Nordson EFD MicroCoat® Pump System
Maintenance & Parts Guide

MC600M Series
MC600M-120 & MC600M-220

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### RoHS Standard Related Declaration (China RoHS Hazardous Material Declaration)

<table>
<thead>
<tr>
<th>Part Name</th>
<th>Toxic or Hazardous Substances and Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lead (Pb)</td>
</tr>
<tr>
<td>All Brass Fittings</td>
<td>X</td>
</tr>
</tbody>
</table>

* 表示该产品所含有的危险成分或有害物质含量依照EIP-A, EIP-B, EIP-C 的标准低于SJ/T11363-2006 限定要求。
* Indicates that this toxic or hazardous substance contained in all the homogeneous materials for this part, according to EIP-A, EIP-B, EIP-C is below the limit requirement in SJ/T11363-2006.

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Introduction

The MC600M System is a gear-type pump that provides consistent fluid feed to the MC800 system. Features include a 6 gallon capacity fluid tank, low fluid level detection switch, removable filter screen, lubrication in-line filter and fluid regulator. To obtain the maximum performance from your MC600M, please read through these instructions carefully.

Our goal is to build not only the finest equipment but also to build a long-term customer relationship founded on superb quality, service, value and trust.

Specifications

Tank size: 23.0 W x 26.9 H x 41.0 D cm (9.0” x 10.6” x 16.0”)
Weight: 14.8 kg (32.6 lb)
Capacity: 22.7 L (6 gallons)
Construction:
- Tank: 18 gauge steel
- Gears: hardened steel
- Bearings: bronze oilite
- Level switch: type 304 stainless steel

Motor:
- Voltage: 90-125 VAC 50/60 Hz (MC600M-120)
- 208-230 VAC 50/60 Hz (MC600M-220)
- HP: 1/8
- Phase: Single
- Amps: 2.4 maximum
- Service factor: 1.0
- Ratings: UL - E6312, CSA - LR37479, NEMA Class B

Operating pressure: 30 psi (2.07 bar) maximum
Low level switch rating: 20VA, 50W

Note: Specifications and technical details are subject to engineering changes without prior notification.
How the System Operates

The MC600M pump system is a low pressure gear-type pump. Lubricant is drawn in on one side of the gears ①, carried around to the outside and forced to the output. If flow capacity of the pump is not used, the excess lubricant will bypass an internal relief valve ② and recirculate back into the tank.

The 30 psi pump output is further reduced by a pilot-operated fluid regulator ③ controlled by the tank pressure regulator on the MC800 controller. The fluid regulator provides an operating range of 15 psi (1.03 bar) to 30 psi (2.07 bar).

Important Notice: Caution should be used when selecting a lubricant to use with the MC600M system. Fluids with a flash point lower than 38°C (100°F) are not recommended, as they could present a fire hazard. Examples of products with low flash points are kerosene, acetone, general mineral spirits, naphtha and other solvents. Please check the product MSDS sheet carefully before using the intended product in this
Pump Tank Features

1. Low Level Switch
   Prevents the system from operating without lubricant when connected to the emergency stop circuit. Switch opens when the tank level is near empty.

2. Fluid Bypass Valve
   Automatically bypasses excess flow capacity of the pump. Bypass lubricant recirculates into the storage tank.

3. Inlet Filter Screen
   Screens out contaminants that may enter the inlet of the pump.

4. Fill Hole Cover
   Prevents contaminants from entering the tank.

5. Removable Filter Screen
   Screens out contaminants that may enter during the tank filling process.

6. Shut-off Valve
   Used to block fluid flow when servicing the filter.

7. Bleed Valve
   Used to purge air when priming the system.

8. Fluid Regulator
   Pilot-operated regulator provides control of fluid pressure.

9. Lubricant Filter
   

![Diagram of Pump Tank Features](image-url)
System Assembly

First, place the MC600M system away from traffic areas and position the tank to allow for convenient refilling.

DANGER: HIGH VOLTAGE! Pump must be wired, grounded and fused in accordance with local regulatory requirements.

1. Before connecting the power, view the label located on the motor to ensure that the voltage matches your input voltage. If not, reconfigure the wiring inside of the motor terminal cover to match the schematic on the side of the motor.

2. Connect the power.

3. Mount the filter and regulator assembly on the MicroCoat stand or other suitable mounting location. Ensure that the filter hangs vertically as illustrated.

4. Connect the fluid feed line from the MC600M to the shut-off valve on the inlet side of the filter housing. Secure with clamps supplied.

5. Connect the black air line connection from the MC800 controller tank air outlet to the fluid regulator air inlet as shown.

6. Connect the fluid feed line from the regulator output to the fluid inlet of the MC800 controller as shown.

7. Lubricate the oil filter gasket lightly and install the filter onto the housing. Tighten the filter 3/4 turn by hand. Do not overtighten.

8. Rotate the inlet shut-off valve to the “OFF” position.

9. Refer to the MicroCoat system operating manual for wiring the press emergency stop circuit and connecting the low level switch cable to the controller.
Note: Replace filter element (part #4000FLT) every 6 months or 1000 hours of operation.
System Setup

Check all connections.

