



## DISPOSER CONTROL CENTER Installation Manual

# Model MSLV



### **DANGER**

The *Danger* signal indicates an immediately hazardous situation which, if not avoided, **will** result in death or serious injury.

### **WARNING**

The *Warning* signal alerts you to potential hazards or unsafe practices which, if not avoided, **could** result in severe personal injury or death.

### **CAUTION**

The *Caution* signal alerts you to hazards of unsafe practices which, if not avoided, **may** result in minor personal injury or property damage.

Please be certain that the person who installs or uses this appliance carefully reads and understands the Safety Instructions contained in this manual

## Table of Contents

Warranty .....	2
Introduction.....	2
Features .....	2
Mounting the Control Center .....	2
Plumbing Connections.....	3
Electrical Connections.....	3
Time Delay relay.....	4
Operating Instructions .....	4
Troubleshooting .....	4
Schematic Wiring Diagrams .....	5-8

## Warranty

### FOODSERVICE DISPOSER CONTROL CENTER LIMITED WARRANTY

In-Sink-Erator Foodservice Disposer Control Centers are warranted against defects in material and workmanship for one year from the date of installation. The warranty includes parts and labor, provided the service is performed by an In-Sink-Erator Factory Authorized Service Center. This warranty does not apply if failure is due to: faulty or improper electrical installation, faulty or improper plumbing installation, product abuse or misuse, or accidental damage.

## Introduction

### INTRODUCTION

The MSLV Control Center is UL®-listed for use with In-Sink-Erator Commercial Food Waste Disposers. See Table 1 for approved combinations. The control center operates the disposer. Its main functions are:

- To start and stop the disposer.
- To start the water flow to the disposer.

TABLE 1. Approved Disposer and Control Center Combinations

Model	Waste Disposer Model
MSLV-1 MSLV-2	SS50-26, SS75-27, SS100-28, SS125-25, SS150-34, SS150-38, SS200-27, SS200-31
MSLV-3 MSLV-4	SS50-27, SS75-28, SS100-29, SS125-26, SS150-36, SS150-39, SS200-29, SS200-32, SS300-25, SS300-27, SS500-28, SS500-30, SS750-13, SS750-15, SS1000-10, SS1000-12

The control center models and specifications are shown in Table 2

TABLE 2. Electrical Specifications

Model	Voltage	Phase	HP
MSLV-1	120 V	1Ø	1/2 – 2
MSLV-2	208 – 240 V	1Ø	1/2 – 2
MSLV-3	208 – 240 V	3Ø	1/2 – 10
MSLV-4	380 – 460 V	3Ø	1/2 – 10

## Features

### LOW VOLTAGE CONTROL

Controls operate on a 24 V solid state control circuit.

### ENCLOSURE

Stainless steel NEMA 4 construction.

### ELECTRIC DISCONNECT SWITCH

The lever switch on the front panel of the control center disconnects the line voltage. It interlocks with the front cover so that the cover cannot be opened unless the switch is in the off position.

*NOTE: Use of the electrical disconnect switch results in a 30-second delay before system can be restarted. You must wait 30 seconds after reactivation of the line disconnect switch before system will start.*

### PUSH BUTTON OPERATION

Push Black button to start disposer.

Push Red button to stop disposer.

## Mounting the Control Center

### MOUNTING THE CONTROL CENTER

Use the flanges at the back of the control center enclosure and only mount panel in the upright vertical position (door hinge is on the left - see Figure 1).

Locate control center within sight of disposer per local codes.

If box is mounted to the sink table, recess the box so that the buttons do not extend beyond the table's edge.

