

**MTE** MILLING  
MACHINES



FLOOR TYPE  
MILLING MACHINES

**FBF-S / MBF-M**

# WE ARE A MID-SIZED COMPANY BECAUSE WE WANT TO BE

We're big enough to develop innovative milling technologies for the challenging global markets and flexible enough, as an owner-managed company, to deliver a highly individual and personal customer experience.

We take the time to get to know you properly so that we can build the perfect machine for you.

## YOUR SUCCESS IS OUR INCENTIVE

### DESIGN AND CONSTRUCTION

MTE Spain  
in Itziar



### OUR SITES

#### MAIN PLANT IN SPAIN

MTE's main plant is in Itziar, in the Spanish Basque country between Bilbao and San Sebastian, a region famous for its mechanical engineering tradition. It is a region that has always had extensive iron ore resources and hydro power capacity, which is why the metal working trade became established there back in medieval times, laying the foundations for the present-day tool making and mechanical engineering industry.

Over the decades and centuries this region has developed outstanding competence in the design and construction of high-precision machine tools. The fact that many of our competitors are also located here encourages us all to keep on achieving new levels of performance. The engineers and technicians at our plant make all the core components for the machines - from the machine bed to the milling heads, which we believe are the core competence and know-how in milling machines.

Since all components for the MTE machines are cast, we have a long-standing collaboration with a local foundry that specialises in machine tool engineering. It supplies us with highest quality cast components and makes an important contribution to the stability, dimensional accuracy and precision of our machines. The depth of production, from the machining of the rough cast to final assembly in-house, and our experienced employees' high level of identification with the company, have ensured 20 years of very efficient production and assembly operations with first-rate technical and design quality.

The combinations of mechanical engineering tradition and commitment to innovation, of solid know-how and engaged employees, makes us an internationally respected partner for large floor type and bed type milling machines. This is clearly evident by the fact that we have built more than 1,100 machines - and supplied around 500 of them to German customers.

ANOTHER VERY GOOD INDICATOR OF OUR CUSTOMERS' SATISFACTION IS THAT EACH OF THEM HAS 2.7 MTE MACHINES ON AVERAGE



#### OUR GERMAN BRANCH

Our sales and service branch for the German speaking market opened at a central location in Germany in 2008. We don't just want to sell milling machines, we want to cater comprehensively to our customers' needs before and after the sale.

Our aim is to deliver first-rate products to our customers. Sometimes a standard product is the perfect choice. At other times, the customer will need a custom-made product that is tailored to their application and space situation. The first thing we do to achieve this aim is to give our customers the best possible advice from the first sales talk on. Then we ensure that the entire project, from order placement to machine delivery, is implemented without any hitches and provide a competent after-sale service covering the machine's entire lifespan.

We are absolutely committed to this aim, and to continuous improvement. To ensure optimum machine availability, we have a well-trained and efficient service team and an excellent spare part service at our Montabaur site. The German market is the international technology and quality benchmark for machine tool engineering.

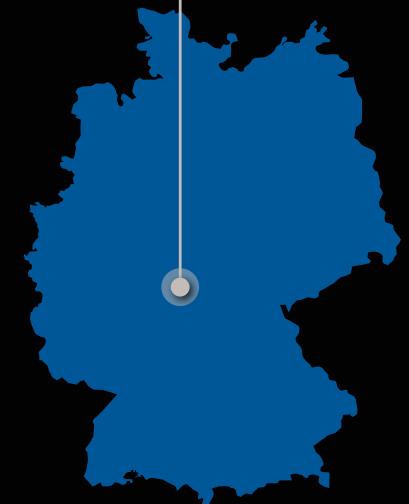
To be successful in this market you have to deliver top-quality products and services, and offer customers individual and flexible solutions for their requirements. Our family-run company's two sites are closely networked, have flat hierarchies, short communication paths and are under single management.

THESE THINGS HAVE HELPED US TO BUILD OUR SUCCESS IN OUR MARKETS OVER THE YEARS.



### SALES DEPARTMENT SERVICE

MTE Germany  
in Montabaur





# FBF-S



# FLOOR TYPE MILLING MACHINES **FBF-S** >



The **FBF-S machine** is a stable floor type milling machine for small to medium workpieces with a vertical travel of up to 2.250 mm. It is used for general mechanical engineering applications and, due to its incredibly flexible configuration possibilities, now also for contract manufacturing and increasingly for tool and mould making.

The **FBF-S series'** strengths - high stability and powerful drive through optional pendulum machining and the combination with NC rotary tables - can also be realised in considerably higher spindle running times.

## TECHNICAL FEATURES

### FBF-S

#### TRAVELS

X axis (longitudinal)	mm	3.000 - ...
Y axis (cross)	mm	1.200 (1.300) <sup>1</sup>
Z axis (vertical)	mm	1.500 (2.000) <sup>1</sup> (2250) <sup>1</sup>

#### SPINDLE

Spindle taper		SK50 DIN 69871 / AD
Speed	rpm	4000 / (6000) <sup>1</sup>
Ranges		3
Power	kW	322 (40) <sup>1</sup>
Maximum torque	Nm	2.050 <sup>3</sup> (4.000 rpm) / 1.085 <sup>4</sup> (6.000 rpm) <sup>1</sup>

#### FEEDS

Maximum feed	m/min	25
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<sup>1</sup> Option.

<sup>2</sup> Heidenhain motor.

<sup>3</sup> Heidenhain 32 kW and AFK milling head. For further information (combination of other milling heads and power), please feel free to contact us.

<sup>4</sup> Option. Heidenhain 32 kW and AFK milling head. For further information (combination of other milling heads and power), please feel free to contact us.

MTE reserves the right to modify the design and technical features shown in this catalogue without notice.



