

GAST LUBRICATED 1067, 2067 and 2567 SERIES ROTARY VANE VACUUM PUMPS & COMPRESSORS

OPERATION & MAINTENANCE MANUAL



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 MOTOR. SAVE THIS MANUAL FOR FUTURE REFERENCE AND KEEP IN THE VICINITY OF THE MOTOR.

Product Use Criteria:

- Operate at 32°F - 104°F (0°C - 40°C).
- Protect unit from dirt & moisture.
- Protect all surrounding items from hot exhaust air.
This exhaust air can become very hot.
- Product is not a consumer product and is for commercial applications only.
- **Do not pump flammable or explosive gases or use in an atmosphere that contains such gases.**
- 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.
- Use Gast #AD220 or a detergent SAE#10 automotive engine oil for lubricating.




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**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 all 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.

WARNING



Injury Hazard

Only pump air, never allow this pump to be used with any other gasses, fluids, particles, solids, COMBUSTIBLE SUBSTANCES or any substance mixed with air.

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.



CAUTION Do not lift unit by fan shrouds. Unit should be lifted by means of eye bolt.



CAUTION Do not block cooling air flow over pump in any way.



WARNING Some models are equipped with glass jars. Proper measures should be taken to guard against glass fragmenting or breaking if an alternative material is not used. If hazard is ignored severe personal injury or death can occur.

Mounting Pump

Pump base should be anchored to either a metal surface such as a shelf, floor or another piece of machinery. To save time and avoid inconvenience, position pump to provide easy access to all lubricators, filters and mufflers.

Plumbing

To prevent air flow restriction, use pipe and fittings that are the same size or larger than the threaded ports of the pump. The ports are marked "IN" and "OUT". If the distance is great, use lines with a larger diameter than the connections. Give lines a uniform slope, place drain cock at low point, and avoid extra elbows. For ease of servicing, use a union or hose with clamps near the pump (a hose helps eliminate noise and vibration). If a vacuum/pressure supply tank is used, slope the line towards tank, provide a drain at the bottom, and place a check valve between the tank and pump so the pump will not run backwards when turned off.

Accessories

Intake and exhaust filters are external to the pump and will provide adequate filtration for most applications. Check filters periodically and replace when necessary. Consult a Gast Representative for additional filter recommendations. Install relief valves and gauges at the inlet or outlet, or both, to monitor performance. Check valves may be required to prevent backstreaming through the pump.

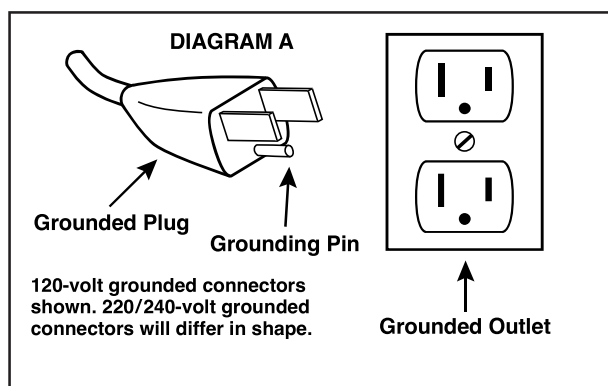
Motor Control

It is your responsibility to contact a qualified electrician to 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 help 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 dual-voltage motors.

Electrical Connection



Model with a power supply cord:

This product must be grounded. For either 120-volt or 220/240-volt circuits connect power supply cord grounding plug to a matching grounded outlet. Do not use an adapter. (See DIAGRAM A)

In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product may be equipped with a power supply cord having a grounding wire with an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if you are not sure whether the product is properly grounded. Do not modify the plug provided. If it will not fit the outlet, have the proper outlet installed by a qualified electrician.

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.

Extension cords:

Use only a 3-wire extension cord that has a 3-blade grounding plug. Connect extension cord plug to a matching 3-slot receptacle. Do not use an adapter. Make sure your extension cord is in good condition. Check that the gage wire of the extension cord is the correct size wire to carry the current this product will draw.

