

**IBARMIA.**

# ZVH STAR EDITION

L1500 / L3000

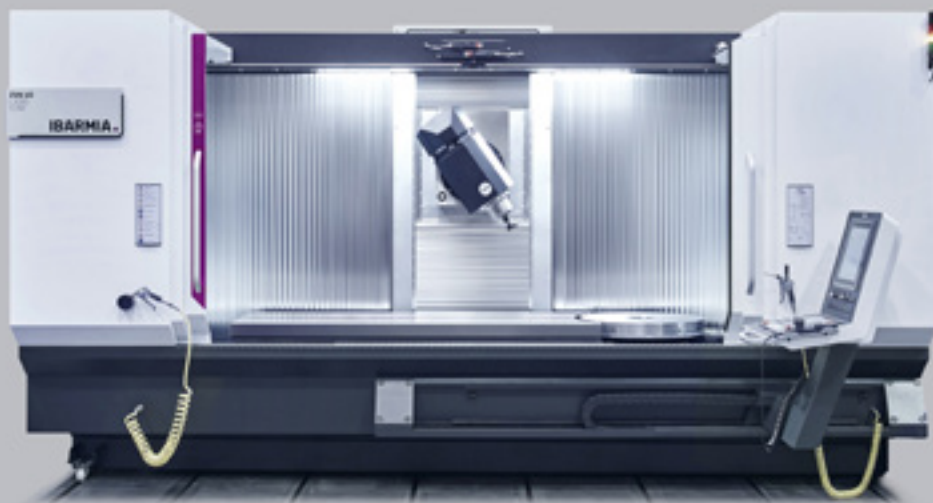
## 5 AXIS MOVING COLUMN MACHINING CENTERS

The most aggressive moving column 5 axis machine, high technology in a combination of elements to meet a wide range of requirements for the quickest ROI.

Available in two models, L1500 and L3000.

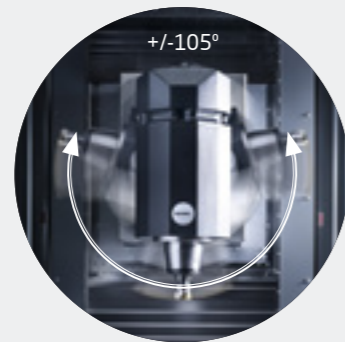


**T SERIES**



[www.ibarmia.com](http://www.ibarmia.com)

ZVH STAR EDITION



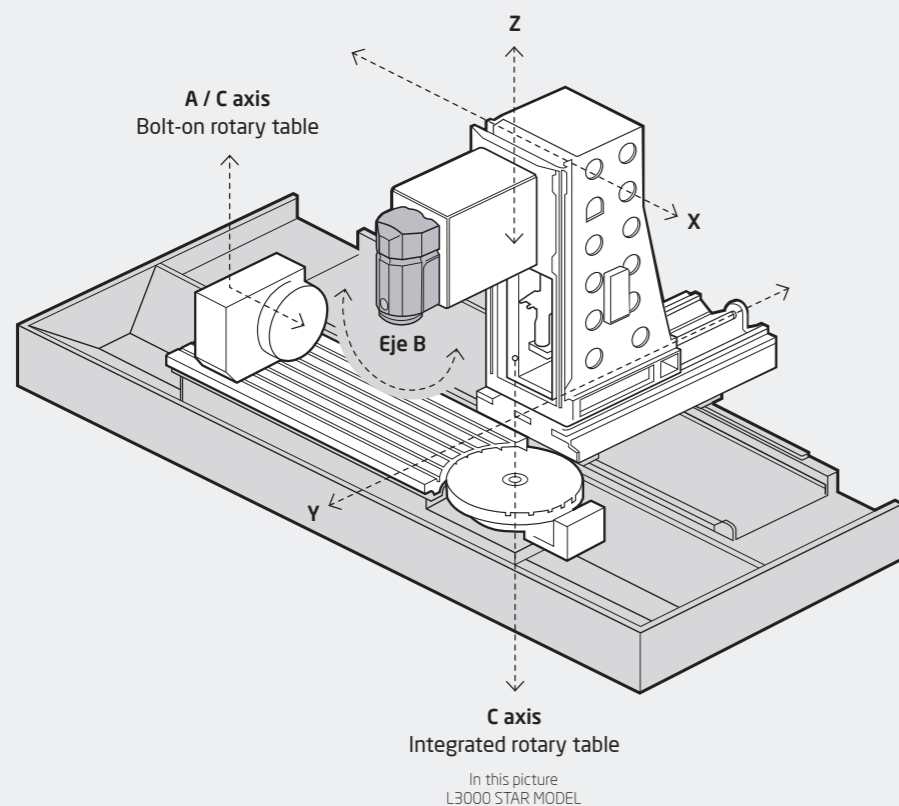
**ZVH SPINDLE HEAD**  
**B axis, 4th movement.**  
 Continuous tilting head / Torque motor. +/- 105°