### STANDARD EQUIPMENT

- ▶ Three ranges cooled gearbox
- ▶ INA linear guiding system
- ▶ Manual milling head 4.000 rpm (MFK)
- ▶ Heidenhain CNC iTNC 530 HSCi / TNC 640
- ▶ Heidenhain direct pressurized linear scales
- ▶ Electronic handwheel
- ▶ Integrated security system (PILZ)
- ▶ Operator cabine with CNC control panel
- ▶ Perimetral closing according to CE standard
- ▶ Automatic lubrication system
- ▶ External coolant equipment
- ▶ Electrical cabinet cooling unit
- ▶ Hydraulic counterbalance system
- ▶ Working lights
- ▶ Levelling elements
- ▶ Air, power and ethernet connectors inside the cabin

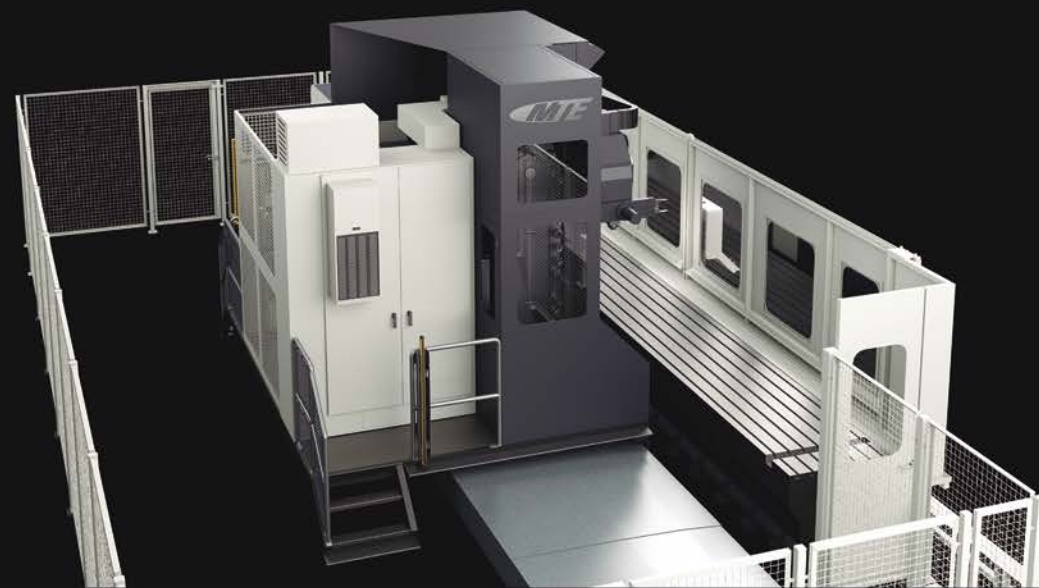
### OPTIONAL EQUIPMENT

- ▶ Manual milling head 6.000 rpm (MFK)
- ▶ Automatic milling head 4.000/6.000 rpm 2,5x2,5 (AFK)
- ▶ Automatic milling head 4.000/6.000 rpm 2,5x1 (AFK)
- ▶ Direct spindle 4.000 rpm (HFK)
- ▶ Different CNC available: Siemens, Fanuc and Fagor
- ▶ 19 inches CNC screen
- ▶ Second control panel
- ▶ Wireless handwheel
- ▶ Teleservice
- ▶ Random vertical tool changer 24 tools
- ▶ Chain type horizontal / vertical tool changer  
Number of tools: 40, 60, 80
- ▶ Advanced tool magazine management
- ▶ Chip conveyor
- ▶ Coolant through the spindle 20/50 bar with filter paper system
- ▶ Magnetic drum / Oil band skimmer + micro-oxygen /  
Frequency controller for the motor
- ▶ Air through the spindle / Through outside nozzles
- ▶ Coolant pistols
- ▶ Fourth axis rotary tables
- ▶ Tools & piece probes (M&H, Heidenhain and Renishaw)
- ▶ Brankamp CMS (Collision Monitoring System)
- ▶ MQL Systems
- ▶ Pendular working function

