

# CNC MILLING MACHINE

## MTS-3504



### Specification:

- The CNC milling machine is allow computer numerical control and advanced manufacturing. It is equipped with a 3-axis AC servo motor (With table movements along the X, Y and Z axes), PC-based milling with an optional 4th rotary axis that works through an Ethernet port on a standard PC. Is use G&M code programs compatible with EIA, ISO, and Fanuc to cut parts in a variety of materials (plastic, mild steel, aluminum, etc.)



### Required features:

- Ethernet-based control;
- AC axis servomotors;
- Brushless motor (Brushless type)
- Complete casing with automatic security door lock;
- Automatic diagnostics and protection against power cuts;
- PC-based CNC software;
- Pneumatic traction bar;
- Prepared for coolant;
- Is include 4th axis;
- Possibility for future robotic integration with inputs, 6 outputs.
- Axis Movement; X axis, max. 280mm; Y axis, max. 152mm; Z axis 270 mm;
- Workspace. Table size 550x160 mm; Number of T slots – 3; Size of T-slots - 12
- Load on the table above 35 kg;
- Axis Brushless Type” Motor; Engine power 1.34 hp / 1000 W;
- Spindle speed 100 - 5000 RPM (ISO20 spindle cone) for maximum tool diameter of 10 mm; Opening 232 mm;
- Accuracy Positioning accuracy: 0.038 mm; Repeatability: 0.010 mm
- Approximate dimensions: Width: 1280 mm; Depth: 895 mm; Height: 1845 mm;
- Weight (approximate): 510 kg;
- Axis movement motors
- Type of axis motor: AC servo motor; X-axis: 400W; Y axis: 400W; Z axis: 750W;
- Fast travel speed: 5000 mm/min (197 ipm);
- Feed rate of 2540 mm/min (100 ipm); Air supply

### Requirements

- Pressure: 620 kPa;
- Connection: 1/4" NPT female; Control software
- EIA RD compatible with the G & M code standard;
- Fanuc® compatible; CAD/CAM compatible; Advanced NC code editing;
- Real-time observation or simulation of the graphical tool path;

#### STANDARD ACCESSORIES

Instruction Manual  
Main Unit



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# SET OF ACCESSORIES AND TOOLS COMPATIBLE WITH THE CNC MILLING MACHINE (ITEM PREVIOUS)

MT-108G



## Specification:

- 4" (100mm) Precision Press (100mm) with angle adjustment
- Tool Holding Accessory Set (58 Pieces)
- ISO 20 Tool Holder with Nut
- Tool Holder Set
- End Mill Set, 3Piece, Imperial End Mill Set, 3 Piece, Metric
- Advanced End Mill Set, 14 Piece, Imperial
- Advanced End Mill Set, 12 Piece, Metric
- Engraving Tool Set, 3-Piece, Imperial
- Engraving Tool Set, 3-Piece, Metric Engraving Tool Set, 7- Piece, Metric ER16 clamp - 10mm; ER16 clamp - 4mm; ER16 clamp - 7mm; ER16 collet - 3/8"; ER16 collet - 5/16"; ER16 collet - 1/4"; ER16 collet - 3/16"; ER16 collet - 1/8" ER16
- Metric Collet Set, 8 Pieces (3,4,5,6,7,8,9,10mm) ER16
- Metric Collet Set, 8 Pieces (2x 3,6,8,10mm) ER16
- Imp Collet Set , 5 Pieces (1/8", 3/16", 1/4", 5/16", 3/8")
- Table Mounted 4 Station Automatic Tool Changer .
- Portable mounted ATC harness 4th axis package, 100 mm (4")
- Rotary worktable 3" (80 mm) 3-jaw chuck for rotary positioner 3" (80 mm)
- 4- jaw chuck for rotary positioner
- Dual Axis Pneumatic Vise
- Single Axis Pneumatic Vise

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# CNC LATHE

## MT-4410L



### Specification:

- CNC lathe assembled and ready to work with Ethernet port for communication with a computer. It is use AC drive motors on the spindle and on both axes, allowing the cutting of parts in a variety of materials (plastic, PVC, mild steel, aluminum, etc.). You is also use G&M code programs compatible with EIA, ISO, and Fanuc.

### Required features:

- Ethernet-based control; AC spindle motor, AC axis motors; PC-based CNC software
- Refrigeration system; Possibility of future robotic integration with 6 inputs and 6 outputs;
- Axis Movement. X-axis, max. 90mm; Z axis 305 mm;
- Workspace. Centers: 450 mm; Base width: 135 mm;
- Axle Spindle speed: 100-3000 RPM;
- MT3 spindle cone; Tools.
- Brushless Type" motor with a power of 1.34 hp (1000W);
- Automatic tool position 4; Tool angle 360 degrees; Ca MT2;
- Head displacement: 50 mm; Accuracy. Positioning accuracy: 0.015 mm; Repeatability 0.0 mm;
- Approximate dimensions) / Machine size. Width 1460 mm; Depth 760 mm; Height 1500
- Weight (approximate): 490 kg;
- Axis movement motors and Spindle motor type: AC servo, with 400W – Spindle 700W - Z axis:
- Fast travel speed: 5,000 mm/min;
- Air supply. 620 kPa, with 1/4" female connection (NPT); Control software.
- Feed: 2,540 mm/min;
- Requirements EIA RS274-D compliant standard G&M code; Compatible with Fanuc; Compatible with CAD/CAM; Advanced NC code editing;
- Verification in real time or simulation of the graphical tool path.

