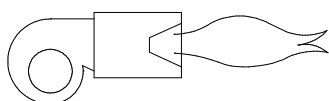


ICAM



**TYPE HEM**  
**INDIRECT FIRED**  
**PROCESS AIR HEATER**

**COMTHERM**  
**PROCESS AIR HEATER**



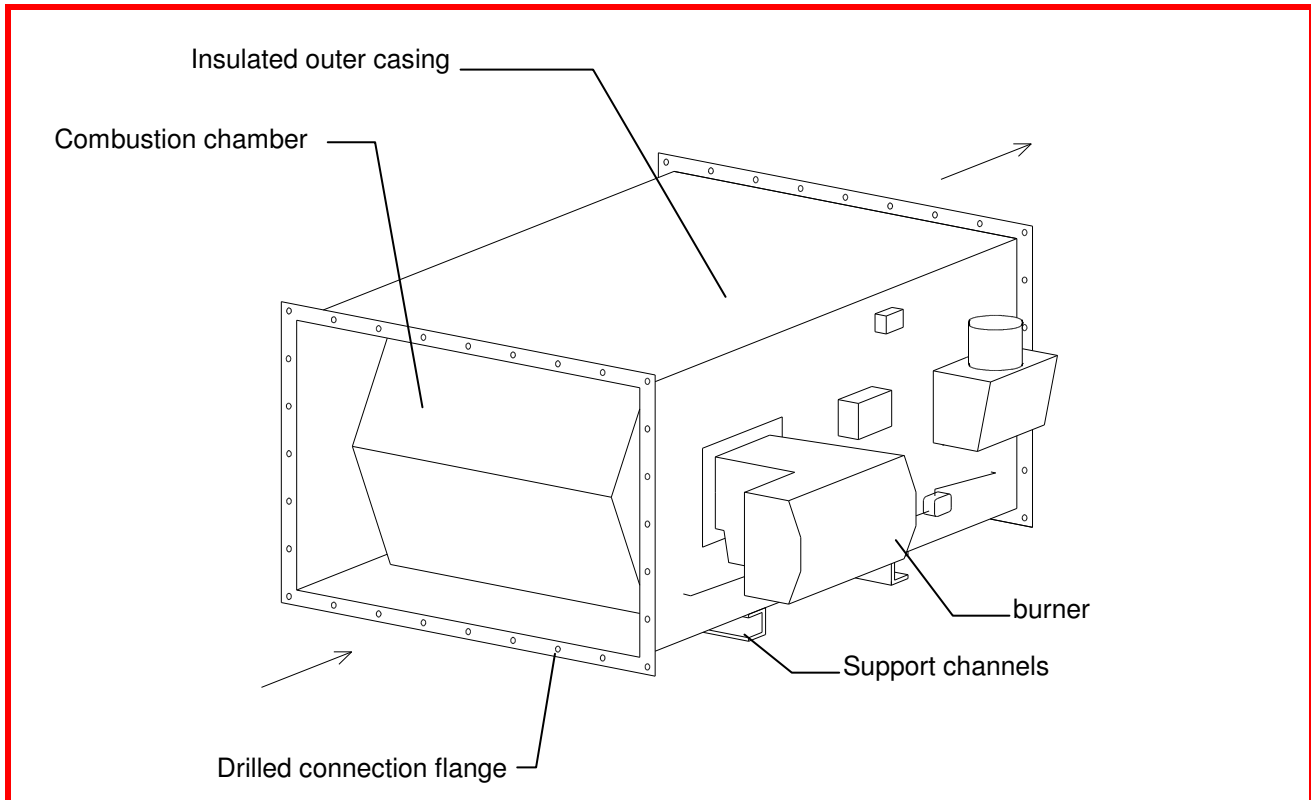
# THE HEM AIR HEATER

The 'HEM' series of indirect fired heaters are designed to fire applications where process air is to be heated from ambient temperatures up to the process plant requirements

The robust construction of the units make them an ideal heat source for many industrial oven and heating systems; typical applications include spray booths and drying rooms.

The outer casing of the HEM unit is manufactured from standard carbon steel and is of a double skinned, thermally insulated construction; insulation is available either 50mm or 100mm thickness depending on application requirements.

The complete inner assembly can be withdrawn on its frontplate for repair or servicing; the tube banks are fitted with an end inspection cover to facilitate cleaning.



## ◆ Operating air temperatures up to 300C can be accepted

Heater capacities of thermal outputs from 60kW to 1000kW are available; special units to meet the requirements of a particular application can be supplied.

The standard HEM heaters consist of a heat exchanger mounted inside a flanged and insulated steel duct section

The heat exchanger section is generously rated for heat transfer surface area and consists of a stainless steel combustion chamber and tube assembly.

The combustion chamber and the tube bank assembly are independently mounted to cater for differential expansion.

## BURNER ASSEMBLIES

Each HEM unit is supplied with a pre-packaged and pre-wired burner assembly which would include all of the necessary burner fuel safety valves, pressure switches and automatic ignition and flame safety equipment.