**Note:** all 6.000 rpm milling heads are cooled. Cooled head optional at 4.000 rpm.



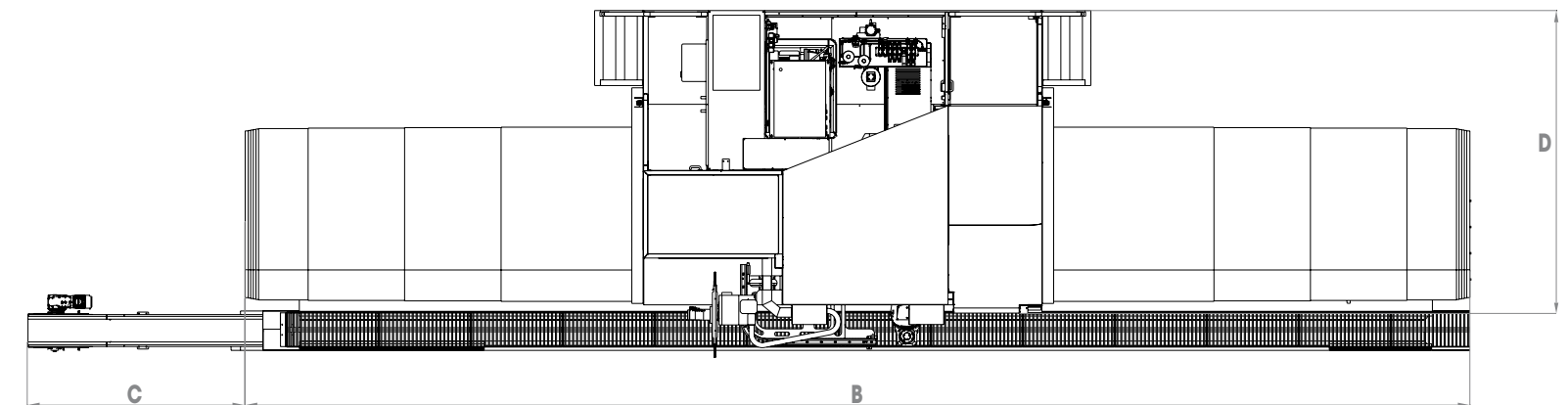
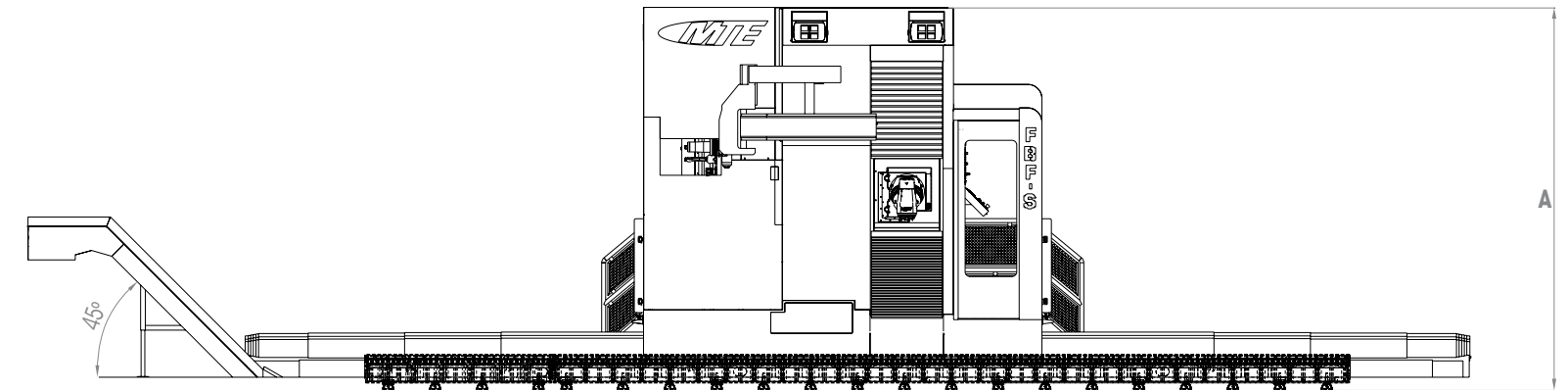
FBF-S model. Side view



FBF-S model. Backside view

## > FBF-S ENCLOSURE

### DIMENSIONS



#### FBF-S (mm)

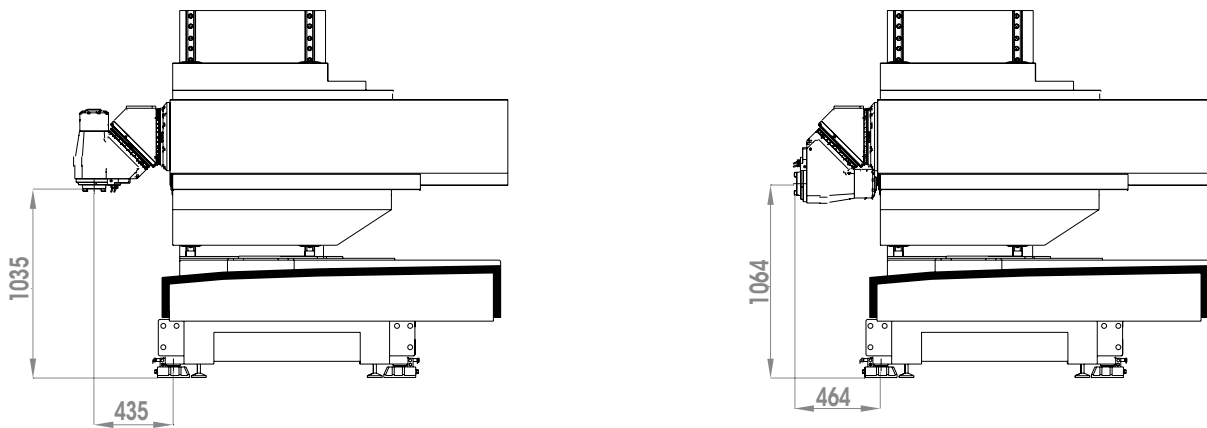
	A	B	C	D
FBF-S 4000	4.100 <sup>1</sup>	8.000	1.600	3.250
FBF-S 6000	4.100 <sup>1</sup>	11.050	1.600	3.250
FBF-S 8000	4.100 <sup>1</sup>	13.050	1.600	3.250
FBF-S 10000	4.100 <sup>1</sup>	16.450	1.600	3.250



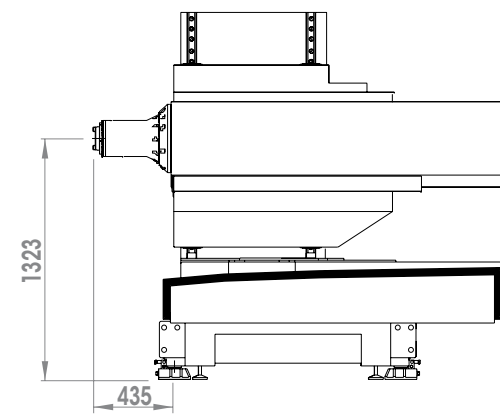
<sup>1</sup> Z=1.500 and ATC 40 tools / 4.600 with Z= 2.000 and ATC 40 tools/ 4.800 with ATC 60 tools.  
Machine dimensions change according to the travels of the machine.

