BREEZE™

THE UNIVERSAL HEAT PUMP

Quick Start Guide: Breeze Select 2025 R-454B Models

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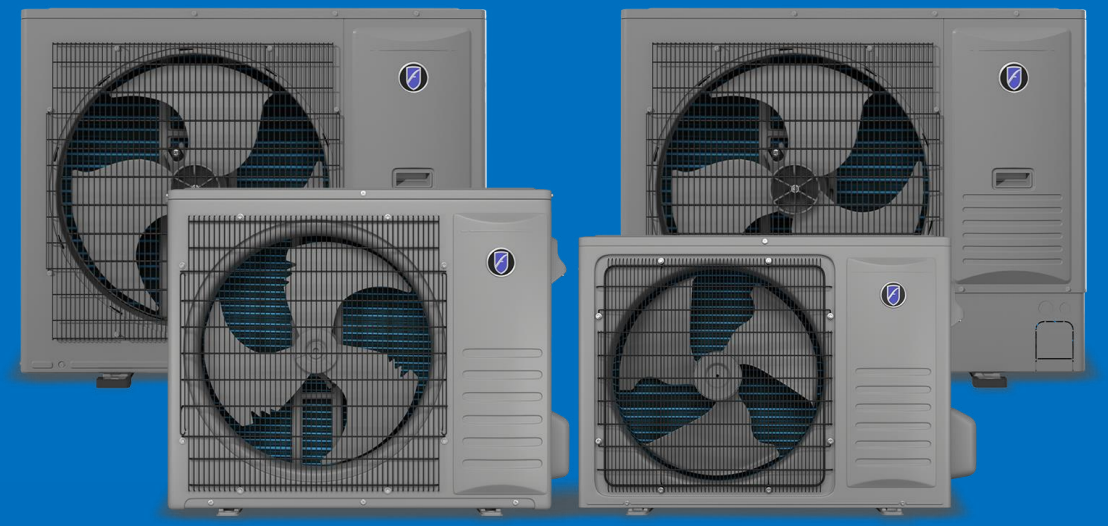
Product Portfolio - Overview



Breeze Select ODU

Breeze Air Handlers

CUSTOMIZED COMFORT

Matched & Unmatched Universal Flexibility

- Universal compatibility to existing air handler or gas furnace (must use R-454B) Accommodates long piping runs up to 131 ft. and height differentials up to 98 ft.
- Precision Inverter® delivers efficiencies of up to 18.0 SEER2 and 9 HSPF2.
- Operates in extreme temperatures down to -5° F in heat pump mode, with cooling in temperatures as low as 5°F.
- Built-in base pan heater and optional auxiliary heater kit.
- Soft-StartTM technology for quiet start-up, and precise temperature • control.
- Quiet operation as low as 35 dB(A).
- Ultra-compact design with a 40% smaller footprint than traditional and top discharge units.
- Multi-position Air Handler.
- ENERGY STAR® Certified for Cold Climate models available. Eligible for many federal & local tax credit & rebate incentives.
- Unified Portfolio with 4 Distinct Heat Pump Lines / Exclusive Features

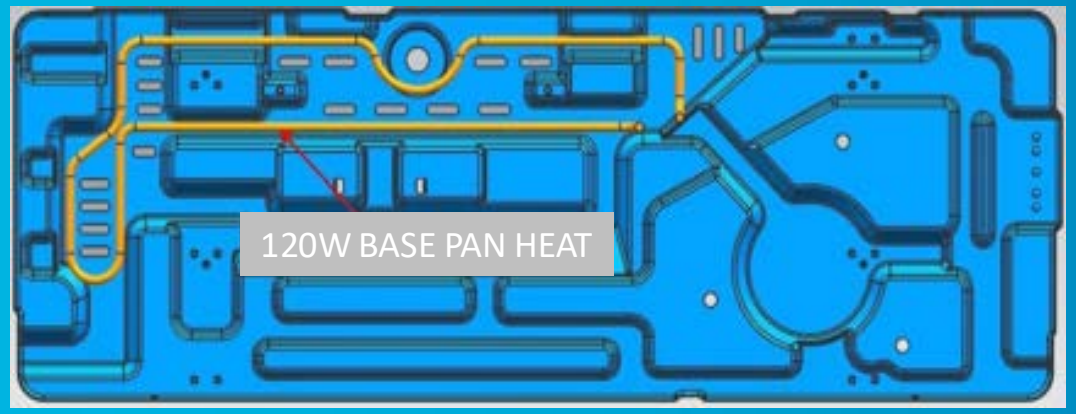
Friedrich Breeze Low Ambient Heating provides comfort deep into winter along with built-in Base Pan Heater & Diagnostic Checker Module. (ALL ODU)

Developed with rebates in mind:

- NEEP
- Canada Greener Homes
- E-Star Cold Climate
- High Efficiency electric home
- Federal Tax Credit (Tax Section 25C)

For information on rebates go to:
https://www.Friedrich.com/rebate-center

Friedrich.com/Federal-Incentives



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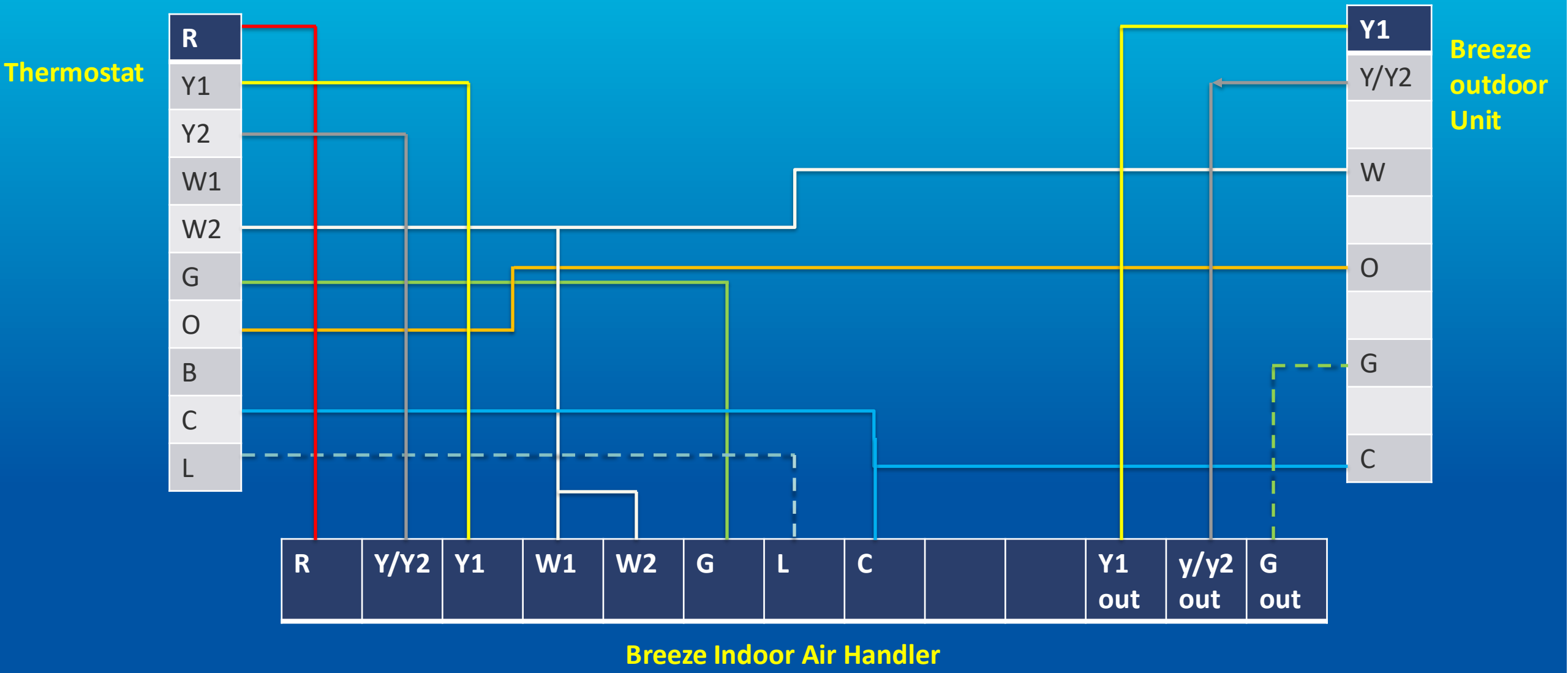
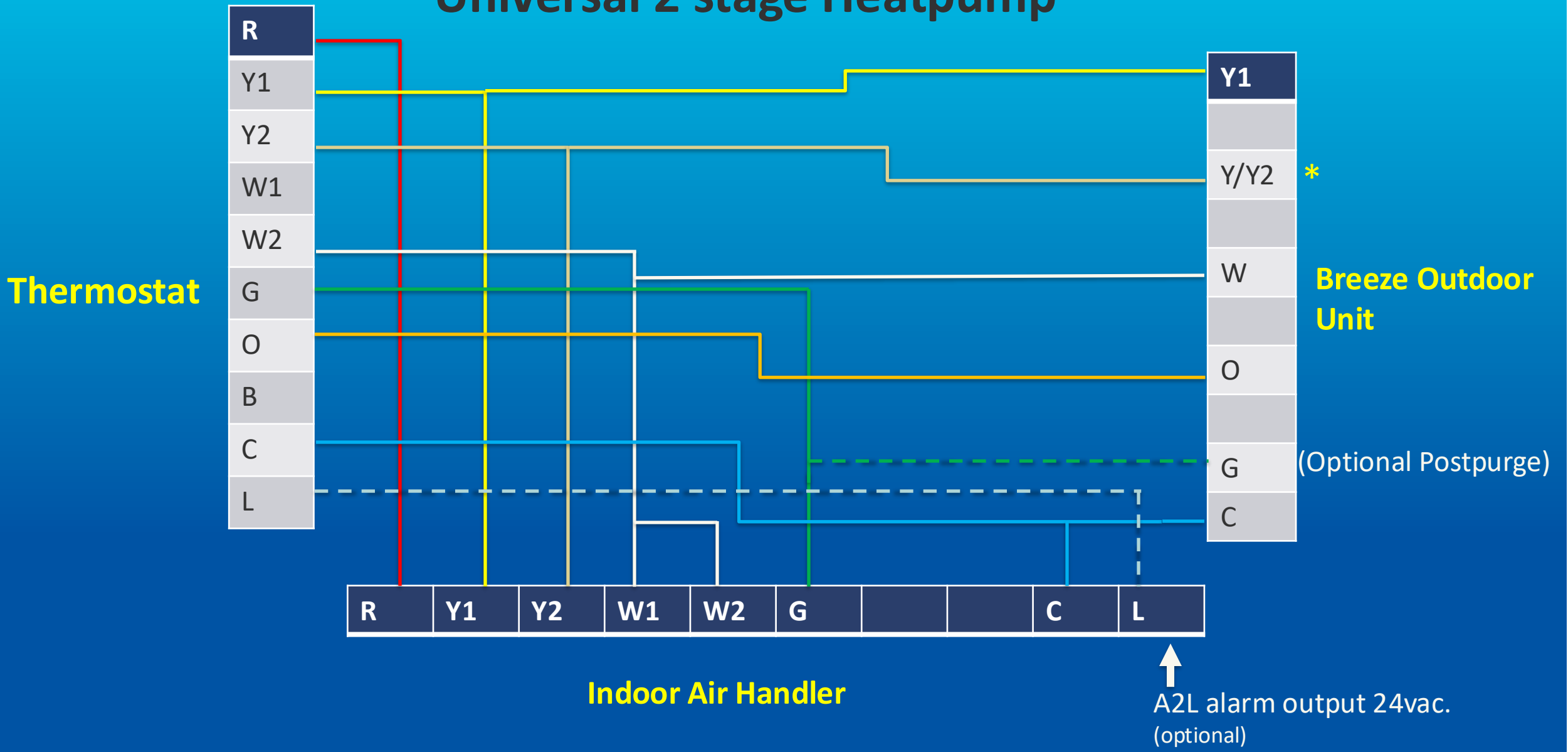
Matching 2 stage Heatpump (with elec. Ht.)