MOVING COLUMN DESIGN

The IBARMIA moving column platform is ideal for flexible manufacturing of a wide range of pieces, thanks to its heavy load capacity fixed table provided with standard side windows for extra-long parts. The integration of a powerful and accurate B axis head allows machining complex parts in fewer setups by using rotary tables.



MANUFACTURING TECHNOLOGY



ZVH STAR\_ MODELS AVAILABLE

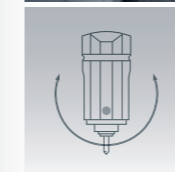


ZVH STAR\_ B AXIS TILTING HEAD



Transmission by a torque motor installed on the rotating shaft and direct measuring on the axis. Extraordinary dynamics, automatic recovery after collisions and maximum precision in positioning and repeatability.

- Absolutely ZERO wear the transmission.
  - Absolutely ZERO backlash clockwise and anticlockwise
  - No damage of the cinematic chain in case of collisions.
- +/-105° tilting range  
 Turning torque peak value 1038 Nm  
 Clamping force 6000 Nm

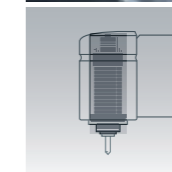


ZVH STAR\_ ELECTROSPINDLE



High dynamics and high torque electrospindles. The motor is attached directly to the spindle and provides high power at low speed on hard materials while reaching high speeds to increase the productivity when the conditions allow it.

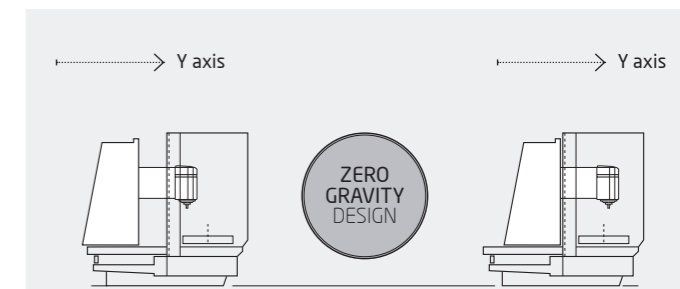
- Tool holder  
 SK 40 (Option HSK A-63)  
 Power in service S1-S6 (100%-40%)  
 30 kW / 50 kW  
 Torque in service S1-S6 (100%-40%)  
 130 Nm / 200 Nm  
 Total available power from 2000 rpm  
 Maximal rotation speed 12.000 rpm (Option 15.000 rpm)



ZVH STAR\_ MOVING COLUMN DESIGN



Monoblock machine bed, everlasting stability in moving column architecture. High dynamic performance, lineal rapid movements at 40 m/min with high accelerations. Movements on X / Y / Z axis over linear guides with preloaded rolling shoes with two rows of circulating rollers. With more than 250 size combinations IBARMIA is a world reference in high productivity moving column machining centers.



**Zero Gravity Design on Y axis**  
 Constant cutting conditions in all points of Y axis. Dynamic and powerful movements on guideways with integrated measuring systems in all axes.

ZVH STAR\_ PREMIUM CONFIGURATION, STANDARD PRICE



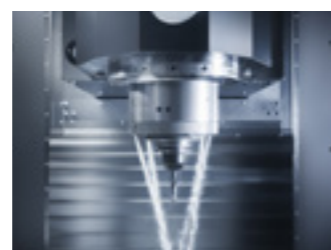
ZVH STAR\_ ITEMS INCLUDED IN STANDARD CONFIGURATION



Totally encapsulated working area and safety windows.



ø800 mm integrated rotary table (STAR 1500).



External coolant system around the spindle (12 bar).



Coolant through spindle (22 bar).



