



SUSTAINABLE PROCUREMENT GUIDELINE

Kadoorie Farm and Botanic Garden Corporation
Lam Kam Road, Tai Po,
New Territories, Hong Kong

Version 2

Revised on 5th Aug 2005

(Please refer to KFBGC Server for the latest version)

KFBG Sustainable Procurement Guideline
Contents

	<u>Page</u>
1. Introduction	1
1.1 Purpose of Sustainable Procurement	1
1.2 Scopes of Sustainable Procurement	1
2. Basic Guiding Principles in Sustainable Procurement	2
3. Suggested workflow in Sustainable Procurement	3
<hr/>	
Appendix A Guideline for Choosing Environmental Preferred Goods and Services	A1
1. Choices of Construction Materials	A2
2. Choices of Other Common Materials/Products	A5
A. <u>Office equipment and supplies</u>	
1. Paper products	A6
2. Plastic products	A7
3. Computers (excluding monitor)	A8
4. Computer monitor	A9
5. Toner cartridges	A10
6. Photocopiers	A10
7. Printers	A12
8. Fax machines	A13
9. Multifunction devices (copy-print-fax)	A14
10. Permanent markers	A17
11. Highlight pens	A17
12. Batteries	A17
13. Office furniture	A18

B.	<u>Building Services Products</u>	
1.	Lamps	A19
2.	Lighting system	A27
3.	Ballasts	A28
4.	Luminaries	A28
5.	Air Conditioning Units	A29
6.	Household Refrigeration Appliances	A48
7.	Fire fighting equipments	A55
8.	Water conserving shower heads	A56
9.	Water conserving toilet devices	A56
10.	Tickle valves	A56
C.	<u>Building Materials</u>	
1.	Water based paints	A57
2.	Solvent based paints	A57
3.	Carpets	A58
4.	Asphalts	A58
5.	Adhesives	A58
6.	Wood and wood products	A59
D.	<u>Vehicles and Parts</u>	
1.	Cars and trucks	A61
2.	Tyres	A61
E.	<u>Canteen Supplies</u>	
1.	Plates and cutlery	A62
2.	General Electrical appliances	A62
3.	Condiments	A62
4.	Food and beverages	A63
5.	Dishwashing detergent	A63
F.	<u>Pesticides, Fertilizers and Cleaning Agent</u>	
1.	Pesticides and Fertilizers	A64
2.	Cleaning Agents	A64
G.	<u>Renewable Energy Products</u>	A65
3.	Choices of Suppliers/Consultants/Contractors	A66
	Appendix B Common Eco-Labels/Fair Trade Labels	B1-B8

1. Introduction

1.1 Purpose of Sustainable Procurement

Many environmental problems do not have direct specific causes but rather indirect effects of economic activity and our daily mass production, mass consumption and mass waste disposal have gradually accumulated and imposed a heavy environmental impact that is unsustainable. To solve contemporary environmental problems and preserve valuable natural resources for our future generations, every member of our society must take action, reconsider our economic system and lifestyles, and create a society that pursues sustainable development with reduced environmental impacts and minimize our ecological footprints.

Kadoorie Farm and Botanic Garden Corporation's long-term vision is to help create a world without environmental crisis, in which conservation of the natural heritage and sustainable living enable people to live in contentment, with respect for each other and nature. In response to the situation, we have to consider the impacts of our procurement activities. Sustainable procurement is also about setting an example and influencing the society. By promoting sustainable procurement, the Farm and the society can provide industry with real incentives for developing sustainable technologies. Finally, if life cycle costs of a contract are considered, sustainable procurement allows the Farm to save money and protect the environment at the same time by minimizing the Life Cycle Costs. By purchasing wisely, the Farm can save materials and energy, reduce waste and pollution, and encourage sustainable patterns of behaviour.

The Sustainable Procurement Guideline is intended as a reference guide to enhance fairness with respect to social, economical and environmental requirements in **ALL** procurement process at Kadoorie Farm and Botanic Garden Corporation (KFBGC). It summarizes the considerations governing the procurement of goods, services and works by KFBGC's staff.

1.2 Scopes of Sustainable Procurement

Sustainable Procurement in the Farm covers **ALL procurement activities (goods, services and works)**. Some of the items include but not limited to the purchase of energy efficient computers and buildings/structures, office equipment made of environmental sustainable materials, recyclable paper, organic food/feed, electricity stemming from renewable energy sources, air conditional systems complying with state of the art environmental solutions.

2. Basic Guiding Principles in Sustainable Procurement

KFBGC's Sustainable Procurement Guidelines are to be considered in any procurement and in broad outline would include the following:

- Promoting Environmental Sustainable Economic Development
- Conserving Resources
- Conserving Energy
- Promoting Pollution Prevention, Waste Reduction and Diversion
- Evaluating Value, Performance and Need

If any inconsistency exists between the general Procurement Policy and this Guideline, consideration of sustainability will be at higher priority normally.

A very basic concept of the Guideline is the **3R's - "Reduce, Reuse and Recycle"**. Based on this concept, **five rules of thumb** are developed as the core of this Guideline for the choice of materials/suppliers/consultants/contractors is based on the aim to minimize the ecological footprint:

- 1. Choose materials with high recycled content and itself/the waste generated can also be recycled easily**
- 2. Choose materials with low embodied energy (the energy to produce)**
- 3. Choose materials with consideration of whole life cycle, e.g. high durability so as to save subsequent material/energy in maintenance and/or replacement**
- 4. Choose materials manufactured from nearest location (smallest mileage) so as to lower the transportation energy**
- 5. Choose materials from suppliers with relevant "green certificate" so as to promote sustainable management/production and minimize damage to communities**

For **construction projects**, one additional rule could be considered as:

Incorporate as much as sustainable features such as solar panels, rainwater harvesting, natural ventilation to works such as new construction or renovation and design to minimize ecological footprint as far as practicable.

The above rules are **all equally important**. Appropriate judgment and balance should be sought to choose the most appropriate materials with the consideration of technical feasibility, economic feasibility, legal requirements and social benefits. **It is user department (UD) to take thorough consideration of the rules and decide the choice of material. The role of Sustainability Officer (SO) is to give advice to the UD. To fulfill the rules, it is important to obtain information such as place and method of manufacture, recycled content, etc. as far as possible.**

Potentially the cost of some environmentally preferable stuff may be higher, however, any potential increase will in all likelihood be offset by related benefits associated with conservation, life cycle cost analysis, full cost accounting and other changes in purchasing behavior. This Guideline is broad in scope and allow for both flexibility and creativity in their application by KFBGC's staff.

3. Suggested workflow in Sustainable Procurement

In order to minimize the impacts of the Farm’s procurement activities to environment and to ensure the Farm’s mission of sustainability is fulfilled, **all** procurement activities are encouraged to follow the workflow stated in this section in addition the those requirements stated in the KFBGC’s Procurement Policy. It is the UD’s responsibility to go through needs justification and subsequent choice of materials/suppliers/consultants/contractors based on the five rules of thumb. The role of SO is to give advice to the user department.

In general, **all** proposed procurement needs are to be justified to absolutely necessary rather than “nice to have” before carrying out further quotation/tendering process. The justification process is outlined in the following flowchart.

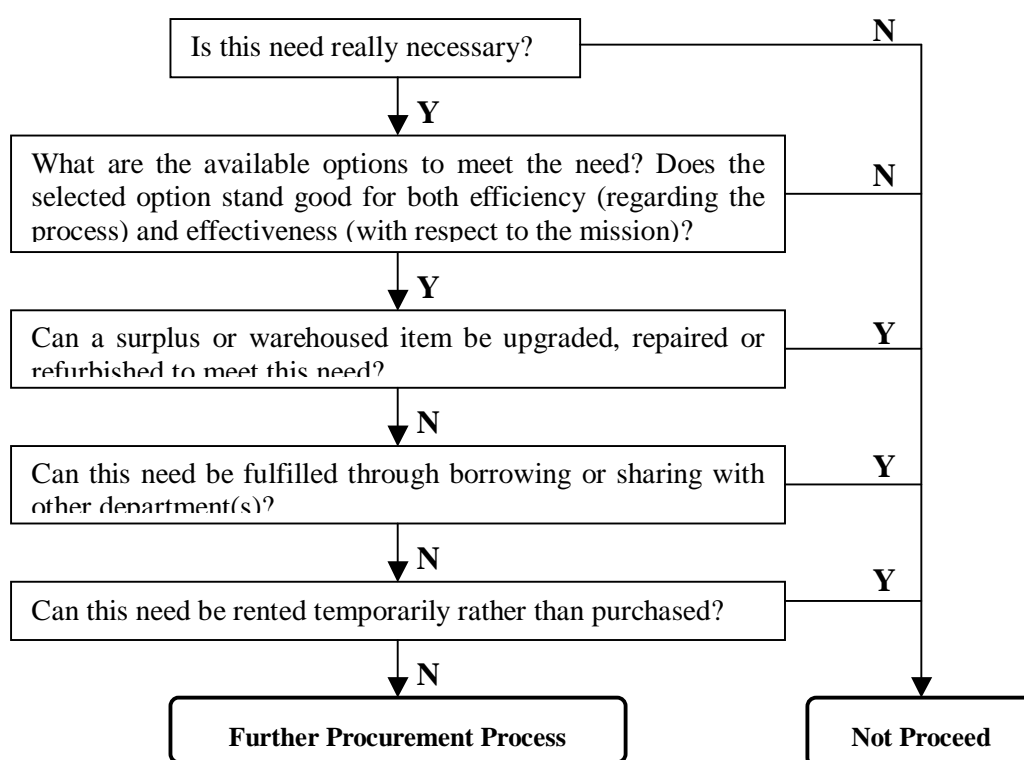


Fig. 1 Justification Process for Procurement Needs

After justification for the needs, it is user department’s responsibility to choose suitable materials/suppliers/consultants/contractors based on the **five rules of thumbs** and other essential considerations such as technical issues and financial issues. It is encouraged to seek advice from Sustainability Officer for all procurement activities including construction projects and other purchasing especially when encountering ambiguity. Nevertheless, information such as materials, suppliers, design, etc. of every procurement activity is strongly encouraged to notify the Sustainability Officer (SO) although approval from SO is not required. From the information provided, SO may contact UD when potential negative impact may arise so as to rectify it at first instance. Subsequent workflow will follow the KFBGC’s Procurement Policy.

Appendix A

Guideline for choosing Environmental Preferred Goods and Services

These are goods and services which are designed to minimize the negative effects on the environment over their full life cycle – production, use and disposal; make the most efficient use of materials, energy and water; and minimize the generation of waste and release of harmful substances into the environment. Basically, the five rules of thumb should be considered to make a balance to minimize ecological footprint:

1. Choose materials with high recycled content and itself/the waste generated can also be recycled easily
2. Choose materials with low embodied energy (the energy to produce)
3. Choose materials with consideration of whole life cycle, e.g. high durability so as to save subsequent material/energy in maintenance and/or replacement
4. Choose materials manufactured from nearest location (smallest mileage) so as to lower the transportation energy
5. Choose materials from suppliers with relevant “green certificate” so as to promote sustainable management/ production and minimize damage to communities

For **construction projects**, one additional rule could be considered as:

Incorporate as much as sustainable elements such as solar panels, rainwater harvesting, natural ventilation to works such as new construction or renovation and design to minimize ecological footprint as far as practicable.

The information provided in this Guideline is kept open. While it is aimed at to keep the content of the Guideline accurate and up to date, it is encouraged any staff to contact the author of this Guideline, the Sustainability Officer, if you have any concerns and suggestion about the information provided. Every effort will be made to correct any error and update any information once they are brought to attention.

References

1. A Handbook on environmental public procurement by Commission of the European Communities
2. Buying Guide for Domestic Electrical Appliances, Hongkong Electric
3. CHOICE, Consumer Council
4. Energy Label Registration Records by Electrical & Mechanical Services Department of the HKSAR
5. Environmental Guide to Procurement by Government of Jamaica (July 2001)
6. Environmental Purchasing Checklist – Refrigerators by Department of the Environment and Heritage, Australian Government
7. Hong Kong Green Label Scheme Product Environmental Criteria by Hong Kong Productivity Council and Green Council
8. List of Recycled Paper Products by Environmental Protection Department of the HKSAR
9. List of Recycled Construction Products by Environmental Protection Department of the HKSAR

1. Choices of Construction Materials

As choosing of material involves a balance of **five rules of thumb**, there is no simple rule to act as guidance. For any uncertainty, it is encouraged to seek advice from the Sustainability Officer.

Nevertheless, preliminary choice of materials could be based on their embodied energy (MJ/kg) and the rough guidelines are listed as:

1. **Rocky Material < Wood/Metal < Plastic**
2. **Rock < Sand < Aggregate < Concrete < Brick**
3. **Softwood < Hardwood < Steel < Lead < Zinc < Brass < Copper < Aluminum**
4. **Polypropylene < Rubber < PVC < Polyurethane < LDPE < HDPE < PS < Nylon**

The above are only rough guidelines. It is advised to refer to the following table for the detailed embodied energy (MJ/kg) of different materials. (*Sorted by embodied energy, MJ/kg, in ascending order*):

*To compare embodied energy, MJ/kg should be used instead of MJ/m³, which is for reference only.

Source: Victoria University of Wellington, New Zealand (www.ac.nz/cbpr/documents/pdfs/ee-coefficients.pdf)

Type	Material	MJ/kg	MJ/m ³
Earth	Aggregate (from river)	0.02	36.0
Earth	Aggregate (from virgin rock)	0.04	63.0
Earth	Sand	0.10	232
Earth	Aggregate (general)	0.10	150
Other	Straw (baled)	0.24	30.5
Earth	Adobe (bitumen stabilized)	0.29	490
Timber	Softwood (air dried, roughsawn)	0.30	165
Earth	Pressed earth block	0.42	810
Earth	Soil-cement	0.42	819
Earth	Adobe (cement stabilized)	0.42	710
Earth	Adobe (straw stabilized)	0.47	750
Timber	Hardwood (air dried, roughsawn)	0.50	388
Earth	Dimension stone (from local)	0.79	2030
Earth	Soil-cement (rammed)	0.80	1580
Earth	Concrete roofing tile	0.81	-
Earth	Concrete block	0.94	-
Earth	Concrete brick	0.97	-
Earth	Concrete (17.5 MPa)	1.0	2350
Earth	Concrete pavement	1.2	-
Timber	Softwood (air dried, dressed)	1.2	638
Earth	Concrete (30 MPa)	1.3	3180
Timber	Softwood (kiln dried, roughsawn)	1.6	880
Earth	Concrete (40 MPa)	1.6	3890
Earth	Concrete (Precast)	2.0	2780
Timber	Hardwood (kiln dried, roughsawn)	2.0	1550
Earth	Cement mortar	2.0	3200
Timber	Softwood (kiln dried, dressed)	2.5	1380
Earth	Ceramic brick	2.5	5170
Earth	Ceramic tile	2.5	5250
Metal	Steel (galvanized)	2.8	-
Timber	Softwood timber mouldings, etc.	3.1	1710

Type	Material	MJ/kg	MJ/m ³
Insulation	Cellulose insulation	3.3	112
Earth	Asphalt pavement	3.4	7140
Earth	Plaster, gypsum	4.4	6460
Timber	Glulam (glued-laminated timber)	4.6	2530
Earth	Plaster board	6.1	5890
Earth	Ceramic pipe	6.3	-
Earth	Dimension stone (imported)	6.8	17610
Earth	Ceramic brick (glazed)	7.2	14760
Earth	GRC (glassfibre reinforced concrete)	7.6	14820
Earth	Cement	7.8	15210
Timber	Particle board	8.0	4400
Metal	Aluminum (recycled for general use)	8.1	21870
Metal	Steel (recycled for reinforcing sections)	8.9	69790
Metal	Shingles	9.0	4930
Earth	Fibre cement board	9.5	13550
Metal	Steel (recycled for general use)	10.1	37210
Timber	Plywood	10.4	5720
Timber	MDF (Medium Density Fibreboard)	11.9	8330
Metal	Steel (recycled wire rod)	12.5	97890
Paper	Kraft paper	12.6	-
Insulation	Wool insulation (recycled)	14.6	139
Metal	Aluminum sheet (recycled)	14.8	39960
Glass	Glass (general)	15.9	37550
Glass	Glass (float)	15.9	37550
Glass	Glass (tinted)	15.9	-
Glass	Glass (laminated)	16.3	41080
Metal	Aluminum (recycled, extruded)	17.3	46710
Other	Carpet (felt underlay)	18.6	-
Metal	Aluminum foil (recycled)	20.1	54270
Paper	Paper (recycled)	23.4	-
Paper	Hardboard	24.2	21300
Paper	Building paper	25.5	-
Glass	Glass (toughened)	26.2	66020
Insulation	Fibreglass insulation	30.3	970
Metal	Steel (virgin, general use)	32.0	251200
Metal	Aluminum (recycled, extruded, factory painted)	34.3	92610
Metal	Steel (virgin, galvanized)	34.8	273180
Metal	Steel (imported, structural)	35.0	274570
Metal	Lead	35.1	398034
Paper	Paper (general)	36.4	33670
Paper	Wall Paper	36.4	-
Metal	Aluminum (recycled, extruded, anodized)	42.9	115830
Earth	Bitumen	44.1	45420
Metal	Galvanizing (per kg zinc)	61.0	-
Metal	Zinc	51.0	371280
Plastic	Polyester	53.7	7710
Insulation	Polyester insulation	-	430
Metal	Brass	62.0	519560
Plastic	Polypropylene	64.0	-
Other	Rubber (natural latex)	67.5	62100
Plastic	PVC	70.0	93620
Metal	Copper	70.6	631164

Type	Material	MJ/kg	MJ/m³
Other	Carpet (general)	72.4	-
Plastic	Polyurethane (general)	74.0	44400
Solvent	Adhesive (urea formaldehyde)	78.2	-
Solvent	Vinyl flooring	79.1	105990
Solvent	Adhesive (phenol formaldehyde)	87.0	-
Solvent	Paint (water based)	88.5	115000
Solvent	Paint (general)	90.4	117500
Plastic	Polypropylene	95.4	57600
Solvent	Paint (solvent based)	98.1	127500
Plastic	LDPE (low density polyethylene)	103	91800
Plastic	HDPE (high density polyethylene)	103	97340
Other	Carpet (wool)	106	-
Plastic	PET (polyethylterephthalate)	106	-
Other	Rubber (synthetic)	106	118800
Plastic	ABS	111	125430
Other	Carpet (linoleum)	116	150930
Plastic	Polystyrene (general)	117	-
Plastic	Polystyrene (expanded)	-	2340
Plastic	Polystyrene (high density)	-	3770
Other	Cotton fabric	143	-
Other	Carpet (nylon)	148	-
Metal	Aluminum (virgin, general use)	191	515700
Metal	Aluminum (virgin, sheet)	199	537300
Metal	Aluminum (virgin, extruded)	201	542700
Metal	Aluminum (virgin, foil)	204	550800
Metal	Aluminum (virgin, extruded, factory painted)	218	588600
Metal	Aluminum (virgin, extruded, anodized)	227	612900

2. Choices of Other Common Materials/Products

This section lists the suggested selection criteria, recommended brands, suppliers of different goods/services. Procurement staff is encouraged to use the lists as reference for purchasing. Goods/services categories listed include:

A. Office Equipment and Supplies

1. Paper products
2. Plastic products
3. Computers (excluding monitor)
4. Computer monitor
5. Toner cartridges
6. Photocopiers
7. Printers
8. Fax machines
9. Multifunction devices
(copy-print-fax)
10. Permanent markers
11. Highlight pens
12. Batteries
13. Office furniture

B. Building Services Products

1. Lamps
2. Lighting system
3. Ballasts
4. Luminaries
5. Air Conditioning Units
6. Household Refrigeration Appliances
7. Fire fighting equipments
8. Water conserving shower heads
9. Water conserving toilet devices
10. Tickle valves

C. Building Materials

1. Water based paints
2. Solvent based paints
3. Carpets
4. Asphalts
5. Adhesives
6. Wood and wood products

D. Vehicles and Parts

1. Cars and trucks
2. Tyres

E. Canteen Supplies

1. Plates and cutlery
2. General electrical appliances
3. Condiments
4. Food and beverages
5. Dishwashing detergent

F. Pesticides, Fertilizers and Cleaning Agents

1. Pesticides and Fertilizers
2. Cleaning Agents

G. Renewable Energy Products

A. Office Equipment and Supplies**(1) Paper Products (including photocopying paper, paper envelopes, note pad, paper file jacket, paper file box, toilet paper, paper towel, etc.)***Product Characteristics favourable:*Product itself -

- (a) With Green Label or other equivalent
- (b) Recycled content - at least 50% recycled fibre, with 20% post-consumer fibre
- (c) Un-bleached with chlorine
- (d) For paper envelopes, they shall not use water-insoluble glues
- (e) For paper file jackets, they shall have easily detachable blinders and clips

Manufacturing process / Others -

- (a) Chemical oxygen demand (COD) in the water discharge from both pulp and paper production shall not exceed 20kg/tonne of paper produced
- (b) Processing of waste papers shall be done without any dyestuff, optical brighteners and non-biodegradable complexing agents such as ethylenediamine tetraacetic acid (EDTA)
- (c) Surfactants, such as for the de-inking of recycled paper, shall be biodegradable readily
- (d) Solvents used in cleaning of production equipment shall be free of halogenated hydrocarbons

Packaging -

- (a) Reduced packaging – purchase in bulk
- (b) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

Company	Contact Information	Brand	Products
Pt. Pabrik Kertas Tjiwi Kimia Tbk		Excelpro Recycled Paper	
Antalis (Hong Kong) Ltd	Unit A, 7/F Kingsford Ind Ctr, 6 Cho Yuen St, Yau Tong, Kln Tel: (852) 2775 0196	Conqueror Recycled	
Che San & Co Ltd	16/F, Block A, Hong Kong Worsted Mills Industrial Building, 31-39 Wo Tong Tsui Street, Kwai Chung, NT, HK Tel: (852) 2522 6195 Fax: (852) 2845 3048 Email: info@chesan.com Website: www.chesan.com	NPI (Nippon Paper Industries Co Ltd)	Recycled wood-free paper 70% recycled, Elementary Chlorine-free, Eco-mark cert by Japan Environment Association
Fook Woo Assorted Paper Co Ltd	Fook Woo Group Bldg, 3 Kui Sik Street, On Lok Tsuen, Fanling, NT Tel: (852) 2676 8700 Fax: (852) 2796 7158 (852) 2798 0954		Various 100% recycled toilet paper
La Fontana Co	Tel: (852) 3016 5762 Fax: (852) 2422 5731 Email: fontana@school.com.hk Website: www.school.com.hk	Alga Carta® (Seaweed paper); Mais Carta® (Corn paper); Orange Paper; TreeFree Paper; etc.	Various ecological paper products

Company	Contact Information	Brand	Products
Join-in Industrial Company	Room 9, 13/F Man Lee Ind Bldg, 13 Kin Hong Street, Kwai Chung, NT Tel: (852) 29440188 or 2429 7273 Email: info@join-in.com.hk Website: www.join-in.com.hk		Recycle paper lunch box
Tai Tak Takeo Fine Paper Company Limited (TTF)	B401 & 409, 4/F., Block B, Sea View Estate, No. 2-8 Watson Road, North Point, Hong Kong. Tel: (852) 2807 3002 Fax: (852) 2807 2516 Email: taitak@netvigator.com Website: www.ttf.com.hk		Various recycled paper products
The Coronet Paper Co Ltd	9B, Oriental Ind Bldg, 42-50 Kwai Ting Rd, Kwai Chung, NT Tel: (852) 2480 1133 Fax: (852) 2480 0883 Email: sales@paper.com.hk Website: www.paper.com.hk		Various recycled paper products

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(2) Plastic Products (including plastic file jacket and others for office use)

Product Characteristics favourable:

Product itself -

- (a) With Green Label or other equivalent
- (b) Photodegradable or Biodegradable
- (c) Durable

Manufacturing process / Others -

- (a) Not impregnated, labeled, coated or otherwise treated in a manner which would prevent recycling

Packaging -

- (a) Reduced packaging – purchase in bulk
- (b) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

Company	Contact Information	Products
East Link Degradable Materials Ltd	3 Burd Street, Sheung Wan, HK Tel: (852) 28507 298 Fax: (852) 2850 8013 Email: info@eastlink.com.hk Website: www.eastlink.com.hk	Photo-/Bio-degradable plastic garbage/T-shirt bag, shopping bags, loose fillers, cutlery, lunch box, etc
Windsor Environmental Technology Ltd	Tm 803-805, CCT Telecom Bldg, 11-19 Wo Shing Street, Fotan, Shatin, NT, HK Tel: (852) 2601 3006 Fax: (852) 2601 3534 Email: sales@windsor-etech.com Website: www.windsor-etech.com	Bio-degradable plastic bags, packaging, agriculture film, packing tape, stationery, etc
Y. & W. Industrial Limited	Unit 4, 4/F., Block B, Hoi Luen Ind. Centre, 55 Hoi Yuen Rd., Kwun Tong, Kowloon Tel: (852) 2344 1978 Fax: (852) 2343 5632 Email: info@ynw.com.hk Website: www.ynw.com.hk	Recycled PP file, folder, etc.

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(3) Computers (excluding monitor)*Product Characteristics for favourable:*Product itself -

- (a) USEPA Energy Star Office Equipment or other equivalent
 - For Maximum Power Supply Rating (MPSR) less than 200W, Maximum Power Consumption (MPC) during energy-saving mode of the control unit shall not exceed 30W, and the Default Activation Period (DEP) for energy saving mode shall not exceed 30 minutes.
 - For MPSR larger than 200W, MPC shall not exceed 15% of MPSR and the DEP shall not exceed 60 minutes.
 - The off-mode power consumption of control unit \leq 5W
- (b) The control unit shall have a modular design allowing components to be easily accessible without any special tools
- (c) Computer power and capacities meet rather than exceeds needs, e.g. the larger the random access memory (RAM), the higher the energy consumption. However, upgradability shall be ensured for at least processor, graphics card, RAM, hard disk, CD-ROM drive, etc. and with at least one empty slot
- (d) Documented user instruction for energy saving mode, modular design features, upgradability shall be included
- (e) Durable
- (f) Built-in fax modems rather than external ones.

Manufacturing process / Others -

- (a) Design-for-recycling features shall be incorporated:
 - At least 90% of plastic materials by weight shall be recyclable
 - Plastic parts and metal parts shall be separable
 - Plastic parts made of recyclable and non-recyclable materials shall be separable
 - Labels shall be detachable
- (b) Plastic parts shall have no lead or cadmium added
- (c) Plastic parts (over 25g) shall not contain bromine- or chlorine- flame retardants
- (d) Mercury content in button cell batteries shall not exceed 1ppm
- (e) Both mercury and cadmium contents in round cell batteries shall not exceed 1ppm
- (f) For rechargeable batteries, mercury and cadmium contents shall not exceed 5ppm and Lead content shall not exceed 15ppm

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

With respect to computers, efficiency can be gained in two ways: the equipment itself is manufactured to run using less energy or the controlling software is programmed to render the computer inactive when not in use.

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(4) Computer Monitors

Product Characteristics favourable:

Product itself -

- (a) Energy Efficiency Label by EMSD or other equivalent
- (b) Energy Star Office Equipment
 - Power consumption of 14"-15" screen \leq 90W
 - Power consumption of 16"-18" screen \leq 130W
 - Power consumption of 19" or above screen \leq 170W
 - For sleep mode, Maximum Power Consumption (MPC) shall not exceed 15W and Default Activation Period (DAP) shall not exceed 30 minutes
 - For deep sleep mode, MPC shall not exceed 8W and DAP shall not exceed 60 minutes
- (c) Documented user instruction for energy saving mode shall be included
- (d) An LCD rather than a CRT monitor
- (e) If it can suit the needs, favour a monochrome CRT over a colour CRT – the former will consume only 50-65% as much power as the latter
- (f) A size monitor appropriate to the needs – larger size monitors consume more energy

Manufacturing process / Others -

- (a) Design-for-recycling features shall be incorporated:
 - At least 90% of plastic materials by weight shall be recyclable
 - Plastic parts and metal parts shall be separable
 - Plastic parts made of recyclable and non-recyclable materials shall be separable
 - Labels shall be detachable
- (b) Plastic parts shall have no lead or cadmium added
- (c) Plastic parts (over 25g) shall not contain bromine- or chlorine- flame retardants
- (d) Picture tube of CRT display or LCD display shall not contain Cadmium or Mercury

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

A 14" colour monitor will consume almost 50% more energy than a 10" colour display.

