

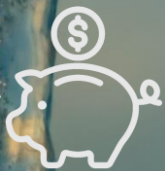
AF-01

For Deep-Freeze Rooms Suitable for below zero long term storage

- For refrigerant based (DX) **Deep Freeze** rooms (modular, combi walk-in type) operating **between -10°C to -25°C** (14°F to -13°F).
- Improved temperature stability adhering to tighter food/medical compliance standards.
- **Cuts** operating **costs** by an average **20%**.
- For **new** and **existing** systems.
- **ROI** generally within **12 months**.
- **Ensuring** companies deliver on **carbon footprint** and **ESG** commitments.



- Ideal for **commercial/industrial deep freezers** where temperature control is a critical requirement for :
 - Pharmaceutical, Medical, Chemical
 - Long shelf life foodstuffs:
 - Meat/Fish/Poultry
 - Vegetables/Bakery/Dairy
- **Local Bluetooth connectivity** available using **CONNECT** mobile Android app (for commissioning, data access, downloading, maintenance, etc.)
- Delivers **remote real-time IoT monitoring** and **management** using **WIFI** and **AWS** through our **GEMS*** dashboard (additional charges apply).



Average energy savings of **20%**



Improved Temperature Stability

Maintenance-Free install & forget



2 Hrs. to install

No upper size limit



Reduced water dripping & prevents icing up



Helping the environment



Certifications



(WO 2014/030083 A2)

What is COOLNOMIX ?

- **COOLNOMIX®** internationally patented technologies for Air Conditioning and Refrigeration systems **reduces energy consumption** and cuts **carbon emissions** by a significant **20%**. These reductions **cut your operating costs, improve margins** and help your company **meet ESG commitments** while reducing the environmental footprint.
- As member of **United Nations Cool Coalition** working group, we are privileged to contribute our insights and suggestions at a global scale level concerning energy-efficient and climate-friendly cooling sustainable solutions for buildings.

The **COOLNOMIX®** advantage is delivered through AI and two temperature sensors. This eliminates high heat load compressor over runs (a shortcoming in single sensor designs).

How does **COOLNOMIX AF-01** work ?

- **COOLNOMIX® retrofit technologies** are easy to fit and installed on the indoor (evaporator) component of any refrigerant based **direct expansion (DX)** freezer unit.
- The energy saving magic is delivered using an AI based energy trading model and **two temperature sensors** which work together to optimise the performance of compressors, which are the main energy consuming components of freezer systems.
- The two **COOLNOMIX®** temperature sensors monitor the room temperature and cold supply air temperatures to decide when the indoor environment needs adjusting. In all cases maintaining required temperatures is the primary objective. Once required temperatures have been achieved **COOLNOMIX®** then works to prevent energy wastage.
- The overall result is **improved temperature control** (typically +/- **0.5°C**) and a **20% reduction** in refrigeration **energy consumption**.
- This 20% deep freeze energy saving can result in an overall **reduction** in energy consumption by **15% or more** (noting that refrigeration can account for 80% of the total energy bill).
- Applicable to industrial freezers of at least: **240 ft²** (square feet) or **22 m²** (square meters).



❄️ AF-01 Standard Configuration ❄️	
Dimensions	7" x 4.4" x 1.5" (17.8cm x 11.2cm x 3.8cm) excluding temperature sensors
Unit Weight	11.7 oz (332 g)
Electrical Supply	110V - 250V AC50/60 auto-switching
Current	1 mA at 220 VAC or 2 mA at 110 VAC.
Operating Environment	0°C to 55°C, (32°F to 131°F) RH to 95%
Storage Environment	-25°C to 85°C, (-13°F to 185°F) RH 15% to 95%
Certifications	Intertek/ETL (UL 60730-2-9, UL 60730-1), CE, RoHS, FCC, MIC
Temperature Sensors	NTC type -50°C to 150°C (-58°F to 302°F)
Relay	Normally CLOSED - fail safe (relay closes on power failure) Voltage: 0 to 250V (AC or DC) Current: 10A continuous/16A peak

COOLNOMIX FAQ :

- **Does COOLNOMIX® have an impact on the manufacturer's warranty ?** No, our preferred **COOLNOMIX®** installation approach ensures that the **manufacturer provided control system remains fully in control** of the start-up, shutdown and speed control of sometimes multiple compressors.
- **What about warranty aspects ?** All **COOLNOMIX®** units are **warranted for 3 years**, and have an expected **lifespan of +10 yrs**.
- **Does COOLNOMIX® impact the life of the freezer unit ?** No, the manufacturer's control system continues to limit the frequency of compressor operations thereby preventing short-cycling. **COOLNOMIX®** additionally has its own in-built anti short-cycling features to protect compressor operations. In practice, the lifetime of a compressor is largely determined by the rate at which corrosion (rust) develops in the outside unit.



Energy Savings Technologies from



Group

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