

OPERATING INSTRUCTIONS AND OWNER'S MANUAL

MR. HEATER

MODEL

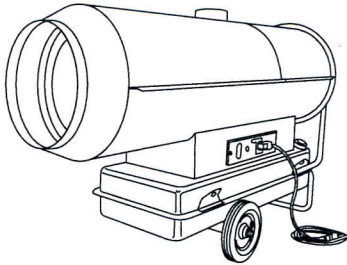
1000ID, 2000ID
3000ID

READ INSTRUCTIONS CAREFULLY: Read and follow all instructions. Place instructions in a safe place for future reference. Do not allow anyone who has not read these instructions to assemble, light, adjust or operate the heater.

HEATSTAR BY ENERCO

MODEL

1000ID, 2000ID
3000ID, 4000ID



WARNING:

USE ONLY MANUFACTURER'S REPLACEMENT PARTS. USE OF ANY OTHER PARTS COULD CAUSE INJURY OR DEATH. REPLACEMENT PARTS ARE ONLY AVAILABLE DIRECT FROM THE FACTORY AND MUST BE INSTALLED BY A QUALIFIED SERVICE AGENCY.

PARTS ORDERING INFORMATION:

PURCHASING: Accessories may be purchased at any Mr. Heater/HeatStar local dealer or direct from the factory

FOR INFORMATION REGARDING SERVICE

Please call Toll-Free 800-251-0001 • www.enerco-mrheater.com

Our office hours are 8:30 AM – 5:00 PM, EST, Monday through Friday.

Email to: techservice@enerco-mrheater.com

Please include the model number, date of purchase, and description of problem in all communication.

LIMITED WARRANTY

The company warrants this product to be free from imperfections in material or workmanship, under normal and proper use in accordance with instructions of The Company, for a period of one year from the date of delivery to the buyer. The Company, at its option, will repair or replace products returned by the buyer to the factory, transportation prepaid within said one year period and found by the Company to have imperfections in material or workmanship.

If a part is damaged or missing, call our Technical Support Department at 800-251-0001.

Address any Warranty Claims to the Service Department, Enerco Group, Inc., 4560 W. 160TH ST., Cleveland, Ohio 44135. Include your name, address and telephone number and include details concerning the claim. Also, supply us with the purchase date and the name and address of the dealer from whom you purchased our product.

The foregoing is the full extent of the responsibility of the Company. There are no other warranties, express or implied. Specifically there is no warranty of fitness for a particular purpose and there is no warranty of merchantability. In no event shall the Company be liable for delay caused by imperfections, for consequential damages, or for any charges of the expense of any nature incurred without its written consent. The cost of repair or replacement shall be the exclusive remedy for any breach of warranty. There is no warranty against infringement of the like and no implied warranty arising from course of dealing or usage of trade. This warranty will not apply to any product which has been repaired or altered outside of the factory in any respect which in our judgment affects its condition or operation.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Enerco Group, Inc. reserves the right to make changes at any time, without notice or obligation, in colors, specifications, accessories, materials and models.

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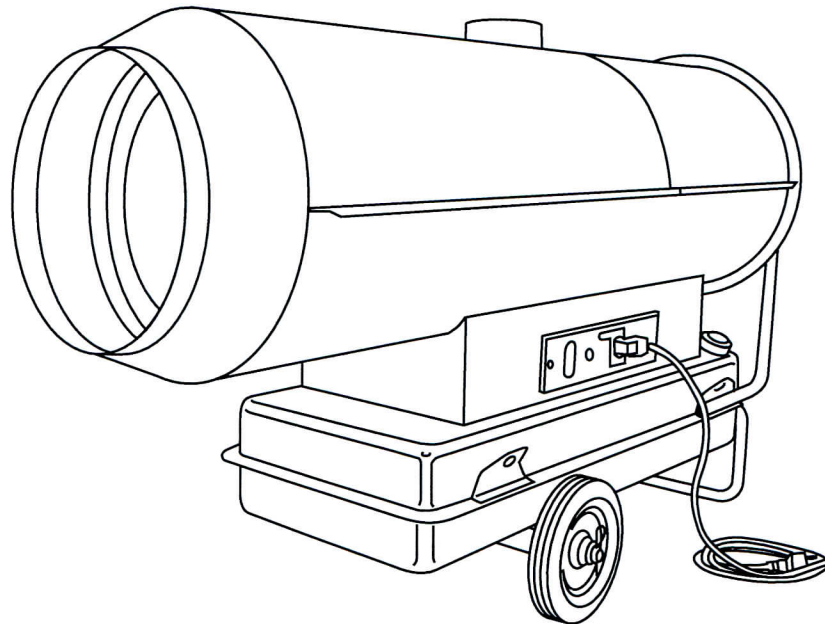
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HEATSTAR BY ENERCO

MODEL

1000ID, 2000ID
3000ID, 4000ID



INDIRECT FIRED PORTABLE HEATER

WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Service must be performed by a qualified service agency.

