EVAPORATOR COIL INSTALLATION INSTRUCTIONS

- R454b and R32 -

These instructions are for the use of qualified individuals trained and experienced in the installation of HVAC equipment and related components. Installation and service personnel are required by some states to be licensed. Unqualified personnel should not install equipment nor interpret these instructions. These instructions must be used only in conjunction with the installation of AllStyle coils and are intended only to advise and assist the installer. Read them fully before attempting installation. This product is designed and manufactured to permit installation in accordance with the local and national building codes. It is the responsibility of the installer to install this unit in accordance with these codes. Improper installation may damage equipment, create a hazard, and void warranty.

Coil Preparation

This product has been manufactured to precise quality standards, however, damage may have occurred during transit, handling, or storage. Inspect the coil to ensure:

- Drain connections are tight and openings are clear.
- Straighten any bent or damaged fins.
- Manifolds are intact and not damaged.
- Any other apparent damage.
- Unused drain ports must be capped or plugged.

Coils with Florator Restrictors

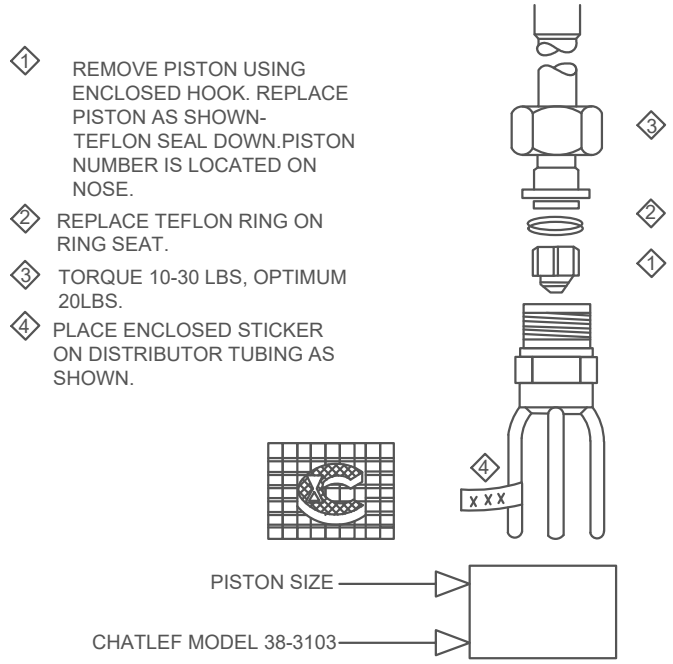
Coils are shipped with a bi-directional piston type florator refrigerant metering device. The piston is sized to the nominal tonnage of the coil as indicated in the model number of the coil. If possible, obtain the recommended piston size from the manufacturer of the outdoor unit. If this information is not available, then follow these instructions: If the nominal tonnage capacity of the outdoor unit is not what is indicated on the coil model number, use the chart below to select the correct piston size to match the capacity of the outdoor unit. If the application requires, the installer must change the piston. Use the following chart to size the piston when matching the coil with an outdoor unit rated at 13/14 SEER.

OD Unit Capacity	Orifice Size (R32)	Orifice Size (R454b)
18,000	.053	.047
24,000	.063	.055
30,000	.067	.059
36,000	.074	.067
42,000	.078	.074
48,000	.084	.078
60,000	.094	.084
NOTE: Chart based on average capacity		

The piston should be sized according to the capacity of the outdoor unit. Failure to install the proper piston can lead to poor system performance and possible compressor damage.

To Change the Piston

1. The piston is located on the front panel of the coil case or in the case of the uncased coil, over the drain pan. Use a backup wrench and unscrew the two halves of the distributor **(On cased coils, this step is not required)**.
2. Remove the piston shipped with the coil and install the correct piston in the distributor body, it should be free to slide inside the distributor body.
3. Do not over tighten the florator body when reassembling. Make sure the Teflon seal is in place prior to mounting the stub to the distributor body. Tighten the connection to 20 foot pounds of torque.



Field Mounted Expansion Valves

Use only AllStyle Expansion Valve Kits. Refer to the installation instructions packaged in the expansion valve kit. (Consult factory for TXV options and availability).

