

**IBARMIA.**

# Z SERIES

## MOVING COLUMN

### EXPERTISE

Overview of the range, construction details,  
sizes, options, selling points etc...



**Z SERIES**



1984



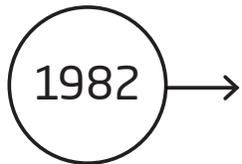
1986



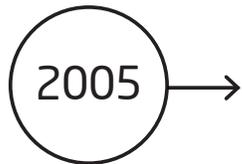
2004



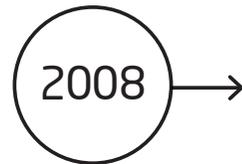
2017



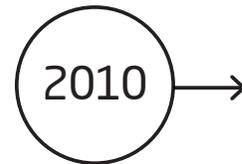
First milling centre



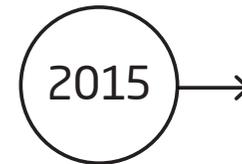
+ 5 axis Milling



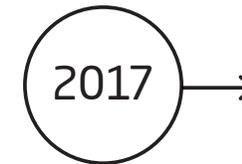
+ Turning



+ Flexible automation systems



+ Additive manufacturing



+ Digital dimension:  
Smart Point &  
Technological cycles



+ Grinding &  
Power Skiving

## Selling arguments\_

### 1\_ IBARMIA is the most adaptable

2\_ Structure adapted to spindle

3\_ Capacity

4\_ Size variety. Swing variety

5\_ Moving column vs RAM

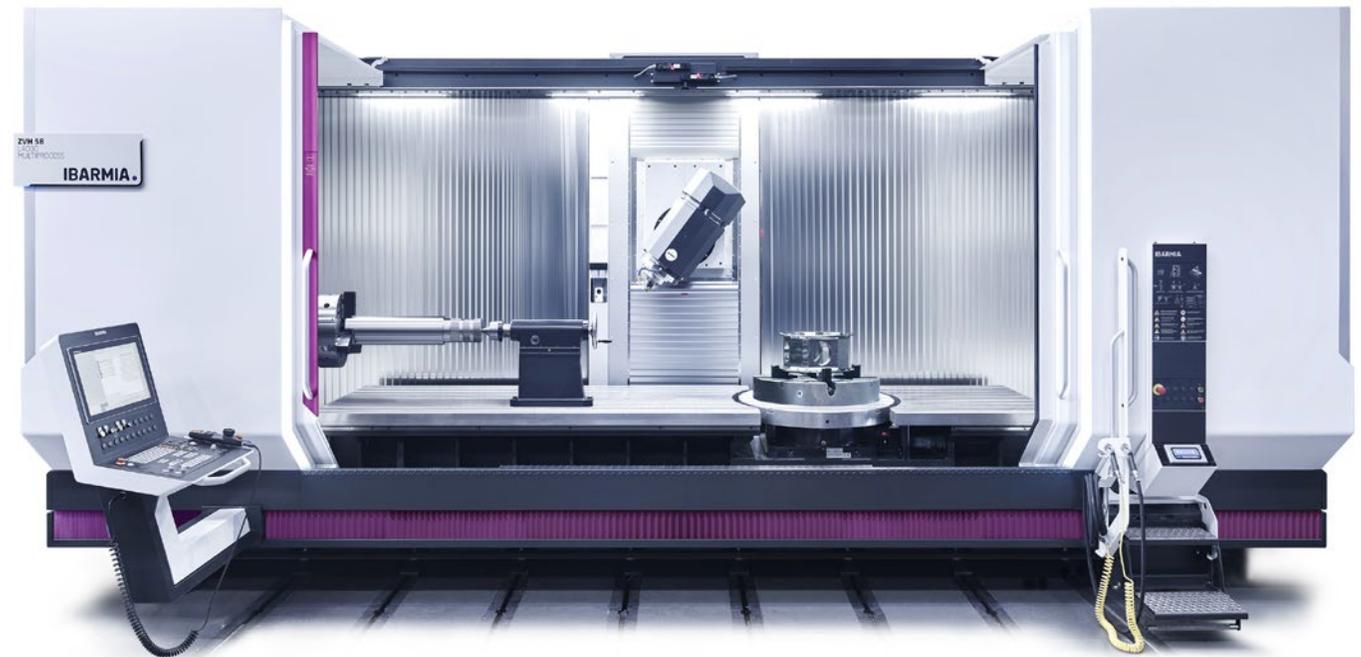
6\_ Superior B axis

7\_ CnC flexibility

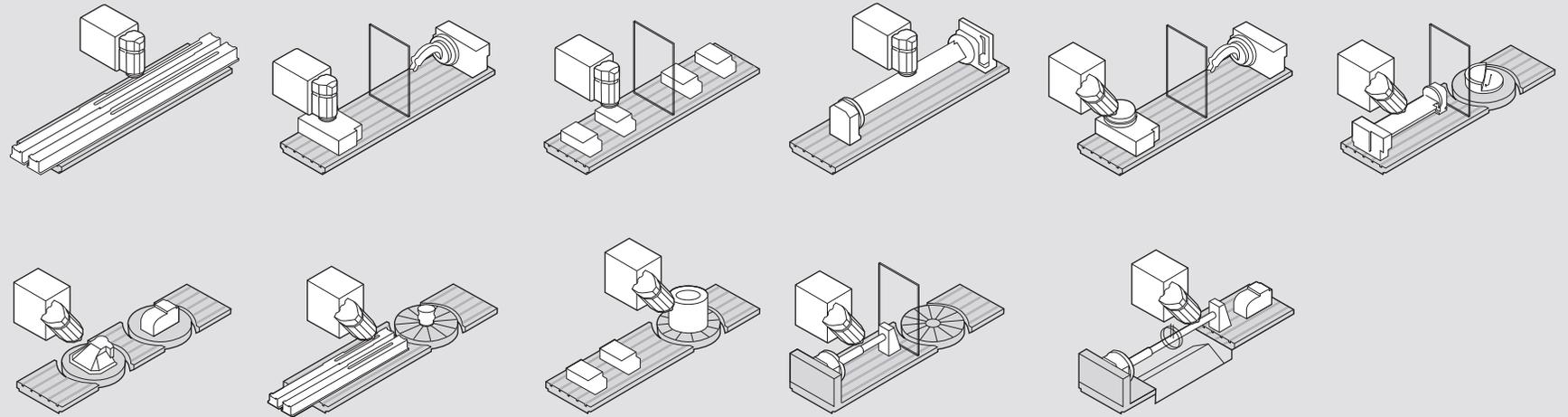
8\_ Turning capacity. H-V

9\_ Create your own machine

10\_ Automate your machine



1\_  
THESE ARE TIMES  
TO BE FLEXIBLE  
**TO ADAPT**

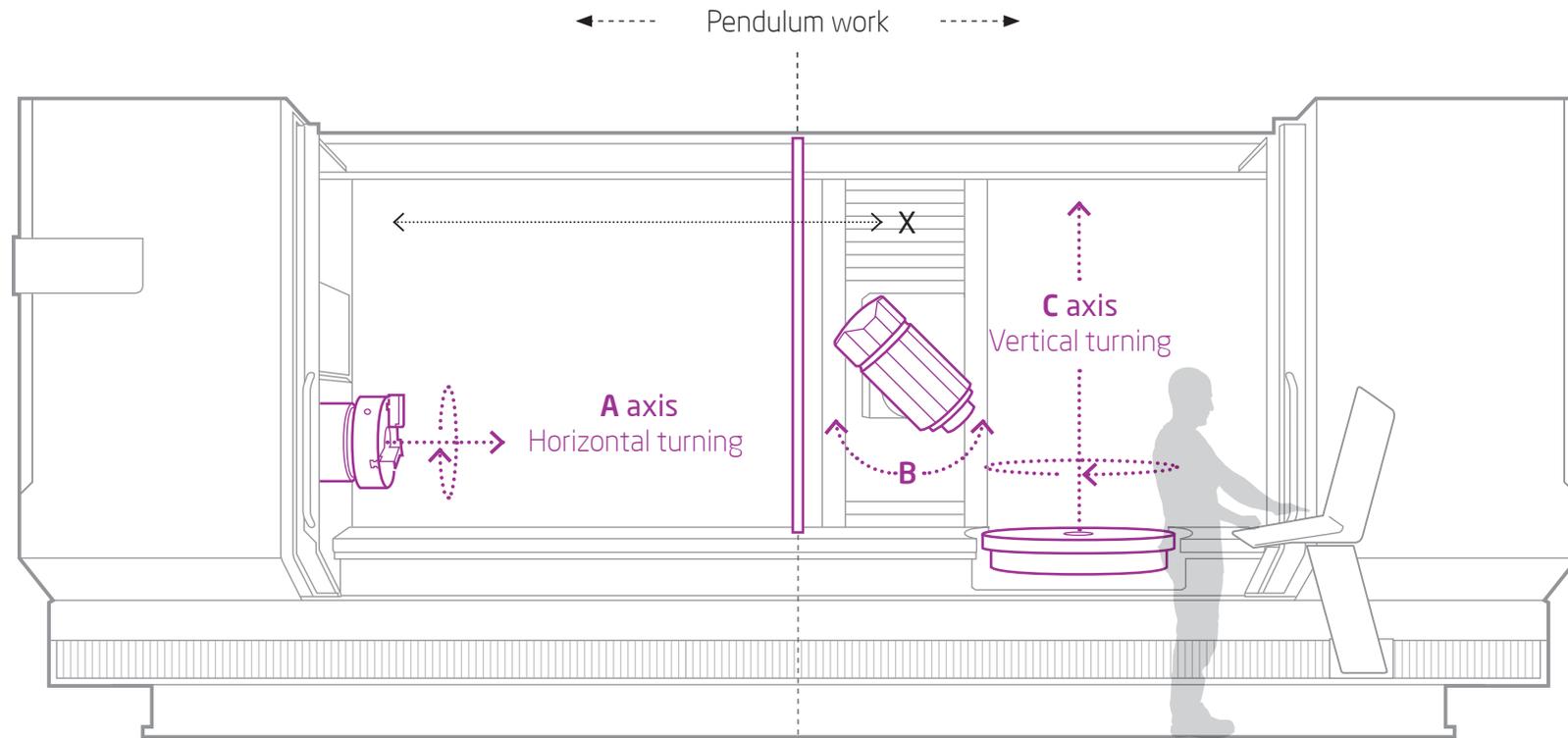


2\_  
BIGGEST ADVANTAGE  
OF THIS TYPE OF  
MACHINE:  
**FLEXIBILITY**

3\_  
SIZE, CAPACITY,  
WORKING AREA ETC,  
**IBARMIA IS THE MOST  
FLEXIBLE OF ALL**

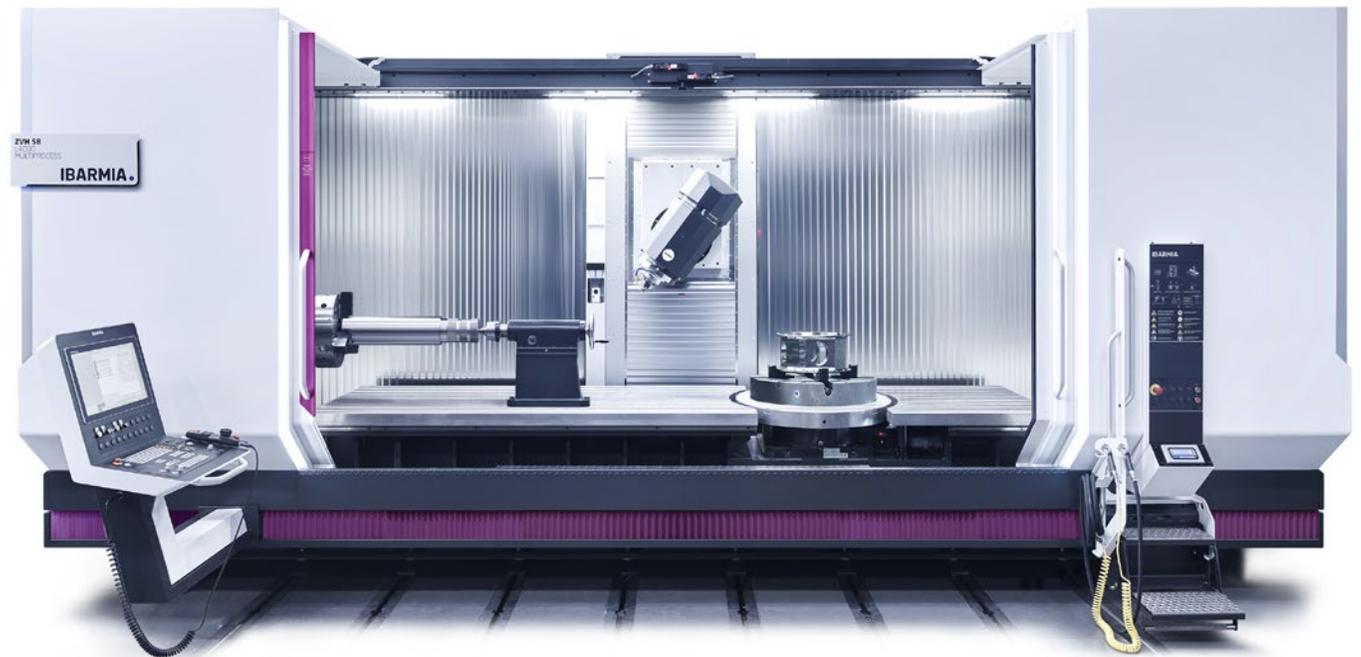
## Z SERIES

Probably, the most flexible machine set up in the market



## Selling arguments\_

- 1\_ IBARMIA is the most adaptable
- 2\_ Structure adapted to spindle**
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## Body sizes For SK40 & SK50

Specific machine construction  
for each spindle size.



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SK 40

Spindle taper  
SK 40 / HSK 63 / CAPTO 6



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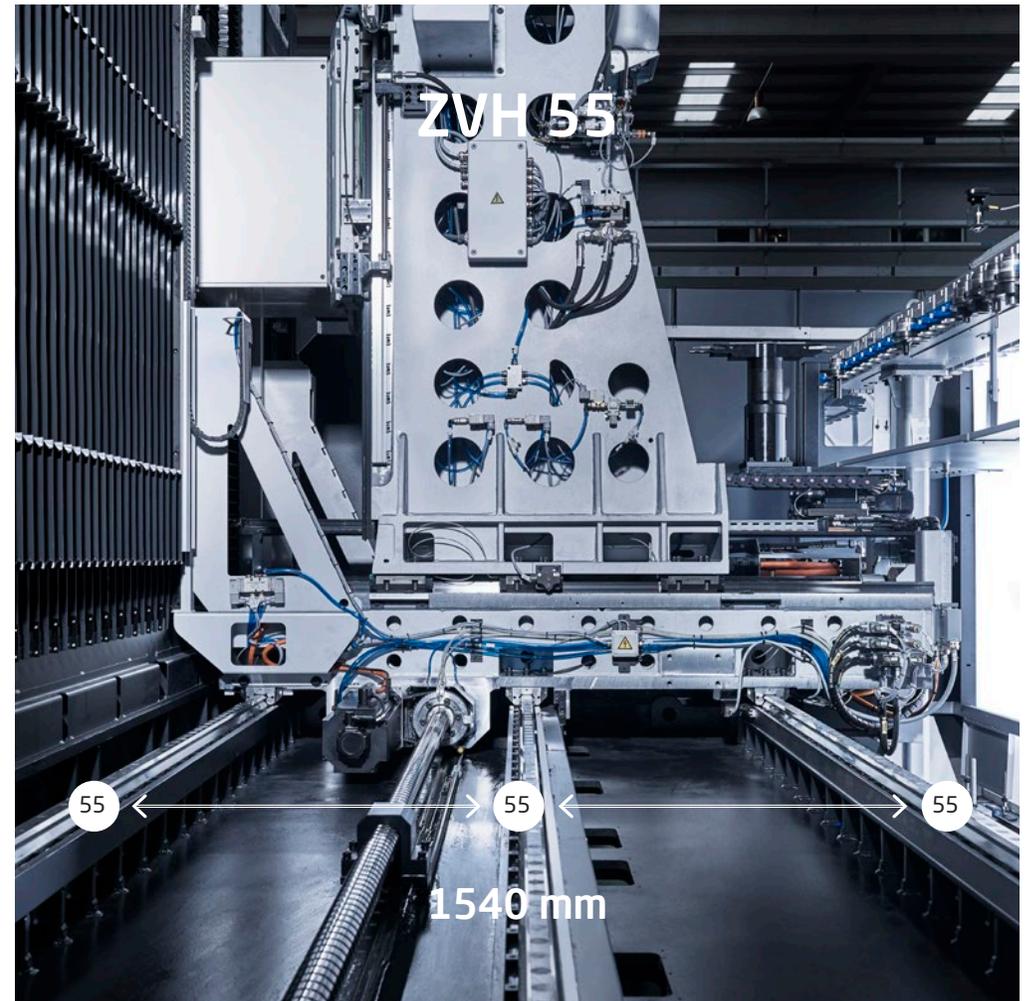
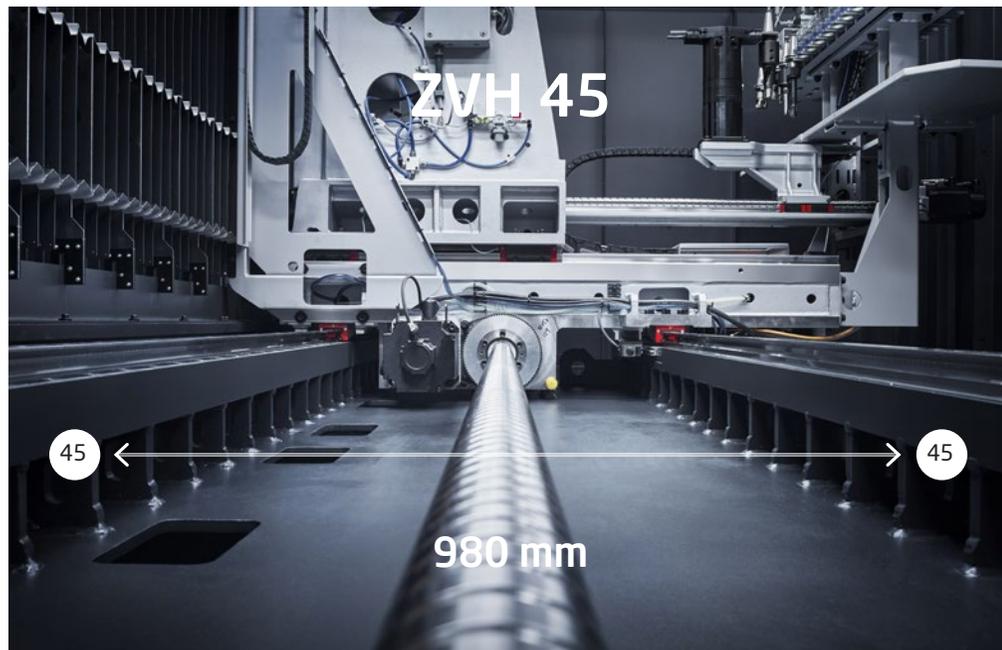
SK 50

Spindle taper  
SK 50 / HSK 100 / CAPTO 8

# Z SERIES

IBARMIA.