Universal 2 stage Heatpump



*Single Stage application connect Y/Y2 for heat 1-stage operation

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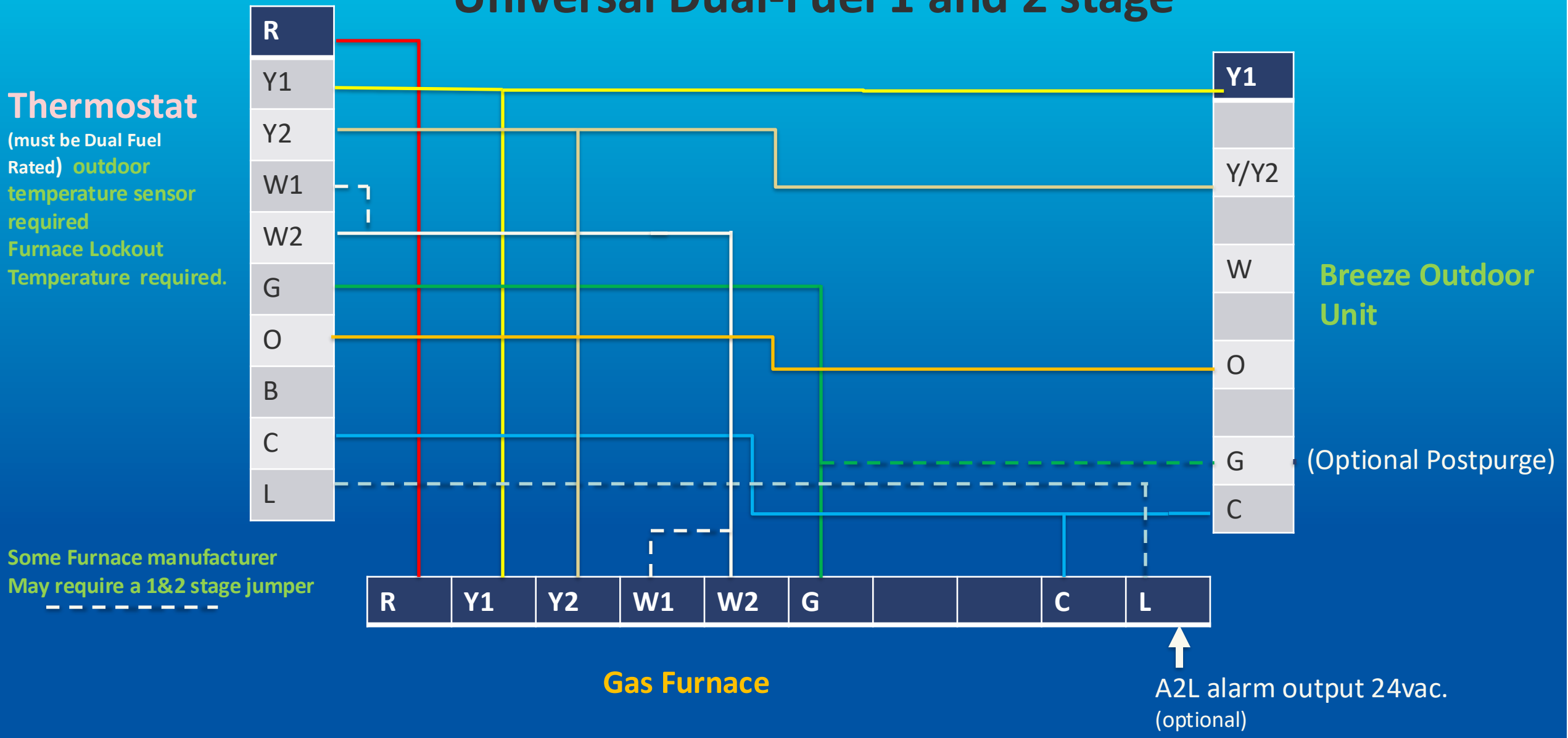
Universal Dual-Fuel 1 and 2 stage