Chip conveyor with integrated coolant tank.



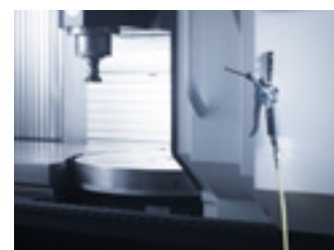
Climatized electric cabinet with easy access.



LED lighting in the working area.



Side windows for long parts (STAR 3000).



Air gun (one unit).



Spray gun (one unit).



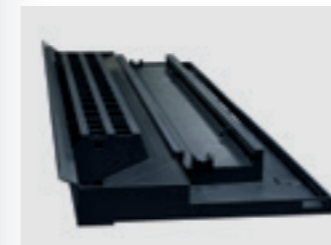
Fanuc 31i-B control with 19" touch screen. (Vertical screen in STAR 1500).



Electronic handwheel.

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

ZVH STAR\_ CONSTRUCTION FEATURES



Maximum stability and rigidity in the monoblock design of the machine bed. Structural bodies of maximum rigidity for an optimum performance throughout the machine's life cycle.



X / Y / Z movements over linear guides with preloaded rolling shoes with two rows of circulating rollers which provide everlasting, rapid and precise movements (maintenance free).



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

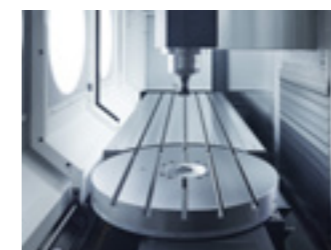


Linear axes are verified by laser interferometers according to VDI/DGQ3441 and circularity accuracy by ball-bar.

ZVH STAR\_ OPTIONAL ITEMS



Heidenhain TNC 640 HSCI control.



ø800 mm integrated rotary table (STAR 3000).



A-C axis bolt-on rotary tables (STAR 3000).



60 tool ATC magazine (STAR 3000).



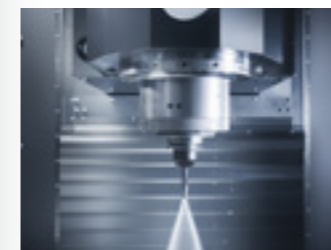
Non stop machining software and division wall of workign areas (STAR 3000).



3 light tower acoustic signal.



Air blowing function to the tool on main spindle nose.



Coolant through spindle (40 bar).



Steam and mist aspiration system.



Tool measuring and touch systems.



Vertical headstock 3 axis option for basic machining operations at an affordable price (STAR 3000).

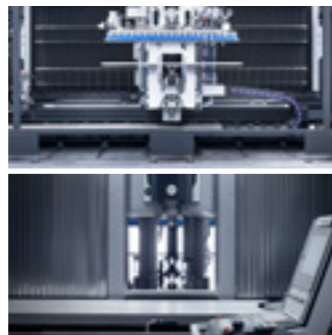
ZVH STAR\_ TOOL MAGAZINE & ATC



The STAR 1500 machine design has been optimized to house an optimal number of tools in a reduced space. Located in the right side of the machine, the disk type tool magazine with automatic tool changer is separated from the working area, away from chips and coolant so you can change tools without interferences.

Number of positions  
**60 Positions**  
 Max tool diameter, previous & posterior taken / free position  
**75 / 127 mm**  
 Tool changing time  
**8" (Random management system)**

ZVH 45/L1500 STAR



In the case of the STAR 3000, separated from column to avoid vibration interference, the tool magazine travels with the carriage that makes the longitudinal movement, allowing the tool change at any position on the X axis. The tools are protected, away from the working area so you can change tools without interferences.

Number of positions  
**40 Positions (Option: 60 positions)**  
 Max tool diameter, previous & posterior taken / free position  
**90 / 150 mm**  
 Tool changing time  
**8" (Random management system)**

ZVH 45/L3000 STAR



ZVH STAR\_ WORKING AREA & ROTARY TABLES



A 1700x850 mm working fixed table in combination with an ø800 mm integrated rotary table for 5 axes simultaneous machining.

