

Decarbonizing with Daikin Altherma:

Air-to-Water Heat Pump for Heating, Cooling, and Domestic Hot Water

March 23rd, 2026

Ben Hiller

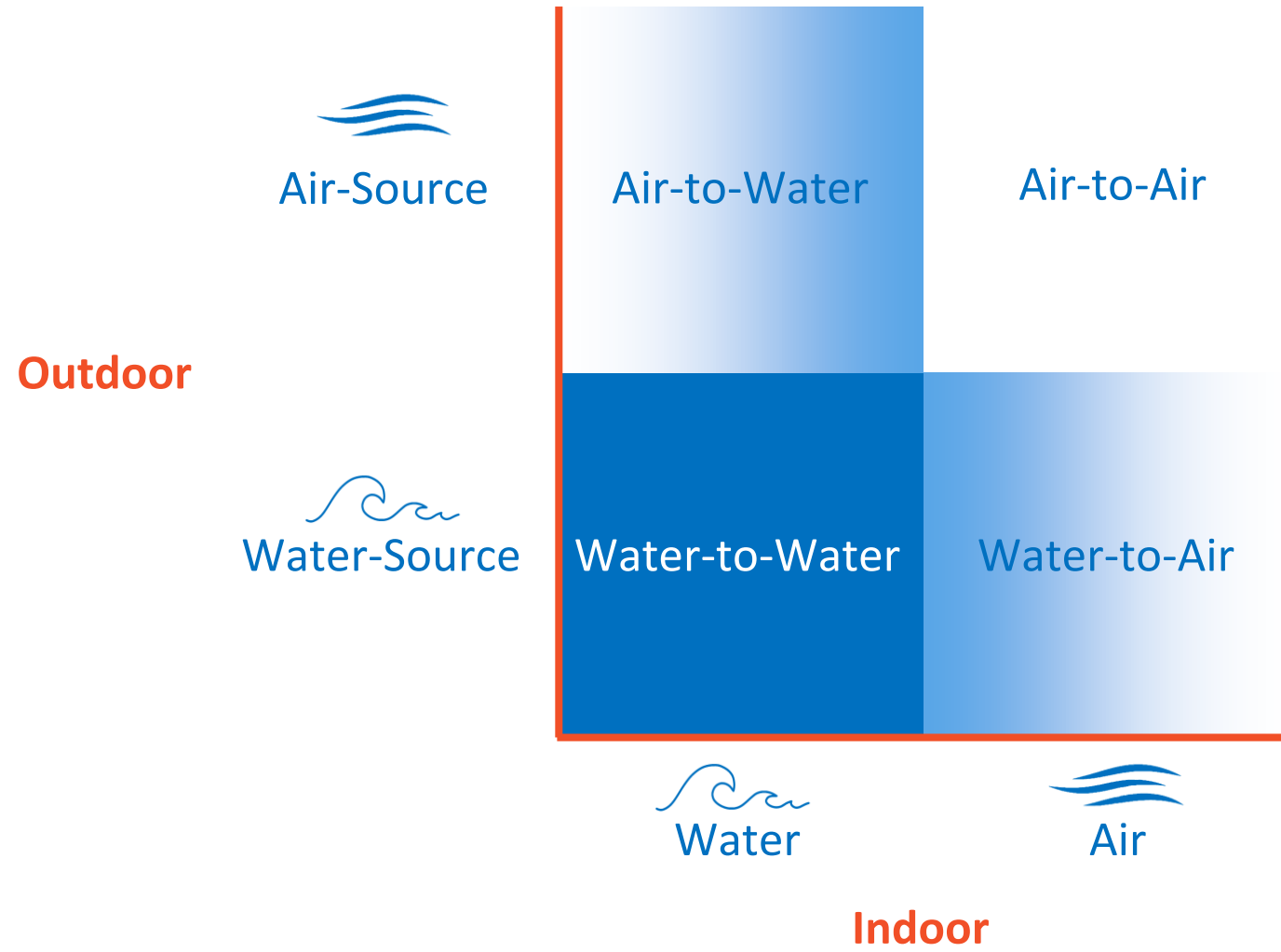
Dan Smith



SAVE THE PLANET WITH HEAT PUMPS

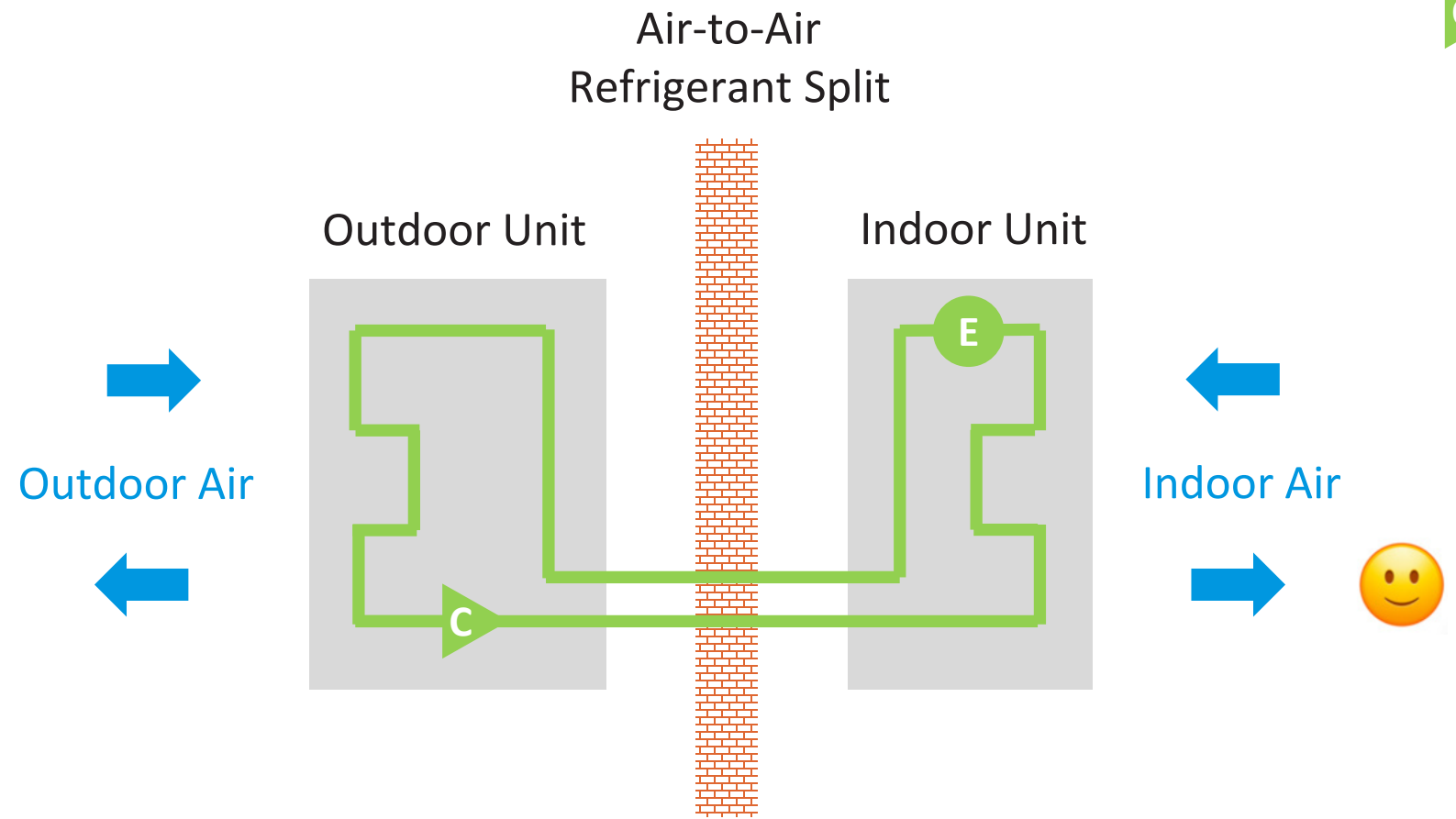


Types of Heat Pumps

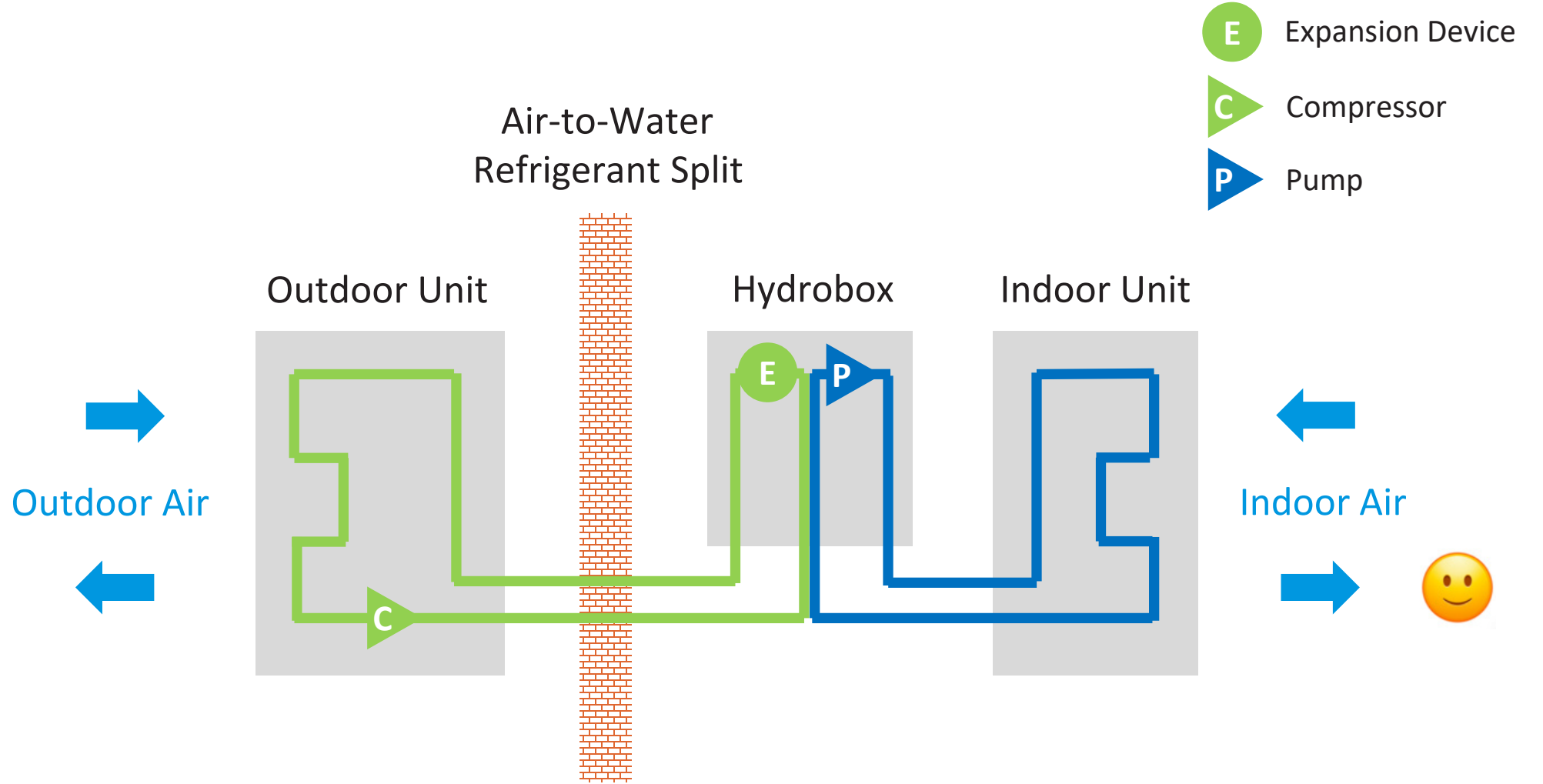


Types of Heat Pumps

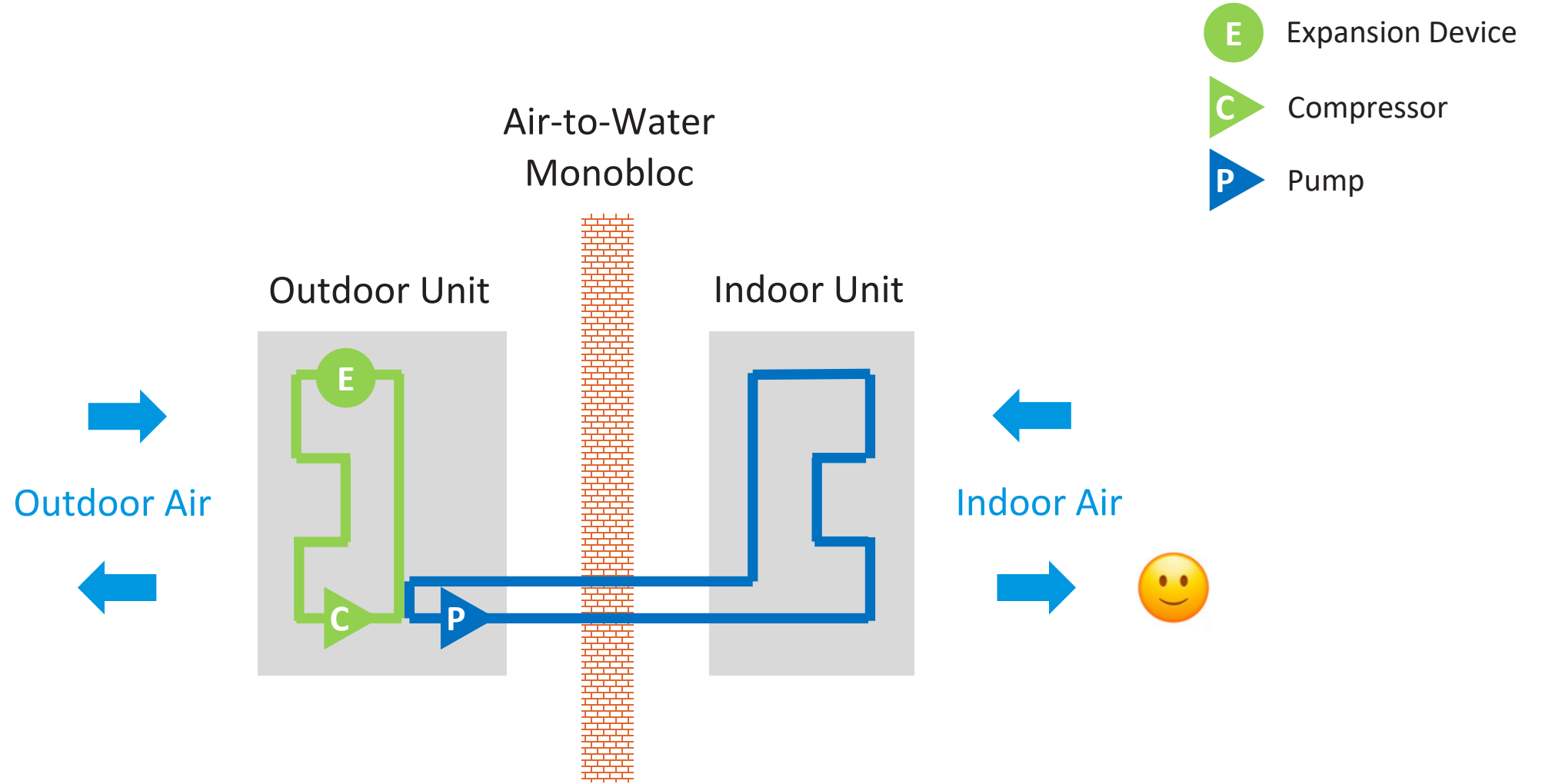
- E** Expansion Device
- C** Compressor



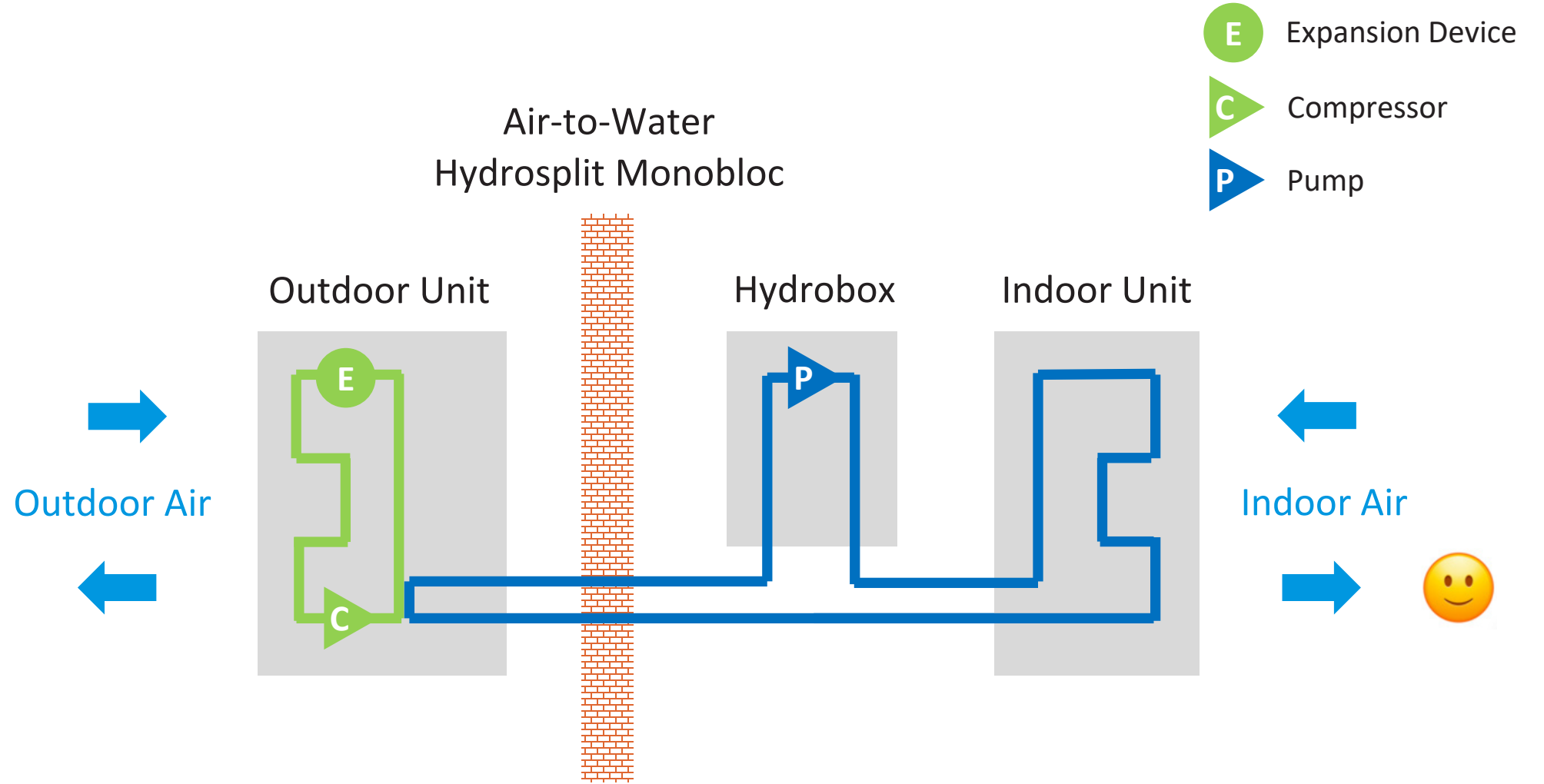
Heat Pump Types

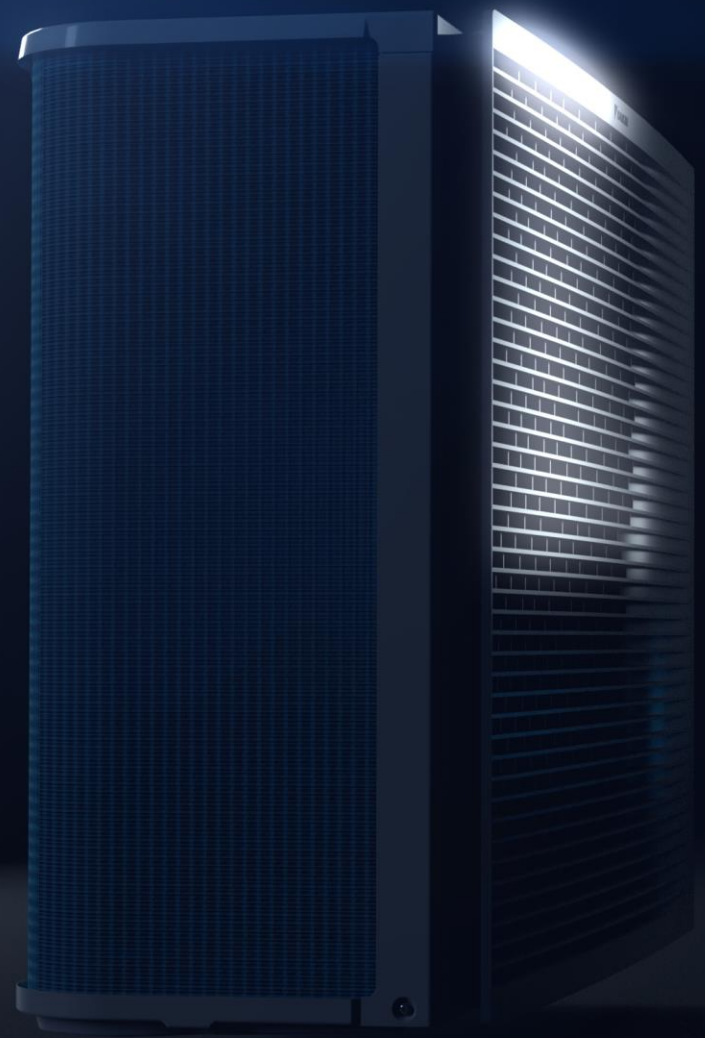


Heat Pump Types



Heat Pump Types






Daikin *ALTHERMA* 3 H HT


Daikin ALTHERMA 3 H HT



- 3-in-1 solution for **heating, cooling, and domestic hot water**
- Superior levels of **comfort, energy efficiency, reliability, and control**
- **-18 °F** low ambient operation
- **160 °F** leaving water temperature
- Daikin's Signature technology, a combination of **high-efficiency compressors** and **R-32 refrigerant** to achieve **best in class seasonal efficiency**



- **Greener performance** 
- **Replace** fossil fuels
- Maximize use of **renewable** energy
- Ensure a healthy and **sustainable** environment, and contribute to **carbon neutrality**



R-32
THE MOST BALANCED REFRIGERANT

R-32 has a much lower Global Warming Potential (GWP), is equivalent in power to standard refrigerants, but achieves higher energy efficiency and lower CO₂ emissions. Easy to recover and reuse, R-32 is an excellent solution for attaining new CO₂ emission targets.



- Convenient installation

- No refrigerant work required, only water piping between outdoor and indoor units.
- Sealed refrigerant circuit in outdoor unit. No risk of refrigerant leakage.
- Flexibility in piping material – copper & PEX.
- Small footprint for flexible installation in small spaces.
- Indoor hydrobox includes unit controller, 6 kW electric resistance heater, and all hydraulic components factory-mounted.

- Versatility

- One solution, multiple combinations.
- Suitable for new construction & retrofits.

