



Operation and Maintenance Manual

87R Riser-Mount Dry Pipe Sprinkler Compressor

GAST

A UNIT OF IDEX CORPORATION

Dear Customer:

Thank you for purchasing this Gast product. It is manufactured to the highest standards using quality materials. Please follow all recommended maintenance, operational, and safety instructions and you will receive years of trouble free service.

! WARNING



PLEASE READ THIS MANUAL COMPLETELY BEFORE INSTALLING AND USING THIS PRODUCT.
SAVE THIS MANUAL FOR FUTURE REFERENCE AND KEEP IN THE VICINITY OF THE PRODUCT.

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PRODUCT USE CRITERIA, AND PURPOSE

- Pump only clean, dry air.
- Operate at 39°F to 104°F [4°C to 40°C].
- Protect unit from dirt and moisture.
- Do not pump flammable or explosive gases or use in an atmosphere that contains such gases.
- Protect all surrounding items from exhaust air. This exhaust air can become very hot.
- Corrosive gases and particulate material will damage unit. Water vapor, oil-based contaminants, or other liquids must be filtered out.
- Consult your Gast Distributor/Representative before using at high altitudes.
- This pump is oil-less and requires NO lubrication.

Your safety and the safety of others is extremely important.

We have provided many important safety messages in this manual and on your product. Always read and obey safety messages.



This is the safety alert symbol. This symbol alerts you to hazards that can kill or hurt you and others. The safety alert symbol and the words “DANGER” and “WARNING” will precede all safety messages. These words mean:

DANGER

You will be killed or seriously injured if you don't follow instructions.

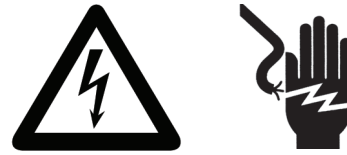
WARNING

You can be killed or seriously injured if you don't follow instructions.

All safety messages will identify the hazard, tell you how to reduce the chance of injury, and tell you what can happen if the safety instructions are not followed.

INSTALLATION

WARNING



Electrical Shock Hazard

Disconnect electrical power at the circuit breaker or fuse box before installing this product.

Install this product where it will not come into contact with water or other liquids.

Install this product where it will be weather protected.

Electrically ground this product.

Failure to follow these instructions can result in death, fire, or electrical shock.

Correct installation is your responsibility. Make sure you have the proper installation conditions and that installation clearances do not block air flow.

WARNING

Blocking air flow over the product in any way can cause the product to overheat.

MOUNTING/PLUMBING

1. Unpack the system. Remove only the two (2) bolts holding the top Unistrut to the plywood using a ½” socket or wrench. DO NOT remove the two (2) bottom bolts. The lower Unistrut is pre-installed on the compressor frame and simplifies the mounting process.
2. Find the top Unistrut section in the packaging and install using the proper sized clamps for the riser pipe diameter. 2”, 2-½”, 3”, and 4” clamps are included with every unit. Use appropriate socket & channel locks/adjustable wrench to secure clamp bolt & nut [2”, 2-½”, & 3” = ½” & 4” = 9/16”].
3. Ensure there is enough space between the bolt head and Unistrut to allow the system frame to mount in-between
4. Grasping the system by the hand cutouts, carefully hang the frame on the Unistrut. Ensure both tabs on the frame are secured between the bolt heads and Unistrut.
5. Using a ¾” socket or wrench, tighten both bolts. Confirm the frame is securely attached to the Unistrut.

6. Slide the bottom pipe clamps into the Unistrut already attached to the system. Use appropriate socket & channel locks/adjustable wrench to secure clamp bolt & nut.
7. If using, attach the supplied hose whip to the 3/4" threaded outlet. Secure flange nut on hose whip using adjustable wrench. Remove the blue plug from the compressor head and install the filter, hand tightening.
8. Complete the installation by having a certified electrician make the electrical connections. This compressor system provides standard electrical conduit connection.


Once finished, turn the system on and ensure it pressurizes the system and turns off once pressure setting is reached. If needed, the pressure switch can be adjusted using the provided instructions.


MOTOR CONTROL

It is your responsibility to contact a qualified electrician and assure that the electrical installation is adequate and in conformance with all national and local codes and ordinances.

