Model 67 | CNC Machining Centers
5 Axis

THERMWOOD

MADE IN AMERICA

WEAR EYE PROTECTION

WEAR EYE PROTECTION

THERMWOOD

Q CORE

MADE IN AMERICA

DANGER IMPACT HAZARD: Stay clear of table during operation
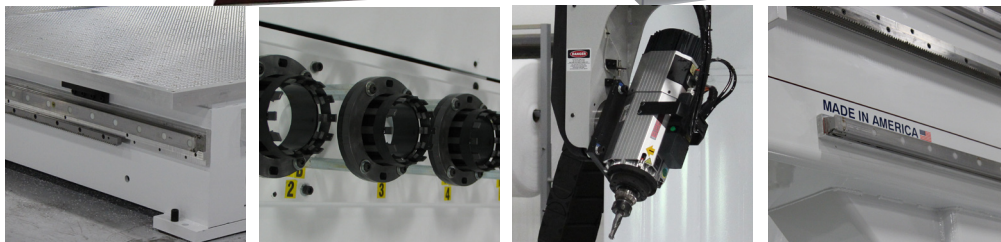
THERMWOOD

MADE IN USA

www.thermwood.com

5 Axis
Model 67

Thermwood, the industry leader in 5 Axis applications with more five-axis systems in operation than any other company. These 5 Axis CNC routers have become the accepted method for production trimming of thermoformed, composite and fiberglass parts. Also, well known for machine patterns and molds directly from CAD data.

This robust system offers a variety of options and features to tackle a multitude of different applications. The M67 is a heavy duty, high speed five-axis CNC router specifically developed for three dimensional applications.

Thermwood CNC Machining Centers

- Laser Calibrated to assure the most accurate absolute positioning and repeatability.

- Full five-axis simultaneous motions.

- Execute extremely large CAD generated programs at high speed without pausing.

Machine Standard Feature

- 7.5HP Dual End Spindle (3,000-24,000 RPM)

- 24" Vertical Z Axis (Available in 36" and 48")

- SuperControl

- Automatic 6 Position Gantry Leg Tool Change System (Optional)

- Moving Solid Aluminum Table

- Automatic Tool Length Sensor (Optional)

- Siemens Intelligent Servo Drives Throughout

- 3-D Laser Compensated Axis Alignment

- Control Networking

- Machine Training and Installation

Table Sizes Available
- 5' x 5' Moving Table
- 5' x 10' Moving Table
- 10' x 5' Moving Table
- 5' x 12' Moving Table
- 7' x 10' Moving Table
- Dual 5' x 5' Moving Tables
- Dual 5' x 10' Moving Tables
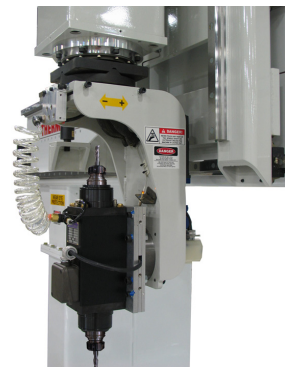- Dual 5' x 12' Moving Tables

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Thermwood Advanced Technical Features

◆ **Linear Laser Compensation** – This procedure is standard on all machines during the construction phase and compensates for inherent variances in components during machine construction.

◆ **Volumetric 3D Laser Compensation** – This procedure is standard on all machines prior to shipment to our customers. This feature compensates for position errors within the three dimensional working envelope of the machine.

◆ **Fixture Placement Compensation** - Allows the user to mechanically locate three points on a fixture during initial program set up. These points are used as reference for our controller to automatically align the program to the new fixture location.

◆ **Constant Tip Speed Machining** – Automatically varies the machine feed speed to allow the tip of tool to maintain a constant speed. This feature synchronizes the linear and rotary movements ensuring a constant and smooth cutting motion.

◆ **Tip Center Rotation** - Allows for maintaining tool tip positioning when commanding a rotary axis to move in coordination with two or more linear axis.

◆ **Impact Resistant Head** – A positive locating joint between the axis 5 arm and the rest of the machine. Decreases the amount of force applied to the head in the event of a collision, diminishes the need for realignment, and reduces fixture and spindle damage.

◆ **Remote Diagnostics** - provides direct, live, visual contact from the machine control to Thermwood's Service department. Diagnose, troubleshoot and configure the control remotely with a certified Thermwood service technician.

