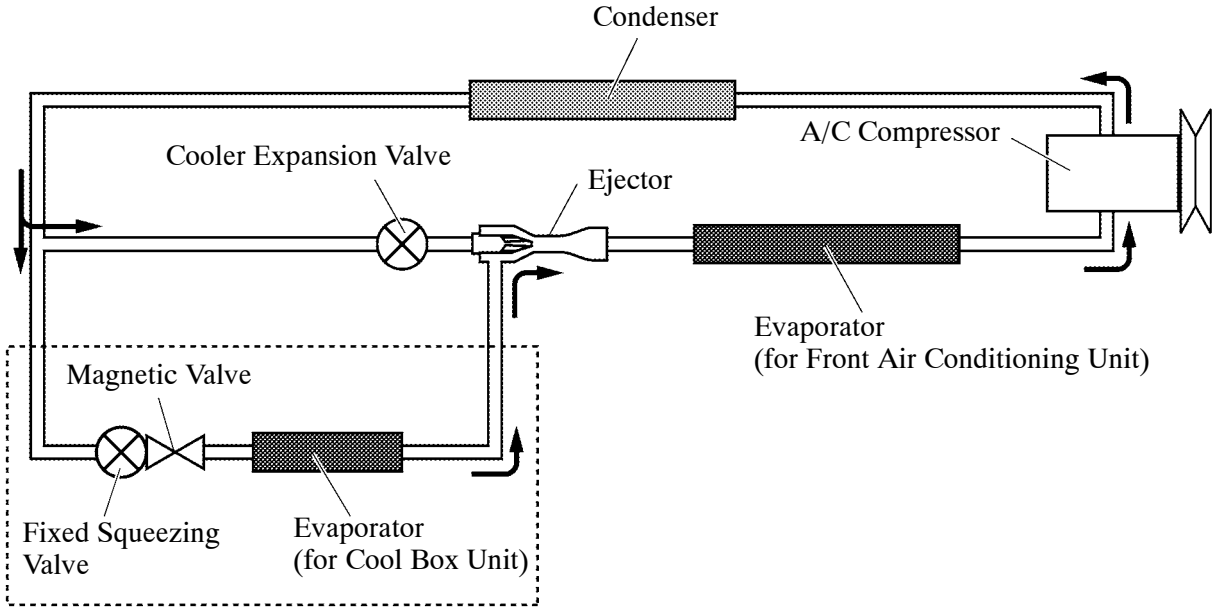
■AIR CONDITIONING

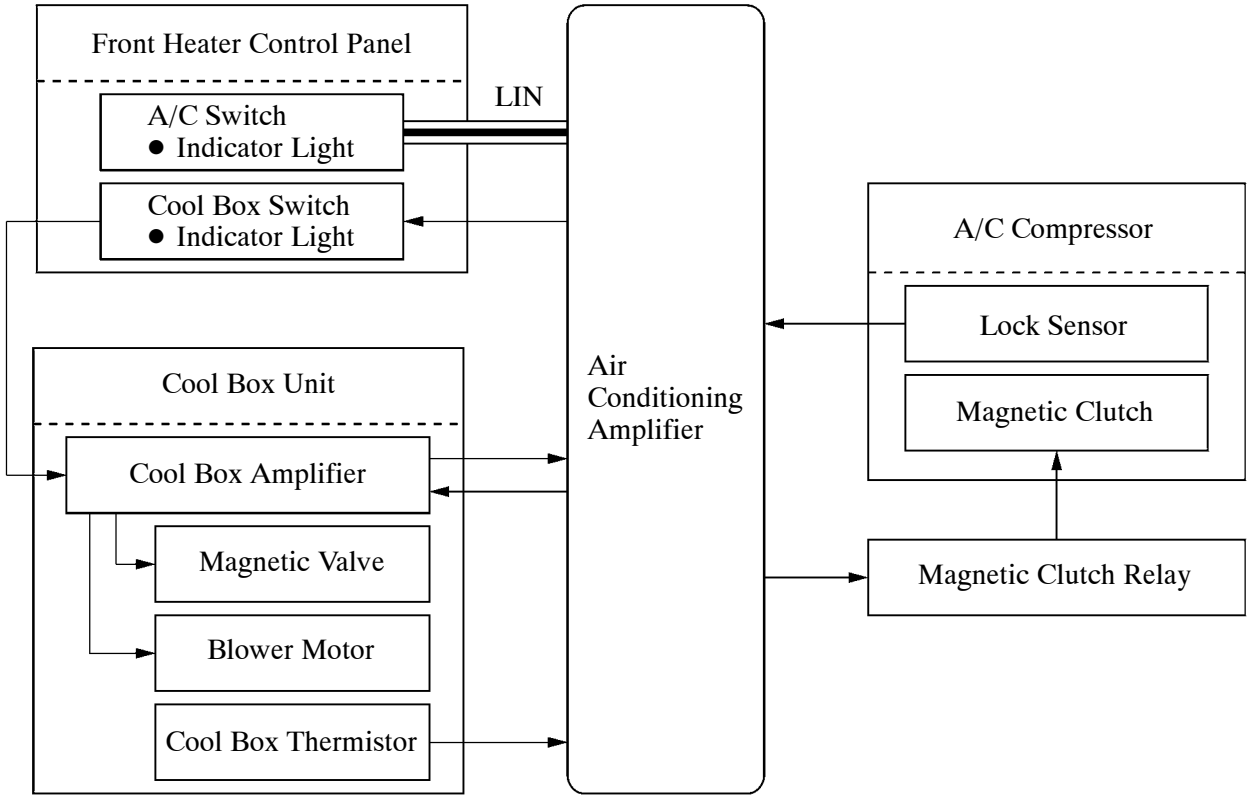
1. General

- The cool box is available inside the front console box.
- The cool box performs cooling via the air conditioning system, and it consists of mainly a cool box unit, cool box switch and ejector.
- By operating the cool box switch provided on the front heater control panel, the cool box can be turned on or off. When the cool box switch is turned on, the front air conditioning system will begin operating in synchronization with the cool box.
- The ejector arranged inside the refrigerant pipes is capable of allowing refrigerant to flow to the cool box without cutting off the refrigerant flow to the front air conditioning unit, thereby improving air conditioning performance and ensuring the refrigeration ability.
- The refrigerant charge volume for models equipped with the cool box has been changed to 1110 g +/– 30 g (39.1 oz. +/– 1.1 oz.).