Determine the correct overload setting required to protect the motor (see motor starter manufacturer's recommendations). Select fuses, motor protective switches or thermal protective switches to provide protection. Fuses act as short circuit protection for the motor, not as protection against overload. Incoming line fuses must be able to withstand the motor's starting current. Motor starters with thermal magnetic overload or circuit breakers protect motor from overload or reduced voltage conditions.

The wiring diagram supplied with the product provides required electrical information. Check that power source is correct to properly operate the motor.


WARNING



Electrical Shock Hazard

This product must be properly grounded.

Check the condition of the power supply wiring.

Do not permanently connect this product to wiring that is not in good condition or is inadequate for the requirements of this product.


Failure to follow these instructions can result in death, fire, or electrical shock.

Model that is Permanently Wired

This product must be connected to a grounded, metallic, permanent wiring system, or an equipment grounding terminal or lead on the product.

Power supply wiring must conform to all required safety codes and be installed by a qualified person. Check that supply voltage agrees with that listed on product nameplate.

OPERATION


WARNING

Injury Hazard

Install proper safety guards as needed.

Keep fingers and objects away from openings and rotating parts.

When provided, motor terminal covers must be in place for safe operation.

Product surfaces become very hot during operation, allow product surfaces to cool before handling.

Air stream from the product may contain solid or liquid material that can result in eye or skin damage, wear proper eye protection.

Wear hearing protection. Sound level from motor may exceed 70 dBA.

Failure to follow these instructions can result in burns, eye injury, or other serious injury.

It is your responsibility to operate this product at recommended pressures and room ambient temperatures. Do not start against a pressure load.

Start Up


WARNING


This motor is thermally protected and may restart after cooling.

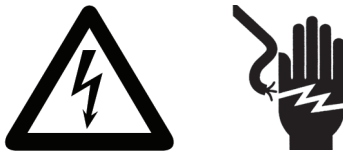
If motor fails to start or slows down significantly under load, shut off and disconnect from power supply. Check that the voltage is correct for motor and that motor is turning in the proper direction. Check the switch for damage. If so equipped, the thermal protection switch has tripped, the motor can restart after cooling.

PRESSURE SWITCH

| | | |
|--------------|--|---|
| Installation | Use wrench to install.(Do not twist housing to install.) | |
| Connecting | Please follow the above wiring method to correct the wiring. please check the connection before the power. | |
| Set | Zero clearing | After power, without pressure, close the 'run' key, long press '▼' key for 5 seconds to zero clearing. |
| | Units change | Close 'run' key, short press '▲' key to change pressure unit circularly |
| | Upper and lower limit setting | Close 'run' key, short press 'set' key, it shows lower limit pressure and the low pressure warning light comes on; press '▲'▼' to change the figure(long press, the figure changes quickly), after setting, short press 'set' key to save setting. Then it shows upper limit and high pressure warning light comes on, press '▲'▼' to change the figure(long press, the figure changes quickly), after setting, short press 'set' key to save setting and quit automatically. (if the lower limit can not reach to the figure you want, you can set upper limit firstly.) |
| | Run | After setting, short press 'run' key to open. (The 'run' key must be closed before setting) |

MAINTENANCE


WARNING




Electrical Shock Hazard

Disconnect electrical power supply before performing maintenance on this product.

If product is hard-wired into system, disconnect electrical power at the circuit breaker or fuse box before performing maintenance on this product.

Failure to follow these instructions can result in death, fire, or electrical shock.


WARNING

Injury Hazard

Product surfaces become very hot during operation, allow product surfaces to cool before handling.

Air stream from the product may contain solid or liquid material that can result in eye or skin damage, wear proper eye protection.

Clean this product in a well-ventilated area.

Failure to follow these instructions can result in burns, eye injury, or other serious injury.

It is your responsibility to:

- **Regularly inspect and make necessary repairs to product in order to maintain proper operation.**
- **Make sure that pressure is released from product before starting maintenance.**

Check intake and exhaust filters after six months of operation. Clean filters and determine how frequently filters should be checked during future operation. This one procedure will help to assure the product's performance and service life.

1. Remove filter cover.
2. Check filter felt. Replace felt if it is covered with contamination or shows signs of increasing differential pressure.
3. Reinstall felt and filter cover.

ACCESSORIES – INTAKE FILTER

The product's external intake will provide adequate filtration in most applications. Check filters periodically and replace when necessary. Consult your Gast Distributor/Representative for additional filter recommendations.