Part Number	Application
RP31133	1 - 3 Ton R32
RP31134	3.5 - 5 Ton R32
RP31130	1 - 3 Ton R454b
RP31132	3.5 - 5 Ton R454b

EVAPORATOR COIL

INSTALLATION INSTRUCTIONS

Factory Installed Expansion/Check Valves

- Before installing TXV, remove valve stem from the Schrader Valve to avoid refrigerant restriction.
- The TXV sensing bulb is shipped attached to the suction line stub. The bulb should carefully be repositioned to allow the field suction line to be connected to the coil. Once this connection has been welded and allowed to cool, then position the expansion valve sensing bulb on the suction line (preferably in a horizontal run just outside the cabinet). The sensing bulb must make direct contact to the suction line.
- Utilizing the mounting straps, secure the bulb to the suction line. The bulb must be mounted at the 10 or 2 o'clock location for optimum performance, this mounting location guards the sensing bulb from false readings due to air or liquid in the suction line.
- Insulate the suction line and the sensing bulb to prevent ambient air from causing false readings.
- Coils with non-equalizing expansion valves may require the use of a hard start or start assist kits. Follow the outdoor unit manufacturer's guidelines.

Coil Installation

- Coils must be installed on the discharge side of a gas furnace or in an insulated air handler.
- Install:

1. Cased vertical coils on a level flat surface.
2. Un-cased vertical and horizontal coils on a level flat surface, then raise the rear of the coil 1/2" to provide positive drainage to the drain connection.
3. Condensate drain(s) in accordance with the local building code requirements. **Use teflon tape to connect the drain line to the plastic condensate connection on the coil. Do not use solvent base pipe dope. Hand tighten the connection. Do not use excessive force.**
4. If a secondary drain is required, it must be run separately from the primary drain and should terminate in a highly visible location.
5. When a coil is installed on the negative pressure side of a blower, the drains must be trapped to insure condensate drainage.
6. When coils are installed above ceilings or in other locations where damage from condensate overflow may occur, it is required that an auxiliary drain pan be installed under the coil cabinet. Drain lines from an auxiliary drain pan must be installed, but should not be connected to the primary drain line of the coil.
7. Drain lines must be installed with 1/4" per foot pitched away from the coil to provide free drainage. A condensate trap should be installed to ensure drainage. If installed, the trap should be located in the drain line below the bottom of drain pan.
8. Drain lines must be adequately supported such that the weight of the drain line is removed from the coil drain connection. Long horizontal runs of drain lines located above a finished area should be insulated to prevent sweating and dripping.
9. Refrigerant lines should be sized by the outdoor unit manufacturer's recommendations.
10. Braze all refrigerant connections while flowing nitrogen through the pipe. Make certain that a liquid line drier is present in the system, leak check the entire installation utilizing nitrogen or other suitable means. Dehydrate the system by pulling a deep vacuum sufficient to remove any moisture that may have entered the system.
11. Prior to charging the system, leak check the entire installation utilizing nitrogen or other suitable means. Dehydrate the system by pulling a deep vacuum sufficient to remove any moisture that may have entered the system.
12. If a time relay is utilized, adjust it for the optimum delay recommended by the outdoor unit manufacturer.
13. Seal the coil cabinet and all connections to create an air-tight seal. Insulate the suction line.
14. **Mandatory sufficient sized filter line drier replacement installed in any new coil installation or replacement**.
15. When evaporator coil is installed with a gas furnace, heat shields are required when installed.

System Charging

Follow the instructions provided with the outdoor equipment manufacturer for coils with a piston/orifice metering device (See section "Coils with Florator Restrictors"), if they are not available, follow the guidelines listed below. Use the following guidelines for coils with an expansion valve.

- Set the airflow of the air handler unit to the recommended level. If uncertin, set air flow to 400 CFM per nominal ton of capacity of the outdoor unit. Do not allow static pressure drop across the coil to exceed .30".
- ***Florator coils.*** Add refrigerant until the superheat measured at the outdoor unit suction line matches the superheat from the chart below.
- ***Expansion Valve Coils.*** Add refrigerant until the sub-cooling measured at the outdoor unit liquid line matches the sub-cooling valvue listed in the outdoor manufacturer's instructions, if they are not available, use the chart below. If you have an adjustable TXV, adjust superheat on TXV to obtain unit suction line (normal rage 8°F to 12°F).

