# Model 1550+ AutoJet Modular Spray System

## Owner's Manual

*Read this manual carefully before operating your Modular Spray System.*

*Keep this manual for reference when the system is in operation.*

*All safety related, and operating instruction should always be followed.*

*Note:*

- This manual covers the complete Model 1550+ Modular Spray System and all its versions, configurations and options. Your system may vary based on the version, configuration and options that you have purchased.
- Pictures in this manual may include options which are not part of your System Configuration.
- Statements in this manual may describe options which are not part of your System Configuration.
- Pictures in this manual may represent components which are different than those in your System Configuration.
- Statements in this manual may describe components which are different than those in your System Configuration.
- The manufacturer reserves the right to make changes in this standard system without notification.

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| Manual Version No. | Description of Change | Date |
|---|---|---|
| 1 | Original release of second generation system | 2010 |
| 2 | Update – HMI release | 2012 |
| 3 | Update – minor functionality improvements | 2016 |
| 4 | Update – System minor redesign, improved maintenance and connections | 2018 |
| 5 | Update – new regulator packages | 2020 |
| | | |

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# WARNING LEGEND

## Read and follow instructions

All safety related, and operating instructions should be read before the system is operated.

Follow all operating instructions.

## Warnings

Red warning denotes a critical note regarding safety

The User can be injured (seriously) or his health can be damaged.

Or the Machine can be seriously damaged

Yellow warning denotes an issue to be heeded.  Ignoring this warning note can result in damage to the unit, injury to an individual.

Blue warning denotes supplementary information for the user:

Drawing attention to possible problems

# INTRODUCTION

The Model 1550+ AutoJet Modular Spray System featuring an HMI Touch Screen Display is a self-contained, electronic/pneumatic panel that provides control of various aspects of a spray system.  These systems come in a variety of design configurations depending on the requirements of your spray application, therefore, you may or may not have all the features described in this owner's manual.

## Product Features & Specifications

The Spraying Systems Co. 1550+ AutoJet Modular Spray System is a self-contained unit that can provide you with precise liquid delivery and spray nozzle control in an affordable easy to use turn-key spray system.  The system comes in a variety of designs and configurations based on the type of spray nozzle used in your application.

The system can be used with water, oils, lubricants, inks, stains, water-based solvents, non-abrasive slurries.  The system is designed to spray most **non-flammable or non-volatile materials**.  Liquids and materials that flow with viscosities below 1000 cP at 68° F (20° C) can be sprayed with the correct spray nozzle and controlled with this unique spray system solution.

### System Usage

- The 1550+ AutoJet Modular Spray System is designed to run continuously or intermittently.

- The 1550+ AutoJet Modular Spray System features a high-quality HMI Touchscreen interface.

  - System can control spray timing.

    - Customer can set spray period, start delay and stop delay times.

  - The controller is designed to run both electric and air actuated spray nozzles.

    - Can drive Spraying Systems Co. electric spray nozzles (3 amps. max.) with Pulse Width Modulation (PWM). Specifically, the PulsaJet® spray nozzle line and the AA250AUH Electric spray nozzles can be used.

      - PWM (Pulse Width Modulation) is a technique used to control flow rate by rapidly pulsing the nozzle on and off.  PWM uses a duty cycle within the spray time.  By definition duty cycle is the percent of time of the total cycle time the nozzle is spraying.  If the nozzle is spraying 50% of the time, the DC is 50% thus the flow is ½ that if the nozzle being fully open.

### Platform Configuration

- **The 1550+ AutoJet Modular Spray System is available in the following versions which are available in both English and Metric connections:**

  - **1550+ Pump Version -** features a durable air operated diaphragm pump for continuously run spray applications.

    - This design requires liquid to be drawn from a tote or a tank.

    - This version is designed to re-circulate liquid from the system back to the supply tote or tank.

    - 1550+ Food Contact Pump Version – features *food-contact* wetted components (pump, liquid regulator, gauges, tube fittings, etc.).

      - *Note* this version does not qualify under EC 1935/2004

  - **1550+ Pump Less Version -** for applications were the systems liquid delivery is provided by a pressurized vessel or other pressurized supply from the customer.  The Pump Less system controls the flow of liquid using an internal air piloted liquid pressure regulator.  The liquid passes through this which is located inside the Valve Panel.

    - 1550+ Food Contact Pump Less Version – features *food-contact* wetted components (liquid regulator, gauges, tube fittings, etc.).

      - Note this version does not qualify under EC 1935/2004

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- **1550+ Pressure Pot Version** – for applications were the fluid is supplied by pressurized vessel and the system controls the air pressurizing the vessel. The Pressure Pot version controls the flow of the liquid by using an air regulator to pressurize the pot. The liquid flows from the pot and does not flow through the systems Valve Panel.
- **1550+ Electrical Control Panel Only Version** - for electric spray nozzle applications where the customer will supply the liquid delivery portion of the system.

- The full system versions are equipped with electric valves, manual pressure regulators and gauges to control:
  - Pneumatic nozzle actuation.
  - Liquid spray pressure and recirculation rate.

- **The 1550+ AutoJet Modular Spray System comes in the following configurations:**
  - Configuration 1: Liquid and cylinder air – for automatic hydraulic or electric spray nozzles.



Pump Less version, configuration 1, shown.

  - Configuration 2: Liquid with cylinder and atomizing air – for automatic air atomizing spray nozzles.



Pressure Pot version, configuration 2, shown.

- Configuration 3: Liquid with cylinder, atomizing and fan air – for SSCo. VAU and VMAU spray nozzles.



Pump version, configuration 3, shown.

## HMI Control Panel Specifications

- 4.3" HMI Touch Screen display unit featuring custom programming.
- UL Type 1, stainless steel control panel.
  - **Not explosion proof (Non-Ex).**
- Power ON/OFF switch with Power on LED indicator light.
- Power input 110-240VAC, 50/60 1 ph., 5A.
  - Global compatibility Multi-voltage power cords available
- Output 24 Vdc
  - 3 amps dedicated to electric spray nozzles and sensors
- Inputs for 1 analog inputs, 2 digital inputs and 1 digital output.
- Features local and remote triggering options.
- Can control and drive up to eight (8) Spraying Systems Co. electric spray nozzles
  - AA10000AUH-03 PulsaJet® spray nozzles – Eight (8)
  - AA10000JJAU PulsaJet air atomizing spray nozzles – Eight (8)
  - AA10000AUH-10 PulsaJet spray nozzles – Three (3)
  - AA10000AUH-30 PulsaJet spray nozzles – One (1)
  - AA250AUH Electric spray nozzles - Eight (8)
- Digital output for air atomizing solenoids.
- Offers dual digital inputs for conveyor interlock type trigger.
- Independent timing ranges for spray and delay adjustable from 0 to 9999 seconds.
- Delays for atomizing air (anticipator and follower times) can be set 0 to 60 seconds.
- 0 – 100% duty cycle adjustment for PulsaJet and other electric spray nozzles.
- Offers easy to use timing modes of Fixed Spray Time; Variable Spray Time, and Repeat.
- Power cord, 6 ft. (2m) length.
- Ambient temperature ratings for electric control panel:
  - 41° F Minimum (5°C)
  - 104° F Maximum (40°C)

## Enclosure and Process Components

- Air piloted liquid pressure regulator.
- Externally mounted liquid strainer with 100 mesh filter.
- 1/2" NPT female inlet for compressed air feed - 100 psi (7 bar) max. – English connections
  - 1/2" BSPT female inlet for compressed air feed - 7 bar (100 psi) max. – Metric connections
- 1/2" O.D. tube inlet and outlet connections for air and liquid - English
  - 12 mm O.D. tube inlet and outlet connections for air and liquid - Metric
- 1/4" O.D. tube cylinder air outlet - English

- o 6 mm O.D. tube cylinder air outlet - Metric
- Pressure regulator with gauge for liquid pressure.
- Pressure regulators with gauges for atomizing air, and fan air.
- Materials of construction
  - o For air lines: Nickel plated brass, brass, coated aluminum, and Nylon.
  - o Wetted components
    - ▪ Pump version
      - PVC, stainless steel, Polypropylene, PTFE, nickel plated brass, Viton®, Nitrile and Nylon for liquid lines
    - ▪ Food Contact Pump version
      - Food Contact Acetal, stainless steel, PTFE, Viton®, FKM and Polyethylene for liquid lines
    - ▪ Pump Less version
      - PVC, stainless steel, Polypropylene, PTFE, nickel plated brass, Viton®, Nitrile and Nylon for liquid lines
    - ▪ Food Contact Pump Less version
      - Food Contact Acetal, stainless steel, Viton®, FKM and Polyethylene for liquid lines
    - ▪ Pressure Pot Version
      - Stainless steel

## Liquid Delivery Components

### Pump - Standard and Stainless Steel

- Double diaphragm air operated pump
- 2 gpm liquid @ 40 psi (7.57 l/min @ 2.75 bar) rating based on water
  - o Less with higher viscosities

### Pressure Pot - Optional for Pump Less & Pressure Pot Versions

- Stainless steel pot with stainless steel fittings and accessories.
- Sizes:
  - o 1 gallon (3.8 liters)
  - o 2 gallons (7.6 liters)
  - o 5 gallons (9 liters)
  - o 10 gallons (38 liters)
  - o 16 gallons (61 liters)

# Standard Components:

Standard on all designs except the Panel Only version of the Model 1550+ Modular Spray System spray system are the following components:

- Electrical Control Panel w/ HMI
- Air Shut off/Lock out and Filter Unit
- System Frame, stainless steel
- Liquid Filtration Unit
- Air piloted liquid pressure regulator – ***Not included on Pressure Pot version***
- Air solenoid valve for controlling cylinder air
- Power Cord
- Trigger Device – The system must be triggered in a production environment.  Therefore, it can use one of the following options:
  - o Local on/off button on HMI.
  - o Trigger cable – to connect customer provided signal
  - o Object sensor
  - o Thru beam sensor
  - o Laser sensor
  - o Short distance laser sensor

o    Hand held pendant trigger

## Components Used to Create Configurations

- Air regulator to control liquid pressure
- Air regulator and solenoid valve for controlling atomizing air
- Air regulator and solenoid valve for controlling fan air
- Air Piloted Fluid Regulator – *Not part of the Pressure Pot version*

## Optional Components Required for a Complete Spray System

- Spray nozzles with spray tips or spray set ups
- Spray nozzle mounting kits
- Spray nozzle hook-up kits

# Safety Information

## General Safety Information

### Read and follow instructions

All safety related, and operating instructions should be read before the system is operated.  Follow all operating instructions.

> *Note:*  If the Model 1550+ AutoJet Modular Spray System is used in a manner other than as described in this Manual, protection afforded by the equipment may be impaired.

### Water and Moisture

The control panels are rated NEMA 1, unless otherwise specified.  The rating is only with the door closed and properly locked.  Being NEMA 1 rated, the control panels can withstand streams of water directed at them; however, we recommend avoiding spraying on the unit externally if possible.  The control panel is not washdown rated.

### Servicing

For servicing of valves and pumps please refer to the appropriate manuals.

Do not attempt to service the 1550+ Modular Spray System Electrical Control Panel.

- For service, contact your local Spraying Systems Co. sales representative by calling 1-800-95-SPRAY (1-800-957-7729)
- For corporate support contact 1-866-321-2250.
- Only authorized qualified service personnel should attempt to service the Control Panel.
  - *Service by unauthorized personnel will void all warranties.*

### Replacement Parts

The 1550+ AutoJet Modular Spray System has been designed with components that work together to provide the best system performance.  When the system requires replacement parts, contact your local sales engineer, only Spraying Systems Co. recommended components should be used to maintain proper system operation and safety.

## Warnings

WARNING: It is important to recognize proper safety precautions when using a pressurized spray system.  Fluids under pressure can penetrate skin and cause severe injury.

WARNING: When dealing with pressure applications, the system pressure should never exceed the lowest rated component.  Always know your system and all component capabilities, maximum pressures and flow rates.

**WARNING:** Before performing any maintenance, make sure all electrical, air and liquid supply lines to the system are shut off and /or disconnected.

**WARNING:** The use of any chemicals requires careful control of all worker safety.

**WARNING:** Spraying Systems Co. does not manufacture or supply any of the chemical components used in this equipment and is not responsible for their effects. Because of the large number of chemicals that could be used and their different chemical reactions, the buyer and user of this equipment should determine compatibility of the materials used and any of the potential hazards involved.

**WARNING:** Spraying Systems Co. strongly recommends the use of appropriate safety equipment when working with potentially hazardous chemicals.

This equipment includes but is not limited to:

- Protective hat
- Safety glasses or face shield
- Chemical-resistant gloves and apron
- Long sleeve shirt and long pants

**WARNING:** Always remember to carefully read the chemical manufacturer's label and follow all directions.

# Installing the System

## Unpack the Components

The system components come carefully packaged to protect them from damage and consist of the enclosure, which contains the electronic and pneumatic controls, plus a separate box which contains accessories. Open all boxes! Check inside every box for various components.

All units include the following accessories:

- Electrical power cord - installed on unit
- Air supply lockout valve/filter unit *(not with Panel Only version)*
- Liquid strainer *(not with Panel Only version)*
- Liquid re-circulation fitting *(not with Pressure Pot or Panel Only versions)*

Depending on your system configuration, the following additional accessories may be included:

- Trigger input cable(s)
- Photoelectric object sensor with cable and bracket
- Thru beam sensor with cables and brackets
- Hand held trigger switch
- Input signal cable for remote Duty Cycle control
- Fault output cable kit
- PulsaJet® nozzle or electric spray nozzle connector cable(s)
- Spray nozzle(s)
- Spray nozzle hook up kit

Please check the packaging slip for confirmation of contents and quantity of packages. Pump less and Pressure Pot versions sold with a pressure pot will be shipped in multiple packages.

**NOTE:** The packing boxes may contain exposed cables and hoses. Always use caution when opening the boxes to avoid accidental damage or slicing of various components.

Remove everything from all of the boxes and carefully remove any packaging material protecting the components.

Caution should be used when using a knife to cut the packaging. Be careful not to cut through and scratch the panel.

Verify that the accessories required for your specific system configuration are included. Check all boxes and any packing materials for parts and components. If anything is missing, or if there are any questions, contact Spraying Systems Co. Customer Service immediately.

# Position or Mount the System

Find a convenient location for the Model 1550+ AutoJet Modular Spray System within a reasonable distance of your spray application.  Additionally, the system should be located within a reasonable distance to an easily accessible and properly grounded power outlet.  The unit must be installed in such a manner that when the cord is connected, the plug can be easily reached and not difficult to remove it from the outlet.

Determine if the unit will be free-standing or wall mounted.

The unit may be wall mounted by using the keyholes near the top of the enclosure back plate.  If the unit is to be wall mounted, install wall anchors that are designed to support at least 200 lbs. (90.7 kg) according to the anchor manufacturers specifications.

The mounting holes are on 8" centers and are made for 5/16" (8 mm) screws with ½" (12 mm) diameter screw heads. Secure the Model 1550 to its selected location.
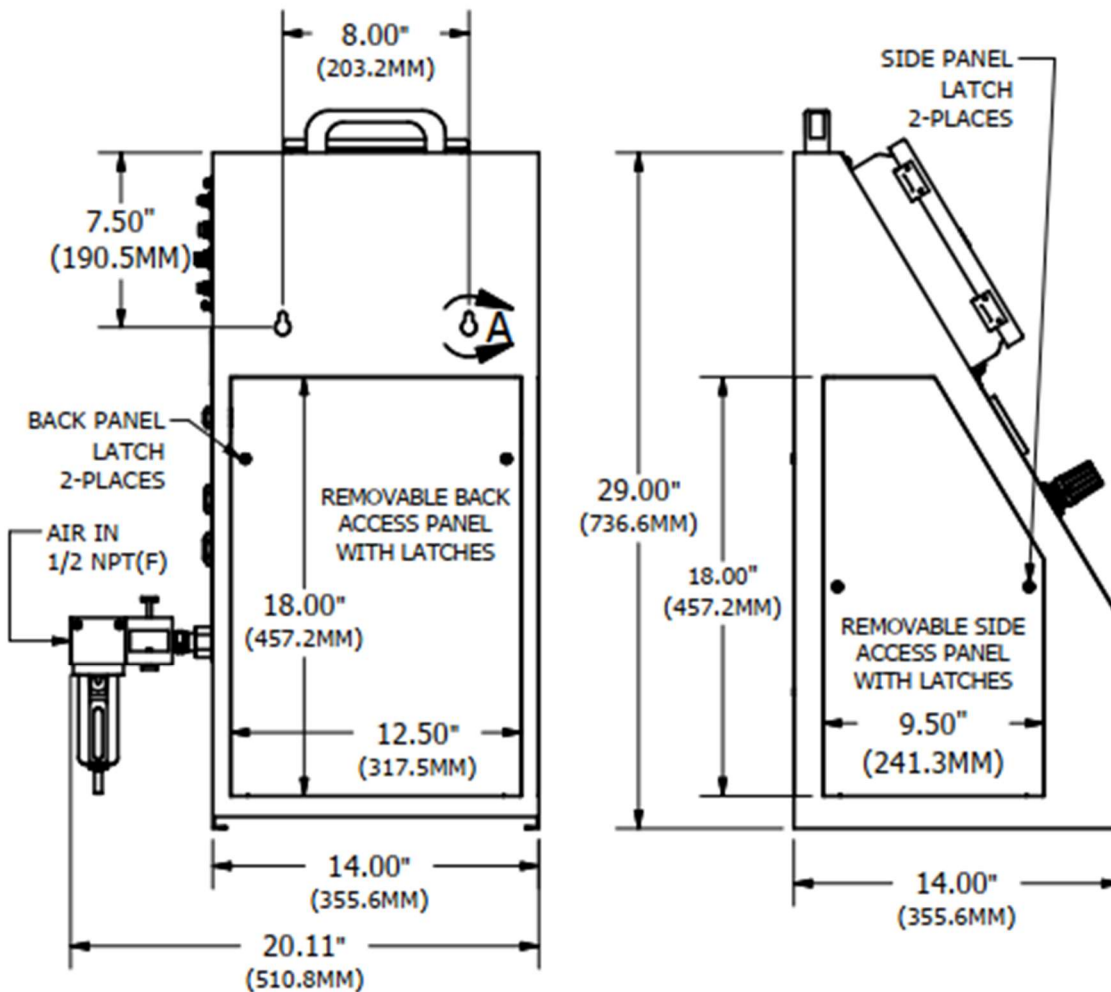


Note:  If it is a system with a pump, keep the pump close to the liquid level in the tote.  Keep suction level to a maximum of 5 feet (1.5m).

**Note:**  For safety the unit should be removed from the wall to perform any maintenance or repair.

## Control Panel Only Version

IF you have the Control Panel Only version the unit should be wall mounted.

Install wall anchors that are designed to support at least 50 lbs. (90.7 kg) according to the anchor manufacturers' specifications.
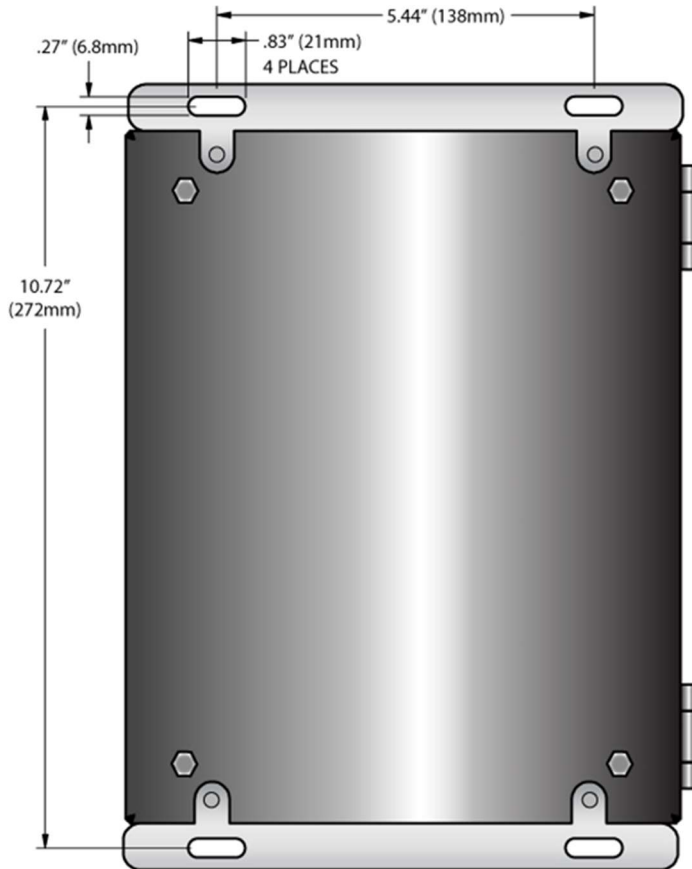


The mounting holes are on 5 7/16" centers and are made for 1/4" (6 mm) screws with 3/8" (10 mm) diameter screw heads. Secure the Model 1550+ to its selected location.

## Mount the Air Supply Lockout Valve/Filter Unit

- o The included air supply lockout valve/filter unit must be connected to the 1550+ AutoJet Modular Spray System. (not applicable for Control Panel only version)
- o The lockout valve/filter unit can be mounted to the system or mounted to your air line directly.  If so desired for your convenience.
- o Locate the connection bulkhead fitting on the right side of the system's valve panel/enclosure.
  - ▪ Locate the "AIR IN" threaded inlet.

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- The inlet is 1/2" NPT (F) [1/2" BSPT (F) for Metric versions].  Connect the air supply lockout valve/filter unit to the Air Inlet connection of the manifold using supplied ½" pipe nipple.

If your inlet filter assembly looks like this, you must regulate the air going to the system with your own regulator.  Set to a recommend ed range between 40 to 80 PSI (2.75 to 5.5 bar).

NOTE: Setting pressure higher than this will damage the system.

Direction of flow

If your inlet filter assembly looks like this, you can set the maximum pressure to the system by using the built-in regulator and gauge.  Set to a recommend ed range between 40 to 80 PSI (2.75 to 5.5 bar).

NOTE: Setting pressure higher than this will damage the system.

Direction of flow

# Electrical Connections

## Full System Versions

External electrical connection location

The electrical connections for the system are all conveniently located on the right-hand side of the frame.  The connections are as follows.

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- Power input connection, route power cord through oval opening on right-hand side of frame and plug in 120VAC outlet rated for at least 5A.



From bottom to top.
- Remote current **"4-20 mA"** analog input connections.
    - To be connected if using remote set point PWM controls, (analog 4-20mA).
    - M8 (F) 4 pin connection.
- Electric spray nozzle output connection **"Main"** electric spray nozzle connection.
    - M12 (F) 4 pin connection.
- Trigger input connections **"Trig"**
    - For remote triggers or digital sensor inputs, connected at installation
    - Follow the installation instructions for the sensor you have.
    - M12 (M) 4 pin connection.
- Trigger interlock connection **"T. int.".**
    - M8 (M) 4 pin connection.
    - Used when a secondary run signal is required.

## Control Panel Only Versions

All the connections are the same as the full system. Located on the bottom of the panel the connections are as follows.

- Power input connection, route power cord through oval opening on right-hand side of frame and plug in 120VAC outlet rated for at least 5A.
- **4-20 mA** - Analog input is accessible through this connection.
- **Main** - Output is the connection for all electric spray nozzles or cylinder/atomizing air solenoids and fault output.
- **Trig** - Is the input connection for the system trigger or sensor.
- **Aux** - Is the output connection for the atomizing and fan air solenoids.  This is typically not used in this configuration, since solenoids are not provided.
- **T. int.** – Used for the optional trigger interlock or level switch input.

# Full Version Internal Electrical Connections

The full version system is designed with a wire harness to bring the connections typically used by the customer to an easily accessible point.  The Aux connection is not on the external panel.  If you need to access it for trouble shooting or maintenance, it is accessible through either of the two removable access panels.



## Bottom View of Control Panel Connections:



Full System version



Control Panel Only version

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## External Device Connections for Control Panel Only

Connections from left to right are the following:

- 4-20 mA - Analog input is accessible through this connection.  M8 (F) connection.
- Main - Output is the connection for all electric spray nozzles or cylinder/atomizing air solenoids and fault output.  M12 (F) connection.
- Trig - Is the input connection for the system trigger or sensor.  M12 (M) connection.
- Aux - Is the output connection for the atomizing and fan air solenoids.  M8 (F) connection.
- T. int. – Used for the optional trigger interlock or level switch input.  M8 (M) connection.
    - If a trigger cable is included (P/N LE00M12F5M, note this cable is M12 female 4 pin to bare leads), wire the non-terminated end to the user-provided signal source (e.g. photoelectric sensor, limit switch, PLC, relay, etc.) and connect the cable to the trigger [Trig. M12 (M)] input connection of the control panel.
    - If the photoelectric sensor is included (Kit P/N 040TS04000014W0), mount the sensor in a location where it will be able to sense the leading edge of the object to be sprayed and connect the cable to the trigger input [Trig. M12 (M)] connection of the control panel.
    - If the thru beam sensor is included (Kit P/N 040TS04000028W0), mount the sender and receiver in a location where they will be able to sense the leading edge of the object to be sprayed and connect the cable to the trigger input [Trig. M12 (M)] connection of the control panel.
    - If one of the laser sensors are included (Kit P/N 040TS04000087W0 or 040TS04000135W0), mount the sensor in a location where it will be able to sense the leading edge of the object to be sprayed and connect the cable to the trigger input [Trig. M12 (M)] connection of the control panel.
    - If the proximity sensor is included (Kit P/N 040TS04000118W0), mount the sensor in a location where it will be able to sense the metallic object to be sprayed (less than 10mm) and connect the cable to the trigger input [Trig. M12 (M)] connection of the control panel.
    - If the Hand Trigger is included (Kit P/N SW001550M12HT), connect the cable to the trigger input [Trig. M12 (M)] connection of the control panel.
    - If PulsaJet® or other automatic electric actuated spray nozzles are used, and an output cord set is included, connect the output cord set cable to the [Main M12 (F)] output connection of the control panel.  The (Main) output connection is also used for driving the cylinder air solenoid valve used with automatic air actuated spray nozzles like the 1/4JAU or the AA10000JJAU.
- NOTE:  All systems ship with cylinder air solenoid wire plugged into a splitter wired to (Main) output.