Some of the available brands/suppliers:

Prefer products registered in EMSD's Energy Efficiency Labelling Scheme

Updated list can be found at <http://www.emsd.gov.hk/>

EMSD List of LCD Monitors as at 23 Jul 2005

EMSD Registration No.	Brand	Model	On/Active Mode Power (Watts)	Sleep Mode Power (Watts)	Off Mode Power (Watts)
L04-0004	Samsung	510N	16.15	0.91	0.08
L04-0001	Samsung	152X	17.68	1.48	0.90
L04-0006	Samsung	710V	24.07	0.80	0.68
L04-0003	Samsung	153V	25.90	1.18	1.19
L04-0008	Samsung	910N	27.04	0.77	0.64
L04-0005	Samsung	172X	27.07	1.09	1.01
L04-0007	Samsung	910V	27.32	0.78	0.63
L04-0002	Samsung	173P	28.68	1.15	0.94
L04-0009	Samsung	710N	48.43	1.48	0

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(5) Toner Cartridges*Product Characteristics favourable:*Product itself -

- (a) Green Label or other equivalent
- (b) Reusable or recycled
- (c) Refillable for at least 5 times where possible or can return to the supplier for reuse or recycling
- (d) Number of copies/printouts per unit shall be more than or equal to 3000 copies/printouts with the contrast set at medium and a black portion of the copy/printout of 6%

Manufacturing process / Others -

- (a) Constituent parts shall not contain Mercury, Lead, Cadmium or Chromium VI compounds

Packaging -

- (a) Reduced packaging – purchase in bulk
- (b) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

Company	Contact Information	Products
Up-Date Group Ltd	3/F Unit 25 Kai Fuk Ind., Centre, 1 Wang Tung Street, Kowloon Bay, Kowloon Tel: (852) 2795 0808 Fax: (852) 2751 8283 Email: sales@up-date.com.hk Website: www.up-date.com.hk	Recycled Toner Cartridges for various printer model

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(6) Photocopiers*Product Characteristics favourable:*Product itself -

- (a) Energy Efficiency Label by EMSD or other equivalent
- (b) Automatic double-siding capabilities
- (c) Energy efficient
- (d) Energy-saving automatic stand-by feature
- (e) Recycled cartridges
- (f) Purchase based on capacity needs of office
- (g) Where high quality or high volume copying is not required consider, purchasing a machine that does not use heat or pressure fusing such as ion-deposition or other non heat and pressure fusing machine
- (h) Where high quality and/or high volume copying is required, conventional heat and pressure machines are the viable option
- (i) Do not emit ozone at a concentration in excess of 0.04 mg/m³

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

If a heat and pressure-fusing machine is the desired option, the most important characteristic would be to determine the correct size. The amount of energy used typically increases linearly with increased copy volume capability. Also the price of the machines rises with increased copy volume – therefore, choosing a machine properly sized for the needs results in substantial savings.

Some of the available brands/suppliers:

Prefer products registered in EMSD's Energy Efficiency Labelling Scheme

Updated list can be found at <http://www.emsd.gov.hk/>

EMSD List of Photocopiers as at 23 Jul 2005

Steps: 1) *Select appropriate speed (cpm) and type (B&W or colour; A3 or A4)*

2) *Select smaller power consumption (kW)*

EMSD Registration No.	Brand	Model	Speed (cpm) ⁺	Max Power (kW)	Remark
P01-0002	Canon	PC920	12	0.90	B&W, A4
P01-0002	Canon	NP7120	12	0.98	B&W, A4
P01-0001	Minolta	EP1031	13	1.2	B&W, A4
P01-0006	Toshiba	ED1370	13	-	B&W, A4
P01-0001	Minolta	EP1054	15	1.3	B&W, A3
P01-0006	Toshiba	ED1560	15	1.5	B&W, A3
P01-0004	SHARP	AR-5015	15	-	B&W, A3
P01-0008	SHARP	AR-5015N	15	-	B&W, A3
P01-0001	Minolta	EP1085	18	1.3	B&W, A3
P01-0007	Panasonic	FP-7818	18	1.5	B&W, A3
P01-0008	SHARP	AR-5020	20	-	B&W, A3
P01-0001	Minolta	EP2030	23	1.3	B&W, A3
P01-0003	Konica	Konica 2223	23	1.4	B&W, A3
P01-0005	Panasonic	FP-7824	24	1.5	B&W, A3
P01-0006	Toshiba	ED2860	28	1.7	B&W, A3
P01-0005	Panasonic	FP-7830	30	1.5	B&W, A3
P01-0001	Minolta	EP3000	30	1.5	B&W, A3
P01-0001	Minolta	EP4000	40	1.5	B&W, A3
P01-0005	Panasonic	FP-7845	45	1.5	B&W, A3
P01-0001	Minolta	EP5000	50	1.5	B&W, A3
P01-0001	Minolta	EP6001	60	1.5	B&W, A3
P01-0001	Minolta	EP8015	81	2.0	B&W, A3

⁺cpm = copies per minute

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(7) Printers*Product Characteristics favourable:*Product itself -

- (a) Energy Efficiency Label by EMSD or other equivalent
- (b) Energy Star Office Equipment
 - For Printing Speed (PS) less than or equal to 7 pages per minute, Maximum Power Consumption (MPC) during energy-saving idle mode shall not exceed 15W and Default Activation Period (DAP) shall not exceed 15 minutes
 - For $7 < PS \leq 14$ pages per minutes, MPC shall not exceed 30W and DAP shall not exceed 30 minutes
 - For PS larger than 14 pages per minutes, MPC shall not exceed 45W and DAP shall not exceed 60 minutes
- (c) Double-sided printing capabilities
- (d) Able to print on recycled paper made of at least 50% recycled fibre
- (e) Documented user instruction for energy saving mode and capacity to print on recycled paper shall be included
- (f) Fits capacity needs

Manufacturing process / Others -

- (a) 1-year guarantee minimum shall be provided
- (b) Ozone emission shall not cause an indoor ozone concentration to exceed 0.02 mg/m^3
- (c) Dust emission shall not cause an indoor dust concentration to exceed 0.075 mg/m^3
- (d) A-weighted maximum sound power levels, $L_{WA,d}$ in dB(A) during operation shall be as follows:
 - For PS less than 7 pages per minutes, $L_{WA,d}$ shall not exceed 58dB(A)
 - For $7 < PS \leq 14$ pages per minute, $L_{WA,d}$ shall not exceed 62dB(A)
 - For PS larger than 14 pages per minute, $L_{WA,d}$ shall not exceed 67dB(A)
- (e) Dust emission shall not cause an indoor dust concentration to exceed 0.075 mg/m^3
- (f) Design-for-recycling features shall be incorporated:
 - At least 90% of plastic materials by weight shall be recyclable
 - Plastic parts and metal parts shall be separable
 - Plastic parts made of recyclable and non-recyclable materials shall be separable
 - Labels shall be detachable
- (g) Plastic parts shall have no lead or cadmium added
- (h) Plastic parts (over 25g) shall not contain bromine- or chlorine- flame retardants

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

Inkjet or dot matrix printers minimize energy consumption. They use up to 95% less and 75% less energy respectively than laser printers. Although the winner in terms of energy use, inkjet printers have a lower print quality than laser printers. Also, colour inkjet printers are more energy efficient than colour laser printers.

Some of the available brands/suppliers:

Prefer products registered in EMSD's Energy Efficiency Labelling Scheme

Updated list can be found at <http://www.emsd.gov.hk/>

EMSD List of Laser Printers as at 23 Jul 2005

Steps: 1) Select appropriate speed (ppm) and type (B&W or colour; A3 or A4)
2) Select smaller power consumption (kW)

EMSD Registration No.	Brand	Model	Speed (ppm) [†]	Max Power (kW)	Remark
LP02-0004	Samsung	ML-1710P	16	0.25	B&W, A4
LP02-0004	Samsung	ML-1750	16	0.28	B&W, A4
LP02-0005	Ricoh	Aficio CL3100N	16	1.3	Colour, A4
LP02-0003	Ricoh	Aficio CL3100	21	1.3	Colour, A4
LP02-0003	Ricoh	Aficio CL3100DN	21	1.3	Colour, A4
LP02-0005	Ricoh	Aficio CL2000	21	1.3	Colour, A4
LP02-0004	Samsung	ML-2551N	24	0.35	B&W, A4
LP02-0003	Ricoh	Aficio AP400	25	0.82	B&W, A4
LP02-0003	Ricoh	Aficio AP400N	25	0.82	B&W, A4
LP02-0006	Ricoh	Aficio CL4000HDN	25	1.2	Colour, A4
LP02-0006	Ricoh	Aficio CL4000DN	25	1.2	Colour, A4
LP02-0003	Ricoh	Aficio CL1000N	31	1.3	Colour, A4
LP02-0002	SHARP	AR-M300U	31	1.6	B&W, A3
LP02-0003	Ricoh	Aficio AP600N	32	0.85	B&W, A3
LP02-0003	Ricoh	Aficio AP3200	32	-	B&W, A3
LP02-0001	SHARP	AR-M350	35	1.6	B&W, A3
LP02-0003	Ricoh	Aficio CL7100	35	1.75	Colour, A3
LP02-0003	Ricoh	Aficio CL5000	36	1.5	Colour, A3
LP02-0003	Ricoh	Aficio CL7000	38	1.5	Colour, A3
LP02-0001	SHARP	AR-M450	45	1.6	B&W, A3
LP02-0003	Ricoh	Aficio AP4510	45	-	B&W, A3

[†]ppm = pages per minute

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(8) Fax Machines

Product Characteristics favourable:

Product itself -

- (a) Green Label or other equivalent
- (b) Energy efficient
- (c) Favour paper machines rather than thermal fax machines

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

Plain paper fax machines use regular, easily recyclable paper which files easily and won't fade. Plain bond paper is also cheaper than thermal, rolled fax paper, which is difficult to write on, needs photocopying, has a short life span, and can be destroyed if exposed to heat over long periods. Thermal fax paper can cost as much as 5 times more per A4 sheet than plain paper.

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(9) Multifunction Devices (Copy-Print-Fax)

Product Characteristics favourable:

Criteria are based on Item 6, 7 and 8 as listed above.

Some of the available brands/suppliers:

Prefer products registered in EMSD's Energy Efficiency Labelling Scheme

Updated list can be found at <http://www.emsd.gov.hk/>

EMSD List of Multifunction Devices as at 23 Jul 2005

Steps: 1) *Select appropriate speed (ipm) and type (B&W or colour; A3 or A4)*

2) *Select smaller power consumption (kW)*

EMSD Registration No.	Brand	Model	Speed (ipm)⁺	Max Power (kW)	Remark
M02-0021	Canon	iR1210	12	0.78	B&W, A4
M02-0021	Canon	iR1270F	12	0.78	B&W, A4
M02-0017	SHARP	AL-1216	12	1.0	B&W, A4
M02-0017	SHARP	AL-1225	12	1.0	B&W, A4
M02-0010	Ricoh	Aficio 1013	13	1.0	B&W, A4
M02-0010	Ricoh	Aficio 1013F	13	1.0	B&W, A4
M02-0023	Ricoh	Aficio 1113	13	1.2	B&W, A3
M02-0001	Minolta	Di151	15	0.715	B&W, A4
M02-0029	SHARP	AR-153EN	15	1.0	Colour, A4
M02-0006	Panasonic	DP-1510P	15	1.2	B&W, A3
M02-0010	Ricoh	Aficio 1015	15	1.2	B&W, A3
M02-0032	Ricoh	Aficio 2015	15	1.28	B&W, A3
M02-0030	Panasonic	DP-1520P	15	1.3	B&W, A3
M02-0001	Minolta	Di152	15	1.5	B&W, A3
M02-0001	Minolta	Di152f	15	1.5	B&W, A3
M02-0004	Minolta	CF1501	15	1.5	Colour, A3
M02-0024	Konica Minolta	Di1610	16	0.85	B&W, A4
M02-0024	Konica Minolta	Di1610f	16	0.85	B&W, A4
M02-0021	Canon	iR1600	16	0.94	B&W, A3
M02-0021	Canon	iR1610F	16	0.94	B&W, A3
M02-0039	Konica Minolta	Bizhub 162	16	1.05	B&W, A3
M02-0022	SHARP	AR-M160	16	1.2	B&W, A3
M02-0026	SHARP	AR-5316	16	1.2	B&W, A3
M02-0028	Konica Minolta	Di1611	16	1.25	B&W, A3
M02-0009	Toshiba	DP1600 (eStudio 16)	16	1.4	B&W, A3
M02-0002	SHARP	AR-163	16	1.5	B&W, A3
M02-0010	Ricoh	Aficio 1018	18	1.2	B&W, A3
M02-0019	Ricoh	Aficio 1018D	18	1.2	B&W, A3
M02-0005	Panasonic	DP-1810P	18	1.2	B&W, A3
M02-0006	Panasonic	DP-1810F	18	1.2	B&W, A3
M02-0032	Ricoh	Aficio 2018	18	1.28	B&W, A3
M02-0030	Panasonic	DP-1820E	18	1.3	B&W, A3
M02-0030	Panasonic	DP-1820P	18	1.3	B&W, A3
M02-0001	Minolta	Di181	18	1.5	B&W, A3
M02-0001	Minolta	Di183	18	1.5	B&W, A3
M02-0001	Minolta	Di183f	18	1.5	B&W, A3
M02-0021	Canon	iR2000	20	0.94	B&W, A3
M02-0021	Canon	iR2010F	20	0.94	B&W, A3
M02-0012	Minolta	Di200	20	0.95	B&W, A4
M02-0006	Panasonic	DP-2010E	20	1.2	B&W, A3
M02-0022	SHARP	AR-M205	20	1.2	B&W, A3
M02-0037	SHARP	AR-M206	20	1.2	B&W, A3

EMSD Registration No.	Brand	Model	Speed (ipm) ⁺	Max Power (kW)	Remark
M02-0028	Konica Minolta	Di2011	20	1.25	B&W, A3
M02-0004	Minolta	CF2001	20	1.5	Colour,
M02-0002	SHARP	AR-206	20	-	B&W, A3
M02-0040	Konica Minolta	Bizhub 210	21	1.25	B&W, A3
M02-0013	Konica	7022	22	1.3	B&W, A3
M02-0021	Canon	iR2200	22	1.35	B&W, A3
M02-0010	Ricoh	Aficio 1022	22	1.44	B&W, A3
M02-0018	Panasonic	DP-2310	23	1.5	B&W, A3
M02-0042	Panasonic	DP-2330	23	1.5	B&W, A3
M02-0001	Minolta	Di251	25	0.95	B&W, A3
M02-0001	Minolta	Di251f	25	0.95	B&W, A3
M02-0003	Konica	7025	25	1.07	B&W, A3
M02-0006	Panasonic	DP-2500P	25	1.4	B&W, A3
M02-0009	Toshiba	DP2500(eStudio 25)	25	-	B&W, A3
M02-0042	Panasonic	DP-C262	26	1.5	Colour, A3
M02-0002	SHARP	AR-275	27	1.2	B&W, A3
M02-0022	SHARP	AR-M276	27	1.4	B&W, A3
M02-0010	Ricoh	Aficio 1027	27	1.44	B&W, A3
M02-0021	Canon	iR2800	28	1.35	B&W, A3
M02-0013	Konica	7130	30	1.17	B&W, A3
M02-0006	Panasonic	DP-3000E	30	1.4	B&W, A3
M02-0020	Minolta	Di3010	30	1.5	B&W, A3
M02-0020	Minolta	Di3010f	30	1.5	B&W, A3
M02-0042	Panasonic	DP-3030	30	1.5	B&W, A3
M02-0018	Panasonic	DP-3010	30	1.5	B&W, A3
M02-0011	Minolta	CF2002	31	1.5	Colour, A3
M02-0011	Minolta	CF3102	31	1.5	Colour, A3
M02-0015	Ricoh	Aficio 1032	32	1.44	B&W, A3
M02-0015	Ricoh	Aficio 1232C	32	1.5	Colour, A3
M02-0042	Panasonic	DP-C322	32	1.5	Colour, A3
M02-0021	Canon	iR3300	33	1.35	B&W, A3
M02-0021	Canon	iR3320i	33	1.35	B&W, A3
M02-0001	Minolta	Di351	35	0.95	B&W, A3
M02-0001	Minolta	Di351f	35	0.95	B&W, A3
M02-0003	Konica	7035	35	1.17	B&W, A3
M02-0013	Konica	7135	35	1.17	B&W, A3
M02-0019	Ricoh	Aficio 2035	35	1.5	B&W, A3
M02-0020	Minolta	Di3510	35	1.5	B&W, A3
M02-0020	Minolta	Di3510f	35	1.5	B&W, A3
M02-0031	Konica Minolta	C350	35	1.5	Colour, A3
M02-0033	Ricoh	Aficio 2035e	35	1.5	B&W, A3
M02-0041	Konica Minolta	Bizhub C351	35	1.5	Colour, A3
M02-0042	Panasonic	DP-3530	35	1.5	B&W, A3
M02-0008	Panasonic	DP-3510	35	1.5	B&W, A3
M02-0009	Toshiba	DP3500(eStudio 35)	35	1.5	B&W, A3
M02-0034	SHARP	AR-M351U	35	1.85	B&W, A3
M02-0010	Ricoh	Aficio 1035	35	-	B&W, A3
M02-0001	Minolta	Di450	45	1.43	B&W, A3
M02-0007	Panasonic	DP-4510	45	1.45	B&W, A3
M02-0013	Konica	7145	45	1.5	B&W, A3
M02-0019	Ricoh	Aficio 2045	45	1.5	B&W, A3
M02-0033	Ricoh	Aficio 2045e	45	1.5	B&W, A3
M02-0042	Panasonic	DP-4530	45	1.5	B&W, A3
M02-0009	Toshiba	DP4500(eStudio 45)	45	1.5	B&W, A3

EMSD Registration No.	Brand	Model	Speed (ipm)⁺	Max Power (kW)	Remark
M02-0038	Konica Minolta	Bizhub C450	45	1.5	Colour, A3
M02-0003	Konica	7045	45	1.8	B&W, A3
M02-0034	SHARP	AR-M451U	45	1.85	B&W, A3
M02-0010	Ricoh	Aficio 1045	45	-	B&W, A3
M02-0014	Minolta	Di470	47	1.43	B&W, A3
M02-0025	Canon	iR5000	50	1.5	B&W, A3
M02-0025	Canon	iR5020i	50	1.5	B&W, A3
M02-0035	Konica Minolta	Bizhub C500	51	-	Colour, A3
M02-0001	Minolta	Di550	55	1.7	B&W, A3
M02-0016	Minolta	Di552	55	1.7	B&W, A3
M02-0019	Ricoh	Aficio 1055	55	1.75	B&W, A3
M02-0003	Konica	7155	55	2.1	B&W, A3
M02-0007	Panasonic	DP-6010	60	1.5	B&W, A3
M02-0025	Canon	iR6000	60	1.5	B&W, A3
M02-0025	Canon	iR6020i	60	1.5	B&W, A3
M02-0042	Panasonic	DP6030	60	1.5	B&W, A3
M02-0010	Ricoh	Aficio 1060	60	1.75	B&W, A3
M02-0001	Minolta	Di620	62	1.5	B&W, A3
M02-0029	SHARP	AR-M620U	62	1.84	B&W, A3
M02-0003	Konica	7165	65	2.3	B&W, A3
M02-0001	Minolta	Di650	65	2.3	B&W, A3
M02-0027	Konica Minolta	Di7210	72	2.0	B&W, A3
M02-0010	Ricoh	Aficio 1075	75	1.75	B&W, A3
M02-0003	Konica	7075	75	2.85	B&W, A3
M02-0010	Ricoh	Aficio 1085	85	3.0	B&W, A3
M02-0013	Konica	7085	85	-	B&W, A3
M02-0023	Ricoh	Aficio 2090	90	3.0	B&W, A3
M02-0023	Ricoh	Aficio 2105	105	3.0	B&W, A3
M02-0036	Konica Minolta	Bizhub 1050	105	-	B&W, A3

⁺ipm = images per minute

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(10) Permanent Markers

Product Characteristics favourable:

Product itself -

- (a) Non-toxic inks (free from xylene, butyl acetate and other offensive organics)

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(11) Highlighter Pens

Product Characteristics favourable:

Product itself -

- (a) Non-toxic

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(12) Batteries

Product Characteristics favourable:

Product itself -

- (a) Rechargeable rather than non-rechargeable whenever possible
- (b) Alkaline cylindrical batteries which do not contain more than 0.02% of mercury by weight
- (c) Alkaline button or coin batteries which do not contain more than 25mg of mercury per cell
- (d) Zinc-acid batteries which do not contain mercury exceeding 40mg/Ah
- (e) Approximately 99.98% mercury-free (AAA, AA, C, D, 9V)

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(13) Office Furniture*Product Characteristics favourable:*Product itself -

- (a) Should incorporate recyclable materials where possible
- (b) Should accommodate effective disassembly of parts to permit reuse or recycling of materials where possible
- (c) Have replacement parts for parts susceptible to wear and tear
- (d) Be free of ozone-depleting substances
- (e) Use low VOC content adhesives
- (f) Non-organic solvent-based adhesives used in manufacturing
- (g) Do not contain woods listed by the Convention on International Trade in Endangered Species (CITES). The Forest Stewardship Council (FSC) certified forest products are preferred, i.e. the woods used in manufacture are grown and harvested in a sustainable way, particularly mahogany, teak, rosewood, white oak, etc.
- (h) Durable
- (i) Finished with at least 1/28" of veneer to prevent off-gassing
- (j) Furniture foams do not contain CFCs or HCFCs

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

The use of office furniture has an impact on resource utilization. Toxic emission to air can also present health risks, as the product materials can offgas toxins such as urea formaldehyde and other VOCs long after manufacture. VOCs are a potential health risk.

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

B. Building Services Products

(1) Lamps

Product Characteristics favourable:

Product itself -

- (a) Energy Efficiency Label by EMSD or other equivalent
- (b) **Energy efficient (higher value of Lumen/Watt)**
- (c) High-efficiency lighting fixture lamps and electromagnetic ballasts
- (d) A colour rendering index (CRI) of no less than 80

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

Lamp Type	Energy Efficiency (Lumen/Watt)	Expected working life (hours)
T5 fluorescent tube	104	20,000
T5(HO) fluorescent tube	94	20,000
T8 fluorescent tube	92	20,000
T12 fluorescent tube	64	20,000
Compact fluorescent lamp	50-83	10,000
Halogen lamp	36	1,000-3,000
Incandescent lamp	24	750-2,500

Benefits of efficient lighting products:

- I Lower Costs – The newer CFLs and electronic ballasts are more energy efficient, generate less heat than older models and may last longer. Part of the cost savings will be due to reduced lower costs for maintenance and replacement as well as lower air conditioning costs for removal of lamp and ballast generated heat.
- I Environmental Benefits – New lighting fixtures do not use lead solder on the ends of the fluorescent tubes and use less environmentally harmful materials (for example, mercury).

Some of the available brands/suppliers:

Prefer products registered in EMSD's Energy Efficiency Labelling Scheme

Updated list can be found at <http://www.emsd.gov.hk/>

EMSD List of Compact Fluorescent Lamps as at 23 Jul 2005

EMSD Registration No.	Brand	Model	Lamp Type	Lamp Wattage (W)	Remark
CFL99-0050	LIGHT POWER	EDU-3W	I	3	
CFL99-0048	Tech. Lighting	EDU-3W	I	3	
CFL99-0046	Tungda	EDU-3W	I	3	
CFL99-0033	Yankon	FE36-3W	I	3	
CFL99-0062	Greenpower	GP-104	I	4	
CFL99-0062	Greenpower	GP-204	I	4	
CFL99-0062	Greenpower	GP-804	I	4	
CFL99-0062	Greenpower	GP-904	I	4	
CFL99-0060	Neonlite	A404	I	4	
CFL99-0038	LIGHT POWER	TSL-5W	NI	5	
CFL99-0039	LIGHT POWER	EDU-5W	I	5	
CFL99-0020	Luxtek	EB-5W	I	5	
CFL99-0021	Luxtek	EUS-5W	I	5	
CFL99-0022	Luxtek	EG-5W	I	5	
CFL99-0027	ST•TEK	EUS-5W	I	5	
CFL99-0027	ST•TEK	EG-5W	I	5	

EMSD Registration No.	Brand	Model	Lamp Type	Lamp Wattage (W)	Remark
CFL99-0027	ST•TEK	EB-5W	I	5	
CFL99-0018	Siltek	EUS -5W	I	5	
CFL99-0026	Siltek	EB-5W	I	5	
CFL99-0026	Siltek	EG-5W	I	5	
CFL99-0036	Tech.Lighting	TSL-5W	I	5	
CFL99-0037	Tech.Lighting	EDU-5W	I	5	
CFL99-0017	Tungda	EDU-5W	I	5	
CFL99-0019	Tungda	TSL-5W	NI	5	
CFL99-0033	Yankon	FE36-5W	I	5	
CFL99-0004A	Greenpower	GP-206	I	6	
CFL99-0004A	Greenpower	GP-228	I	6	
CFL99-0004A	Greenpower	GP-806	I	6	
CFL99-0004A	Greenpower	GP-828	I	6	
CFL99-0044	Greenpower	GP-G106	I	6	
CFL99-0044	Greenpower	GP-G806	I	6	
CFL99-0043	Megaman	GSD106	I	6	
CFL99-0043	Megaman	GSD106D	I	6	
CFL99-0004A	Greenpower	GP-307E	I	7	
CFL99-0004A	Greenpower	GP-W107	I	7	
CFL99-0010	IKEA	K207	I	7	
CFL99-0038	LIGHT POWER	TSL-7W	NI	7	
CFL99-0039	LIGHT POWER	EDU-7W	I	7	
CFL99-0016	Luxtek	EUS-7W 220/240V	I	7	
CFL99-0020	Luxtek	EB-7W	I	7	
CFL99-0040	Osram	Dulux EL 7W/41-827	I	7	
CFL99-0057	Osram	Dulux EL 7W/21-840	I	7	
CFL99-0008	Philips	PL-S 7W/840	NI	7	
CFL99-0011	Philips	PL-S 7W/865/2P	NI	7	
CFL99-0027	ST•TEK	EUS-7W	I	7	
CFL99-0027	ST•TEK	EB-7W	I	7	
CFL99-0018	Siltek	EUS -7W	I	7	
CFL99-0026	Siltek	EB-7W	I	7	
CFL99-0001	Sylvania	Mini-Lynx P.7W	I	7	
CFL99-0015	Sylvania	Mini-Lynx I-7W Homelight Deluxe	I	7	
CFL99-0015	Sylvania	Mini-Lynx I-7W Daylight Deluxe	I	7	
CFL99-0036	Tech.Lighting	TSL-7W	I	7	
CFL99-0037	Tech.Lighting	EDU-7W	I	7	
CFL99-0017	Tungda	EDU-7W	I	7	
CFL99-0019	Tungda	TSL-7W	NI	7	
CFL99-0033	Yankon	FE36-7W	I	7	
CFL99-0033	Yankon	FE29-7W	I	7	
CFL99-0040	Osram	Dulux EL ECO 8W/41-827	I	8	
CFL99-0057	Osram	Dulux EL ECO 8W/21-840	I	8	
CFL99-0004A	Greenpower	GP-229	I	9	
CFL99-0004A	Greenpower	GP-829	I	9	
CFL99-0004A	Greenpower	GP-W109	I	9	
CFL99-0044	Greenpower	GP-109	I	9	
CFL99-0044	Greenpower	GP-809	I	9	
CFL99-0044	Greenpower	GP-209	I	9	
CFL99-0044	Greenpower	GP-909	I	9	
CFL99-0044	Greenpower	GP-G109	I	9	
CFL99-0044	Greenpower	GP-G809	I	9	
CFL99-0063	Greenpower	GP-W609	I	9	
CFL99-0063	Greenpower	GP-W709	I	9	
CFL99-0063	Greenpower	GP-W809	I	9	
CFL99-0063	Greenpower	GP-W909	I	9	
CFL99-0010	IKEA	GK409	I	9	
CFL99-0038	LIGHT POWER	TSL-9W	NI	9	
CFL99-0038	LIGHT POWER	TDL-9W	NI	9	
CFL99-0039	LIGHT POWER	EDU-9W	I	9	
CFL99-0016	Luxtek	EUS-9W 220/240V	I	9	
CFL99-0020	Luxtek	EB-9W	I	9	
CFL99-0021	Luxtek	EC-9W	I	9	
CFL99-0022	Luxtek	EG-9W	I	9	
CFL99-0043	Megaman	MM301	I	9	
CFL99-0043	Megaman	MM301D	I	9	
CFL99-0043	Megaman	MM200	I	9	