This is a vented portable heater. It uses air (oxygen) from the area in which it is used. Adequate combustion air and ventilation must be provided. Refer to page 5.

WARNING:

⚠ YOUR SAFETY IS IMPORTANT TO YOU AND TO OTHERS, SO PLEASE READ THESE INSTRUCTIONS BEFORE YOU OPERATE THIS HEATER.

GENERAL HAZARD WARNING:

- ⚠ FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS HEATER, CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.
- ⚠ ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS HEATER.
- ⚠ IF YOU NEED ASSISTANCE OR HEATER INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.

WARNING:

⚠ NOT FOR HOME OR RECREATIONAL VEHICLE USE

WARNING:

⚠ FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE HEATER AS RECOMMENDED BY THE INSTRUCTIONS NEVER USE THE HEATER IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.

WARNING:

⚠ **The State of California requires the following warning:** COMBUSTION BY-PRODUCTS PRODUCED WHEN USING THIS PRODUCT CONTAIN CARBON MONOXIDE, A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS (OR OTHER REPRODUCTIVE HARM).

WARNING:

READ THE INSTRUCTIONS GIVEN IN THIS MANUAL BEFORE USING THE APPLIANCE.

- DO NOT USE GASOLINE, NAPHTHA OR VOLATILE FUELS.
- THE ELECTRICAL SYSTEM TO WHICH THE APPLIANCE IS CONNECTED MUST COMPLY WITH ALL SAFETY REGULATIONS IN FORCE. A RESIDUAL CURRENT CIRCUIT BREAKER MUST BE PROVIDED ON THE MAIN DISTRIBUTION BOARD.
- UNPLUG THE HEATER BEFORE ATTEMPTING ANY SERVICE OR MAINTENANCE.
- ALWAYS CHECK THE POWER SUPPLY CABLE BEFORE USE. IT MUST NOT BE BENT, CRUSHED, OR ANYWAY DAMAGED.
- THE POWER SUPPLY CABLE MUST BE REPLACED ONLY BY QUALIFIED PERSONNEL.
- ONLY USE AN ORIGINAL H07RN-F POWER CABLE WITH WATERPROOF PLUG.
- DO NOT TOUCH THE EXHAUST GAS OUTLET. DANGER OF BURNS!

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IMPORTANT

Before using the heater, read and understand all instructions and follow them carefully. The manufacturer is not responsible for damages to goods or persons due to improper use of units.

GENERAL RECOMMENDATIONS

This indirect-fired heater runs on diesel fuel. Those with direct combustion send hot air and the combustion products into the room, while those with indirect combustion are fitted with a flue to take the fumes away through the chimney.

Always follow local ordinances and codes when using this heater:

- Read and follow this owner's manual before using the heater.
- Use only in places free of flammable vapors or high dust content.
- Never use heater in immediate proximity of flammable materials (the minimum distance must be 6 ft.).
- Make sure fire fighting equipment is readily available.
- Make sure sufficient fresh outside air is provided according

to the heater requirements. Direct combustion heaters should only be used in well vented areas in order to avoid carbon monoxide poisoning.

