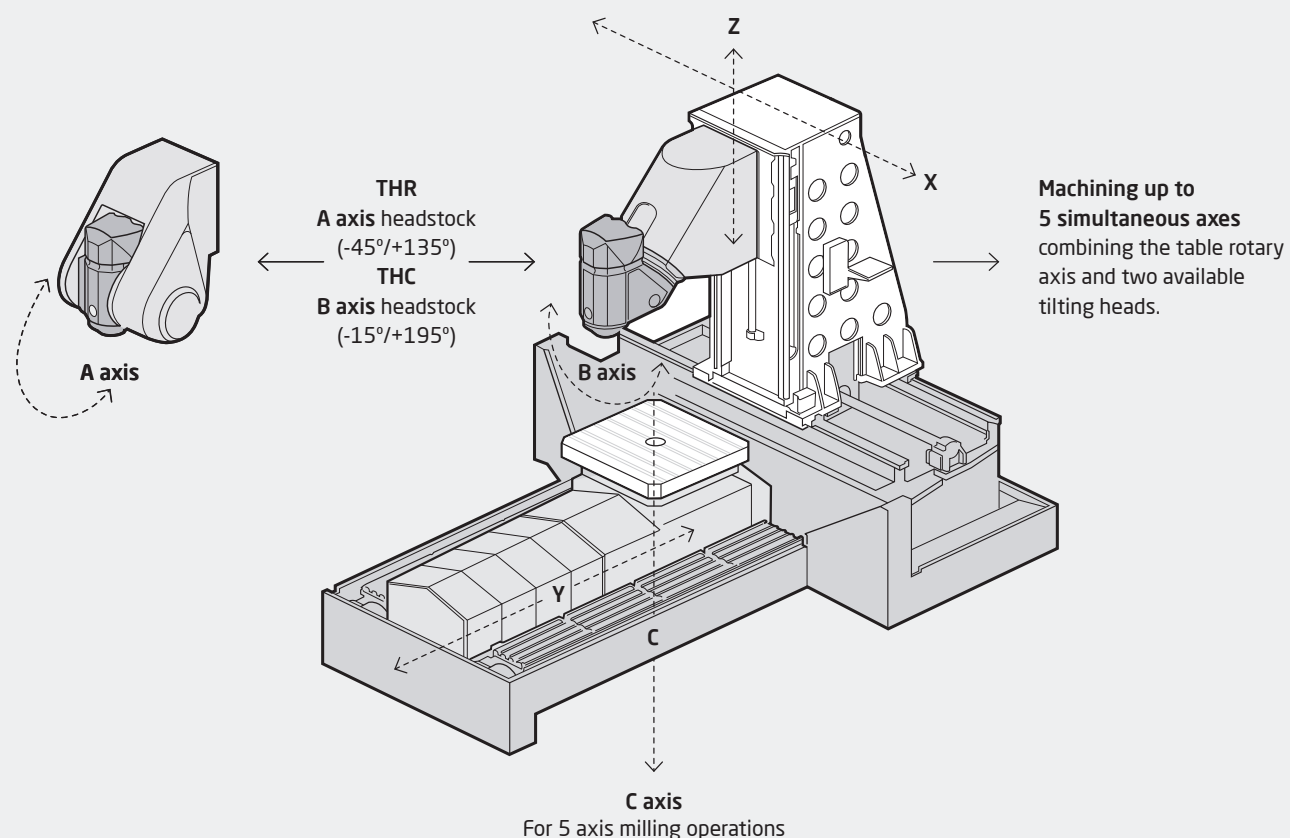
T EXTREME



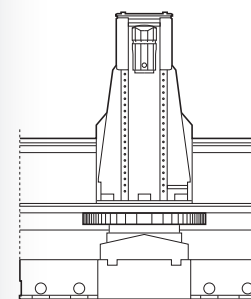
MANUFACTURING TECHNOLOGY

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.