EMSD Registration No.	Brand	Model	Lamp Type	Lamp Wattage (W)	Remark
CFL99-0043	Megaman	MM200D	I	9	
CFL99-0043	Megaman	MM009	I	9	
CFL99-0043	Megaman	MM009D	I	9	
CFL99-0061	Neonlite	W609	I	9	
CFL99-0061	Neonlite	W709	I	9	
CFL99-0008	Philips	PL-S 9W/827	NI	9	
CFL99-0008	Philips	PL-S 9W/840	NI	9	
CFL99-0011	Philips	PL-S 9W/865/2P	NI	9	
CFL99-0035	Philips	Ambiance 9W WW	I	9	
CFL99-0027	ST•TEK	EUS-9W	I	9	
CFL99-0027	ST•TEK	EG-9W	I	9	
CFL99-0027	ST•TEK	EB-9W	I	9	
CFL99-0027	ST•TEK	EC-9W	I	9	
CFL99-0018	Stltek	EUS -9W	I	9	
CFL99-0026	Stltek	EB-9W	I	9	
CFL99-0026	Stltek	EG-9W	I	9	
CFL99-0026	Stltek	EC-9W	I	9	
CFL99-0036	Tech.Lighting	TSL-9W	I	9	
CFL99-0036	Tech.Lighting	TDL-9W	I	9	
CFL99-0037	Tech.Lighting	EDU-9W	I	9	
CFL99-0017	Tungda	EDU-9W	I	9	
CFL99-0019	Tungda	TDL-9W	NI	9	
CFL99-0019	Tungda	TSL-9W	NI	9	
CFL99-0033	Yankon	FE36-9W	I	9	
CFL99-0033	Yankon	FE29-9W	I	9	
CFL99-0066	GE	F10DBX/827	NI	10	
CFL99-0066	GE	F10DBX/830	NI	10	
CFL99-0066	GE	F10DBX/835	NI	10	
CFL99-0066	GE	F10DBX/840	NI	10	
CFL99-0066	GE	F10DBX/865	NI	10	
CFL99-0066	GE	F10DBX/827/4P	NI	10	
CFL99-0066	GE	F10DBX/830/4P	NI	10	
CFL99-0066	GE	F10DBX/835/4P	NI	10	
CFL99-0066	GE	F10DBX/840/4P	NI	10	
CFL99-0066	GE	F10DBX/865/4P	NI	10	
CFL99-0038	LIGHT POWER	TDL-10W	NI	10	
CFL99-0039	LIGHT POWER	EDU-10W	I	10	
CFL99-0002	National	FDS10E27/2A	NI	10	
CFL99-0002	National	FDS10E40/2A	NI	10	
CFL99-0002	National	FDS10E67/2A	NI	10	
CFL99-0041	Osram	Dulux D10W/21-840	NI	10	
CFL99-0041	Osram	Dulux D/E 10W/21-840	NI	10	
CFL99-0055	Osram	Dulux D/E 10W/41-827	NI	10	
CFL99-0055	Osram	Dulux D 10W/41-827	NI	10	
CFL99-0056	Osram	Dulux D/E 10W/31-830	NI	10	
CFL99-0056	Osram	Dulux D 10W/31-830	NI	10	
CFL99-0034	Philips	PL-C 10W/82/2P	NI	10	
CFL99-0034	Philips	PL-C 10W/83/2P	NI	10	
CFL99-0034	Philips	PL-C 10W/84/2P	NI	10	
CFL99-0051	Philips	PLC 10W/827/4P	NI	10	
CFL99-0051	Philips	PLC 10W/830/4P	NI	10	
CFL99-0051	Philips	PLC 10W/840/4P	NI	10	
CFL99-0036	Tech.Lighting	TDL-10W	I	10	
CFL99-0037	Tech.Lighting	EDU-10W	I	10	
CFL99-0017	Tungda	EDU-10W	I	10	
CFL99-0019	Tungda	TDL-10W	NI	10	
CFL99-0004A	Greenpower	GP-231	I	11	
CFL99-0004A	Greenpower	GP-831	I	11	
CFL99-0004A	Greenpower	GP-W111	I	11	
CFL99-0044	Greenpower	GP-111	I	11	
CFL99-0044	Greenpower	GP-811	I	11	
CFL99-0044	Greenpower	GP-211	I	11	
CFL99-0044	Greenpower	GP-911	I	11	
CFL99-0044	Greenpower	GP-G111	I	11	
CFL99-0044	Greenpower	GP-G811	I	11	
CFL99-0063	Greenpower	GP-W611	I	11	

EMSD Registration No.	Brand	Model	Lamp Type	Lamp Wattage (W)	Remark
CFL99-0063	Greenpower	GP-W711	I	11	
CFL99-0063	Greenpower	GP-W811	I	11	
CFL99-0063	Greenpower	GP-W911	I	11	
CFL99-0010	IKEA	K211	I	11	
CFL99-0010	IKEA	GK411	I	11	
CFL99-0038	LIGHT POWER	TSL-11W	NI	11	
CFL99-0039	LIGHT POWER	EDU-11W	I	11	
CFL99-0050	LIGHT POWER	ETU-11W	I	11	
CFL99-0014	Luxtek	EUS-11W 220/240V	I	11	
CFL99-0020	Luxtek	EB-11W	I	11	
CFL99-0022	Luxtek	EG-11W	I	11	
CFL99-0042	LUXTEK	EUT-11W	I	11	
CFL99-0043	Megaman	MM302	I	11	
CFL99-0043	Megaman	MM302D	I	11	
CFL99-0043	Megaman	MM212	I	11	
CFL99-0043	Megaman	MM212D	I	11	
CFL99-0043	Megaman	MM011	I	11	
CFL99-0043	Megaman	MM011D	I	11	
CFL99-0003	National	EFS11E67	I	11	
CFL99-0003	National	EFS11E27	I	11	
CFL99-0061	Neonlite	W611	I	11	
CFL99-0061	Neonlite	W711	I	11	
CFL99-0006	Osram	Dulux S 11W/21-840	NI	11	
CFL99-0059	Osram	Dulux EL 11W/41-827	I	11	
CFL99-0059	Osram	Dulux EL 11W/11-860	I	11	
CFL99-0059	Osram	Dulux EL 11W/21-840	I	11	
CFL99-0007A	Philips	PLEU 11W-WW	I	11	
CFL99-0007A	Philips	PLEU 11W-CDL	I	11	
CFL99-0007A	Philips	SLE Prismatic 11W-WW	I	11	###
CFL99-0007A	Philips	SLE Prismatic 11W-CDL	I	11	###
CFL99-0067	Philips	PLS11W/840	NI	11	
CFL99-0068	Philips	SL Electronic Prismatic Crystal 11W-CDL B22	I	11	manufactured after 1.2.2002
CFL99-0068	Philips	SL Electronic Prismatic Crystal 11W-CDL E27	I	11	manufactured after 1.2.2002
CFL99-0068	Philips	SL Electronic Prismatic Crystal 11W-WW B22	I	11	manufactured after 1.2.2002
CFL99-0068	Philips	SL Electronic Prismatic Crystal 11W-WW E27	I	11	manufactured after 1.2.2002
CFL99-0027	ST•TEK	EUS-11W	I	11	
CFL99-0027	ST•TEK	EG-11W	I	11	
CFL99-0027	ST•TEK	EB-11W	I	11	
CFL99-0018	Siltek	EUS -11W	I	11	
CFL99-0026	Siltek	EB-11W	I	11	
CFL99-0026	Siltek	EG-11W	I	11	
CFL99-0001	Sylvania	Mini-Lynx P.11W	I	11	
CFL99-0048	Tech. Lighting	ETU-11W	I	11	
CFL99-0036	Tech. Lighting	TSL-11W	I	11	
CFL99-0037	Tech. Lighting	EDU-11W	I	11	
CFL99-0017	Tungda	EDU-11W	I	11	
CFL99-0019	Tungda	TSL-11W	NI	11	
CFL99-0046	Tungda	ETU-11W	I	11	
CFL99-0033	Yankon	FE10-11W	I	11	
CFL99-0033	Yankon	FE16-11W	I	11	
CFL99-0033	Yankon	FE36-11W	I	11	
CFL99-0033	Yankon	FE29-11W	I	11	
CFL99-0057	Osram	Dulux EL ECO 12W/21-840	I	12	
CFL99-0058	Osram	Dulux EL ECO 12W/11-860	I	12	
CFL99-0029	GE	F13DBX/827	NI	13	
CFL99-0029	GE	F13DBX/840	NI	13	
CFL99-0031	GE	F13DBX/835	NI	13	
CFL99-0031	GE	F13DBX/865	NI	13	
CFL99-0066	GE	F13DBX/827/4P	NI	13	
CFL99-0066	GE	F13DBX/830/4P	NI	13	
CFL99-0066	GE	F13DBX/835/4P	NI	13	
CFL99-0066	GE	F13DBX/840/4P	NI	13	
CFL99-0066	GE	F13DBX/865/4P	NI	13	

EMSD Registration No.	Brand	Model	Lamp Type	Lamp Wattage (W)	Remark
CFL99-0038	LIGHT POWER	TSL-13W	NI	13	
CFL99-0049	LIGHT POWER	TDL-13W	NI	13	
CFL99-0050	LIGHT POWER	ETU-13W	I	13	
CFL99-0002	National	FDS13E27/2A	NI	13	
CFL99-0002	National	FDS13E40/2A	NI	13	
CFL99-0002	National	FDS13E67/2A	NI	13	
CFL99-0041	Osram	Dulux T/E 13W/21-840	NI	13	
CFL99-0041	Osram	Dulux D13W/21-840	NI	13	
CFL99-0041	Osram	Dulux D/E 13W/21-840	NI	13	
CFL99-0055	Osram	Dulux D/E 13W/41-827	NI	13	
CFL99-0055	Osram	Dulux T/E 13W/41-827	NI	13	
CFL99-0055	Osram	Dulux D 13W/41-827	NI	13	
CFL99-0056	Osram	Dulux D/E 13W/31-830	NI	13	
CFL99-0056	Osram	Dulux T/E 13W/31-830	NI	13	
CFL99-0056	Osram	Dulux D 13W/31-830	NI	13	
CFL99-0008	Philips	PL-S 13W/827	NI	13	
CFL99-0008	Philips	PL-S 13W/840	NI	13	
CFL99-0011	Philips	PL-C 13W/827/2P	NI	13	
CFL99-0011	Philips	PL-C 13W/830/2P	NI	13	
CFL99-0011	Philips	PL-C 13W/840/2P	NI	13	
CFL99-0051	Philips	PLC 13W/827/4P	NI	13	
CFL99-0051	Philips	PLC 13W/830/4P	NI	13	
CFL99-0051	Philips	PLC 13W/840/4P	NI	13	
CFL99-0047	Tech. Lighting	TDL-13W	NI	13	
CFL99-0048	Tech. Lighting	ETU-13W	I	13	
CFL99-0036	Tech. Lighting	TSL-13W	I	13	
CFL99-0019	Tungda	TSL-13W	NI	13	
CFL99-0045	Tungda	TDL-13W	NI	13	
CFL99-0046	Tungda	ETU-13W	I	13	
CFL99-0033	Yankon	FE10-13W	I	13	
CFL99-0033	Yankon	FE16-13W	I	13	
CFL99-0052	GE	FLE15TBX/827/E27	I	15	
CFL99-0052	GE	FLE15TBX/827/B22	I	15	
CFL99-0052	GE	FLE15TBX/840/E27	I	15	
CFL99-0052	GE	FLE15TBX/840/B22	I	15	
CFL99-0052	GE	FLE15TBX/865/E27	I	15	
CFL99-0052	GE	FLE15TBX/865/B22	I	15	
CFL99-0052	GE	FLE15TBX/827/GG/E27	I	15	
CFL99-0052	GE	FLE15TBX/827/GG/B22	I	15	
CFL99-0013	Goldlite	EFTR 220/240V 15EX-L	I	15	
CFL99-0004A	Greenpower	GP-W115	I	15	
CFL99-0044	Greenpower	GP-115	I	15	
CFL99-0044	Greenpower	GP-815	I	15	
CFL99-0044	Greenpower	GP-G115	I	15	
CFL99-0044	Greenpower	GP-G815	I	15	
CFL99-0063	Greenpower	GP-W615	I	15	
CFL99-0063	Greenpower	GP-W715	I	15	
CFL99-0063	Greenpower	GP-W815	I	15	
CFL99-0063	Greenpower	GP-W915	I	15	
CFL99-0010	IKEA	K215	I	15	
CFL99-0039	LIGHT POWER	ETU-15W	I	15	
CFL99-0016	Luxtek	EUT-15W 220/240V	I	15	
CFL99-0020	Luxtek	EB-15W	I	15	
CFL99-0021	Luxtek	EC-15W	I	15	
CFL99-0022	Luxtek	EG-15W	I	15	
CFL99-0025	Luxtek	EUS-15W	I	15	
CFL99-0043	Megaman	MM315	I	15	
CFL99-0043	Megaman	MM315D	I	15	
CFL99-0043	Megaman	MM015	I	15	
CFL99-0043	Megaman	MM015D	I	15	
CFL99-0003	National	EFG15E67	I	15	
CFL99-0003	National	EFG15E67C	I	15	
CFL99-0003	National	EFG15E28	I	15	
CFL99-0003	National	EFG15E28C	I	15	
CFL99-0003	National	EFT15E67	I	15	
CFL99-0003	National	EFT15E67C	I	15	
CFL99-0003	National	EFT15E28	I	15	

EMSD Registration No.	Brand	Model	Lamp Type	Lamp Wattage (W)	Remark
CFL99-0003	National	EFT15E28C	I	15	
CFL99-0003	National	EFS15E67	I	15	
CFL99-0003	National	EFS15E27	I	15	
CFL99-0061	Neonlite	W615	I	15	
CFL99-0061	Neonlite	W715	I	15	
CFL99-0040	Osram	Dulux EL 15W/41-827	I	15	
CFL99-0040	Osram	Dulux EL 15W/41-827 Globe	I	15	
CFL99-0057	Osram	Dulux EL 15W/21-840	I	15	
CFL99-0058	Osram	Dulux EL 15W/11-860	I	15	
CFL99-0007A	Philips	PLEU 15W-WW	I	15	
CFL99-0007A	Philips	PLEU 15W-CDL	I	15	
CFL99-0007A	Philips	SLE Prismatic 15W-WW	I	15	###
CFL99-0007A	Philips	SLE Prismatic 15W-CDL	I	15	###
CFL99-0012	Philips	SLE Comfort 15W-CDL	I	15	
CFL99-0012	Philips	SLE Comfort 15W-WW	I	15	
CFL99-0012	Philips	SLE Decor 15W-CDL	I	15	
CFL99-0012	Philips	SLE Decor 15W-WW	I	15	
CFL99-0023	Philips	PLE/T-15W/827	I	15	
CFL99-0068	Philips	SL Electronic Prismatic Crystal 15W-CDL B22	I	15	manufactured after 1.2.2002
CFL99-0068	Philips	SL Electronic Prismatic Crystal 15W-CDL E27	I	15	manufactured after 1.2.2002
CFL99-0068	Philips	SL Electronic Prismatic Crystal 15W-WW B22	I	15	manufactured after 1.2.2002
CFL99-0068	Philips	SL Electronic Prismatic Crystal 15W-WW E27	I	15	manufactured after 1.2.2002
CFL99-0027	ST•TEK	EUS-15W	I	15	
CFL99-0027	ST•TEK	EG-15W	I	15	
CFL99-0027	ST•TEK	EB-15W	I	15	
CFL99-0027	ST•TEK	EUT-15W	I	15	
CFL99-0027	ST•TEK	EC-15W	I	15	
CFL99-0018	Siltek	EUT-15W	I	15	
CFL99-0024	Siltek	EUS-15W	I	15	
CFL99-0026	Siltek	EB-15W	I	15	
CFL99-0026	Siltek	EG-15W	I	15	
CFL99-0026	Siltek	EC-15W	I	15	
CFL99-0001	Sylvania	Mini-Lynx P.15W	I	15	
CFL99-0037	Tech.Lighting	ETU-15W	I	15	
CFL99-0017	Tungda	ETU-15W	I	15	
CFL99-0054	Luxtek	EF-16W	I	16	
CFL99-0040	Osram	Dulux EL ECO 16W/41-827	I	16	
CFL99-0057	Osram	Dulux EL ECO 16W/21-840	I	16	
CFL99-0058	Osram	Dulux EL ECO 16W/11-860	I	16	
CFL99-0033	Yankon	FE10-16W	I	16	
CFL99-0033	Yankon	FE16-16W	I	16	
CFL99-0030	GE	F18DBX/827	NI	18	
CFL99-0030	GE	F18DBX/835	NI	18	
CFL99-0030	GE	F18DBX/840	NI	18	
CFL99-0030	GE	F18DBX/865	NI	18	
CFL99-0066	GE	F18DBX/827/4P	NI	18	
CFL99-0066	GE	F18DBX/830/4P	NI	18	
CFL99-0066	GE	F18DBX/835/4P	NI	18	
CFL99-0066	GE	F18DBX/840/4P	NI	18	
CFL99-0066	GE	F18DBX/865/4P	NI	18	
CFL99-0009	Huafuda	YPZ220/18-3U.RR.D	I	18	
CFL99-0039	LIGHT POWER	ETU-18W	I	18	
CFL99-0049	LIGHT POWER	TDL-18W	NI	18	
CFL99-0002	National	FDS18E27/2A	NI	18	
CFL99-0002	National	FDS18E40/2A	NI	18	
CFL99-0002	National	FDS18E67/2A	NI	18	
CFL99-0041	Osram	Dulux D18W/21-840	NI	18	
CFL99-0041	Osram	Dulux D/E 18W/21-840	NI	18	
CFL99-0055	Osram	Dulux D/E 18W/41-827	NI	18	
CFL99-0055	Osram	Dulux D 18W/41-827	NI	18	
CFL99-0056	Osram	Dulux D/E 18W/31-830	NI	18	
CFL99-0056	Osram	Dulux D 18W/31-830	NI	18	
CFL99-0034	Philips	PL-C 18W/82/2P	NI	18	

EMSD Registration No.	Brand	Model	Lamp Type	Lamp Wattage (W)	Remark
CFL99-0034	Philips	PL-C 18W/83/2P	NI	18	
CFL99-0034	Philips	PL-C 18W/84/2P	NI	18	
CFL99-0034	Philips	PLL 18W/827/4P	NI	18	
CFL99-0034	Philips	PLL 18W/830/4P	NI	18	
CFL99-0034	Philips	PLL 18W/840/4P	NI	18	
CFL99-0051	Philips	PLC 18W/827/4P	NI	18	
CFL99-0051	Philips	PLC 18W/830/4P	NI	18	
CFL99-0051	Philips	PLC 18W/840/4P	NI	18	
CFL99-0028	SUNSHINE	3UELM-04-18W	I	18	
CFL99-0047	Tech. Lighting	TDL-18W	NI	18	
CFL99-0037	Tech. Lighting	ETU-18W	I	18	
CFL99-0017	Tungda	ETU-18W	I	18	
CFL99-0045	Tungda	TDL-18W	NI	18	
CFL99-0033	Yankon	FE16-18W	I	18	
CFL99-0052	GE	FLE20TBX/827/E27	I	20	
CFL99-0052	GE	FLE20TBX/827/B22	I	20	
CFL99-0052	GE	FLE20TBX/840/E27	I	20	
CFL99-0052	GE	FLE20TBX/840/B22	I	20	
CFL99-0052	GE	FLE20TBX/865/E27	I	20	
CFL99-0052	GE	FLE20TBX/865/B22	I	20	
CFL99-0053	GE	FLE20TBX/827/GG/E27	I	20	
CFL99-0053	GE	FLE20TBX/827/GG/B22	I	20	
CFL99-0013	Goldlite	EFTR 220/240V 20EX-N	I	20	
CFL99-0013	Goldlite	EFTR 220/240V 20EX-L	I	20	
CFL99-0004A	Greenpower	GP-W120	I	20	
CFL99-0044	Greenpower	GP-320	I	20	
CFL99-0044	Greenpower	GP-820	I	20	
CFL99-0065	Greenpower	GP-G420	I	20	
CFL99-0065	Greenpower	GP-G620	I	20	
CFL99-0065	Greenpower	GP-G820	I	20	
CFL99-0065	Greenpower	GP-G920	I	20	
CFL99-0065	Greenpower	GP-C420	I	20	
CFL99-0065	Greenpower	GP-C820	I	20	
CFL99-0010	IKEA	K320	I	20	
CFL99-0039	LIGHT POWER	ETU-20W	I	20	
CFL99-0014	Luxtek	EUT-20W 220/240V	I	20	
CFL99-0020	Luxtek	EB-20W	I	20	
CFL99-0021	Luxtek	EC-20W	I	20	
CFL99-0022	Luxtek	EG-20W	I	20	
CFL99-0025	Luxtek	EUS-20W	I	20	
CFL99-0054	Luxtek	EF-20W	I	20	
CFL99-0043	Megaman	MM320	I	20	
CFL99-0043	Megaman	MM320D	I	20	
CFL99-0064	Megaman	MM320G	I	20	
CFL99-0064	Megaman	MM321C	I	20	
CFL99-0064	Megaman	MM322G	I	20	
CFL99-0003	National	EFS20E67	I	20	
CFL99-0003	National	EFS20E27	I	20	
CFL99-0005	Osram	Dulux EL 20W/41-827	I	20	
CFL99-0040	Osram	Dulux EL 20W/41-827	I	20	
CFL99-0040	Osram	Dulux EL 20W/41-827 Globe	I	20	
CFL99-0057	Osram	Dulux EL 20W/21-840	I	20	
CFL99-0058	Osram	Dulux EL 20W/11-860	I	20	
CFL99-0012	Philips	SLE Comfort 20W-CDL	I	20	
CFL99-0012	Philips	SLE Comfort 20W-WW	I	20	
CFL99-0012	Philips	SLE Decor 20W-CDL	I	20	
CFL99-0012	Philips	SLE Decor 20W-WW	I	20	
CFL99-0012	Philips	PLEU 20W-CDL	I	20	
CFL99-0012	Philips	PLEU 20W-WW	I	20	
CFL99-0023	Philips	PLE/T-20W/827	I	20	
CFL99-0023	Philips	PLE/T-20W/865	I	20	
CFL99-0027	ST•TEK	EUS-20W	I	20	
CFL99-0027	ST•TEK	EG-20W	I	20	
CFL99-0027	ST•TEK	EB-20W	I	20	
CFL99-0027	ST•TEK	EUT-20W	I	20	
CFL99-0027	ST•TEK	EC-20W	I	20	

EMSD Registration No.	Brand	Model	Lamp Type	Lamp Wattage (W)	Remark
CFL99-0018	Siltek	EUT-20W	I	20	
CFL99-0024	Siltek	EUS-20W	I	20	
CFL99-0026	Siltek	EB-20W	I	20	
CFL99-0026	Siltek	EG-20W	I	20	
CFL99-0026	Siltek	EC-20W	I	20	
CFL99-0001	Sylvania	Mini-Lynx P.20W	I	20	
CFL99-0015	Sylvania	Mini-Lynx I-20W Homelight Deluxe	I	20	
CFL99-0015	Sylvania	Mini-Lynx I-20W Daylight Deluxe	I	20	
CFL99-0037	Tech.Lighting	ETU-20W	I	20	
CFL99-0017	Tungda	ETU-20W	I	20	
CFL99-0033	Yankon	FE10-20W	I	20	
CFL99-0040	Osram	Dulux EL ECO 21W/41-827	I	21	
CFL99-0057	Osram	Dulux EL ECO 21W/21-840	I	21	
CFL99-0058	Osram	Dulux EL ECO 21W/11-860	I	21	
CFL99-0053	GE	FLE23TBX/827/E27	I	23	
CFL99-0053	GE	FLE23TBX/827/B22	I	23	
CFL99-0053	GE	FLE23TBX/840/E27	I	23	
CFL99-0053	GE	FLE23TBX/840/B22	I	23	
CFL99-0053	GE	FLE23TBX/865/E27	I	23	
CFL99-0053	GE	FLE23TBX/865/B22	I	23	
CFL99-0053	GE	FLE23QBX/827/E27	I	23	
CFL99-0053	GE	FLE23QBX/827/B22	I	23	
CFL99-0053	GE	FLE23QBX/840/E27	I	23	
CFL99-0053	GE	FLE23QBX/840/B22	I	23	
CFL99-0053	GE	FLE23QBX/865/E27	I	23	
CFL99-0053	GE	FLE23QBX/865/B22	I	23	
CFL99-0044	Greenpower	GP-323	I	23	
CFL99-0044	Greenpower	GP-823	I	23	
CFL99-0039	LIGHT POWER	ETU-23W	I	23	
CFL99-0043	Megaman	MM325	I	23	
CFL99-0043	Megaman	MM325D	I	23	
CFL99-0040	Osram	Dulux EL 23W/41-827	I	23	
CFL99-0057	Osram	Dulux EL 23W/21-840	I	23	
CFL99-0058	Osram	Dulux EL 23W/11-860	I	23	
CFL99-0023	Philips	PLE/T-23W/827	I	23	
CFL99-0023	Philips	PLE/T-23W/865	I	23	
CFL99-0023	Philips	PLE/D-23W/827	I	23	
CFL99-0023	Philips	PLE/D-23W/865	I	23	
CFL99-0037	Tech.Lighting	ETU-23W	I	23	
CFL99-0017	Tungda	ETU-23W	I	23	
CFL99-0034	Philips	PLL 24W/827/4P	NI	24	
CFL99-0034	Philips	PLL 24W/830/4P	NI	24	
CFL99-0034	Philips	PLL 24W/840/4P	NI	24	
CFL99-0016	Luxtek	EUT-25W 220/240V	I	25	
CFL99-0021	Luxtek	EC-25W	I	25	
CFL99-0022	Luxtek	EG-25W	I	25	
CFL99-0003	National	EFG25E67	I	25	
CFL99-0003	National	EFG25E28	I	25	
CFL99-0003	National	EFT25E67	I	25	
CFL99-0003	National	EFT25E28	I	25	
CFL99-0027	ST•TEK	EG-25W	I	25	
CFL99-0027	ST•TEK	EUT-25W	I	25	
CFL99-0027	ST•TEK	EC-25W	I	25	
CFL99-0018	Siltek	EUT-25W	I	25	
CFL99-0026	Siltek	EG-25W	I	25	
CFL99-0026	Siltek	EC-25W	I	25	
CFL99-0066	GE	F26DBX/827	NI	26	
CFL99-0066	GE	F26DBX/830	NI	26	
CFL99-0066	GE	F26DBX/835	NI	26	
CFL99-0066	GE	F26DBX/840	NI	26	
CFL99-0066	GE	F26DBX/865	NI	26	
CFL99-0066	GE	F26DBX/827/4P	NI	26	
CFL99-0066	GE	F26DBX/830/4P	NI	26	
CFL99-0066	GE	F26DBX/835/4P	NI	26	
CFL99-0066	GE	F26DBX/840/4P	NI	26	
CFL99-0066	GE	F26DBX/865/4P	NI	26	
CFL99-0038	LIGHT POWER	TDL-26W	NI	26	

