

MULTI-SPLIT CENTRAL AIR CONDITIONING SYSTEM FOR SIMULTANEOUS COOLING AND HEATING

ABSTRACT

The present invention relates to a multi-split central air conditioning system for simultaneous cooling and heating, comprising a condensation module, a plurality of indoor fan coil units, a high-pressure circulation tube, a medium-pressure circulation tube, a low-pressure circulation tube, and an evaporation module. The indoor fan coil units are connected to the high-pressure circulation tube by means of a first branch tube, to the low-pressure circulation tube by means of a second branch tube, and to the medium-pressure circulation tube by means of a third branch tube, and a solenoid valve is provided on each of the first branch tube and the second branch tube. The beneficial effects are: when heating a local area in the summer and cooling a local room in the winter, refrigerant is circulated by means of solenoid valve switching and a medium-pressure circulation tube such that the multi-split central air conditioning system has multiple working modes (independent cooling/independent heating/simultaneous partial cooling and partial heating), thereby improving the diversity of the overall operation conditions of the air conditioning system without adding a complex refrigerant switching piping. The condensation module and the evaporation module can also be used as a balancer of the system to ensure efficient and stable operation of the system.

FIG. 1