
# FLORALWALL INSTALLATION MANUAL v2.2

**Floraline Display Products Corp.**
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## Special Notes

- During installation, DO NOT CUT OR REMOVE BANDING STRAPS FROM THE WATERING ROWS. Only row number one needs to be removed for proper installation. Removing other rows may cause the fixture to malfunction.

- Move floral fixtures as near to the permanent location as possible before removing shipping braces, skids or rollers.

- All Floraline fixtures are lined-up and numbered at the factory and level at time of manufacture. Insure multicase fixtures are lined-up in the field by the same number sequence, located on the handrail, and that all fixtures are leveled from front-to-back and from end-to-end. End-to-end leveling should be done from the mark placed on the middle of the lower sill. In a multicase line-up, move cases as close together as possible. Install 3/8-16x3 long hex bolt, washers and nuts in line-up holes accessible from display area at base. Use 1 3/8" washers and nuts in line-up holes. Rotate tightening of the line-up bolts alternately until cases are pulled up tight and joint is completely sealed. Assist case tightening by bumping opposite end of the case with a pry bar.

- Remove skids and shipping braces. Install approximately a 5/16" bead of sealer at one end of the case as noted by the heavy line on the cross-section.

## Installation

### Location and Leveling of the Fixture

- All Floraline fixtures are factory leveled and, in the field, the floral fixture must be located on a firmly based floor and leveled within +/- 1/16".

### Joining Two or More Like Units

- Two or more fixtures of like model can be joined together to form a continuous line-up. Before lining up floral fixtures, inspect refrigeration lines, electrical connections and controls to insure fixtures are in proper line-up and sequence.
- Multicase floral fixtures are factory aligned and numbered. Insure fixtures are lined-up in the field according to the proper number sequence.

### Waste Outlet Specifications and Installation

- The cases are equipped with a 1 ½" MPT waste outlet connection which terminates in the center of the floral fixture below the insulated bottom.
- Improperly installed drainpipes can seriously effect the operation of the fixture and result in costly maintenance.

**When installing the drainpipe it is important to remember to:**

- Provide a drain space between the drainpipe and the floor drain or sewer connection and always use a 90° fitting, NEVER a 45° fitting.
- NEVER use a double water seal
- NEVER use a pipe smaller than 1 ½"
- Always provide as much fall as possible in the drainpipe. One inch of fall for each 4' of drain would provide an adequate amount of fall for proper drainage.
- Avoid long runs in the drainpipe that would make it impossible to provide adequate fall.
- DO NOT allow the drainpipe to come in contact with non-insulated suction lines.

## Refrigeration

### Basic Operation

- Standard discharge air temperature range should be between 36° - 38°F and the coil should be set to + 25°F suction.
- The unit should be controlled by thermostat or solenoid suction stop but NEVER liquid line solenoid pump down.
- Proper refrigeration control will insure high humidity levels, constant temperatures and will maximize floral life.

### Expansion Valve Specifications

- The expansion valve furnished with your floral fixture has been sized for maximum coil efficiency. An R-22 expansion valve is standard in all Floraline display fixtures.

#### Adjusting the Superheat

- Superheat should be set to 6°- 8° F.
- Place a thermocouple under the expansion valve bulb.
- Read the suction line pressure as near the coil as possible.
  - If at the condensing unit, estimate the suction line loss as 2 PSIG.
- Convert coil suction pressure to temperature.
- The difference between coil temperature and the thermocouple is superheat.
- DO NOT set the superheat until the fixture has pulled down to operating temperature. Also, NEVER open or close valve over ½ turn between adjustments.

**IMPORTANT**

- Seal around the refrigeration lines after connections are made.
- Keep direct flames away from the bottom of the floral fixture as heat will disintegrate the fixture's bottom and insulation.
- Always use a heat shield when welding near the bottom of the fixture.

## Heat Exchanger

- Heat exchangers are specified in the Floraline fixture and aid to increase operating efficiency and reduce frosting and flood back to the compressor.

## Dehydration of Refrigeration Lines

- After installing refrigeration lines, the lines should be blown out before making the final connection at the fixture of the condensing unit.
- Use dry nitrogen to prevent any foreign matter being left in the lines.
- Keep pressure below 250 pounds.
- To prevent scaling due to brazing, dry nitrogen should be allowed to flow through the lines during the brazing process.