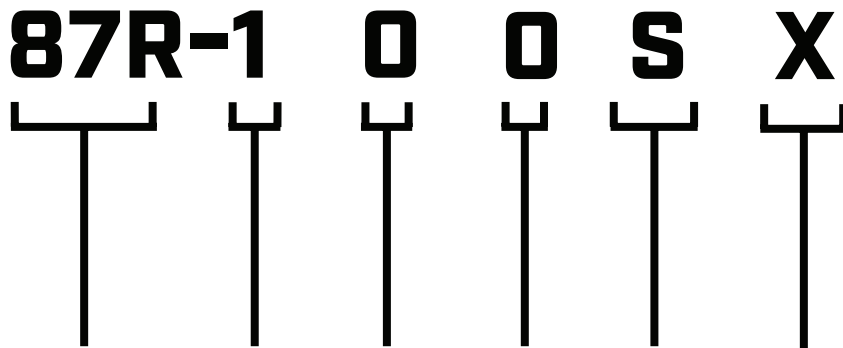


Item: B300A

Technical Data and Specifications

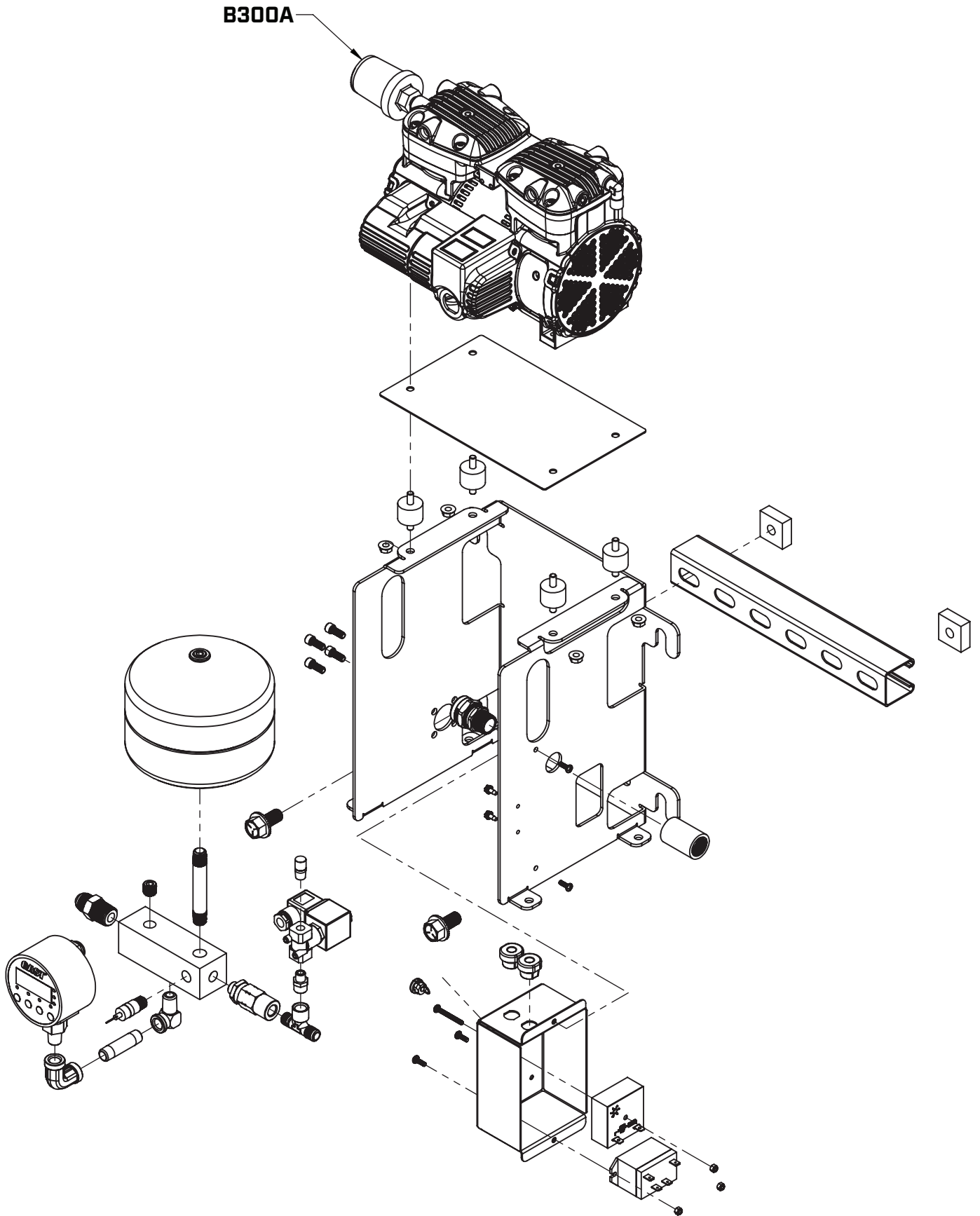
| | | 87R-1 |
|--------------------------------------|---------|-------------------|
| Voltage | VAC | 120 |
| Frequency | HZ | 60 |
| System Capacity, 40 psi in 30 min | gallons | 296 |
| Current | amps | 5.7 |
| Weight | lbs | 42 |
| Noise Level | dB(A) | 63 |
| Dimensions (LxWxH) | in | 13.8 x 9.9 x 20.2 |
| Motor | HP | 1/2 |
| Max Pressure | psi | 55 |
| Tank Size | liters | 2 |
| Thermal Protection | | Yes |
| Duty Cycle | | 100% |
| Relative Humidity % | | 20 - 80% |
| Ambient Temperature | | 4/40 C |