Minimum gage for extension cords										
Amps	Volts	Length of cord in feet								
	120v	25	50	100	150	200	250	300	400	500
	240v	50	100	200	300	400	500	600	800	1000
0-2		18	18	18	16	16	14	14	12	12
2-3		18	18	16	14	14	12	12	10	10
3-4		18	18	16	14	12	12	10	10	8
4-5		18	18	14	12	12	10	10	8	8
5-6		18	16	14	12	10	10	8	8	8
6-8		18	16	12	10	10	8	6	6	6
8-10		18	14	12	10	8	8	6	6	4
10-12		16	14	10	8	8	6	6	4	4
12-14		16	12	10	8	6	6	4	4	2
14-16		16	12	10	8	6	6	4	4	2
16-18		14	12	8	8	6	4	4	2	2
18-20		14	12	8	6	6	4	4	2	2

OPERATION

WARNING

Injury Hazard

Install proper safety guards as needed. Pumps with glass jars need safety guards to protect against breaking glass.

Use only recommended air handling parts acceptable for pressure not less than 70 psi..

Keep fingers and objects away from openings and rotating parts.

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

Check that coupling guard and shroud are in place before operating.

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

Do Not direct air stream at body. Air stream from product may contain solid or liquid material that can result in eye or skin damage, wear proper eye protection.

Do Not spray flammable or combustible liquid.

Wear hearing protection. Sound level from product may exceed 85 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 or vacuum duties and room ambient temperatures. Do Not start against a vacuum or pressure load.

Start Up

If pump is extremely cold, let it warm up to room temperature before starting. 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. Turning in the wrong direction will drastically reduce vane life. Vane life will be drastically reduced if motor is not operating properly. Vanes can break or be damaged if motor/pump runs in the wrong direction.

MAINTENANCE

WARNING

Electrical Shock Hazard

Disconnect electrical power supply cord 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.



It is your responsibility to:

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

Check intake and exhaust filters after first 500 hours 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.**

Filter Inspection and Replacement



WARNING Pump surfaces may become very hot during operation. Do not touch these parts until pump has been turned off and allowed to cool.

Refer to exploded view during the following procedure:

1. Turn off pump and isolate from power source
2. Release all pressure and vacuum from pump.
3. Remove glass filter/muffler jar
4. Remove cartridges from intake and exhaust filters and inspect them.
 - a. Check for cuts and excessive foreign material.
 - 1) If any of these conditions exists, replace immediately.
 - 2) If filters look serviceable, go to step 5.
5. Clean them with compressed air and recheck for above conditions.
 - a. If any of these conditions from step 4 show up, then replace immediately.
6. Reassemble.

Flushing

Flushing this product to remove excessive dirt, foreign particles, moisture or oil that occurs in the operating environment will help to maintain proper vane performance. If your pump is not getting the vacuum or pressure level expected, flushing is required. Vanes will stick when dirty and may cause pump to be noisy or inefficient.

Use only Gast recommended Flushing Solvent or other non-petroleum based flushing solvent. Do Not use kerosene or ANY other combustible solvent to flush product.

1. Disconnect electrical power supply.
2. Release all pressure and vacuum from pump.
3. Remove all accessories at the inlet and exhaust ports.
4. Remove filter.
5. Start product. Place towel over exhaust port to clean up solvent. If using liquid solvent, pour several tablespoons directly into inlet port. If using Gast recommended Flushing Solvent, spray solvent for 5-10 seconds into inlet port.
6. Block the inlet port and draw a deep vacuum for 15-20 seconds. Release the vacuum.
7. Listen for changes in the sound of the motor. If motor sounds smooth, go to next step. If motor does not sound like it is running smoothly, repeat steps 5 and 6 until you can hear a difference in the operating sound of the pump.
8. Start the pump and let it run for 1 minute, then turn pump off.
9. Replace all accessories at the inlet and exhaust ports.
10. Replace filter before resuming operation.

Check that all external accessories such as relief valves and gauges are attached to cover and are not damaged before re-operating product.

SHUTDOWN PROCEDURES

It is your responsibility to follow proper shutdown procedures to prevent product damage.

