UP TO 5 TONS · ALL-ELECTRIC OR DUAL-FUEL · GROUND-READY

Keep the furnace.
Let the heat pump carry the heat.

Why a heat pump, if the gas stays? It is designed to carry the heat whenever its heat costs less than gas; the furnace covers the rest, and in summer it cools.

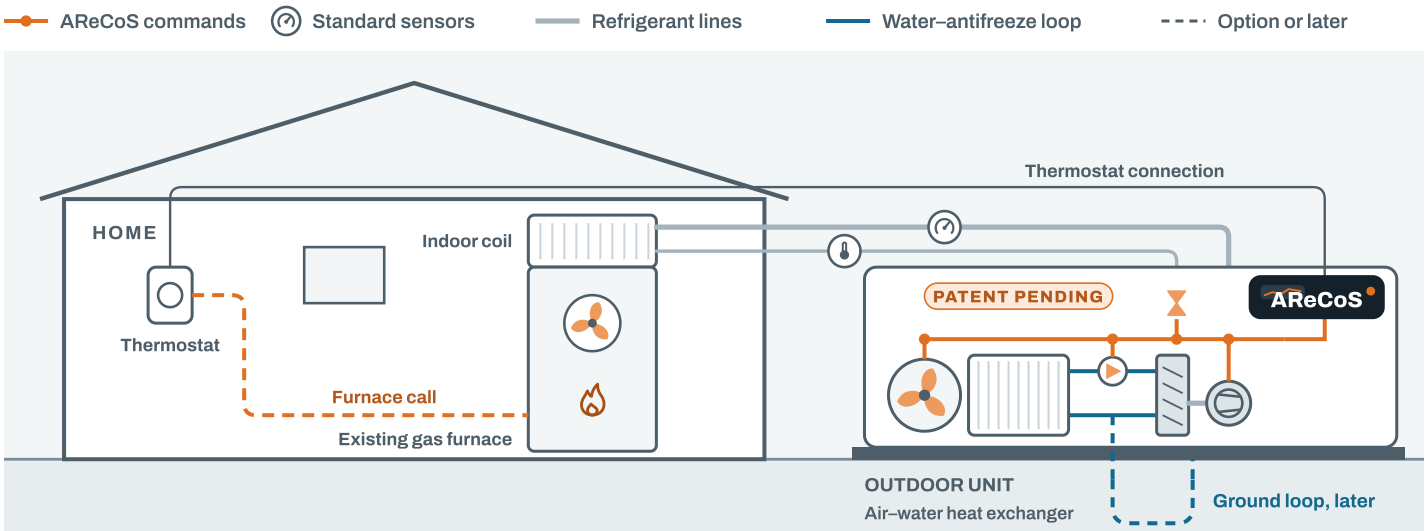
U.S. Patent 12,768,557
controller, granted Oct. 20, 2026

Air–water heat exchanger
patent pending, U.S. provisional 63/989,941

Hardware test published
US 2024/0295337 A1, FIGS. 4–7

Prototype design ratings
updated during certification

Controller hardware test, on a cooling bench.



MODELED
32%
lower heating emissions

MODELED
19%
lower heating bills

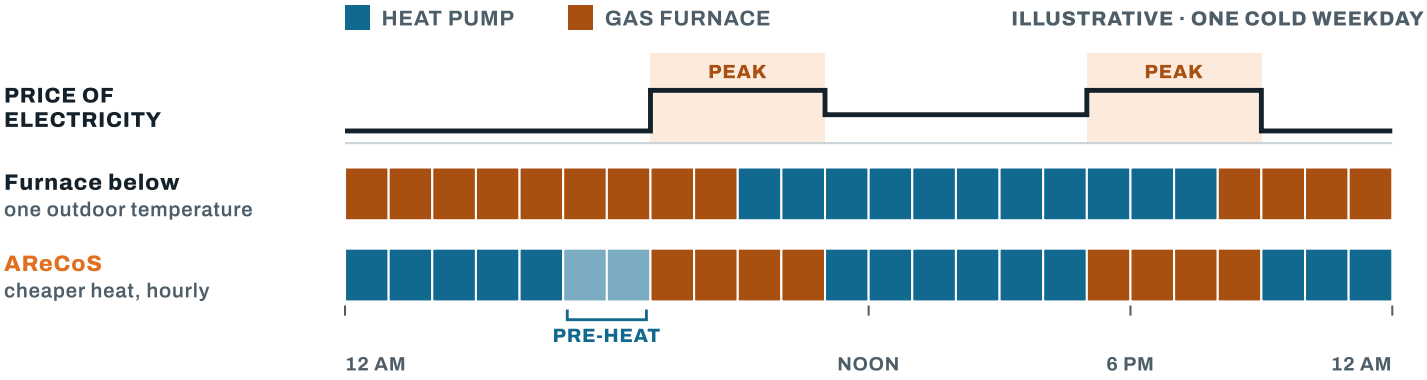
AT 0 °F
≥ 70%
of 47 °F rated capacity

5-TON SPLIT
23.8
SEER2 · HSPF2 10.9

Modeled: ten Minnesota homes vs. furnace-only, clean frost-free coil, simple 14 °F changeover. Upper-bound case, not field results. Bills assume the utility's residential space-heating rate.

