AetherLux

TERRAVIS ENERGY

Introducing ZeroFrost™ technology.

Relentless heat. Zero interruptions.

The AetherLux Multi-S heat pump. Continuous heating without reverse-cycle defrost.*



* Heating output may vary with outdoor conditions, system configuration, and operating conditions.

AetherLux Multi-S 3-zone multi-split heat pump · 3.0 tons

Patented and patents pending

A revolution in heat pump technology.



0 reverse-cycle defrost interruptions to indoor heating.*

Most heat pumps stop heating to defrost. AetherLux doesn't. Patented ZeroFrost technology prevents frost from forming on the outdoor coil,* so there is no need to reverse into cooling mode. The heat keeps coming, with efficient operation across climates.

–47.5 °C

Internal laboratory test (–53.5°F), with supply air maintained at 30.1°C (86.2°F).**

20.0

SEER2 · HSPF2 10.0 · ENERGY STAR certified.***

* Internal testing: 4 h 1 min at 7°C to –7°C (44.6°F to 19.4°F), 95% RH, with no frost observed on the outdoor coil and no reverse-cycle defrost. Results reflect the unit and conditions tested. Heating output may vary with outdoor conditions, system configuration, and operating conditions.

** Separate internal laboratory result; reflects the unit and conditions tested. Manufacturer-recommended minimum: –35°C (–31°F).

*** ALUX-CC-K36-A connected to two 9K indoor units and one 18K indoor unit. Full specifications on page 14.

THE TROUBLE WITH WINTER

The End of the Defrost Cycle.

Since the first residential heat pumps launched in the 1950s, the entire industry has accepted a fundamental flaw.

7°C to –7°C

44.6°F TO 19.4°F

In the damp 7°C to –7°C (44.6°F to 19.4°F) "death valley," moisture inevitably freezes on outdoor coils.

Every

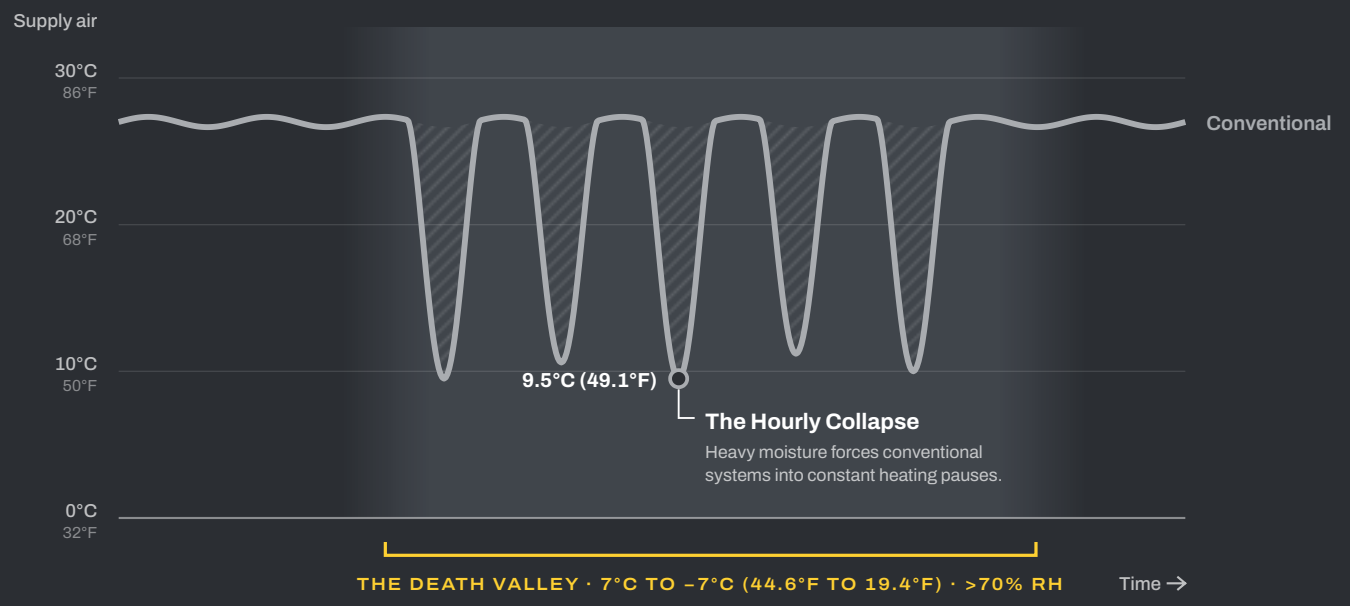
STANDARD HEAT PUMP

Absolutely every standard heat pump in the world is forced into a defrost cycle to melt this ice.

Every hour*

IN HIGH HUMIDITY

In this high-humidity zone, standard systems stop heating your home as often as every hour.



Schematic illustration demonstrating 70 years of conventional system failure in high-humidity, near-freezing conditions (7°C to –7°C / 44.6°F to 19.4°F). This damp thermodynamic zone forces standard units into relentless reverse-cycle defrosts, plummeting indoor supply air to 9.5°C (49.1°F).**

Standard heat pumps surrender to winter. AetherLux dominates it.

* HVAC industry data and operational field tests confirm that in high-humidity, near-freezing conditions (typically between 7°C and –5°C / 44.6°F and 23°F), conventional air-source heat pumps routinely initiate defrost cycles every 30 to 90 minutes.

