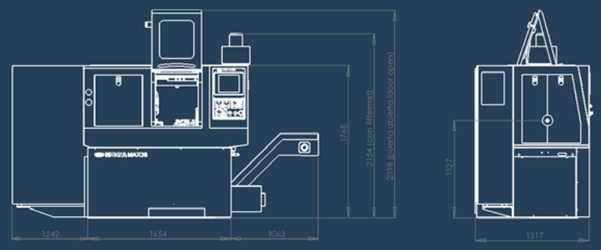
TECHNICAL FEATURES

	MIKRAMAX 16	MIKRAMAX 26	MIKRAMAX 36
SPINDLE			
ROUND BAR MAXIMUM CAPACITY	16	26	36
SPINDLE SPEED (RPM)	8500	6000	4500
MAIN MOTOR	ASYNCHRONOUS W/ SPEED VECTORIAL VARIATION		
RATED POWER	5,5 / 7,5 kW		
CLAMPING COLLET	DIN 6343		
GANG TYPE MAIN SLIDE			
No OF TOOLS	6 MAXIMUM (Depending on options)		
TOOLHOLDER SHANKS	1" (Ø25,4mm) or VDI-20		
Z AXIS MAXIMUM TRAVEL (Z1)	180 mm		
Z AXIS FEED SPEED (Z1)	15 m/min		
X AXIS MAXIMUM TRAVEL (X1)	200 mm		
X AXIS FEED SPEED (X1)	30 m/min		
SUBSPINDLE (OPTIONAL)			
ROUND BAR MAXIMUM CAPACITY		26	36
SUBSPINDLE SPEED (RPM)		6000	5000
MAIN MOTOR	SYINCHRONOUS W/ PERMANENT MAGNETS		
RATED POWER	2 kW		
CLAMPING COLLET	DIN 6343		
DRIVEN TOOLS FOR MAIN SLIDE (OPTIONAL)			
No OF TOOLS	1, 2 ó 3 (Dependiing on versions. Please contact us)		
RATED POWER	2 kW		
MAXIMUM SPEED	5000 RPM		
MAX TURRET			
No OF TOOLS	8		
TOOLHOLDER SHANKS VDI TURRET	4x VDI-20 / 4x 1-1/4" (31,75 mm). Internal cooling.		
Z AXIS MAXIMUM TRAVEL (Z2)	112		
X AXIS MAXIMUM TRAVEL (X2)	72		
Y AXIS MAXIMUM TRAVEL (Y1)	105		
INDEXING TIME BETWEEN FACES	0,4 s		
DRIVEN TOOLS FOR TURRET (OPTIONAL)			
RATED POWER	1,3 kW		
MAXIMUM SPEED	6000 RPM		
SECOND OPERATION UNIT (OPTIONAL)			
No OF TOOLS	4		
Z AXIS MAXIMUM TRAVEL (Z3, Optional)	50 mm		
TOOLHOLDER SHANKS	1" (Ø25,4mm) ó VDI-20		
COOLING SYSTEM			
TANK CAPACITY	80 l.		
FLOW RATE	30 l /min		
PRESSURE	UP TO (4 + 1,5 bar). For high pressure, please contact us.		
MACHINE DIMENSIONS			
OCCUPIED AREA	(see picture)		
MAXIMUM HEIGHT (DOOR OPENED)	2.400 mm		
HEIGHT TO SPINDLE CENTER (APROX, DEPENDING ON LEVELING)	1.120 mm		
NET WEIGHT APROX.	2.200 kg		

Note: Due to our continuous improvement policy, MUPEM keeps the right of modifying features of its machines without notice.



MUPEM

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MIKRAMAX

Automatic CNC multiaxis lathe

INTRODUCING **MIKRAMAX**

FAST AND FLEXIBLE

Great versatility, small occupied area and great capacity of performing simultaneous operations. MUPEM has used these three conditions for the conception and final design of MIKRAMAX.

A machine capable of machining the most difficult parts and finishing them in both ends, thanks to its Y axis and a sturdy subspindle.

But MIKRAMAX not only can replace a complete cell of machines, but it can work as fast as they do, avoiding, in addition, to create stock in process.

This can be achieved because MIKRAMAX can perform up to 3 simultaneous machining operations, and it can produce long or short parts, due to the possibility of ejecting them through the subspidle shaft.

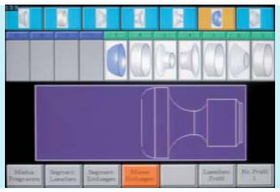
All this advantages added to the rigidity given by a fixed head machine.