IBARMIA uses a bigger structure for #50 spindles to endure the forces applied when machining hard materials with high power.



## MORE POWERFUL SPINDLES

### HIGH POWER & SPEED

#### SIZE 50

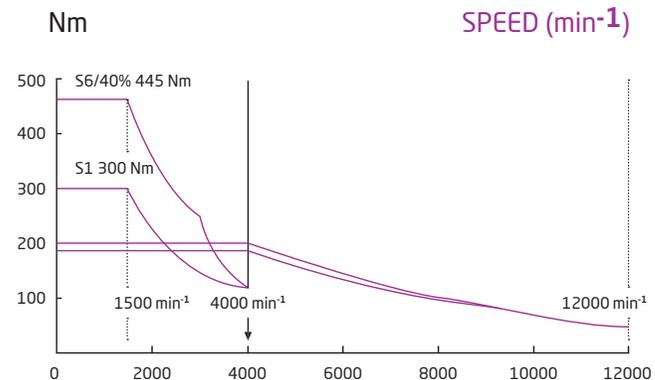
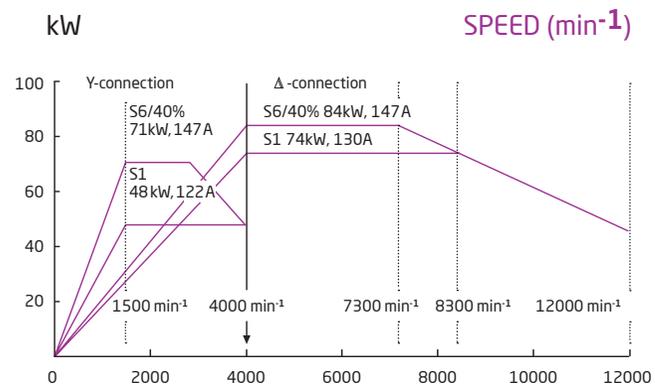
##### Low range - Start connection

- Power in service (S1 100%): 48 kW
- Power in service (S6 40%): 71 kW
- Total available power (rpm): 1500 rpm
- Torque in service (S1 100%): 300 Nm
- Torque in service (S6 40%): 452 Nm

##### High range - Triangle connection

- Power in service (S1 100%): 74 kW
- Power in service (S6 40%): 84 kW
- Total available power (rpm): 4000 rpm
- Torque in service (S1 100%): 177 Nm
- Torque in service (S6 40%): 200 Nm

- Maximal rotation speed: 12000 rpm



## MORE POWERFUL SPINDLES

HIGH POWER & SPEED

### SIZE 40

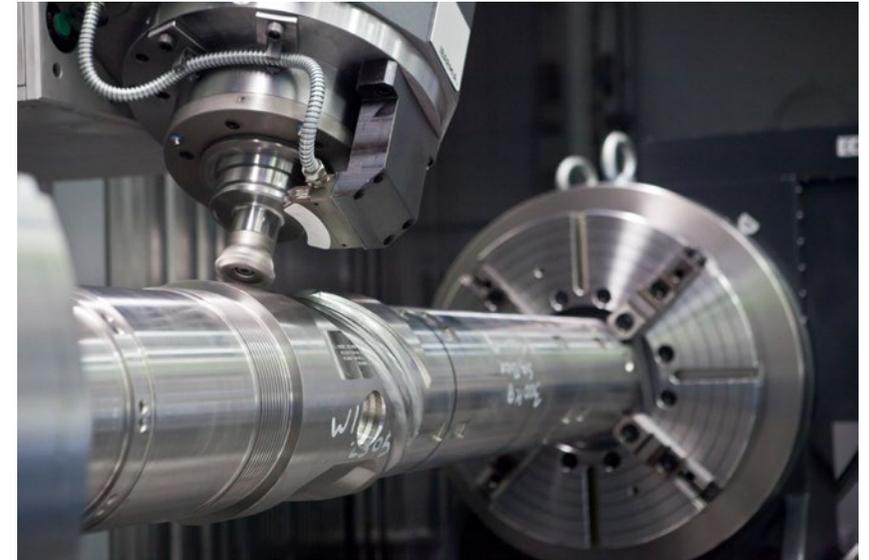
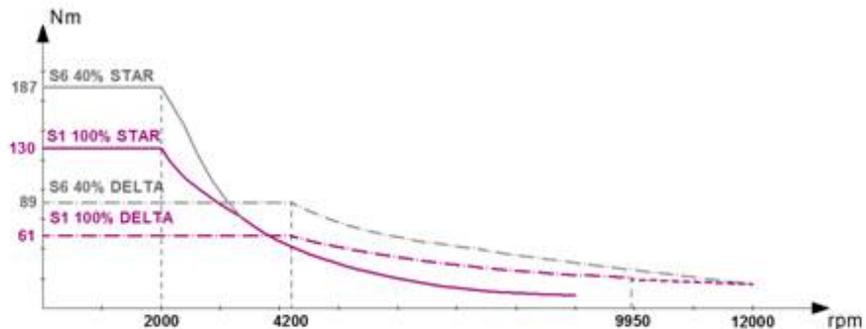
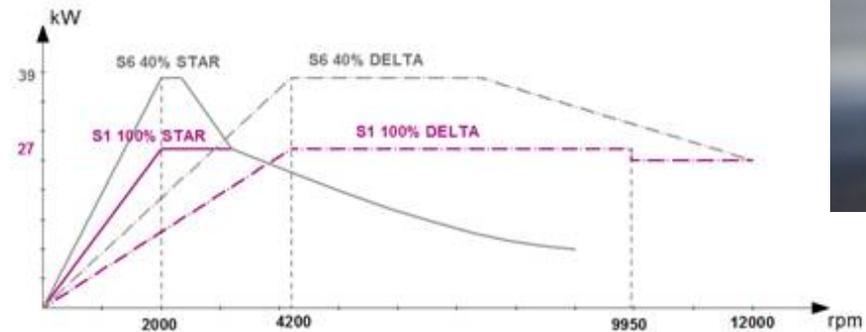
#### Low range - Start connection

- Power in service (S1 100%): 27 kW
- Power in service (S6 40%): 39 kW
- Total available power (rpm): 2000 rpm
- Torque in service (S1 100%): 130 Nm
- Torque in service (S6 40%): 187 Nm

#### High range - Triangle connection

- Power in service (S1 100%): 27 kW
- Power in service (S6 40%): 30 kW
- Total available power (rpm): 4200 rpm
- Torque in service (S1 100%): 61 Nm
- Torque in service (S6 40%): 89 Nm

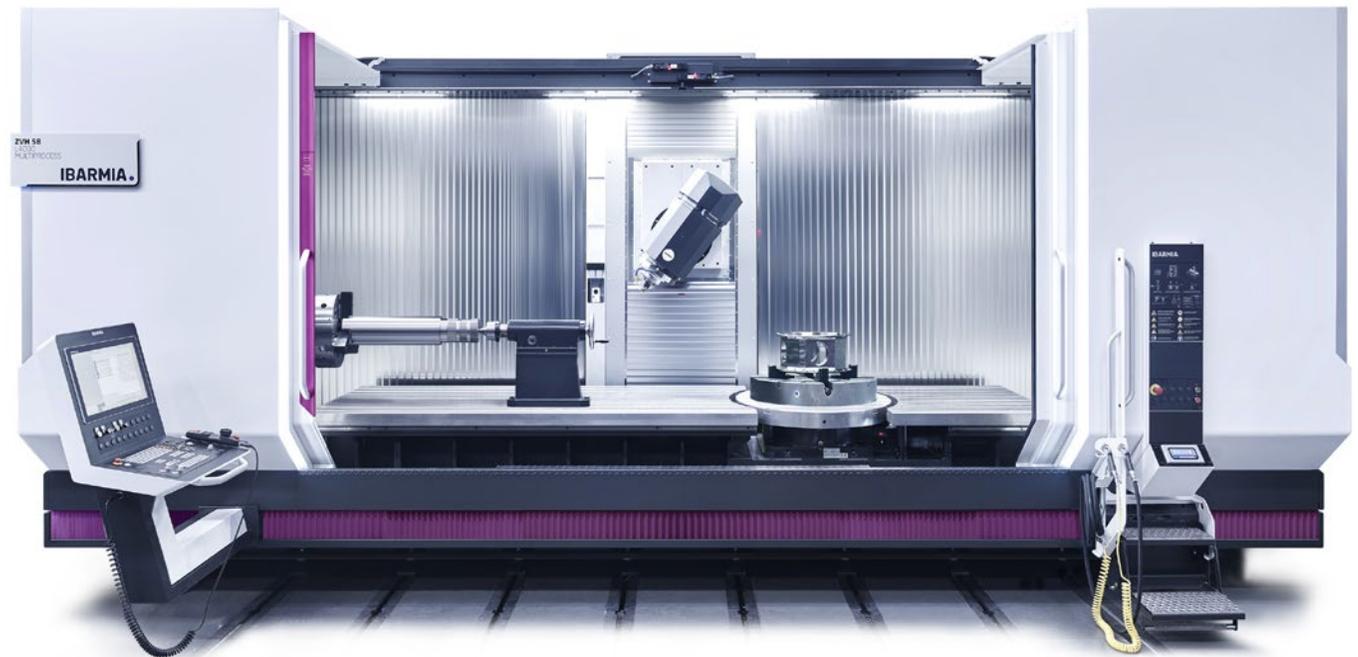
- Maximal rotation speed: 12000 rpm



**40%**  
**MORE POWER THAN**  
**THE COMPETITION**  
**IN SIMILAR MACHINES**

## Selling arguments\_

- 1\_ IBARMIA is the most adaptable
- 2\_ Structure adapted to spindle
- 3\_ Capacity**
- 4\_ Size variety. Swing variety
- 5\_ Moving column vs RAM
- 6\_ Superior B axis
- 7\_ CnC flexibility
- 8\_ Turning capacity. H-V
- 9\_ Create your own machine
- 10\_ Automate your machine

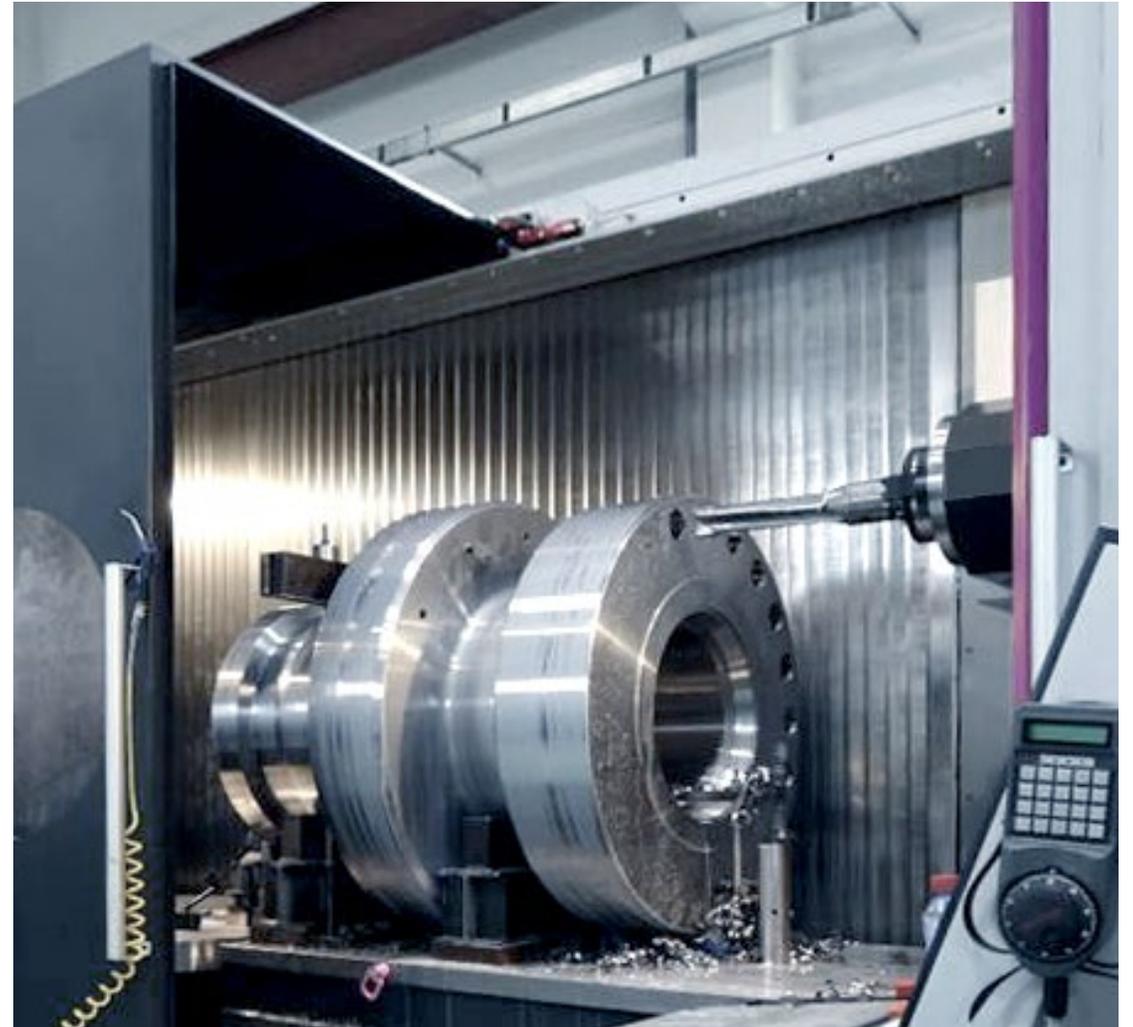
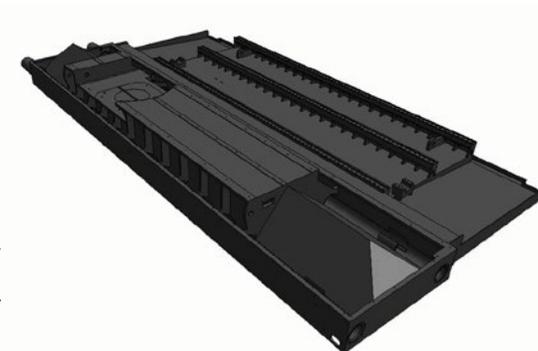


## HEAVIER LOADS ON TABLES

IBARMIA fixed tables are fully supported  
on the machine bed.  
Max weight capacity: 2000kg/m<sup>2</sup>

### ZVH 58/L4000 EXTREME

- Fixed table: 125/175
- Max tool length: 4600 x 1050
- Max Weight: **9660kg**



## HEAVIER AND BIGGER TOOLS

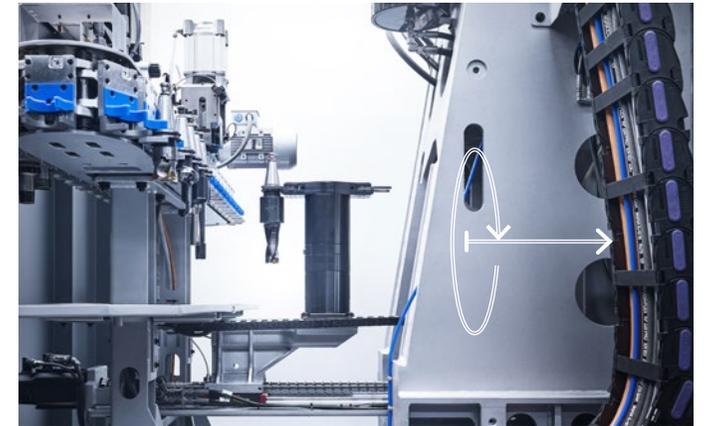
ATC 40-60-80 tools mounted on the saddle.  
The column is free of any weight or interference. Minimized Y axis so no need for extra guideways for extended courses required on other BRANDS.

### SK 50 ATC

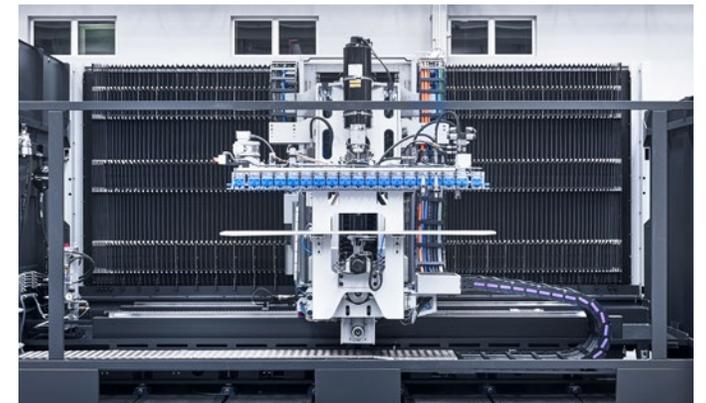
- Max tool diameter: 125/175
- Max tool length: 400/500
- Max tool weight: 20kg

### SK 40 ATC

- Max tool diameter: 90/125
- Max tool length: 350/400
- Max tool weight: 10kg

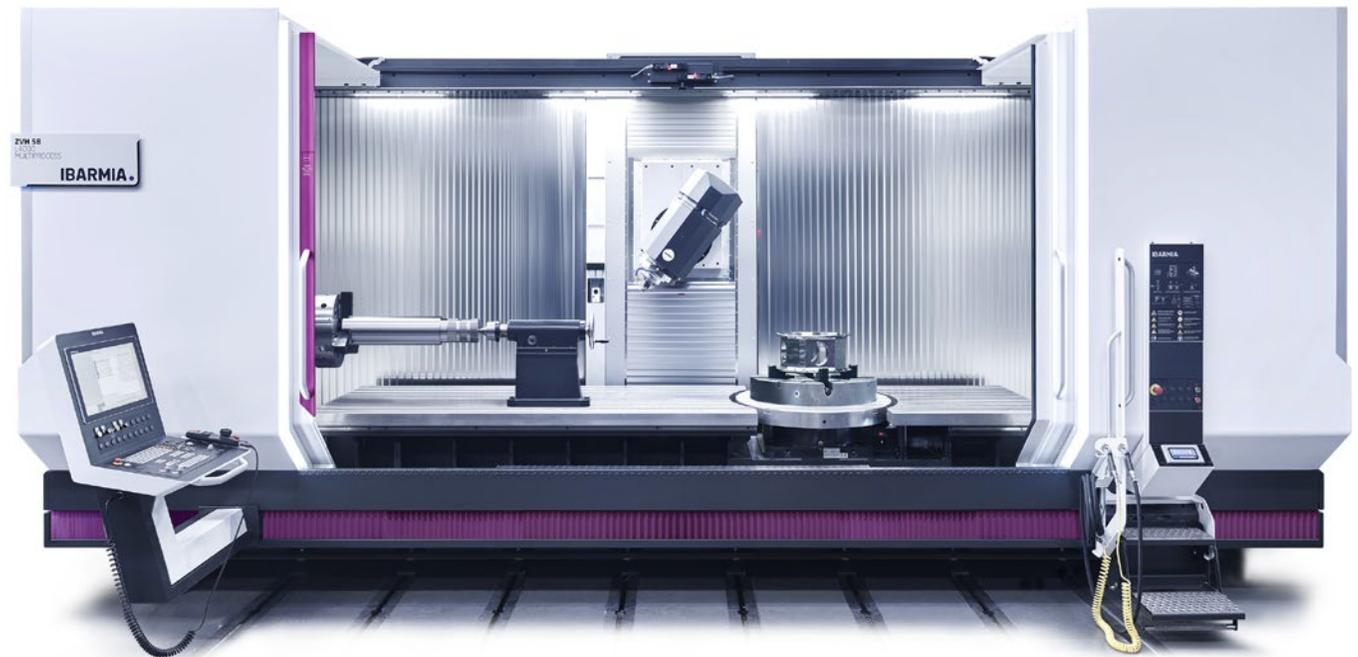


ATC always covered and protected against chips and coolant.

