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## INSTRUCTIONS – PARTS LIST

# System, EPRO, Cart Mounted, Ratio Check, MDX Dispense

Model Number: 3005010  
Control Number: 2008252



**OVERVIEW:** Endisys combines two E-Flow SP on a cart or ram configuration, and use them together to dispense variable ratio materials. Utilizing the Graco EVR Operation controls, makes it easy to control. Adding an additional 3<sup>rd</sup> pump is an options and can be controlled by the EPRO.

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This manual contains **IMPORTANT WARNINGS and INSTRUCTIONS**  
READ AND RETAIN FOR REFERENCE

**Installation:** Have a licensed electrician wire in 230VAC 60A to the 2008252 Disconnect. Connect 80PSI air to system.

**OPERATION:**

- Refer to the Graco Manual (3A8565EN) for operating the Tandem E-PRO w/Graco EVR Operation.

Ram mounted & cart mounted E-PRO. The two heads are communicating and running in together utilizing the Graco EVR Operator controls.



- Refer to the Graco Manual (3A6586EN) for operating the E-FLOW SP electric pumps for controls,

Slave E Flow SP, Dispenses under command from the EPRO. Injecting a 3<sup>rd</sup> stream into the Dispense Head.



## Enabling the Color Pump:

Below shows the ADM enabled for Remote Operation

Below shows the ADM enabled for Manual Operation.

Press to Toggle back and forth between Remote or Manual Operation



## Spare Parts:

### Spare Parts

#### ED290CS1 - Pump A:

Throat Seal Kit - 25D179  
Piston Seal Kit - 25D193  
Fluid Drain Valve Repair Kit - 245145  
Inlet Ball Spring Kits - 245191

### Spare Parts

#### ED115CS1 - Pump B:

Throat Seal Kit - 25D174  
Piston Seal Kit - 25D188  
Fluid Drain Valve Repair Kit - 245145  
Inlet Ball Spring Kits - 245190

### Spare Parts

#### EC100CS3 - Pump C (Color):

Throat Packings - 109252  
Intake Valve Packings - 26A468  
Piston Packings - 184053

# SAFETY WARNINGS

HIGH PRESSURE EQUIPMENT CAN CAUSE SERIOUS INJURY.  
FOR PROFESSIONAL USE ONLY. OBSERVE ALL WARNINGS.

Read and understand all instruction manuals before operating equipment.

## **Fluid Injection Hazard**

### **General Safety**

This equipment generates very high fluid pressure. Spray from the gun, leaks or ruptured components can inject fluid through your skin and into your body and cause extremely serious bodily injury, including the need for amputation. Also, fluid injected or splashed into the eyes or on the skin can cause serious damage.

NEVER point the spray gun at anyone or at any part of the body.

NEVER put hand or fingers over the spray tip.

NEVER try to “blow back” paint; this is NOT an air spray system.

ALWAYS have the tip guard in place on the spray gun when spraying.

ALWAYS follow the **Pressure Relief Procedure**, below, before cleaning or removing the spray tip or servicing any system equipment.

NEVER try to stop or deflect leaks with your hand or body.

Be sure equipment safety devices are operating properly before each use.

### **Medical Alert - Airless Spray Wounds**

If any fluid appears to penetrate your skin, get **EMERGENCY MEDICAL CARE AT ONCE. DO NOT TREAT AS A SIMPLE CUT.** Tell the doctor exactly what fluid was injected.

**Note to Physician:** *Injection in the skin is a traumatic injury. It is important to treat the injury surgically as soon as possible. Do not delay treatment to research toxicity. Toxicity is a concern with some exotic coatings injected directly into the blood stream. Consultation with a plastic surgeon or reconstructive hand surgeon may be advisable.*

### **Spray Tip and Nozzle Safety**

Use extreme caution when cleaning or changing spray tips/nozzles. If the spray tip/nozzle clogs while spraying, engage the gun safety latch/knob immediately. ALWAYS follow the **Pressure Relief Procedure** and then remove the spray tip to clean it.

NEVER wipe off build-up around the spray tip until pressure is fully relieved and the gun safety latch/knob is engaged.

### **Spray Gun and Dispensing Valve Safety Devices**

Be sure all gun/valve safety devices are operating properly before each use. Do not remove or modify any part of the gun/valve; this can cause a malfunction and result in serious bodily injury.

### **Safety Latch**

Whenever you stop spraying, even for a moment, always set the gun safety latch in the closed or “safe” position, making the gun inoperative. Failure to set the safety latch can result in accidental triggering of the gun/valve.

### **Diffuser (on spray guns only)**

The gun diffuser breaks up spray and reduces the risk of fluid injection when the tip is not installed. Check diffuser operation regularly. Follow the **Pressure Relief Procedure**, below, then remove the spray tip. Aim the gun into a metal pail, holding the gun firmly to the pail. Using the lowest possible pressure, trigger the gun. If the fluid emitted is not diffused into an irregular stream, replace the diffuser immediately.