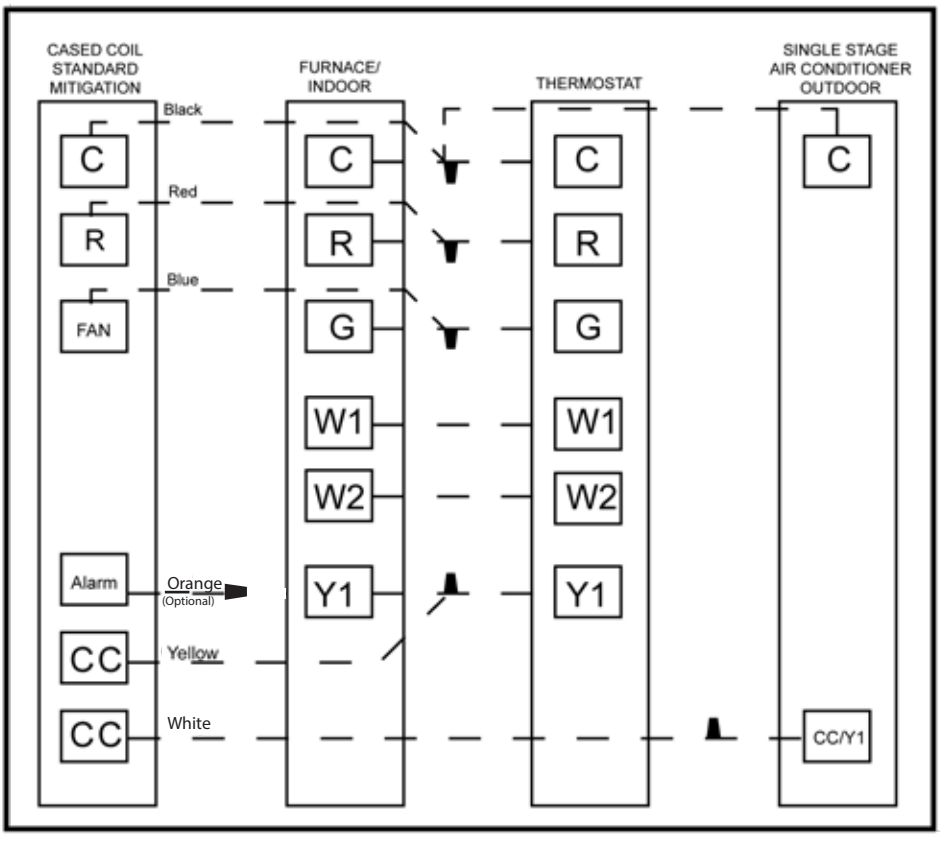
OAT °F DB	SUPERHEAT °F DB			SUB-COOLING °F DB		
	MIN	NOM	MAX	MIN	NOM	MAX
65	35	40	45	5	10	15
70	31	35	39	5	10	15
75	26	30	34	5	10	15
80	22	25	28	5	10	15
85	17	20	23	5	10	15
90	13	15	17	5	10	15
95	8	10	12	5	10	15
100	4	5	6	5	10	15

Contact AllStyle if you have any questions. Please provide information on coil, outdoor unit, outdoor ambient temperature, metering device, pressures, superheat and sub-cooling, airflow and indoor temperature.

A2L Danfoss Sensor Wiring

The Danfoss A2L sensor is a gas detection device specifically designed to detect low-global-warming-potential (GWP), mildly flammable A2L refrigerants, such as R-32 and R-454B. It's engineered to meet modern HVAC safety standards—especially UL 60335-2-40 (4th Edition)—ensuring reliable detection of refrigerant leaks in heat pumps, air conditioners, and refrigeration systems.

- Continuously monitors the environment for the presence of A2L refrigerant gases.
- Detects refrigerant concentration levels well below the Lower Flammability Limit (LFL) to ensure early warning and safety.



WIRING CODE:

- FACTORY WIRING
- FACTORY SUPPLIED WIRING (FIELD CONNECTION)
- FIELD SUPPLIED WIRING (FIELD CONNECTION

NOTE:
1. THIS"CC" TERMINAL IS WIRED TO THE CC OUTPUT OF THE FURNACE/INDOOR UNIT CONTROL IF ONE EXISTS. OTHERWISE, WIRE AS SHOWN.

