VARIABLE REFRIGERANT, INTRASTAGE COMPRESSION HEAT PUMP

ABSTRACT

A heat pump system, utilizing a multi-component refrigerant blend in which a low pressure component is zeotropic with respect to the remainder of the blend, separates the low pressure component by rectification to enhance heating capability in low ambient temperatures. Vapor is separated from liquid in the effluent of the condenser of a heat pump, at a pressure in equilibrium at a temperature midway between the evaporator and condenser effluent temperatures, the vapor being applied to an auxiliary inlet at a mid pressure point in the compression stroke of the compressor.

Figure 1