



# ENERGIZE HVAC *Systems*

We energize the future

Manufacturing and installation on a turnkey basis

[www.energize.rs](http://www.energize.rs)

We energize the future

# About ENERGIZE

ENERGIZE is a company that is a pioneer and leader in the field of building turnkey solar photovoltaic power plants in Serbia.

Since our founding in 2012, we have achieved:

- **90+ MWp** of installed photovoltaic power plants
- **40+ MWh** of storage solutions
- **250,000+** photovoltaic modules
- **1,500+** inverter units
- **60,000+** battery blocks
- **500,000+** low-voltage equipment units
- **300+** production process protection systems
- **200+** solar LED lighting locations
- **150+** functional facilities

We treat every investment as our own, evaluating each project using the Total Cost of Ownership (TCO) principle as a mandatory part of the assessment, with an operational horizon of 30+ years.

We provide our clients with the highest quality equipment and services, specialized engineering expertise, and the best warranty coverage available on the market.



# Contents

HVAC *Systems* are integrated solutions designed to regulate indoor temperature, air quality, and ventilation within a building. Their primary function is to ensure comfortable and healthy indoor conditions throughout the entire year, regardless of external weather conditions.

Modern HVAC Systems provide precise control over temperature, humidity levels, and airflow, creating a balanced indoor environment that enhances comfort, productivity, and overall well-being. By continuously circulating and filtering air, these systems also help improve air quality and maintain optimal living and working conditions. In addition to improving comfort, HVAC systems play a crucial role in energy efficiency and sustainable building management. Advanced technologies and smart energy control enable reliable performance while reducing energy consumption, making HVAC solutions essential for residential, commercial, and industrial facilities.

## HVAC Systems

What HVAC System enables	Mission-Critical & Process Cooling
What high-quality HVAC System brings	Mission-Critical & Process Cooling
Our HVAC Product Range	Water-Side Distribution & Controls
Thermal Production	Water-Side Distribution & Controls
Air Handling & Distribution	Delivered & Integrated By Energize

## Modern HVAC Systems enable:

- **Efficient temperature control** – Heating in winter and cooling in summer
- **Space ventilation** – Continuous supply of fresh air and removal of pollutants
- **Humidity management** – Maintaining comfort and protecting materials
- **Energy efficiency** – Lower energy costs and reduced environmental impact
- **Air filtration and purification** – Improving indoor air quality by removing dust, allergens, and harmful particles
- **Smart system control** – Automated operation and remote monitoring for optimized performance
- **Zoned climate control** – Independent temperature regulation in different areas of a building
- **Operational reliability** – Stable and consistent performance in residential, commercial, and industrial environments



## Installing a high-quality HVAC System brings numerous benefits, such as:

- **Improved indoor air quality** – Effective filtration and circulation of clean, fresh air
- **Consistent Thermal comfort** – Stable temperature throughout the space in every season
- **Energy efficiency** – Optimized performance that reduces overall energy consumption
- **Lower operating costs** – Smarter energy use leading to long-term savings
- **Enhanced equipment longevity** – Reliable operation and reduced wear of system components
- **Healthier indoor environment** – Balanced humidity levels and removal of airborne pollutants



# Our HVAC Product Range

As a turnkey EPC integrator, Energize supplies, installs and maintains the full spectrum of HVAC Equipment - Thirteen product families across four domains, engineered and delivered as one system.

## Thermal Production

### **CHW** *Chillers*

Air- and water - cooled chilled water production for comfort and process

### **HPW** *Heat Pumps*

Air/water and water/water reversible heat pumps, high temperature capable

### **HGN** *Heat Generation*

Condensing, electric and hybrid heat sources for peak and backup duty

### **HRJ** *Heat Rejection*

Dry coolers, cooling towers and condensers for every heat rejection loop

## Air Handling & Ventilation

### **AHU** *Air Handling Units*

Modular double-skin ahus with high-efficiency heat recovery and filtration

### **TRM** *Terminal Units*

Room-level distribution: Fan coils, chilled beams, vav and radiant

### **VNT** *Ventilation*

Heat-recovery ventilation, fans and life-safety smoke extraction

### **IAQ** *Humidity & Air Quality*

Humidification, dehumidification and active air cleaning

## Mission-Critical Cooling

### **DCX** *Data-Center Cooling*

Precision cooling for data, telecom and mission-critical rooms

### **REF** *Refrigeration*

Commercial and industrial process refrigeration and cold rooms

### **BTM** *BESS Thermal Management*

Battery thermal management engineered with our storage business

## Water-Side & Intelligence

### **HYD** *Hydronics*

Water-side distribution, pumping and pre-assembled plant-room skids

### **BMS** *Controls / BMS*

Open-protocol controls, supervision and variable-speed drives

Product families are shown as indicative energize configurations. ratings are typical maxima of the type-tested market range; final selection, capacities and equipment brand are engineered to each project's requirements.

