

THERE'S **INNOVATION** IN ENERGY RECOVERY

Custom-made air handlers



LATENT



SENSIBLE



TOTAL



THIS ROOF TOP MOUNTED UNIT IS DESIGNED TO RECOVER LATENT & SENSIBLE HEAT FROM THE EXHAUST AIRFLOW, AND TO PERFORM IN EXTREME COLD TEMPERATURES (-40°C) AND IN A VARIABLE AIR VOLUME APPLICATION (VAV). IT IS ALSO DESIGN WITH THE ENTHALPY WHEEL IN THE HORIZONTAL POSITION TO ACCOMMODATE OPPOSITE END **EA** OUTLET AND **FA** INLET, ASSURING MINIMAL CROSS CONTAMINATION OF THE TWO AIR STREAMS. THIS UNIT DESIGN IS ALSO VERY COMPACT FOR ROOF MOUNTED APPLICATION HAVING **RA** AND **SA** OPENING UNDERNEATH WITH THE POSSIBILITY OF END OPENINGS. OTHER UNIT DESIGNS ARE ALSO AVAILABLE TO MEET THE EXACT NEEDS OF YOUR PROJECT.

THERE'S INNOVATION IN ENERGY RECOVERY

MOTHER NATURE HAS BLESSED US WITH ENERGY RESOURCES, BUT WE ALL KNOW THEY CAN'T ALL LAST FOREVER. INCORPORATING ENERGY RECOVERY DEVICES INTO AIR HANDLING UNITS IS A WELL-KNOWN INDUSTRY TECHNIQUE THAT CAN SIGNIFICANTLY REDUCE ENERGY USE. THAT'S WHY BOUSQUET TECHNOLOGIES IS DEVOTED TO MANUFACTURING TOP QUALITY ENERGY RECOVERY UNITS THAT **MAXIMIZE RECOVERY POTENTIAL WHILE MINIMIZING ENERGY CONSUMPTION**. USING **ROBUST AND DURABLE COMPONENTS CERTIFIED FOR PERFORMANCE**, WE DRAW ON **CUTTING-EDGE METHODS** TO BUILD AHU'S **DESIGNED TO OPTIMIZE YOUR ENERGY RECOVERY SAVINGS**.

Sectors of Activity

INDUSTRIAL

- ~ Aluminium factories
- ~ Transportation
- ~ Water filtration
and wastewater treatment
- ~ Paint shops
- ~ Mechanical shops
- ~ Garages

COMMERCIAL

- ~ Shopping centres
- ~ Multiple-use complexes

INSTITUTIONAL

- ~ Arenas
- ~ Schools
- ~ Nursing homes
- ~ Pools
- ~ Hospitals

WITH THEIR ADAPTABLE DESIGN METHOD AND VARIABLE-GEOMETRY CONSTRUCTION, THE BC SERIES OF CUSTOM AIR HANDLERS FROM BOUSQUET TECHNOLOGIES CAN MEET THE ENERGY RECOVERY REQUIREMENTS OF **MULTIPLE APPLICATIONS** BY INTEGRATING HEATING, COOLING, FILTRATION AND HUMIDIFICATION WITH THE APPROPRIATE ENERGY RECOVERY EQUIPMENT.

DISCOVER THE **FULL RANGE OF EQUIPMENT** AVAILABLE FOR INTEGRATION INTO YOUR AIR HANDLERS BY CONSULTING OUR STATE-OF-THE-ART ENERGY RECOVERY COMPONENTS

ENTHALPY ENERGY RECOVERY WHEELS



ENTHALPY WHEELS ARE USED IN **APPLICATIONS WHERE BOTH SENSIBLE AND LATENT ENERGY CAN BE RECOVERED**, INCLUDING 100% OA APPLICATIONS, WITH OR WITHOUT COOLING. A **HYGROSCOPIC COATING ON THE WHEEL SURFACE REDUCES THE COOLING LOAD ON COMPRESSORS IN THE SUMMER** BY TRANSFERRING MOISTURE FROM FRESH AIR TO EXHAUST AIR. **IN COLD CLIMATE APPLICATIONS, MOISTURE IS TRANSFERRED FROM EXHAUST AIR TO FRESH AIR, REDUCING HUMIDIFICATION REQUIREMENTS AND SIGNIFICANTLY BOOSTING ENERGY RECOVERY POTENTIAL** WHEN OA TEMPERATURE IS LOW.