S29003 A2L SENSOR KIT FOR A-M-COILS		
GTY:	P/N	KIT INCLUDES
1	RP33114L	A2L SENSOR BRACKET FOR A-COIL W/LH DRAINS
1	RP33114R	A2L SENSOR BRACKET FOR A-COIL W/RH DRAINS
1	RP33115	A2L SENSOR BRACKET FOR PLENUM COILS

S29004 A2L SENSOR KIT FOR AIR HANDLERS		
GTY:	P/N	KIT INCLUDES
1	RP33117	A2L SENSOR BRACKET FOR AIR HANDLERS

S29005 A2L SENSOR KIT FOR COMMERICAL COILS		
GTY:	P/N	KIT INCLUDES
3	RP33117	A2L SENSOR BRACKET FOR COMMERCIAL COILS

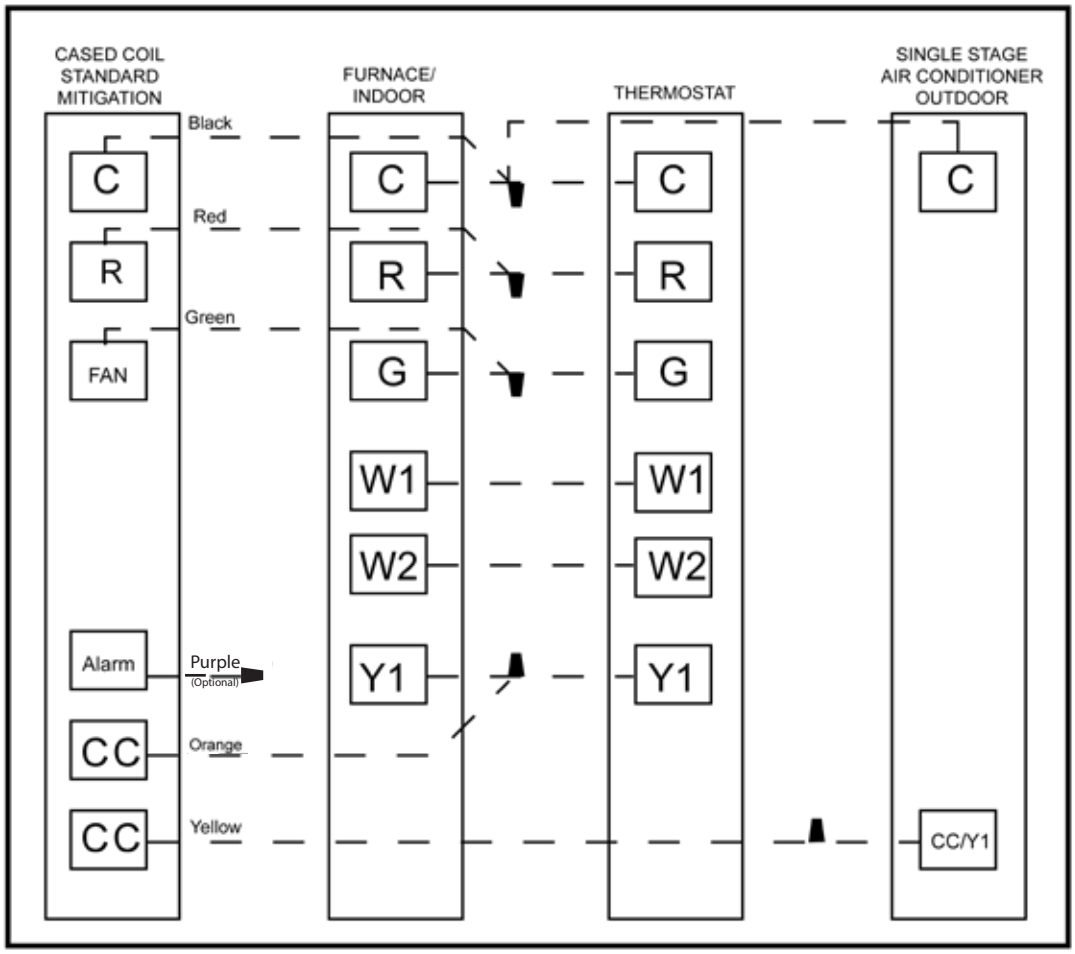
You must install new refrigerant label on the evaporator coil label provided