UNDERSTANDING YOUR PART NUMBER

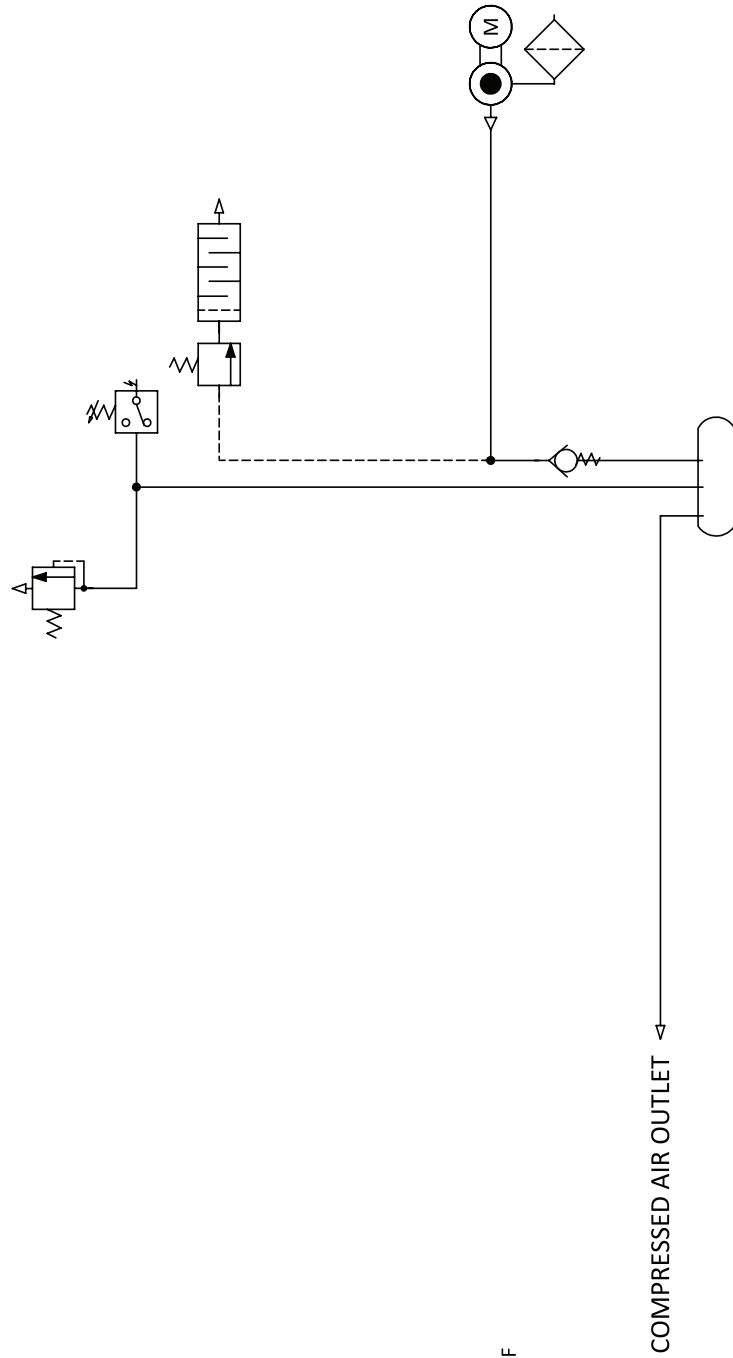


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|-------------------|-------------------------------|----------------------------------|---------------------------|-------------|----------------------------------|
| Compressor Series | Voltage 1 - 120 2 - 230 | Alpha-Numerical Engineering Code | WiFi 0 - No 1 - Yes | Riser Mount | Alpha-Numerical Engineering Code |
|-------------------|-------------------------------|----------------------------------|---------------------------|-------------|----------------------------------|