# Thermal Production

Chilled-Water Production, Heating And Heat Rejection — The Thermal Core Of Every System

## CHW Chillers

Air- and water - cooled chilled water production for comfort and process

- **Cooling:** 30 – 2,000 KW (Modular > 5 MW)
- **Types:** Scroll · Screw · Oil-free centrifugal
- **Refrigerant:** R-32 / R-290 / R-1234ze
- **ESEER** Up To 8.5 · Free-cooling option

## HPW Heat Pumps

Air/water and water/water reversible heat pumps, high-temperature capable

- **Heating:** 6 – 1,500 KW (Cascade)
- **Flow Temp:** Up To 78 °C · Reversible
- **SCOP** Up To 5.0 · R-290 / R-32
- **Standards:** EN 14511 · Keymark

## HGN Heat Generation

Condensing, electric and hybrid heat sources for peak and backup duty

- **Output:** 24 – 2,000 KW (Cascade)
- **Types:** Condensing Gas · electric · biomass ready
- **Efficiency** > 105% NCV · Low-NOx
- **Hybrid** With Heat Pumps & Solar-Therma

## HRJ Heat Rejection

Dry coolers, cooling towers and condensers for every heat-rejection loop

- **Capacity:** 50 – 5,000 KW
- **Types:** Dry / Adiabatic · Towers Condensers
- **EC Fans** · Adiabatic Pre-Cooling
- **Sound-Attenuated** · Low Water Use



CHW · Air-Cooled Chiller

**Industry & Process, Commercial & Retail, Hospitals, District Energy, Data & Logistics**

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# Air Handling & Distribution

Fresh air, treatment and room-level comfort - from central ahus to terminal units.

## AHU Air Handling Units

Modular double-skin ahus with high efficiency heat recovery and filtration

- **Airflow:** 500 – 100,000 M3 /H
- **Recovery:** Plate / Rotary Up To 90%
- **Filtration:** ISO 16890 EPM1 To HEPA H14
- **Casing:** Double-Skin · EN 1886

## TRM Terminal Units

Room-level distribution: fan coils, chilled beams, vav and Radiant

- **Types:** Fan coils · Beams · VAV/CAV · Radiant
- **Capacity:** 1 – 30 KW / Unit
- **EC Motors** · Low SFP
- **Zone-level** comfort control

## VNT Ventilation

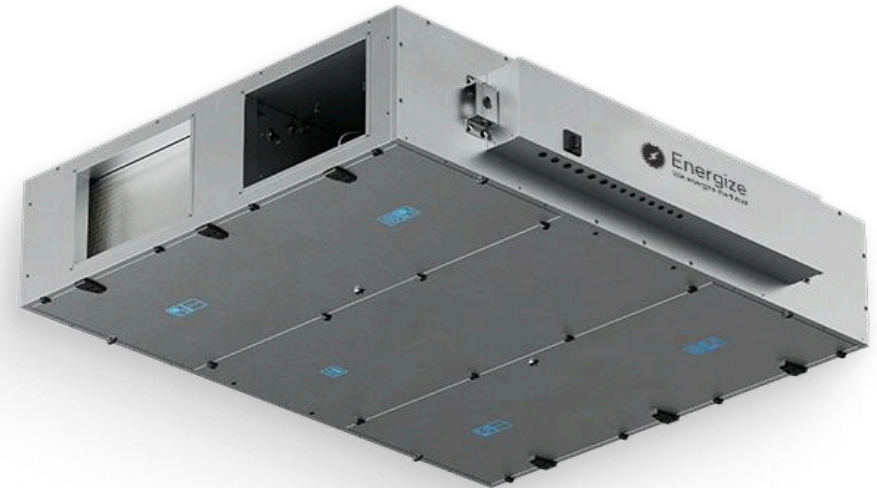
Heat-recovery ventilation, fans and life-safety smoke extraction

