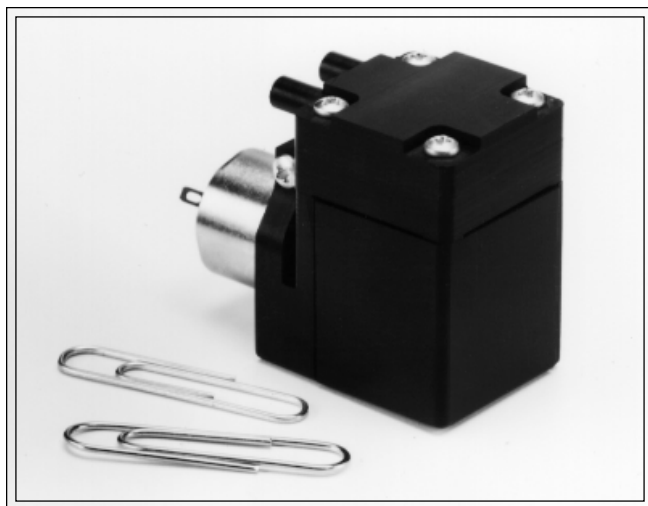




5D SERIES MINIATURE PUMP OPERATION and MAINTENANCE INSTRUCTION MANUAL



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This is the hazard alert symbol: **⚠** When you see this symbol be aware that personal injury or property damage is possible. The hazard is explained in the text following the symbol.

Read the information carefully before proceeding.

The following is an explanation of the three different types of hazards:

- ⚠DANGER** Severe personal injury or death will occur if hazard is ignored.
- ⚠WARNING** Severe personal injury or death can occur if hazard is ignored.
- ⚠CAUTION** Minor injury or property damage can occur if hazard is ignored.

GENERAL INFORMATION

- ⚠DANGER** To prevent explosive hazard, do not pump combustible liquids or gases, or operate the pump in an atmosphere containing them. Use only in a well ventilated area.
- ⚠ CAUTION** Required ambient temperature is -10° F to 150° F. For operation at temperatures outside this range, consult the factory.

Performance is reduced by lower atmospheric pressure at high altitudes. Consult a Gast distributor for details. Never lubricate this oil-less pump. The sealed bearings are grease-packed. The service life of the diaphragm and valve will be reduced by petroleum or hydrocarbon products.

INSTALLATION

- ⚠WARNING** Beware of any exposed movable parts. Proper guards should be in place to prevent severe personal injury.
- ⚠CAUTION** Do not block the flow of cooling air over the pump in any way.

MOUNTING

To reduce noise and vibration use shock mounts or a vibration-isolated mounting surface. Do not block the flow of cooling air over the unit in any way.

PLUMBING

To prevent air flow restriction, use pipes and fittings of the same size or larger than the barbed ports. Note that the ports are not designed to support plumbing.

KEEP THIS DOCUMENT FOR FUTURE REFERENCE

RELIEF VALVES AND GAUGES

Install gauges in the lines to monitor performance. A relief valve can be installed at the inlet or outlet, or both. Consult a Gast representative for performance limitations.

FILTERS

If operated in a dirt contaminated atmosphere, a suitable filter should be used to ensure long service.

WIRING

⚠WARNING Poor wiring can result in electric shock. Wiring must conform to all required safety codes and be installed by a qualified person. Refer to wiring diagram on next page.

Check that the supply voltage agrees with the pump label voltage. If the motor fails to start or slows down under load, shut the unit off and unplug it. If the pump is extremely cold, let it warm up to a minimum of -10° F before starting.

OPERATION

⚠CAUTION The unit is designed to pump gases only. Do not allow foreign material such as dirt or metal particles to enter the unit. Water vapor, oil based contaminants, or other liquids should be filtered out.

All electric motors generate heat. To avoid serious burns, never touch unit during or immediately after operation. Always disconnect power source before servicing. Do not block the flow of cooling air over the motor in any way. Keep the air flow vents free of foreign objects, dirt, lint etc.

MAINTENANCE

Do not attempt to replace the connecting rod or motor bearings. If after cleaning the unit and/or installing a new diaphragm or valve, the unit still does not operate properly, contact your representative, the factory, or return the pump to one of our Authorized Service Facilities.

⚠WARNING Before attempting repair, determine if the pump has been exposed to/or contains biological, toxic, or radio active materials, so that the repair personnel are not exposed to these items.

Follow these steps to replace the diaphragm:

-Disconnect pump from electrical power.

⚠WARNING Always disconnect power source before servicing. Failure to do so can result in personal injury and/or property damage.

-Vent all air lines to the pump to remove pressure.

⚠WARNING You must vent all air lines to the pump to remove pressure before you service it. Failure to do so can result in personal and/or property damage.

-Note the direction of the arrows so you can orient the pump head correctly during reinstallation.

-Remove the four corner head screws and remove the head, valve, and valve plate.

-Remove countersunk torque screw on retainer.

-Remove the retainer and diaphragm.

-Clean the pump head and retainer using water-based solvents.

⚠CAUTION Do not use petroleum-base compounds, acids, caustics, or chlorinated solvents to clean or lubricate any parts. It will reduce the service life of the pump.

-Reattach retainer plate and diaphragm to rod with flat head screw. Torque to 8 to 10 in-oz.

-Seat the diaphragm in the body so that the outside edge of the diaphragm is centered into the diaphragm pocket.

MAINTENANCE conti.

-Place the valve in the valve plate pocket so that the holes in the valve fit over the correct pins in the valve plate.

