FMC SERIE TRE

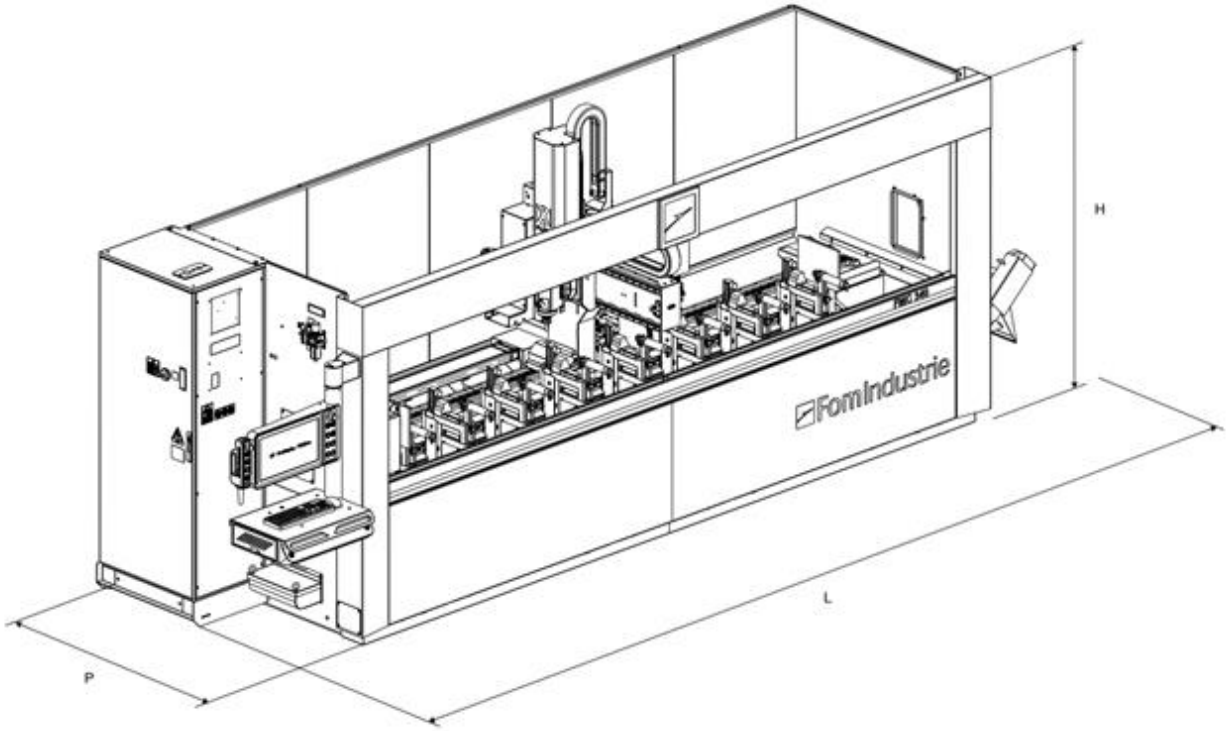
CNC Machining centre with 4 controlled axes

The FMC 340/ 370 machining centres with 4 controlled axes have been designed to carry out drilling and milling operations on aluminium or steel profiles (max thickness 3 mm). The following functions can be activated on request: “machining with interpolating axes” (3D Custom Milling Module), “multi-piece machining”, with the ability to select different vice/stop configurations.

Standard configuration:

- Liquid-cooled electrospindle 7 kW, 20.000 rpm (HSK-F63)
- 8 location tool magazine on Left of machine base (HSK-F63) on FMC 340
- 9 location tool magazine on board the carriage (HSK-F63) on FMC 370
- No. 2 pairs of pneumatic vices with positioning through the travelling column
- Left retractable fixed pneumatic stop
- Minimum quantity lubrication (MQL) with pure oil
- Manual greasing device
- Chip and waste collection tank in base
- Perimeter guard system. Retractable front door with automatic opening.
- X FLOW on FMC 370
- Equipment for machine lifting with bridge crane
- Control equipment: POWER-D
- Movable control console
- 24" Display
- Licence for FST CAM 4 program
- Collective FST CAM 4 training course at FOM Industrie (excluding transfer costs)
- Potentially Industry 4.0 subsidizable asset
- Asset eligible under Transition 5.0

Overall dimensions and weight



Version	L (mm)	P (mm)	H (mm)	Kg
FMC 340	6930	2010	2600	2600
FMC 340	7910 (with conveyor belt)	2010	2600	3100
FMC 340 CZ	6930	2010	2720	2950
FMC 340 CZ	7910 (with conveyor belt)	2010	2720	3500
FMC 370	9860	2130	2575	4000
FMC 370	10760 (with conveyor belt)	2490 (with front bench)	2575	4800
FMC 370 CZ	9860	2130	2715	4400
FMC 370 CZ	10760 (with conveyor belt)	2940 (with front bench)	2715	5200

Consumption and absorption	
Power supply	3F - 380÷440 V - 50 Hz
Total power installed	15 kW
Air consumption for work cycle (FMC 340)	130 NL/cycle
Air consumption for work cycle (FMC 370)	140 NL/cycle
Working pressure	7 bar

Technical characteristics

Structure

The structure consists of a base and a travelling column sized to guarantee exceptional stability and precision during machining. The configuration of the base minimises the deposit of machining residues. On request, a chip conveyor can be installed in the base.

Axes movement

The independent axis are controlled by brushless servomotors by means of:
- Pinion with helical teeth and rack for axis X (longitudinal) and axis Y (transversal)
- High precision ground recirculating ball screw and preloaded lead nut for axis Z (vertical)

Absolute encoder systems applied to all the axes make the zeroing (homing) operation at machine start-up superfluous.

