

INTI SARI

Pengkondisian udara nyaman adalah proses perlakuan terhadap udara untuk mengatur suhu, kelembaban, kebersihan, dan pendistribusiannya secara bersama-sama guna mencapai kondisi nyaman yang dibutuhkan oleh penghuni yang berada didalamnya. Dalam Tugas Akhir ini dirancang pengkondisian udara untuk gedung perkantoran yaitu “ Building Management Plaza Centris “ yang terletak di Jakarta.

Sistem AC “ Building Management Plaza Centris “ menggunakan jenis AC paket dengan sistem penyegaran udara kompresi. Dalam sistem pendingin kompresi uap terdapat empat komponen utama yaitu kompresor, kondensor, evaporator, dan katub expansi. Sistem AC Gedung ini menggunakan kompresor jenis hermetic torak dengan daya motor 15,03 Hp, kondenser pendingin udara koil bersirip pelat, evaporator coil, dan katub exspansi jenis thermal elektrik.

Beban pendinginan yang terjadi didalam ruangan harus diperhatikan dalam perancangan mesin pengkondisian udara, Beban pendinginan dinyatakan dalam BTU/jam. Beban pendinginan meliputi panas sensibel, panas latent dan ventilasi udara. Perhitungan beban pendinginan di “ Building Management Plaza Centris “ Jakarta berdasarkan pada beban maksimum, yaitu sebesar 569 TR.

ABSTRACT

Comfortable air conditioning is a treatment process to the air in order to manage the temperature, moisture, cleanness and the distribution at a time utilize to reach a comfortable condition that is needed by the people inside the room. In this final examination has been planned an air conditioning for the “ Building Management Plaza Centris “, it is located in Jakarta.

The Air Conditioning system of “ Building Management Plaza Centris “ use air cooled packed with compression air conditioning system. The vapor of compression cooler system consist of four main component, they are compressor, condenser, evaporator and expansion valve. The Air Conditioning system in this building used reciprocating hermetic compressor with the power of motor is 15,03 Hp, air cooled condensers fin and pipe, shell and coil cooler evaporator, and thermal electric expansion valve.

The cooling load in the room must be concerned in the planning of air conditioning machine, this is stated on BTU/hours. The cooling load consists of sensible heat, latent heat and air ventilation. The calculation of the cooling load at the “ Building Management Plaza Centris “ Jakarta is based on the maximum load 569 TR