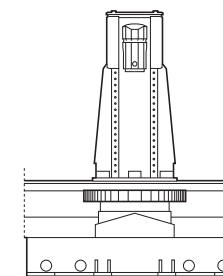


T SERIES_ BODY SIZES



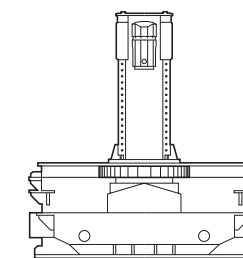
T36

Maximum swing diameter
Ø 3600 mm
Maximum part height
h 2150 mm
Maximum load capacity
25.000 Kg*
(*Extreme)



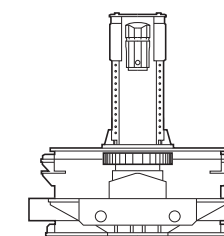
T30

Maximum swing diameter
Ø 3000 mm
Maximum part height
h 1950 mm
Maximum load capacity
20.000 Kg



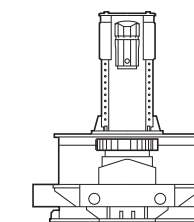
T22

Maximum swing diameter
Ø 2200 mm
Maximum part height
h 1750 mm
Maximum load capacity
10.000 Kg



T16

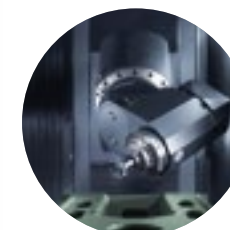
Maximum swing diameter
Ø 1600 mm
Maximum part height
h 1700 mm
Maximum load capacity
6000 Kg



T12

Maximum swing diameter
Ø 1250 mm
Maximum part height
h 1600 mm
Maximum load capacity
4000 Kg*
(*Extreme)

T SERIES_ SPINDLE HEADS



THC_ B axis head
Maintain the same tool center point
across the full range
-15°/+195°



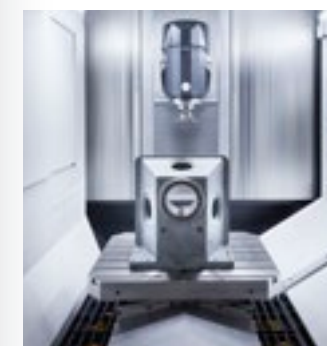
THR_ A axis head
Fork type spindle head ideal for
negative angles
-45°/+135°



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

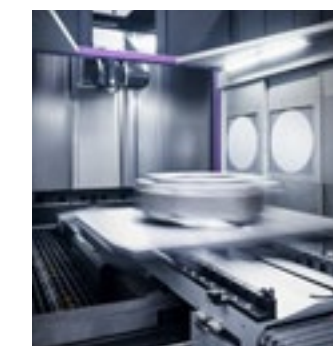
Tool holders (Extreme)
SK 50 / BT 50 / HSK 100 / CAPTO C8
Total available power from
Standard: 4000 rpm
Option: 700 rpm
Power in S1 (100%); S6 (40%)
Standard: 74 kW / 84 kW
Option: 52 kW / 73 kW
Torque in S1 (100%); S6 (40%)
Standard: 300 Nm / 452 Nm
Option: 500 Nm / 700 Nm
Maximal rotation speed
Standard: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

T SERIES_ SINGLE PALLET MACHINES



All the T models are available with fixed table, for those customers looking for the advanced manufacturing of big swing diameter parts in only one set up.

T SERIES_ MULTIPALLET MACHINES



On the other hand, IBARMIA offers different degrees of automatic pallet changers that allow a perfect adaptation of the specific production requirements in each case.

01_

- Thermo-symmetrical and thermostable structure design.
- Monoblock design of the machine bed designed to optimize the evacuation of chips. Maximum stability and rigidity ensured by the well proportioned distances between guides.

