

<b>Install a High Efficiency Refrigerated Display Cabinet: Commercial Only</b>	<b>Activity No.</b>
	<b>RDC1</b>

## 1. ACTIVITY SPECIFIC DEFINITIONS

**Refrigerated Display Cabinet** (Also called a Refrigerated Cabinet in The Greenhouse and Energy Minimum Standards (Refrigerated Cabinets) Determination 2020) – A cabinet cooled by a refrigerating system which enables chilled and frozen foodstuffs placed therein for display to be maintained within prescribed temperature limits as defined within the scope of:

- AS 1731 as referenced by: Greenhouse and Energy Minimum Standards (Refrigerated Display Cabinets) Determination 2012 (up until 30 April 2021) or;
- The Greenhouse and Energy Minimum Standards (Refrigerated Cabinets) Determination 2020 (1 May 2021 onwards)

**Total display Area** - Total visible product storage area, including visible area through the glazing, defined by the sum of horizontal and vertical projected surface areas of the net volume as defined in AS 1731.14, Appendix D or the Greenhouse and Energy Minimum Standards (Refrigerated Cabinets) Determination 2020 and as listed in the eligible product GEMS registration - refer also to the guidance note below

**M-package temperature class** - Classification of M-package temperature according to temperatures to warmest and coldest M-packages during the temperature test defined in AS 1731.5 or the Greenhouse and Energy Minimum Standards (Refrigerated Cabinets) Determination 2020- refer also to the guidance note below

## 2. ACTIVITY DESCRIPTION (SUMMARY)

Installing a refrigerated display cabinet that is rated as 'high efficiency' within the meaning of the AS 1731 series of standards or within the meaning of The Greenhouse and Energy Minimum Standards (Refrigerated Cabinets) Determination 2020.

## 3. ACTIVITY ELIGIBILITY REQUIREMENTS

Any commercial site in South Australia where the installed product requirements and minimum installation requirements can be met.

## 4. PRODUCT REQUIREMENTS

- (1) For products registered to the AS1731 Standard, the RDC must be rated as 'high efficiency' within the meaning of the AS1731 series of standards when tested in accordance with the AS1731 series of standards as applicable. For products registered to the Greenhouse and Energy Minimum Standards (Refrigerated Cabinets) Determination 2020 the refrigerated display cabinet must have an Energy Efficiency Index (EEI) of less than 77 as calculated within the terms defined in ISO 23953-2 and
- (2) The RDC must be registered and listed on the GEMS register of currently approved products and
- (3) For products registered to the AS1731 Standard, this activity applies only to M-package temperature classes M1, M2, L1 and L2 (as applicable) as defined in the AS 1731 series of standards and
- (4) The activity does not cover the retrofitting of existing refrigeration equipment.

## 5. MINIMUM INSTALLATION REQUIREMENTS

- (1) Installation must be undertaken in strict accordance with the manufacturer's instructions.
- (2) If electrical work is required to be undertaken then this must be performed by a licensed electrical worker under the supervision of a licensed electrical contractor.
- (3) If gassing or de-gassing is required to be undertaken then this must be carried out by technicians licensed under the Ozone Protection and *Synthetic Greenhouse Gas Management Act 1989* (Cth).

## 6. NORMALISED REPS GIGAJOULES

FOR PRODUCTS REGISTERED TO:

**AS 1731 AS REFERENCED BY: GREENHOUSE AND ENERGY MINIMUM STANDARDS  
(REFRIGERATED DISPLAY CABINETS) DETERMINATION 2012 (UP UNTIL 30 APRIL 2021)**

Normalised REPS Gigajoules = TDA x Productivity Factor

Where:

*TDA = The total display area of the refrigerated Display Cabinet as defined in the AS1731 series of standards and as listed in the eligible product GEMS registration.*

*Productivity Factor = The value as noted in the table below for the particular type of Refrigerated Display Cabinet supplied.*

### SELF-CONTAINED TYPE CABINETS – PRODUCTIVITY FACTORS

Activity Reference Number	Type of Refrigerated Display Cabinet (as defined in AS1731)	Productivity Factor
1	HC1	26.51
2	HC4	36.23
3	VC1	76.44
4	VC2	60.97
5	VC4 - solid door	87.92
6	VC4 - glass door	57.88
7	HF4	61.86
8	HF6	18.56
9	VF4 - solid door	96.76
10	VF4 - glass door	96.76