**WARNING:** DO NOT RUN PUMP DRY.

1. Check that all connections are correct and secure.
2. Lift the cover of the MC600M and fill the tank with clean lubricant.

**Caution:** See note on page 4 regarding fluid flash point.

3. Close the cover.
4. Place the “System Pressure” on the MC800 to the “ON” position.
5. Set the MC800 tank pressure regulator to a minimum of 15 psi (1.03 bar).
6. Start the MC600M to begin lubricant flow to the filter assembly.
7. Slowly open the shut-off valve. Check for leaks.
8. Install the filter housing purge line into the bleed valves as shown in the system diagram. Open each bleed valve and direct the purge flow into a container. Purge slowly until all air is eliminated. Do this for both bleed valves.
Preventive Maintenance

The MC600M is designed for long life with minimal maintenance. To ensure trouble-free performance, follow these precautions and preventive maintenance steps.

1. Always use clean lubricant.
2. Check for residue at the bottom of the tank and clean if necessary. Keep cleaners away from the motor, lower motor bearing and wiring.
3. The electric motor requires no lubrication.
4. Do not restrict the vents on the motor. Keep oil and debris from accumulating around the motor.
5. Do not remove the filter screen from the pump intake in order to avoid pump damage.
6. Replace the lubricant filter (part # 4000FLT) every 6 months or 1000 hours of operation.

**CAUTION:** Before performing any maintenance, set the “System Pressure” to the “OFF” position and disconnect power.
## Troubleshooting Guide

<table>
<thead>
<tr>
<th>Problem</th>
<th>Corrections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lubrication flow is reduced.</td>
<td>1. Ensure that tank air pressure is set at a minimum of 15 psi (1.03 bar).</td>
</tr>
<tr>
<td></td>
<td>2. Replace the oil filter.</td>
</tr>
<tr>
<td></td>
<td>3. Ensure that the shut-off valve is fully open.</td>
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<td></td>
<td>4. Check the fluid inlet screen to ensure that there is no debris blocking the inlet.</td>
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<tr>
<td></td>
<td>5. Check the hoses to ensure there are no bends or restrictions.</td>
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<tr>
<td></td>
<td>6. Viscosity of the lubricant is too heavy (500 SUS maximum).</td>
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<tr>
<td></td>
<td>7. Check the voltage, cycle and phase to ensure that the pump is operating on the right electrical current.</td>
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<tr>
<td></td>
<td>8. Ensure that the pump inlet is submersed.</td>
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<tr>
<td></td>
<td>9. Check the relief valve for dirt or chips lodging on the valve seat, preventing the ball from closing and causing liquid to constantly bypass.</td>
</tr>
<tr>
<td></td>
<td>10. Check that motor rotation is free and does not bind. The motor and pump may not be aligned. If there is binding, loosen the (2) nuts that hold the motor to the pump casting, rotate the pump casting until it is aligned and the pump runs freely. Retighten the nuts carefully.</td>
</tr>
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</table>

If trouble cannot be corrected, or if you need further assistance, please call.
In the U.S., 800-556-3484. In Europe, call +44 (0) 1582 666334. In Asia, call +86 (21) 3866 9006. In all other areas, call your authorized EFD distributor or +1-401-431-7000.
Accessories

Dual Float Switch
#7008012: For tank autofill applications. Mounts directly in the plugged hole on the MC600M. Includes (1) dual float switch, (1) bulkhead union and (1) cord strain relief.

Replacement Part Numbers

- 7002004 6mm OD urethane tubing, blue
- 7022195 Push-in fitting
- 7017038 3/8" OD x 1/4" ID tubing, polyethylene
- 7017419 Shut-off valve
- 7017421 Fluid regulator
- 7017449 Filter assembly gear pump intake
- 7016693 Oil resistant power cord
- 7017347 Lubricant filter element (4) per box
- 7020470 Float switch kit
- 7022156 MicroCoat filter assembly
EFD ONE YEAR LIMITED WARRANTY

Seller warrants the EFD MicroCoat MC600M series pump system and components ("Product") to be free from defects in materials and workmanship for one year from date of purchase, provided Product is installed and operated in accordance with factory recommendations and instructions.

Seller will repair or replace free of charge any part of the equipment thus found defective, on authorized return of the part or product prepaid to our factory during the warranty period. Repaired or replaced parts will be warranted for the remainder of the original one-year warranty.

This warranty specifically excludes damages or wear to Product caused by misuse, abrasion, corrosion, negligence, accidents, faulty installation or by the use of any contaminated or incompatible dispensing material with the Product. This warranty does not apply to consumable parts (including, but not limited to bearings, filters, or tubing), which require periodic replacement due to normal wear and tear.

The sole liability of Seller and the exclusive remedy of Buyer arising out of the supply or use of Product, whether arising under contract, tort (including negligence), strict liability or otherwise shall be the modification, adjustment, repair or replacement of the Product, or refund limited to the Product price.

SELLER AND BUYER AGREE THAT, IN CONSIDERATION OF THE ABOVE EXPRESS WARRANTY, ALL OTHER WARRANTIES AND GUARANTEES, OTHER THAN TITLE, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED.