

Z-DUCT™

Counterflow Plate Type Air-to-Air Heat Exchangers



How Z-Duct™ Works

Counterflow air streams are brought into close proximity, separated by one continuous, dimpled and folded sheet of aluminum that acts as a primary heat transfer surface. The heat transfer surface is formed into a matrix with two completely separate and distinct air passages. The ends of the matrix are sealed for minimum leakage, virtually eliminating cross-contamination. Munters Z-Duct™ is a highly efficient, low-cost, low-maintenance heat exchanger with no moving parts to break down or replace.

In air conditioning systems, Z-Duct™ makes it possible to pre-cool incoming supply air by transferring energy from the outdoor air to the exhaust air. The reverse is true for heating systems. Energy is transferred from the exhaust to the outdoor air, thereby pre-warming the supply air. Less energy is needed to either cool or heat incoming air. This transfer of energy from exhaust to supply air greatly reduces fuel consumption as well as the equipment capacity required to condition the outdoor air. The Z-Duct™ adds the benefit of latent heat transfer between the two airstreams. In the summer, outdoor air is pre-cooled and dehumidified. This feature more than doubles the energy savings of sensible only recovery devices.

Z-Duct™ functions economically in most applications where fresh outdoor air is being drawn into a building to meet ASHRAE recommended or code ventilation requirements or replace spent, stale, or contaminated air.

PRODUCT INFORMATION

Z-DUCT™



BENEFITS

Highly Efficient

- Designed specifically to permit the recovery of large amounts of energy that would otherwise be wasted
- Heat transfer surface is formed into a sealed matrix with two separate air passages virtually eliminating leakage and cross-contamination

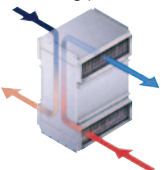
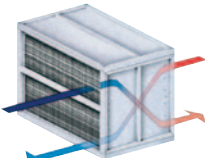
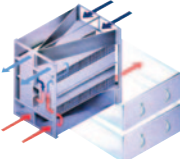
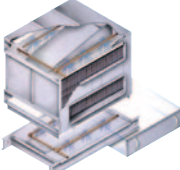
Low Cost

- Less energy is needed to cool or heat incoming air, saving money on heating bills

Low Maintenance

- No moving parts to break down or replace



MODEL	SPECIFICATIONS	CONSTRUCTION FEATURES	STANDARD UNIT OPTIONS
SERIES 74 & 84 Applications Pre-cooling/reheating for dehumidification; recovering energy from process exhaust; trading energy from process-to-process; indirect heating and cooling; heating process air; process energy recovery; laundry room, laboratory hood; oven/dryer; swimming pools; schools; hospitals 	✓ Operation to 450°F ✓ Differential pressure to 10" W.C. ✓ Medium temperature, clean airstreams Series 74: ✓ Modular 500 - 4,000 scfm units Series 84: ✓ Modular 2,000 - 3,000 scfm units ✓ Standard UU flow	8 mil (0.008) 1100 aluminium dimpled foil matrix Galvanized steel casing Series 74: Nominal 62% effectiveness Nominal 0.75" W.C. pressure drop per side Series 84: Nominal 80% effectiveness Nominal 1.75" W.C. pressure drop per side Counterflow configuration Variable plate spacing 3/4" FTP drain connections	10 mil (0.010) aluminum dimpled foil matrix Stainless steel matrix and casing construction Welded construction 1 mil (0.001) epoxy coating on one or both sides of foil Sprayed or dipped Carboline or Heresite anti-corrosion coatings for unit Semi-automatic traversing water wash systems Traversing defrost system Face and bypass sections with dampers
SERIES 79 Applications Schools and universities, indoor swimming pools, indoor ice rinks, hospitals, locker rooms, toilet exhausts, garages, hotels/motels, laundry room, laboratories, animal hospitals, research facilities 	✓ Operation to 200°F ✓ Differential pressure to 5" W.C. ✓ Clean airstreams ✓ Easy to apply counterflow configurations ✓ Up to 87% effectiveness ✓ Low maintenance ✓ Units sized from 100 to 14,000 scfm ✓ Standard X flow or optional UU, LL or UI pattern	8 mil (0.008) 1100 aluminium dimpled foil matrix Galvanized steel casing with horizontal or vertical airflow splitter 1 1/2" FPT drain connections Fully flanged duct connections Nominal 68% effectiveness Nominal 0.75" W.C. pressure drop per side Counterflow configuration Variable plate spacing S (36") and L (60") lengths	10 mil (0.010) aluminum dimpled foil matrix Insulated casing Face and bypass dampers Water wash system Corrosion resistant coatings Traversing defrost
SERIES 75 Applications Reducing operating costs; pre-cooling/reheating for dehumidification; recovering energy from process exhaust; trading energy from process to process; indirect heating and cooling; heat process air; process energy recovery; laundry room, laboratory hood; oven/dryer 	✓ Operation to 450°F ✓ Differential pressure to 10" W.C. ✓ Medium temperature, clean airstreams ✓ Access doors for inspection and cleaning ✓ Standard unit sizes 4,000 scfm to 12,000 scfm ✓ Standard UU flow or optional X flow pattern	8 mil (0.008) 1100 aluminium dimpled foil matrix Galvanized steel casing Nominal 62% effectiveness Nominal 1" W.C. pressure drop per side Counterflow configuration Variable plate spacing 1 1/2" FPT drain connections	10 mil (0.010) aluminum dimpled foil matrix Stainless steel matrix and casing construction Welded construction 1 mil (0.001) epoxy coating on one or both sides of foil Sprayed or dipped Carboline or Heresite anti-corrosion coatings for unit Semi-automatic traversing water wash systems Traversing defrost system Face and bypass sections with dampers Spray-on Urethane insulation on floor bottom & lower doors 120°F max temp.
SERIES 85 Applications Dryers, ovens, laundry rooms, flow hoods from kitchens or process operations, process-to-comfort heat recovery 	✓ Operation to 450°F ✓ Effectively recovers energy from processes with particulate-laden exhausts ✓ Easy access for inspection and cleaning ✓ Up to 85% effective ✓ Low maintenance ✓ Straight-through flow for exhaust airstream ✓ Units sized 4,000 – 30,000 scfm ✓ Standard UU flow or optional X flow pattern	8 mil (0.008) aluminium dimpled foil matrix Double wall galvanized construction with 2" thermal insulation All-welded structural steel base frame with integral lifting lugs for rigging Structural steel flanged connections All-welded aluminized steel sloped floor with 3" FPT drain connection and upturned edges for positive moisture containment	10 mil (0.010) aluminum dimpled foil matrix Stationary high-flow water wash system Epoxy coatings on one or both sides of matrix All aluminum construction All stainless construction