IDU DIP Switch Settings for Proper Air Flow / CFM / Static

Breeze AHU – Field Settings:

Operation

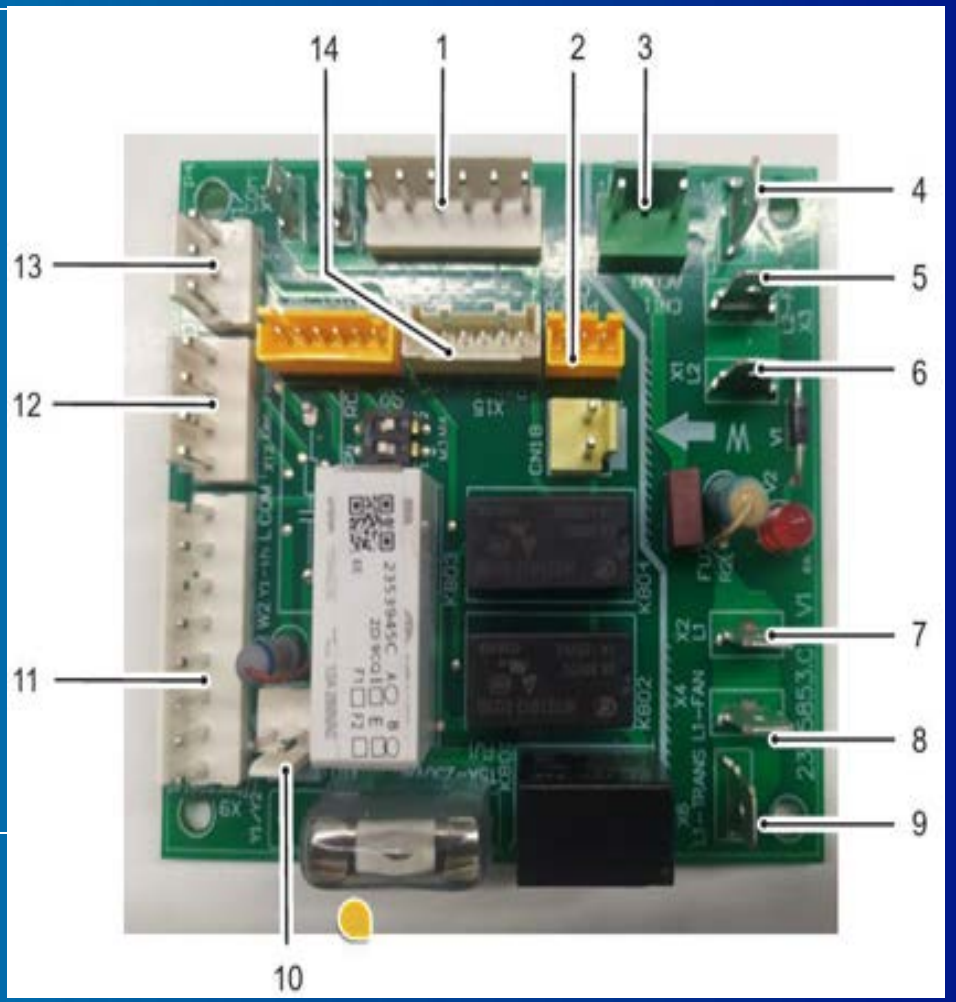
5.2 Change of Static Pressure

The static pressure can be selected by changing Dip Switches on electric board.

Static Pressure Setting:

Dip Switch S2 Setting	Blower Speed Tap	Fan Speed Select	Static Pressure (W.C.[kPa]) 24K	Static Pressure (W.C.[kPa]) 36K	Static Pressure (W.C.[kPa]) 48K/60K
	1	Medium	0.25[0.08]	0.4[0.1]	0.4[0.1]
	2	Medium High (Default setting)	0.58[0.145]	0.58[0.145]	0.58[0.145]

NOTE: Symbol " ■ " indicates the position of the dip switch.
Symbol " ▯ " indicates any position of ON or OFF.



Set DIP switch settings for fan speed/static pressure.

