

ROTTLER

EM69P CNC 5 AXIS DIGITIZING & PORTING MACHINE INSTALLATION MANUAL



PARTS ORDERING

For optional equipment catalogs, please visit <https://www.rottlermfg.com/documentation.php>

For fastest service ordering parts or equipment, contact us via e-mail with the information below. For customers within the U.S., send emails to parts@rottlermfg.com, for customers outside of the U.S., use intlparts@rottlermfg.com

Have the following information on hand to expedite the ordering process:

1. Your name, business name, and contact number
2. Customer number, or your billing address if you do not have a customer number
3. Shipping address if different from the billing address
4. Machine model and serial number
5. Part number and description of the item(s) to order
6. Preferred method of shipment

For customers outside of the U.S. requiring faster service, contact your local distributor.

In some cases, you may be requested to send a photo of the part you are ordering if it is a replacement part or does not appear in our database.

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THERE IS A MINIMUM ORDER OF \$25.00

MANUAL SECTIONS

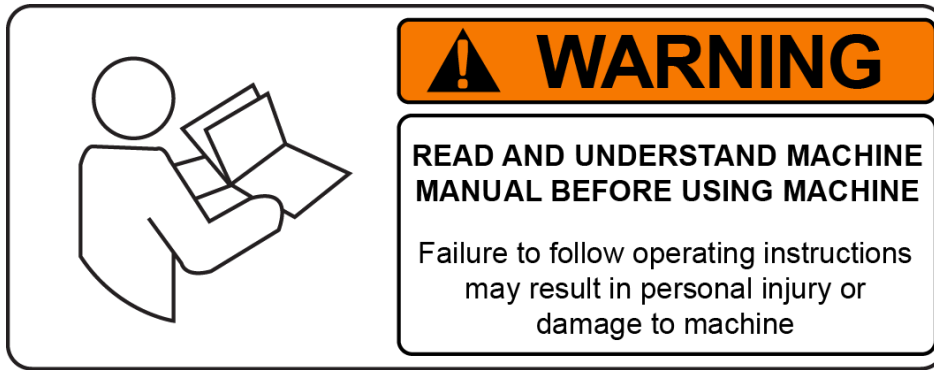
INTRODUCTION

INSTALLATION

INTRODUCTION

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Introduction

READ THE SAFETY CHAPTER BEFORE INSTALLING MACHINE. THOROUGHLY UNDERSTAND ALL SAFETY ISSUES BEFORE OPERATING MACHINE.

ATTENTION OWNER/BUSINESS MANAGER

To validate the warranty on your new Rottler machine, please be sure to sign and complete the “Installation Report” located in the Installation Chapter of this manual.

We suggest that the new user of the EM69P read the CONTROL DEFINITIONS to get an idea how the machine operates.

The Operating Instructions chapter should be read in order to familiarize the user with the actual button pushing sequences required to carry out a job. These chapters in the manual should be considered an introduction. As the operators of the EM69P series machines gain experience with using the different functions of the machine, complicated setups and programs will make more sense.

The rest of the manual contains information and part number reference on fixtures, cutting tools, and machine maintenance. The operator should read and become familiar with these areas as well.

Description

The Rottler EM69P is a 5-axis CNC machine designed and developed specially for porting cylinder heads. The design of the machine allows the center of the “ball shaped” cutting tool to rotate about its own center on the 5th axis.

This unique design has many benefits to a performance engine builder of which the most important are ease of programming and the fastest and most accurate method to port cylinder heads.

Disclaimer

The EM69P Manual (henceforth to be referred to as the “Manual”) is proprietary to Rottler Manufacturing LLC. (“Rottler Manufacturing”) and no ownership rights are hereby transferred. No part of the Manual shall be used, reproduced, translated, converted, adapted, stored in a retrieval system, communicated or transmitted by any means, for any commercial purpose, including without limitation, sale, resale, license, rental or lease, without the prior express written consent of Rottler Manufacturing.

Rottler Manufacturing does not make any representations, warranties or guarantees, express or implied, as to the accuracy or completeness of the Manual. Users must be aware that updates and amendments will be made from time to time to the Manual. It is the user’s responsibility to determine whether there have been any such updates or amendments. Neither Rottler Manufacturing nor any of its directors, officers, employees or agents shall not be liable in any manner whatsoever to any person for any loss, damage, injury, liability, cost or expense of any nature, including without limitation incidental, special, direct or consequential damages arising out of or in connection with the use of the Manual.

Rottler Manufacturing and its employees or representatives are not responsible for any information regarding final specifications of any workpiece that is created as a final product when using Rottler equipment. It is the responsibility of the end user of Rottler equipment to determine the final dimensions and finishes of the workpiece that they are working on. Any information regarding final dimensions and finishes that appears in any Rottler literature or that is expressed by anyone representing Rottler is to be regarded as general information to help with the demonstration of or for operator training of Rottler equipment.

Limited Warranty

Rottler Manufacturing Company Model EM69P parts and equipment is warranted as to materials and workmanship. This limited warranty remains in effect for one year from the date of installation or two years from the date of the original shipment from Rottler or whichever date occurs first. This only applies if the machine is owned and operated by the original purchaser and is operated and maintained as per the instructions in the manual. A machine is warranted only if the Installation Report has been properly executed by a certified installation person and received by Rottler at the time of actual installation.

The products are warranted upon delivery to conform to their published specifications and to be free from defects in material and workmanship under normal use for a period of one year from shipment. Should a product not be as warranted, Rottler sole obligation shall be, at its option, to repair, correct or replace the

product or to refund the amounts paid for the Product upon its return to a location designated by Rottler. No warranty shall extend to rapid wear Products (including tooling) or to Products which have been subject to misuse (including any use contrary to Rottler instructions), neglect, accident (including during shipment), improper handling or installation, or subject to any modification, repair or service not certified by Rottler. Rottler shall not be liable for any consequential, direct or indirect damages or for any other injury or loss. Buyer waives any right, beyond the foregoing warranty, to make a claim against Rottler. No warranty is provided for any Products not paid in full.

Merchandise cannot be returned to Rottler without prior approval. Customer must contact the Parts Department to get approval and to be issued a Return Goods Authorization number (**RGR#**). Merchandise authorized for return must be returned prepaid. If merchandise is returned with shipping charges collect, the actual amount of these charges may be deducted from any credit which may be due the customer. The **RGR #** assigned by the Parts Department should be written on the shipping label and must appear on a copy of the invoice(s) covering the original shipment. This invoice copy must be included in the box with the parts. Shipment must contain **ONLY** those items on the **RGR** as approved for return. Merchandise must be received within 10 days of the date of **RGR** or the **RGR** will be canceled. All returned merchandise may be subject to a 20% restocking fee on under \$1,000.00 amount or 10% on any items over \$1,000.00. Parts or tooling over 30 days old are considered as customer property and can only be returned with prior approval from Rottler Corporation Management.

