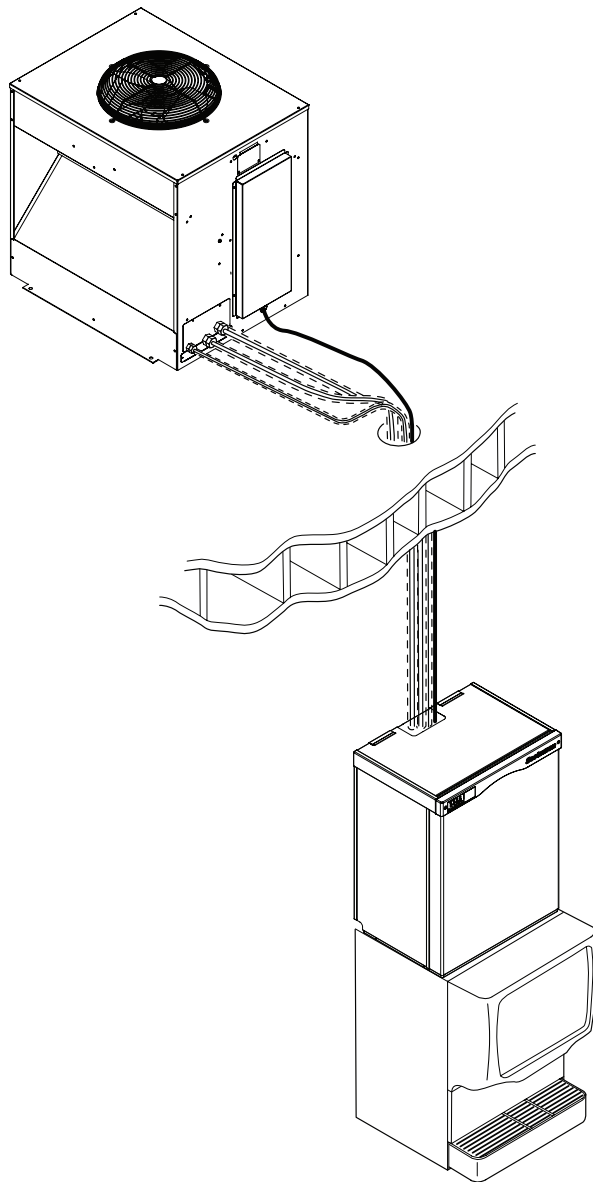




New Eclipse Technical Review Models

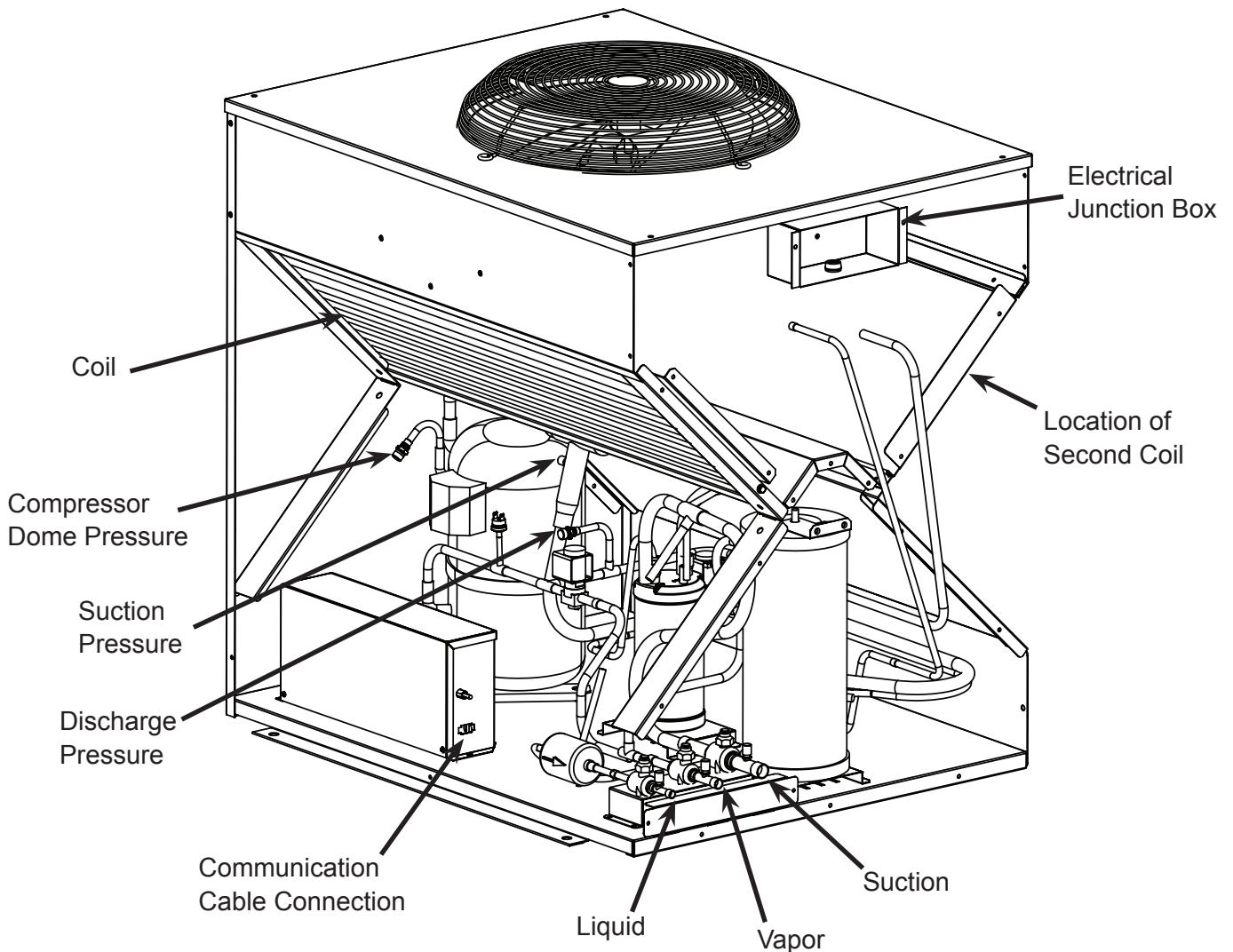
ECC0800, ECC1200, ECC1410, ECC1800
EH222-C, EH330-C, EH430-C



Condensing Unit.

The new condensing unit is illustrated below. The ECC0800, ECC1200 and ECC1410 have one condenser coil, while the ECC1800 has two. The coils are mounted at an angle between the compressor and fan. Airflow is in the side and out the top.

Refrigeration connections are on the side, near the base. The connections are three ball valves with stub outlets. The ball valves ship closed, the receiver contains the refrigerant charge for the system. Schrader access valves are on the outside of the ball valves so the interconnecting tubing can be evacuated after brazing.



