

**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.

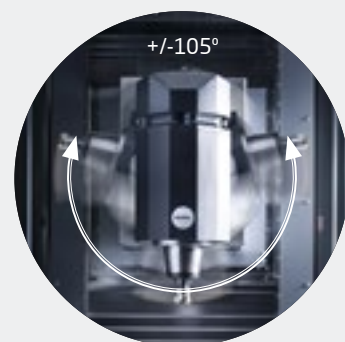


**T SERIES**



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

## ZVH STAR EDITION



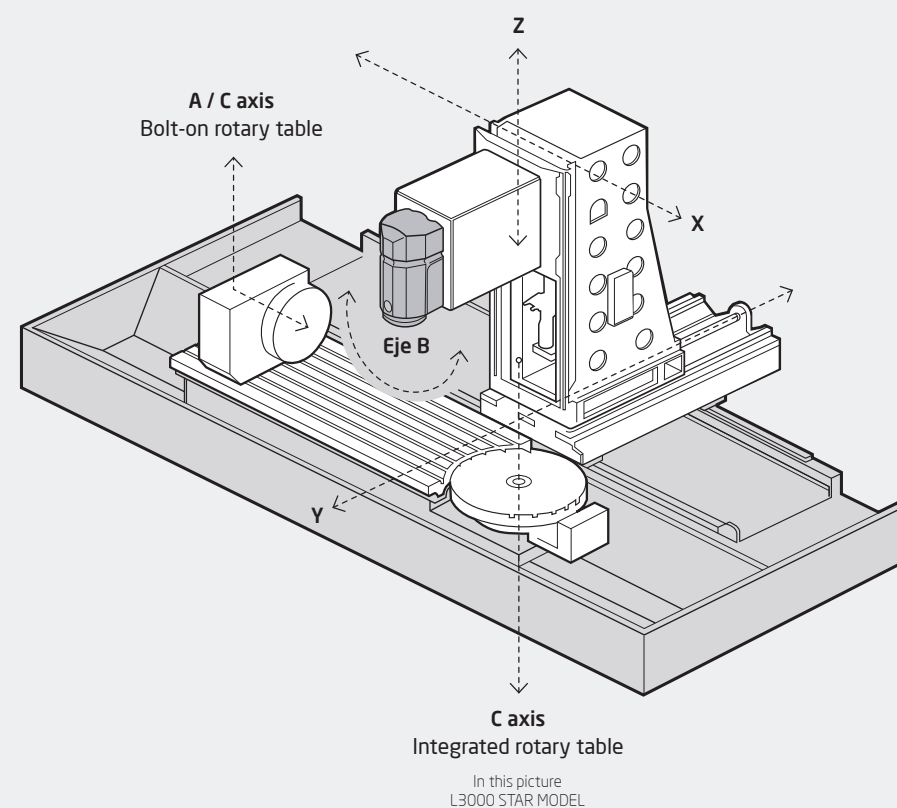
**ZVH SPINDLE HEAD**  
**B axis, 4th movement.**  
 Continuous tilting head / Torque motor.  $\pm 105^\circ$

## 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.



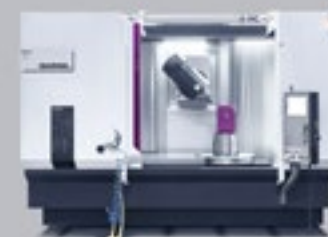
MANUFACTURING TECHNOLOGY



## ZVH STAR\_ MODELS AVAILABLE

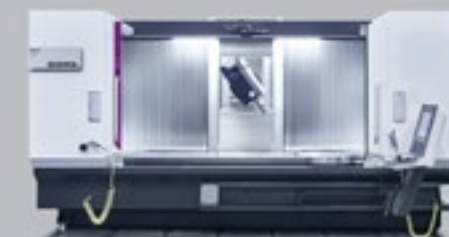
01

**ZVH 45/L1500**  
**STAR EDITION**

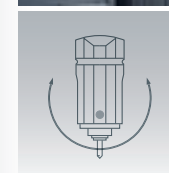


02

**ZVH 45/L3000**  
**STAR EDITION**



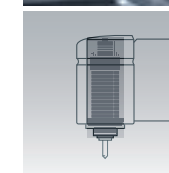
## ZVH STAR\_ B AXIS TILTING HEAD



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.
- $\pm 105^\circ$  tilting range  
 Turning torque peak value  
**1038 Nm**  
 Clamping force  
**6000 Nm**