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# SIMULATION SOFTWARE LICENSE COMPATIBLE WITH CNC LATHE AND MILLING MACHINE

MT-786U

## Specification:

- This software allows interaction via Ethernet with the CNC mill and lathe, allowing cutting simulation and real-time monitoring of the part's cutting.
- It is also be compatible with the G & M code, Fanuc and CAD/CAM standards.

## Graphics configuration

- Allow machine customization, including various machine tools and accessories
- Tool definitions and corrections for up to 20 predefined and user-defined tools
- Definition of tool holders, or automatic cutting tool changer
- Part definitions and properties: material, color and size
- Settings checked during configuration to ensure compatibility with hardware and physical environment
- Tool and accessory options simulated on the 3D Dynamic
- Simulation screen
- Dynamic and graphical simulation, machine tracking during operation and program execution
- Simulation of transverse sliding, spindle and tool movements
- Simulation of real conditions, including axle limits, impact, automations and emergency stops
- Allow virtual try-on of pieces of different shapes, sizes and materials, such as wax, brass, wood, aluminum
- Visualization of current tool coordinates and status of hardware components
- Control viewfinder zoom, rotate, drag and redirect
- Checking the tool path in 3D during machining
- Simultaneously show three different 3D views of the machine
- Programming and control
- The software allows the replication of the industry control standard.
- Allowing you to change between different types and programming.



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# ACCESSORY KIT FOR CNC LATHE

## MT-755Q



### Specification:

- Counterpoint of MT2 taper chuck 13mm
- Head with 4 jaws - 125mm
- MT2 conical moving head with central bearing
- Set of 7 lathe cutting irons
- Set of replacement inserts for cutting irons
- Bushing for MT2 conical adapter drills
- MT2 rotary point center
- CNC Lathe Operating Tool Set in Box

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# LATHE WITH DISPLAY DIGITAL (DIGITAL READER COORDINATES)

MT-6130



## Specification:

- Electrical connection 400 V/ 3 Ph~ 50 Hz, 5Kw, Engine, with lubrication and cooling system; Power at the refrigeration pump output: 0.125 kW;
- Dimensions (approximate) and weights: Length: 1960 mm; Width/depth: 1060 mm; Height: 1690 m; Approx weight: 1250kg;
- Feeds: Longitudinal feed range: 0.0263-1.8416 mm/rev;
- Number of longitudinal advances: 48; Flat (transverse) feed range: 0.0133 -0.9321 mm/rev; flat Number
- Pitch: Metric pitch: 0.2-14 mm/rev;
- Number of metric steps: 26;
- Number of sprockets: 16; advances (transverse): 48; speed: 45-1800 min<sup>1</sup>;
- Spindle Characteristics. spindle/rod passage: 52 mm;
- Spindle cone: MT 6; Spindle chuck: DIN ISO 702-1 No. 5;
- Hole diameter Chuck passage diameter: 52 mm;
- Characteristics moving head; Chuck: MT 3; Z axis displacement 212 mm; mm Tip travel: 110 mm, with a diameter of 50 mm and, X-axis offset
- Working area: max. Height 200 mm; max. width 800 mm;
- Swivel diameter above the machine base: 400 mm;
- Swivel diameter above the planing slide: 245 mm;
- Bed width: 260 mm;
- Lathe chuck: three jaws, cast, Ø 200 mm DIN 6350 A2-5; SPC 5C collet set; Set of clamping blocks for 20-05 lathes, including:

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- Quick tool change kit, which allows more than 30 different working angles;
- Set of 5 long irons (How long?) 20 mm, for turning with carbide inserts;
- Set of 5 short irons measuring 20mm (in length?), for turning with carbide inserts; Lathe chuck with 4 jaws of 250mm, diameter DIN 6350 and concentricity of 0.03mm;
- Set of irons in box with cutting tools 26-3, 26-4, 5 cutting inserts 3.1mm wide,
- 5 cutting inserts 4.1mm wide;
- MT3 rotating center point, with max radial eccentricity of 0.006mm;
- Center Point with 7 interchangeable tips on precision needle bearings;
- Set of clamps with 17 pieces in the clamping range of 3 to 25 mm, for universal clamp;
- Set of leveling feet;

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# BIBLIOGRAPHY ABOUT MILLING AND TURNING

MT-934X

## Specification:

- Technical books on Conventional Milling with the following themes:
- Fundamentals and Practical Cases Manufacturing Processes
- Official Practices
- Practical Turning and Milling Exercises
- CNC Programming for Lathe and Milling Machine

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