FEATURES

- ~ Enthalpy rotor matrix has an hygroscopic coating optimizing vapor transfer
- ~ Sea water resistant Aluminum wheel matrix
- ~ Light Aluminum frame is customizable 600mm to 3000mm (23" to 118") in diameter
- ~ Direct contact circumferencial seals for low leakage rates



- ~ Self tightening belt & motor base for reliability
- ~ Gear box integrated with inverter duty motor for precise frost control and low power consumption
- ~ Bearings are enclosed inside the center hub for durability and compactness
- ~ Rubber belt for a slip free operation



- ~ Variable wheel diameter 1.6mm (1/16") increments for precise selections
- ~ Variable well heights for optimal pressure drop performance vs energy recovery efficiency
- ~ Variable sheet thickness for optimal sensible performances

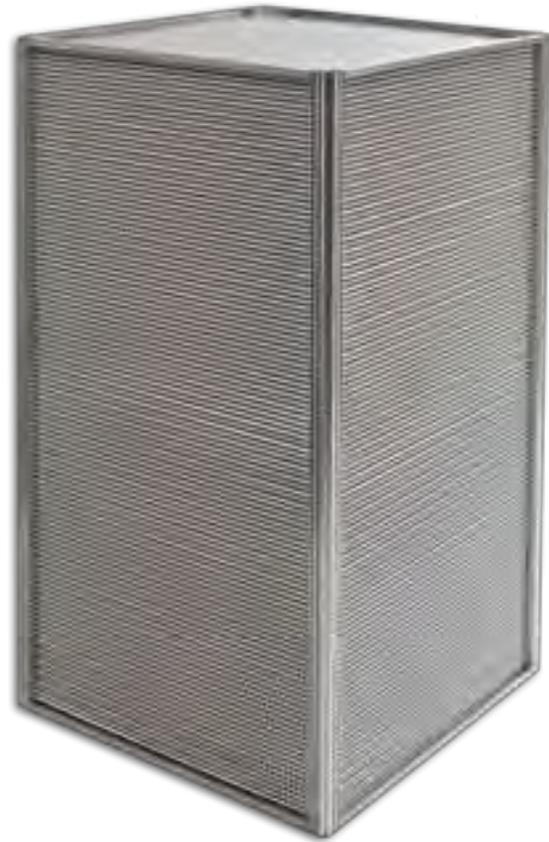


ENTHALPY PLATE HEAT EXCHANGERS

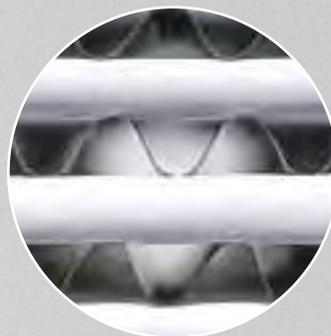
ENTHALPY PLATE HEAT EXCHANGERS ARE USED IN **RESIDENTIAL AND COMMERCIAL APPLICATIONS WHERE THE AIR STREAM IS RELATIVELY CLEAN AND CROSS CONTAMINATION IS NOT ACCEPTABLE.** BY TRANSFERRING BOTH SENSIBLE AND LATENT ENERGY TO THE FRESH AIR STREAM, ENTHALPY PLATE HEAT EXCHANGERS DELIVER **ALL THE BENEFITS OF ENTHALPY WHEELS WITHOUT THE TRANSFER OF CO₂, VOCs, AND OTHER AIRBORNE CONTAMINANTS.** MOISTURE IS TRANSFERRED BY DIFFUSION FROM THE HIGH TO LOW WATER VAPOR PRESSURE SIDES OF THE SYSTEM.