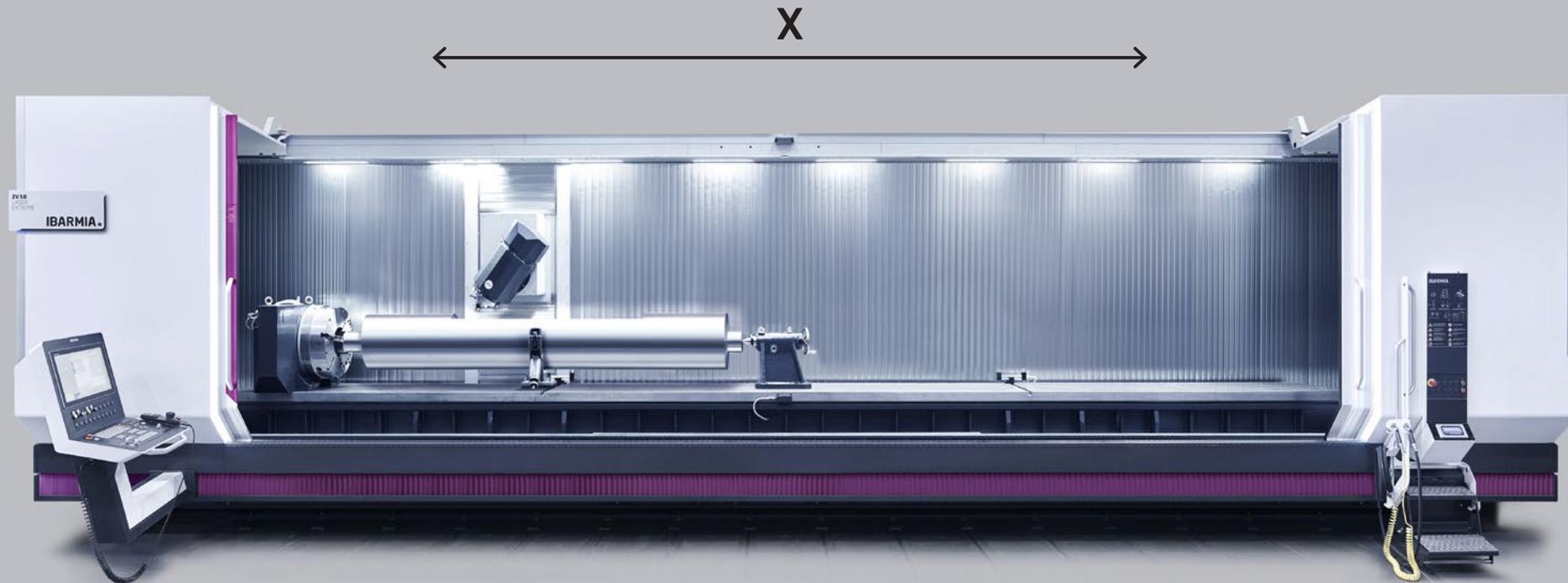


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**Longitudinal stroke\_**  
Up to 12.000 mm in X axis.



Strokes: 1600 / 2200 / 3000 / 4000 / 5000 / 6000 / 7000 / 8000 /  
9000 / 10 000 / 11000 / 12 000 mm

**Transversal stroke\_**  
Up to 1.100 mm in Y axis.

**Vertical stroke\_**  
Up to 1.300 mm in Z axis.

Strokes: 600 / 800 / 1000 / 1100 mm

Y



Strokes: 800 / 900 / 1100 / 1300 mm

Z



## LARGER SWING DIAMETER

### SK 40

#### ZVH 45



1100 Ø    1600 Ø

#### ZVH 55



1300 Ø    2000 Ø

h 900

### SK 50

#### ZVH 55



1200 Ø    1600 Ø

#### ZVH 58



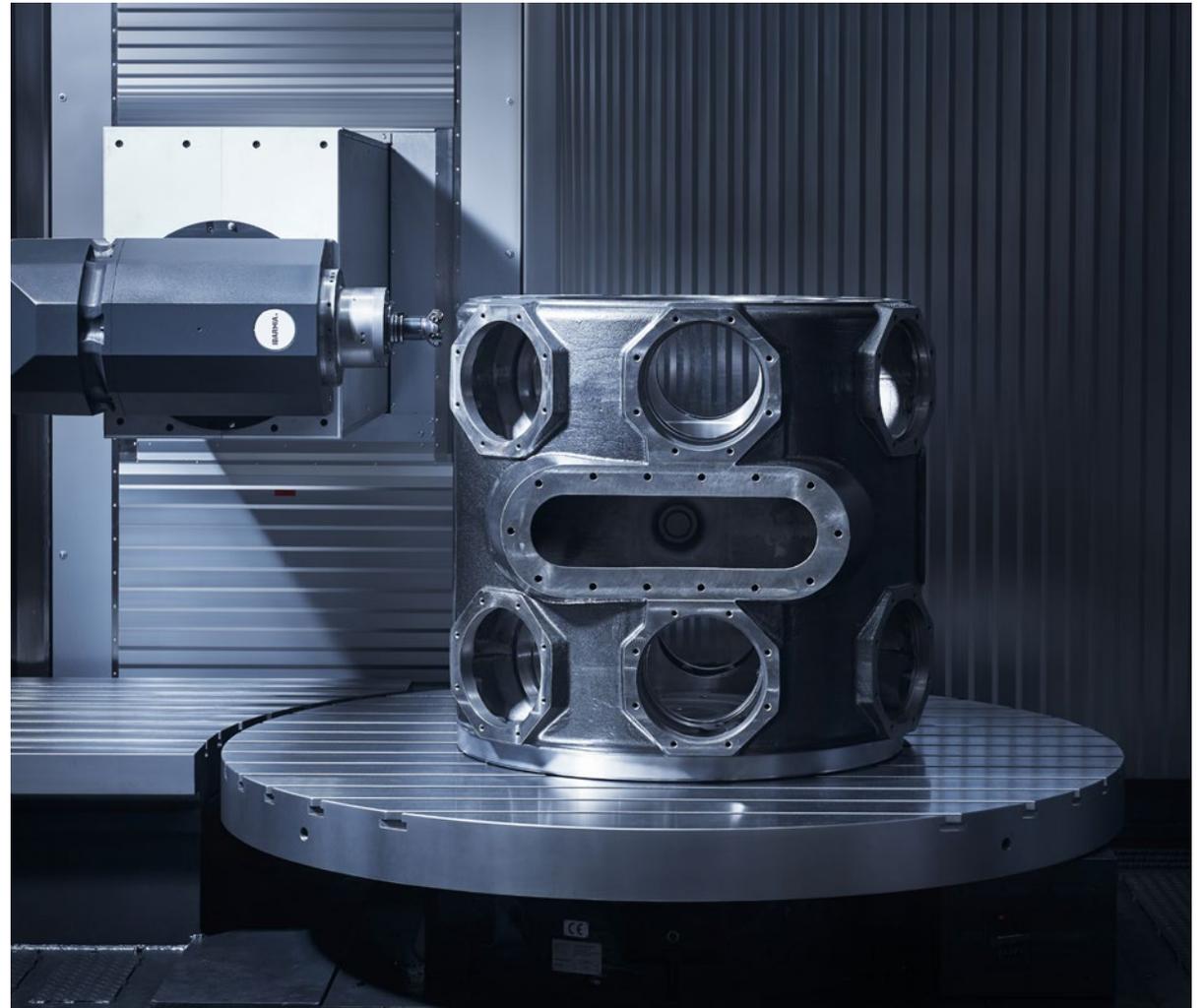
1400 Ø    2000 Ø

#### ZVH 60



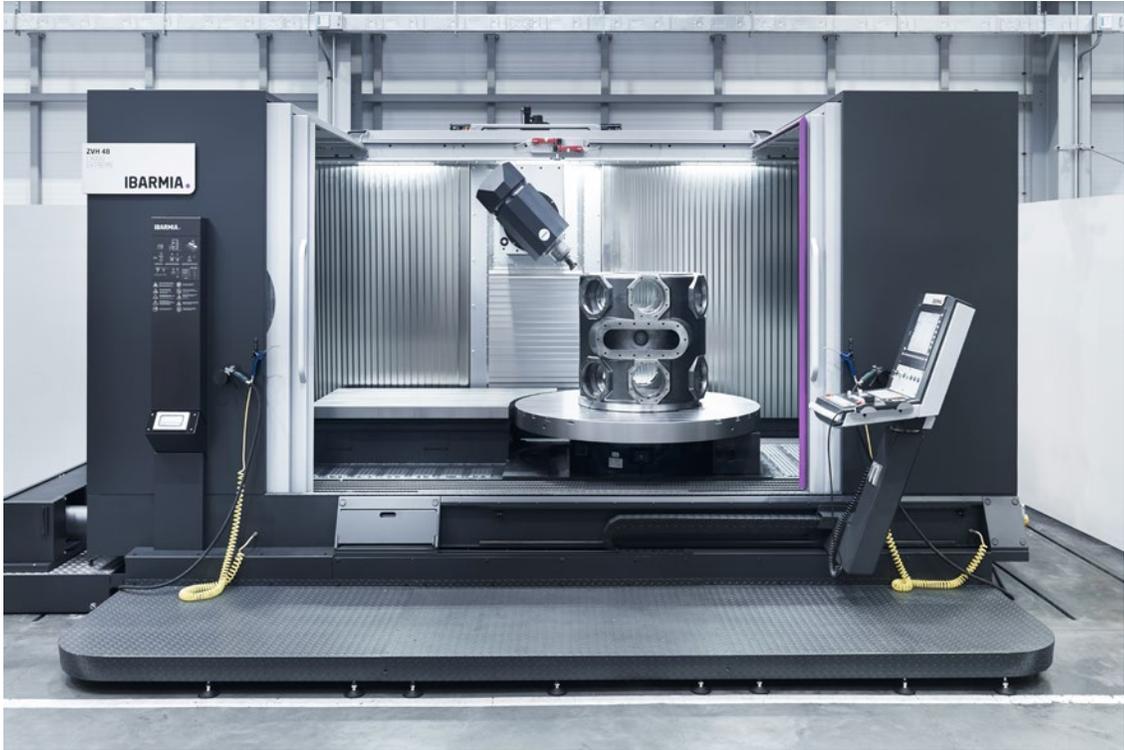
1500 Ø    2200 Ø

h 1100



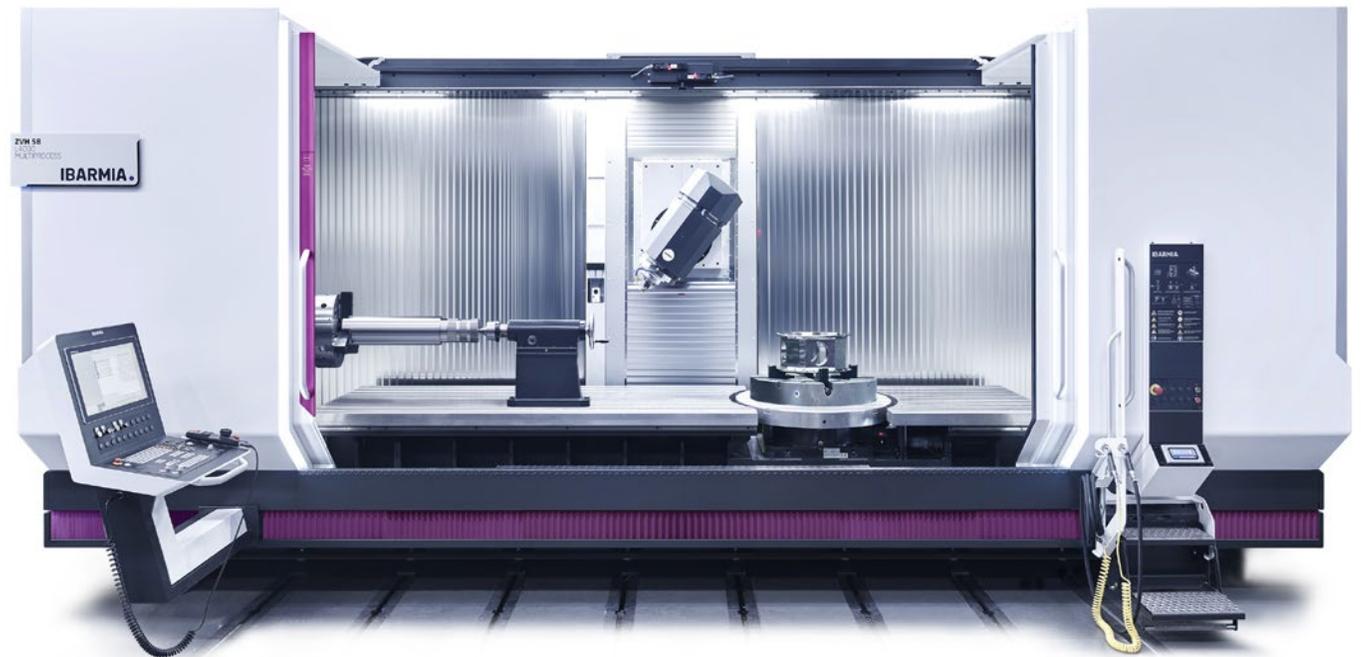
# Z SERIES

IBARMIA.



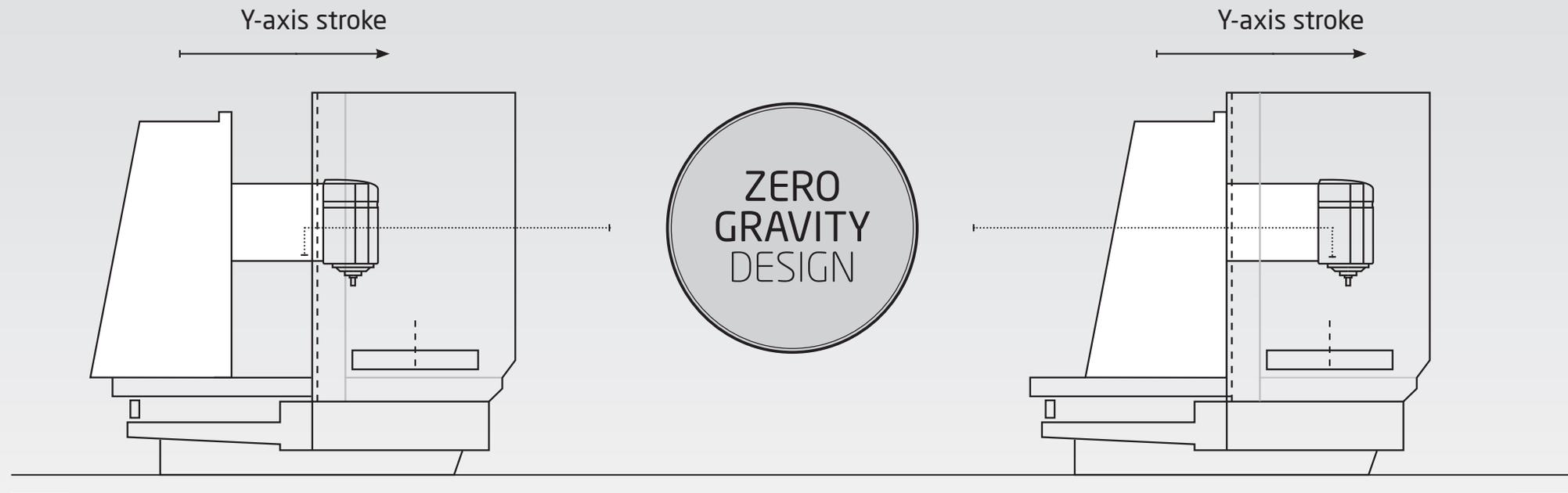
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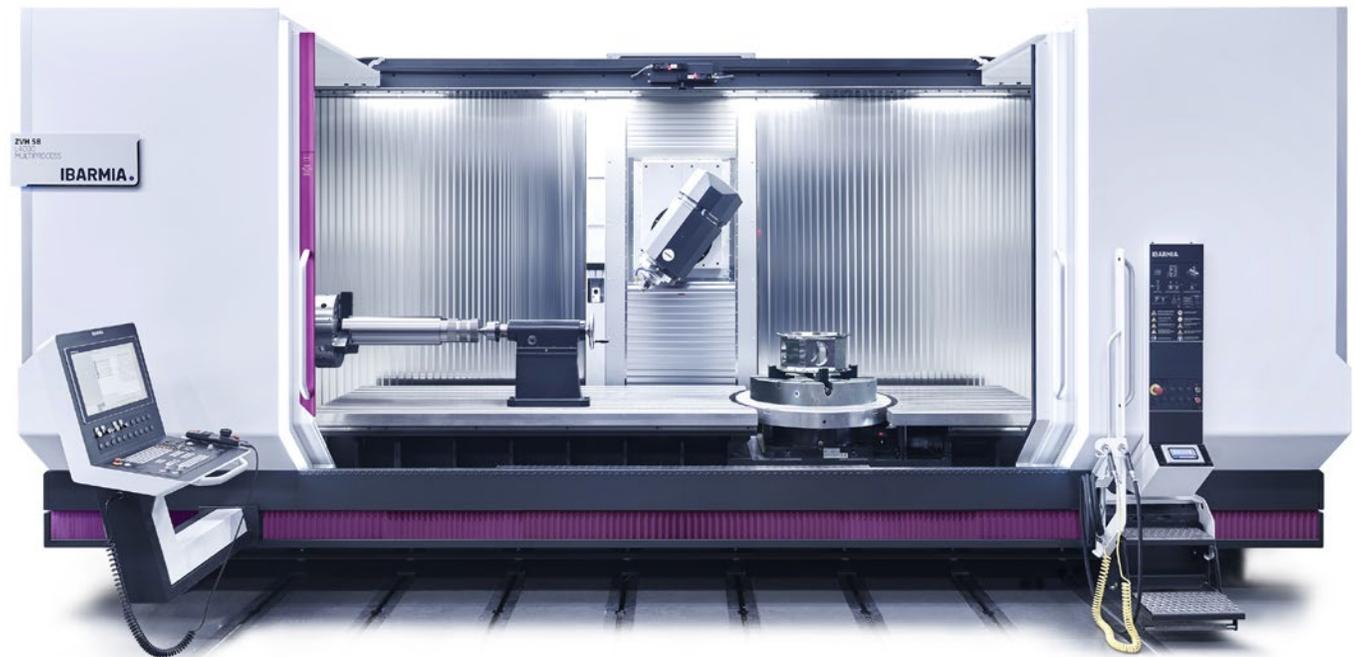
## Z SERIES