## Possible External Devices going to controller – cables, sensors, etc.

| Description | Connects To | Part Number |
|---|---|---|
| Trigger Cable – Flying leads - 16.4' (5m) length | Trig. | LE00M12F5M |
| Hand Pendant Trigger - 16.4' (5m) length | Trig. | SW001550M12HT |
| Foot switch - 16.4' (5m) length | Trig. | 040TS04000130W0 |
| Object Sensor - Photoelectric - 16.4' (5m) length with mounting bracket | Trig. | 040TS04000014W0 |
| Object Sensor - Thru Beam - 16.4' (5m) length with mounting bracket | Trig. | 040TS04000028W0 |
| Object Sensor – Laser short dist. - 16.4' (5m) length with mounting bracket | Trig. | 040TS04000135W0 |
| Object Sensor – Laser long dist. - 16.4' (5m) length with mounting bracket | Trig. | 040TS04000087W0 |
| Object Sensor – Proximity - 16.4' (5m) length with mounting bracket | Trig. | 040TS04000118W0 |
| Sensor Extension Cable – Connector - 16.4' (5m) length M12FxM12F, 4 pole | Trig./Main | LEXXSD4FD4F0050 |
| Nozzle extension cable – connector 16.4' (5m) length M12(f)xM12(m), 4 pole | Main | LEXXSD4FD4M005P |
| 4-20mA Input Signal Cable - 16.4' (5m) length, M8 male x bare leads, 4 pole | 4-20mA | LE00M8M5M |
| Trigger Interlock Cable, M8 Female, 4 pole, bare leads, 16.4' (5m) | T int. | LE00M8F5M |
| 1550+ Alarm Output Cable Kit, M12 male, 4 pole x bare leads, 19.7' (6m) | Main | 040TS04000054W0 |
| Junction Block - 4 connectors – with cable, 16.4' (5m) length, M12 male | Main | JCPCNS000005-00_AC01 |
| Junction Block - 8 connectors – with cable, 16.4' (5m) length, M12 male | Main | JCPCNS000004-00_AC01 |
| PulsaJet Nozzle Cable to Controller of Multiport Junction Block 9.8' (3m) length | Main | LEXXSD3M83F030P |
| AA250 Nozzle Cable to Controller of Multiport Junction Block 9.8' (3m) length | Main | LE00M12MMDIN3MU |

### Electrical Power Connection

o   Connect one end of the electrical power cord to the receptacle on the control panel and connect the other end into a 120/60/1 VAC power source. (US voltage).  For International applications be sure that you have the correct power cord. System is capable of using up to 240v 50/60 Hz Single Phase power.

## Air and Liquid Connections

The system comes with push tube bulkhead fittings for making air and liquid connections.  The fittings are located on the right side of the unit.  The push tube fittings make connecting the system easy.

Air and liquid connection locations

The fully configured 1550+ AutoJet modular spray system has the following air and liquid connections:

### Air Connections

o   The system is provided with an air filter and lock out valve assembly.  The unit is provided loose for you to mount either directly to the unit or your preferred location.
o   Connect a dry, clean 80-100 psi max air supply line to the input fitting of the lockout valve.  Make sure that the lockout valve and the ball valve on the pump inlet are both in the closed position prior to connecting the unit to the air supply.
o   For systems that control pneumatically actuated nozzles connect 1/4" O.D. tubing from the Cylinder Air out port of the bulkhead to the spray nozzle(s) cylinder air ports.
  o   Tubing may be supplied with optional spray nozzle hook up kit
    ▪   *Note* metric nozzle hook up kits are not available
  o   Metric systems use 6 mm O.D. tubing
o   Connect 3/8" O.D. poly tubing from the Atomization Air and Fan Air push-in fittings (if needed) on the side of the enclosure to their corresponding fittings on the spray nozzle(s).
  o   Tubing may be supplied with optional spray nozzle hook up kit
    ▪   *Note* metric nozzle hook up kits are not available
  o   Metric systems use 10 mm O.D. tubing

### Liquid Connections - Pump version

The 1550+ Pump Version is designed to draw fluid from tote or vessel using the systems pump.  It is not designed to receive pressurized fluid.

- o Connect suitable 1/2" O.D. tubing from the Liquid Inlet fitting to the liquid tote/tank.
  - ▪ Metric systems use 12 mm O.D. tubing
- o Customer to supply tubing
- o **NOTE:** For pump version systems the liquid source should **not be pressurized**
- o Connect suitable 1/2" O.D. tubing from the Liquid Out fitting to the corresponding fitting on the spray nozzle(s).
  - o Tubing may be supplied with optional spray nozzle hook up kit
  - o **Note** metric nozzle hook up kits are not available
    - ▪ Metric systems use 12 mm O.D. tubing
- o **Optional** - Connect suitable 3/8" O.D. tubing from the Liquid In Return fitting to the liquid return line.
  - o Tubing may be supplied with optional spray nozzle hook up kit only if it is a recirculating style hook up kit
  - o **Note** metric nozzle hook up kits are not available
    - ▪ Metric systems use 10 mm O.D. tubing
- o **Optional** - Connect suitable 3/8" O.D. tubing from the Recirculation Liquid Out fitting to the return inlet of the liquid source.
  - o Customer to supply tubing
  - o Metric systems use 10 mm O.D. tubing

## Liquid Connections - Pump Less version

The 1550+ Pump Less Version is designed to control the pressure down from a pressurized source. If the system is supplied with a pressure pot, the customer must supply air to the pressure pot. The liquid out line of the pressure pot must then be connected to the Liquid In fitting on the 1550.

**NOTE:** Pump less version systems require the liquid source to be pressurized to a minimum of 10 psi above the maximum application pressure. The maximum required application or discharge pressure must not exceed 100 psi.

**NOTE:** The Pump Less version is not designed to pressurize a vessel or pressure pot. Only to control the liquid pressure from a pressurized source to the spray nozzles.

- o Connect suitable 1/2" O.D. tubing from the Liquid Inlet fitting to the liquid source.
  - ▪ Metric systems use 12 mm O.D. tubing
- o Tubing to be supplied by the customer.
- o Connect suitable 1/2" O.D. tubing from the Liquid Out fitting to the corresponding fitting on the spray nozzle(s).
  - o Metric systems use 12 mm O.D. tubing
  - o Tubing may be supplied with optional spray nozzle hook up kit
    - ▪ **Note** metric nozzle hook up kits are not available
- o **Optional** - Connect suitable 3/8" O.D. tubing from the Liquid In Return fitting to the liquid return line.
  - o Metric systems use 10 mm O.D. tubing
  - o Tubing may be supplied with optional spray nozzle hook up kit only if it is a recirculating style hook up kit
    - ▪ **Note** metric nozzle hook up kits are not available
- o **Optional** - Connect suitable 3/8" O.D. tubing from the Recirculation Liquid Out fitting to the return inlet of the liquid source.
  - o Metric systems use 10 mm O.D. tubing
  - o Tubing may be supplied with optional spray nozzle hook up kit only if it is a recirculating style hook up kit
  - o **Note** metric nozzle hook up kits are not available

## Liquid Connections – Pressure Pot version

The 1550+ Pressure Pot Version is designed to pressurize a vessel. It is not designed to receive pressurized fluid. It is not designed to supply liquid directly to the spray nozzles. It only controls the air pressure going to the pressure pot. The Pressure Pot system controls the flow of liquid using an internal manual liquid pressure regulator. This sets the air pressure going to the pressure pot. For most materials the reading on the gauge should be close to the pressure at the liquid exit. Note for high viscous and high-density materials this will deviate.

- o Connect suitable 3/8" O.D. tubing from the Tank Air outlet fitting to the pressure pot air inlet.
  - o Tubing supplied if system is purchased with standard pressure pot.
    - ▪ Metric systems use 10 mm O.D. tubing

- o Connect suitable 3/8" O.D. tubing from the Liquid Out fitting on the pressure pot to the corresponding fitting on the spray nozzle(s).
    - o Tubing supplied if system is purchased with standard pressure pot.
        - ▪ Metric systems use 10 mm O.D. tubing

# Mounting Spray Nozzles

Locate and mount the spray nozzles for your spray application. Depending on your application the spray nozzle lines and connections will vary. It is recommended to run the lines starting from the spray nozzles to the system for easier adjustment of lengths of the tubing. Note length should be kept to a minimum to reduce pressure drop. Note: If liquid lines are long (>10ft.or 3m) flowrates and pressures will be affected. This can be worse when viscous fluids are being pumped.

## Notes on Nozzle Location

When locating the system in relation to the nozzles note these typical lengths of connecting items

You may or may not have these items depending on your project and order.

### Nozzle hook up kits – Tubing 12 ft. (3.6m)

If your system was ordered with optional nozzle hook up kit the design of the hook up kit allows for 12' of tubing from the nozzle to the system for a single nozzle hook up kit. For multiple nozzle hook up kits they are designed to provide 12' (3.6m) of tubing from each nozzle to the manifold and 12' (3.6m) of tubing from the manifold to the system.

### Electric nozzle cables – 10 ft. (3m) & 16.4 ft. (5m)

All systems design to use electric nozzles comes with the required cables. IF your system did not come with these cables please contact your local sales engineer.

- For a single electric nozzle system, the cable length is 10' (3m) [Cable P/N LEXXSD3M83F030P, for AA10000 series; P/N LE00M12MMDIN3MU for AA250 series]. For multiple electrical nozzles the system comes with cable from the nozzle (one per nozzle) to a junction block that is 10' (3m) [Cable P/N LEXXSD3M83F030P, for AA10000 series; P/N LE00M12MMDIN3MU for AA250 series] and a cable from the junction block to the system that is 16.4 ft (5m) {Cable P/N LE00M12M5M].
- If longer length cables are required, we offer an extension cable that is 16.4' (5m) [Cable P/N LEXXSD4FD4M005P].
    - o This cable can be used to go between the nozzle cable and the junction block or the junction block cable and the system.
    - o This cable can also be used to extend the trigger devise cable lengths stated below.
    - o Note due to voltage drop we recommend keeping the cable length to a reasonable length (approx. <50ft.). Never attempt to chain more than four (4) cables together. Electric spray nozzle speed and performance will suffer.

### Trigger device cables – 16.4 ft. (5m)

All systems must be purchased with a trigger device to activate the system during operation. All of our offerings have a cable length of 16.4' (5m).

- If longer length cables are required we offer an extension cable that is 16.4' (5m) [Cable P/N LEXXSD4FD4M005P].
    - o This cable can be used to go between the trigger cable and the system.
    - o This cable can also be used to extend the electric nozzle cable lengths stated above.

# System Operation

## Start up

To begin using the system, power up by actuating the power switch on the bottom of the control panel

   o   Red LED will illuminate when power is on.



Wait for unit to boot up.  It will look like this after it boots up

o   The Home screen will appear as shown in the next image:



Continue with the next steps.

## Supply air to the system

o Turn the red valve on the air inlet valve/regulator/filter clockwise to the on position. Turn regulator that is on top of the air filter to an air pressure between 50-80 psi (3.4-5.5 bar). Air pressures higher than this will shorten the life of the pump.

o Adjust the regulated air pressures (regulators on front panel).

> o If applicable, depending on your spray system you may have anywhere from Liquid Pressure regulation only to Liquid Pressure; Pump Air (preset); Atomizing Air (drop size); Fan Air (spray angle/pattern).

> o *Note*: **The gauge will not read atomizing or fan air pressure unless the system is triggered.** To adjust these pressures, turn the regulator all the way down (counter clockwise), trigger the system, and then adjust to the desired value.

o Each air control line is equipped with a manual air pressure regulator. The regulators can be adjusted by first pulling up on the knob to unlock the regulator and then turning clockwise to increase and counterclockwise to decrease the pressure.

o When the proper air pressure is reached, press down on the knob on the regulator to lock it in place.

> o *Note:* Your system is equipped with cylinder air for air actuated spray nozzles. Cylinder air pressure is equal to the inlet air pressure to the system. It is not regulated; therefore, you must provide a minimum of 45 psi (3.1 bar) to the system. It must be above 45 psi (3.1 bar) to actuate air actuated nozzles like Spraying Systems Co. 1/4JAU series.

o Adjust the Liquid Pressure regulator. For pump version insure that the pump inlet air valve is in the "open" position. The regulator can be adjusted by first pulling up on the knob and then turning clockwise to increase and counterclockwise to decrease the pressure. When the proper liquid pressure is reached, press down on the knob to lock it in place.
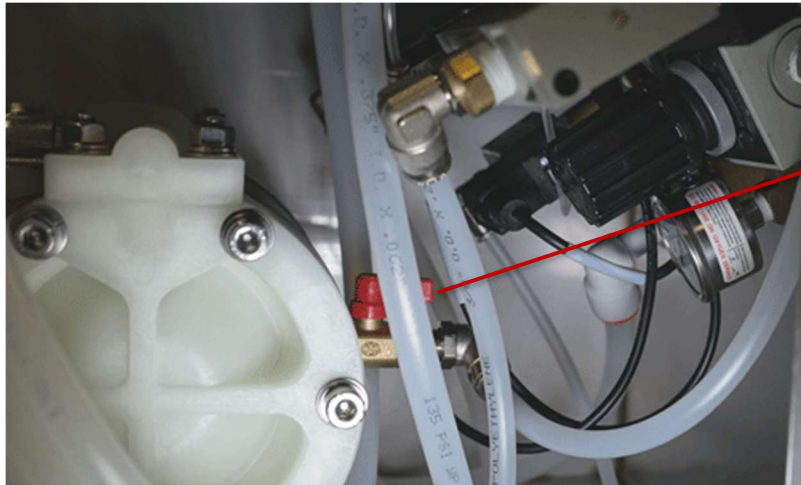


*Pump air inlet valve*

# Priming the Pump (Pump Version Only)

In the occurrence that the pump and/or tubing are not filled with liquid (this would be the case for the first use of the system) the pump and system will need to be primed.

## To prime the pump:

o Insure that the pump air shut off valve (small red handled ball valve here (point to picture with new valve location) is closed and turn on the main air to the system.

o Turn the Liquid regulator, on the front panel, at least 1 or 2 turns clockwise.

o Disconnect the liquid out tubing from the nozzle to allow max. flow for priming.

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- o Open the pump air shut off valve (small handled ball valve) just enough until the pump begins to slowly cycle. Allow the pump to cycle slowly until the pump is primed. (1-4 hz)
    - o It may be necessary to reduce the pump air pressure slightly to prime pump.
    - o Pump is self-priming, so it can be above the level of the liquid (max. 5 ft./1.5m) during the priming process but keep this to a minimum for priming if possible.

# HMI Operation - Set Spray Parameters

## HMI

The 1550+ features an HMI (Human Machine Interface) that is a 4.3" touch screen. Review the following screen explanations thoroughly to understand your 1550+ Spray Controller.

### Home screen
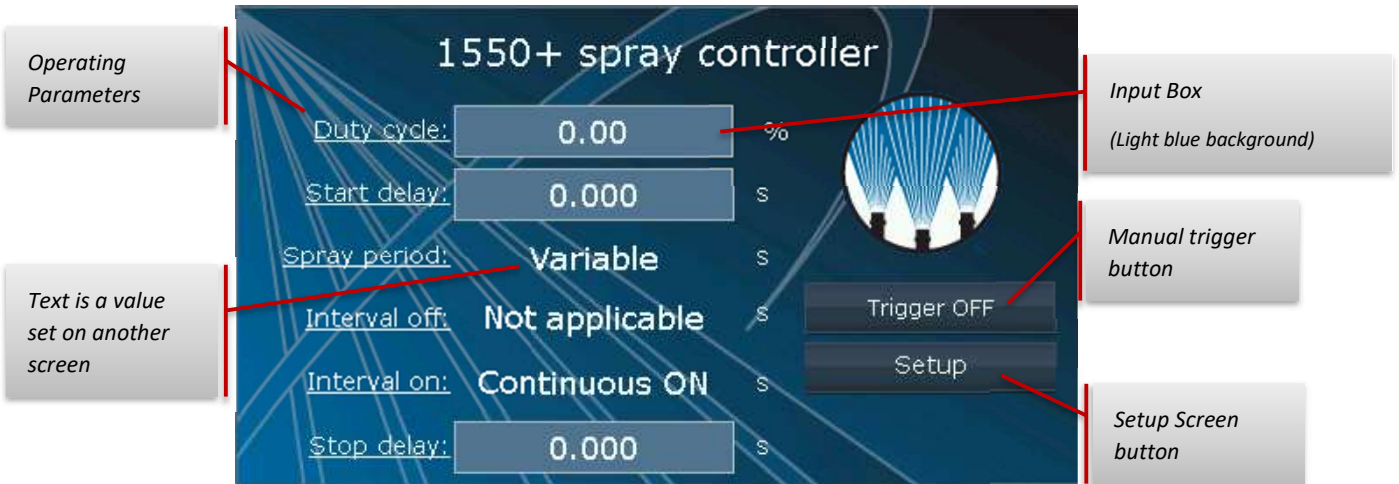


On the home screen you enter your operating parameters. These parameters change based on the timing mode selected. Note the underlined text like "Duty Cycle" the underline represents a hyperlink that provides more information regarding that parameter. Touch the text and a new window opens.



Touch the new window to return to the home screen.

Touching the Input box opens a Numeric keypad screen to enter your parameters.



*Press Enter to set value*

*Minimum to maximum values*
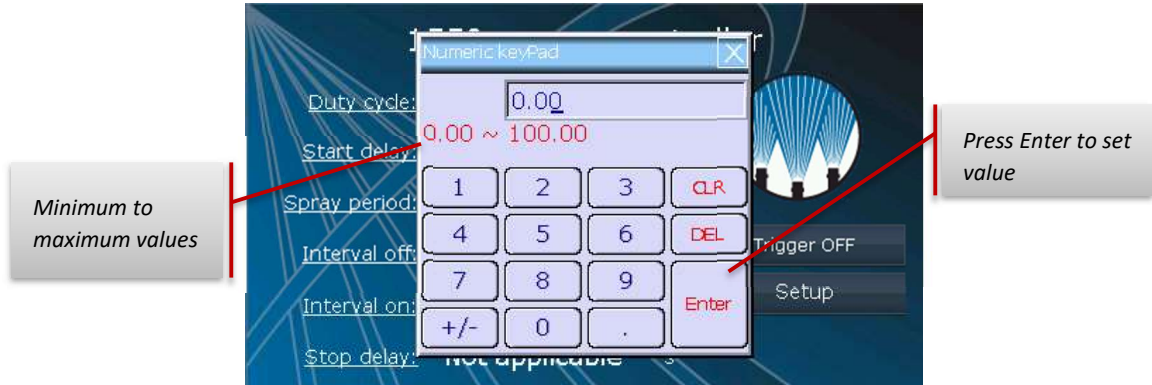
Note the red text "0.00 ~ 100.00" this indicates the minimum and maximum values you can enter for the parameter selected. These limits vary by parameter. Enter your required selection then hit "Enter" to set the parameter and return to the home screen.

## Setup Screen

To get to the Setup screen press the Setup button on the home screen.



*Press*



*Touch to see modes. Then touch text to select.*

*Touch to advance to next screen.*

*Touch to go to home screen*
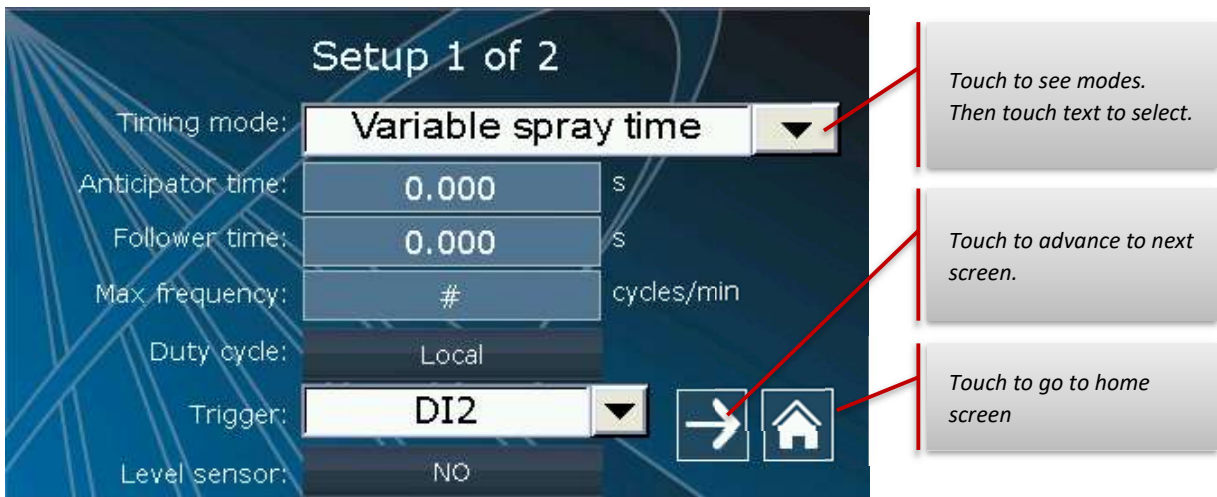
The Setup Screen is used to select the timing mode, the Anticipator and Follower times, the Maximum Frequency in cycles per minute, the Duty Cycle input, and Trigger input and if a level sensor input is to be used.

There are three timing modes available, they are explained in sections Spray Instructions Simplified & Timing Modes.

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## Anticipator & Follower

Anticipator and Follower time are used with air atomizing spray nozzles such as the 1/4JAU Automatic air atomizing spray nozzle from Spraying Systems Co.  These times allow you to adjust the time of actuation of the atomizing air.  They help minimize the spitting that can occur at the beginning or end of a spray cycle.  Anticipator is the time the atomizing air will spray prior to the spray period or liquid being spray from the nozzle.
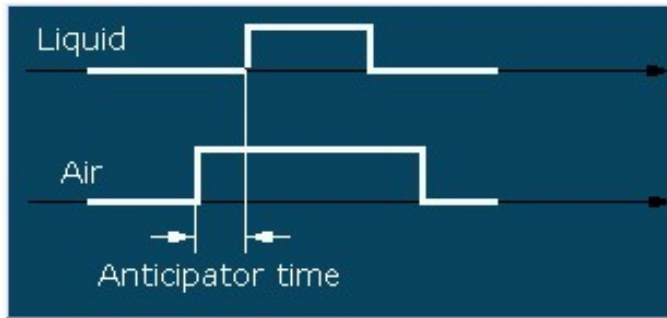


Follower time is the length of time the atomizing air will continue to spray after the *spray period* has elapsed or time after liquid has stopped spraying from the nozzle.
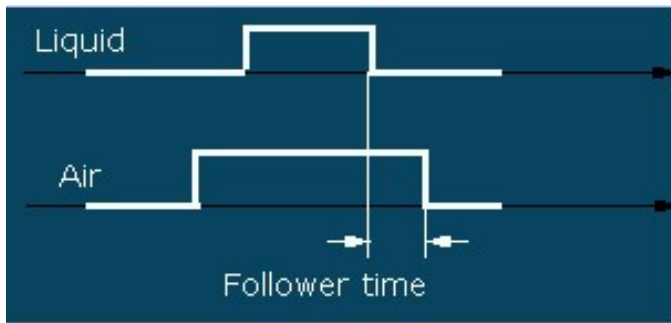


## Max. Frequency

The maximum frequency setting is used with electric actuated spray nozzle.

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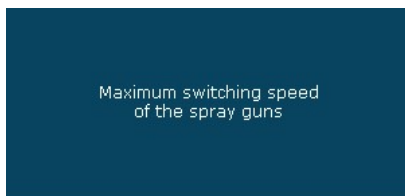
Frequency is defined as the speed of the electric spray nozzle.  The higher the frequency the faster the spray nozzle is driven.  The maximum frequency for electric nozzle compatible with the 1550+ is 5000 cycles per minute.  This value should be set as low as possible to save wear and tear on the electric nozzle.  Depending on how values are set by the user, the 1550+ controller automatically calculates the correct duty cycles and frequencies.



## Electric Nozzle Settings

The controller is defaulted to drive AA10000AUH-03 or AA250AUH models from Spraying Systems Co.

To use a model AA10000AUH-10 or 1/4JAU air atoming nozzle, go to the second Setup screen.
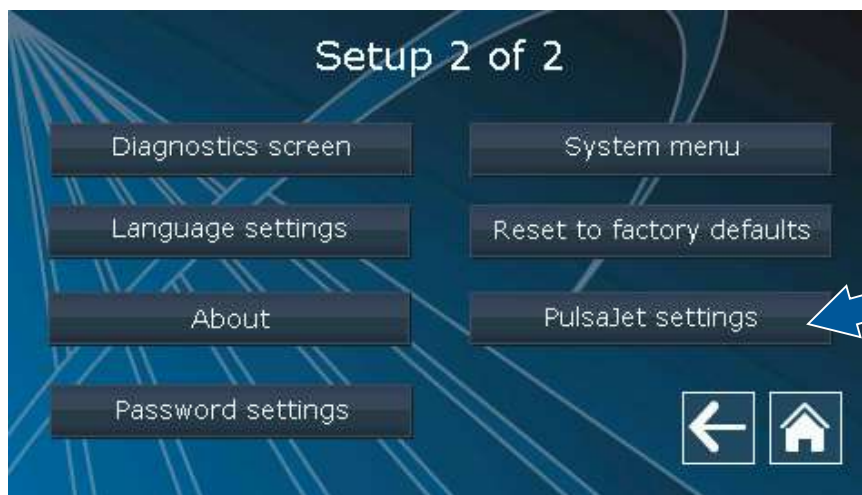
Tap on PulsaJet settings, in the next window, tap the drop down arrow.



Touch the "PulsaJet -10 or AA250" to switch.

## Duty Cycle Input

Use this to set where the duty cycle is set from.  Touch the button to toggle from Local to Remote.  Local means you can manually enter the duty cycle on the home screen.  Remote means the number will be adjusted by your system sending a 4-20mA signal to the controller to set the duty cycle.

*Local selected*



Duty cycle entry allowed

*Remote selected*



Duty cycle locked out

## Trigger

This selection allows you to set where the trigger signal will be received.  Select *local* if you want to manually trigger the system by using the Trigger button on the home screen.  When *local* is selected the home screen will display the trigger button.

**Note:**  This feature is provided for setup and troubleshooting ease.  It is not recommended that this be used in production as it requires the door to be opened to trigger the unit.

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*Trigger button when system is set to local. Touch to activate system*



When remote trigger options DI2 or DI1+DI2 is selected there is no trigger button displayed on the home screen.



Select *DI2* when using one of our available sensor options or hand trigger pendant. Or when using the optional trigger cable, which is used for customer supplied sensor (NPN only) or trigger signal (dry contact).

Select *DI1+DI2* when your application calls for a trigger interlock. When this selection is made the controller looks for two signals in order to start the process of the selected timing mode. Both are required to be high before the system is triggered.

## Setup 2 of 2 Screen

The screen accessed from the Setup screen using the forward button is the second setup screen.

This screen offers four active buttons, *Diagnostic screen, Language settings*, *About* and *PulsaJet settings*. As well as one password protected button, *System menu*. Also, the *Reset to factory defaults* button.
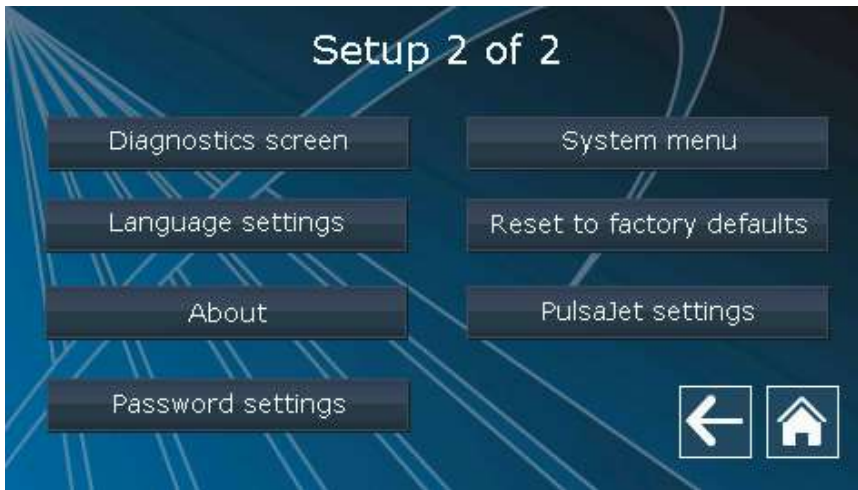


*System menu* takes you to the HMI manufacturers setting screen, this is not used during normal operation and is password protected (password is 60189). *About* takes you to an information screen detailing the hardware and software versions.

