

Vision 1612, 1624, 2424 and 2448 Series 5 Installation Guide

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Factory Settings

Red Dot Laser Pointer Offset

X _____ Inches ___ mm ___
Y _____ Inches ___ mm ___

Braille Inserter Offset

X _____ Inches ___ mm ___
Y _____ Inches ___ mm ___

This is ONLY the Installation Guide.
PLEASE review the complete User
Manual for your machine, which will be
installed on your computer after the
software installation is completed.

Vision 1612, 1624, 2424 and 2448 Series 5 Installation Guide

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1 Introduction

This guide contains information to prepare the owner of a Vision 1612, 1624, 2424 or 2448 for the proper installation of their machine. It is the customer's responsibility to read through this guide and make sure the work area, electrical and computer requirements are met. If for any reason, there are questions about these requirements, please call your Vision representative as soon as possible.

In the following sections, the complete machine and Vision software installation will be outlined.

Please call or email your Vision distributor or the Vision service department at Vision for assistance if you have any questions with this procedure. The Vision service department phone number is 1-602-439-0600 and the email address is service@visionengravers.com.

FOR MORE DETAILED INFORMATION, PLEASE REFER TO THE USER GUIDE FOR YOUR MACHINE INSTALLED WITH THE VISION SOFTWARE. USER GUIDES ARE ALSO AVAILABLE ONLINE AT <http://www.visionengravers.com/support/vision-engraver-manuals.html>

1.1 Computer Requirements

Minimum System Requirements:

| | |
|-------------------|--|
| CPU: | Intel i5 2.6-3.0GHz |
| Hard Drive: | 5 GB free space |
| RAM: | 8 GB |
| Operating System: | Windows 10 (32/64 bit) Windows 8 (32/64 bit) Windows 7 (32/64 bit) |
| | NOTE: Windows updates must ALL be installed |
| Ports: | 1 USB port for security dongle 1 USB port for Ethernet adapter to connect machine |

Suggested System Requirements

| | |
|-------------------|--|
| CPU: | Intel i7 2.6-3.0GHz (or faster) |
| Hard Drive: | 500 GB SSD (or larger) |
| RAM:: | 16 GB (or more) |
| Operating System: | Windows 10 (64 bit) |
| Ports | 1 USB port for security dongle 1 USB port for Ethernet adapter to connect machine |

1.2 Vision Software Security Device

IMPORTANT:

The Vision software is available in two versions; one with a USB dongle, and one that is "dongleless" and is loaded on to a USB Memory stick. If your machine was delivered with, or you currently have the silver, white/blue or orange software dongle, DO NOT LOSE IT!

The Vision software will **NOT** run without the dongle plugged into the computer.

USB Stick



Dongles



1.3 General Electrical and Facility Requirements

| Machine Model | Requirements |
|---|--|
| Vision 1612, 1624, 2424 or 2448 | One 110 VAC 15 Amp OR One 220 VAC 10 Amp Single Phase |
| Optional Equipment Engraving Chip Removal System | Required in addition to the machine power above: One 110 VAC 15 Amp OR One 220 VAC 10 Amp |
| Optional Equipment Requiring Compressed Air Supply UNIST Misting System NSK 50,000 RPM Spindle | Required in addition to the machine power above: Clean Dry Compressed Air Supply 60 - 90 PSI One 110 VAC 15 Amp OR One 220 VAC 10 Amp Single Phase AND Clean Dry Compressed Air Supply 1 SCFM @ 40 PSI |

NOTE: In addition to the above requirements, a standard outlet is required for the computer.

2 Machine Setup

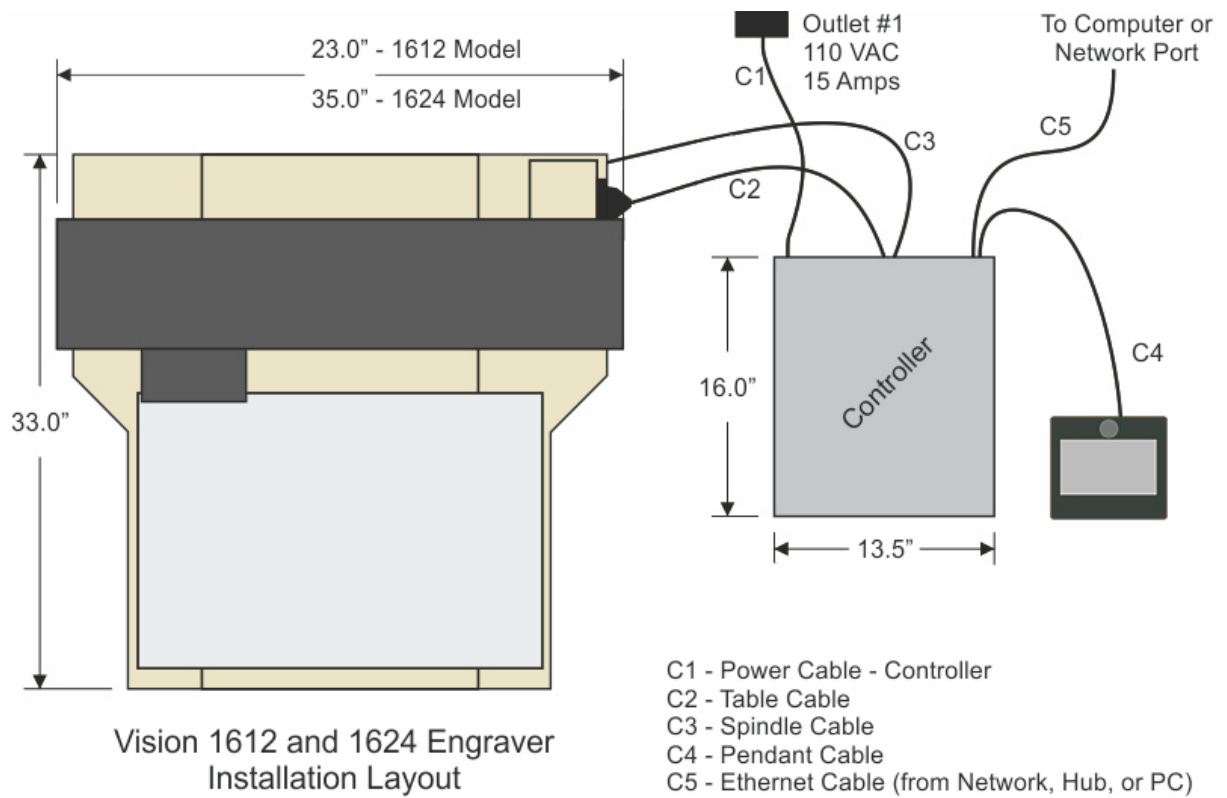
2.1 Locating the Engraver

1. Locate all equipment indoors on a flat surface and on a solid foundation.
2. Temperature must remain between 40°F and 85°F.
3. Do not expose machine to direct sunlight, rain, vibration, dampness, or explosive environments.
4. Machine dimensions:
 - 1612 - 33" x 23" x 19", shipping weight = 300 lbs.
 - 1624 - 33" x 35" x 19", shipping weight = 320 lbs.
 - 2424 - 42" x 33" x 20", shipping weight = 371 lbs.
 - 2448 - 66" x 33" x 20", shipping weight = 520 lbs.

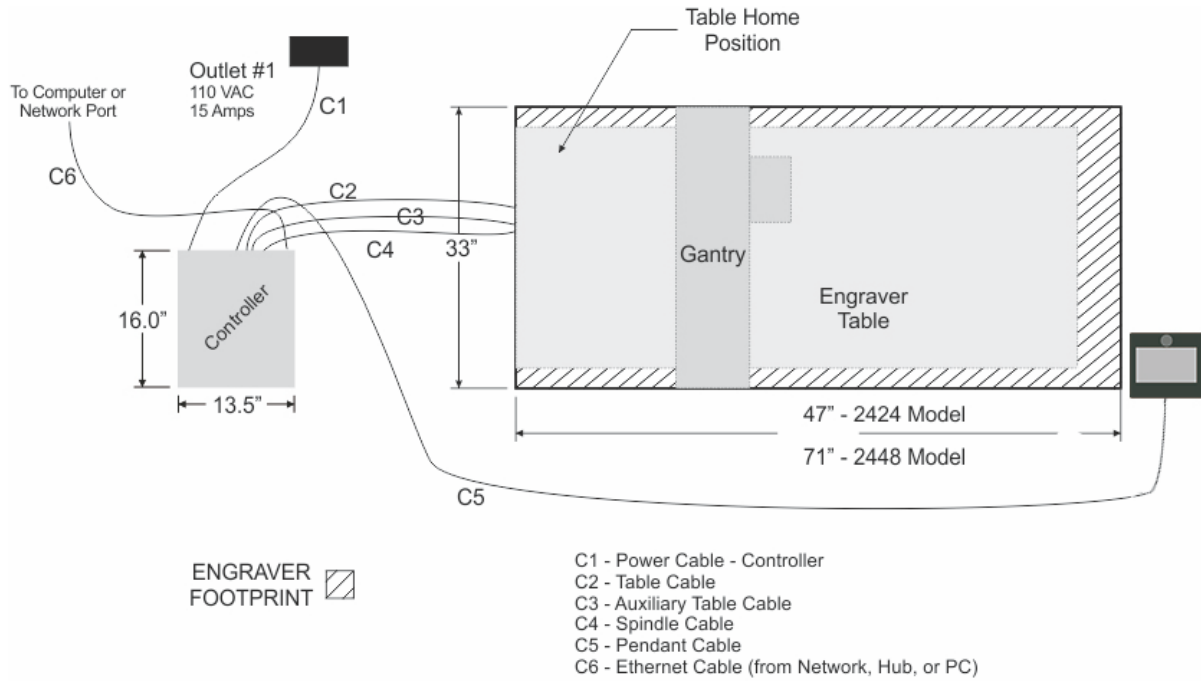
NOTE: If you use our freight company, the equipment will be placed on the ground and a pallet jack or other device is necessary to move the crate into your facility.
5. The sides of the crate unscrew, but it will take four people to remove the engraver from the shipping crate.
6. A distance of at least 36" is recommended around all sides of the machine to ensure easy operating, material handling, cleaning, maintenance and safety.
7. Typically, the engraver is oriented as shown in the layout diagrams.
8. Cutters and sample materials must be available before the scheduled installation/machine orientation date.
9. If a chip extraction unit has not been purchased from Vision, it is highly recommended that one is available for the installation/machine orientation.
10. If you ordered the NSK High Frequency Spindle, a clean air source is required. The air requirement is 1 CFM @ 40 psi.

2.2 Installation Layout Diagrams

2.2.1 1612 and 1624 Engraver Layout Diagram



2.2.2 2424 and 2448 Engraver Layout Diagram



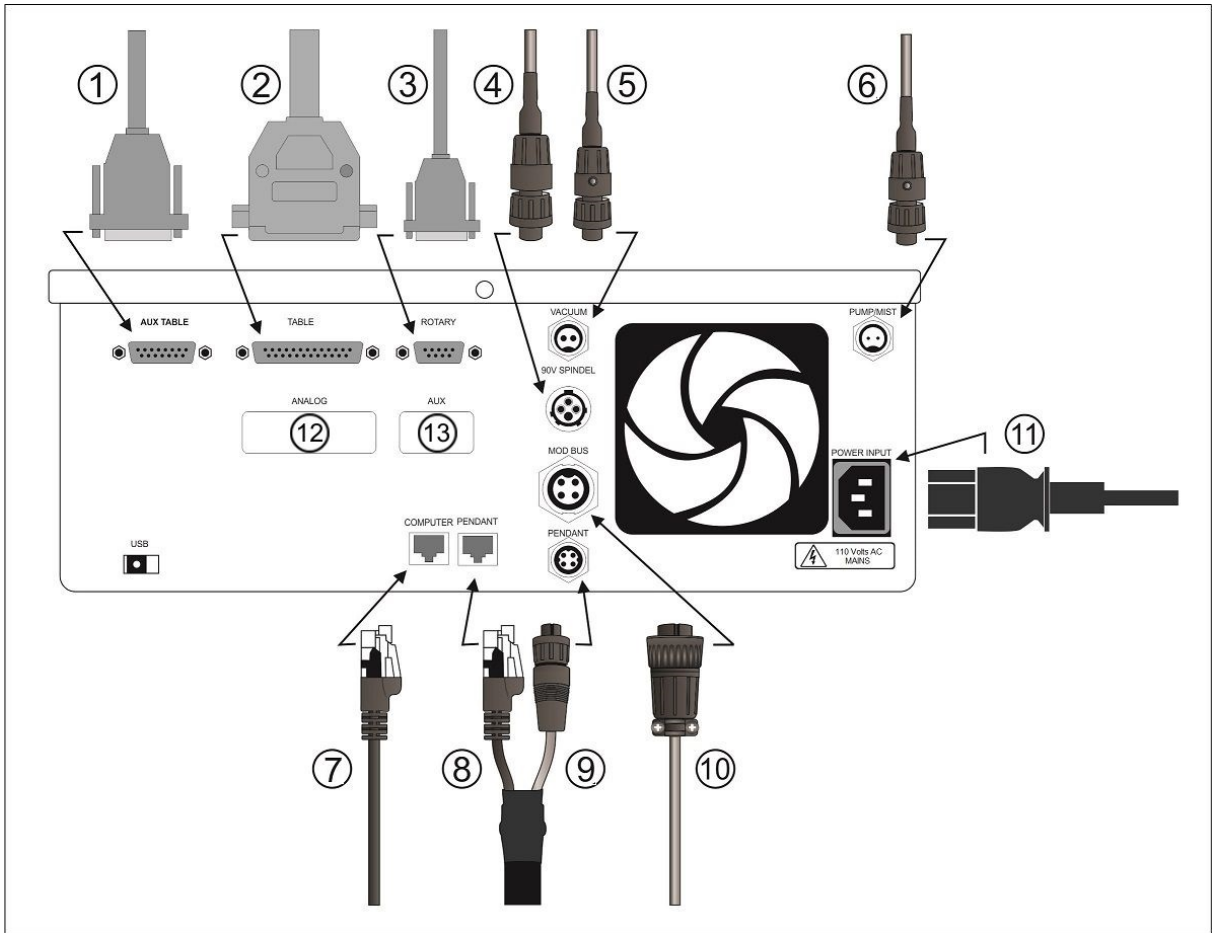
Vision 2424 and 2448 Engraver Installation Layout

2.3 Connections

On the rear of the Vision Series 5 controller, there are 13 connection ports. Plug in all of the cables unless noted below.