Constant accuracy, power and rigidity on the full stroke of the Y axis



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## B AXIS HEADSTOCK SUPERIOR TECHNOLOGY

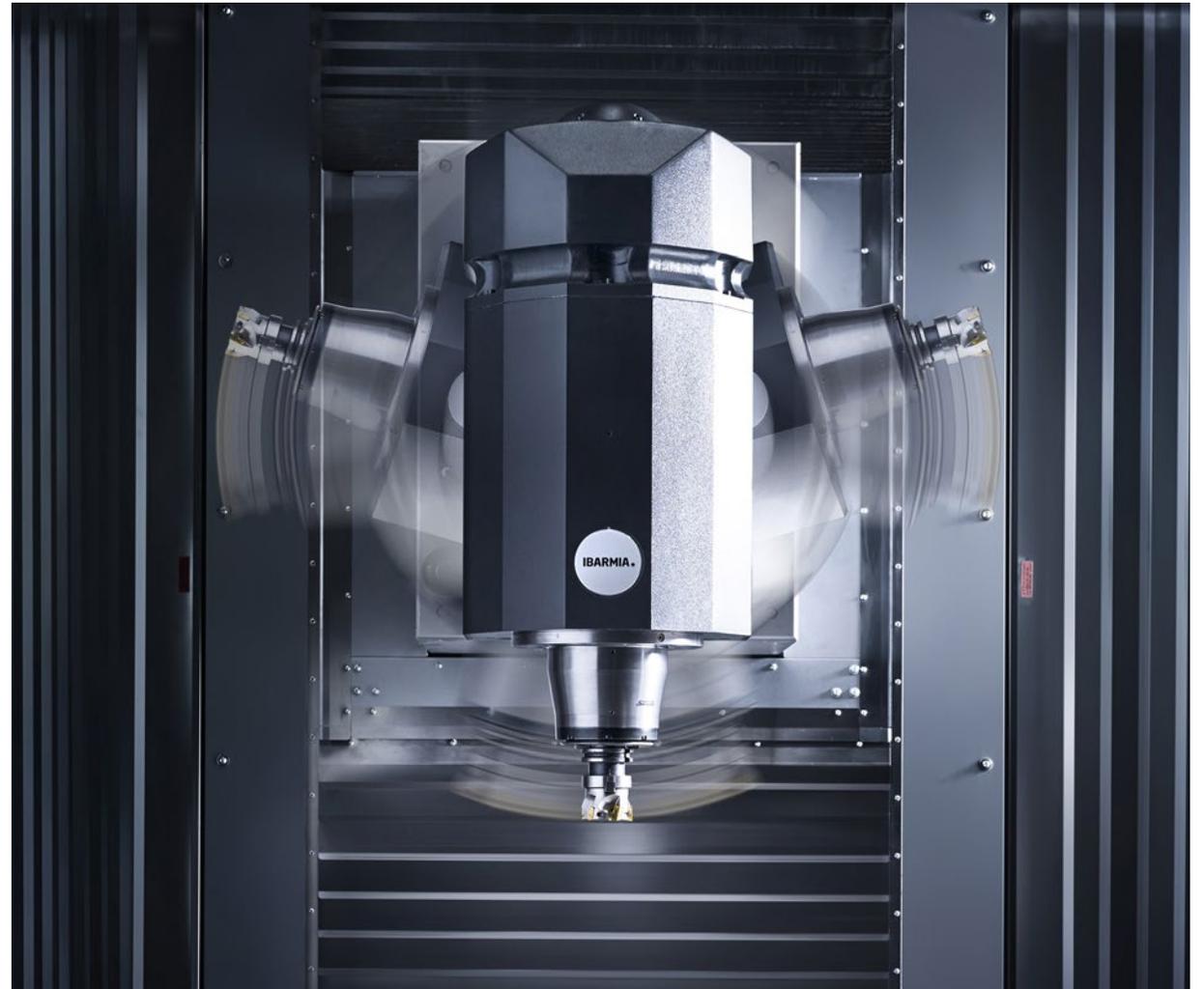
Head tilting range  $\pm 105^\circ$ . Transmission by a torque motor installed on the rotating shaft and direct measuring on the axis.

Glass scales on every axis standard. Extraordinary dynamics, automatic recovery after collisions and maximum precision in positioning.

- Truly zero backlash during clockwise and anticlockwise rotation
- Truly zero wear for the transmission
- If collision no damages in cinematic transmission

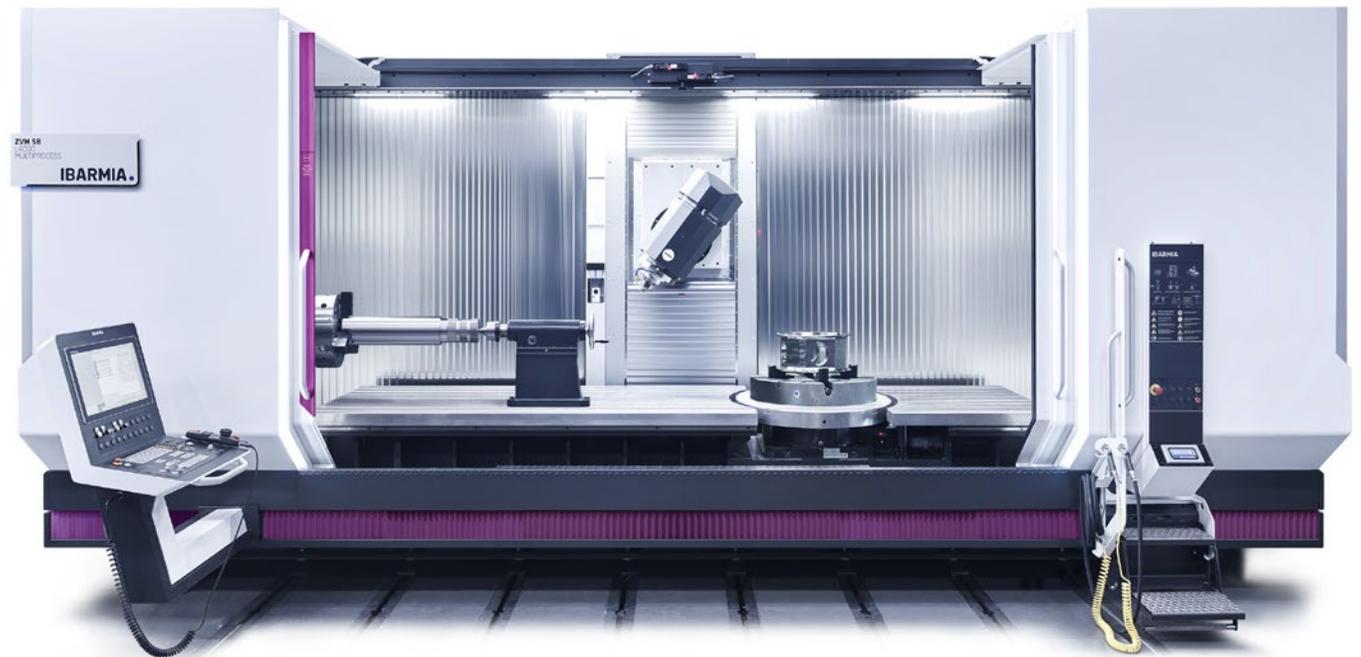
Other builders using "roller gear cam systems"...

- 
- TORQUE MOTOR technology
- 
- AWARD winning B axis
- 
- 6000 Nm clamping force
- 



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## GENERAL INFORMATION



### **Standard**

Heidenhain TNC 640  
19" touch-screen  
*(option 24" touch screen)*

## SIEMENS

### **Option**

Siemens Sinumerik 840 D SL  
19" touch-screen  
*(option 24" touch screen)*



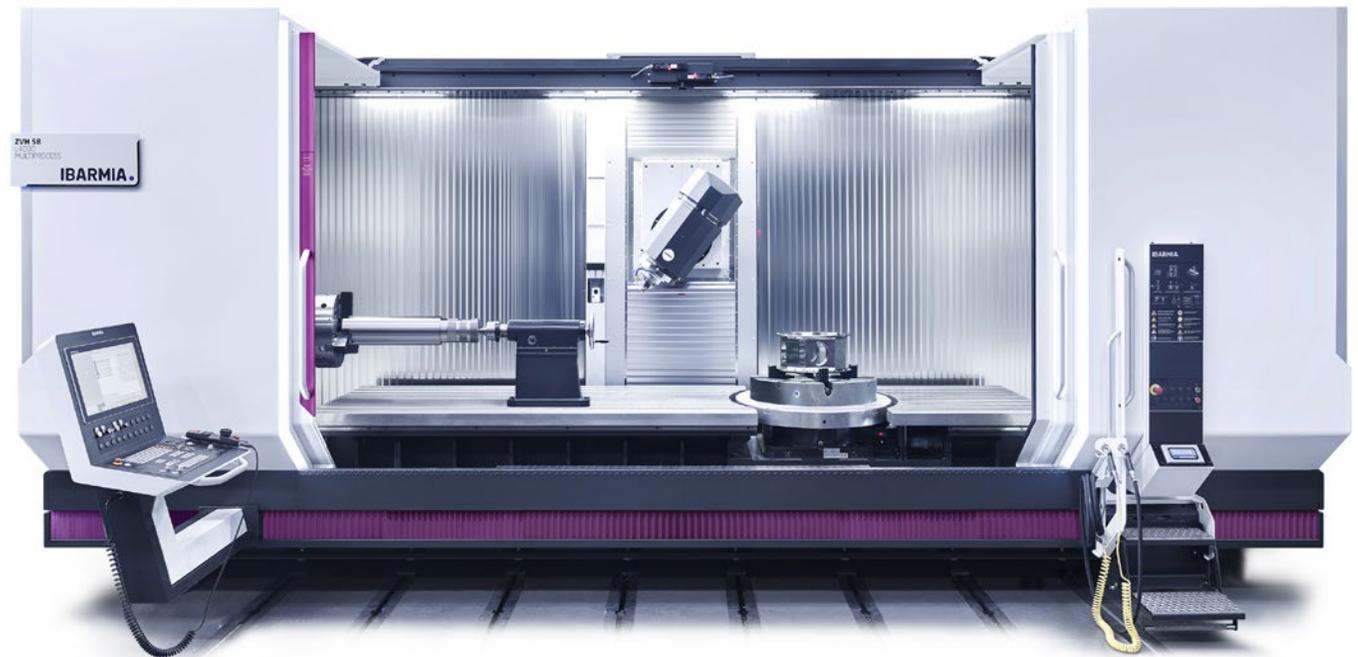
### **Option**

FANUC 31i-B5  
19" touch-screen



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## TURNING CAPACITY

Horizontal / Vertical

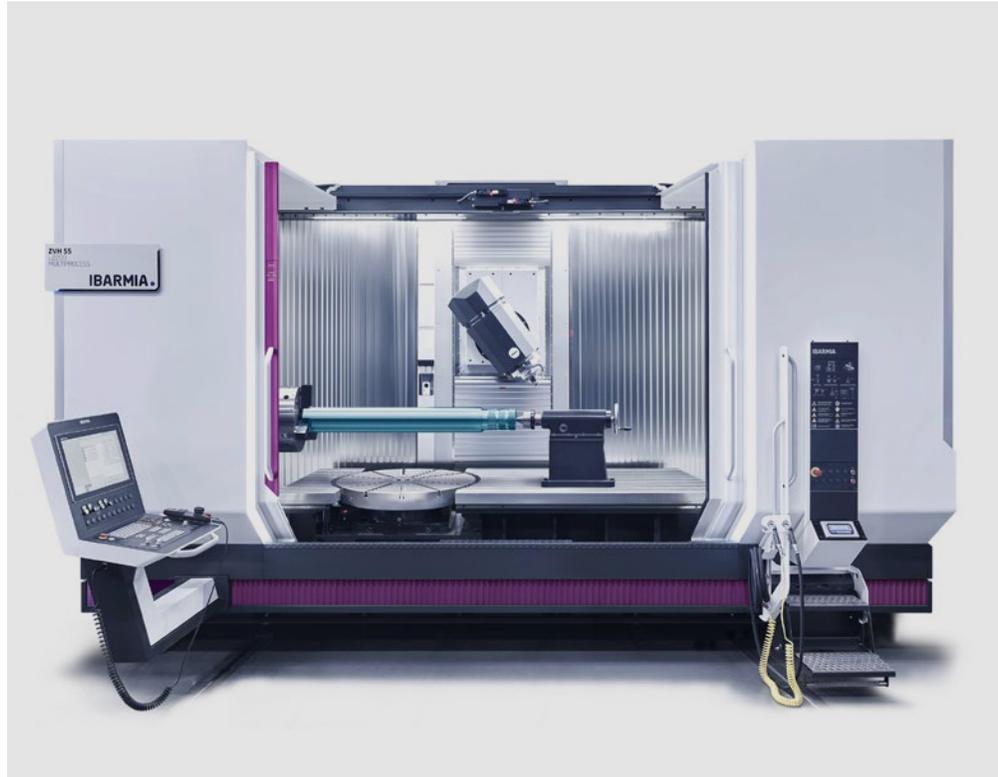
A axis turning & milling.  
Chuck up to  $\varnothing 630$  mm.  
Up to 2000 rpm.

B axis torque motor  
milling head.  
74 kW - 12.000 rpm.

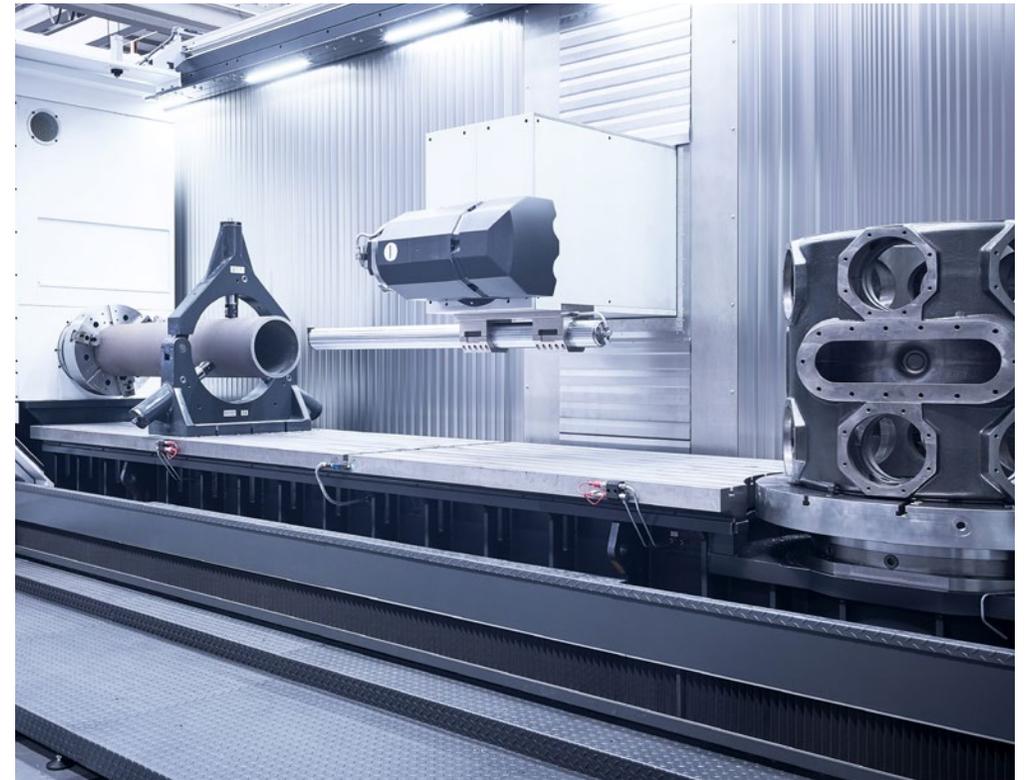
C axis turning & milling.  
 $\varnothing 800$  mm /  $\varnothing 1200$  mm  
rotary tables.  
Up to 6000 kg.  
Up to 800 rpm.

Two working areas.  
"Non stop machinig"  
pendulum system.