◆ **Advanced Communications** – Communication features available between the operator and the Thermwood Supercontrol allows the operator to electronic search the programming and maintenance manuals, view maintenance videos, error reporting, maintenance tracking, and dynamic exploded assembly drawings.

◆ **Single Source Service** – Thermwood factory service for both the CNC Control system and the CNC Machine.

◆ **Control Upgrades** – On going control upgrades. The evolution and latest features of our control system is available at www.thermwood.com
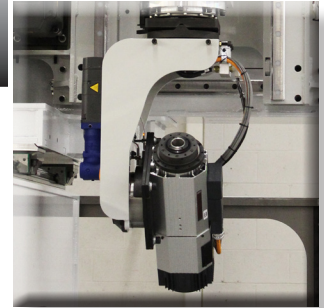
Machine Standard Options

7.5 HP (5.5 kw) Dual End Spindle

Variable speed, programmable between 3,000 to 18,000 RPM. Maximum collet size is 3/4" (19mm) on each end. Allows continuous axis 5 rotation.

www.thermwood.com

Machine Options

12 HP Tool Change Spindle
Variable speed, programmable between 3,000 to 24,000 RPM. Maximum collet size is 3/4".
Includes 6 position tool change bar. Includes Gantry Leg Automatic Tool Changer System.

Increased Z Axis Stroke
This option extends the Z Axis movement from the standard 36" (900mm). Travel for trimming taller parts or parts which require more daylight clearance. 48"(1200mm) Z Axis Stroke is available.

Continuous C axis
The continuous C axis improves system performance by simplifying operations and eliminates the possibility of damaged wire within movable joints. Maintenance-free metal contacts provide long life with error-free data communication transmission.
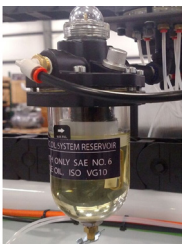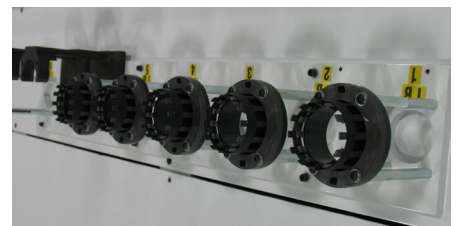
Impact Resistant Head
A positive locating joint between the axis 5 arm and the rest of the machine. Decreases the amount of force applied to the head in the event of a collision, diminishes the need for realignment, and reduces fixture and spindle damage.

Bar Style Automatic Tool Changer
Mounts behind the rear of the table and hold the tapered tool holders. When the program calls for a tool change, the head moves back and places the tool into an empty space, it then moves over and picks up the appropriate tool, and then continues the program.
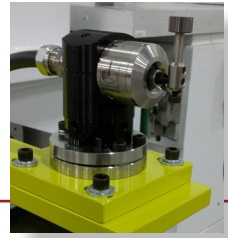
Automatic Lubrication System
A pressurized greasing system which continuously applies lubricant with a polyurethane foam pinion using a special grease based on lithium/calcium complex with extreme pressure additives.

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High Tolerance Tool Length Sensor

The TS27R is the standard tool setting probe for machining center applications. A compact, robust design allows simple fitment to the machine bed or bracket mounting where appropriate.
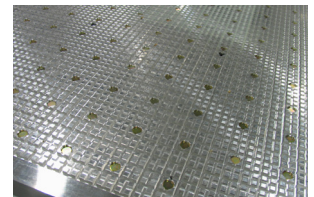
Gantry Lighting

The fluorescent light fixture is mounted under the machine gantry so that it fully illuminates the table top. The fixture is fiberglass with a clear acrylic diffuser, fully gasketed to resist dust and moisture.

Vacuum Plumbing

The machine table is equipped with conventional vacuum hold-down system. Includes a valve and fixture plumbing connection mounted on the front edge of the table. Two separate 1 inch connection locations for the vacuum pump are located at each end of the table. (Vacuum pump sold separately)

Multi-Function Vacuum Table

A universal table that allows the table to be used with pods, conventional vacuum or universal vacuum. The table consists of a machined aluminum grid top with an aluminum plenum underneath along with a pattern of threaded hold-down holes and o-ring sealed vacuum ports.
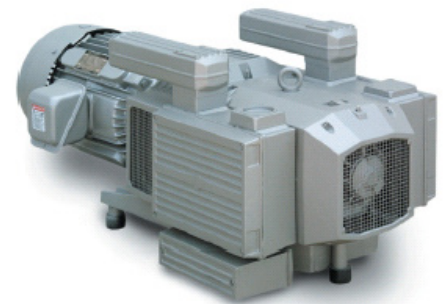
5 HP (2.2 kw) Vacuum Pump

The 5 HP (2.2 kw) Vacuum Pump generates 63 CFM and 29 IN Hg (100m³/h and -98kpa). Includes vacuum hose to machine.