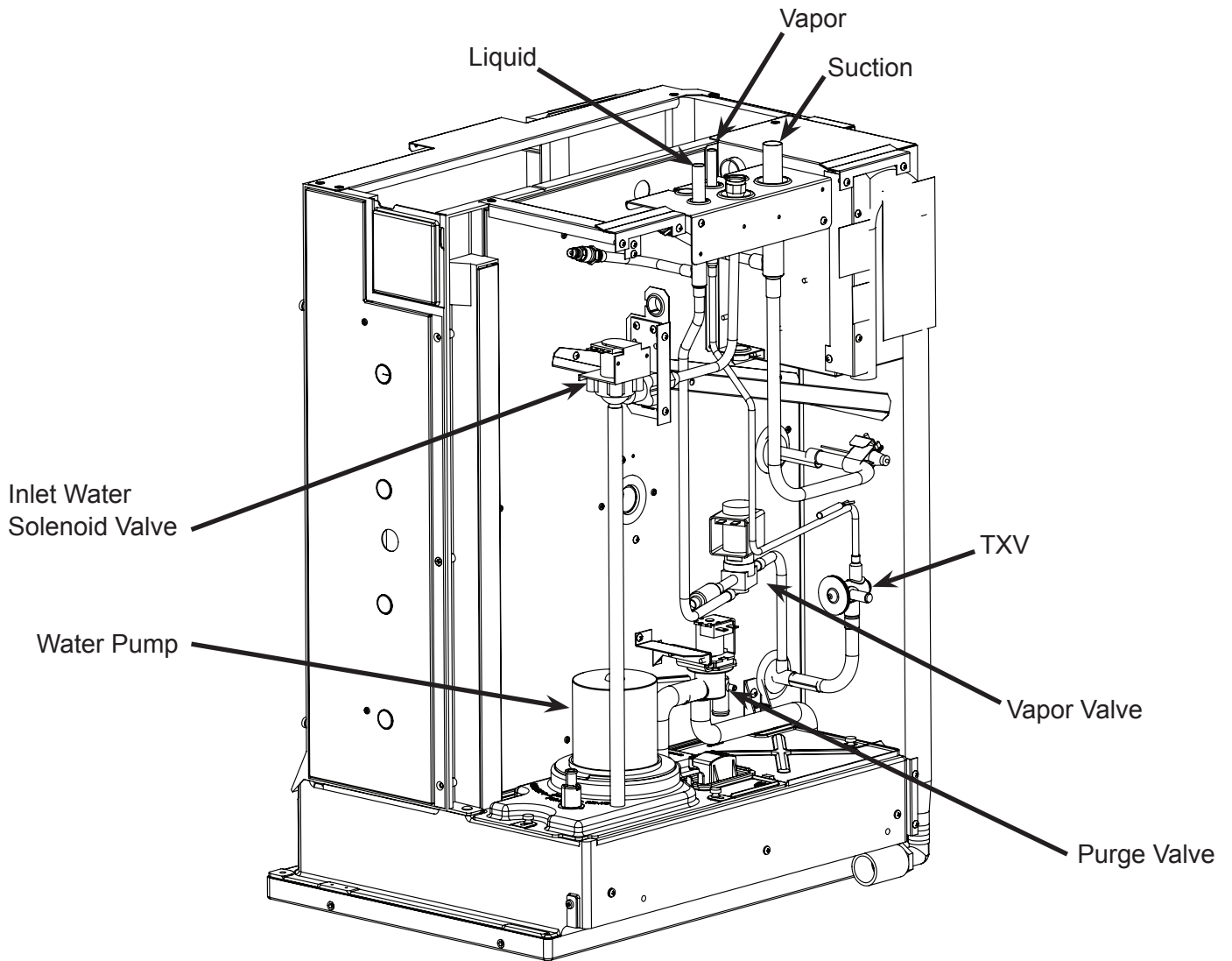
The electrical power supply connects to the wires in the junction box near the top of the condensing unit. The communication cable that connects to the ice making head routes thru a bushing near the base and routes to a connector on the side of the control box.

Ice Making Head.

There are three ice making heads for the New Eclipse: EH222-C, EH330-C and EH430-C. The EH222-C is shown below. All have stubs for braze connections to the interconnecting tubing to the condensing unit. The stubs are at the top, located with the water inlet fitting, communication cable and power cord.