- **Types:** HRV / ERV · Axial · Centrifugal
- **Recovery** Up To 90%
- **Smoke & Car-Park** Extraction
- **EN 16798** · Life-Safety Rated

## IAQ Humidity & Air Quality

Humidification, dehumidification and active air cleaning

- **Humidify:** Adiabatic / Steam
- **Clean:** UV-C · Filtration · Ionization
- **RH Control** ±5%
- **EN 16798-1** · ISO 16890



AHU · Modular Air Handling Unit

*Cleanrooms, Hospitals & Labs, Offices & Hotels, F&B & Pharma, Car Parks*

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# Mission-Critical & Process Cooling

Continuous, redundant cooling where downtime is not an option - and a native bridge to our BESS business

## **DCX** *Data-Center Cooling*

Precision cooling for data, telecom and mission critical rooms

- **Capacity:** 20 – 500 KW / Unit
- **Types:** CRAC/CRAH · In-Row · Rear-Door
- **Redundancy:** N+1 / 2N · Free-Cooling
- **ASHRAE TC9.9** · PUE-Optimize

## **REF** *Refrigeration*

Commercial and industrial process refrigeration and cold rooms

- **Range:** -40 To +10 °C
- **Types:** CO2 · Transcritical · Glycol · Cold Rooms
- **Process Chillers** · Blast · Heat Recovery
- **F-Gas** Compliant

## **BTM** *BESS Thermal Management*

Battery thermal management engineered with our storage business

- **Ambient:** -20 To +55 °C
- **Types:** Liquid & Air-Cooled · CDU Skids
- **Cell-To-Cell** Spread Under 5 °C
- **Container-Integrated** · Grid & C&I

## *Engineered With Energize Storage & Solar*

BTM battery thermal management is delivered together with our BESS and solar epc scope - one integrator for generation, storage and cooling, sized for peak-shaving and 25-year total cost of ownership

*Data Centers, Telecom & Edge, Cold Chain & Logistics, Food & Beverage, Pharma & Life Sciences, Grid & C&I Storage, EV Charging Hubs, Process Industry*

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# Water-Side Distribution & Controls

The plumbing and the intelligence that turn equipment into one optimized, monitored system.

## HYD Hydronics

- **Pumping:** Variable-Speed · ΔP Control
- **Buffer Tanks** · Separators · Manifolds
- **Pressurization** · Glycol · Insulation
- **Pre-Assembled** Plant-Room Skids

### TYPICAL SCOPE

*Plant-Room Skids, Primary / Secondary Loops, Pressurization Sets, Glycol & Treatment*

## BMS Controls / BMS

- **Controllers:** DDC · BMS Head-End / SCADA
- **Protocols:** Bacnet · modbus · knx
- **VSD / VFD Drives** · Metering
- **Remote Monitoring** · Energy Dashboard

### TYPICAL SCOPE

*Whole-Building Optimization, Measurement & Verification, Demand Response, Remote Service*

## ONE INTEGRATED SYSTEM

Generation, distribution and terminals are commissioned under a single controls layer, open protocols, energy dashboards and remote monitoring across the whole building



*BMS · Touch Supervisor & Controls*

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# Delivered & Integrated By Energize

We are not only a supplier of equipment - we are the epc and integration partner that turns it into a working system. from design to commissioning and service, one team carries the project.

## *Engineering & Design*

Load calculation, system design, specification and bill of materials per project

## *Equipment Supply*

The right units from a type-tested, low-GWP and F-gas-ready product range

## *Installation & Commissioning*

Mechanical install, piping, ductwork, start-up and balancing by our own crews

## *Controls & BMS Integration*

One open-protocol controls layer with metering, dashboards and remote monitoring

## *Service & Maintenance*

After-sales presence, spare-parts coordination and maintenance across the region

## *Tender & Funding Support*

Documentation and certification support for eu funded and ifi-financed projects

**13**

product families

**4**

integrated domains

**1**

turnkey epc contract

**25+**

year TCO horizon

**2027**

f-gas & epbd ready

## *HVAC + Solar + BESS - One Integrator*

Peak-Shaving & Load Management · Lower total cost of ownership over 25+ years · A single point of responsibility for generation, storage and climate

# HVAC Systems



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