## Defrost Cycle

- Off time defrost is standard on Floraline fixtures.
- The fans run continuously and defrost termination is by pressure or time (fail safe).
- Standard defrost occurs from 30 minutes, twice daily.

## Temperature Control

- On single condensing unit systems, a thermostat should be used to control temperature.
- On parallel units, the temperature control can be provided by the EPR valve, thermostat or solenoid suction stop.
- Since many variables are present in each installation, such as store temperature and length of tubing runs, set temperature will vary.

# Electrical

### Electrical Raceway

- An electrical raceway is provided with each floral fixture for running the fan and anti-sweat heaters from case to case without using conduit.
- This is an approved method by the Underwriters' Laboratories.
- Wiring must be run in accordance with local and national electrical codes.

### Electrical Connections

- All field connections are made in the electrical raceway.
- Make sure proper voltage is supplied to your floral fixture.
- Check fixture nameplate for fan and anti-sweat voltage.

### Grounding the Fixture

- Fan motors must operate continuously and the panel must be marked sufficiently to prevent the fan motors from being turned off accidentally.
- When floral fixtures are multiplexed, add the total of these amperage values to determine wire size and circuit protection.

# Self-Watering System

### Description

- Located on the top center of the fixture is the control box. The left side of the control box has a 120-volt control switch and a 120 volt replaceable 2 amp fuse. Inside, one fused 75 VA/24 volt transformer supplies power for fill solenoids for the water manifolds. The solenoid box is located to the top left side of the fixture. Also, one fused 50 VA/24 volt transformer supplies power for the flush solenoids for the water manifolds. These solenoids are located to the top right side of the fixture.
- In the control box, you will find an electronic timer. At the predetermined time, one flush solenoid will energize and open the drain valve on a preset manifold.
    - As water drains during the flush cycle, the float is disabled to allow all the water to drain from the row. Once the flush cycle is over, the float is reactivated and normal water levels will be maintained.
    - *Note: the electronic timer is preset at the factory for 220 seconds per flush, once every 24 hours.*

### First Time Activation of the Watering System

- When the system is filled with water for the first time, a rapid cycling of the solenoids may occur.

- This is due to a 5 – 20 PSI safety pressure control located on the fill solenoid box on the top of the fixture. It is activated by lower water pressure because all manifolds are calling for water.
- The rapid cycling will continue until the proper water level is reached.
- Check the water level in the manifolds when full to assure the case is level.

## Maintenance

### Replacing the Water Filters

- The water filters should be replaced, using only filters from Floraline Display, every six (6) months.

### Water Strainer Cleaning

- The water strainer should be cleaned once each year.
- DO NOT over tighten the strainer cover. Over tightening the water strainer cover will cause cracking and a water leak.

### Fan Motor Maintenance

- The motors employed are permanently oiled for the life of the motor and require no periodic maintenance.
- The fans are wired according to the enclosed wiring diagram and must run continuously.

