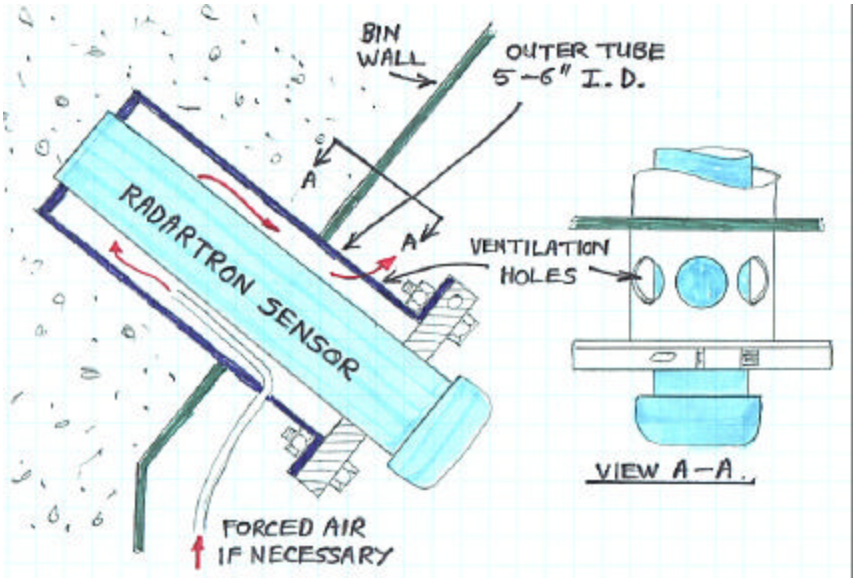
SCALE-TRON

Perfecting the Art of Concrete Production

APPLICATION NOTE - RADARTRON IN HOT MATERIALS

Many concrete plants, especially in Canada and other cold places, must heat their aggregates. This is usually done with steam or hot air. The moisture sensor must be installed in the same bin, often quite close to the heater outlet. In foundries, the returned sand used in the moulding process is hot and creates the same problem. The RadarTron sensor body temperature must not rise above 60°C (140°F) for proper operation and a temperature of 100°C (212°F) will damage the internal electronics. The solution is to cool the sensor body, using air for mild overheating and water for applications where high sustained temperatures can exist.

AIR COOLING: An air jacket can be made by installing a 6 inch (250mm) tube in the bin wall with a hole in the far end which just fits the RadarTron body as shown. If the heating is intermittent, the tube alone might provide enough insulation to prevent local overheating. By installing a tube and bleeding air from a compressed air supply, a cooling action is obtained. The compressed air cools as it expands in the flow control valve, providing an efficient cooling action proportional to the air flow.

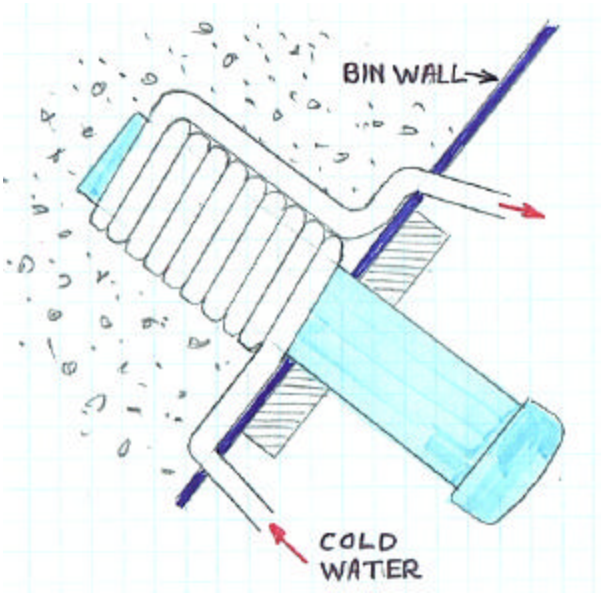


WATER COOLING: Using a ¼" (6mm) copper pipe wrapped around the body of the RadarTron sensor, a very efficient cooling action can be obtained for applications when the heat is intense.

The water flow can be controlled to lower the body temperature by the necessary amount without wasting an undue amount of water.

In both the above schemes, the faceplate cannot be cooled, but this is acceptable as long as the body is cooled sufficiently. If the material surrounding the faceplate is very hot (150°C or more), contact us; we can install the faceplate using high temperature epoxy.

The systems described here are in use in operational plants. Call, fax or Email if you would like the customer's name as a reference.



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