** Line shapes not to scale. Minimum value shown (9.5°C / 49.1°F) measured at 0°C (32°F) outdoors, RH 95%, with ZeroFrost disabled (conventional reverse-cycle defrost); see page 13.

ADDITIONAL BENEFIT

Avoid the problems of defrost meltwater.

Conventional air-to-air heat pumps periodically melt frost from their outdoor coils. In freezing conditions, the resulting water can cause:



Ice accumulation inside the unit, potentially restricting airflow or damaging components.

Additional electricity use for freeze protection: conventional heat pumps use electric heaters to prevent freezing in the meltwater pan or drain. These can operate for extended periods in cold weather, adding to your electrical bill.



Ice buildup beneath the unit as water from repeated defrost cycles refreezes.

Additional drainage and maintenance requirements, potentially including collection trays and heated drains.



Slippery surfaces as runoff freezes on paths, steps and driveways.

Puddles, splashing and persistent wet areas around the installation.



Frozen drains and blocked outlets that prevent meltwater from escaping.

Icicles and dripping water beneath elevated or wall-mounted units.

AETHERLUX WITH ZEROFROST™

Our heat pump operates without defrost cycles, eliminating defrost-generated meltwater and its associated drainage and refreezing problems.

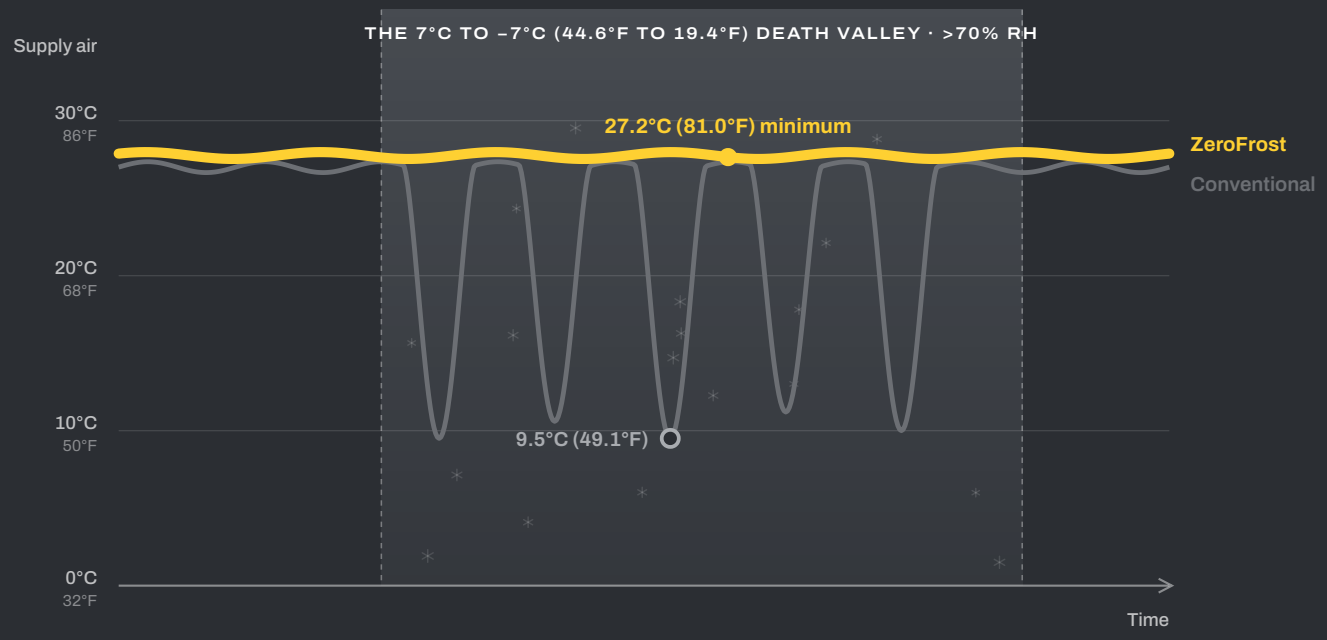


PATENTED AND PATENTS PENDING

ZeroFrost™ Heating, uninterrupted.

AetherLux ends 70 years of compromise. Patented ZeroFrost technology prevents frost from forming on the outdoor coil entirely,* completely eliminating the need to reverse into cooling mode. While others pause to melt ice every hour, AetherLux acts as a complete, 100% furnace replacement that powers through the wettest, frost-heavy conditions without a secondary hybrid backup system.

SUPPLY-AIR TEMPERATURE OVER TIME · ZEROFROST VS. CONVENTIONAL



No reverse-cycle defrost. No pause in heating.**

* Internal testing: 4 h 1 min at 7°C to −7°C (44.6°F to 19.4°F), 95% RH, with no frost observed on the outdoor coil. Results reflect the unit and conditions tested.

** Heating capacity and supply-air temperature vary with outdoor temperature, humidity, installation, system configuration, and operating conditions. Heating can stop due to thermostat demand, protection controls, faults, loss of power, or operation outside specified limits.