Centralised automatic lubrication system (on request)

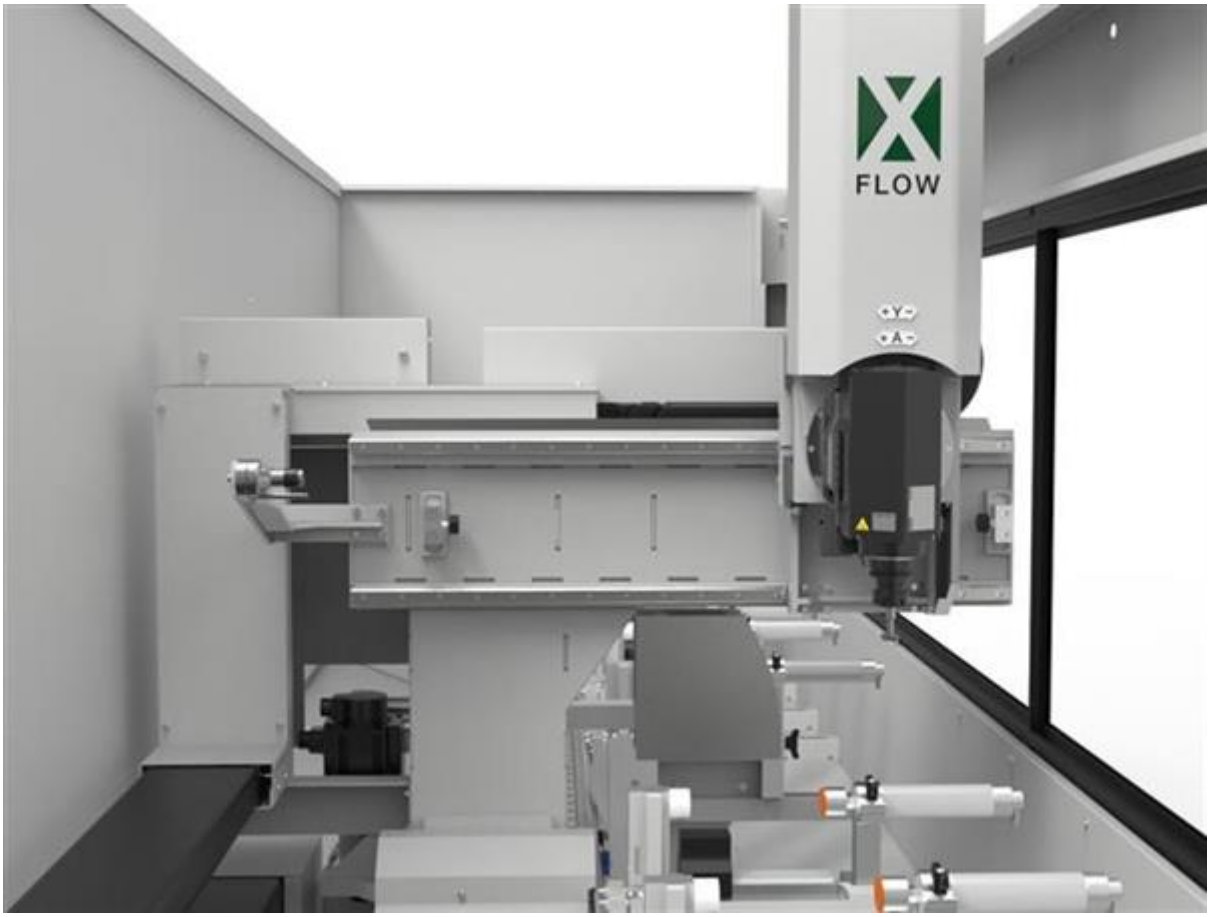
A system automatically sends lubricant to the sliding and movement elements at preset intervals without stopping the machine. The parts lubricated in particular are:

Axis X: 4 slides of the linear guides and rack.
Y axis: 4 slides of the linear guides and rack.
Z axis: 4 slides of the linear guides recirculating ball screw nut

A message displayed on the monitor informs the operator when the minimum level of lubricant has been reached in the tank.
A device is also supplied as standard to carry out manual greasing when necessary.

Machining head

The machining head allows machining operations to be carried out on 3 faces of the profile and on 2 ends using angular head units and blades. The tilting axis consists of a rotating head of high-precision and rigidity driven by a zero play gear drive and brushless motor.



Electrospindle

The 7 kW liquid-cooled electrospindle provides power and reliability under all operating conditions. The rigid tapping function can be activated on request.

	7 kW electrospindle
Rigid tapping on aluminium	Max M16 depth 15 mm
Rigid tapping on steel	Max M10 depth 3 mm

Tools lubrication

The tools are lubricated by a pressure spray (minimum quantity lubrication). The lubricant used is pure oil or, on request, oil emulsion and a dedicated tank (Lubrocooling with minimum use of water-oil emulsion).

X FLOW - FOM PATENT (on request for FMC 340)

Used to adjust and optimise the lubricant flow direction automatically during tool change operations without manual intervention by the operator.