### **Tip Guard (on spray guns)**

ALWAYS have the tip guard in place on the gun while spraying. The tip guard alerts you to the fluid injection hazard and help reduce, but does not prevent, the risk of accidentally placing your fingers or any part of your body close to the spray tip.

### **Trigger Guard**

Always have the trigger guard in place on the gun when spraying to reduce the risk of accidentally triggering the gun if it is dropped or bumped.

### **Pressure Relief Procedure**

To reduce the risk of serious bodily injury, including fluid injection, splashing fluid or solvent in the eyes or on the skin, or injury from moving parts or electric shock, always follow this procedure whenever you shut off the sprayer, when checking or servicing any part of the spray system, when installing, cleaning or changing spray tips, and whenever you stop spraying.

1. Engage the gun safety latch
2. Turn off the air to the motor
3. Close the bleed-type master air valve (required)
4. Disengage the gun safety latch.
5. Hold a metal part of the gun firmly to the side of a grounded metal pail, and trigger the gun to relieve pressure.
6. Engage the gun safety latch.
7. Open the pressure drain valve, having a container ready to catch the drainage. Leave the valve open until you are ready to spray again.
8. Leave the drain valve open until you are ready to spray again.

*If you suspect that the spray tip or hose is completely clogged, or that pressure has not been fully relieved after following the steps above, wrap a rag around the tip guard retaining nut or hose end coupling and VERY SLOWLY loosen the part to relieve pressure gradually, then loosen completely. Now clear the tip or hose.*

### **Fire or Explosion Hazard**

Static electricity is created by the high velocity flow of fluid through the pump and hose. If every part of the spray equipment is not properly grounded, sparking may occur, and the system may become hazardous. Sparking may also occur when plugging in or unplugging a power supply cord. Sparks can ignite fumes from solvents and the fluid being sprayed, dust particles and other flammable substances, whether you are spraying indoors or outdoors, and can cause a fire or explosion and serious bodily injury and property damage. Do not plug in or unplug any power supply cords in the spray area when there is any chance of igniting fumes still in the air.

### **Equipment Misuse Hazard**

#### **General Safety**

Any misuse of the spray equipment or accessories, such as over pressurizing, modifying parts, using incompatible fluids and chemicals, or using worn or damaged parts, can cause them to rupture and result in injection or other serious bodily injury, fire, explosion or property damage.

NEVER alter or modify any part of this equipment; doing so could cause it to malfunction.

CHECK all spray equipment regularly and repair or replace worn or damaged parts immediately.

Read and follow the fluid and solvent manufacturers recommendations regarding the use of protective clothing and equipment.

#### **System Pressure**

NEVER exceed the maximum air pressure to the motor as stated on the front cover, and NEVER exceed the stated maximum working pressure of the pump or of the lowest rated component in your system. Refer to your separate pump instruction manual.

Be sure that all spray equipment and accessories are rated to withstand the maximum working pressure of this system.

#### **Fluid Compatibility**

BE SURE that all fluids and solvents used are chemically compatible with the wetted parts shown in the Technical Data on the back cover. Always read the fluid and solvent manufacturer's literature before using them in this sprayer.

If you experience any static sparking or even a slight shock while using this equipment, **STOP SPRAYING IMMEDIATELY**. Check the entire system proper grounding. Do not use the system again until the problem has been identified and corrected.

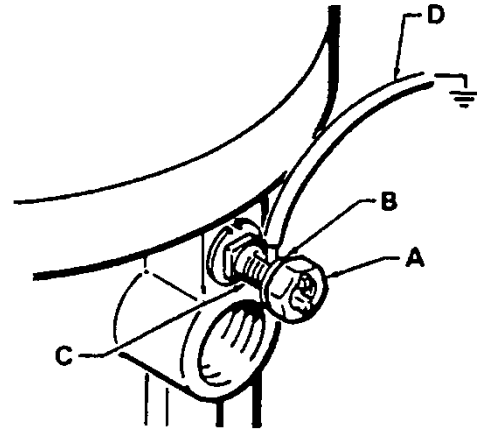
## Grounding

To reduce the risk of static sparking, ground the sprayer and all other spray equipment used or located in the spray area. CHECK your local electrical code for detailed grounding instructions for your area and type of equipment. BE SURE to ground all of this spray equipment:

1. Pump: use a ground wire and clamp as instructed at the right.
2. Air hoses: use only grounded air hoses.
3. Fluid hoses: use only grounded fluid hoses.
4. Air compressor: follow manufacturer's recommendations.
5. Spray gun or dispensing valve: grounding is obtained through connection to a properly grounded fluid hose and pump.
6. Fluid supply container: according to your local code.
7. Object being sprayed: according to your local code
8. All solvent pails used when flushing: according to local code. Use only metal pails, which are conductive, placed on a grounded surface. Do not place the pail on a non-conductive surface, such as paper or cardboard, which interrupts the grounding continuity.
9. To maintain grounding continuity when flushing or relieving pressure: always hold a metal part of the gun/valve firmly to the side of a grounded metal pail, then trigger the gun/valve.