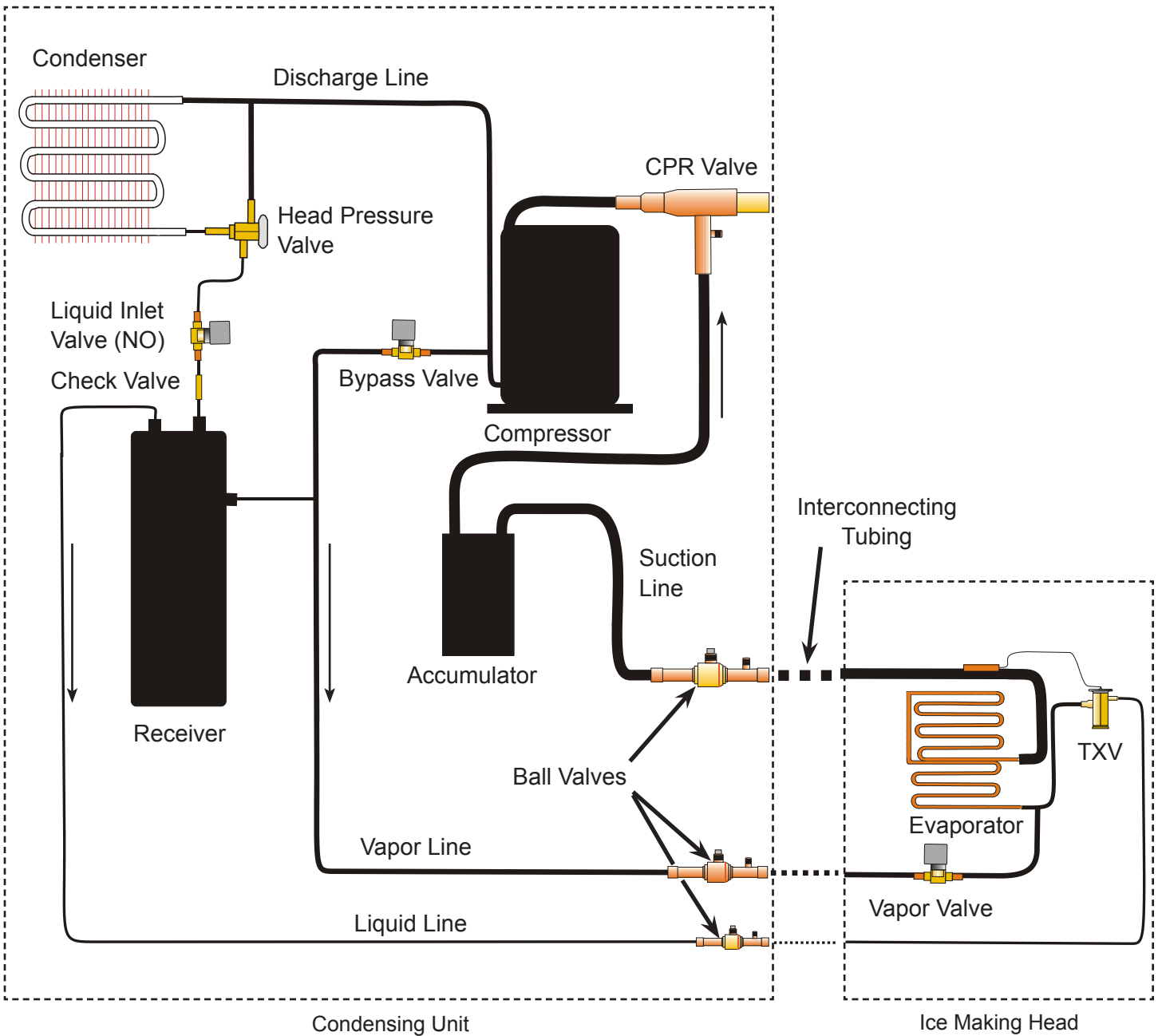
The EH222 has a single evaporator, the EH330 has two, twelve inch evaporators and the EH430 has two eighteen inch evaporators.

The communication cable allows the head to operate the condensing unit. It switches it on and off, and also controls the freeze and harvest cycles.



The refrigeration schematic below illustrates the refrigerant system. The ice making head and condensing unit are connected by three refrigerant tubes:

- 3/8 in OD Liquid line
- 1/2 in OD Vapor Line
- 3/4 in OD Suction line



The ice making head contains one or two evaporators, each with its own TXV and vapor inlet valve. The control system is also located there as are the pump, inlet water solenoid valve and purge valve.