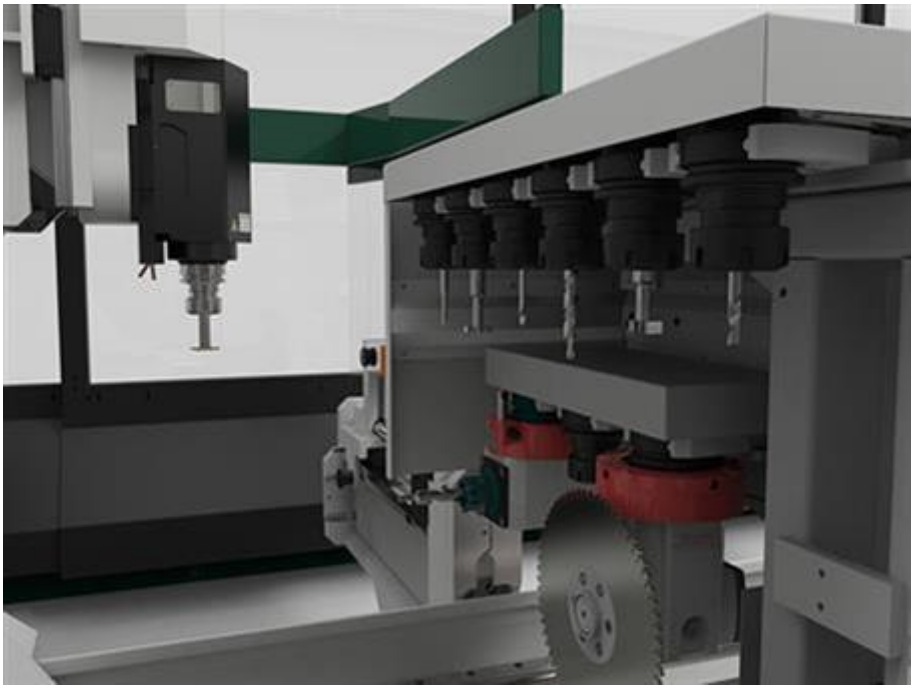
Tool magazine

FMC 340

The tool magazine is positioned to the left of the machine bed and has 8 locations.

FMC 370

The tool magazine is located on board the carriage to allow extremely short working cycles. It has 9 locations, allowing up to two angular head units to be housed. On request, the tool magazine can be fitted with a device to check the tool is undamaged and measure its length, so as to guarantee precise machining operations at all times.