FEATURES

- Vertical or horizontal plate installation will fit any application
- Polymer membrane construction optimizes both latent and sensible heat transfer



- Aluminum customizable frame for lightweight and rigid construction
- Multi-Core modular framing giving more flexibility to the designer



- Precisely corrugated aluminum sheets assure predictable performances and optimal heat transfer
- Membrane is cleanable and covered with an anti-microbial permanent coating

COUNTER FLOW PLATE HEAT EXCHANGERS

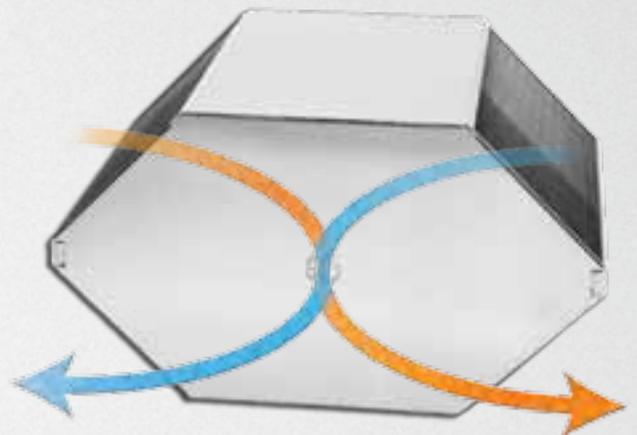


COUNTER FLOW PLATE HEAT EXCHANGERS HAVE THE **HIGHEST EFFICIENCY LEVEL OF ALL SENSIBLE ENERGY-ONLY DEVICES**. THEIR COUNTER FLOW AND LONGER AIR PATH DESIGN FAVOR HIGHER AVERAGE TEMPERATURE DIFFERENTIALS BETWEEN EXHAUSTED AIR AND FRESH AIR FLOWS. ALUMINUM PLATES ARE SEALED WITH A DOUBLE FOLD JOINT AND EPOXY FILLER IN CORNERS, MAKING THEM THE **PERFECT PRODUCT FOR APPLICATIONS THAT REQUIRE HIGH EFFICIENCY AND ZERO CROSS-CONTAMINATION**.

FEATURES

- These very high efficiency heater are available in nine (9) different plate sizes with air flows capacities ranging from 500 CFM to 10,000 CFM

- The design characteristics of this counter flow plate heat exchanger enhances its efficiency to 90%
- Vertical plate installation increases condensates evacuation and reduces frost accumulation
- Horizontal plate installation give more flexibility to the designer and gives compactness to the Air Handling Unit



CROSS FLOW PLATE HEAT EXCHANGERS

CROSS FLOW PLATE HEAT EXCHANGERS ARE **HIGHLY VERSATILE** AND GIVE THE DESIGNER **INCOMPARABLE FLEXIBILITY AND QUICK PAYBACK**. WITH A **WIDE RANGE OF PLATE SIZE, SPACING, AND SURFACE DESIGN OPTIONS** TO CHOOSE FROM, THESE UNITS CAN BE OPTIMALLY DESIGNED FOR **MAXIMUM EFFICIENCY WHILE MINIMIZING PRESSURE DROP**. USE OF PLATE HEAT EXCHANGERS ENSURES ZERO CROSS-CONTAMINATION IN ANY APPLICATION WITH RELATIVELY HIGH DIFFERENTIAL PRESSURES. **AHU'S** CAN BE ARRANGED WITH POSITIVE OR NEGATIVE FAN INSTALLATION AND PLATES CAN BE IN VERTICAL OR HORIZONTAL POSITION INCREASING POSSIBILITIES FOR THE DESIGNER.

