

Constant year round air conditioning with 24/7 temperature sensing and control with second unit operating in duty/standby configuration.



Project Info

Application

Red Cross Blood Bank

Location

Midland, WA

The challenge:

The Australian Red Cross Blood Service Midland Donor Centre provides a plasma & whole blood collection service. The blood bank critical store room requires constantly maintained temperature between 20 – 24 degrees. Due to the nature of the equipment in this area, it was essential the temperatures did not go outside of the specified range which demanded a more accurate level of temperature sensing and control than would normally be expected of most DX type air conditioning systems.

A second unit is required to operate in a duty/standby and backup configuration to provide 24/7 temperature control.

The operation and control of these units also needed to be set up in a way that the controls and configuration could not accidentally be changed at a later date unless specified by the client.

The Team

HVAC Contractor

Ocean Air Services

The solution:

Mitsubishi Electric Alpha2 simple application controller and AHC M-NET adapters interfaced with five separate PT100 temperature sensor positioned around the room to control two Mitsubishi Electric P series air conditioning units.

A custom Alpha program monitors the 5 x PT100 temperature sensors and controls the units based on the average temperature. This allowed for a much a higher level of temperature control and significantly fewer temperature fluctuations which allowed the units control exactly as required within the desired temperature ranges.

The Alpha rotates the units weekly and brings the second unit on if the temperature deviates from the specified range. Prohibits for mode, set point, on and off were set in the Alpha so that no settings could be inadvertently changed via the use of any of the local or central controllers on site.

UNIT INFORMATION



Outdoor Units

PURY-P700YSLM-A x 1
PURY-P350YLM-A x 2
PUHZ-RP71VHA5R1-1 x 2
MUZ-GE60VAD-A1



Indoor Units

PEFY-P63VMA-E x 1
PEFY-P71VMA-E x 1
PEFY-P140VMA-E x 1
PEFY-P200VMHS-E x 3



MSZ-GE60VAD-A1 X 1
PEAD-RP71JAA.TH X 2



Controllers

AE-200E x 1
PAR-31MAAE-J x 10
PAC-SF83MA-E x 2



PLC

AL2-2PT-ADP x 1
AL2-14MR-D x 1