



ECONET® PREMIUM – THE SMART SOLUTION FOR EFFICIENT ENERGY RECOVERY AND TRULY HYGIENIC AIR QUALITY

SEMCO's successful run around coil recovery system for air handling units - Econet[®] - has reached a new reincarnation. Econet[®] Premium is the result of 20 years of development and sums up real world experience from over 4000 installations.

EFFICIENCY AND FLEXIBILITY

The new Econet[®] Premium is a great system to achieve high energy efficiency and low energy cost. Recovery rates up to 80% can be reached, and an unique advanced frost protection function improves the recovery rate even at low temperatures. An intelligent control system optimizes the energy recovery at part loads, which is ideal for VAV systems. Econet[®] Premium is also a versatile system that can be connected to all type of heating and cooling sources, also those with less value, before considered as "low temperatured" waste heat.

PERFECTLY CLEAN AND SAFE AIR

With completely separated air flows the risk of crosscontamination is fully eliminated. Neither bacteria, pollution nor odor can be transferred from exhaust to supply air. This unique feature is obviously appreciated in hospital, pharma and microelectronic industries, but also an advantage when providing manufacturing and work environments with perfectly clean and healthy air.

SPACE SAVING DESIGN

With the possibility of separate units for exhaust and supply air, Econet[®] Premium offers great flexibility and space saving potential within the building. The exhaust unit can for instance be placed in the attic with supply in the basement – giving an increased leasable area.



More than 4000 Econet[®] installations worldwide – running reliably and efficiently in all types of buildings





- Hospitals
- Restaurants
- Residential buildings
- Parking garages
- Education
- Pharma
- Supermarkets
- Industrial buildings
- Offices



Based on our e³ concept, we provide innovative and sustainable products to help you achieve or surpass your environmental targets while optimizing your investment and Life Cycle Cost.

THE ONLY CHOICE WHEN YOU NEED TO COMPLETELY ELIMINATE CROSS CONTAMINATION

Certain applications require that the risk of cross contamination between exhaust and supply airflows are fully and entirely eliminated. In hospitals, strict hygiene demands are obviously needed to avoid spreading diseases between patients. The growing problem of multi resistant bacteria epitomizes that fact, and implies that we in a close future will need to raise standards even further. Econet[®] is also the safest choice for residential buildings, restaurants and working environments where it is highly desirable for the breathing air to be free from odor, allergens and pollution. The absolute elimination of odor transfer between building areas is also a significant benefit.

The advantages of separated airflows are not only hygienic. It also opens up new recovery possibilities when heat can be recovered also from exhaust areas that are traditionally not used, such as garages, bathrooms and kitchens.

SEPARATE AIRFLOWS FOR ULTIMATE SAFETY AND ODOR CONTROL

The supply and exhaust air streams are placed in two completely separated parts. This is the perfect long-term solution to eliminate every risk of cross contamination between airflows. The units can even be placed in separate parts of the building or on separate floors. Econet[®] Premium will still be able to provide full energy recovery.







INCREASING HOSPITAL AIR HYGIENE - TOGETHER WE CAN HELP SAVE LIVES

WHO's 2014 report on global surveillance of antimicrobial resistance reveals that antibiotic resistance is no longer a prediction for the future; it is happening right now, across the world, and is putting at risk the ability to treat common infections in the community and hospitals. Airborne infections are considered particularly difficult to protect ourselves against, and large numbers of people die each year of infections contracted in hospitals. At SEMCO we cannot specify the hygiene requirements but we can play our part by ensuring an indoor air climate where the risk for cross contamination between areas is reduced or completely avoided.

ECONET® PREMIUM DELIVERS EFFICIENCY AND RELIABILITY IN ALL CLIMATE CONDITIONS

SEMCO's parent company, FläktGroup, has a Technical Centre in Jönköping, Sweden which is one of the most complete ventilation laboratories in the world, able to perform simulations and testing in full-scale environments. The Econet[®] units are tested exhaustively during the development process on a specially-developed test rig, where their technical properties and performance are measured to a high degree of accuracy. The added experience from over 4000 installations and more than 20 years of continuous development is part of the package.





Optimal energy recovery and advanced frost protection ensure maximum savings all year round

The Econet[®] Premium is equipped with the most efficient frost protection available on the market. The function is designed to optimize the energy recovery for all conditions by monitoring the real-time situation in the supply and exhaust air. The impact of this will be optimized energy saving (even in extremely cold weather), no running stops, and a stable supply air flow and temperature. A patent pending unique feature. Econet[®] delivers up to 80% energy recovery efficiency in both summer and winter operation



WITH ITS CLEVER VERSATILITY ECONET PREMIUM CONNECTS WITH JUST ABOUT ANYTHING

With Econet[®] Premium installed you have a powerful and versatile tool to achieve savings in your hand. The efficient energy recovery system can recover up to 80% of the energy. When recovery isn't enough to achieve the appropriate amount of heating or cooling, intelligent control and a versatile connectivity opens up possibilities to utilize all kind of energy sources – but especially cheap sources – for the required additional energy.