The condensing unit contains most of the refrigeration components, including the compressor, condenser, fan motor, crankcase pressure regulating valve, receiver, accumulator, headmaster, condenser bypass valve and liquid inlet valve.

A communication cable connects the controller and two relays in the ice making head to the contactor and solenoid valves in the compressor package. The Contactor relay in the head is operated by the controller and has power during ice making. The Hot Gas Valve relay is powered by the controller only during harvest and connects power in the condensing unit to the bypass valve and liquid inlet valve.

Refrigeration System Operation, refer to the schematic on the opposite page.

During Freeze,

- The compressor is operating.
- The vapor inlet and condenser by pass valves are closed.
- The normally open liquid line inlet valve is open.
- The headmaster is open between condenser inlet and liquid outlet.

Under low ambient/low pressure conditions, the headmaster valve closes the liquid outlet of the condenser and opens a bypass route to direct refrigerant gas to the receiver inlet until discharge pressure builds back up to the headmaster's set point.

From the receiver liquid outlet, liquid refrigerant flows into the liquid line and into the ice making section.

At the ice making section, the refrigerant flows into the three expansion valves.

After the evaporator, low-pressure refrigerant gas flows into the suction line, which carries it back to the condensing unit, where it enters the accumulator. The accumulator includes a loop of the liquid line inside the tank, not illustrated in the schematic. In the accumulator most of any liquid carried with the suction gas is separated and only vapor flows out of the accumulator through the CPR valve and to the compressor where the cycle continues.

Suction pressure during freeze will be the same at the compressor or at the evaporators.

