



# ITF CABINET CONSTRUCTION

## Integrated Thermal Break Framing™ System

The new Nortek Air Solutions Venmar™ ITF cabinet represents a revolutionary approach to the way energy recovery and air handling equipment is constructed. The cabinet is constructed of a unitized frame which offers flexibility for unit design and configuration while providing a robust, structurally strong cabinet with superior leakage characteristics and IAQ-friendly standard features.

### Your Benefits

- 2 or 3-inch double wall, no-through-metal, low-leakage, Integrated Thermal Break cabinet construction constructed of heavy gauge galvanized, roll-formed steel.
- IAQ cabinet with standard double wall construction, smooth interior finish and thermally broken panels for no exposed insulation or possibility of fibre erosion.
- Impermium™, non-slip, air and water-tight floor membrane as standard on all EnergyPack® and large ERVs and HRVs.
- Optional washdown construction for EnergyPack with recessed floor, drains in every section and washable inner liners.
- Optional phenolic coating on the interior of the EnergyPack along with specialty coatings and materials for coils, energy recovery devices, wiring and appurtenances.
- Optional knock-down construction is also available.



 **NORTEK**™  
AIR SOLUTIONS  
VENMAR

# STABLE AND RIGID CONSTRUCTION

## No-through-metal Cabinet Construction with Impermium™ Floor Membrane

All of our high end light commercial products (VHC-72) and custom Dedicated Outdoor Air Solutions® (EnergyPack®) feature an Integrated Thermal Break Framing™ system which is comprised of G-90 galvanized steel corners, posts and panels to provide a stable and rigid construction that has extremely low leakage rates at high static pressures. The strength and rigidity of the frame allows any panel to be removed for easy access without compromising the structural integrity of the unit, while the use of common materials prevents any possibility of galvanic corrosion. Exterior panels are affixed with corrosion resistant fasteners and there are no exposed screws inside the unit, providing a smooth wipe down, IAQ-friendly interior finish.

The unit casing construction is a no-through-metal design such that there is no path of continuous metal-to-metal conduction from the interior to the exterior of the unit either through the roof, walls or base (which is engineered for maximum rigidity during lifting and handling).

## IAQ and Energy Efficiency

Incorporating an energy recovery device into a sub-standard cabinet does not create an efficient cabinet suitable for use in high performance building applications. That is why each panel used in the ITF cabinet is of thermally broken construction with no exposed insulation to maximize IAQ and minimize the air leakage and heat transfer that can occur between airstreams and to the atmosphere. This helps to optimize performance and eliminates the possibility of condensation occurring on interior or exterior panel surfaces (except under the most extreme conditions).

Similarly, all access doors are double wall, thermally broken, insulated and the exact same thickness as the cabinet. The design of the handles and hinges eliminates potential paths for heat transfer and features an advanced double seal gasket that is comprised of adhesive compressed foam on the outer door panel and an automotive style neoprene bulb gasket on the interior door frame. In addition, all access panels feature an ETL, UL 1995 and OSHA approved tool operated safety latch.

In the case of the VHC-72, the wall is 2-inches thick as standard while the EnergyPack features a more robust 3-inch outer wall.

## Impermium Floor Membrane

In addition to our EnergyPack custom Dedicated Outdoor Air Solutions, our large commercial ERVs (4,000 to 11,500 cfm) and HRVs (2,500 to 11,500 cfm) include the innovative Impermium floor membrane as standard. The membrane complies with the requirements for the Standard for Heating and Cooling Equipment, ANSI/UL 1995. It is corrosion and chemical resistant and suitable for temperatures up to 300°F with no VOCs or solvents. Impermium is a coating that is sprayed over the entire floor to create an extremely robust and flexible air and water-tight seal. The coating dries in seconds (cures in minutes) and creates a non-slip, walk on surface that is superior to raw steel or other more costly stainless steel or aluminum checker plate alternatives.

## Washdown Construction and Specialty Materials and Coatings

When Impermium is combined with a recessed floor, drains in every section and a smooth, screwless interior finish, the EnergyPack becomes the ideal solution for nearly any washdown/wipe down application for most food processing or health care applications. Additionally, the entire interior of the unit can be treated with an extremely cost-effective, phenolic finish that opens entirely new possibilities for waste water treatment plants, pools and natatoriums or other corrosive applications.



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