- Compact design

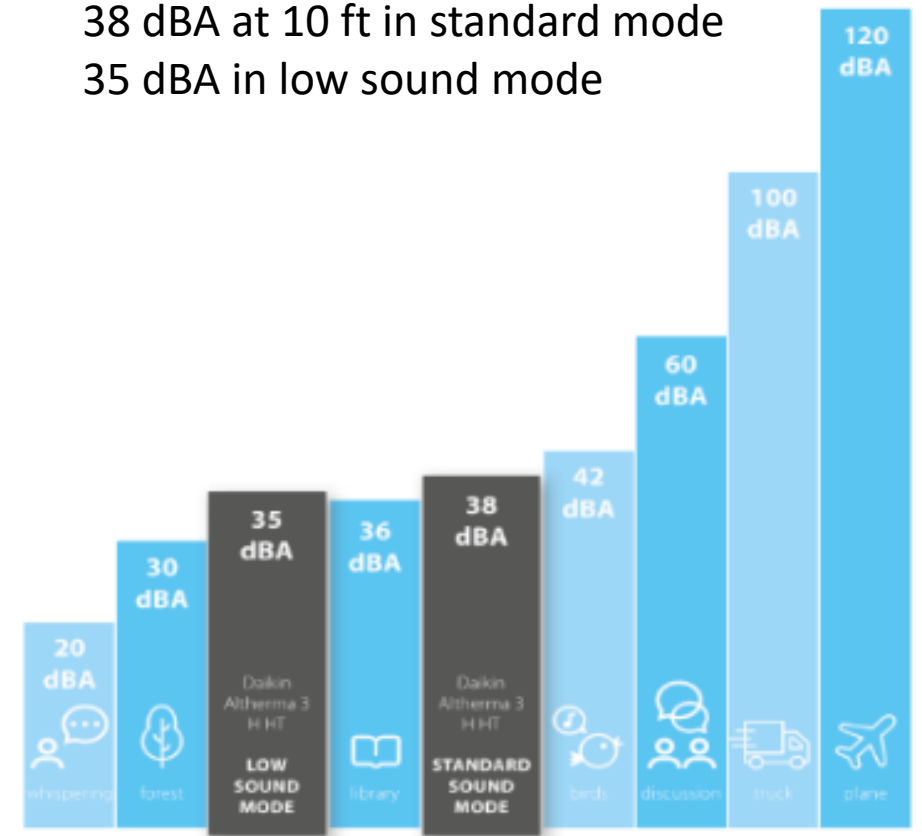
- Sleek styling
- 40" H x 50" W x 21" D

Daikin ALTHERMA 3 H HT | Sound

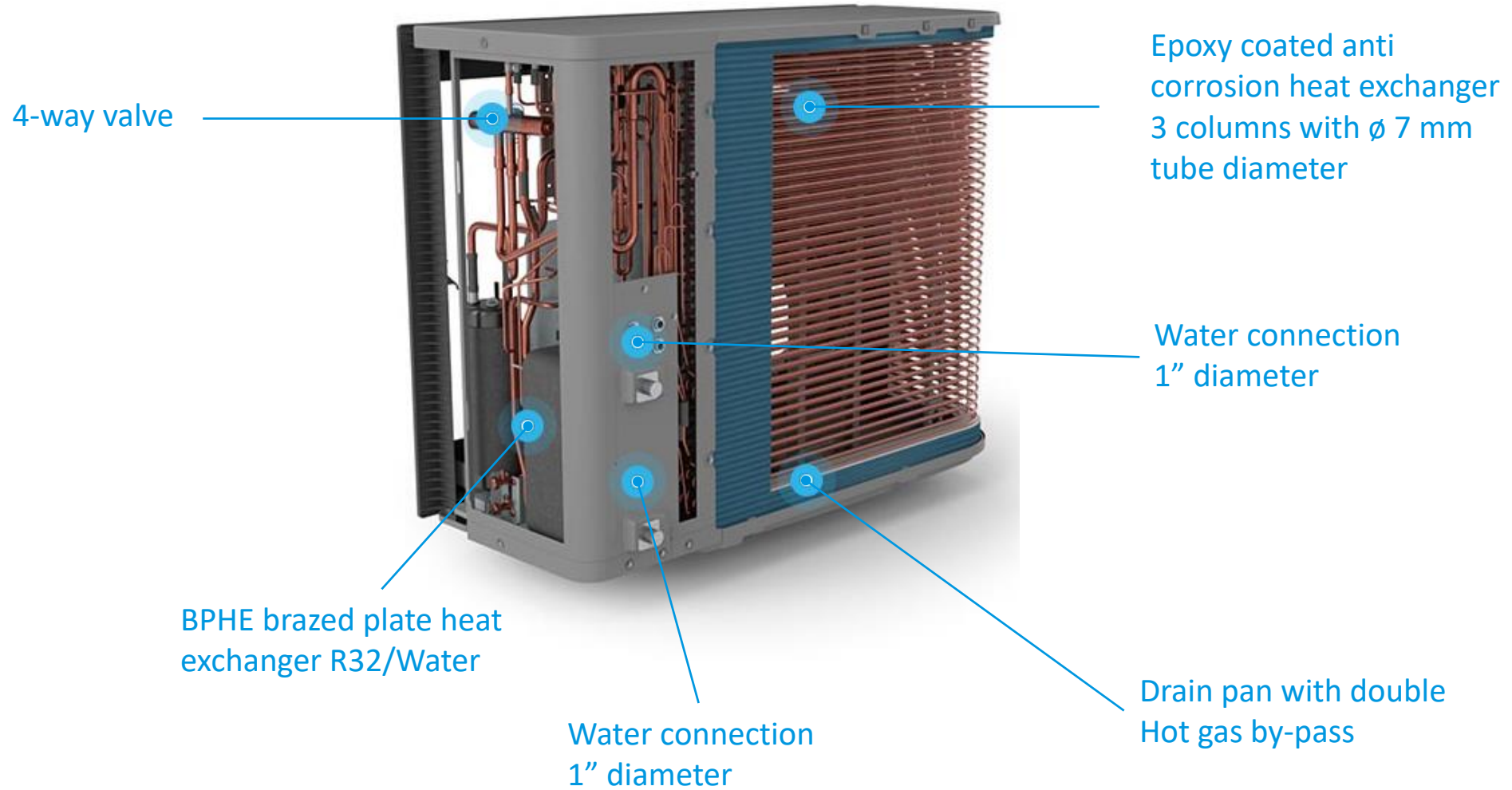


- Silent comfort

38 dBA at 10 ft in standard mode
35 dBA in low sound mode



Daikin ALTHERMA 3 H HT | Outdoor Unit Main Components



New double injection compressor to reach 160°F leaving water temperature with high efficiency