EMSD Registration No.	Brand	Model	Lamp Type	Lamp Wattage (W)	Remark
CFL99-0041	Osram	Dulux T/E 26W/21-840	NI	26	
CFL99-0041	Osram	Dulux D/E 26W/21-840	NI	26	
CFL99-0055	Osram	Dulux D/E 26W/41-827	NI	26	
CFL99-0055	Osram	Dulux T/E 26W/41-827	NI	26	
CFL99-0056	Osram	Dulux D/E 26W/31-830	NI	26	
CFL99-0056	Osram	Dulux T/E 26W/31-830	NI	26	
CFL99-0011	Philips	PL-C 26W/830/2P	NI	26	
CFL99-0011	Philips	PL-C 26W/840/2P	NI	26	
CFL99-0034	Philips	PL-C 26W/82/2P	NI	26	
CFL99-0051	Philips	PLC 26W/827/4P	NI	26	
CFL99-0051	Philips	PLC 26W/830/4P	NI	26	
CFL99-0051	Philips	PLC 26W/840/4P	NI	26	
CFL99-0036	Tech.Lighting	TDL-26W	I	26	
CFL99-0019	Tungda	TDL-26W	NI	26	
CFL99-0039	LIGHT POWER	ETU-27W	I	27	
CFL99-0037	Tech.Lighting	ETU-27W	I	27	
CFL99-0017	Tungda	ETU-27W	I	27	
CFL99-0032	GE	F282D/827/4P	NI	28	
CFL99-0032	GE	F282D/835/4P	NI	28	
CFL99-0032	GE	F282D/840/4P	NI	28	
CFL99-0034	Philips	PLL 36W/827/4P	NI	36	
CFL99-0034	Philips	PLL 36W/830/4P	NI	36	
CFL99-0034	Philips	PLL 36W/840/4P	NI	36	

Lamp Type: I = with integral ballast

NI = without integral ballast

Philips conducted a voluntary recall for the products marked with “###”, with those batches manufactured between January 2000 and April 2001

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(2) Lighting System (applicable when restructuring or designing a lighting system)

Product Characteristics favourable:

Product itself -

- (a) A PSALI (permanent supplementary artificial lighting in interiors) system
- (b) Local task lights where applicable (e.g. desk lamps) which allow for a reduction of overhead lighting

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

Other concerns to be born in mind when designing:

- I The usage of the area to be illuminated
- I The efficiency of existing lighting
- I The desired lighting impression (e.g. warm & cozy or cool & crisp)
- I The appropriate lighting system alternatives and associated energy savings
- I The required illumination for the work area

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(3) Ballasts*Product Characteristics favourable:*Product itself -

- (a) High efficiency electronic ballasts
- (b) Must meet the safety requirements as evidence by a third party certification
- (c) Contain no radioisotopes and PCBs

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

Company	Contact Information	Products
BillionGroup Technologies Limited	Flat C, 10/F, Meyer Industrial Building, No. 2, Chong Yip Street, Kwun Tong, Kowloon, HKSAR Tel: (852)25110838 Fax: (852)25112698 Email: info@billiongroup.com Webpage: www.billiongroup.com	BG® Constant Voltage Fluorescent Ballast

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(4) Luminaries*Product Characteristics favourable:*Product itself -

- (a) High efficiency specular reflectors
- (b) High efficiency luminaries

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(5) Air Conditioning Units

Product Characteristics favourable:

Product itself -

- (a) Prefer **split type rather than window type** (Consumer Council, CHOICE # 332 (June 15, 2004): in general the traditional split-type is slightly more energy efficient than the window-type split models.)
- (b) EMSD Energy Efficiency Labelling Scheme: Energy Consumption Index (ECI) shall be lower than 105% for both Window and Split Type air conditioners. **A Grade-1 air conditioner can consume up to 15% less power in comparison with a Grade-3 air conditioner.**
- (c) **Higher value of EER** (Energy Efficiency Rating): 8-11.5 normally
- (d) Refrigerants made of ozone-depleting substance such as CFCs as specified in Annex of the Montreal Protocol or chemicals of ozone depleting potential higher than 0.2 are prohibited

Manufacturing process / Others -

- (a) Coating material used on the product shall not contain mercury, mercury compounds or mixed with dyes stuff containing lead, cadmium, hexavalent chromium and their oxides

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

Area to be cooled (m ²)	Capacity Needed (BTU/hour)
< 7	6,000
7-8	7,000
8-10	9,000
10-15	12,000
15-20	18,000
20-25	22,000

Some of the available brands/suppliers:

Prefer products registered in EMSD's Energy Efficiency Labelling Scheme
Updated list can be found at <http://www.emsd.gov.hk/>

EMSD List of Room Coolers as at 22 Jul 2005

Selection basis: a) Select table of the appropriate cooling capacity, i.e. BTU/h
b) Select cooling capacity (kW or BTU/h) required
c) For same BTU/h, select **smaller** annual energy consumption, i.e. kWh/yr

Room Cooler Category: 1 = Window Type Cooling Only
2 = Window Type Reverse Cycle
3 = Split Type Cooling Only
4 = Split Type Reverse Cycle

Table I – Cooling capacity less than 2.3kW (<7850 BTU/h)

Table II – Cooling capacity between 2.3-3.4kW (7850-11600 BTU/h)

Table III – Cooling capacity between 3.41-4.6kW (11650-15700 BTU/h)

Table IV – Cooling capacity between 4.61-5.3kW (15750-18000 BTU/h)

Table V – Cooling capacity greater than 5.3kW (>18000 BTU/h)

(Tables are sorted by Energy Efficiency Grade, then by Cooling Capacity and followed by Annual Energy Consumption with more energy efficient at the top)

I. Cooling Capacity less than 2.3kW (<7850 BTU/h) (approx <=3/4 horsepower)

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0439	GREE	KC-16/C100W	1.58	5391	2	1	753
C96-0372	LG	LWG0660ACG	1.81	6176	1	1	744
C96-0373	Fortress	FC07CB1	1.81	6176	1	1	744
C96-0053	LG	GA-0761GC	1.88	6415	2	1	864
C96-0057	NEC	RC-7090AE	1.88	6415	2	1	864
C96-0061	Philco	GPA-2078	1.88	6415	2	1	864
C96-0065	Fortress	FC-08CCA	1.88	6415	2	1	864
C96-0219	General	ASG7SNCW	1.92	6551	2	3	780
C96-1056	Samsung	AW07P1HEA	1.93	6585	1	1	856
C96-1108	Samsung	AW07PHHEA	1.93	6585	1	1	856
C96-0002	General	AKG 7A	1.93	6585	2	1	944
C96-0298	SANYO	SA-79GH/H	1.93	6585	2	2	950
C96-1033	Toshiba	RAC-07EX-H	1.94	6619	1	1	767
C96-0333	LG	LWG0761BAG	1.95	6653	1	1	852
C96-0334	LG	LWG0761QAG	1.95	6653	1	1	852
C96-0335	Fortress	FC08CB1	1.95	6653	1	1	852
C96-0336	Fortress	FCD08CRG	1.95	6653	1	1	852
C96-0337	Philco	GPA3078N	1.95	6653	1	1	852
C96-0338	Philco	PA07EN	1.95	6653	1	1	852
C96-0339	Philco	PAN307RN	1.95	6653	1	1	852
C96-0340	NEC	RC-7092	1.95	6653	1	1	852
C96-0438	SANYO	SA-79GHA/H	1.95	6653	2	2	962
C96-0733	Samsung	AW07LFAEA	1.96	6688	1	1	839
C96-0397	Carrier	51S7A	1.96	6688	1	1	868
C96-0102	Hitachi	RA-08BDF	1.96	6688	2	1	967
C96-0092	Carrier	51DS7	1.964	6701	1	1	870
C96-0548	Samsung	AW07G2NEA	1.97	6722	1	1	872
C96-0363	National	CS-C75KA/CU-C75KA	1.98	6756	1	3	694
C96-0366	Rasonic	RS-C75K/RU-C75K	1.98	6756	1	3	694
C96-0589	TCL	TAC-07CW/AA	1.98	6756	1	1	860
C96-0099	MD	KC-20/EY	1.98	6756	1	1	875
C96-0151	Fedders	1FY107N6A	1.98	6756	1	1	876
C96-0254	Fedders	1FY107N6A-HK	1.98	6756	1	1	876
C96-0113	Carrier	51T7	1.982	6763	1	1	882
C96-0217	Rasonic	RS-C73K/RU-C73K	1.99	6790	1	3	694
C96-0215	National	CS-C73KA/CU-C73KA	1.99	6790	1	3	694
C96-0977	Fortress	FCD08CXA4	1.99	6790	1	1	874
C96-0982	Kelon	AW-07CR4FE2	1.99	6790	1	1	876
C96-0995	Fortress	RWAC074	1.99	6790	1	1	876
C96-0999	Kelon	AW-07CM4FE2	1.99	6790	1	1	876
C96-1096	General Electric	AKV07WB	1.99	6790	1	1	876
C96-1097	General Electric	AKE07WB	1.99	6790	1	1	876
C96-0517	Midea	AW-07R	1.99	6790	1	1	877
C96-1032	Sharp	AF-W07FA	1.99	6790	1	1	877
C96-1112	Midea	MWH-07CR	1.99	6790	1	1	877
C96-0140	Carrier	42BV7/38BV7	1.993	6800	1	3	779
C96-0190	Carrier	42BV8/38BV8	2	6824	1	3	774
C96-0098	MD	KC-20/E	2	6824	1	1	880
C96-0023	Fortress	FC-08CXA	2	6824	1	1	881
C96-0803	General Electric	AKV07WA	2	6824	1	1	891
C96-0805	TOTALINE	ACW107	2	6824	1	1	891
C96-0808	ROMA	RWAC073	2	6824	1	1	891
C96-0428	Samsung	AW07F2SEA	2	6824	1	1	892
C96-0078	Mitsubishi Electric	MWD-07RV	2	6824	1	1	912
C96-0004	Fortress	FH-08CA	2	6824	2	2	948
C96-0154	LG	LWG0760BCG	2.01	6858	1	1	900
C96-0155	LG	LWG0760QCG	2.01	6858	1	1	900
C96-0161	Fortress	FC08CB	2.01	6858	1	1	900
C96-0162	Fortress	FCD08CR	2.01	6858	1	1	900
C96-0172	Philco	GPA3078	2.01	6858	1	1	900
C96-0173	Philco	PA07E	2.01	6858	1	1	900
C96-0174	Philco	PAN307R	2.01	6858	1	1	900
C96-0182	NEC	RC-7091	2.01	6858	1	1	900
C96-0093	Carrier	42G7/38G7	2.012	6865	1	3	791
C96-0300	Sharp	AF-W07BA	2.02	6892	1	1	781

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0017	LG	LW-B0762CL	2.02	6892	1	1	852
C96-0901	Samsung	AW07A2NEC	2.02	6892	1	1	879
C96-0558	Rasonic	RC-C71Y	2.02	6892	1	1	888
C96-0562	Rasonic	RC-SC71Y	2.02	6892	1	1	888
C96-0565	National	CW-SC71YA	2.02	6892	1	1	888
C96-0568	National	CW-C71YA	2.02	6892	1	1	888
C96-0947	Chigo	KC-20/AYa	2.02	6892	1	1	898
C96-0631	Rasonic	RS-C7CK/RU-C7CK	2.03	6926	1	3	694
C96-0634	National	CS-C7CKN/CU-C7CKN5	2.03	6926	1	3	694
C96-0861	Panasonic	CS-C7CKA/CU-C7CKA	2.03	6926	1	3	694
C96-0456	SHARP	AF-W07CA	2.03	6926	1	1	787
C96-0398	Carrier	42KP07/38KP07	2.03	6926	1	3	788
C96-0948	Toshiba	RAC-07NX-H	2.03	6926	1	1	839
C96-0504	Midea	AW-07	2.03	6926	1	1	880
C96-1031	Sharp	AF-A07FA	2.03	6926	1	1	880
C96-1111	Midea	MWH07CM	2.03	6926	1	1	880
C96-0515	Carrier	51P7	2.03	6926	1	1	890
C96-0734	Samsung	AW07G2NEB	2.03	6926	1	1	890
C96-0088	Carrier	51S7	2.03	6926	1	1	891
C96-0268	Haier	HW-07CA03	2.03	6926	1	1	898
C96-0540	Rasonic	RS-C7BK/RU-C7BK	2.04	6960	1	3	694
C96-0574	National	CS-C7BKN/CU-C7BKN5	2.04	6960	1	3	694
C96-0454	SHARP	AF-A07CA	2.04	6960	1	1	782
C96-0648	Rasonic	RC-XC70J	2.04	6960	1	1	806
C96-0654	National	CW-XC70JA	2.04	6960	1	1	806
C96-0854	Panasonic	CW-XC71JA	2.04	6960	1	1	806
C96-0879	Rasonic	RC-XC71J	2.04	6960	1	1	806
C96-0280	Rasonic	RC-SC70Y	2.04	6960	1	1	811
C96-0283	National	CW-SC70YA	2.04	6960	1	1	811
C96-0208	National	CW-XC70YA	2.04	6960	1	1	816
C96-0209	Rasonic	RC-XC70Y	2.04	6960	1	1	816
C96-0878	Rasonic	RC-C71J	2.04	6960	1	1	826
C96-0646	Rasonic	RC-C70J	2.04	6960	1	1	862
C96-0647	Rasonic	RC-SC70J	2.04	6960	1	1	862
C96-0652	National	CW-C70JA	2.04	6960	1	1	862
C96-0653	National	CW-SC70JA	2.04	6960	1	1	862
C96-0852	Panasonic	CW-C71JA	2.04	6960	1	1	862
C96-0853	Panasonic	CW-SC71JA	2.04	6960	1	1	862
C96-0880	Rasonic	RC-SC71J	2.04	6960	1	1	862
C96-0105	General Electric	ASV07WBS1	2.04	6960	1	1	869
C96-0114	Samsung	AW07G2SE	2.04	6960	1	1	869
C96-0378	LG	LWG0760BHG	2.04	6960	1	2	888
C96-0379	LG	LWG0760VBG	2.04	6960	1	2	888
C96-0380	Fortress	FCDH08CRG	2.04	6960	1	2	888
C96-0194	Samsung	AW07H2SE	2.04	6960	1	1	890
C96-0195	Samsung	AW07F7SE	2.04	6960	1	1	890
C96-0196	Samsung	AW07F8SE	2.04	6960	1	1	890
C96-0302	General	AKG8ANG-W	2.04	6960	1	1	899
C96-0475	GENERAL	AKG8ASG-W	2.04	6960	1	1	899
C96-0534	Hitachi	RA-08AS	2.04	6960	1	1	907
C96-0141	Sharp	AF-A07AA	2.048	6988	1	1	920
C96-0142	Sharp	AF-W07AA	2.048	6988	1	1	920
C96-0759	Carrier	42P07/38P07	2.05	6995	1	3	776
C96-0275	SHARP	AF-A07BA	2.05	6995	1	1	784
C96-0687	Sharp	AF-AP07DA	2.05	6995	1	1	787
C96-0763	Sharp	AF-WP07DA	2.05	6995	1	1	792
C96-0117	National	CW-C70YA	2.05	6995	1	1	811
C96-0118	Rasonic	RC-C70Y	2.05	6995	1	1	811
C96-1060	LG	TWC076GSAA1	2.05	6995	1	1	847
C96-1061	LG	TWC076GEAB1	2.05	6995	1	1	847
C96-1062	LG	TWC076GBAB1	2.05	6995	1	1	847
C96-1063	LG	TWC076GEMM1	2.05	6995	1	1	847
C96-1064	LG	TWC076GSMM1	2.05	6995	1	1	847
C96-1065	LG	TWC076GBMM1	2.05	6995	1	1	847
C96-1066	LG	W07LC-E	2.05	6995	1	1	847
C96-1067	LG	W07LC-B	2.05	6995	1	1	847
C96-1068	LG	W07LCR-E	2.05	6995	1	1	847

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-1069	LG	W07LCR-B	2.05	6995	1	1	847
C96-1070	Fortress	FC08CB5C	2.05	6995	1	1	847
C96-1071	Fortress	FCD08CRG5C	2.05	6995	1	1	847
C96-0052	Toshiba	RAC-07L4X	2.05	6995	1	1	886
C96-0381	Philco	GPA3078H	2.05	6995	1	2	888
C96-0765	LG	LWC076GGAB0	2.05	6995	1	1	898
C96-0766	LG	LWC076GGMM0	2.05	6995	1	1	898
C96-0767	Fortress	FC08CB3	2.05	6995	1	1	898
C96-0768	Fortress	FCD08CRG3	2.05	6995	1	1	898
C96-0834	LG	LWC076GEAB0	2.05	6995	1	1	898
C96-0835	LG	LWC076GEMM0	2.05	6995	1	1	898
C96-0919	Mitsubishi Electric	MW-07XV	2.05	6995	1	1	898
C96-0920	Mitsubishi Electric	MWD-07XV	2.05	6995	1	1	898
C96-0958	LG	LWC076GBAB0	2.05	6995	1	1	898
C96-0959	LG	LWC076GBMM0	2.05	6995	1	1	898
C96-0271	Toshiba	RAC-07T-HX	2.05	6995	1	1	900
C96-0510	Toshiba	RAC-07U-HX	2.05	6995	1	1	900
C96-0593	Fortress	FCDH08CRG2	2.05	6995	1	2	900
C96-0683	Toshiba	RAC-07J-HX	2.05	6995	1	1	900
C96-0981	LG	TWC076GGAB0	2.05	6995	1	1	909
C96-0014	Sharp	AF-A788	2.05	6995	1	1	912
C96-0015	Sharp	AF-W788	2.05	6995	1	1	912
C96-0022	Sharp	AF-A798T	2.05	6995	1	1	938
C960560	Rasonic	RC-XC71Y	2.06	7029	1	1	814
C96-0571	National	CW-XC71YA	2.06	7029	1	1	814
C96-0479	GREE	KF-20GW/C1	2.07	7063	2	3	880
C96-0676	Trane	MCW507MB0RAA/TTK507WB0EAA	2.07	7063	2	3	880
C96-0251	General Electric	ASV07WCS1	2.07	7063	1	1	903
C96-0813	Toshiba	RAC-07J-HX-1	2.07	7063	1	1	903
C96-0910	Toshiba	RAC-07NX-H1	2.07	7063	1	1	903
C96-0526	Hitachi	RA-08GF	2.07	7063	1	1	906
C96-0391	Hitachi	RA-089FF	2.07	7063	1	1	907
C96-0527	Hitachi	RA-08GDF	2.07	7063	1	1	912
C96-0229	Hitachi	RA-088EF	2.07	7063	1	1	919
C96-0122	Whirlpool	WAWM07GH3	2.07	7063	1	1	923
C96-0990	Haier	HW-07CI03	2.07	7063	1	1	924
C96-0262	Chigo	KC-20/A	2.07	7063	1	1	930
C96-0032	National	CW-C70TA	2.08	7097	1	1	904
C96-0033	National	CW-PC71TA	2.08	7097	1	1	904
C96-0042	Rasonic	RC-C70T	2.08	7097	1	1	904
C96-0043	Rasonic	RC-PC71T	2.08	7097	1	1	904
C96-0031	National	CW-XC70TA	2.08	7097	1	1	908
C96-0041	Rasonic	RC-XC70T	2.08	7097	1	1	908
C96-0392	Hitachi	RA-089FDF	2.08	7097	1	1	912
C96-0147	Whirlpool	ACE07	2.08	7097	1	1	922
C96-0989	Haier	HW-07CK03	2.08	7097	1	1	924
C96-0123	Whirlpool	WAWM07GH3	2.08	7097	1	1	928
C96-0230	Hitachi	RA-088EDF	2.09	7131	1	1	910
C96-0488	SANYO	SA-T72H	2.09	7131	1	1	910
C96-1119	Midea	MSE-07CR	2.098	7158	2	3	923
C96-0714	Whirlpool	AMA307	2.1	7165	1	1	901
C96-0295	Whirlpool	WD07	2.1	7165	1	1	902
C96-0494	Whirlpool	AMA07	2.1	7165	1	1	902
C96-0580	White - Westinghouse	AC075A5R	2.1	7165	1	1	912
C96-0773	GREE / BODYSONIC	BGW-07RC-V1	2.1	7165	1	1	912
C96-0422	GREE	KC-20 (2010A)	2.1	7165	1	1	936
C96-0071	Hitachi	RA-08CF (K)	2.1	7165	1	1	946
C96-0432	Carrier	42BP08/38BP08	2.11	7199	1	3	820
C96-0470	Mitsubishi Electric	MW-07UV	2.11	7199	1	1	910
C96-0471	Mitsubishi Electric	MWD-07UV	2.11	7199	1	1	911
C96-0006	LG	LW-B0760CL	2.11	7199	1	1	931
C96-0242	GREE	KC-20 (2011A)	2.11	7199	1	1	936
C96-0257	Philco	PAC-07R	2.11	7199	1	1	936
C96-0934	Philco	P07R	2.11	7199	1	1	936
C96-0029	National	CS-C70KA	2.12	7233	1	3	773
C96-0039	Rasonic	RS-C70K	2.12	7233	1	3	773

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0870	Hitachi	RA-08JF	2.12	7233	1	1	832
C96-0975	Hitachi	RA-08HF(HK)	2.12	7233	1	1	832
C96-0703	General	AK08ANR-W	2.12	7233	1	1	924
C96-0728	General	AK08GNR-W	2.12	7233	1	1	924
C96-0892	General	AK084ANR-W	2.12	7233	1	1	924
C96-1046	General	AK085APRSW	2.12	7233	1	1	924
C96-0871	Hitachi	RA-08JDF	2.13	7268	1	1	835
C96-1029	Hitachi	RA-08HDF(HK)	2.13	7268	1	1	835
C96-0671	Carrier	CHK07SR	2.13	7268	1	1	856
C96-0749	Carrier	CHK07EP	2.13	7268	1	1	856
C96-0750	Carrier	CHK07ER	2.13	7268	1	1	856
C96-0751	Carrier	CHK07SP	2.13	7268	1	1	856
C96-0902	Carrier	CHK07EA	2.13	7268	1	1	856
C96-0903	Carrier	CHK07SA	2.13	7268	1	1	856
C96-1048	Carrier	CHK07SB	2.13	7268	1	1	856
C96-1049	Carrier	CHK07EB	2.13	7268	1	1	856
C96-0291	Mitsubishi Electric	MW-07TV	2.13	7268	1	1	903
C96-0690	Mitsubishi Electric	MWD-07WV	2.13	7268	1	1	934
C96-0713	Brandt	BCW-07M	2.13	7268	1	1	936
C96-0293	Mitsubishi Electric	MWD-07TV	2.14	7302	1	1	903
C96-0069	General	AKG 7AP	2.14	7302	1	1	924
C96-0186	Fuji Electric	RK-7AP	2.14	7302	1	1	924
C96-0435	FUJI ELECTRIC	RK-7AQ	2.14	7302	1	1	924
C96-0477	GENERAL	AKH7GSG-W	2.14	7302	1	1	924
C96-0689	Mitsubishi Electric	MW-07WV	2.14	7302	1	1	936
C96-0543	Fuji Electric	RK-7CN	2.15	7336	1	1	924
C96-0085	SANYO	SA-79GD/H	2.15	7336	1	1	936
C96-0514	Chigo	KC-20/A1	2.15	7336	1	1	953
C96-0241	GREE	KC-20 (2011)	2.16	7370	1	1	949
C96-0256	Philco	PAC-07M	2.16	7370	1	1	949
C96-0421	GREE	KC-20 (2010)	2.16	7370	1	1	949
C96-0448	White - Westinghouse	AC075A5C	2.16	7370	1	1	949
C96-0450	Philco	CPG107M	2.16	7370	1	1	949
C96-0772	GREE / BODYSONIC	BGW-07C-V1	2.16	7370	1	1	949
C96-0933	Philco	P07M	2.16	7370	1	1	949
C96-0599	Chigo	KC-20/A2	2.18	7438	1	1	944
C96-1009	GREE	KC-20/C31A-E	2.19	7472	1	1	934
C96-0659	GREE	KC-20/C3-C	2.19	7472	1	1	937
C96-0663	National	CW-SC70KA	2.19	7472	1	1	937
C96-0730	GREE	KC-20/C3A-C	2.19	7472	1	1	937
C96-0769	York	YC-7C-R	2.19	7472	1	1	937
C96-0830	Panasonic	CW-SC70KA	2.19	7472	1	1	937
C96-0845	Philco	PAC07M2	2.19	7472	1	1	937
C96-0891	Whirlpool	AC07	2.19	7472	1	1	937
C96-0899	Ryoden	RW-07AC	2.19	7472	1	1	937
C96-1017	Whirlpool	AC507	2.19	7472	1	1	937
C96-0304	Kelon	KF-22GW	2.2	7506	1	3	857
C96-0411	TOTALINE	ACS007	2.2	7506	1	3	857
C96-0697	GREE	CW-SC70KA	2.2	7506	1	1	937
C96-0700	Trane	TAW007DB0WAA	2.2	7506	1	1	937
C96-0817	German Pool	TA-07CW	2.21	7541	1	1	995
C96-0500	Gemini	GT08	2.21	7541	2	1	995
C96-0502	Cellini	GPX07B	2.21	7541	2	1	995
C96-0619	JCC	WW07	2.21	7541	2	1	995
C96-0695	Philco	PW07	2.21	7541	2	1	995
C96-0797	Cellini	CA168	2.21	7541	2	1	995
C96-0128	Daikin	ANW23GV1/ARW23GV1	2.22	7575	2	3	944
C96-0621	Chunlan	KC20I1	2.23	7609	1	1	1002
C96-0820	Trane	TAW007BB0WAA	2.24	7643	1	1	936
C96-0825	GREE	KC-20/C1	2.24	7643	1	1	936
C96-0721	Hitachi	RA-08HF	2.24	7643	1	1	965
C96-0722	Hitachi	RA-08HDF	2.24	7643	1	1	966
C96-0620	JCC	WW09	2.24	7643	2	1	1080
C96-1104	General Electric	AK1AC07HWG/ AK0AC07HWO	2.27	7745	1	3	890
C96-0404	Kelon	KC-22	2.27	7745	1	1	929
C96-0406	TOTALINE	ACW007	2.27	7745	1	1	929

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Eff. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0616	Kelon	AW-07CM4FC	2.27	7745	1	1	929
C96-0135	KELON	KC-22	2.271	7749	1	1	949
C96-0228	Zanussi	ZA750	2.271	7749	1	1	949
C96-0954	York	Y9USC07	2.3	7848	1	1	880
C96-0005	Fortress	FH-10CA	2.3	7848	2	2	1136

+Actual consumption depends on where the appliance is located and how it is used. Based on 1200 hrs/yr operation.

