![COLMAC COIL Manufacturing Inc. logo]

SELF-POSITIONING DEFROST ELEMENT SYSTEM

US Patent No. 7,712,327

HOW DOES IT WORK?

The Self-Positioning Defrost Element System works by means of a spring which is attached securely to both the heating element sheath and to the coil tubesheet. The spring allows movement of the heating element in either direction parallel to the axis of the heating element. Movement of the heating element is caused when melted frost in the form of liquid water re-freezes and bonds the heating element sheath to an adjacent heat exchanger surface at a point along the length of the heating element while the element continues to shrink as it cools to refrigerating temperature. During the next defrost cycle the defrost element heats up, ice is melted, and the spring brings the element back to its original position in the coil.

BENEFITS

• Restrains movement of defrost elements. No more "creeping"!
• Re-centers elements in the coil at the start of every defrost cycle
• Prevents damage to elements, wiring, and coil return bends
• Extends the life of defrost elements
• Simplifies wiring (device is self-grounding)
• Standard on all Colmac electric defrost evaporators
• Retrofit of existing evaporators is possible

THE PROBLEM WITH TRADITIONAL HEATING ELEMENTS

Traditional electric heating elements can "walk" or "creep" out of coil tubes over time. The re-freezing of liquid water onto the surface of the heating element at the end of the defrost cycle generates extremely powerful forces acting to slowly move the heating element along the length of the vacant space in the heat exchanger. If the heating elements are allowed to creep or walk out of the heat exchanger, damage to electrical wiring and to the element itself will result.

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CE(PED) Certification, ASME Sec. VIII,
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