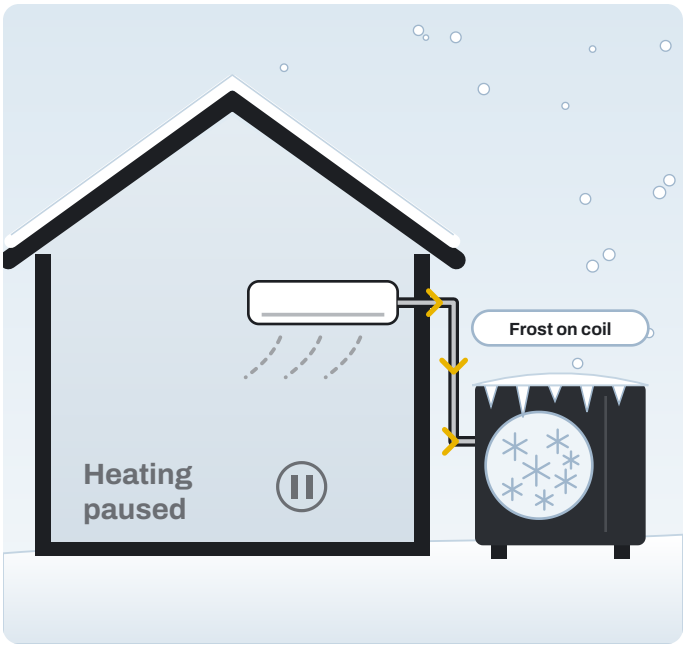
Schematic illustration; line shapes not to scale. Minimum supply-air values shown measured at 0°C (32°F) outdoors, RH 95%, same heat pump system with ZeroFrost enabled (27.2°C / 81.0°F) and disabled (9.5°C / 49.1°F); see page 13.

HOW ZEROFROST WORKS

Same frost. Different winter.

Frost strikes every outdoor coil. AetherLux enforces uninterrupted heating and completely eradicates the winter pause.

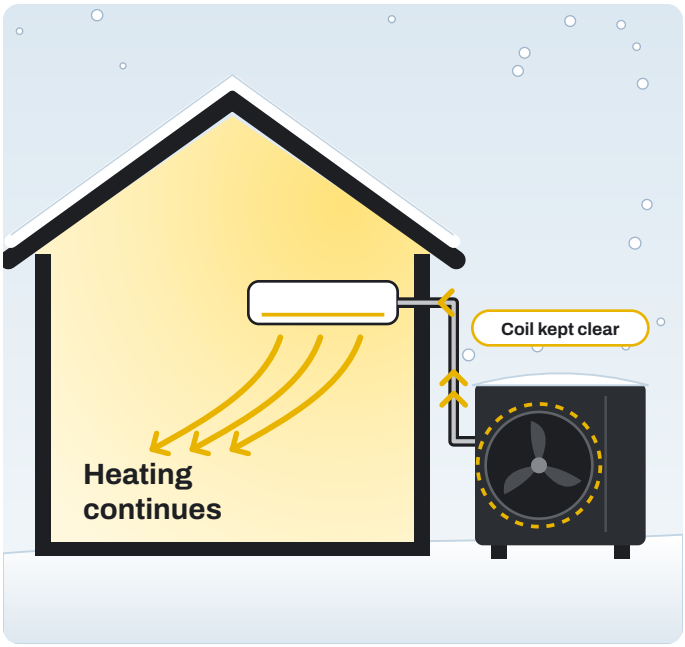
CONVENTIONAL REVERSE-CYCLE SYSTEM



1 **Frost builds outdoors**
The room heats as frost builds on the outdoor coil.

2 **Reverse-cycle defrost**
Indoor heating pauses as heat is redirected to the outdoor coil.

AETHERLUX WITH ZEROFROST



1 **Frost is managed**
Indoor heat flows while ZeroFrost manages frost.

2 **Continuous indoor heating**
Heat keeps flowing indoors without reverse-cycle defrost.*

* Illustrative comparison; schematic diagrams. Heating output may vary with outdoor conditions, system configuration, and operating conditions.

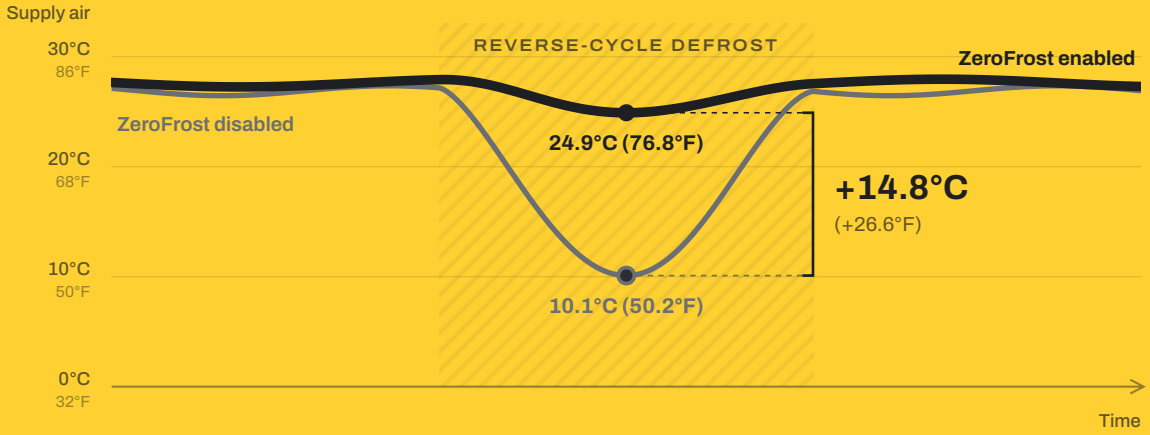
ZEROFROST TEST RESULTS · –20°C (–4°F) OUTDOORS

+14.8°C

warmer minimum supply air with ZeroFrost.* That's +26.6°F.