II. Cooling Capacity between 2.3-3.4kW (7850-11600 BTU/h) (approx 1 horsepower)

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Eff. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0108	Kelon	KF-22GW/D	2.303	7858	2	3	916
C96-0429	Samsung	AW09F2SEA	2.34	7984	2	1	1154
C96-0252	General Electric	ASV09WCS1	2.36	8052	2	1	1176
C96-0197	Samsung	AW09H2SE	2.36	8052	2	1	1183
C96-0198	Samsung	AW09F7SE	2.36	8052	2	1	1183
C96-0199	Samsung	AW09F8SE	2.36	8052	2	1	1183
C96-0243	GREE	KC-25 (2511)	2.37	8086	1	1	1045
C96-0258	Philco	PAC-09M	2.37	8086	1	1	1045
C96-0423	GREE	KC-25 (2510)	2.37	8086	1	1	1045
C96-0449	White - Westinghouse	AC095A6C	2.37	8086	1	1	1045
C96-0451	Philco	CPG109M	2.37	8086	1	1	1045
C96-0935	Philco	P09M	2.37	8086	1	1	1045
C96-0774	GREE / BODYSONIC	BGW-09C-V1	2.38	8121	1	1	1045
C96-0630	TONGYI	KFR-25GW/B	2.38	8121	2	4	1045
C96-0106	General Electric	ASV09WBS1	2.38	8121	2	1	1165
C96-0115	Samsung	AW09G2SE	2.38	8121	2	1	1165
C96-0248	Mitsubishi Electric	MSD-09XV	2.39	8155	1	3	881
C96-0480	GREE	KF-25GW/C1	2.39	8155	2	3	1044
C96-0244	GREE	KC-25 (2511A)	2.39	8155	1	1	1045
C96-0259	Philco	PAC-09R	2.39	8155	1	1	1045
C96-0424	GREE	KC-25 (2510A)	2.39	8155	1	1	1045
C96-0936	Philco	P09R	2.39	8155	1	1	1045
C96-0150	Whirlpool	ACM09	2.39	8155	2	1	1182
C96-0269	Haier	KC-25/B(F)	2.39	8155	2	1	1202
C96-0554	York	YC-7C	2.4	8189	1	1	947
C96-0677	Trane	MCW509MB0RAA/TTK509WB0EAA	2.4	8189	2	3	1044
C96-0680	GREE	KFR-25GW/A12	2.4	8189	2	4	1044
C96-0789	Trane	MWW509KB0RAB/TWK509XB0EAB	2.4	8189	2	4	1044
C96-0555	York	YC-9C	2.4	8189	1	1	1054
C96-0818	German Pool	TA-09CW	2.4	8189	1	1	1080
C96-0501	Gemini	GT09	2.4	8189	2	1	1080
C96-0503	Cellini	GPX09B	2.4	8189	2	1	1080
C96-0696	Philco	PW09	2.4	8189	2	1	1080
C96-0299	SANYO	SA-99GH/H	2.41	8223	2	2	1193
C96-0581	White - Westinghouse	AC095A5R	2.42	8257	1	1	1045
C96-0775	GREE / BODYSONIC	BGW-09RC-V1	2.42	8257	1	1	1045
C96-0735	Samsung	AW09LFAEA	2.42	8257	1	1	1069
C96-0513	Chigo	KC-25/A1	2.42	8257	2	1	1183
C96-0305	Kelon	KF-25GW	2.43	8291	1	3	922
C96-0412	TOTALINE	ACS009	2.43	8291	1	3	922
C96-0539	Zanussi	ZAS090	2.43	8291	1	3	922
C96-0491	Whirlpool	AMB852A/B	2.43	8291	1	3	923
C96-0270	Chigo	KC-25/A	2.43	8291	2	1	1171
C96-0149	Whirlpool	ACE09	2.43	8291	2	1	1197
C96-0103	Hitachi	RA-10BDF	2.43	8291	2	1	1198
C96-0003	General	AKG 9A	2.43	8291	2	1	1212
C96-0100	MD	KC-25/E	2.43	8291	2	1	1224
C96-0091	Fortress	FSA-10CCA	2.44	8325	2	3	1075
C96-1057	Samsung	AW09PIHEA	2.44	8325	1	1	1085
C96-1109	Samsung	AW09PHHEA	2.44	8325	1	1	1085
C96-0549	Samsung	AW09G2NEA	2.44	8325	1	1	1088
C96-0893	General	AK104ANR-W	2.45	8359	1	1	1077
C96-1047	General	AK105APRSW	2.45	8359	1	1	1077
C96-0704	General	AK10ANR-W	2.45	8359	1	1	1080

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0729	General	AK10GNR-W	2.45	8359	1	1	1080
C96-1034	Toshiba	RAC-09EX-H	2.45	8359	1	1	1085
C96-0101	MD	KC-25/EY	2.45	8359	2	1	1226
C96-0303	General	AKG10ANG	2.46	8394	1	1	1078
C96-0457	GENERAL	AKG10ASG-W	2.46	8394	1	1	1078
C96-0129	Daikin	FT25GV1C/R25GV1C	2.468	8421	2	3	1047
C96-0532	Hitachi	RAS-10C6K/RAC10CV6	2.47	8428	2	3	1051
C96-0221	General	AKG9ANG-W	2.47	8428	1	1	1092
C96-0953	Toshiba	RAC-09NX-H	2.47	8428	1	1	1094
C96-0780	LG	LWC096GGAB0	2.47	8428	1	1	1106
C96-0781	LG	LWC096GMM0	2.47	8428	1	1	1106
C96-0782	Fortress	FC10CB3	2.47	8428	1	1	1106
C96-0783	Fortress	FCD10CRG3	2.47	8428	1	1	1106
C96-0836	LG	LWC096GEAB0	2.47	8428	1	1	1106
C96-0837	LG	LWC096GEMM0	2.47	8428	1	1	1106
C96-0921	Mitsubishi Electric	MW-09XV	2.47	8428	1	1	1106
C96-0922	Mitsubishi Electric	MWD-09XV	2.47	8428	1	1	1106
C96-0960	LG	LWC096GBAB0	2.47	8428	1	1	1106
C96-0961	LG	LWC096GBMM0	2.47	8428	1	1	1106
C96-0821	Trane	TAW009BB0WAA	2.48	8462	1	1	1105
C96-0826	GREE	KC-25/C1	2.48	8462	1	1	1105
C96-0417	LIKEAIR	KFR-25GW	2.49	8496	2	4	1080
C96-0436	FUJI ELECTRIC	RK-9AP	2.49	8496	1	1	1092
C96-0476	GENERAL	AKG9ASG-W	2.49	8496	1	1	1092
C96-0478	GENERAL	AKH9GSG-W	2.49	8496	1	1	1092
C96-0544	Fuji Electric	RK-9CN	2.49	8496	1	1	1092
C96-0535	Hitachi	RA-10AS	2.49	8496	1	1	1109
C96-0026	Sharp	AH-A099A	2.5	8530	1	3	961
C96-0296	Whirlpool	WD09	2.5	8530	1	1	1111
C96-0983	Kelon	AW-09CR4FE2	2.5	8530	1	1	1114
C96-0996	Fortress	RWAC094	2.5	8530	1	1	1114
C96-1000	Kelon	AW-09CM4FE2	2.5	8530	1	1	1114
C96-1098	General Electric	AKV09WB	2.5	8530	1	1	1114
C96-1099	General Electric	AKE09WB	2.5	8530	1	1	1114
C96-0736	Samsung	AW09G2NEA	2.5	8530	1	1	1116
C96-1072	LG	TWC096GSAA0	2.5	8530	1	1	1119
C96-1073	LG	TWC096GEAB0	2.5	8530	1	1	1119
C96-1074	LG	TWC096GBAB0	2.5	8530	1	1	1119
C96-1075	LG	TWC096GEMM0	2.5	8530	1	1	1119
C96-1076	LG	TWC096GSMM0	2.5	8530	1	1	1119
C96-1077	LG	TWC096GBMM0	2.5	8530	1	1	1119
C96-1078	LG	W09LC-E	2.5	8530	1	1	1119
C96-1079	LG	W09LC-B	2.5	8530	1	1	1119
C96-1080	LG	W09LCR-E	2.5	8530	1	1	1119
C96-1081	LG	W09LCR-B	2.5	8530	1	1	1119
C96-1082	Fortress	FC10CB5C	2.5	8530	1	1	1119
C96-1083	Fortress	FCD10CRG5C	2.5	8530	1	1	1119
C96-0010	Hitachi	RA-10AF1	2.5	8530	2	1	1119
C96-1021	LG	TWC096GGAA0	2.5	8530	1	1	1120
C96-1022	LG	TWC096GGAB0	2.5	8530	1	1	1120
C96-1023	LG	TWC096GGMM0	2.5	8530	1	1	1120
C96-0073	Hitachi	RA-10CF (K)	2.5	8530	1	1	1126
C96-0074	Hitachi	RA-10CDF (K)	2.5	8530	1	1	1126
C96-0024	Fortress	FC-10CXA	2.5	8530	2	1	1150
C96-0374	LG	LWC0960BHG	2.5	8530	2	2	1152
C96-0375	LG	LWC0960VBG	2.5	8530	2	2	1152
C96-0376	Fortress	FCDH10CRG	2.5	8530	2	2	1152
C96-0377	Philco	GPA3098H	2.5	8530	2	2	1152
C96-0874	Samsung	AW09A2NEA	2.5	8530	1	1	1166
C96-0125	Whirlpool	WAVE09GH3	2.5	8530	2	1	1232
C96-0136	KELON	KC-25/A	2.506	8550	1	1	1016
C96-0288	Whirlpool	SP09A/B	2.51	8564	1	3	907
C96-0877	Mitsubishi Electric	MSD-09BV	2.51	8564	1	3	932
C96-0489	Mitsubishi Electric	MWD-09UV	2.51	8564	1	1	1091
C96-0495	Whirlpool	AMA09	2.51	8564	1	1	1111
C96-0667	Brandt	BCW-09M	2.51	8564	1	1	1111
C96-0715	Whirlpool	AMA309	2.51	8564	1	1	1111

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0018	LG	LW-B0962CL	2.51	8564	2	1	1140
C96-1012	York	Y9USE09	2.51	8564	2	2	1152
C96-0794	TOTALINE	ACW109	2.51	8564	2	1	1236
C96-0795	General Electric	AKV09WA	2.51	8564	2	1	1236
C96-0799	ROMA	RWAC093	2.51	8564	2	1	1236
C96-0109	Kelon	KF-25GW/D	2.511	8568	1	3	907
C96-0134	KELON	KF-25GW/C	2.513	8574	1	3	953
C96-0030	National	CS-C90KA	2.52	8598	1	3	922
C96-0040	Rasonic	RS-C90K	2.52	8598	1	3	922
C96-0234	Midea	KF-25GW/Y	2.52	8598	1	3	936
C96-0223	Daikin	FTE25JV1/RE25JV1	2.52	8598	2	3	1028
C96-0157	LG	LWG0960BCG	2.52	8598	1	1	1120
C96-0158	LG	LWG0960QCG	2.52	8598	1	1	1120
C96-0163	Fortress	FC10CB	2.52	8598	1	1	1120
C96-0164	Fortress	FCD10CR	2.52	8598	1	1	1120
C96-0175	Philco	GPA3098	2.52	8598	1	1	1120
C96-0176	Philco	PA09E	2.52	8598	1	1	1120
C96-0177	Philco	PAN309R	2.52	8598	1	1	1120
C96-0183	NEC	RC-9091	2.52	8598	1	1	1120
C96-0318	LG	LWG0960BAG	2.52	8598	1	1	1120
C96-0319	LG	LWG0960QAG	2.52	8598	1	1	1120
C96-0320	Fortress	FCD10CRG	2.52	8598	1	1	1120
C96-0321	Fortress	FC10CB1	2.52	8598	1	1	1120
C96-0393	Hitachi	RA-109FF	2.52	8598	1	1	1126
C96-0518	Midea	AW-09R	2.52	8598	2	1	1210
C96-1114	Midea	MWH-09CR	2.52	8598	2	1	1210
C96-0220	General	ASG9ASQCW	2.53	8632	1	3	958
C96-0601	SANYO	SAP-KC252C/H	2.53	8632	2	3	1037
C96-0232	Hitachi	RAS-10C2K/RAC-10CV2	2.53	8632	2	3	1056
C96-0625	Fortress	FSA10CB2	2.53	8632	2	3	1074
C96-0660	GREE	KC-25/C3-C	2.53	8632	1	1	1087
C96-0664	National	CW-SC90KA	2.53	8632	1	1	1087
C96-0698	GREE	CW-SC90KA	2.53	8632	1	1	1087
C96-0701	Trane	TAW009DB0WAA	2.53	8632	1	1	1087
C96-0731	GREE	KC-25/C3A-C	2.53	8632	1	1	1087
C96-0770	York	YC-9C-R	2.53	8632	1	1	1087
C96-0833	Panasonic	CW-SC90KA	2.53	8632	1	1	1087
C96-0846	Philco	PAC09M2	2.53	8632	1	1	1087
C96-0890	Whirlpool	AC09	2.53	8632	1	1	1087
C96-0900	Ryoden	RW-09AC	2.53	8632	1	1	1087
C96-1010	GREE	KC-25/C31A-E	2.53	8632	1	1	1087
C96-1018	Whirlpool	AC509	2.53	8632	1	1	1087
C96-0474	Mitsubishi Electric	MW-09UV	2.53	8632	1	1	1114
C96-0987	Fortress	FCD10CXA	2.53	8632	1	1	1118
C96-0498	SANYO	SA-T92H	2.53	8632	1	1	1124
C96-1127	Chunlan	KF-25GW/V	2.54	8666	1	3	960
C96-0314	National	CS-A95KA/CU-A95KA	2.54	8666	2	4	1106
C96-0800	Chunlan	KF-25GWHY1	2.55	8701	1	3	955
C96-0521	SHARP	AH-AP09CV	2.55	8701	1	3	970
C96-0081	LG	LS-J0960CL	2.55	8701	2	3	1063
C96-0416	LIKEAIR	KF-25GW	2.55	8701	2	3	1081
C96-0159	LG	LS-J0963CL	2.55	8701	2	3	1104
C96-0169	Fortress	FSA10CB	2.55	8701	2	3	1104
C96-0315	LG	LS-J0963AL	2.55	8701	2	3	1104
C96-0384	Philco	GPS209	2.55	8701	2	3	1104
C96-0294	Mitsubishi Electric	MWD-09TV	2.55	8701	1	1	1110
C96-0235	Midea	KF-26GW/Y	2.55	8701	2	3	1111
C96-0691	Mitsubishi Electric	MW-09WV	2.55	8701	1	1	1117
C96-0692	Mitsubishi Electric	MWD-09WV	2.55	8701	1	1	1117
C96-0394	Hitachi	RA-109FDF	2.55	8701	1	1	1130
C96-0054	LG	LWB0960ACG	2.55	8701	1	1	1140
C96-0058	NEC	RC-9090AE	2.55	8701	1	1	1140
C96-0062	Philco	GPA-2098	2.55	8701	1	1	1140
C96-0066	Fortress	FC-10CCA	2.55	8701	1	1	1140
C96-0124	Whirlpool	WAWM09GH3	2.55	8701	2	1	1242
C96-0111	Carrier	42V9/38V9	2.552	8707	1	3	1005
C96-0131	Sharp	AH-A099E	2.558	8728	2	3	1100

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0628	Mitsubishi Electric	MSD-09AV	2.56	8735	1	3	935
C96-0247	Hitachi	RAS-W10E/RAC-W10EV	2.56	8735	1	3	974
C96-0673	GREE	KF-25GW/A12	2.56	8735	2	3	1107
C96-0788	Trane	MCW509KB0RAB/TTK509XB0EAA	2.56	8735	2	3	1107
C96-0292	Mitsubishi Electric	MW-09TV	2.56	8735	1	1	1110
C96-0034	National	CW-XC90TA	2.56	8735	1	1	1122
C96-0044	Rasonic	RC-XC90T	2.56	8735	1	1	1122
C96-0723	Hitachi	RA-10HF	2.56	8735	1	1	1126
C96-0724	Hitachi	RA-10HDF	2.56	8735	1	1	1126
C96-0021	Hitachi	RA-3107CLH	2.56	8735	1	2	1149
C96-0369	Trane	MCW509GAHRBH/TTK509PBHEFA	2.57	8769	1	3	877
C96-0301	General	ASG9AYBCW	2.57	8769	1	3	967
C96-0980	Midea	KF-26GW/UYP-1	2.57	8769	2	3	1100
C96-0969	LG	LS-C96QGA0	2.57	8769	2	3	1108
C96-0694	Midea	KF-26GW/I1Y	2.57	8769	2	3	1110
C96-0957	York	HLEA09	2.57	8769	2	3	1110
C96-0035	National	CW-C90TA	2.57	8769	1	1	1118
C96-0036	National	CW-PC91TA	2.57	8769	1	1	1118
C96-0045	Rasonic	RC-C90T	2.57	8769	1	1	1118
C96-0046	Rasonic	RC-PC91T	2.57	8769	1	1	1118
C96-0236	Midea	KF-26GW/CY	2.57	8769	2	3	1121
C96-0529	Hitachi	RA-10GDF	2.57	8769	1	1	1126
C96-0528	Hitachi	RA-10GF	2.57	8769	1	1	1131
C96-0126	Carrier	51S9A	2.57	8769	1	1	1133
C96-0460	PHILCO	PSA095B5C	2.58	8803	2	3	1014
C96-0462	Gibson	GSA095B5C	2.58	8803	2	3	1014
C96-0464	FRIGIDAIRE	FSA095B5C	2.58	8803	2	3	1014
C96-0466	Kelvinator	KSA095B5C	2.58	8803	2	3	1014
C96-0468	White – Westinghouse	WSA095B5C	2.58	8803	2	3	1014
C96-0785	Mitsubishi	SRK28CCEH/SRC28CCEH	2.58	8803	2	3	1086
C96-0873	Hitachi	RA-10JDF	2.58	8803	1	1	1107
C96-1030	Hitachi	RA-10HDF(HK)	2.58	8803	1	1	1107
C96-0309	Kelton	KC-25	2.58	8803	2	1	1281
C96-0407	TOTALINE	ACW009	2.58	8803	2	1	1281
C96-0949	Toshiba	RAS-10UKP-HX3	2.59	8837	1	3	928
C96-0672	Carrier	CHK09SR	2.59	8837	1	1	1102
C96-0752	Carrier	CHK09EP	2.59	8837	1	1	1102
C96-0753	Carrier	CHK09ER	2.59	8837	1	1	1102
C96-0754	Carrier	CHK09SP	2.59	8837	1	1	1102
C96-0904	Carrier	CHK09EA	2.59	8837	1	1	1102
C96-0905	Carrier	CHK09SA	2.59	8837	1	1	1102
C96-1050	Carrier	CHK09SB	2.59	8837	1	1	1102
C96-1051	Carrier	CHK09EB	2.59	8837	1	1	1102
C96-0651	Rasonic	RC-XC90J	2.59	8837	1	1	1104
C96-0657	National	CW-XC90JA	2.59	8837	1	1	1104
C96-0857	Panasonic	CW-XC91JA	2.59	8837	1	1	1104
C96-0882	Rasonic	RC-XC91J	2.59	8837	1	1	1104
C96-0594	LG	LS-Q096AAG	2.59	8837	2	3	1104
C96-0872	Hitachi	RA-10JF	2.59	8837	1	1	1106
C96-0976	Hitachi	RA-10HF(HK)	2.59	8837	1	1	1106
C96-0516	Carrier	51P9	2.59	8837	1	1	1130
C96-0559	Rasonic	RC-C91Y	2.59	8837	1	1	1140
C96-0563	Rasonic	RC-SC91Y	2.59	8837	1	1	1140
C96-0566	National	CW-SC91YA	2.59	8837	1	1	1140
C96-0569	National	CW-C91YA	2.59	8837	1	1	1140
C96-0649	Rasonic	RC-C90J	2.59	8837	1	1	1145
C96-0650	Rasonic	RC-SC90J	2.59	8837	1	1	1145
C96-0655	National	CW-C90JA	2.59	8837	1	1	1145
C96-0656	National	CW-SC90JA	2.59	8837	1	1	1145
C96-0855	Panasonic	CW-C91JA	2.59	8837	1	1	1145
C96-0856	Panasonic	CW-SC91JA	2.59	8837	1	1	1145
C96-0881	Rasonic	RC-C91J	2.59	8837	1	1	1145
C96-0883	Rasonic	RC-SC91J	2.59	8837	1	1	1145
C96-0978	Fortress	FCD10CXA4	2.59	8837	1	1	1148
C96-0049	National	CS-C90WA	2.6	8871	1	3	1014

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0050	Rasonic	RS-WS90C	2.6	8871	1	3	1014
C96-0764	Sharp	AF-WP09DA	2.6	8871	1	1	1120
C96-0231	Hitachi	RA-108EDF	2.6	8871	1	1	1126
C96-0127	Carrier	51DS9A	2.6	8871	1	1	1133
C96-0080	Mitsubishi Electric	MWD-09RV	2.6	8871	1	1	1159
C96-0622	Chunlan	KC25I1	2.6	8871	1	1	1162
C96-0216	National	CS-C93KA/CU-C93KA	2.61	8905	1	3	974
C96-0218	Rasonic	RS-C93K/RU-C93K	2.61	8905	1	3	974
C96-0760	Carrier	42P09/38P09	2.61	8905	1	3	979
C96-0988	AKAI	AC-GS09CRC	2.61	8905	2	3	1091
C96-0592	Fortress	FCDH10CRG2	2.61	8905	1	2	1092
C96-0281	Rasonic	RC-SC90Y	2.61	8905	1	1	1093
C96-0284	National	CW-SC90YA	2.61	8905	1	1	1093
C96-0505	Midea	AW-09	2.61	8905	2	1	1205
C96-0955	York	Y9USC09	2.61	8905	2	1	1205
C96-1113	Midea	MWH-09CM	2.61	8905	2	1	1205
C96-0399	Carrier	42KP09/38KP09	2.62	8939	1	3	1007
C96-0207	National	CW-XC90YA	2.62	8939	1	1	1111
C96-0210	Rasonic	RC-XC90Y	2.62	8939	1	1	1111
C96-0276	SHARP	AF-A09BA	2.62	8939	1	1	1118
C96-0286	Sharp	AF-W09BA	2.62	8939	1	1	1121
C96-0001	General	ASG9AS	2.62	8939	3	3	1224
C96-0364	National	CS-C95KA/CU-C95KA	2.63	8974	1	3	970
C96-0367	Rasonic	RS-C95K/RU-C95K	2.63	8974	1	3	970
C96-0575	National	CS-A9BKN/CU-A9BKN5	2.63	8974	1	4	989
C96-0119	National	CW-C90YA	2.63	8974	1	1	1104
C96-0120	Rasonic	RC-C90Y	2.63	8974	1	1	1104
C96-0143	Sharp	AF-A09AA	2.63	8974	1	1	1180
C96-0144	Sharp	AF-W09AA	2.63	8974	1	1	1180
C96-0639	National	CS-A9CKN/CU-A9CKN5	2.64	9008	1	4	1008
C96-0862	Panasonic	CS-A9CKA/CU-A9CKA	2.64	9008	1	4	1008
C96-0614	TOTALINE	ACS109	2.64	9008	1	3	1013
C96-0145	Toshiba	RAW-10LV	2.64	9008	1	3	1029
C96-0012	Sharp	AF-A988	2.64	9008	1	1	1177
C96-0013	Sharp	AF-W988	2.64	9008	1	1	1177
C96-0137	Toshiba	RAS-10YK-HX	2.65	9042	1	3	1020
C96-0688	Sharp	AF-AP09DA	2.65	9042	1	1	1138
C96-0459	SHARP	AF-W09CA	2.65	9042	1	1	1145
C96-0289	Sharp	AH-A09BE	2.66	9076	1	3	1014
C96-0561	Rasonic	RC-XC91Y	2.66	9076	1	1	1114
C96-0572	National	CW-XC91YA	2.66	9076	1	1	1114
C96-0541	Rasonic	RS-C9BK/RU-c9BK	2.67	9110	1	3	938
C96-0576	National	CS-C9BKN/CU-C9BKN5	2.67	9110	1	3	938
C96-0633	Rasonic	RS-C9CK/RU-C9CK	2.67	9110	1	3	938
C96-0635	National	CS-C9CKN/CU-C9CKN5	2.67	9110	1	3	938
C96-0863	Panasonic	CS-C9CKA/CU-C9CKA	2.67	9110	1	3	938
C96-0848	Rasonic	RS-XC9CK /RU-XC9CK	2.67	9110	1	3	965
C96-0868	Panasonic	CS-XC9CKA/CU-XC9CKA	2.67	9110	1	3	965
C96-0192	Daikin	FTW25JV1/RW25JV1	2.67	9110	1	3	1044
C96-0455	SHARP	AF-A09CA	2.67	9110	1	1	1147
C96-0189	Toshiba	RAC-09Y4X	2.67	9110	1	1	1186
C96-0051	Toshiba	RAC-09L4X	2.67	9110	1	1	1195
C96-0472	Toshiba	RAS-10UKP-HX	2.68	9144	1	3	1001
C96-0238	Hitachi	RA-108EF	2.68	9144	1	1	1141
C96-1120	Midea	MSE-09CR	2.696	9199	2	3	1153
C96-1137	York	MLCA09FSGJAA	2.696	9199	2	3	1153
C96-0263	Chigo	KF-25GW/C	2.7	9212	1	3	1061
C96-0272	Toshiba	RAC-09THX	2.7	9212	1	1	1192
C96-0509	Toshiba	RAC-09U-HX	2.7	9212	1	1	1193
C96-0684	Toshiba	RAC-09J-HX	2.7	9212	1	1	1193
C96-0850	LG	LWC096QLPB0	2.71	9247	1	1	1127
C96-0851	LG	LWC096QLMM0	2.71	9247	1	1	1127
C96-0814	Toshiba	RAC-09J-HX-1	2.71	9247	1	1	1191
C96-0911	Toshiba	RAC-09NX-H1	2.71	9247	1	1	1191
C96-0584	Rasonic	RS-C9BW/RU-C9BW	2.73	9315	1	3	1033
C96-0608	National	CS-C9BWN/CU-C9BWN5	2.73	9315	1	3	1033
C96-0710	Toshiba	RAS-10UKP-HX2	2.74	9349	1	3	956

