Specializing in:

-- Air-to-Air Energy Recovery
-- Conditioning Outdoor Air
-- Controlling IAQ
-- Indirect Evaporative Cooling
Packaged Heat Recovery Systems

Micro-Z® & Micro-ZS

Micro-Z is a line of packaged air-to-air, energy-recovery units designed for commercial applications. Three standard models in five different sizes (depending upon model) are designed to handle airflow between 600 CFM and 5,000 CFM at a nominal energy-recovery efficiency of 60%. Fresh outdoor air for ventilation is delivered through a high-efficiency heat exchanger providing significant energy savings year round by means of a Z-Duct sensible-energy, aluminum heat exchanger. Micro-Zs are very compact, lightweight, and offer an affordable solution to reduce energy and improve indoor air quality.

For detailed information, please refer to Des Champs brochure # Micro-11-06/2.5M.

X-Pack™

The X-Pack line of heat recovery ventilators can provide the ventilation required by ASHRAE Standard 62, while minimizing operating costs. The cross-flow air-to-air heat exchangers used by the X-Pack serve to reduce loads on heating and cooling systems. X-Pack energy recovery technology extracts heat or cooling energy from the outgoing exhaust air and transfers that energy to the incoming fresh air. Capacities from 600 SCFM to 26,600 SCFM are available to provide the most efficient and cost effective solution to meet your needs.

For detailed information, please refer to Des Champs brochure # XPK9-04/2.5M.

E-Z-Aire®

E-Z-Aire is an economical packaged, make-up air unit with a high-efficiency heat exchanger that brings in fresh, outdoor air while exhausting a like amount of stale, polluted air. The air is exchanged while recovering significant heat energy from the exhaust air stream and transferring only the heat energy to the supply air, thus tempering the incoming air. Two series are available, each with five models, having 70% to 85% sensible energy recovery effectiveness.

For detailed information, please refer to Des Champs brochure # EZA-4/05-2.5M.

PV & MZP

The MZP line of packaged air-to-air energy recovery systems features Z-DUCT plate-type, energy-saving heat exchangers made of aluminum or stainless steel. Heavy-duty construction ensures years of trouble free operation. Rated flow from 2,000 CFM to 50,000 CFM. Any building with a collected return air system and a need for outdoor air will benefit from the MZP product line.
Modular Outdoor Air Conditioning Systems

The Modular Outdoor Air Conditioning System (MOACS) is a family of six pre-engineered models for energy recovery and humidity control. These modular-type packaged units range from 1,000 to 10,000 SCFM, and are suited for all climates, applications, and budgets. Each of the six models offers the flexibility of several module configurations with options. Modules and options include: fans; heat pipe heat exchangers; rotary heat exchangers (wheels); DX or chilled water coil sections; anti-microbial filters with 30% or 90% efficiency rating; integral or remote condensing units; gas, electric, hot gas, or hydronic heating modules; and utility modules for field-installed components. The condensing section, which can be ordered integral to the units, features an 11.0 EER and mix-matched multiple compressors to ensure optimum capacity control without the need for energy-wasting hot-gas bypass. All units are equipped with a programmable microprocessor-based digital controller.

For detailed information, please refer to Des Champs brochure # MOACS1200/7.5M.

CompleVent®

CompleVent can provide the ventilation and dehumidification required by ASHRAE Standard 62, while minimizing operating costs. Air-to-air energy exchangers used by the CompleVent serve to reduce loads on heating and cooling systems. CompleVent has a model to suit your needs based on climate and function. Six different designs with many available options ensure that you get the system that’s right for you. All models are available in a range of capacities from 500 SCFM to 10,500 SCFM, to provide the most efficient and cost-effective solution to meet your needs. Because of its efficient energy recovery technology, CompleVent can provide the fresh air required for a healthy indoor environment at the lowest energy cost.

For detailed information, please refer to Des Champs brochure # Comp2-04/5M.

Wringer®

The Wringer Series is a packaged mechanical dehumidification unit designed to supply clean process air at a specific flow and moisture level. It incorporates a heat exchanger to reduce the energy required to dehumidify the air. Wringers are normally employed when the supply air dewpoint requirement is above 40°F. Wringers use approximately 30% less energy than conventional dehumidification systems and provide free reheat. Wringers can incorporate integral refrigeration or utilize chilled water for dehumidification. Options such as auxiliary heating, special filtration, and DDC controls are available.
Wringer Plus®

Offering all of the benefits and features of the Wringer, the Wringer Plus goes a step beyond, to reduce winter heating and summer mechanical cooling requirements through efficient recovery of energy from building exhaust air. Wringer Plus units have been used extensively to ensure that IAQ is efficiently achieved in commercial and institutional buildings. Designed to deliver filtered, dehumidified outdoor air while allowing building pressure to be controlled (using the system’s exhaust/relief fan) – all while minimizing heating and cooling requirements through efficient air-to-air energy exchange – the Wringer Plus provides the ultimate IAQ solution in humid climates.