*Reset to factory defaults* clears all of your current inputs and settings. The controller will verify that is your intent by



opening this window.

X to cancel check to reset.

## Diagnostics Screen

The Diagnostic screen is used to validate signals and settings of the system as it is running.



By using this screen you'll be able to determine if your trigger signal is being seen as well as the status of other digital and analog signals. This is useful for troubleshooting and first setting up the system.

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## Select Language Screen



Select the button to change the language used on the HMI screen.  English is the default.

## Screen Saver



When the screen saver is running simply touch the screen to get to the last screen you were on.

# Password Settings
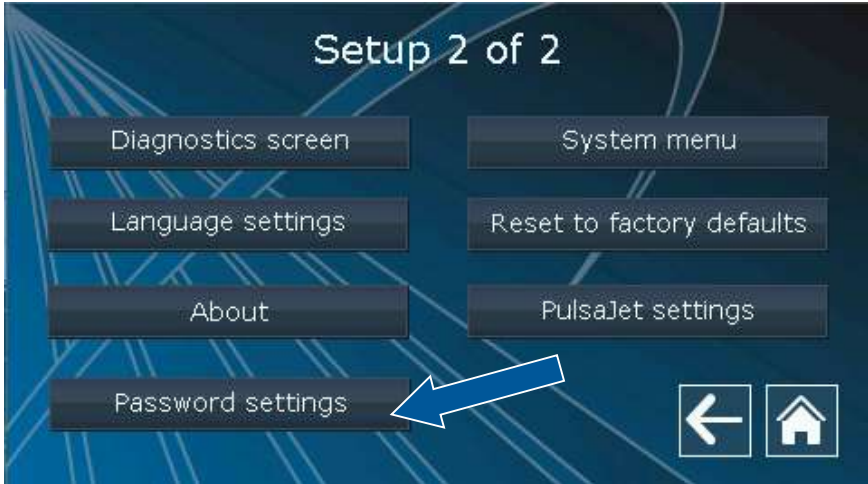


The controller has a password system.  There are two levels: 'No password required' and 'Passwords required'.

Level 0 – Passwords required - The highest level of protection, every action will require the password for level 1.

Level 1 – No password required – The user on this level can change all settings.  Out of the box this password is 111.

Pick the level you require.  If you pick 'Passwords required' (level 0) you can set your own password on the 'set passwords' button for level 1.  **If nothing works or if you've lost the passwords, the high level password is 60189**.  You can now get back into the password settings and either change them, switch to level 1 or write them down in a safe place.

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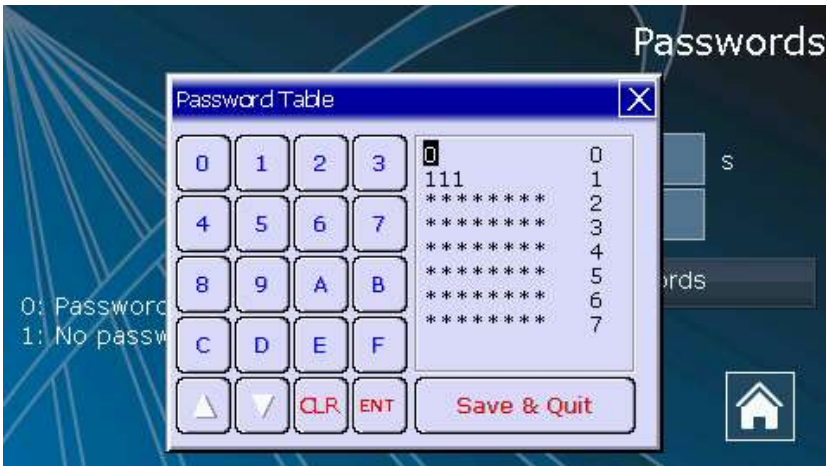
# Spray Instructions Simplified:
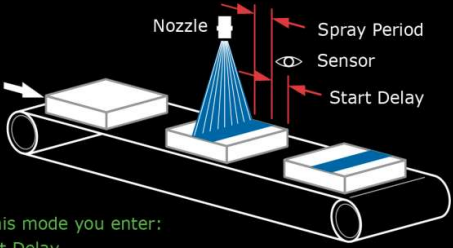
See inside Control Panel door for a simplified explanation of the Fixed, Variable and Repeat Timing Modes.



## Timing Modes

Determine the spray mode required for your process.

There are three (3) timing modes you may utilize in the 1550+ Spray Controller.  Timing modes are selected by going to the

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# Setup Screen.



## Fixed Spray Time



Fixed Spray Time or single shot mode is used for a single spray event.  The system will spray after trigger goes high then stops until next trigger event.  So for every trigger, there is a single spray event.  For this timing mode you enter "*Start Delay*" and "*Spray Period*".  To enter your applications time touch the time display box, and a new window will open to allow you to enter your time.

See example.



We've entered *Start Delay* of 2 seconds, and a *Spray Period* of 4 seconds.

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For every trigger, the system would receive the trigger signal from the sensor then wait for 2 seconds then spray for exactly 4 seconds.  The system would wait for the next trigger signal and repeat the application.

*Spray Delay* is defined as the time the system waits before starting the *Spray Period*.

*Spray Delay* time can be set from 0.000 to 9999.999 seconds.

*Spray Period* is defined as the time system sprays after the trigger signal and delay time has expired.

*Spray Period* time can be set from 0.001 to 9999.999 seconds.

To reiterate in the application the sensor or trigger signal is activated, the spray delay time is activated.  Once the *Start Delay* time is finished the system starts the *Spray Period* time which actuates the spray nozzle then sprays for the set amount of time.

**Note:** The start delay takes precedence over the anticipator time.  For example if the anticipator time is set to 2 seconds and the start delay to 1 sec the spray will still start after a 1 second delay leaving an actual anticipator time of 1 second
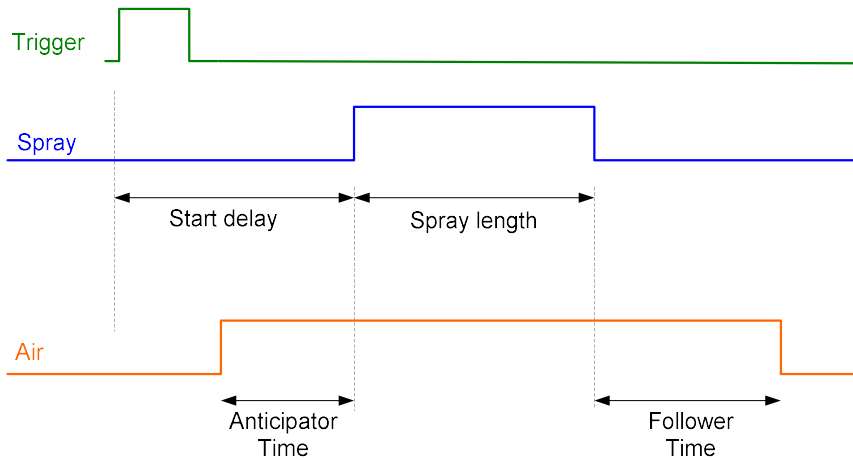


## Parameters settings for Fixed Spray Time:

| Parameter | Value |
|---|---|
| Start delay | In seconds |
| Spray period | In seconds. Should be > zero! |
| Anticipator time | In seconds – for use with air atomizing spray nozzles |
| Follower time | In seconds – for use with air atomizing spray nozzles |

## Graphic Representation of Fixed Spray Time Using PWM



**1550+ spray controller**

| | | |
|---|---|---|
| Duty cycle: | 100.00 | % |
| Start delay: | 2.000 | s |
| Spray period: | Variable | s |
| Interval off: | Not applicable | s |
| Interval on: | Continuous ON | s |
| Stop delay: | 1.000 | s |

Trigger OFF
Setup
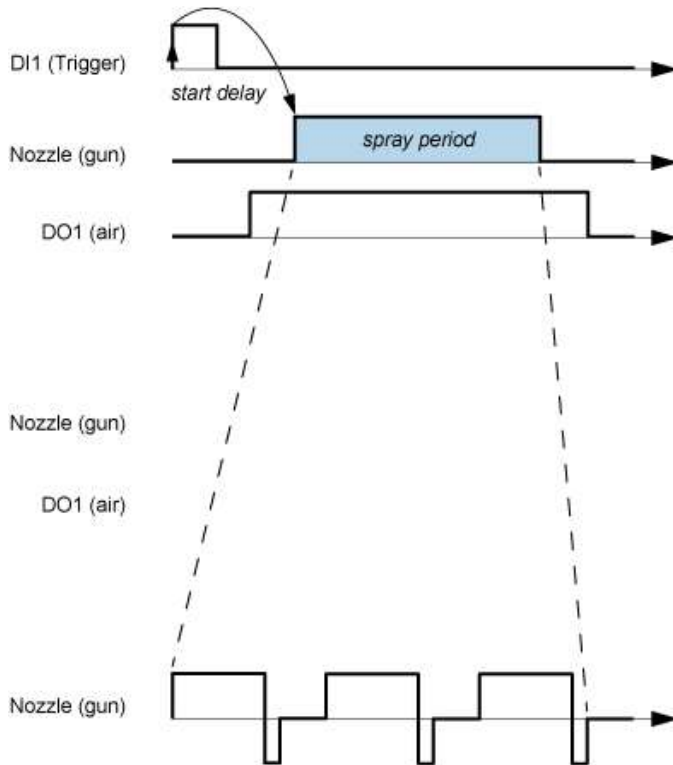
## Variable Spray Time



**Setup 1 of 2**

| | | |
|---|---|---|
| Timing mode: | Variable spray time | |
| Anticipator time: | 0.000 | s |
| Follower time: | 0.000 | s |
| Max frequency: | # | cycles/min |
| Duty cycle: | Local | |
| Trigger: | Local | |
| Level sensor: | NO | |

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Variable Spray Time is used to create spray applications with variable length.  The lengths of the spray depends on the specific time delays between the rising and falling edge of the trigger input.  Spray follows trigger according to user settings.  The system will spray after trigger goes high then stops until next trigger event.  So for every trigger, there is a single spray event.  For this timing mode you enter "*Start Delay*" and "*Stop Delay*".  To enter your applications delays touch the time display box, and a new window will open to allow you to enter your time.

See example.

We've entered a *Start Delay* of 2 seconds, and a *Stop Delay* of 1 second.

For every trigger, the system would receive the trigger signal from the sensor then wait for 2 seconds then spray for time the sensor sees the object the continue to spray for 1 second.  The system would wait for the next trigger signal and repeat the application.  The length of time spraying or *Spray Period* varies as the sensor reads the object.

*Start Delay* is defined as the time the system waits before starting the *Spray Period*.

*Start Delay* time can be set from 0.000 to 9999.999 seconds.

*Stop Delay* is defined as the time system sprays after the trigger signal has dropped.

*Stop Delay* time can be set from 0.000 to 9999.999 seconds.

To reiterate in the application the sensor or trigger signal is activated, the spray delay time is activated.  Once the *Start Delay* time is finished the system starts the *Spray Period* time which actuates the spray nozzle then sprays for the variable amount of time based on the sensor reading of the objects, then the system continues to spray for the amount of the *Stop Delay* has been programmed.

An example of this timing is shown in the following picture.
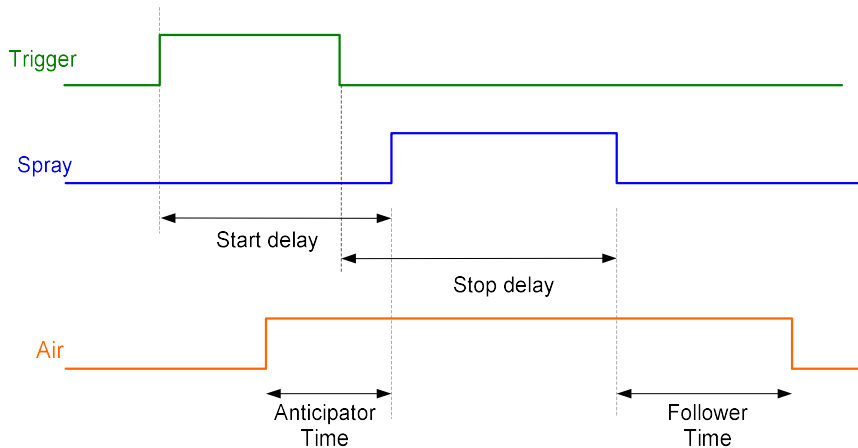


## Parameters settings for Variable Spray Time:

| Parameter | Value |
|---|---|
| Start delay | In seconds |
| Stop delay | In seconds |
| Anticipator time | In seconds – for use with air atomizing spray nozzles |
| Follower time | In seconds – for use with air atomizing spray nozzles |

### Graphic representation for Variable Spray Time Using PWM:
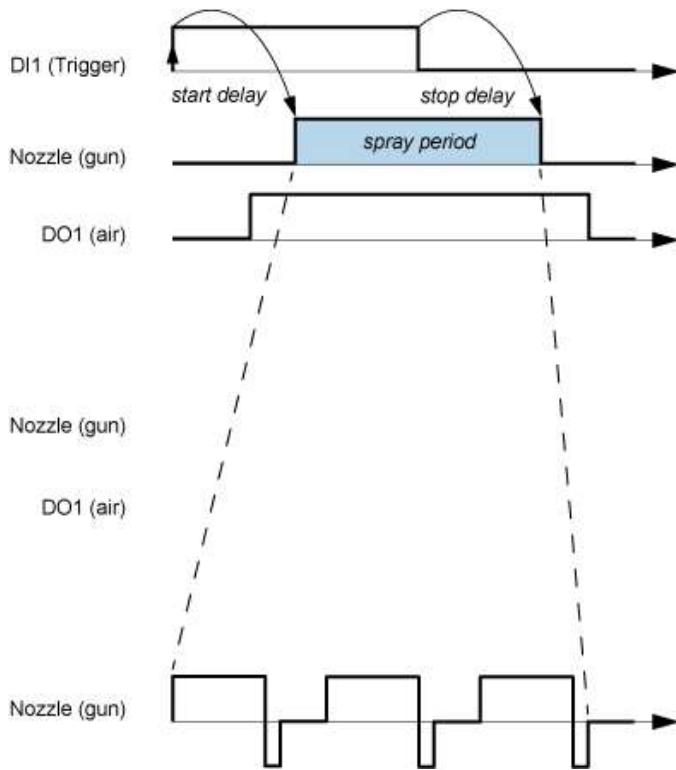
## Repeat



Repeat is used to create spray applications of specific time during a variable length spray period. The lengths of the spray depends on the specific time delays between the rising and falling edge of the trigger input. Spray follows trigger according to user settings. The system will spray after trigger goes high then stops until next trigger event. So for every trigger, there are repeated spray events. For this timing mode you enter "*Start Delay*", "*Interval Off*", "*Interval On*", and "*Stop Delay*". To enter your applications delays and intervals touch the time display box, and a new window will open to allow you to enter your time.

See example.

We've entered *Start Delay* of 1 second, *Interval Off* of 2 seconds, *Interval On* of 4 seconds, and a *Spray Delay* of 1 second.

For every trigger, the system would receive the trigger signal from the sensor then wait for 1 second then it will spray for a 4 second interval be off for a 2 second interval, repeat this process until the sensor no longer sees the object then continue

**1550+ spray controller**

| | | |
|---|---|---|
| Duty cycle: | 100.00 | % |
| Start delay: | 1.000 | s |
| Spray period: | Variable | s |
| Interval off: | 2.000 | s |
| Interval on: | 4.000 | s |
| Stop delay: | 1.000 | s |

Trigger OFF

Setup

to programmed cycle for 1 second.  The system would wait for the next trigger signal and repeat the application.  The length of time spraying or *Spray Period* varies as the sensor reads the object.

*Spray Delay* is defined as the time the system waits before starting the *Spray Period*.

*Spray Delay* time can be set from 0.000 to 9999.999 seconds.

*Stop Delay* is defined as the time system sprays after the trigger signal has dropped.

*Stop Delay* time can be set from 0.000 to 9999.999 seconds.

To reiterate in the application the sensor or trigger signal is activated, the spray delay time is activated.  Once the *Start Delay* time is finished the system starts the *Spray Period* time which actuates the spray nozzle then sprays for the variable amount of time based on the sensor reading of the objects, then the system continues to spray for the amount of the Stop Delay has been programmed.

Spray follows trigger and repeats.

An example of this timing is shown in the following picture.
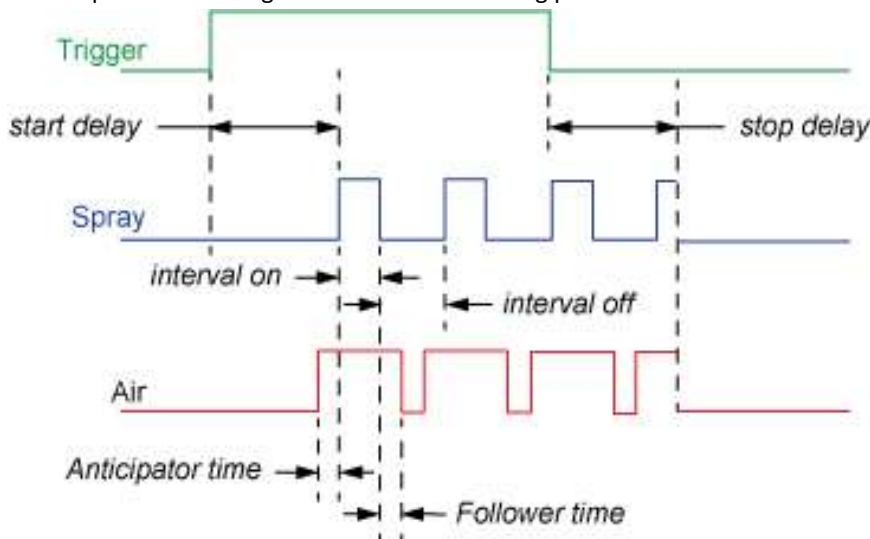


## Parameters settings for Repeat:

| Parameter | Value |
|---|---|
| Start delay | In seconds |
| Stop delay | In seconds |
| Interval off | In seconds |
| Interval on | In seconds |
| Anticipator time | In seconds – for use with air atomizing spray nozzles |
| Follower time | In seconds – for use with air atomizing spray nozzles |

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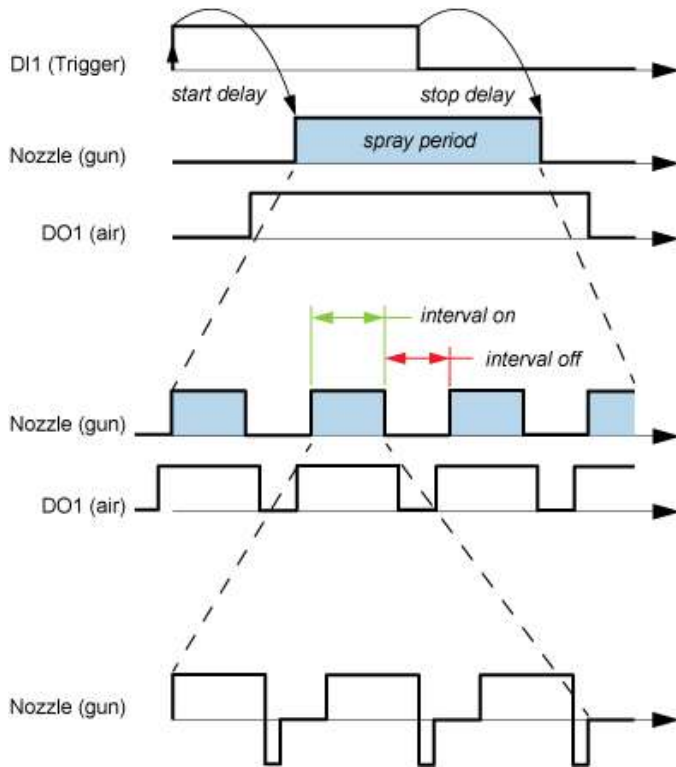
# Manual Trigger

The 1550+ Spray Controller offers a manual trigger button that allows the user to activate the system manually rather than using a sensor or other trigger signal.  This feature is provided for setup and troubleshooting ease.  It is **not** recommended that this be used in a production application as it requires the door to be opened to trigger the unit.

Go to the Setup screen, for *Trigger*; select *Local* to manually trigger the system by using the Trigger button on the home screen.



When local is selected the home screen will display the trigger button.

*Touch button to activate*



*When button is green Trigger has been activated and system should be running*

# Duty Cycle Percentage

## Setting Duty Cycle Percentage – Using PWM

The 1550+ spray controller can be used for PWM, Pulse Width Modulation.  This feature is only used with electrically actuated spray nozzles, like the PulsaJet® spray nozzle from Spraying Systems Co.

- This unique feature allows the system to control the flowrate by 'pulsing' or rapidly opening and closing the spray nozzle during the *spray period*.
- This works in the application by the system receiving the sensor or trigger signal the system is activated; the *start delay* time is activated.
- Once the delay time is finished the *spray period* starts the system then sprays for the set amount of time.
- During the *spray period* the controller sends a *duty cycle* signal to the nozzle at a rate based on the percentage.
- The percentage of the time in which the nozzle is spraying is controlled by this setting.  The duty cycle percentage can be set from 1 to 100 percent.
- The driver frequency is calculated by the controller based on the duty cycle % inputted on the home screen and the maximum frequency inputted on the setup screen.

## Duty Cycle Example 1

The example shown at left has the parameters set as follows:

1 second of *start delay* time
2 seconds of *spray period* time
100% PWM or *Duty Cycle*
Set to *Fixed Spray Time* timing mode

In this set of parameters PWM is not actually being used.
*Note:* For all pneumatic or non-electrically actuated spray nozzles the PWM should always be set at 100%.

- This works in the application by the system receiving the sensor or trigger signal, the system is activated; the *start delay* time is activated, then after 1 second time the spray nozzle is activated.
- It sprays for the 2 second *spray period* time.
- During that 2 second *spray period* time the electric spray nozzle is not pulsed; the spray nozzle is spraying for the total 2 seconds of spray time.

## Duty Cycle Example 2

The example shown at left has the parameters set as follows:

1 second *start delay* time

3 seconds *spray period* time

33% PWM or *Duty Cycle*

Set to *Fixed Spray Time* timing mode

- This works in the application by the system receiving the sensor or trigger signal, the system is activated; the *start delay* time is activated, then after 1 second time the spray nozzle is activated.
- It sprays for 3 seconds of *spray period* time.
- During that 3 second spray time the electric spray nozzle is pulsed, at a 33% rate so that of the 3 seconds of spray time the spray nozzle is spraying only a third of the time or 1 second's worth of total time.
- The system thereby theoretically cuts the liquid flow rate for the application by two thirds.

# Using the Recirculation Feature

## Recirculation

The 1550+ AutoJet Modular Spray System is designed to recirculate fluid in two methods.  Re-circulating the fluid from the system to the supply tank allows the customer to keep the fluid in a state of motion.  This is very useful when spraying fluids that need agitation to keep the viscosity constant.

Re-circulating the fluid from the spray nozzle to the system allows the customer to keep fluid pressure constant and eliminate pulsing from the pump.  Depending on the position of the return point, it will also allow the customer to keep fluid in motion through the spray nozzles, again helping to keep the fluid at a constant viscosity.  This should help prevent spray nozzle clogging and keeps the material from separating.

Each of these recirculation modes are described below.

- The first method is to re-circulate the fluid out to the spray nozzle and back into the system through the second liquid port.  (Ex. Nozzles of headers that have this feature include AA250AUH, VAU and VMAU, 98250 product lines)

- The second method is to utilize a "Y" splitter on the liquid outlet line, with one leg tied into the fluid return line (see picture below).  Please note that this is the lowest fluid return port, which has a needle valve on the back side of the manifold.

## Setting the Recirculation Flow for the System

A flow control valve is included in every system.  To adjust the amount of fluid that is circulating turn the knob counter clockwise until you have reached the desired amount of recirculation/back pressure.  Note the pump will cycle more as it is working to keep the fluid moving.

Flow control valve

Flow control valve

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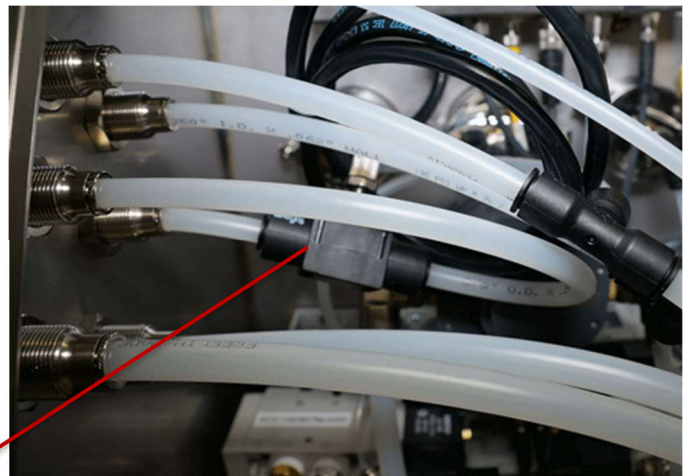
# Specifications

## Standard Environmental Specifications:

- To be installed indoors.
- Min. ambient temperature: 41°F (5°C)
- Max. ambient temperature: 104°F (40°C)
- Max. humidity:  90%
- Not explosion proof (Non-Ex)
- UL Type 1 Panel rating

## Construction Details:

- Air & Liquid **English** Connections:
    - Air supply inlet:  1/2" NPT (F)
    - Liquid inlet:  1/2" O.D. push to connect tube fitting
    - Liquid outlet:  1/2" O.D. push to connect tube fitting
    - Liquid return to tank:  3/8" O.D. push to connect tube fitting
    - Cylinder Air outlet:  1/4" O.D. push to connect tube fitting
    - Atomizing Air outlet:  3/8" O.D. push to connect tube fitting
    - Fan Air outlet:  3/8" O.D. push to connect tube fitting
- Air & Liquid **Metric** Connections:
    - Air supply inlet:  1/2" BSPT (F)
    - Liquid inlet:  10 mm O.D. push to connect tube fitting
    - Liquid line outlet and return:  10 mm O.D. push to connect tube fitting
    - Liquid return to tank:  10 mm O.D. push to connect tube fitting
    - Cylinder Air outlet:  6 mm O.D. push to connect tube fitting
    - Atomizing Air outlet:  10 mm O.D. push to connect tube fitting
    - Fan Air outlet:  10 mm O.D. push to connect tube fitting
- Dimensions:
    - Width: 12 inches (304.8 mm)
    - Depth: 12 inches (304.8 mm)
    - Height: 29 inches (736.6 mm)
    - Weight: < 58 pounds (21.3 kg) (max configuration)
- Dimensions for **Control Panel** only:
    - Width: 9 in. (228.6 mm)
    - Depth: 4 1/4 in. (108 mm)
    - Height: 10 1/2 in. (266.7 mm)
    - Weight: 10 lbs. (4.5 kg)

**Notes:**

- An area of 24" (610 mm) around the unit should be kept free for maintenance purposes.
- Does not include dimensions of the pressure pot, if used.