▶ Refrigerant Cycle for Cool Box ◀



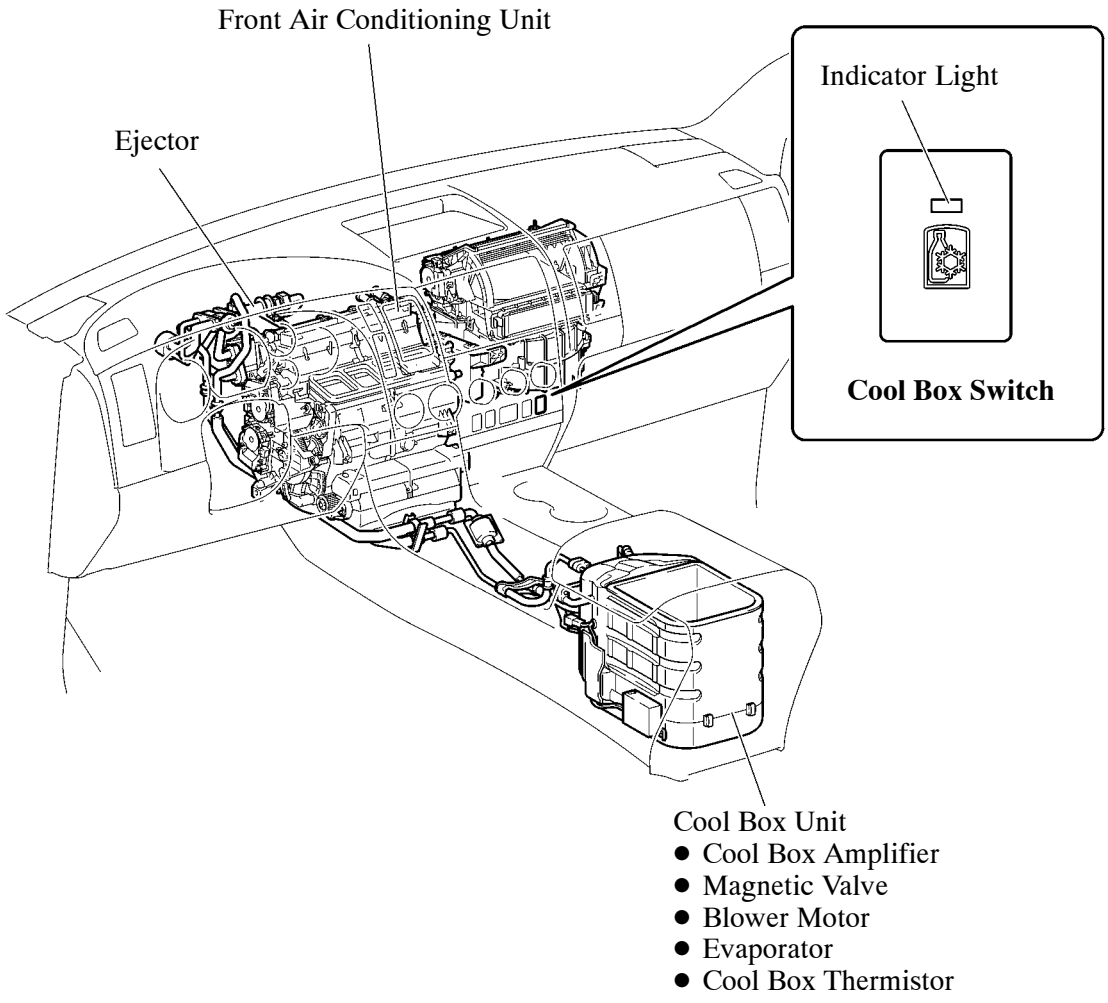
2. System Diagram



Models with Cool Box

11YBE305S

3. Layout of Main Components

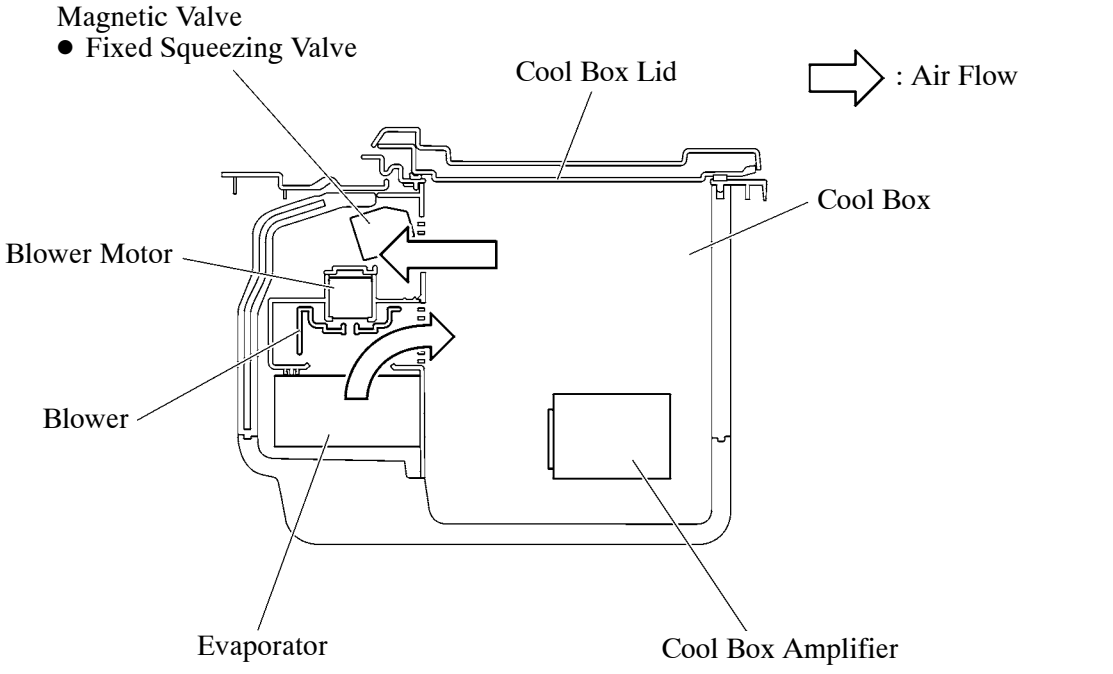


Models with Cool Box

11YBE306TE

4. Cool Box Unit

- The cool box unit consists of a magnetic valve fitted with a fixed squeezing valve, evaporator, blower and cool box amplifier.
- By sending signals from the cool box amplifier to turn on the magnetic valve fitted with the fixed squeezing valve, refrigerant inside the front air conditioning unit is allowed to flow into the evaporator. The evaporator cools air by absorbing heat, and the cooled air is then discharged into the cool box via the blower.

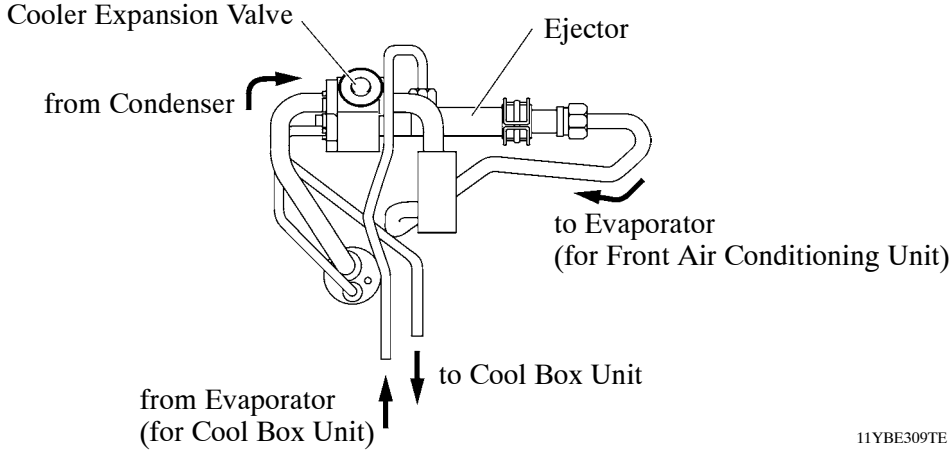


▶ Specification for Cool Box ◀

Item			Specification
Blower	Motor Type		FM-65K-RE
	Fan Type		Shroud
	Fan Size Dia. × H	mm (in.)	80 × 36.3 (3.1 × 1.4)
Evaporator	Type		Serpentine
	Size W × H × L	mm (in.)	103.5 × 80 × 50 (4.1 × 3.1 × 2.0)
	Fin Pitch	mm (in.)	4.0 (0.2)

5. Ejector

- The ejector includes nozzle, mixing and diffuser portions.
- A high temperature, high pressure liquid refrigerant flowing from the condenser is guided into the mixing portion through the nozzle portion at high speed as the nozzle is inwardly tapered. This tapered nozzle allows the refrigerant pressure in the vicinity of the nozzle to decrease while guiding a low temperature, low pressure gaseous refrigerant into the nozzle portion from the evaporator (for cool box unit). Thus, both refrigerants are mixed in the mixing portion and then sent to the diffuser portion.
- As the diffuser section is outwardly flared, the refrigerant flow rate in the diffuser decreases and the refrigerant pressure rises.
- Under this operational mechanism, the refrigerant pressure in the cool box can be kept lower than in the front air conditioning unit even if refrigerant is continuously flowing, moreover, the refrigerant can be kept at a low temperature, thereby achieving high cooling efficiency and air conditioning performance.



▶ Operational Concept for Ejector ◀