Failure to do so may result in premature pump failure. The Gast Manufacturing lubricated Vacuum Pumps and Compressors are constructed of ferrous metals or aluminum which are subject to rust and corrosion when pumping condensable vapors such as water. Follow the steps below to assure correct storage and shutdown between operating periods

1. Disconnect plumbing.
2. Operate product for at least 5 minutes without plumbing.
3. Cover inlet port (vacuum side) and run pump for 1-3 minutes. Shut the pump down under vacuum.
4. This unit requires lubrication. Refill oil reservoir to proper level before storage.
5. Be sure to plug open ports so dirt and other contaminants do not enter the unit. It is now ready for shutdown.

SERVICE KIT INSTALLATION

WARNING



Electrical Shock Hazard

Disconnect electrical power supply cord before installing Service Kit.

If product is hard wired into system, disconnect electrical power at the circuit breaker or fuse box before installing Service Kit.

Disconnect air supply and vent all air lines to release pressure or vacuum.

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

Gast will NOT guarantee field-rebuilt product performance. For performance guarantee, the product must be returned to a Gast Authorized Service Facility.

Service Kit contents vary. Most contain vanes, gaskets oiler wick and filter elements.

Pump Disassembly:

1. Remove fan, fan guard and (4) end cap screws.
2. Remove dead end plate.
3. Check for scoring on end plate, rotor and body. Surfaces should be smooth. If severe scoring is visible, contact an Authorized Service Facility
4. Remove vanes
5. Clean all surfaces with Gast recommended Flushing solvent and dry well.

Pump Re-assembly

6. Apply a light coat of Gast recommended Oil Part #AD220 (an equivalent 10 wt. high detergent oil can also be used) to vanes.
7. Re-install vanes, noting proper direction of beveled edge (refer to exploded view)
8. Install dead end plate and install dead end plate bolts loosely.
9. Install bearings into dead end plate; be sure to press inner race of bearing when installing.
10. Reassemble end cap screws, fan guard and fan.
11. Verify unit rotates freely by hand before re-connecting power.
12. Before putting pump into service, ensure that any external accessories have not been damaged.
13. Reconnect power.
14. Check for proper rotation if unit is 3-phase.

If pump fails to produce proper vacuum or pressure, or is excessively noisy, turn off and return unit to an Authorized Service Facility.

We have Gast Certified Service Centers throughout the world. For the most up-to-date listing, contact one of our sales offices :

Gast Manufacturing, Inc.

2300 M139 Highway
Benton Harbor, Mi. 49022-6114
Phone: 269-926-6171
www.gastmfg.com

Gast Jun-Air Europe BV

Hengelderweg 24,
NL-6942 NB, Didam
Netherlands
Phone: +44 (0)1527 504040
www.gastmfg.com