***Power unit off before making DIP switch changes.**

Note: For Non-Friedrich Indoor unit applications, please consult the manufacturers IOM for proper airflow settings

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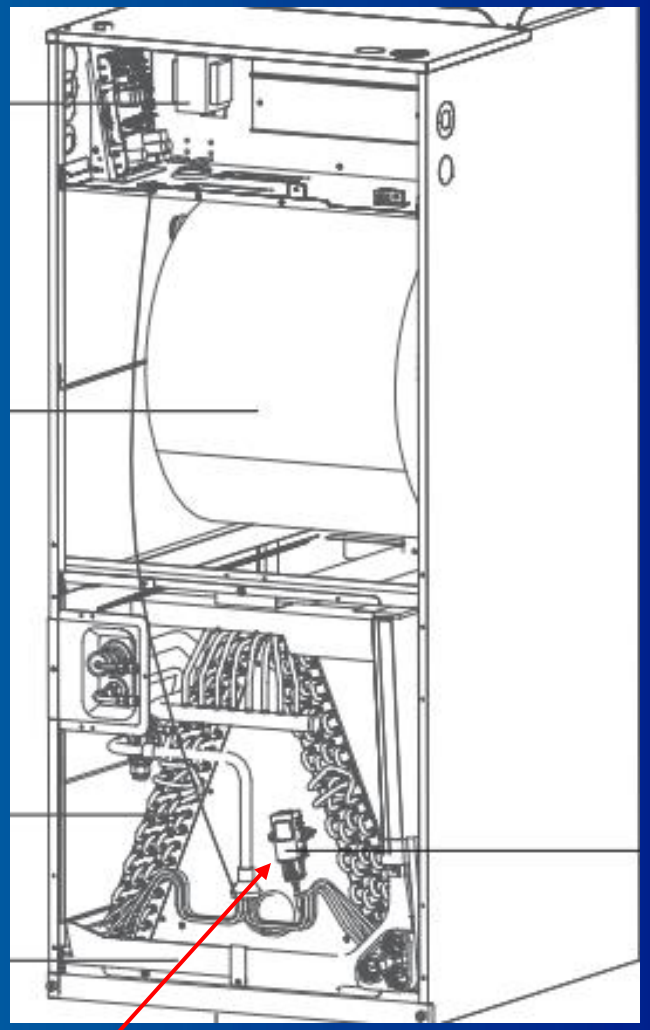
Breeze A2L Sensor Sequence of Operation

Breeze Air Handler is using an EPA approved A2L Sensor Device, intended to control and protect homeowners and dwellings for A2L refrigerant equipment. The system will operate in the following manner when the buildup and release of A2L refrigerant is detected below:

NOTE: A2L sensor is factory installed and wired into the air handler control board.

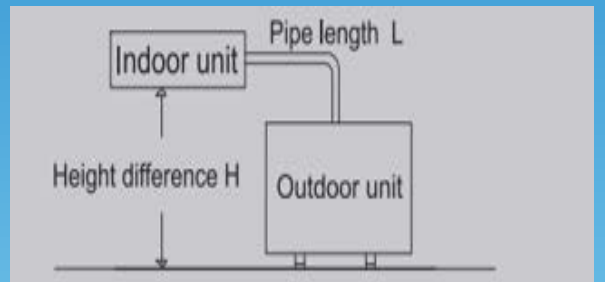
1. The Breeze air handler's A2L sensor monitors the internal cabinet for unsafe refrigerant leak levels. In case of no refrigerant leak, the unit runs normal based of thermostat set points and commands.
2. If there are refrigerant leaks, and the refrigerant sensor detects concentration levels that reach the alarm threshold, the refrigerant sensor outputs a 12v control signal to forcibly turn on high speed blower to dilute the air/gas mixture. Simultaneously the control board will forcibly turn off- Y/Y2-OUT/Y1-OUT/G-OUT signal to the outdoor unit stopping the compressor and outdoor fan.(This signal activates in standby mode as well and will not allow the outdoor unit to start).
3. During a refrigerant leakage detection condition, the terminal "L" outputs a 24v fault signal. When connecting the same brand of indoor unit, it is recommended to be matched with a wired controller with fault signal detection inputs or connect the terminal "L" of the indoor unit to an audible horn/alarm/bell or thermostat input to display on screen.
4. After the alarmed levels of A2L gases are removed/diluted the system will automatically restart.