A2L Sensirion Sensor Wiring

Sensirion's A2L sensors (SGD4x series) are robust, certified, and integration-ready thermal conductivity sensors engineered for detecting low-GWP, mildly flammable refrigerants. They offer high accuracy, fast leak detection, long life, and reliable communication interfaces—making them ideal for modern HVACR systems transitioning to A2L refrigerants with strict safety standards in mind

- Sensirion's A2L sensors typically use thermal conductivity detection (TCD) technology

- Ensure compliance with global safety standards like UL 60335-2-40 (4th edition) and IEC 60335



WARNING

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater.

Do not pierce or burn.

Be aware that refrigerants may not contain an odour.

This appliance is not for use by persons (including children) with reduced physical, sensory, or mental capabilities or lack of experience and knowledge unless they have been given supervision or instructions concerning its use by a person responsible for their safety.

Children should be supervised to ensure they do not play with the appliance.

This product shall not be used at altitudes exceeding 2,000 m.

Types and ratings of fuses are outlined in the wiring diagrams attached to the unit.

Types and ratings of fuses are outlined in the wiring diagrams attached to the unit.

Pipework, including piping material, pipe routing, and installatioon, shall include protection from physical damage in operation and service and comply with national and local codes and standars, such as ASHRAE 15

ASHRAE 15.2 IAPMO uniform mechanical Code, ICC international mechanic code, or CSA B52. All field joints shall be accessible for inspection before being covered or enclosed.

When piping is completed, a thorough leak and pressure test should be performed before evacuation and startt-up. The minimum test pressure for the low side of the stystem shall be the low side design pressure. The minimum test pressure for the high side of the system shall be the high side design pressure unless the high side cannot be isolated from the low side of the system, in which case the entire system shall be pressure tested to the low side design pressure.

Only technicians trained by national training organizations or manufactures that are accredited to teach the relevant national competency standards that may be set in legislation may work on this equipment. A certificate must document the competence achieved.

Equipment including fluid or steam piping must not be connected to a potable water supply.

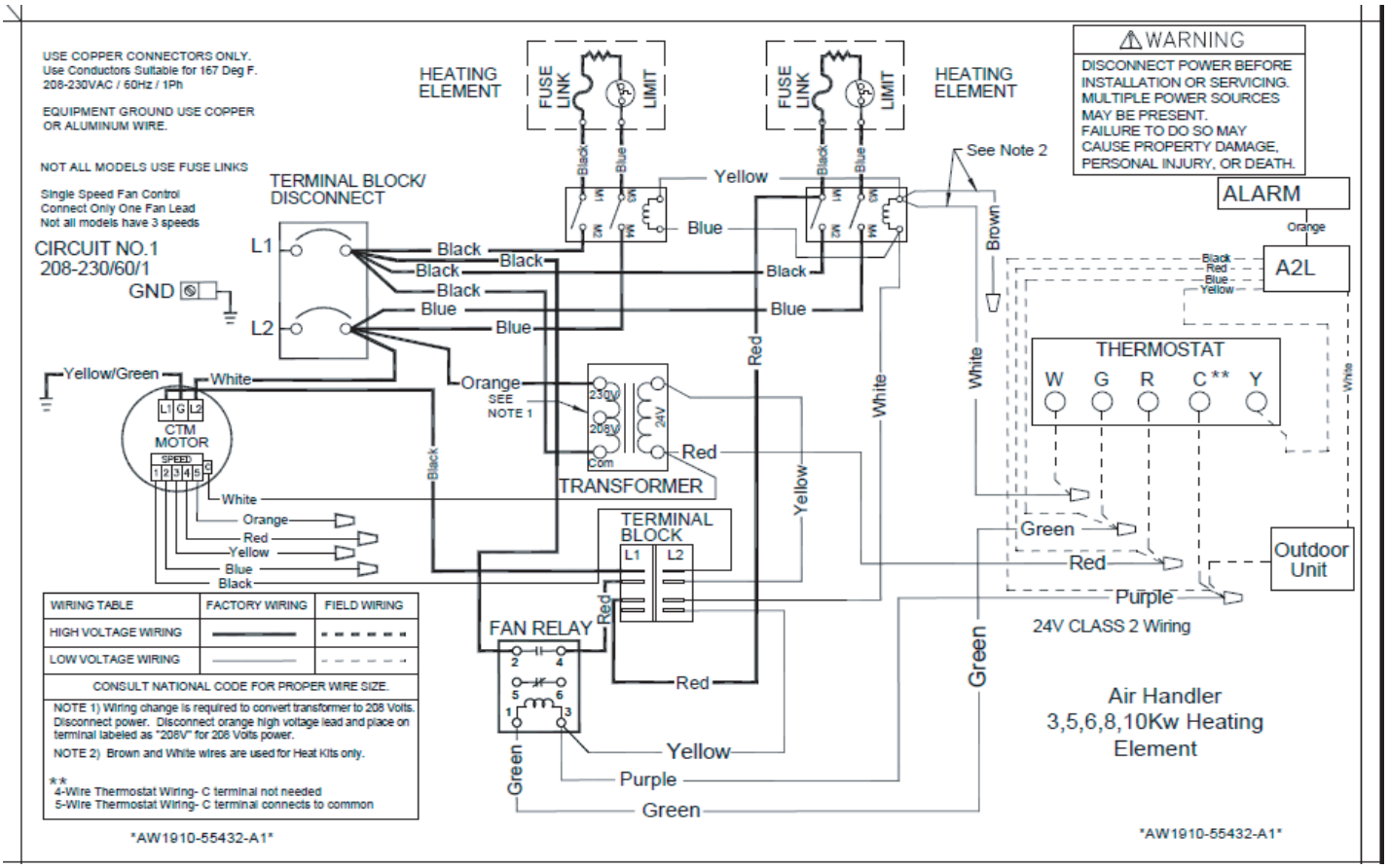
Equipment including fluid or steam piping must not operate pressures exceeding **<<max pressure in kPA and PSI>>**

