



Michelangelo CNC Water Jet, Plasma, Laser Machine





ART MICHELANGELO Water jet , Plasma, Laser CNC machine

A truly versatile design which can be equipped with a Water jet or Plasma or Laser head for variety of different applications.

FRAME

Made from a combination of tubing and fabricated plates.

TABLE:

Made from heavy-duty tubing .The table is equipped with 1mm thick grid system which support up to 900 LBS of work piece. Optional support for heavier work piece is available.

LOCATING PINS (OPTIONAL):

Combination of 3 sides and 2 fronts, heavy duty locating pins controlled through program for squaring the piece on the table.

AXES DESCRIPTION

AXIS 1: X AXIS, moves back and forth along the length of the machine

AXIS 2: Y AXIS, moves back and forth along the width of the machine

AXIS 3: Z AXIS, moves up and down along the height of the machine

AXIS 4: Abrasive or plasma or laser intensity control.

GENERAL DESCRIPTION OF THE MACHINE

A double sided supported gantry type CNC with the following specifications:

Available work area sizes:

4'x8'

5'x10'

5'x12'

13'x20'

Custom

Traverse speed: (Maximum point-point positioning speed.)

X=40 m/min

Y=40 m/min

Z=20 m/min

AXIS 1 (X) DESCRIPTION, (INCLUDED)

X is a linear axis along the length of the machine moving to back and forth of the work area. This axis is directly connected to a high precision planetary gearbox hence adding higher accuracy and reliability.

X-Axis is mounted on four sets of four rows size (35) linear bearings and rail system.

Power and transmission on the X-Axis is provided by a powerful 1KW digital, brush less AC servo motor and drive system with extremely accurate 17 bit encoder feed back (131000 pulses/Revolution).

X-Axis is coupled to ground high precision rack and pinion for ultimate accuracy and reliability.

AXIS 2 (Y) DESCRIPTION, (INCLUDED)

Y is a linear axis along the width of the machine moving to left and the right of the work area. This axis is directly connected to a high precision planetary gearbox hence adding higher accuracy and reliability.

Y-Axis is mounted on four sets of four rows size (35) linear bearings and rail system.

Power and transmission on the Y-Axis is provided by a powerful 1.5KW digital, brush less AC servo motor and drive system, with extremely accurate 17 bit encoder feed back (131000 pulses/Revolution).

Y-Axis is coupled to high precision ground rack and pinion for ultimate accuracy and reliability.



AXIS 3 (Z) DESCRIPTION. (INCLUDED)

Z is a vertical axis along the height of the machine up and down of the work area. This axis is directly connected to a high precision preloaded ball screw and ball nut eliminating pulley and belt system hence adding higher accuracy and reliability.

Z-Axis is mounted on four sets of size (30) four rows linear bearing and rail system.

Power and transmission on the Z-Axis is provided by a powerful 900W digital, brush less AC servo motor and drive system, with extremely accurate 17 bit encoder feed back (131000 pulses/Revolution).

Z-Axis is coupled to a high precision ball screw and ball nut for ultimate accuracy and reliability.

AXIS 4 (INTENSITY CONTROL). (INCLUDED)

Intensity control axis is a virtual axis, commanding proper power to the cutting head.

ELECTRICAL CABINET. (INCLUDED)

All of our electrical components are CSA and CUL approved. The electrical systems on our machines are designed to work in extreme conditions and all components are locally available for simple maintenance and lower overall cost of ownership.

Our electrical enclosure is a true Nema 12 dust proofed cabinet with standard flip over keyboard and mouse platform.

We use high flex shielded cables for all connections. The cables are carried by all enclosed cable tracks to protect them from chips and external elements.

The whole electrical system is approved by Ontario hydro and carries approval sticker.

CONTROL SYSTEM. (INCLUDED)

Powerful, PC based CNC controller with Windows® XP operating system and 3 interpolated, 2 linear positioning axes.

DXF converter generating machine codes automatically.

G_code import capability.

Controller is running separately on a real time operating system while allowing the operator to work in a familiar Windows® environment.

User friendly interface allowing the operator to navigate through menus and options allowing them to edit or create programs right on the machine terminal eliminating the need for additional person for programming.

MDI menu for manual operations.

Standard remote diagnostic allowing us to troubleshoot the machine from a remote location saving traveling time.

Automatic spindle warm-up cycle.

Optional macro program to allow for specific operations to be predefined and called up with the push of a button rather than being written each time in programming process. (Not included)

Optional CAD/CAM program. (Not included)

HANDHELD PENDANT (INCLUDED)

The handheld pendant is equipped with the following functions:

Jog function on X, Y and Z axis enables the operator to jog the machine in forward and reverse mode.

Start and stop cycle buttons enables the operator to start or stop a program while he or she is closer to actual work piece.



Pause mode stops all motions and resume button continues existing motions enabling the operator to inspect validity of operation or a new program.

Federate override controls the overall speed of the machine from 0 to maximum traverse speed on all axes.

The pendant also supports incremental jogging for fine tuning adjustment for all axes.

SAFETY BARRIER (OPTIONAL)

Safety barrier installed at the front of the machine activated when crossed and pauses all existing motions and resets by resume button. This option is an excellent safety feature to protect the operator from accidental contact with moving axes.

OTHER SPECIFICATIONS

Power requirements for Canada : 600V 3 phases at 45 Amps.

Power requirements for U.S.A. : 460V 3 phases at 55 Amps.

Power requirements for Europe and Asia: 380V 3 phases at 70 Amps.

Air requirements: 7 bars or 100 PSI.