## MILLING HEADS

### AUTOMATIC MILLING HEAD (AFK) 2,5°x2,5° / 1x2,5° (4.000/6.000 rpm)

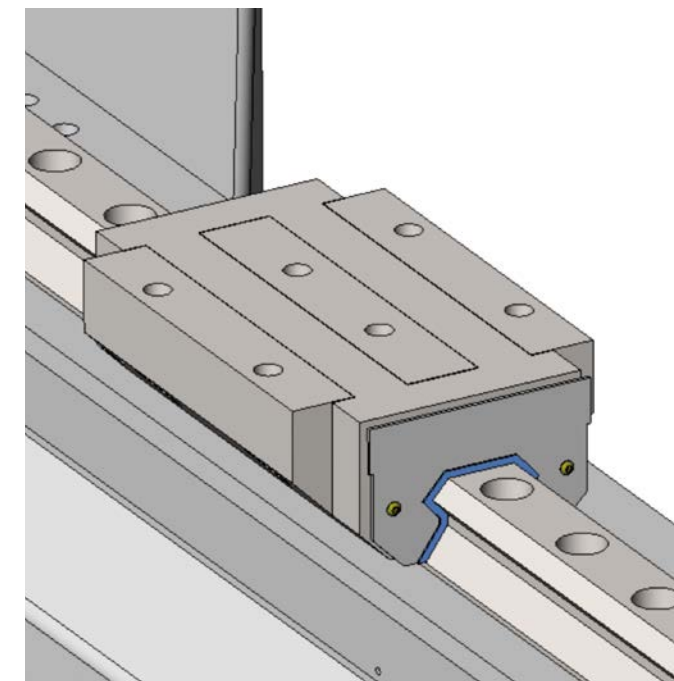
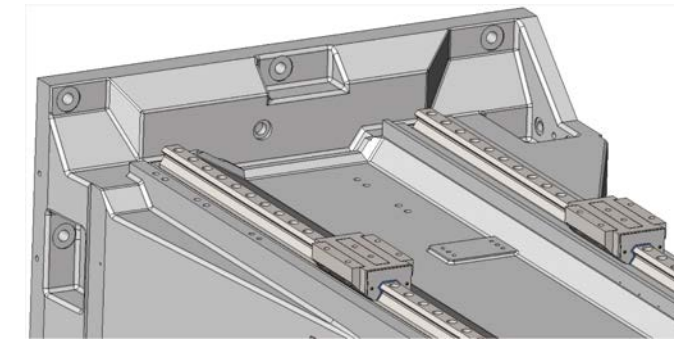


### DIRECT SPINDLE HEAD 4.000 rpm



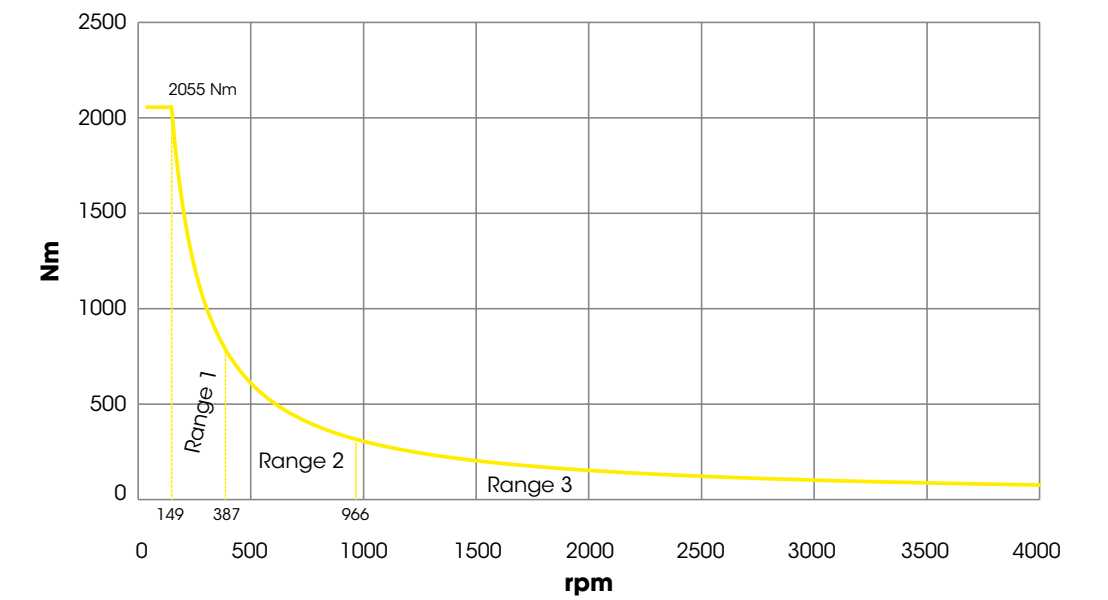
Dimensions in mm.