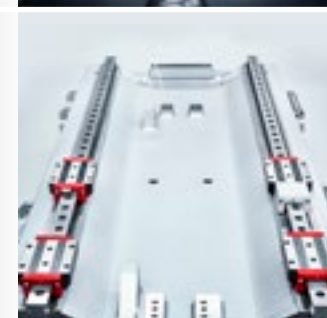
## ZVH STAR\_ ELECTROSPINDLE



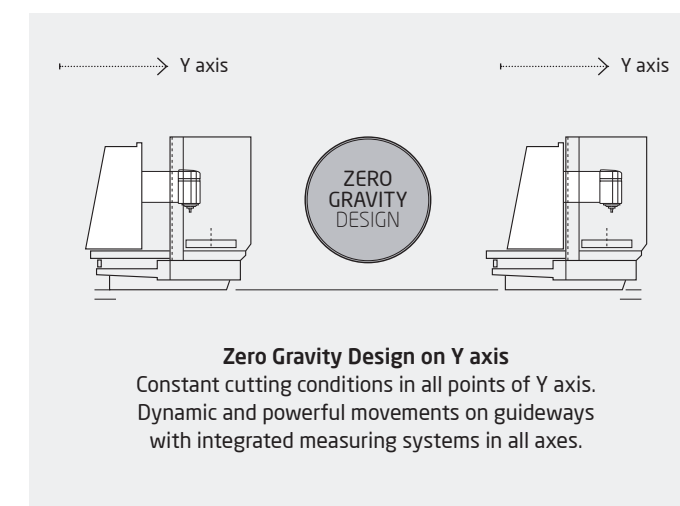
High dynamics and high torque electrospindles. The motor is attached directly to the spindle and provides high power at low speed on hard materials while reaching high speeds to increase the productivity when the conditions allow it.

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.



ZVH STAR\_ PREMIUM CONFIGURATION, STANDARD PRICE



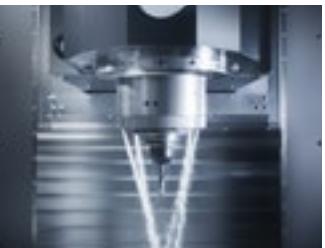
ZVH STAR\_ ITEMS INCLUDED IN STANDARD CONFIGURATION



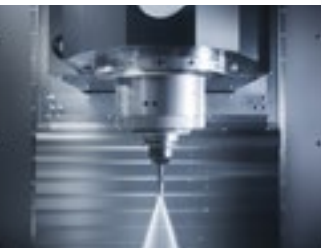
Totally encapsulated working area and safety windows.



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.



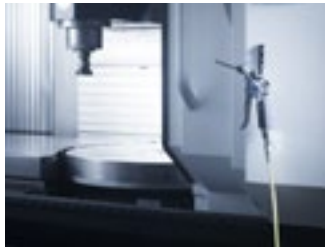
Climatized electric cabinet with easy access.



LED lighting in the working area.



Side windows for long parts (STAR 3000).



Air gun (one unit).



Spray gun (one unit).

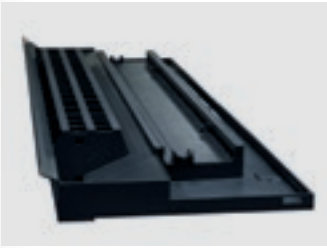


Fanuc 31i-B control with 19" touch screen. (Vertical screen in STAR 1500).



Electronic handwheel.

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.

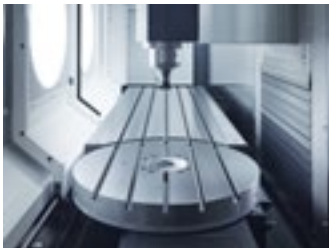


Linear axes are verified by laser interferometers according to VDI/DGQ3441 and circularity accuracy by ball-bar.

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).



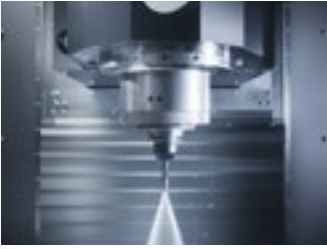
Non stop machining software and division wall of workign areas (STAR 3000).



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

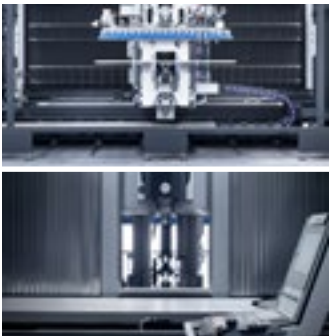


ZVH 45/L1500 STAR



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 tipe 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/L3000 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 STAR\_ WORKING AREA & ROTARY TABLES