02_

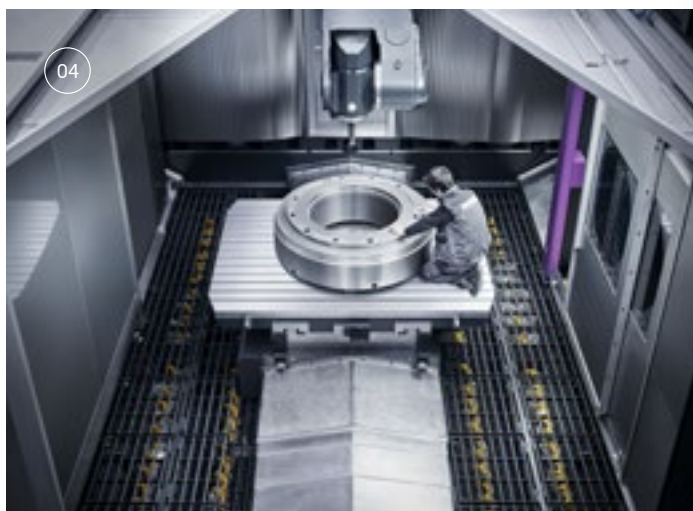
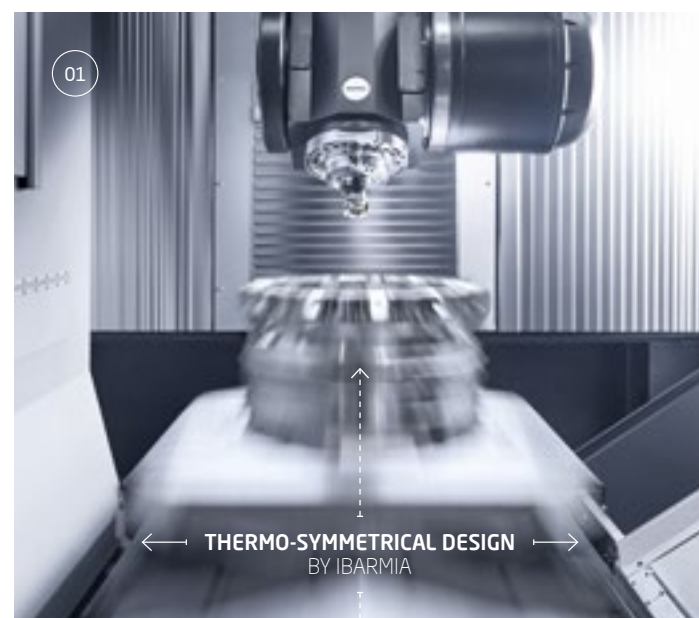
- Finite Elements optimization of the maximum rigidity structural bodies.
- Movement on X / Y / Z axis over linear guides with preloaded rolling shoes with two rows of circulating rollers.

- Rectified ball screws of high precision with preloaded double nuts for the longitudinal axis movement.
- Direct measuring on linear X, Y, Z axes: glass scales.

03_

- Measuring by rotary scale on rotary axes. Geometric check and volumetric calibration on request.
- 04_
- Endless screws system on both sides of the working table for an optimum evacuation of chips (double screw in T36 / T30; optional in T22 / T16).

T SERIES_ CONSTRUCTION FEATURES



T SERIES

T SERIES_ STANDARD CHARACTERISTICS



Stairs for an easy access to the working area.



Totally encapsulated working area and safety windows.



Illuminated working area. Working area without horizontal planes and smooth top.



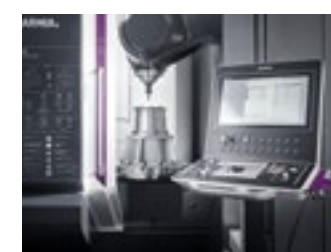
Standard convertible roof facilitating the loading/unloading of pieces by crane.



Chip conveyor with integrated coolant tank.



Climatic electric cabinet with easy access.



Moving control panel with 19" touch screen.



60 positions chain driven tool magazine with servomotors.



Other standard items

- External coolant system around the spindle.
- Hydraulic counterweight for the head.
- Servomotors with braking system for the axes.
- Programmable central lubrication system...

Subject to change without prior motive. Informative contents are not binding.



UNIVERSAL MACHINING CENTERS

T MODELS_ MAIN CONFIGURATION OPTIONS



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



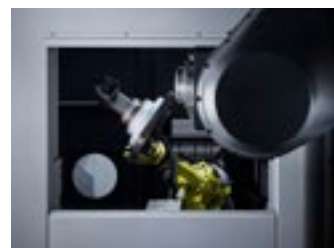
Tool management: Pick-ups for special tools (heavier and/or longer tools).



Tool management: S.A.S stations for agile manual feeding of tools to the magazine.



Tool management: Rack type robotized magazines available.



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



Working table management: Manual fast pallet changin system. For automatic pallet changing solutions, see below.