## System Specifications:

### Electrical

| | |
|---|---|
| Supply Voltage: | 110-240Vac |
| Frequency: | 50/60 |
| Amperage: | 5A max. |
| Phase: | Single |
| Fuse Replacement: | 250Vac 5A – Ceramic Slow Blow |

## Compressed Air

Inlet Pressure:                 100 psi (7 bar) (System designed to work at 100 psi)

Max. Air Flow:                  50 SCFM [Accumulated total; including pump, atomizing, and fan air lines]

Required air quality:           Clean, dry air according to DIN ISO 8573-1

Solids - Class 5

Water content – at least class 4 (*) - Cooled down to 59° F below room temperature (location of system)

Oil content – at least class 5

## Liquid Data

Liquid Temperature:             32° to 140° F (0° to 60° C)

Viscosity:                      <1000 cP

Specific Gravity:   <1.5

## Operating Liquid Parameters (Spraying water)

*Pressure:*

Minimum:                        5 psi (0.4 bar)

Maximum:                        80 psi (5.5 bar) [100 psi (7 bar) maximum capable]

*Flow:*

Maximum:                        2 GPM @ 40 psi (7.6 l/min @ 2.8 bar)

## Operating Cylinder Air Parameters

*Pressure:*

Minimum:                        45 psi (5.5 bar)

Maximum:                        100 psi (7 bar)

Note: cylinder air pressure will be equal to the inlet air pressure of the system

## Operating Atomizing Air Parameters

*Pressure:*

Minimum:                        5 psi (0.4 bar)

Maximum:                        60 psi (3.1 bar)

*Flow:*

Maximum:                        40 SCFM @ 40 psi (1130 Nl/min @ 2.8 bar)

## Operating Fan Air Parameters

*Pressure:*

Minimum:                        5 psi (0.4 bar)

Maximum:                        60 psi (3.1 bar)

*Flow:*

Maximum:                        40 SCFM @ 40 psi (1130 Nl/min @ 2.8 bar)

## System Timing - Atomizing Air

Anticipator Time: User adjustable 0 – 60.0 sec.

Follower Time:           User adjustable 0 – 60.0 sec.

# Pump Specifications

**Port sizes:**

      Fluid inlet/outlet 3/8" NPT/ 1/2" NPT
      Exhaust          3/8" NPT/ 3/8" NPT
      Inlet air         1/4" NPT/ 1/4"NPT

**Material:**
- **Standard version**
    - Body wetted areas      Polypropylene
    - Diaphragm              PTFE
    - Check Valves           PTFE
- **Food Contact version**
    - Body wetted areas      316 stainless steel
    - Diaphragm              PTFE
    - Check Valves           PTFE

*Note:* The following specifications are based on water.
      Viscosity = 1cP; Temp 68° F; Specific Gravity = 1.0

| | |
|---|---|
| Maximum fluid working pressure | 100 psi (0.7 MPa, 7 bar) |
| Maximum/minimum air pressure | 100 psi / 20psi (0.7 MPa, 7 bar) / (0.14 MPa, 1.4 bar) |
| Maximum pump speed | 300 cycles per minute |
| Volume per stroke | 0.02 gal (74 cc) |
| Maximum suction lift dry | 5ft.(1.5m) |
| Maximum size pump-able solids | 0.04 in. (1 mm) |
| Maximum liquid temperature | 140° F (60° C) |
| Maximum air consumption | 9 scfm (250 NL/min) |
| Expected Diaphragm Life (days)* | depends on application |

*Note:* Viscosity of fluid being pumped will have a significant effect on these specifications.

# External Input Offerings

The system may be purchased with the following input components.

| Description | Connects To | Part Number |
|---|---|---|
| Trigger Cable – Flying leads - 16.4' (5m) length | Trig. | LE00M12F5M |
| Hand Pendant Trigger - 16.4' (5m) length | Trig. | SW001550M12HT |
| | | |
| Object Sensor - Photoelectric - 16.4' (5m) length with mounting bracket | Trig. | 040TS04000014W0 |
| Object Sensor - Thru Beam - 16.4' (5m) length with mounting bracket | Trig. | 040TS04000028W0 |
| Object Sensor - Proximity Sensor kit | Trig. | 040TS04000118W0 |
| Object Sensor - Laser Sensor kit- long distance | Trig. | 040TS04000087W0 |
| Object Sensor - Laser Sensor kit- short distance | Trig. | 040TS04000135W0 |
| | | |
| Extension Cable – Connector - 16.4' (5m) length M12FxM12F, 4 pole | Trig./Main | LEXXSD4FD4F0050 |
| | | |
| Input Signal Cable - Flying lead - 16.4' (5m) length, M8 x bare leads, 4 pole | 4-20mA | LE00M8M5M |
| | | |
| Trigger Interlock Cable, M8 Female, 4 pole, bare leads, 16.4' (5m) | T int. | LE00M8F5M |
| | | |
| 1550+ Alarm Output Cable Kit, M12 4 pole m, M8 m and bare leads, 19.7' (6m) | Main | 040TS04000054W0 |
| | | |
| Junction Block - 4 connectors – with cable, 16.4' (5m) length, M12 male | Main | JCPCNS000005-00_AC01 |
| Junction Block - 8 connectors– with cable, 16.4' (5m) length, M12 male | Main | JCPCNS000004-00_AC01 |
| | | |
| PulsaJet Nozzle Cable to Controller of Multiport Junction Block 9.8' (3m) length | Main | LEXXSD3M83F030P |
| AA250 Nozzle Cable to Controller of Multiport Junction Block 9.8' (3m) length | Main | LE00M12MMDIN3MU |

Details on various components are explained in the following sections.

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# Trigger Cable Offering

Optional trigger cable offering:  Un-terminated flying lead cable and connector.

## Required Input:

- o   Part Number - LE00M12F5M – M12(f) x bare lead trigger cable
- o   NPN – Switch to 0 VDC to turn on spray trigger.
  - •   Requires NPN Sensor or dry contact switch.
- o   Connects to the connector labeled "Trig." On the bottom of the panel.

## Assembly Specifications:

- o   Panel connection: Trig (Software trigger choice - DI2)
- o   Cable:  16.4 ft. [5 m] cord length
- o   Flying Leads
- o   Connector end – M12 4 pin female
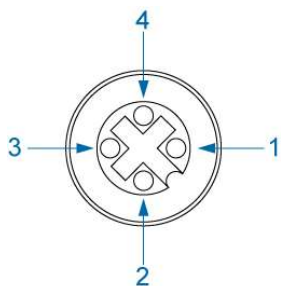
### Color Code

| Pin # | Color | Description |
|-------|-------|-------------|
| 1 | Brown | + 24VDC (only used for sensors) |
| 2 | White | 0 VDC (only used for sensors) |
| 3 | Blue | 0 VDC |
| 4 | Black | DI2 |

*Note:*  **Connect pins 3 & 4 with switch or dry contact to initiate trigger.**

**WARNING:  Never connect pin 1 (24vdc) to any other pin.  Doing so could cause equipment damage. (Cut the brown and white wire if you're not using them)**

## Trigger Cable
## LE00M12F5M

Connects to "Trig" connector
on the 1550+ Control Panel

Trig

M12 (F)

16.4 ft. (5m) Length

Cable, M12 (F) x Flying Leads - 4 pin
LE00M12F5M
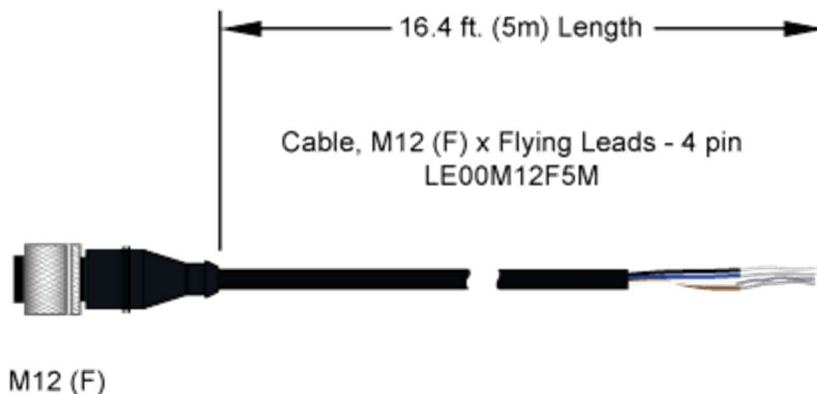
## Secondary Run/Enable Trigger _or_ Level Switch Input

The 1550+ controller features an optional secondary run enabled trigger (Trigger Interlock feature) or a digital input for a level switch.

_Note:_ Only one can be used at a time.

_For the secondary run trigger_, this feature provides a way for you to provide a run signal to the controller.  If this signal is not present, then the system will ignore the trigger signal.  An example of this would be if you do not want the nozzle to spray unless the conveyor is running and there is a part present to spray.

_For the level switch option_, this feature allows you to wire in a NO (Normally Open) level switch from a liquid tote or tank.  When the tank runs low the level switch contacts closes and the 1550+ will send a 24vdc signal to either a customer supplied warning light or to a PLC.

To use these features, you need our cable part number LE00M8F5M.

- o   Panel connection: T. int. (Software – DI1+DI2)
- o   Cable:  16.4 ft. [5 m] cord length
- o   Flying Leads
- o   Connector end – M8 4 pin female

Color Code

| Pin # | Color | Description |
|-------|-------|-------------|
| 1 | Brown | + 24VDC (not used) |
| 2 | White | not used |
| 3 | Blue | 0 VDC |
| 4 | Black | DI1 |



### Trigger Interlock Cable
### LE00M8F5M

16.4 ft. (5m) Length

Cable, M8 (F) x Flying Leads - 4 pin
LE00M8F5M

Connects to "T. int." connector
on the 1550+ Control Panel

T. int.

M8 (F)
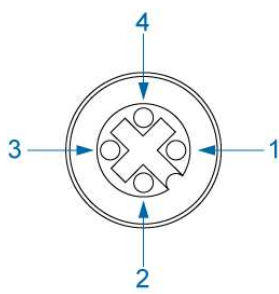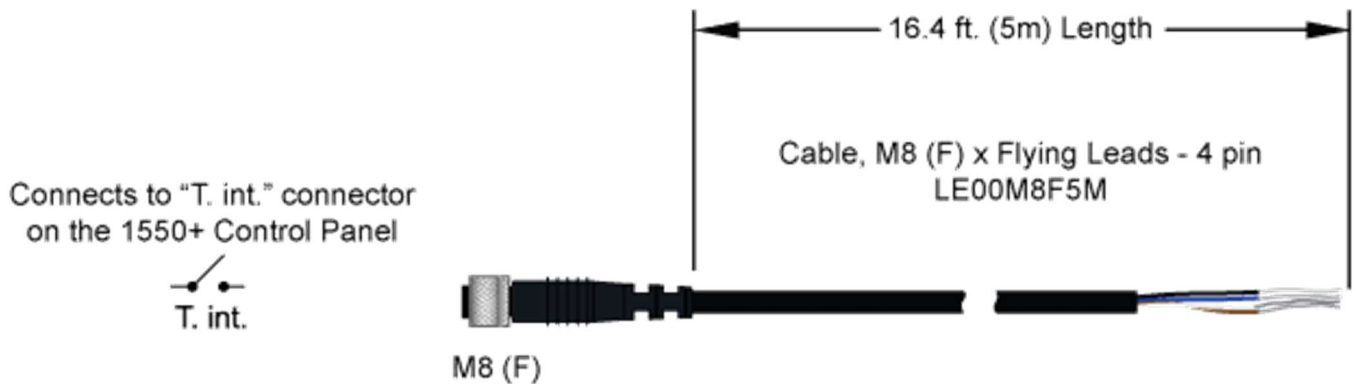
# Optional Triggering Offerings

Optional sensor offerings included the following. Note that we are not a sensor manufacture and that these have been selected for their versatility and quality. They should be selected based on what's best for your application:

## Photoelectric Object sensor

Infrared – direct reflection sensor with cable and connector

Kit Number: 040TS04000014W0

**Sensor Specifications:**

- Photoelectric sensor – Infrared – direct reflection sensor with cable, connector, and bracket.
  - **NPN** – NO + NC
  - 35 inch [900 mm] sensing range
  - Setting distance adjustable between 6 and 36 inches [150 and 900 mm]
  - Working temperature range = -4° F to 158° F [-20° C to 70° C]
  - IP67; CE rated

**Assembly Specifications:**

  - Panel connection: Trig
  - Cable: 16.4 ft. [5 m] cord length
  - Connector – M12 4 pin female



Object Sensor Kit
040TS04000014W0
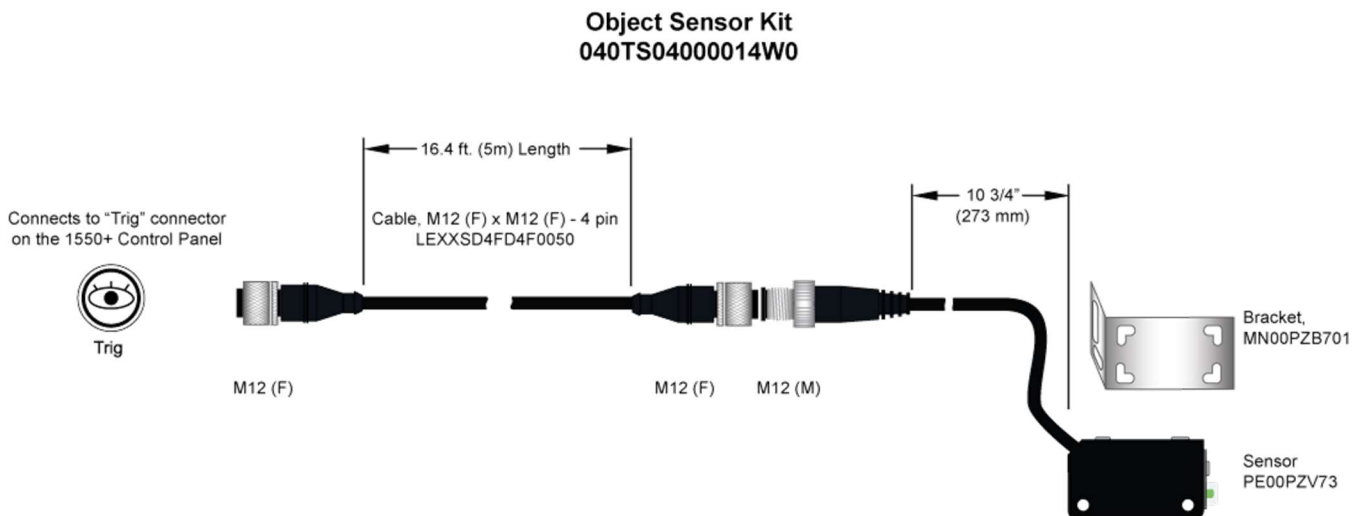
For additional sensor information please refer to included sensor manual. Follow specifications for PZ-V71.

# Thru Beam Sensor

Infrared - thru beam sensor with cables, wye connector and brackets

Kit number: 040TS04000028W0

**Sensor Specifications:**

- Photoelectric sensor – Infrared – direct reflection sensor with cable, connector, and bracket.
  - **NPN** – NO + NC
  - 65.6 feet [20 m] sensing range
  - Working temperature range = -4° F to 130° F [-20° C to 55° C]
  - IP67; CE rated



**Thru Beam Sensor Kit
040TS04000028W0**
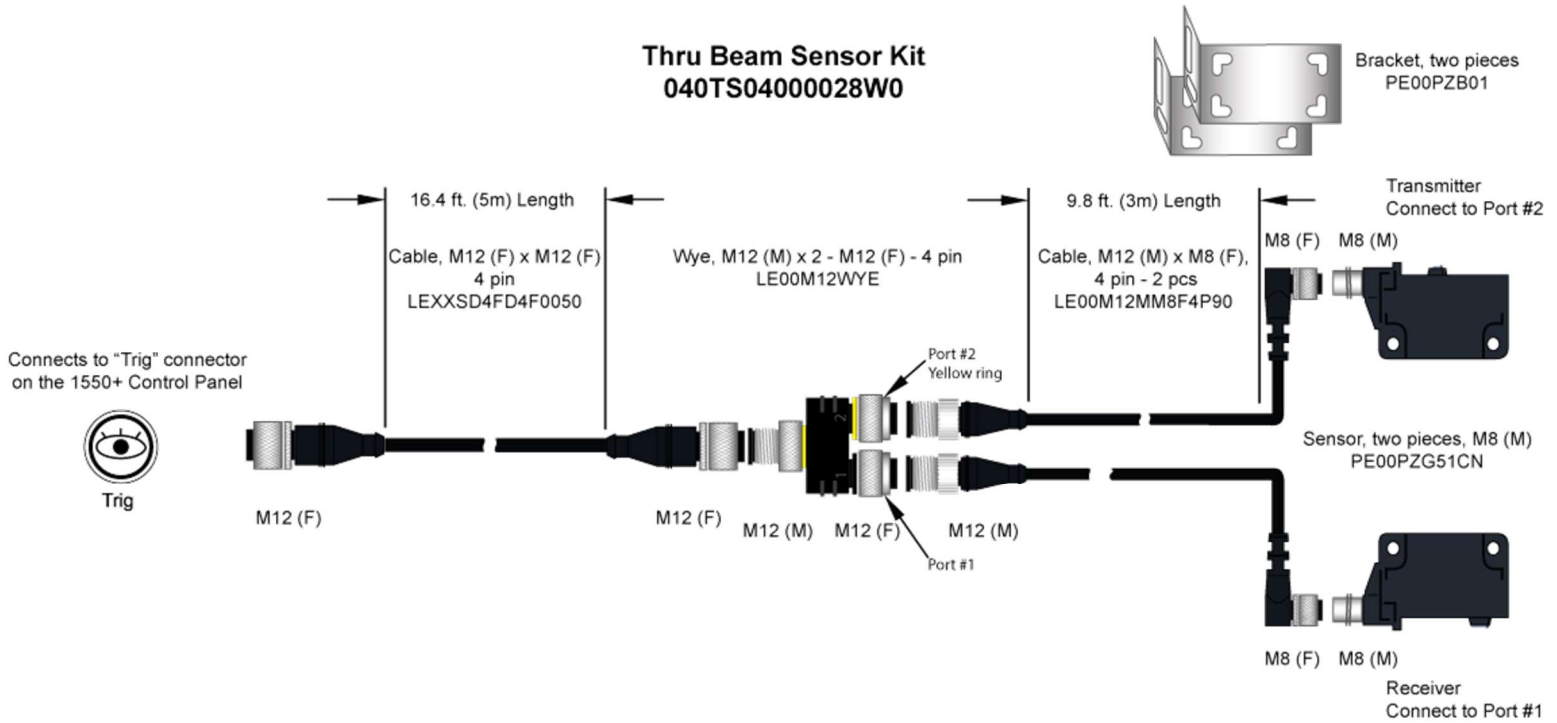
**Assembly Specifications:**

- Panel connection: Trig
- Cable: 16.4 ft. [5 m] cord length
  - *Note:* To set this up you need to use all three cables and the splitter. The thru beam has a transmitter and a receiver. Each gets a cable connecting it to the splitter. Then the splitter has a cable to connect it to the system.
  - The Receiver goes to port 1 on the wye splitter, and Transmitter cable goes to port 2. Refer to the manufacturers' data sheet for more information on setting up the sensor for use.
- Connector – M12 4 pin female

# Proximity Sensor Kit

For sensing metallic objects.

Kit includes sensor, with mounting nuts and locking washer, and cable.

Kit number: 040TS04000118W0

**Sensor Specifications:**

- Proximity sensor – Detects all metals 10mm max. sense dist., 24vdc, NPN outputs N.O./N.C., shielded, IP67, 5m cable wired for 1550+
  - **NPN** – NO + NC
  - Working temperature range = -13° F to 176° F [-25° C to 80° C]
  - IP67, NEMA type 6 (waterproof); CE rated

# Laser Sensor (short distances) Sensor Kit

For accurate short distance sensing of objects (thin, shiny, dark, clear, multi-faceted)

Kit number: 040TS04000135W0

**Sensor Specifications:**

- Laser sensor –  with cable, connector, and bracket.
  - **NPN** – NO + NC
  - 1.0" – 3.5" [25mm – 90mm] sensing range (1.5mm – 3mm deviation range).
  - Working temperature range = 10° F to 122° F [-10° C to 50° C]

    IP69K, NEMA 4X; CE rated

# Laser Sensor (long distances) Sensor Kit

For accurate long distance sensing of objects (shiny, dark, clear, multi-faceted)

Kit number: 040TS04000087W0

**Sensor Specifications:**

- Laser sensor –  with cable, connector, and bracket.
  - **NPN** – NO + NC
  - 1.38" – 19.69" [35mm – 500mm] sensing range (9mm – 50mm deviation range).
  - Working temperature range = 10° F to 122° F [-10° C to 50° C]

    IP69K, NEMA 4X; CE rated

# Hand Held Pendant

For manual triggering of the system.  The unit offers two switches to independently trigger the system.  Cable length offers flexibility in location of operation.

Part number: SW001550M12HT

**Specifications:**

- 2 Switches.
  - 1 - On/Off selector switch
  - 1 – Pushbutton – momentary on button
  - M12 (M) connector – connects to "Main" on control panel - 4 pin
  - 16.4 ft (5m) cable length

# Foot Switch

For manual triggering of the system.  Heavy duty foot switch provides for hands free triggering in a manual triggering application.

Kit number: 040TS04000130W0

**Specifications:**

- Momentary on switch

- Wired normally open
  - Can be wired normally closed
  - o M12 (M) connector – connects to "Main" on control panel - 4 pin
  - o 16.4 ft (5m) cable length

# Optional Input Signal Offering

Optional Input signal offering consists of a cable with connector and flying leads to be connected to the customer's conditioned 4-20 mA signal in order to remotely control the PWM (Pulse Width Modulation) feature of the 1550+ Spray Controller.  When connected correctly, the Duty Cycle on the controller display adjusts according to the input signal, 4mA corresponds to 0% PWM and 20 mA corresponds to 100%, when *Duty Cycle* is set to *Remote*.





*Duty cycle will display remote input when connected correctly.  Not active or accessible for local adjustment*

This will display value when the nozzle is triggered.

## Assembly Specifications:

- o Panel connection: 4-20mA
- o Part number: LE00M8M5M
- o Cable:  16.4 ft. [5 m] cord
- o Flying Leads
- o Connector – M8 4 pin male
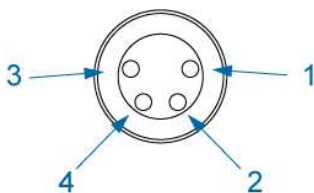
### Color Code

| Pin # | Color | Description |
|-------|-------|-------------|
| 1 | Brown | +24 VDC |
| 2 | White | 4-20mA |
| 3 | Blue | 0 VDC |
| 4 | Black | Not used |

*Note:*  If your 0VDC is coming from a power supply outside of our panel, connect it to this wire – Pin #3

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## Input Signal Cable
## LE00M8M5M

16.4 ft. (5m) Length

Input Signal Cable, M8 (M) x
Flying Leads - 4 pin
LE00M8M5M

Connects to "4-20mA" connector
on the 1550+ Control Panel

→T₃←

4-20mA

M8 (M)
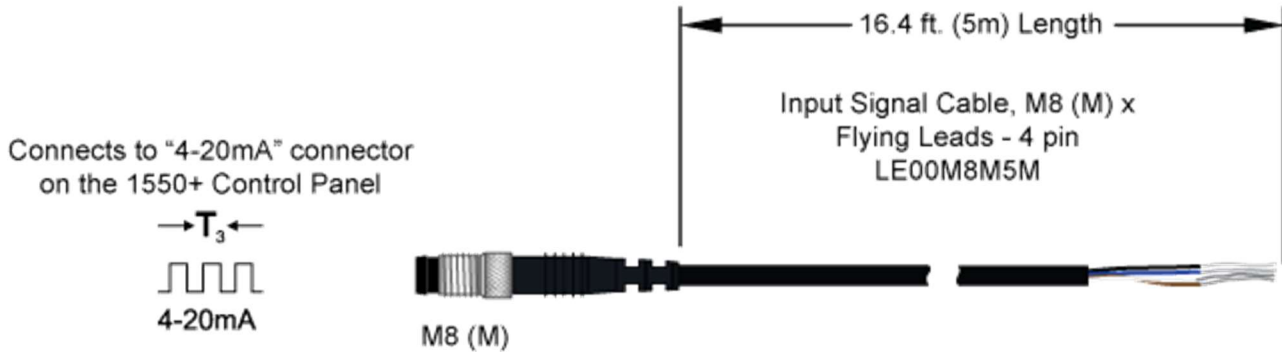
# Optional Electric Nozzle Cord Set Offering

If the system is designed to operate Spraying Systems Co. PulsaJet or AA250 electric spray nozzles, the system is supplied with a cord to connect the spray nozzle to the 1550 Control Panel. All of the electric nozzle cord sets are wired as shown in the diagram.

AA10000 Series PulsaJet Nozzle Cable

- o Panel connection: Main
- o Part number: LEXXSD3M83F030P
- o Cable: 9.8 ft. [3 m] cord length
- o Connector – M8 3 pin female
- o Connector – M12 3 pin male

## AA10000 Series Cable
## LEXXSD3M83F030P

10 ft. (3m) Length

Cable, M12 (M) x M8 (F) - 3 pin
LEXXSD3M83F030P

Connects to "Main" connector
on the 1550+ Control Panel

Main

M12 (M)

M8 (F)
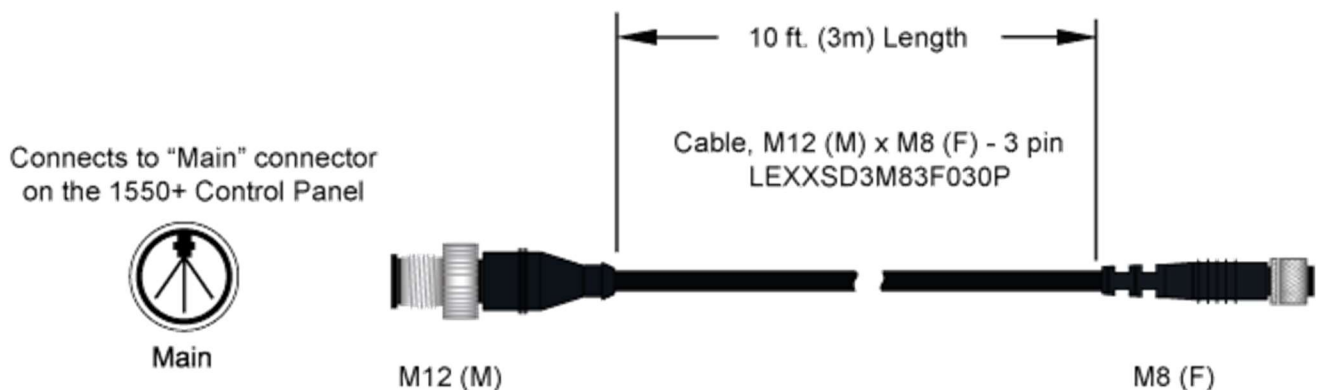
AA250AUH Electric Nozzle Cable

- o Panel connection: Main
- o Part number: LE00M12MMDIN3MU

- o  Cable:  9.8 ft. [3 m] cord length
- o  Connector – Mini DIN
- o  Connector – M12 3 pin male

## AA250AUH Cable
## LE00M12MMDIN3MU



10 ft. (3m) Length

Connects to "Main" connector on the 1550+ Control Panel

Cable, M12 (M) x DIN - 3 pin
LE00M12MMDIN3MU

Main

M12 (M)

DIN
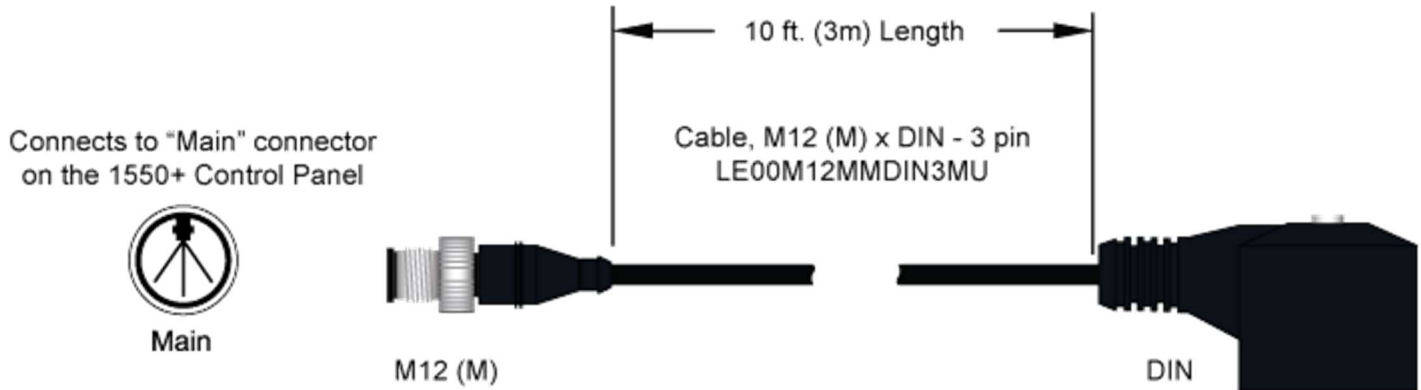
## Electrical Junction Block

If multiple PulsaJet or AA250 electric spray nozzles are used the system comes complete with a junction block to connect the spray nozzles to the unit.