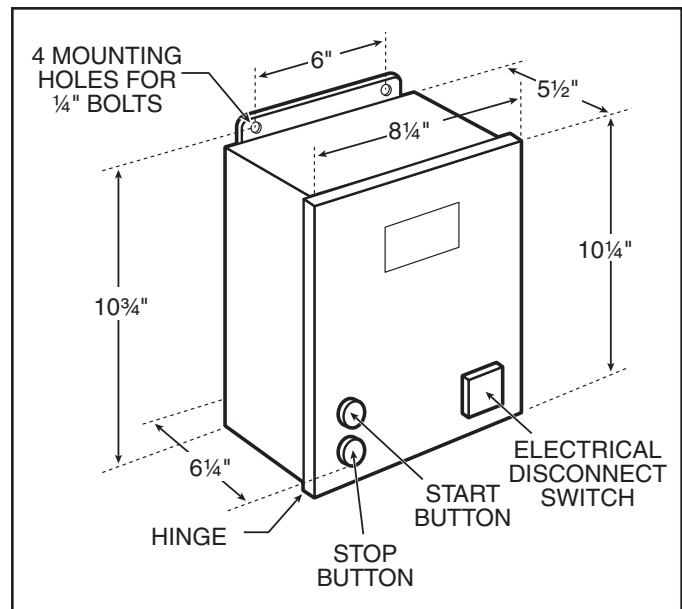


Figure 1. Control center dimensions

## Plumbing Connections

### PLUMBING CONNECTIONS

The solenoid valve is packed with the control center. The flow control valve and syphon breaker are supplied with all complete disposer packages (packaged separately).

The solenoid valve is supplied with a 24 V coil. Make certain that the valves are plumbed according to the water flow direction arrows marked on the valves, or the valves will not function properly.

The flow control valve regulates all water flowing into the disposer. This conserves water and prevents overloading. Check direction of water flow arrows.

A syphon breaker must be installed above the sink flood plane per local plumbing codes. Check direction of water flow arrows.

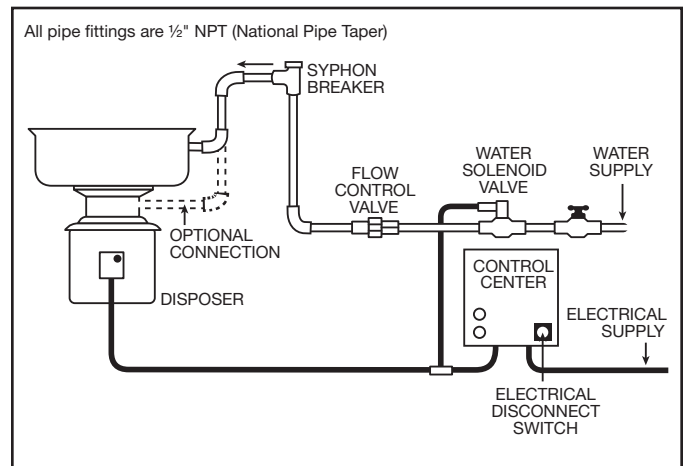


Figure 2. Typical installation diagram

## Electrical Connections

### **WARNING**

#### **ELECTRIC SHOCK**

- Turn off the electrical supply to the disposer before attempting any work on it. Use a voltmeter or circuit tester to ensure that the power is off.
- All installation work must conform to local plumbing and electrical codes.
- All control centers and disposers must be carefully and permanently grounded.
- A properly fused disconnect must be installed at the electrical supply source for the control center.

### **CAUTION**

#### **PROPERTY DAMAGE**

- Ensure that control center voltage and phase match the disposer motor and electrical supply. Check name plates on disposer and control centers for voltage and phase specifications.
- Refer to the control center wiring diagrams in this manual for correct connection.
- Use NEMA 4 watertight electrical connectors (not supplied) when making electrical connections to the control center.

NOTE: The MSLV control center has a door disconnect switch, the disconnect switch must be in the off position before the panel door can be opened. Power is still present at the disconnect until power is turned off at the supply source.

### ELECTRICAL CONNECTIONS

The MSLV control center uses low-voltage (24 V) to operate contactor coils, push buttons and solenoid valves. Red wires denote the 24 V circuit.

Connect the incoming line power to the electrical door disconnect switch and connect the disposer motor to labeled terminal blocks in the control center. Use the appropriate schematic wiring diagram, Figures 5, 6, 7 or 8. Wiring diagram is also located on the inside door of the control center. Wire the disposer motor for correct voltage using the connection diagram inside the motor terminal box.

Wire per local electrical code using 7/8" diameter holes in the bottom of the control center cabinet, and install NEMA 4 watertight electrical connectors (not supplied). All control centers and disposers must be carefully and permanently grounded.

After completing the connections, close door and fasten all locking clamps. Replace disposer motor cover. Turn on power.

#### WATER SOLENOID VALVE

Connect water solenoid valve as shown in Figure 3. Connect solenoid valve to the low-voltage solenoid terminals numbers 4 and 5.