Improved compression

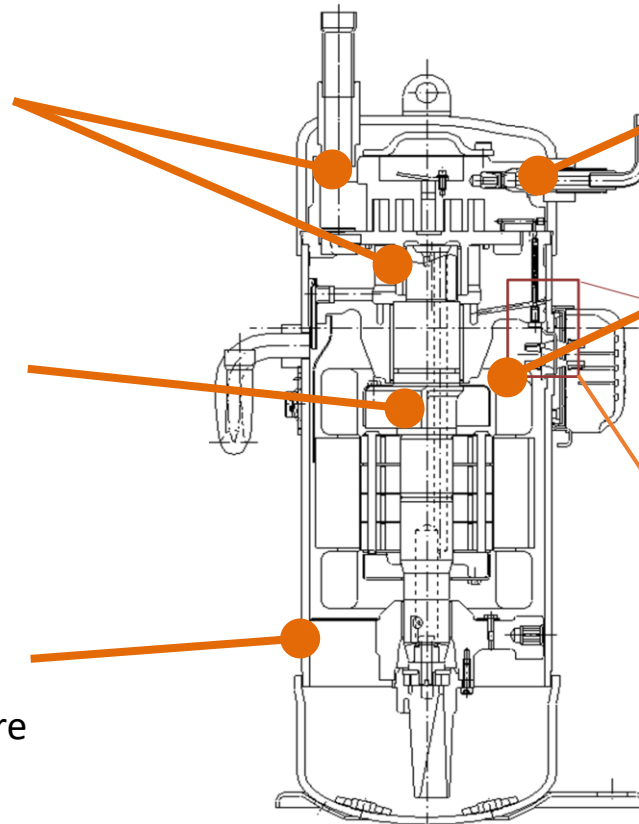
- New lubrication structure

Dedicated crankshaft

- Material with increased rigidity

New casing

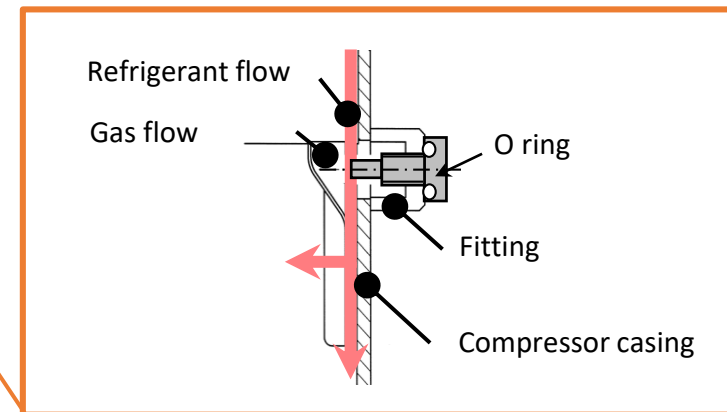
- Allowing 812 PSI design pressure



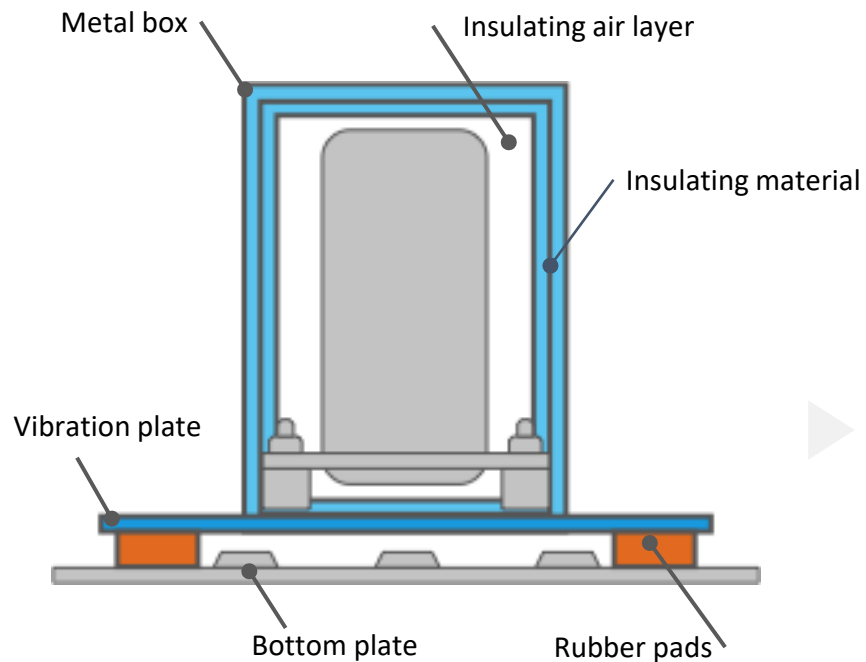
Improved large volume injection

Internal temperature thermistor

- High precision discharge port temperature control



Ultra silent compressor



▶ **Compressor
Vibration
Propagation**

▶ **Compressor
Sound
Radiation**

Daikin Altherma 3 H HT

Double noise reduction

- Vibration plate
- Rubber pads
- Bottom plate

3 layer insulation

- Insulating air layer
- Insulation material
- Metal box

1st and 2nd generation
heat pumps

Single noise reduction

1 layer insulation

- Compressor jacket

Reduction of air noise



▶ Fan rotation velocity

Daikin Altherma 3 H HT

- 1 fan
- Larger \varnothing : 24.8"
- lower fan speed
- Less noise



▶ Fan propeller shape

- New fan shape
- Improved bell mouth
- Better air circulation
- Less noise



1st and 2nd generation heat pumps

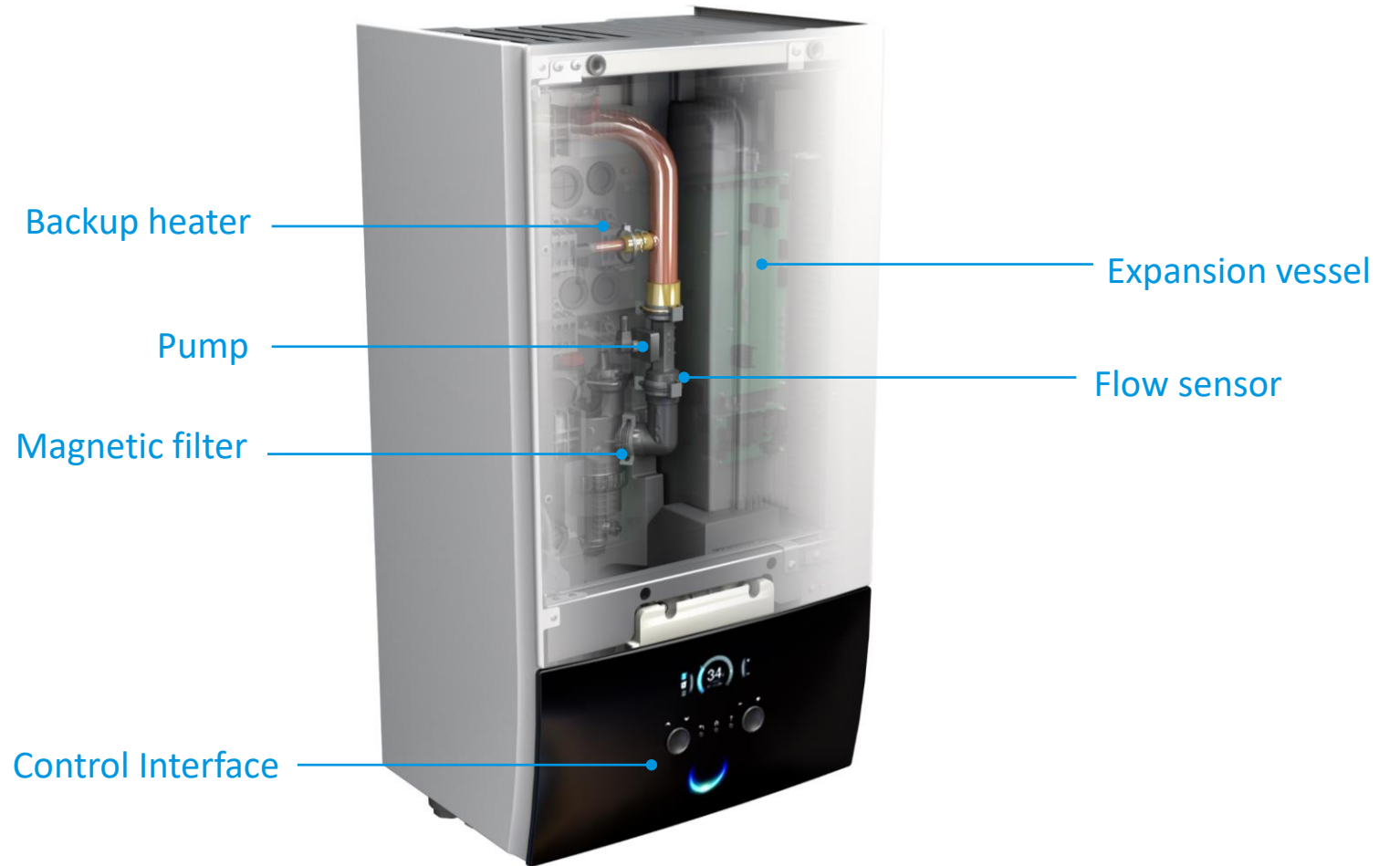
- 2 fans
- \varnothing : 20"



