HEATER BANKS

- PROPORTIONAL CONTROL (PHB)
- STEP CONTROL (HB)
- AUTO & MANUAL OVERHEAT CUTOUTS STD.
- AIRFLOW CUTOUT OPTIONAL
- TEMPERATURE, 0-10V DC & 24V AC CONTROL
- 2 YEAR WARRANTY
- SINGLE OR 3 PHASE
- MLM OR STANDALONE CONTROLS
FEATyRES

The Rickard Heater Bank is designed to be mounted in a single Section of duct, complete with Mil. Galv. single skin sheet metal or fabricated MEZ flanges. Rickard HB’s (wired to terminal step control) and PHB’s (step-less proportional control) types are available. When PHB’s are supplied, the controls are mounted in a panel on the side of the unit.

Heater elements are of the incaloy type with a wattage Density of 3.2 watts/cm² and are rated for still air. The Standard unit has an auto and manual reset cut-out for overheat protection.

SAFETY

An auto and manual-reset overheat cut-out is factory wired to the triac control circuit as standard. The auto overheat cut-out is activated when the air temperature in the duct rises above 65°C (± 5°C) and the manual overheat cut-out activates at 80°C (± 5°C). Please note that overheat cut-outs have a limited lifespan and should not be relied on for long term protection.

An optional Air flow Cut-out is available as an additional safety feature. This cut-out will prevent the heaters from firing in a no or low flow condition.

CONTROL

Step Control (HB)

Ready for step control from contactors activated by others.

Proportional Control (PHB)

Prevents the large heating overshoots which are common with step control.

Controlled by:

- Temperature sensor or wall thermostat (MLM or stand-alone).

Note: MLM controls are only available in single phase and sizes 0.5 - 4kW.

MAINTENANCE

No regular maintenance is required

WARRANTY

Rickard offers a 2 year manufacturer’s warranty on its Heater Banks. Please see Terms and Conditions for a full description of our Warranty.

APPLICATION

Rickard’s Heater Banks are designed to be mounted in a single section of duct supplying the coldest zone of a building. This allows the base load to be satisfied centrally so that energy isn’t wasted on a colder zone that only represents a relatively small part of the building.

Rickard recommends the following installation safeties:

- The HB’s mains power should be interlocked with an airflow switch in the duct.
- The AHU should be placed on the same circuit as the heater.

A 220V Cooling fan is supplied in every Heater Banks circuit panel larger than 7.5kW.

Manage PHB’s, monitor heater outputs, position PHB’s on a floor plan, adjust set-points, limit heater outputs with Rickard’s free MLM Software.

- 0-10V DC.
- 24VAC pulsing.
OPERATION

The PHB triac switching set controls the heating capacity by switching the power supply to the heater on and off. This switching takes place over a cycle of approximately 2 seconds and always occurs at zero voltage to avoid radio interference and voltage spikes. The “on” and “off” periods are varied in proportion to the amount of heating required, i.e. 75% of heating capacity will result in an “on” period of approximately 1.5 seconds and an “off” period of approximately 0.5 seconds.

NOTE:

- Every PHB must be fed from a single adequately sized contactor on the distribution board.
- The PHB’s mains power must be interlocked with an airflow switch.
- Rickard recommends that the AHU is on the same circuit as the heater bank so that when the AHU is shutdown, the heaters are also rendered inactive.
- PHB heater banks are not normally supplied with internal insulation. Please contact a RICKARD sales representative should this be required.

Every Heater Bank (HB/PHB) comes with a wiring diagram included in the controls panel. A wiring diagram will be forwarded the client and should be signed off before the Heater Bank is manufactured. If anything is unclear, please contact Rickard for support.

SELECTION

Rickard Air Diffusion is not in the practice of calculating building loads. Please size the kW rating according to your requirement.

TYPES

STEP CONTROL (HB)

Panel mounted wired to terminal porcelain connections ready for step control from contactors activated by others.

PROPORTIONAL CONTROL (PHB)

A Rickard controller that uses a proportional control signal prevents the large heating overshoots which are common with step control.

The controller can be controlled in the following ways:

- With a Rickard temperature controller and temperature sensor or wall thermostat. The sensor is mounted in the location required e.g. in the duct. When a temperature sensor is used, the set-point is set on the controller itself. 230V AC Single Phase or 400V AC Three Phase Power Supply options are available. Please note that the 0-10V option uses a board which needs 24V AC.
- With a 0-10V DC signal from a sensor that is duct or wall mounted or alternatively from a central controller.
- With a 24V AC pulsing signal.

SIZES

PHYSICAL DIMENSIONS

Made to fit most duct sizes. Our standard depth is 300mm if practical. Width and depth is based on the internal duct size.

HEATER SIZES

Single phase:

0.5 - 4kW i.e. 2x2kW. Size increments of 0.25kW’s. Standalone or MLM control available, please see MLM controls section for more information.

3 Phase:

4.5kW and larger, increasing in 1.5kW increments (Standalone only). Triacs used for 3 phase are 6, 12 and 18kW. A 4.5kW Heater Banks uses a 6kW triac and increases in 1.5kW increments from there. Rickard has produced HB’s as big as 600kW.

OPTIONS

FORM FACTOR

- Standard casing type
- Cassette type available
- Casing type with removable heater elements (available when sizing is practical).

CASINGS

- Stainless Steel
- Single skin with Fibre Cement Internal Insulation
- Double skin with internal Fibre Cement Internal Insulation

CONTROLS

- Air flow Cut-out (available on standalone and MLM options)
- Wall Thermostat