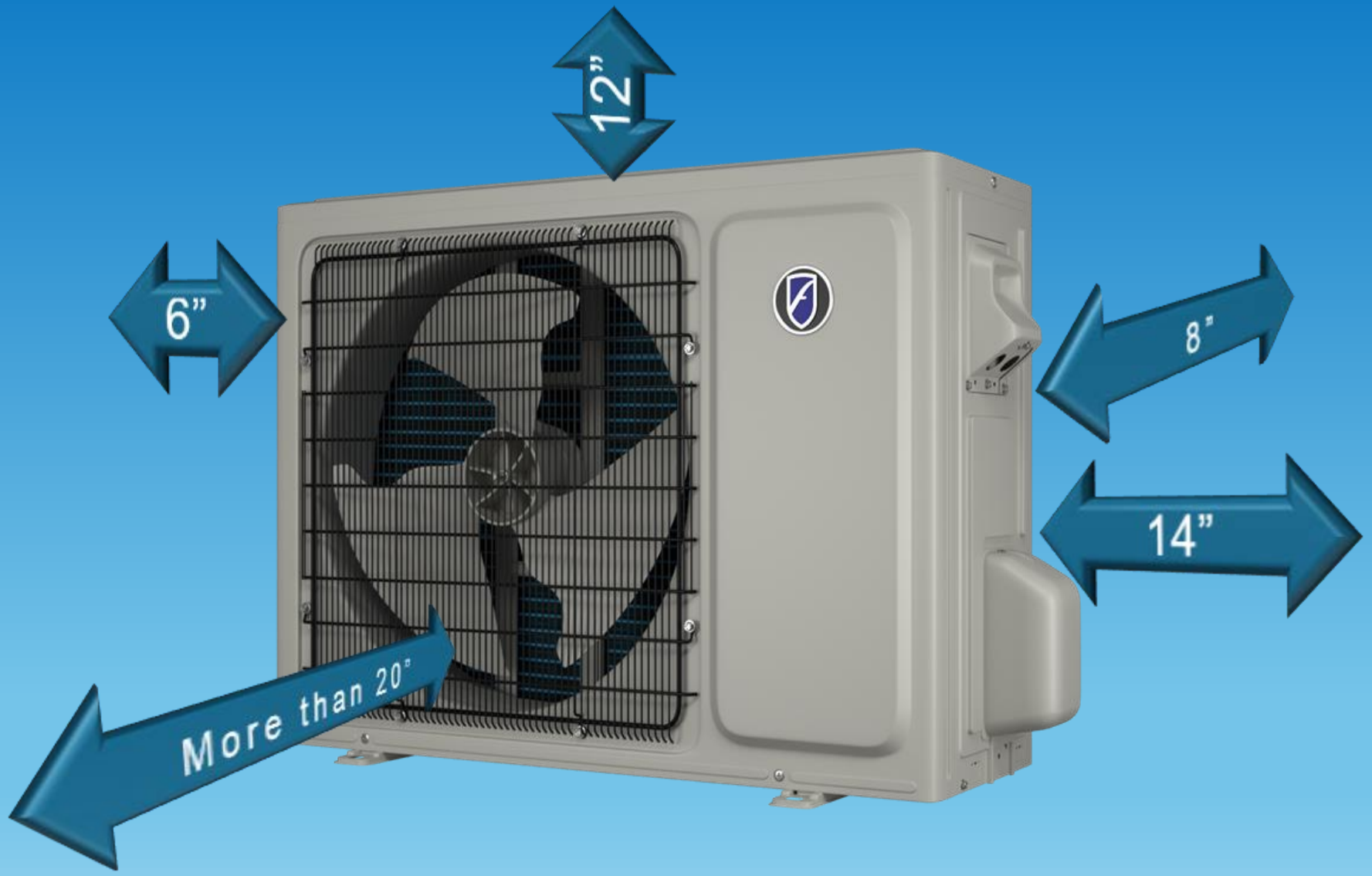
Outdoor unit Clearances and additional charge

Unit is factory charged
For 25 LF of copper line.

Use chart to calculate
Additional charge.



Model	Max. Pipe length (L)	Max. Height difference (H)	Add. Refrigerant [exceed 25ft 7.6m]
24K	98ft. (30m)	66ft. (20m)	0.38(oz/ft) [35(g/m)]
36K	115ft. (35m)	82ft.(25m)	0.38(oz/ft) [35(g/m)]
48K/60K	131ft. (40m)	98ft.(30m)	0.38(oz/ft) [35(g/m)]



Diagnostic Checker – Fault codes & Parameters

All units will have a diagnostic checker for Fault code retrieval and running Parameter check.

Do not remove the power before retrieving the error codes.

Outdoor Dip Switches located on the Diagnostic Checker.

Parameters can be checked in the following table below.

Parameter code	Descriptions
P.0	Fault codes
P.1	Compressor actual frequency
P.5	Compressor exhaust temperature (°C)
P.7	Outdoor ambient temperature(°C)
P.8	Outdoor coil temperature(°C)
P.10	IPM module temperature(°C)
P.11	Outdoor capacity requirement
P.12	IPM fault codes
P.13	Outdoor DC Motor 1 target speed
P.14	AC input current
P.15	AC input voltage
P.16	DC bus voltage
P.17	Compressor phase current
P.18	Frequency limit code
P.21	Target exhaust overheating
P.23	Actual exhaust overheating (heating)
P.24	Actual outdoor pressure
P.27	Outdoor DC Motor 2 target speed

