



FOX·M

High Performance Gantry-type Milling Machine



correa

ROBUSTNESS

"Today's investment, tomorrow's saving"

Generously sized and properly ribbed structural parts, strong milling heads, machines in perfect geometry... have always been the distinctive features of **NICOLÁS CORREA** since its foundation in 1947.

We are convinced Robustness is a good bet for our customers, a sensible investment that will result in the following benefits/values:

RELIABILITY

In **NICOLÁS CORREA**, we extend the concept of robustness to the whole production process of the machine, always choosing technical solutions of the highest quality. For this reason, we offer as standard 5 year warranty on our milling machines.



PRECISION

The milling machine is stable and maintains geometry values longer.

DURABILITY

Our machines are designed and assembled to last for decades. Tireless workers that maintain their chip removal capacity in good condition for years.

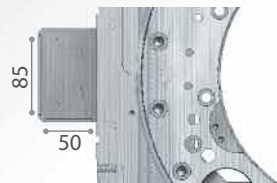
MILLING HEADS

Unique robust milling head technology with superb repeatability, flexible to perform roughing and finishing operations.



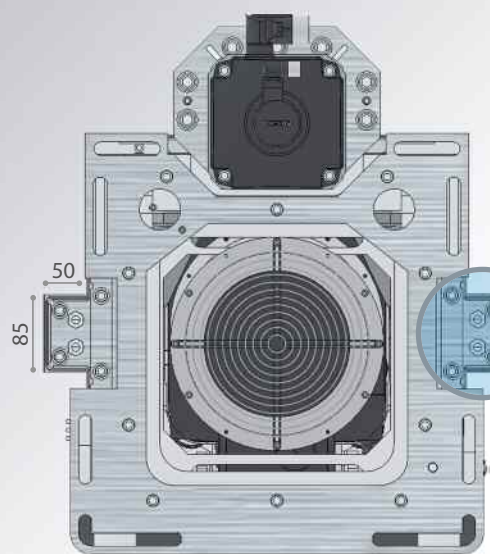


- Totally symmetric design of vertical axis.
- Improved geometry of the machine.
- Geometry is more stable faced with temperature changes.



HIGH DAMPING CAPACITY

- Vertical axis with water-cooled friction.
- Excellent damping capacity.
- Optimum performance with the ram in the lowest position.



What makes the difference in the FOX-M?

The FOX-M represents a new and innovative concept of bridge-type machine which combines traditional roughing capacity with the speed and precision of high performance machining. It includes a unique system which controls the temperature generated in the vertical axis of the machine.

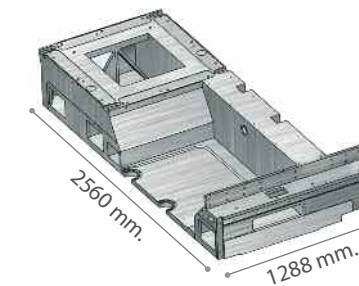


OVERSIZED STRUCTURAL ELEMENTS



HIGH GEOMETRICAL PRECISION

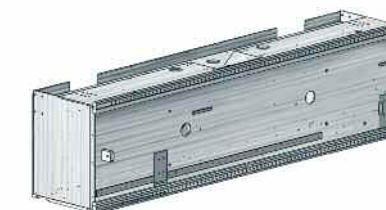
- Big Cross Sections.
- Roughing capacity.
- Machine geometry stability.



Longitudinal Saddle Cross Section



Column Cross Section:
1100mm x 1100mm



Crossbeam Cross Section:
1030mm x 1305mm



Ram Cross Section:
540mm x 550mm



ECO-DESIGN

Stand-by function and Auto Switch off function, saving 20% of the total energy machine consumption.



HIGH DYNAMIC CAPACITY

25 m/min in X, Y and Z axes, thanks to its V-Shaped linear guide-ways in all axes.

NEW!!

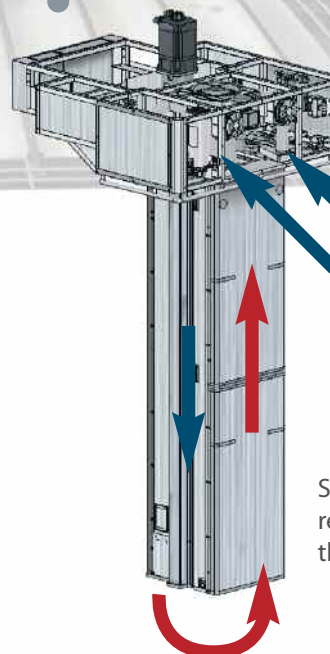


VERTICAL AXIS TEMPERATURE CONTROL

- High feed.
- High precision at tool tip.
- High roughing capacity.
- Geometric stability of ram.



