Fact Sheet - Standards and Regulations

Close Control Air Conditioner

1. Reference Documents

Regulatory Standard – Performance of Close Control Air Conditioners
MEPS AS/NZS 4965.2:2008

Test Standard – Testing for Rating – AS/NZS 4965.1

It should be noted that there are close links between the AS/NZS test standards and the only other international standard ASHRAE 127-2007.This reflects Australia and New Zealand aligning to world best practice.

Interactive Products List - http://www.energyrating.gov.au/appsearch/ccac_srch.asp

Website Data sheets - http://www.energyrating.gov.au/ccacmenu.html

Product regulatory requirements – http://www.energyrating.gov.au/ccac.html

Purchasing the Standard - http://www.saiglobal.com

Useful website - http://www.ashrae.org

2. Definition

A Close Control Air Conditioner is a unit designed for high sensible heat ratio applications and is capable of maintaining close control of both temperature and humidity. The air conditioner consists of one or more factory-made assemblies, which include a compressor, a direct expansion evaporator, an air-moving device and air-filtering devices, and may include a condenser, a humidifier or a reheating function.

For the purposes of this program, the energy consumption of the fans in the outdoor air cooled condenser for an air cooled unit and the energy consumption of the water pumps for a water cooled unit are excluded.

3. Scope

AS/NZS 4965.2 specifies MEPS levels and describes the various methods that can be used for registration. AS/NZS4965.1 specifies the conditions on which the capacity and energy consumption of factory-made close control air conditioners must be based (See Table 1). AS/NZS4965.1 also describes the test methods to be applied to determine the capacity and efficiency ratings for units to be registered that are not using a computer simulation program. These Standards cover equipment utilizing a single or multiple refrigerated direct expansion (DX) system designed to control and monitor temperature and humidity and may include supplementary conditioning equipment. The MEPS levels are set for only the indoor unit.

TABLE 1

TEST CONDITIONS FOR THE DETERMINATION OF COOLING CAPACITY

Parameter	Standard test conditions T1
Temperature of air entering indoor side (°C) dry-bulb wet-bulb	 23.9 16.3
Relative humidity (%)	45
Saturated condensing temperature (°C)	45
TX device entering liquid temperature (°C)	40 +/-5
Test frequency	Rated frequency
Test voltage	Rated voltage (see Note)

NOTE: Where the rated voltage of the equipment lies wholly or partly between 208 V and 253 V, the test voltage shall be 230 V. If the equipment is rated for 240 V only, the test voltage shall be 240 V. Where the rated voltage of the equipment lies wholly or partly between 360 V and 440 V, the test voltage shall be 400 V. If the equipment is rated for 415 V only, the test voltage shall be 415 V. For other rated voltage ranges, the test voltage shall be the mean value of the range.

4. Application

Close control air conditioners are used for applications where temperature and humidity are required to be monitored and maintained within narrow limits. Examples of such applications are computer rooms, data processing units, telecommunication facilities and other industrial process areas.

5. Outline of testing procedures

Because of the lack of international certification programs and suitable independent testing facilities for Close Control Air Conditioners, companies can use proprietary simulation programs for registering products for MEPS.

If check-testing is required or the manufacturer does not have suitable simulation software available then the unit must be tested in accordance with AS/NSZ 4965.1:2008 and the data submitted in accordance with AS/NZS 4965.2:2008.

6. Exclusions

- Closed - Coupled Row Based Cooling Units

7. Applicable Regulatory Rulings

- Ruling 21A – Close Coupled Row Based Cooling Units
  http://www.energyrating.gov.au/pubs/reg-ruling-21a-ccau.pdf
- Ruling 22C - Registration requirements for chillers and close control air conditioners.
  http://www.energyrating.gov.au/pubs/reg-ruling-22c-chill-ccac.pdf

8. Requirements for qualification as a family of models

The “family” provision in the registration approval process is intended to apply to a range of models that are almost identical except for differences unrelated to the products energy performance.

This form of application is primarily intended to minimise the fees paid by companies for the registration of a large number of very similar products.

To qualify as a family the entire range of models must:

- Be of the one brand
- Rely on the one test report
- Have the same physical characteristics
- Have the same rated energy consumption rated capacity and energy efficiency rating
- Have the same performance characteristics.

Naming Conventions:

There are no specified naming conventions for families of models but it is common practice to either:

- Refer to the family as a "range or series" eg the "Super chill range". This is acceptable provided all the supplier's products that use the name "Super Chill" (eg Super Chill A, Super Chill B, Super Chill C etc) conform to the requirements for a family.
- Refer to the family model number using "wildcards". Eg for a range of 3 models, ABC-1, ABC-2, ABC-3, the family name could be stated as ABC-***

9. Documentation requirements

Computer Simulation	Proprietary computer simulation output data from the manufacturer is acceptable for the basis of a registration as long as the data submitted complies with Appendix B of AS/NZS 4965.2:2008.
Test Reports if not using a computer simulation program	Full test reports in accordance with AS/NZS 4965.1:2008 and Appendix A of AS/NZS 4965.2:2008
MEPS Compliance	Required for all types

10. Points to note when reviewing applications

Manufacturer's computer selection program output is sufficient for registration as long as it provides the data required in Appendix B of AS/NZS 4965.2:2008.