

HB

For temperature maintenance applications of Flyash hoppers on Electrostatic Precipitators, Baghouses, Fabric Filters and other forms of dust collectors



HB Heating Module

- ◆ *Specifically designed for safe, reliable operation on Flyash and dust collection hoppers*
- ◆ *Low watt density, high efficiency, flexible faced heating system*
- ◆ *Custom sized heaters to provide uniform heating in the lower areas of the hopper*
- ◆ *Quick, simple, low cost installation*
- ◆ *Proven performance, with over 300 major installations worldwide*
- ◆ *FM and CSA approved to all current IEEE, NEC and Canadian Standards*

The type HB Heating Module and HB Heating Module System were initially developed in 1976 by the Heat Tracing Division of Cooperheat, Inc.

The product and system are specifically designed to maintain elevated temperatures within Flyash collection hoppers on Electrostatic Precipitators, Baghouses, Fabric Filters and other forms of dust collectors.

The HB Heating Module System is custom designed to provide low watt density, uniform heating over the lower areas of the hopper. Thermal sizing is based upon maintaining a temperature above the dew point of the incoming flue gases such that condensation cannot occur. The elimination of condensation ensures that the Flyash (or dust) being collected will remain in a dry, free-flowing condition such that the hoppers do not plug.

HTD Heat Trace, Inc. purchased the Heat Tracing Division of Cooperheat in 1996.

Since 1976, Cooperheat and HTD have successfully designed, engineered and supplied over three hundred HB Heating Module Systems for use on many major power and Industrial projects around the world. Many of these installations have now been operating successfully and effectively for over 25 years.

The HB Heating Module was initially FM Approved in 1980 and retested and reapproved to current FM, IEEE and NEC standards in 2003. This product was also approved by CSA in 2003 to current Canadian standards.



The above photograph shows the front and back surfaces of the HB Heating Module. The lower image shows the unique flexible heater face of gray, siliconized glass cloth. The upper image shows the aluminum back face with 2" high letter designation that will identify the specific location of this module within the heating system design and layout.

For further information, please contact us at our New Jersey, USA headquarters.



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SPECIFICATIONS

PRODUCT FEATURES

FLAT FOIL HEATING ELEMENTS	To provide uniform and efficient heat distribution over the total area of the heating module.
LOW WATT DENSITY	HB Heating Modules can operate safely and reliably on insulated hoppers full of Flyash without fear of overheating or burnout.
FLEXIBLE HEATER FACE	Hopper surfaces are never completely flat. Unlike metal faced heating modules, the flexible heater face of the HB Heating Module will easily conform to surface irregularities such that intimate contact between the heater and the hopper is always maintained. Air gaps between the heater face and the hopper surface result in reduced heat transfer capability, heating module overheating and heater failures.

SYSTEM FEATURES

CUSTOM SIZING	HB Heating modules are custom sized to fit each individual area of the hopper being heated. Standard size heating modules leave cold spots on the inner surface of the hopper resulting in random areas of condensation, Flyash build up and potential hopper pluggage.
PARALLEL CIRCUITRY	<p>The majority of H B Heating Modules within the system will be designed as single phase heaters for direct connection in parallel with the 3 phase power supply. In this type of system design, damage to one heater only results in the loss of one heater.</p> <p>Competitive style systems use several heating modules that are connected in a series chain. In a series connected system, damage to just one heater results in the loss of all of the heaters connected in the series chain.</p>
CUSTOM COLD LEAD LENGTHS	Each HB Heating Module is supplied with a custom length of cold lead cable that will reach directly to the hopper heater junction box. Standard length cold leads require the use of splices which can result in overheating and burnout problems.
FLEXIBLE HEATERS	Flexible , wrap-around throat and poke tube heaters are used to heat critical heat loss areas where heating modules cannot be fitted.

MECHANICAL CONSTRUCTION

MOUNTING PAN	22 gauge aluminum
MODULE FRAME	¾ by ¾ inch aluminum angle
MOUNTING CHANNELS	1 by 2 inch aluminum channel

ELECTRICAL CONSTRUCTION

HEATING ELEMENTS	80/20 Nichrome foils
CIRCUIT CONNECTIONS	Stainless steel bridge pieces continuous spot welded with triple welding passes
INTERNAL DIELECTRIC CONSTRUCTION	Five individual layers of high temperature woven glass cloth
EXTERNAL DIELECTRIC CONSTRUCTION	One layer of woven glass cloth with impregnated silicone rubber moisture barrier
COLD LEAD CONDUCTORS	Two 16 AWG, stranded, nickel coated copper conductors with 600 vac rated, mica tape wrapped and fiberglass braided insulation
COLD LEAD JACKET	Extruded silicone rubber

DESIGN RATINGS

TEMPERATURE RANGE	-40°F to 850°F
VOLTAGE RANGE	Up to 600 VAC
POWER DENSITY	Up to 2.5 w/sq.in (360 w/sq.ft) (dependent upon application)

PHYSICAL FEATURES

CUSTOM SIZING	From 6 by 6 inches up to 24 by 72 inches
WEIGHT	Approximately 2 lbs/sq/ft

APPROVALS & STANDARDS



Dry, protected un-classified areas
Retested and recertified in 2003
to current IEEE, NEC and Canadian
standards