The inlet temperature of fluid or steam to equipment including these options, must not exceed **<<max temperature in C and F>>**

CONNECTION TO THE POWER SUPPLY

The appliance shall be installed in accordance with national wiring regulations. Disconnection of all phases, by switch or other means, must be provided in the fixed wiring supplying this unit. Refer to the wiring diagram attached to the unit or in these instructions for connection details.

<Example Wiring Diagram>



f. This appliance is not for use by persons (including children) with reduced physical, sensory, or mental capabilities, or a lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety;
g. Children should be supervised to ensure that they do not play with the appliance;
h. The appliance shall be installed in accordance with national wiring regulations;
i. The method of connection to the appliance to the electrical supply and the interconnection of separate components;
j. For appliances intended for use at altitudes exceeding 2,000 m, the maximum altitude of use is stated;
k. A description of what action must be taken to adjust the appliance for operation at 208V or 230V, depending on installation needs;
l. The method of connection of the appliance to the electrical supply and interconnection of separate components;
m. Details of the type and rating of fuses or the rating of circuit breakers;
n. Instructions on charging refrigerants when the manufacturer requires the addition of charge for completing the refrigerant system;
o. Maximum and minimum water or brine operating temperatures;
p. Maximum and minimum water or brine operating pressures;

WARNING LABELS

⚠WARNING

RISK OF FIRE

Flammable Refrigerant used. To be repaired only by trained service personnel. Do not puncture refrigerant tubing.

⚠ AVERTISSEMENT

Resque d'incendie.
Réfrigérant inflammable utilisé.
À réparer uniquement par du personnel de service qualifié.
Ne pas percer les tubes de réfrigérant

Refrigerant Safety Group A2L

⚠WARNING

RISK OF FIRE

Dispose of Properly in accordance with federal or local regulations.
Flammable Refrigerant Used.

⚠ AVERTISSEMENT

Resque d'incendie.
Éliminer correctement conformement aux réglementations fédérales locales. Réfrigérant inflammable utilisé

⚠WARNING

Leak detection system installed. Unit must be powered except for service.

⚠ AVERTISSEMENT

Sistema de detección de fugas instalado. Encendido, excepto para servicio.

⚠WARNING

RISK OF FIRE

Auxiliary devices which may be ignition sources shall not be installed in the ductwork, other than auxiliary devices listed for use with the specific appliance. See instructions.