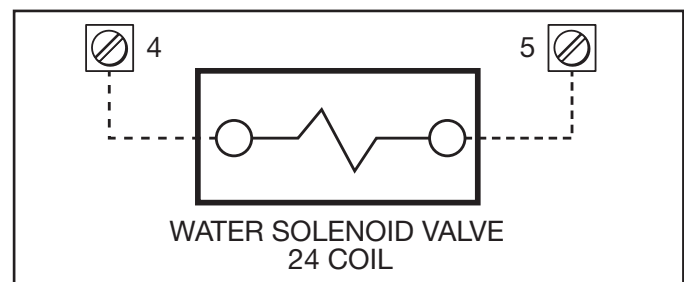


Figure 3. Solenoid valve connections to control panel terminals.

## Time Delay Relay

The time delay relay may be used with the MSLV to delay solenoid valve shut-off, providing a post flush. This helps prevent drain line stoppages and is beneficial when ground food waste must travel through many bends or down a long horizontal run in the drain line. It is adjustable from 0 to 10 minutes and factory-set to provide an approximately 5-minute delay. To adjust the time, SHUT OFF ELECTRIC POWER. Inside the unit, locate the adjustment knob. Turn clockwise to increase delay or turn counterclockwise to decrease delay. See figure 4 for wiring.

Ensure the voltage rating on the time delay and solenoid valve are 24 volts.

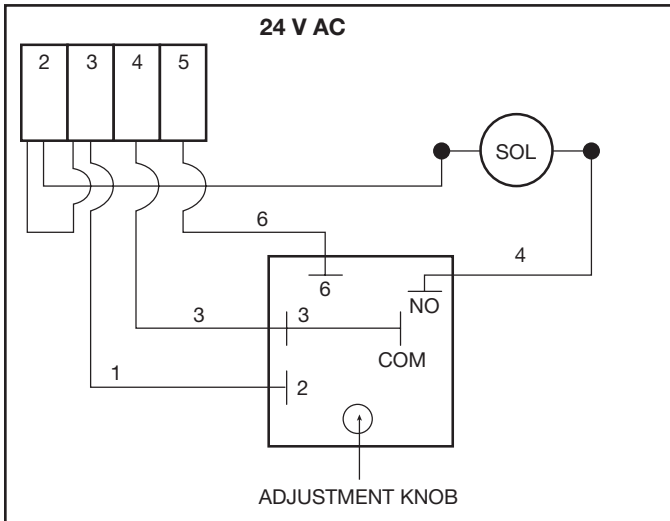


Figure 4. Time delay relay connections

## Operating Instructions

**Please read the disposer operating instructions and train personnel before operating the disposer.**

The operating instructions are supplied with the disposer and include:

- Disposer Operation
- How to restart the disposer after a jam condition.

### **WARNING** PERSONAL INJURY

- Turn power off before clearing a jam, removing an object from the disposer, or pressing the red reset button (see Troubleshooting).
- Disconnect electricity before adjusting set points.
- Allow only trained personnel to operate the disposer.
- Use baffles and guarding to avoid splashing and ejection of materials.
- Do not put fingers or hands into the disposer.
- When attempting to remove objects from a disposer, use long-handled tongs or pliers.

## OPERATING INSTRUCTIONS

### TO START

1. Check to ensure disposer is free of foreign objects.
2. Ensure power is on.
3. Push start button. Disposer motor will run and water will flow into the disposer.

### TO STOP

1. Push stop button. Disposer motor and water will stop.  
NOTE: If time delay relay is used, the water may continue to flow into disposer for up to 10 minutes.

## Troubleshooting

This control center was inspected and tested under operating conditions before shipment from factory. In case of trouble, check the items listed below:

### A. Disposer motor will not start and water does not flow.

1. No incoming line power. Turn line power on.
2. Electrical disconnect switch is not on. Turn electrical disconnect switch to ON position.
3. Control circuit fuse FNA2 is blown. Replace fuse.

### B. Disposer motor stops while grinding but water continues to flow.

1. Press stop button and follow directions in disposer installation manual for unjamming disposer.
2. Disposer motor overload has tripped. Follow instructions for C1, below.

### **WARNING**

#### **ELECTRICAL SHOCK / PROPERTY DAMAGE**

- Troubleshooting other than what is recommended in this section should only be performed by qualified service personnel.
- Further troubleshooting performed by untrained personnel could result in electric shock or damage to the control center.
- All electrical checks must be performed by a qualified professional.

