

C-H3

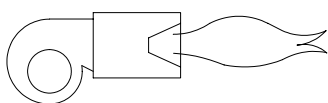
rev. 09/98

ICAM



TYPE HEF
INDIRECT FIRED
PROCESS AIR HEATER

COMTHERM
PROCESS AIR HEATER



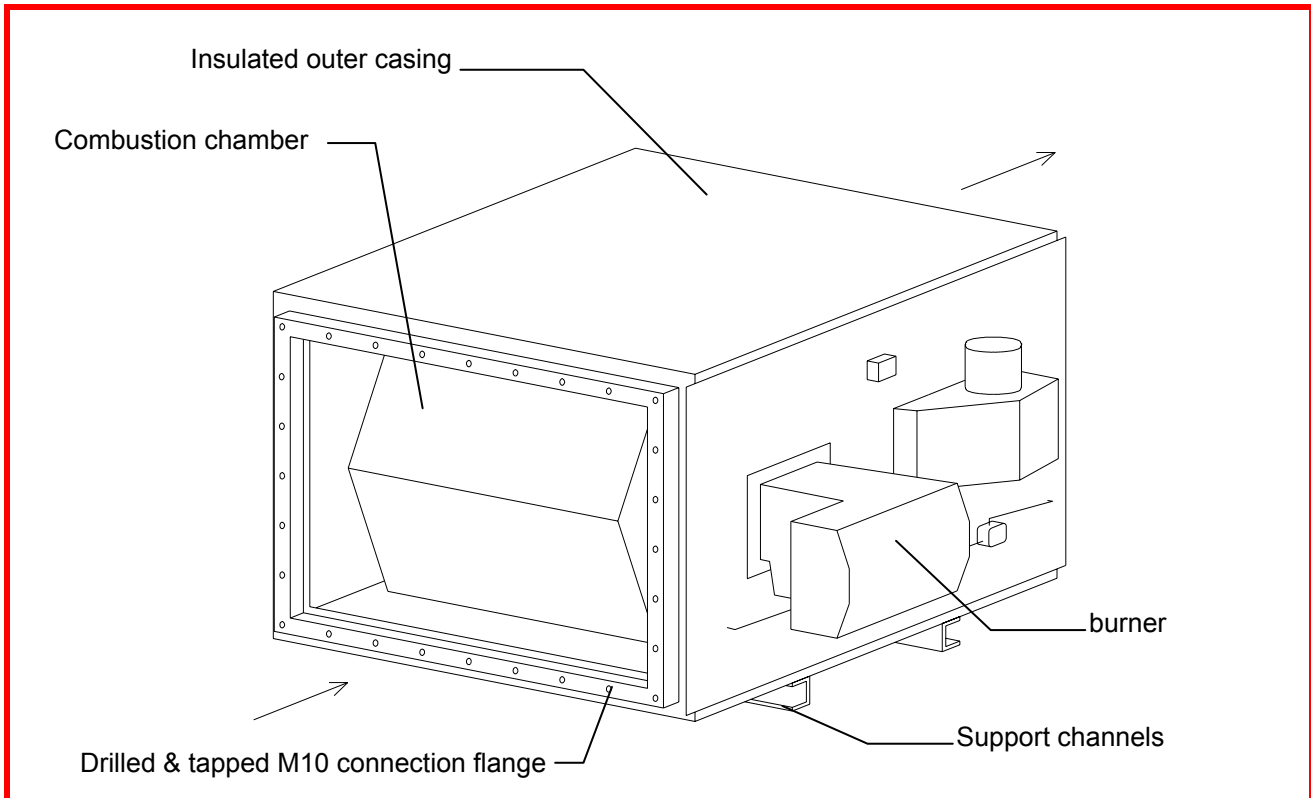
THE HEF AIR HEATER

The 'HEF' series of indirect fired heaters are designed to fire industrial process applications where process air is recirculated at relative high plant operating temperatures.

The robust construction of the units make them an ideal heat source for many industrial process plant installations such as paint ovens and high temperature curing ovens.

Because of the high operating temperatures the heat exchanger section is generously rated for heat transfer surface area; a transfer rate of **12.62 kW. Per M³** has been used for the design

The combustion chamber and the tube banks are manufactured using high-grade stainless steels and both the chamber and tube bank assembly are independently mounted to cater for differential expansion.