1. The Aux Table plug connects to a 15 pin connector on the Vision 2424 and 2448. **NOTE:** This is not used with the 1612 or 1624.
2. The Table plug connects to a 25 pin connector on the Vision 1612, 1624, 2424 and 2448.
3. The Rotary plug connects to a 9 pin connector on the Vision Rotary attachment. **NOTE:** This is not used unless a rotary attachment is configured with the machine.
4. The 90V Spindle plug connects a 4 pin round connector that comes from the Vision 1612, 1624, 2424 and 2448.
5. The Vacuum plug connects to a 2 pin round connector that comes from an optional vacuum chip removal system. If your machine is equipped with the optional Vacuum Chip Removal System, a remote On/Off cable is connected from the controller to automatically turn the vacuum pump on and off when the job is being run. **NOTE:** This will not be used if a vacuum chip removal system is not configured with the machine.
6. The Pump/Mist plug connects to a misting system or water pump. **NOTE:** This is not used unless a misting system or water pump is configured with the machine.
7. The Computer plug connects to the Ethernet port on the computer. This is typically plugged into the USB to Ethernet adapter supplied with the machine.
8. The Pendant network plug connects to the back of the touch screen LCD pendant.
9. The 4 pin Pendant plug connects to the back of the touch screen LCD pendant.
10. The Mod Bus plug connects to the 3 hp router spindle power inverter. **NOTE:** This is only used if the 3 hp router motor is configured with the machine.
11. The power input plug connects to either the power source. **IMPORTANT:** Only use the 110 volt AC or 220 volt AC power source that is displayed on the yellow label. Using the incorrect input power can cause serious damage to the machine.
12. The Analog plug is used to control optional spindles such as a 50,000 RPM spindle. **NOTE:** This is not used unless an optional spindle is configured with the machine.
13. The Aux plug is an expansion port that can be used for new products at a later date. **NOTE:** This is not currently used.

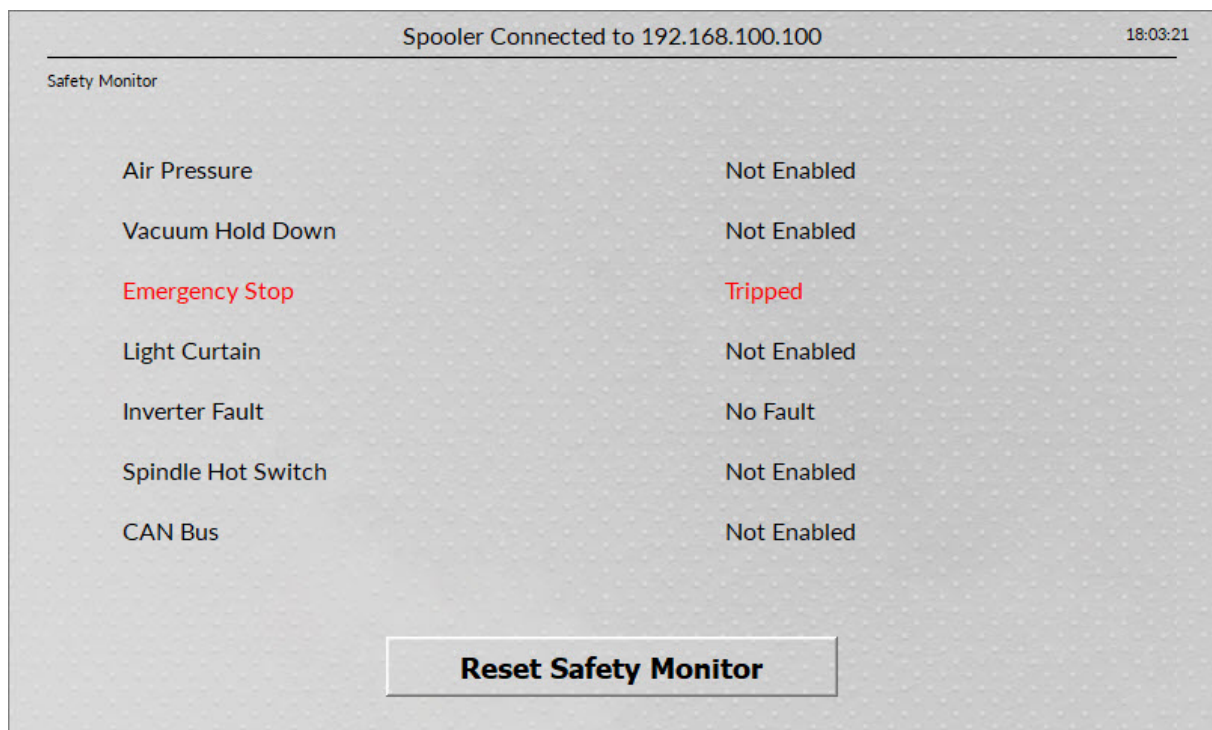
Vision Series 5 controller (rear view)



Vision Series 5 pendant (rear view)



NOTE: If the emergency stop screen appears on the LCD when the machine is powered on, then the emergency stop button is pressed in. This can either be the emergency stop button on the table or the emergency stop button on the pendant. Release the button twisting it until it "pops up". This will clear the emergency stop screen.



The machine is now connected. Please continue to the network setup section.

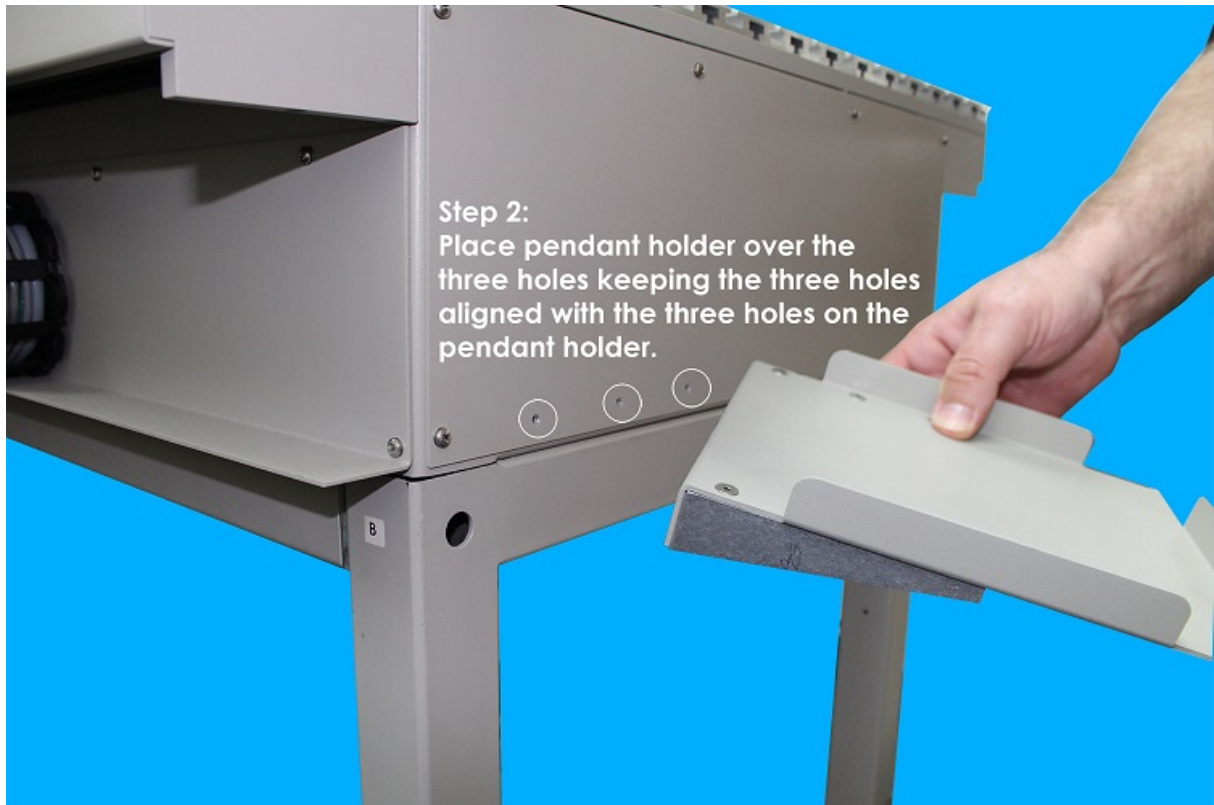
2.4 Pendant Holder Installation

The 2424 and 2448 machines are shipped with a Pendant Holder to give the user a place to secure the Pendant.

NOTE: Not required for 1612 or 1624.

To install the Pendant Holder on the 25 Series machines, follow the below procedure.

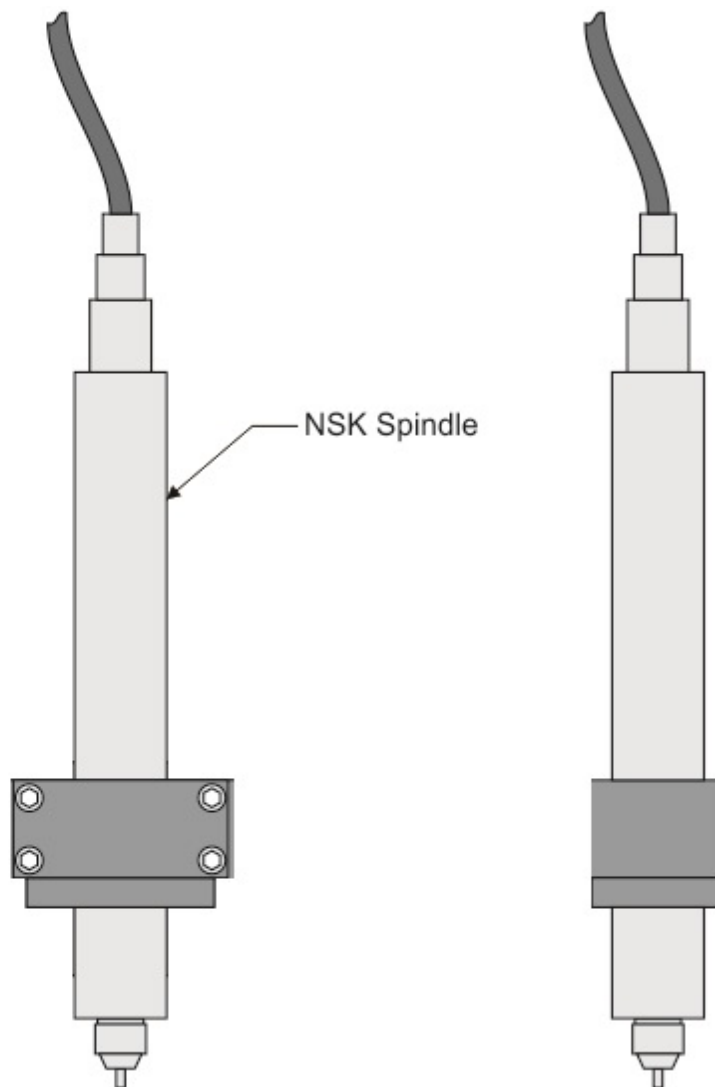




2.5 Spindle Options

2.5.1 NSK 50,000 RPM Spindle

The NSK Spindle mounts in place of the standard spindle to the Router Rail Plate in the same location as other Router or Engraving Head Assemblies. Two dowel pins are pressed into the Mounting Bracket Assembly and four mounting screws secure the bracket to the rail plate.