- The Junction Block is available in two versions: four (4) and eight (8) nozzle connections.



Pin 1 - Brown - PWM+ (Goes to +)

Pin 3 - Blue - PWM- (Goes to -)

CONNECTIONS MADE VIA SPRING CLAMP TERMINAL BLOCKS
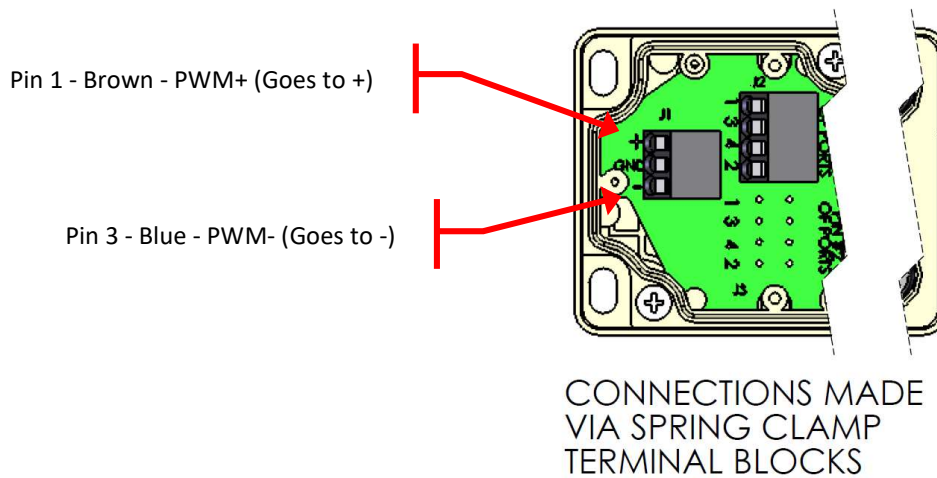
The cable that connects the junction block to the controller will be preassembled.  In the event that this becomes disconnected from the junction block follow the wiring diagram above.

# Fault Output Signal

The 1550+ offers a feature to signal your system when a fault has occurred in the operation of the controller.  This is wired as shown in the diagram in Section 15.1.  To activate this feature, you need to have our optional splitter cable kit.

- o  Panel connection: Main

- o Kit Number: 040TS04000054W0
- o Adapter:  Splitter – M12 (M) x 2 M12 (F) - 3 ft. [1 m] whip cord length
  - • LE00M12WYE1M
- o Cable: M12 (M) x Flying Leads - 16'4 ft. [5 m]
  - • Connects to one connector on splitter
  - • The flying leads from cable of the kit are to be connected to the customer's PLC or warning signal light, +24VDC. (black and white wires)
- o Open connector on splitter
  - • Connect PulsaJet cable; AA250 cable; or Extension cable to this connection.

**Fault Output Signal Kit**
**040TS04000054W0**
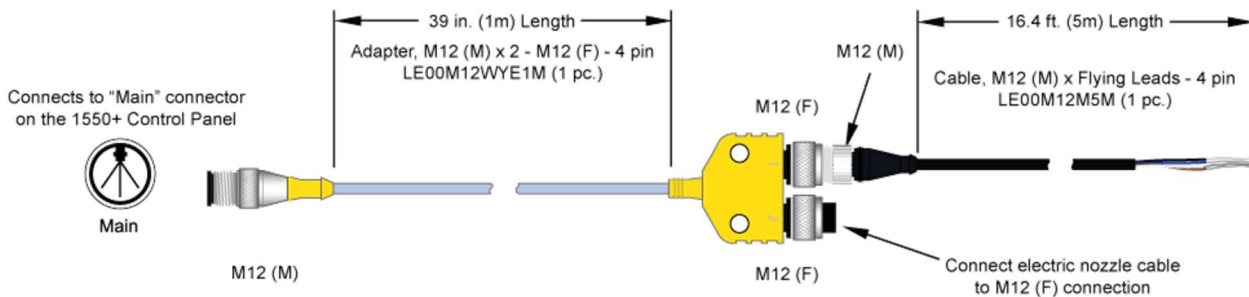


## Assembly Specifications:

- o Panel connection: Main
- o Part Number: LE00M12M5M
- o Cable:  16.4 ft. [5 m] cord length
- o Flying Leads
- o Connector – M12 4 pin male
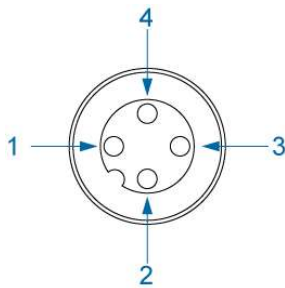


| Color Code | | |
| --- | --- | --- |
| Pin # | Color | Description |
| 1 | Brown | PWM + |
| 2 | White | * Fault Output |
| 3 | Blue | PWM - |
| 4 | Black | +24 VDC |

* Fault output requires optional splitter cable, can be run to LED or buzzer, 0.5A max. NPN

If fault output is wired without the splitter cable, then white wire goes to black.

# Extension Cable

If longer length cables are required, we offer an extension cable that is 16.4' (5m) [Cable P/N LEXXSD4FD4M005P].

- This cable can be used to go between the nozzle cable and the junction block or the junction block cable and the system.
- This cable can also be used to extend the trigger device cable lengths.
  - Note due to voltage drop we recommend keeping the cable length to a reasonable length. Never attempt to chain more than four (4) cables together. Electric spray nozzle speed and performance will suffer.

  - Panel connection: Main or Trig
  - Part number: LEXXSD4FD4M005P
  - Cable: 16.4 ft. [5 m] cord length
  - Connector – M12 4 pin female
  - Connector – M12 4 pin male



**Extension Cable**
**LEXXSD4FD4M005P**

This cable can be used to go between the nozzle cable and the junction block or the junction block cable and the system.

This cable can also be used to extend the trigger device cable lengths.

16.4 ft. (5m) Length

Cable, M12 (F) x M12 (M) - 4 pin
LEXXSD4FD4M005P

When using to extend electric nozzle cables, connect electric nozzle cable to M12 (F) connector.

M12 (F)  M12 (M)

When using to extend sensor cables, connect M12 (F) connector to "Trig" connector on the 1550+ Control Panel

Trig

When using to extend electric nozzle cable, M12 (M) connects to "Main" connector on the 1550+ Control Panel or Junction block.

Main

When using to extend sensor cables, connect M12 (F) connector from sensor cable to M12 (M) connector of the Extension cable.

# Level Switch Cable Kit

The 1550+ offers a feature to signal your system when a fault has occurred in the operation of the controller. This is wired as shown in the diagram. To activate this feature, you need to have our optional splitter cable kit.

  - Panel connection: Main and T. int.
  - Kit Number: 040TS04000064W0
  - Adapter: Splitter – M12 (M) x 2 M12 (F) - 3 ft. [1 m] whip cord length
    - LE00M12WYE1M
  - Cable: M12 (M) x Flying Leads - 16'4 ft. [5 m]
    - Connects to one connector on splitter
    - The flying leads from cable of the kit are to be connected to the customer's PLC or warning signal light, +24VDC. (black and white wires)
  - Open connector on splitter
    - Connect PulsaJet cable; AA250 cable; or Extension cable to this connection.

**Level Switch Cable Kit**
**040TS04000064W0**

**Level Switch cables**
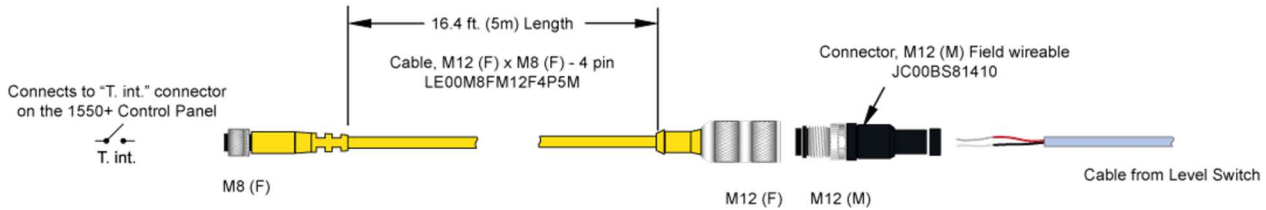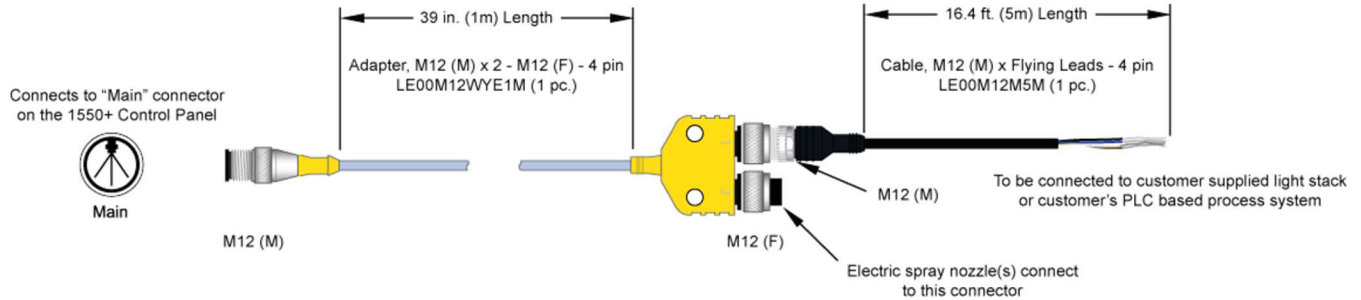


Connects to "T. int." connector on the 1550+ Control Panel

T. int.

M8 (F)

16.4 ft. (5m) Length

Cable, M12 (F) x M8 (F) - 4 pin
LE00M8FM12F4P5M

Connector, M12 (M) Field wireable
JC00BS81410

Cable from Level Switch

M12 (F)    M12 (M)

**Fault Output cables**



Connects to "Main" connector on the 1550+ Control Panel

Main

M12 (M)

39 in. (1m) Length

Adapter, M12 (M) x 2 - 12 (F) - 4 pin
LE00M12WYE1M (1 pc.)

16.4 ft. (5m) Length

Cable, M12 (M) x Flying Leads - 4 pin
LE00M12M5M (1 pc.)

M12 (M)

To be connected to customer supplied light stack
or customer's PLC based process system

M12 (F)

Electric spray nozzle(s) connect
to this connector

# Assembly Specifications:

o  Panel connection: Main
o  Part Number: LE00M12M5M
o  Cable:  16.4 ft. [5 m] cord length
o  Flying Leads
o  Connector – M12 4 pin male



| Color Code | | |
|---|---|---|
| Pin # | Color | Description |
| 1 | Brown | PWM + |
| 2 | White | * Fault Output |
| 3 | Blue | PWM - |
| 4 | Black | +24 VDC |

*Fault Output signal max. 30v/1A NPN*
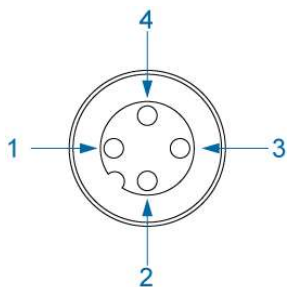
Please note if you are using the DI1+DI2 dual trigger option the level sensor option can't be used because they utilize the same electrical port on the controller.  You may only use one or the other.

Level sensor input – A level switch (any normally open float switch) can be wired to the system so when the tank level drops below a certain level, a fault will be shown on the HMI.

- Wire the level sensor/float switch to the 1550+ panel utilizing the cable shown below. You will only use the black and blue wires (dry contacts - polarity not important), carefully cut back and tape the brown and white wires. Run the cable back to the 1550+ controller and plug into the port labeled "T. Int.".

To use these features you need our cable part number LE00M8F5M.

- o  Panel connection: T. int. (Software – DI1+DI2)
- o  Cable:  16.4 ft. [5 m] cord length
- o  Flying Leads
- o  Connector end – M8 4 pin female

Color Code

| Pin # | Color | Description |
|---|---|---|
| 1 | Brown | + 24VDC (not used) |
| 2 | White | not used |
| 3 | Blue | 0 VDC |
| 4 | Black | DI1 |

**Trigger Interlock Cable**
**LE00M8F5M**

16.4 ft. (5m) Length

Cable, M8 (F) x Flying Leads
LE00M8F5M

M8 (F)
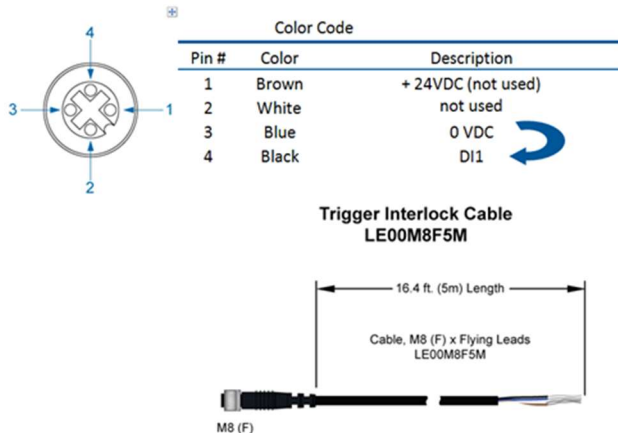
- Activate level sensor option, touch the level sensor button on the HMI setup screen (shown below) so the level sensor button turns green and says "YES (DI1)", see image below.  That input is now active so when the tank level goes low or if there is no level switch hooked up, an error will be shown on the HMI.
- Note, spraying does not stop when the tank level error is active.



- Fault output – The 1550+ has an NPN output (24V/1A max.) that can be used to indicate a fault on an external device (light, buzzer, or sent to PLC).

When the 1550+ detects a fault like a level sensor fault or a shorted nozzle cable, a fault is displayed on the HMI    . If this icon is pressed another fault screen will appear and any active faults that are present will be shown (See below).

- If a fault is active it will be listed in the fault screen.   The fault will only clear if it is no longer active.  If fault is still active i.e. tank level is still low, then the fault is still active and cannot be cleared.  Once the tank is filled, the fault can be reset.

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```
03:34:02 11/11/2016   Remote setpoint sensor fault (AI2)
03:34:05 11/11/2016   Tank level low