Wringer 2000®

The Wringer 2000 solves your indoor-pool humidity-control challenges in the most energy-efficient manner. Operation in different modes is automatic depending on the ambient conditions: in the summer the dehumidification mode uses mechanical refrigeration and in the winter the dehumidification is accomplished with fresh outdoor air. The energy-recovery module lowers operating expenses when mechanical refrigeration is required by the use of the pre-cool and re-heat Wringer loop. When heating is required, the energy-recovery module recovers heat from the exhaust air providing additional savings. All Wringer 2000 construction materials and coatings have been selected for resistance to corrosion in a pool environment. The Wringer 2000 family can handle pools requiring as little as 500 CFM to pools requiring more than 24,000 CFM. The system controls humidity and maintains negative pressure in the pool space to prevent moisture migration to other rooms and into the building structure.

DynoAir™

The controlled air-delivery system of the DynoAir provides precision air-conditioning for precise engine testing as well as other projects requiring precision environmental control. At almost any outdoor temperature and humidity, the DynoAir delivers the specified temperature and humidity at the required airflow to the engine intake. Three standard sizes are available: 1,500 CFM, 2,000 CFM and 3,000 CFM and larger units are available on a custom basis. Supply air temperature and humidity are controlled to +/- 0.25°F and +/-2.5% relative humidity. Heating, cooling, humidification and dehumidification systems are integral to the self-contained packaged unit.

For detailed information, please refer to Des Champs brochure # Wring2000.8-05/2.5M.
Heat Exchangers

Plate Heat Exchangers

Plate heat exchangers are the most maintenance free and long lasting of the air-to-air heat exchangers. Essentially, once installed in HVAC applications, they last indefinitely without maintenance. In addition, plate heat exchangers allow for the traversing defrost mechanism, the most energy efficient means to protect against frost and ice buildup during winter operation. For dusty or dirty applications, integral cleaning systems are available to aid in maintenance. There are four basic designs of plate heat exchangers with a total of six (6) different flow patterns. The designs are Series 74 and 75 Z-DUCT® modular heat exchangers that can easily be field installed as stand-alone components in a built-up system. Modules of 1,000 to 10,000 CFM allow assembly to accommodate up to 100,000 CFM. For use in packaged units, Series 79 Z-DUCT® heat exchangers and HEATEX® cross-flow heat exchangers are generally the plate heat exchanger of choice because of their ease of packaging.

For detailed information, please refer to Des Champs brochure # PHX0102/10M.

Rotary Heat Exchanger

Des Champs rotary heat exchangers are designed to provide either sensible or total energy exchange between two airstreams. Rotary heat exchangers are designed for counterflow application and operate on the principle of sensible heat transfer and latent energy transfer using desiccant material. Des Champs rotors are constructed of corrugated media with passages through which the air flows, either gaining energy from or losing energy to the mass of the matrix. The rotary matrix revolves in a plane perpendicular to the airflow continuously transferring the rotor mass from the high temperature stream to the low temperature stream. In total heat transfer applications a desiccant absorbs moisture from the stream with the higher vapor pressure and desorbs moisture to the stream with the lower vapor pressure.

For detailed information, please refer to Des Champs brochure # RHE-302/5M.

Heat Pipe Heat Exchanger

The Des Champs heat pipe heat exchanger provides sensible heat transfer between two airstreams using a counterflow configuration to maximize heat transfer and minimize pressure drop. The device contains rows of finned tubes partially filled with refrigerant and permanently sealed. Heating one side of a heat pipe establishes a continuous process whereby the warmer side acts as an evaporator and the colder side a condenser. A sealed center partition prevents cross contamination of the two airstreams. A sensible heat transfer from the hot to the cold air stream results. All tubes are fitted with a Schrader fitting that allows the tubes to be filled and recharged if necessary.

For detailed information, please refer to Des Champs brochure # HPHE-698/10M.
Evaporative Cooling Systems

Model EPX

The model EPX Indirect Evaporative Cooler uses a high-efficiency, air-to-air heat exchanger and indirect evaporative cooling to introduce 100% outdoor air while reducing cooling-load tonnage. Model EPX uses a corrosion-resistant polymer heat exchanger to produce dry, cool air without using refrigeration. The polymer tube construction prevents corrosion, and the unit’s design eliminates water leakage. The heat exchanger core incorporates unique, vertical polymer tubes. Water flows inside and down the tubes, counterflow to a scavenger ambient-air stream or return air stream. The air to be supplied to the space flows across the outside of the tubes and is sensibly cooled - no moisture is added. A special surface-wetting interior-finish promotes enhanced evaporation for maximum efficiency. In many cases, on a design summer dry bulb day, the EPX can lower the incoming air temperature by 30°F or more.

OASIS™

OASIS is the sensible alternative to conventional air-conditioning equipment and the ultimate air-conditioning unit for dry climates. Indirect evaporative cooling and direct evaporative cooling are cleverly packaged with optional DX or chilled-water for maximum cooling efficiency. In dry climates, the OASIS system provides the desired cooling during most of the year without refrigeration. As the regional zones become drier and the buildings require more outside air, the OASIS becomes more attractive as an option for cooling versus standard air conditioning techniques. OASIS is applied in much the same manner as a conventional recirculated air system, but with much lower operating costs, especially during peak electrical demand.