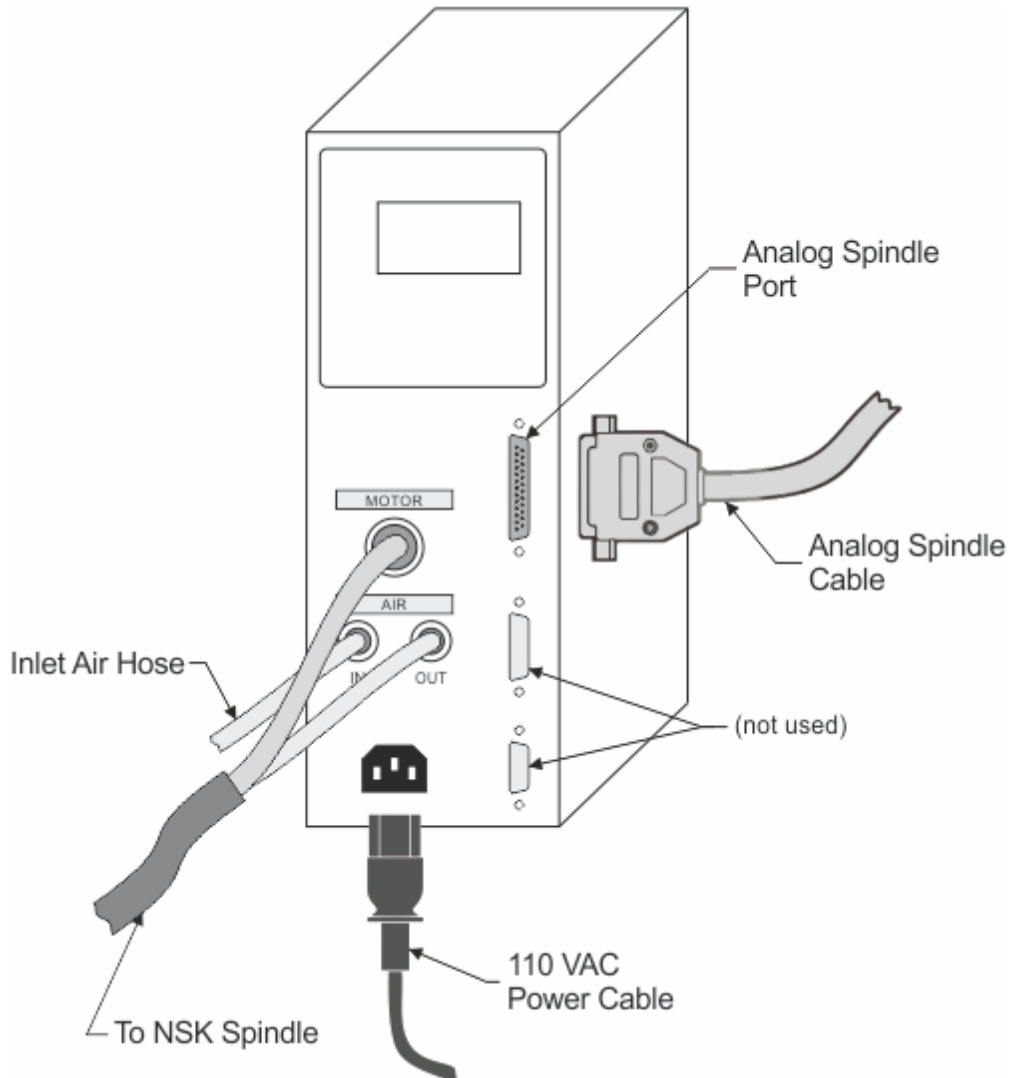
Electrical Connections

If the machine was ordered with the NSK Spindle option, an Analog Spindle port was installed on the machine's controller. Connect the Analog Spindle Cable to this port on the controller and the other end to the Analog Spindle Port on the NSK Power Supply Unit (*The Analog Spindle Cable is identical to the Table Cable used to connect the controller to the engraver or router's table. Be careful not to connect the Table port on the controller to the Analog Spindle Port on the NSK Power Supply Unit.*)

Connect the Power Cable to a standard 110 VAC power outlet and to the NSK Power Supply Unit. The cable assembly coming from the NSK Spindle has a connector to the spindle motor and an air hose. The motor connector is plugged into the Motor port and the air hose is connected to the AIR OUT port on the NSK Power Supply.

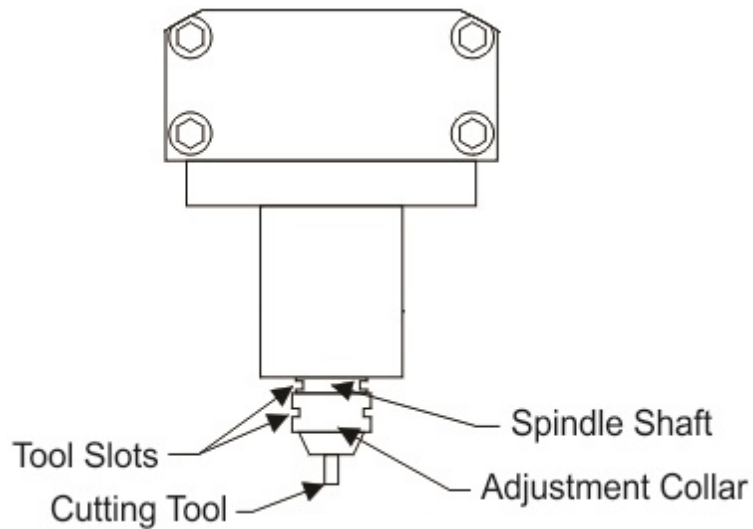
The NSK Spindle requires an external compressed air supply capable of 1 SCFM @ 40 PSI. The air supply is connected via the Inlet Air Hose to the AIR IN port on the NSK Power Supply Unit.

NOTE: The Spindle Cable to the standard engraving motor will not be used in this configuration.



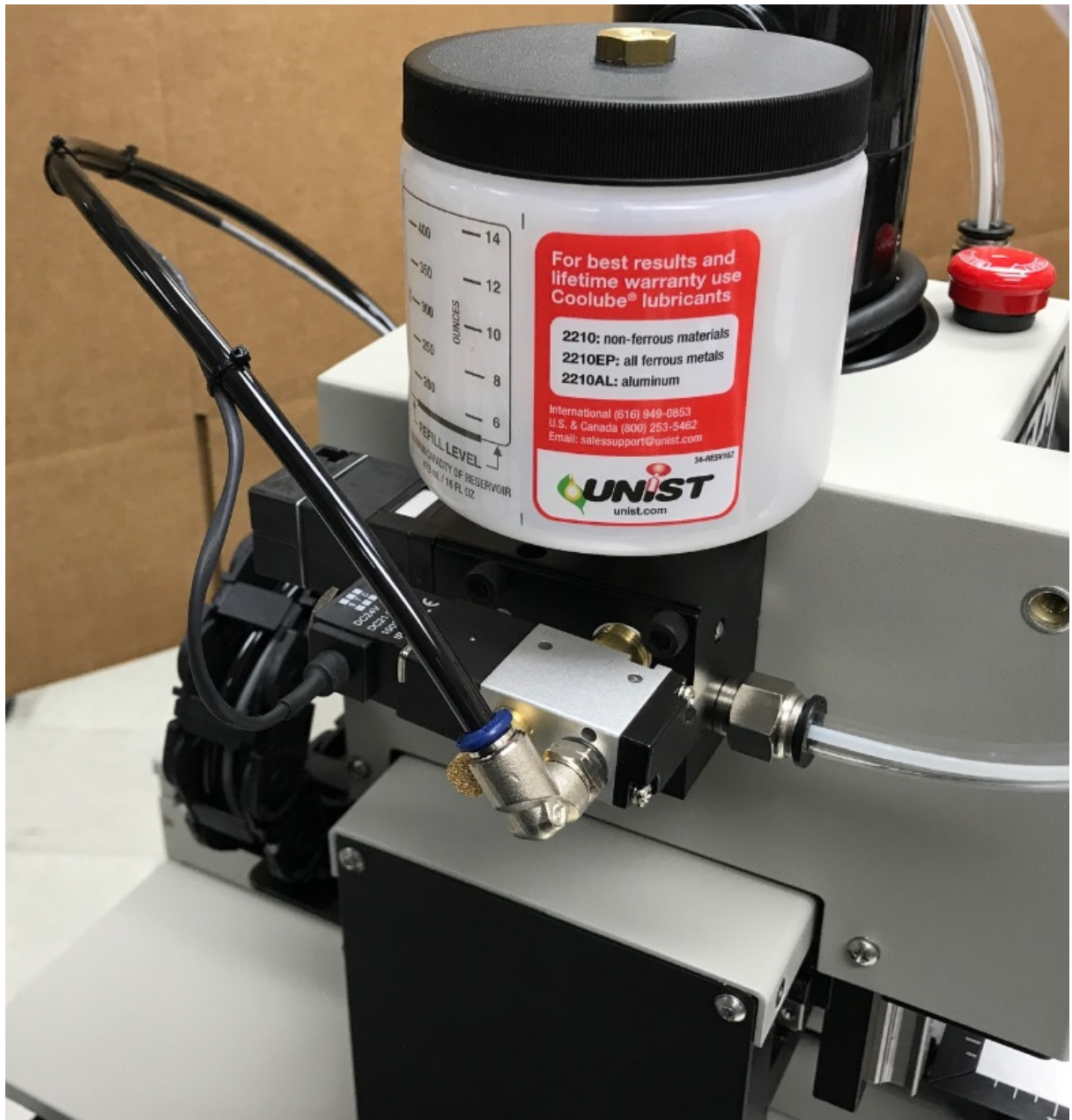
Installing Cutting Tools

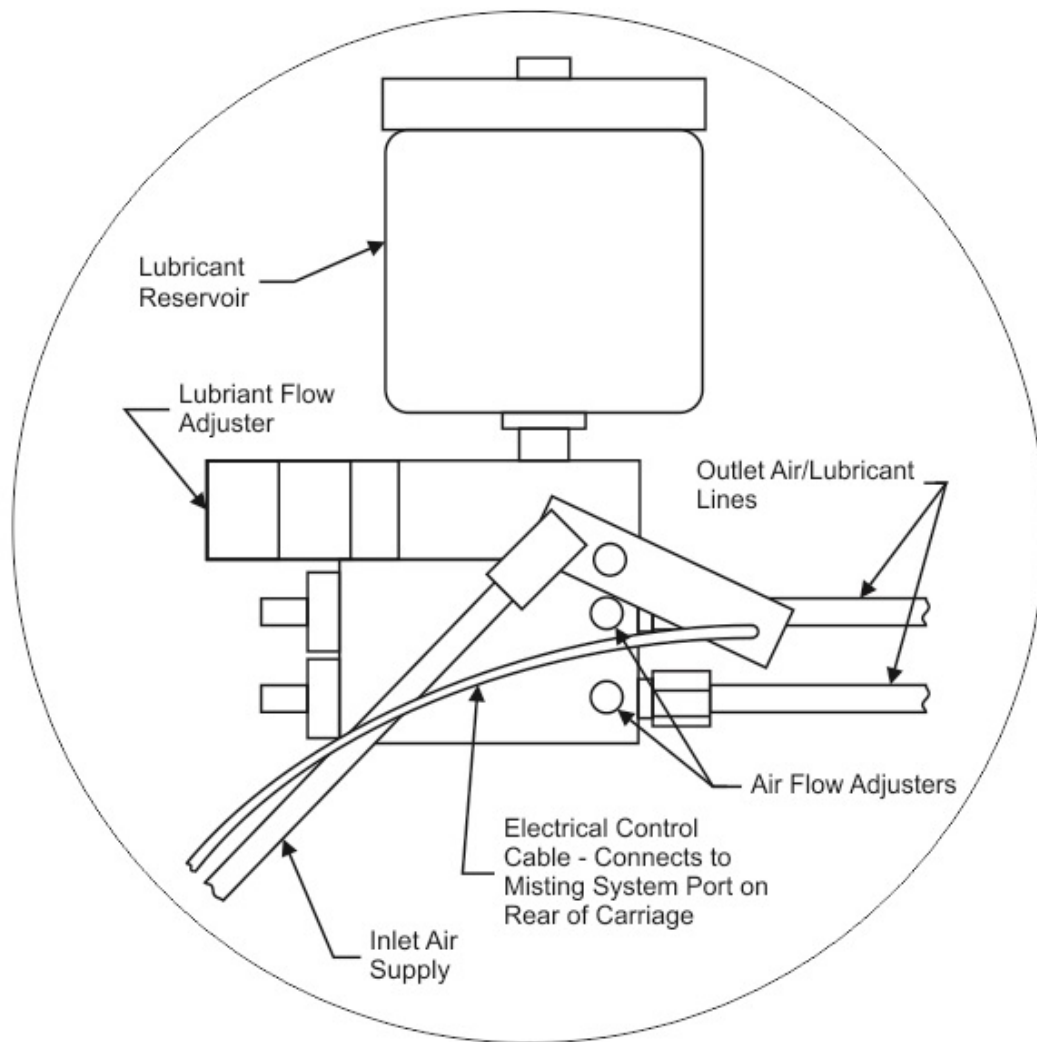
The NSK Spindle can accept either 1/8" or 1/4" cutting tools., depending on which collet was shipped with the system. The spindle will accept standard 2" shank bottom loading cutting tools. The collar at the bottom of spindle and the spindle shaft both have flat areas (tool slots) to allow the user to loosen or tighten the collet. Special thin wrenches are shipped with the NSK Spindle for this purpose.



2.5.2 UNIST Misting System

The optional UNIST Misting System is designed to provide lubrication to the cutting tool and material when processing metals. The diagram shown below lists the main components and connections. This system requires a compressed air supply (60 PSI Max) to be connected to the inlet air line. Documentation for usage of the UNIST Misting System is included with the system. Please refer to this documentation for operation details.





Additionally, the Misting System Power Plug on the machine connects to the controller's Pump/Mist port with the supplied cable.

2.6 Network Connection

NOTE - This following section is shown on a Windows 10 PC. For Windows 7 or Windows 8, the screens are slightly different.

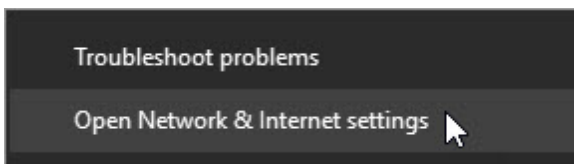
Plug the USB end of the USB to Ethernet adapter into any open USB port on the computer.



Right click on the Windows network icon in the lower right corner of the Windows screen.





Select "Open Network & Internet settings".



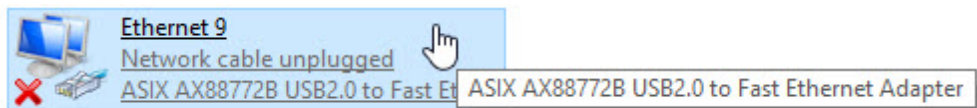
Select "Change adapter options".