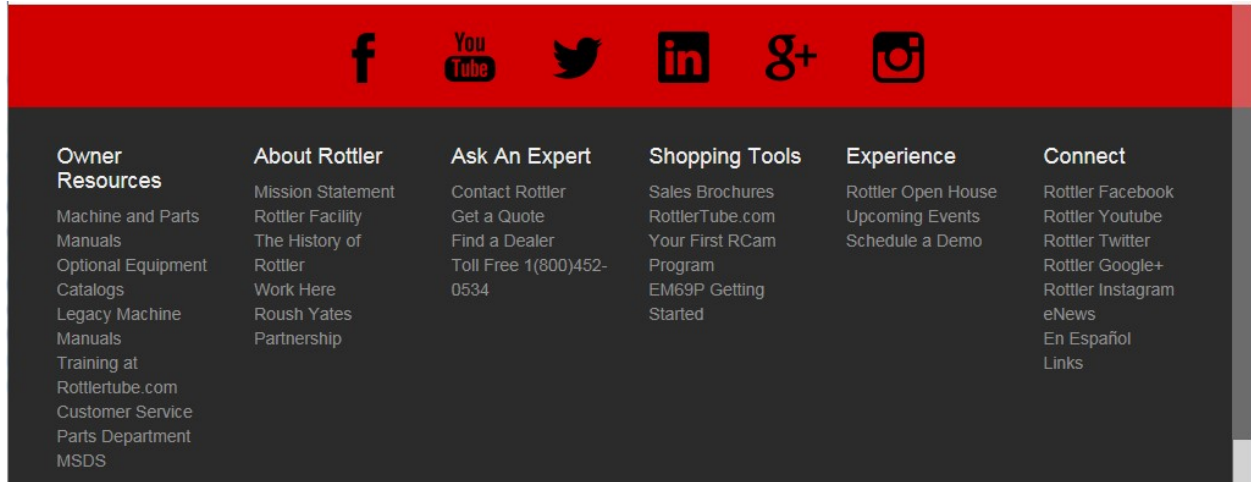
The issuance of a **RGR DOES NOT** guarantee credit - it is only authorization for the return of the goods. Credit for return merchandise is at the sole discretion of Rottler. Credit will be issued only after inspection of returned goods.

Tools proven to be defective within the warranty period will be repaired or replaced at the factory's option. We accept no responsibility for defects caused by external damage, wear, abuse, or misuse, nor do we accept any obligation to provide compensation for direct or indirect costs in connection with cases covered by the warranty.

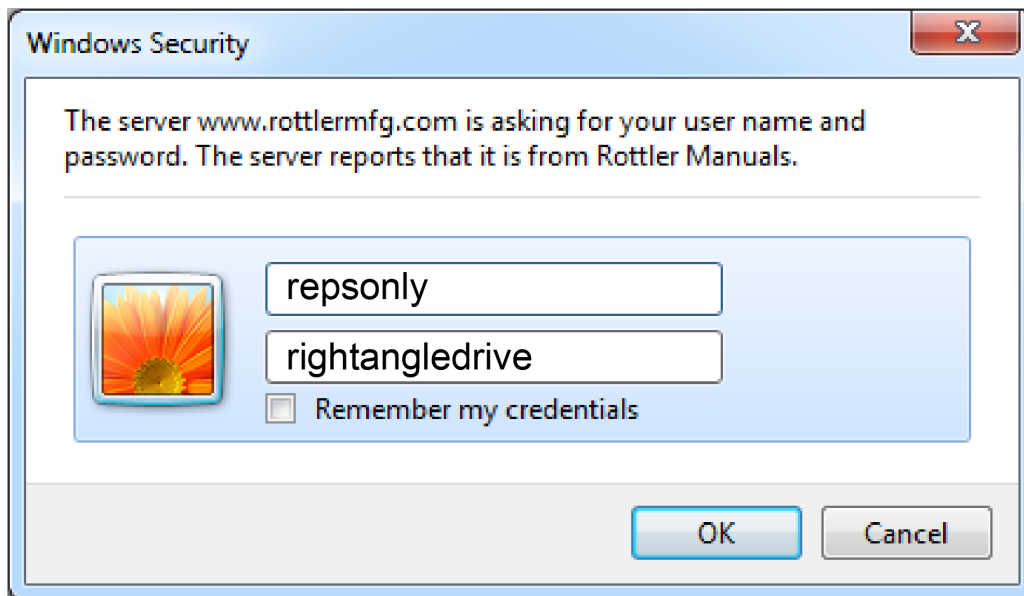
Online Documentation Access

Online documentation for machines and optional equipment can be accessed at the Rottler website. To access documentation open your browser and navigate to <https://www.rottlermfg.com>.

Scroll to the bottom of the page and under the Owner Resources title click the type of documentation you want to access.



If a log in window pops up asking for user name and password fill in the blanks as shown.



INSTALLATION

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ATTENTION OWNER/BUSINESS MANAGER

To validate the warranty on your new Rottler machine, please be sure to sign the installation report after the installation technician has installed the machine and verified the machine is operating correctly and given the operators operation and maintenance training.

Thank you for your cooperation and the opportunity to be of service to you.

ROTTLER MANUFACTURING



INSTALLATION REPORT

EM69P

REV 110519

OFFICE USE ONLYRoute to:
Parts ____ Service Mgr ____ Assem Mgr ____ Eng Mgr ____ Parts ____ Andy ____ Parts ____
Warranty Exp Date _____

ROTTLER MANUFACTURING MUST HAVE THIS REPORT RETURNED TO PROPERLY QUALIFY WARRANTY ON EQUIPMENT

Customer: _____ Address: _____
City: _____ State: _____ Zip: _____ Phone: _____
Country: _____
Machine Model: _____ Serial Number: _____
Representative: _____

MACHINE INSTALLATION: Electrical information MUST be complete to validate this report.

_____ Customer has read and fully understands importance of machine location as explained in the installation section of the manual.

**Customer responsibility prior to the arrival of Rottler Sales/Service technician.
Please Initial each item when it is completed.**

Customer is responsible for providing electricity to machine in a manner that meets the local electrical code requirements.

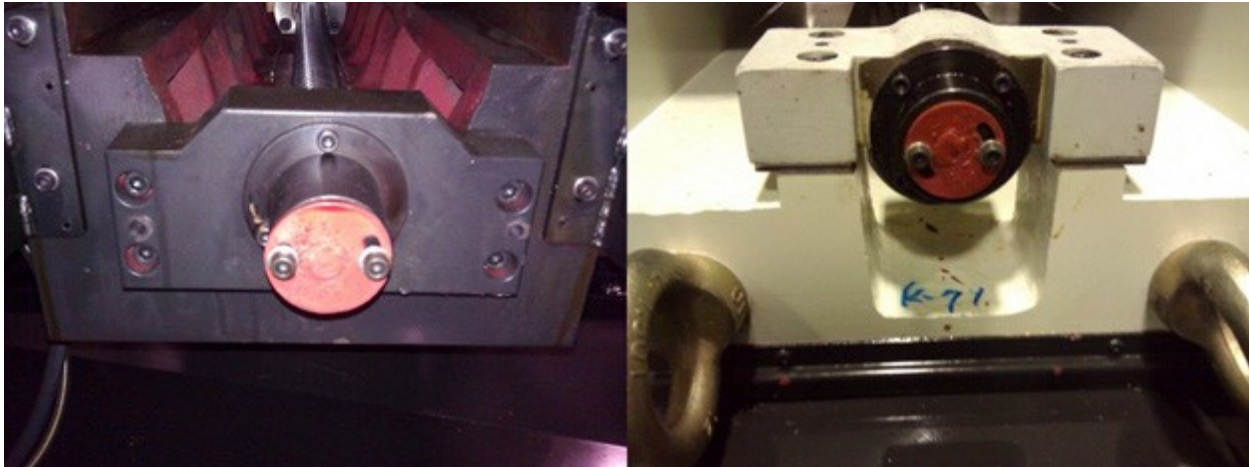
CAUTION **VERY IMPORTANT:** Modern design machines contain electronic low voltage circuitry that provides great advantages and a better machine life. BUT, you must have an excellent, stable power supply along with a good earth ground. If not, electrical noise problems are likely to interfere with machine operation unexpectedly.