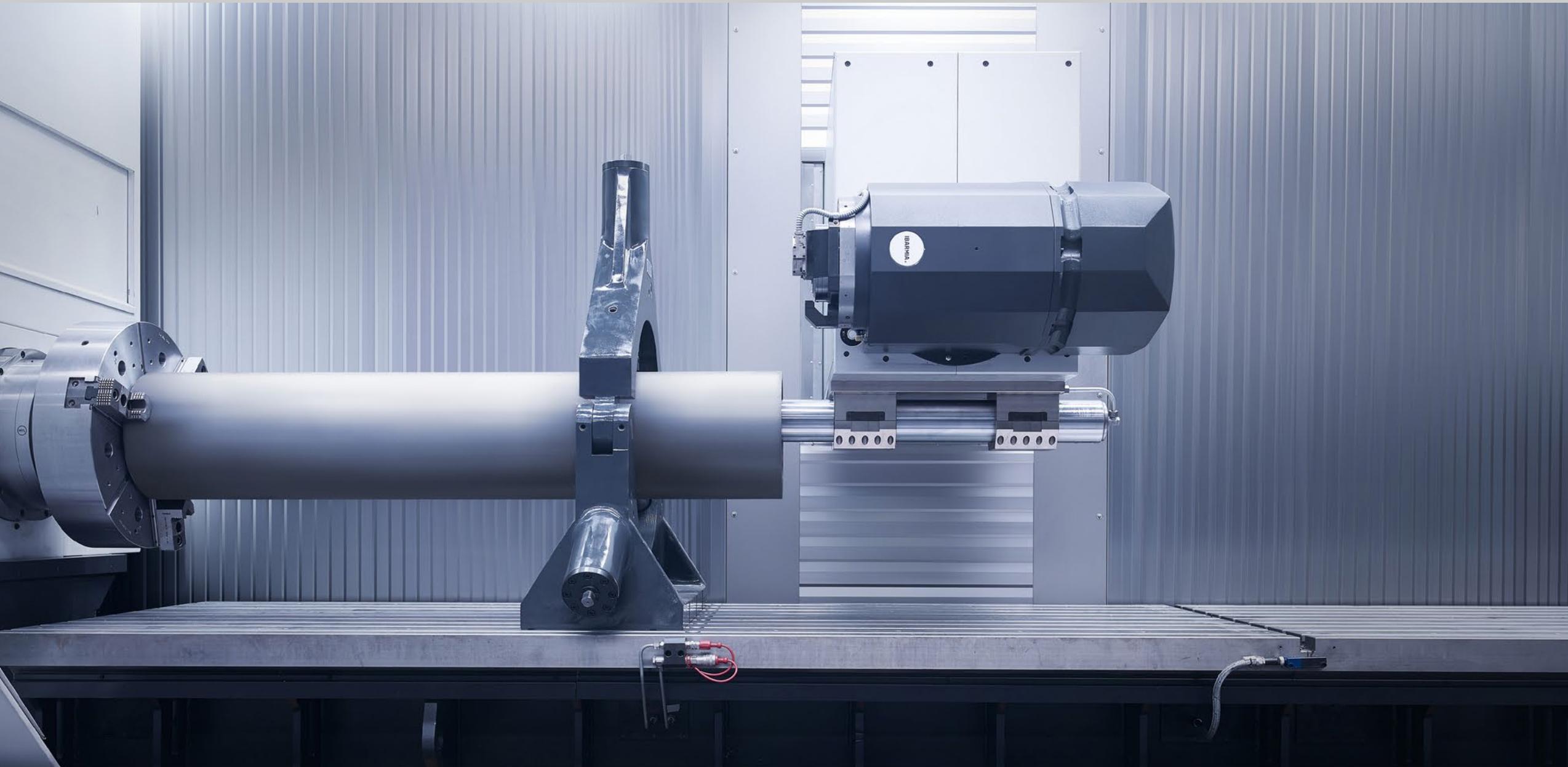
ENDLESS CAPACITY  
COMPACT SPACE



BE READY FOR JUST  
ANYTHING

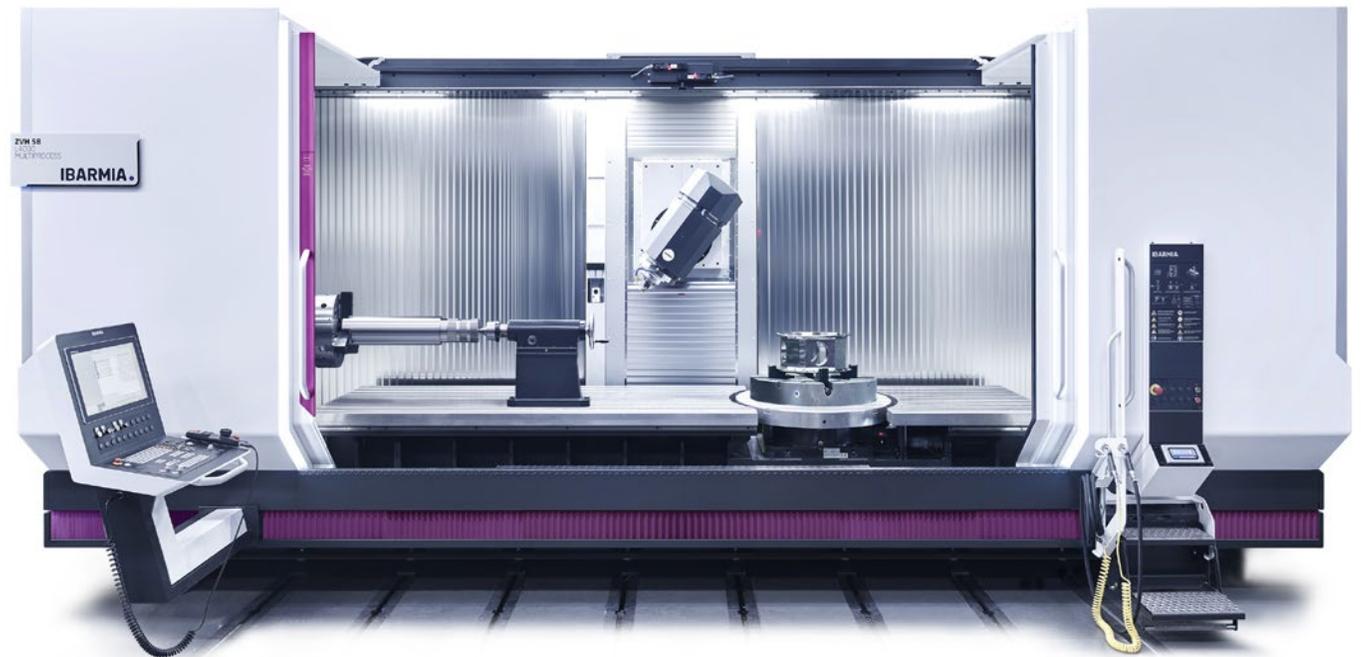
Z SERIES

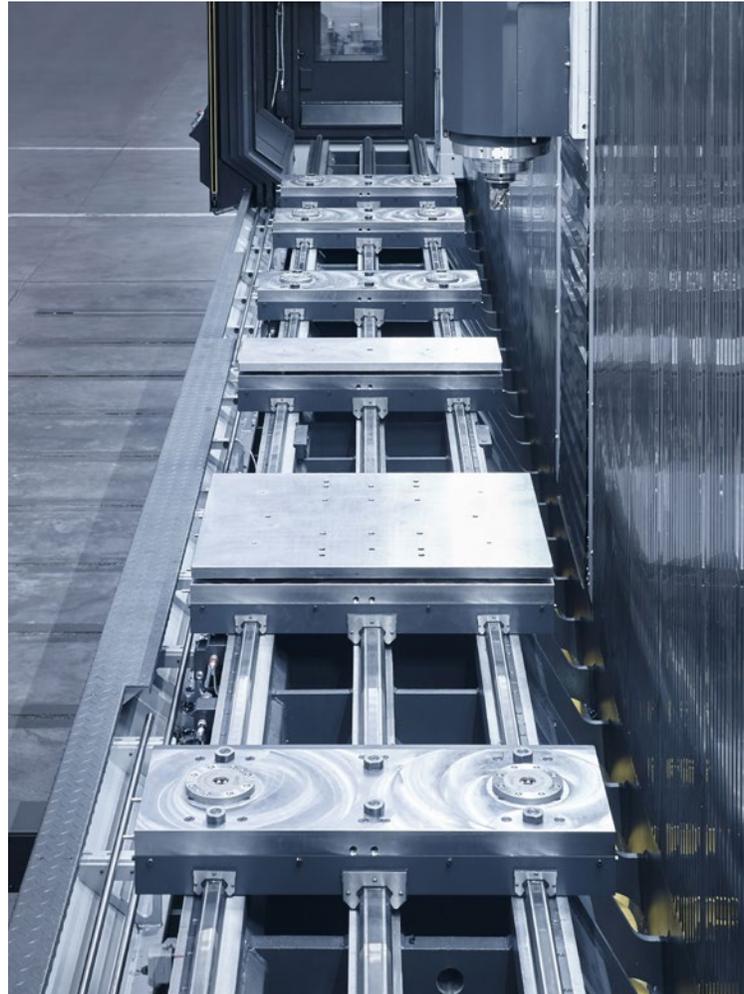
IBARMIA.



## Selling arguments\_

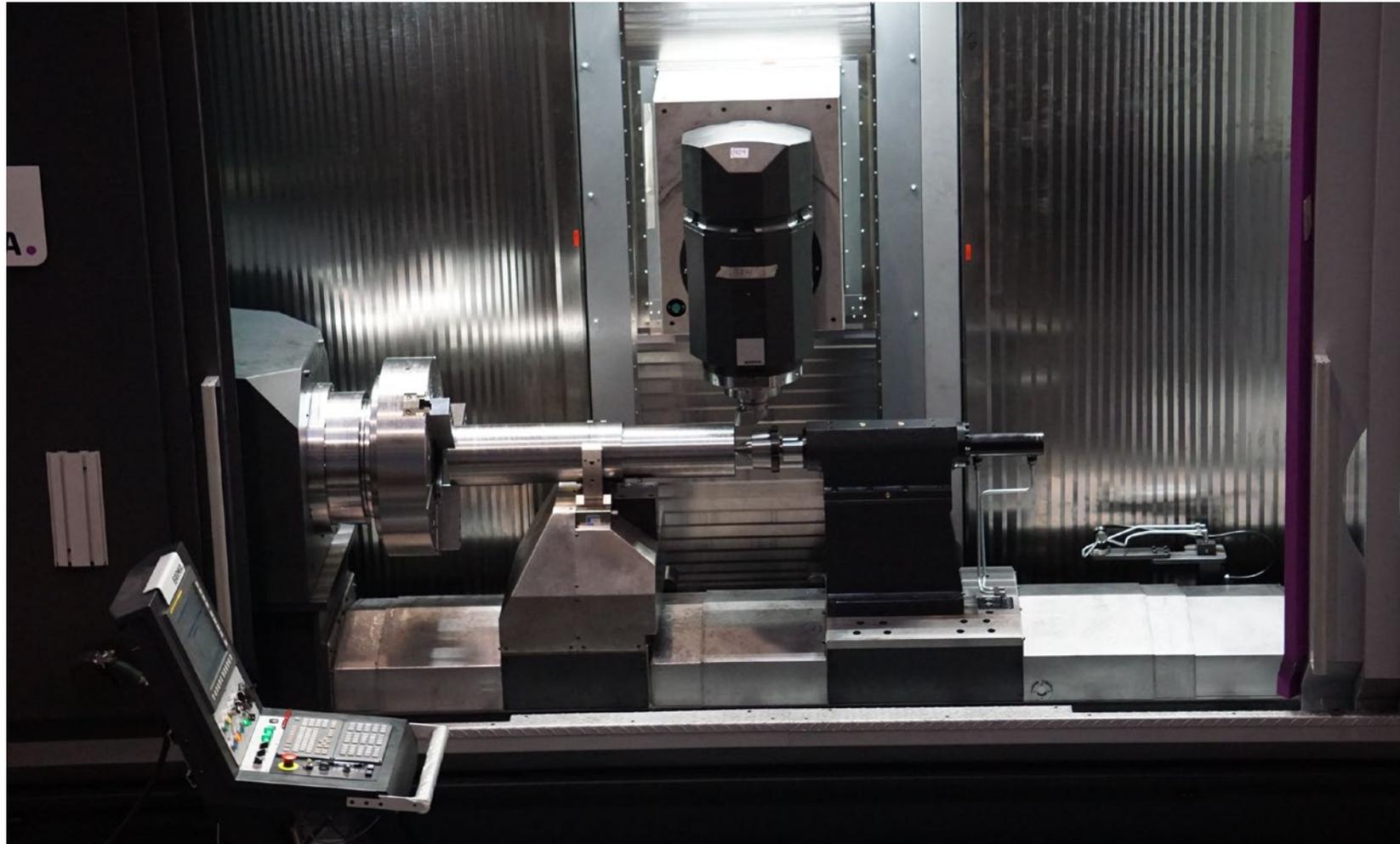
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Z SERIES

IBARMIA.



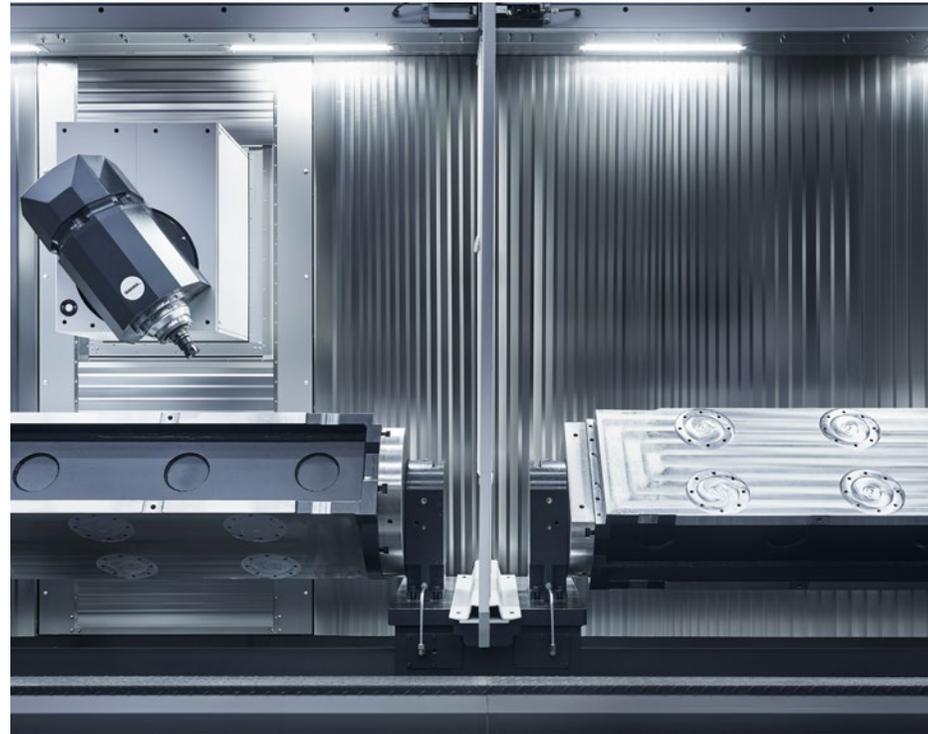
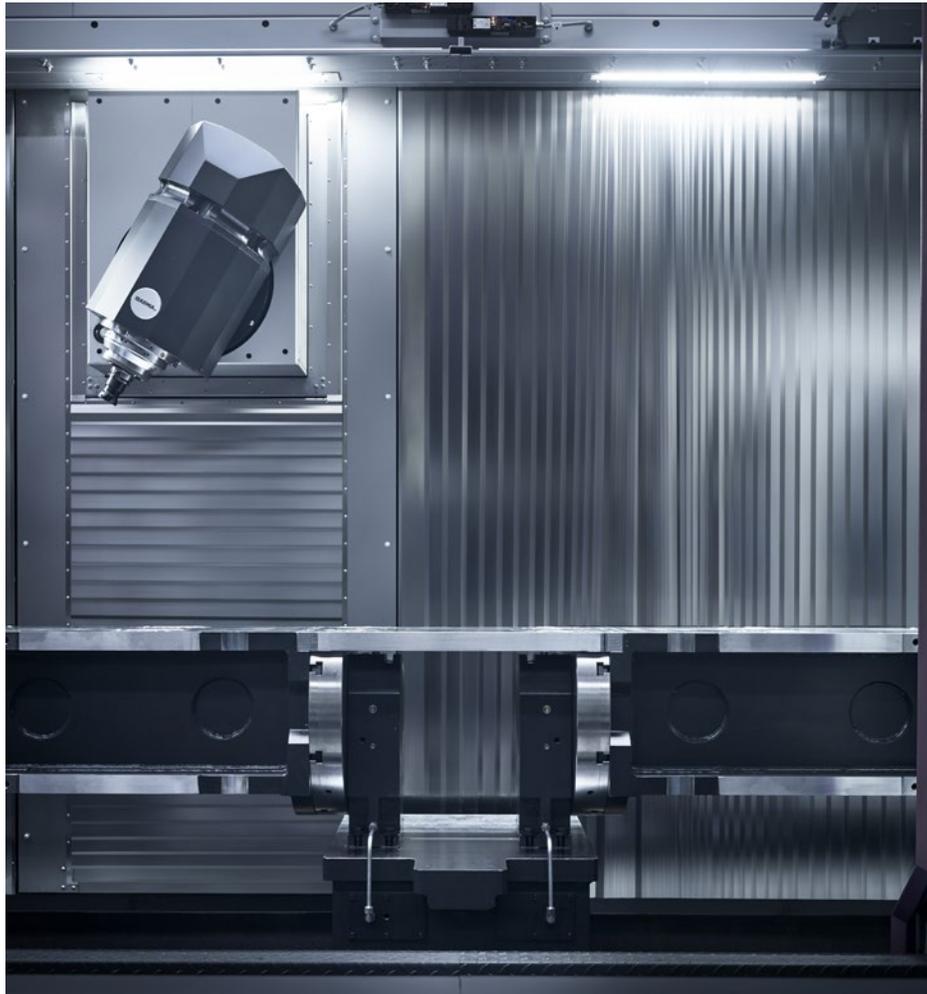
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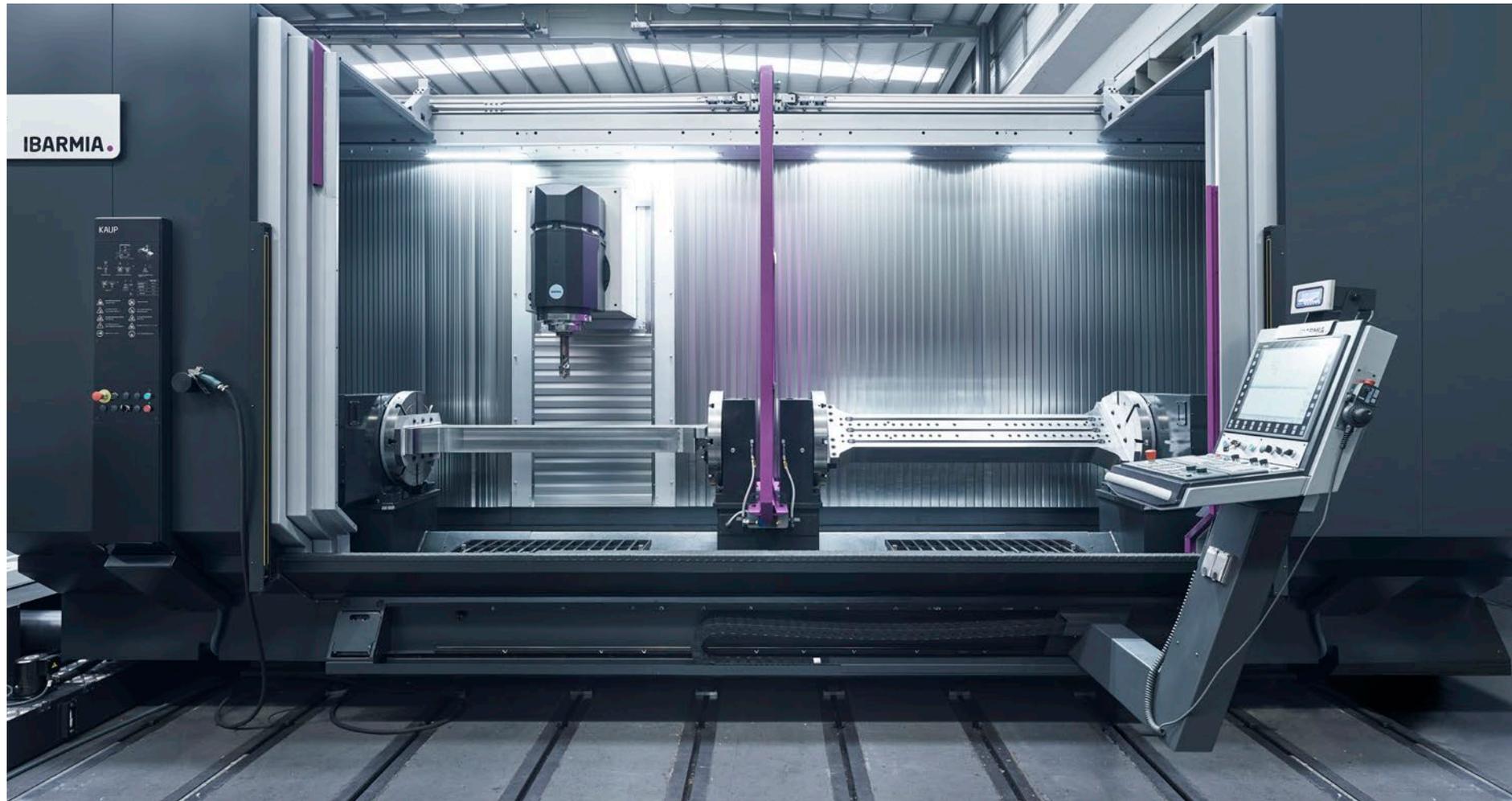
# Z SERIES

IBARMIA.