Same system, tested twice at –20°C (–4°F). During a conventional reverse-cycle defrost, supply air dropped to **10.1°C (50.2°F)**. With ZeroFrost, the lowest it reached was **24.9°C (76.8°F)**.

SUPPLY-AIR TEMPERATURE THROUGH ONE DEFROST EVENT



INTERNAL LABORATORY TESTING

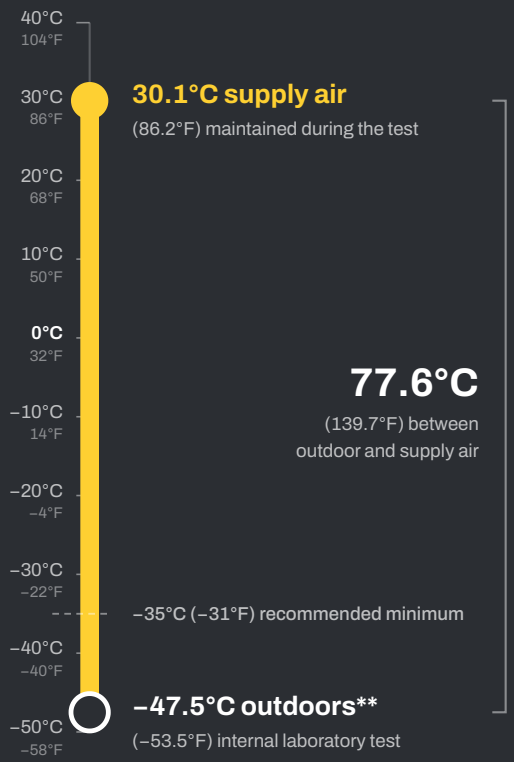
Tested at

–47.5°C

(–53.5°F) outdoors.**

Supply air maintained at 30.1°C (86.2°F).

A low-temperature rating tells you a heat pump can run in the cold. It doesn't tell you it keeps heating. AetherLux with ZeroFrost was tested below –35°C (–31°F) without reverse-cycle defrost.



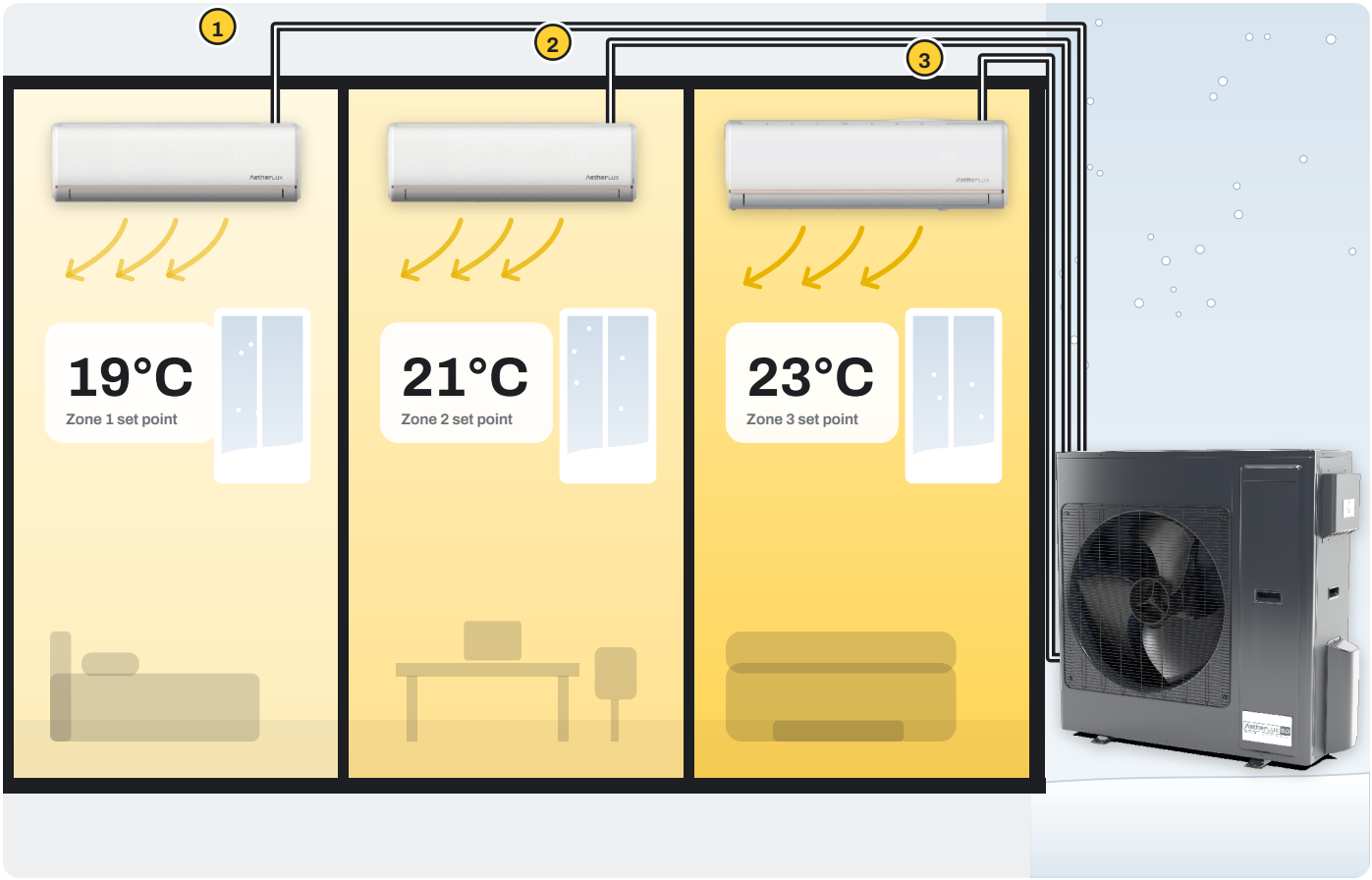
* Minimum supply-air temperature at –20°C (–4°F) outdoors: 24.9°C (76.8°F) with ZeroFrost enabled; 10.1°C (50.2°F) with ZeroFrost disabled. Conditions: indoor 21.1°C (70°F) DB / 15.6°C (60°F) WB; outdoor RH 68%. Same system tested with ZeroFrost enabled and disabled. Figures are not rated capacity. Line shapes are schematic. Full results on page 13.

