

## **SINGLE-STAGE CARBON DIOXIDE MULTI-SPLIT COOLING AND HEATING MULTIFUNCTIONAL CENTRAL AIR CONDITIONER**

### **ABSTRACT**

A single-stage carbon dioxide multi-split cooling and heating multifunctional central air conditioner, comprising a single-stage carbon dioxide circulation system using carbon dioxide as a circulation working medium; the single-stage carbon dioxide circulation system comprises an outdoor unit and a plurality of end heat exchangers (6) provided in parallel; and the carbon dioxide medium performs cooling and/or heating in a circulating manner in a carbon dioxide compressor (1), an outdoor heat exchanger (3), a liquid storage tank (5) and the end heat exchangers (6) which are in communication with one another. By using carbon dioxide as a circulation working medium, said central air conditioner has the advantages of large pressure difference, good flowability and low density, can be used in high-rise buildings, and can perform circulation at a height of 100 meters or more. A hot water supply apparatus is provided on a pipeline at an exhaust end of the carbon dioxide compressor (1), an ice storage device and a floor heating apparatus are connected in series to the pipeline at the exhaust end of the carbon dioxide compressor, and carbon dioxide in said system can also be used for fire fighting and fire extinguishing, achieving multiple purposes of said central air conditioner.

[Fig. 1]