FEATURES

- Horizontal plates are supported by intermediate galvanized sheets for support
- Plates are made from 599 to 1994 mm (23.6" to 78.5") sides for low to high airflows
- Plates spacing is available from 6 to 20 mm (0.79" to .248") for more flexibility



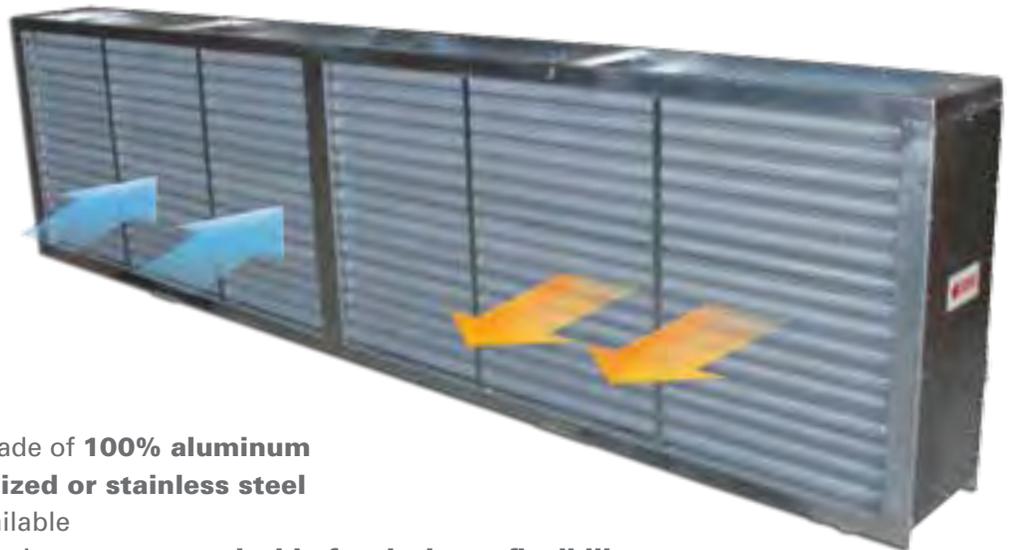
HIGHER



- Vertical plates offer many units arrangement and application possibilities
- End plates are made of galvanized steel and frame is an aluminum extrusion
- Plates width can be from 127 to over 5080mm (5" to over 200")

HEAT PIPE HEAT EXCHANGERS

HEAT PIPES ARE **PASSIVE ENERGY RECOVERY DEVICES WITH NO MOVING PARTS**. THEY CONSIST OF FINNED TUBES FILLED WITH 134A OR 410A REFRIGERANT THAT IS EVAPORATED ON THE HOT SIDE AND CONDENSED ON THE COLD SIDE. HEAT PIPES OPERATE IN A HORIZONTAL POSITION AND WILL **AUTOMATICALLY CHANGE THE DIRECTION OF REFRIGERANT FLOW FROM SUMMER MODE TO WINTER MODE** WITHOUT INTERVENTION. THEY **CAN BE INSTALLED ON EITHER THE INTAKE OR SUPPLY SIDE** OF FANS, GIVING THE DESIGNER GREATER FLEXIBILITY. FROST PREVENTION AND FREE COOLING CAN BE ACHIEVED WITH THE INCORPORATION OF FACE AND BYPASS DAMPERS THAT CONTROL AIRFLOW OVER THE TUBES ON THE **FA** SIDE.

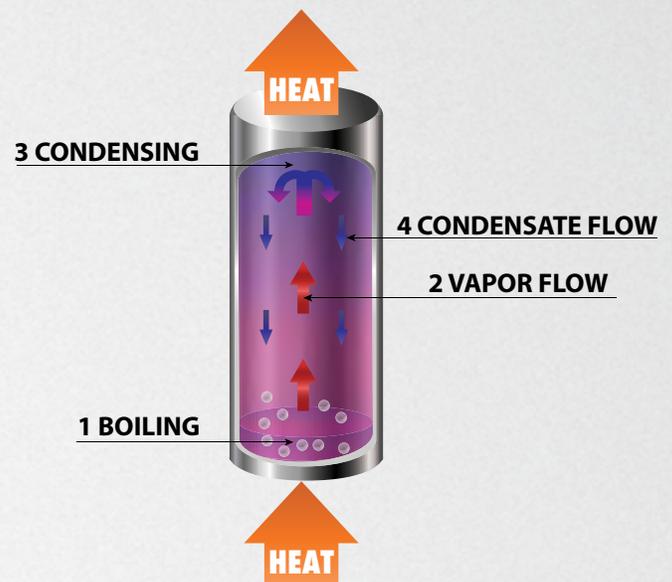


FEATURES

- Integral tubes & fins are made of **100% aluminum**
- Casing can be G90 **Galvanized or stainless steel**
- Corrosion protection is available
- Rows, fins/inche and dimensions are **customizable for designer flexibility**