** Separate internal laboratory result; reflects the unit and conditions tested. The manufacturer-recommended minimum remains –35°C (–31°F) and the standard operating range (–35 to 24°C / –31 to 75.2°F) is unchanged. 77.6°C (139.7°F) is the difference between the outdoor and supply-air temperatures recorded in this test.

THE AETHERLUX MULTI-S SYSTEM

One outdoor unit. Up to three zones.

The AetherLux heat pump with ZeroFrost technology is designed from the ground up to be a superior-performing heat pump on the market, delivering innovative technology and efficient operation across climates.



Zone 1 · Bedroom
ALUX-IU-K1-A · 9K

Zone 2 · Home office
ALUX-IU-K1-A · 9K

Zone 3 · Living area
ALUX-IU-K2-A · 18K

Outdoor unit
ALUX-CC-K36-A · 3.0 tons

Certifications c-ETL-us, AHRI, NEEP, DOE, NRCan and ENERGY STAR

Intertek

Example set points. Each indoor unit is set independently. Room layout and line routing vary by installation. Total connected indoor capacity must not exceed the outdoor unit's rated capacity.



3D AIRFLOW · IDEAL HOME COMFORT FOR LARGER SPACES

Seven speeds. Or any speed in between.

Stronger airflow and a cooler breeze.

Choose from seven preset fan speeds or fine-tune airflow from 1% to 100%. From a gentle breeze to powerful airflow, adjust the setting to your comfort.

7
Preset fan speeds

1–100%
Stepless speed

0.5W
Standby power

INDOOR COMFORT

Comfort, measured.

60s

Fast cooling and heating

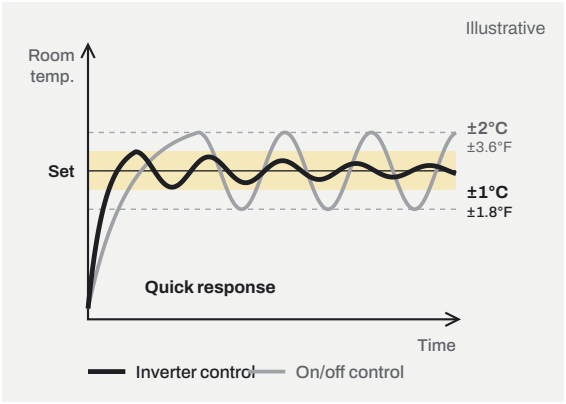
Feel cooled or heated air in just 60 seconds. Wide-angle airflow distributes comfort throughout your space.



±1°C (±1.8°F)

Inverter technology

Inverter technology and an integrated control system adjust the temperature smoothly and maintain precise control within ±1°C (±1.8°F).



18dB*

Quiet comfort

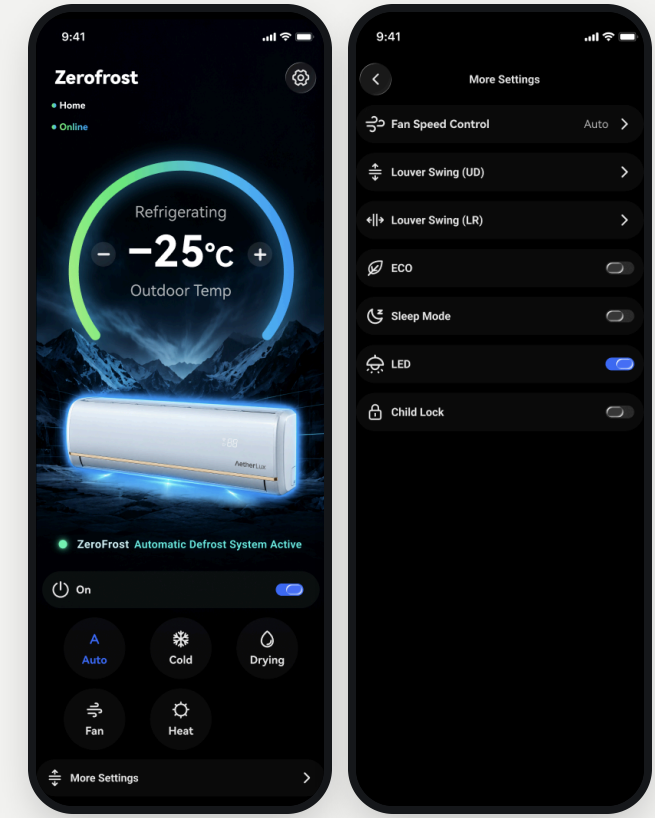
With noise levels as low as 18 dB, the unit delivers whisper-quiet operation for a peaceful, comfortable indoor environment.