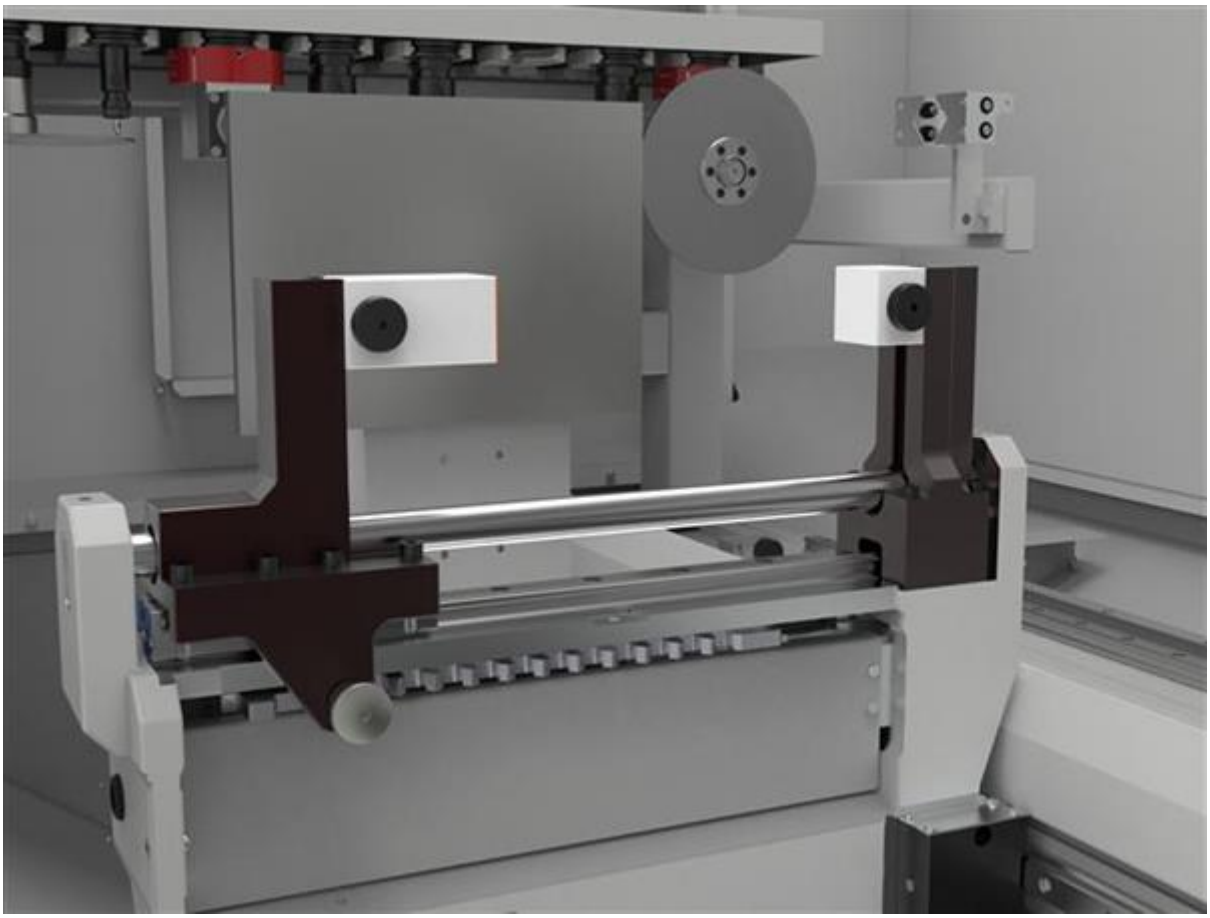


Work area organisation

Vices

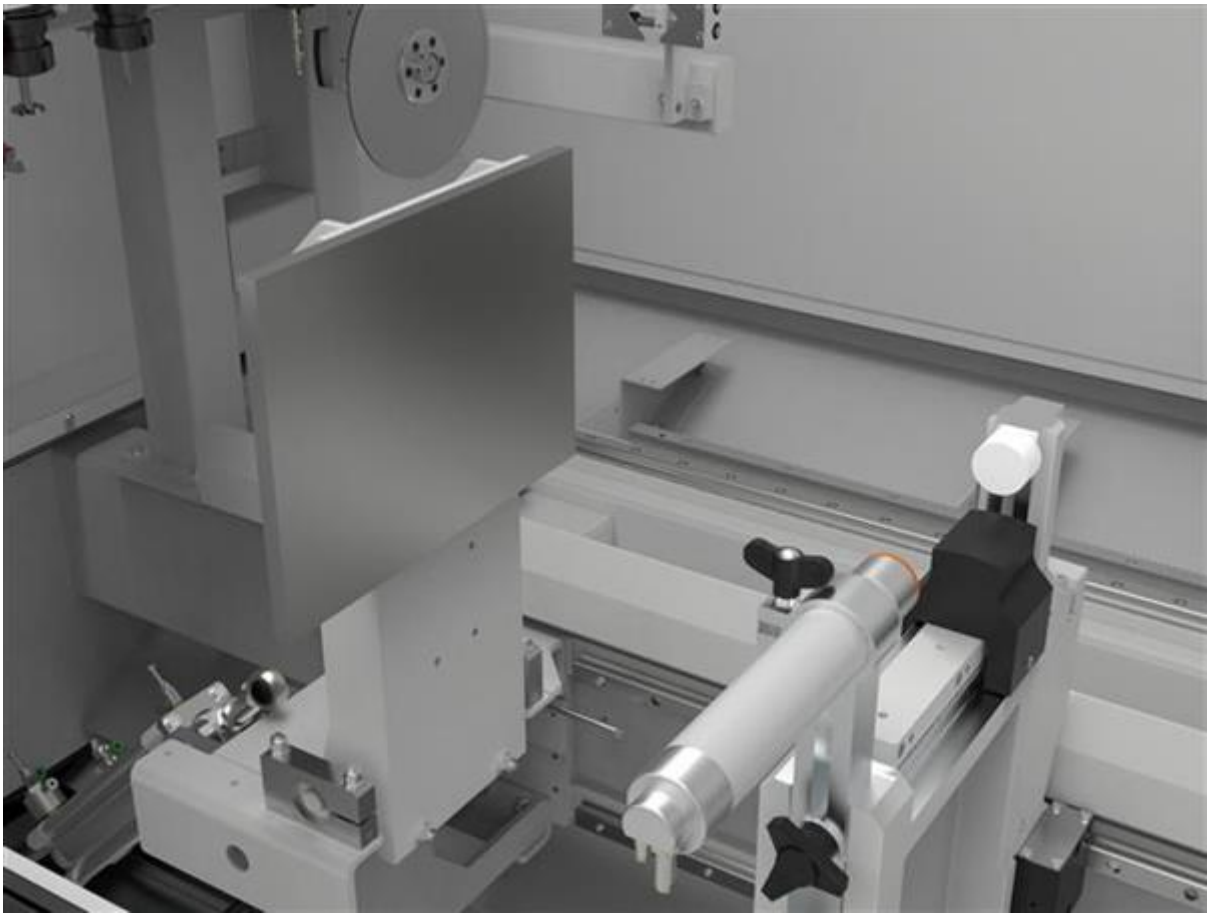
Made of cast aluminium; they slide along the axis X on straight guides. Their small size reduces the need to reposition the vices and ensures firm locking very close to the machining point. Automatic positioning (by means of the machining head) is supplied as standard. Independent positioning by means of an additional axis can be supplied on request. Vertical and transversal adjustment of the presser is quick and does not require the use of tools.

Cast aluminium extra clamping vices are also available on request, in which closing of the jaw (in cast iron) is carried out using straight guides. Each vice has a centre roller to facilitate loading the profiles and prevent chip deposit. Automatic positioning (by means of the machining head) is supplied as standard. Independent positioning by means of an additional axis can be supplied on request. The position of the jaw and the vice pad can be adjusted quickly without the use of tools. The jaw is adjustable to set positions, while the vice pad is adjustable to any position, to ensure ideal clamping in every working condition. Each extra clamping vice is fitted with lowered pads that allow the clamping capacity and working areas to be extended.



Stops

It is provided with a left side fixed position pneumatically reclining stop. On request, a second fixed and reclining stop on the right side is available, which is also useful for two-phase machining of profiles of length longer than the travel of the CNC machining centre.



Device to measure profile length (on request)

Located on board the axis X. The machining positions are updated automatically after measurement.

X PAL - FOM PATENT (on request)

Multifunction LED bar that assists the operator when using the machine and loading the bars. Allows additional positioning with respect to that provided by the stops. Signals the progress of the machining cycle.