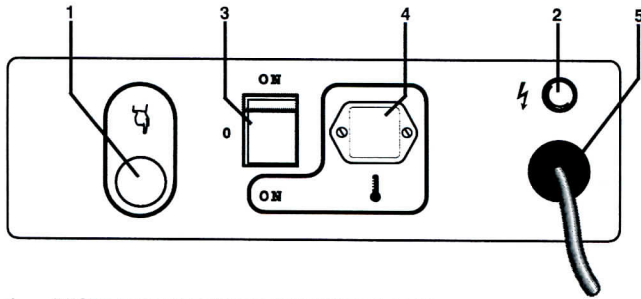
- The heater is installed near a chimney to take away the fumes (see "Ventilation" on page 5) and connected to an electrical switchboard.
- When the heater is connected to a flue pipe, the flue pipe shall terminate in a vertical section at least two feet long and sufficient draft shall be created to assure safe and proper operation of the heater.
- Never block air inlet (rear) or air outlet (front).
- In case of very low temperatures add kerosene to the heating oil.
- Make sure heater is always under surveillance and keep children and animals away from it;
- Before starting the heater always check free rotation of ventilator fan.
- Indirect fired units only can be connected to air ducts to distribute warm air, with respect to the max. static pressure declared (see "TECHNICAL SPECIFICATION" sheet).
- Unplug heater when not in use.

TECHNICAL SPECIFICATIONS		MH 1000ID HS 1000ID	MH 2000ID HS 2000ID	MH 3000ID HS 3000ID	HS 4000ID
Heat input	[kBTU/h]	110	205	300	400
Air flow	[cfm]	880	1,530	2,500	2,760
Fuel Type		Diesel/Kerosene/#1-2 Fuel Oil			
Heat output	[kBTU/h]	91.9	174.9	254.4	335.6
Fuel consumption	[gal/h]	0.80	1.48	2.28	2.82
	[lb/h]	5.53	10.35	15.07	20.07
Power supply	Phase	1	1	1	1
	Voltage	[V]	120	120	120
	Frequency	[Hz]	60	60	60
Electric consumption	[W]	520	785	1.240	1.440
	[A]	5.76	8.30	11.40	13.20
Nozzle	[USgal/h]	0.60-80° S	1.00-45° W	1.20-45° W	1.50-45° W
Pump pressure	[psi]	167	P1: 137	P1: 160	P1: 203
			P2: 239	P2: 350	P2: 348
Max static pressure	[in WC]	0.5	0.5	0.5	0.5
Recommended max. temp. in the air duct	[°F]	250	250	250	250
Adjustment of combustion air flap	[in]	a=0.32	-	-	-
	N°	-	A=1.02	A=1.50	B=1.14
Flue diameter	[in]	5.9	5.9	5.9	5.9
Compulsory flue draft	[in WC]	0.05	0.05	0.05	0.05
Tank capacity	[gal]	10.8	17.2	27.7	35.7
Dimensions, L x W x H	[in]	49.3x20.0x30.5	56.5x23.2x37.60	68.5x27.6x37.7	66.3x27.6x45.6
Net Weight	[lb]	94	176	264	330

OPERATION

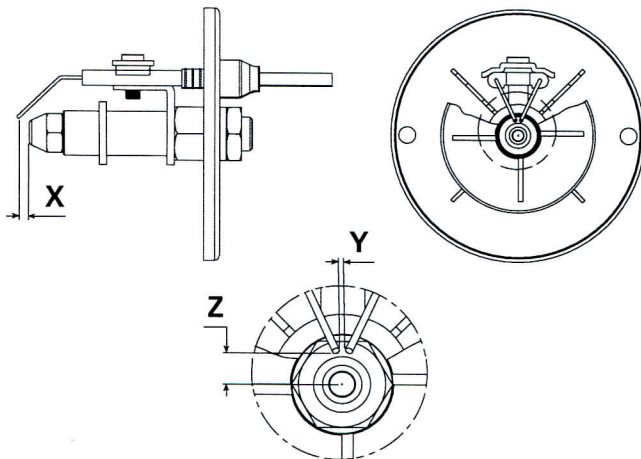
Before any attempt of starting the heater is made, check that your electrical supply conforms to the data on the model plate.

Control Board



- 1 RESET BUTTON WITH CONTROL LAMP
- 2 CONTROL LAMP
- 3 MAIN SWITCH
- 4 ROOM THERMOSTAT PLUG
- 5 POWER CORD

Gap of Electrodes



Models	X	Y	Z
ID1000	.079 in	.118 in	.256 in
ID2000	.158 in	.098 in	.158 in
ID3000	.158 in	.098 in	.158 in
ID4000	.158 in	.098 in	.158 in

Clearances

The following minimum safety clearances from materials or objects in the surroundings of the heater must be ensured:

Sides	2.5 ft.	Air Inlet	2.5 ft.
Top	6 ft.	Air outlet	12 ft.

- Floors and ceilings must be made of fireproof materials in the room where the heater is operated.