## LINEAR GUIDEWAY DETAIL

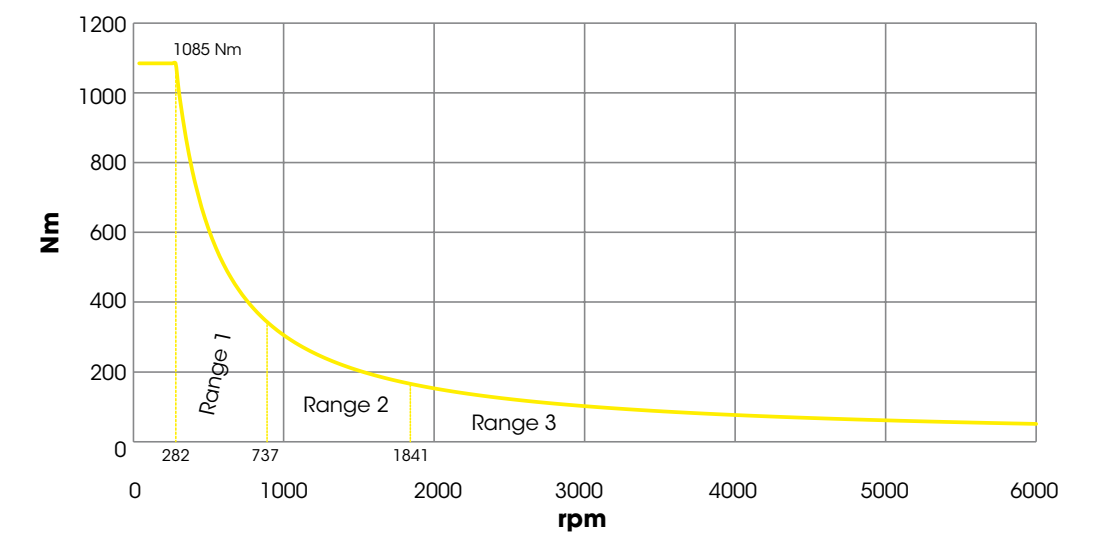


## POWER-TORQUE DIAGRAM

32 kW AFK/MFK 4.000 rpm



32 kW AFK 6.000 rpm





# FBF-M



# FLOOR TYPE MILLING MACHINES **FBF-M** >



The **FBF-M series** with its extremely stable design is predominantly used for mechanical engineering applications, and for the processing of medium-sized and heavy workpieces with a vertical travel of up to 3,000 mm. The series has fully automatic head changing systems with up to 4 different milling heads, rotary and traveling tables and tool changers, as well as optional shuttle machining, offering practical and maximum flexibility in the high-precision processing of extremely complex workpieces.

In some cases the machine is even used to process complex large tool moulds in high strength-to-density ratio materials.

## TECHNICAL FEATURES

### FBF-M

#### TRAVELS

X axis (longitudinal)	mm	3.000 - ...
Y axis (cross)	mm	1.500
Z axis (vertical)	mm	2.000 (2.500) <sup>1</sup> (3.000) <sup>1</sup>

#### SPINDLE

Spindle taper		SK50 DIN 69871 / AD
Speed	rpm	4.000 / (6.000) <sup>1</sup>
Ranges		3
Power	kW	32 <sup>2</sup> (40) <sup>1</sup>
Maximum torque	Nm	2.050 <sup>3</sup> (4.000 rpm) 1.085 <sup>4</sup> (6.000 rpm) <sup>1</sup>

#### FEEDS

Maximum feed	m/min	25
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<sup>1</sup> Option.

<sup>2</sup> Heidenhain motor.

<sup>3</sup> Heidenhain 32 kW and AFK milling head. For further information (combination of other milling heads and power), please feel free to contact us.

<sup>4</sup> Option. Heidenhain 32 kW and AFK milling head. For further information (combination of other milling heads and power), please feel free to contact us.

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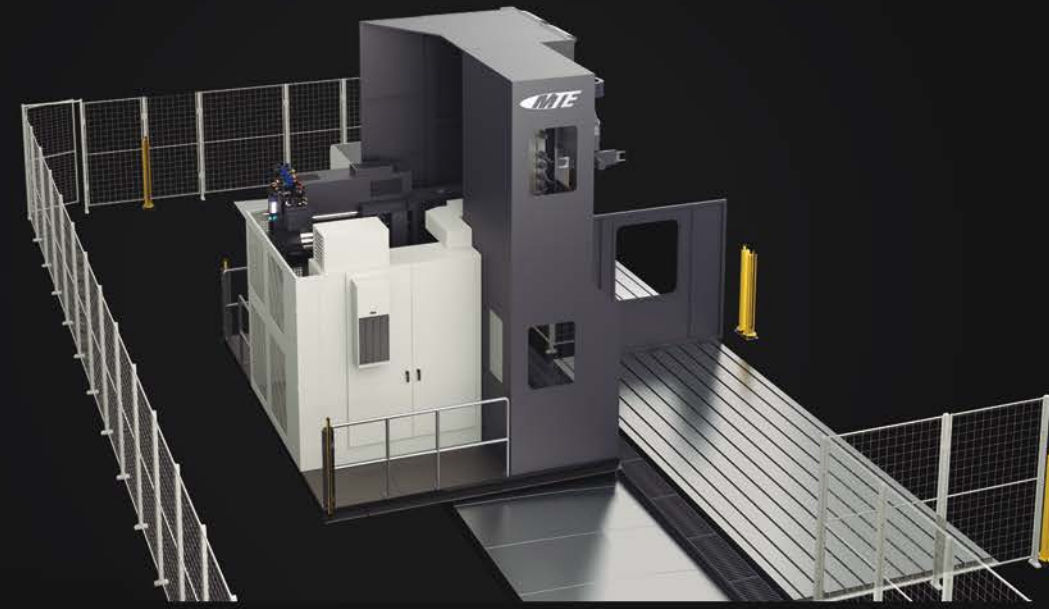
### STANDARD EQUIPMENT

- ▶ Three ranges cooled gearbox
- ▶ INA linear guiding system
- ▶ Manual milling head 4.000 rpm (MFK)
- ▶ Heidenhain CNC iTNC 530 HSCi / TNC 640
- ▶ Heidenhain direct pressurized linear scales
- ▶ Electronic handwheel
- ▶ Integrated security system (PILZ)
- ▶ Operator cabine with CNC control panel
- ▶ Perimetral closing according to CE standard
- ▶ Automatic lubrication system
- ▶ External coolant equipment
- ▶ Electrical cabinet cooling unit
- ▶ Hydraulic counterbalance system
- ▶ Working lights
- ▶ Levelling elements
- ▶ Air, power and ethernet connectors inside the cabin