- Cooled friction guide in the ram.



Air flow

System of air recirculation through the ram.



Technical Features

FOX-M

		50	65	80	95	110	125	140+1.5xN
TABLE WIDTH								
Surface	mm	1750/2500 /3000	1750/2500 /3000	1750/2500 /3000	1750/2500 /3000	1750/2500 /3000	1750/2500 /3000	1750/2500 /3000
Maximum load on the table	Tm	10-15						
TRAVERSES								
Longitudinal	X mm	5000	6500	8000	9500	11000	12500	14000
Cross	Y mm	Cross: 3.000-3.750-4.250-5.000 / DBC: 2.500-4.500						
Vertical	Z mm	1.000 / 1.500 / 1.750						
FEEDS								
Maximum	X m/min	25						
	Y m/min	25						
	Z m/min	25						
VERTICAL SPINDLE SPECIFICATIONS								
Spindle nose		ISO-50 / HSK						
Programmable speed	rpm	4.000 / 6.000						
Maximum power	kW	37 / 52						
Maximum torque	Nm	1.298						

Standard Equipment

Automatic Universal Head

Numerical control Heidenhain or Siemens (Operate HMI)

Portable handwheel

Air-conditioned electrical cabinet

Linear guides in the X, Y axes

Friction guide at Z axis

Lamp in the working area

Hydraulic and cooling group

Absolute Heidenhain measurement rules in all axes

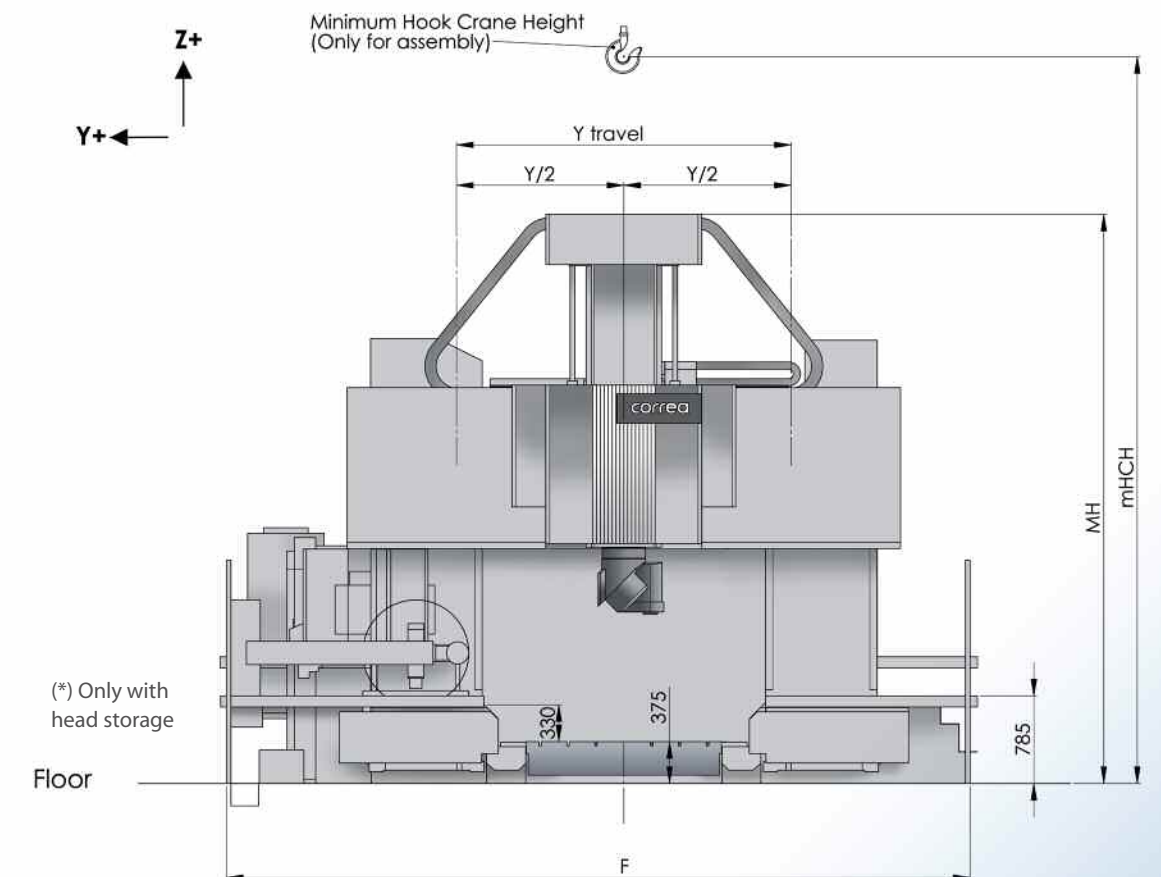
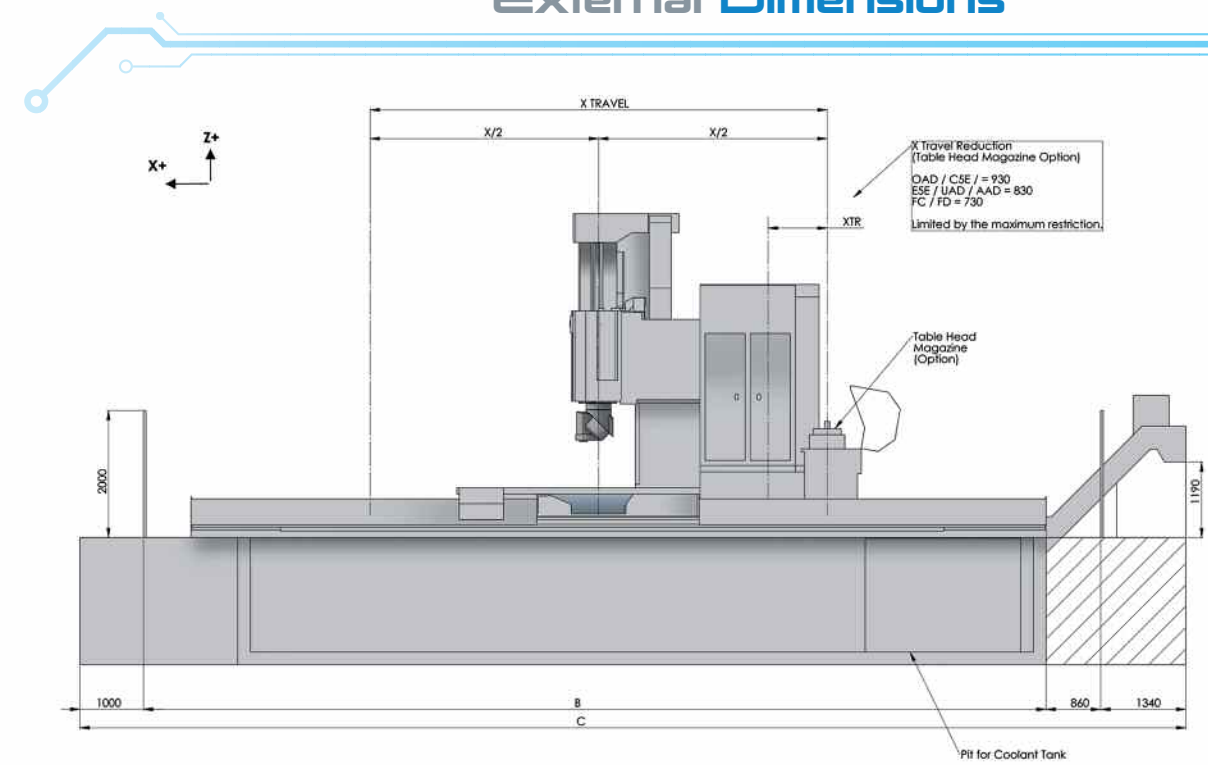
Exterior coolant with adjustable lance nozzles

