

# Macro CNC Simulator



**Macro CNC Simulator  
Console Based**  
Model CMV 21.5



**Macro CNC Simulator  
PC Based**  
Model PCV 1.0



**Macro CNC Virtual Machine Simulator**  
Model SVM 3.0.43

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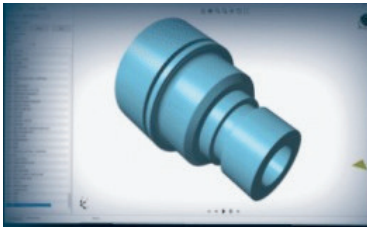


## General Information's :

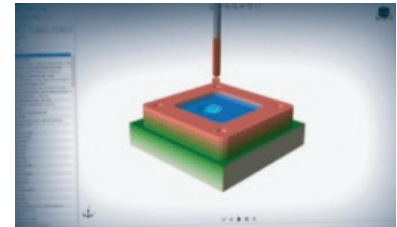
CNC Simulator, Educational software for machining parts based on a PC environment. The trainer can achieve high efficiency in CNC education with a low budget using our CNC Simulator. A powerful virtual solution specifically designed to train the students, operators, and CNC Learners, Faculty, and Professors. Institutions like ITI, Polytechnics, and Engineering Colleges' real-time operations can train in Virtual CNC Milling and Turning centers with different controllers like FANUC, SIEMENS, FAGOR HAAS, MITSUBISHI and HEIDENHAIN 2-5 Axis. CNC Simulator is mostly preferred and widely used by institutions to train students to evaluate their scores with online exams and share the screens to learn and doubt clearing about the operations of the machine and program. NC Editor is an add-on tool for student writing platforms to do program guide the error on its syntax through Intelligent and will check its simulation using our CNC Simulator.

## Macro CNC Simulator Features :

- Realistic control panels and operator panels.
- Realistic 3D machine tool and control panel.
- Cutter trace simulation.
- Machining process simulation based on Job Setting, tool set, Job measuring tools, and Machine alarms and messages.
- Machining has the coolant, sound, and chip removals.
- Job clamping can use different types like Vice, Hold Clamps, and Side Clamps.
- Machined jobs can be measured by Vernier Caliper, Auto dimensioning.
- Tools Library for the management tools and tools customization.
- Mounted with 10 stations in the Rear. ATC used to change from a magazine for the machining center
- Machining can be a recording tool available.
- Programs are easily created in ASCII format using any text editor.
- Help on screen for G/M codes.
- Program verification of canned cycles and language syntax according to the command code for the specific model.
- G Code parser. Support ISO-1056 preparatory function codes (G codes), and assistant function codes (M codes).
- G-code debugging tool.
- Capability to simulate canned cycles, macros, and the inclusion of parameters.
- FANUC, SIEMENS polar coordinate programming, G02, G03 spiral interpolation.
- Preset zero point G54, G55, G56, G57, etc. .
- Electronic hand wheel available.
- Modes JOG, MDI, EDIT, SINGLE BLOCK, AUTOMATIC, DRY RUN, STOP CYCLE, CYCLE START, EMERGENCY Etc..
- Adjust the cooling hose.



CNC Turning



CNC Milling

## Macro Simulator Console Based

- Metal Fabricated 21.5', 24', 32' 43' Touch screen panel or above
- Display 1920x1080 pixels (Optimum)
- On Screen interchange control panels
- Machine Operation panel(MOP) like Emergency button, lock, MPG, and Axis selector, cycle start and stop, feed control, spindle speed, etc..
- On-screen MOP (for touch screen)
- On Screen file edit / Open
- Key Board /Mouse
- Processor i5 Processor, 8GB RAM, Ports
- HDMI, USB, Intel HD Graphics.
- Online Internet connectivity

## Specifications

## Macro Simulator PC Based

- Hardware Requirements
- 21.5" inches LCD or LED monitor with
- Display 1920x1080 pixels (Optimum)
- i5 Intel Processor, 16GB RAM
- Mouse, Keyboard
- USB,HDMI or VGA Port
- 1 TB HDD
- On Screen interchange memory control
- On Screen Swapping Machine control
- More details Rfr CNC Virtual Machine & CNC Control



CIPET Bhagalpur



CIPET Chandrapur



CIPET Varanasi

## Our Clients



Government ITI Ludhiana



Government ITI Bassi Pathana



Government ITI Perambalur



Government ITI Haridwar



# MACRO CNC SIMULATOR



## Macro CNC Simulator Console Based

Model CMV 21.5

### Features :

1. A Macro CNC simulator console based-model is designed to provide realistic CNC training in a more portable and space-efficient package.
2. A Simulator having a switchable Mill and Lathe System. It includes a 3-axis milling and 2-axis turning operations for Fanuc & Siemens.
3. A Simulator having a Inbuild Mechanical 2D CAD Software to draw exerciser using Cad Command like Line, Arc, Circle, Spline, Text, Ellipse, 3 point arc , 2 point arc. Used to construct or draw diagrams. Modify Commands like Trim, Extend, Explode, Offset, Fillet, Chamfer, Edit Undo, Redo.
4. A Simulator having a CNC Machine Construction for Lathe and Mill.