* Lowest indoor-unit sound level. Measured under conditions different from the indoor noise levels listed in the specifications on page 15.

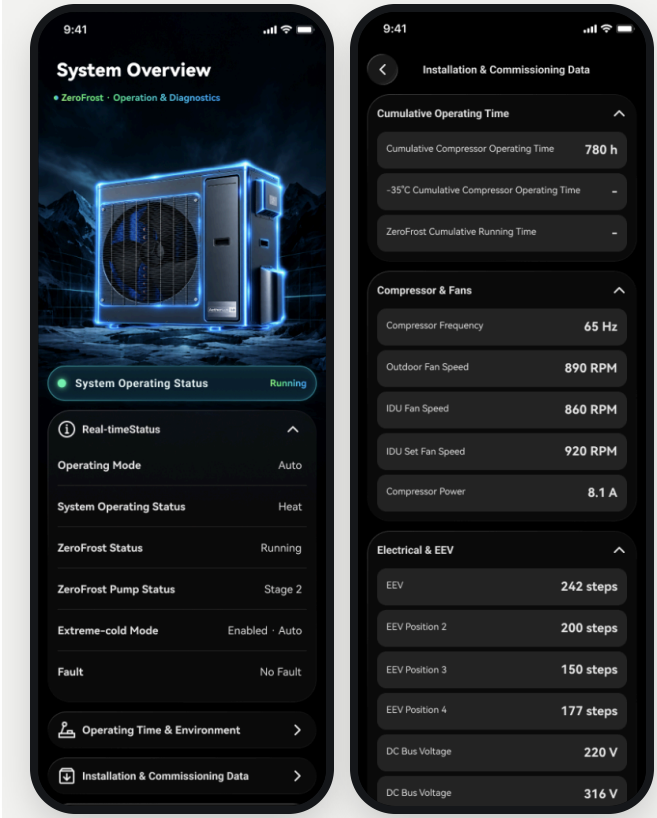
SMART CONTROL

Control from anywhere.



Smart app control

Control your system remotely from your smartphone. Adjust temperatures, fan speeds, and operating modes for convenient, personalized comfort.



Smart system monitoring

Connected monitoring alerts our service team to detected system faults, helping technicians diagnose issues and plan maintenance more efficiently. The app sends push notifications when a fault occurs.

11

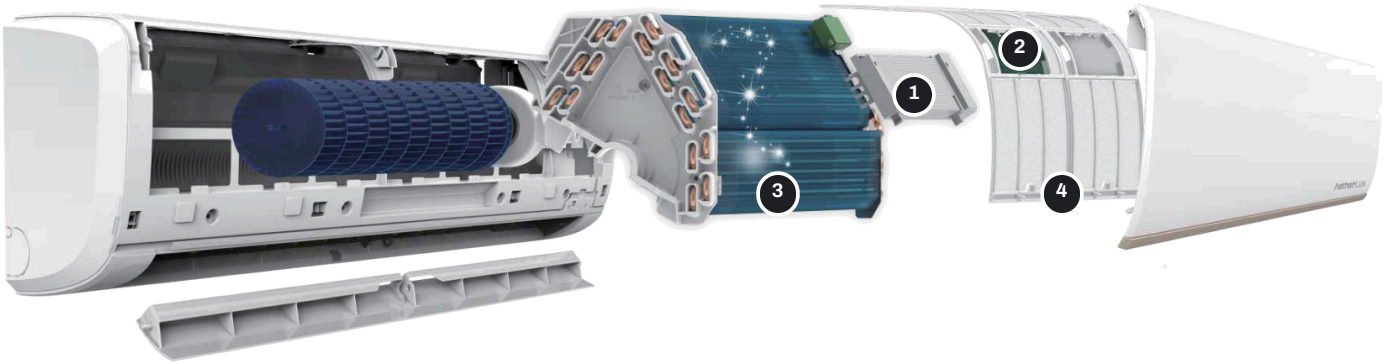
protection features

01	Freeze protection
02	High-temperature protection
03	High discharge temperature protection
04	Overload protection
05	Compressor module temperature protection
06	Compressor RMS phase current protection
07	DC fan protection
08	Abnormal DC bus voltage protection
09	Overall unit RMS current protection
10	PFC protection
11	ZeroFrost circuit failure alarm

Actual AetherLux app screens. Features and displayed values vary with system configuration and app version.