Internal and external air flow

Guarding

Tele-service

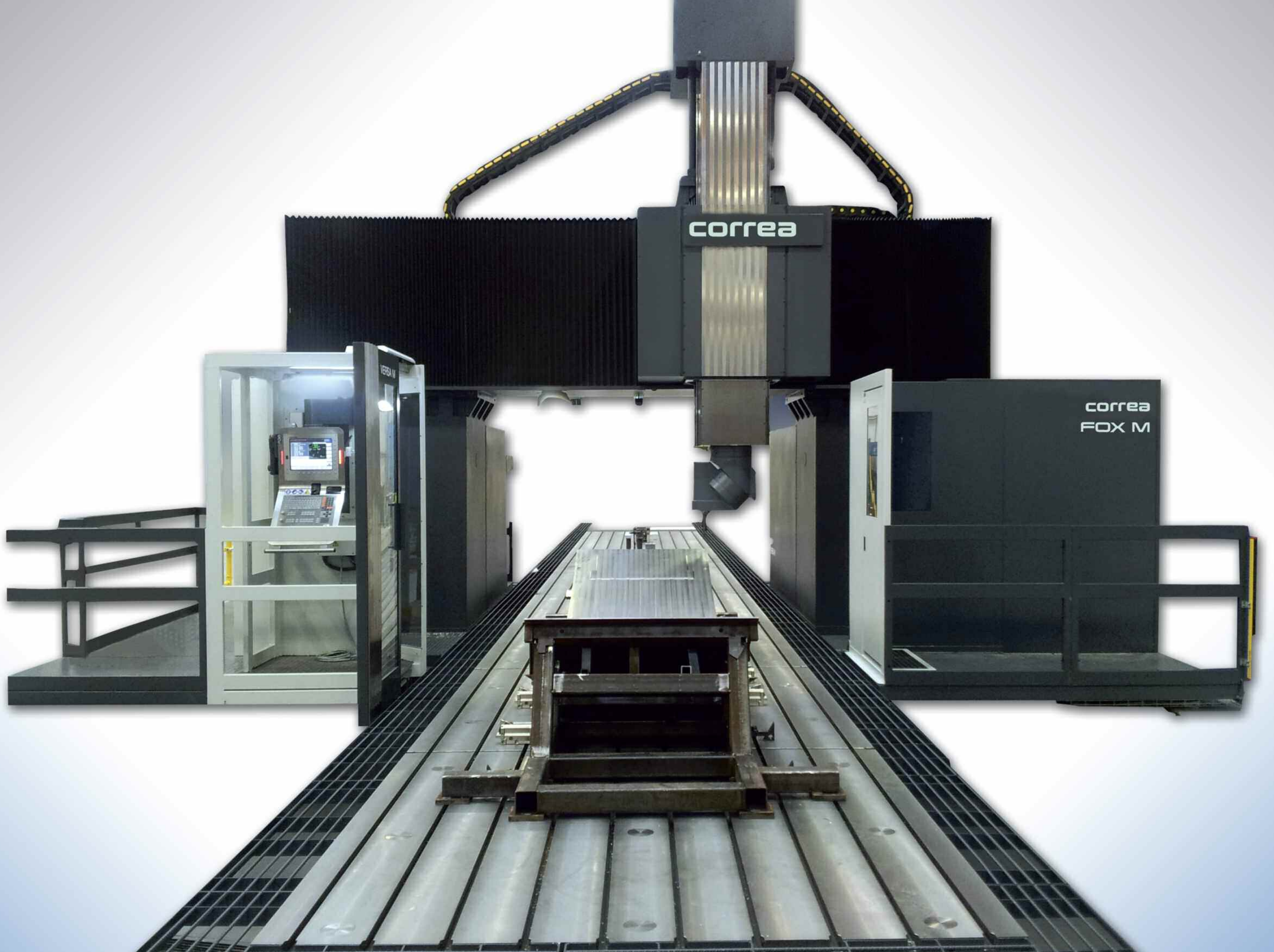
External Dimensions



MODEL	B	C
FOX-M 50	11180	14420
FOX-M 65	12680	15920
FOX-M 80	14180	17420
FOX-M 95	15730	18970
FOX-M 110	17100	20520
FOX-M 125	18600	22100
FOX-M 140	20400	23600

Y TRAVEL	F
3000	6750
3750	7500
4250	8000

Z TRAVEL	Vertical Capacity	MH	mHCH
1000	A	5110	6525
1000	B	5360	6775
1000	C	5610	7025
1500	C	6110	7025
1000	D	5860	7275
1500	D	6360	7275



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FOX M

Unique Indexing Milling Head Technology

Patented worldwide

FLEXIBILITY

Rotation/indexation every **0,02°** thanks to the double Hirth coupling patented worldwide