Change your network settings

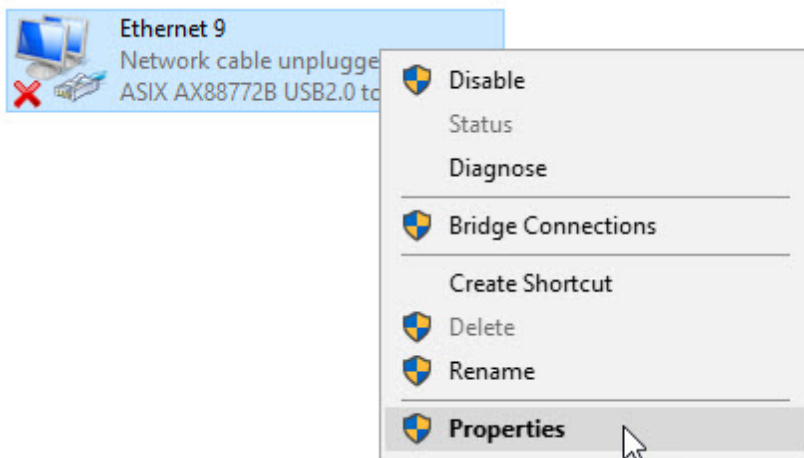
 **Change adapter options**
View network adapters and change connection settings. 

 **Sharing options**
For the networks you connect to, decide what you want to share.

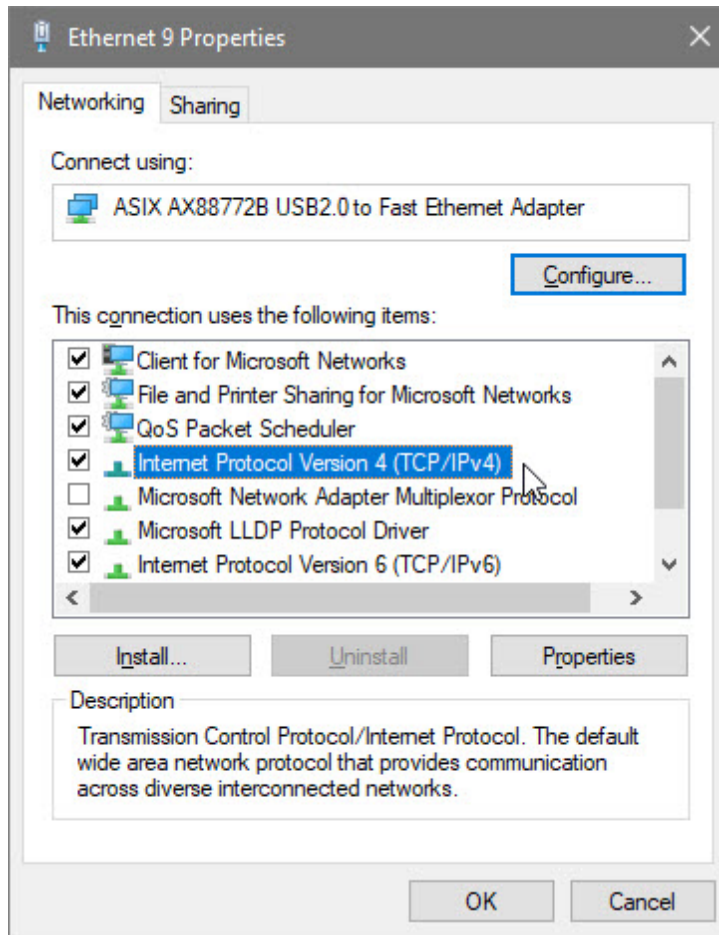
Right click on the Asix USB Ethernet connection.



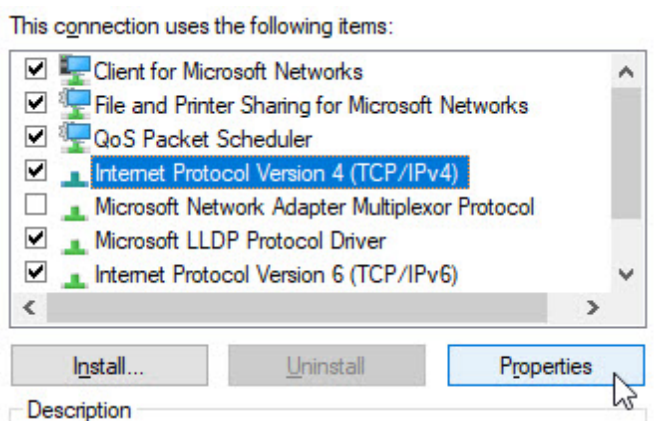
Select Properties.



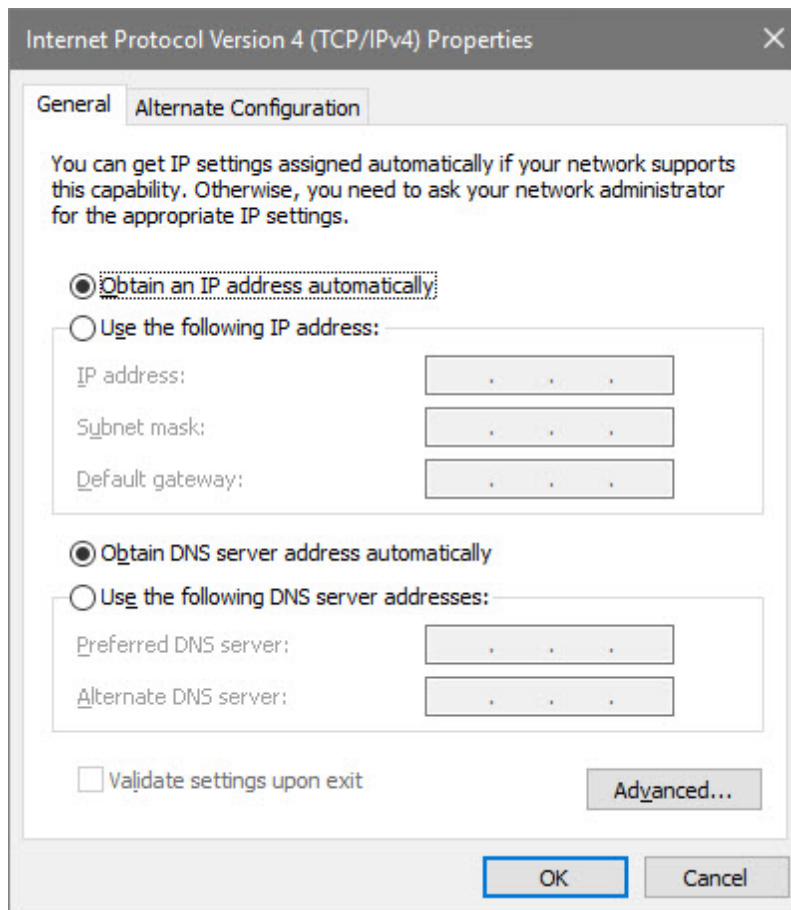
Select "Internet Protocol Version 4 (TCP/IPv4)".



Select Properties.



The screen below will appear.



Enter the settings below.

Select: **Use the following IP address:**

Enter an IP address of: **192.168.100.100**

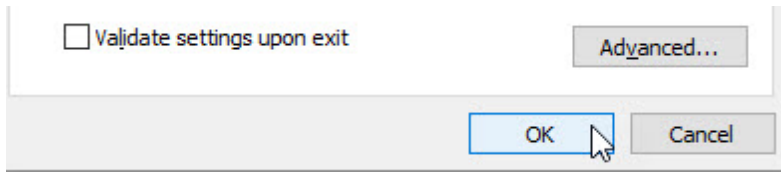
Enter a Subnet mask of: **255.255.255.0**

Obtain an IP address automatically

Use the following IP address:

| | |
|------------------|-----------------------|
| IP address: | 192 . 168 . 100 . 100 |
| Subnet mask: | 255 . 255 . 255 . 0 |
| Default gateway: | . . . |

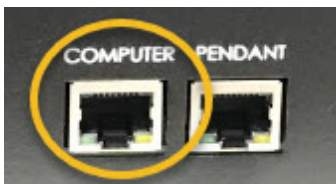
Select OK.



Plug one end of the network cable into the USB to Ethernet adaptor.



Plug the other end of the network cable into the **COMPUTER** connection in the back of the Vision Series 5 controller.



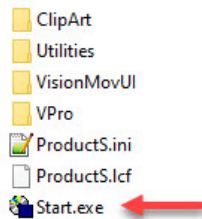
The network connection is now complete. Please continue to the network setup section.

2.7 Vision Mov UI Software Installation

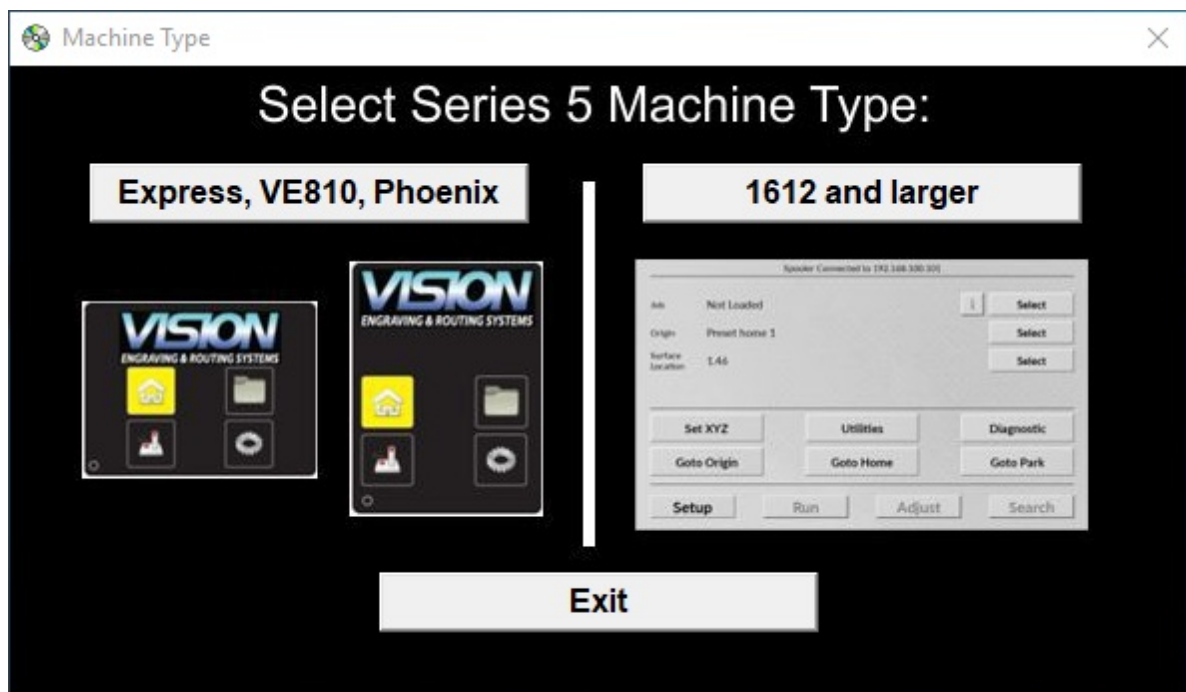
Power the Vision Series 5 controller on with the switch on the front.

Insert the Vision USB dongle into the USB port on the computer. Navigate to the USB dongle in Windows File Explorer.

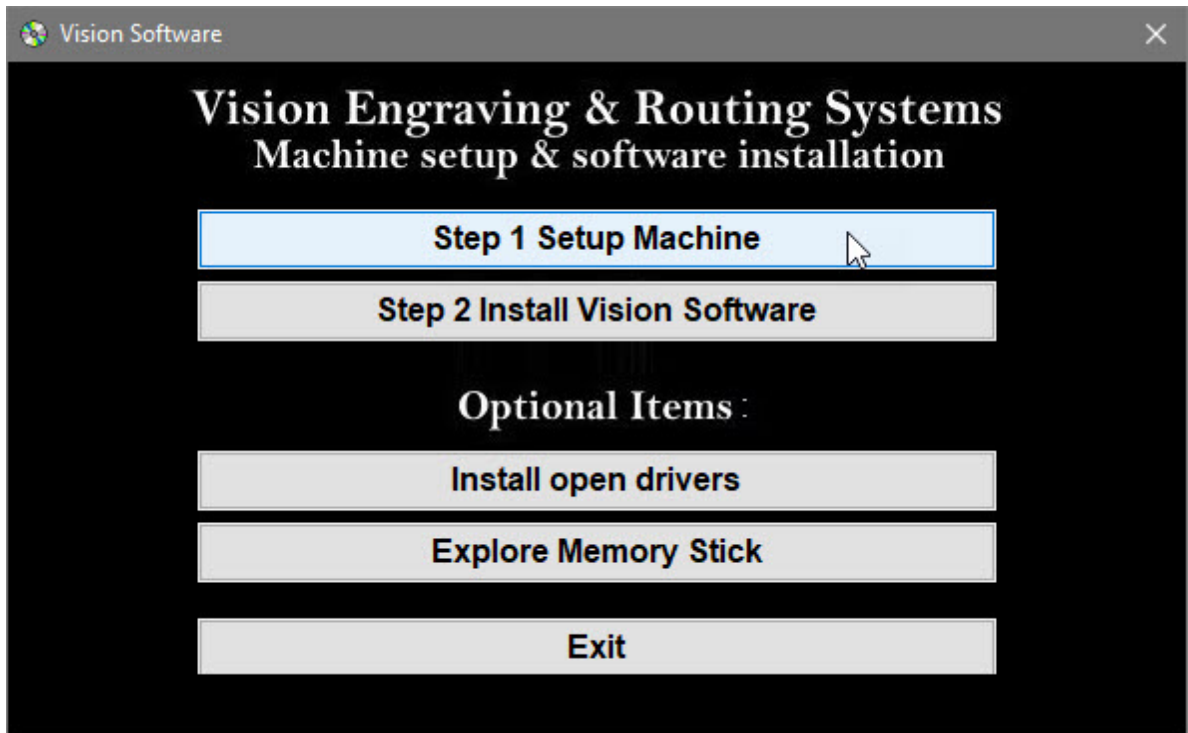
Select the **Start** or **Start.exe** file to begin.