- _____ Remove machine from truck.
- _____ Remove fixturing and misc. from machine and clean.
- _____ Install machine with jack pads under jacking bolts. Refer to the Machine Installation section in chapter 2 of the EM69P manual for proper uncrating and leveling instructions.
- _____ This machine requires between 208 and 240 Volts AC, Three Phase, 50/60 Hz power supply. For voltages above 240 or below 208 VAC, a 30kva transformer will be required. Measure the incoming voltage between L1 and L2, L2 and L3, and L1 and L3. Current requirements for this machine is 60 amps. Measure the incoming AC voltage at least twice during installation.
1. L1to L2 _____ VAC, L2 to L3 _____ VAC, L1 to L3 _____
2. L1to L2 _____ VAC, L2 to L3 _____ VAC, L1 to L3 _____
- _____ Measure each leg of the incoming supply to ground. Sometimes you may find a "high" leg to ground. When this happens make sure the high leg is running to L3.
- L1 to ground _____ VAC L2 to ground _____ VAC L3 to ground _____ VAC

CAUTION Neutral and machine ground are not the same thing. You should measure an open circuit between Neutral and ground.

CAUTION **IF VOLTAGE IS OUTSIDE THE CORRECT RANGE AT ANY TIME THE MACHINE WILL NOT OPERATE PROPERLY AND MAY BE DAMAGED.**

- _____ Air of the proper pressure and capacity connected to the machine. Air supply must be free from oil and water. Oil or water will damage electrical and air components.



- _____ Remove the ball screw locks on the left side of the table for the X axis, and the front of the table for the Y axis. They may be covered up by the way covers.
- _____ Place a thin film of silicone on one side of the ball screw caps and install them in place of both the X and Y axis locks.
- _____ Air of the proper pressure and capacity connected to the machine. Air supply must be free from oil and water. Oil or water will damage electrical and air components.
- _____ Customer should attempt to have junk work piece available.
- _____ Have the operator read through the operation manual before training begins. This will help him be familiar with the button pushing sequences. Have the operator read through the manual again after training and some of the sequences will make more sense.
- _____ Have Internet connection available for the machine. Either via Ethernet cable or Wireless (Wi-Fi). The machine comes equipped with a wireless USB adapter.

Rottler technician Installation checklist:

- _____ **BEFORE** turning power on to the machine. Check all wires for security by using the correct screw driver and turning CW until movement stops. Stranded wire can “spread” slightly from vibration during transport.
- _____ Install electrical component covers inside the electrical enclosure with fasteners provided.
- _____ Each main system is protected internally by circuit breakers. Green the breaker is “tripped” and red indicates the breaker is “Hot” (conducting electricity).

_____ Clean any rust inhibitor from the machine surfaces. Remove the way covers from the front and back of the Y (In/Out) Axis. Clean the rust inhibitor from exposed areas of the In/Out and Vertical axis. If the side trays for the Horizontal have been put on the machine, remove them. Use cleaner such as WD40 or Kerosene to clean the ways. Remove way wipers and clean each wiper. _____ Remove all rust inhibitor from the axis way surfaces.



CAUTION

Do not attempt to move any axis until all rust inhibitor has been removed.

_____ Reinstall way wipers. Confirm that all wipers make full contact with way surfaces.

_____ Check the exterior of the limit switch for any shipping preservative and wipe clean if required.

Note: The positioning of the machine in small increments will be detrimentally affected if all rust inhibitor is not removed from the ways.

_____ Remind customer air of the proper pressure and capacity connected to the machine. Air supply must be free from oil and water. Oil or water will damage electrical and air components.

_____ Connect electrical wires in main rear enclosure if required using machine wiring diagram.

MACHINE START-UP



CAUTION

When starting the machine for the first time, it may move out of control. Make sure all hands are clear of machine parts. Be ready to press the Emergency Stop button if needed.

_____ Stop button if needed.

_____ E-stop should be pushed in before turning the machine on for the first time.

_____ Turn main power on at the main disconnect switch located on the rear enclosure.

_____ If machine moves out of control, turn power off and contact factory for help in trouble shooting.

_____ If any of the circuit breakers "trip", reset and call factory for possible trouble shooting.

MACHINE MOVEMENTS

_____ Make sure there is nothing obstructing the full vertical or horizontal travel of the machine taking special notice of the rear enclosure, way travel and top of the spindle unit.

_____ Put the machine in hand wheel mode and verify Vertical operation. Put an indicator on the cutter head and verify .001" movement per detent in course mode and .0001" in fine mode. If the indicator is jumpy the outer spindle adjustment may be too tight. Refer to manual and re-adjust.

_____ Put the machine in hand wheel mode and verify Horizontal operation. Put an indicator on the cutter head and verify .001" movement per detent in course mode and .0001" in fine mode _____ Put the machine in hand wheel mode and verify Vertical operation.

_____ Put the machine in hand wheel mode and verify Horizontal operation.

_____ Put the machine in hand wheel mode and verify A axis operation.

_____ Put the machine in hand wheel mode and verify B axis operation.

_____ Use the rapid buttons and verify proper vertical, horizontal, A axis, and B axis travel.

_____ Move the machine to its vertical, horizontal, A axis and B axis limits and verify Home and down limit operation.

_____ Move the machine to its horizontal limits and verify operation of the left and right limit switches.

_____ Start the spindle and verify operation at all speeds.

_____ Use the spindle creep buttons and verify proper operation.

_____ Level the machine:

INSTRUCTING THE OPERATOR:

Note: Rotter employees and representatives per company policy are not permitted to provide end user of Rottler equipment with any OEM specifications for the workpiece that is created by end user using Rottler equipment.

 **WARNING**

- _____ Explain to the customer and operator that at NO time is there to be any software or hardware other than Windows Auto Update and Rottler installed on this machine. This includes screen savers, anti-virus software, and any hardware device that installs software on the machine. Installation of screen savers and anti-virus software can cause dangerous control problems. Any installation of software or hardware will void the warranty on the machine.
- _____ Explain to the customer and operator that the machine should be hooked up to the Internet anytime it is on. The software on the machine will automatically connect to our server to send back useful information on machine status.
- _____ Connect customer supplied Internet to the machine. Verify that the Internet is accessible from the machine.
- _____ Once the machine has been fully setup and is ready for operation create a Skype account for the machine following the instructions in the Installation Section of the manual.
- _____ Explain to the customer and the operator how the to log onto Skype and communicate with Rottler when needed.

 **WARNING**

- _____ Computer Viruses will cause the machine control system to become unstable. This may cause the machine to make uncontrolled moves which could create a dangerous environment for the machine operator.
- _____ Refer to Chapter 4, Control Definitions of the Machine Manual, Section: Computer and Controller System Safety. Explain and discuss this section carefully with Owner/Manager/Operator and have them sign off. Failure to do so will result in the machine warranty being Null and Void.