Working table dimensions  
**1700x850 mm**  
 Max load over the table  
**1500 kg/m²**  
 Diameter of integrated rotary table  
**ø800 mm (1100 mm swing ø)**  
 Min/max distance from table surface to spindle nose  
**V: 0/800mm - H: 360/1160 mm**  
 Table height  
**1000 mm**

ZVH 45/L1500 STAR



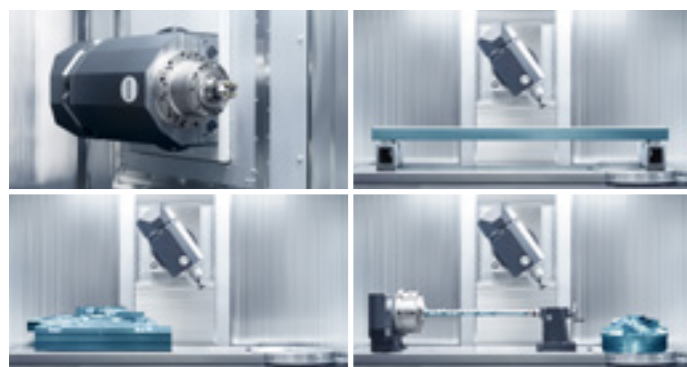
A 3000x850 mm working fixed table in combination with 3 options of rotary tables for 5 axes simultaneous machining. An integrated rotary table and/or a bolt-on rotary table to be used either in horizontal or vertical axis.

Working table dimensions  
**3000x850 mm**  
 Max load over the table  
**1500 kg/m²**  
 Diameter of integrated rotary table  
**ø800 mm (1100 mm swing ø)**  
 Min/max distance from table surface to spindle nose  
**V: 0/800mm - H: 360/1160 mm**  
 Table height  
**1050 mm**

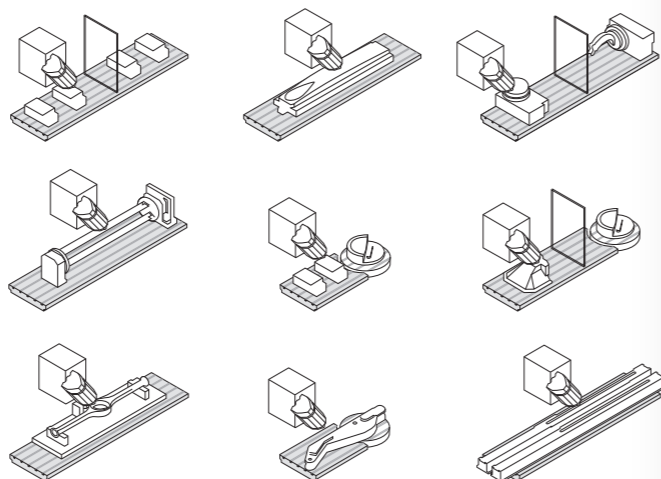
ZVH 45/L3000 STAR



ZVH STAR\_ MACHINE IT ALL



Capacity to machine a wide range of size and shapes in various materials. The high configurability and the combination of axes and rotary tables provides an unlimited field of work which ensures an efficient return on the investment.



ZVH STAR TECHNICAL DATA

TRAVELS

-X axis travel (length)	1500 mm
-Y axis travel (cross)	800 mm
-Z axis travel (vertical)	800 mm
-B axis head tilting range	+/- 105°
-C axis rotary table maximum swing diameter	ø 1100 mm
-Piece maximum height	800 mm
-Distance spindle nose-table. Head in V position	0---800 mm
-Distance spindle nose-table. Head in H position	360---1260 mm

WORKING AREA

-Fixed table dimensions	1700 x 850 mm
-Maximum table load capacity	1500 Kg/m²
-Number of "T" slots	5
-"T" slots size	1x18 (H7) / 4x18 (H12) mm
-Distance between "T" slots	125 mm
-Fixed table height	1000 mm

TILTING HEAD

-Turning torque	782 Nm
-Position clamping force	6000 Nm

MAIN SPINDLE

-Tool holder	Standard: SK 40 - Option: HSK A-63
-Maximum speed	12.000 rpm - Option: 15.000 rpm
-Maximum power	50 kW
-Maximum torque	200 Nm

FEED

-Feed thrust X-Y-Z 100%	X: 12.020 N / Y: 8500 N / Z: 8558 N
-Rapid feed for positioning X-Y-Z	40 m/min
-Maximum working feed X-Y-Z	30 m/min
-Rapid feed for positioning in B axis	50 rpm

