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**NOMENCLATURE**

C Air specific heat (KJ/(Kg·°C))  
 COP1 COP of the LTCS

COP2 COP of the HTCS  
 d Humidity ratio (g/kg)  
 EER Energy efficiency ratio  
 G<sub>FL</sub> Air rate processed by the LTCS (kg/h)  
 G<sub>FH</sub> Air rate processed by the HTCS (kg/h)  
 G<sub>L</sub> Air rate processed by the LTCS (kg/h)  
 HTCS High-temperature cooling source  
 i Enthalpy of air (kJ/kg)  
 LTCS Low-temperature cooling source  
 N Indoor air state  
 P Saturated vapor pressure (MPa)  
 P<sub>1</sub> Energy consumption from cooling source (kW)  
 P<sub>2</sub> Energy consumption from pumps (kW)  
 P<sub>3</sub> Energy consumption from fans (kW)  
 P<sub>C</sub> Compressor power (kW)  
 P<sub>H</sub> Energy consumption from HTCS (kW)  
 P<sub>K</sub> Condensing pressure (MPa)  
 P<sub>L</sub> Energy consumption from LTCS (kW)  
 P<sub>S</sub> Energy consumption from air conditioning (kW)  
 P<sub>Z</sub> Vaporization pressure (MPa)  
 Q Total refrigeration capacity (kW)  
 Q<sub>F</sub> Fresh air load (kW)  
 Q<sub>FL</sub> Fresh air latent load (kW)  
 Q<sub>FS</sub> Fresh air sensible load (kW)  
 Q<sub>H</sub> Load processed by the HTCS (kW)  
 Q<sub>IL</sub> Indoor latent load (kW)  
 Q<sub>IS</sub> Indoor sensible load (kW)  
 Q<sub>L</sub> Load processed by the LTCS (kW)  
 Q<sub>XS</sub> Sensible load processed by the LTCS (kW)  
 Q<sub>YL</sub> Precooling fresh air rate by the HTCS (kW)  
 T Temperature (°C)  
 W Fresh air state  
 ω Indoor moisture load (g/h)  
 ε Heat moisture ratio (kJ/kg)  
 ρ density of water (kg/m<sup>3</sup>)