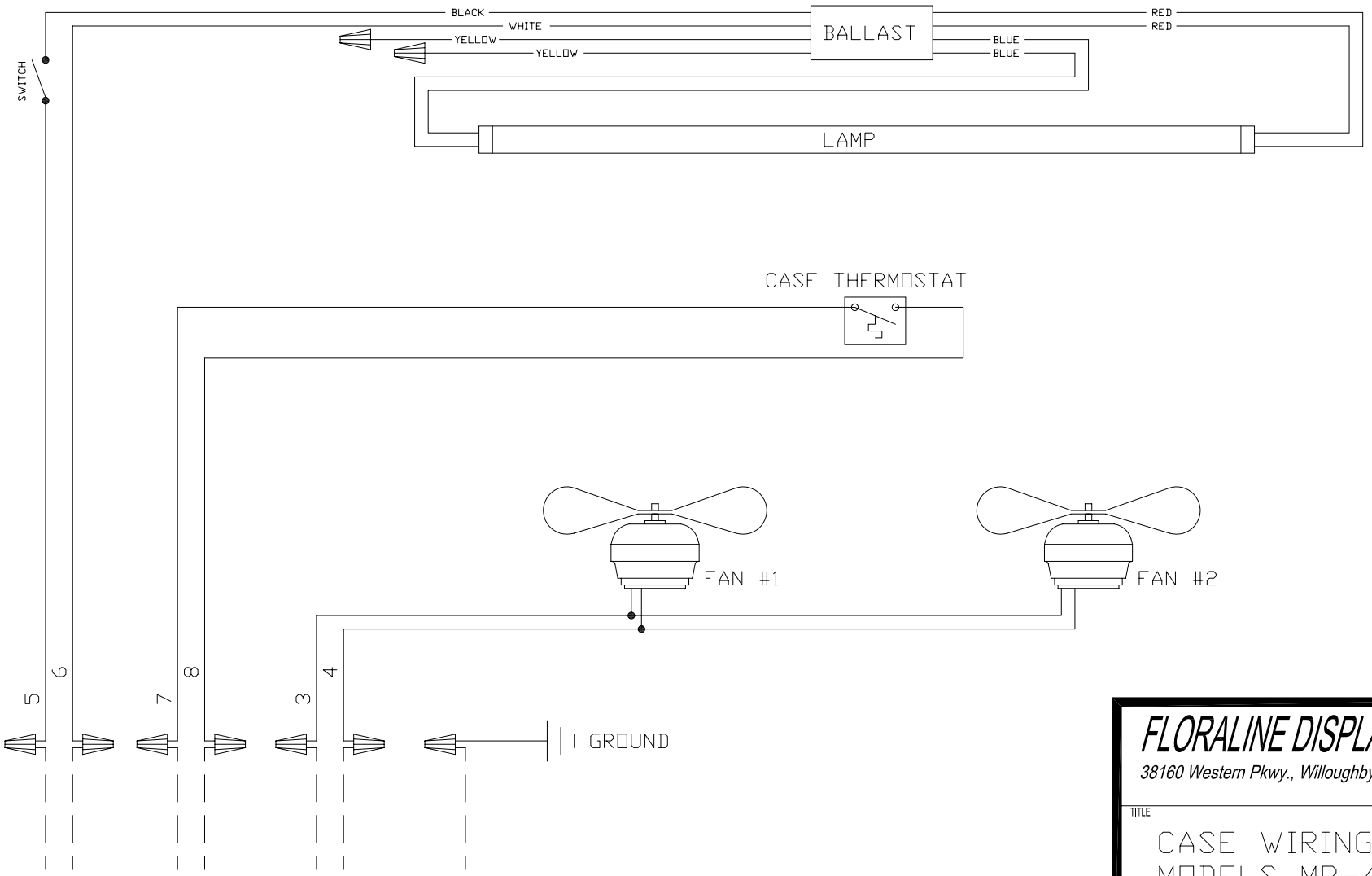
### Regular Fixture Cleaning and Maintenance

- A mild soap and water solution is recommended for the outer surface of the fixture.
- DO NOT use cleaners containing abrasive materials that will scratch and dull the finish.
- NEVER introduce water into the fixture faster than the waste outlet can carry it away.
- Floral vases can be cleaned with a soft cloth and a solution of chlorine bleach and water as needed. *Always check company policy before using bleach in your floral department.*
- When cleaning lighted shelves, wipe down the shelf with a damp sponge or soft cloth.
  - Be sure not to allow water to enter the light rails.
  - DO NOT use a hose or submerge shelves in water.
- Be sure floral fixture and all electrical components are OFF before washing your floral fixture.

## Miscellaneous

### Shipping Damage

- All equipment should be examined for shipping damage before and during unloading.
- If there is any damage, the carrier should be notified immediately and an inspection requested.
- The delivery receipt MUST be noted that the equipment was received damaged.
- If damage is of a concealed nature, you must contact the carrier immediately or no later than three (3) days following delivery.
- The consignee for all damages must file a claim with the carrier.




FIELD WIRING (- - - - - - - - - )
USE COPPER CONDUCTORS ONLY RATED 60 DEGREE C.
ALL WIRING TO COMPLY WITH APPLICABLE CODES.