IDEX Technology (Suzhou) Co., Ltd

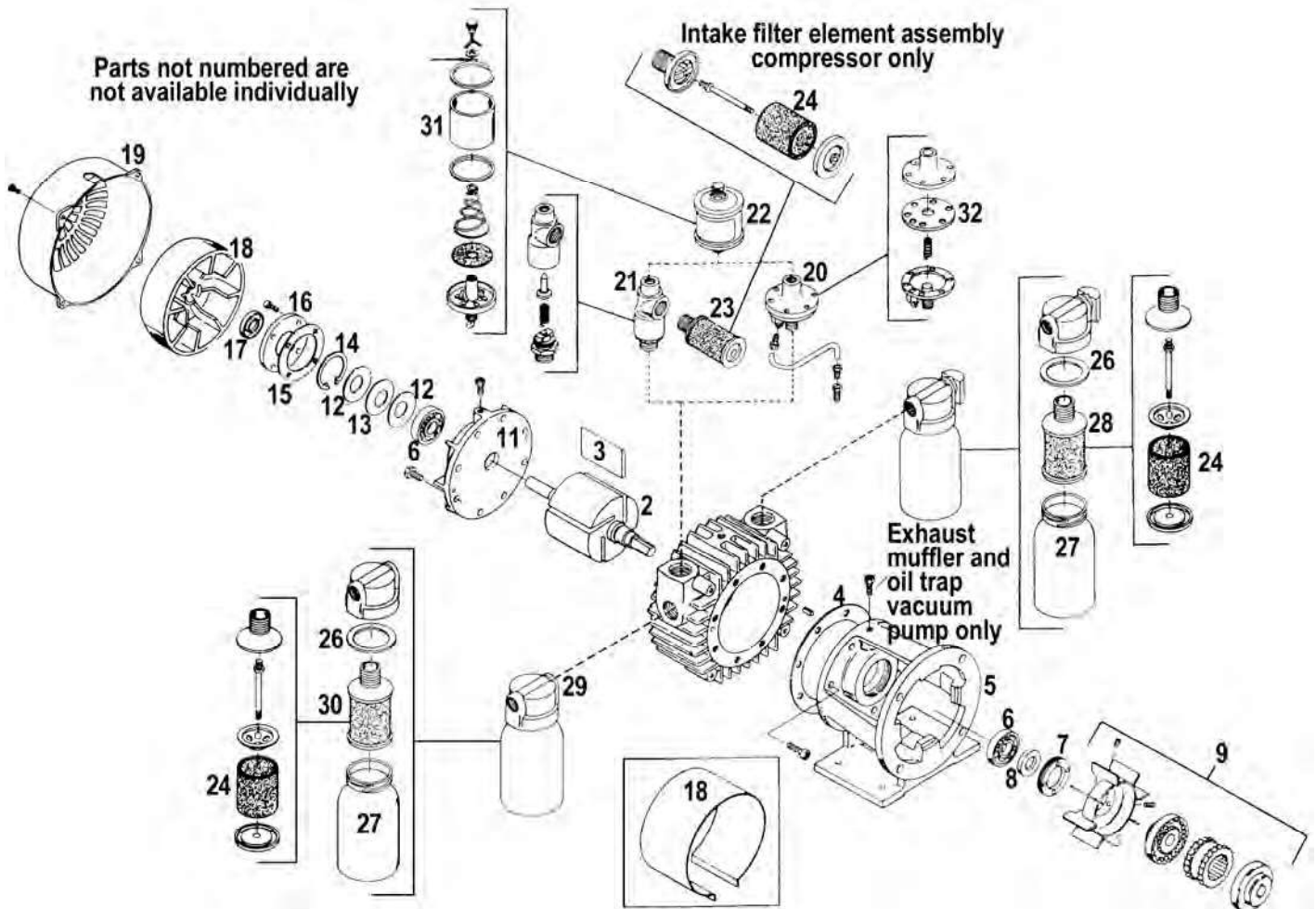
No.51 TangBang Road
CaoHu Boulevard
Xiang Cheng District
Suzhou, China 215131
Phone: (86) 512 6283 3000



Disposal (Please note current regulations)

Parts of the rotary vane pumps and compressors, shafts, iron or aluminum castings, plastic or glass parts or bearings, may be recycled as scrap materials.

