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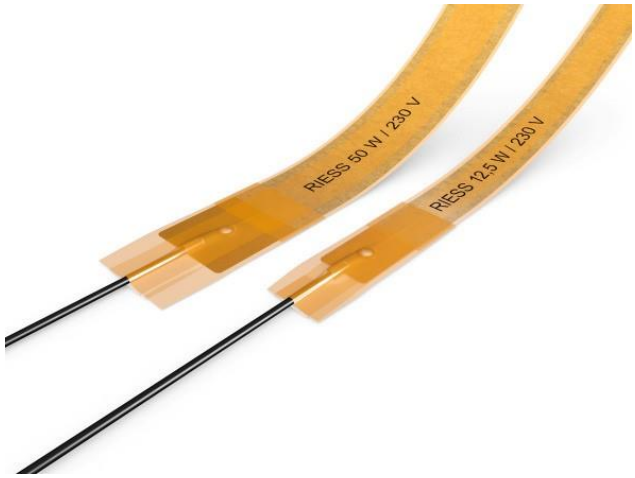
Data sheet

Flat anti-condensation heating tape

Insulation class H

Self-adhesiv



Description

The exceedingly robust and flexible heating tapes with high specific heat output are used as anti-condensation idle time motor heaters in electric motors, generators and motor-generators.
The heating cables provide secure protection from corrosion or frost damage and resulting breakdowns, because they effectively prevent condensation build-up and freezing even in extreme climate conditions.

Structure

The flat anti-condensation motor heating tapes are manufactured as ready-to-use, ready-to-connect flexible and serial heating tapes with cold lead connection cables. The heating resistor is a foil segment made of carbon fiber. The cold lead cables consisting of FEP-insulated Cu-cord serve to connect the heating tape. The outer sheath consists of Kapton® insulating foil.

Application

The anti-condensation motor heating tapes are inserted directly around the stator‘s end windings.
The heating tapes are homogeneously bonded to the coil through the impregnating process, which creates an optimal heat transfer to the engine. The cold lead cables of the anti-condensation heater are assigned to separate connectors in the terminal box. The heating should be turned on only after the motor has been turned off.

Technical specifications

Insulation Class:	H = 180°C
Temperature range:	-60°C to +180°C
Test voltage:	2.0 kV to earth
Specific heat output:	max. 0,5 W/cm^2 at rated voltage
Heat output *):	**1**2.5 W / 25 W / 50 W
Operating voltage *):	110 V / 230 V
Permissible excess voltage:	1.2 x rated voltage
Bend radius:	≥ 25 mm

Materials

Heat conductor:	carbon fiber foil
Connection line *):	Teflon - FEP, 0,5 mm^2 Connection length CL: 370 mm
Insulation:	Kapton® insulating foil

Dimensions

Thickness: max. 0,6 mm

Heating length HL x Width of heating tape HTW *):

12,5 W = 350 mm x 11 mm
25 W = 350 mm x 20 mm
50 W = 540 mm x 20 mm

*) standard,
special versions with other ouput, voltage or length available upon request

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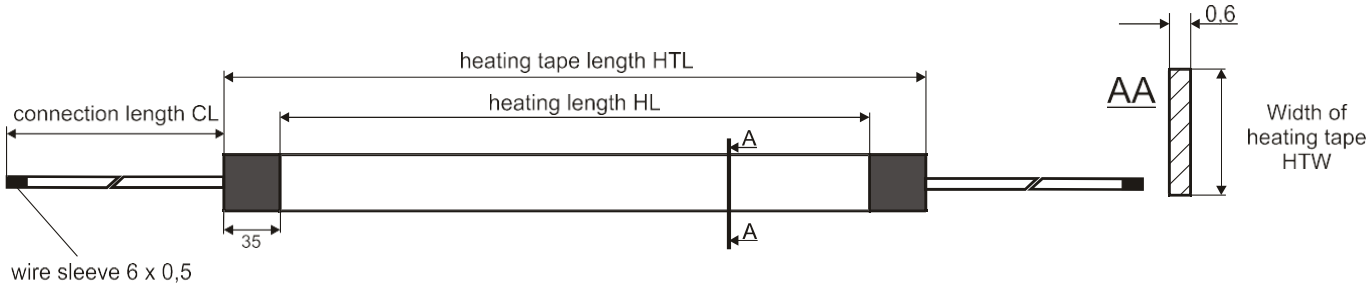

Recommended heat output depending on size

Size	56	71 - 100	112 - 132	160 - 200	225 - 250	280 - 315	355 - 400
Output	2 x 8W	2 x 12,5W	2 x 25W	2 x 50W	Combin.	Combin.	Combin.

Assembly instructions for heating tapes before the impregnating process

Under normal conditions the heating tapes are bandaged upon the stator‘s end windings near the lamination stack before the impregnating process. In order to achieve optimal efficiency and to avoid overheating („hot spots“) caused by overlapping, the length of the heating band is chosen according to the circumference of the end windings. In case the tapes were overlapping as a result of excess length, it is to be made sure to install the heating band with an intermediate clearance of ≥ 5.0 mm. Machines with size 355 or higher will reach the needed heat output through a combination of heating cables that are distributed equally around the circumference of the coil end.

When affixing the heating tape, it must be avoided to overstrain the component by inappropriate mechanical handling (e.g. excessive stretching or compressing). Notably buckling or folding could critically affect the heating tape‘s operation or lead to a breakdown of the heating tape.

Assembly instructions for the heating tapes when retrofitting electric machines

When retrofitting electric machines with an anti-condensation heater, close attention should be paid to fastening the heating tapes onto the impregnated winding ends using cord bandages, cable ties or balancing putty between the end coil and the casing. The cold lead cables of the heating tapes should be routed inside the machine, if possible or through gland bolting and thermowells on the outside to the corresponding connectors in the terminal box.