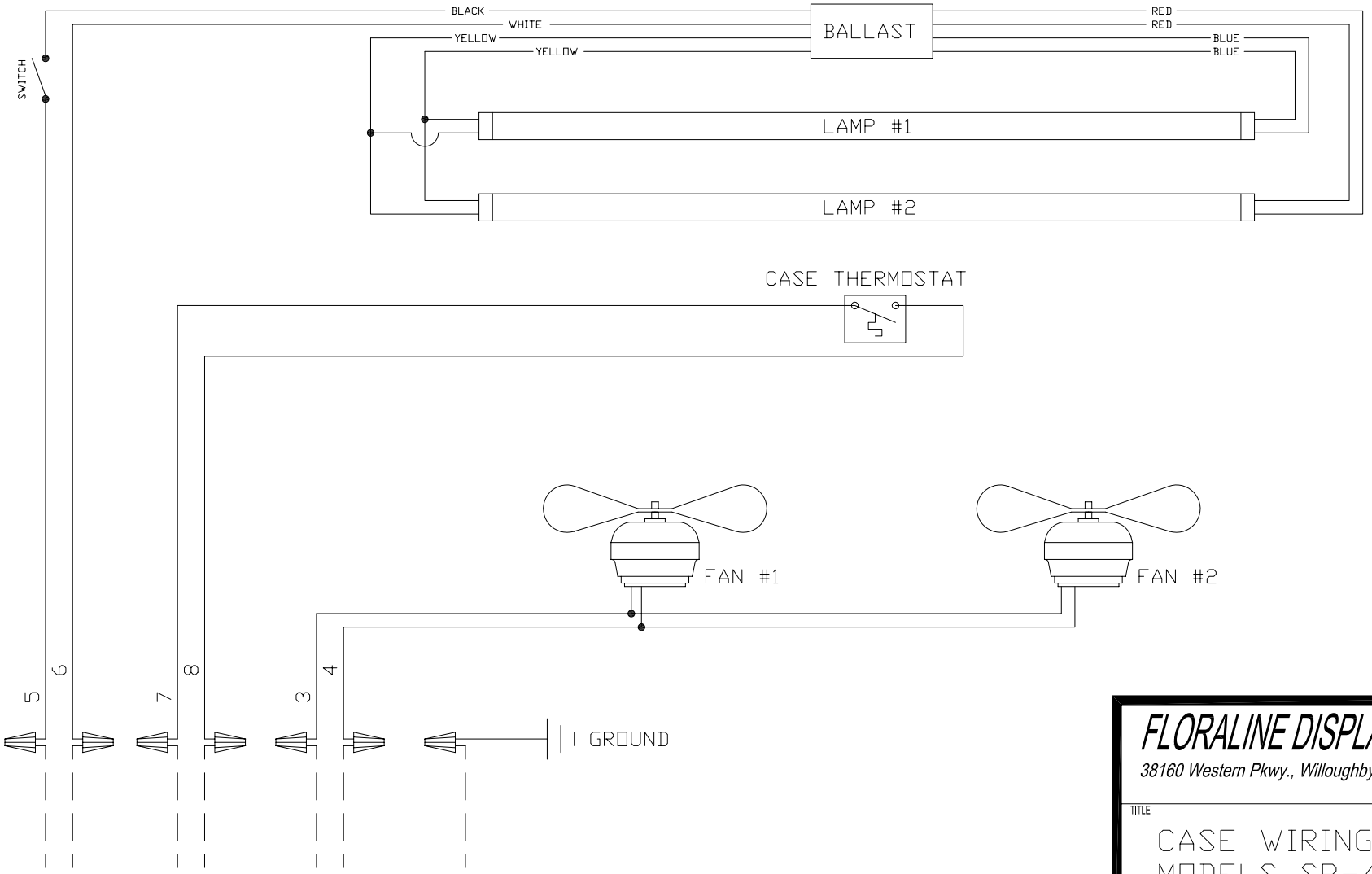
**FLORALINE DISPLAY PRODUCTS**

*38160 Western Pkwy., Willoughby, OH 44094*

TITLE

# CASE WIRING SCHEMATIC MODELS MP-4, -6, & -8

| DRAWN | DATE | SCALE |
|---|---|---|
| DLM | 12/16/99 | N/A |
| APPRV'D. | DATE | SHEET |
| | | |
| JOB NO. | DWG. | REV. |
| | MPCASEWIRING8FT | 0 |

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ALL WIRING TO COMPLY WITH APPLICABLE CODES.

