

correa

FOX M

Gantry type milling machine

WARRANTY



75 YEARS
ANNIVERSARY
1947 · 2022

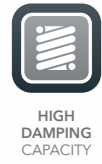
Nicolás Correa, founded in Spain in 1947, is one of world's leading companies in the manufacturing of large milling machines. With over 900 bridge type machines, 1000 floor type machines and 3500 bed type machines installed all over the world, offers milling solutions designed for the most demanding production environments, such as the power generation, automotive, aerospace and railway industries.

Nicolás Correa is the parent company of **Correa Group** composed of five industrial subsidiaries linked to the machine tool sector: Hypatia, Steelworks, Electrónica, Service and Kunming. The Group has commercial subsidiaries in China, Germany, United States and India with the aim to offer the best service in all countries. Belonging to the group provides **Nicolás Correa** with access to top quality critical supplies and offers tailored solutions especially designed for each customer's needs.



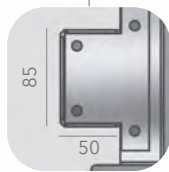
Thousands of customers around the world place their trust in **correa** range of milling machines. **Correa Group** currently exports around 90% of its production to over 30 different countries. To guarantee a high-quality service to our customers, we have an extensive international commercial and technical service network in most of the world's countries. **Correa Group** offers the widest range of milling solutions on the market, including bed type machines, gantry, floor type machines, bridge type machines, it also has a several options of multi-tasking machines. The entire range is designed and manufactured in Spain. **Nicolás Correa, S.A.** has been listed on the Madrid Stock Exchange since 1989.

The **FOX M** combines traditional roughing capacity with the speed and precision of high performance machining controlling in real time the temperature generated in the Z axis.



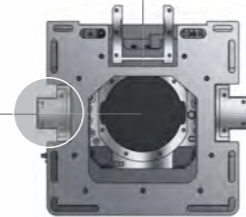
HIGH DAMPING CAPACITY

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



THERMO SYMMETRICAL DESIGN

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

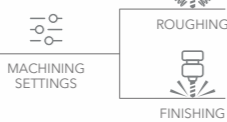


Dynamic performance parametrizable in accordance with:

- ROUGHING OPERATION
- FINISHING OPERATION



MACHINE DYNAMIC ADJUSTMENT

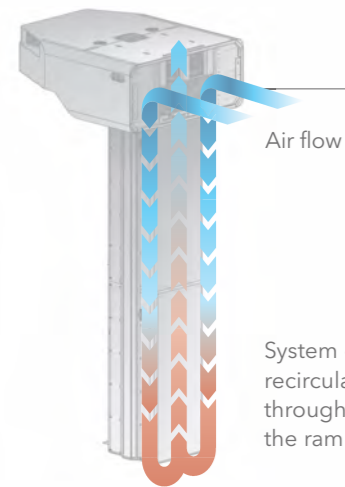


MACHINING SETTINGS



ROUGHING

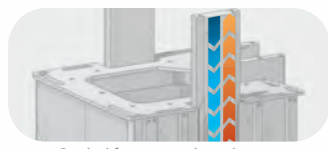
FINISHING



Air flow

System of air recirculation through the ram

MORE ABOUT THE FOX M



Cooled friction guide in the ram



VERTICAL AXIS TEMPERATURE CONTROL

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

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



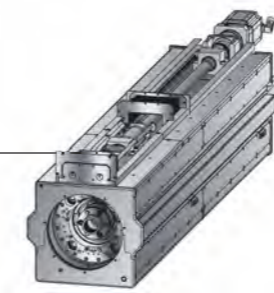
HIGH FEED RATES



ECO DESIGN

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

Ram Cross Section: 540 mm x 550 mm



Double mechanical pull stud system. It avoids the use of electronic corrections and allows a fine mechanical adjustment that minimises angular errors at the tool tip.