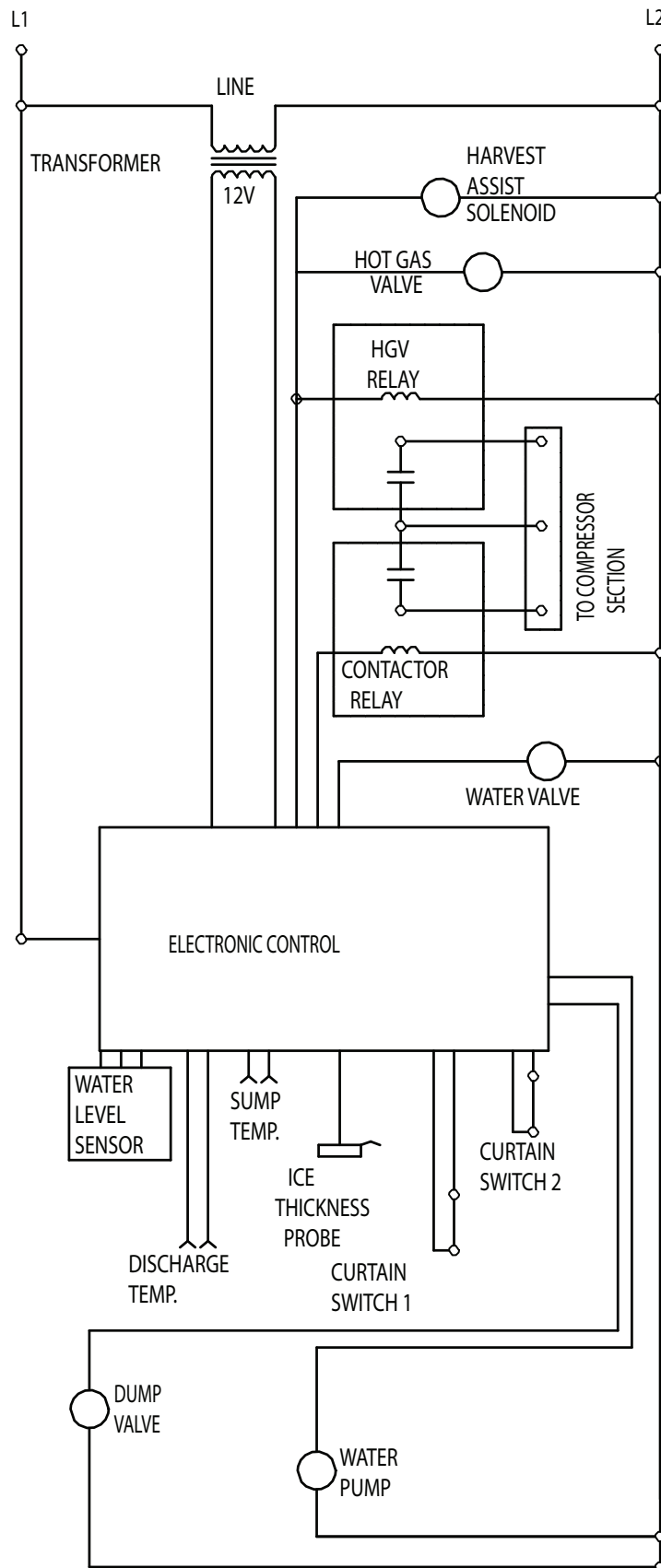
During harvest,

- The bypass and vapor valves are energized and open.
- The liquid inlet valve is energized and closed.
- The side port of the receiver releases high pressure gas into the vapor line.