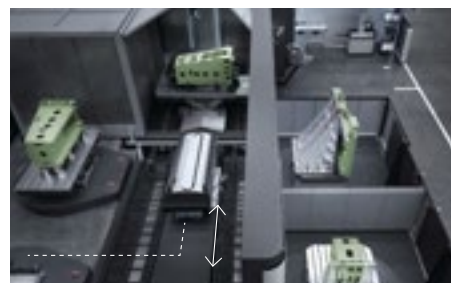


Grinding capability with different cycles depending on the machine model (Multiprocess / Extreme).

Other optional items

- Coolant through spindle.
- Tool measuring and touch systems.
- Steam and mist aspiration system.
- "Illumination" pack: LED lights with acoustic signal indicating the state of the machine, integrated into the machine.
- Lights with acoustic signal indicating the machine status.
- Camera settings and display mode.
- Control with touch screen up to 24".

T MODELS_ OPTIONAL MULTIPALLET SOLUTIONS



1_ PALLET POOLS For T36 / T30 / T22 models
IBARMIA manufactures customized modular solutions with 2 to 4 stations that can be extended in the future.



2_ PALLET POOLS For T16 / T12 models
Facilities integrating a flexible pallet warehouse in combination with one or more T16 or T12 machining centers.

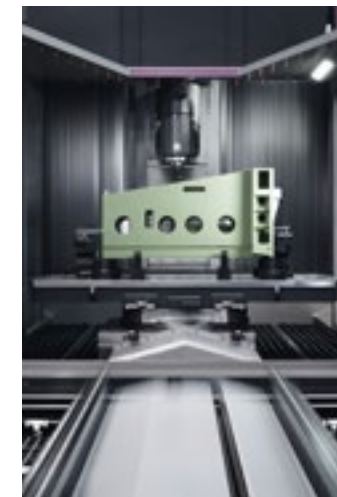
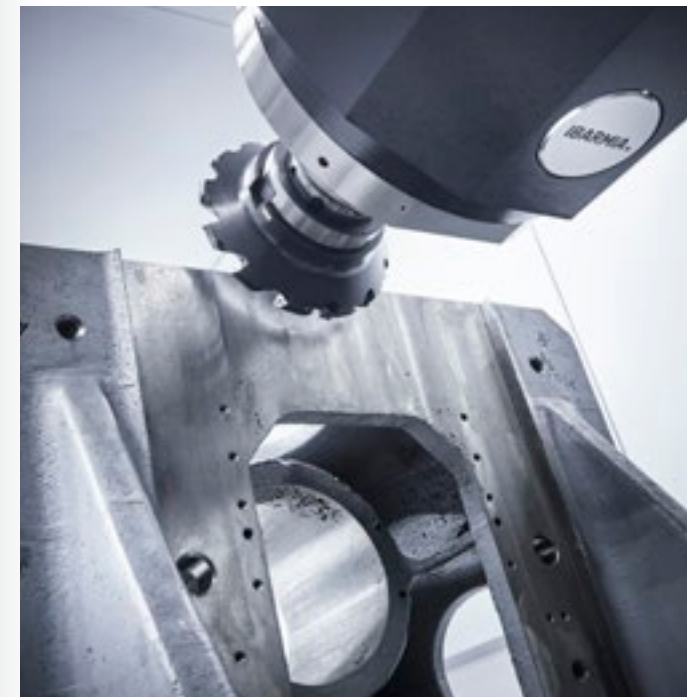


3_ ROTOPALLET for T16 / T12 models
A rotary double fork device on the frontside of the machine makes a quick change of two pallets.