INDOOR UNIT · HOME COMFORT FOR SMALL TO MEDIUM-SIZED SPACES

Clean air, by design.



1 IFD module (optional)

The Intense Field Dielectric (IFD) module efficiently removes fine dust particles from the air. The dust collector can be easily removed, washed and reused.

2 Alternative filters

Photocatalytic filters / Catechin filters / Activated carbon filters / Silver ion filters / HCHO purification filters / Multifunctional filters

3 Optional cold plasma technology

The cold plasma generator produces positive and negative ions designed to help reduce airborne bacteria and odors.

How it works

The generator ionizes moisture in the air. The resulting ions interact with airborne contaminants, helping reduce bacteria and odor-causing compounds.

4 Certified high-density mildew-resistant filter

Certified by Canton Microbiology Detection Center for resistance to mold and fungal growth on the filter surface.



Self-cleaning

At the touch of a button, the system runs an automatic freezing, defrosting, and drying cycle to clean the indoor coil and remove residual moisture, helping keep the unit clean and support efficient operation.



Filter cleaning reminder

“CL” appears on the control panel when it is time to clean the filter.

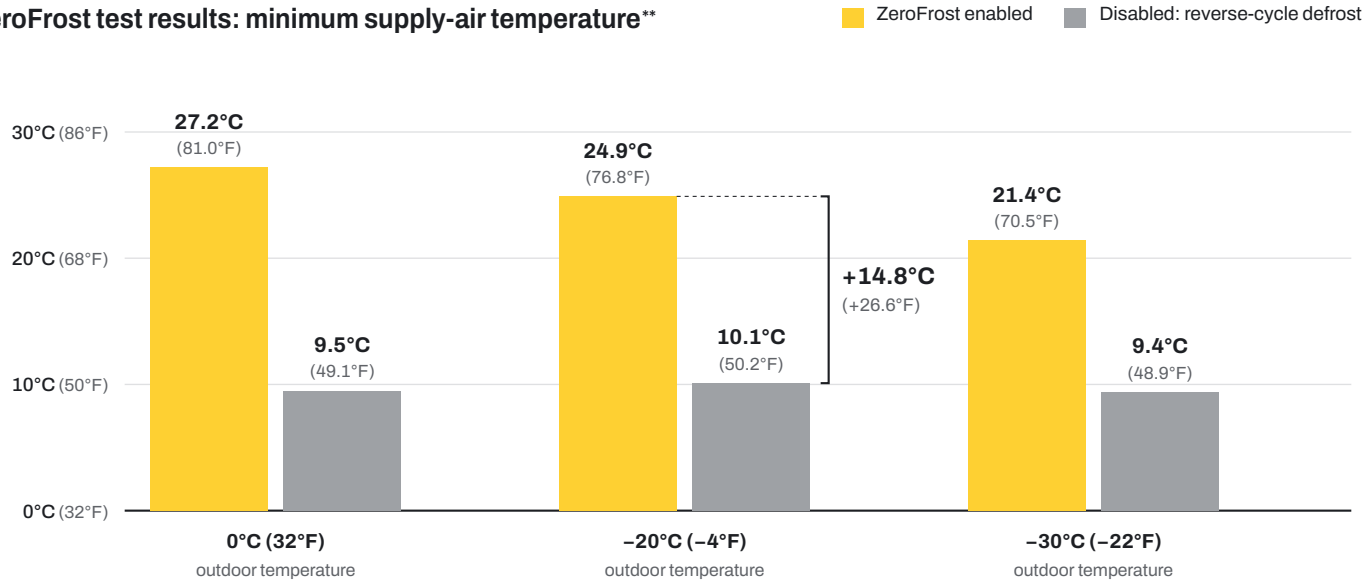
FOR INSTALLERS AND DISTRIBUTORS

The details.

CAPACITY	HEATING RANGE	COOLING RANGE	REFRIGERANT
3.0 tons	**–35 to 24°C**	**5 to 52°C**	**R32**
supports up to 3 zones	–31 to 75.2°F*	41 to 125.6°F	DC inverter rotary compressor

SEER2 / EER2	HSPF2 / COP	OUTDOOR UNIT	INDOOR UNITS
20.0 / 10.3	**10.0 / 3.3**	**ALUX-CC-K36-A**	**K1-A · K2-A**
cooling	heating	58 dB(A)	9K and 18K

ZeroFrost test results: minimum supply-air temperature**



ZeroFrost heating output during frost management**

OUTDOOR TEMPERATURE	HEAT OUTPUT (KW)	HEAT OUTPUT (BTU/H)	MINIMUM SUPPLY AIR
0°C (32°F)	1.818	6,203	**27.2°C** (81.0°F)
–20°C (–4°F)	1.233	4,207	**24.9°C** (76.8°F)
–30°C (–22°F)	1.197	4,084	**21.4°C** (70.5°F)
–35°C (–31°F)	0.987	3,368	**21.2°C** (70.2°F)

* Standard operating range. Separate internal lab operation: –47.5°C (–53.5°F). This does not change the standard operating range. U.S. Patent No. 12,624,872 B2; other patents pending.

Heating capacity and supply-air temperature vary with outdoor temperature, humidity, installation, system configuration, and operating conditions. Heating can stop due to thermostat demand, protection controls, faults, loss of power, or operation outside specified limits.