## Moving Parts Hazard

The piston in the air motor, located behind the air motor plates, moves when air is supplied to the motor. Moving parts can pinch or amputate your fingers or other body parts. KEEP CLEAR of moving parts when starting or operating the sprayer. Follow the **Pressure Relief Procedure**, below, before checking or servicing the sprayer to prevent it from starting accidentally.



To ground the air motor, loosen grounding lug locknut (A) and washer (B). Insert one end of a 12 ga (1.5 mm<sup>2</sup>) minimum ground wire (D) into slot in lug (C) and tighten locknut securely.

Connect the other end of the wire to a true earth ground. Always check your local code. See ACCESSORIES for an available ground wire and clamp.

## Flushing Safety

Reduce the risk of fluid injection injury, static sparking, or splashing, follow the Pressure Relief Procedure and remove the spray tip (spray guns or spray valves only) before flushing. Hold a metal part of the gun firmly to the side of a metal pail and use the lowest possible fluid pressure during flushing.

## Hose Safety

High pressure fluid in the hoses can be very dangerous. If the hose develops a leak, split or rupture due to any kind of wear, damage or misuse, the high pressure spray emitted from it can cause a fluid injection injury or other serious bodily injury or property damage.

**ALL FLUID HOSES MUST HAVE SPRING GUARDS ON BOTH ENDS!** The spring guards help protect the hose from kinks or bends at or close to the coupling which can result in hose rupture.

TIGHTEN all fluid connections securely before each use. High pressure fluid can dislodge a loose coupling or allow high pressure spray to be emitted from the coupling.

NEVER use a damaged hose. Before each use, check entire hose for cuts, leaks, abrasion, bulging cover, or damage or movement of the hose couplings. If any of these conditions exist, replace the hose immediately. DO NOT try to recouple high pressure hose or mend it with tape or any other device. A repaired hose cannot contain the high pressure fluid.

HANDLE AND ROUTE HOSES CAREFULLY. Do not pull on hoses to move equipment. Do not use fluids or solvents which are not compatible with the inner tube and cover of the hose. DO NOT expose hose to temperatures above 180°F (82°C) or below -40°F (-40°C).

### **Hose Grounding Continuity**

Proper hose grounding continuity is essential to maintaining a grounded spray system. Check the electrical resistance of your air and fluid hoses at least once a week. If your hose does not have a tag on it which specifies the maximum electrical resistance, contact the hose supplier or manufacturer for the maximum resistance limits. Use a resistance meter in the appropriate range for your hose to check the resistance. If the resistance exceeds the recommended limits, replace it immediately. An ungrounded or poorly grounded hose can make your system hazardous. Also read **FIRE OR EXPLOSION HAZARD**.

## ***TERMS***

**WARNING:** Alerts user to avoid or correct conditions that could cause bodily injury.

**CAUTION:** Alerts user to avoid or correct conditions that could cause damage to or destruction of equipment.

**NOTE:** Identifies essential procedures or extra information.





## **ENDISYS Warranty and Disclaimers**

### **WARRANTY**

EnDiSys warrants all equipment manufactured by it and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized EnDiSys distributor to the original purchaser for use. As purchaser's sole remedy for breach of this warranty, EnDiSys will, for a period of three months of operation for time of sale, repair or replace any part of the equipment proven defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with EnDiSys's written recommendations.

This warranty does not cover, and EnDiSys shall not be liable for, any malfunctions, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident tampering, or substitution of non-EnDiSys component parts. Nor shall EnDiSys be liable for malfunction, damage or wear caused by the incompatibility with EnDiSys equipment of structures, accessories, equipment or materials not supplied by EnDiSys, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by EnDiSys.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized EnDiSys distributor for verification of the claim. If the claimed defect is verified, EnDiSys will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor and transportation.

### **DISCLAIMERS AND LIMITATIONS**

The terms of this warranty constitute purchaser's sole and exclusive remedy and are in lieu of any other warranties (express or implied), including warranty of merchantability or warranty of fitness for a particular purpose, and of any non-contractual liabilities, including production liabilities, based on negligence or strict liability. Every form of liability for direct, special or consequential damages or loss is expressly excluded and denied. In no case should EnDiSys's liability exceed the amount of the purchase price. Any action for breach of warranty must be brought within one (1) year of the date of sale.

### **EQUIPMENT NOT COVERED BY ENDISYS WARRANTY**

EnDiSys makes no warranty, and disclaims all implied warranties of merchantability and fitness for a particular purpose, with respect to accessories, equipment, materials, or components sold but not manufactured by EnDiSys. These items sold, but not manufactured by EnDiSys (such as electric motors, switches, hose, etc.) are subject to the warranty, if any, of their manufacturer. EnDiSys will provide purchaser with reasonable assistance in making any claim for breach of these warranties.