- Standard fan shape



Daikin ALTHERMA 3 H HT | Hydrobox Main Components



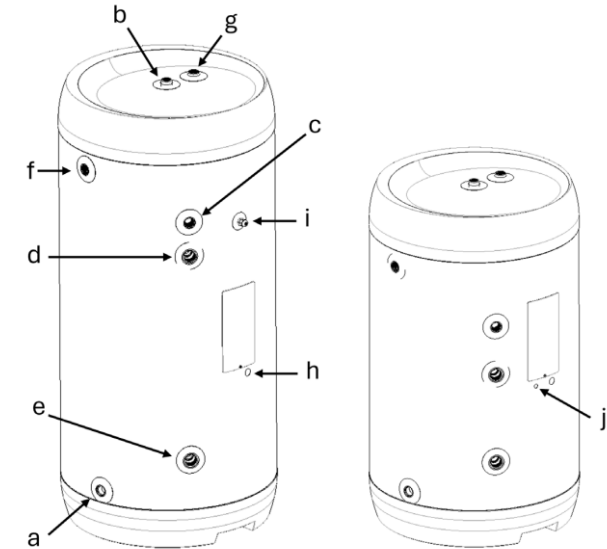
Daikin ALTHERMA 3 H HT | Stainless Steel DHW Tank



Certified to
NSF/ANSI/CAN 61

- Available in:
40 – 50 – 80 gallon models
- Integrated 3kW booster heater
- NSF/ANSI/CAN 61 certified
- Coil Surface Area (sq. ft):

UHWS40D3VJ	UHWS50D3VJ	UHWS80D3VJ
11.3	19.3	19.3



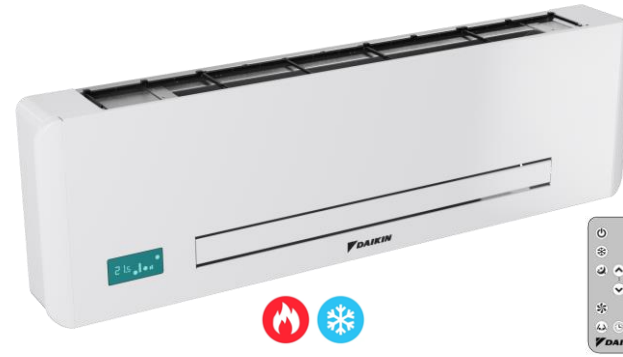
- a. Cold water inlet connection (3/4" NPT F)
- b. Hot water outlet connection (3/4" NPT F)
- c. Optional recirculation inlet (plugged - 3/4" NPT F)
- d. Entering water from heat pump connection (1" NPT F)
- e. Returning water to heat pump connection (1" NPT F)
- f. Temperature & Pressure relief valve connection (3/4" NPT F)
- g. Optional e-anode (plugged - 3/4" NPT F)
- h. Power supply cable inlet for armored cable
- i. Sensor pocket (UHWS50 model only)
- j. Sensor cable inlet (UHWS40 & 80 models only)

Daikin ALTHERMA 3 H HT | Indoor Unit Lineup



Floor standing heat pump convector

- FWXV03AATSBUR 3,000 BTU/h
- FWXV05AATSBUR 5,000 BTU/h
- FWXV07AATSBUR 7,000 BTU/h
- FWXV03AATSBUL Onboard controller, fully modulating fan speed, thermostat, and touch panel
- FWXV05AATSBUL Left (L) or right (R) hand side hydraulic connection
- FWXV07AATSBUL Left (L) or right (R) hand side hydraulic connection



High wall heat pump convector

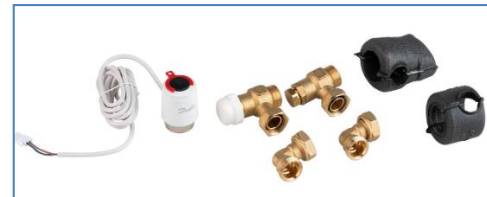
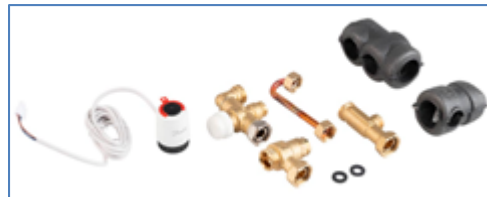
- FWXT03AATSBUCR 3,000 BTU/h
- FWXT05AATSBUCR 5,000 BTU/h
- FWXT07AATSBUCR 7,000 BTU/h
- FWXT03AATSBUCL Onboard controller, fully modulating fan speed, thermostat, and IR remote control
- FWXT05AATSBUCL Left (L) or right (R) hand side hydraulic connection
- FWXT07AATSBUCL Left (L) or right (R) hand side hydraulic connection