6.000 rpm with no limitations

Adjustable coolant through spindle **17 - 70 bar**

ROBUSTNESS

4+2 Bearings in the main spindle

Tool clamping force: **2.500 kg**

Hirth couplings locking force: **22.000 kg**

The milling heads design allows **52 kW - 1.375 Nm in S1**

Milling head body made of **casted steel GGG-50**

100% ROBUST

100% RELIABLE

RELIABILITY

Design and fabrication entirely by **NCSA**. The whole assembly process is monitored by NCSA

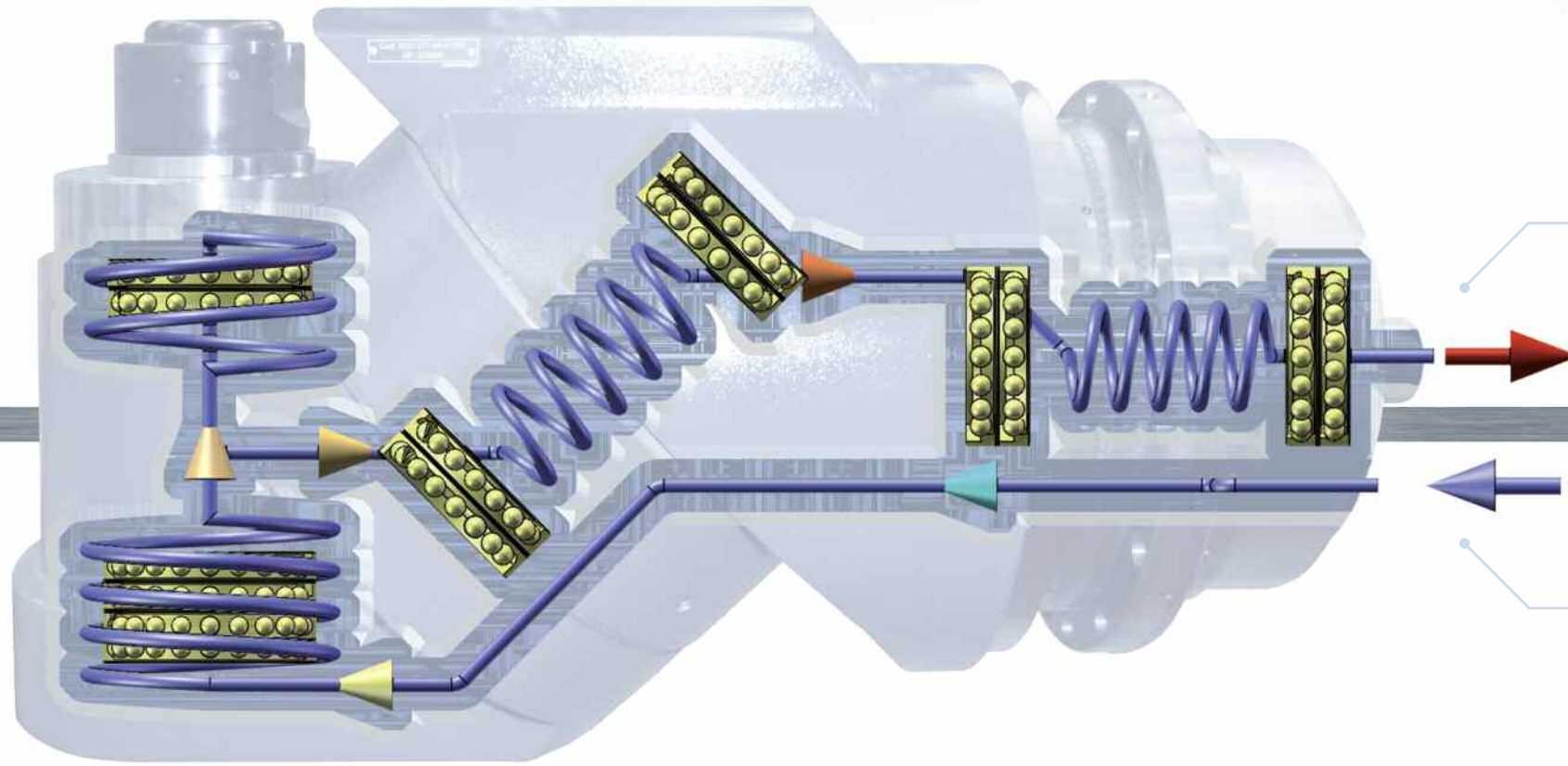
Head assembly in a **cleanroom** with constant temperature **22°C**

Milling head run in the **test bench for 60 hours** performing body & spindle rotations

PRECISION

Maximum coupling repeatability error **+ - 3"**

The bearing's cages of the main spindle & the external spacers of the secondary axes bearings, are cooled with water

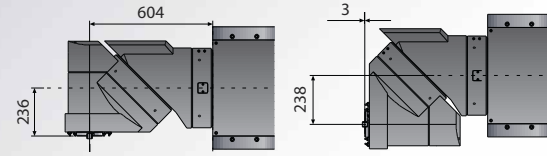


Milling Heads

37 kW | 1.298 Nm | 6.000 rpm

Universal Auto-Indexing Differential Head

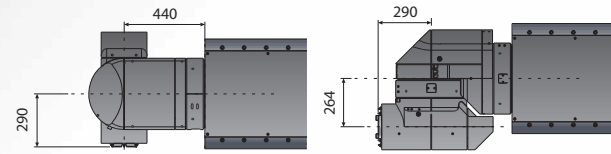
UAD 0.02° x 0.02°



37 kW | 1.298 Nm | 6.000 rpm

Orthogonal Auto-Indexing Differential Head

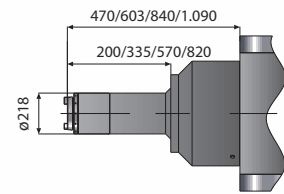
OAD 0.02° x 0.02°



15 • 37 kW | 1.298 Nm | 3.000 • 4.000 rpm

Front Spindle

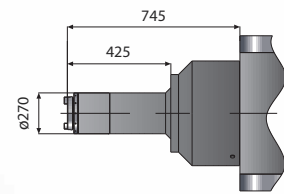
FC-20 | 30 | 60 | 80



37 kW | 1.893 Nm | 4.000 rpm

High Torque Front Spindle

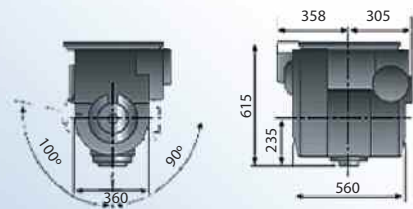
FCT



37 kW | 371-707 Nm | 4.000 rpm

2-Axis continuous Milling Head

CSE

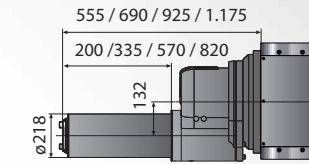


Milling Heads

FD-20 | 30 | 60 | 80

Non-centered front spindle

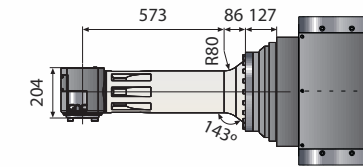
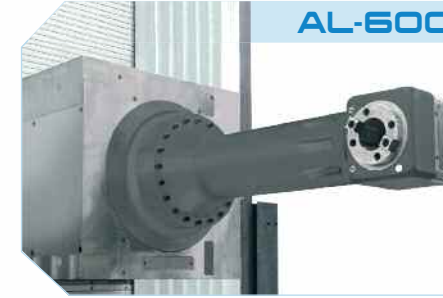
15 • 37 kW | 1.298 Nm | 3.000 • 4.000 rpm



AL-600 2.5°

Reach-out Angle Milling Head

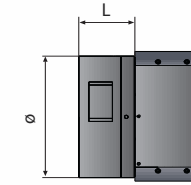
25 kW | 800 Nm | 1.500 rpm



UT-500 | UT-630

D'Andrea Head

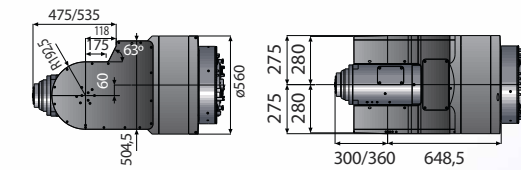
37 kW | 7.788 Nm | 315, 250 rpm



ESE Continuos

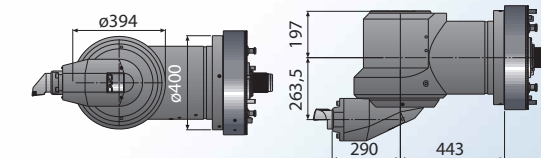
2-Axis continuous Milling Head

35 • 60 Kw | 12.000 • 24.000 rpm



TU 2.5°

Turning and shaping head



Milling Head Changer



MILLING HEAD	AUTOMATIC HEAD EXCHANGE	BUILT IN
UAD	•	•
OAD	•	•
FC-20 30 60 80	•	•
FCT	•	•
FD-20 30 60 80	•	•
AL-600	•	•
UT-500 UT-630	•	•
ESE Continuous	•	•
TU	•	•
CSE	•	•