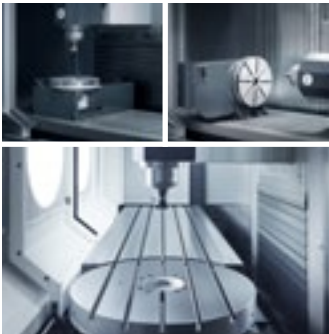


ZVH 45/L1500 STAR



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



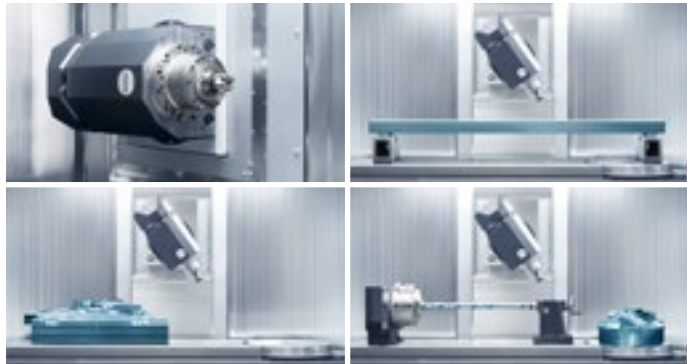
ZVH 45/L3000 STAR



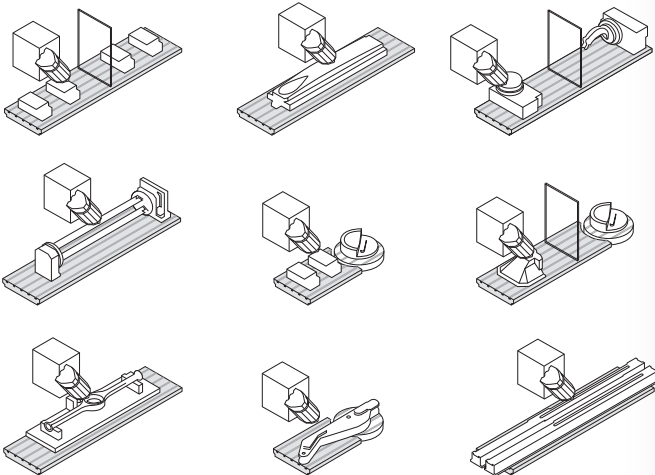
A 3000x850 mm working fixed table in combination with 3 options of rotary tables for 5 axes simultaneous machining. An integrated rotary table and/or a bolt-on rotary table to be used either in horizontal or vertical axis.

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 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)                          |
| -Y axis travel (cross)                           |
| -Z axis travel (vertical)                        |
| -B axis head tilting range                       |
| -C axis rotary table maximum swing diameter      |
| -Piece maximum height                            |
| -Distance spindle nose-table. Head in V position |
| -Distance spindle nose-table. Head in H position |

WORKING AREA

|                              |
|------------------------------|
| -Fixed table dimensions      |
| -Maximum table load capacity |
| -Number of "T" slots         |
| -"T" slots size              |
| -Distance between "T" slots  |
| -Fixed table height          |

TILTING HEAD

|                          |
|--------------------------|
| -Turning torque          |
| -Position clamping force |

MAIN SPINDLE

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

FEED

|                                       |
|---------------------------------------|
| -Feed thrust X-Y-Z 100%               |
| -Rapid feed for positioning X-Y-Z     |
| -Maximum working feed X-Y-Z           |
| -Rapid feed for positioning in B axis |

ACCURACY VDI / DGQ3441

|                                 |
|---------------------------------|
| -Positioning Tp X-Y-Z (1000 mm) |
| -Repeatability                  |
| -Measuring system on B axis     |
| -Positioning accuracy B axis    |
| -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 |
|-----------------------------|

The IBARMIA's standard specification

| STAR 1500                                               | STAR 3000       |
|---------------------------------------------------------|-----------------|
| 1500 mm                                                 | 3000 mm         |
| 800 mm                                                  |                 |
| 800 mm                                                  |                 |
| +/- 105°                                                |                 |
| ø 1100 mm                                               |                 |
| 800 mm                                                  |                 |
| 0---800 mm                                              |                 |
| 360---1260 mm                                           |                 |
| 1700 x 850 mm                                           | 3000 x 850 mm   |
| 1500 Kg/m²                                              |                 |
| 5                                                       |                 |
| 1x18 (H7) / 4x18 (H12) mm                               |                 |
| 125 mm                                                  |                 |
| 1000 mm                                                 | 1050 mm         |
| 782 Nm                                                  |                 |
| 6000 Nm                                                 |                 |
| Standard: SK 40 - Option: HSK A-63                      |                 |
| 12.000 rpm - Option: 15.000 rpm                         | 12.000 rpm      |
| 50 kW                                                   |                 |
| 200 Nm                                                  |                 |
| X: 12.020 N / Y: 8500 N / Z: 8558 N                     |                 |
| 40 m/min                                                |                 |
| 30 m/min                                                |                 |
| 50 rpm                                                  |                 |
| 10 µm                                                   |                 |
| 5 µm                                                    |                 |
| Rotary scale                                            |                 |
| +/-5 s                                                  |                 |
| +/-4 s                                                  |                 |
| 900 cm³/min                                             |                 |
| ø 50 mm                                                 |                 |
| M 33 mm                                                 |                 |
| 60                                                      | 40 (Option: 60) |
| 350 mm                                                  | 350 mm          |
| 7 kg                                                    | 8 kg            |
| 75 mm                                                   | 90 mm           |
| 127 mm                                                  | 150 mm          |
| 8 s                                                     |                 |
| 10 s                                                    |                 |
| Standard: Fanuc 31i-B - Option: Heidenhain TNC 640 HSCI |                 |

# IBARMIA.



## YOUR MACHINE TOOL POINT

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