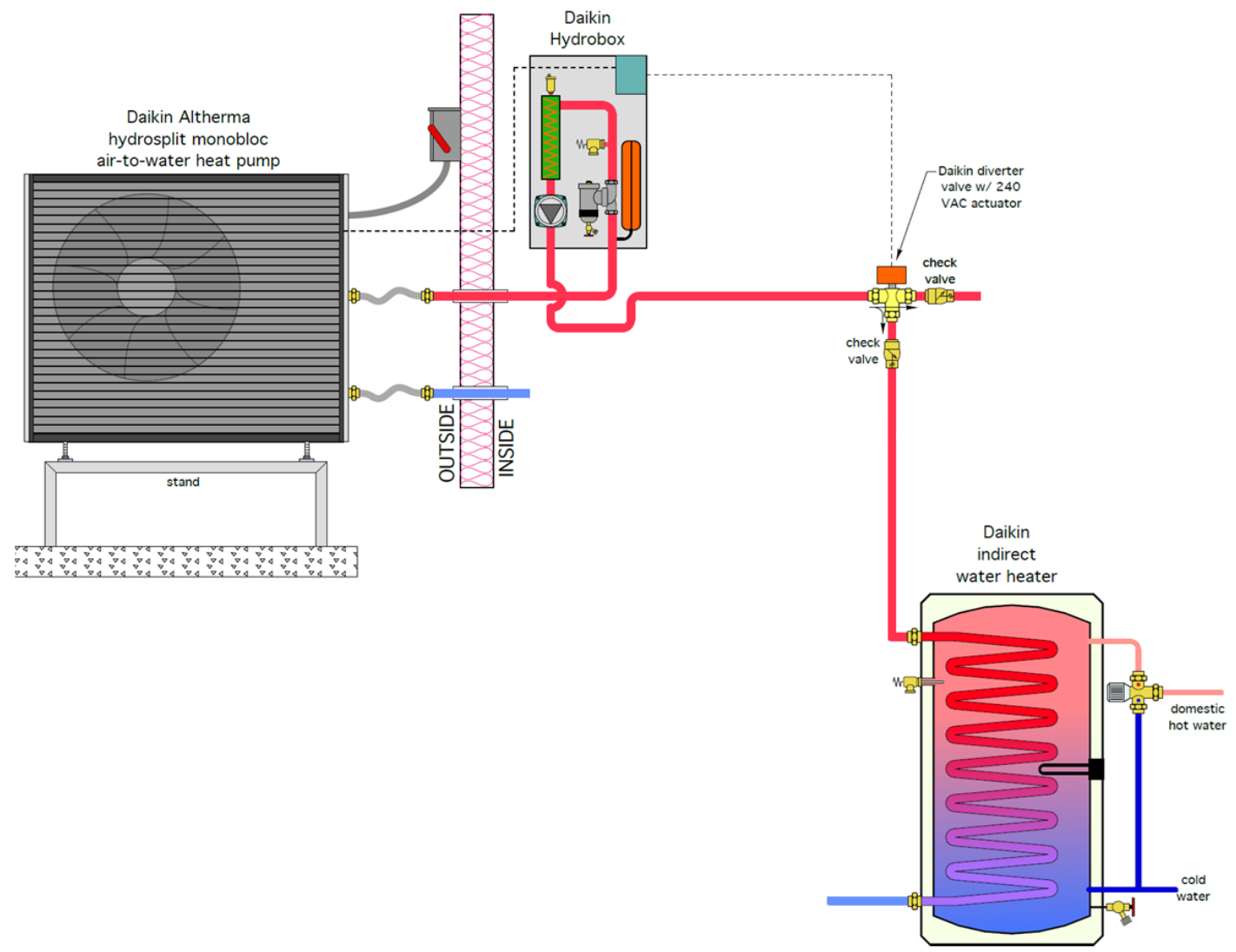
Hydronic Air Handler

- Third party
- 4 capacity sizes from 24,000 – 60,000 BTU/h

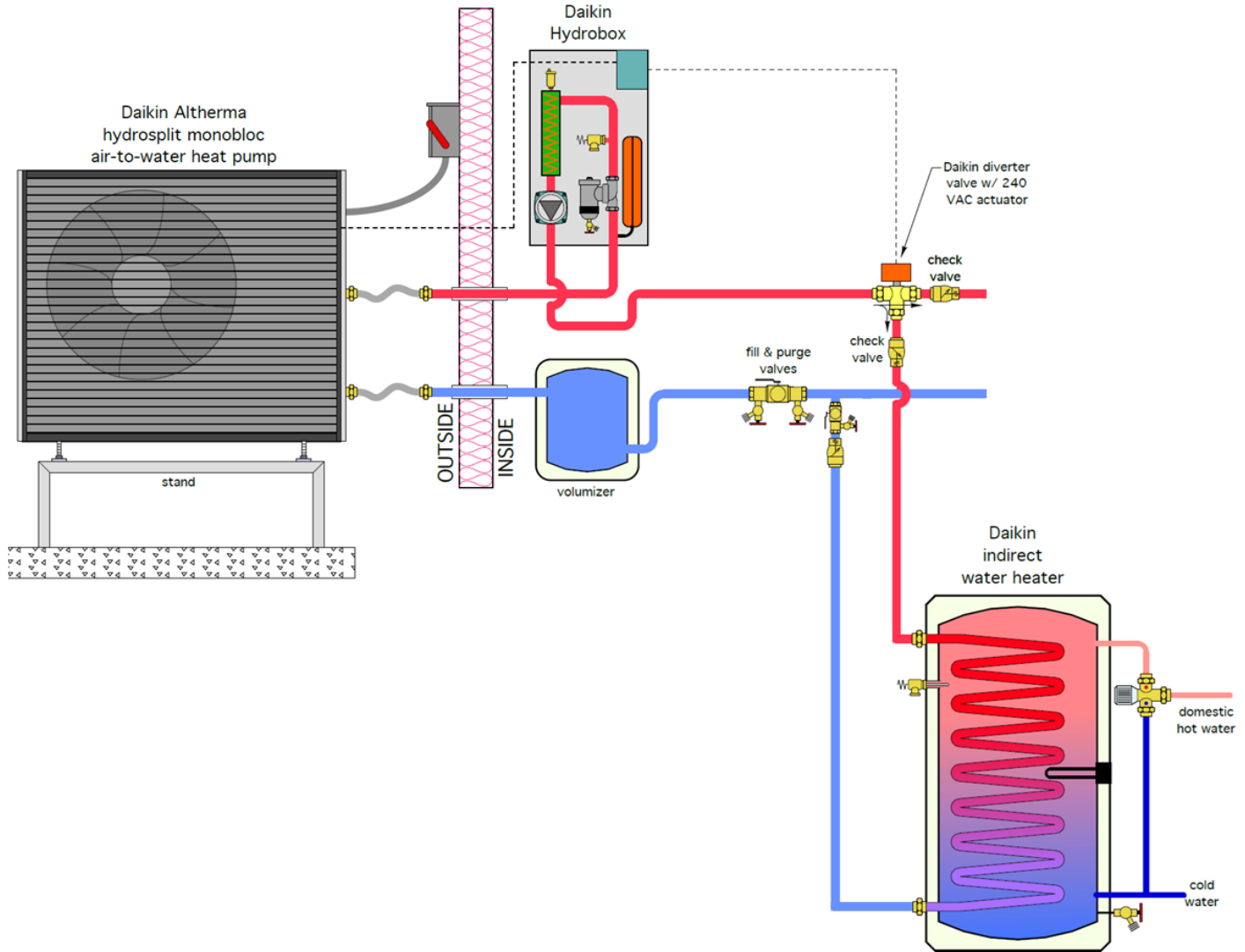
Accessories: 2-way and 3-way motorized valves, and connection pieces



