

ROTARY HEAT EXCHANGERS PTY LTD

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AUSTRALIAN MANUFACTURED ROTARY HEAT EXCHANGERS BY ROTARY HEAT EXCHANGER PTY LTD- SENSIBLE HEAT SPECIFICATIONS S10

Heat exchange wheels (rotary regenerative heat exchangers) suitable for air-to-air recovery of thermal energy from building exhaust air streams shall be of Rotary Heat Exchangers Pty Ltd www.rotaryheat.com or equivalent approved.

The Heat Exchange rotor media shall be polyethylene - terephthalate film (Mylar) and the rotor matrix will have a depth of only 10cm and rotational speed will be limited to a low 18 rpm. This thin rotor and low rotational speed will limit inherent carryover mixing of fresh and exhaust air due to rotor rotation to a negligible less than 0.5%. Air Purging, which is inherently detrimental to performance, is not required.

The heat exchange matrix constructed to form THIN FILM IN HIGH TENSION IN ONE SINGLE ROTOR to give an essentially indestructible smooth parallel air passages of no greater than 10cm depth for minimum pressure drop and maximum heat transfer.

Rotors shall be mounted on sealed self aligning ball bearings of ample capacity externally mounted for easy maintenance.

The Heat Exchanger shall minimise leakage flows between fresh and exhaust air sides by means of replaceable rubbing seals on the rotating rotor.

THE HEAT EXCHANGER SHALL HAVE A PROVEN SERVICE LIFE GREATER THAN 20 YEARS EVEN IN CHLORINATED POOL AND COASTAL SALT AIR ENVIRONMENTS WITH NO DETERIORATION IN PERFORMANCE.

THE MATRIX OF THE ROTOR SHALL BE WARRANTIED FROM DETERIORATION, CORROSION OR ERROSION FOR A PERIOD OF 10 YEARS WITH NO DOROP IN THERMAL PERFORMANCE AND ENERGY SAVINGS.

NOTE

All stated efficiencies must be specified for a balanced flow condition (equal fresh and exhaust air flows) as the unbalanced flow efficiency will be artificially higher and give a misleading understanding of the performance of the heat exchanger. Thersefore a statement such as "efficiency must be greater than 80%" in isolation becomes meaningless.

This is a fundamental property of all heat exchangers irrespective of type.

Purging the rotor with fresh air to expel the entrained exhaust air as a means of reducing carryover in deep rotors (depth > 100mm) will reduce thermal performance. For example in summer the exhaust air cooled rotor is heated by the hot fresh air purge.