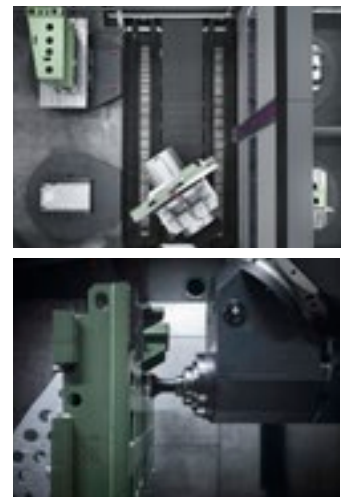
MANUFACTURING TECHNOLOGY

T EXTREME



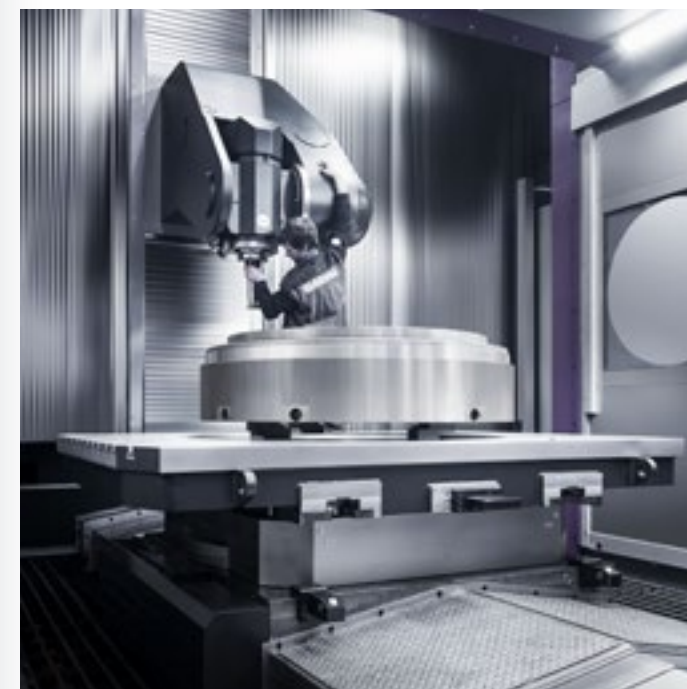
Advanced machining

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



High productivity concept

The multipallet 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.

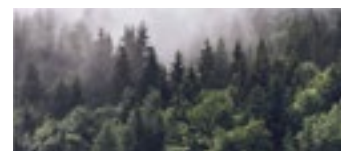


C axis vertical rotary tables

In option, tables with direct drive technology (torque motor) in T16 and T12 models.

- Max load from 4000 to 25.000 kg.
- Torque in S1 from 2100 to 18.000 Nm.
- Direct measuring by rotary scale on the rotary axis.
- Positioning accuracy +/- 4".

IBARMIA ECO DESIGN



Machines designed considering the environmental impact during all their useful life cycle.