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-1037	Toshiba	RAS-10UKP-HX4	2.74	9349	1	3	956
C96-0356	GREE	KF-25GW/A12-12205	2.74	9349	1	3	1056
C96-0442	GREE	KF-25GW/A12-12205W	2.74	9349	1	3	1056
C96-0386	Philco	GP09SC	2.74	9349	1	3	1956
C96-0355	GREE	KF-25GW/C	2.77	9451	1	3	1068
C96-0388	Philco	GP309WSC	2.77	9451	1	3	1068
C96-0441	GREE	KF-25GW/CW	2.77	9451	1	3	1068
C96-0433	Carrier	42BP10/38BP10	2.83	9656	1	3	1094
C96-0139	Carrier	42BV10/38BV10	2.843	9700	1	3	1093
C96-1059	Hitachi	RAS-10EX9K/ RAC-10EX9	2.87	9792	1	3	1097
C96-1044	Hitachi	RAS-10C9K/ RAC-10C9K	2.88	9827	1	3	1048
C96-0719	Hitachi	RAS-10C7K/RAC-10C7	2.92	9963	1	3	1089
C96-0895	Hitachi	RAS-10C7KS/RAC-10C7	2.92	9963	1	3	1089
C96-0675	GREE	KFR-32GW/A12	3.05	10407	2	4	1285
C96-0791	Trane	MWW512KB0RAB/TWK512XB0EAB	3.05	10407	2	4	1285
C96-0682	GREE	KF-32GW/A12	3.08	10509	2	3	1322
C96-0790	Trane	MCW512KB0RAB/TTK512XB0EAA	3.08	10509	2	3	1322
C96-0578	York	YC-12C	3.16	10782	1	1	1413
C96-0679	Trane	MCW512MB0RAA/TTK512WB0EAA	3.18	10850	2	3	1374
C96-0260	Philco	PAC-12M	3.18	10850	1	1	1423
C96-0245	GREE	KC-32/C140	3.18	10850	1	1	1424
C96-0447	GREE	KC-32/C1400	3.18	10850	1	1	1424
C96-0452	Philco	CPG112M	3.18	10850	1	1	1424
C96-0579	White - Westinghouse	AC125A5C	3.18	10850	1	1	1424
C96-0712	GREE	KC-32/C2	3.18	10850	1	1	1424
C96-0776	GREE / BODYSONIC	BGW-12C-V1	3.18	10850	1	1	1424
C96-0937	Philco	P12M	3.18	10850	1	1	1424
C96-0938	Philco	P12R	3.18	10850	1	1	1424
C96-0991	York	HLEA12	3.2	10918	2	3	1382
C96-0009	MD	KC-32	3.2	10918	1	1	1415
C96-0008	MD	KC-32/Y	3.2	10918	1	1	1416
C96-0777	GREE / BODYSONIC	BGW-12RC-V1	3.2	10918	1	1	1432
C96-0419	LIKEAIR	KFR-32GW	3.21	10953	2	4	1392
C96-0482	GREE	KF-32GW/C1	3.22	10987	2	3	1388
C96-0246	GREE	KC-32/C150	3.22	10987	1	1	1414
C96-0261	Philco	PAC-12R	3.22	10987	1	1	1414
C96-0426	GREE	KC-32/C 1500	3.22	10987	1	1	1414
C96-0253	General Electric	ASV12WCS1	3.22	10987	2	1	1548
C96-1024	LG	TWC126CGAA0	3.25	11089	1	1	1416
C96-1025	LG	TWC126CGAB0	3.25	11089	1	1	1416
C96-1026	LG	TWC126CGMM0	3.25	11089	1	1	1416
C96-1084	LG	TWC126CSAB0	3.25	11089	1	1	1416
C96-1085	LG	TWC126CBAB0	3.25	11089	1	1	1416
C96-1086	LG	TWC126CEAB0	3.25	11089	1	1	1416
C96-1087	LG	TWC126CBMM0	3.25	11089	1	1	1416
C96-1088	LG	TWC126CEMM0	3.25	11089	1	1	1416
C96-1089	LG	TWC126CSMM0	3.25	11089	1	1	1416
C96-1090	LG	W12LC-B	3.25	11089	1	1	1416
C96-1091	LG	W12LC-E	3.25	11089	1	1	1416
C96-1092	LG	W12LCR-B	3.25	11089	1	1	1416
C96-1093	LG	W12LCR-E	3.25	11089	1	1	1416
C96-1094	Fortress	FC13CB5C	3.25	11089	1	1	1416
C96-1095	Fortress	FCD13CRG5C	3.25	11089	1	1	1416
C96-0822	Trane	TAW012BB0WBA	3.25	11089	1	1	1441
C96-0827	GREE	KC-32/C1	3.25	11089	1	1	1441
C96-0658	Chigo	KC-32/A1	3.25	11089	2	1	1582
C96-0130	Daikin	FT35GC1C/R35GV1C	3.253	11099	2	3	1420
C96-0082	LG	LS-F1260CL	3.26	11123	1	3	1236
C96-0418	LIKEAIR	KF-32GW	3.26	11123	2	3	1380
C96-0737	Samsung	AW12LFAEA	3.26	11123	1	1	1452
C96-0401	Chigo	KC-32	3.26	11123	1	1	1463
C96-0316	Fortress	FCDH13CRG	3.26	11123	2	2	1608
C96-0317	Philco	GPA2128H	3.26	11123	2	2	1608
C96-0237	Midea	KF-32GW/Y	3.28	11191	2	3	1411

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0496	Whirlpool	AMA12	3.28	11191	2	1	1592
C96-0668	Brandt	BCW-12M	3.28	11191	2	1	1592
C96-0716	Whirlpool	AMA312	3.28	11191	2	1	1592
C96-0297	Whirlpool	WD12	3.28	11191	2	1	1594
C96-0357	GREE	KF-32GW/C	3.3	11260	1	3	1284
C96-0389	Philco	GP312WSC	3.3	11260	1	3	1284
C96-0443	GREE	KF-32GW/CW	3.3	11260	1	3	1284
C96-0107	General Electric	ASV12WBS1	3.3	11260	2	1	1594
C96-0116	Samsung	AW12G2JE	3.3	11260	2	1	1594
C96-0804	General Electric	AKV12WA	3.3	11260	2	1	1646
C96-0806	TOTALINE	ACW112	3.3	11260	2	1	1646
C96-0809	ROMA	RWAC123	3.3	11260	2	1	1646
C96-0358	GREE	KF-32GW/A12-12205	3.31	11294	1	3	1291
C96-0387	Philco	GP12SC	3.31	11294	1	3	1291
C96-0444	GREE	KF-32GW/A12-12205W	3.31	11294	1	3	1291
C96-0519	Midea	AW-11R	3.31	11294	2	1	1495
C96-1116	Midea	MWH-12CR	3.31	11294	2	1	1495
C96-0400	Carrier	42KP12/38KP12	3.33	11362	1	3	1290
C96-0591	LG	LWC1264BAG	3.33	11362	1	1	1440
C96-0595	LG	LWC1264QAG	3.33	11362	1	1	1440
C96-0596	Fortress	FCD13CRG2	3.33	11362	1	1	1440
C96-0597	Fortress	FC13CB2	3.33	11362	1	1	1440
C96-0598	NEC	RC-1293	3.33	11362	1	1	1440
C96-0839	LG	LWC1264BAE	3.33	11362	1	1	1440
C96-0840	LG	LWC1264QAE	3.33	11362	1	1	1440
C96-0738	Samsung	AW12G2DEB	3.33	11362	1	1	1456
C96-0875	Samsung	AW12A2DEB	3.33	11362	1	1	1456
C96-0506	Midea	AW-11	3.34	11396	2	1	1502
C96-0956	York	Y9USC12	3.34	11396	2	1	1502
C96-0110	Carrier	42V12/38V12	3.341	11399	1	3	1300
C96-0615	TOTALINE	ACS112	3.35	11430	1	3	1296
C96-0370	Trane	MCW512GAHRBH/TTK512PBHEFA	3.35	11430	2	3	1388
C96-0224	Daikin	FTE35JV1/RE35JV1	3.35	11430	2	3	1428
C96-0152	Fedders	1FY212N6A	3.35	11430	1	1	1476
C96-0255	Fedders	1FY212N6A-HK	3.35	11430	1	1	1476
C96-0037	National	CW-C120FA	3.35	11430	2	1	1580
C96-0038	National	CW-PC121FA	3.35	11430	2	1	1580
C96-0047	Rasonic	RC-C120J	3.35	11430	2	1	1580
C96-0048	Rasonic	RC-PC121F	3.35	11430	2	1	1580
C96-0200	Samsung	AW12H2JE	3.35	11430	2	1	1618
C96-0201	Samsung	AW12F7JE	3.35	11430	2	1	1618
C96-0202	Samsung	AW12F8JE	3.35	11430	2	1	1618
C96-0430	Samsung	AW12F2JEA	3.35	11430	2	1	1635
C96-0310	Kelon	KC-33	3.35	11430	2	1	1644
C96-0434	Carrier	42BP13/38BP13	3.36	11464	1	3	1268
C96-0153	Carrier	42BV12/38BV12	3.36	11464	1	3	1307
C96-0191	Carrier	42BV13/38BV13	3.36	11464	1	3	1307
C96-0798	LG	LS-R126CAG	3.36	11464	2	3	1462
C96-0913	LG	LWC126CGAB1	3.36	11464	1	1	1477
C96-0914	LG	LWC126CGMM1	3.36	11464	1	1	1477
C96-0923	Mitsubishi Electric	MW-12XV	3.36	11464	1	1	1477
C96-0962	LG	LWC126CBAB1	3.36	11464	1	1	1477
C96-0963	LG	LWC126CBMM1	3.36	11464	1	1	1477
C96-1003	LG	LWC126CEAB1	3.36	11464	1	1	1477
C96-1004	LG	LWC126CEMM1	3.36	11464	1	1	1477
C96-0551	Samsung	AW12G2DEA	3.36	11464	1	1	1504
C96-0408	TOTALINE	ACW012	3.36	11464	2	1	1644
C96-0617	Kelon	AW-12CM4FC	3.36	11464	2	1	1644
C96-0627	Whirlpool	KMA12	3.36	11464	2	1	1644
C96-0613	Fortress	FCDH13CRG2	3.37	11498	1	2	1452
C96-0626	Fortress	FSA13CB2	3.37	11498	2	3	1452
C96-0812	LG	LWC126QLMM0	3.37	11498	1	1	1463
C96-0838	LG	LWC126QLPB0	3.37	11498	1	1	1463
C96-1126	LG	LWC126QLPB0	3.37	11498	1	1	1463
C96-0104	Carrier	51DS12	3.377	11522	1	1	1485
C96-0096	Carrier	51S12	3.384	11546	1	1	1499

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0156	LG	LS-L1260CL	3.39	11567	2	3	1455
C96-0170	Fortress	FSA13CB	3.39	11567	2	3	1455
C96-0979	Midea	AW-12R	3.39	11567	1	1	1509
C96-0986	Fortress	FCD13CXA4	3.39	11567	1	1	1509
C96-0602	SANYO	SAP-KC332C/H	3.39	11567	3	3	1586

+Actual consumption depends on where the appliance is located and how it is used. Based on 1200 hrs/yr operation.

III. Cooling Capacity between 3.41-4.6kW (11650-15700 BTU/h) (approx 1.5 horsepower)

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0483	PHILCO	PSA125A5C	3.42	11669	2	3	1472
C96-0484	White - Westinghouse	WSA125A5C	3.42	11669	2	3	1472
C96-0485	Kelvinator	GSA125A5C	3.42	11669	2	3	1472
C96-0486	Gibson	GSA125A5C	3.42	11669	2	3	1472
C96-0487	FRIGIDAIRE	FSA125A5C	3.42	11669	2	3	1472
C96-0133	KELON	KF-33GW/C	3.423	11679	2	3	1488
C96-0290	Sharp	AH-A12BE	3.43	11703	1	3	1328
C96-0087	SANYO	SA-128S4/H	3.43	11703	2	1	1680
C96-0522	SHARP	AH-API2CV	3.44	11737	1	3	1332
C96-0121	Sharp	AH-F12AA	3.44	11737	2	3	1417
C96-0970	LG	LS-C126RGL1	3.44	11737	2	3	1462
C96-0490	SHARP	AF-A12CA	3.44	11737	1	1	1511
C96-0523	SANYO	SA-122H	3.44	11737	2	1	1663
C96-0623	Chunlan	KC35I1	3.44	11737	2	1	1714
C96-1045	Hitachi	RAS-13C9K/ RAC-13C9K	3.45	11771	1	3	1279
C96-0027	Sharp	AH-A129A	3.45	11771	2	3	1336
C96-0019	LG	LW-C1266CL	3.45	11771	1	1	1500
C96-0020	LG	LW-C1268CL	3.45	11771	1	1	1504
C96-1058	Samsung	AW12P1HEA	3.45	11771	1	1	1510
C96-1110	Samsung	AW12PHHEA	3.45	11771	1	1	1510
C96-0138	Toshiba	RAS-13YK-HX	3.46	11806	1	3	1296
C96-0632	Rasonic	RS-C12CK/RU-C12CK	3.46	11806	1	3	1296
C96-0636	National	CS-C12CKN/CU-C12CKN5	3.46	11806	1	3	1296
C96-0865	Panasonic	CS-C12CKA/CU-C12CKA	3.46	11806	1	3	1296
C96-1035	Toshiba	RAC-13EX-H	3.46	11806	1	1	1453
C96-0413	TOTALINE	ACS012	3.46	11806	2	3	1467
C96-0055	LG	LWC1260BCG	3.46	11806	1	1	1506
C96-0059	NEC	RC-1290AE	3.46	11806	1	1	1506
C96-0063	Philco	GPA-2128	3.46	11806	1	1	1506
C96-0067	Fortress	FC-13CCA	3.46	11806	1	1	1506
C96-0165	Fortress	FC13CB	3.46	11806	1	1	1506
C96-0166	Fortress	FCD13CR	3.46	11806	1	1	1506
C96-0178	Philco	PA12E	3.46	11806	1	1	1506
C96-0179	Philco	PAN312R	3.46	11806	1	1	1506
C96-0184	NEC	RC-1291	3.46	11806	1	1	1506
C96-0188	LG	LWC1260QCG	3.46	11806	1	1	1506
C96-0725	Sharp	AF-API2DA	3.46	11806	1	1	1514
C96-0322	LG	LWC1262BAG	3.47	11840	1	1	1524
C96-0323	LG	LWC1262QAG	3.47	11840	1	1	1524
C96-0324	Fortress	FC13CB1	3.47	11840	1	1	1524
C96-0325	Fortress	FCD13CRG	3.47	11840	1	1	1524
C96-0326	Philco	PAN312RN	3.47	11840	1	1	1524
C96-0327	Philco	GPA2128N	3.47	11840	1	1	1524
C96-0328	Philco	PA12EN	3.47	11840	1	1	1524
C96-0329	NEC	RC-1292	3.47	11840	1	1	1524
C96-0090	Fortress	FSA-13CCA	3.48	11874	1	3	1348
C96-0642	National	CW-XC120VA	3.48	11874	1	1	1481
C96-0645	Rasonic	RC-XC120V	3.48	11874	1	1	1481
C96-0844	Panasonic	CW-XC121VA	3.48	11874	1	1	1481
C96-0885	Rasonic	RC-XC121V	3.48	11874	1	1	1481
C96-0396	Hitachi	RA-139FDF	3.48	11874	1	1	1500
C96-0395	Hitachi	RA-139FF	3.48	11874	1	1	1501
C96-0531	Hitachi	RA-13GDF	3.48	11874	1	1	1524
C96-0547	General	AMH13GSS-W	3.48	11874	1	1	1524
C96-0604	Fuji Electric	RM-13CN	3.48	11874	1	1	1524

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0530	Hitachi	RA-13GF	3.48	11874	1	1	1525
C96-0950	Toshiba	RAC-13NX-H	3.48	11874	1	1	1560
C96-0637	Chigo	KC-35	3.48	11874	2	1	1718
C96-0007	LG	LS-C1260CL	3.483	11884	1	3	1344
C96-0590	LG	LS-R1261AG	3.49	11908	2	3	1464
C96-0348	Kelon	KF-35GW	3.49	11908	2	3	1483
C96-0351	Whirlpool	SP12A/B	3.49	11908	2	3	1483
C96-0492	Whirlpool	AMB862A/B	3.49	11908	2	3	1483
C96-0550	Zanussi	ZAS120	3.49	11908	2	3	1483
C96-0564	Rasonic	RC-SC121A	3.49	11908	1	1	1517
C96-0567	National	CW-SC121AA	3.49	11908	1	1	1517
C96-0570	National	CW-C121AA	3.49	11908	1	1	1517
C96-0211	National	CS-C120WA/CU-C120WA	3.49	11908	2	3	1530
C96-0213	Rasonic	RS-WS120C/RU-WS120C	3.49	11908	2	3	1530
C96-0546	General	AMH13AUS-W	3.49	11908	1	1	1536
C96-0132	Sharp	AF-A12AA	3.49	11908	1	1	1552
C96-0640	National	CW-C120VA	3.49	11908	1	1	1555
C96-0641	National	CW-SC120VA	3.49	11908	1	1	1555
C96-0643	Rasonic	RC-C120V	3.49	11908	1	1	1555
C96-0644	Rasonic	RC-SC120V	3.49	11908	1	1	1555
C96-0843	Panasonic	CW-C121VA	3.49	11908	1	1	1555
C96-0884	Rasonic	RC-C121V	3.49	11908	1	1	1555
C96-0886	Rasonic	RC-SC121V	3.49	11908	1	1	1555
C96-0894	Panasonic	CW-SC121VA	3.49	11908	1	1	1555
C96-0542	Rasonic	RS-C12BK/RU-C12BK	3.5	11942	1	3	1320
C96-0573	National	CW-XC121AA	3.5	11942	1	1	1488
C96-0308	Rasonic	RC-XC120B	3.5	11942	1	1	1495
C96-0204	National	CW-XC120AAA	3.5	11942	1	1	1498
C96-0206	Rasonic	RC-XC120A	3.5	11942	1	1	1498
C96-0405	General	ASG12AYBCW	3.5	11942	2	3	1523
C96-0699	GREE	CW-SC120KA	3.5	11942	1	1	1540
C96-0702	Trane	TAW012DB0WAA	3.5	11942	1	1	1540
C96-0732	GREE	KC-35/C3A-C	3.5	11942	1	1	1540
C96-0742	GREE	KC-35/C3-C	3.5	11942	1	1	1540
C96-0771	York	YC-12C-R	3.5	11942	1	1	1540
C96-0796	National	CW-SC120KA	3.5	11942	1	1	1540
C96-0831	Panasonic	CW-SC120KA	3.5	11942	1	1	1540
C96-0847	Philco	PAC12M2	3.5	11942	1	1	1540
C96-0889	Whirlpool	AC12	3.5	11942	1	1	1540
C96-1011	GREE	KC-35/C31A-E	3.5	11942	1	1	1540
C96-1019	Whirlpool	AC512	3.5	11942	1	1	1540
C96-1130	Ryden	RW-12AC	3.5	11942	1	1	1540
C96-0226	General	AMH13GNG-W	3.5	11942	1	1	1564
C96-0227	General	AMH13ANG-W	3.5	11942	1	1	1564
C96-1013	York	Y9USE12	3.5	11942	2	2	1586
C96-0025	Fortress	FC-13CXA	3.5	11942	2	1	1666
C96-1128	Chunlan	KF-35GW/V	3.51	11976	1	3	1344
C96-0612	Rasonic	RC-XC121B	3.51	11976	1	1	1486
C96-0307	Rasonic	RC-C120B	3.51	11976	1	1	1495
C96-0203	National	CW-C120AA	3.51	11976	1	1	1498
C96-0205	Rasonic	RC-C120A	3.51	11976	1	1	1498
C96-0382	LG	LS-L1262AL	3.51	11976	2	3	1512
C96-0383	Fortress	FSA13CB1	3.51	11976	2	3	1512
C96-0385	Philco	GPS212	3.51	11976	2	3	1512
C96-0277	SHARP	AF-A12BA	3.51	11976	1	1	1540
C96-0577	National	CS-C12BKN/CU-C12BKN5	3.52	12010	1	3	1320
C96-0801	Chunlan	KF-35GWHY1	3.52	12010	1	3	1321
C96-0720	Hitachi	RAS-13C7K/RAC-13C7	3.52	12010	1	3	1351
C96-0896	Hitachi	RAS-13C7KS/RAC-13C7	3.52	12010	1	3	1351
C96-0611	Rasonic	RC-C121B	3.52	12010	1	1	1517
C96-0282	Rasonic	RC-SC120Y	3.52	12010	1	1	1523
C96-0285	National	CW-SC120AA	3.52	12010	1	1	1523
C96-0011	Sharp	AF-A1288	3.52	12010	1	1	1583
C96-0940	Midea	KF-36GW / I1Y	3.53	12044	2	3	1528
C96-1121	Midea	MSE-12CR	3.53	12044	2	3	1535
C96-1138	York	MLCA12FSGJAA	3.53	12044	2	3	1535
C96-0437	FUJI ELECTRIC	RM-13AP	3.53	12044	1	1	1549

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0070	Toshiba	RAC-13L4X	3.53	12044	2	1	1728
C96-1105	General Electric	AK1AC12HWG/ AK0AC12HWO	3.54	12078	1	3	1386
C96-0586	Rasonic	RS-C12BW/RU-C12BW	3.54	12078	2	3	1535
C96-0609	National	CS-C12BWN/CU-C12BWN5	3.54	12078	2	3	1535
C96-0866	Panasonic	CS-C12CWA/CU-C12CWA	3.54	12078	2	3	1535
C96-0761	Carrier	42P12/38P12	3.55	12113	1	3	1354
C96-0273	Toshiba	RAC-13T-HX	3.55	12113	1	1	1578
C96-0508	Toshiba	RAC-13U-HX	3.55	12113	1	1	1578
C96-0685	Toshiba	RAC-13J-HX	3.55	12113	1	1	1578
C96-0912	Toshiba	RAC-13NX-H1	3.55	12113	1	1	1578
C96-0212	National	CS-C123KA/CU-C123KA	3.56	12147	1	3	1392
C96-0897	Hitachi	RA-13JF	3.56	12147	1	1	1558
C96-0365	National	CS-C125KA/CU-C125KA	3.57	12181	1	3	1392
C96-0368	Rasonic	RS-C125K/RU-C125K	3.57	12181	1	3	1392
C96-0146	Toshiba	RAC-13Y4X	3.57	12181	1	1	1563
C96-0711	Toshiba	RAS-13UKP-HX2	3.59	12249	1	3	1347
C96-0898	Hitachi	RA-13JDF	3.6	12283	1	1	1571
C96-1038	Toshiba	RAS-13UKP-HX4	3.61	12317	1	3	1357
C96-0705	Carrier	CHK12SR	3.61	12317	1	1	1584
C96-0906	Carrier	CHK12EA	3.61	12317	1	1	1584
C96-0907	Carrier	CHK12SA	3.61	12317	1	1	1584
C96-1052	Carrier	CHK12SB	3.61	12317	1	1	1584
C96-0739	Carrier	CHK12EP	3.61	12317	1	1	1585
C96-0740	Carrier	CHK12ER	3.61	12317	1	1	1585
C96-0741	Carrier	CHK12SP	3.61	12317	1	1	1585
C96-1053	Carrier	CHK12EB	3.61	12317	1	1	1585
C96-0849	Rasonic	RS-XC12CK /RU-XC12CK	3.62	12351	1	3	1325
C96-0869	Panasonic	CS-XC12CKA/CU-XC12CKA	3.62	12351	1	3	1325
C96-0249	Hitachi	RA-138EF	3.64	12420	2	1	1812
C96-0473	Toshiba	RAS-13UKP-HX	3.65	12454	1	3	1344
C96-0984	Kelon	AW-12CR4FD2	3.65	12454	1	1	1597
C96-0997	Fortress	RWAC124	3.65	12454	1	1	1597
C96-1001	Kelon	AW-12CM4FD2	3.65	12454	1	1	1597
C96-1100	General Electric	AKV12WB	3.65	12454	1	1	1597
C96-1101	General Electric	AKE12WB	3.65	12454	1	1	1597
C96-0786	Mitsubishi	SRK40CCEH/SRC40CCEH	3.66	12488	2	3	1572
C96-0193	Daikin	FTW35JV1/RW35JV1	3.66	12488	2	3	1593
C96-0951	Toshiba	RAS-13UKP-HX3	3.67	12522	1	3	1369
C96-0533	Hitachi	RAS-13C6K/RAC-13CV6	3.67	12522	2	3	1591
C96-0233	Hitachi	RAS-13C2K/RAC-13CV2	3.72	12693	2	3	1613
C96-0250	Hitachi	RA-138EDF	3.73	12727	2	1	1794
C96-1107	Hitachi	RAS-13EX9K/ RAC-13EX9	3.74	12761	1	3	1345
C96-1040	Hitachi	RA-13JF1	3.74	12761	1	1	1545
C96-1041	Hitachi	RA-13JDF1	3.74	12761	1	1	1545
C96-1042	Hitachi	RA-13HF(HK)	3.74	12761	1	1	1545
C96-1043	Hitachi	RA-13HDF(HK)	3.74	12761	1	1	1545
C96-0075	Hitachi	RA-13CF (K)	3.75	12795	1	1	1689
C96-0076	Hitachi	RA-13CDF (K)	3.75	12795	1	1	1689
C96-0264	Chigo	KF-36GW	3.77	12863	2	3	1649
C96-0427	LIKEAIR	KF-45GW	4.31	14706	3	3	1884
C96-0823	Trane	TAW018BB0WBA	4.45	15183	2	1	2120
C96-0828	GREE	KC-46/C1	4.45	15183	2	1	2120
C96-0306	Kelon	KF-45GW	4.48	15286	2	3	1942
C96-0311	Kelon	KC-45	4.5	15354	2	1	2212
C96-0481	GREE	KF-45GW/C1	4.52	15422	2	3	1949
C96-0678	Trane	MCW518MB0RAA/TTK5 18WB0EAA	4.52	15422	2	3	1949
C96-0952	Toshiba	RAC-18NX-H	4.58	15627	2	1	2238
C96-0402	Chigo	KC-46	4.58	15627	2	1	2287
C96-0359	GREE	KF-45GW/C	4.59	15661	1	3	1786
C96-0446	GREE	KF-45GW/CW	4.59	15661	1	3	1786
C96-0360	GREE	KF-45GW/J	4.6	15695	1	3	1790
C96-0445	GREE	KF-45GW/JW	4.6	15695	1	3	1790

+Actual consumption depends on where the appliance is located and how it is used. Based on 1200 hrs/yr operation.