Select **1612 and larger**.

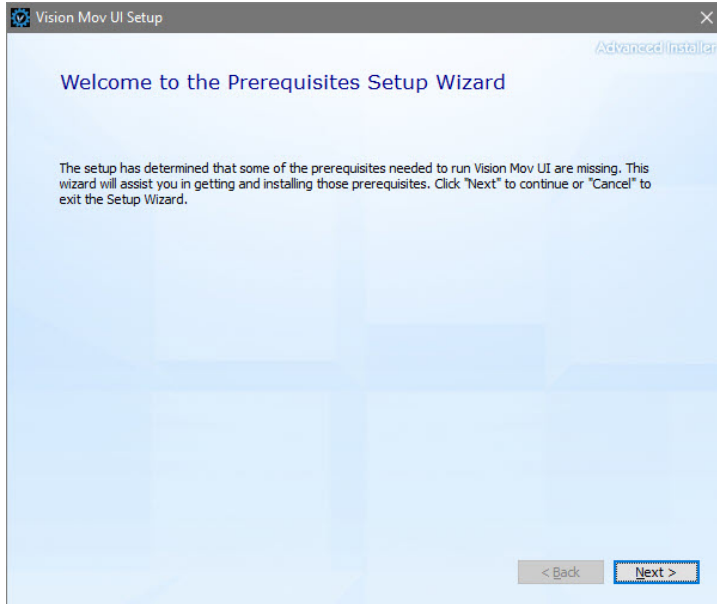


Select **Step 1 Setup Machine**.



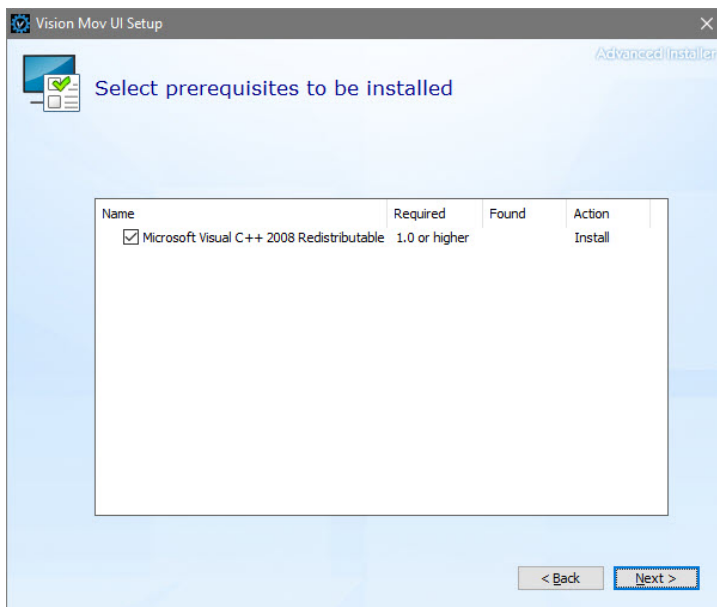
Select **Next** on the "Prerequisites Setup Wizard" screen.

NOTE: This screen will **not** appear if the Windows feature is already installed on the computer.



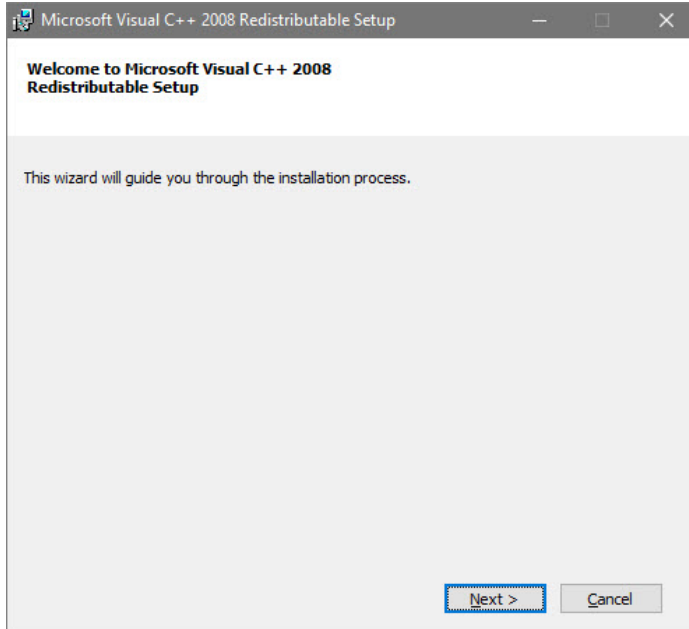
Select **Next** on the "Prerequisites" installation screen.

NOTE: This screen will **not** appear if the Windows feature is already installed on the computer.



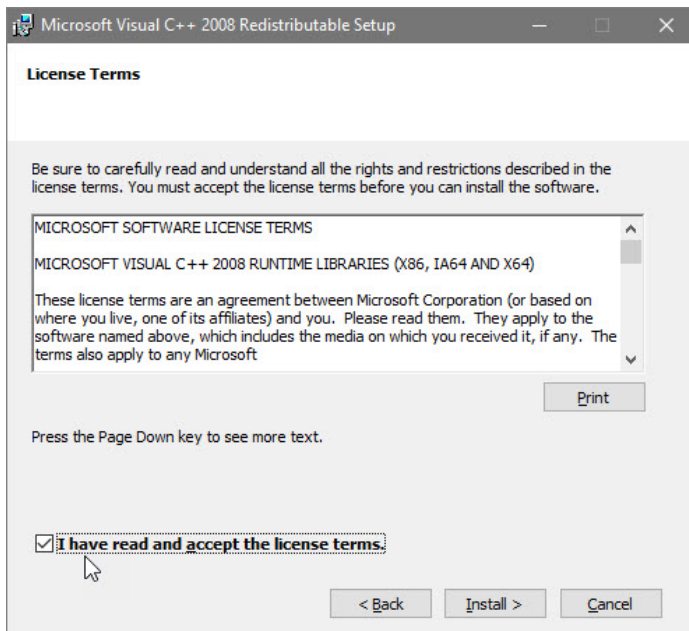
Select **Next** on the "Microsoft Visual C++ installation" screen.

NOTE: This screen will **not** appear if the Windows feature is already installed on the computer.



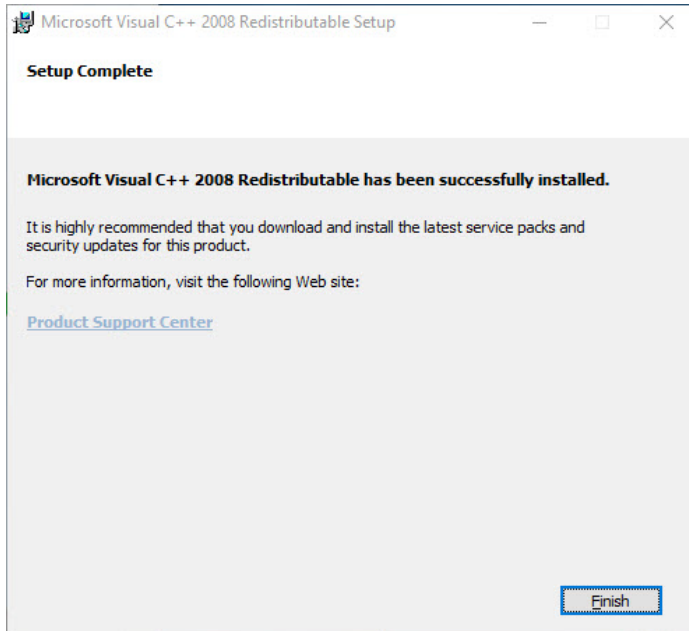
Select the **I have read and accept the license terms** box then select **Install**.

NOTE: This screen will **not** appear if the Windows feature is already installed on the computer.

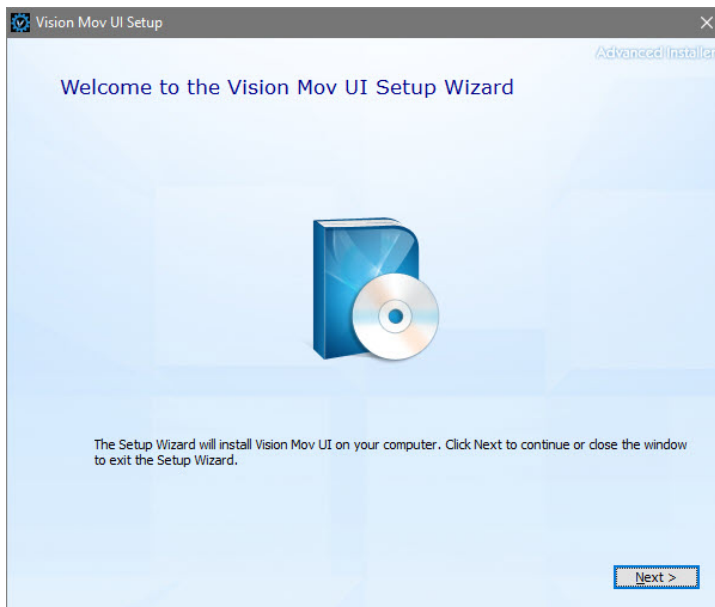


Select **Finish** on the "Setup Complete" screen.

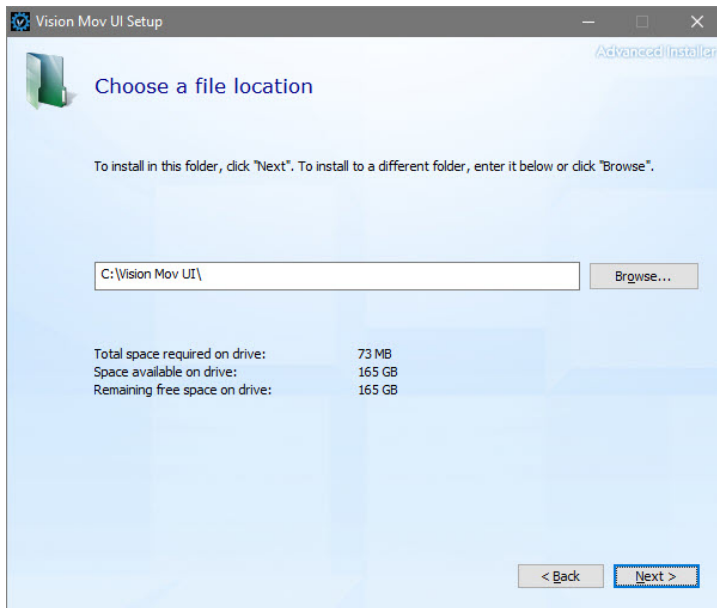
NOTE: This screen will **not** appear if the Windows feature is already installed on the computer.



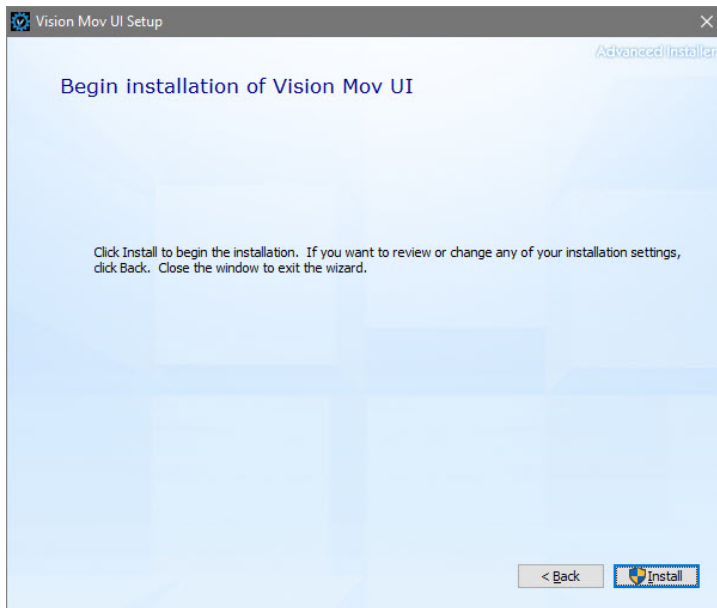
Select **Next** on the "Welcome screen".



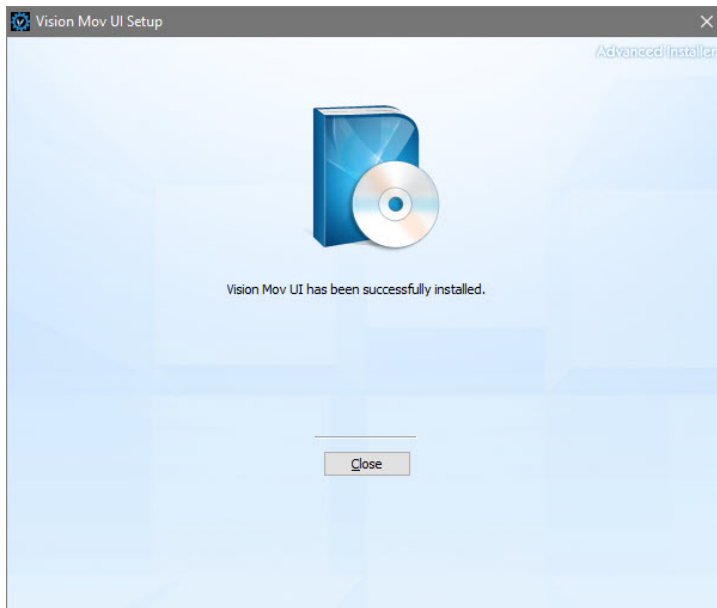
Select **Next** on the "Choose a file location" screen.