EXPLODED PRODUCT VIEW, PARTS, AND ORDERING INFORMATION: SINGLE



PNEUMATIC SCHEMATIC



:WORKING PIPE

:STEERING PIPE

:PIPE COUPLING

:COMPRESSOR

:TANK

:INLET FILTER

:PRESSURE GAUGE

:PRESSURE SWITCH

:SAFETY VALVE

:NON RETURN VALVE

:FILTER MANUAL DRAIN

:VALVE FOR PRESSURE RELIEF

:REDUCTION VALVE

:VALVE

:MUFFLER

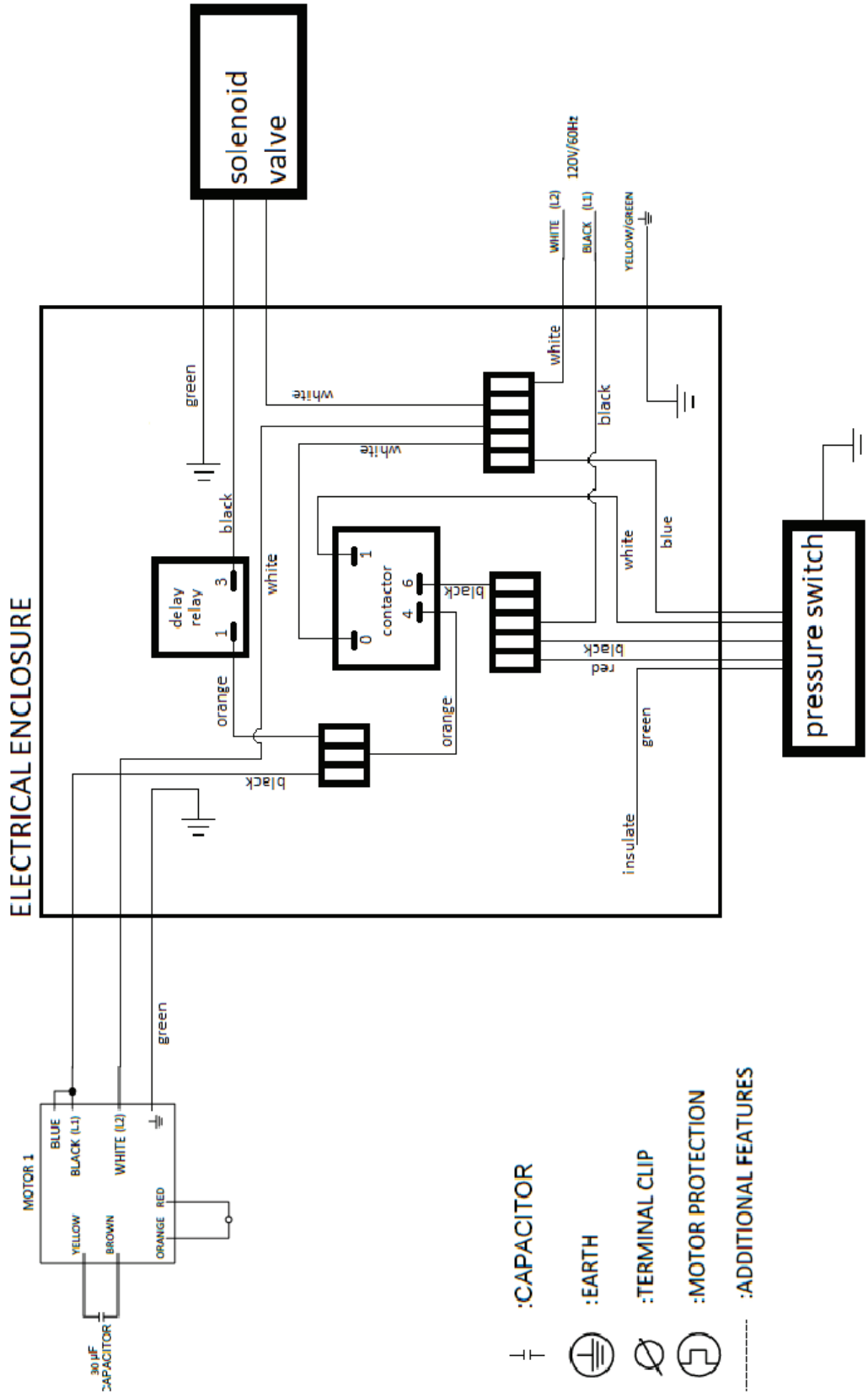
:FILTER WITH AUTOMATIC DRAIN

:OPTIONAL

:TIMED AUTO DRAIN

:2/2 PRESSURE RELIEF

ELECTRICAL SCHEMATIC



WARRANTY

Gast finished products, when properly installed and operated under normal conditions of use, are warranted by Gast to be free from defects in material and workmanship for a period of twelve (12) months from the date of purchase from Gast or an authorized Gast Representative or Distributor. In order to obtain performance under this warranty, the buyer must promptly (in no event later than thirty (30) days after discovery of the defect) give written notice of the defect to Gast Manufacturing Incorporated, PO Box 97, Benton Harbor Michigan USA 49023-0097 or an authorized Service Center (unless specifically agreed upon in writing signed by both parties or specified in writing as part of a Gast OEM Quotation). Buyer is responsible for freight charges both to and from Gast in all cases.

This warranty does not apply to electric motors, electrical controls, and gasoline engines not supplied by Gast. Gast's warranties also do not extend to any goods or parts which have been subjected to misuse, lack of maintenance, neglect, damage by accident or transit damage.

THIS EXPRESS WARRANTY EXCLUDES ALL OTHER WARRANTIES OR REPRESENTATIONS EXPRESSED OR IMPLIED BY ANY LITERATURE, DATA, OR PERSON. GAST'S MAXIMUM LIABILITY UNDER THIS EXCLUSIVE REMEDY SHALL NEVER EXCEED THE COST OF THE SUBJECT PRODUCT AND GAST RESERVES THE RIGHT, AT ITS SOLE DISCRETION, TO REFUND THE PURCHASE PRICE IN LIEU OF REPAIR OR REPLACEMENT.