### OPTIONAL EQUIPMENT

- ▶ Manual milling head 6.000 rpm (MFK)
- ▶ Automatic milling head 4.000/6.000 rpm 2,5°x2,5° (AFK)
- ▶ Automatic milling head 4.000/6.000 rpm 2,5°x1° (AFK)
- ▶ Automatic continuous milling head 4.000/6.000 rpm 0,001° x 0,001° (SFK)
- ▶ Direct spindle 4.000 rpm (HFK)
- ▶ Different CNC available: Siemens, Fanuc and Fagor
- ▶ 19 inches CNC screen
- ▶ Second control panel
- ▶ Wireless handwheel
- ▶ Teleservice
- ▶ Random vertical tool changer 24 tools
- ▶ Chain type horizontal / vertical tool changer  
Number of tools: 40, 60, 80.
- ▶ Advanced tool magazine management
- ▶ Chip conveyor
- ▶ Coolant through the spindle 20/50 bar with filter paper system
- ▶ Magnetic drum / Oil band skimmer + micro-oxygen / Frequency controller for the motor
- ▶ Air through the spindle / Through outside nozzles
- ▶ Coolant pistols
- ▶ Fourth axis rotary tables
- ▶ Tools & piece probes (M&H, Heidenhain and Renishaw Brankamp CMS (Collision Monitoring System))
- ▶ Pendular working function
- ▶ Vertical elevation operator platform
- ▶ Vertical/horizontal elevation operator platform
- ▶ MQL Systems