- The air inlet and outlet must never be blocked for any reason.
- Install the heater on a flat, level floor in a steady position.
- It is forbidden to connect direct-fired heaters to air ducts.

⚠ WARNING

- DO NOT USE GASOLINE, NAPHTHA OR VOLATILE FUELS.
- STOP HEATER BEFORE ADDING FUELS.
- ALWAYS FILL OUTDOORS AWAY FROM OPEN FLAME
- DO NOT USE EXTERNAL FUEL SOURCE.
- DO NOT OPERATE HEATER WHERE FLAMMABLE LIQUIDS OR VAPORS MAY BE PRESENT.
- DO NOT START HEATER WHEN CHAMBER IS HOT
- DO NOT START HEATER WHEN EXCESS FUEL HAS ACCUMULATED IN THE CHAMBER.
- DO NOT PLACE COOKING UTENSILS ON TOP OF THE HEATER.
- PLUG ELECTRICAL CORD INTO A PROPERLY GROUNDED THREE-PRONG RECEPTACLE.

The heater can only work automatically when a control device, such as for example a thermostat or a timer, is connected to the heater. Connection to the heater is made by removing the socket cover(4) and inserting the thermostat plug.

To start the machine you must:

- If connected to the thermostat, turn the switch to (ON +);
- If not connected to the thermostat, turn the switch to (ON).

When unit is started for the first time or is started after the oil tank has been totally emptied, the flow of oil to the burner may be impaired by air in the circuit. In this case the control box will cut out the heater and it might be necessary to renew the starting procedure once or twice by depressing the reset button (1).

Should the heater not start, check that oil tank is full and depress reset button (1).

Should the heater still not work, please refer to chapter "OBSERVED FAULTS, CAUSES AND REMEDIES".

STOPPING THE HEATER

Set main switch (3) on "0" position or turn thermostat or other control device on lowest setting.

The flame goes out and the fan continues to work for approx. 90sec. cooling the combustion chamber.

SAFETY DEVICES

The unit is fitted with an electronic flame control box. In case of malfunction this box will cut in and stop the heater, at the same time the pilot lamp in the control box reset button (1) will light up.

Heaters are also equipped with an overheat thermostat safety cutout which will stop the heater in case of overheating. This thermostat will reset automatically but you will have to depress button (1) on control box before being able to restart the heater.

TRANSPORT

⚠ WARNING

- Before making any attempt to restart heater find and eliminate reason of overheating.

Before heater is moved it must be stopped and unplugged. Before moving the heater wait till it has totally cooled off and make sure oil tank cap is securely fixed.

The hot air heaters with wheels must be wheeled. The suspended version which has no wheels must be transported with adequate machinery.

MAINTENANCE

Preventive and regular maintenance will ensure a long trouble free life to your heater.

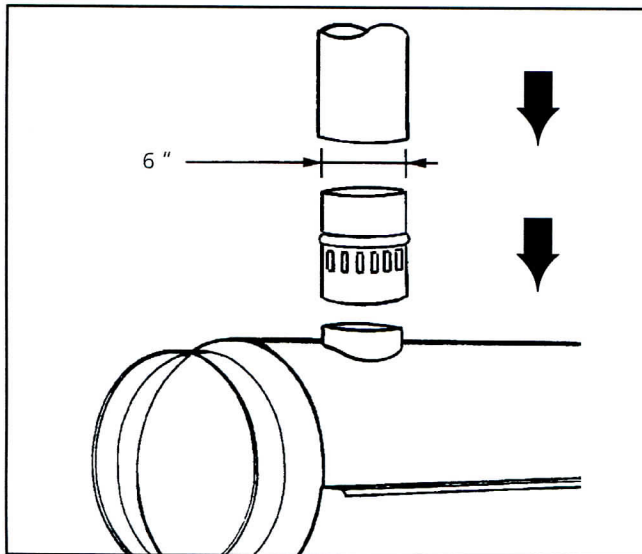
⚠ WARNING

- Never service heater while it is plugged in, operating or hot. Severe burns or electrical shock can occur.

Every 50 hours of operation: disassemble filter and wash with clean oil, remove upper body parts and clean inside and ventilator with compressed air, check correct attachment of H.T. connectors to the electrodes and check H.T. cables, remove burner assembly, clean and check electrode settings, adjust according to scheme "GAP OF ELECTRODES".