### C. Disposer motor will not start but water flows.

1. Overload protector on the disposer may have tripped. Press the stop button. Locate the red reset button on front of disposer electrical cover. Press to reset. If the motor had been running, wait five minutes for the motor and overload to cool down.
2. Disposer is jammed. Press the red stop button and follow the directions for unjamming supplied with the disposer.

### D. Overload trips frequently

1. Do not overload the disposer with excess amounts of garbage and water.

If trouble still persists, call your nearest In-Sink-Erator Authorized Service Agency. For the location of your nearest service agency, call toll-free 1-800-845-8345.

## Wiring Diagrams

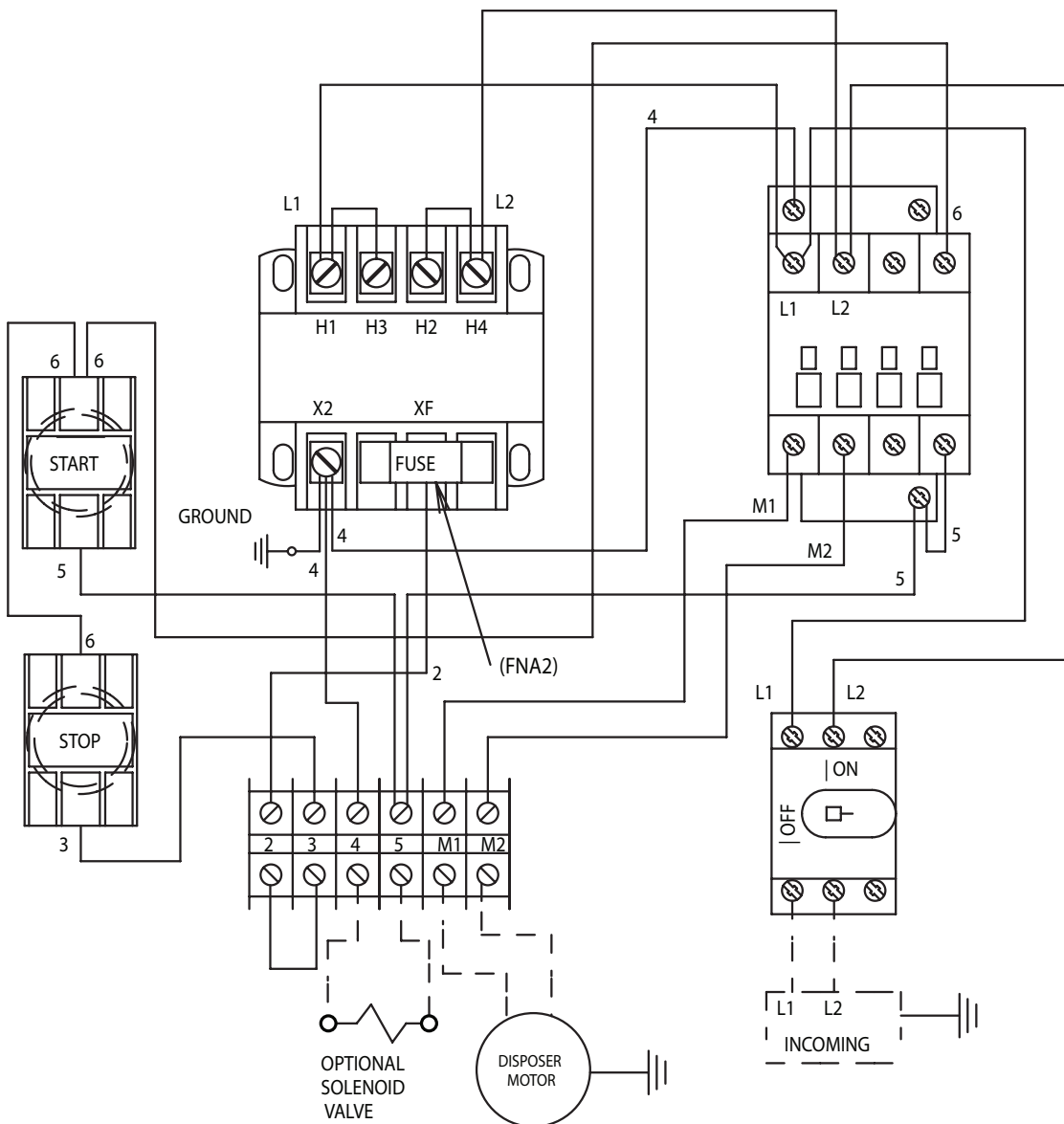
**⚠ DANGER**  
**ELECTRIC SHOCK**

- Turn off the electrical supply to the disposer before attempting any work on it. Use a voltmeter or circuit tester to ensure that the power is off.
- Installation must conform with local electrical codes.
- All control centers and disposers must be carefully and permanently grounded.
- A properly-fused disconnect must be installed at the electrical supply source for the control center.

