

IBARMIA.

ZVH EXTREME

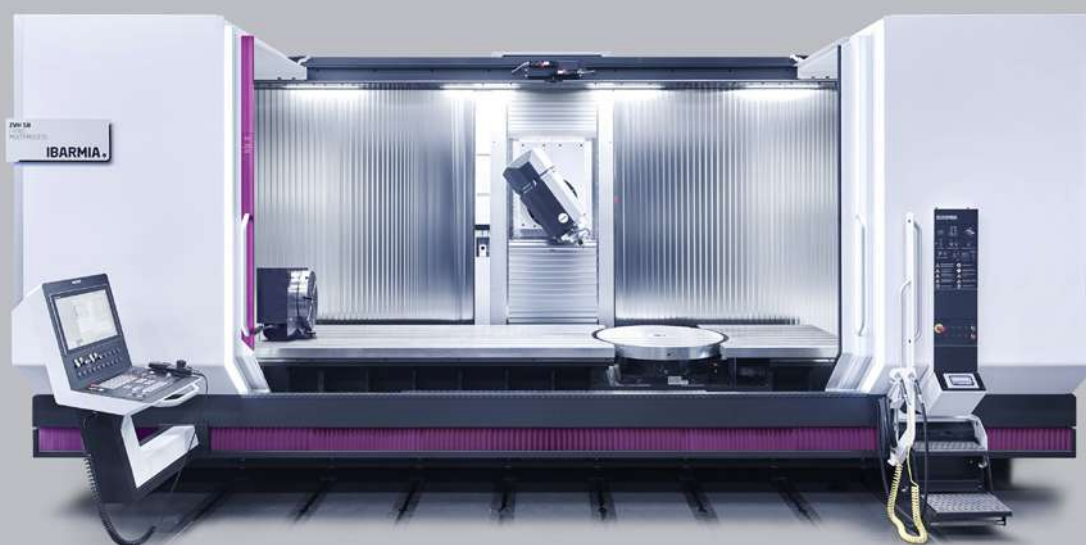
60-58 / 55 / 50-48 / 45 / 40

5 AXIS MOVING COLUMN MACHINING CENTERS

Combine 5 axis vertical and/or horizontal machining capacity with a fixed table so you can be ready for any job at the shortest notice.



Z SERIES



www.ibarmia.com

Z SERIES TO 5 AXIS MACHINING



ZVH SPINDLE HEAD
B axis 4 movement.

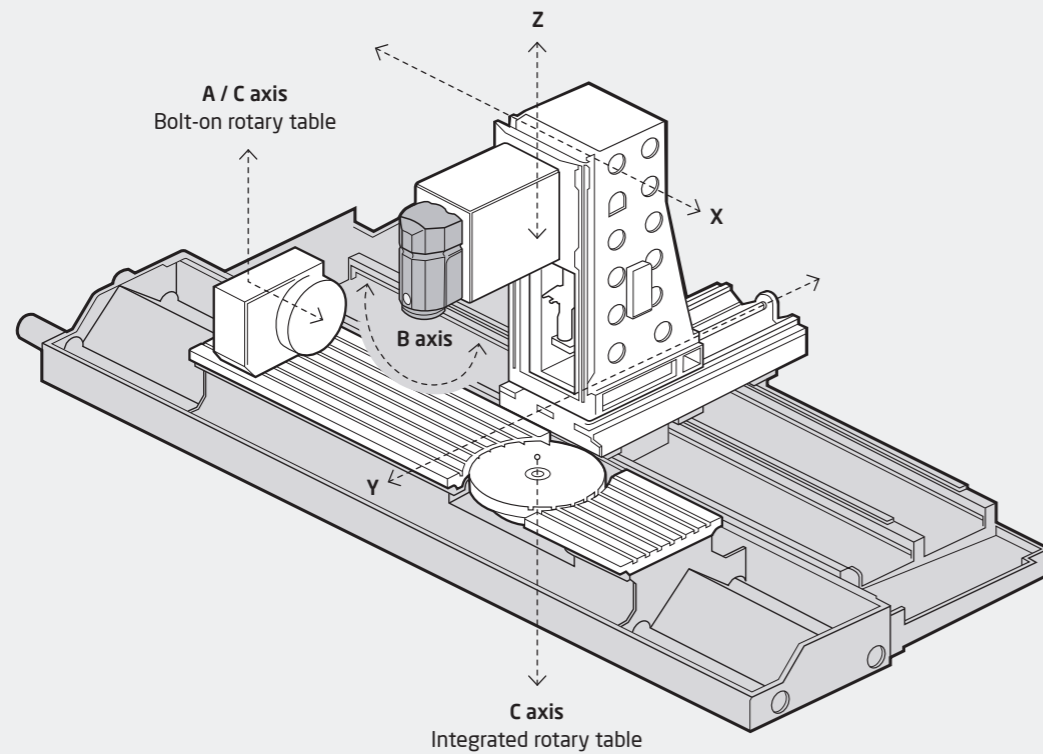
Continuous tilting head / Torque motor. +/- 105°

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 (ZV EXTREME). The integration of a powerful and accurate B axis head allows machining complex parts in fewer setups by using rotary tables (ZVH EXTREME).