Crossbeam Cross Section: 1030 mm x 1305 mm



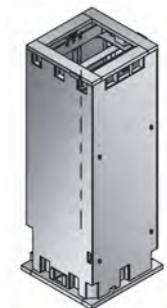
OVERSIZED STRUCTURAL ELEMENTS



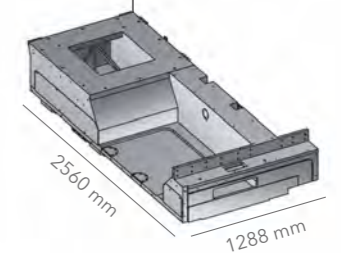
HIGH GEOMETRICAL PRECISION

The biggest cross sections in the market
Roughing capacity
Machine geometry stability

Column Cross Section: 1100 mm x 1100 mm



Longitudinal Saddle Cross Section



Technical Features

FOX M 50 FOX M 65 FOX M 80 FOX M 95 FOX M 110 FOX M 125 FOX M 140
15xN

TABLE

Table width	1750 / 2500 3000 / 3500	1750 / 2500 3000 / 3500	1750 / 2500 3000 / 3500	1750 / 2500 3000 / 3500	1750 / 2500 3000 / 3500	1750 / 2500 3000 / 3500	1750 / 2500 3000 / 3500	mm
Maximum load on the table	10 - 15							t/m ²

TRAVERSES

Longitudinal [X]	5000	6500	8000	9500	11000	12500	14000	mm
Cross [Y]	Cross: 3000 / 3750 / 4250 / 5000 DBC: 2500 / 3250 / 3750 / 4500							mm

Vertical [Z]	1000 / 1500 / 1750							mm
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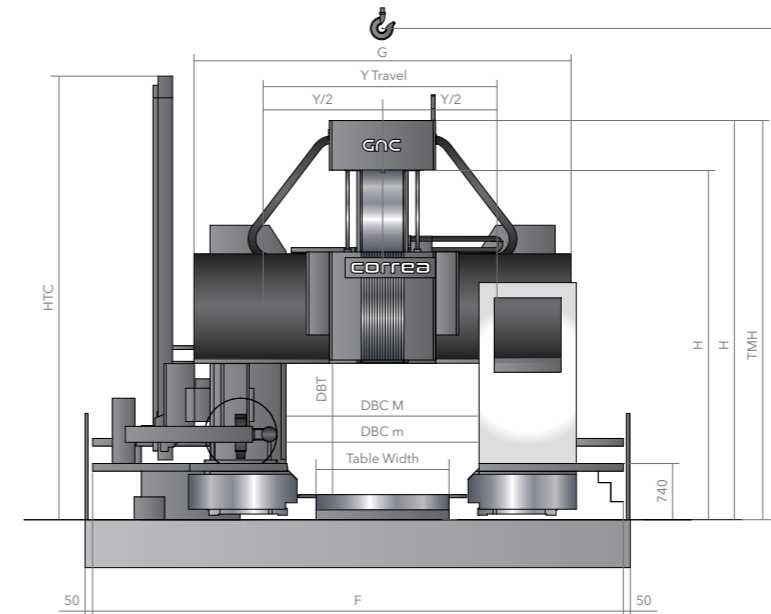
FEEDS

Maximum [X]	25							m/min
Maximum [Y]	30							m/min
Maximum [Z]	30							m/min

SPINDLE SPECIFICATIONS

Spindle nose	ISO-50 Big Plus / HSK-100							
Programmable speed	10000 / 6000 / 6000							rpm
Maximum power	42 / 37 / 52							kW
Maximum torque	620 / 1300 / 1375							Nm