Signature / Title

- _____ Explain to the customer the importance of backing up the block profiles to a separate device. Any computer failure or possible operator input error can result in the loss of all block profiles that were created for the machine. Refer to Chapter 5 of the machine manual for detailed instructions on backing up and restoring block profiles.
- _____ Install and test the Internet connection to the machine. DO NOT download any updates unless instructed to do so by Rottler.
- _____ Connect customer supplied Internet to the machine.
- _____ Verify that the Internet is accessible from the machine.
- _____ Explain to the customer how to properly turn the machine off when it is not in use. Do not leave the machine on overnight. It is important to close all programs followed by shutting down Windows before turning the main power switch off. Do not turn the main power switch off before shutting down Windows.
- _____ Using the operating manual as a guide explain the function of all buttons.
- _____ Cycle all machine movements and supervise the handling of same by operator.
- _____ Demonstrate the differences of Manual and Auto operation.
- _____ Explain machine parameters and error messages. It is very important that the customer does not change parameter settings without first checking with Rottler Manufacturing. If certain parameters are changed the machine may make uncontrolled moves or not operate at all.
- _____ Point out safety features to customer and operator. **Do not push any buttons without thinking of safety first.**

_____ The following is a checklist to go through every time the machine is started to begin a cut or automatic cycle.

- Work piece secure
- RPM set
- Feed Rate set
- Correct program in use
- Program oriented correctly (vertical zero at correct place) Guards in place
- Cutterhead secure
- Tool holder adjusted to the correct size
- Tool holder locked in place

_____ Parts ordering, refer the to the operating manual for part numbers and description.

_____ Review Emergency stop procedure with operator per operating manual.

MAINTENANCE SECTION

_____ Use the manual as a reference when explaining routine maintenance and lubrication.

_____ Overload devices, There are no mechanical overload devices on this machine. The machine is protected from overload by the motor controllers. If the system is overloaded the controllers shut the motors off. The controllers can be reset by turning the main power off for at least 1 minute, then turning it back on.

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Note: Rottler employees and representatives per company policy are not permitted to provide end user of Rottler equipment with any OEM specifications for the workpiece that is created by end user using Rottler equipment.

General remarks on machine performance, adjustments as received and any further organization or parts required to complete the installation.

Instructions given to: _____

Sales/Service Technician: _____ Date _____

Shop Foreman/Superintendent or Owner: _____ Date _____

Once completed send this form to:

Rottler Manufacturing
attn: Orders Department
8029 S 200 St
Kent, WA 98032 USA

Alternately you may send this form via fax or e-mail:
fax: [+1] 253-395-0230
e-mail: orders@rottlermfg.com

Rottler EM69P Pre-Install Checklist

IMPORTANT

Tool Changer Assembly must be Installed by Rottler Factory Trained Technician

Tool changer may have to be installed on machine before final position

If there are any clearance issues in final location contact your Rep

This checklist is to get you prepared to have the necessary equipment available and ready for the Rottler Technician for use during install

Any questions please contact your Rottler Rep or Rottler Service Department

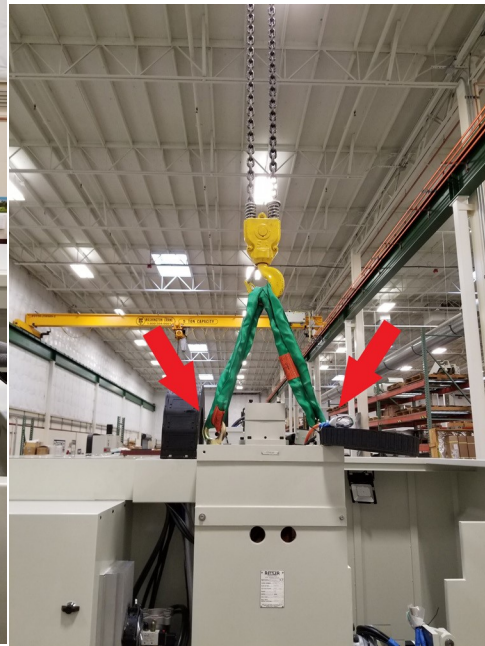
Receiving Machine and Placing in Position _____ Remove machine from truck.

_____ Remove the machine from the pallet

_____ Equipment to lift at least 12,000 lbs. / 5443.1084 kgs.

Machine Pick-up Points

- Lifting hooks located in the top of the back column and Front Lifting hooks located under the front way cover (Remove way cover).



- Lift machine evenly



Machine Height and Clearance

Vertical height of machine is 10 ft. / 3.048 m.

- Will need to be able to lift tool changer above the machine during assembly
- Using equipment able to lift 2700 lbs. / 1224.699 kgs.

Rigging Supply Required During Install

_____ Need 4 straps or chains of even length of at least 3.5 ft. / 1.1m above from the lifting points.
_____ (If using straps it might need top be double length to loop around lifting points)





_____ Install machine with jack pads under jacking bolts. Refer to the Machine Installation section in the manual for proper uncrating and leveling instructions.



_____ Remove fixtures and misc. from machine and clean.

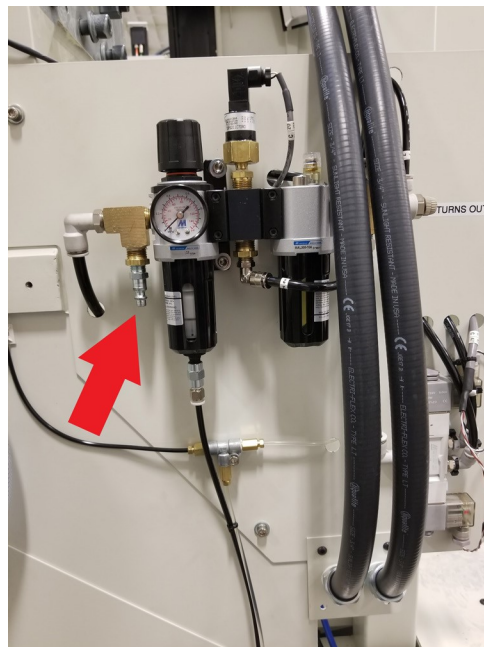
_____ Rough level the machine.

Air Supply to Machine

_____ Air supply to the machine. Minimum 100 PSI of clean, dry air.

Connecting to the back of the column of the machine.

- Located on the column, back of machine.
- Connect line to quick disconnect



Connecting Power to the Machine

Power Supply

This machine has the following power requirements:

208 to 240 VAC

Three Phase

50 or 60 Hertz

60 amps

See illustration for correct connection of “measured” incoming power. Connect three phase wiring to the power terminals located in the main rear enclosure, located on the right rear of machine base. The connection terminals are located on the DIN rail. Connect high leg of 3 phase power to L3 blue terminal. Attach other 2 power lines to terminal blocks L1 and L 2. Attach wire from the grounding rod to the ground block.

IMPORTANT

Important: Electrically connect in accordance with national and local electrical codes.