◆ Operating air temperatures up to 400C can be accepted

Heater capacities of thermal outputs from 60kW to 750kW are available; special units to meet the requirements of a particular application can be supplied.

The standard HEF heaters consist of a heat exchanger module with combustion chamber, primary tube bank and a two pass economiser section.

This Genuine **four pass design** in conjunction with the exceptionally low thermal loading of the heat transfer areas makes possible higher than normal efficiencies at high operating temperatures.

HEF heaters are usually fitted with a high temperature limit thermostat or thermocouple unit, in order to protect the heat exchanger from excessive overheat.

The outer casing of the HEF unit is manufactured from standard carbon steel and is of a double skinned, thermally insulated (100mm thickness) construction.

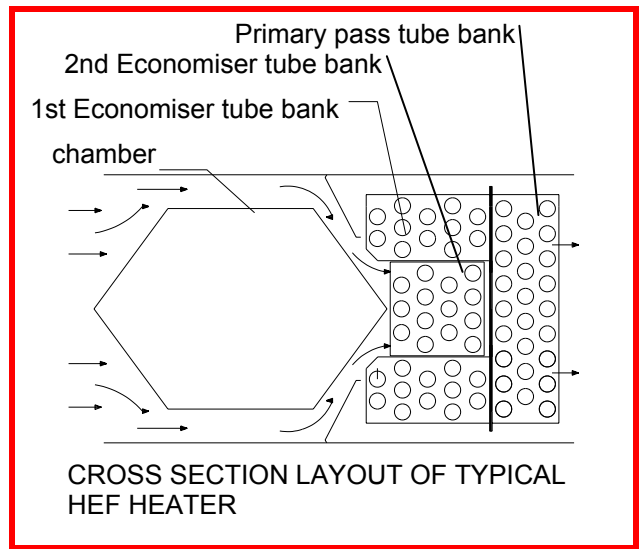
The complete inner assembly can be withdrawn on the frontplate for repair or servicing; the tube banks are fitted with an end inspection cover to facilitate cleaning.

BURNER ASSEMBLIES

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

Burners supplied are usually of the modulation type however 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

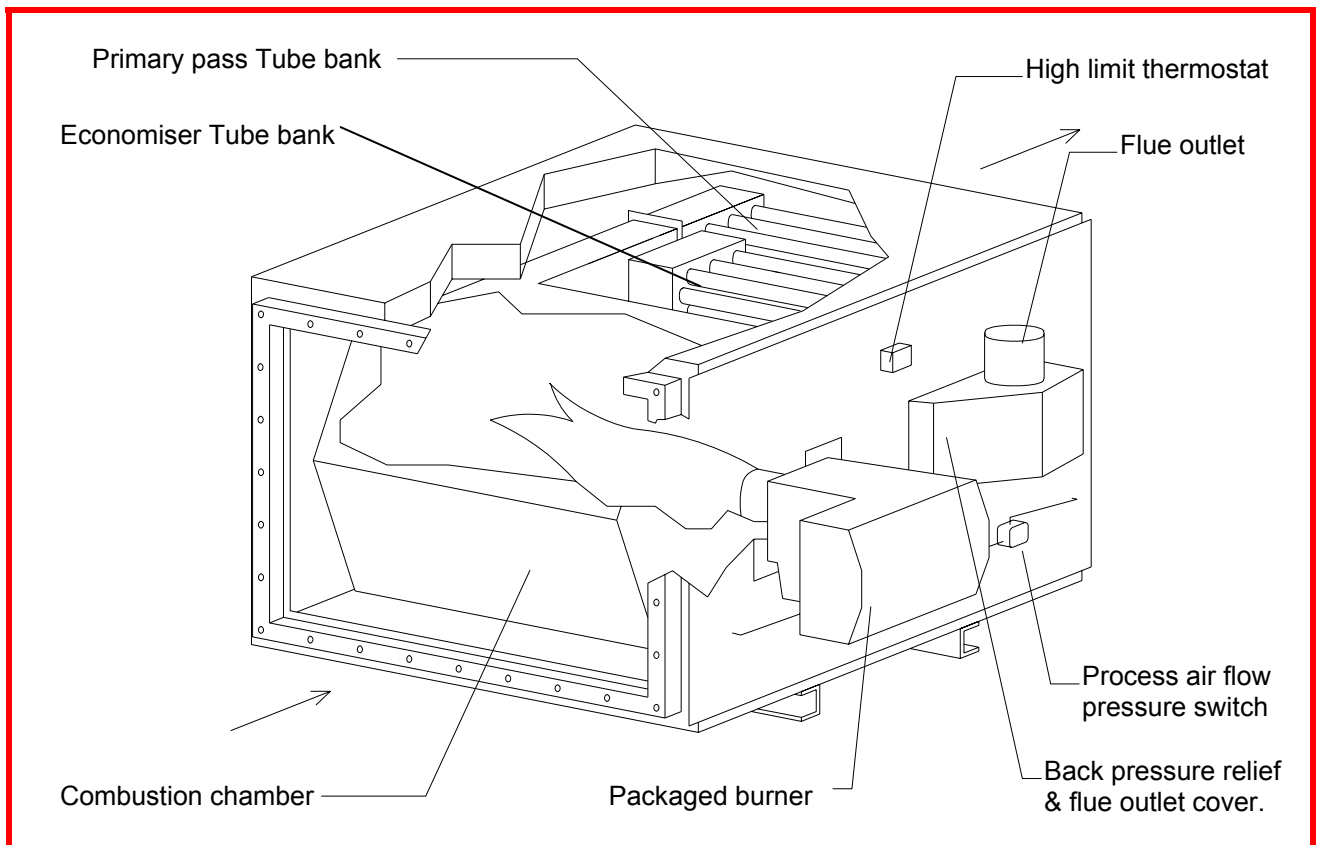
Standard HEF heaters are arranged to fire horizontal in the direction of airflow from left to right. (SF)