                           Channel B
   Reset
                      11/11/2016    03:39:49
```
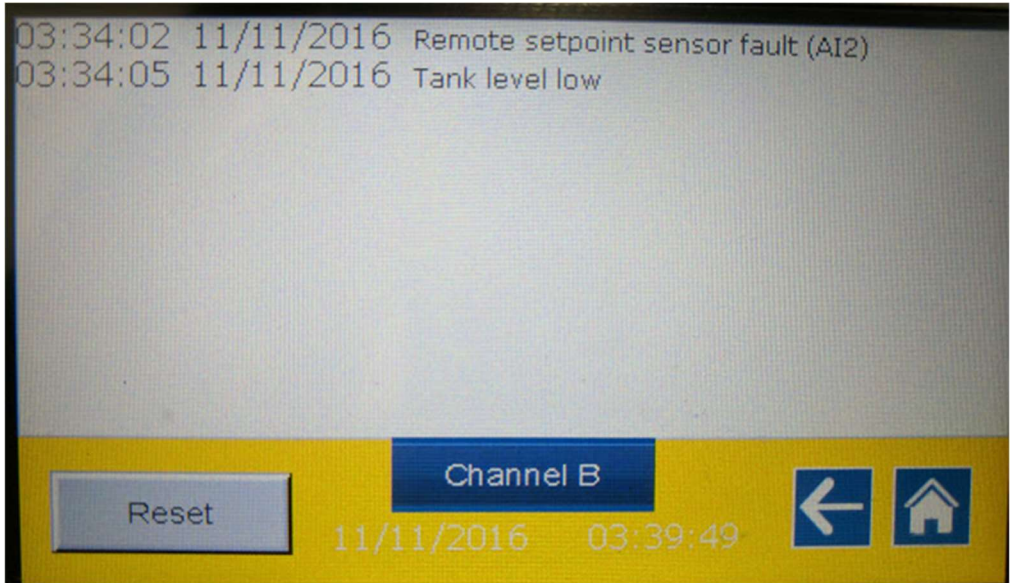
- Wire the fault output to any 24VDC buzzer, light or PLC.  For wiring to the 1550+ panel, order the parts shown in the 1550+ manual.  You will need the splitter and the extra cable shown below.  Kit 040TS04000054W0 includes both parts.
- This end goes in the Main connector on the 1550+ panel.  The black and the white wires from the flying leads cable get wired to your PLC or light or buzzer, snip the blue and brown wires, they are not used.  Fault cable pinout below:



**Color Code**

| Pin # | Color | Description |
|-------|-------|-------------|
| 1 | Brown | PWM + |
| 2 | White | * Fault Output |
| 3 | Blue | PWM - |
| 4 | Black | +24 VDC |

Fault Output signal max. 30V/1A NPN
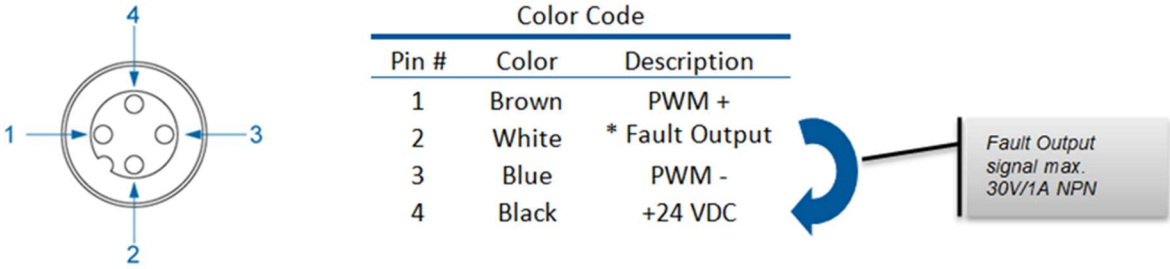
- If any electric nozzles are used, they get hooked up to the open M12 connector on the wye connector.

**See above.

# TROUBLESHOOTING

The 1550+ AutoJet Modular Spray System is such an easy way to spray that troubleshooting of the system is very simple.

If these troubleshooting steps are followed and the system still does not function, please contact your local Sales Engineer by calling 1-800-95-SPRAY (1-800-957-7729) or call corporate support toll free 1-866-321-2250.

1. Controller will not power up – main power indictor light (red LED near power switch) does not illuminate.
   a. Check to insure power cord is plugged into controller and power outlet and power switch is in the "on" position.
   b. Check fuse on internal power rail. To do this follow these steps:
      i. Unplug the system.
      ii. Remove four (4) screws in the corners of the controller face plate (using #2 Philips screw driver).
      iii. Carefully remove face plate. Take care to not put stress on the wires or scratch the HMI screen.
      iv. Check the panel for any loose wires.
      v. Locate the fuse holder to the left of the power supply and lift up on the tab on the top of the fuse holder exposing the fuse.
      vi. Due to the type of fuse used, have a qualified electrical technician test the fuse and replace if necessary. (5 amp slow blow)
      vii. Replace faceplate to its original location and attach using the four (4) screws.
   c. If the controller still will not power up contact your local Sales Engineer by calling 1-800-95-SPRAY (1-800-957-7729) or call 1-866-321-2250 to order a replacement control panel.
2. Controller will not power up – yet main power indictor light (red LED near power switch), does illuminate.
   a. Check power connection on the HMI.
      i. Unplug the system.
      ii. Remove four (4) screws in the corners of the controller face plate (using #2 Philips screw driver).
      iii. Carefully remove face plate. Take care to not put stress on the wires or scratch the HMI screen.
      iv. Insure that there are no loose wires in the system.
      v. Replace faceplate to its original location and attach using the four (4) screws
   b. If the controller still will not power up contact your local Sales Engineer by calling 1-800-95-SPRAY (1-800-957-7729) or call 1-866-321-2250 to order a replacement control panel.
3. Controller will not operate spray nozzle.
   a. Insure that there is proper fluid pressure supplied to the nozzle.
   b. **Insure that system is recognizing your trigger input.** *This is a common problem.* If remote trigger/sensor is being used and button on the setup screen is set to "local", the system cannot be triggered, the system trigger needs to be set to something other than "local". The inverse is also true, if the system is being triggered off the HMI screen, the trigger option must be set to "local". Make sure your sensor is NPN design if you are using your own sensor.
      i. Insure that the trigger mode is set to Local, DI2 or DI1+ DI2.
      ii. Navigate to the diagnostic screen.
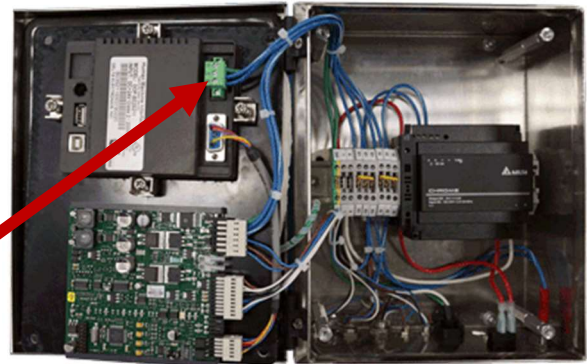
iii. Activate the main trigger source (object sensor or equivalent).
1. DI2 on diagnostic screen should go from a value of 0 to a value of 1 when the trigger device is activated
2. If this does not occur, then insure that the trigger device is properly wired
3. If problem still occurs, then consult the manufacturer's manual for the trigger device
iv. If trigger mode is DI1+ DI2, activate the auxiliary trigger.
1. DI1 on diagnostic screen should go from a value of 0 to a value of 1 when the trigger device is activated.
2. If this does not occur, then insure that the trigger device is properly wired.
3. If problem still occurs, then consult the manufacturer's manual for the trigger device.
c. For electrically actuated spray nozzles:
i. Check that the nozzle cable is properly installed on both ends with no damage to the cable.
ii. Set duty cycle to 100% from main screen and attempt to trigger again.
1. If the nozzle activates you may have selected a duty cycle too low or max frequency too high for the nozzle you are using.
2. If the problem persists have a qualified electrical technician insure that there is 24 VDC on the nozzle cable when the system is triggered.
d. For pneumatically actuated spray nozzles.
i. Insure that there is a minimum of 45 psi (3.1 bar) of air pressure on the main air input to the system and that the main air valve is in the "on" position
ii. Check air supply.
1. Insure that the valve cable is connected to the main output on the controller.
2. Remove Cylinder air tube from the outside port of the system.
3. Trigger the system to see if air comes out of the port.
a. Take caution to keep your face away from the port to avoid debris entering your eyes.
4. If air comes out they there is an issue with the cylinder on your nozzle. Contact your local Sales Engineer for information on repairing or replacing your nozzle.
5. If no air comes out then contact your local Sales Engineer by calling 1-800-95-SPRAY (1-800-957-7729) or call 1-866-321-2250 to order a replacement air valve.
4. No fluid pressure (Pump version also see pump manual)
a. Check air supply to system. Insure that there is a minimum of 45 psi (3.1 bar) of air pressure on the main air input to the system and that the main air valve is in the "on" position.
b. Check to see if the pump cycling
i. No
1. Check pump air gauge to ensure that proper air supply is being sent to the pump.
2. Check the pump air shutoff valve (white with blue handle next to pump) is turned on.
3. Close pump air valve (white with blue handle next to pump) and press push button on the bottom of the pump air valve (located beneath the pump air inlet) remove hand from the area and turn pump air valve back on.
ii. Yes
1. Check to see that all the inlet fittings are tight and not drawing air.
c. Check fluid pressure setting
i. Gauge on front panel reads at least 20 psi (1.5 bar) pressure.
d. Check fluid filter
i. Is it leaking?
ii. Is it clogged?
e. Contact your local Sales Engineer by calling 1-800-95-SPRAY (1-800-957-7729) or call 1-866-321-2250 for more assistance
5. Pump stops
a. When an AODDP pump stops cycling or fails to start after stopping for any length of time, the center rod/spool may be stuck in the center position. This allows pressure to balance the spool and not cycle the pump.

b. By pushing the "reset button", this physically moves the center rod/spool to one side or the other allowing the pump to start cycling again. Please have them shut the air supply valve off prior to pushing in the reset button, and then turn the air back on. This should start the cycling process and push the reset button back out in the process.



*Pump reset button*
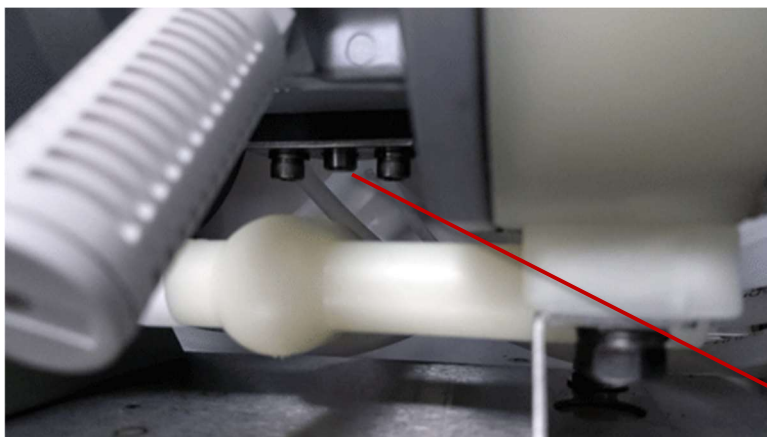


*Pump reset button*

# Faults

If your 1550+ is showing a fault on one of the screens, you have a fault present.  Some faults set the system into standby mode.  In this mode, no further triggers are accepted until the reason for the fault has been corrected.  *Once the fault has been corrected, cycle the power to reset the controller.*



There are several faults that can occur, see table below.  The 1550+ will recover from faults without intervention and will indicate the fault on the fault screen.  You can access the fault screen by touching the red exclamation box.  You will then see the fault screen where if the reason for the fault has been fixed, you can easily reset any fault message by touching the "Reset" button:
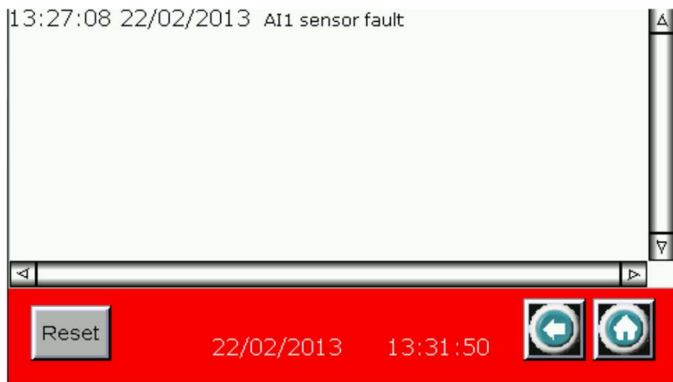


Please refer to the table that follows for help on how to diagnose the reason for the fault.  All faults have a tolerance time which is the time the error needs to be active for the fault to occur.

See table below for tolerance times.

| No. | Fault | Tolerance time | Cause | Remedy |
|---|---|---|---|---|
| 1 | **Gun output error** | 0 s | This is normally caused by a bad nozzle cable or coil. | Check all connections and coils in electric nozzles, or attached devices on the nozzle output cables. Use voltmeter to diagnose. |
| 2 | **Source current too high** | 1 s | The source current on PWM+ is higher than 6A. | Check all connections; look for shorts. Use ammeter if required. |
| 3 | **AI1 sensor fault** | Parameter Sensor Tolerance Time | The current on AI1 is lower than AI1 offset (4mA). There is a problem with the sensor or the wire is broken. | Check the connections and wiring on AI1. If not being used, set duty cycle option to "local". |
| 4 | **Sink current too high** | 1 s | The sink current on PWM- is higher than 6A. | Check all connections; distribute guns over multiple 2008 modules. |
| 5 | **Internal temperature too high** | 1 s | The temperature in the module is too high. | Provide sufficient cooling in the cabinet where the module is located. |
| 6 | **Over voltage** | 1 s | The voltage on the $+V_{in}$ input is higher than 57V. | Use a suitable power supply, check power supply (20 – 57 V) |
| 7 | **Under voltage** | 3 s | The voltage on the $+V_{in}$ input is lower than 20V. | Use a suitable power supply, check power supply (20 – 57 V) |

# HMI Communication Fault

In the remote chance the following error occurs:
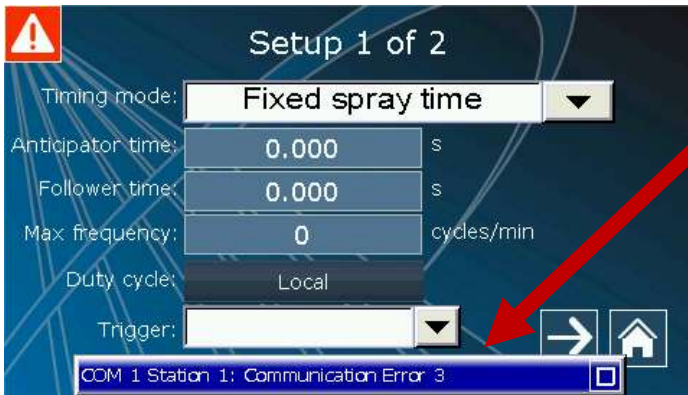


**Com 1 Station 1 Error 3 (or similar)**

Note this error occurs if the HMI is not communicating with the gun driver control board.

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Open the door to the controller and remove the four screws holding controller face plate to the panel. Carefully lift out plate holding the HMI and the control board. Carefully check circuit board for damage or burnt components. Also check COM cable (6" long connected between HMI and board) and ensure it is connected at both ends. Reassemble the unit and restart the system. If this does not repair the issue, then it is likely that the control board has failed. Consult with the factory if error does not go away.

## Re-calibrating the HMI

If the buttons on the HMI screen no longer seem to work or you have to touch outside a button to get it to function HMI touch can be recalibrated. To recalibrate follow these steps.

1. Navigate to the setup screen and touch the *"System Menu"* button. Enter password 60189 when prompted.
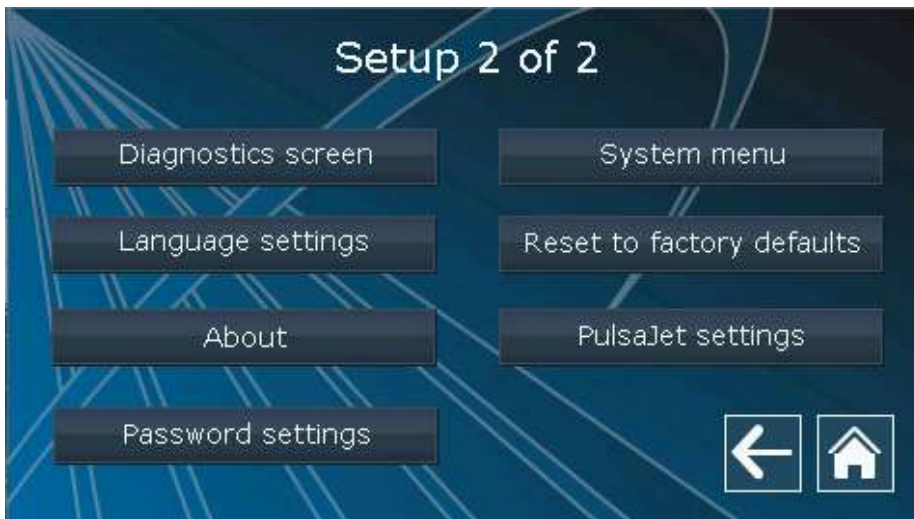


2. Then touch *"System Setting"*.
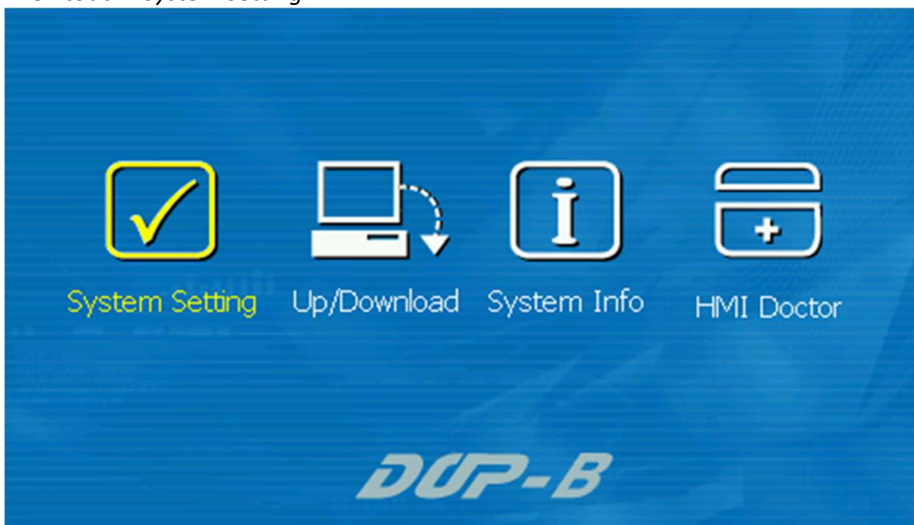


3. Then touch "Calibrate".
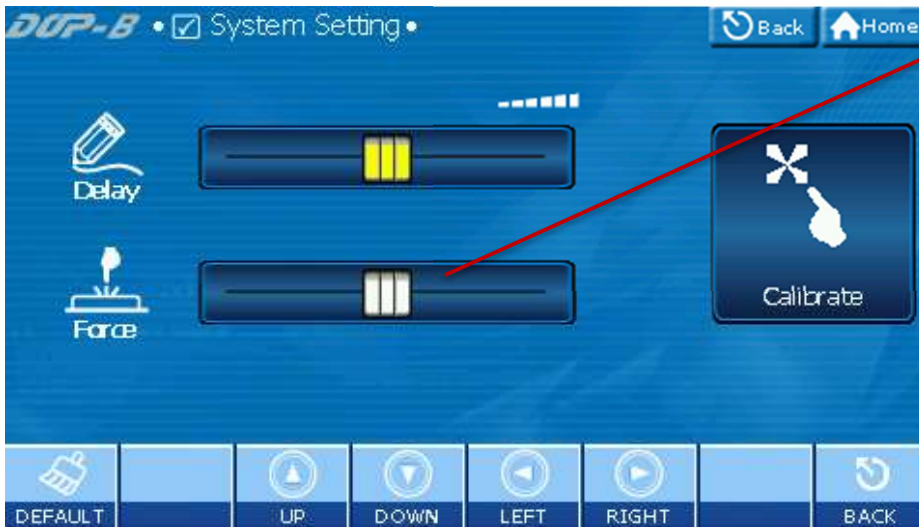
*Note you can also change touch force sensitivity by moving slider here.*

4.  Follow the prompts on the screen and touch the three spots it prompts you to touch.  For greater accuracy use a small stylus type object.



<<Press the center of the target>>
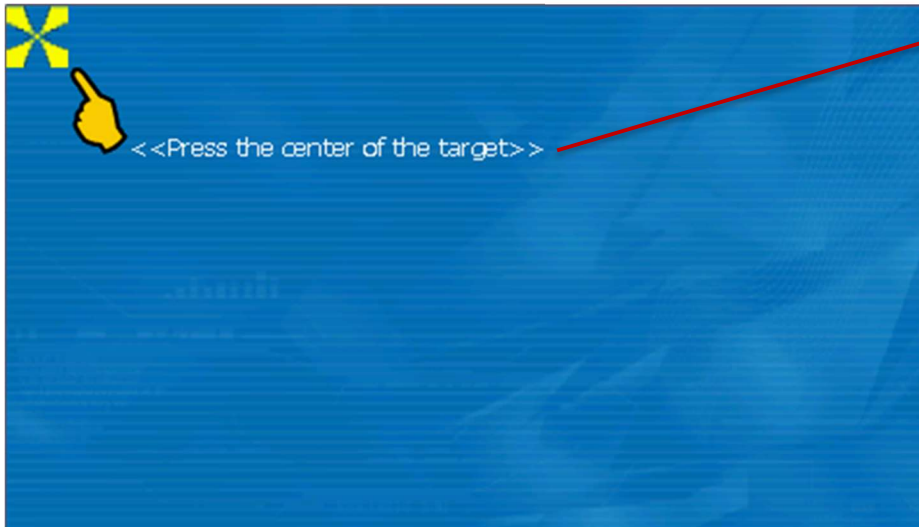
*Note it says "Press the center of the target"*

5.  Once done, touch home then reboot the controller and the screen will now be recalibrated.

# Recommended System Maintenance

## Pneumatic Controls

### Monthly:

Check all pneumatic connections for leaks and tighten or replace as needed.

Check system main air pressure as specified.  Adjust to required pressure if necessary.

## Liquid Controls

### Monthly:

Check all liquid connections for leaks and repair or replace as required.

Check all tubes and/or hoses for leaks and repair or replace as required.

Check liquid components for leaks and repair or replace as required.

Check liquid in-line filters and replace with recommended filter mesh size for system.

Clean air filter screen.

Clean liquid strainer screen.

## Spray Nozzles

### Daily:

Check all spray nozzles for leaks or mechanical malfunctions.  Repair or replace as required.  See spray nozzle data sheet for maintenance and repair details.

### Monthly:
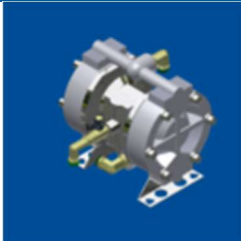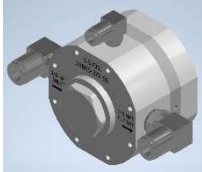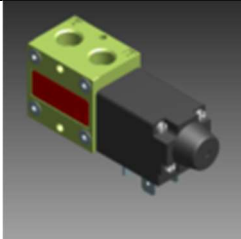
Clean, lubricate, and adjust all spray nozzles.  See spray nozzle data sheet for maintenance and repair details.

**NOTE:**  Any long term shut-down requires that all liquid lines, liquid components, pumps, spray nozzles be flushed and cleaned thoroughly.

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# Spare Parts List

## Recommended & Optional Spare Parts

☑ Denotes recommended spare part

| | Standard System Spare and Replacement Parts | | |
|---|---|---|---|
| | Part number | Description | Image |
| | VC008651AR002NA | Regulator | |
| | VC00L12BA452B01 | Solenoid valve | |
| | VC00M651AY5100 | Knob | |
| | FA00P651AT50496 | Body clamp kit | |
| ☑ | PU00DP10BPT_AC01 | Pump 1/2" ports assembly with fittings, non-food contact |  |
| | PU00DP10BPTAKIT | Pump air valve repair kit | |
| | PU00DP10BPTLKIT | Pump liquid diaphragm repair kit | |
| | FI004427K82 | Air muffler for PP and FC pumps | |
| ☑ | 58685-3/8-PVC_NM01 | Air piloted liquid regulator with fittings, Viton |  |
| | AB58685-KIT | Air piloted liquid regulator repair kit, Viton | |
| | VC00LO1 | Cylinder air solenoid – *Same for either version* |  |

| Part number | Description | Image |
|---|---|---|
| AA122-1/2-NYC-100 | Liquid strainer, Nylon, 1/2" NPT (F) 100 mesh screen |  |
| CP45102-5-SSPP | Liquid strainer element 100 mesh, stainless steel |  |
| CP45102-4-SSPP | Liquid strainer element 80 mesh, stainless steel | |
| CP45102-3-SSPP | Liquid strainer element 50 mesh, stainless steel | |
| 040TS04000008W0 | Gauge 60 PSI (4 bar), includes tube fitting |  |
| 040TS04000009W0 | Gauge 30 PSI (2 bar), includes tube fitting | |
| 040TS04000010W0 | Gauge 100 PSI (7 bar), includes tube fitting | |
| VC00INP139C | Needle valve for recirculation |  |
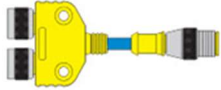
## Food Contact System Spare and Replacement Parts

| | Part number | Description | Image |
|---|---|---|---|
| ☑ | PU00DP10BSTXP_AC02 | Pump assembly with ½" fittings – Food Contact version, SS and Teflon wetted parts |  |
| | PU00DP10BPTAKIT | Pump air valve repair kit | |
| | PU00DP10BSTXS_SP00 | Pump liquid diaphragm repair kit for food contact | |

| ☑ | 58685-3/8-ACETAL_NM02 | Air piloted liquid regulator assembly with ½" fittings - Food Contact version |  |
|---|---|---|---|
| | AB58685-FC-KIT | Fluid Regulator repair kit, food contact Viton | |
| | VC00LO1 | Cylinder air solenoid – *Same for either version* |  |
| | VC00L23 | Atomizing / Fan air solenoid – *Same for either version* |  |
| | 3/8TWD-SS100 | Liquid strainer, Stainless steel, 3/8" NPT (F), 100 mesh screen |  |
| | CP5594-7-304SS | Liquid strainer element 100 mesh |  |
| | CP5594-17-304SS | Liquid strainer element 80 mesh | |
| | CP5594-2-304SS | Liquid strainer element 50 mesh | |
| | 040TS04000036W0 | Gauge 60 PSI (4 bar) |  |
| | 040TS04000037W0 | Gauge 30 PSI (2 bar) | |
| | 040TS04000038W0 | Gauge 100 PSI (7 bar) | |

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| | | | | | |
|---|---|---|---|---|---|
| VC00GH0639382 | Needle valve for recirc. food contact | | | |  |
| LE00M8WYE | Yellow wye splitter - For atomizing & fan air solenoids, 8" length<br>2 x M8 (F) branch<br>1 x M8 (M) trunk | | | |  |

| Spare and Replacement Cables, etc. | | | | | |
|---|---|---|---|---|---|
| Part number | Description | Controller Connector | Terminating end | Length | Image |
| LE00M12F5M | Trigger Cable | M12 4 pole f | Bare | 5 m |  |
| LEXXSD4FD4F0050 | Sensor Cable | M12 4 pole f | M12 4 pole f | 5 m |  |
| SW001550M12HT | Hand Held Trigger | M12 4 pole f | trigger box | 5 m |  |

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| Spare and Replacement Cables, etc. | | | | | |
| --- | --- | --- | --- | --- | --- |
| Part number | Description | Controller Connector | Terminating end | Length | Image |
| LEXXSD3M83F010P<br><br>LEXXSD3M83F020P<br><br>LEXXSD3M83F030P<br><br>LEXXSD3M83F050P | PulsaJet nozzle Cable (3m standard) | M12 3 pole m | M8 3 pole f | 1m<br><br>2m<br><br>3m<br><br>5m |  |
| LE00M12MMDIN3MU | AA250 Cable | M12 4 pole m | mini din | 3 m |  |
| LE00M12M5M | Junction Block Cable | M12 4 pole m | Bare | 5 m |  |
| LEXXSD4FD4M005P | Extension Cable Trigger/Nozzle | M12 4 pole f | M12 4 pole m | 5 m |  |