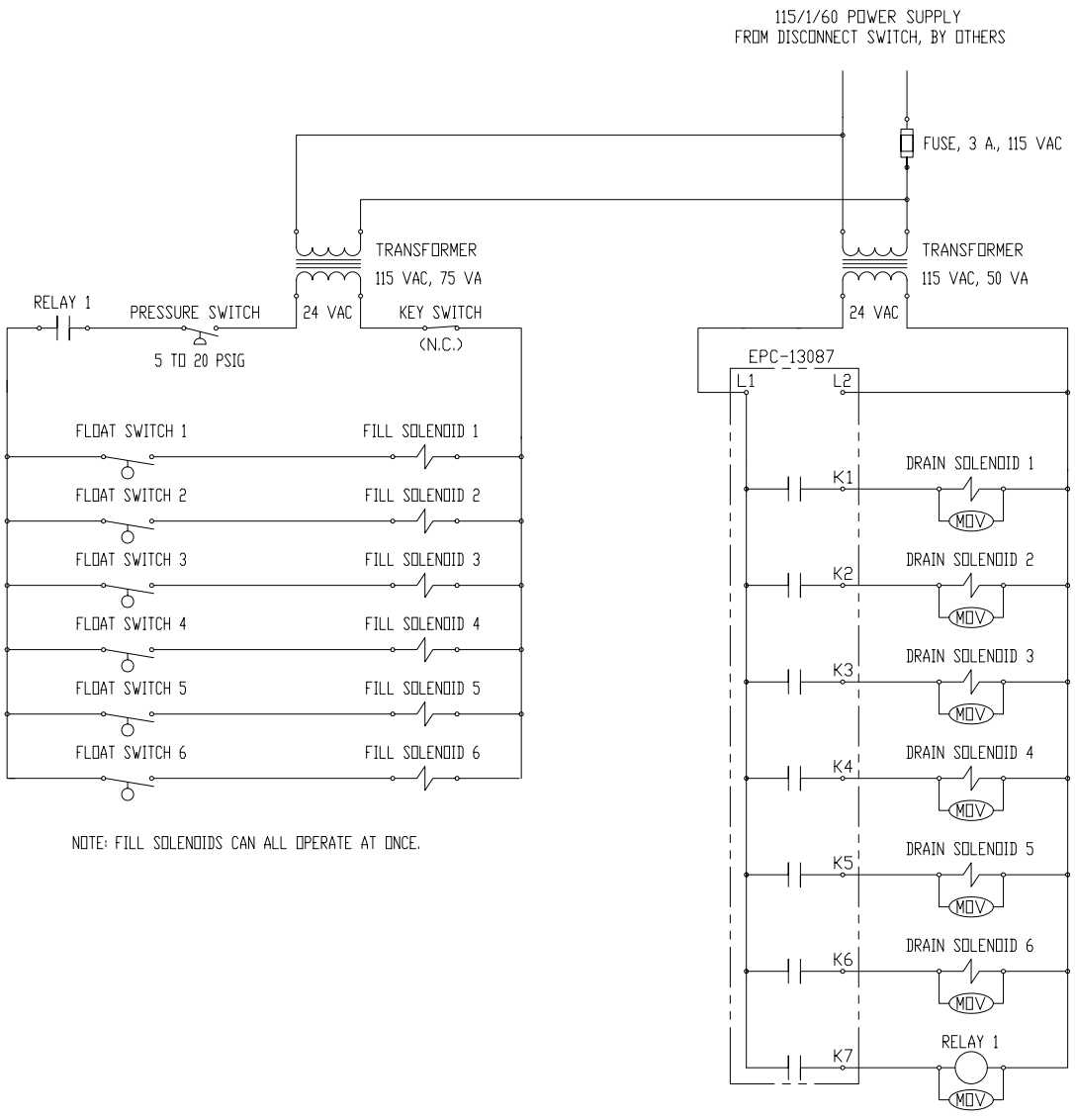
**FLORALINE DISPLAY PRODUCTS**

*38160 Western Pkwy., Willoughby, OH 44094*

TITLE

# CASE WIRING SCHEMATIC MODELS SP-4, -6, & -8

| DRAWN | DATE | SCALE |
|---|---|---|
| DLM | 12/15/99 | N/A |
| APPRV'D. | DATE | SHEET |
| | | |
| JOB NO. | DWG. | REV. |
| | SPCASEWIRING8FT | 0 |




NOTE: FILL SOLENOIDS CAN ALL OPERATE AT ONCE.