Possible work area configurations:

The following working modes are possible depending on the selection of vices, stops or X PAL:

FMC 340

- SINGLE WORKING AREA 1 PIECE
- SINGLE WORKING AREA 2 PIECES
- SINGLE WORKING AREA 2 PIECES AND OVERSIZED MACHINING
- SINGLE WORKING AREA WITH X PAL

FMC 370

- SINGLE WORKING AREA 1 PIECE
- SINGLE WORKING AREA 2 PIECES
- SINGLE WORKING AREA 2 PIECES AND OVERSIZED MACHINING
- SINGLE WORKING AREA WITH X PAL
- PENDULAR (2 working areas, 2 pieces) AND OVERSIZED PROFILES MACHINING
- MULTI-PIECE PENDULAR (2 working areas, 4 pieces) AND OVERSIZED PROFILES MACHINING

Protection and safety devices

The CNC machining centre bears the CE symbol in compliance with the content of Directive 2006/42/CE (Machine Directive). The design and construction of the machining centre complies with the safety regulations in force in the European Union and in the main industrialised countries (USA, Canada, etc). In particular, for the European Union market the following legal provisions are complied with: Directive 2006/42/CE (Machine Directive), Directive 2014/30/UE (EMC). The machining centre is also equipped with special safety devices designed to comply with the relevant product standards and the regulations on health and safety in the workplace:

Perimeter guard system around the machine with mobile door ensuring maximum visibility during machining operations and accessibility during maintenance.
Luminous status bar (Fom Industrie Logo) incorporated in the guard system, the colour of which signals the machine status.
Stopped shaft safety module that enables the doors to be opened under safe conditions.
Safety PLC.

The electrical system has been engineered in compliance with the provisions contained in European Union directives 2006/95/CE (LVD), 2004/108/CE (EMC) and conforming to the applicable standards governing the safety of electrical systems (EN 60204-1, EN 61000-6-2 and EN 61000-6-4). Special care has been given to the provision of emergency cables and to the system for activating and resetting them. If any faults occur, the operator is alerted by light signals and messages on the monitor. In the event of faults or breakdown, The protection devices inside the panel are designed to prevent injury to persons and/or damage to the machining centre itself.

If for any reason the interaction between the CNC machining centre and the environment in which it is installed contravenes any of the above mentioned conditions, it will be essential to agree with the purchaser a comprehensive solution for achieving the necessary safety conditions so that the purchaser can make the area designated for installing the machining centre suitable and safe.

Control console

Attached to the protection cabin and used to execute commands and run programs. 24" display

Control pushbutton panel

Standard and ergonomic, allows the machine to be controlled from any position during machining.

PC comprising of:

128 GB SSD
Gigabit RJ45 network Interface
8 GB RAM
Windows 10 operative system
USB ports
3-year international ''on site'' warranty

LOLA

LOLA is the cloud-based IoT service platform developed by Fom Industrie to monitor and optimize the productivity, efficiency, and energy consumption of machine tools, in line with the requirements of Industry 5.0.

Main features:

Productivity and efficiency monitor:
Provides a clear view of machine performance, enabling the identification of areas for improvement and optimization of production processes.

Diagnostics and maintenance service:
Continuous monitoring of sensors and critical components, such as spindles and tools, to ensure timely maintenance and reduce machine downtime.

Energy consumption monitoring:
Allows, through the installation of dedicated sensors on the machine, to monitor and analyze consumption over time, promoting more sustainable operations and reducing operating costs.

Technical features:

Multi-device accessibility:
The platform is accessible via browser (Safari, Chrome) on PCs or mobile devices, with a responsive layout adapted to all screen types.

Centralized management:
Aggregated view of machines and alarms by plant or department, with user and access level management based on hierarchical criteria.

Maintenance notifications:
Real-time notifications of alarms and maintenance interventions, with a constantly updated log of performed interventions. Usage counters for key components also facilitate scheduling of replacement interventions, minimizing machine downtime.

Multilingual:
Available in Italian, English, French, Spanish, and German.

The LOLA service platform thus offers a comprehensive overview of machine status, with production statistics, diagnostics of key components, alarm management, and energy monitoring, ensuring maximum operational and production efficiency.

FST CAM 4 graphic interface

Graphic interface based on the Windows operating system for planning the machining operations and the pieces which automatically generates the CNC program that can be executed by the machining centre.

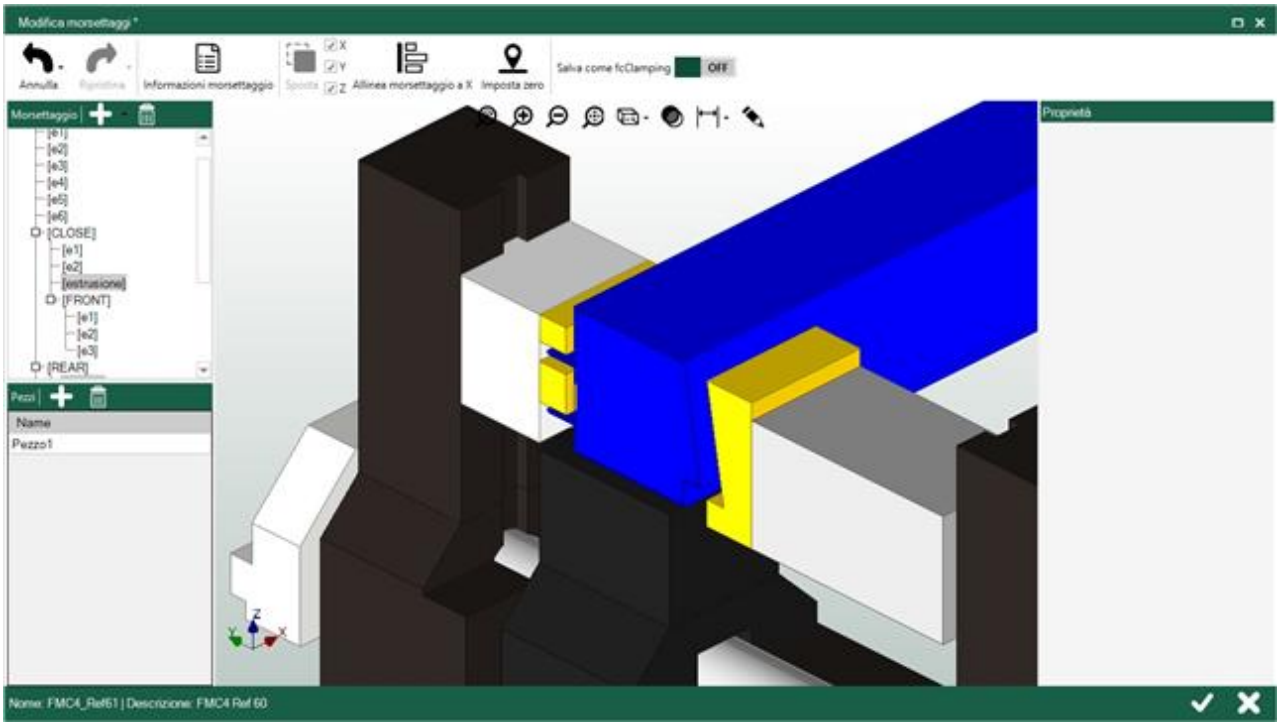
Program features:

Display of the workpiece and machining operations in a CAD 3D environment
Profile cross-section display in DXF format
3D display of tool archive
Machining optimizations
Dynamic display of the machining operations
Graphic display of the working area
Simplified management of machining process sequence
Display of technical features of pieces and tools
Graphic user interface
Parametric machining management
Creation of repeated machining operations
Automatic calculation of optimal vice positioning
Machining lists management
Graphic interface for numeric control management

Optionals:

Licence for FST CAM 4 program for office
Additional licence for FST CAM 4 program for office
SOLID PLUS software licence (3+1 or 4 axis CNC machining centres)
SOLID PLUS additional software licence (3+1 or 4 axis CNC machining centres)
Licence for FST STATISTICS C4 program
"Clock" time calculation module program user license for FST CAM 4
2D custom milling Module for FST CAM 4
3D custom milling Module for FST CAM 4
SW licence FSTConverter for data import in NCX format
Module for rigid tapping and chase tapping
FSTCAM4 module to design and manage special clamping operations (PIC. 3)
Flow drilling management
Data import software in accordance to FOM protocol + Wireless optical bar code and QR code reader
Data conversion driver

PIC. 3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Remote Assistance

Used to check the machine data, the user programmes, the input/output signals and system variables in real time, providing a rapid solution to problems and a drastic reduction in machine stoppage. Thanks to remote assistance it is also possible to install updated software versions. The machining centre is enabled for this type of service. The duration of the service is limited to the machining centre warranty period.

Maintenance equipment

The following are supplied with the machining centre:

- Tool holder locking device for insertion/removal of tools
- Set of wrenches

Turnkey System

FOM INDUSTRIE not only offers its Clients a machine tool, but also a ''turnkey'' productive system to solve all of the problems involved in production. The company's experience is at the client's disposition to optimise the relationship between machining centre performance and the technological machining requirements, the service relies on:

- A CAD-CAM system for creating a project which provides for piece design, automatic creation of the program and simulation of the machining operations
- A vast archive of projects created for companies operating in important industrial sectors (automotive, railways, naval, furniture, transport, aeronautic, textile)
- Facilitated contacts with the most important and qualified suppliers of tools and equipment

Documentation

Every machining centre comes with a printed copy of the following documentation: User and maintenance manual, complete with electric and pneumatic diagrams; Control unit user's manual. The manuals are available in Italian and English

Technical specifications:

Working area with direct tool L=100 spindle end and with tools L=60 on 2-output angular unit			
Axis X (FMC 340)	top face only	mm	4157
Axis X (FMC 340 with RH stop)	top face only	mm	4165
Axis X (FMC 340)	top face + ends	mm	4000
Axis X (FMC 370)	top face only	mm	7158
Axis X (FMC 370 with RH stop)	top face only	mm	7222
Axis X (FMC 370)	top face + ends	mm	7000
Axes Y and Z	for machining on 3 faces of profile	mm	180 x 270
Axes Y and Z	for machining on 2 faces of profile	mm	180 x 270
Axes Y and Z	for machining on 2 faces of profile with extra clamping vices	mm.	250 x 270
Axes Y and Z	for machining on 2 faces of profile with extra clamping vices and lowered pads	mm	300 x 270
Axis A			-15° ÷ +195°

Dynamic performance			
Axis X	Speed	m/min	100
Axis Y	Speed	m/min	66
Axis Z	Speed	m/min	38
Axis A	Speed	°/min	7800
Axes X	Acceleration	m/s²	4
Axis Y	Acceleration	m/s²	4
Axis Z	Acceleration	m/s²	3

Profile positioning and locking			
Vices with automatic positioning along the X-axis (longitudinal) through the travelling column		n.	4 as standard
Max number of vices (FMC 340)		n.	8
Max number of vices (FMC 370)		n.	10
Transformation of standard vices to vices with independent positioning			optional
Transformation of standard vices into extra clamping vices			optional
Lowered pads on extra clamping vices			standard
Transformation of standard vices into extra clamping vices with independent positioning			optional
Vice pair with positioning along the X-axis (longitudinal) through the travelling column			optional
Pair of vices with independent positioning			optional
Automatically reclining fixed stop		n.	1 standard + 1 optional
SW adjustment of the vice pressure			optional
Oversized profile machining + guard tunnel *			optional
Device to measure profile length			optional
X PAL	FOM PATENT		optional

*In some working situations it may be necessary to restrict the number of tools housed.