| LE00M8M5M | Analog input | M8 4 pole m | Bare | 5 m |  |

| Spare and Replacement Cables, etc. | | | | | |
| --- | --- | --- | --- | --- | --- |
| Part number | Description | Controller Connector | Terminating end | Length | Image |
| LE00M8F5M | Trigger Interlock Cable | M8 4 pole f | Bare | 5 m |  |
| 040TS04000054W0 | 1550+ Alarm Output Cable Kit | M12 4 pole m | M8; Bare | 6 m |  |

Please contact your local Spraying Systems Co. sales office to purchase replacement parts.

# Warranty Information

Warranty is one (1) year on non-wear parts from ship date.  Wear items are covered for manufacturing defect only for a period of one (1) year.  Wear items include but may not be limited to Liquid pump and Liquid regulator.  Seller warrants that its products will conform to and perform in accordance with the products' specifications.

Seller warrants that the products do not infringe upon any copyright, patent, or trademark.

THE FOREGOING WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THOSE CONCERNING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

**FEATURES**

1550+ Pump Version - features a durable air operated diaphragm pump for a variety of spay applications. This design requires liquid to be supplied by means of a tote or a tank. Version shown has *optional liquid recirculation* from the system back to the liquid supply tote or tank.

**Spray Control**
- On/off control for electrically and pneumatically actuate spray nozzles
- Liquid pressure control for hydraulic atomizing spray nozzles
- Utilizes PSC Spray Control when used with Spraying Systems Co. PulsaJet Nozzles
- Ideal for use with PulsaJet , AA250AUH and 1/4JAUH spray nozzles

*Three selectable timing modes*
- Fixed spray time
- Variable spray time
- Repeat

**Pressure Gauge Options**
*Standard gauge offering is 0-60 psi (0-4 bar)*
*Specify pressure gauge when ordering*
- *0-30 psi (0-2 bar)*
- *0-60 psi (0-4 bar) Standard*
- *0-100 psi (0-7 bar)*

**Trigger Options**
- Local and remote (HMI, external sensors, or PLC).
- Dry Contact
- Check with factory for all available options.

**Pump**
- Standard up to 2 GPM Diaphragm Pump
- 2 gpm at 40 psi (7.5 l/min at 2.8 bar) rating based on water and less with viscous liquids
- Suitable for water, inks, stains, water-based solvents, lubricants, oils, and non-abrasive slurries (Non-Flammable)
- Fluid viscosity up to 2000 cP

**SPECIFICATIONS:**
**Air and Liquid:**
- Air - 40 scfm minimum per regulator (50 scfm maximum for system)
- Liquid - 100 psi (7 bar) Max.

**Control Panel:**
- UL1 with doors closed
- Stainless Steel Enclosure
- 4.3" HMI Touch Screen Display

**Power Requirements:**
- 100-240 VAC, 3.2A, 50-60 Hz, 1 Ø

**Air Line Materials:**
- Brass, Aluminum, Stainless Steel and Nickel Plated Brass

**Liquid Wetted Materials:**
- PVC, Stainless Steel, Polypropylene, PTFE, nickel plated brass, Viton and Nylon, 303SS Liquid Strainer

**Overall Dimensions:**
- 29.00" (698.5 mm) H x 14" (355.6 mm) W x 14" (355.6 mm) D
- Weight: 54 lbs. (24.5 kg) approx.

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| REVISION NO. | 1 | Data Sheet No. |
| --- | --- | --- |
| | | **1550+P-1** |
| REFERENCE: | 2018 | SHEET: 1 OF 1 | DWG SIZE: B |

**DESCRIPTION:**
1550+ Modular Spray System
Back and Side Panel Access
Pump Version Assembly
2 GPM
Liquid



SIDE PANEL LATCH 2-PLACES
REMOVABLE SIDE ACCESS PANEL WITH LATCHES
9.50" (241.3MM)
14.00" (355.6MM)
18.00" (457.2MM)
29.00" (736.6MM)
1550 CONTROLLER

8.00" (203.2MM)
REMOVABLE BACK ACCESS PANEL WITH LATCHES
12.50" (317.5MM)
18.00" (457.2MM)
14.00" (355.6MM)
20.11" (510.8MM)
7.50" (190.5MM)
BACK PANEL LATCH 2-PLACES
AIR IN 1/2 NPT(F)

AIR FILTER, 5-Micron w/ MANUAL SHUT-OFF VALVE
LIQ PRESSURE GAUGE
MANUAL PRESSURE REGULATION

16.65" (419.1MM)
OPEN DOOR CLEARANCE
POWER ON/OFF

LIQUID IN FROM NOZZLE RECIRC 3/8" ODT (10MM ODT)
LIQUID IN 1/2" ODT (12MM ODT)

LIQ RECIRC TO SUPPLY 3/8" ODT (10MM ODT)
LIQUID OUT 1/2" ODT (12MM ODT)
CYLINDER AIR 1/4" ODT (6MM ODT)
**DETAIL C**

**DETAIL A**
.32" (8.13MM)
Ø.64" (16.26MM)
.50" (12.7MM)

T.int. (M8, 4P (M)
Trig (M12, 4P (M)
Main (M12, 4P (F)
4-20mA (M8, 4P (F)
**DETAIL B**

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**FEATURES**

1550+ Pump Version - features a durable air operated diaphragm pump for a variety of spray applications. This design requires liquid to be supplied by means of a tote or a tank. Version shown has *optional liquid recirculation* from the system back to the liquid supply tote or tank.

**Spray Control**
- On/off control for electrically and pneumatically actuate spray nozzles
- Liquid pressure control for hydraulic atomizing spray nozzles
- Utilizes PSC Spray Control when used with Spraying Systems Co. PulsaJet Nozzles
- Ideal for use with PulsaJet, AA250AUH and 1/4JAUH spray nozzles

*Three selectable timing modes*
- Fixed spray time
- Variable spray time
- Repeat

**Pressure Gauge Options**
*Standard gauge offering is 0-60 psi (0-4 bar)*
*Specify pressure gauge when ordering*
- *0-30 psi (0-2 bar)*
- *0-60 psi (0-4 bar) Standard*
- *0-100 psi (0-7 bar)*

**Trigger Options**
- Local and remote (HMI, external sensors, or PLC).
- Dry Contact
- Check with factory for all available options.

**Pump**
- Standard up to 2 GPM Diaphragm Pump
- 2 gpm at 40 psi (7.5 l/min at 2.8 bar) rating based on water and less with viscous liquids
- Suitable for water, inks, stains, water-based solvents, lubricants, oils, and non-abrasive slurries (Non-Flammable)
- Fluid viscosity up to 2000 cP

**SPECIFICATIONS:**

**Air and Liquid:**
- Air - 40 scfm minimum per regulator (50 scfm maximum for system)
- Liquid - 100 psi (7 bar) Max.

**Control Panel:**
- UL1 with doors closed
- Stainless Steel Enclosure
- 4.3" HMI Touch Screen Display

**Power Requirements:**
- 100-240 VAC, 3.2A, 50-60 Hz, 1 Ø

**Air Line Materials:**
- Brass, Aluminum, Stainless Steel and Nickel Plated Brass

**Liquid Wetted Materials:**
- PVC, Stainless Steel, Polypropylene, PTFE, nickel plated brass, Viton and Nylon, 303SS Liquid Strainer

**Overall Dimensions:**
- 29.00" (698.5 mm) H x 14" (355.6 mm) W x 14" (355.6 mm) D

Weight: 54 lbs. (24.5 kg) approx.

**DESCRIPTION:**
1550+ Modular Spray System
Back and Side Access Panel
Pump Version Assembly
2 GPM
Liquid, Atomizing Air

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| | | |
|---|---|---|
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| REFERENCE: 2018 | SHEET: 1 OF 1 | DWG SIZE: B |

SIDE PANEL LATCH 2-PLACES

REMOVABLE SIDE ACCESS PANEL WITH LATCHES

9.50" (241.3MM)

14.00" (355.6MM)

18.00" (457.2MM)

29.00" (736.6MM)

1550 CONTROLLER

AIR FILTER, 5-Micron w/ MANUAL SHUT-OFF VALVE

LIQ PRESSURE GAUGE

ATOM AIR PRESSURE GAUGE

MANUAL PRESSURE REGULATION

REMOVABLE BACK ACCESS PANEL WITH LATCHES

18.00" (457.2MM)

12.50" (317.5MM)

14.00" (355.6MM)

20.11" (510.8MM)

8.00" (203.2MM)

7.50" (190.5MM)

BACK PANEL LATCH 2-PLACES

AIR IN 1/2 NPT(F)

16.65" (419.1MM)

OPEN DOOR CLEARANCE

POWER ON/OFF

CYLINDER AIR 1/4" ODT (6MM ODT)

LIQ RECIRC TO SUPPLY 3/8" ODT (10MM ODT)

LIQUID OUT 1/2" ODT (12MM ODT)

ATOMIZING AIR 3/8" ODT (10MM ODT)

LIQUID IN FROM NOZZLE RECIRC 3/8" ODT (10MM ODT)

LIQUID IN 1/2" ODT (12MM ODT)

**DETAIL C**

.32" (8.13MM)

Ø.64" (16.26MM)

.50" (12.7MM)

**DETAIL A**

T.int. (M8, 4P (M))
Trig (M12, 4P (M))
Main (M12, 4P (F))
4-20mA (M8, 4P (F))

**DETAIL B**

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**FEATURES**

1550+ Pump Version - features a durable air operated diaphragm pump for a variety of spray applications. This design requires liquid to be supplied by means of a tote or a tank. Version shown has *liquid recirculation* from the system back to the liquid supply tote or tank.

**Spray Control**
- On/off control for electrically and pneumatically actuate spray nozzles
- Liquid pressure control for hydraulic atomizing spray nozzles
- Utilizes PSC Spray Control when used with Spraying Systems Co. PulsaJet Nozzles
- Ideal for use with PulsaJet, AA250AUH and 1/4JAUH spray nozzles

**Three selectable timing modes**
- Fixed spray time
- Variable spray time
- Repeat

**Pressure Gauge Options**
*Standard gauge offering is 0-60 psi (0-4 bar)*
*Specify pressure gauge when ordering*
- *0-30 psi (0-2 bar)*
- *0-60 psi (0-4 bar) Standard*
- *0-100 psi (0-7 bar)*

**Trigger Options**
- Local and remote (HMI, external sensors, or PLC).
- Dry Contact
- Check with factory for all available options.

**Pump**
- Standard up to 2 GPM Diaphragm Pump
- 2 gpm at 40 psi (7.5 l/min at 2.8 bar) rating based on water and less with viscous liquids
- Suitable for water, inks, stains, water-based solvents, lubricants, oils, and non-abrasive slurries (Non-Flammable)
- Fluid viscosity up to 2000 cP

**SPECIFICATIONS:**

**Air and Liquid:**
- Air - 40 scfm minimum per regulator (50 scfm maximum for system)
- Liquid - 100 psi (7 bar) Max.

**Control Panel:**
- UL1 with doors closed
- Stainless Steel Enclosure
- 4.3" HMI Touch Screen Display

**Power Requirements:**
- 100-240 VAC, 3.2A, 50-60 Hz, 1 Ø

**Air Line Materials:**
- Brass, Aluminum, Stainless Steel and Nickel Plated Brass

**Liquid Wetted Materials:**
- PVC, Stainless Steel, Polypropylene, PTFE, nickel plated brass, Viton and Nylon, 303SS Liquid Strainer
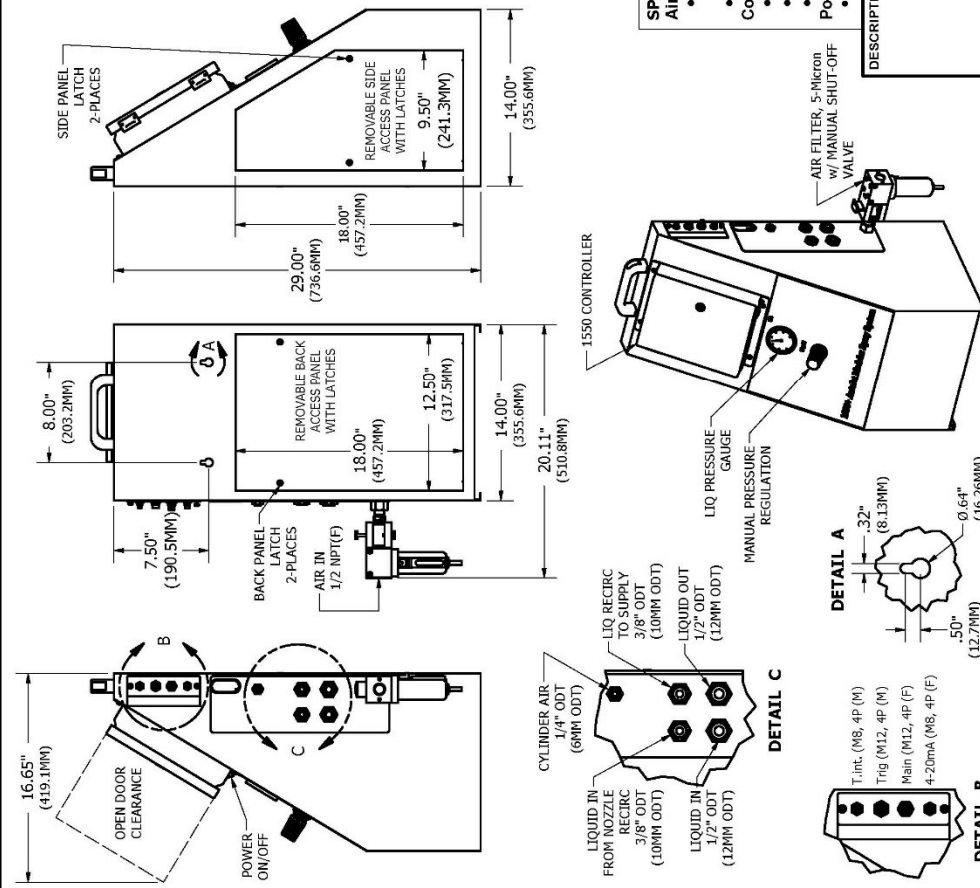
**Overall Dimensions:**
- 29.00" (698.5 mm) H x 14" (355.6 mm) W x 14" (355.6 mm) D
- Weight: 54 lbs. (24.5 kg) approx.

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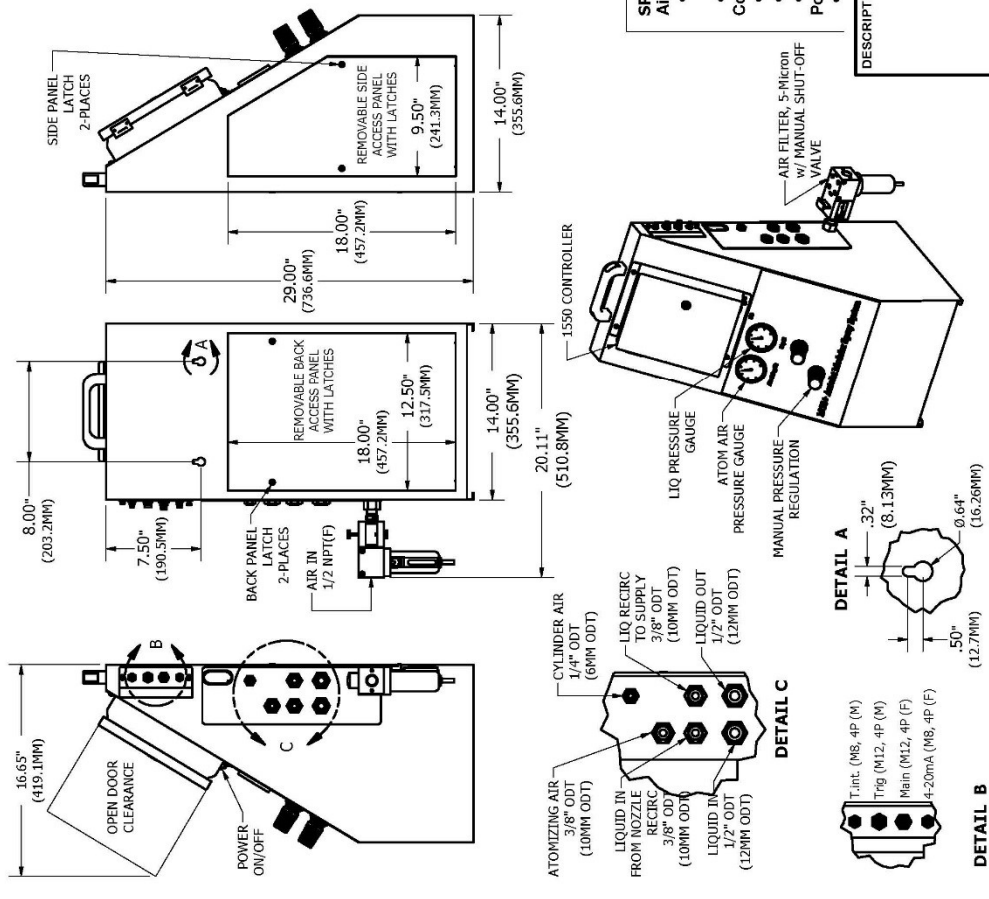Spray Nozzles and Accessories
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|---|---|
| REVISION NO.: | 1 |
| REFERENCE: | 2018 |

Data Sheet No.
**1550+P-3**
SHEET: 1 OF 1  DWG SIZE: B

**DESCRIPTION:**
1550+ Modular Spray System
Back and Side Panel Access
Pump Version Assembly
2 GPM
Liquid, Atomizing Air, Fan Air

SIDE PANEL LATCH 2-PLACES

REMOVABLE SIDE ACCESS PANEL WITH LATCHES

9.50" (241.3MM)

14.00" (355.6MM)

18.00" (455.9MM)

29.00" (736.6MM)

1550 CONTROLLER

LIQ PRESSURE GAUGE

ATOM AIR PRESSURE GAUGE

MANUAL PRESSURE REGULATION

AIR FILTER, 5-Micron w/ MANUAL SHUT-OFF VALVE

FAN AIR PRESSURE GAUGE

REMOVABLE BACK ACCESS PANEL WITH LATCHES

BACK PANEL LATCH 2-PLACES

AIR IN 1/2 NPT(F)

8.00" (203.2MM)

7.50" (190.5MM)

12.50" (317.5MM)

14.00" (355.6MM)

18.00" (457.2MM)

20.11" (510.8mm)

16.65" [419.1 mm]

OPEN DOOR CLEARANCE

POWER ON/OFF

FAN AIR 3/8" ODT (10MM ODT)

LIQ RECIRC TO SUPPLY 3/8" ODT (10MM ODT)

LIQUID OUT 1/2" ODT (12MM ODT)

ATOMIZING AIR 3/8" ODT (10MM ODT)

LIQUID IN FROM NOZZLE RECIRC 3/8" ODT (10MM ODT)

LIQUID IN 1/2" ODT (12MM ODT)

CYLINDER AIR 1/4" ODT (6MM ODT)

**DETAIL B**

**DETAIL A**
.32" (8.13MM)
Ø.64" (16.26MM)
.50" (12.7MM)

T.int. (M8, 4P (M))
Trig (M12, 4P (M))
Main (M12, 4P (F))
4-20mA (M8, 4P (F))

**DETAIL C**

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**FEATURES**

1550+ Pumpless Version - for applications where the systems "liquid delivery" is provided by a pressurized vessel or is supplied by the customer. The Pumpless system controls the liquid flow using an internal air piloted pressure regulator located within the Modular Spray System panel. This version has an *optional liquid recirculation* from the system back to the liquid supply tank.

**Spray Control**
- On/Off control for electrically and pneumatically actuate spray nozzles
- Liquid pressure control for hydraulic atomizing spray nozzles
- Ideal for use with PulsaJet , AA250AUH and 1/4JAUH spray nozzles

*Three selectable timing modes*
- Fixed spray time
- Variable spray time
- Repeat

**Pressure Gauge Options**
*Standard gauge offering is 0-60 psi (0-4 bar)*
*Specify pressure gauge when ordering*
- *0-30 psi (0-2 bar)*
- *0-60 psi (0-4 bar) Standard*
- *0-100 psi (0-7 bar)*

**Trigger Options**
- Local and remote (HMI, external sensors, or PLC).
- Dry Contact
- Check with factory for all available options.

**SPECIFICATIONS:**
**Air and Liquid:**
- Air - 40 scfm minimum per regulator (50 scfm maximum for system)
- Liquid - 100 psi (7 bar) Max.
**Control Panel:**
- UL1 with doors closed
- Stainless Steel Enclosure
- 4.3" HMI Touch Screen Display
**Power Requirements:**
- 100-240 VAC, 3.2A, 50-60 Hz, 1 Ø

**Air Line Materials:**
- Brass, Aluminum, Stainless Steel and Nickel Plated Brass
**Liquid Wetted Materials:**
- PVC, Stainless Steel, Polypropylene, PTFE, nickel plated brass, Viton and Nylon, 303SS Liquid Strainer
**Overall Dimensions:**
- 29.00" (698.5 mm) H x 14" (355.6 mm) W x 14" (355.6 mm) D
Weight: 50 lbs. (22.7 kg) approx.

**DESCRIPTION:**
1550+ Modular Spray System
Back and Side Panel Access
Pumpless Version Assembly
Liquid

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## FEATURES

1550+ Pumpless Version - for applications where the systems "liquid delivery" is provided by a pressurized vessel or is supplied by the customer. The Pumpless system controls the liquid flow using an internal air piloted pressure regulator located within the Modular Spray System panel.

This version has an *optional liquid recirculation* from the system back to the liquid supply tank.

### Spray Control
- On/Off control for electrically and pneumatically actuate spray nozzles
- Liquid pressure control for hydraulic atomizing spray nozzles
- Ideal for use with PulsaJet , AA250AUH and 1/4JAUH spray nozzles

*Three selectable timing modes*
- Fixed spray time
- Variable spray time
- Repeat

### Pressure Gauge Options
*Standard gauge offering is 0-60 psi (0-4 bar)*
*Specify pressure gauge when ordering*
- *0-30 psi (0-2 bar)*
- *0-60 psi (0-4 bar) Standard*
- *0-100 psi (0-7 bar)*

### Trigger Options
- Local and remote (HMI, external sensors, or PLC).
- Dry Contact
- Check with factory for all available options.

### SPECIFICATIONS:
**Air and Liquid:**
- Air - 40 scfm minimum per regulator (50 scfm maximum for system)
- Liquid - 100 psi (7 bar) Max.

**Control Panel:**
- UL1 with doors closed
- Stainless Steel Enclosure
- 4.3" HMI Touch Screen Display

**Power Requirements:**
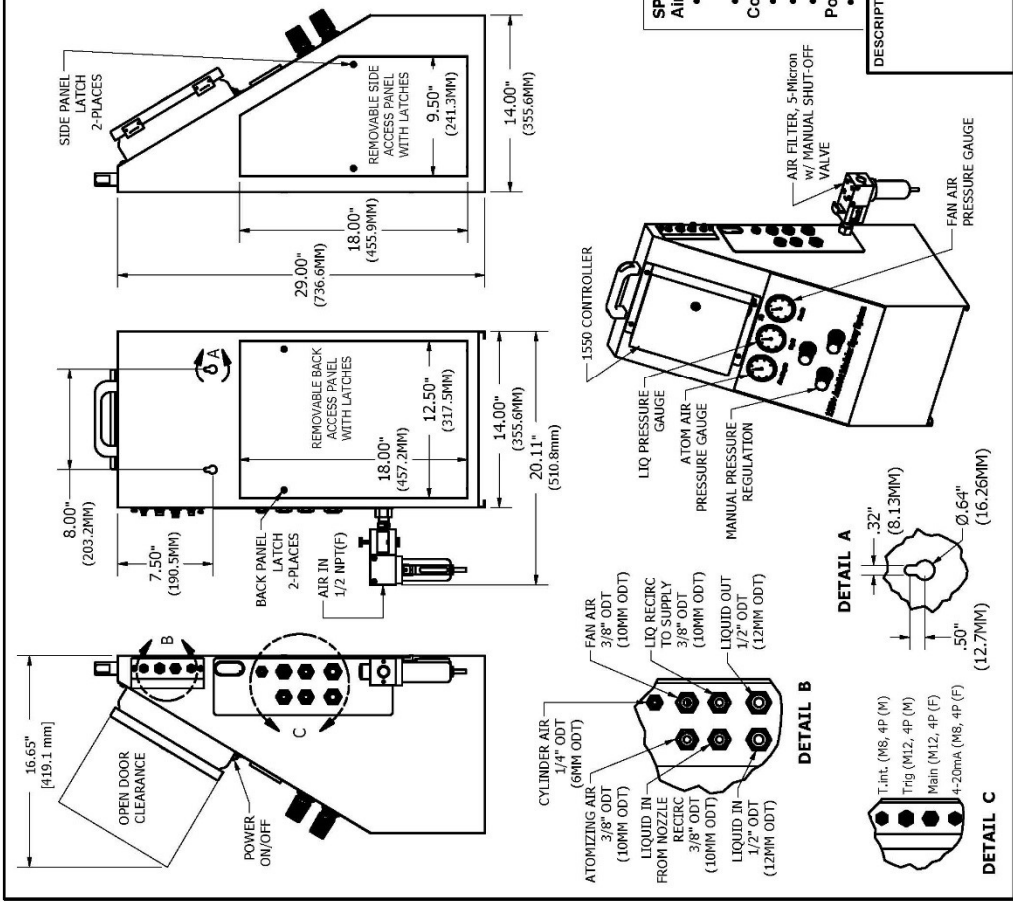- 100-240 VAC, 3.2A, 50-60 Hz, 1 Ø

**Air Line Materials:**
- Brass, Aluminum, Stainless Steel and Nickel Plated Brass

**Liquid Wetted Materials:**
- PVC, Stainless Steel, Polypropylene, PTFE, nickel plated brass, Viton and Nylon, 303SS Liquid Strainer

**Overall Dimensions:**
- 29.00" (698.5 mm) H x 14" (355.6 mm) W x 14" (355.6 mm) D
- Weight: 50 lbs. (22.7 kg) approx.



SIDE PANEL LATCH 2-PLACES

REMOVABLE SIDE ACCESS PANEL WITH LATCHES

9.50" (241.3MM)

14.00" (355.6MM)

18.00" (457.2MM)

29.00" (736.6MM)

8.00" (203.2MM)

REMOVABLE BACK ACCESS PANEL WITH LATCHES

18.00" (457.2MM)

12.50" (317.5MM)

14.00" (355.6MM)

20.11" (510.8MM)

7.50" (190.5MM)

BACK PANEL LATCH 2-PLACES

AIR IN 1/2 NPT(F)

1550 CONTROLLER

AIR FILTER, 5-Micron W/ MANUAL SHUT-OFF VALVE

LIQ PRESSURE GAUGE

ATOMIZING AIR PRESSURE GAUGE

LIQUID PRESSURE REGULATION

ATOMIZING AIR PRESSURE REGULATION

16.65" (419.1MM)

OPEN DOOR CLEARANCE

POWER ON/OFF

**DETAIL B**

T.int. (M8, 4P (M))
Trig (M12, 4P (M))
Main (M12, 4P (F))
4-20mA (M8, 4P (F))

**DETAIL C**

CYLINDER AIR 1/4" ODT (6MM ODT)

LIQ RECIRC TO SUPPLY 3/8" ODT (10MM ODT)

LIQUID OUT 1/2" ODT (12MM ODT)

ATOMIZING AIR 3/8" ODT (10MM ODT)

LIQUID IN FROM NOZZLE RECIRC 3/8" ODT (10MM ODT)

LIQUID IN 1/2" ODT (12MM ODT)

**DETAIL A**

.32" (8.13MM)

Ø.64" (16.26MM)

.50" (12.7MM)

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## FEATURES

1550+ Pumpless Version - for applications where the systems "liquid delivery" is provided by a pressurized vessel or is supplied by the customer. The Pumpless system controls the liquid flow using an internal air piloted pressure regulator located within the Modular Spray System panel. This version has an *optional liquid recirculation* from the system back to the liquid supply tank.

### Spray Control
- On/Off control for electrically and pneumatically actuate spray nozzles
- Liquid pressure control for hydraulic atomizing spray nozzles
- Ideal for use with PulsaJet, AA250AUH and 1/4JAUH spray nozzles

*Three selectable timing modes*
- Fixed spray time
- Variable spray time
- Repeat

### Pressure Gauge Options
*Standard gauge offering is 0-60 psi (0-4 bar)*
*Specify pressure gauge when ordering*
- *0-30 psi (0-2 bar)*
- *0-60 psi (0-4 bar) Standard*
- *0-100 psi (0-7 bar)*

### Trigger Options
- Local and remote (HMI, external sensors, or PLC).
- Dry Contact
- Check with factory for all available options.

### SPECIFICATIONS:
**Air and Pressure:**
- Air - 40 scfm minimum per regulator (50 scfm maximum for system)
- Liquid - 100 psi (7 bar) Max.
- Atomizing Air - 100 psi (7 bar) Max.
- Fan Air - 100 psi (7 bar) Max.

**Control Panel:**
- UL1 with door closed
- Stainless Steel
- 4.3" HMI Touch Screen Display

**Power Requirements:**
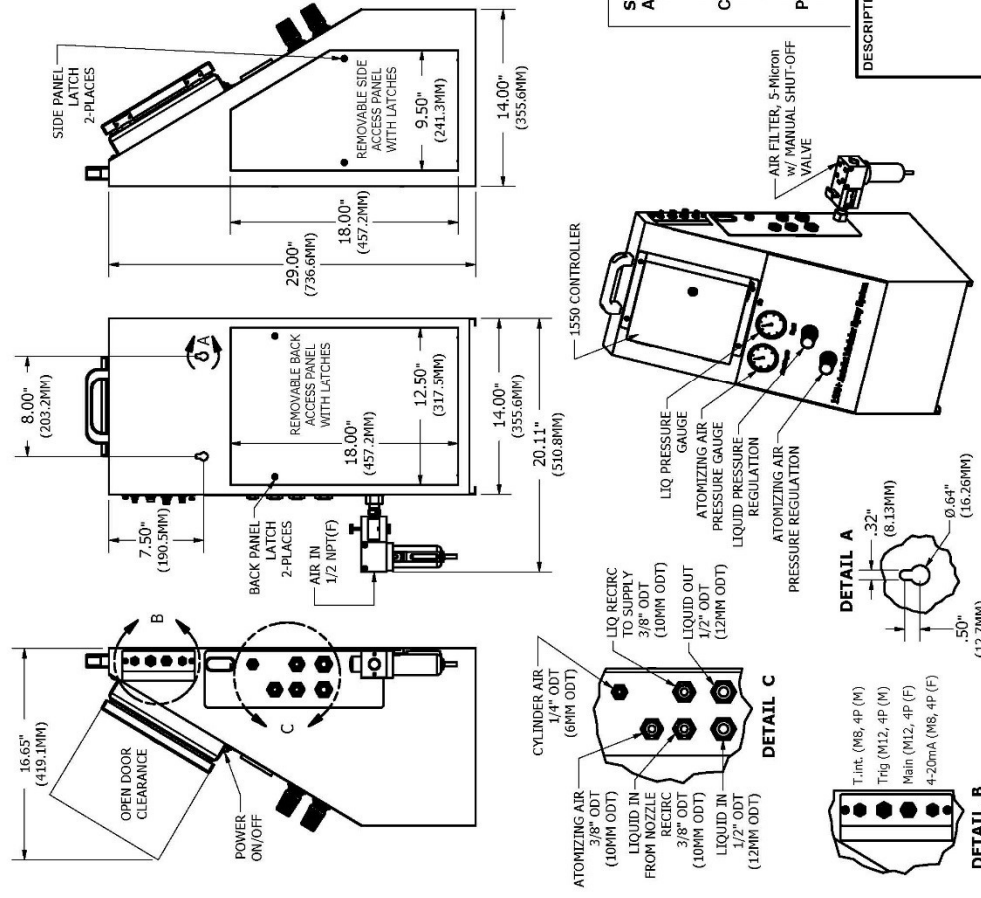- 100-240 VAC, 3.2A, 50-60 Hz, 1 Ø

**Air Line Materials:**
- Brass, Aluminum, Stainless Steel and Nickel Plated Brass

**Liquid Wetted Materials:**
- PVC, Stainless Steel, Polypropylene, PTFE, nickel plated brass, Viton and Nylon
