* 1. Sensible Plate Heat Exchanger
1. General Specification
2. Furnish and install the Hoval Series air-to-air plate exchanger as shown in the schedule, to be manufactured by Innergy tech inc.
3. The air-to-air plate exchanger shall transfer heat between outgoing and incoming air streams in cross flow arrangement.
4. The sensible plate exchanger must be manufactured in North America.
5. The air-to-air plate exchanger manufacturer must have at least ten (10) years of experience in the manufacturing of energy recovery components.
6. Product Specifications
7. The exchanger plates shall be 99.9% pure aluminum. Plates made from aluminum alloys, plastic, fiber, steel, or other material(s) are unacceptable.
8. The plates shall be die formed with the patented positive/negative dimple stamping that provides the Hoval Series’ exclusive plate profile and discontinuous channel design. Plate profiles of the laminar flow design type are unacceptable.
9. Aluminum plate thickness shall be 0.005” (0.127 mm)
10. The connecting plate edges shall be double folded. The double fold shall provide a sixfold material thickness on the leading and trailing edges of the plate exchanger and provide protection from the cutting edge of the exchanger plates within the double fold. Construction methods that use a single fold, or glue at the leading and trailing edges of the exchanger are not acceptable.
11. The air-to-air plate exchanger core shall be assembled into a strong, self-supporting frame made of aluminum corner extrusions and 20-gauge galvanized steel end plates.
12. The corners of the assembled exchanger package and the inside of the double folded seams shall be sealed with synthetic casting resin per patented method.
13. The aluminum corner extrusions shall be hollow to accept mounting screws and shall provide a 45° corner support angle
14. The Hoval “V” Series construction (standard product): The air-to-air plate exchanger package with synthetic resin sealed corners shall be resistant to temperatures up to 212°F (100°C).
15. The Hoval “G” Series construction option: The air-to-air plate exchanger plates shall have a PVC mill applied coating. The extrusions, endplates and all sheet metal surfaces are to be epoxy coated, providing protection for installations in corrosive environments. The heat exchanger package with synthetic resin sealed corners is to be resistant to temperatures up to 212°F (100°C).
16. The Hoval “T” Series construction option: The air-to-air plate heat exchanger shall be of High-Temperature construction. The plate exchanger shall be sealed with a special high temperature resistant sealant to protect the heat exchanger package against temperatures in the air streams of up to 392°F (200°C).
17. The air-to-air plate exchanger shall withstand, without significant change in its performances and pressure drops, a pressure differential of at least 6” w.g.. It shall withstand a pressure differential of 10” w.g. without permanent deformation.
18. Quality Assurance Specifications
19. The manufacturer’s quality procedures shall be ISO 9001-2008 certified.
20. The performance data derived from laboratory testing on heat exchanger conditions is in accordance with ASHRAE Standard 84-1991 “method of testing air-to-air heat exchangers”. Performance shall be rated in with AHRI Standard 1060 (I-P) testing procedures.
21. Sensible, latent, and total effectiveness along with pressure drop, EATR and OACF rating shall be clearly documented with performance tests conducted in accordance with ASHRAE Standard 84-91 and AHRI Standard 1060 (I-P).
22. The enthalpy plate exchanger shall come with a warranty of at least 5 years against manufacturing defects that could alter its function. Longer warranty periods shall be available upon request.