- The CPR valve limits the compressor dome suction pressure to a pre-set maximum; evaporator pressure (measured at the suction shut off valve) will be higher.

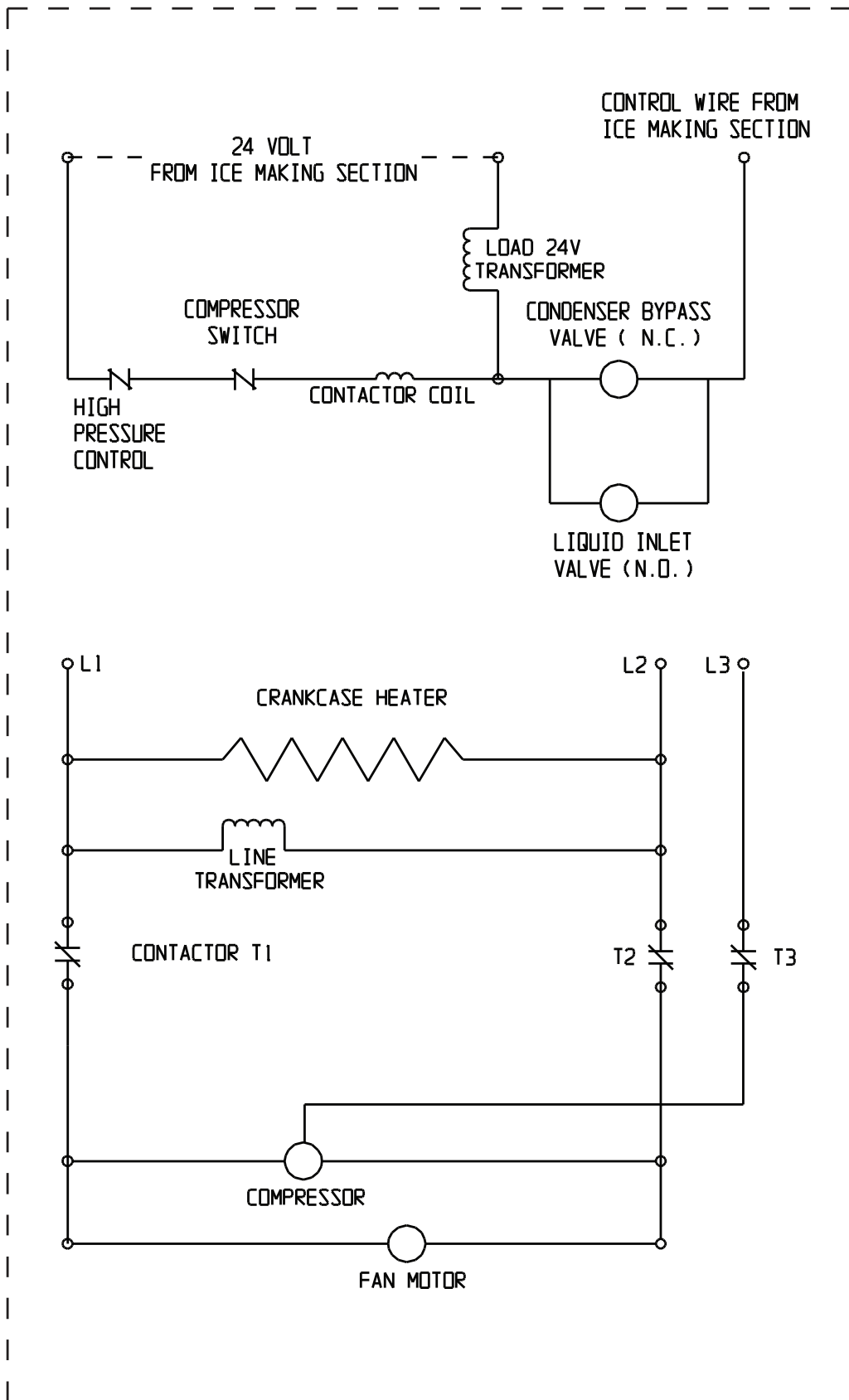
Refrigerant Recovery and System Evacuation Notice