15 HP (11 kw) Busch Pump

15 HP (11 kw) Combination Vacuum Pump generates 330 CFM and 29 IN Hg (560m³/h and -98kpa). Includes vacuum hose to machine.

Position Verification System

This option utilizes the position sensing probe to verify specific X, Y, and Z surface location points created using a CAD/CAM generated NC program. The position sensing probe is manually inserted into the spindle and measures fixture location and automatically modifies the program to compensate for location deviations.

SuperControl

Thermwood, the only major CNC router manufacturer that designs and builds its own CNC control, is a leader in implementing advanced control technology. The Super-Control incorporates more advanced control features than any other CNC control in the industry. And, because Thermwood provides all the technology, you have single source responsibility. Thermwood stands behind and supports the entire system and when new technology is available it can easily be upgraded.

Thermwood's SuperControl

• **Full Multi-tasking Control**- Uses Microsoft® Windows® 10 Professional operating system, offering the ability to operate the machine and do other tasks on the control

• **Huge File storage**-1 TB hard drive for storage and greater file execution with no delays.

• **Direct Link**- accepts raw design files or CNC programs, compatible with virtually all design softwares.

• **Virtual Service**- direct, live, visual contact to Thermwood's Service Department.

• **Tool Management**- keeps track of tool usage and automatically replaces it when needed

• **Maintenance Alerts**- alerts you when lubrication or maintenance is needed.

• **Videos and Manuals**- step by step how-to-videos to adjust, maintain and repair your machine. Electronic manual, with error reporting and dynamic 3-D assembly drawings with part numbers.

SuperControl Options

Hand Held Terminal

A powerful tool for creating, modifying, editing and refining CNC programs at the machine. Programs can be debugged or created right at the machine. The machine moves as it is programed, so you can see the exact position. Modifications can be made quickly, errors are minimized saving time.

Control Touch Screen

Adds "touch screen" functionality to control system.

Personal Pause Button

Thermwood has developed a remote wireless "Pause Button" which can be clipped to a belt or pocket. Pressing this button stops the machine in place.

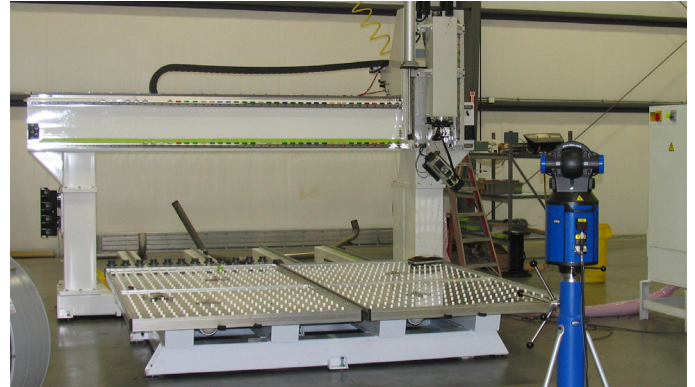# Software

Mastercam
*Authorized Dealer

Thermwood has a sales and support group that focuses on software products that work with and enhance the operation of Thermwood CNC routers. Their goal is to offer to Thermwood customers the most effective software products for their specific application, smoothly integrated with the control. You can be certain that software obtained from Thermwood will work properly with your Thermwood CNC router. (Thermwood machines can link with all major CAD/CAM softwares.)

www.thermwood.com

Volumetric Compensation

Volumetric Compensation, standard on all Thermwood CNC routers, dramatically improves the accuracy and quality of the machine. This state-of-the-art advanced technology, developed by Thermwood, is especially essential for large envelope five-axis machines. In this process, the laser measures the exact positions of the cutting head, in three dimensions within the working envelope, and compensates for any remaining error. The compensation then becomes integral within the machine's control providing precise positioning of the cutting head.

Thermwood Technical Service

Thermwood's Technical Service offers a wide range of services for our customers to be comfortable and profitable with their CNC Router System. Each Thermwood CNC router system includes formal, structured training classes including professional support material and hands-on experience.