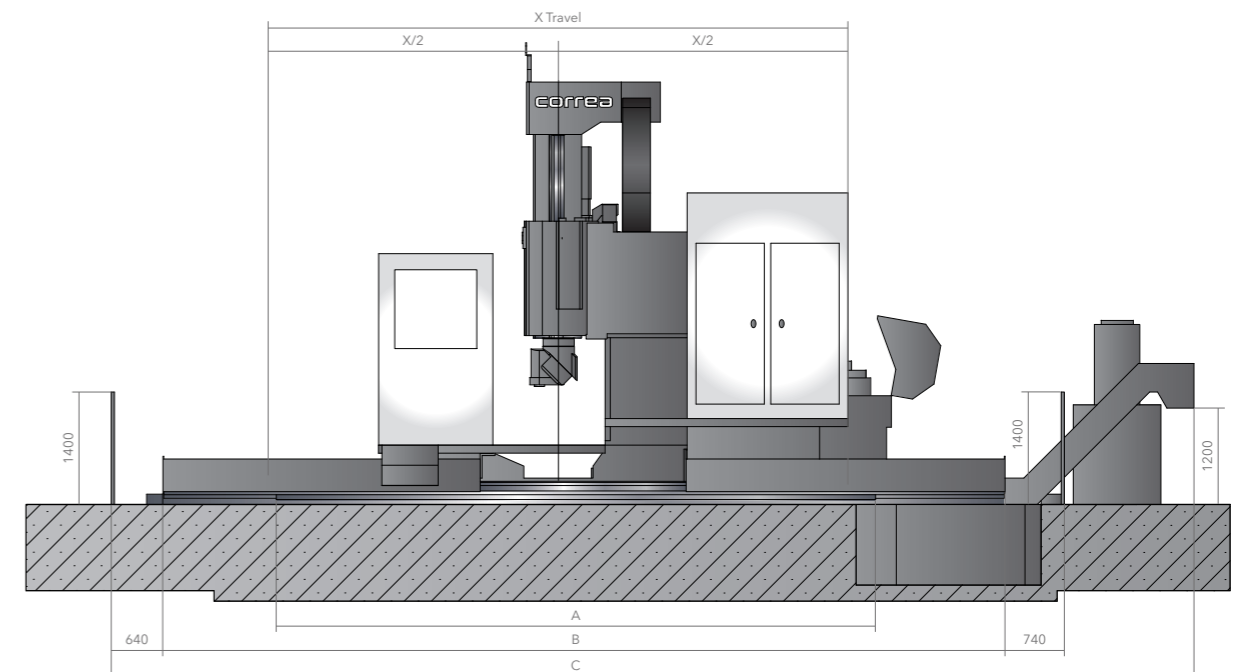
External Dimensions



X Travel	A	B	C
5000	6000	10530	14300
6500	9000	12080	15850
8000	9000	13530	17300
9500	12000	15080	18800
11000	12000	16530	20300
12500	15000	19080	22580
14000	15000	20530	24030
15500	18000	22530	26030
17000	18000	23980	27480
20000	21000	27480	30980
23000	24000	30980	34480
26000	27000	34480	37980

Y Travel	DBC M	DBC m	F	G	Table Width
3000	2500	2250	6750	5000	1750
3750	3250	3000	7500	5750	2500
4250	3750	3500	8000	6300	3000
5000	4500	4250	9000	7100	3500

Z Travel	Vert. capacity	DBT	H	MH	TMH	mHCH	HTC		
							ATC 80	ATC 100	ATC 120
1000	A	1700	4680	5350	5350	6575	-	-	-
	A (MBEFL)	1700	4480	5150	5950	6375	5560	-	-
	B	1950	4930	5600	5600	6825	-	-	-
	B (MBEFL)	1950	4730	5400	6100	6625	5560	-	-
1500	C	2200	5180	6350	6350	7075	6300	6500	-
	C (MBEFL)	2200	4980	6150	6850	6875	5560	5760	6360
	D	2450	5430	6600	6600	7325	6300	6500	7100
	D (MBEFL)	2450	5230	6400	7100	7125	5560	5760	6360
1750	D	2450	5430	6850	6850	7400	6300	6500	7100
	D (MBEFL)	2450	5230	6650	7350	7150	5560	5760	6360
	E	2700	5680	7100	7100	7650	6300	6500	7100
	E (MBEFL)	2700	5480	6900	7600	7400	5560	5760	6360