**⚠ CAUTION**  
**PROPERTY DAMAGE**

- Ensure that the control center voltage and phase match the disposer motor and electrical supply. Check nameplates on disposers and control centers for voltage and phase specification.
- The disposer motor wiring connection is shown in the disposer terminal box.

Note: • Red wires = Low Voltage (24 V) control  
• Black wires = Line voltage (120 V) control



**Model MSLV**  
**120 V**  
**1 Ø**  
**1/2 to 2 hp**



NEMA 4



MODEL NO. MSLV-5  
120 W, 1 Ø, 1/2-2 HP  
PART NO. 14186



**EMERSON**  
Appliance Solutions

IN-SINK-ERATOR DIVISION  
EMERSON ELECTRIC CO.  
4700 21ST STREET  
RACINE, WI. 53406-5093

Figure 5. 120 V, 1 Ø, 1/2 to 2 hp Wiring Diagram

**Call Toll Free 1-800-845-8345**  
**for the nearest In-Sink-Erator**  
**Authorized Service Center or**  
**to reach Technical Support.**

## Wiring Diagrams

### ⚠ DANGER ELECTRIC SHOCK

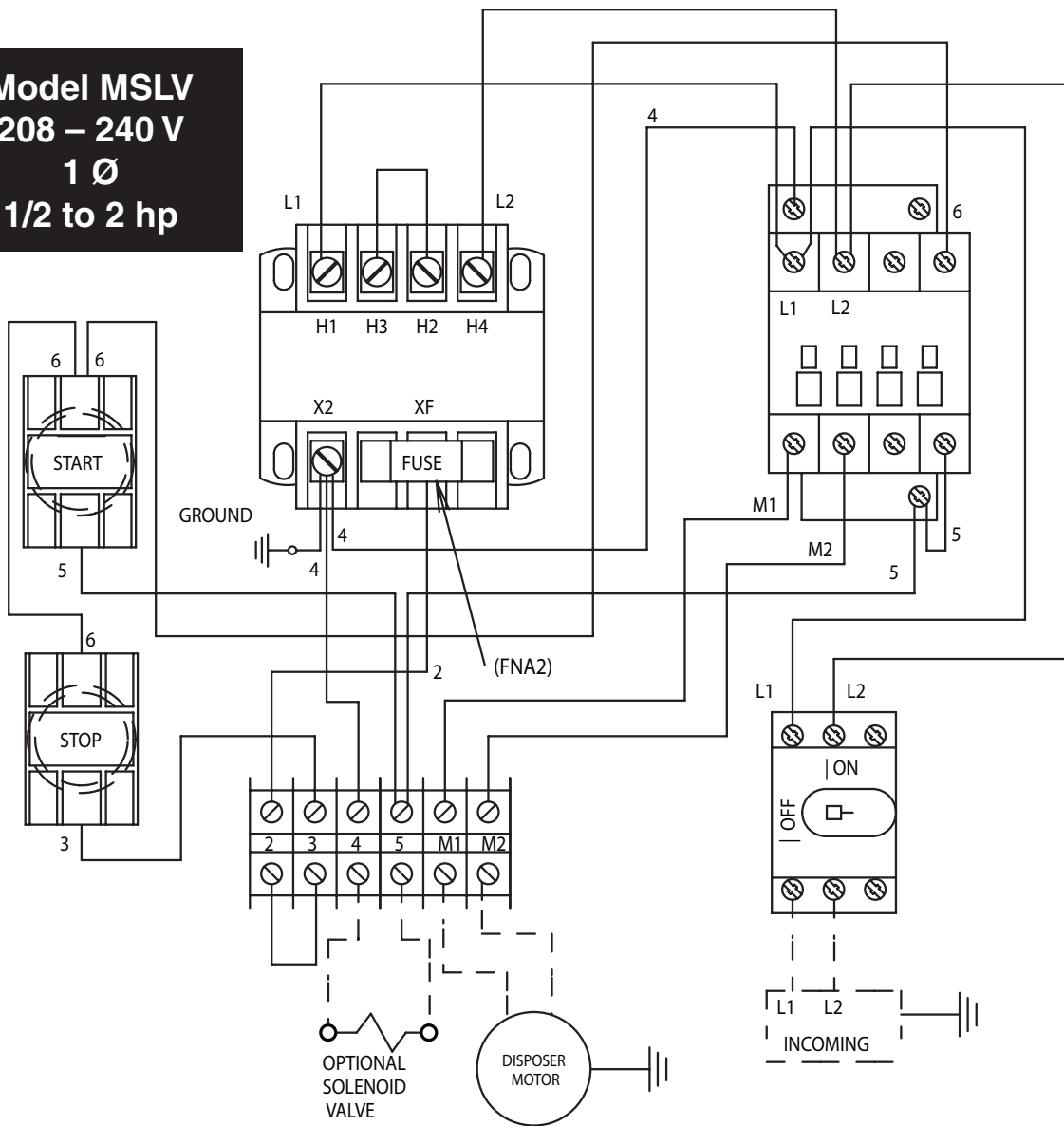
- Turn off the electrical supply to the disposer before attempting any work on it. Use a voltmeter or circuit tester to ensure that the power is off.
- Installation must conform with local electrical codes.
- All control centers and disposers must be carefully and permanently grounded.
- A properly-fused disconnect must be installed at the electrical supply source for the control center.