In addition to Thermwood's professional phone support and on-site service, we offer Virtual Service, which is an audio, video and data link from the machine controller and Thermwood's Service team. When the "Virtual Service" link is established, the customer can see and talk to the Thermwood service technician and the service technician can see, not only the customer, but also all of the critical parameters of the control. Through this link, the control can be diagnosed in real-time while programs are being executed and corrections can be made.

We also offer an On-line Supply Store, extensive Part Inventory, Custom Programming, an Advanced Support Program and a Retrofit and Upgrade Department.

Thermwood's training, Virtual Service continuing control updates, and free lifetime phone support offer you support like no one else and assures continuing profits from your Thermwood investment, years into the future.
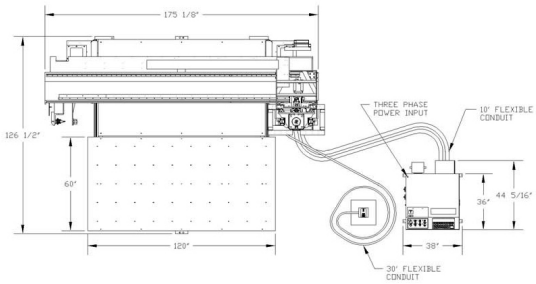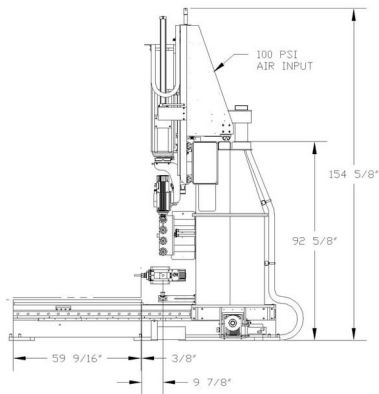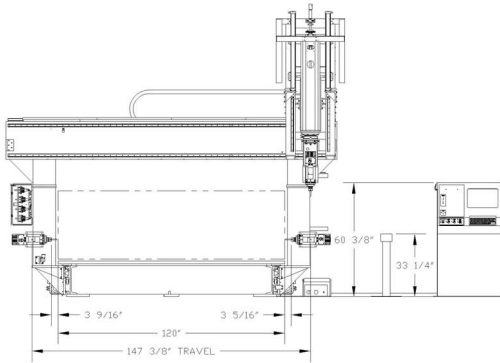
Thermwood's Service

- **Free Lifetime Phone Support**
- **Virtual Service**
- **On-site Technical Service**
- **Custom Programming**
- **Hands on Training Classes**
- **Professional Set-up**
- **On-line Supply Store**
- **Extensive Parts Inventory**
- **Retrofits and Upgrades**
- **Advanced Support**

Dimensions

Model 67 Overall Dimensions (Dual 5' x 5' (1.5m x 1.5)Table Shown)
5' x 5' Table: Height: 155" Width: 114" Length: 132"
(1.5m x 1.5m Table: Height: 3.9m Width: 2.9m Length: 3.4m)
5' x 10' Table: Height: 155" Width: 114" Length: 300"
(1.5m x 3.0m Table: Height: 3.9m Width: 2.9m Length: 7.6m)
10' x 5' Table: Height: 155" Width: 179" Length: 149"
(3.0m x 1.5m Table: Height: 3.9m Width: 4.5m Length: 3.8m)
Dual 5' x 5' Table: Height: 155" Width: 179" Length: 149"
(Dual 1.5m x 1.5m Table: Height: 3.9m Width: 4.5m Length: 3.8m)
Dual 5' x 10' Table: Height: 155" Width: 179" Length: 270"
(Dual 1.5m x 3.0m Table: Height: 3.9m Width: 3.9m Length: 7.0m)
Dual 5' x 12' Table: Height: 155" Width: 184" Length: 328"
(Dual 1.5m x 3.6m Table: Height: 3.9m Width: 4.6m Length: 8.3m)
(Dimensions are approximate)

Thermwood...First in CNC Routers

Thermwood is the first company that developed and manufactured CNC router technology in the US. Starting in the late 60's, Thermwood continues to offer products and software technology for the wood, plastics and aerospace industries, involving numerous areas of machining applications.

cating, machining, assembling and testing processes from the machine fabrication to the CNC control production.

Thermwood is an International company that strives in technology, software, support and service to best fit the needs of our customers. Thermwood...the first in CNC routers.

The main facility consists of 175,000 square feet which includes both an office/showroom and an engineering and manufacturing plant. Manufacturing utilizes modern fabri-

THERMWOOD

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