**Note:** all 6.000 rpm milling heads are cooled. Cooled head optional at 4.000 rpm.



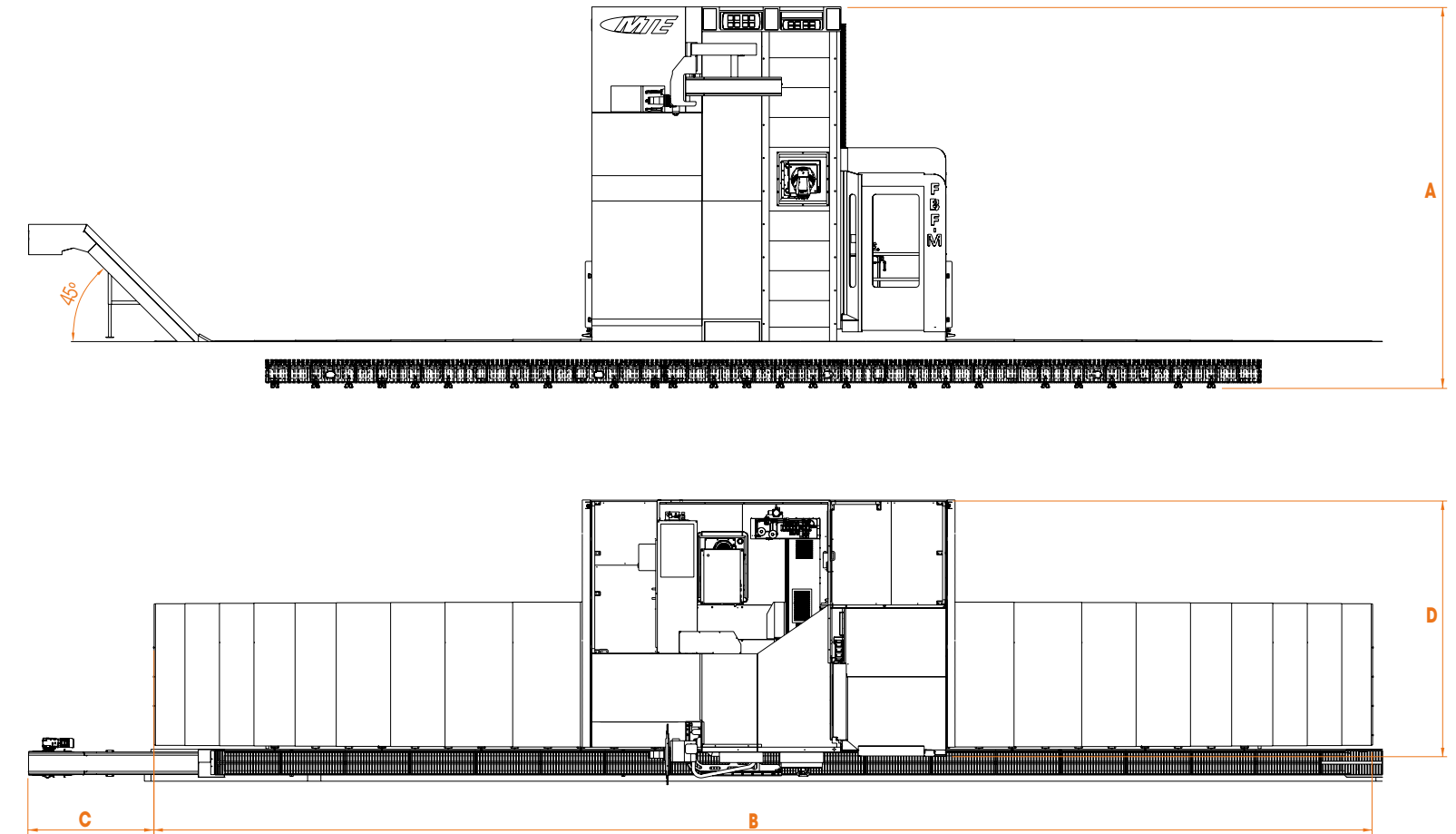
FBF-M model. Side view



FBF-M model. Backside view

## > FBF-M ENCLOSURE

### DIMENSIONS



#### FBF-M (mm)

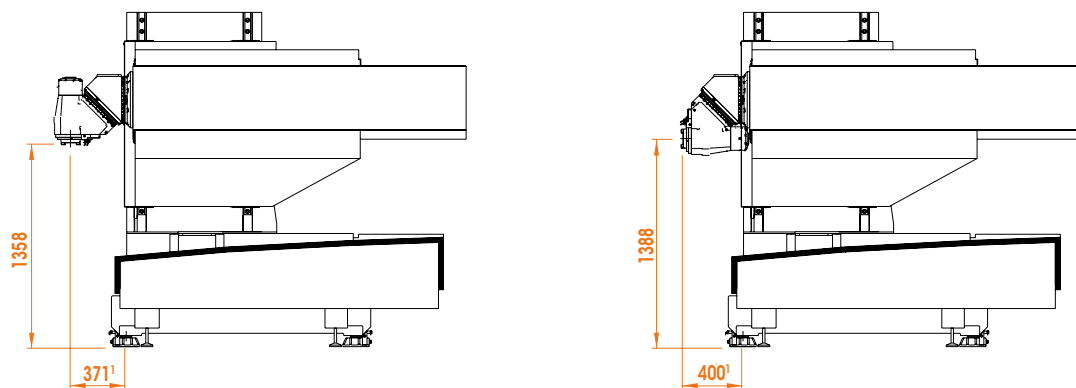
	A	B	C	D
FBF-M 6000	5.750 <sup>1</sup>	11.900	1.600	3.900
FBF-M 8000	5.750 <sup>1</sup>	14.000	1.600	3.900
FBF-M 10000	5.750 <sup>1</sup>	16.200	1.600	3.900
FBF-M 12000	5.750 <sup>1</sup>	18.400	1.600	3.900



<sup>1</sup> Z=3.000 and ATC 40/60 tools // 5.250 with Z=2.500 and ATC 40/60 tools // 6.350 with ATC 80 tools. Machine dimensions change according to the travels of the machine.

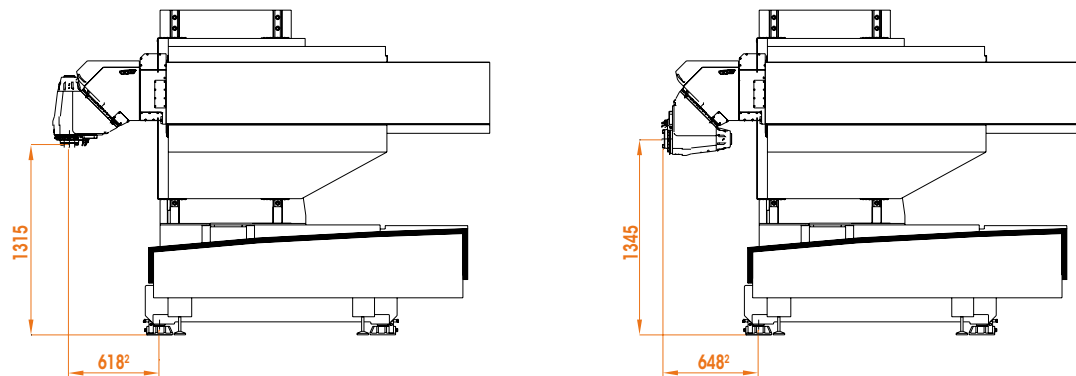
## MILLING HEADS

### AUTOMATIC MILLING HEAD (AFK) 2,5°x2,5° / 1x2,5° (4.000/6.000 rpm)



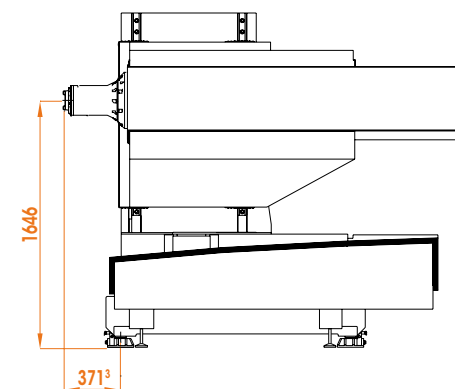
<sup>1</sup> 35 mm. more with automatic head change system.

### AUTOMATIC STEPLESS MILLING HEAD (SFK) 0,001x0,001° (4.000/6.000 rpm)



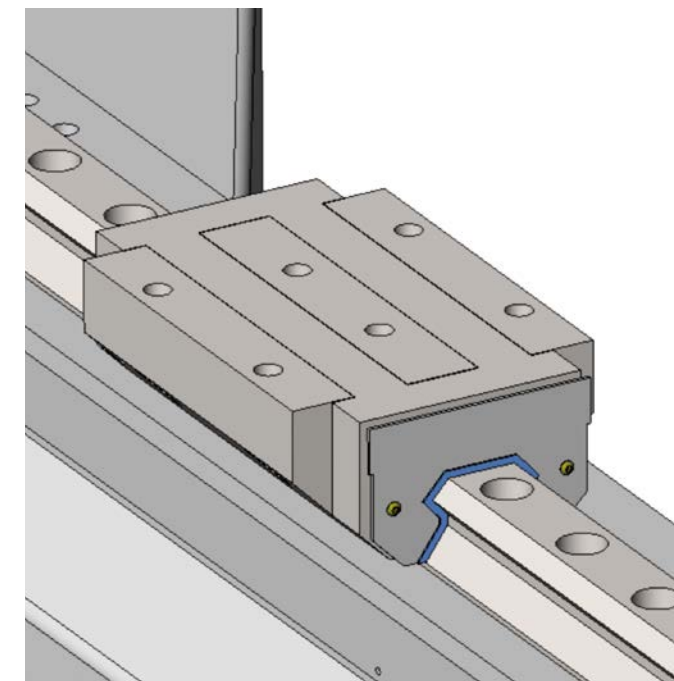
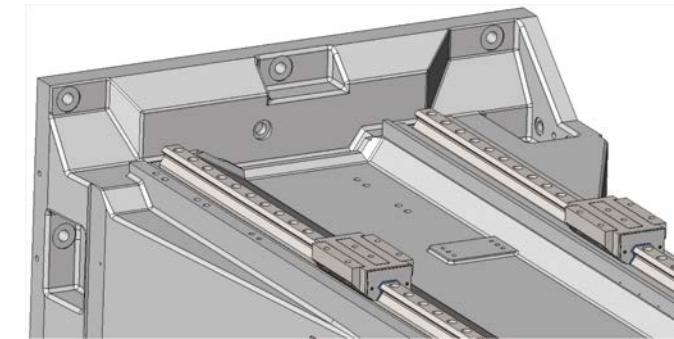
<sup>2</sup> 24 mm. more with automatic head change system.