GAST WILL NOT BE RESPONSIBLE OR LIABLE FOR INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND, however arising, including but not limited to those for use of any products, loss of time, inconvenience, lost profit, labor charges, or other incidental or consequential damages with respect to persons, business, or property, whether as a result of breach of warranty, negligence or otherwise. Notwithstanding any other provision of this warranty, BUYER'S REMEDY AGAINST GAST FOR GOODS SUPPLIED OR FOR NON-DELIVERED GOODS OR FAILURE TO FURNISH GOODS, WHETHER OR NOT BASED ON NEGLIGENCE, STRICT LIABILITY OR BREACH OF EXPRESS OR IMPLIED WARRANTY IS LIMITED SOLELY, AT GAST'S OPTION, TO REPLACEMENT OF OR CURE OF SUCH NONCONFORMING OR NON-DELIVERED GOODS OR RETURN OF THE PURCHASE PRICE FOR SUCH GOODS AND IN NO EVENT SHALL EXCEED THE PRICE OR CHARGE FOR SUCH GOODS. GAST EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE WITH RESPECT TO THE GOODS SOLD. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTIONS SET FORTH IN THIS WARRANTY, notwithstanding any knowledge of Gast regarding the use or uses intended to be made of goods, proposed changes or additions to goods, or any assistance or suggestions that may have been made by Gast personnel.

Unauthorized extensions of warranties by the customer shall remain the customer's responsibility.

CUSTOMER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF GAST PRODUCTS FOR CUSTOMER'S USE OR RESALE, OR FOR INCORPORATING THEM INTO OBJECTS OR APPLICATIONS WHICH CUSTOMER DESIGNS, ASSEMBLES, CONSTRUCTS OR MANUFACTURES.

This warranty can be modified only by authorized Gast personnel by signing a specific, written description of any modifications.

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