⚠ AVERTISSEMENT

Resque d'incendie.
Aucun dispositif auxiliaire pouvant être source d'inflammation ne doit être installé dans les conduits, à l'exception des dispositifs auxiliaires homologués pour l'appareil en question. Voir les instructions

Read the Instructions

FLAMMABLE REFRIGERANT ADDENDUM

WARNING – Leak Detection System installed. The unit must be powered except for service.

System Charge Limits, Minimum Serviced Room Areas and Minimum Mitigation Airflow for R-454B with minimum leak height of 2.2m					
Maximum System Charge (kg)	Maximum System Charge (oz)	Minimum Room Area (m^2)	Minimum Room Area (ft^2)	Minimum Mitigation Airflow (m^3/hr)	Minimum Mitigation Airflow (CFM)
1.81	64	5.5	59.0	180.8	106.5
2.27	80	6.8	73.7	226.0	133.1
2.72	96	8.2	88.5	271.3	159.8
3.18	112	9.6	103.2	316.5	186.4
3.63	128	11.0	118.0	361.7	213.0
4.08	144	12.3	132.7	406.9	239.7
4.54	160	13.7	147.5	452.1	266.3
4.99	176	15.1	162.2	497.3	292.9
5.44	192	16.4	177.0	542.5	319.5
5.90	208	17.8	191.7	587.7	346.2
6.35	224	19.2	206.4	632.9	372.8
6.80	240	20.5	221.2	678.1	399.4
7.26	256	21.9	235.9	723.3	426.0
7.71	272	23.3	250.7	768.5	452.7
8.16	288	24.7	265.4	813.8	479.3
8.62	304	26.0	280.2	859.0	505.9
9.07	320	27.4	294.9	904.2	532.6
9.53	336	28.8	309.7	949.4	559.2
9.98	352	30.1	324.4	994.6	585.8
10.43	368	31.5	339.2	1039.8	612.4
10.89	384	32.9	353.9	1085.0	639.1
11.34	400	34.2	368.7	1130.2	665.7
11.79	416	35.6	383.4	1175.4	692.3
12.25	432	37.0	398.1	1220.6	719.0
12.70	448	38.4	412.9	1265.8	745.6
13.15	464	39.7	427.6	1311.0	772.2
13.61	480	41.1	442.4	1356.3	798.8
14.06	496	42.5	457.1	1401.5	825.5
14.51	512	43.8	471.9	1446.7	852.1
14.97	528	45.2	486.6	1491.9	878.7
15.42	544	46.6	501.4	1537.1	905.3
15.56	549	47.0	506.0	1551.2	913.7

System Charge Limits, Minimum Serviced Room Areas and Minimum Mitigation Airflow for R-454B with minimum leak height of 0m					
System Charge (kg)	System Charge (oz)	Minimum Room Area (m^2)	Minimum Room Area (ft^2)	Minimum Mitigation Airflow (m^3/hr)	Minimum Mitigation Airflow (CFM)
1.81	64	20.1	216.3	180.8	106.5
2.27	80	25.1	270.3	226.0	133.1
2.72	96	30.1	324.4	271.3	159.8
3.18	112	35.2	378.5	316.5	186.4
3.63	128	40.2	432.6	361.7	213.0
4.08	144	45.2	486.6	406.9	239.7
4.54	160	50.2	540.7	452.1	266.3
4.99	176	55.3	594.8	497.3	292.9
5.44	192	60.3	648.8	542.5	319.5
5.90	208	65.3	702.9	587.7	346.2
6.35	224	70.3	757.0	632.9	372.8
6.80	240	75.3	811.0	678.1	399.4
7.26	256	80.4	865.1	723.3	426.0
7.71	272	85.4	919.2	768.5	452.7
8.16	288	90.4	973.2	813.8	479.3
8.62	304	95.4	1027.3	859.0	505.9
9.07	320	100.5	1081.4	904.2	532.6
9.53	336	105.5	1135.4	949.4	559.2
9.98	352	110.5	1189.5	994.6	585.8
10.43	368	115.5	1243.6	1039.8	612.4
10.89	384	120.6	1297.7	1085.0	639.1
11.34	400	125.6	1351.7	1130.2	665.7
11.79	416	130.6	1405.8	1175.4	692.3
12.25	432	135.6	1459.9	1220.6	719.0
12.70	448	140.6	1513.9	1265.8	745.6
13.15	464	145.7	1568.0	1311.0	772.2
13.61	480	150.7	1622.1	1356.3	798.8
14.06	496	155.7	1676.1	1401.5	825.5
14.51	512	160.7	1730.2	1446.7	852.1
14.97	528	165.8	1784.3	1491.9	878.7
15.42	544	170.8	1838.3	1537.1	905.3
15.56	549	172.4	1855.2	1551.2	913.7