Flexibility and small space requirements make room for large savings

In new buildings there is an economical incentive to maximize usable or leasable space. In older buildings, available areas for ventilation equipment are often limited. They are designed for simple systems, far from the space requirements of today's energy savings and air comfort solutions. Conventional rotor or plate heat exchangers need to place supply and exhaust air streams on top of each other. Econet[®] Premium in comparison offers flexibility and space savings as supply and exhaust can be placed independently, even in separate parts of the building!

The advantages of a split unit installation

» INCREASED LEASABLE SPACE

When updating ventilation systems in existing buildings, new demands for energy recovery and air comfort require larger Air Handling Units (AHUS). Sometimes it's necessary to take parts of adjacent leasable space in claim to be able to fit the equipment. Here AHUS with split supply and exhaust units placed side-by-side or in a row can be easier to fit.

» INCREASED RECOVERY RATE

With split units for supply and exhaust air no leakage takes place. As a result exhaust air from, for instance, bathrooms, kitchens and garages can be used for heat recovery. With fully split units no risk for odor or pollution cross-contamination between airflows needs to be taken into account.

You can always count on Econet[®] – especially when it comes to savings

SEMCO has a broad approach to savings. Our prime target is to provide the best choice with everything taken into account and in the long run - the Life Cycle Cost. But for Econet[®], savings are apparent and obvious even at a glance; compared to traditional Run Around Coils (RAC) it uses a little more electricity for drive purposes but saves on both cooling and heating. The total energy consumption is in a class of its own.



Econet recovers energy with up to 80% efficiency

An example of savings in energy costs:

	Temperature efficiency (η)	Electricity		Heating	
		MWh	\$/year	MWh	\$/year
ECONET	68%	89	\$17,434	59	\$9,247
Traditional RAC	57%	98	\$19,198	120	\$18,807
SAVINGS	9%	9	\$1,764	61	\$9,560

Location: Boston, running hours 8760 h, air flow 10 cfm, electricity 0.19 \$/kWh, heating 0.16 \$/kWh.

An efficient solution with clear and simple benefits



END USER/BUILDING OWNER

- Energy efficient solution for low operating costs
- Reduced investment cost on Cooling and Heating Systems
- Well proven and safe solution
- Good indoor air quality
- No risk of odor or bacteria transfer
- No running stops even in extremely cold climates



CONSULTANT

- No cross-contamination between air streams
- Low operating cost thanks to superior efficiency
- Reliable operation even in extreme conditions
- Possibility to use process/waste heat, district cooling and heating
- Self-optimizing unit (perfect for VAV Systems)
- Possibility to recover heat from all parts of the building (including parking garages and kitchen areas)
- High reliability



CONTRACTOR

- Reduced labor on site (pre-fabricated pump unit with sensors and required controls)
- Less equipment to purchase – only one pump/shunt circuit
- Space saving and easy installation (reduced length, footprint & weight of AHU)
- Reduced capital cost when considering the whole HVAC system



THE UNIQUE ADVANTAGES OF SEMCO TRUE 3Å TECHNOLOGY

Nothing is more efficient than a Enthalpy Recovery Wheels for energy recovery; however, there circumstances where an Enthalpy Recovery Wheel is not applicable and a hydronic recovery pump package like Econet is the correct application.

- When a SEMCO True 3Å wheel is not specified
- When ductwork is not co-located
- Supply and exhaust airflows have a significant imbalance
- Retrofit applications, where air handling units are prohibitive, due to space
- In place of run around coil applications

True 3Å Standard Product Features

- Industry's highest recovery performance (AHRI Certified) and Recovery Efficiency Ratios
 (RER)
- 270 mm deep transfer media
- True 3 angstrom performance Independent testing to document the limitation of contaminant carry-over to less than .045%
- Anti-corrosion, anti-microbial and anti-stick face coatings standard
- Structural steel tubing support casing to limit deflection (> size TE-09)
- Extruded aluminum structural hub, spokes and rim system
- Comprehensive variable speed wheel DDC controls and sensors including Health and Safety Monitor

When a True 3Å Wheel doesn't fit, use Econet to maximize savings.





No-to-Ar ERV NVIII Standard 1080 Inco Record (2000-001)

Use of the AHRI Certified™ mark indicates a manufacturer's participation in the certification program. For verification of certification for individual products, go to www.ahrinet.org.



WE BRING **AIR** TO LIFE

SEMCO[®] is a global leader in air management. We specialize in the design and manufacture of a wide range of air climate and air movement solutions. Our collective experience is unrivaled.

Our constant aim is to provide systems that precisely deliver the best indoor air quality and performance, as well as maximize energy efficiency.

SEMCO[®] A FläktGroup Brand Corporate Headquarters 1800 East Pointe Drive Columbia, Missouri 65201 USA 573 443 1481 sales.semco@flaktgroup.com

WWW.SEMCOHVAC.COM | ECONET PREMIUM | 20170818



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