Electrospindle			
7 kW 20.000 rpm electrospindle			standard
SW Module for rigid tapping			optional
Cooling			Liquid
Tool coupling			HSK – F63

Lubrication of mechanical components			
Automatic lubrication of straight guide blocks and recirculating ball screw lead screws			optional

Tool magazine			
8-Position tool magazine fixed to the base (FMC 340)			standard
9 location tool magazine on board the carriage (FMC 370)			standard
Tool magazine on board the carriage (FMC 340)	(as an alternative to the magazine provided)		optional
Maximum blade diameter in the magazine (head mounted)		mm	230
Maximum blade diameter in the magazine (horizontal)		mm	250
Maximum tool length in the magazine		mm	180
Device to measure tool length			optional

Tool lubrication			
Minimum quantity lubrication			standard
Lubrocooling with minimum use of water-oil + dedicated tank			optional
X FLOW automatic orientation of lubrication nozzles (FMC 340)	FOM PATENT		optional
X FLOW automatic orientation of lubrication nozzles (FMC 370)	FOM PATENT		standard
2 nozzles integrated into the head			standard

Chips, waste and fumes removal			
Chip and waste collection in base			standard
Hinged belt conveyor with ramp			optional
Integral guard system (top side)			optional

Control and software			
Wired push button strip			standard
Processor			Intel i7
24'' screen			standard
Luminous FOM logo indicating the machine status			standard
USB ports			1 console + 2 in the PC
SSD			128 GB
Memory			8 GB
Wireless bar-code reader			optional
Software			Windows 10 - FST CAM 4
Lola ready			standard

Possible work area configurations (on request):

SINGLE WORKING AREA 2 PIECES
• Right pneumatic fixed stop

SINGLE WORKING AREA 2 PIECES AND OVERSIZED PROFILES MACHINING:
• Right pneumatic fixed stop
• Tunnel for oversized profile machining
• SW to manage oversized machining operations

SINGLE WORKING AREA WITH X PAL FOR FMC 340:
• LED bar
• SW for profile positioning
• SW to view machining cycle progress
• Device to measure profile length
• ''Clock'' time calculation module program user license
• Right pneumatic fixed stop
Note: according to the number of vices it is possible to machine up to 4 pieces.

SINGLE WORKING AREA WITH X PAL FOR FMC 370:
• LED bar
• SW for profile positioning
• SW to view machining cycle progress
• Device to measure profile length
• ''Clock'' time calculation module program user license
• Right pneumatic fixed stop
Note: according to the number of vices it is possible to machine up to 5 pieces.

SINGLE WORKING AREA WITH X PAL AND OVERSIZED PROFILES MACHINING FOR FMC 340:
• LED bar
• SW for profile positioning
• SW to view machining cycle progress
• Device to measure profile length
• ''Clock'' time calculation module program user license
• Right pneumatic fixed stop
• Tunnel for oversized profile machining
• SW to manage oversized machining operations
Note: according to the number of vices it is possible to machine up to 4 pieces.

SINGLE WORKING AREA WITH X PAL AND OVERSIZED PROFILES MACHINING FOR FMC 370:
• LED bar
• SW for profile positioning
• SW to view machining cycle progress
• Device to measure profile length
• ''Clock'' time calculation module program user license
• Right pneumatic fixed stop
• Tunnel for oversized profile machining
• SW to manage oversized machining operations
Note: according to the number of vices it is possible to machine up to 5 pieces.

PENDULAR (2 working areas, 2 pieces) AND OVERSIZED PROFILES MACHINING:
• Second X FLOW
• Right pneumatic fixed stop
• Software to manage pendular machining
• Safety devices for pendular machining
• Tunnel for oversized profile machining
• SW to manage oversized machining operations

MULTI-PIECE PENDULAR (2 working areas, 4 pieces) AND OVERSIZED PROFILES MACHINING WITH X PAL AND 4 PAIRS OF VICES:
- Two pairs of additional vices with independent positioning
- Transformation of std vices into vices with independent positioning
- LED bar
- Software for profile positioning
- Software to view machining cycle progress
- Device to measure profile length
- Second X FLOW
- Right pneumatic fixed stop
- Software to manage pendular machining
- Safety devices for pendular machining
- Tunnel for oversized profile machining
- SW to manage oversized machining operations
- ''Clock'' time calculation module program user license

MULTI-PIECE PENDULAR (2 working areas, 4 pieces) MACHINING WITH X PAL AND 5 PAIRS OF VICES:
- Three pairs of additional vices with independent positioning
- Transformation of std vices into vices with independent positioning
- LED bar
- Software for profile positioning
- Software to view machining cycle progress
- Device to measure profile length
- Second X FLOW
- Right pneumatic fixed stop
- Software to manage pendular machining
- Safety devices for pendular machining
- Tunnel for oversized profile machining
- SW to manage oversized machining operations
- ''Clock'' time calculation module program user license

MULTI-PIECE PENDULAR (2 working areas, 4 pieces) AND OVERSIZED PROFILES MACHINING WITH X PAL AND 4 PAIRS OF EXTRA CLAMPING VICES:
- Transformation of extra clamping vices
- Transformation of vices with independent positioning
- Two pairs of additional extra clamping vices with independent positioning
- LED bar
- Software for profile positioning
- Software to view machining cycle progress
- Device to measure profile length
- Second X FLOW
- Right pneumatic fixed stop
- Software to manage pendular machining
- Safety devices for pendular machining
- Tunnel for oversized profile machining
- SW to manage oversized machining operations
- ''Clock'' time calculation module program user license