ACCURACY VDI / DGQ3441

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

CAPACITIES

-Milling capacity in steel St 60	900 cm³/min
-Drilling capacity in steel St 60	ø 50 mm
-Tapping capacity in steel St 60	M 33 mm

TOOL MAGAZINE

-Number of tools	60
-Maximum tool length	350 mm
-Maximum tool weight	7 kg
-Maximum tool diameter with full magazine	75 mm
-Maximum tool diameter with free spaces	127 mm
-Tool changing time	8 s
-Chip to chip time	10 s

CNC CONTROL

-Available digital controls	Standard: Fanuc 31i-B - Option: Heidenhain TNC 640 HSCI
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The IBARMIA's standard specification

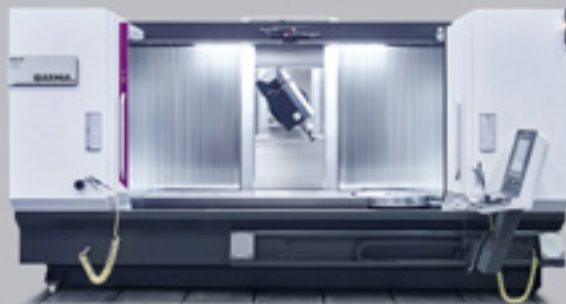
	STAR 1500	STAR 3000
-X axis travel (length)	1500 mm	3000 mm
-Y axis travel (cross)	800 mm	800 mm
-Z axis travel (vertical)	800 mm	800 mm
-B axis head tilting range	+/- 105°	+/- 105°
-C axis rotary table maximum swing diameter	ø 1100 mm	ø 1100 mm
-Piece maximum height	800 mm	800 mm
-Distance spindle nose-table. Head in V position	0---800 mm	0---800 mm
-Distance spindle nose-table. Head in H position	360---1260 mm	360---1260 mm
-Fixed table dimensions	1700 x 850 mm	3000 x 850 mm
-Maximum table load capacity	1500 Kg/m²	1500 Kg/m²
-Number of "T" slots	5	5
-"T" slots size	1x18 (H7) / 4x18 (H12) mm	1x18 (H7) / 4x18 (H12) mm
-Distance between "T" slots	125 mm	125 mm
-Fixed table height	1000 mm	1050 mm
-Turning torque	782 Nm	782 Nm
-Position clamping force	6000 Nm	6000 Nm
-Tool holder	Standard: SK 40 - Option: HSK A-63	Standard: SK 40 - Option: HSK A-63
-Maximum speed	12.000 rpm - Option: 15.000 rpm	12.000 rpm - Option: 15.000 rpm
-Maximum power	50 kW	50 kW
-Maximum torque	200 Nm	200 Nm
-Feed thrust X-Y-Z 100%	X: 12.020 N / Y: 8500 N / Z: 8558 N	X: 12.020 N / Y: 8500 N / Z: 8558 N
-Rapid feed for positioning X-Y-Z	40 m/min	40 m/min
-Maximum working feed X-Y-Z	30 m/min	30 m/min
-Rapid feed for positioning in B axis	50 rpm	50 rpm
-Positioning Tp X-Y-Z (1000 mm)	10 µm	10 µm
-Repeatability	5 µm	5 µm
-Measuring system on B axis	Rotary scale	Rotary scale
-Positioning accuracy B axis	+/-5 s	+/-5 s
-Positioning accuracy C axis	+/-4 s	+/-4 s
-Milling capacity in steel St 60	900 cm³/min	900 cm³/min
-Drilling capacity in steel St 60	ø 50 mm	ø 50 mm
-Tapping capacity in steel St 60	M 33 mm	M 33 mm
-Number of tools	60	40 (Option: 60)
-Maximum tool length	350 mm	350 mm
-Maximum tool weight	7 kg	8 kg
-Maximum tool diameter with full magazine	75 mm	90 mm
-Maximum tool diameter with free spaces	127 mm	150 mm
-Tool changing time	8 s	8 s
-Chip to chip time	10 s	10 s
-Available digital controls	Standard: Fanuc 31i-B - Option: Heidenhain TNC 640 HSCI	Standard: Fanuc 31i-B - Option: Heidenhain TNC 640 HSCI

# IBARMIA.



## YOUR MACHINE TOOL POINT

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