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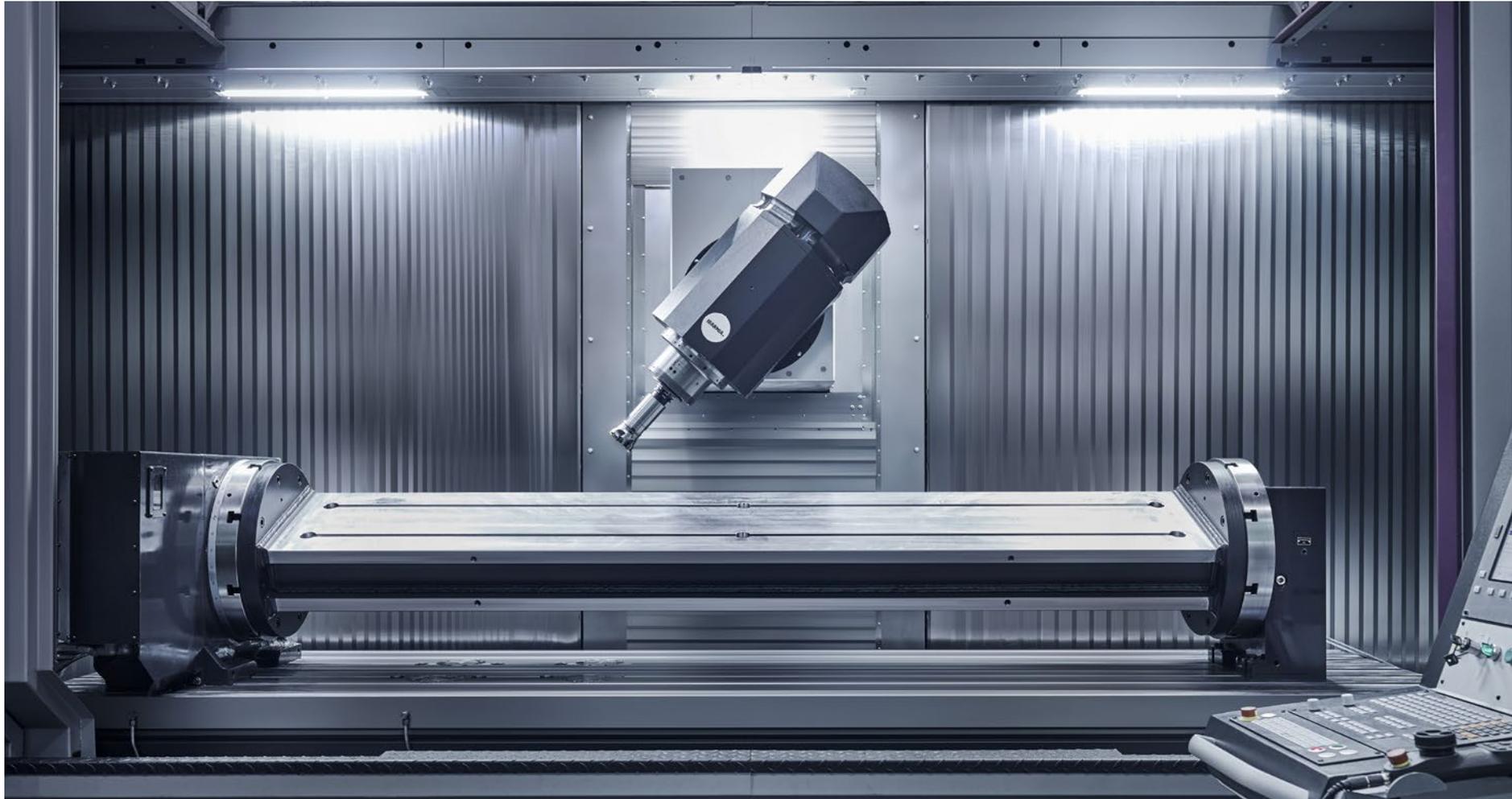
Z SERIES

IBARMIA.



Z SERIES

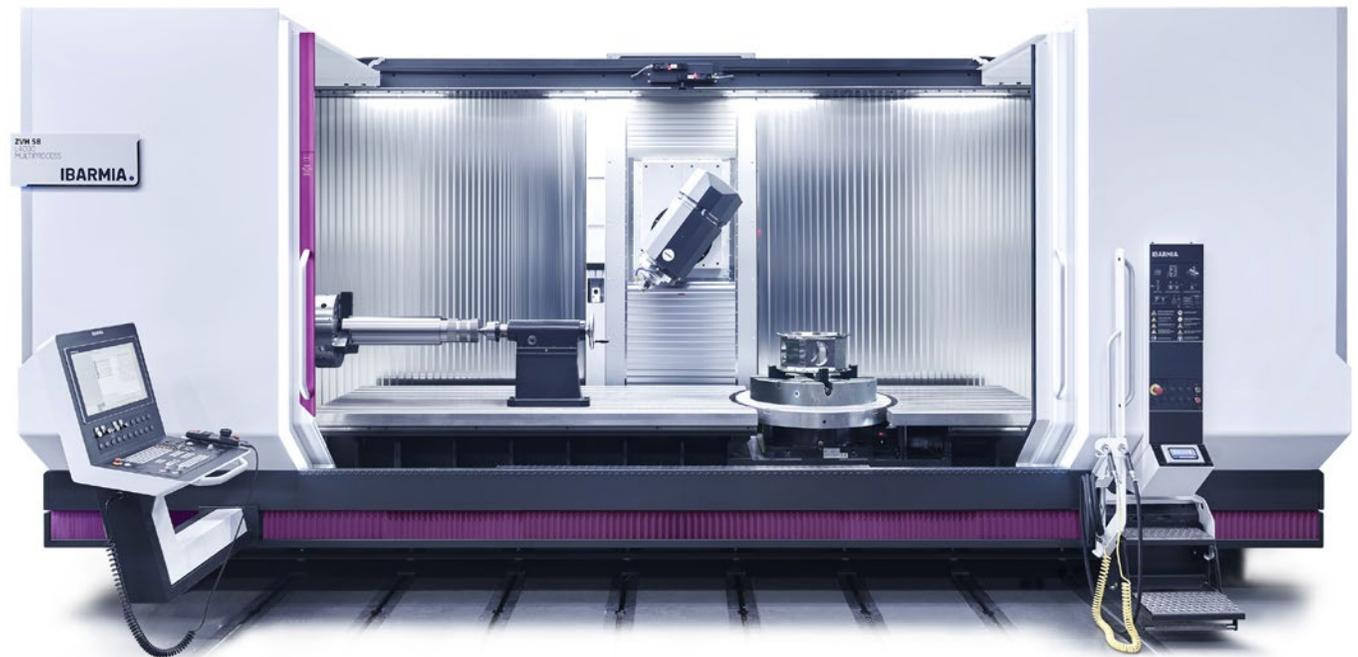
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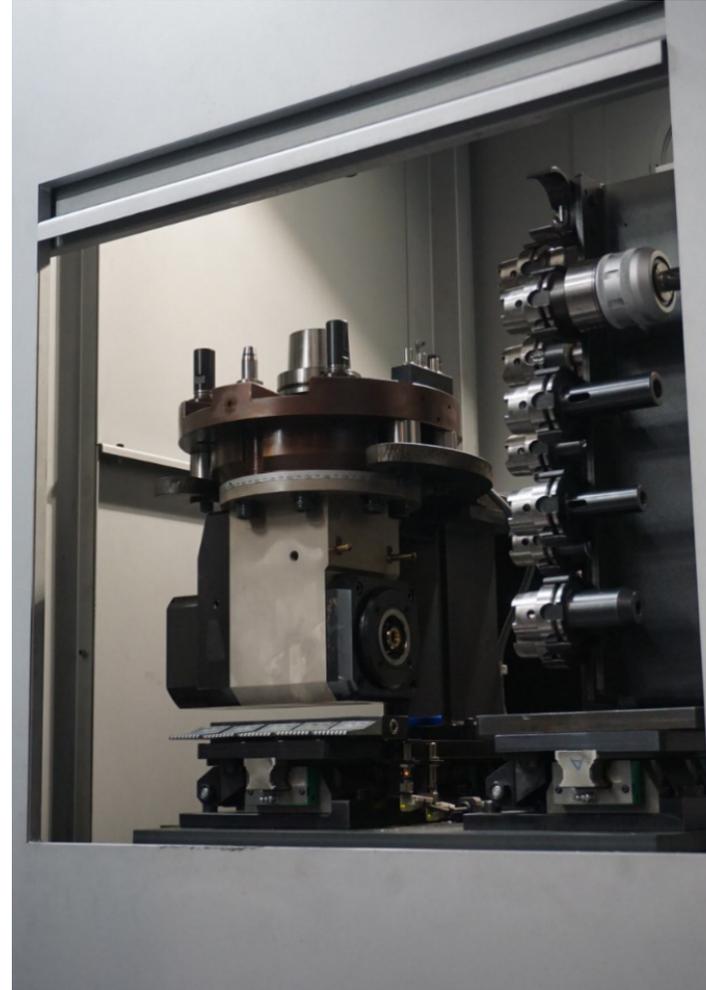




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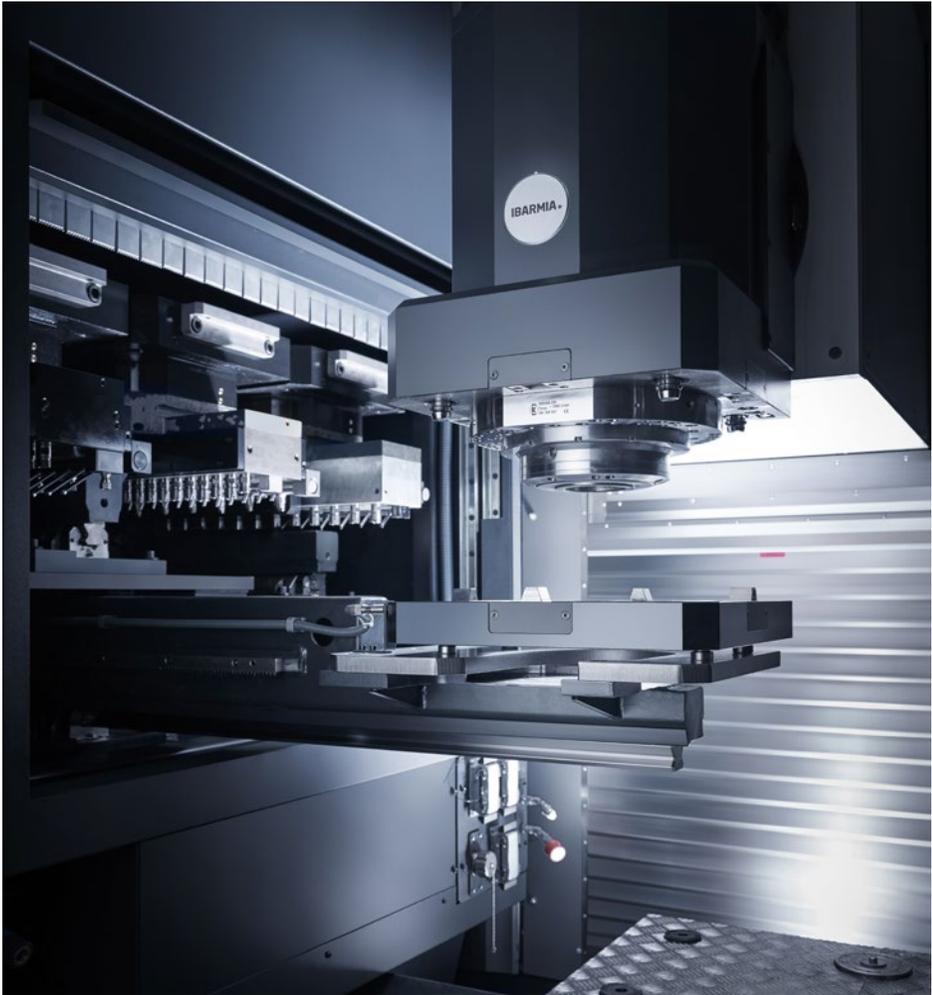
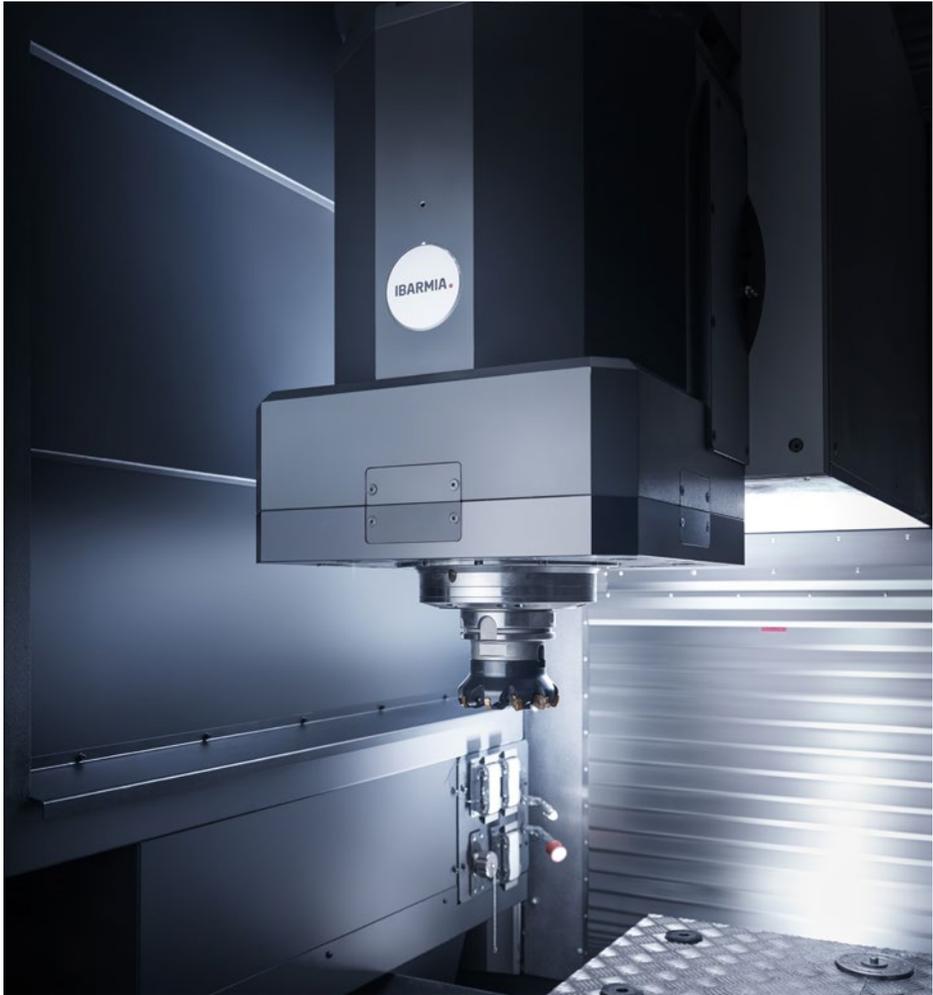