- Liquid Outlet Strainer - 100 mesh

**Overall Dimensions:**
- 29.00" (698.5 mm) H x 14" (355.6 mm) W x 14" (355.6 mm) D
Weight: 50 lbs. (22.7 kg.) approx.



SIDE PANEL LATCH 2-PLACES

REMOVABLE SIDE ACCESS PANEL WITH LATCHES

9.50" (241.3MM)
14.00" (355.6MM)
18.00" (457.2MM)
29.00" (736.6MM)

8.00" (203.2MM)
REMOVABLE BACK ACCESS PANEL WITH LATCHES
12.50" (317.5MM)
14.00" (355.6MM)
18.00" (457.2MM)
20.11" (510.8MM)
7.50" (190.5")
BACK PANEL LATCH 2-PLACES
AIR IN 1/2 NPT(F)

16.65" (419.1MM)
OPEN DOOR CLEARANCE
POWER ON/OFF

1550 CONTROLLER

AIR FILTER, 5-Micron w/ MANUAL SHUT-OFF VALVE
FAN AIR PRESSURE GAUGE
FAN AIR PRESSURE REGULATION
LIQ PRESSURE GAUGE
ATOMIZING AIR PRESSURE GAUGE
LIQUID PRESSURE REGULATION
ATOMIZING AIR PRESSURE REGULATION

**DETAIL A**
.32" (8.13MM)
0.64" (16.26")
.50" (12.7MM)

FAN AIR 3/8" ODT (10MM ODT)
LIQ RECIRC TO SUPPLY 3/8" ODT (10MM ODT)
LIQUID OUT 1/2" ODT (12MM ODT)
CYLINDER AIR 1/4" ODT (6MM ODT)
ATOMIZING AIR 3/8" ODT (10MM ODT)
LIQUID IN FROM NOZZLE RECIRC 3/8" ODT (10MM ODT)
LIQUID IN 1/2" ODT (12MM ODT)

**DETAIL C**

T.int. (M8, 4P (M))
Trig (M12, 4P (M))
Main (M12, 4P (F))
4-20mA (M8, 4P (F))

**DETAIL B**

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**FEATURES**

1550+ Pressure Pot Version - for applications where the systems "liquid delivery" is provided by a pressurized vessel or is supplied by the customer. The Pressure Pot system controls the liquid flow using an internal "manual" air pressure regulator located within the Modular Spray System panel. This regulator adjusts the air pressure to the pressure pot. For most liquids, the reading on the gauge will be close to the pressure at the pressure pot's liquid outlet. *Note for high viscous and high density liquids, this will deviate.*

**Spray Control**
- On/Off control for electrically and pneumatically actuate spray nozzles
- Liquid pressure control for hydraulic atomizing spray nozzles
- Ideal for use with PulsaJet , AA250AUH and 1/4JAUH spray nozzles

*Three selectable timing modes*
- Fixed spray time
- Variable spray time
- Repeat

**Pressure Gauge Options**
*Standard gauge offering is 0-60 psi (0-4 bar)*
*Specify pressure gauge when ordering*
- 0-30 psi (0-2 bar)
- 0-60 psi (0-4 bar) Standard
- 0-100 psi (0-7 bar)

**Trigger Options**
- Local and remote (HMI, external sensors, or PLC).
- Dry Contact
- Check with factory for all available options.

**SPECIFICATIONS:**
**Air and Pressure:**
- Air - 40 scfm minimum per regulator (50 scfm maximum for system)
- Liquid - 100 psi (7 bar) Max.
- Atomizing Air - 100 psi (7 bar) Max.
- Fan Air - 100 psi (7 bar) Max.

**Control Panel:**
- UL1 with door closed
- Stainless Steel
- 4.3" HMI Touch Screen Display

**Power Requirements:**
- 100-240 VAC, 3.2A, 50-60 Hz, 1 Ø

**Air Line Materials:**
- Brass, Aluminum, Stainless Steel and Nickel Plated Brass

**Liquid Wetted Materials:**
- PVC, Stainless Steel, Polypropylene, PTFE, nickel plated brass, Viton and Nylon
- Liquid Outlet Strainer - 100 mesh

**Overall Dimensions:**
- 29.00" (698.5 mm) H x 14" (355.6 mm) W x 14" (355.6 mm) D
Weight: 49.5 lbs. (22.5 kg.) approx.

**PRESSURE POT OPTIONS:**
1-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 12 lbs. [5.44 kg.]
2-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 15 lbs. [6.80 kg.]
5-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 22 lbs. [9.98 kg.]
10-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 40 lbs. [18.14 kg.]
16-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 55 lbs. [24.95 kg.]

POWER CORD & CABLE OPENING
AIR INLET Push-In Tube Fitting 1/4"NPT (M) X 3/8"ODT
LIQUID OUTLET Push-In Tube Fitting 1/4"NPT (M) X 3/8" ODT
MANUAL RELIEF VALVE
PRESSURE POT
AIR FILTER, 5-MICON, w/ MANUAL SHUT-OFF VALVE
AIR IN 1/2" NPT (F)

HANDLE
1550 CONTROLLER
LIQUID PRESSURE GAUGE
LIQUID PRESSURE REGULATOR

CYLINDER AIR 1/4" ODT (6MM ODT)
TANK AIR OUT 3/8" ODT (10MM ODT)
**DETAIL C**

T.int. (M8, 4P (M)
Trig (M12, 4P (M)
Main (M12, 4P (F)
4-20mA (M8, 4P (F)
**DETAIL B**

.32" (8.13MM)
Ø .64" (16.26MM)
.50" (12.7MM)
**DETAIL A**

SIDE PANEL LATCH 2-PLACES
REMOVABLE SIDE ACCESS PANEL WITH LATCHES
14.00" (355.6MM)
9.50" (241.3MM)
29.00" (436.6MM)
18.00" (457.2MM)

8.00" (203.2MM)
REMOVABLE BACK ACCESS PANEL WITH LATCHES
12.50" (317.5MM)
14.00" (355.6MM)
20.11" (510.8MM)
18.00" (457.2MM)
7.50" (190.5MM)
BACK PANEL LATCH 2-PLACES
AIR IN 1/2 NPT(F)

16.65" (419.1MM)
OPEN DOOR CLEARANCE
POWER ON/OFF

**Spraying Systems Co.®**
Spray Nozzles and Accessories
P.O. Box 7900 - Wheaton, IL 60187-7901

REVISION NO. 1
REFERENCE: 2018

Data Sheet No.
**1550+PP-1**
SHEET: 1 OF 1 | DWG SIZE: B

**DESCRIPTION:**
1550+ Modular Spray System
Back and Side Panel Access
Pressure Pot Version
Liquid

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## FEATURES

**1550+ Pressure Pot Version** - for applications where the systems "liquid delivery" is provided by a pressurized vessel or is supplied by the customer. The Pressure Pot system controls the liquid flow using an internal "manual" air pressure regulator located within the Modular Spray System panel. This regulator adjusts the air pressure to the pressure pot. For most liquids, the reading on the gauge will be close to the pressure at the pressure pot's liquid outlet. *Note for high viscous and high density liquids, this will deviate.*

**Spray Control**
- On/Off control for electrically and pneumatically actuate spray nozzles
- Liquid pressure control for hydraulic atomizing spray nozzles
- Ideal for use with PulsaJet , AA250AUH and 1/4JAUH spray nozzles

**Three selectable timing modes**
- Fixed spray time
- Variable spray time
- Repeat

**Pressure Gauge Options**
*Standard gauge offering is 0-60 psi (0-4 bar)*
*Specify pressure gauge when ordering*
- 0-30 psi (0-2 bar)
- 0-60 psi (0-4 bar) Standard
- 0-100 psi (0-7 bar)

**Trigger Options**
- Local and remote (HMI, external sensors, or PLC).
- Dry Contact
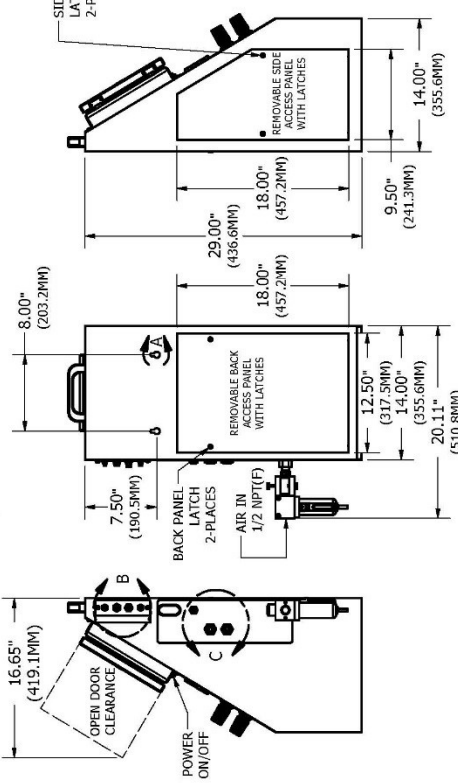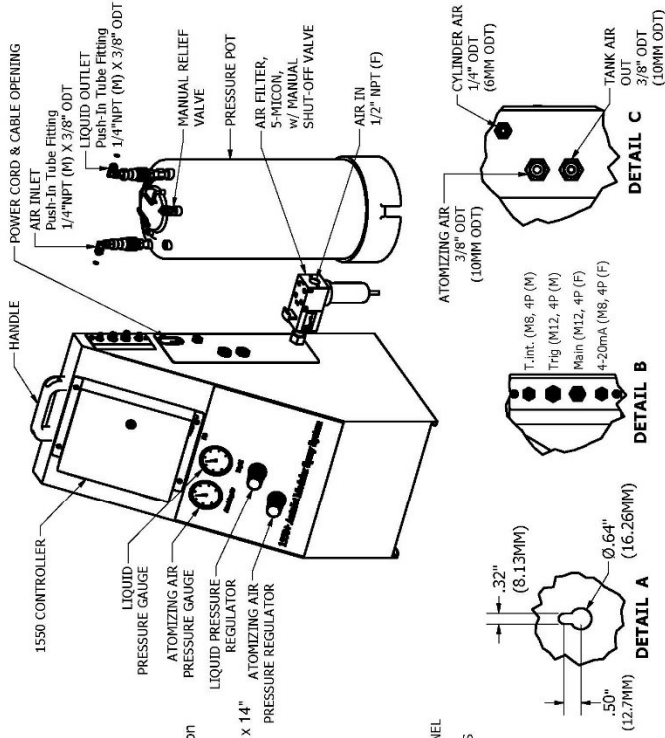- Check with factory for all available options.

## SPECIFICATIONS:

**Air and Pressure**:
- Air - 40 scfm minimum per regulator (50 scfm maximum for system)
- Liquid - 100 psi (7 bar) Max.
- Atomizing Air - 100 psi (7 bar) Max.
- Fan Air - 100 psi (7 bar) Max.

**Control Panel:**
- UL1 with door closed
- Stainless Steel
- 4.3" HMI Touch Screen Display

**Power Requirements:**
- 100-240 VAC, 3.2A, 50-60 Hz, 1 Ø

**Air Line Materials:**
- Brass, Aluminum, Stainless Steel and Nickel Plated Brass

**Liquid Wetted Materials:**
- PVC, Stainless Steel, Polypropylene, PTFE, nickel plated brass, Viton and Nylon
- Liquid Outlet Strainer - 100 mesh

**Overall Dimensions:**
- 29.00" (698.5 mm) H x 14" (355.6 mm) W x 14" (355.6 mm) D
- Weight: 49.5 lbs. (22.5 kg.) approx.

## PRESSURE POT OPTIONS:

- 1-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 12 lbs. [5.44 kg.]
- 2-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 15 lbs. [6.80 kg.]
- 5-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 22 lbs. [9.98 kg.]
- 10-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 40 lbs. [18.14 kg.]
- 16-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 55 lbs. [24.95 kg.]



POWER CORD & CABLE OPENING
AIR INLET Push-In Tube Fitting 1/4"NPT (M) X 3/8" ODT
LIQUID OUTLET Push-In Tube Fitting 1/4"NPT (M) X 3/8" ODT
MANUAL RELIEF VALVE
PRESSURE POT
AIR FILTER, 5-MICON, w/ MANUAL SHUT-OFF VALVE
AIR IN 1/2" NPT (F)
HANDLE
1550 CONTROLLER
LIQUID PRESSURE GAUGE
ATOMIZING AIR PRESSURE GAUGE
LIQUID PRESSURE REGULATOR
ATOMIZING AIR PRESSURE REGULATOR

**DETAIL B**
T.int. (M8, 4P (M)
Trig (M12, 4P (M)
Main (M12, 4P (F)
4-20mA (M8, 4P (F)

**DETAIL C**
CYLINDER AIR 1/4" ODT (6MM ODT)
TANK AIR OUT 3/8" ODT (10MM ODT)
ATOMIZING AIR 3/8" ODT (10MM ODT)

**DETAIL A**
.32" (8.13MM)
Ø.64" (16.26MM)
.50" (12.7MM)

SIDE PANEL LATCH 2-PLACES
REMOVABLE SIDE ACCESS PANEL WITH LATCHES
14.00" (355.6MM)
18.00" (457.2MM)
9.50" (241.3MM)

8.00" (203.2MM)
29.00" (436.6MM)
18.00" (457.2MM)
REMOVABLE BACK ACCESS PANEL WITH LATCHES
12.50" (317.5MM)
14.00" (355.6MM)
20.11" (510.8MM)
7.50" (190.5MM)
BACK PANEL LATCH 2-PLACES
AIR IN 1/2 NPT(F)

16.65" (419.1MM)
OPEN DOOR CLEARANCE
POWER ON/OFF

**DESCRIPTION:**
1550+ Modular Spray System
Back and Side Panel Access
Pressure Pot Version
Liquid, Atomizing Air

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Spray Nozzles and Accessories
P.O. Box 7900 - Wheaton, IL 60187-7901

Data Sheet No. **1550+PP-2**

REVISION NO. 1
REFERENCE: 2016
SHEET: 1 OF 1
DWG SIZE: B

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## FEATURES

1550+ Pressure Pot Version - for applications where the systems "liquid delivery" is provided by a pressurized vessel or is supplied by the customer. The Pressure Pot system controls the liquid flow using an internal "manual"air pressure regulator located within the Modular Spray System panel. This regulator adjusts the air pressure to the pressure pot. For most liquids, the reading on the gauge will be close to the pressure at the pressure pot's liquid outlet. *Note for high viscous and high density liquids, this will deviate.*

**Spray Control**
- On/Off control for electrically and pneumatically actuate spray nozzles
- Liquid pressure control for hydraulic atomizing spray nozzles
- Ideal for use with PulsaJet , AA250AUH and 1/4JAUH spray nozzles

*Three selectable timing modes*
- Fixed spray time
- Variable spray time
- Repeat

**Pressure Gauge Options**
*Standard gauge offering is 0-60 psi (0-4 bar)*
*Specify pressure gauge when ordering*
- *0-30 psi (0-2 bar)*
- *0-60 psi (0-4 bar) Standard*
- *0-100 psi (0-7 bar)*

**Trigger Options**
- Local and remote (HMI, external sensors, or PLC).
- Dry Contact
- Check with factory for all available options.

## SPECIFICATIONS:

**Air and Pressure:**
- Air - 40 scfm minimum per regulator (50 scfm maximum for system)
- Liquid - 100 psi (7 bar) Max.
- Atomizing Air - 100 psi (7 bar) Max.
- Fan Air - 100 psi (7 bar) Max.

**Control Panel:**
- UL1 with door closed
- Stainless Steel
- 4.3" HMI Touch Screen Display

**Power Requirements:**
- 100-240 VAC, 3.2A, 50-60 Hz, 1 Ø

**Air Line Materials:**
- Brass, Aluminum, Stainless Steel and Nickel Plated Brass
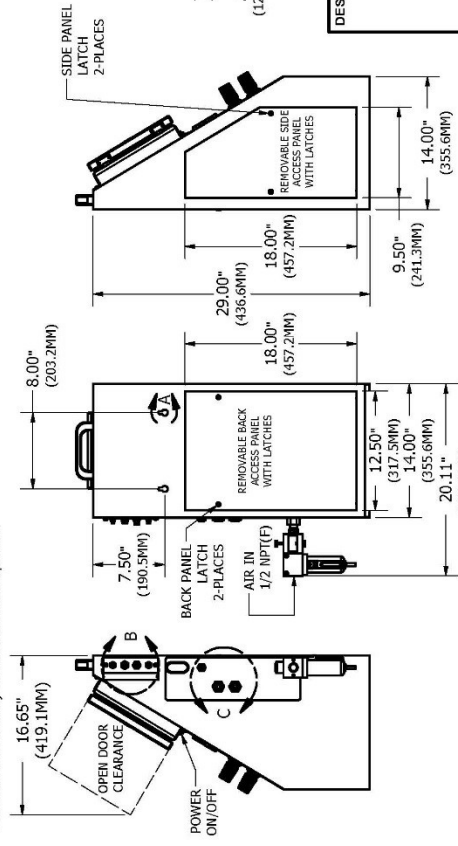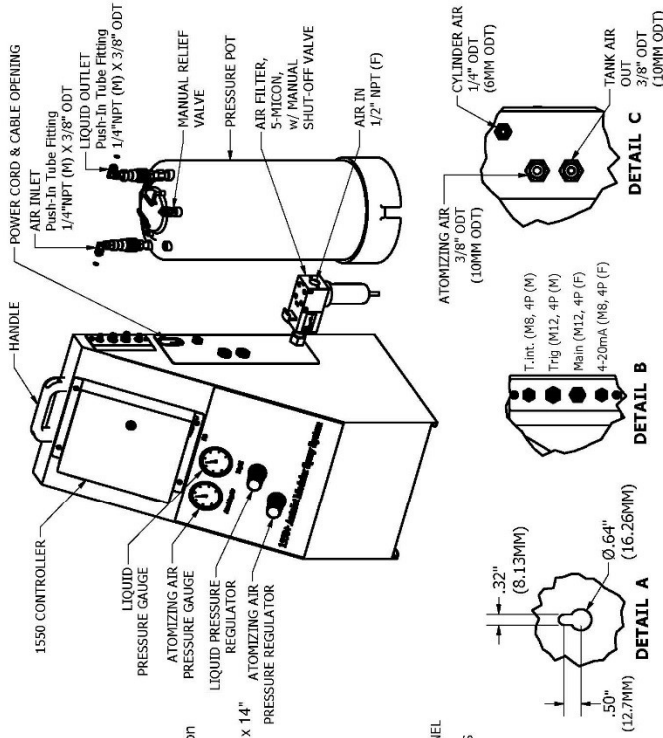
**Liquid Wetted Materials:**
- PVC, Stainless Steel, Polypropylene, PTFE, nickel plated brass, Viton and Nylon
- Liquid Outlet Strainer - 100 mesh

**Overall Dimensions:**
- 29.00" (698.5 mm) H x 14" (355.6 mm) W x 14" (355.6 mm) D
- Weight: 49.5 lbs. (22.5 kg.) approx.

## PRESSURE POT OPTIONS:

- 1-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 12 lbs. [5.44 kg.]
- 2-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 15 lbs. [6.80 kg.]
- 5-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 22 lbs. [9.98 kg.]
- 10-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 40 lbs. [18.14 kg.]
- 16-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 55 lbs. [24.95 kg.]



POWER CORD & CABLE OPENING
AIR INLET Push-In Tube Fitting 1/4"NPT (M) X 3/8" ODT
LIQUID OUTLET Push-In Tube Fitting 1/4"NPT (M) x 3/8" ODT
MANUAL RELIEF VALVE
PRESSURE POT
AIR FILTER, 5-MICON, w/ MANUAL SHUT-OFF VALVE
AIR IN 1/2" NPT (F)
HANDLE
1550 CONTROLLER
LIQUID PRESSURE GAUGE
ATOMIZING AIR PRESSURE GAUGE
LIQUID PRESSURE REGULATOR
ATOMIZING AIR PRESSURE REGULATOR

**DETAIL C**
CYLINDER AIR 1/4" ODT (6MM ODT)
TANK AIR OUT 3/8" ODT (10MM ODT)
ATOMIZING AIR 3/8" ODT (10MM ODT)

**DETAIL B**
T.int. (M8, 4P (M)
Trig (M12, 4P (M)
Main (M12, 4P (F)
4-20mA (M8, 4P (F)

**DETAIL A**
Ø.64" (16.26MM)
.32" (8.13MM)
.50" (12.7MM)

SIDE PANEL LATCH 2-PLACES
REMOVABLE SIDE ACCESS PANEL WITH LATCHES
14.00" (355.6MM)
18.00" (457.2MM)
29.00" (436.6MM)
9.50" (241.3MM)
18.00" (457.2MM)

8.00" (203.2MM)
REMOVABLE BACK ACCESS PANEL WITH LATCHES
12.50" (317.5MM)
14.00" (355.6MM)
20.11" (510.8MM)
7.50" (190.5MM)
BACK PANEL LATCH 2-PLACES
AIR IN 1/2 NPT(F)

16.65" (419.1MM)
OPEN DOOR CLEARANCE
POWER ON/OFF

**Spraying Systems Co.®**
Spray Nozzles and Accessories
P.O. Box 7900 - Wheaton, IL 60187-7901

Data Sheet No.
**1550+PP-2**

DWG SIZE: B

REVISION NO. 1
REFERENCE: 2018
SHEET: 1 OF 1

**DESCRIPTION:**
1550+ Modular Spray System
Back and Side Panel Access
Pressure Pot Version
Liquid, Atomizing Air

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**FEATURES**

1550+ Pressure Pot Version - for applications where the systems "liquid delivery" is provided by a pressurized vessel or is supplied by the customer. The Pressure Pot system controls the liquid flow using an internal "manual"air pressure regulator located within the Modular Spray System panel. This regulator adjusts the air pressure to the pressure pot. For most liquids, the reading on the gauge will be close to the pressure at the pressure pot's liquid outlet. *Note for high viscous and high density liquids, this will deviate.*

**Spray Control**
- On/Off control for electrically and pneumatically actuate spray nozzles
- Liquid pressure control for hydraulic atomizing spray nozzles
- Ideal for use with PulsaJet , AA250AUH and 1/4JAUH spray nozzles

*Three selectable timing modes*
- Fixed spray time
- Variable spray time
- Repeat

**Pressure Gauge Options**
*Standard gauge offering is 0-60 psi (0-4 bar)*
*Specify pressure gauge when ordering*
- *0-30 psi (0-2 bar)*
- *0-60 psi (0-4 bar) Standard*
- *0-100 psi (0-7 bar)*

**Trigger Options**
- Local and remote (HMI, external sensors, or PLC).
- Dry Contact
- Check with factory for all available options.

**SPECIFICATIONS:**

**Air and Pressure:**
- Air - 40 scfm minimum per regulator (50 scfm maximum for system)
- Liquid - 100 psi (7 bar) Max.
- Atomizing Air - 100 psi (7 bar) Max.
- Fan Air - 100 psi (7 bar) Max.

**Control Panel:**
- UL1 with door closed
- Stainless Steel
- 4.3" HMI Touch Screen Display

**Power Requirements:**
- 100-240 VAC, 3.2A, 50-60 Hz, 1 Ø

**Air Line Materials:**
- Brass, Aluminum, Stainless Steel and Nickel Plated Brass
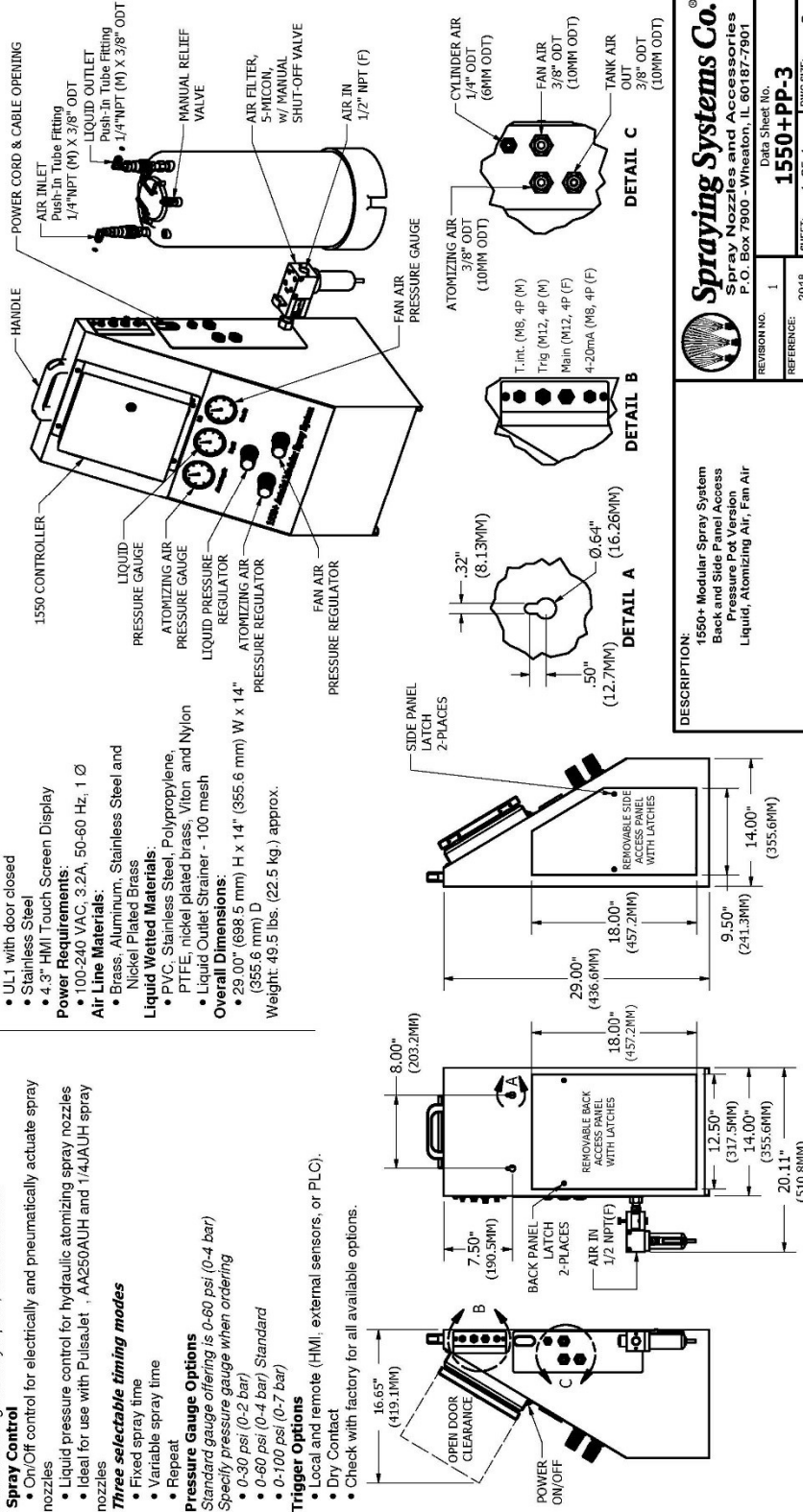
**Liquid Wetted Materials:**
- PVC, Stainless Steel, Polypropylene, PTFE, nickel plated brass, Viton and Nylon
- Liquid Outlet Strainer - 100 mesh

**Overall Dimensions:**
- 29.00" (698.5 mm) H x 14" (355.6 mm) W x 14" (355.6 mm) D
- Weight: 49.5 lbs. (22.5 kg.) approx.

**PRESSURE POT OPTIONS:**

1-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 12 lbs. [5.44 kg.]
2-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 15 lbs. [6.80 kg.]
5-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 22 lbs. [9.98 kg.]
10-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 40 lbs. [18.14 kg.]
16-Gallon Pressure Pot, w/ SS QD Couplings, pressure relief valve, 55 lbs. [24.95 kg.]

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Data Sheet No. **1550+PP-3**

| REVISION NO.: | 1 | | |
| REFERENCE: | 2016 | | B |
| DESCRIPTION: | | | |

DESCRIPTION:
1550+ Modular Spray System
Back and Side Panel Access
Pressure Pot Version
Liquid, Atomizing Air, Fan Air

SHEET: 1 OF 1 | DWG SIZE: B

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# Control Panel Only Version



## FEATURES:

1550+ Control Panel provides On/Off and timing control of electric actuated spray nozzles for a variety of spray applications. This design requires liquid to be supplied by the customer at required pressure to the spray nozzles. This version is only offered for use with electric actuated spray nozzles.

### Spray Control
- On/Off control for electrically actuate spray nozzles
- Only timing control of the nozzles (no pressure control).
- Ideal for use with PulsaJet®, AA250AUH Electric Spray Nozzles

### Three selectable timing modes
- Fixed spray time
- Variable spray time
- Repeat

### Trigger Options
- Trigger cable - Customer supplied trigger
- Photoelectric object sensor
- Thru-beam sensor
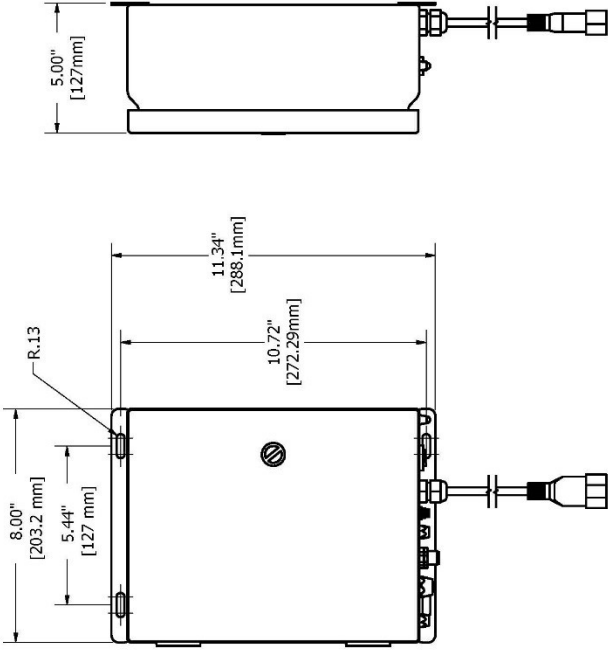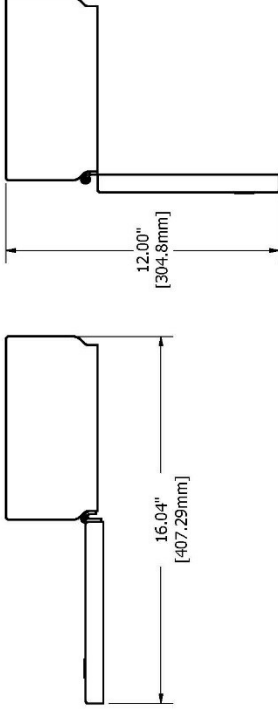- Hand pendant - Manual trigger

## SPECIFICATIONS:

Control Panel
- NEMA 4 with door closed
  Dimensions: 10" H (254mm) x 8"W (203.2mm) x 4.75"D (120.65mm
  Weight: 10 lbs. (4.5 kg) approximate
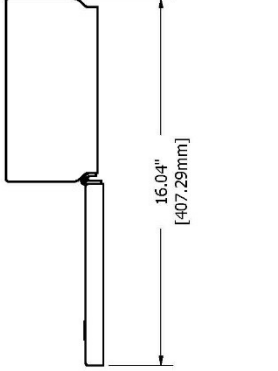- Stainless steel
- 4.3" HMI touch screen display

*Power Requirements:*
- 110 VAC, 60 Hz, 15A, 1Ph
- Capable to 260 VAC, 50 Hz, 15A, 1Ph

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| REVISION NO. | | Data Sheet | |
| --- | --- | --- | --- |
| 2 | | 040TS04000059W0 | B |
| REFERENCE: | | SHEET: 1 OF 1 | DWG SIZE: |

DESCRIPTION:

040TS04000059W0
1550+ Modular Spray System
Control Panel
Wall Mount

- 5.00" [127mm]
- 11.34" [288.1mm]
- R.13
- 10.72" [272.29mm]
- 8.00" [203.2 mm]
- 5.44" [127 mm]
- 12.00" [304.8mm]
- 16.04" [407.29mm]

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# Notes

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Experts in Spray Technology

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ISO 9001:2015 14001:2015 CERTIFIED

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