SEER2 and HSPF2: prototype estimates, updated in certification.

One cold weekday (illustrative, not a measured result)

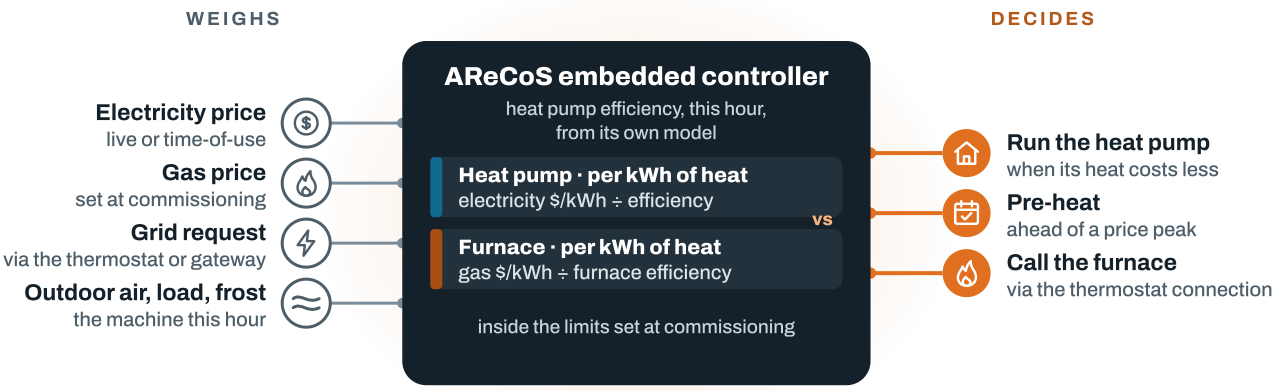


Furnace or heat pump: the cheaper heat, each hour.

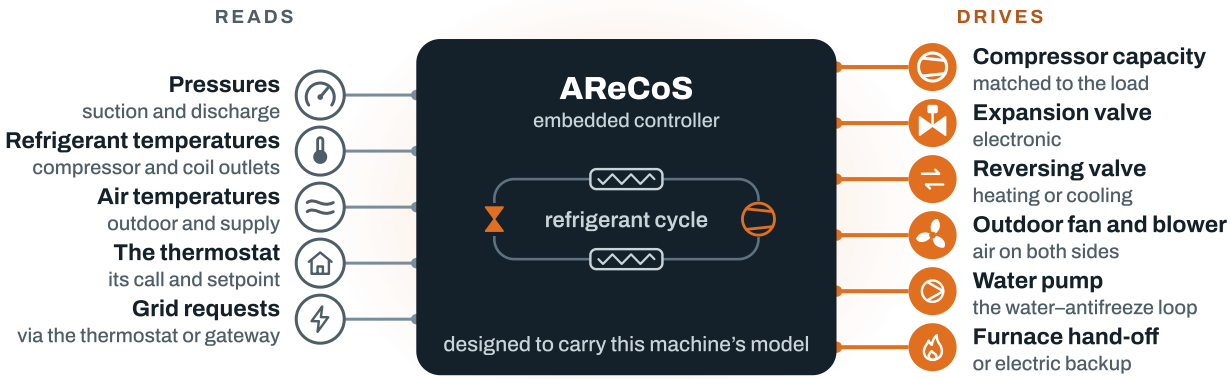
1 · New electromechanical frost removal

Designed to keep frost thin and clear it while heating: no reverse-cycle defrost stops in normal operation.

2 · The controller: how it chooses (design intent)



Sets the whole unit for the least electricity · on the unit, no cloud



Answers the grid

Designed for OpenADR or IEEE 2030.5: capacity cap, setpoint shift, pre-heat.

Catches a slow leak

Designed to track charge and name a fault's likely cause. UL 60335-2-40, AHRI 210/240.

3 · Ground-ready

Designed for a ground loop piped straight to the outdoor heat exchanger. Sized for the whole winter, a loop needs no gas; the furnace stays for safety.

Residential: prototype
Pilot dates at arecos.net.

Planned pilot retrofit
New outdoor unit plus required valve and control changes, aiming to keep the furnace and ducts; compatibility confirmed per site.

Reserve a place in the first units — free, no obligation, pilot costs planned to be mostly covered, under a written pilot agreement.
arecos.net/#reserve · info@arecos.net

Controller: U.S. Patent 12,768,557, issued October 2026 · Air–water heat exchanger: patent pending, U.S. provisional application 63/989,941 · arecos.net · info@arecos.net · Rev 14