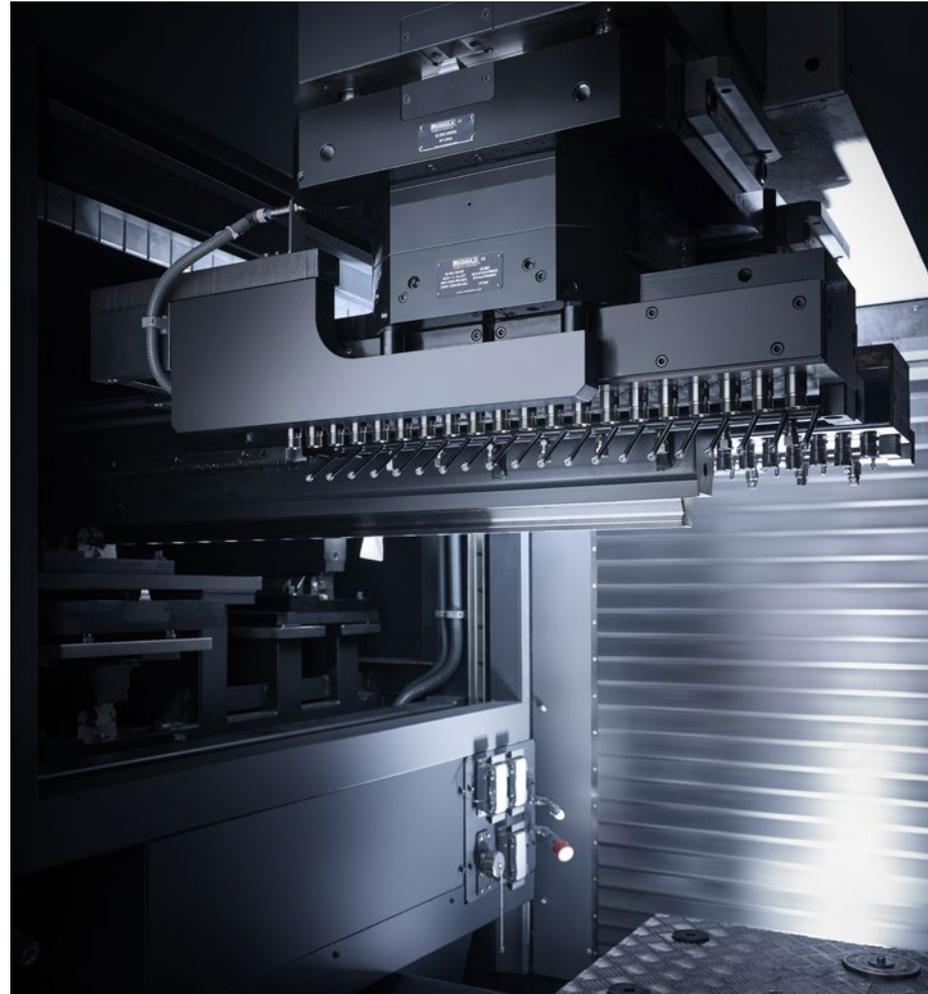


**AUTOMATIC  
CHANGE  
OF RIGHT  
ANGLE HEADS**

# Z SERIES

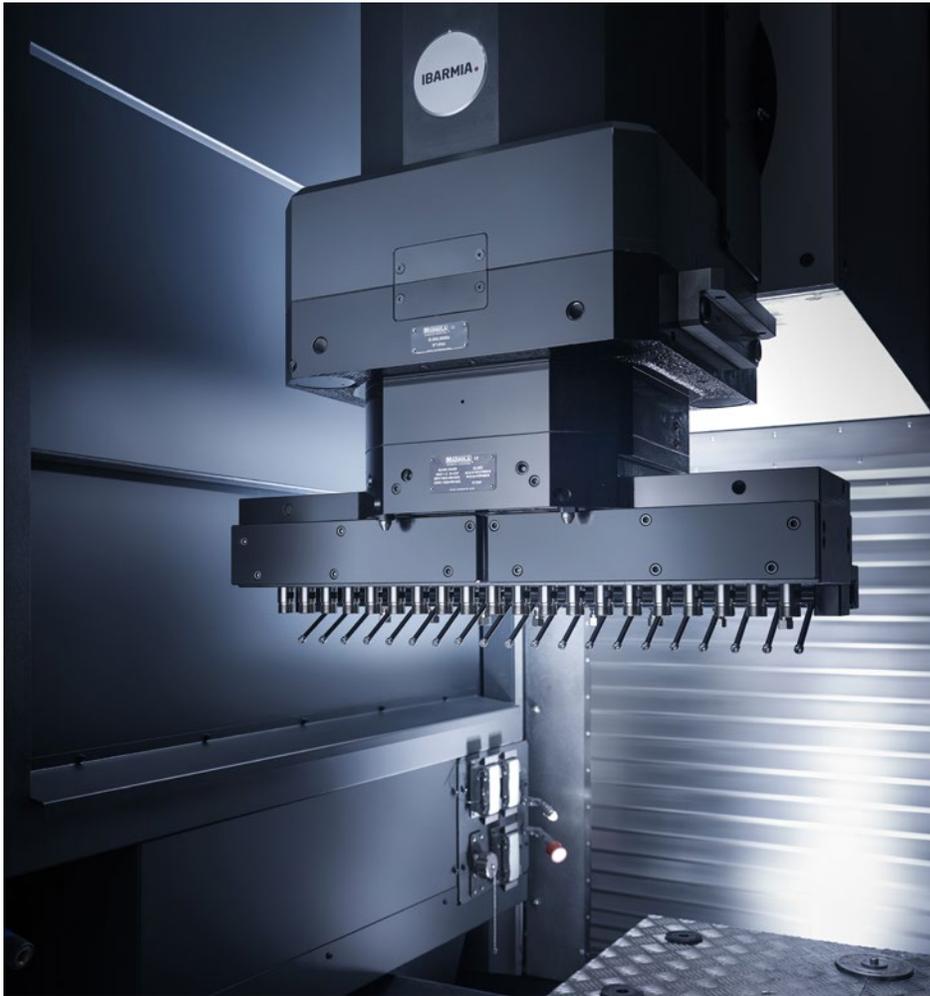
IBARMIA.





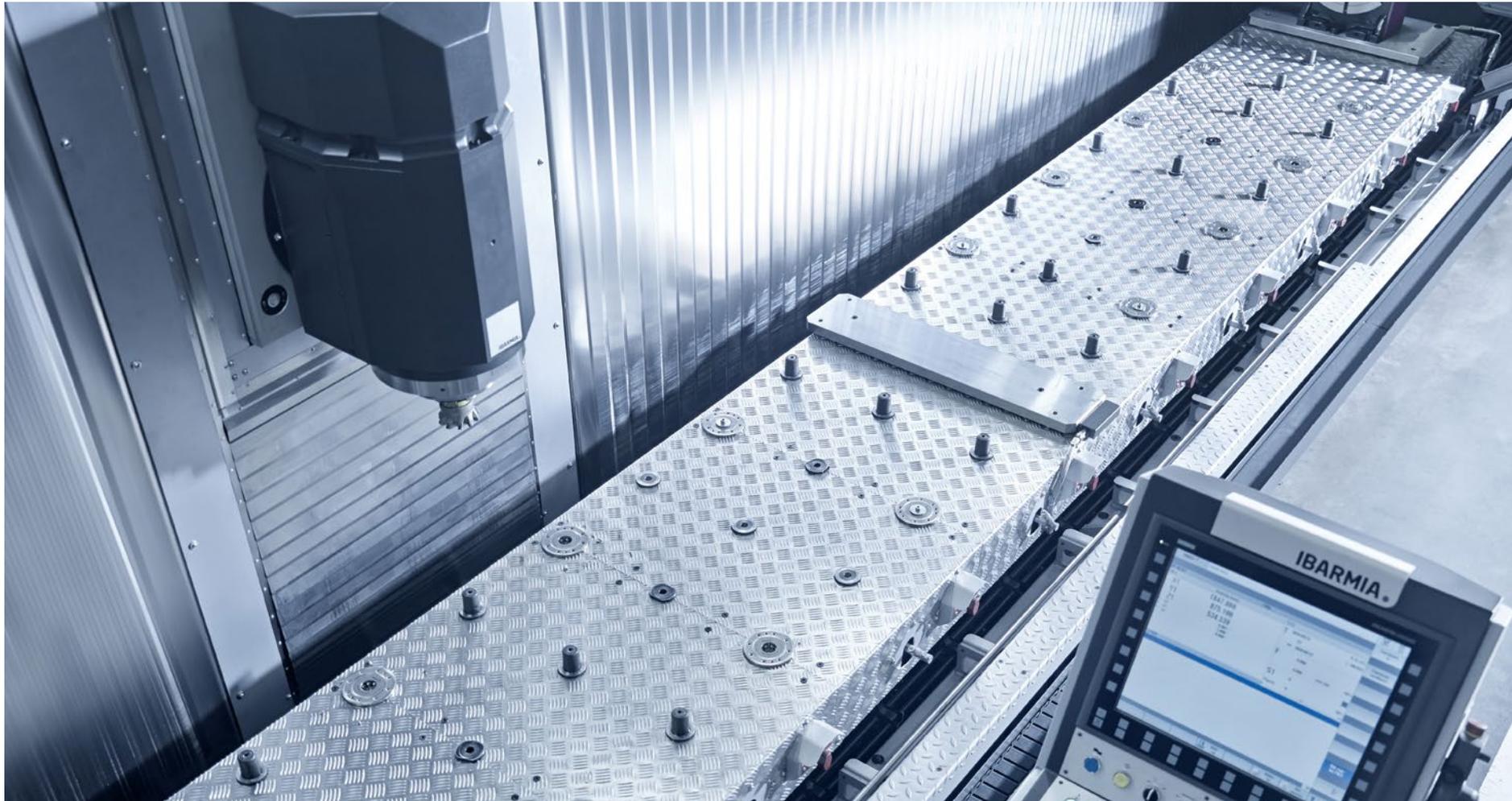
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IBARMIA.

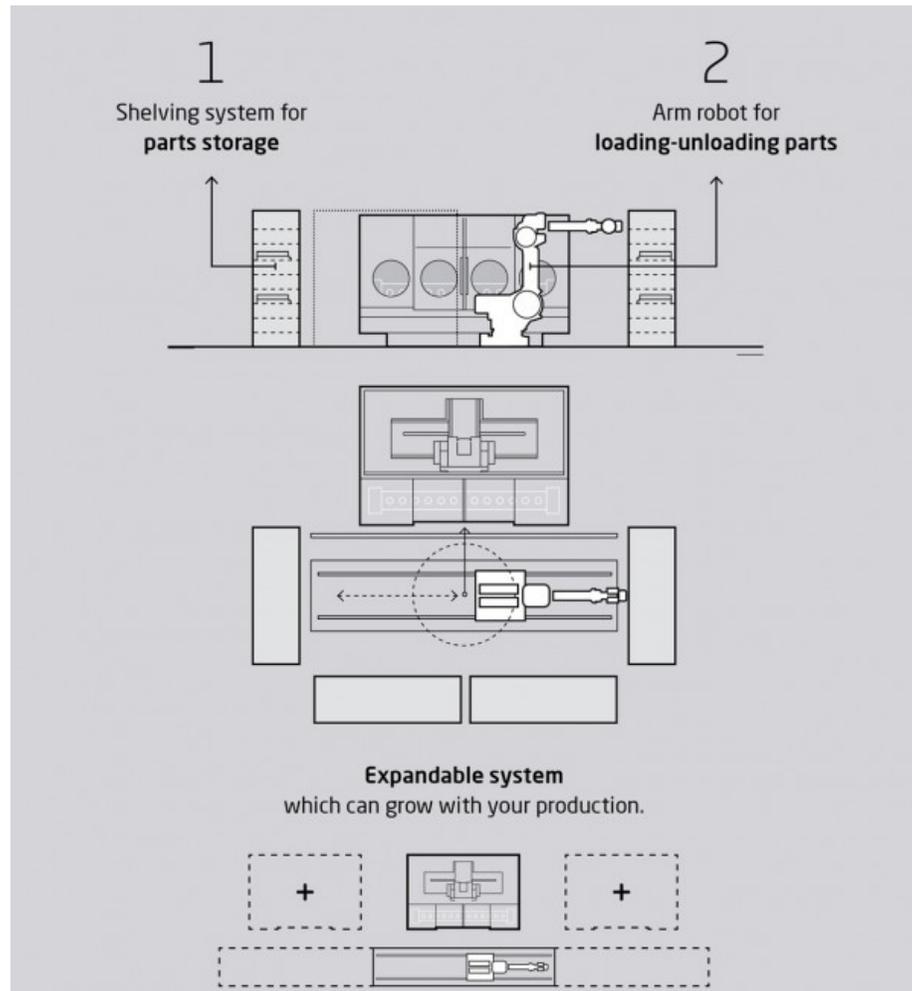


# Z SERIES

# IBARMIA.



**TABLE WITH  
INTEGRATED  
ZERO POINTS**



## ZV45 /L3000 EXTREME + Robot

Z SERIES

IBARMIA.

# ZVH 58 /L4000 MULTIPROCESS + Robot





Z SERIES

# Z STAR EDITION THE BESTSELLER

Better than the rest



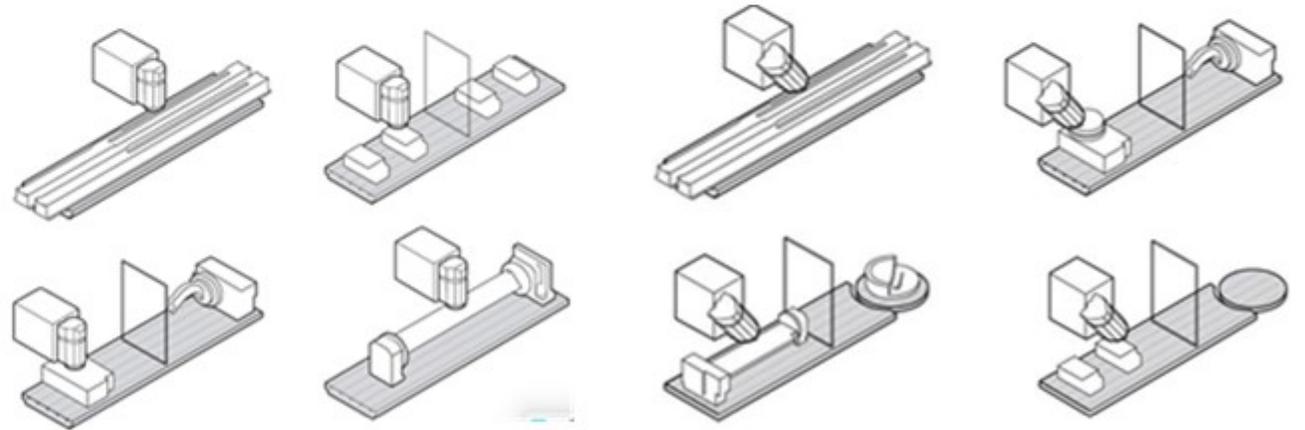
Z SERIES



- Philosophy behind the STAR EDITION

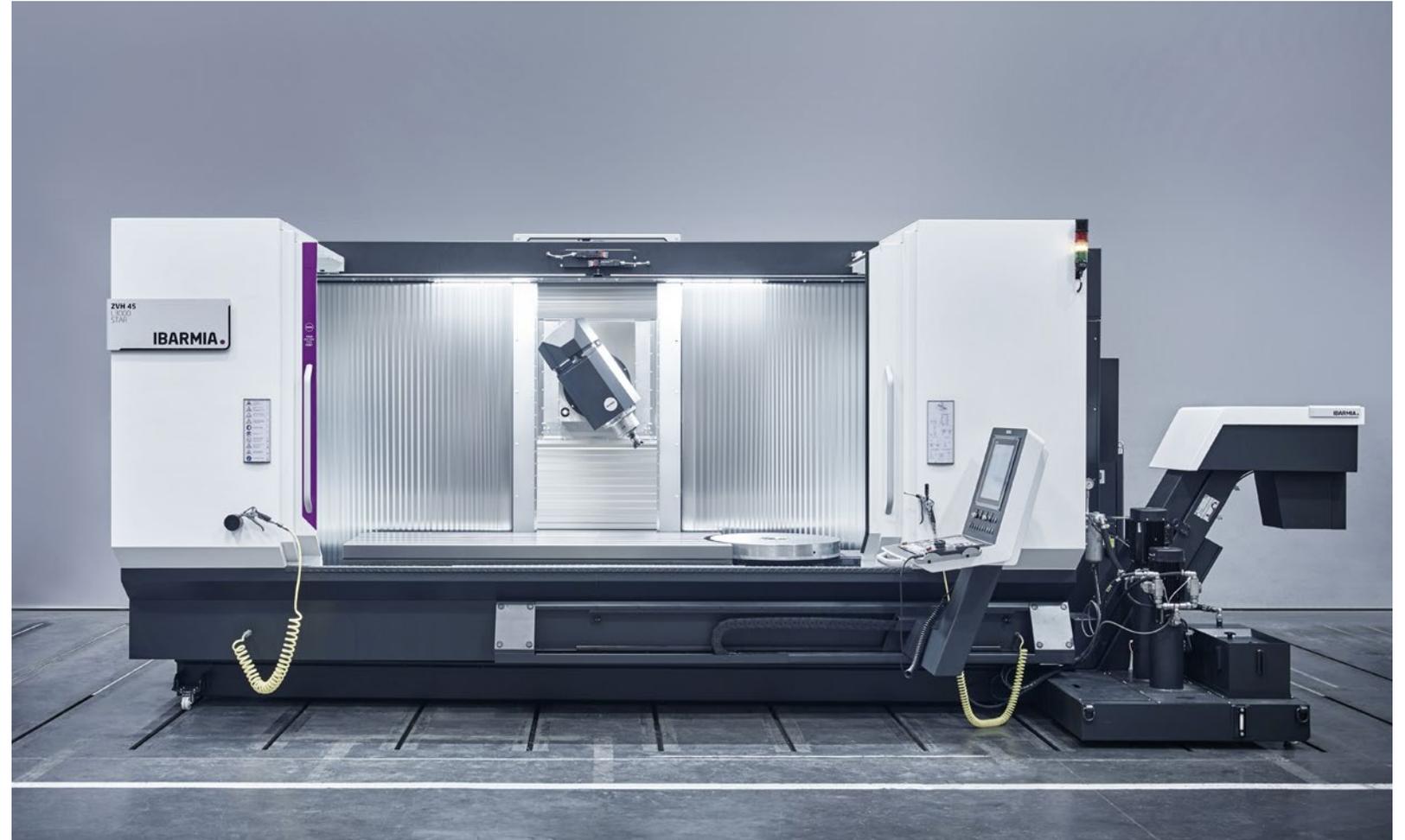
The goal was to launch a Z-Series in batch production for the most demanding machine size and configuration of the market and focussing in a short delivery time and excellent price for the best "all-round machine" in this segment, that every workshop can achieve and should have in their machining line.

- **X:3000mm / Y:800mm / Z:800mm**
- *Optionally with NC-tilting head (B-axis)*
- *NC-rotary table (C-axis and pendulum work)*
- *a handful of the most demanded options*

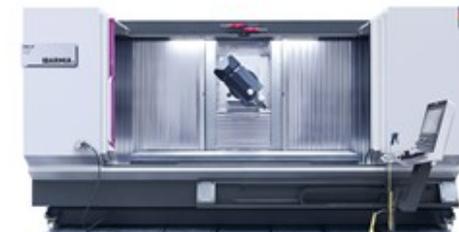
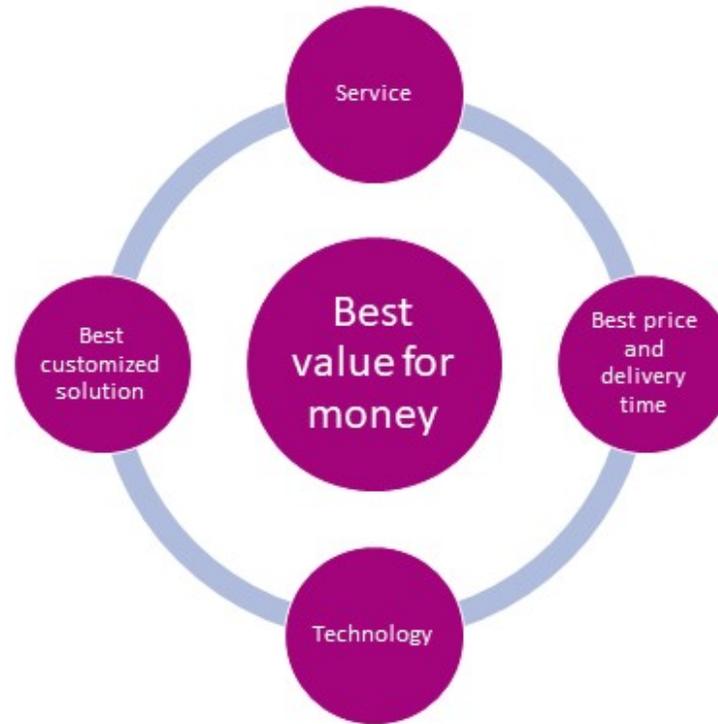


All the IBARMIA high quality components, know-how and technology put into one configuration that meets the requirement of a high percentage of the standard market.