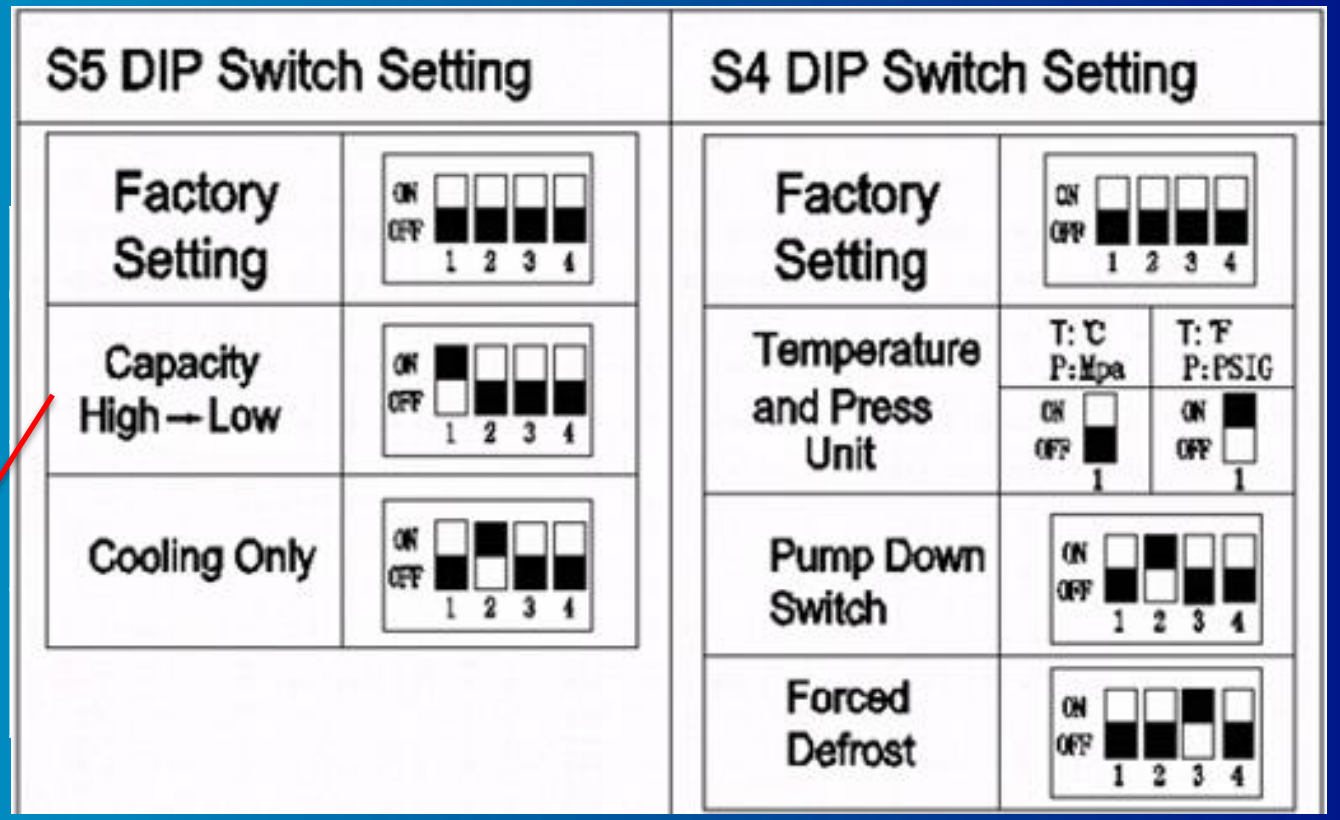
NOTE: The right is therefore reserved to EEPROM changing without notice.

Outdoor Unit DIP Switch Settings

Force defrost mode
Move switch on the S4-#3 dip switch from OFF to ON and system set it in heating mode, then it will run with manual defrosting mode at once.

Cooling only set
Move switch on the S5-#2 Dip switch from OFF to ON. Heating mode will be invalid after the DIP has been activated prior to power up.

Pump down mode
Move switch on the S4-#2 Dip switch from OFF to ON. The compressor runs with the target frequency, and without any protection when frequency rises



Outdoor Unit Model	Indoor Unit Connect
24K	18K
36K	30K
48K	42K
60K	48K

IMPORTANT / NOTICE

Power needs to be *applied* to outdoor unit before switching S4 Dip Switch 2 and 3

Power needs to be *removed* to outdoor unit before switching S5 Dip Switch 2 & 3/ S4-#1 Temp Display

Breeze Test Mode Procedure: Field Adjusting Subcooling Level

Using EPA approved service equipment, add or recover refrigerant according to the refrigerant calculation.

Allow system to stabilize for 20 minutes after adjusting charge level using preferred **weight-in method.**

MEASURE SUBCOOLING TO VERIFY PROPER CHARGE

If you want to adjust charging by checking “Subcooling”, please follow steps below:

NOTE: Charging equipment must use dedicated VG74 oil gauges and hoses.

1. Purge manifold gauges and hose lines.
2. Connect service gauge manifold to Liquid and Suction valve service ports.
3. Convert the liquid pressure to temperature using a temperature/pressure chart.
4. Temporarily install a thermometer on the liquid line at the liquid line service valve . Ensure the thermometer makes adequate contact and is insulated for best possible readings.
5. Subtract the liquid line temperature from the converted liquid pressure temp to determine subcooling.
6. Enter “Test Mode” procedure to verify compressor running capacity.