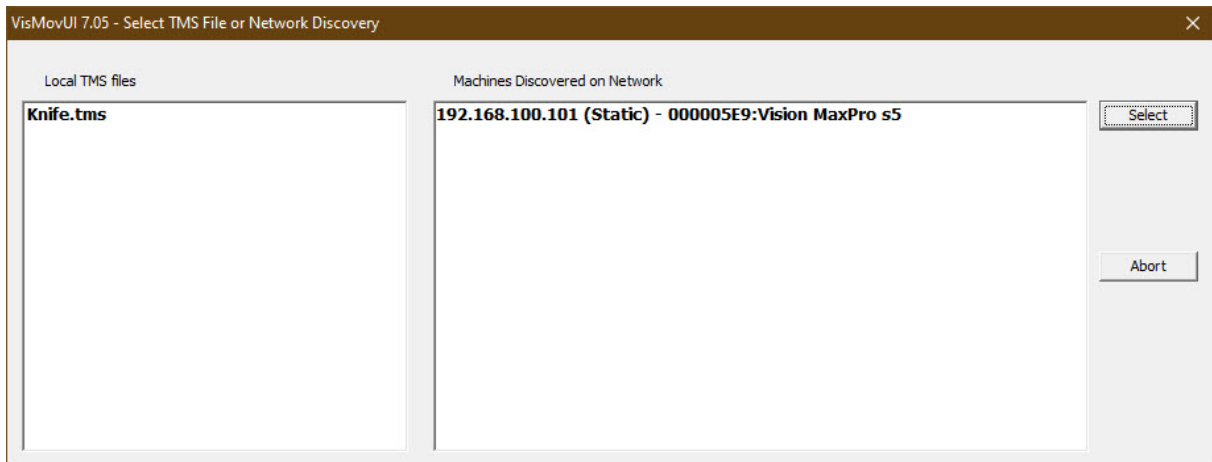
Select **Install** on the "Begin installation" screen.



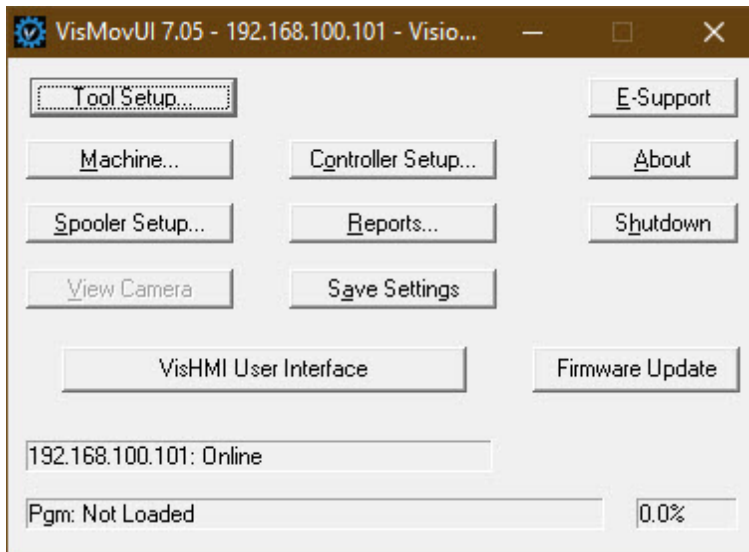
Select **Close** on the "Successful Install" screen.



The VisMovUI screen will appear. Select the Machine in the "Machines Discovered on Network" screen and click **Select**.



The VisMovUI program will appear. Select the **Minimize** button.

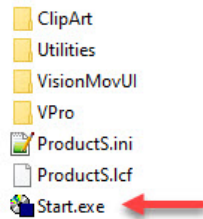


The Vision Move UI program is now installed. Please continue to the network setup section.

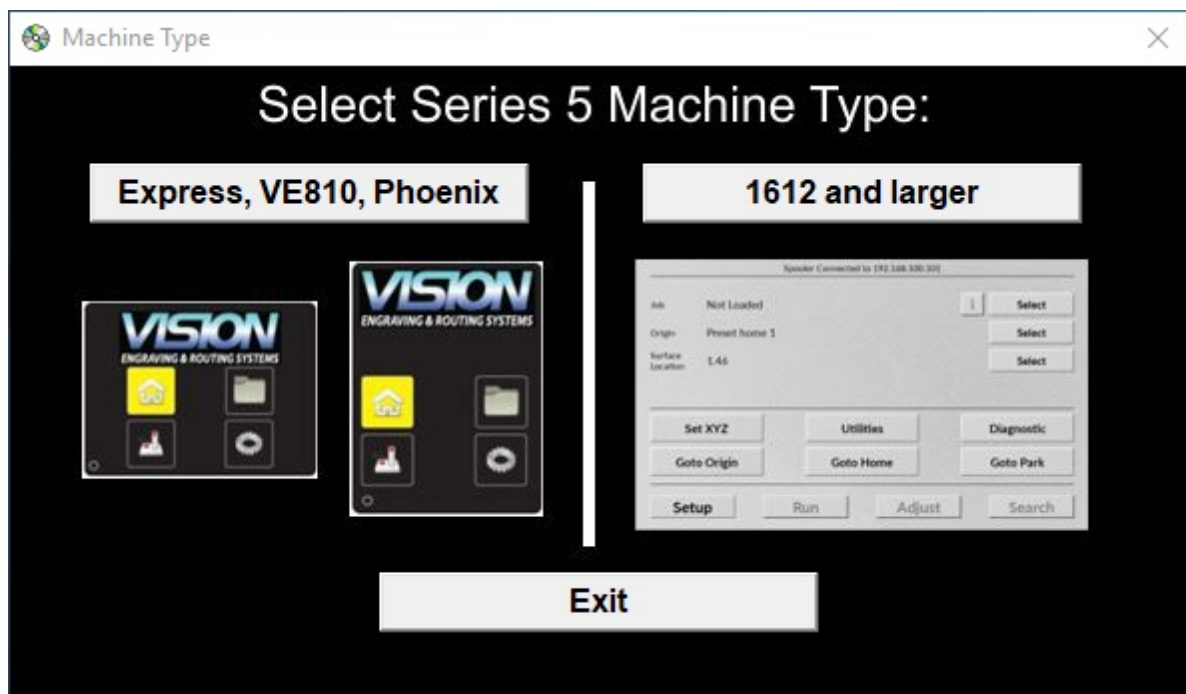
2.8 Vision Software Installation

Insert the Vision USB dongle into the USB port on the computer. Navigate to the USB dongle in Windows File Explorer.

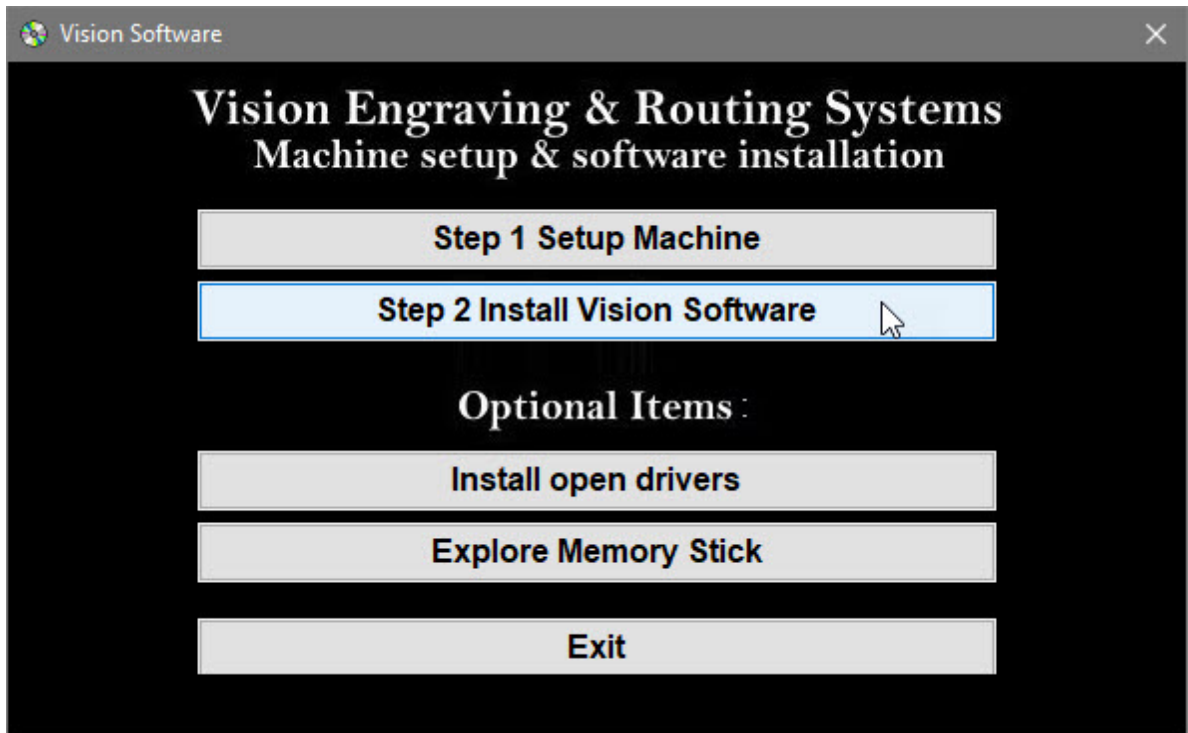
Select the **Start** or **Start.exe** file to begin.



Select **1612 and larger**.



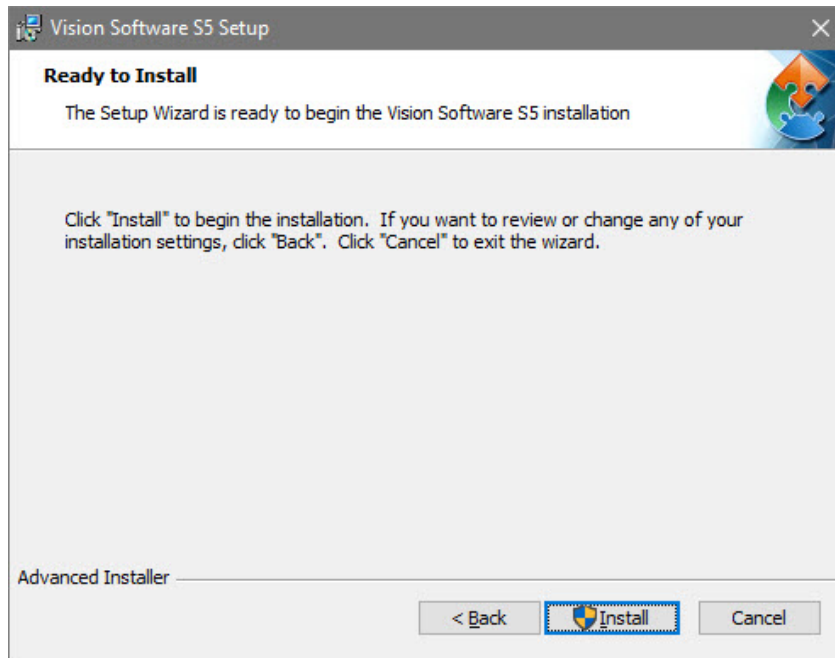
Select **Step 2 Install Vision Software**.



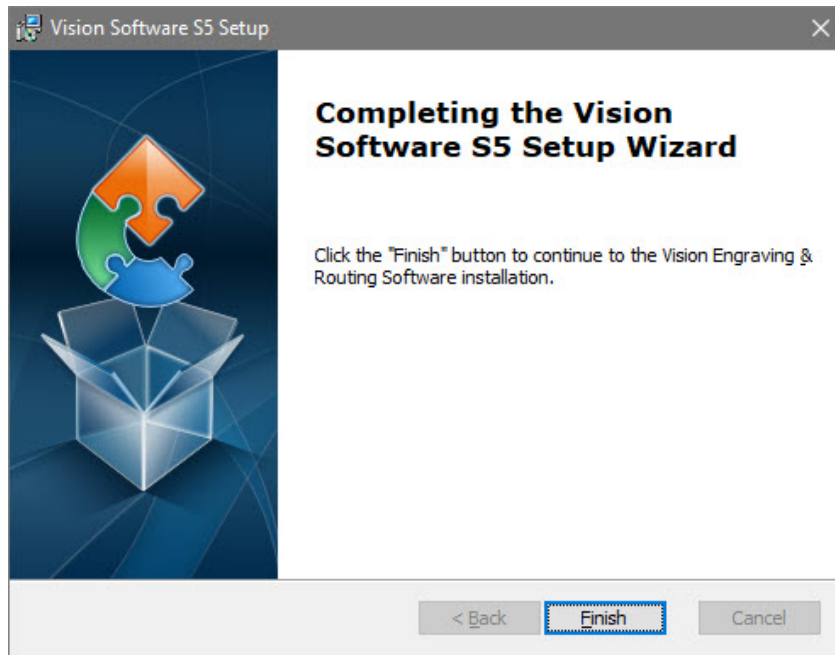
Select **Next** on the "Welcome" screen.



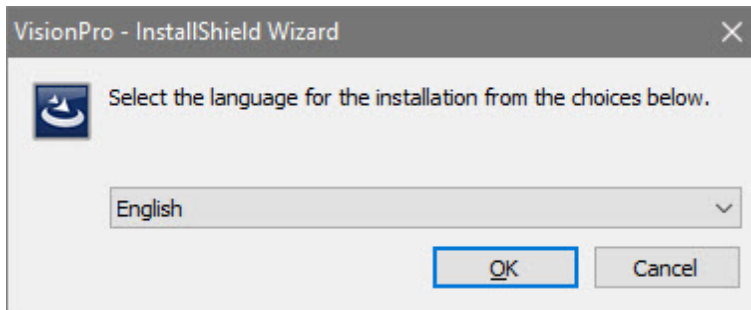
Select **Install** on the "Ready to Install" screen.