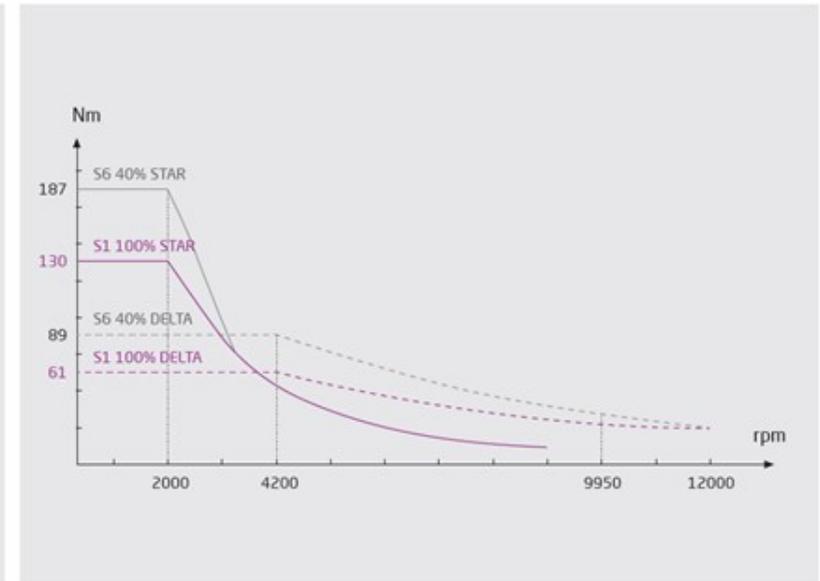
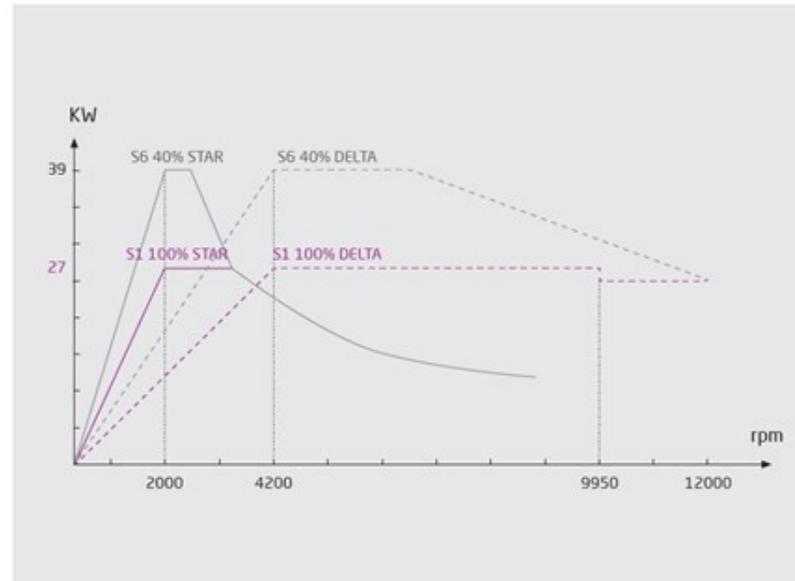
A PREMIUM machine with the price and availability of a standard machine.



- Philosophy behind the STAR EDITION



- Powerful main spindle (water cooled)



**40% more powerful than the competition.**

- Machine construction and standard elements

- Direct measurement system in all linear and rotative machine axis.



- Machine construction and standard elements

- Chain-type-magazine mounted on the carriage with servo controlled ATC-Shuttle

- Number of positions: **40 Positions**

(60 positions in option)

- Maximum tool diameter:

Previous & Posterior taken position: **90 mm**

Previous & Posterior free position: **150 mm**

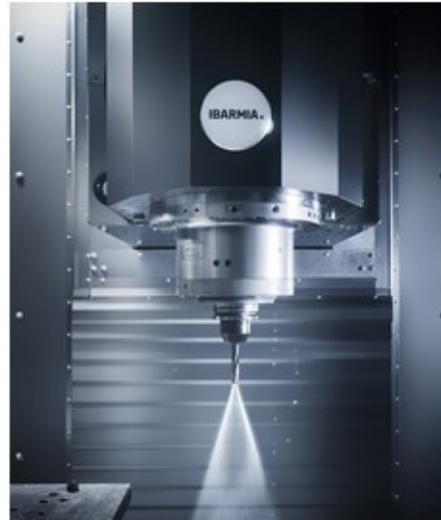
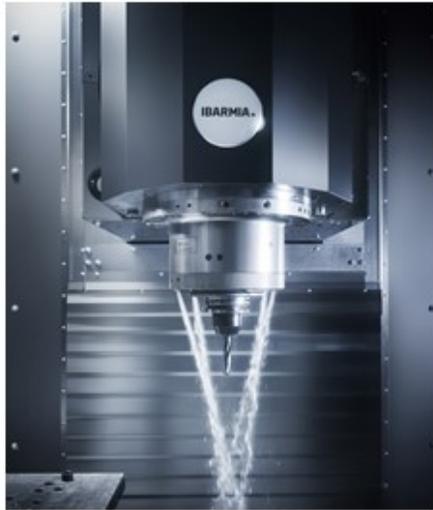
- Maximum tool length: **350 mm**

- Maximum tool weight: **8 kg**

- Tool management system: **Random**



- 12 bar outer coolant and 22 bar inner coolant pumps



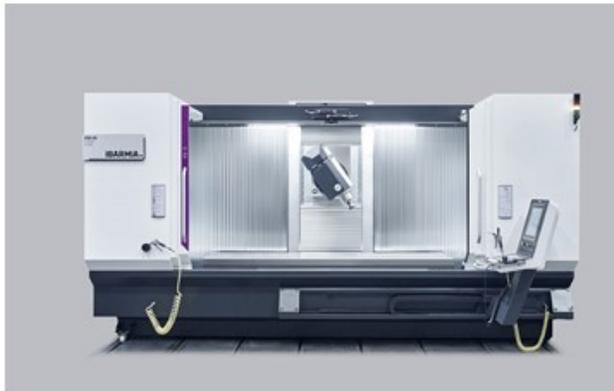
- Machine range

One size, 3x machine levels available

**ZV 45/L3000**  
**STAR EDITION\_**



**ZVH 45/L3000**  
**STAR EDITION\_**



**ZVH 45/L3000 D**  
**STAR EDITION\_**



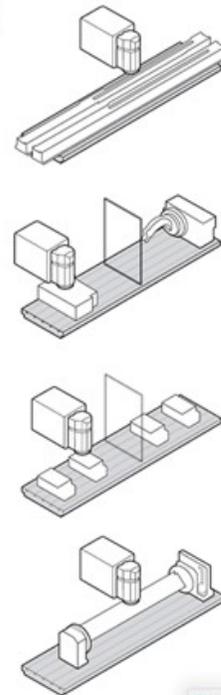
Fixed head. 3 axis machine that can be provided with IV axis rotary tables

- Machine range

One size, 3x machine levels available



**ZV 45/L3000 STAR EDITION\_**

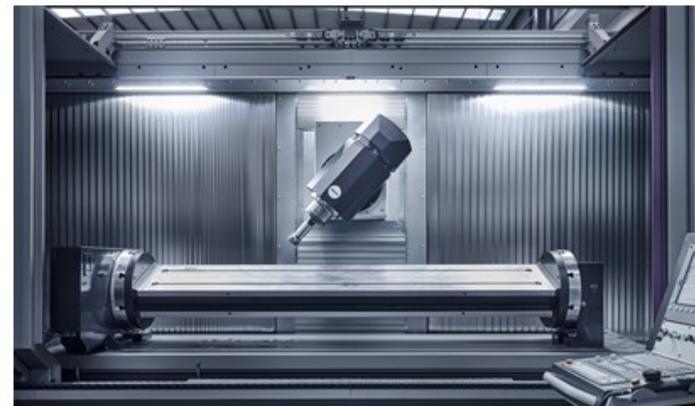
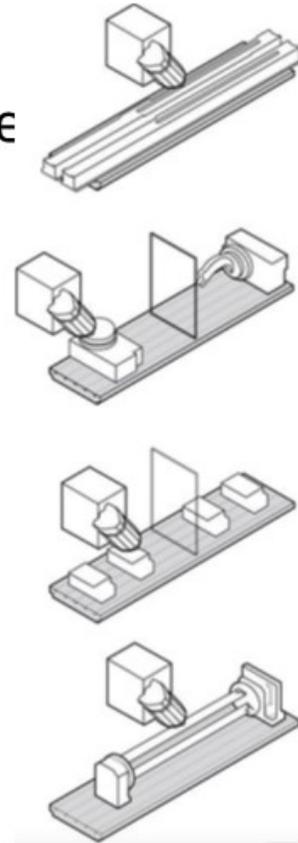


Tilting head. Flat fixed table where rotary tables can be bolted

- Machine range  
One size, 3x machine levels available



**ZVH 45/L3000 STAR EDITION\_**

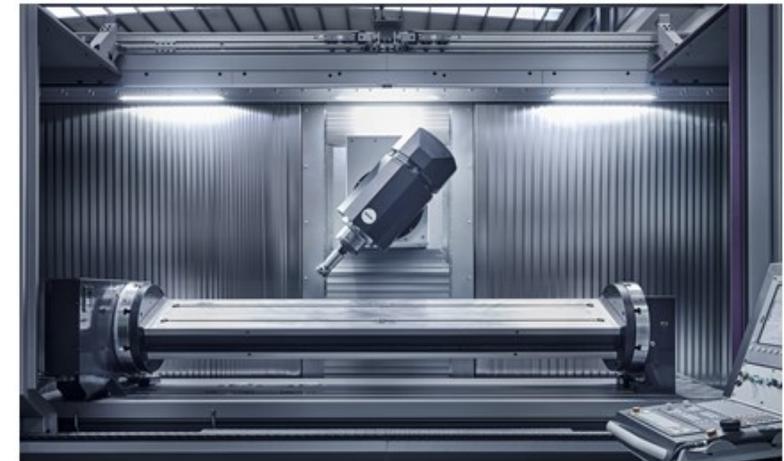
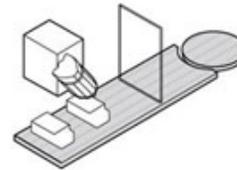
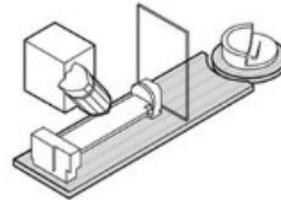
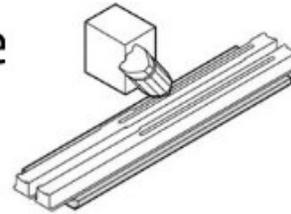


## Tilting head. Integrated rotary table

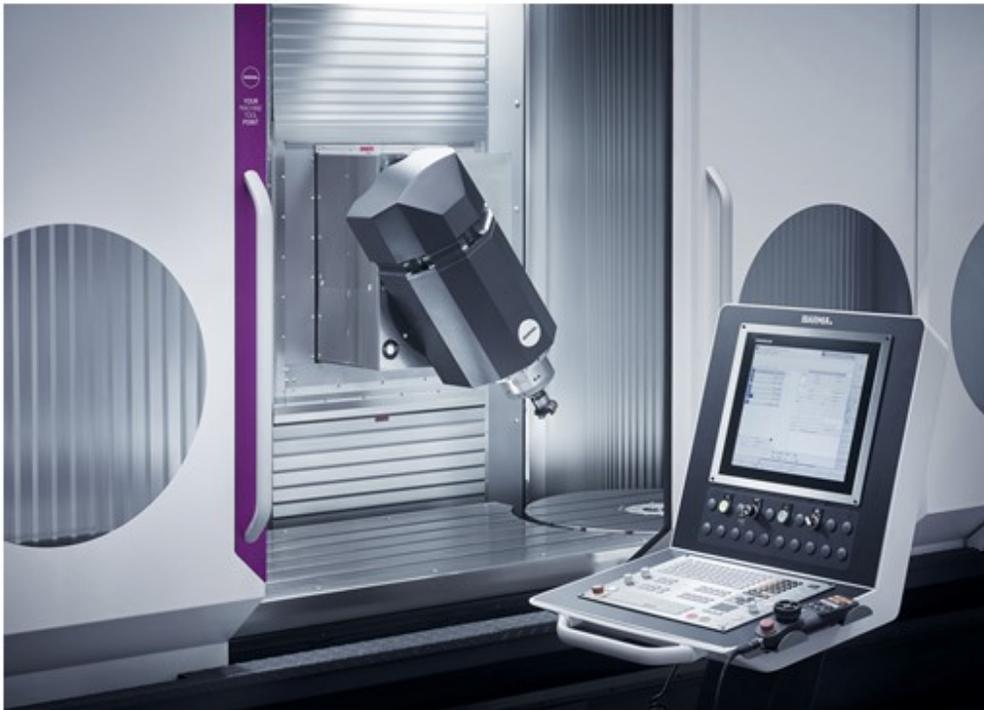
- Machine range  
One size, 3x machine levels available



**ZVH 45/L3000 D STAR EDITION\_**



- Available CNC



**Standard**  
Heidenhain TNC 640  
19" touch-screen



**Option**  
FANUC 31i-B5  
19" touch-screen

## • Available options

Heidenhain Kinematic Opt
FANUC Kinematic Opt
Basic preparation additional axis for rotary table
3D file working area CAD-CAM
HSK A-63 tool taper
Air blowing trough spindle
Upgrade from 22 to 40 bar pump for inner coolant trough spindle
Upgrade from 22 to 40 bar pump for inner coolant trough spindle + paper filter device
rotary table D450/H370 HV to mount on table
rotary table D630/H370 HV to mount on table
3-damp self-centering manual daw plate Ø 315 mm for rotary table D400/H370 HV
3-damp self-centering manual daw plate Ø 400 mm for rotary table D400/H370 HV
3-damp self-centering manual daw plate Ø 400 mm for rotary table D630/H370 HV
3-damp self-centering manual daw plate Ø 630 mm for rotary table D630/H370 HV
tail stock H370
NSM software and pendulum division wall
3 light status lamp
2 aspiration unit for mist
Renishaw touch toolseter TS27R by cable connection
Renishaw radio toolseter RTS by Laser
Renishaw RMP 60 3D work piece touch probe by radio connection
HEIDENHAIN TT460 touch toolseter by radio connection
HEIDENHAIN TT160 touch toolseter by cable connection
HEIDENHAIN TS460 3D work piece touch probe by radio connection
Working mode 3
Upgrade from 40 to 60 tools magazine



## • Unique selling points

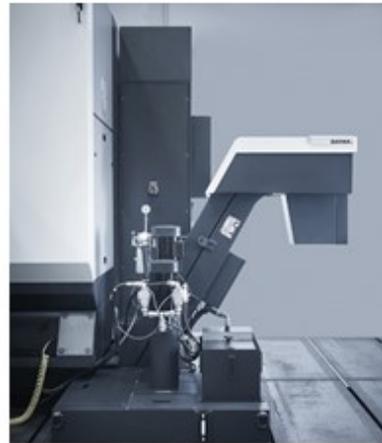
### Award winning B-axis tilting head with Direct Drive Technology

- High dynamic
- Absolutely ZERO wear of the transmission.
- Absolutely ZERO backlash' clockwise and anticlockwise
- No damage of the cinematic chain in case of lateral collision



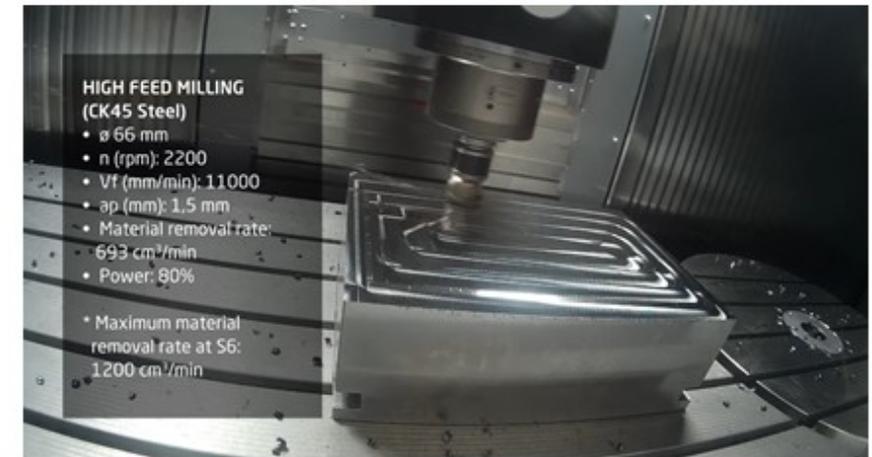
### Chip management

- Designed for best protection and evacuation of chip (*customer can choose position and chip conveyor type*)



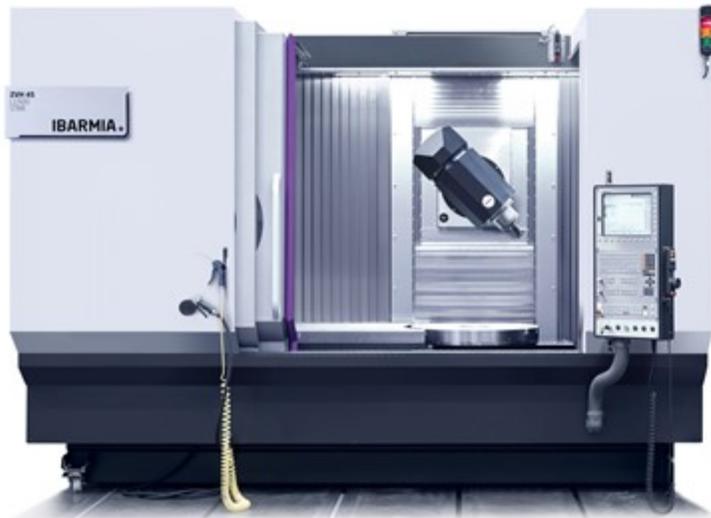
### The best balanced "all-rounder machine"

- strongest performance in this machine /price segment



- Machine range

**ZVH 45/L1500 D STAR EDITION\_**



Compact and  
focusing  
5-axis machining