MANUFACTURING TECHNOLOGY



Z SERIES_ BODY SIZES FOR SK 40 & SK 50

SIZE 4_40 / 45 / 48 models



Y-Z travels
Y 600 / 800 / 1000 mm - Z 900 mm
Tool holder (ZVH EXTREME)
SK 40 • BT 40 • HSK 63

SIZE 5_50 / 55 / 58 models

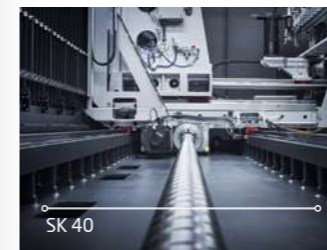


Y-Z travels
Y 600 / 800 / 1000 mm - Z 1100 mm
Tool holder (ZVH EXTREME)
SK 50 • BT 50 • HSK 100

SIZE 6_60 model

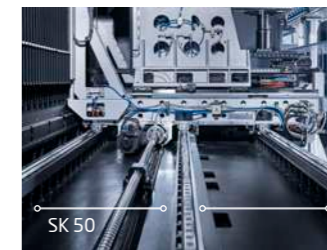


Y-Z travels
Y 1100 mm - Z 1100 mm (Option 1300 mm)
Tool holder (ZVH EXTREME)
SK 50 • BT 50 • HSK 100



#40 Electrospindle

Power in S1 (100%); S6 (40%)
30 kW / 46 kW
Total available power from
2000 rpm
Torque in S1 (100%); S6 (40%)
130 Nm / 200 Nm
Maximal rotation speed
12.000 rpm



#50 Electrospindle

Power in S1 (100%); S6 (40%)
74 kW / 84 kW
Total available power from
4000 rpm
Torque in S1 (100%); S6 (40%)
300 Nm / 452 Nm
Maximal rotation speed
12.000 rpm

2 guideways structure

IBARMIA adapts the machine structure to each electrospindle type. By this way, in the #40 machine the column carriage travels over two guideways.

3 guideways structure

By the same way IBARMIA introduces a bigger three guideways structure for #50 spindles, to endure the forces applied when machining hard materials with high power.

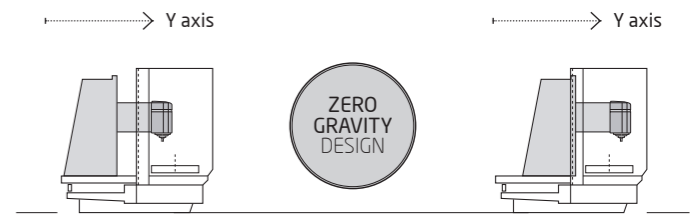
Z SERIES_ UP TO 12.000 mm IN X AXIS



A wide range of lengths available

1600 / 2200 / 3000 / 4000 / 5000 / 6000 / 7000 /
8000 / 9000 / 10.000 / 11.000 / 12.000 mm

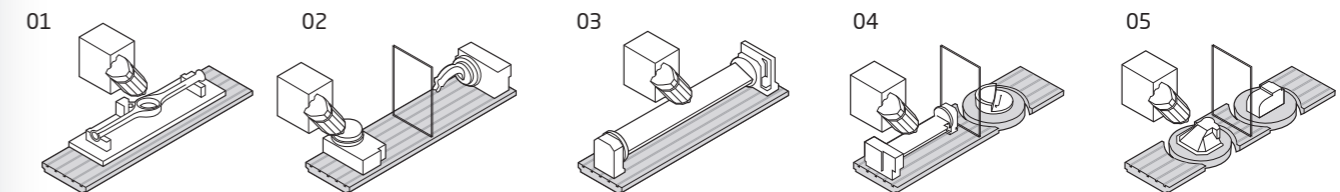
Z SERIES_ Y AXIS ZERO GRAVITY DESIGN



Constant cutting conditions on Y axis

Fixed distance monoblock column design: accuracy, power and rigidity on the full travel of the Y axis.