### Product Information:

S.No	Brand	Macro CNC Simulator Console Based
1	Manufacturer	CAD MACRO
2	Model	CMV 21.5
3	Screen Display Size	21.5' inches LED or LCD Display Touch Screen
4	Machining Operation Panel (MOP)	MDI, Emergency stop button, Manual Pulse Generator (MPG), Over ride switch, Lock, Emergency, Button, Axis Selector, Cycle Start and Stop, Feed Control, Spindle On / Off Etc.. On Screen MOP (For Touch Screen) , On Screen File Edit / Open.
5	Resolution	1920 x 1080 FHD
6	Edition	Windows 10 pro
7	Processor	i5 , 10 <sup>th</sup> gen or above, 8gb Ram
8	Storage	500gb
9	Ports	HDMI, Display Port, 5 USB Ports, C-type Port. <b>i) Wireless Tech:</b> Wifi
10	Material Type	Metal with Powder Coating.
11	Weight and Dimension	Approximately 15 to 20 kg, with dimensions of 600mm x 380mm x 550mm (W x D x H).
12	License Type	Perpetual
13	Power Soucre	230V
14	Country of Origin	India

# Technical Specification for Macro CNC Simulator

<p><b>1.CNC Programming Simulator</b>  <b>Having similar hardware unit of CNC Machine for 2 axis Turning and 3 axis milling operations for FANUC &amp; SIEMENS controllers with the following detailed-features.</b></p> <p><b>1.1</b>  CNC Machine construction.(Lathe) Bed,Ball Screws,LM guides,Spindle,chuck control System Steady rest,turret ,tail stock,Electrical,encoders</p> <p><b>1.2</b>  CNC Machine construction.(Milling/VMC) Bed,Ball Screws,LM guides,Spindle,rotary table,chuck,ATC APC,electrical,Control system,encoders.</p> <p><b>1.3</b>  Machining operations.(CNC Milling) Milling Face,pocket,contour Drilling,Peck Drilling,high speed peck drilling,counter sinking,reaming,tapping,rough and finish boring,Back boring.</p> <p><b>1.4</b>  Cutting tools and Holders.(CNC Lathe) External turning,boring,external and internal grooving and face grooving, External and Internal threading,drill,ISO Nomenclature for tool Holders and inserts.</p> <p><b>1.5</b>  Cutting tools and Holders.(CNC Milling) Face mill,End mill,drill,Tap,side and Face mill,Counter sink,Rough and Finish bores. SO Nomenclature for tool holders and inserts.</p> <p><b>1.6</b>  Work holding devices.(CNC Turning) Chuck,Hard and soft Jaws,Soft jaw boring tail stock,steady rest (CNC Milling)Fixture construction, Principle of fixtures,Fixture elements,VMC fixtures,Modular fixtures.</p> <p><b>1.7</b>  CNC Programming concept (CNC Turning) Axes,G&amp;M codes,Canned cycles,Tool Nose radius compensation.CNC Programming Concept.(CNC Milling) Axes,G&amp;M Codes,canned cycles,Tool Nose radius compensation,sub programs</p> <p><b>1.8</b>  Cutting Parameter.(CNC Lathe) Constant surface speed,Limited spindle speed,Tool Wear,Tool life,effect of nose radius and Feed Rate,Surface finish in turning,Cutting parameter selection. Cutting parameter.(CNC Milling) Cutting speed,rpm,feed rate,stooll wear, tool life,cutting Parameter selection.</p>	<p><b>2.0</b>  <b>CNC Interactive CNC part programming Editor software:</b></p> <p><b>2.1</b>  Student learn skill of process planning,writing a CNC program using G&amp; M codes and canned cycles,tool selection, checking for syntax errors in the program</p> <p><b>2.2</b>  Student must learn to correct the syntax errors verify the tool path by graphical simulation.</p> <p><b>2.3</b>  Support CNC programs for controls commonly used in industry -Fanuc Siemens,etc.</p> <p><b>2.4</b>  Interpret and simulate G &amp;M codes Canned cycles,Sub programs for above controls.</p> <p><b>2.5</b>  Check for program syntax errors,list their nature and location for above CNC controls</p> <p><b>2.6</b>  Check for and display collisions and logical errors,like no spindle speed,no feed rate, no end of program.</p> <p><b>2.7</b>  Check for and list command errors like illegal G &amp;M codes and Canned Cycles</p> <p><b>2.8</b>  Student must be able to assign cutting tools to tool numbers from a tools library with ISO tools</p> <p><b>2.9</b>  Tool path must be simulated graphically, must show raw material,finished part,tool shape.</p> <p><b>3.0 Mechanical 2D CAD Software:</b></p> <p><b>3.1</b>  Student to draw exerciser using Cad Command like Line,Arc,Circle,Spline, Text Ellipse,3 point arc,2 point arc.Used to construct or draw diagrams.Modify Commands like Trim,Extend,Explode, Offset,Fillet,Chamfer,Edit Undo,Redo</p> <p><b>3.2</b>  Modifying drawings thru Commands like Trim,Extend,Explode,Offset, Fillet,Chamfer,Edit,undo,redo</p> <p><b>3.3</b>  Additional Commands Like Copy,Paste, Delete the selection by window,pick by entity.</p> <p><b>3.4</b>  Software need to read drawing files in DWG,DXF Format as well export too</p> <p><b>3.5</b>  Software have entity selection by window And single entity,crossing,etc</p>	<p><b>4.0</b>  <b>Macro CNC Simulator:</b></p> <p><b>4.1</b>  Machining Operation Panel (MOP)like MDI, Emergency stop button,Manual Pulse Generator (MPG),Over ride switch,Lock, Emergency,Button,Axis Selector,Cycle Start and Stop,Feed Control,Spindle On /Off Etc..On Screen MOP(For Touch Screen), On Screen File Edit /Open.</p> <p><b>4.2</b>  Real time Machining with job Loading, Coolant ON/OFF with chip removal,Real time Machining sound, Program Error</p> <p><b>4.3</b>  Real time program reading,Real time job setting,Supporting file receive and send.</p> <p><b>4.4</b>  Virtual Job Measurements,Code ntelligence,3D Simulation,G and M Code error listing</p> <p><b>4.5</b>  Tool Tips Auto simulation,File submission to Trainer,DNC File sending,Single Block testing.</p>
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