### ⚠ CAUTION PROPERTY DAMAGE

- Ensure that the control center voltage and phase match the disposer motor and electrical supply. Check nameplates on disposers and control centers for voltage and phase specification.
- The disposer motor wiring connection is shown in the disposer terminal box.

Note: • Red wires = Low Voltage (24 V) control  
• Black wires = Line voltage (208 – 240 V) control

**Model MSLV  
208 – 240 V  
1 Ø  
1/2 to 2 hp**



MODEL NO. MSLV-6  
208 – 240 W, 1 Ø, 1/2-2 HP  
PART NO. 14186A



IN-SINK-ERATOR DIVISION  
EMERSON ELECTRIC CO.  
4700 21ST STREET  
RACINE, WI. 53406-5093

**Call Toll Free 1-800-845-8345  
for the nearest In-Sink-Erator  
Authorized Service Center or  
to reach Technical Support.**

Figure 6. 208 – 240 V, 1 Ø, 1/2 to 2 hp Wiring Diagram

## Wiring Diagrams

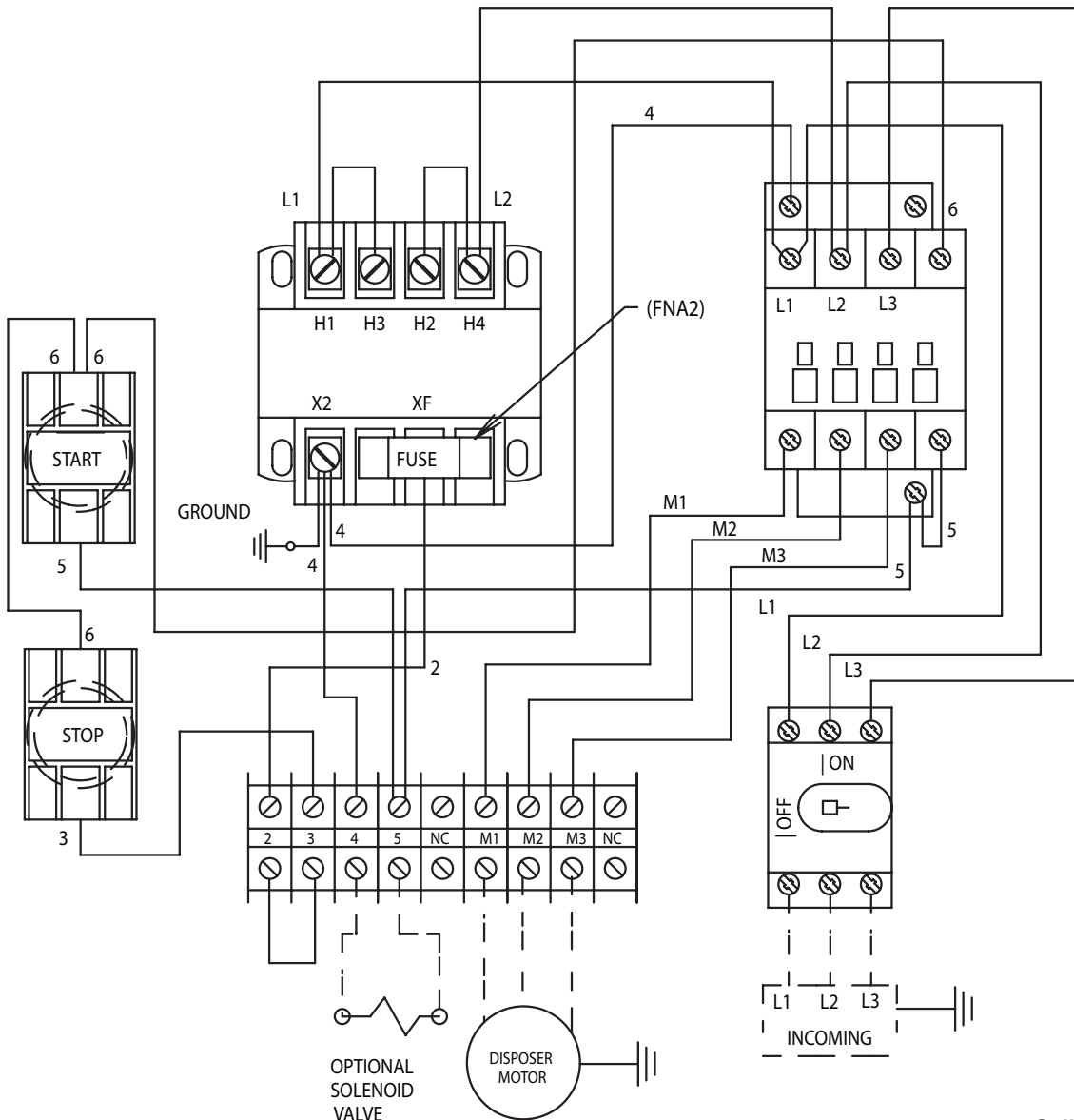
### ⚠ **DANGER** ELECTRIC SHOCK

- Turn off the electrical supply to the disposer before attempting any work on it. Use a voltmeter or circuit tester to ensure that the power is off.
- Installation must conform with local electrical codes.
- All control centers and disposers must be carefully and permanently grounded.
- A properly-fused disconnect must be installed at the electrical supply source for the control center.

### ⚠ **CAUTION** PROPERTY DAMAGE

- Ensure that the control center voltage and phase match the disposer motor and electrical supply. Check nameplates on disposers and control centers for voltage and phase specification.
- The disposer motor wiring connection is shown in the disposer terminal box.

Note: • Red wires = Low Voltage (24 V) control  
• Black wires = Line voltage (208-240 V) control



**Model MSLV**  
**208 – 240 V**  
**3 Ø**  
**1/2 to 10 hp**



NEMA 4



MODEL NO. MSLV-7  
208 – 240 V, 3 Ø, 1/2-10 HP  
PART NO. 14186B



**EMERSON**  
Appliance Solutions

IN-SINK-ERATOR DIVISION  
EMERSON ELECTRIC CO.  
4700 21ST STREET  
RACINE, WI. 53406-5093

Figure 7. 208 – 240 V, 3 Ø, 1/2 to 10 hp Wiring Diagram

**Call Toll Free 1-800-845-8345**  
**for the nearest In-Sink-Erator**  
**Authorized Service Center or**  
**to reach Technical Support.**