NOTE: DRAIN SOLENOIDS MUST OPERATE ONE AT A TIME.

# FLORALINE DISPLAY PRODUCTS

*38160 Western Pkwy., Willoughby, OH 44094*

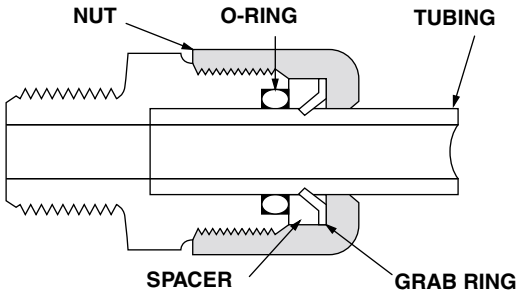
TITLE

## SP & MP FILL & FLUSH WIRING SCHEMATIC

| DRAWN | DATE | SCALE |
|---|---|---|
| DLM | 01-21-00 | N/A |
| APPRV'D. | DATE | SHEET |
| | | |
| JOB NO. | DWG. | REV. |
| | FELECT2 | 0 |

# Fast & Tite Thermoplastic Fittings

Fast & Tite fittings are the most complete line of plastic fittings for thermoplastic tubing in the industry.




Fast & Tite thermoplastic tube fittings from Parker will prove to be the answer to your tubing connector needs. Patented Fast & Tite fittings install in seconds without tools and provide a tight, sure, leak proof seal without clamps or adjustments. A unique 302 stainless steel grab ring, for tube retention, coupled with a Nitrile O-Ring for positive seal, assures good tube connection with only hand tight assembly. A plastic grab ring is also available upon special request. Vibration or tube movement will not break the seal and cause leakage. Preassembled in either highly inert polypropylene, or strong, durable nylon, Fast & Tite fittings are the answer to full flow thermoplastic tubing system requirements.

When necessary, Fast & Tite fittings can be disassembled by hand for fast system drainage. Fittings are completely reusable. Parts are easily replaced. O-Rings are standard size and universally available. (For applications requiring other than Nitrile O-Rings, consult your Fast & Tite distributor.)

Use Fast & Tite fittings with Parker Parflex tubing or other plastic, glass or metal tubing for low pressure or vacuum lines up to the pressure limits shown below.

All ingredients in Fast & Tite fittings meet FDA and NSF requirements for food contact and potable water.

Working Pressures for Fast & Tite Fittings

| Air-Oil-Water Pressure in PSI | | | |
|---|---|---|---|
| **Tube O. D., in.** | **Up to 75°F** | **76° to 125°F** | **126° to 175°F** |
| 1/4 | 300 | 300 | 300 |
| 5/16 | 300 | 300 | 300 |
| 3/8 | 250 | 250 | 150 |
| 1/2 | 200 | 200 | 150 |
| 5/8 | 150 | 100 | 50 |

Ratings are based on use with copper tubing, and in all cases represent the maximum recommended working pressure of the fitting only. Working pressures (vs. temperatures) of other types of tubing may limit the tube and fitting assembly to pressures lower than shown above. Consult factory for recommendations on applications other than shown above.

**Temperature Range:**

Black/White Polypropylene: 0°F (-18°C) to +212°F (+100°C).
White Nylon: -40°F (-40°C) to +200°F (+93°C)

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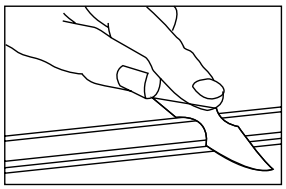
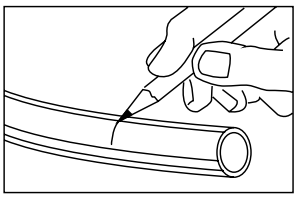
# Fast Assembly

**Step 1.**



Cut the tube squarely and remove any burrs.