Optional Equipment

Other heads

Automatic head-changer

Probes of measurement, tools and parts

Automatic charger for 30, 40, 60, 120 tools

Pick up station for 6, 8, 12 tools

Air/Coolant cleaning gun

Self cleaning filter

Rotary tables

Chip conveyors

Perimeter fence

Integral guarding (Only in some models)

Coolant through the spindle

Zero-point systems for rapid part change



Applications

MACHINING OF INDUSTRIAL EQUIPMENT



MACHINING OF INDUSTRIAL EQUIPMENT



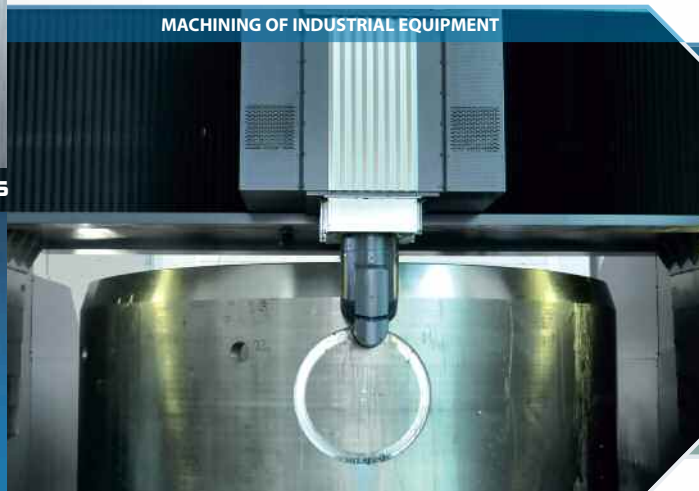
MACHINING WITH UAD HEAD EXTENSION



MACHINING OF INDUSTRIAL EQUIPMENT



MACHINING OF INDUSTRIAL EQUIPMENT



MACHINING OF INDUSTRIAL EQUIPMENT



MACHINING OF AERONAUTICAL TOOLING



MACHINING OF AERONAUTICAL TOOLING



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MACHINING OF AERONAUTICAL TOOLING



DOUBLE GANTRY INSTALLATION



MACHINING OF STAMPING DIES





NICOLÁS CORREA S.A.

Founded in 1947 and dedicated to the design and fabrication of medium and large size milling machines, is the headquarters of the Group **NICOLÁS CORREA** also formed by 4 other industrial affiliates:

GNC HYPATIA

Design and fabrication of **CORREA** milling machines of small size, as well as accessories for the tool machine industry such as ATCs and milling heads.

GNC KUNMING

Fabrication and distribution of milling machines for the local Chinese market.

GNC ELECTRÓNICA

Design and fabrication of electrical assemblies.

GNC CALDERERÍA

Welded structures, sheet parts, and machine guarding systems.

Some critical components are supplied inside the group to assure quality and fulfill the flexibility requirements of our customers.

NICOLÁS CORREA offers one of the widest milling machine ranges on the market including:

- Bed type
- Travelling column
- Portal milling machines

The design and manufacture are entirely made in Europe.

It quotes in the Madrid Stock Exchange since 1989.

In order to guarantee service and personal assistance to our customers, we have a wide sales and service network all over the world, being present through subsidiaries or agents in most of the countries.



XPIDER



ORIX



FOX-M



VERSA-M



VERSA-MW



FOX



VERSA



NORMA-L



FENIX



AXIA



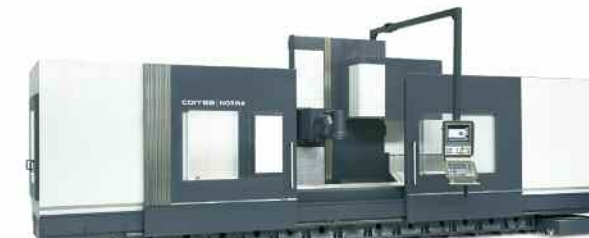
MAGNA



XPERTA



PERFORMER-MG



NORMA



VH-PLUS-MG

TOP GANTRY

GANTRY TYPE

BRIDGE TYPE

TRAVELLING COLUMN

BED TYPE



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