IV. Cooling Capacity between 4.61-5.3kW (15750-18000 BTU/h) (approx 2 horsepower)

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-1036	Toshiba	RAC-18NX-H4	4.64	15832	2	1	2232
C96-0362	SANYO	SA-168S4/H	4.64	15832	2	2	2304
C96-0787	Mitsubishi	SRK50CCEH/SRC50CCEH	4.65	15866	3	3	2218
C96-0420	LIKEAIR	KFR-45GW	4.67	15934	2	4	1980
C96-0274	Toshiba	RAC-18T-HX	4.73	16139	2	1	2284
C96-0507	Toshiba	RAC-18U-HX	4.73	16139	2	1	2284
C96-0686	Toshiba	RAC-18J-HX	4.73	16139	2	1	2284
C96-0674	GREE	KF-50GW/A11	4.77	16275	2	3	2045
C96-0792	Trane	MCW518KB0RAB/TTK518XB0EAA	4.77	16275	2	3	2045
C96-0927	Hitachi	RA-18JDF	4.77	16275	1	1	2110
C96-1028	Hitachi	RA-18HDF	4.77	16275	1	1	2110
C96-0603	SANYO	SAP-KC481C/H	4.82	16446	3	3	2240
C96-0094	Hitachi	RA-18CF	4.87	16616	2	1	2153
C96-0095	Hitachi	RA-18C(D)F	4.87	16616	2	1	2153
C96-0926	Hitachi	RA-18JF	4.88	16651	1	1	2142
C96-1027	Hitachi	RA-18HF	4.88	16651	1	1	2412
C96-1136	Samsung	AW18P1HEA	4.881	16654	1	1	2194
C96-0330	LG	LWM1863BAG	4.91	16753	1	1	2112
C96-0341	NEC	RC-1892	4.91	16753	1	1	2112
C96-0342	LG	LWM1863QAG	4.91	16753	1	1	2112
C96-0343	Fortress	FCD19CRG	4.91	16753	1	1	2112
C96-0344	Fortress	FC19CB1	4.91	16753	1	1	2112
C96-0345	Philco	PAN318RN	4.91	16753	1	1	2112
C96-0346	Philco	PA18EN	4.91	16753	1	1	2112
C96-0347	Philco	GPA2188N	4.91	16753	1	1	2112
C96-0841	LG	LWM1863QAE	4.91	16753	1	1	2112
C96-0842	LG	LWM1863BAE	4.91	16753	1	1	2112
C96-0917	LG	LWC186MGAB3	4.91	16753	1	1	2150
C96-0918	LG	LWC186MGMM3	4.91	16753	1	1	2150
C96-0925	Mitsubishi Electric	MW-18XV	4.91	16753	1	1	2150
C96-0964	LG	LWC186MBAB3	4.91	16753	1	1	2150
C96-0965	LG	LWC186MBMM3	4.91	16753	1	1	2150
C96-1005	LG	LWC186MEAB3	4.91	16753	1	1	2150
C96-1006	LG	LWC186MEMM3	4.91	16753	1	1	2150
C96-1122	LG	LWC186MSMM3	4.91	16753	1	1	2150
C96-1123	LG	LWC186MSAB3	4.91	16753	1	1	2150
C96-1124	Fortress	FCD19CRG5K	4.91	16753	1	1	2150
C96-1125	Fortress	FC19CB5K	4.91	16753	1	1	2150
C96-0762	Whirlpool	AMA318	4.92	16787	1	1	2200
C96-0431	Samsung	AW18F2MEA	4.93	16821	2	1	2226
C96-0815	Carrier	42P18/38P18	4.94	16855	1	3	1946
C96-0629	TECO	LA1810YT	4.94	16855	1	1	2069
C96-0112	Carrier	42V18/38V18	4.948	16883	1	3	1929
C96-0758	Samsung	AW18G2MEB	4.95	16889	1	1	2215
C96-0876	Samsung	AW18A2MEB	4.95	16889	1	1	2215
C96-0669	Brandt	BCW-18M	4.95	16889	2	1	2418
C96-0332	HITACHI	RA-189FDF	4.96	16924	2	1	2304
C96-0638	Chigo	KC-50	4.96	16924	2	1	2466
C96-0461	PHILCO	PSA095B5C	4.97	16958	2	3	2160
C96-0463	Gibson	GSA185A5C	4.97	16958	2	3	2160
C96-0465	FRIGIDAIRE	FSA185A5C	4.97	16958	2	3	2160
C96-0467	Kelvinator	KSA185A5C	4.97	16958	2	3	2160
C96-0469	White - Westinghouse	WSA185A5C	4.97	16958	2	3	2160
C96-0265	Rasonic	RC-PC181B	4.98	16992	2	1	2472
C96-0266	National	CW-PC181BA	4.98	16992	2	1	2472
C96-0016	Sharp	AF-A1888	5	17060	2	1	2492
C96-0511	Carrier	42KP18/38KP18	5.01	17094	1	3	1943

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0240	Hitachi	RA-188EF	5.01	17094	2	1	2436
C96-0097	Carrier	51S18	5.014	17108	2	1	2454
C96-0992	York	HLEA18	5.03	17162	2	3	2182
C96-0681	GREE	KFR-50GW/A11	5.05	17231	2	4	2094
C96-0793	Trane	MWW518KB0RAB/TWK518XB0EAA	5.05	17231	2	4	2094
C96-0610	National	CS-C18BWN/CU-C18BWN5	5.06	17265	2	3	2230
C96-0867	Panasonic	CS-C18CWA/CU-C18CWA	5.06	17265	2	3	2230
C96-0600	Rasonic	RS-C18BW/RU-C18BW	5.07	17299	2	3	2231
C96-0556	Philco	PAC18R	5.08	17333	2	1	2495
C96-0779	GREE / BODYSONIC	BGW-18RC-V1	5.08	17333	2	1	2495
C96-0056	LG	LWM1860BCG	5.08	17333	2	1	2520
C96-0060	NEC	RC-1890AE	5.08	17333	2	1	2520
C96-0064	Philco	GPA-2188	5.08	17333	2	1	2520
C96-0068	Fortress	FC-19CCA	5.08	17333	2	1	2520
C96-0160	LG	LWM1860QCG	5.08	17333	2	1	2520
C96-0167	Fortress	FC19CB	5.08	17333	2	1	2520
C96-0168	Fortress	FCD19CR	5.08	17333	2	1	2520
C96-0180	Philco	PA18E	5.08	17333	2	1	2520
C96-0181	Philco	PAN318R	5.08	17333	2	1	2520
C96-0185	NEC	RC-1891	5.08	17333	2	1	2520
C96-0553	York	YC18C	5.09	17367	2	1	2505
C96-0802	Chunlan	KF-50GWB	5.1	17401	2	3	2112
C96-0028	Sharp	AH-A189A	5.1	17401	2	3	2117
C96-0331	HITACHI	RA-189FF	5.1	17401	2	1	2286
C96-0239	Hitachi	RA-188EDF	5.1	17401	2	1	2406
C96-0693	Carrier	CHK18SR	5.1	17401	2	1	2431
C96-0908	Carrier	CHK18EA	5.1	17401	2	1	2431
C96-0909	Carrier	CHK18SA	5.1	17401	2	1	2431
C96-1054	Carrier	CHK18SB	5.1	17401	2	1	2431
C96-0755	Carrier	CHK18EP	5.1	17401	2	1	2432
C96-0756	Carrier	CHK18ER	5.1	17401	2	1	2432
C96-0757	Carrier	CHK18SP	5.1	17401	2	1	2432
C96-1055	Carrier	CHK18EB	5.1	17401	2	1	2432
C96-0536	Whirlpool	AMA18	5.11	17435	1	1	2275
C96-0552	Samsung	AW18G2MEA	5.11	17435	1	1	2276
C96-0222	General	AFH18APN-W	5.11	17435	2	1	2520
C96-0458	GENERAL	AFH18ASN-W	5.11	17435	2	1	2520
C96-0312	Kelon	KC-52	5.12	17469	2	1	2534
C96-0409	TOTALINE	ACW018	5.12	17469	2	1	2534
C96-0618	Kelon	AW-18CM4FC	5.12	17469	2	1	2534
C96-1014	York	Y9USE18	5.13	17504	2	2	2346
C96-0089	Fortress	FSA-19CCA	5.14	17538	2	3	2143
C96-0743	National	CW-C181EA	5.14	17538	2	1	2395
C96-0744	National	CW-SC181EA	5.14	17538	2	1	2395
C96-0746	Rasonic	RC-C181E	5.14	17538	2	1	2395
C96-0747	Rasonic	RC-SC181E	5.14	17538	2	1	2395
C96-0858	Panasonic	CW-C182EA	5.14	17538	2	1	2395
C96-0859	Panasonic	CW-SC182EA	5.14	17538	2	1	2395
C96-0887	Rasonic	RC-SC182E	5.14	17538	2	1	2395
C96-0545	Fuji Electric	RF-18CQ	5.15	17572	2	1	2508
C96-0354	GREE	KC-50/C160	5.15	17572	2	1	2586
C96-0390	Philco	PAC18M	5.15	17572	2	1	2586
C96-0440	GREE	KC-50/C160W	5.15	17572	2	1	2586
C96-0453	Philco	CPG118M	5.15	17572	2	1	2586
C96-0557	White - Westinghouse	AC185A5C	5.16	17606	2	1	2510
C96-0778	GREE / BODYSONIC	BGW-18C-V1	5.16	17606	2	1	2510
C96-0985	Kelon	AW-18CR4FD	5.18	17674	1	1	2243
C96-0998	Fortress	RWCA184	5.18	17674	1	1	2243

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effi. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-1002	Kelon	AW-18CM4FD	5.18	17674	1	1	2243
C96-1102	General Electric	AKV18WB	5.18	17674	1	1	2243
C96-1103	General Electric	AKE18WB	5.18	17674	1	1	2243
C96-0403	Chigo	KF-51GW	5.18	17674	2	3	2260
C96-0745	National	CW-XC181EA	5.18	17674	2	1	2398
C96-0748	Rasonic	RC-XC181E	5.18	17674	2	1	2398
C96-0807	TOTALINE	ACW118	5.18	17674	2	1	2529
C96-0810	ROMA	RWAC183	5.18	17674	2	1	2529
C96-0811	General Electric	AKV18WA	5.18	17674	2	1	2529
C96-0624	Chunlan	KC50I1	5.19	17708	2	1	2592
C96-0371	Trane	MCW518GAHRBH/TTK518PBHEFA	5.2	17742	1	3	1888
C96-0287	Toshiba	RAS-18UKPX	5.2	17742	2	3	2253
C96-0171	Fortress	FSA19CB	5.2	17742	2	3	2256
C96-0083	LG	LS-K1860CL	5.2	17742	2	3	2272
C96-1106	General Electric	AK1AC18HWG/ AK0AC18HWO	5.2	17742	2	3	2275
C96-0726	Toshiba	RAS-18UKPX2	5.2	17742	2	3	2277
C96-0727	Toshiba	RAS-18UKX2	5.2	17742	2	3	2277
C96-0537	Hitachi	RA-189FDF1	5.21	17777	1	1	2141
C96-0497	SHARP	AH-AP18CA	5.21	17777	2	3	2191
C96-0525	Hitachi	RA-18GDF	5.217	17800	1	1	2141
C96-0582	Rasonic	RC-SC180E	5.22	17811	2	1	2467
C96-0583	Rasonic	RC-C180E	5.22	17811	2	1	2467
C96-0605	National	CW-C180EA	5.22	17811	2	1	2467
C96-0606	National	CW-SC180EA	5.22	17811	2	1	2467
C96-0588	Rasonic	RS-C18BK/RU-C18BK	5.23	17845	2	3	2107
C96-0524	Hitachi	RA-18GF	5.237	17869	1	1	2184
C96-0930	Rasonic	RS-A18CK / RU-A18CK	5.24	17879	2	3	2117
C96-0944	Panasonic	CS-A18CKA / CU-A18CKA	5.24	17879	2	3	2117
C96-0585	Rasonic	RC-XC180E	5.24	17879	2	1	2466
C96-0607	National	CW-XC180EA	5.24	17879	2	1	2466
C96-0928	Rasonic	RC-C183E	5.25	17913	1	1	2316
C96-0942	Panasonic	CW-C183EA	5.25	17913	1	1	2316
C96-0929	Rasonic	RC-XC183E	5.25	17913	1	1	2318
C96-0943	Panasonic	CW-XC183EA	5.25	17913	1	1	2318
C96-0971	Toshiba	RAS-18UKPX3	5.26	17947	2	3	2287

+Actual consumption depends on where the appliance is located and how it is used. Based on 1200 hrs/yr operation.

V. Cooling Capacity greater than 5.3kW (>18000 BTU/h) (approx > 2 horsepower)

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effici. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0941	Midea	KF-53GW / 2Y	5.28	18015	2	3	2285
C96-1118	Midea	MSB-18CR	5.28	18015	2	3	2285
C96-0499	SANYO	SA-182H	5.29	18049	2	1	2598
C96-0349	Kelon	KF-52GW	5.3	18084	2	3	2288
C96-0352	Whirlpool	SP18A/B	5.3	18084	2	3	2288
C96-0493	Whirlpool	AMB872A/B	5.3	18084	2	3	2288
C96-1039	Toshiba	RAS-18UKPX4	5.31	18118	2	3	2284
C96-0414	TOTALINE	ACS018	5.33	18186	2	3	2245
C96-0888	Whirlpool	AC18	5.35	18254	2	1	2507
C96-1020	Whirlpool	AC518	5.35	18254	2	1	2507
C96-0665	National	CW-SC180KA	5.36	18288	2	1	2482
C96-0706	GREE	CW-SC180KA	5.36	18288	2	1	2482
C96-0708	Trane	TAW018DB0WAA	5.36	18288	2	1	2482
C96-0832	Panasonic	CW-SC180KA	5.36	18288	2	1	2482
C96-0661	GREE	KC-53/C3-C	5.36	18288	2	1	2494
C96-1015	Panasonic	CW-SC182KA	5.36	18288	2	1	2494
C96-1131	Ryoden	RW-18AC	5.36	18288	2	1	2494

EMSD Registration No.	Brand	Model	Cooling Capacity (kW)	Cooling Capacity (BTU/h)	Energy Effici. Grade	Room Cooler Cat.	Annual Energy Consumption (kWh/Yr) ⁺
C96-0819	National	CS-C18BKA/CU-C18BKA	5.41	18459	2	3	2155
C96-0931	Rasonic	RS-C18CK / RU-C18CK	5.49	18732	1	3	2047
C96-0945	Panasonic	CS-C18CKA / CU-C18CKA	5.49	18732	1	3	2047
C96-0939	Midea	AW-18	5.57	19005	2	1	2646
C96-0972	York	Y9USC18	5.57	19005	2	1	2646
C96-0994	Fortress	FC19CXA4	5.57	19005	2	1	2646
C96-1117	Midea	MWH-18CM	5.57	19005	2	1	2646
C96-1007	LG	LWC226MEAB1	5.72	19517	1	1	2810
C96-1008	LG	LWC226MEMM1	5.72	19517	1	1	2810
C96-0915	LG	LWC226MGAB1	5.72	19517	2	1	2810
C96-0916	LG	LWC226MGMM1	5.72	19517	2	1	2810
C96-0924	Mitsubishi Electric	MW-22XV	5.72	19517	2	1	2810
C96-0966	LG	LWC226MBAB1	5.72	19517	2	1	2810
C96-0967	LG	LWC226MBMM1	5.72	19517	2	1	2810
C96-0361	General	ASG20AGQ-W	5.8	19790	2	3	2446
C96-0824	Trane	TAW024BB0WAA	5.87	20028	2	1	2743
C96-0829	GREE	KC-60/C1	5.87	20028	2	1	2743
C96-1132	LG	LWC226MBAB6	5.87	20028	2	1	2800
C96-1133	LG	LWC226MBMM6	5.87	20028	2	1	2800
C96-1134	LG	LWC226MEAB6	5.87	20028	2	1	2800
C96-1135	LG	LWC226MEMM6	5.87	20028	2	1	2800
C96-0425	Carrier	42V22/38V22	6.05	20643	2	3	2595
C96-0225	General	ALH22ANN-W	6.05	20643	2	1	2782
C96-0267	Carrier	51S22	6.05	20643	2	1	3001
C96-0538	Carrier	42KP22/38KP22	6.1	20813	2	3	2569
C96-1129	Chunlan	KF-60GW/T	6.1	20813	2	3	2616
C96-0816	Carrier	42P22/38P22	6.16	21018	2	3	2577
C96-0784	Rasonic	RC-SC242E	6.31	21530	2	1	2930
C96-0860	Panasonic	CW-SC242EA	6.31	21530	2	1	2930
C96-0717	Toshiba	RAS-24UKPX-1	6.34	21632	2	3	2756
C96-0718	Toshiba	RAS-24UKX-1	6.34	21632	2	3	2756
C96-0278	Toshiba	RAS-24UKPX	6.38	21769	2	3	2756
C96-0587	Rasonic	RS-C24BK/RU-C24BK	6.39	21803	2	3	2580
C96-0670	Brandt	BCW-22M	6.44	21973	2	1	3193
C96-0662	GREE	KC-70/C3-C	6.59	22485	3	1	3612
C96-0666	National	CW-SC240KA	6.59	22485	3	1	3612
C96-0707	GREE	CW-SC240KA	6.59	22485	3	1	3612
C96-0709	Trane	TAW024DB0WAA	6.59	22485	3	1	3612
C96-1016	Panasonic	CW-SC242KA	6.59	22485	3	1	3612
C96-0932	Rasonic	RS-C24CK / RU-C24CK	6.6	22519	1	3	2467
C96-0946	Panasonic	CS-C24CKA / CU-C24CKA	6.6	22519	1	3	2467
C96-0279	General	ALH24ANN-W	6.7	22860	2	1	3257
C96-0084	LG	LS-K2460CL	6.82	23270	2	3	2965
C96-0993	York	HLEA24	6.95	23713	2	3	3004
C96-0968	Chunlan	KF-70GW/B	6.97	23782	2	3	2940
C96-0973	Zanussi	ZAS240	6.97	23782	2	3	2940
C96-0350	Kelon	KF-70GW	7.03	23986	2	3	3046
C96-0414	TOTALINE	ACS024	7.05	24055	2	3	3032
C96-0974	York	Y9USC24	7.07	24123	2	1	3535
C96-0313	Kelon	KC-70	7.1	24225	2	1	3517
C96-0410	TOTALINE	ACW024	7.1	24225	2	1	3517

+Actual consumption depends on where the appliance is located and how it is used. Based on 1200 hrs/yr operation.

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(6) Household Refrigeration Appliances

Product Characteristics favourable:

Product itself -

- (a) Energy Efficiency Label by EMSD or equivalent
- (b) With capacity suited the needs
- (c) Use a refrigerant that is not a greenhouse gas
- (d) Not with unnecessary energy-using features such as automatic icemakers
- (e) Contain casters or other method for easy movement allow coils on the back of the refrigerator to be dusted regularly, assisting efficient operation
- (f) Can be fit easily into available space; a minimum of 50mm between the back and sides of the refrigerator and adjoining walls should be allowed for efficient operation
- (g) With low operating noise levels
- (h) From companies that document additional environmental benefits of their products or superior environmental performance of their companies
- (i) If possible and available, a door open alarm to let users know when they have left the door open too long.

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

Prefer products registered in EMSD's Energy Efficiency Labelling Scheme

Updated list can be found at <http://www.emsd.gov.hk/>

EMSD List of Household Refrigeration Appliances as at 23 July 2005

Steps: 1) Select appropriate total volume (L)

2) Select smaller energy usage per volume (kWh/L/yr)

Registration No.	Brand	Model	Annual Energy Usage (kWh/Yr)	Energy Eff. Grade	Fridg Cat. †	Fresh Food Vol (Litre)	Frozen Food Vol (Litre)	Total Vol (L)	Power usage per vol (kWh/L/yr)	Freezing Cap. (kg/24h)
R96-0241	LG	GC-051	91	1	1	46	N.A.	46	1.98	N.A.
R96-0242	Fortress	FSG046	91	1	1	46	N.A.	46	1.98	N.A.
R96-0051	LG	GR-051SF	196	2	1	46	N.A.	46	4.26	N.A.
R96-0052	Fortress	FSG046HGY	196	2	1	46	N.A.	46	4.26	N.A.
R96-0060	Kelon	KR-68/H	150	1	1	50	N.A.	50	3.00	N.A.
R96-0081	FRIGIDAIRE	FMR-602SW	150	1	1	50	N.A.	50	3.00	N.A.
R96-0082	ZOPPAS	ZR28/H	150	1	1	50	N.A.	50	3.00	N.A.
R96-0197	Whirlpool	WRX05	139	1	1	51	N.A.	51	2.73	N.A.
R96-0214	Kelon	RS-07DR4HB	139	1	1	51	N.A.	51	2.73	N.A.
R96-0264	FRIGIDAIRE	FMK-02SW	139	1	1	51	N.A.	51	2.73	N.A.
R96-0275	ROMA	RFS051WT	139	1	1	51	N.A.	51	2.73	N.A.
R96-0049	LG	GR-131SF	180	2	1	94	N.A.	94	1.91	N.A.
R96-0050	Fortress	FSG094HGY	180	2	1	94	N.A.	94	1.91	N.A.
R96-0165	Whirlpool	WRX11	146	1	1	107	N.A.	107	1.36	N.A.
R96-0166	GALA	GR-12W	146	1	1	107	N.A.	107	1.36	N.A.
R96-0179	Bondini	BR-98	146	1	1	107	N.A.	107	1.36	N.A.
C96-0193	KELON	RS-14DR4HA	146	1	1	107	N.A.	107	1.36	N.A.
R96-0274	FRIGIDAIRE	FMK-04S	146	1	1	107	N.A.	107	1.36	N.A.
R96-0061	Kelon	KR-128/H	154	1	1	110	N.A.	110	1.40	N.A.
R96-0083	ZOPPAS	ZR-98/H	154	1	1	110	N.A.	110	1.40	N.A.
R96-0110	FRIGIDAIRE	FCR-112S	154	1	1	110	N.A.	110	1.40	N.A.
R96-0047	LG	GR-151SF	212	2	1	124	N.A.	124	1.71	N.A.
R96-0048	ZANUSSI	ZGV158/1CF	212	2	1	124	N.A.	124	1.71	N.A.
R96-0078	FRIGIDAIRE	FCR-212T	241	1	5	74	32	106	2.27	2.0
R96-0148	KELON	KDR-130/H	332	2	5	71	37	108	3.07	2.50
R96-0180	Bondini	BR-138	332	2	5	71	37	108	3.07	2.5
R96-0195	KELON	RD-14DR4HD	332	2	5	71	37	108	3.07	2.5
R96-0276	LG	GR-142	409	2	6	80	30	110	3.72	5.00

Registration No.	Brand	Model	Annual Energy Usage (kWh/Yr)	Energ Eff. Grade	Fridg Cat. †	Fresh Food Vol (Litre)	Frozen Food Vol (Litre)	Total Vol (L)	Power usage per vol (kWh/L/yr)	Freezing Cap. (kg/24h)
R96-0156	HITACHI	R-128A1H	445	2	6	83	34	117	3.80	2.02
R96-0204	National	NR-B13D1	454	2	6	90	36	126	3.60	2.0
R96-0298	Panasonic	NR-B13D1	454	2	6	90	36	126	3.60	2
R96-0057	Kelon	KDR-152/H	256	1	5	93	40	133	1.92	2.0
R96-0080	ZOPPAS	ZR-158/H	256	1	5	93	40	133	1.92	2.0
R96-0292	Mitsubishi Electric	MR-15M	402	2	6	94	42	136	2.96	2
R96-0384	Mitsubishi Electric	MR-F15R	402	2	6	94	42	136	2.96	2
R96-0374	Sharp	SJ-168-S	358	1	6	97	40	137	2.61	2.0
R96-0317	TOSHIBA	GR-T14HPT	469	2	6	95	42	137	3.42	4.5
R96-0377	TOSHIBA	GR-H14HPT	469	2	6	95	42	137	3.42	4.50
R96-0149	KELON	KDR-166/H	310	2	5	93	45	138	2.25	2.50
C96-0194	KELON	RD-18DG4HD	310	2	5	93	45	138	2.25	2.5
R96-0105	Sharp	SJ-15L	438	2	6	100	40	140	3.13	2.0
R96-0231	Whirlpool	WRX14	427	2	6	99	42	141	3.03	2.50
R96-0245	Kelon	RD-18WR4HB	427	2	6	99	42	141	3.03	2.50
R96-0265	FRIGIDAIRE	FMK-06T	427	2	6	99	42	141	3.03	2.50
R96-0357	AKAI	RF-K18TF	427	2	6	99	42	141	3.03	2.50
R96-0230	National	NR-B16JAH	454	2	6	120	30	150	3.03	2.00
R96-0322	Panasonic	NR-B16JAH	454	2	6	120	30	150	3.03	2.00
R96-0311	Mitsubishi Electric	MR-17M	423	2	6	113	43	156	2.71	2.38
R96-0385	Mitsubishi Electric	MR-F17R	423	2	6	113	43	156	2.71	2.38
R96-0340	Hitachi	R-170A1H	369	1	6	118	42	160	2.31	2.72
R96-0368	Hitachi	R-170A5H	369	1	6	118	42	160	2.31	2.72
R96-0117	KELON	KDC-192W/H	431	2	6	117	43	160	2.69	3.0
R96-0150	HITACHI	R-168A1HE	358	1	6	127	35	162	2.21	2.0
R96-0240	Hitachi	R-169A1HE	374	1	6	127	35	162	2.31	2.00
R96-0128	Hitachi	R-16A9HD	445	2	6	127	35	162	2.75	2.0
R96-0171	Ignis	IF161	412	2	6	123	41	164	2.51	2.50
R96-0172	White-Westinghouse	RT06V2	412	2	6	123	41	164	2.51	2.50
R96-0175	GALA	GR-16W	412	2	6	123	41	164	2.51	2.5
R96-0184	Bondini	BR-173	412	2	6	123	41	164	2.51	2.5
R96-0189	KELON	RD-22WR4HB	412	2	6	123	41	164	2.51	2.5
R96-0198	GALA	GR-17W	412	2	6	123	41	164	2.51	2.5
R96-0208	Rasonic	RA-FR168C	412	2	6	123	41	164	2.51	2.5
R96-0216	Rasonic	RA-FR170	412	2	6	123	41	164	2.51	2.5
R96-0225	GME	GR-201GD	412	2	6	123	41	164	2.51	2.50
R96-0354	Rasonic	RF-B17SF1	412	2	6	123	41	164	2.51	2.50
R96-0360	GALA	GR-17S	412	2	6	123	41	164	2.51	2.5
R96-0161	KELON	KDR-199W/H	416	2	6	117	47	164	2.54	2.50
R96-0132	Whirlpool	WRX16	420	2	6	123	41	164	2.56	2.5
R96-0263	Whirlpool	WG168	420	2	6	123	41	164	2.56	2.50
R96-0266	FRIGIDAIRE	FMK-08T	420	2	6	123	41	164	2.56	2.50
R96-0344	Whirlpool	WF17	420	2	6	123	41	164	2.56	2.50
R96-0358	AKAI	RF-K22TF	420	2	6	123	41	164	2.56	2.50
R96-0394	Whirlpool	WF175	420	2	6	123	41	164	2.56	2.50
R96-0157	KELON	KDR-202/H	303	2	5	116	49	165	1.84	2.50
R96-0196	KELON	RD-22DR4HD	303	2	5	116	49	165	1.84	2.5
R96-0115	FRIGIDAIRE	FNR-217T	420	2	6	126	42	168	2.50	2.5
R96-0116	KELON	KDR-201W/H	420	2	6	126	42	168	2.50	2.5
R96-0058	Kelon	KDR-195/H	263	1	5	112	58	170	1.55	2.75
R96-0205	National	NR-B17D1	370	1	6	128	45	173	2.14	2.125
R96-0250	National	NR-B17D2	370	1	6	128	45	173	2.14	2.13
R96-0303	Panasonic	NR-B17D3	376	1	6	128	45	173	2.17	2.25
R96-0304	Panasonic	NR-B173F	376	1	6	128	45	173	2.17	2.25
R96-0026	National	NR-B17T1H	476	2	6	128	45	173	2.75	2.1
R96-0088	National	NR-B17A1	476	2	6	128	45	173	2.75	2.125
R96-0341	Hitachi	R-190A1H	401	1	6	119	56	175	2.29	3.73
R96-0369	Hitachi	R-190A5H	401	1	6	119	56	175	2.29	3.73
R96-0312	Mitsubishi Electric	MR-20M	396	1	6	127	52	179	2.21	2.5
R96-0350	Mitsubishi Electric	MR-F22P	396	1	6	127	52	179	2.21	2.5
R96-0330	Whirlpool	YOGA 18	489	2	6	136	43	179	2.73	3.25
R96-0151	HITACHI	R-198A1HE	388	1	6	127	53	180	2.16	2.5
R96-0065	TOSHIBA	GR-Y18HPT	507	2	6	135	45	180	2.82	4.8
R96-0256	TOSHIBA	GR-S18HPT	516	2	6	135	45	180	2.87	4.15
R96-0124	Hitachi	R-19A9HD	516	2	6	127	53	180	2.87	2.25
R96-0234	Hitachi	R-199A1HE	391	1	6	132	49	181	2.16	2.50