Flue Connections Diagram

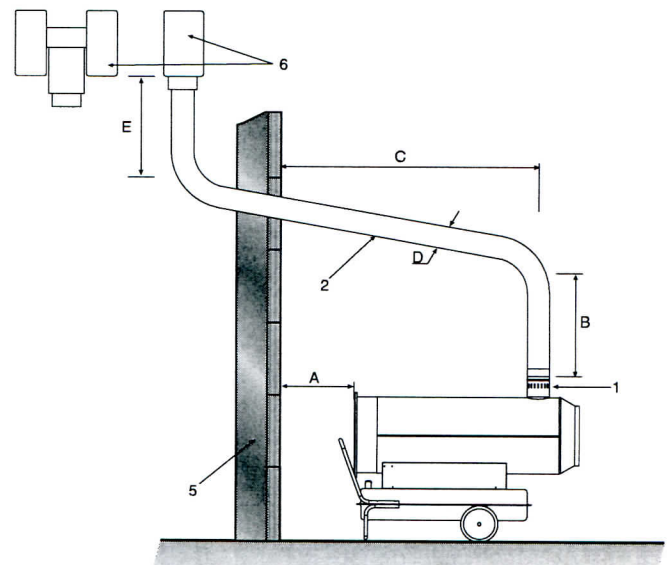
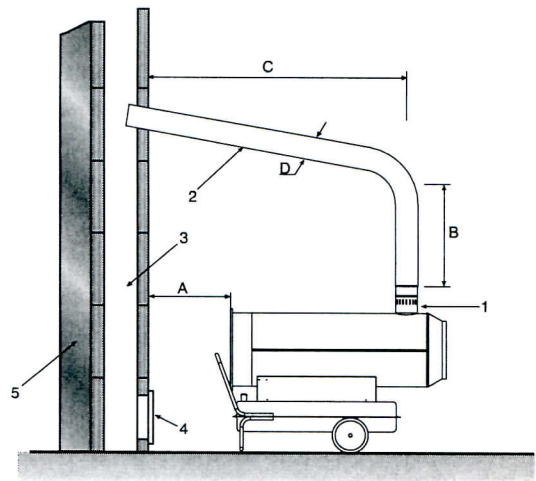
VENTILATION



Description

- A) Minimal 39"
- B) Minimal 39"
- C) The shortest
- D) The same or bigger than the smokes outlet diameter of heater
- E) Minimal 1m
- 1) Anti-wind device provided with the heater
- 2) Horizontal crossing with minimal upside angle pitch of 5°
- 3) Chimney 8" x 8" of minimal inside measure
- 4) Chimney anti-explosion flap door
- 5) External seating wall
- 6) Chimney ending H shape

N.B. Above recommendation indicative only. Have your installation checked by local authority.



TROUBLESHOOTING

TROUBLE	CAUSE	SOLUTION
Motor does not start, no ignition	No electrical current	Check mains (should be 120 V – 1~ – 60 Hz) Check proper positioning and functioning of switch Check fuse
	Wrong setting of room thermostat or other control	Check correct setting of heater control. If thermostat, make sure selected temperature is higher than room temperature
	Thermostat or other control defective	Replace control device
	Electrical motor defective	Replace electrical motor
	Electrical motor bearings defective	Replace electrical motor bearings
	Burned out condenser	Replace condenser
Motor starts, no ignition or cuts out	Electric ignitor defective	Check connection of H.V. leads to electrodes and transformer Check electrodes setting (see scheme "GAP OF ELECTRODES") Check electrodes for cleanliness Replace H.V. transformer
	Flame control box defective	Replace control box
	Photocell defective	Clean or replace photocell
	Not enough or no fuel at all at burner	Check state of motor-pump plastic coupling Check fuel line system including fuel filter for possible leaks Clean or replace oil nozzle
	Solenoid defective	Check electrical connection Check thermostat LI Clean or replace solenoid
	Motor starts, heater emits smoke	Not enough combustion air
Too much combustion air		Check setting of combustion air flap
Fuel contaminated or contains water		Drain fuel in tank with clean fuel Clean oil filter
Air leaks in fuel circuit		Check the seals on the ducts and the diesel filter
Not enough fuel at burner		Check pump pressure Clean or replace fuel nozzle
Too much fuel at burner		Check pump pressure Replace nozzle
Heater does not stop		Solenoid

If heater still not working properly, please revert to nearest authorized dealer.