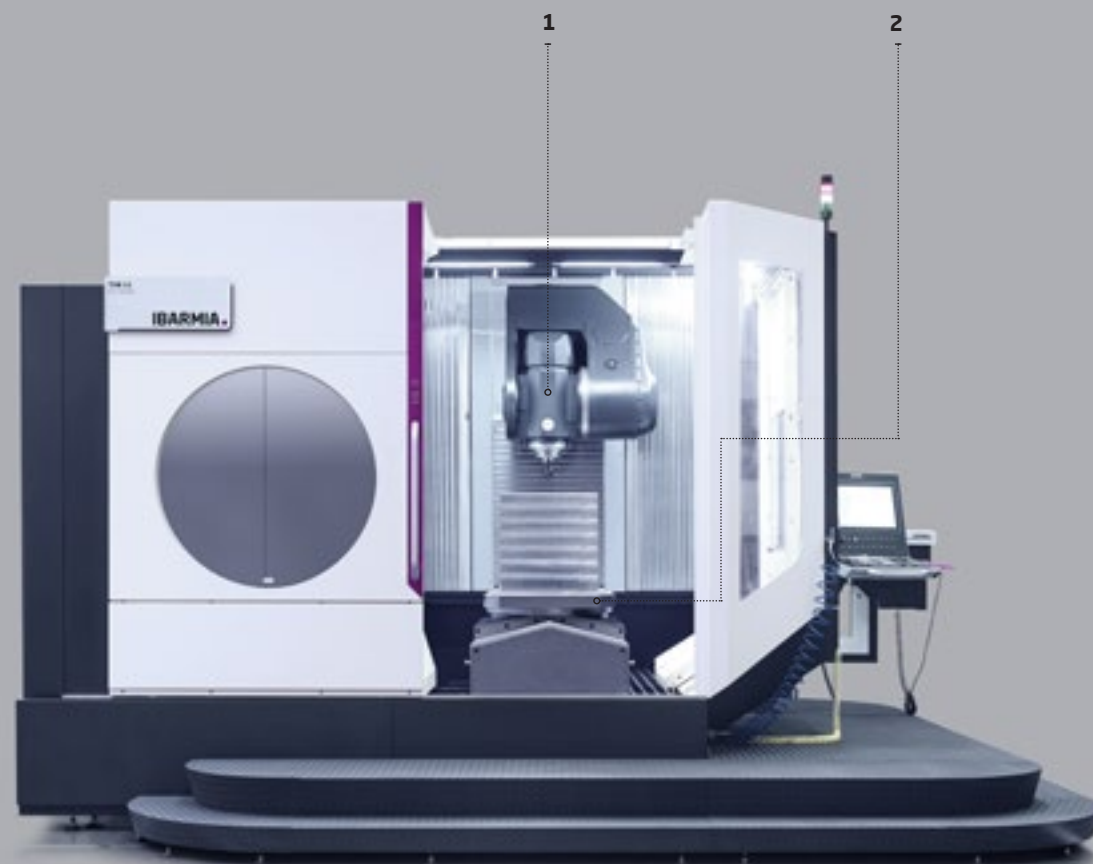
T EXTREME

POWER & CAPACITY IN HIGH PRODUCTIVITY 5 AXIS MACHINING CENTERS

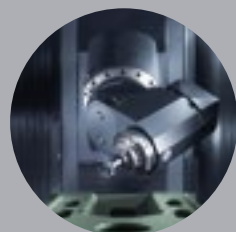
The T EXTREME is a perfect machine for machining single complex parts and/or large batch manufacturing in one clamping.

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 $\varnothing 3600$ mm and 2150 mm height. Up to 25.000 kg



IBARMIA can provide two types of spindle heads to adapt the machine to specific jobs. A wide range of options allows tailoring solutions to each requirement.



THC_ B axis head
Maintain the same tool center point across the full range
-15°/+195°