FOX M

Gantry type milling machine

Milling Heads

UAD 0.02° x 0.02°

3+2 INDEXING TECHNOLOGY



Universal auto-indexing
differential head
37 kW | 1298 Nm | 6000 rpm
52 kW | 1375 Nm | 6000 rpm

OAD 0.02° x 0.02°

3+2 INDEXING TECHNOLOGY



Orthogonal auto-indexing
differential head
37 kW | 1298 Nm | 6000 rpm
52 kW | 1375 Nm | 6000 rpm

Milling Heads

UDX 0.02° x 0.02°

3+2 INDEXING TECHNOLOGY



Universal auto-indexing head
42 kW | 620 Nm | 10000 rpm

AL-600 2.5°

3+2 INDEXING TECHNOLOGY



Reach-out angle milling head
25 kW | 800 Nm | 1500 rpm

Milling Heads

FC-30 | 60 | 80



Front spindle
 15 • 37 kW | 1298 Nm | 3000 • 4000 rpm
 15 • 52 kW | 1375 Nm | 3000 • 4000 rpm

FCT



High torque front spindle
 37 kW | 1893 Nm | 4000 rpm
 52 kW | 2005 Nm | 4000 rpm

FD-30 | 60 | 80

3+2 INDEXING TECHNOLOGY



Non-centered front spindle
 15 • 37 kW | 1298 Nm | 3000 • 4000 rpm
 15 • 52 kW | 1375 Nm | 3000 • 4000 rpm

Milling Heads

ESE Continuous

5-AXIS TECHNOLOGY



2-Axis continuous milling head
 35 • 60 kW | 12000 • 24000 rpm

UT-500 | 630

MULTITASKING TECHNOLOGY

D'Andrea head

37 kW | 7788 Nm | 315 • 250 rpm
 52 kW | 8000 Nm | 315 • 250 rpm



TU 2.5°

MULTITASKING TECHNOLOGY

Turning and shaping head



CSE

5-AXIS TECHNOLOGY



2-Axis continuous milling head
 37 kW | 371 • 707 Nm | 4000 rpm

Milling Head Changer



Standard Equipment

- Automatic Universal Head • Hydraulic and cooling group
- Numerical control Heidenhain or Siemens [operate HMI] • Linear scales in all axes
- Portable handwheel • Exterior coolant with adjustable lance nozzles
- Air-conditioned electrical cabinet • Internal and external air flow
- Linear guides in the X, Y axes • Guarding
- Friction guide at Z axis • Tele-service
- Lamp in the working area

Optional Equipment

- Other heads • Vixion 4.0
- Automatic head-changer • Self cleaning filter
- Pick up station for 6, 8 and 12 tools • Air/coolant cleaning gun
- Automatic charger for 30, 40, 60 and 120 tools • Chip conveyors
- Probes of measurement, tools and parts • Perimeter fence
- Rotary tables • Integral guarding [only in some models]
- Zero-point systems for rapid part change • Coolant through the spindle



MULTITASKING

correa multitasking machines combine several cutting processes on one machine. These machines offer the manufacturing capabilities of milling and turning machines into one integrated unit to use the functionality of both simultaneously.

UAD T

The universal head **UAD T** incorporates a spindle internal brake to lock the spindle axis. This solution allows to rotate the turning tool to any position and lock the spindle accordingly. This is a mechanical transmission head providing a perfect integration between milling and turning.



General Specifications

Tool holder HSK-100 for both milling and turning tools. In case of turning tools HSK-100T is required.

Milling mode: 6000 rpm and rotation every 0.02° in both bodies.

Turning mode: Rotation every 0.02° in both bodies.

TU

Orthogonal turning head **TU** rotates every 2.5° thanks to the crown hirth coupling allows to position the tools. We can use neutral tools for turning providing the angel with the head position, reducing the number of tools needed.



General Specifications

Tool holder Capto C8.

Rotation every 2.5° to reduce the number of turning tools to be used.