Most types of flame failure and automatic ignition control units can be supplied; utilising either flame rectification, photo cell or ultra-violet flame sensing equipment.

Burners built to special specifications depending on application and country of installation can be fitted.

Burners packages are fully tested and the operation of all components checked before despatch from the factory.

## FUEL SUPPLY

Burners can be fitted for operation with natural gas, LP gases or light fuel oils.

All gas burners are sized to suit an inlet gas pressure of 17.5mbar (natural gas) or 30mbar (LP gases) unless otherwise specified. Burners can be supplied to suit other fuel types and supply pressures.

## DIRECTION OF AIR FLOW

Standard HEM heaters are arranged to fire horizontal in the direction of air flow from left to right.(SF)

Heater units can be supplied for firing into duct systems with vertical upwards or downwards air flow.

Air flow should be uniform across the air duct, both upstream and downstream of the heater.

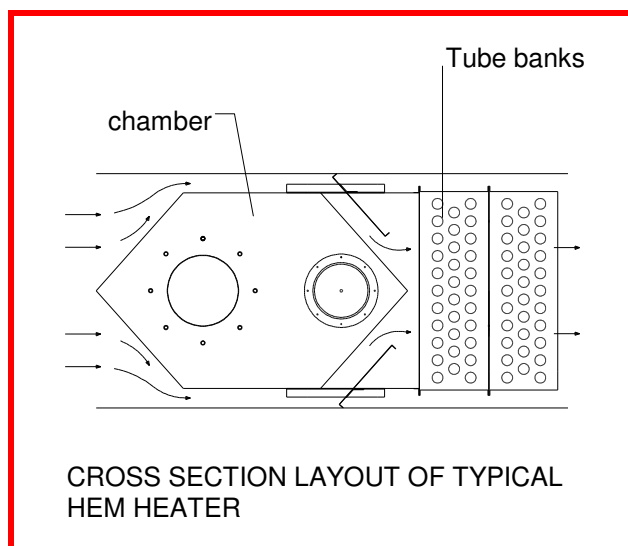
## TYPES OF CONTROL AVAILABLE

Heaters supplied with oil burners are normally for high-low operation. (on-off on small units)

Most gas burner applications are fitted with modulation burners although high-low can be supplied.