THR_ A axis head
Fork type spindle head ideal for negative angles
-45°/+135°

T EXTREME



UNIVERSAL MACHINING CENTERS

T EXTREME_ SAMPLE APPLICATIONS



Fluid end



Industrial mold



Impeller



Turbocharger housing



Aerospace engine housing



Engine block



Roller cage for bearings



Machinery structural part



Quick coupler



OIL & GAS



MOLD & DIE



AEROSPACE



AUTOMOTIVE



RAILWAY



MACHINERY



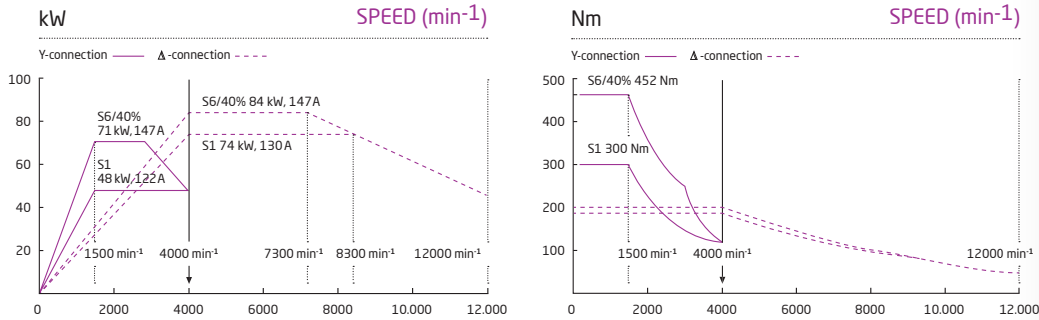
YELLOW GOODS

T SERIES
ELECTROSPINDLES AVAILABLE*

DIGITAL TECHNOLOGY SPINDLES

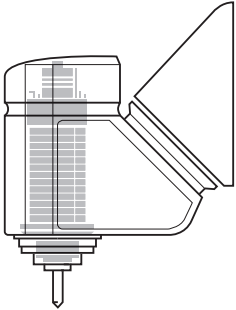
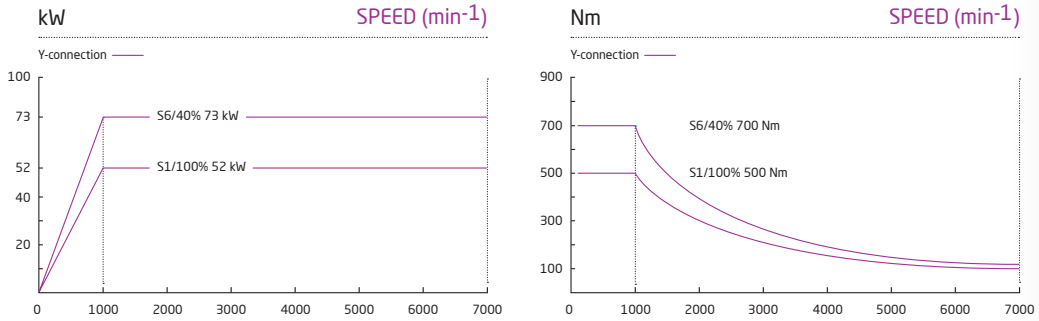
1_ STANDARD

Power and dynamics_
Up to 12.000 rpm.
74/84 kW (S1/S6).
300/452 Nm (S1/S6)

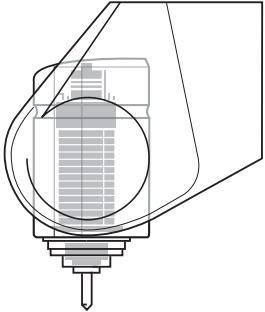


2_ OPTIONAL

High torque for the hardest materials_
Up to 7000 rpm.
52/73 kW (S1/S6).
500/700 Nm (S1/S6)



THC_ B axis head



THR_ A axis head



*More spindles on request

T EXTREME
TECHNICAL DATA

TRAVELS

-X axis travel (length)
-Y axis travel (cross)
-Z axis travel (vertical)
-B - A axis heads tilting range
-Maximum swing diameter
-Piece maximum height
-Distance spindle nose-table. Vertical (B axis)
-Distance spindle nose-table. Horizontal (B axis)
-Distance spindle nose-table. Vertical (A axis)
-Distance spindle nose-table. Horizontal (A axis)

TABLE*

-Table dimensions
-Maximum table load capacity
-Nominal speed
-Maximum speed
-Nominal torque

TILTING HEAD

-Turning torque
-Position clamping force

MAIN SPINDLE

-Tool holder
-Maximum speed
-Maximum power
-Maximum torque

FEED

Maximum working feed X-Y-Z axes
-Rapid feed for positioning X-Z axes
-Rapid feed for positioning Y axis
-X-Y-Z axes acceleration
-Rapid feed for positioning in B-A axes

ACCURACY VDI / DGQ3441

-Positioning Tp X-Y-Z (1000 mm)*
-Repeatability
-Measuring system on B - A axes
-Positioning accuracy B - A axes
-Positioning accuracy C axis

CAPACITIES

-Milling capacity in steel St 60
-Drilling capacity in steel St 60
-Tapping capacity in steel St 60

TOOL MAGAZINE

-Number of tools
-Maximum tool length
-Maximum tool weight
-Maximum tool diameter with full magazine
-Maximum tool diameter with free spaces
-Tool changing time*
-Chip to chip time

CNC CONTROL

-Available digital controls

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	1600 mm	1300 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	1250 mm
2150 mm	1950 mm	1750 mm	1700 mm	1600 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

*More table options on request

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			30 rpm	35 rpm
5 rpm			40 rpm	50 rpm
18.000 Nm	13.000 Nm	6000 Nm	3100 Nm	2100 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

*With dynamic upgrade (option)				
30 m/min	50 m/min*	60 m/min*		
40 m/min	50 m/min*	60 m/min*		
30 m/min	50 m/min*	60 m/min*		
1,5 / 1,5 / 2 m/s²	1,7 / 1,8 / 2,2 m/s²	2 / 2,1 / 3,3 m/s²	4 / 4 / 5 m/s²*	4 / 5 / 5 m/s²*
50 rpm				

*Under certain conditions

10 µm	7 µm	6 µm
5 µm		
Rotary scale		
+/- 5 s		
+/- 4 s		

1100 cm³/min
ø 70 mm
M 45 mm

*Under certain conditions

Standard: 60. Option: 120, 240, 360				
600 mm				
20 kg				
125 mm				
250 mm				
6 s				
16 s	14 s	12 s	8 s	7 s

Fanuc / Heidenhain / Siemens

IBARMIA.



YOUR MACHINE TOOL POINT

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