THE MOST SOPHISTICATED CONTROL SYSTEM. THE EASIEST PROGRAMMING.

MUPEM CNC Control System is especially designed for multiaxis and multislide CNC lathes. The way it is programmed is much simpler than ISO code and multichannel management is much easier, synchronizing easily simultaneous operations.

The user interface, based in a tactile screen, is so intuitive that all operators, no matter how much they know about programming or lathes, will be able to operate it in just a few days.

In addition, it has a built-in CAD editor which allows to draw profiles easily for interpollation turning, at a glance, avoiding many lines of code.



But not only it is fast when building a new program. Editing existing programs is also very easy and fast. With the advantage of cut-paste blocks with simultaneous operations, withouth losing their coordination, allows a fast and secure operation.

Optionally, the machine can be equiped with FAGOR 8070 multichannel CNC system. It allows ISO programming and it is required if the machine is going to equip C axis control for spindles. FAGOR maintains a extense service net all over the world.

MIKRA**MAX**

Automatic CNC multiaxis lathe

THE **MULTIFUNTION** LATHE

MAX VERTICAL TURRET WITH Y AXIS

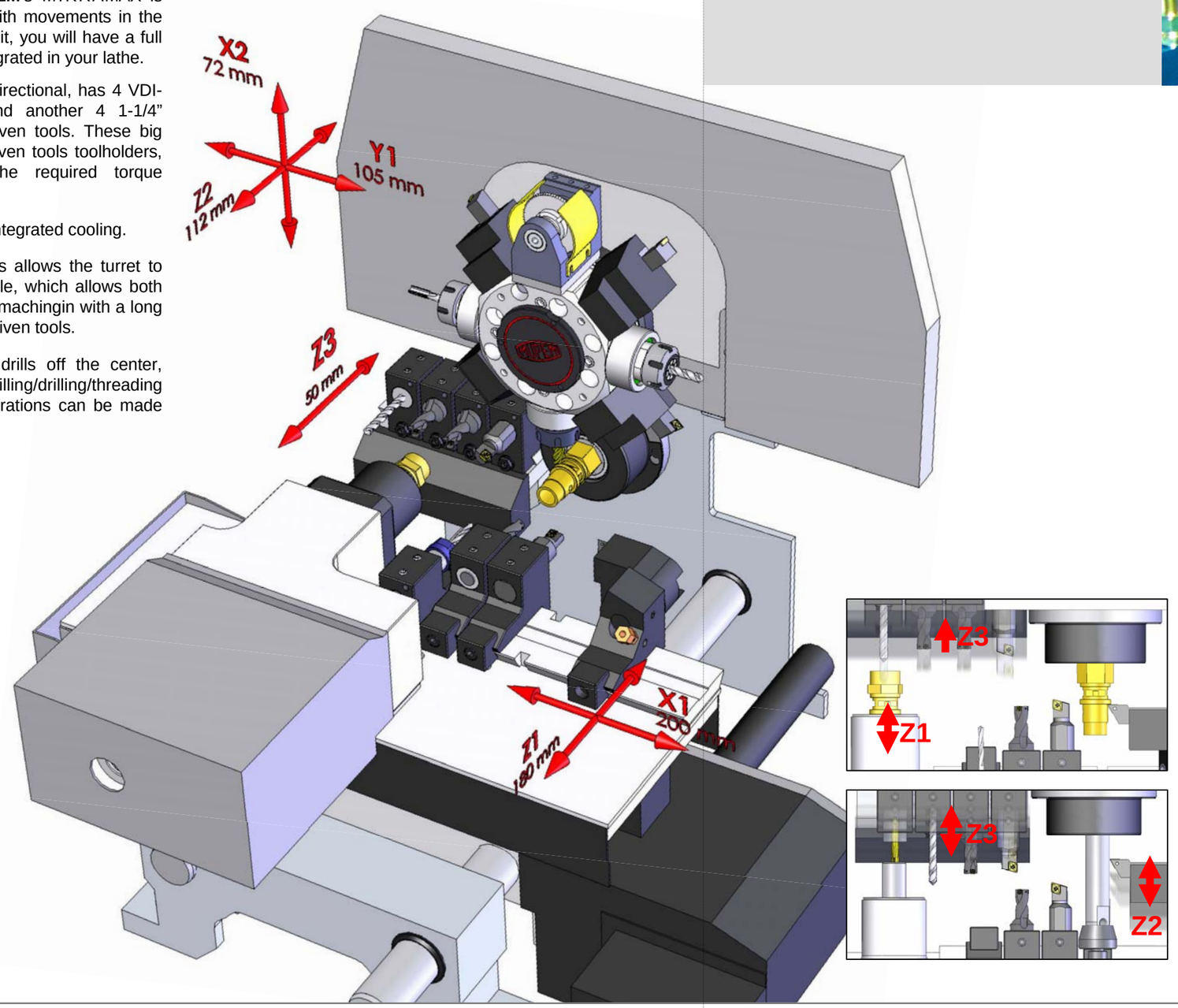
The great versatility of **MUPEM**'s MIKRAMAX is based in its 8 station turret with movements in the three axes (X2, Y1, Z2). With it, you will have a full working machining center integrated in your lathe.

