

ABSTRACT

The present invention relates to a liquefied gas supercooling system for supercooling a liquefied gas using a mixed refrigerant, the system comprising: a compressor for compressing the mixed refrigerant; a separator which is provided on the rear end of the compressor and phase separates the mixed refrigerant into a gas-phase refrigerant and a liquid-phase refrigerant; a fourth line through which the liquid-phase refrigerant separated by the separator flows by passing through a first pressure reduction valve; a fifth line through which the gas-phase refrigerant separated by the separator flows by being reintroduced to a first heat exchanger, a second heat exchanger, a second pressure reduction valve, and the second heat exchanger; a sixth line through which the mixed refrigerant joined from the fourth line and the fifth line flows by passing through the first heat exchanger, the compressor, and the separator; and a freezing prevention unit for controlling the temperature of the mixed refrigerant in the fifth line or the sixth line.