Automatic tool changing.

TU 25

Turning head **TU 25** incorporates two tapers to 90°. The two tapers offer flexibility to perform several facing and turning operations on a workpiece.



General Specifications

Tool holder Capto C8.

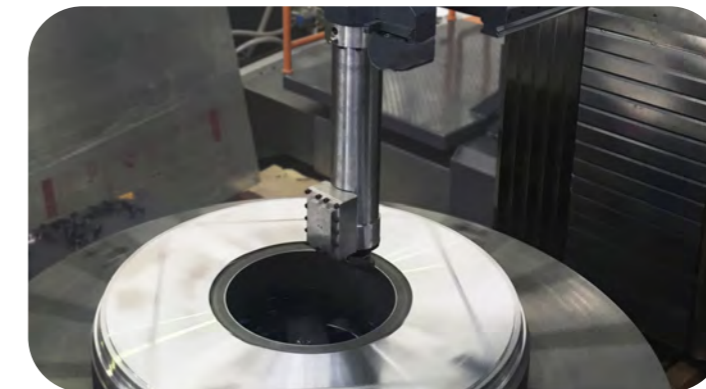
Double two tapers to 90°.

Manual tool change.

	Material	Ø (mm)	Ap (mm)	Vc (m/min)	F (mm/min)	Q (cm³/min)
Medium Duty Roughing	Ck-45 (60 kg/mm²)	1090	4.5	210	0.5	471
Heavy Duty Roughing	Ck-45 (60 kg/mm²)	1200	10	210	0.7	1450

TUB

For internal turning operations in deep parts, Nicolás Correa has specifically designed a manual extension which includes a tuned mass absorber (TMA) internally for a better cutting performance.



TURNING ROTARY TABLE

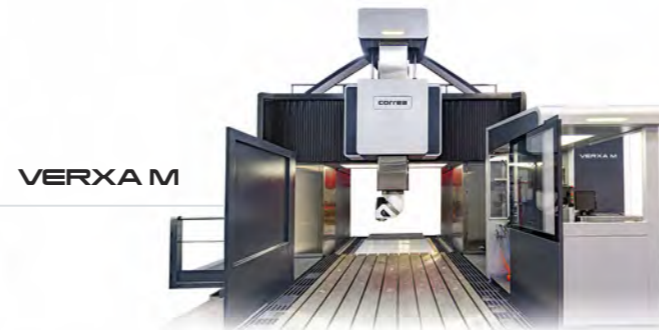
	Ø 2000 mm	Ø 2500 mm	Ø 3000 mm	
Maximum load milling/turning	5 - 20	10 - 30	10 - 60	t
Speed	250 - 150	250 - 150 - 120	250 - 150 - 100	rpm



Range of Equipment



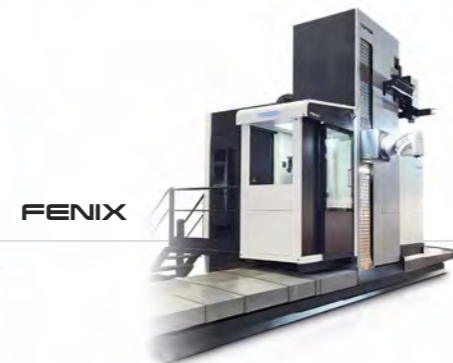
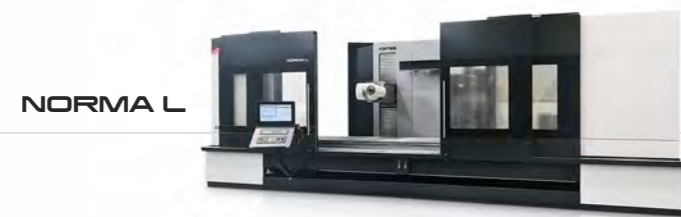
TOP GANTRY TYPE



GANTRY



BRIDGE TYPE



TRAVELLING COLUMN



BED TYPE

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