

solutions



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NetZeroWeek™
17th - 23rd July 2021



coolnomix

reducing carbon emissions locally and globally

Coolnomix

Stay cool, save money and reduce your business' carbon emissions

We can deliver up to 40% electricity savings without getting hot

We help businesses to make big energy and carbon savings without changing cooling needs so that your building users are kept comfortable, equipment stays cool and your produce remains chilled.

COOLNOMIX is British designed technology that is maintenance free and can be easily installed by our qualified engineers with no disruption to your operation. You can expect up to 40% energy saving on your air-conditioning and up to 30% on your refrigeration without your cooling output being affected.

Reduce the energy consumption of your air-conditioning and refrigeration without affecting the output you need



COOLNOMIX

**TUTUM
ENERGY**

Applications

Air-Conditioning



- Commercial split type air-conditioners e.g. wall-mounted and cassette based
- Package based and double expansion DX units up to the largest sizes
- Ducted air-conditioners with AHUs
- Inverter based VRV and VRF air-conditioners

Refrigeration



- Industrial refrigerators used in the manufacturing sector e.g. food processing and pharmaceuticals
- Walk-in refrigerators used in the food and beverage sector
- Retail sector refrigerators e.g. vegetable and dairy display units, cold drink cabinets, wine warehousing refrigeration

Cooling



- Data Centres
- Comms Rooms
- Server Rooms

World beating energy and carbon savings

Technical

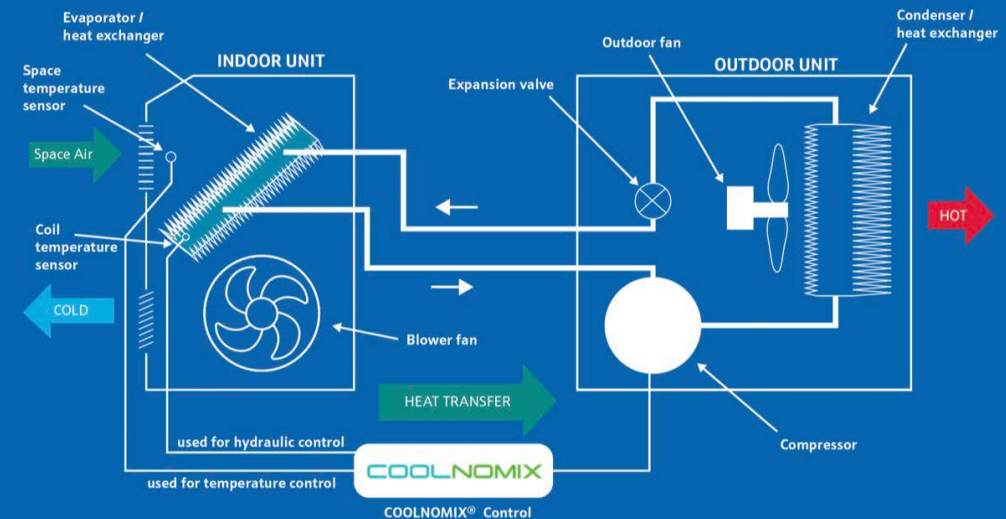
In most air-conditioning applications, a lot of energy is wasted because the unit's compressor (the main running cost component) runs much longer than is needed. Using our patented process called Optimized Refrigerant Supply® (ORS®) the advanced COOLNOMIX® control device reduces the run-time of the cooling system compressor, therefore, reducing electricity consumption even in the most demanding high and humid environments.

The COOLNOMIX® ORS® technology uses two temperature sensors in an algorithmic energy trading control arrangement to monitor the thermodynamic (room or space temperature) and the hydraulic (refrigerant supply) performance of the connected air-conditioning or refrigeration system.

In operation, this algorithmic energy trading approach first uses the room or space temperature sensor to ensure that a required setpoint has been achieved. Subsequently, this temperature sensor ensures that the space is maintained within $\pm 0.5^{\circ}\text{C}$ ($\pm 0.9^{\circ}\text{F}$) of the required setpoint. Meanwhile, a second temperature sensor connected to the indoor evaporator coil is used to identify when the compressor has done its useful hydraulic work in producing a supply of high-pressure liquid refrigerant. Using the built-in algorithmic energy trading control, the COOLNOMIX® ORS® advanced system then starts and stops the compressor at appropriate times to optimise running costs.

In operation COOLNOMIX delivers

- Does not affect the air-conditioning unit as it is installed inline with the thermostat and provides more accurate temperature control.
- Responds dynamically to any change in heat load optimisation of the running time of the compressor to minimise energy consumption
- Outstanding energy savings, even on the largest and most modern inverter-based cooling technologies
- A rapid return on investment, paybacks are typically within 12 months
- Reduced carbon emissions



Internet of Things (IoT)

Emissis provides customers with an IoT user-interface that can be accessed via an Android smart phone app or over the internet. Users can access power consumption and savings data (kWh/CO2e). The interactive graphs show Coolnomix data from the installation date to granular data i.e. performance today.

Testimonials

"I am very happy with the substantial energy savings that your system has provided on our air conditioning and I am keen to keep working with you on installing more units."

Tariq, Director, SUBWAY

"I didn't realise how inefficient our airconditioning units were until we saw the data you provided for the Coolnomix trial. It was also good to see the energy savings you achieved in our cold rooms."

Paul, Facilities Manager, Food Company

"The energy savings you suggested before the refrigeration trial and the actual bigger savings during the trial have given me and the team confidence to start planning more work with you using your Coolnomix. Thank you"

Simon, Energy & Sustainability Manager, Food Retailer

"I am very impressed with the Coolnomix device, in particular with its proven performance to deliver energy and cost savings continuously for our clients. Coolnomix has surpassed my expectations and we are actively endorsing it to our entire client base."

Alex, Global Energy Manager, Sodexo

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