ZVH EXTREME_ MACHINE IT ALL



Create your own machine

The high configurability and the combination of axes and rotary tables provide an unlimited field of work which ensures an efficient return of the investment.

Z SERIES_ 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.



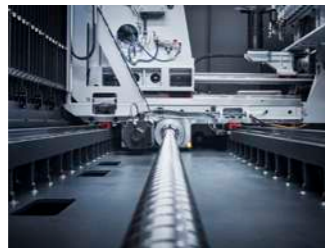
Rectified ball screws of high precision with preloaded double nuts for axis movement, using the rotating nut technique on the longitudinal axis.



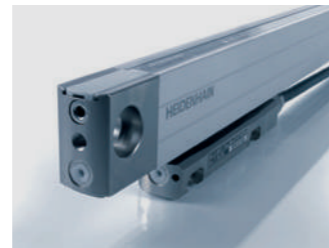
Rack and pinion system on machines from 6000 mm long on the longitudinal axis.



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



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



Standard measuring device on X, Y, Z axes in our machining centres: VDI/DGQ3441 and circularity accuracy by ball-bar.



Geometric check and volumetric calibration of the machine by laser interferometer on request, (Laser Tracer) according to ISO 230- 2, -4 and -6.

Z SERIES_ STANDARD CHARACTERISTICS



Totally encapsulated working area and safety windows.



Up to 12.000 mm long working fixed table with "T" slots.



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



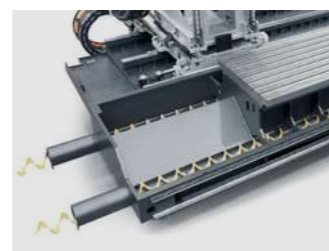
Standard convertible roof with an ergonomic design of doors for a wide and smooth opening, facilitating the loading/unloading of pieces by crane.



Loading of extra long pieces through the side panelling which is easily removable.



Chip Conveyor with integrated coolant tank.



Double auger system for chip evacuation (ZVH / ZV 40 models with only one auger).



Climatized electric cabinet with easy access.

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



Moving and light control panel with 360° rotation over the entire longitudinal travel.



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



The tool magazine with automatic tool changer travels with the carriage that makes the longitudinal movement, allowing the tool change at any position on the X axis.

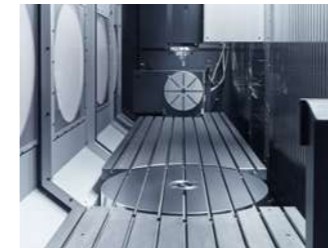


External coolant system around the spindle.

ZVH EXTREME / MULTIPROCESS_ MAIN CONFIGURATION OPTIONS



Non stop machining option that includes a central division wall, independent blocking of front doors, and pendulum cycle work area management software.



Integrated rotary tables covering the Y axis, up to ø1500 mm swing, for turning and/or 5 axis machining operations.



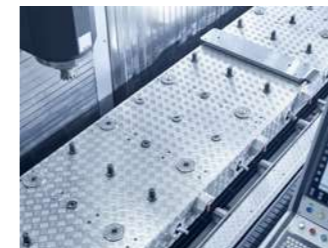
Big diameter rotary tables for turning and/or 5 axis machining operations over big parts up to ø2200 mm swing. (See ZVH D options below)



Bolt on rotary tables to be used either in horizontal or vertical axis.



Pick up stations integrated in the machine to hold special tools, angular heads...



Integration of different clamping systems on the fixed table, such as ZERO points, vacuum systems etc.



Specific solutions for customers that need to manage a high number of tools: fixed magazines, rack type configurations etc.



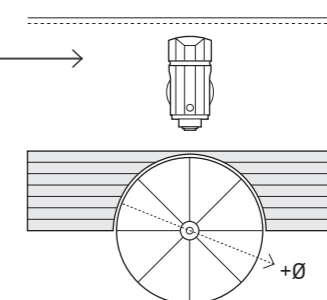
Tool magazines to load special tools and large angle heads which can be operated by robot.

Another optional items:

- Coolant through spindle.
- Tool measuring and touch systems.
- Steam and mist aspiration system
- Air and water guns
- Sliding access stairway.
- Lights with acoustic signal indicating the machine status.
- Camera settings and display mode.
- Control with touch screen up to 24".

ZVH D_ ALL THE ADVANTAGES OF THE MOVING COLUMN DESIGN ADAPTED TO BIGGER DIAMETERS AND HEAVIER LOADS

A small design modification that can bring a huge benefit to our customers.