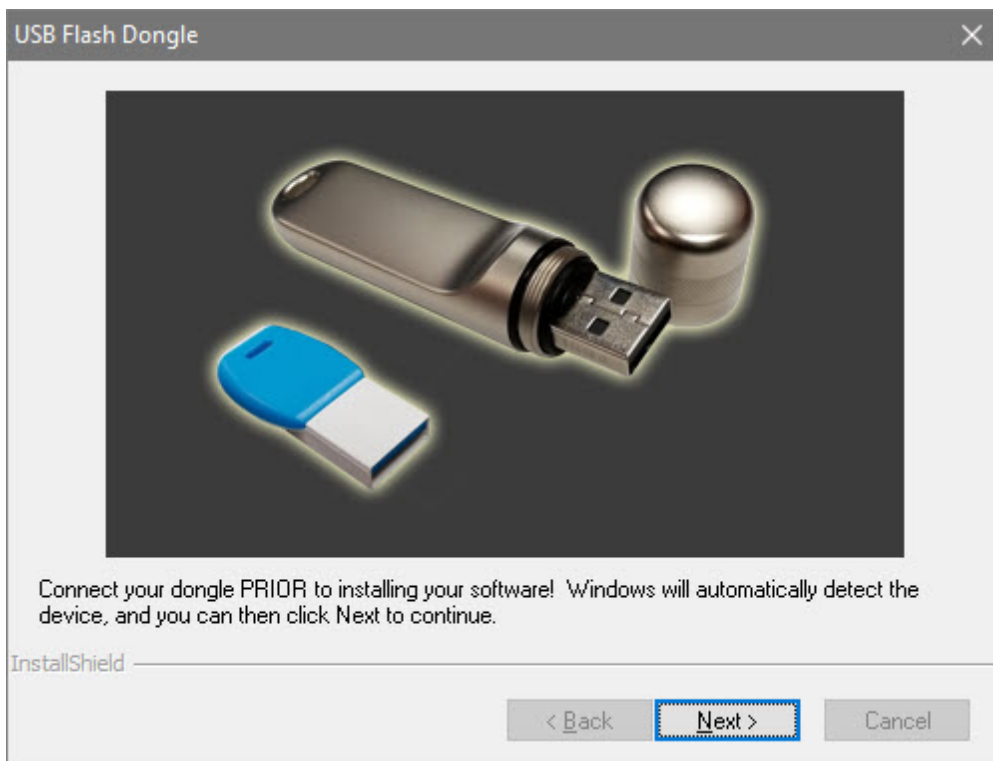
Select **Finish** on the "Complete Install" screen.



Select the language desired and select **OK** on the "Vision Pro install" screen.

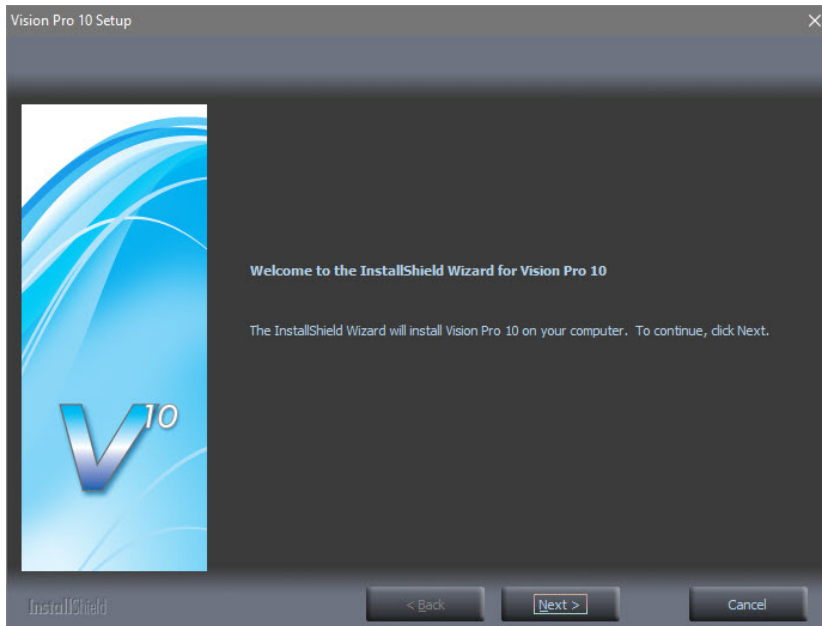


Make sure the USB dongle is installed and select **Next** on the "USB Flash Dongle" screen.

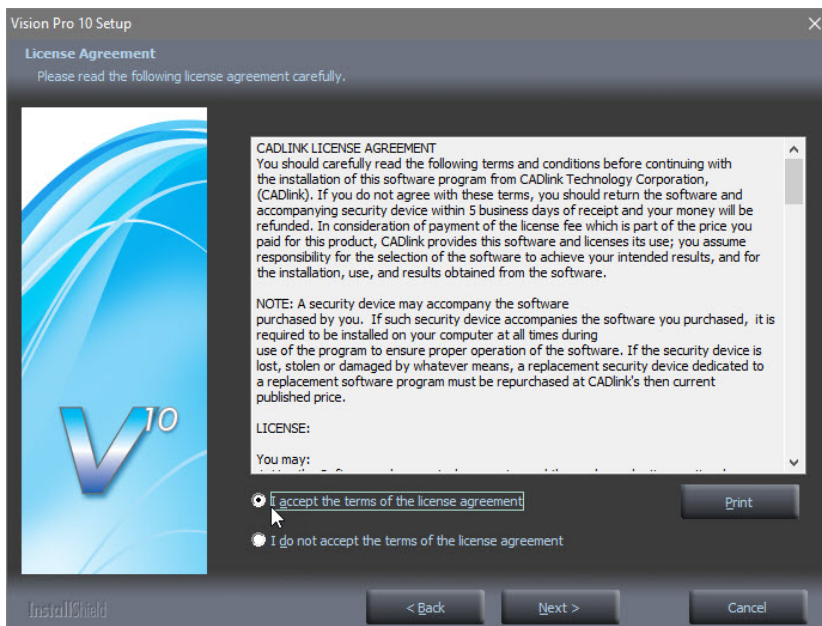


Select **Next** on the "Vision 10 setup" screen.

NOTE: The installation will display "Vision Pro 10 Setup", "Vision Expert 10 Setup" or "Vision Express 10 Setup" depending on which version has been purchased.

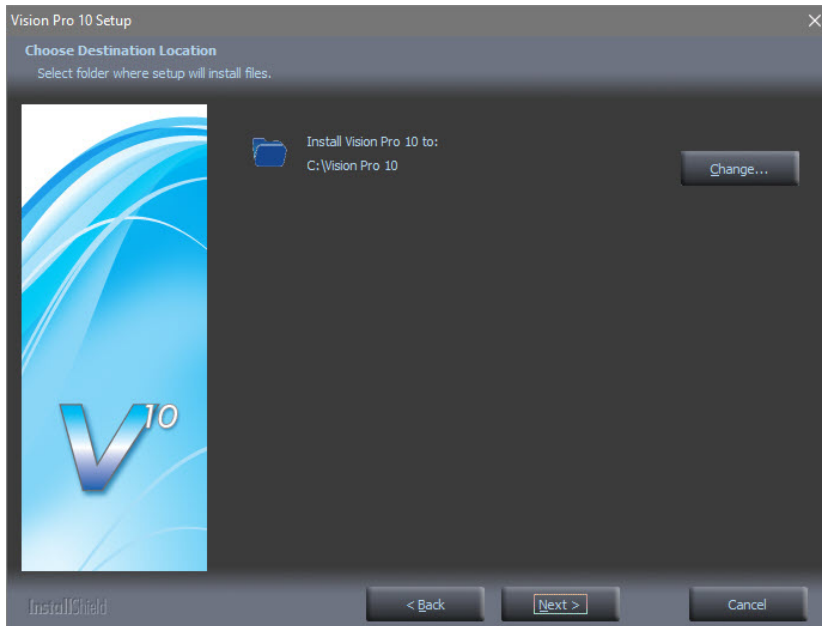


Select the **I accept the terms of the license agreement** box then select **Next** on the "License Agreement" screen.

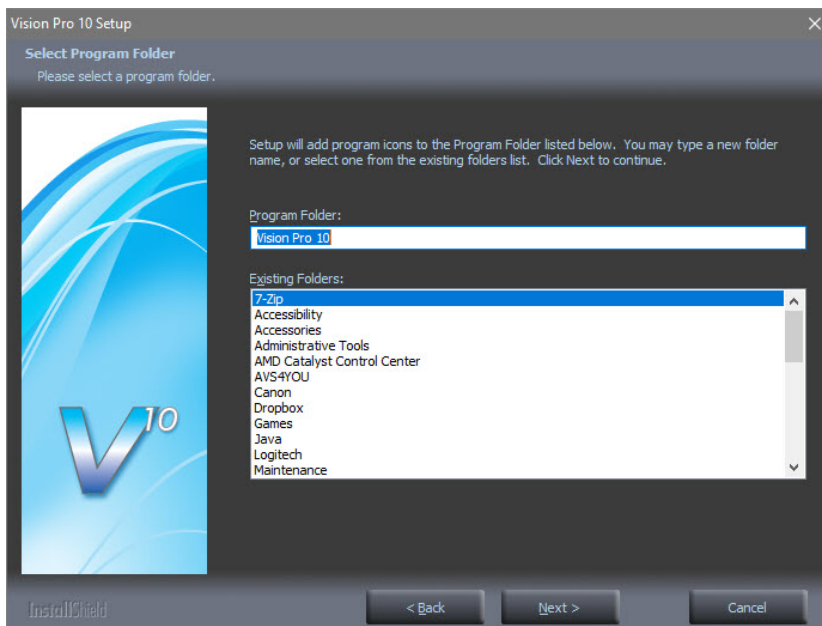


Select **Next** from the "Choose Destination Location" screen.

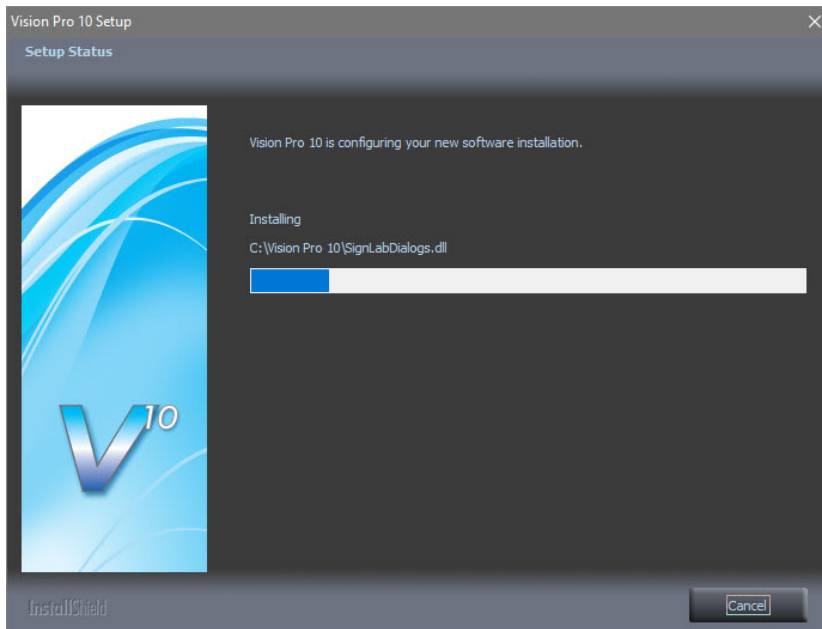
NOTE: The installation folder will be either "C:\Vision Pro 10", "C:\Vision Expert 10" or "C:\Vision Express 10" depending on which version has been purchased.



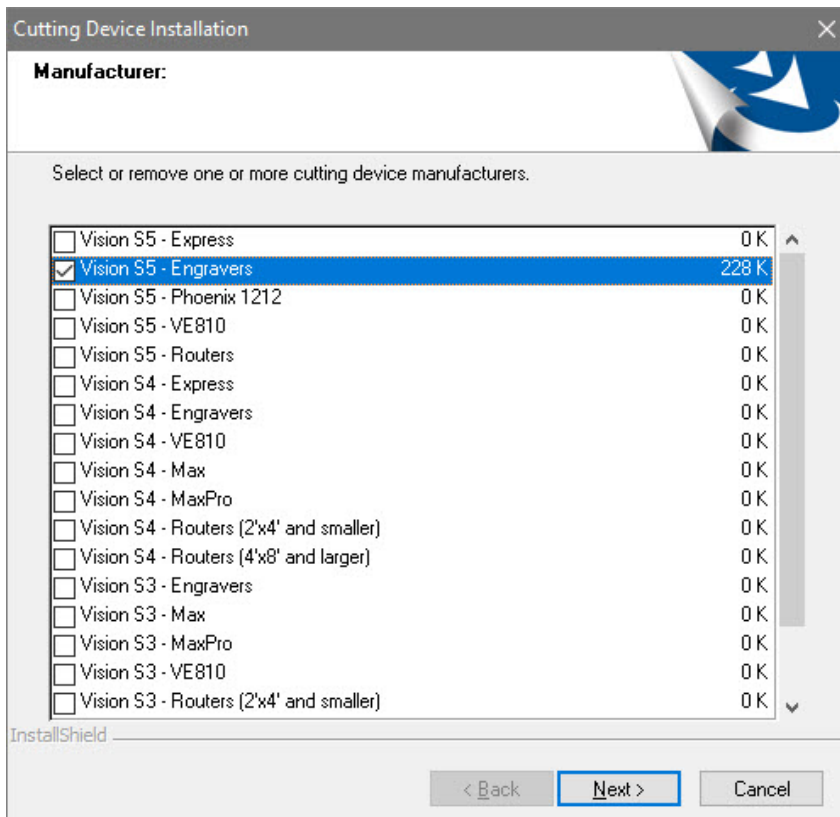
Select **Next** on the "Program Folder" screen.