**Step 2.**



Mark from end of tube the length of insertion. (See Table)

| Tube Size | Insertion Length with Tube Support in. | Insertion Length without Tube Support in. |
|---|---|---|
| 1/4 O. D. | 5/8 | 9/16 |
| 5/16 O. D. | 5/8 | 9/16 |
| 3/8 O. D. | 13/16 | 3/4 |
| 1/2 O. D. | 7/8 | 13/16 |
| 5/8 O. D. | 1 | 15/16 |

**Step 3.**

Loosen nut on fitting until three threads are visible. Fittings for glass tubes must be disassembled and the grab ring removed.

**Step 4.**

Moisten end of the tube with water. Push the tube **Straight** into fitting until it bottoms on the fitting's shoulder. Tighten nut by hand. Additional tightening should not be necessary, but 1/4 additional turn may be added if desired. **Do not overtighten** nut as the threads will strip and the fitting will not function properly. A proper assembly will not show the insertion mark extending beyond the nut. If the insertion mark is visible, then steps 1 thru 4 must be repeated.

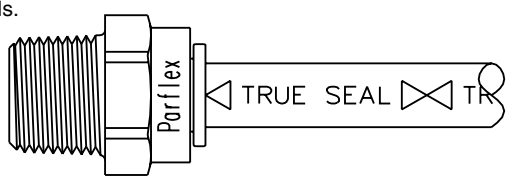
**Step 5.**

When using clear vinyl tubing or urethane tubing, it is necessary to use a **TS** tube support. Disassemble the fitting and place the nut, grab ring, spacer and tube support, in that order on the tube. Locate the grab ring at the insertion mark as shown. Seat the O-ring in the body, then proceed with Step 4.

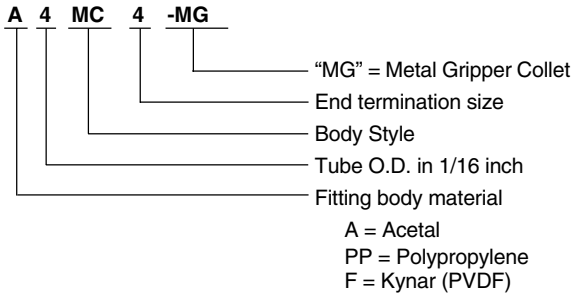
**Note**: Provide adequate fail-safe mechanisms such as leakage detection sensors, automatic shut-off controlls or other industry and code appropriate fail-safe devices in the design of your water-handling appliance to protect against personal injury and property damage. Plastic fittings containing an o-ring that are used in water applications should be replaced at least every five years or more frequently depending on the environment and severity of the application.

# TrueSeal™ Thermoplastic Push-In Fittings

The patented* **TrueSeal** push-to-connect thermoplastic fittings are light weight, reusable, and connect to plastic tubing without the use of tools.




## How to Order




## Features

- All components in TrueSeal fittings are manufactured from FDA compliant materials and are NSF-51 listed for contact with food and potable water.
- All-plastic body designs offer reduced weight, eliminate rust, corrosion, and system contamination in applications where metal components cannot be tolerated.
- Collets are offered in either a patented all-plastic design for use with flexible tubing or with a metal grip edge made from 300 series stainless steel for use on all tubing including copper. Connections made with metal gripper collets and tube stem adapters are not reusable.
- Extra deep tube seat in fitting body provides support to reduce side-load leakage.
- Elastomer o-ring seal provides positive compression on tubing O.D. in vacuum or pressure applications.
- Removable collet design permits o-ring replacement in the field. Collets are available in colors for easy color coding of systems.
- Tube stem adapters provide a wide range of tube-to-port jump size potential and allow elbows and tees to swivel for positive tube routing alignment.

## Applications

TrueSeal fittings find wide acceptance in water conditioning, filtration, and reverse osmosis industries and on water, soft drink, beer, wine, and condiment dispensing equipment. Industrial applications range from vacuum to low-pressure hydraulic and pneumatic systems on robotics, air logic, packaging/filling equipment, and conveyors. Ink and dye transfer, lubrication and cooling lines on presses, machine tools, ion implanting devices all rely on TrueSeal.

**Standard Materials**

| Material | Fitting Color | O-Ring |
|---|---|---|
| **Acetal** | Gray | Nitrile |
| **Polypropylene** | White | EPDM |
| **Kynar®** | Natural | Viton |

Colored collets are also available in black, white, red, blue, green, yellow, and orange. Consult division.