_____ This machine requires between 208 and 240 Volts AC, Three Phase, 50/60 Hz power supply. For voltages above 240 or below 208 VAC, a 17kva transformer will be required. Measure the incoming voltage between L1 and L2, L2 and L3, and L1 and L3. Current requirements for this machine is 60 amps. Measure the incoming AC voltage at least twice during installation.

1. L1to L2 _____ VAC, L2 to L3 _____ VAC, L1 to L3 _____
2. L1to L2 _____ VAC, L2 to L3 _____ VAC, L1 to L3 _____

_____ Measure each leg of the incoming supply to ground. Sometimes you may find a “high” leg to ground. When this happens make sure the high leg is running to L3.

L1 to ground _____ VAC L2 to ground _____ VAC L3 to ground _____ VAC

IMPORTANT

Electrically connect in accordance with national and local electrical codes.

Digitizing Setup

Parts Required

_____ Have Cylinder head ready for Digitizing (Disassembled and Cleaned Bare Head)

_____ Have Scrap Cylinder head ready for test cuts (Same as digitized head preferred)

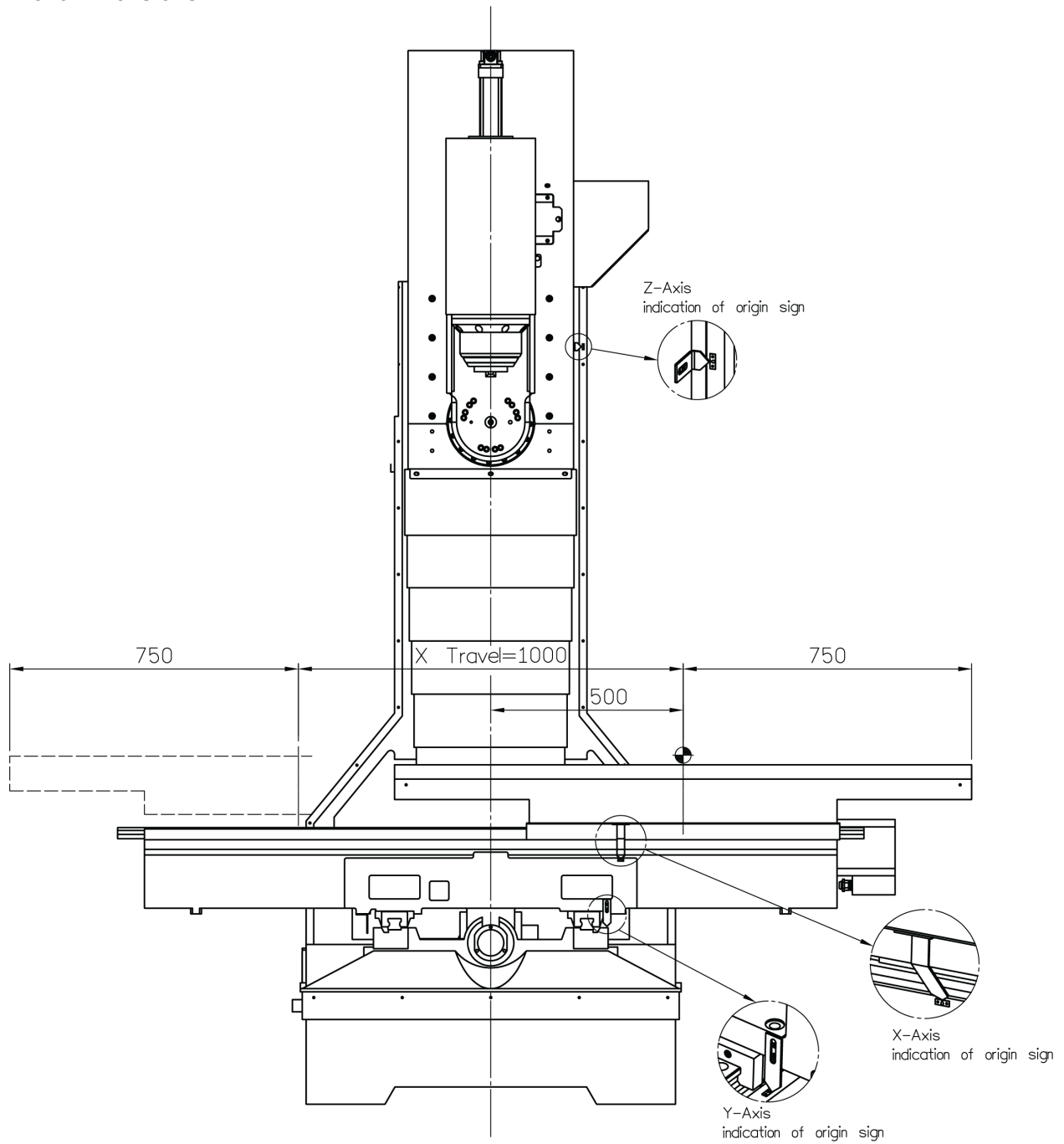
_____ Valves for the heads to be digitized (Intake & Exhaust)

Valves need to be ground down to be flush with the surface of the chamber.

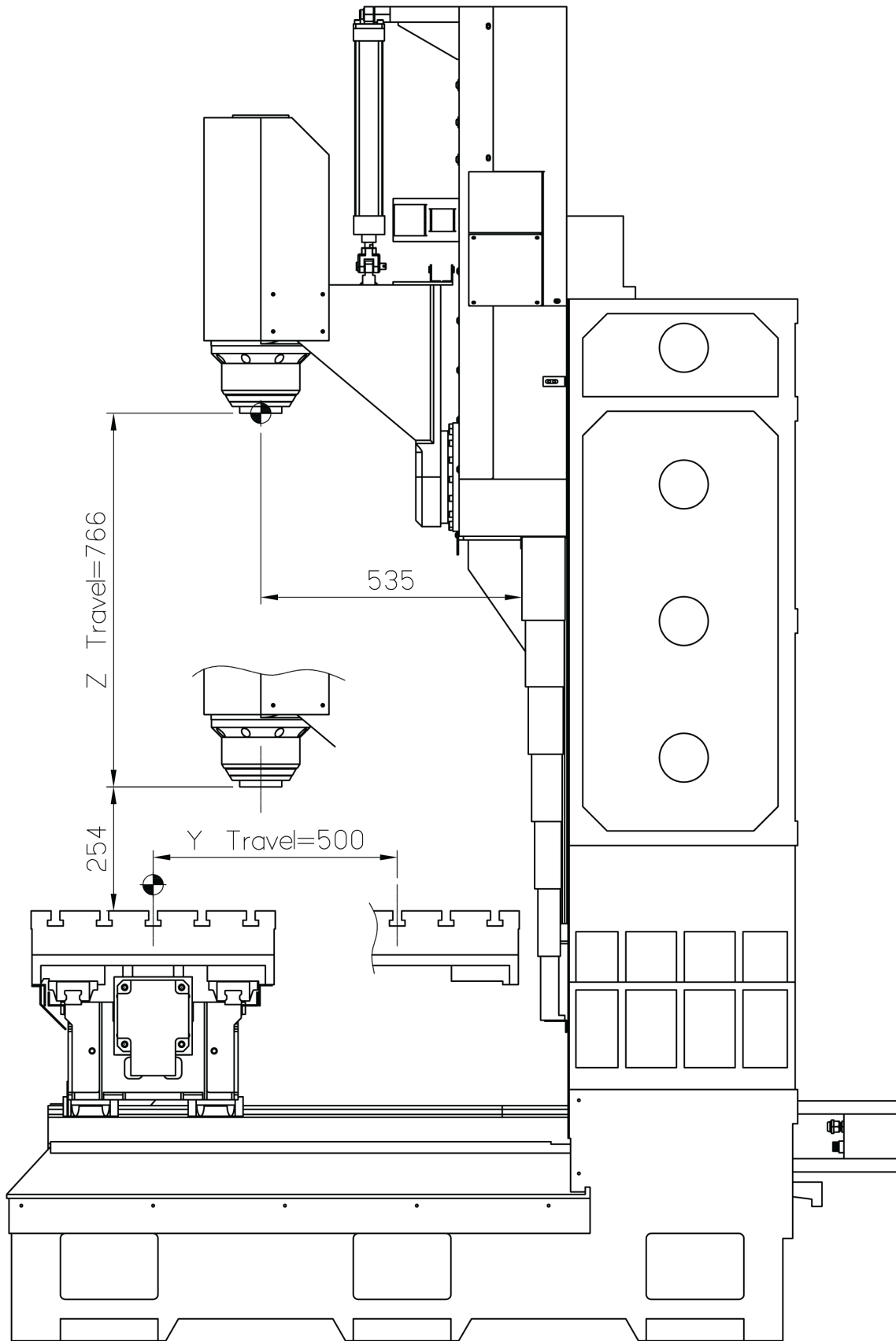
_____ Molding Clay (used for Digitizing)

Machine Travel Dimensions

Front Dimensions



Side Dimensions

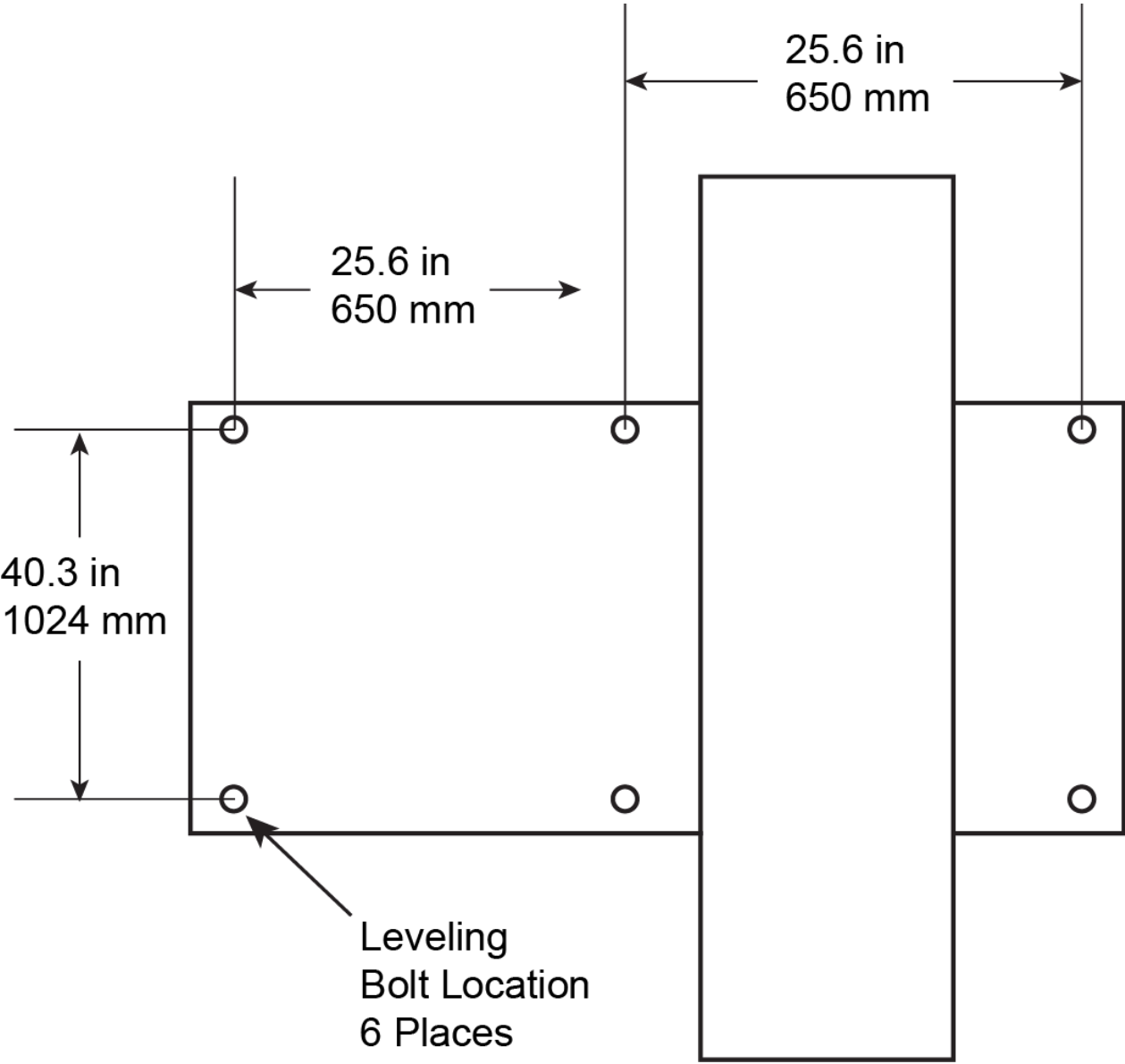


Clearance Dimensions

Clearance dimensions were not available at the time of this manual's publication. Contact Rottler Sales for clearance dimensions.

Image Currently Unavailable

Leveling Bolt Locations



Leveling and Alignment

Leveling the EM69P properly is very important if you are to use the EM69P to its full blue printing capabilities as well as maximizing the use of Rottler fixturing.

Use the following instructions to properly level the EM69P.

Six Hex head bolts, six jam nuts, and six purple leveling pads are provided with the machine for leveling. Refer to the following illustrations for leveling bolt locations. Screw the jam nuts all the way onto the bolts; insert the bolts at the base support points. Screw the bolts in until they are just protruding from the bottom of the base casting. Lower the machine onto the Leveling pads, making sure the bolts seat into the recessed area of the leveling pads.

Make sure there is equal pressure on each of the leveling bolts. Remove the protective rubber cover, located behind the table, from the Y-Axis (In/Out). Place the level on the Y-Axis ways, level the ways in both directions (Horizontal / In-Out) within .0005".

Check the level in both directions on the Table. If it does not match the alignment of the Y-Axis ways refer to the Maintenance Chapter of this manual for full alignment procedures.

Installation Procedure



IMPORTANT! *Placement of Machine*

It is critical that the machine be placed in an area of the facility that has a stable thermal environment. The machine should be kept away from direct sunlight, large heating units, and doorways that would allow outside air direct contact on the machine.

Exposure to the above and other extremes in temperature will cause thermal drift to occur in the machines which could have a detrimental effect on machining accuracy. A number of unrepeatability errors in machine performance have been linked to this condition.

Location

The productivity of the EM69P will depend a great deal on the proper initial installation. Pay particular attention to the means by which work pieces are lifted into and out of the machine as well as the material handling to and from other operations in your shop. The proper loading arrangements and work location for your EM69P is extremely important.

A slow travel (6' to 10' per minute) power hoist, operated from either a bridge or jib crane arrangement works very well. A 1000 lb. is generally adequate for lifting most engine blocks. An air hoist with speed control makes an ideal method for fast, efficient loading and unloading.

For shops where large production runs are anticipated, the work pieces should be loaded and unloaded directly from a conveyor. If this is not the case, we suggest you pay considerable attention to the crane so that it covers an adequate area to allow the operator to back up and remove work pieces without creating a cluttered, dangerous work area.

Unpacking and Lifting

Use care when removing the crate materials from the machine. Be careful not to use force on any part of the machine.

Power Supply

This machine has the following power requirements:

- 208 to 240 VAC
- Three Phase
- 50 or 60 Hertz
- 60 amps

See illustration below for correct connection of incoming power. Measured power at the machine's main breaker must be within the required range listed above. If incoming power is not within range, a transformer must be used. Failure to do so will cause the machine to function abnormally and cause permanent damage to the electronic control system.

Some electrical services contain a "Hot Leg, High Leg, or Wild Leg", where one leg measures 208VAC to Ground instead of 120VAC. It is required to use the "Hot Leg" for L3 when connecting the machine.

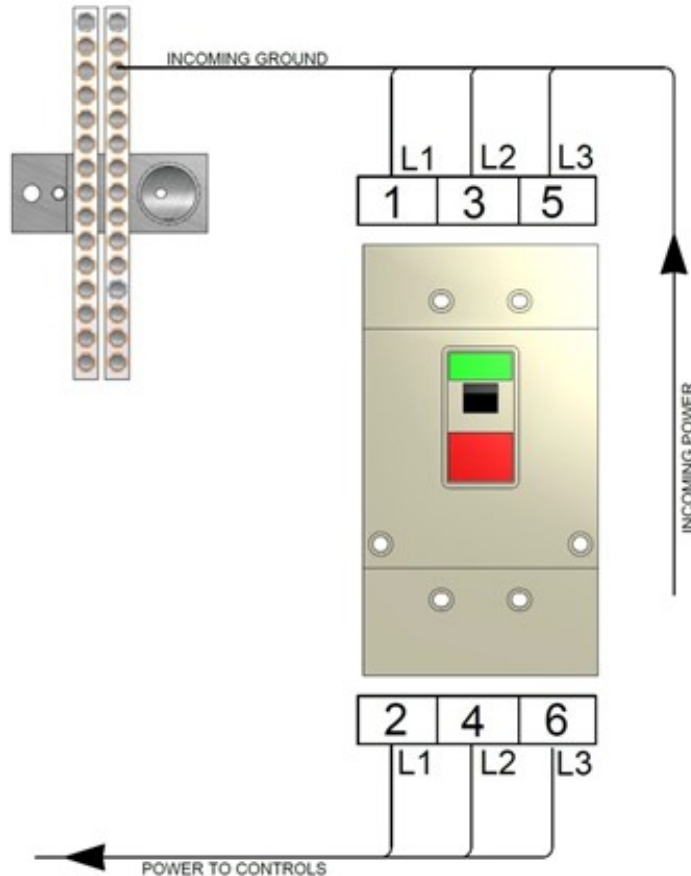
Voltage measured between the phases must be between 208VAC and 240VAC, while phases 1 and 2 to ground must be ~120VAC. Phase 3 to ground is allowed to measure up to 208VAC.

IMPORTANT

Electrically connect in accordance with national and local electrical codes.

CAUTION

*Do not attempt to connect more than 240 VAC to this machine.
Do not attempt to connect to Single Phase Power.*



Grounding

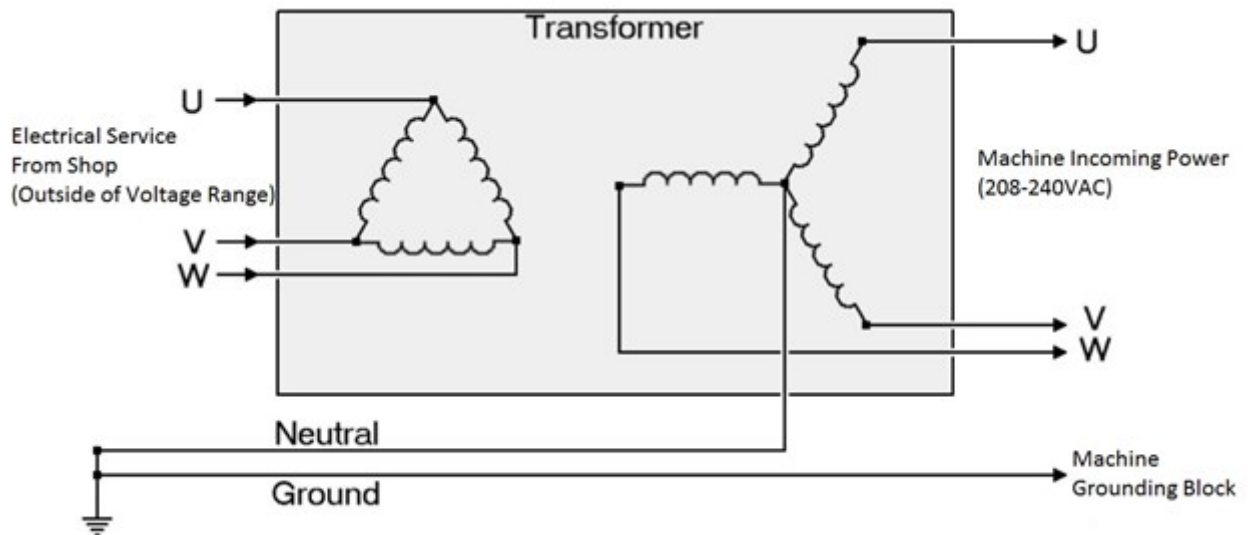
The machine requires a good earth ground. The grounding conductor from the incoming power source must be connected to the grounding block located inside of the electrical cabinet. A ground rod installed in addition to the electrical service grounding conductor is permitted, but must be connected directly to the grounding block inside of the electrical cabinet. Connecting the ground rod to the machine base is not permitted. Consult a Licensed Electrician in your area to assess the installation, and install the appropriate ground rod if necessary. Failure to do so may lead to an installation that is unsafe and does not meet national and local electric codes.

Transformer Connections

This machine has the following minimum transformer size requirement:

- 30 kVA

If a transformer is necessary for machine installation, please refer to the diagram below for connection information. Transformers must be sized to meet the minimum power requirements listed above. Consult a Licensed Electrician in your area for transformer selection and installation.



Phase Converters

It is always preferred to provide Three Phase Power directly from the electrical service to the machine. If Three Phase Power is not available in the required installation location, a phase converter may be used to power the machine. A CNC rated phase converter is required for correct operation of the machine. Consult a Licensed Electrician for proper sizing and installation.