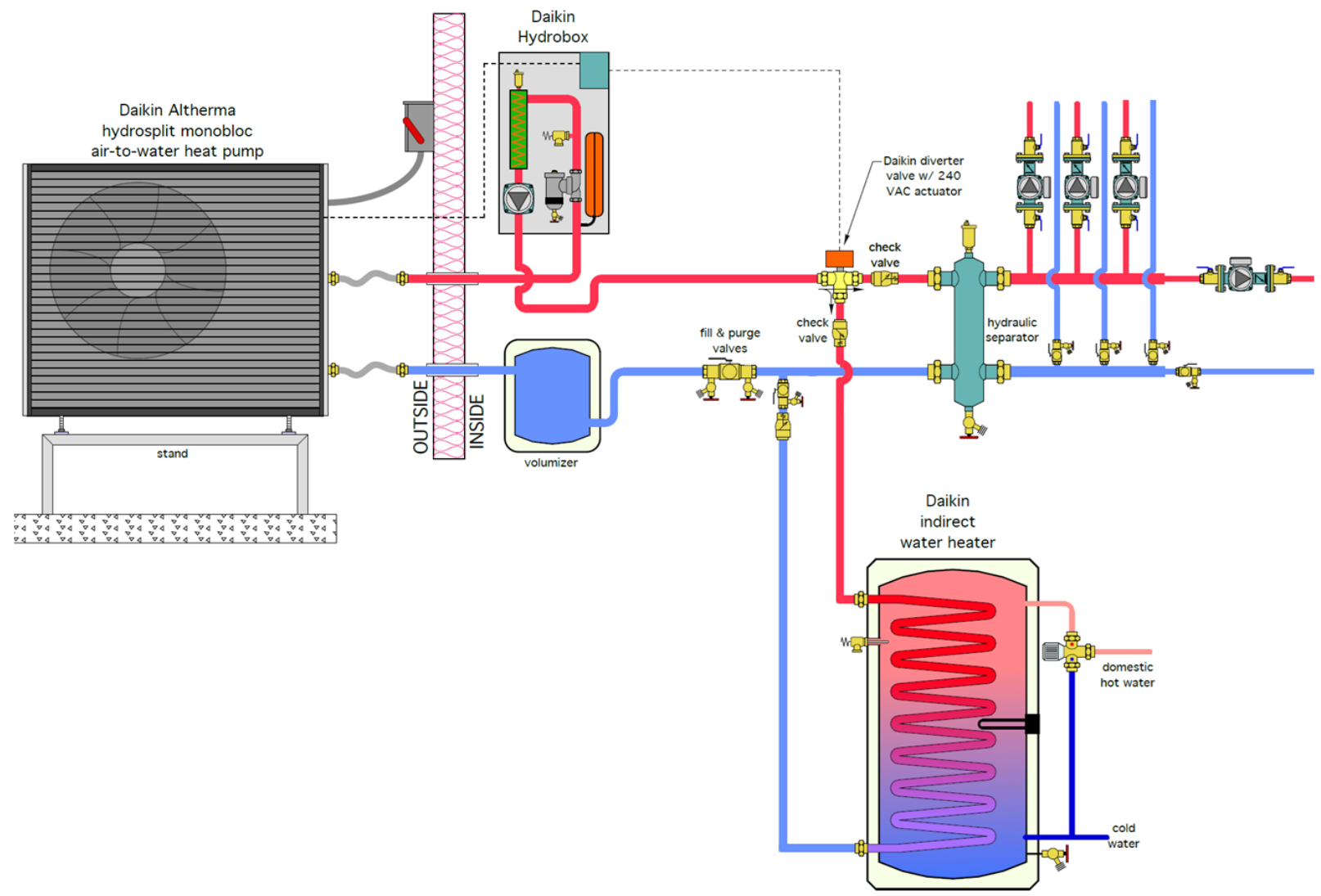
Daikin ALTHERMA 3 H HT | Piping Diagram



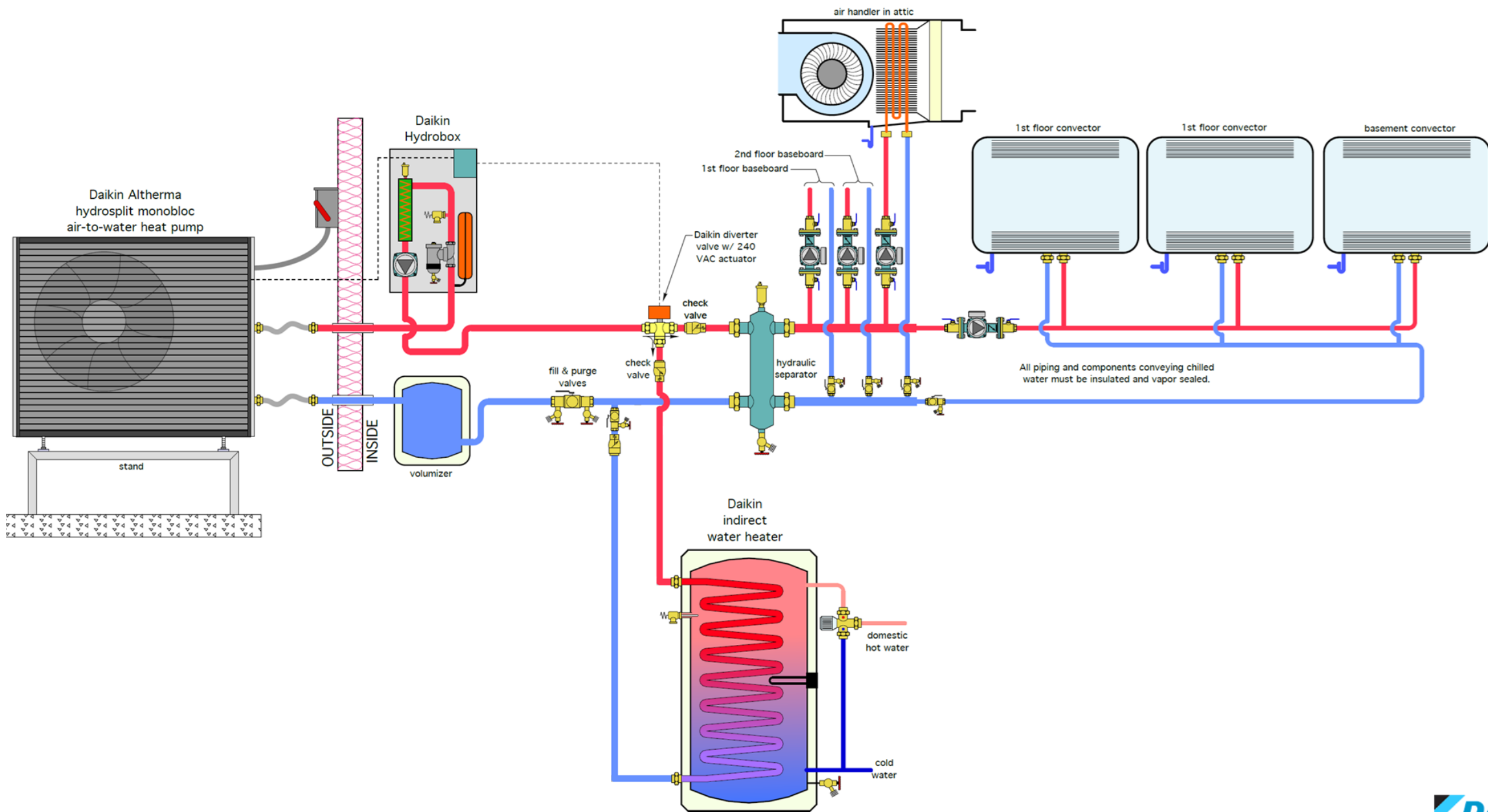
Daikin ALTHERMA 3 H HT | Piping Diagram



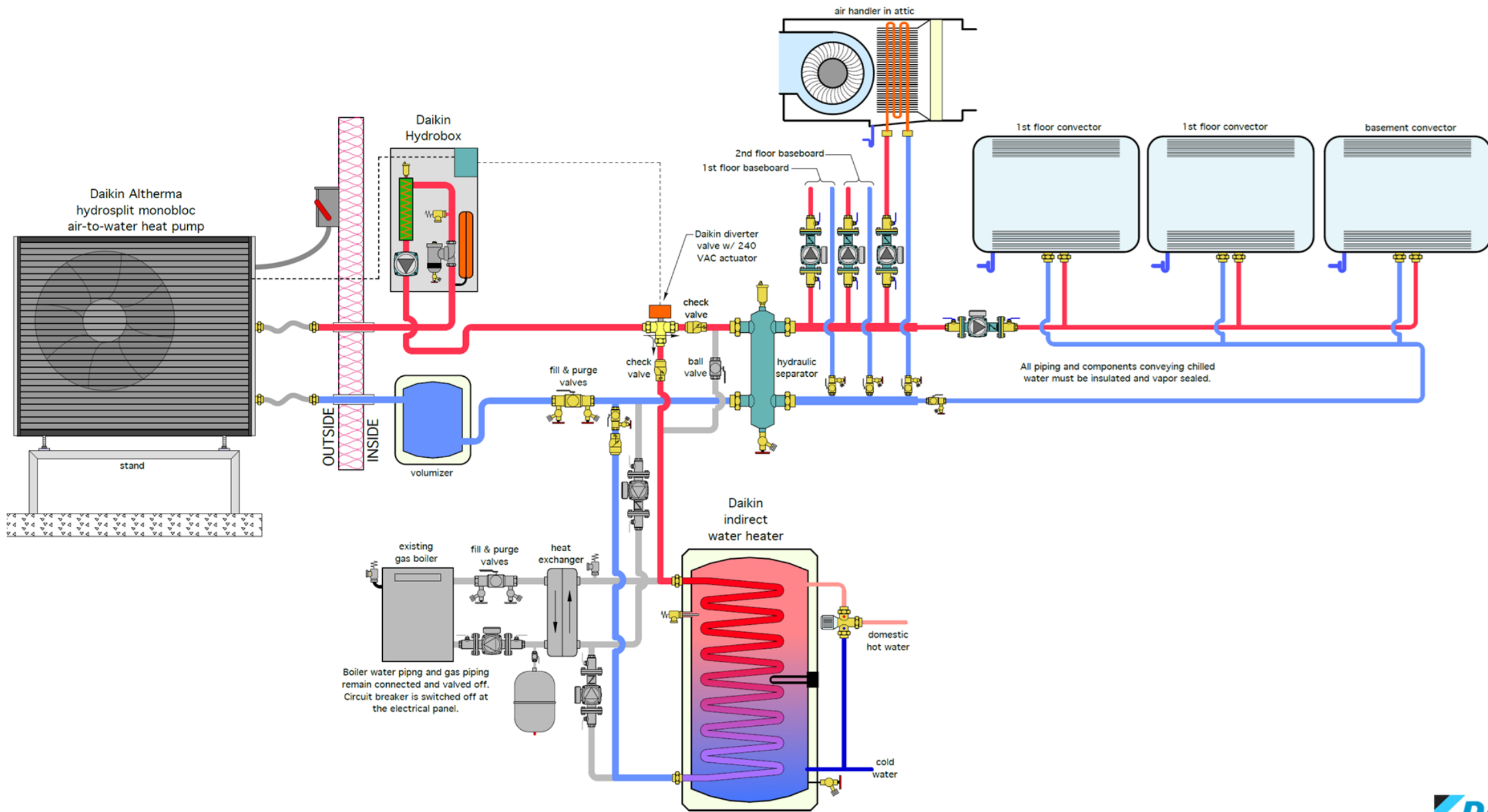
Daikin ALTHERMA 3 H HT | Piping Diagram



Daikin ALTHERMA 3 H HT | Piping Diagram



Daikin ALTHERMA 3 H HT | Piping Diagram



Daikin ALTHERMA 3 H HT | Vertical Markets

- New Construction, Renovation, and Replacement
 - Single Family
 - Multifamily
 - Light Commercial, Strip Mall
 - Office, Retail, Multi-use



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