** Same heat pump system with ZeroFrost enabled and disabled. Conditions: indoor 21.1°C (70°F) DB / 15.6°C (60°F) WB; outdoor RH 95% at 0°C (32°F), 68% at –20°C (–4°F), –30°C (–22°F) and –35°C (–31°F). Figures are not rated capacity.

SPECIFICATIONS

System and outdoor unit.

COOLING PERFORMANCE	UNIT	ALUX-CC-K36-A
Outdoor unit type	–	3-zone multi-split heat pump
Rated cooling capacity	kW (Btu/h)	10.0 (36,000)
Min. / max. cooling capacity	kW (Btu/h)	1.9–11.0 (6,500–37,500)
Standard operating range	°C (°F)	5 to 52°C (41 to 125.6°F)

1. Rated cooling conditions: indoor 80°F DB / 67°F WB; outdoor 95°F DB / 75°F WB.
2. Cooling performance is based on two 9K indoor units and one 18K indoor unit connected to the ALUX-CC-K36-A.

HEATING PERFORMANCE	UNIT	ALUX-CC-K36-A
Rated heating capacity at 8.3°C (47°F)	kW (Btu/h)	10.0 (36,000)
Min. / max. heating capacity at 8.3°C (47°F)	kW (Btu/h)	1.9–12.6 (6,500–43,000)
Standard operating range	°C (°F)	–35 to 24°C (–31 to 75.2°F)*

1. Rated heating conditions: indoor 70°F DB / 60°F WB; outdoor 47°F DB / 43°F WB.
2. Heating performance is based on a nominal connected load of 36K in a three-zone configuration (9K + 9K + 18K).
* Separate internal lab operation: –47.5°C (–53.5°F). This does not change the standard operating range.

ENERGY EFFICIENCY (OPERATING MODE)	METRIC	ALUX-CC-K36-A
Cooling	SEER2	20.0
	EER2	10.3
Heating	HSPF2	10.0
	COP	3.3

Data are based on the ALUX-CC-K36-A connected to two 9K indoor units and one 18K indoor unit.

OUTDOOR UNIT SPECIFICATIONS	UNIT	ALUX-CC-K36-A
Compressor type	–	DC inverter rotary
Refrigerant	–	R32
Outdoor noise level	dB(A)	58
Dimensions (W × D × H)	mm	950 × 340 × 1002
Dimensions (W × D × H)	in	37.40 × 13.39 × 39.45
Package dimensions (W × D × H)	mm	1100 × 450 × 1150
Package dimensions (W × D × H)	in	43.31 × 17.72 × 45.28
Net weight	kg (lb)	86 (190)
Gross weight	kg (lb)	98 (216)

SPECIFICATIONS

Indoor units and configurations.

INDOOR UNIT SPECIFICATIONS	UNIT	ALUX-IU-K1-A 9K	ALUX-IU-K2-A 18K
Airflow volume	m^3/h	720 / 540 / 460 / 330	900 / 800 / 610 / 520
Fan motor power output	W	20	60
Temperature setting range	°C (°F)	16–30 (61–86)	16–30 (61–86)
Indoor noise level	dB(A)	44 / 36 / 22 / 22	48 / 44 / 29 / 29
Dimensions (W × H × D)	mm	850 × 291 × 203	972 × 302 × 224
Dimensions (W × H × D)	in	33.5 × 11.5 × 8.0	38.3 × 11.9 × 8.8
Package dimensions (L × W × H)	mm	930 × 297 × 368	1047 × 314 × 377
Package dimensions (L × W × H)	in	36.6 × 11.7 × 14.5	41.2 × 12.4 × 14.8
Stacking limit (layers)	–	7	7
Net weight	kg (lb)	10 (22.0)	13.5 (29.8)
Gross weight	kg (lb)	12.5 (27.6)	16.5 (36.4)

INDOOR UNIT COMBINATIONS ALUX-CC-K36-A

1 INDOOR UNIT

09K

or

18K

2 INDOOR UNITS

09K + 09K

or

09K + 18K

3 INDOOR UNITS

09K + 09K + 18K

Indoor unit outlines drawn to scale (9K: 850 × 291 mm; 18K: 972 × 302 mm). The outdoor unit has six refrigerant line ports and supports multiple indoor units. The total connected indoor capacity must not exceed the outdoor unit's rated capacity. Consult a certified HVAC technician to select the appropriate indoor unit configuration.

STANDARD FUNCTIONS

Fast cooling / heating	Dehumidifier function	Child lock	3D swing
Turbo	Dry anti-mildew function	Wi-Fi	Cold air prevention
ECO	Hidden display	Easy installation	Self-cleaning
Timer	Filter cleaning reminder	7-speed fan	8°C (46°F) heating
Sleep mode	Low noise	Stepless speed	Cold plasma

AetherLux

Powering comfort, no matter the climate.

Relentless heat. Zero interruptions.
ZeroFrost technology · patented and patents pending.

LEARN MORE

aetherlux.terravisenergy.com

SYSTEM

ALUX-CC-K36-A outdoor unit
ALUX-IU-K1-A (9K) and ALUX-IU-K2-A (18K) indoor units

CERTIFICATIONS

c-ETL-us, AHRI, NEEP, DOE, NRCan and ENERGY STAR



TERRAVIS ENERGY