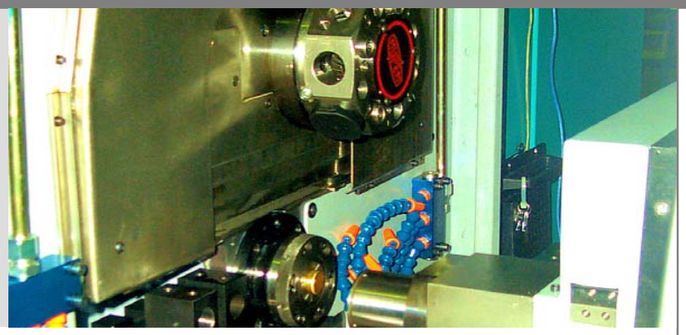
The turret, electronic and bi-directional, has 4 VDI-20 stations for fix tools and another 4 1-1/4" (Ø31,75 mm) stations for driven tools. These big holes allows big shafts for driven tools toolholders, adequate for transmiting the required torque towards the motorised tools.

In addition, all stations equip integrated cooling.

The long travel of the Z2 axis allows the turret to work over main and subspindle, which allows both spindles to take advantage of machingin with a long Y axis travel and transverse driven tools.

Therefore, cotter pins, side drills off the center, milling, fat faces, orbital milling/drilling/threading and many other complex operations can be made over the main and subspindle.





GANG SLIDE WITH SUBSPINDLE

MIKRAMAX equipes a big slide (X1, Z1) able to mount up to 4 frontal tools + a tilting endstop device + subspindle. These tools can work simultaneously with the upper turret and the second operation unit, so up to **3 tools** can work **at once** during almost all the cycle time.

Optionally, it is possible to add 1, 2 or 3 driven tools over the main slide to work over the main spindle.

The subspindle is strong and allows to work with parts on both ends. It is designed to share almost equally many inner operations to be made in the part between main and subspindle. In addition, it can optionally be positioned every 5º or can equip C axis control.

SECOND OPERATION UNIT

With up to 4 tools (fix or 2 driven optionally), the toolholder modular system used in second operation unit, same as the the one in main slide, allows multiple combinations of tools.

This unit can optionally be mounted on an independent moving slide, CNC controlled (Z3), with the following advantages:

• Simultaneous work on the main spindle and subspindle, only by programming **different depths for every tool**, without the need of mechanical adjustment.

• The unit can pull back in case of a potential crash with the part hold by the subspindle.

• A **counter stock** can be holding a part on the main spindle and, at the same time, the second operation unit can work over the subspindle.

MIKRAMAX

Automatic CNC multiaxis lathe

MAIN SPINDLE

- Hardened and grinded spindle.
- Ultra precision bearings with service life grease.
- Designed to accept DIN 6343 collets with quick change.
- Hydraulic clamping, with great clamping force.
- Available in bar passages of Ø16 (only pneumatic clamping), Ø26 y Ø36 mm.
- Asynchronous vectorial motor (5.5 / 7,5 kW)

BASEMENT

- Fully perlitic cast iron basement, very strong.
- Perlitic cast iron is one of the best vibration absorbing materials for machine-tool.

GUIDES

- Nitrided and burnished guiding bars with a warrantied surface hardness of 1000 Vickers.
- The special manufacturing proccess, exclusively made at MUPEM, allows long lasting. Many years of service without problems.

OPTIONAL DEVICES

Lots of optional devices for a great versatility:

- Thread milling and polygon turning device on the vertical turret.
- Many different toolholders, interchangeable, for the gangs in main slide and second operation unit.
- Driven tools on the main slide and on the second operation unit.
- Part ejection through the subspindle shaft or by using a part extractor.
- High pressure coolant pumping system.
- Easy to attach especial devices on the gangs due to the attachment system, either on the main slide or on second operation unit.

MUPEM's engineering department will assist you if especial devices are required: automated loading/unloading, measurement, handling... Do not hesitate in contacting us.