## Wiring Diagrams

### ⚠ DANGER ELECTRIC SHOCK

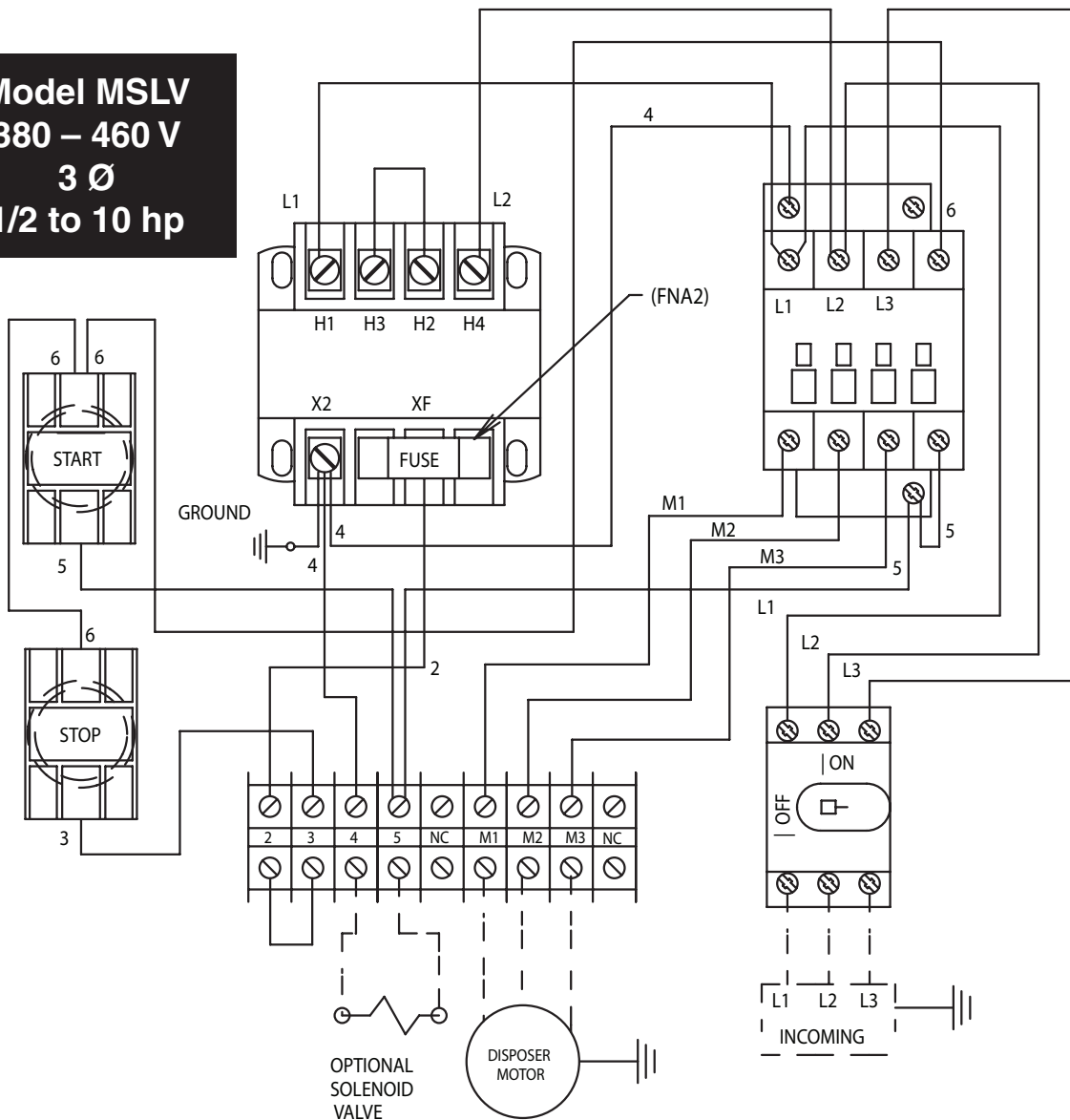
- Turn off the electrical supply to the disposer before attempting any work on it. Use a voltmeter or circuit tester to ensure that the power is off.
- Installation must conform with local electrical codes.
- All control centers and disposers must be carefully and permanently grounded.
- A properly-fused disconnect must be installed at the electrical supply source for the control center.

### ⚠ CAUTION PROPERTY DAMAGE

- Ensure that the control center voltage and phase match the disposer motor and electrical supply. Check nameplates on disposers and control centers for voltage and phase specification.
- The disposer motor wiring connection is shown in the disposer terminal box.

Note: • Red wires = Low Voltage (24 V) control  
• Black wires = Line voltage (380 – 460 V) control

**Model MSLV  
380 – 460 V  
3 Ø  
1/2 to 10 hp**



NEMA 4



MODEL NO. MSLV-8  
380-460w, 3 Ø, 1/2-10 HP  
PART NO. 14186C



**EMERSON**  
Appliance Solutions

IN-SINK-ERATOR DIVISION  
EMERSON ELECTRIC CO.  
4700 21ST STREET  
RACINE, WI. 53406-5093

**Call Toll Free 1-800-845-8345  
for the nearest In-Sink-Erator  
Authorized Service Center or  
to reach Technical Support.**

Figure 8. 380 – 460 V, 3 Ø, 1/2 to 10 hp Wiring Diagram