## ELECTRICAL SUPPLY

The HEM units can be supplied fitted with burners to

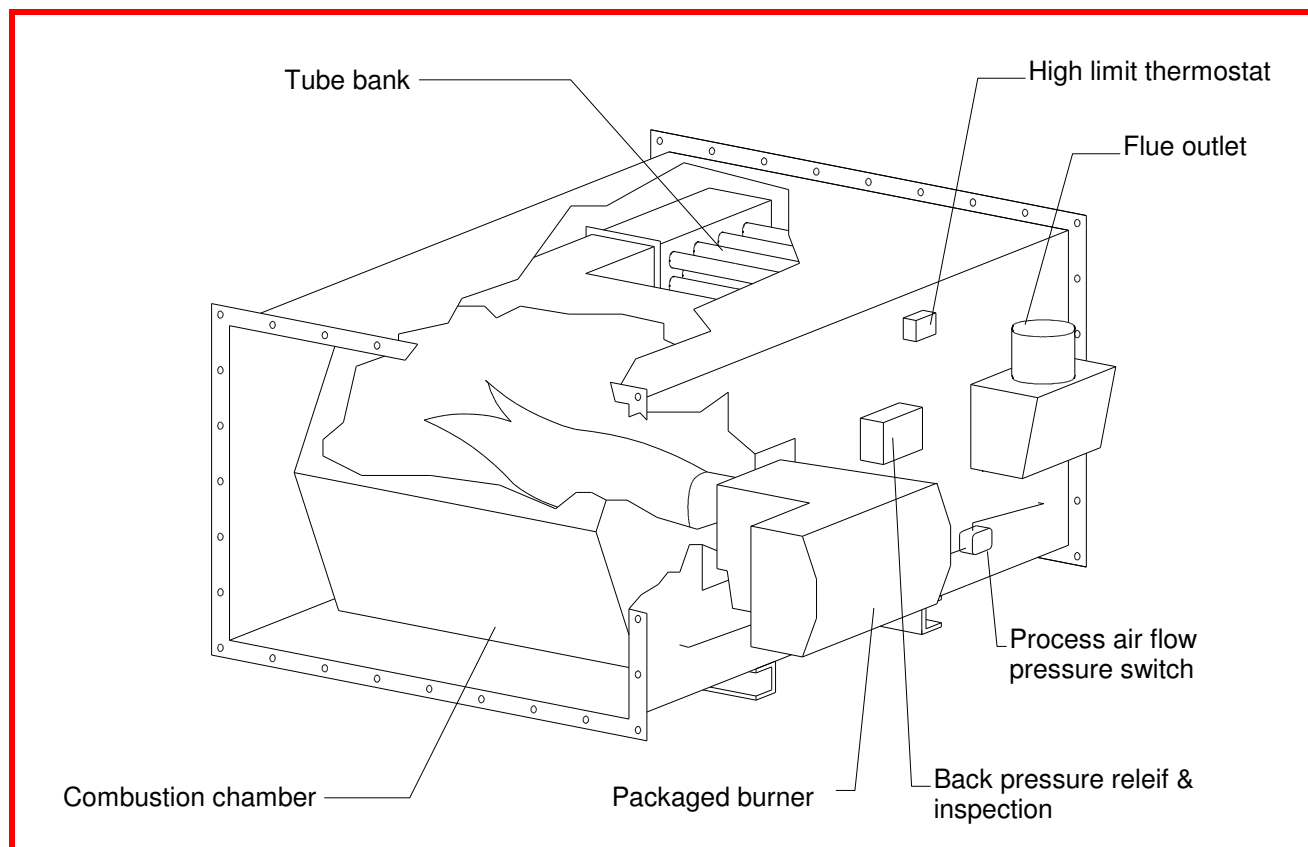


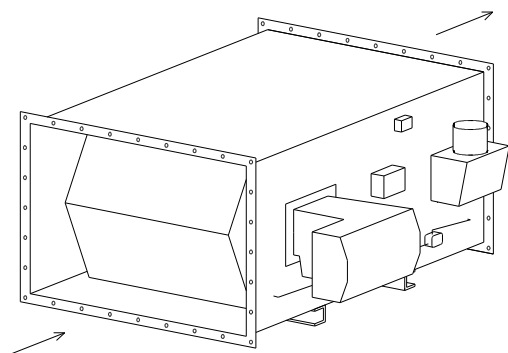
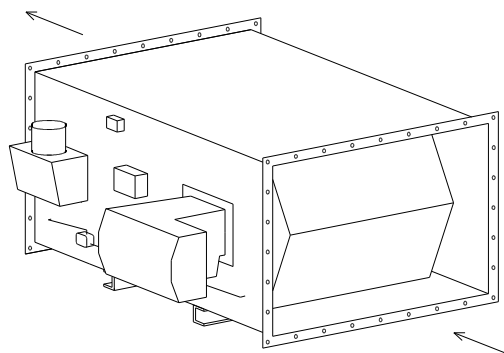
suit almost all types of electrical supply; including all common industrial three phase (50 or 60Hz) power supplies and with 110/120v or 220/240v control circuits. Burners to suit other electrical supply voltages can be supplied specially to suit a specific application requirements.

In general HEM heaters are designed for a nominal temperature rise of 45C at the specified nominal air flow; however this will depend on application and heater selection (see information sheets)

If in doubt concerning the suitability of a HEM unit for a specific application - consult sales office.

## USEFUL FACTS TO ASSIST IN BURNER SELECTION.



**SF****STANDARD AIR FLOW DIRECTION****OF****OPPOSITE AIR FLOW DIRECTION****HEAT & PRESSURE DATA :-**

1KW = 3412 Btu.hr = 859Kcal.hr = 3.6MJ.hr.

1mbar = 0.4" w.c. = 10mm w.c. = 100Pa.

**AIR DATA :-**

1 C.M.sec = 2119 cfm

1 C.M.sec = 72.27Kg.Min = 159.3 lbs.Min.

## **WHEN ORDERING HEM HEATERS PLEASE SPECIFY THE FOLLOWING INFORMATION:-**

Type of fuel and supply pressure to burner.

Process air duct pressure

Electric supply data :

Burner motor voltage ( 1 or 3 phase)

Control circuit voltage ( 1 phase)

Type of temperature control required.

Type of control signal to be used.

Valve and burner specification required.

Details of application.

Direction of firing (SF, OF or vertical)

Country of installation.

## **INSTALLATION, COMMISSIONING AND MAINTENANCE :-**

If required a complete delivery, installation and commissioning service can be supplied, including the manufacture and installation of associated steel fabrications and ductwork.

***For commissioning and service purposes, units installed above ground level should be supplied with an access platform which should be part of the support steelwork; the platform should be sized for withdrawal of the inner assembly.***

An installation and maintenance manual is supplied for all heaters; commissioning must be carried out by competent engineers in accordance with the instructions in the manual.

Maintenance and service contracts are available - this normally includes scheduled site visits by our engineer and the free of charge supply of burner consumables such as ignition electrode and flame rectification electrode.

A selection of information data sheets (C-H2-INF\*\*) are available showing physical dimensions of types of HEM heater and some technical detail.

A selection of complete general arrangement drawings (M3-HEM-) are available.

***As our policy is one of continuous improvement we reserve the right to amend specifications at any time without prior notice.***

**ICAM****ICAM B.V.**

Spoorlaan 37 A

Tel: 0297-264444

E-mail: info@icam.nl

3645 EK Vinkeveen

Fax: 0297-266690

http://www.icam.nl