THE BASIC HEAT PIPE

- Vertically installed heat pipes can be used in tight spaces for winter recovery only
- Heat pipe require no moving parts and frost control is achieved with a simple face & bypass dampers

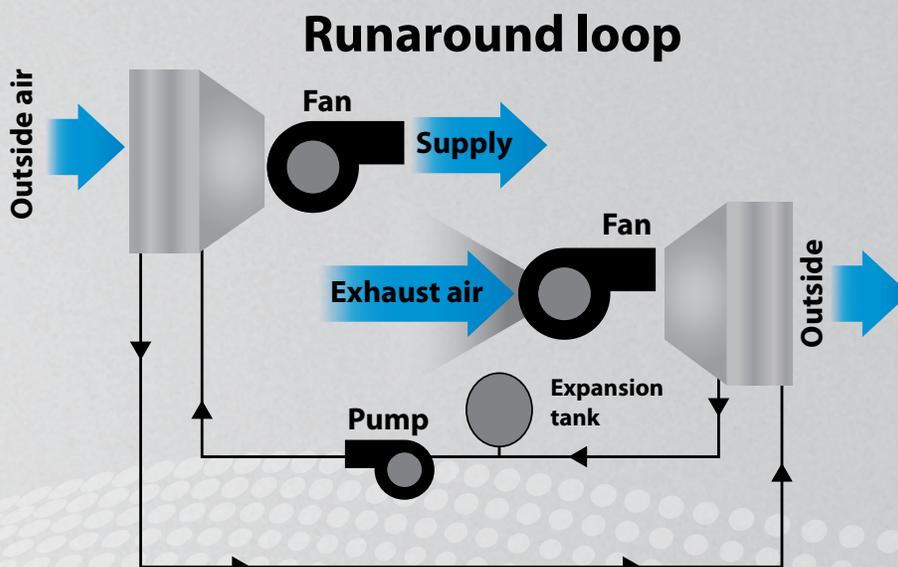
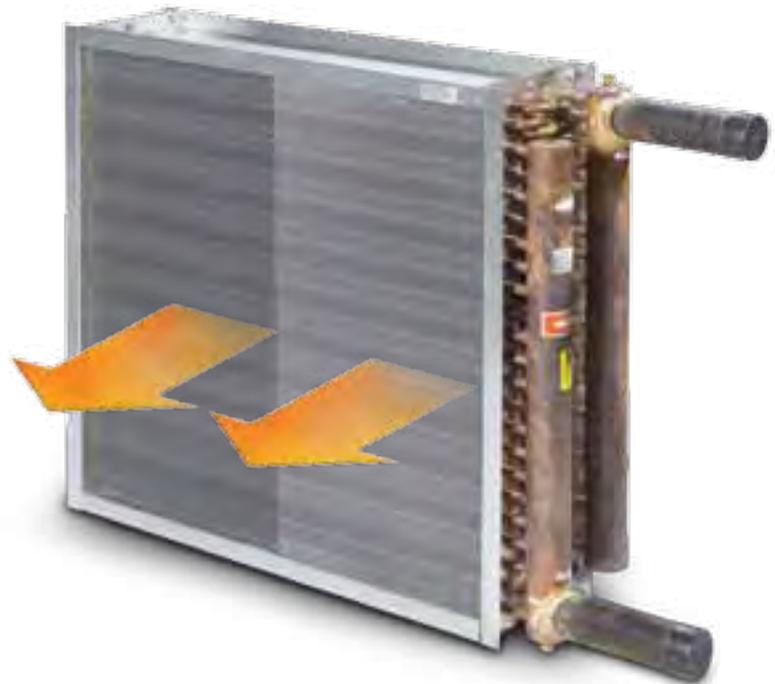