ZVH D_ SWING Ø INCREASES

SK 50 BODY SIZES

- ZVH 60: ø1500 to ø2200 mm
- ZVH 58: ø1400 to ø2000 mm
- ZVH 55: ø1200 to ø1600 mm

SK 40 BODY SIZES

- ZVH 48: ø1300 to ø2000 mm
- ZVH 45: ø1100 to ø1600 mm

ZVH EXTREME

THE MACHINE FOR ALMOST EVERYTHING

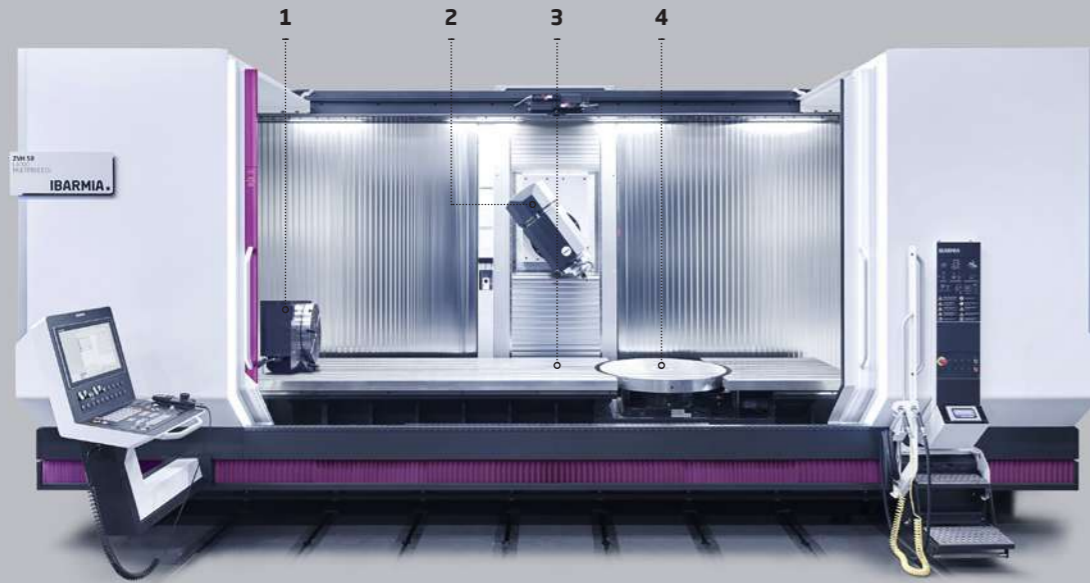
Combine the high dynamics tilting head with the wide range of rotary tables and fixture devices available.

1 Up to ø800mm diameter A-C axis bolt-on rotary tables.

2 B axis torque motor milling head. Up to 84 kW / 12.000 rpm.

3 Two working areas. "Non stop machining" pendulum system.

4 C axis integrated rotary tables. Swings up to ø1500 mm. Up to 6000 kg.



ZVH EXTREME_ MAIN CONFIGURATION OPTIONS



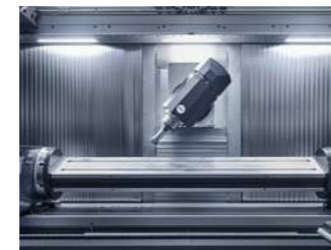
Integrated rotary tables a la carte: Integrated rotary tables a la carte; tables covering the Y axis and /or bigger diameter tables for larger and heavier loads (ZVH D).



Bolt on rotary tables. If high production is required, IBARMIA can fit ZERO points on these integrated rotary tables.



Trunnion fixtures over the fixed table using A-C axis bolt on rotary tables up to ø800 mm and ø1500 mm swing.



Customized workin areas: Trunnion fixtures replacing the fixed table and facilitating the fall of chips to the endless screws.



Customized workin areas: Trunnion fixtures replacing the fixed table and facilitating the fall of chips to the endless screws.



Customized workin areas: sliding platforms on guideways replacing the fixed table, that can be quickly re-positioned for machining parts with different lengths.



Clamping systems It is also possible to integrate ZERO points both the trunnion fixtures and the sliding tables.