### REMOTE TYPE CABINETS – PRODUCTIVITY FACTORS

Activity Reference Number	Type of Refrigerated Display Cabinet (as defined in AS1731)	Productivity Factor
11	RS 1 - Unlit shelves	36.94
12	RS 1 - Lit shelves	62.74
13	RS 2 - Unlit shelves	37.47
14	RS 2 - Lit shelves	50.01
15	RS 3 - Unlit shelves	39.94

<b>Activity Reference Number</b>	<b>Type of Refrigerated Display Cabinet (as defined in AS1731)</b>	<b>Productivity Factor</b>
16	RS 3 - Lit shelves	<b>54.17</b>
17	RS 4 - Glass door	<b>26.16</b>
18	RS 6 - Gravity coil	<b>38.26</b>
19	RS 6 - Fan coil	<b>38.09</b>
20	RS 7 - Fan coil	<b>43.56</b>
21	RS 8 - Gravity coil	<b>32.96</b>
22	RS 8 - Fan coil	<b>35.52</b>
23	RS 9 - Fan coil	<b>35.61</b>
24	RS 10 - Low	<b>50.19</b>
25	RS 11	<b>102.59</b>
26	RS 12	<b>178.41</b>
27	RS 13 - Solid sided	<b>57.35</b>
28	RS 13 - Glass sided	<b>52.67</b>
29	RS 14 - Solid sided	<b>35.70</b>
30	RS 14 - Glass sided	<b>214.02</b>
31	RS 15 - Glass door	<b>85.45</b>
32	RS 16 - Glass door	<b>93.49</b>
33	RS 18	<b>78.03</b>
34	RS 19	<b>58.14</b>

**FOR PRODUCTS REGISTERED TO: THE GREENHOUSE AND ENERGY MINIMUM STANDARDS (REFRIGERATED CABINETS) DETERMINATION 2020 (1 MAY 2021 ONWARDS)**

Normalised REPS Gigajoules = (Baseline Efficiency x TDA-TEC) x 8.8385\*

*Where:*

TEC, in kWh/day, is the daily Total Energy Consumption of the new RDC model as determined using GEMS 2020 Section 2 and recorded in the GEMS Registry;

Baseline Efficiency, in kWh/day/m<sup>2</sup>, is the corresponding figure for the type of the new RDC model, as determined by Section 25 of the GEMS 2020 Determination and recorded in the GEMS Registry

TDA, in m<sup>2</sup>, is the Total Display Area of the new RDC model as determined using AS1731.14 and recorded in the GEMS Registry;

\* 365 (days) x 8 (Years Lifetime) x 3.6 (convert to MJ) x 0.8 (additionality factor) x 1.051 (productivity factor) / 1000 (convert to GJ)

<b>Refrigerated Cabinet Product Class (product code)</b>	<b>Baseline efficiency (kWh/day/m2)</b>
Class 1 (IRH)	5.54
Class 2 (IFH)	10.78
Class 3 (SRH)	5.93
Class 4 (SFH)	8.72
Class 5 (IFH-5)	4.93
Class 6 (GSC or ISC)	31.42
Class 7 (IRV)	14.01
Class 8 (IFV)	15.94
Class 9 (SRV)	2.67
Class 10 (SFV)	6.22
Class 11 (IRV-4)	5.13
Class 12 (RRH)	5.54
Class 13 (RFH)	10.78
Class 14 (RRV or RRV-2)	14.01
Class 15 (RFV)	15.94

## **7. GUIDANCE NOTES (INFORMATIVE ONLY – NOT MANDATORY)**

Information on registration data for current models can be obtained at:

[http://reg.energyrating.gov.au/comparator/product\\_types/37/search/](http://reg.energyrating.gov.au/comparator/product_types/37/search/). Download the CSV file:

Total display area can be found under the column heading “total\_dis”

M package temperature class can be found under the column heading “Temp\_Class”

High Efficiency Status class can be found under the column heading “High Efficiency”