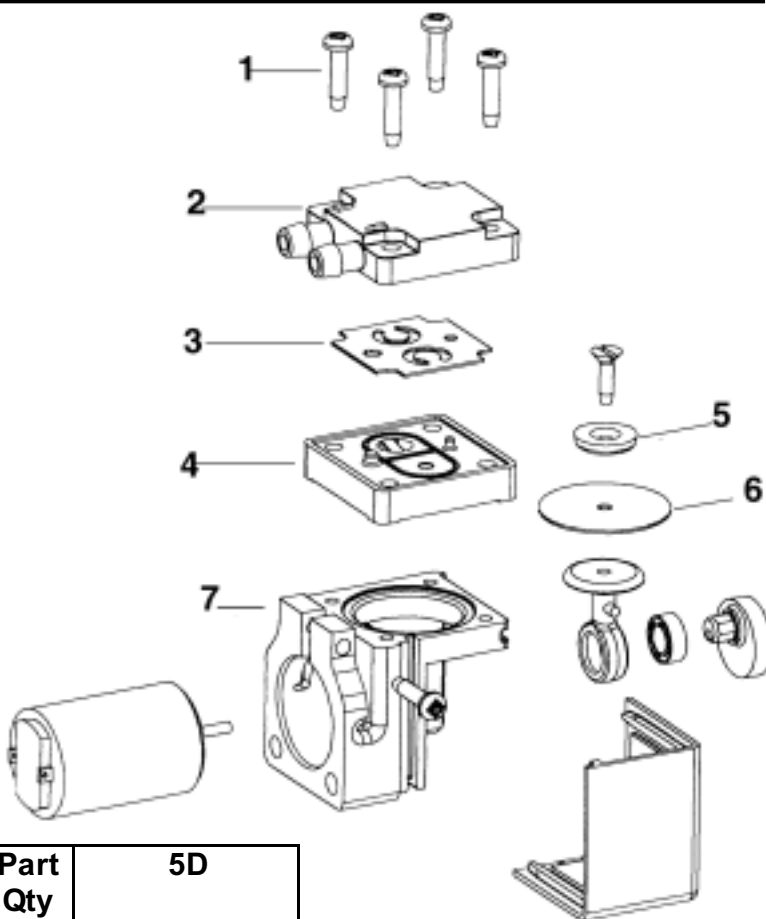
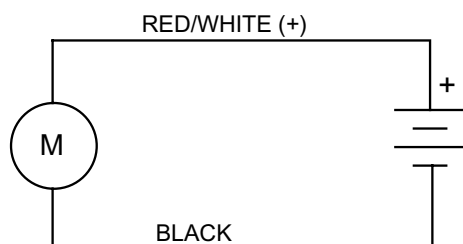
-Assemble the head by fitting the correct holes in the head onto the pins in the valve plate.

-Place the entire head, valve, and valve plate assembly on top of the bracket, by aligning the four holes and orienting the ports in your desired position.

-Torque the head screws to 26 to 30 in- oz. into the body.

⚠CAUTION Do not over-tighten head screw(s). To do so can risk stripping the plastic threads.

DC WIRING



PARTS ORDERING INFORMATION

Ref. No.	Description	Part Qty	5D
1	Head screws	4	SCR1019
2	Head	1	HDC1006
♦3	*Valve	1	VLV1006
4	Valve Plate	1	VPL1005
5	Retainer	1	RPL1005
♦6	*Diaphragm	1	DPH1007
7	Body	1	BKT1008
	Service Kit (w/ Flourocarbon Diaphragm Mat'l)	1	K789
	Service Kit (w/ EPDM Diaphragm mat'l)	1	K788

♦ Denotes parts included in the service kit.

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

*Material: Fluorocarbon, or EPDM.

TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	POINT TO CHECK	REMEDY
Won't Start	<ul style="list-style-type: none"> •Electrical Connection •Dirty Muffler •Wrong/Low Voltage •Pressure/Vacuum on Head 	<ul style="list-style-type: none"> •Ensure electrical power is supplied •Is muffler clogged •Inspect power supply •Inspect relief valve •Inspect above points 	<ul style="list-style-type: none"> •Check plug or wire connection •Replace muffler •Apply proper voltage •Reset or replace relief valve •Replace unit
Excessive Noise	<ul style="list-style-type: none"> •Wrong Voltage •Hose or plumbing leak •Check Valve leaks 	<ul style="list-style-type: none"> •Inspect power supply •Inspect hoses for cracks •Inspect check valve 	<ul style="list-style-type: none"> •Apply proper voltage •Replace hose •Repair or replace check valve
Overheating	<ul style="list-style-type: none"> •Dirty filter •Dirty muffler •Low voltage •Dirty valves 	<ul style="list-style-type: none"> •Inspect filter •Is muffler clogged •Inspect power supply •Remove head and inspect valve 	<ul style="list-style-type: none"> •Replace filter •Replace muffler •Apply proper voltage •Clean/replace valve
Low Pressure/Low Vacuum	<ul style="list-style-type: none"> •Dirty filter •Dirty muffler •Low Voltage •Wrong AC Voltage Frequency •Damaged/Contaminated diaphragm •Dirty Valves 	<ul style="list-style-type: none"> •Inspect filter •Inspect muffler •Inspect power supply •Inspect power supply •Remove head & valve plate and inspect diaphragm •Remove head & inspect valve 	<ul style="list-style-type: none"> •Replace filter •Replace muffler •Supply proper electrical power •Supply proper electrical power •Replace diaphragm •Clean/Replace valve

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