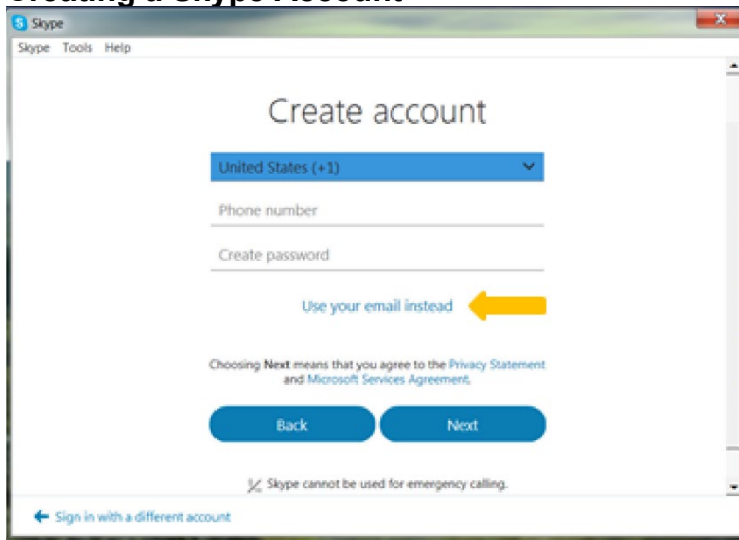
Air Supply

It is very important that the air source for the EM69P be moisture free. Water and oil in the air lines will result in early cylinder and valve failure as well as introducing moisture into the Inner spindle bearings. ***The factory recommends installing a water trap at the machine.***

Attach a 100 P.S.I. air source to the main air intake located on the back of the machine.



Creating a Skype Account



Skype

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United States (+1)

Phone number

Create password

[Use your email instead](#)

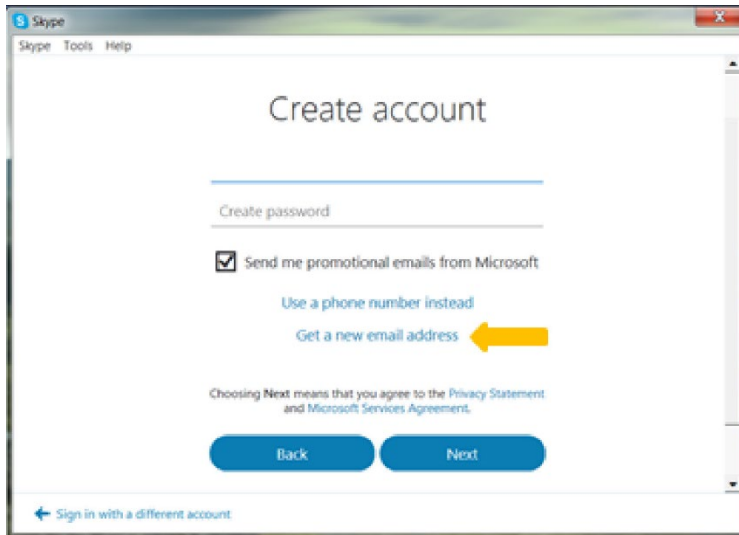
Choosing **Next** means that you agree to the [Privacy Statement](#) and [Microsoft Services Agreement](#).

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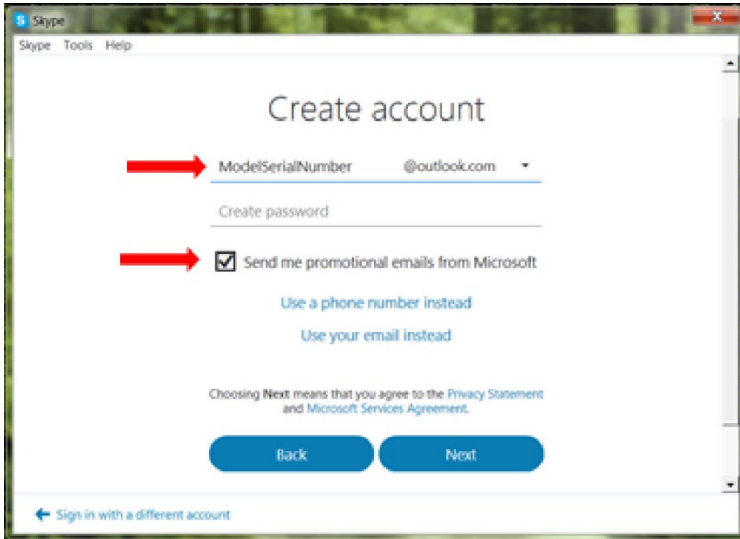
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Click on "Get new email address"

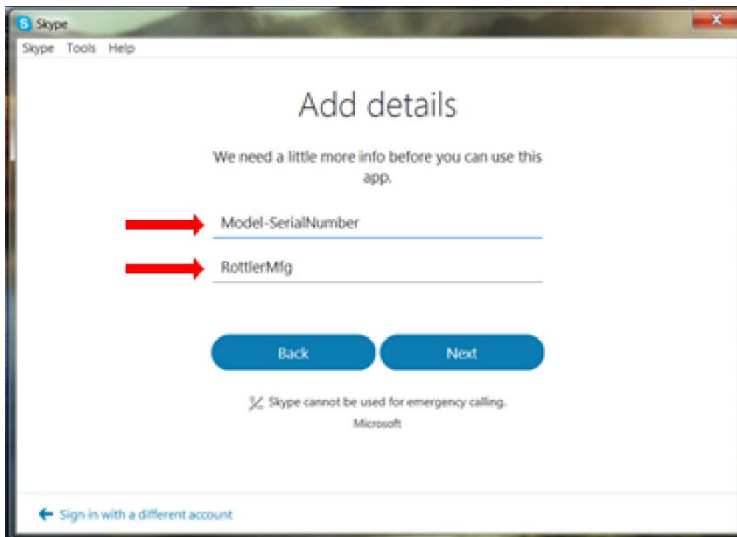


Name the email account using the Rottler machine Model and Serial number.

Ex. H85A111, EM69P001

Create a password that is easy to remember.

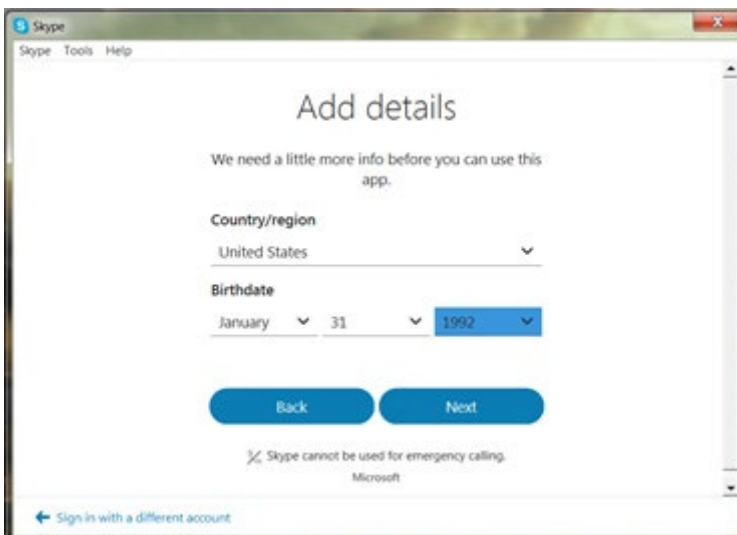
Uncheck the box to receive emails from Microsoft.



First Name: Model-Serial Number

Ex. EM105-113

Last Name: RottlerMfg



Select your Country/Region

Birthday: Today's Date, 1992