Breeze Test Mode Procedure: Field Adjusting Subcooling Level

To Enter Test Mode for Subcooling verification follow the steps below:

1. Engage Diagnostic Checker/Module to begin “Test Mode Operation” before starting the subcooling adjustment, make sure the unit is operating at 100% capacity (indoor and outdoor should be running with a call for cooling from the thermostat).
2. Press the S1 button to display “P” Parameters menu
3. Using the S2 or S3 buttons scroll up or down in the Parameter Menu to display “P40”; “P40” will display 0, pressing S2 Increase button to adjust from 0 to 1.
1. Press S1 to display Parameter menu again; using the S2 button increase menu to display “P41”; “P41” will display 0, pressing S2 increase button to adjust from 0 to 1.
1. Press S1 to display Parameter menu a 3rd time; using S2 button increase menu to display “P42” verify display temp 28C Temp/Frequency Lock. The Temp Lock range is from 16C to 30C.
2. Press S1 to display Parameter Menu using either S2 or S3 button scroll to display “P1”Target Actual Frequency to verify Actual compressor hertz speed.

If the system subcooling is not within the documented chart range, adjust subcooling according to the following procedure:

a. If subcooling is low, add charge to adjust the subcooling no more than 6oz. at once to allow system to compensate for additional charge.
b. If subcooling is high, remove charge to lower the subcooling. Do Not remove charge on systems with line set lengths shorter than 25. System will hold additional factory charge critical at 25’ of line charge.
c. Once Subcooling adjustments and system startup testing is completed; please return Parameters “P40,P41,P42 to default settings by following “Test Mode” procedure streps in reverse order. Otherwise, Outdoor unit will be stuck with Frequency Locked Parameters.

Breeze Test Mode Procedure: Field Adjusting Subcooling Level

If the system subcooling is not within documented chart range, adjust subcooling according to the following procedure:

a. If subcooling is low, add charge to adjust the subcooling no more than 6oz. at a time to allow system to compensate/stabilize for additional charge.
b. If subcooling is high, remove charge to lower the subcooling. Do Not remove charge on systems with line set lengths shorter than 25. System will hold additional factory charge critical at 25' of line charge.
c. Once Subcooling adjustments and system startup testing is completed; please return Parameters "P40,P41,P42 to default settings by following "Test Mode" procedure steps in reverse order. Otherwise, Outdoor unit will be stuck with Frequency Locked Parameters.

SUBCOOLING = (SAT. LIQUID TEMP.) - (LIQUID LINE TEMP.)

OD Ambient Temp (degF)	<65°F	65°F to 105°F	>105°F
		HP(Heat pump)	
Subcooling (degF)	Weigh in Charge	24K 17±1°F	Weigh in Charge
		36K 19±1°F	
		48K 16±1°F	
		60K 16±1°F	

Saturated liquid pressure temperature chart	
Liquid pressure (PSIG)	R454B (°F)
200	75
210	78
220	81
225	83
235	86
245	88
255	91
265	94
275	96
285	99
295	101
305	103

Saturated liquid pressure temperature chart	
Liquid pressure (PSIG)	R454B (°F)
325	108
355	114
375	118
405	124
415	126
425	128
435	129
445	131
475	136
500	140
525	144
550	148

Note:
1. Subcooling information is valid only while the unit is entering test mode.
2. Not more than 3/8 lb. (6 oz.) of refrigerant be added to the system at a time to achieve the target subcooling. It is recommended adding 1 oz. refrigerant each time, then wait 10 minutes to stabilize the system.
3. Check the schrader ports for leaks and tighten valve cores, if necessary, install caps finger.
4. Do not adjust the charge based on suction pressure.

Warranty Disclosure

- 7-year All parts out of the box
- 10-year Compressor out of the box
- *Warranty Commencing on the date of installation or 120 days after original End-user purchase date
- 10-year Parts / 10-Year Compressor with system product registration at Friedrich.com
- 5-year Parts / 5-Year Compressor Commercial Use Installation

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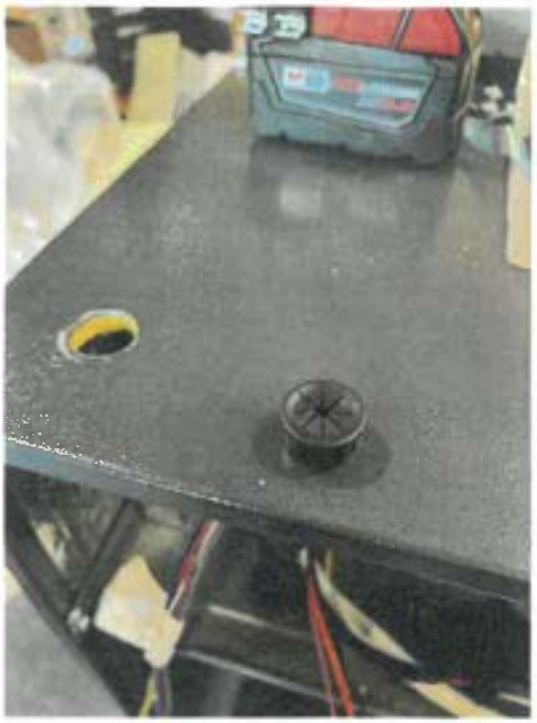
Remove manufacturer wiring grommet

Use step up drill bit to ream hole to 7/8 ”

Install provided grommet into hole



Distributor provided rubber grommet replacement

Run all indoor and outdoor wiring from control board through grommet to exterior to meet UL code

CAUTION!

REMOVE BLOWER WHEEL FOAM INSERT BEFORE INSTALLATION