### DIRECT SPINDLE HEAD 4.000 rpm (HFK)



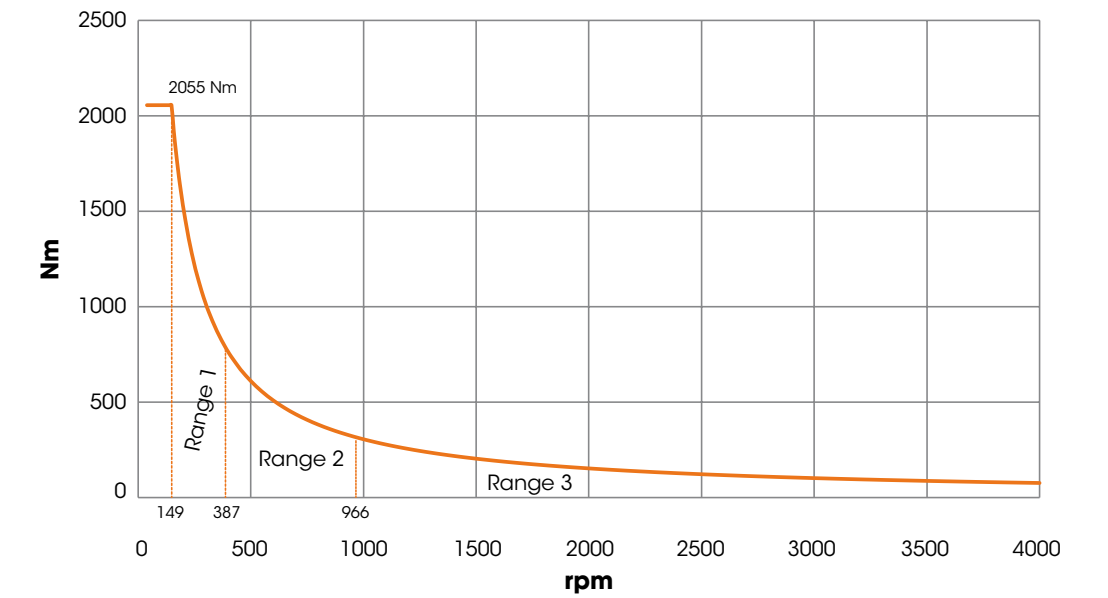
<sup>3</sup> 34 mm. more with automatic head change system.

## LINEAR GUIDEWAY DETAIL

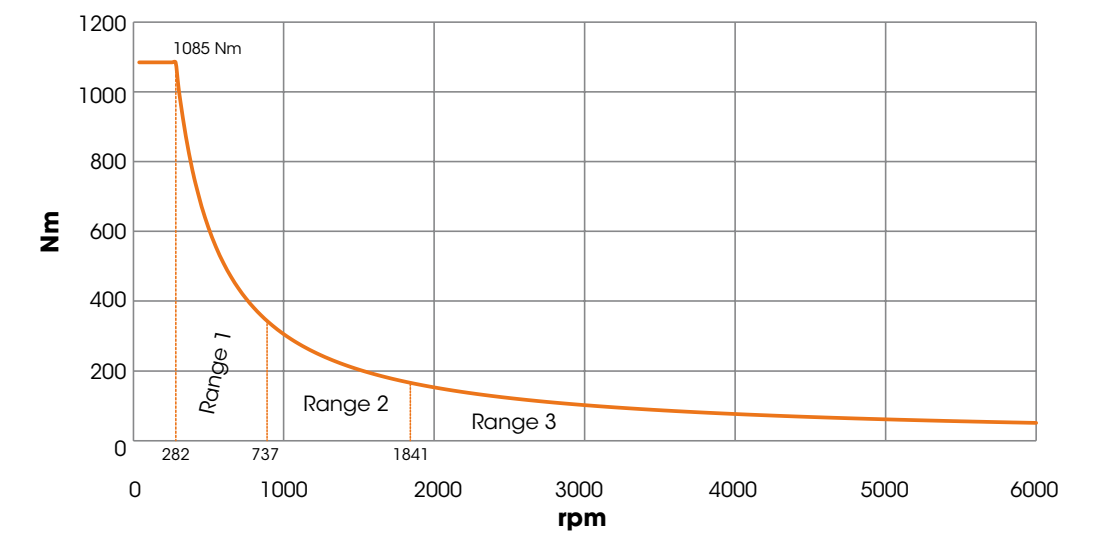


## POWER-TORQUE DIAGRAM

32 kW AFK/MFK 4.000 rpm



32 kW AFK 6.000 rpm







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