ZVH EXTREME TECHNICAL DATA

STROKES

-X axis travel (length)	1600 - 12.000 mm						
-Y axis travel (cross)	1100 mm	1000 mm	800 mm	600 mm	1000 mm	800 mm	600 mm
-Z axis travel (vertical) (*optional)	1100 mm (1300*)						
-B axis head tilting range	+/- 105°						
-C axis rotary table maximum swing diameter	ø 1500 mm	ø 1400 mm	ø 1200 mm	ø 1000 mm	ø 1300 mm	ø 1100 mm	ø 900 mm
-Piece maximum height	1100 mm						
-Distance spindle nose-table. Head in V position	0---1100 mm						
-Distance spindle nose-table. Head in H position	375---1475 mm						

WORKING AREA

-Fixed table dimensions	L1600-2200: X +400 mm; <L3000: X+600 mm & Y +50 mm					
-Maximum table load capacity	2000 Kg/m²					
-Number of "T" slots	9	7	5	7	5	
-"T" slots size	18 H7 mm					
-Distance between "T" slots	125 mm					
-Fixed table height	1075 mm					

TILTING HEAD

-Turning torque	800 Nm					
-Position clamping force	6000 Nm					

MAIN SPINDLE

-Tool holder	Standard: SK 50 - Option: BT 50 / HSK A-100			Standard: SK 40 - Option: BT 40 / HSK A-63		
-Maximum speed	Standard: 12.000 rpm - Option: 7000 rpm			Standard: 12.000 rpm - Option: 20.000 rpm		
-Maximum power	Standard: 84 kW - Option: 75 kW			Standard: 46 kW - Option: 40 kW		
-Maximum torque (Nm)	Standard: 452 Nm - Option: 871 Nm			Standard: 200 Nm - Option: 135 Nm		

FEED

-Feed thrust X-Y-Z 100%	X: 15.021 N / Y: 12.154 N / Z: 10.649 N					
-Rapid feed for positioning X-Y-Z	45 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	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	30. Optional: 40, 60, 80 and more available on request.			24. Optional: 40, 60, 80 and more available on request.		
-Maximum tool length	400 mm					
-Maximum tool weight	20 kg					
-Maximum tool diameter with full magazine	ø 125 mm (ø 100 mm with 60-80 ATC)					
-Maximum tool diameter with free spaces	200 mm					
-Tool changing time	10 s					
-Chip to chip time	12 s					

CNC CONTROL

-Available digital controls	Fanuc / Heidenhain / Siemens					
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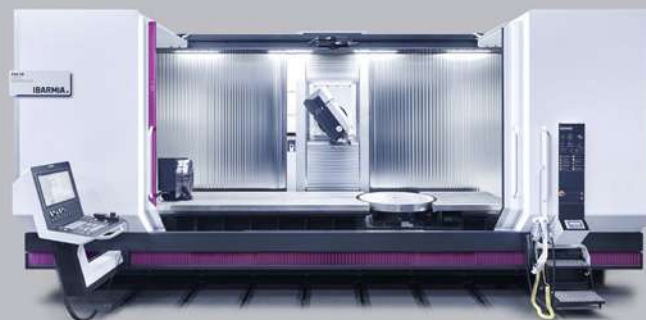
	SK 50 body sizes			SK 40 body sizes			
	ZVH 60	ZVH 58	ZVH 58	ZVH 50	ZVH 48	ZVH 45	ZVH 40
-X axis travel (length)	1600 - 12.000 mm						
-Y axis travel (cross)	1100 mm	1000 mm	800 mm	600 mm	1000 mm	800 mm	600 mm
-Z axis travel (vertical) (*optional)	1100 mm (1300*)						
-B axis head tilting range	+/- 105°						
-C axis rotary table maximum swing diameter	ø 1500 mm	ø 1400 mm	ø 1200 mm	ø 1000 mm	ø 1300 mm	ø 1100 mm	ø 900 mm
-Piece maximum height	1100 mm						
-Distance spindle nose-table. Head in V position	0---1100 mm						
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-Fixed table dimensions	L1600-2200: X +400 mm; <L3000: X+600 mm & Y +50 mm						
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-Number of "T" slots	9	7	5	7	5		
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-Feed thrust X-Y-Z 100%	X: 15.021 N / Y: 12.154 N / Z: 10.649 N						
-Rapid feed for positioning X-Y-Z	45 m/min						
-Maximum working feed X-Y-Z	30 m/min						
-Rapid feed for positioning in B axis	50 rpm						
-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						
-Milling capacity in steel St 60	1100 cm³/min			900 cm³/min			
-Drilling capacity in steel St 60	ø 70 mm			ø 50 mm			
-Tapping capacity in steel St 60	M 45 mm			M 33 mm			
-Number of tools	30. Optional: 40, 60, 80 and more available on request.			24. Optional: 40, 60, 80 and more available on request.			
-Maximum tool length	400 mm						
-Maximum tool weight	20 kg						
-Maximum tool diameter with full magazine	ø 125 mm (ø 100 mm with 60-80 ATC)						
-Maximum tool diameter with free spaces	200 mm						
-Tool changing time	10 s						
-Chip to chip time	12 s						
-Available digital controls	Fanuc / Heidenhain / Siemens						

IBARMIA.



YOUR MACHINE TOOL POINT

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