MULTI-PIECE PENDULAR (2 working areas, 4 pieces) AND OVERSIZED PROFILES MACHINING WITH X PAL AND 5 PAIRS OF EXTRA CLAMPING VICES:
• Transformation of extra clamping vices
• Transformation of vices with independent positioning
• Three pairs of additional extra clamping vices with independent positioning
• LED bar
• Software for profile positioning
• Software to view machining cycle progress
• Device to measure profile length
• Second X FLOW
• Right pneumatic fixed stop
• Software to manage pendular machining
• Safety devices for pendular machining
• Tunnel for oversized profile machining
• SW to manage oversized machining operations
• ''Clock'' time calculation module program user license

Optionals:

- Voltage transformer 16 KVA (for voltages outside the range 380-440V 50/60 Hz, three phase)
- Additional charge for electrical version UL-CSA
- Electric cabinet cooling
- Additional charge for EAC (Eurasian Conformity) certification
- Device to detect presence and check length of tool
- X FLOW (Automatic orientation of lubrication nozzles)
- Pair of additional vices with positioning through the travelling column (max 2 pairs for FMC 340)
- Transformation of standard vices into standard vices with independent positioning
- One pair of additional vices with independent positioning
- Two pairs of additional vices with independent positioning
- Three pairs of additional vices with independent positioning (for FMC 370)
- Transformation of standard vices into extra clamping vices
- One pair of additional extra clamping vices
- Two pairs of additional extra clamping vices
- Three pairs of additional extra clamping vices (for FMC 370)
- Transformation of standard vices into extra clamping vices with independent positioning
- One pair of additional extra clamping vices with independent positioning
- Two pairs of additional extra clamping vices with independent positioning
- Three pairs of additional extra clamping vices with independent positioning (for FMC 370)
- SW adjustment of the vice pressure 3,5 - 7 bar
- Device to measure profile length
- Tool magazine on the carriage for FMC 340
- Lubrocooling with minimum use of water-oil emulsion; Dedicated tank
- Additional Flowdrill lubrication system (steel flowdrilling, not suitable if the profiles are already galvanised)
- Centralised automatic lubrication system for FMC 370 (FMC 340 with magazine on board the X carriage)
- Centralised automatic lubrication system
- Hinged belt conveyor with ramp
- Rear chip collection tanks
- Integral guard system (top side) with internal lighting and set-up for fumes extractor
- Angular head unit for vertical blade; Ø 230 mm blade; Spindle connection flange
- Double tool 90° angular head unit; Spindle connection flange
- Horizontal blade assembly cone; Ø 200 mm blade included
- Horizontal blade assembly cone; Ø 250 mm blade included
- UPS (Uninterrupted Power Supply) to allow PC switch-off in the event of a blackout
- Software licence for LOLA
- Machine handling by container
- TOOL SET TYPE A1/HSK F63:

N° 1 single flute milling cutter Ø 5 L=50 mm (HZ-43794)

N° 1 single flute milling cutter Ø 8 L=63 mm (HZ-43796)
N° 1 single flute milling cutter Ø 10 L=90 mm (HZ325308)
N° 3 collet holder H=70 HSK F63 (DR-714245)
N° 1 collet Ø 9/10 ER 32 (DR-75901)
N° 1 collet Ø 7/8 ER 32 (DR-75899)
N° 1 collet Ø 4/5 ER 32 (DR-75896)

- TOOL SET TYPE A2/HSK F63:

N° 1 single flute milling cutter Ø 8 L=63 mm (HZ-43796)
N° 1 single flute milling cutter Ø 10 L=90 mm (HZ325308)
N° 1 single flute drill bit hss cutter Ø 3 L=61 mm (HZ-76292)
N° 1 single flute milling cutter Ø 6 L=60 mm (HZ-43792)
N° 1 double flute milling cutter Ø 10 L=110 mm (HZ302415)
N° 1 double diam. drill bit hss Ø 12/6 L=83 mm (HZ-39024)
N° 6 collet holder H=70 HSK F63 (DR-714245)
N° 1 collet Ø 2/3 ER 32 (DR-75894)
N° 1 collet Ø 5/6 ER 32 (DR-75897)
N° 1 collet Ø 7/8 ER 32 (DR-75899)
N° 3 collet Ø 9/10 ER 32 (DR-75901)

- TOOL SET TYPE A3/HSK F63:

N° 1 single flute drill bit HSS Ø 3,2 L=57 mm (HZ-78782)
N° 1 single flute milling cutter Ø 5 L=50 mm (HZ-43794)
N° 1 single flute milling cutter Ø 6 L=60 mm (HZ-43792)
N° 1 single flute milling cutter Ø 8 L=63 mm (HZ-43796)
N° 1 single flute milling cutter Ø 10 L=90 mm (HZ325308)
N° 1 double flute milling cutter Ø 10 L=110 mm (HZ302415)
N° 1 double diam. milling cutter Ø 12/6 L=83 mm (HZ-39024)
N° 1 single flute milling cutter Ø 14 L=100 mm (HZ-45257)
N° 8 collet holder H=70 HSK F63 (DR-714245)
N° 1 collet Ø 3/4 ER 32 (DR-75895)
N° 1 collet Ø 4/5 ER 32 (DR-75896)
N° 1 collet Ø 5/6 ER 32 (DR-75897)
N° 1 collet Ø 7/8 ER 32 (DR-75899)
N° 3 collet Ø 9/10 ER 32 (DR-75901)
N° 1 collet Ø13/14 ER 32 (DR-76047)