The installation will continue.

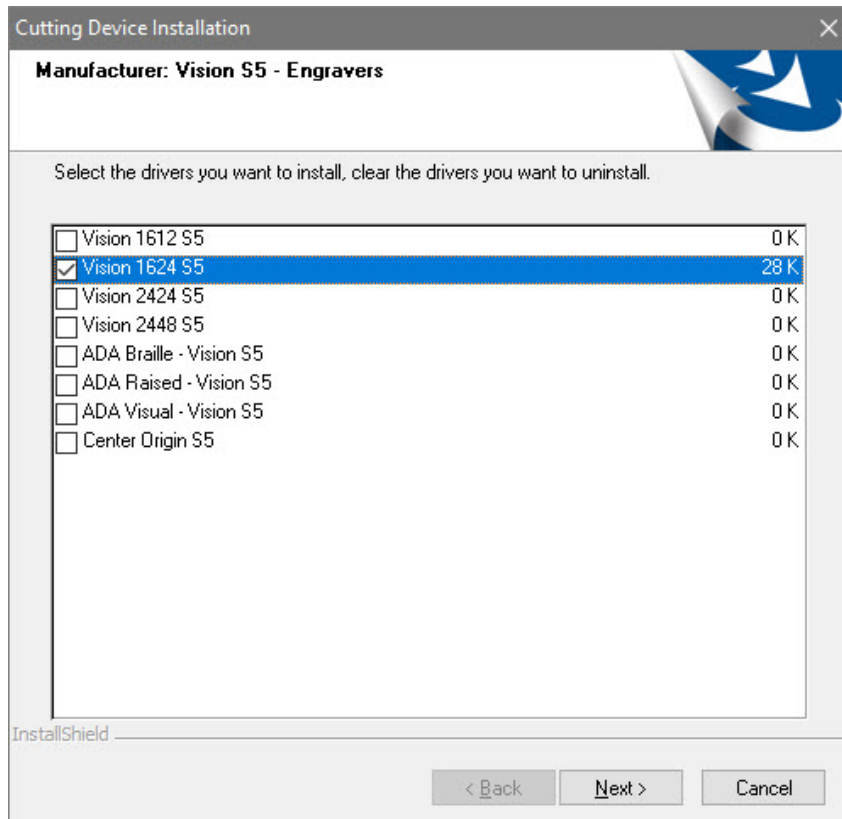


Select **Vision S5 - Engravers** and select **Next**.

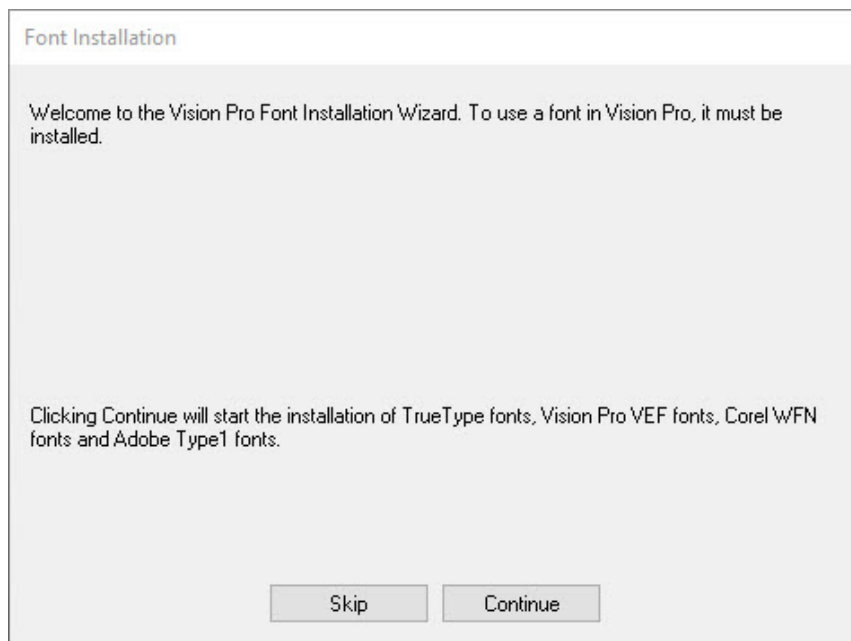


Select the driver for the that matches the machine purchased and select **Next**.

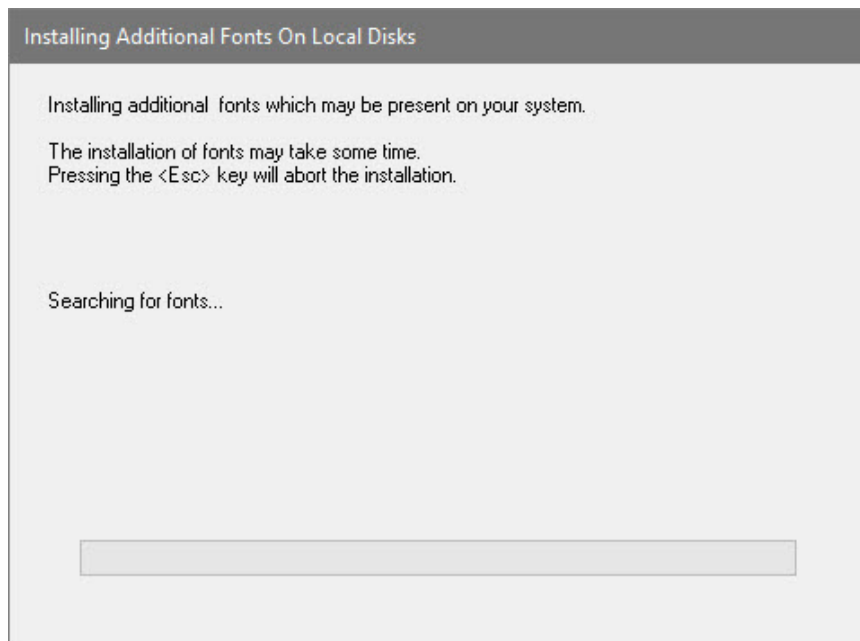
NOTE: If ADA drivers or a center origin driver is needed, select them also.



Select **Continue** on the "Font Installation" screen.

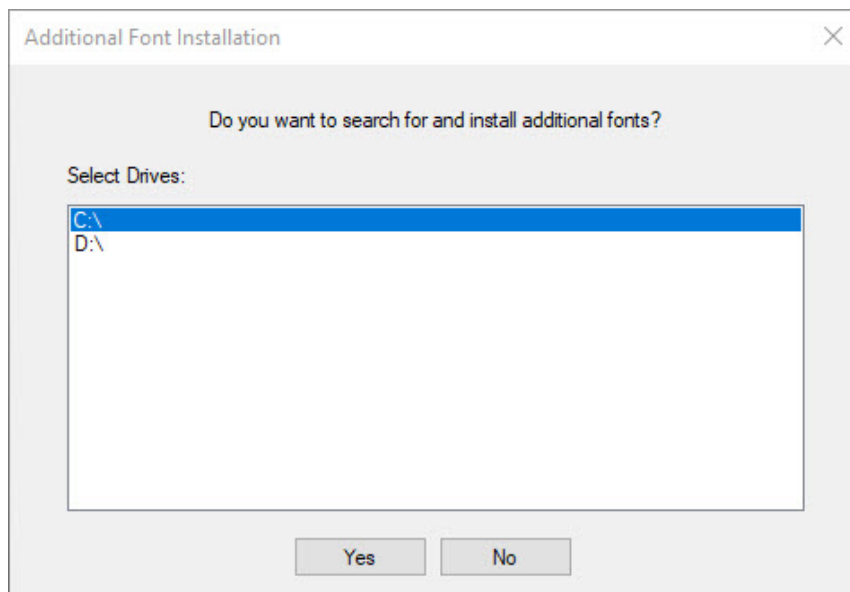


The installation will search for Vision fonts.



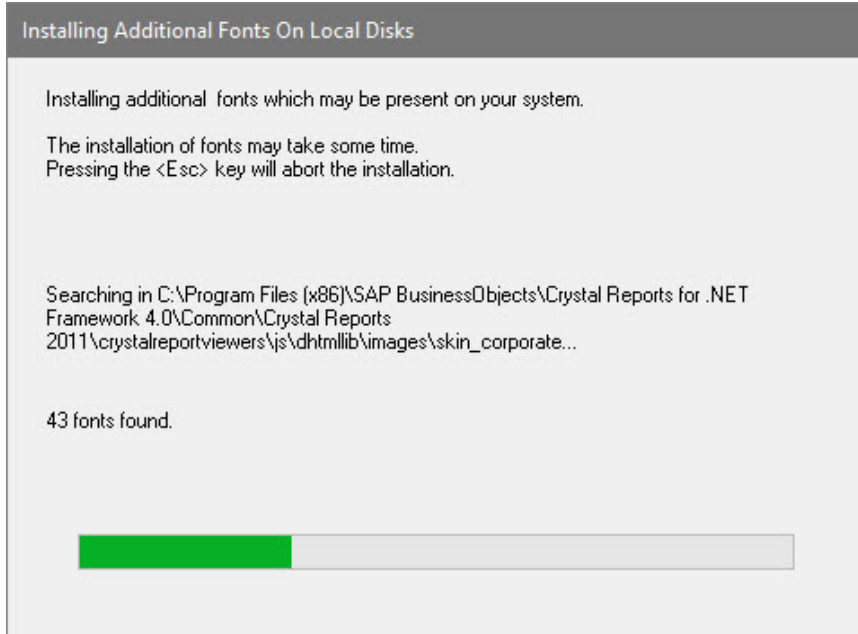
Select the disk drive to search for additional fonts that may be on the computer and select **Yes**.

NOTE: Typically drive C:\ is selected.

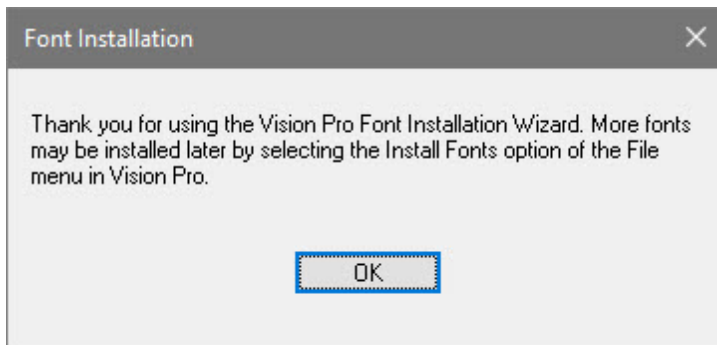


The installation will search for additional fonts.

NOTE: This may take a few minutes.

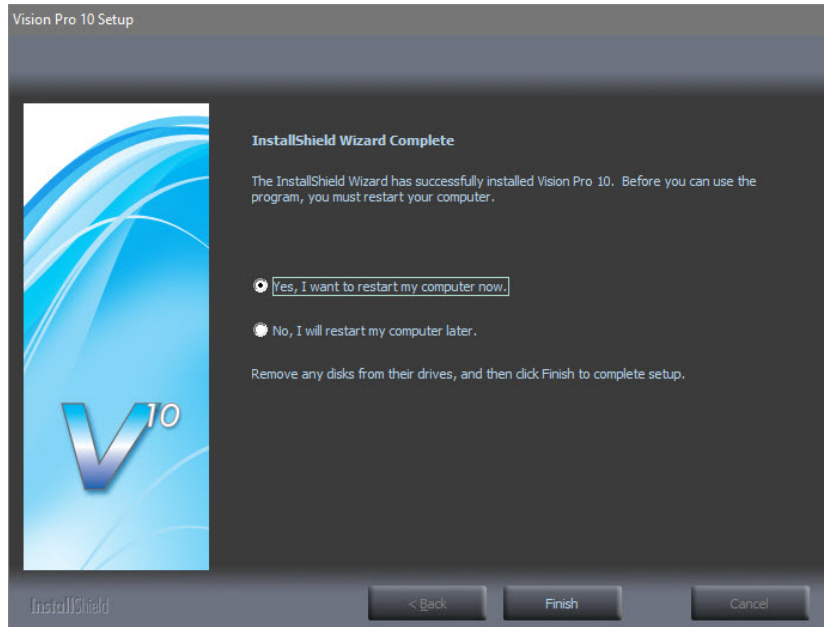


Select **OK** on the "Font Installation Complete" screen.

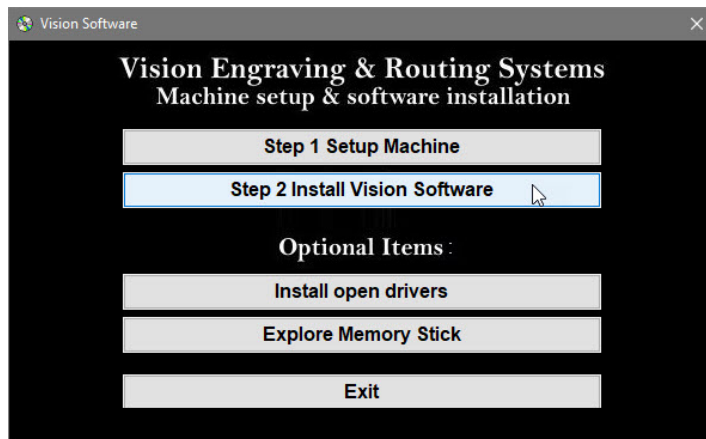


Select **Finish** to complete the installation.

NOTE: The install may or may not ask to restart the computer.



Select **Exit** from the initial screen.



The Vision 10 software and Vision Manuals icon will now be on the Windows desktop.