RUN AROUND COIL & LOOP

RUN-AROUND LOOPS ARE COMMONLY USED IN **APPLICATIONS WHERE THE EXHAUST AND FRESH AIR FLOWS ARE AT A CONSIDERABLE DISTANCE FROM EACH OTHER**. THEY CONSIST OF TWO FINNED TUBE COILS THAT ARE SIZED TO **MAXIMIZE ENERGY TRANSFER AND MINIMIZE PRESSURE DROP** FOR OPTIMUM OPERATIONAL PERFORMANCE. THEY ARE VERY **SIMPLE TO OPERATE** AND CONSIST OF A 3 WAY VALVE, A COUNTERFLOW GLYCOL LOOP, PUMP AND EXPANSION TANK. THEIR CHARACTERISTICS MAKE THEM **WELL SUITED TO COLD APPLICATIONS** AND SETUPS WHERE SEVERAL AIR STREAMS NEED TO BE INTERCONNECT. USED **EXCLUSIVELY FOR SENSIBLE ENERGY TRANSFER**, THEY OFFER **ZERO CROSS-CONTAMINATION**.

FEATURES

- They can be sized for air flows as small as 1000 CFM and up to 100,000 CFM
- Coils can be coated to resist corrosive environments



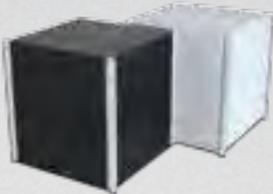
HIGH

OTHER POSSIBILITIES



AIR-TO-AIR SENSIBLE ENERGY RECOVERY WHEEL

- ~ Transfers sensible energy only as for dual wheel applications
- ~ AHRI certified performances



POLYPROPYLENE AIR-TO-AIR SENSIBLE PLATE HEAT EXCHANGERS

- ~ Corrosion and chemical resistant
- ~ Ideal for high humidity applications
- ~ AHRI certified performances



WRAP AROUND HEAT PIPES

- ~ Dehumidification with free reheat & pre-cool
- ~ No moving parts and low pressure drop
- ~ Shown with corrosion resistant coated aluminum finned tubes & casing



3A MOLECULAR SIEVE

- ~ 3Angstrom molecular sieve picks up water molecules only
- ~ New labyrinth seal technology improves leakage rates
- ~ AHRI certified performances



SEGMENTED WHEEL CONSTRUCTION

- ~ Permits large capacity units of up to and beyond 50,000 CFM
- ~ Very large wheels can be installed in the horizontal position
- ~ AHRI certified performances



MULTIPLE CORE ARRAY CONSTRUCTION

- ~ Larger airflows can be achieved with four pre-assembled cores
- ~ They can be stacked in parallel for up to and beyond 50,000 CFM
- ~ AHRI certified performances



POLYMER WHEEL CONSTRUCTION

- ~ Imbedded desiccant for durability
- ~ Rigid design with a proven reliability
- ~ AHRI certified performances



STAINLESS STEEL CONSTRUCTION

- ~ Corrosion resistant 304 SS
- ~ Very rigid and durable design without welding
- ~ Eurovent certified performances

WHY CHOOSE BOUSQUET TECHNOLOGIES?

MANUFACTURING CHARACTERISTICS

- ~ G90 galvanized steel finish on all surfaces
- ~ 304L stainless steel gas heat exchanger
- ~ Superior quality finish
- ~ Designed using 3D visualization software
- ~ CAD & CAM using high precision laser cutting and benders

EXPERTS AND KNOW-HOW

- ~ A seasoned team of engineers and technicians with HVAC experience
- ~ Over 30 years of manufacturing know-how
- ~ Founded in 1946

CERTIFICATIONS

- ~ Component performance certified by AMCA and AHRI
- ~ Products certified by the CSA or ETL for Canada and the United States
- ~ Plant certified by the Canadian Welding Bureau (CWB)

BENEFITS

- ~ Outstanding after-sales service
- ~ Quick turnaround
- ~ Reliable, robust products
- ~ Strict manufacturing standards



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