**KYNAR®** is a registered trademark of Atochem North America, Inc.

***U.S. Patent 5,584,513***

## Working Pressure

TrueSeal fittings are rated for the pressures listed below or at 1/4 (one-fourth) of the rated burst pressure of the tubing being used (whichever is less). One-half inch fittings with metal gripper collets are rated at 3.3:1 burst safety factor.

| Fitting Size | Acetal | Polypropylene | Kynar® |
|---|---|---|---|
| 1/4" | 300 | 150 | 300 |
| 5/16" | 300 | | |
| 3/8" | 300 | 150 | 300 |
| 1/2" | 250 | | |
| Temp. Range | -20ºF (-29ºC) to +180ºF (85ºC) | 0ºF (-18ºC) to +225ºF (110ºC) | 0ºF (-18ºC) to +275ºF (135ºC) |

These pressure ratings are based on tests conducted with Series NR tubing at 73°F. Actual working pressures may be lower at elevated temperatures. Consult division.

## Tubing

TrueSeal fittings with all plastic collets can be used with the following tubing materials: polyethylene, polypropylene, nylon, Teflon, and polyurethane (3/8" and 1/2" polyurethane should use tube supports). TrueSeal fittings with metal gripper collets can be used with tubing listed above and soft copper tubing. For stainless steel or glass tubing or all other metal tubing, consult factory.

| Tube Sizes | O.D. Tolerance | Insertion Depth |
|---|---|---|
| 1/4" | ±.005" | 11/16" |
| 5/16" | ±.005" | 13/16" |
| 3/8" | ±.005" | 3/4" |
| 1/2" | ±.005" | 7/8" |

## Assembly Instructions

1. Cut tubing square and clean. (Use a Parker plastic tube cutter, Part No. PTC.)
2. Mark from end of tube the length of insertion (see table above).
3. Push tube into the fitting until it bottoms out.
4. To remove, depress collet and pull tubing out.
5. Use Parflex TrueSealant (Part No. PTS) on threads.

**Note**: Provide adequate fail-safe mechanisms such as leakage detection sensors, automatic shut-off controlls or other industry and code appropriate fail-safe devices in the design of your water-handling appliance to protect against personal injury and property damage. Plastic fittings containing an o-ring that are used in water applications should be replaced at least every five years or more frequently depending on the environment and severity of the application.

# THE WORLD'S FINEST FLORAL DISPLAYS

MATERIALLY BETTER ...
Floraline uses the finest materials that money can buy for a more durable display. Polyurethane foamed-in-place insulation, under-case air return, soft air flow, PVC manifolds and more help create the finest quality displays in the industry

MANUFACTURING...
the sum of our components. Floraline's superior refrigeration, energy efficiency and patented technologies are state-of-the-art. Our industry-exclusive self-watering/ self-cleaning system minimizes maintenance and frees your personnel for more important tasks.

THE BOTTOM LINE...extraordinary value for your investment. Floraline builds superior displays. Period. And because Floraline does things differently, you can expect a display that exceeds your expectations - a display with elegant styling and dependable performance. Most important, Floraline displays increase sales.

## TWELVE MONTH WARRANTY

We warrant to the original purchaser or distributor every new fixture and parts thereof, to be free from defects in material and workmanship under normal use and service, for a period of twelve (12) months from the date of shipment from the factory of the fixture, equipment or part to the original purchaser or distributor, our obligation hereunder being limited to repairing or replacing, F.O.B. factory, any part or portion thereof, of our manufacture or sold under the Floraline name, which upon examination we judge to be thus defective.

The Warranty stated herein does not include the cost of labor incurred in the handling, removing or installing any equipment or component thereof.

**The Warranty is expressly in lieu of all other warranties, express or implied and of all other obligations or liabilities on our part. The obligation to repair or replace parts or components judged to be defective in material or workmanship states our entire liability whether based on tort, contract or warranty. We neither assume nor authorize any other person to assume for us any other liability in connection with our products.**

We assume no responsibility for spoilage of perishable contents of equipment sold under the Floraline name. The warranty shall apply to parts as specified herein.

Removal of original Serial Number from any fixture shall be deemed to release us from all obligations hereunder or any other obligations, express or implied.

Warranties embodied herein are not binding upon us if at the time a claim is made the purchaser is delinquent in any payment due under the terms of this contract.

**Floraline Display Products**
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