INFORMATION ON SERVICING

1. Work shall be undertaken under a controlled procedure to minimize the risk of flammable gas or vapor being present during the work.
2. All maintenance staff and others working in the local area shall be instructed on the nature of the work. Work in confined spaces shall be avoided.
3. The area shall be checked with an appropriate refrigerant detector before and during work to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e., non-sparking, adequately sealed, or intrinisically safe.
4. If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand.
5. No person carrying out work with a referating system, which involves exposing any pipework, shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the installation site, repair, removal, and disposal, during which refrigerant can possibly be released into the surrounding space. Before work occurs, the area around the equipment is to be surveyed to ensure there are no flammable hazards or ignition risk. “No Smoking” signs shall be displayed at all times.
6. Ensure the area is open or adequately ventilated before breaking into the system to conduct any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
7. When electrical components are replaced, they must be suitable for the intended purpose and meet the correct specification. At all times, the manufacturer’s maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer’s technical department assistance.
8. The following checks shall be applied to the installation after servicing.
    I. Markings on the equipment remain visible and legible. Marking and signs that are illegible shall be corrected.
    II. Refrigerating pipes or components are installed where they are unlikely to be exposed to any substance that may corrode referant-containing components unless the components are constructed of materials that are inherently resistant to being corroded or suitably protected against being so corroded.

9 Repair and maintenance of electircal components shall include initial safety checks and thorough component inspection. If a fault could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but operation must continue, an adequate temporary solution shall be implemented. This must be reported to the equipment owner so that all parties are informed. Initial safety checks shall include;

- The capacitors are dischared this shall be done safely to avoid the possibilty of sparking
- No live electrical components or wiring are exposed during charging, recovery, or purging of the system.
- that there is contuity of earth bonding.

Installation in Unventilated Areas

An unventilated area where the appliance using flammable refrigerants is installed shall be so constructed that, Should any refrigerant leak, it will not stagnate so as to create a fire or explosion hazard.

WARNING

If this air handler is connected via an air duct system to one or more rooms with A2L REFRIGERANTS are installed in a room with an area less than A as determined using one of the tables in this manual, that room shall be without continuously operating open flames (e.g. an operating gas appliance) or other potential ignition sources (e.g. an operating electric heater, hot surfaces.)
A flame-producing device may be installed in the same space if the device is provided with an effective flame arrest.

WARNING

Auxilliary devices, which may be a potential ignition source, shall not be installed in the ductwork. Examples of such potential ignition sources include hot surfaces with a temperature exceeding 700 °C and electric switching devices

This equipment is provided with a refrigerant detection system (RDS). False ceilings or drop ceilings may be used as a return air plenum if any external connections are also provided with a sensor immediatley below the return air plenum duct joint.

Equipment that requires a water supply to function correctly, for instance, chilled or hot water coils, should not be connected to any potable water sources. The water system should have a pH between 7.5 and 9.0 and chloride and sulfate concentrations of less than 125 mg/L and 35 mg/l, respectively.

Repairs to Sealed Components

sealed electrical components shall be replaced.

Cabling

Check that cabling is not subject to wear, corrosion, excessive pressure, vibration, sharp edges, or other adverse enviromental effects. The check shall also consider the effects of aging or continual vibration from sources such as compressors or fans.

WARNING

MILD FLAMMABILITY RISK -
this sensor detects A2L gases which are low flammability refrigerants. Do not ignore alarms.

NOT FOR USE
in atmospheres with highly flammable gases (A3 classification like propane or isubutane).

DO NOT EXPOSE
to open flames, sparks, or high heat sources near sensor installation.


AllStyle
Coil Company, L.P