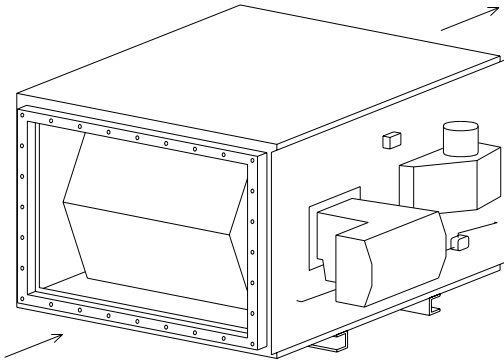
Heater units can be supplied for firing into duct systems with vertical upward or downward flow.

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

ELECTRICAL SUPPLY

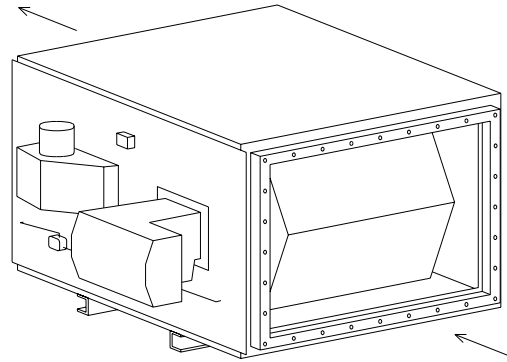
The HEF units can be supplied fitted with burners to suit almost all types of electrical supply; including all common industrial three phase (50 or 60Hz) power supplies and with 110/120v or 220/240v control circuits. Burners to suit other electrical supply voltages can be supplied specially



SF

STANDARD AIR FLOW DIRECTION

to suit a specific application requirements.

OF

OPPOSITE AIR FLOW DIRECTION

Country of installation.

USEFUL FACTS TO ASSIST IN BURNER SELECTION.

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

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

1 C.M. = 35.315 Ft³ = 1.293 Kg at 0°C

1 C.M.sec = 2119 cfm

WHEN ORDERING HEF HEATERS PLEASE SPECIFY THE FOLLOWING INFORMATION:-

Type of fuel and supply pressure to burner.

Process air duct pressure

Weight of air at heater inlet Kg.Hr.

Temperature of air at heater inlet deg. C.

Temperature rise required over heater - deg. C

Electric supply data :

Burner motor voltage (1 or 3 phase)

Control circuit voltage (1 phase)

Type of control signal to be used.

Valve and burner specification required.

Direction of firing (SF, OF or vertical)

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-H3-INF***) are available showing physical dimensions of types of HEF heater and some technical detail.

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

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