In the event the refrigerant must be recovered from this system and the system evacuated, recover and evacuate from the three ball valve access valves.

EH222 Schematic Diagram



ECC Three Phase Schematic Diagram



New Eclipse Technical Review

Retrofit Information

There may be need to retrofit a head with an existing condensing unit. This chart lists the potential combinations and actions needed.

When Replacing a Head:

Original Head	Size	Original Model /Compressor	ECC Model / Compressor	Replace head?
EH222	800	C0800CP / CS10	ECC0800 / CS10	Use EH222 C
EH222	1000	C1410CP / CS14	ECC1410 / CS14	Use EH222 C
EH330	1200	C1200CP / CS18	ECC1200 / CS18	Use EH330 C
EH430	1400	C1410CP / CS14	ECC1410 / CS14	Use EH430 C
EH430	1800	C1800CP / CS24	ECC1800 / CS24	Use EH430 C
EH430	2000	C2000CP / CS27	no longer available	Use EH430 C
CME810	800	CP886 / CS12	-	Use EH222, Rewire CP
CME810	1000	CP1086 / CS18	-	Use EH222, Rewire CP
CME1386	1300	CP1316 / CS20	-	Use EH430, Rewire CP
CME1686	1600	CP1316 / CS20	-	Use EH430, Rewire CP
CME2086	2000	CP2086 / Scroll	-	Replace system

Rewire CP means adding a transformer to operate the compressor and harvest relays that are in the ice machine head.

When Replacing a CP or Condensing Unit:

Head	Size	Original Model /Compressor	ECC Model / Compressor	Replace Condensing Unit?
EH222	800	C0800CP / CS10	ECC0800 / CS10	Use ECC0800
EH222	1000	C1410CP / CS14	ECC1410 / CS14	Use ECC1410
EH330	1200	C1200CP / CS18	ECC1200 / CS18	Use ECC1200
EH430	1400	C1410CP / CS14	ECC1410 / CS14	Use ECC1410
EH430	1800	C1800CP / CS24	ECC1800 / CS24	Use ECC1800
EH430	2000	C2000CP / CS27	no longer available	not available
CME810	800	CP886 / CS12	-	Use ECC0800, Rewire ECC
CME810	1000	CP1086 / CS18	-	Use ECC1410, Rewire ECC
CME1386	1300	CP1316 / CS20	-	Use ECC1200, Rewire ECC
CME1686	1600	CP1316 / CS20	-	Use ECC1200, Rewire ECC
CME2086	2000	CP2086 / Scroll	-	Replace system

Rewire ECC means removing the transformer that is intended operate the compressor and harvest relays that are in the EH ice machine head. The transformer to operate the system is in the CME head.

Note: Not all voltages are available to retrofit condensing units.