EXPLODED PRODUCT VIEW



1065 SERIES

Note: Parts list on next page

PARTS & ORDERING INFORMATION

REF NO.	DESCRIPTION	QTY	VACUUM PUMP 1067-V1	COMPRESSOR 1067-P2	VACUUM PUMP 2067-V1	COMPRESSOR 2067-P2	VACUUM PUMP 2567-V1	COMPRESSOR 2567-P2
1	BODY	1	AH345	AH345	AH191	AH191	AH355	AH355
2	ROTOR ASSEMBLY	1	AH428	AH428	AH192	AH192	AH192	AH192
3 Δ	VANE	4	AH429	AH429	AA750D	AA750D	AH750D	AH750D
4 Δ	BODY SPACER	1	AH567H	AH567H	AH567H	AH567H	AH567H	AH567H
5	FOOT BRACKET	1	AH206	AH207	AH206	AH207	AH206	AH207
6 Δ	BEARING (DRIVE & DEAD)	2	AH755D	AH755D	AH755D	AH755D	AH755D	AH755D
7	DRIVE END CAP	1	AB339A	AB339A	AB339A	AB339A	AB339A	AB339A
8 Δ	DRIVE SEAL	1	AC848	AC848	AC848	AC848	AC848	AC848
9	FAN COUPLING ASSEMBLY	1	AH198	AH198	AH198	AH198	AH198	AH198
10	FAN GUARD	1	AH194A	AH194A	AH194A	AH194A	AH194A	AH194A
11	DEAD END PLATE	1	AH203	AH204	AH203	AH204	AH203	AH204
12	BELLEVILLE SPRINGS	2	AB337	AB337	AB337	AB337	AB337	AB337
13	WASHER	1	AB338	AB338	AB338	AB338	AB338	AB338
14	SNAP RING	1	AB335	AB335	AB335	AB335	AB335	AB335
15 Δ	END CAP GASKET	1	AG467	AG467	AG467	AG467	AG467	AG467
16	DEAD END CAP	1	AG466	AG466	AG466	AG466	AG466	AG466
17 Δ	DEAD END SEAL	1	AC849	AC849	AC849	AC849	AC849	AC849
18	FAN	1	AC326B	AC326B	AC326B	AC326B	AC326B	AC326B
19	FAN GUARD	1	AC102B	AC102B	AC102B	AC102B	AC102B	AC102B
20	VACUUM LUBRICATOR ASSM	1	V40C	--	V40C	--	V40C	--
21	PRESSURE LUBRICATOR	1	--	A380C	--	AA95A	--	AA95A
22	OIL RESERVOIR ASSEMBLY	1	AA960-2	AA960-2	AA960-1	AA60-1	AA960-1	AA960-1
23	INTAKE FILTER ASSM-COMP	1	--	AC432	--	AC435	--	AC435
24 Δ	CARTRIDGE	1/2	(2) AC393	(1) AC393	(2) AC393	(1) AC393	(2) AC393	(1) AC393
25	EXHAUST MUFFLER & OIL TRAP	1	AA800D	--	AA900E	--	AA900E	--
26	COVER GASKET	2	AA405	--	AA405	--	AA405	--
27	GLASS JAR	2	AA401	--	AA401	--	AA401	--
28	MUFFLER ELEMENT ASSM	2	AC434-1	--	AC436-1	--	AC436-1	--
29	INTAKE FILTER ASSM-VACUUM	1	AA800C	--	AA900D	--	AA900D	--
30	INTAKE FILTER ELEMENT ASSM	1	AC433-1	--	AC435-1	--	AC435-1	--
31	OIL CYLINDER	1	AA967A	AA967A	AA967A	AA967A	AA967A	AA967A
32	DIAPHRAGM	1	V33	--	V33	--	V33	--
***	SERVICE KIT	1	K355	K355	K349	K349	K349	K349

Δ Denotes parts included in the Service Kit.

Parts listed are for stock models. For specific OEM models, please consult the factory.

When corresponding or ordering parts, please give complete model and serial numbers.

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, 2300 M139 Highway, Benton Harbor Michigan USA 49022-6114 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.

TROUBLESHOOTING CHART

Low		High		Pump Overheat	Motor Overload	Reason and remedy for problem.
Vacuum	Pressure	Vacuum	Pressure			
•	•	At pump		•	•	Filter dirty. Clean or replace.
	•		At pump	•	•	Muffler dirty. Clean or replace.
•		At pump		•	•	Vacuum line collapsed. Repair or replace.
•			•	•	•	Relief valve set too high. Inspect and adjust.
•	•					Relief valve set too low. Inspect and adjust.
•	•	At pump	At pump	•	•	Plugged vacuum/pressure line. Inspect and repair.
•	•					Vanes sticking. Clean or replace.
•	•					Vanes worn. Replace.
•	•					Shaft seal worn. Replace.
•	•			•	•	Dust or offset powder in pump. Inspect and clean.
•	•			•		Motor not wired correctly. Check wiring diagram and line voltage.
		•	•	•	•	Running at too high an RPM. Check wiring diagram and line voltage.



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