Registration No.	Brand	Model	Annual Energy Usage (kWh/Yr)	Energ Eff. Grade	Fridg Cat. †	Fresh Food Vol (Litre)	Frozen Food Vol (Litre)	Total Vol (L)	Power usage per vol (kWh/L/yr)	Freezing Cap. (kg/24h)
R96-0168	Whirlpool	WRX22	495	2	6	135	48	183	2.70	7.1
R96-0099	Whirlpool	WRN22	506	2	6	134	49	183	2.77	7.23
R96-0209	Rasonic	RA-FR188	423	2	6	138	46	184	2.30	2.5
R96-0215	GALA	GR-18W	423	2	6	138	46	184	2.30	2.5
R96-0227	Kelon	RD-24WR4HM	423	2	6	138	46	184	2.30	2.50
R96-0267	FRIGIDAIRE	FMK-09T	423	2	6	138	46	184	2.30	2.50
R96-0281	FRIGIDAIRE	FMK-188TXY	423	2	6	138	46	184	2.30	2.50
R96-0336	Whirlpool	WF19	423	2	6	138	46	184	2.30	2.50
R96-0355	Rasonic	RF-B19SF1	423	2	6	138	46	184	2.30	2.5
R96-0361	GALA	GR-18S	423	2	6	138	46	184	2.30	2.5
R96-0363	TGC	RD-24WR4HM	423	2	6	138	46	184	2.30	2.5
R96-0395	Whirlpool	WF195	423	2	6	138	46	184	2.30	2.50
R96-0372	TOSHIBA	GR-H19HPD	438	2	6	127	57	184	2.38	6.10
R96-0130	Sharp	SJ-D21M	347	1	6	125	62	187	1.86	3.0
R96-0290	Samsung	SR-21NME	489	2	6	135	52	187	2.61	6.6
R96-0401	Samsung	RT-21	489	2	6	135	52	187	2.61	6.6
R96-0055	Kelon	KR-228W/H	442	2	6	135	55	190	2.33	3.0
R96-0071	GALA	GR-20A-H	442	2	6	135	55	190	2.33	3.0
R96-0072	FRIGIDAIRE	FNR-219T	442	2	6	135	55	190	2.33	3.0
R96-0073	ZOPPAS	ZR-233/H	442	2	6	135	55	190	2.33	3.0
R96-0176	GALA	GR-19W	464	2	6	135	55	190	2.44	3.0
R96-0187	KELON	RD-25WR4HA	464	2	6	135	55	190	2.44	3.0
R96-0011	Sharp	SJ-D21J	470	2	6	130	60	190	2.47	2.9
R96-0012	Sharp	SJ-20H	470	2	6	130	60	190	2.47	2.9
R96-0037	National	NR-B19W1H	501	2	6	125	65	190	2.64	3
R96-0021	Sharp	SJ-D21K	504	2	6	127	63	190	2.65	3
R96-0096	Kelon	KDC-230W/H	413	1	6	121	70	191	2.16	10
R96-0162	Whirlpool	WA232	472	2	6	147	44	191	2.47	4.0
R96-0003	Kelon	KR-208	321	1	5	112	84	196	1.64	4
R96-0386	Mitsubishi Electric	NR-B201G	406	1	6	139	57	196	2.07	2.6
R96-0173	Ignis	IF201	460	2	6	133	65	198	2.32	4.0
R96-0135	Rasonic	RA-FR198	525	2	6	142	56	198	2.65	4.5
R96-0293	Mitsubishi Electric	MR-22M	420	1	6	147	52	199	2.11	2.68
R96-0351	Mitsubishi Electric	MR-F25P	420	1	6	147	52	199	2.11	2.68
R96-0392	Mitsubishi Electric	MR-F25R	420	1	6	147	52	199	2.11	2.68
R96-0190	KELON	RD-26WR4HB	460	2	6	134	65	199	2.31	4.0
R96-0237	Hitachi	R-209A1HE	399	1	6	142	58	200	2.00	3.00
R96-0333	Hitachi	R-200A1HE	399	1	6	142	58	200	2.00	3.00
R96-0152	HITACHI	R-208A1HE	412	1	6	142	58	200	2.06	3.5
R96-0027	LG	GR-248MF	476	2	6	140	60	200	2.38	5
R96-0029	NEC	NR-258F	476	2	6	140	60	200	2.38	5
R96-0031	Zanussi	ZGV248/2CF	476	2	6	140	60	200	2.38	5
R96-0033	Fortress	FDG200HGY	476	2	6	140	60	200	2.38	5
R96-0035	PHILCO	PNF 220	476	2	6	140	60	200	2.38	5
R96-0097	Kelon	KDR-240W/H	511	2	6	134	66	200	2.56	4.0
R96-0104	FRIGIDAIRE	FNR-220T	511	2	6	134	66	200	2.56	4.0
R96-0126	Hitachi	R-20A8HDW	515	2	6	142	58	200	2.58	2.5
R96-0331	Whirlpool	YOGA 21	505	2	6	160	43	203	2.49	3.25
R96-0046	Whirlpool	WRNA232	472	2	6	151	53	204	2.31	4
R96-0291	Samsung	SR-24NME	533	2	6	155	52	207	2.57	6.6
R96-0402	Samsung	RT-24	533	2	6	155	52	207	2.57	6.6
R96-0004	Kelon	KR-236	339	1	5	111	97	208	1.63	6
R96-0100	KELON	KDC-250W/H	416	1	6	139	70	209	1.99	10
R96-0405	Hitachi	R-26NVH	486	2	6	168	41	209	2.33	4.0
R96-0054	Kelon	KR-258W/H	460	2	6	155	55	210	2.19	3.0
R96-0074	FRIGIDAIRE	FNR-221T	460	2	6	155	55	210	2.19	3.0
R96-0075	ZOPPAS	ZR-263/H	460	2	6	155	55	210	2.19	3.0
R96-0177	GALA	GR-21W	467	2	6	155	55	210	2.22	3.0
R96-0183	Bondini	BR-263	467	2	6	155	55	210	2.22	3.0
R96-0188	KELON	RD-27WR4HA	467	2	6	155	55	210	2.22	3.0
R96-0342	Hitachi	R-220A1H	328	1	6	157	57	214	1.53	3.61
R96-0370	Hitachi	R-220A5H	328	1	6	157	57	214	1.53	3.61
R96-0084	Whirlpool	WRN28	505	2	6	150	64	214	2.36	6.15
R96-0163	Whirlpool	WRX28	562	2	6	150	64	214	2.63	5.56
R96-0323	LG	GR-T282GL	496	2	6	157	58	215	2.31	2.75

Registration No.	Brand	Model	Annual Energy Usage (kWh/Yr)	Energy Eff. Grade	Fridge Cat. †	Fresh Food Vol (Litres)	Frozen Food Vol (Litres)	Total Vol (L)	Power usage per vol (kWh/L/yr)	Freezing Cap. (kg/24h)
R96-0324	LG	GR-T282GV	496	2	6	157	58	215	2.31	2.75
R96-0174	Ignis	IF211	464	2	6	151	65	216	2.15	4.0
C96-0192	KELON	RD-28WR4HB	464	2	6	151	65	216	2.15	4.0
R96-0199	GALA	GR-22W	464	2	6	151	65	216	2.15	4.0
R96-0203	FRIGIDAIRE	FNR-262T	464	2	6	151	65	216	2.15	4.0
R96-0226	GME	GR-262GD	464	2	6	151	65	216	2.15	4.00
R96-0268	FRIGIDAIRE	FMK-10T	464	2	6	151	65	216	2.15	4.00
R96-0337	Whirlpool	WF22	464	2	6	151	65	216	2.15	4.00
R96-0362	GALA	GR-22S	464	2	6	151	65	216	2.15	4.0
R96-0396	Whirlpool	WF225	464	2	6	151	65	216	2.15	4.00
R96-0005	General	ER-24 EC	526	2	6	160	56	216	2.44	4.4
R96-0129	White-Westinghouse	RT08VL	540	2	6	160	56	216	2.50	5.0
R96-0066	TOSHIBA	GR-Y22HPT	548	2	6	159	57	216	2.54	4.0
R96-0262	SANYO	SR-261B	440	2	6	184	33	217	2.03	3.00
R96-0306	SANYO	SR-261G	440	2	6	184	33	217	2.03	3.00
R96-0217	LG	GR-262QVC	497	2	6	158	59	217	2.29	5.64
R96-0220	Zanussi	ZGV268/2CF	497	2	6	158	59	217	2.29	5.64
R96-0222	Fortress	FDG219	497	2	6	158	59	217	2.29	5.64
R96-0345	Philco	PNF222S	497	2	6	158	59	217	2.29	5.64
R96-0346	Philco	PNF222W	497	2	6	158	59	217	2.29	5.64
R96-0153	HITACHI	R-228A1HE	427	1	6	165	53	218	1.96	2.5
R96-0095	Kelon	KDR0262W/H	475	2	6	152	66	218	2.18	4.0
R96-0103	FRIGIDAIRE	FNR-222T	475	2	6	152	66	218	2.18	4.0
R96-0359	Rasonic	RF-B22SF1	475	2	6	152	66	218	2.18	4.00
R96-0108	General Electric	TBP8DNBR	513	2	6	167	51	218	2.35	5.0
R96-0125	Hitachi	R-22A9HD	515	2	6	165	53	218	2.36	2.25
R96-0255	TOSHIBA	GR-S22HPT	544	2	6	161	57	218	2.50	4.27
R96-0235	Hitachi	R-229A1HE	431	1	6	170	49	219	1.97	2.50
R96-0131	Sharp	SJ-D25M	358	1	6	158	62	220	1.63	3.0
R96-0038	National	NR-B22W1H	548	2	6	155	65	220	2.49	3
R96-0375	Sharp	SJ-268-H/S	380	1	6	158	63	221	1.72	3.0
R96-0307	Panasonic	NR-B22D3	387	1	6	151	71	222	1.74	3
R96-0308	Panasonic	NR-B22D3L	387	1	6	151	71	222	1.74	3
R96-0206	National	NR-B22D1	389	1	6	151	71	222	1.75	3.0
R96-0251	National	NR-B22D2	389	1	6	151	71	222	1.75	3.00
R96-0252	National	NR-B22D2L	389	1	6	151	71	222	1.75	3.00
R96-0089	National	NR-B22A1	482	2	6	151	71	222	2.17	3.0
R96-0403	Toshiba	GR-H23HPL	518	2	6	166	57	223	2.32	7.0
R96-0373	TOSHIBA	GR-H23HPD	493	2	6	167	57	224	2.20	5.50
R96-0219	Kelon	RT-30WC4HA	456	2	6	166	59	225	2.03	3.0
R96-0022	Sharp	SJ-D25K	511	2	6	162	63	225	2.27	3
R96-0010	Sharp	SJ-D25J	555	2	6	165	60	225	2.47	2.9
R96-0332	Whirlpool	YOGA 23	440	2	6	183	43	226	1.95	3.25
R96-0059	Kelon	KTC-276W/H	433	1	6	170	60	230	1.88	3.0
R96-0077	ZOPPAS	ZR-333/H	433	1	6	170	60	230	1.88	3.0
R96-0144	White-Westinghouse	RT09V3	433	1	6	170	60	230	1.88	3.0
R96-0040	Whirlpool	WRNA282	439	2	6	177	53	230	1.91	4
R96-0028	LG	GR-288MF	473	2	6	170	60	230	2.06	5
R96-0030	NEC	NR-278F	473	2	6	170	60	230	2.06	5
R96-0032	Zanussi	ZGV288/2CF	473	2	6	170	60	230	2.06	5
R96-0034	Fortress	FDG230HGY	473	2	6	170	60	230	2.06	5
R96-0036	PHILCO	PNF 230	473	2	6	170	60	230	2.06	5
R96-0042	Fortress	FDG230HWT	473	2	6	170	60	230	2.06	5
R96-0109	Sharp	SJ-W26L	511	2	6	185	45	230	2.22	3.0
R96-0387	Mitsubishi Electric	NR-B231G	435	1	6	166	65	231	1.88	3.0
R96-0218	LG	GR-292QVC	472	2	6	176	59	235	2.01	6.02
R96-0221	Zanussi	ZGV298/2CF	472	2	6	176	59	235	2.01	6.02
R96-0223	Fortress	FDG237	472	2	6	176	59	235	2.01	6.02
R96-0305	Zanussi	ZW298/2CF	472	2	6	176	59	235	2.01	6.02
R96-0347	Philco	PNF224S	472	2	6	176	59	235	2.01	6.02
R96-0348	Philco	PNF224W	472	2	6	176	59	235	2.01	6.02
R96-0364	ZANUSSI	ZS298/2CF	472	2	6	176	59	235	2.01	6.02
R96-0313	Mitsubishi Electric	MR-26M	413	1	6	177	61	238	1.74	2.81
R96-0352	Mitsubishi Electric	MR-F30P	413	1	6	177	61	238	1.74	2.81
R96-0393	Mitsubishi Electric	MR-F30R	413	1	6	177	61	238	1.74	2.81

Registration No.	Brand	Model	Annual Energy Usage (kWh/Yr)	Energy Eff. Grade	Fridge Cat. †	Fresh Food Vol (Litre)	Frozen Food Vol (Litre)	Total Vol (L)	Power usage per vol (kWh/L/yr)	Freezing Cap. (kg/24h)
R96-0076	FRIGIDAIRE	FNR-323H	433	1	6	179	60	239	1.81	3.0
R96-0232	National	NR-C27W1H	438	1	6	191	50	241	1.82	4.00
R96-0302	Panasonic	NR-C27W1H	438	1	6	191	50	241	1.82	4
R96-0233	National	NR-C27D1H	443	1	6	191	50	241	1.84	4.00
R96-0301	Panasonic	NR-C27D1H	443	1	6	191	50	241	1.84	4
R96-0167	Whirlpool	WA322	531	2	6	197	44	241	2.20	4.0
R96-0328	Hitachi	R-S31NVH	427	1	6	203	41	244	1.75	5.00
R96-0378	Hitachi	R-250A5H	460	1	6	188	56	244	1.89	3.50
R96-0008	Sharp	SJ-W27J	496	1	6	130	115	245	2.02	7.5
R96-0258	TOSHIBA	GR-A25HBV	582	2	6	188	58	246	2.37	6.40
R96-0247	Kelon	RD-32WR4HB	559	2	6	180	67	247	2.26	3.00
R96-0249	FRIGIDAIRE	FNR-320T	559	2	6	180	67	247	2.26	3.00
R96-0269	FRIGIDAIRE	FMK-12T	559	2	6	180	67	247	2.26	3.00
R96-0338	Whirlpool	WF25	559	2	6	180	67	247	2.26	3.00
R96-0343	FRIGIDAIRE	FMK-248TXY	559	2	6	180	67	247	2.26	3.00
R96-0356	Rasonic	RF-B25SF1	559	2	6	180	67	247	2.26	3.00
R96-0365	GALA	GR-24S	559	2	6	180	67	247	2.26	3.00
R96-0397	Whirlpool	WF255	559	2	6	180	67	247	2.26	3.00
R96-0159	Whirlpool	WRX32	569	2	6	183	64	247	2.30	5.90
R96-0085	Whirlpool	WRN32	578	2	6	183	64	247	2.34	6.19
R96-0133	Whirlpool	WRT33	431	1	6	177	71	248	1.74	5.5
R96-0154	HITACHI	R-258A1HE	434	1	6	190	58	248	1.75	3.31
R96-0239	Hitachi	R-259A1HE	447	1	6	190	58	248	1.80	3.00
R96-0334	Hitachi	R-250A1HE	447	1	6	190	58	248	1.80	3.00
R96-0136	Rasonic	RA-FR248	549	2	6	192	56	248	2.21	4.5
R96-0349	Whirlpool	WRT250	549	2	6	192	56	248	2.21	4.5
R96-0039	National	NR-C25W1H	555	2	6	185	65	250	2.22	3
R96-0295	Panasonic	NR-C25W1H	555	2	6	185	65	250	2.22	3
R96-0325	LG	GR-T312GL	526	2	6	193	58	251	2.10	2.81
R96-0326	LG	GR-T312GV	526	2	6	193	58	251	2.10	2.81
R96-0178	GALA	GR-26W	496	2	6	195	59	254	1.95	3.0
C96-0191	KELON	RT-34WC4HA	496	2	6	195	59	254	1.95	3.0
R96-0041	Whirlpool	WRNA322	531	2	6	202	53	255	2.08	4
R96-0277	Samsung	RT-30MB	489	2	6	193	66	259	1.89	7.60
R96-0094	Kelon	KTC-312W/H	449	1	6	200	60	260	1.73	3.0
R96-0102	FRIGIDAIRE	FNR-326H	449	1	6	200	60	260	1.73	3.0
R96-0142	White-Westinghouse	RT11V3	449	1	6	200	60	260	1.73	3.0
R96-0224	Sharp	SJ-288	504	2	6	219	43	262	1.92	3.00
R96-0207	National	NR-B26D1	376	1	6	192	71	263	1.43	3.0
R96-0253	National	NR-B26D2	376	1	6	192	71	263	1.43	3.00
R96-0254	National	NR-B26D2L	376	1	6	192	71	263	1.43	3.00
R96-0309	Panasonic	NR-B26D3	380	1	6	192	71	263	1.44	3
R96-0310	Panasonic	NR-B26D3L	380	1	6	192	71	263	1.44	3
R96-0090	National	NR-B26A1	511	2	6	192	71	263	1.94	3.0
R96-0158	Electrolux	ER3098D	567	2	6	201	63	264	2.15	6.9
R96-0181	Samsung	SR-30RMB	570	2	6	201	63	264	2.16	6.8
R96-0182	White-Westinghouse	RT10VJ	570	2	6	201	63	264	2.16	6.8
R96-0137	Rasonic	RA-FR265	599	2	6	195	70	265	2.26	6.0
R96-0118	Philco	PH2098	536	2	6	193	74	267	2.01	4.0
R96-0122	SANYO	SR-F288	536	2	6	193	74	267	2.01	4.0
R96-0146	SANYO	SR-38WX	536	2	6	193	74	267	2.01	4.0
R96-0169	Philco	PNS2315VG	536	2	6	193	74	267	2.01	4.0
R96-0288	Electrolux	ER-3198D	536	2	6	193	74	267	2.01	4.00
R96-0107	General Electric	TBPI0ADBR	549	2	6	207	60	267	2.06	5.0
R96-0113	Darlington	FDR-983202	549	2	6	207	60	267	2.06	5.0
R96-0236	Philco	N300	479	1	6	210	60	270	1.77	3.50
R96-0246	Malleys	N300	479	1	6	210	60	270	1.77	3.50
R96-0200	Samsung	SR-34RMB	511	2	6	208	63	271	1.89	6.6
R96-0391	GALA	GR-36S	464	1	6	205	68	273	1.70	4.0
R96-0398	Toshiba	GR-H32HT1	486	1	6	202	73	275	1.77	9.4
R96-0278	Samsung	RT-34MB	518	2	6	209	66	275	1.88	7.3
R96-0001	General	ER-28 VEA	576	2	6	206	69	275	2.09	3.8
R96-0006	General	ER-28 V	576	2	6	206	69	275	2.09	3.8
R96-0388	Mitsubishi Electric	NR-B281G	471	1	6	211	65	276	1.71	3.0
R96-0141	Electrolux	ER3498D	500	2	6	208	68	276	1.81	6.5

Registration No.	Brand	Model	Annual Energy Usage (kWh/Yr)	Energy Eff. Grade	Fridge Cat. †	Fresh Food Vol (Litres)	Frozen Food Vol (Litres)	Total Vol (L)	Power usage per vol (kWh/L/yr)	Freezing Cap. (kg/24h)
R96-0318	TOSHIBA	GR-N32HT	611	2	6	205	73	278	2.20	5.84
R96-0260	TOSHIBA	GR-S32HT	581	2	6	207	73	280	2.08	5.50
R96-0062	ZANUSSI	ZGV338/2CF	548	2	6	208	76	284	1.93	6.77
R96-0087	Fortress	FDG284HGY	548	2	6	208	76	284	1.93	6.77
R96-0009	Sharp	SJ-W31J	526	1	6	170	115	285	1.85	7.5
R96-0376	Sharp	SJ-318-S	562	2	6	170	116	286	1.97	7.5
R96-0329	Hitachi	R-S36NVH	493	2	6	242	45	287	1.72	5.00
R96-0404	Hitachi	R-S37NVH	566	2	6	244	43	287	1.97	4.0
R96-0327	SHARP	SJ-37M	450	1	6	206	82	288	1.56	4.00
R96-0210	National	NR-E40W2H	486	1	6	239	54	293	1.66	2.5
R96-0299	Panasonic	NR-E40W2H	486	1	6	239	54	293	1.66	2.5
R96-0091	National	NR-C30W1H	482	1	6	215	81	296	1.63	4.0
R96-0296	Panasonic	NR-C30W1H	482	1	6	215	81	296	1.63	4
R96-0111	Philco	N360F	395	1	6	223	76	299	1.32	4.0
R96-0185	White-Westinghouse	N360	394	1	6	223	76	299	1.32	4.0
R96-0244	Philco	N360	394	1	6	223	76	299	1.32	4.00
R96-0407	Toshiba	GR-H35HTV1	525	2	6	226	73	299	1.76	8.25
R96-0371	Panasonic	NR-C373MH	453	1	6	257	44	301	1.50	5.00
R96-0138	National	NR-C37D1H	519	2	6	257	44	301	1.72	3.15
R96-0297	Panasonic	NR-C37D1H	519	2	6	257	44	301	1.72	3.15
R96-0160	Whirlpool	WRX38	563	2	6	210	93	303	1.86	6.97
R96-0086	Whirlpool	WRN38	571	2	6	210	93	303	1.88	7.15
R96-0013	Sharp	SJ-33J	570	2	6	238	66	304	1.88	2.9
R96-0279	Samsung	RT-37MB	595	2	6	230	76	306	1.94	7.6
R96-0259	Mitsubishi Electric	MR-YL38D	457	1	6	261	46	307	1.49	2.50
R96-0339	Mitsubishi Electric	MR-CL38E	457	1	6	261	46	307	1.49	2.50
R96-0380	Mitsubishi Electric	MR-CL38F	457	1	6	261	46	307	1.49	2.50
R96-0379	Hitachi	R-310A5H	514	1	6	223	84	307	1.67	4.0
R96-0320	TOSHIBA	GR-N35HTV	620	2	6	238	73	311	1.99	5.73
R96-0155	HITACHI	R-318A1HE	493	1	6	225	87	312	1.58	4.0
R96-0238	Hitachi	R-319A1HE	504	1	6	225	87	312	1.62	4.00
R96-0335	Hitachi	R-310A1HE	504	1	6	225	87	312	1.62	4.00
R96-0164	Electrolux	ER-3798D	530	2	6	229	83	312	1.70	7.2
R96-0186	White-Westinghouse	RT12VJ	546	2	6	229	83	312	1.75	7.2
R96-0201	Samsung	SR-37RMB	546	2	6	229	83	312	1.75	7.2
R96-0229	LG	GR-S392	475	1	6	230	83	313	1.52	3.75
R96-0389	Toshiba	GR-H37HT1	494	1	6	240	73	313	1.58	8.25
R96-0063	ZANUSSI	ZGV378/2CF	542	2	6	230	83	313	1.73	7.3
R96-0314	Mitsubishi Electric	MR-35M	496	1	6	215	99	314	1.58	5.18
R96-0016	National	NR-C32T2H	600	2	6	230	85	315	1.90	3.5
R96-0289	Electrolux	ER-3698D	571	2	6	233	84	317	1.80	4.5
R96-0319	TOSHIBA	GR-N37HT	626	2	6	244	73	317	1.97	5.68
R96-0139	Whirlpool	WRT363	645	2	6	244	73	317	2.03	5.80
R96-0261	TOSHIBA	GR-S37HT	649	2	6	246	73	319	2.03	5.50
R96-0145	Whirlpool	WRX42	586	2	6	228	93	321	1.83	9.0
R96-0272	Samsung	SR-L36NEB	474	1	6	221	104	325	1.46	15.20
R96-0399	Samsung	RL36EB	474	1	6	221	104	325	1.46	15.2
R96-0106	General Electric	TBP12ADBR	569	2	6	245	83	328	1.73	5.0
R96-0014	Sharp	SJ-W36J	544	1	6	234	96	330	1.65	4.5
R96-0044	LG	GR-403SVF	654	2	6	255	75	330	1.98	8
R96-0045	Zanussi	ZGV388/3CF	654	2	6	255	75	330	1.98	8
R96-0053	PHILCO	PNF333	654	2	6	255	75	330	1.98	8.0
R96-0064	General Electric	TMP12ANBRLG	654	2	6	255	75	330	1.98	8.0
R96-0406	Toshiba	GR-H40HB	580	2	6	257	80	337	1.72	5.8
R96-0211	National	NR-E46W2H	525	1	6	280	63	343	1.53	3.0
R96-0366	Mitsubishi Electric	MR-F42P	537	1	6	239	105	344	1.56	4.56
R96-0381	Mitsubishi Electric	MR-F42R	537	1	6	239	105	344	1.56	4.56
R96-0257	TOSHIBA	GR-A35HBV	602	2	6	272	73	345	1.74	7.74
R96-0212	Sharp	SJ-43L	530	1	6	248	99	347	1.53	6.0
R96-0101	FRIGIDAIRE	FNR-435HI	529	1	6	258	90	348	1.52	5.0
R96-0143	White-Westinghouse	RT13V3	529	1	6	258	90	348	1.52	5.0
R96-0390	Toshiba	GR-H41HT1	574	2	6	246	102	348	1.65	9.4
R96-0273	Samsung	SR-L39NEB	491	1	6	246	104	350	1.40	15.00
R96-0400	Samsung	RL39EB	491	1	6	246	104	350	1.40	15.0
R96-0315	Mitsubishi Electric	MR-39M	551	1	6	258	99	357	1.54	5.28

Registration No.	Brand	Model	Annual Energy Usage (kWh/Yr)	Energ Eff. Grade	Fridg Cat. †	Fresh Food Vol (Litre)	Frozen Food Vol (Litre)	Total Vol (L)	Power usage per vol (kWh/L/yr)	Freezing Cap. (kg/24h)
R96-0024	Whirlpool	WRN 42	586	2	6	263	100	363	1.61	9.0
R96-0017	National	NR-C37T2H	670	2	6	265	100	365	1.84	4
R96-0294	Panasonic	NR-C37T2H	670	2	6	265	100	365	1.84	4
R96-0015	Sharp	SJ-W40J	569	1	6	272	96	368	1.55	4.5
R96-0280	Samsung	RT-44MB	431	1	6	282	87	369	1.17	5.13
R96-0134	HITACHI	R-37V1M	726	2	6	270	100	370	1.96	4.5
R96-0228	LG	GR-S462	438	1	6	270	103	373	1.17	6.23
R96-0121	General Electric	TBZ14NAC	703	2	6	275	98	373	1.88	4.0
R96-0114	Philco	N410F	493	1	6	295	80	375	1.31	4.0
R96-0248	Philco	N410	493	1	6	295	80	375	1.31	4.00
R96-0382	Mitsubishi Electric	MR-F47R	537	1	6	273	105	378	1.42	4.85
R96-0353	Mitsubishi Electric	MR-F47P	573	1	6	273	105	378	1.52	4.85
R96-0213	Sharp	SJ-47L	560	1	6	285	99	384	1.46	6.0
R96-0316	Mitsubishi Electric	MR-V42M	591	2	6	286	99	385	1.54	5.42
R96-0408	Toshiba	GR-H45HTV1	714	2	6	286	102	388	1.84	8.4
R96-0140	Whirlpool	WRT463	628	2	6	291	102	393	1.60	5.98
R96-0321	TOSHIBA	GR-N45HTV	664	2	6	291	103	394	1.69	6.44
R96-0068	TOSHIBA	GR-45HTV	624	2	6	291	104	395	1.58	5.7
R96-0070	Whirlpool	WRT46	624	2	6	291	104	395	1.58	5.7
R96-0119	Philco	PH2138	638	2	6	283	116	399	1.60	5.0
R96-0123	SANYO	SR-F418	638	2	6	283	116	399	1.60	5.0
R96-0147	SANYO	SR-59WX	638	2	6	283	116	399	1.60	5.0
R96-0170	Philco	PNS2460VG	638	2	6	283	116	399	1.60	5.0
R96-0300	Panasonic	NR-D471NC	511	1	6	342	59	401	1.27	6.5
R96-0120	General Electric	TBZ16NAC	734	2	6	304	98	402	1.83	4.0
R96-0092	National	NR-D40W1H	639	2	6	276	127	403	1.59	5.0
R96-0367	Mitsubishi Electric	MR-V50P	628	2	6	304	105	409	1.54	4.96
R96-0383	Mitsubishi Electric	MR-V50R	628	2	6	304	105	409	1.54	4.96
R96-0112	Philco	N520F	485	1	6	349	98	447	1.09	6.5
R96-0243	Philco	N520	485	1	6	349	98	447	1.09	6.50
R96-0043	LG	GR-572TVF	598	1	6	334	126	460	1.30	8.5
R96-0002	General	ER-50 DEA	752	2	6	312	148	460	1.63	8.5
R96-0007	General	ER-50 D	752	2	6	312	148	460	1.63	8.5
R96-0019	National	NR-D47A1H	625	1	6	370	95	465	1.34	6.25
R96-0020	National	NR-E49A1H	773	2	6	385	100	485	1.59	6.5
R96-0025	National	NR-W500H	865	2	6	366	135	501	1.73	6.1
R96-0271	Samsung	SR-S20DTC	850	2	6	347	187	534	1.59	11.30
R96-0282	Samsung	SR-S20DTGRS	850	2	6	347	187	534	1.59	11.3
R96-0283	Samsung	SR-S20DTLM	850	2	6	347	187	534	1.59	11.3
R96-0270	Samsung	SR-S20NTC	854	2	6	347	211	558	1.53	12.60
R96-0284	Samsung	SR-S20NTLS	854	2	6	347	211	558	1.53	12.6
R96-0285	Samsung	SR-S20NTLM	854	2	6	347	211	558	1.53	12.6
R96-0286	Samsung	SR-S20NTLAS	854	2	6	347	211	558	1.53	12.6
R96-0287	Samsung	SR-S20NTGRS	854	2	6	347	211	558	1.53	12.6
R96-0202	Samsung	SR-44RMB	589	2	6	589	91	680	0.87	6.3

+Refrigerator Category: 1 = A refrigerator without a frozen food compartment.
5 = A refrigerator with a 4-star freezer compartment
6 = A Category-5 refrigerator incorporating means to prevent the formation of frost on contents

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(7) Fire Fighting Equipment*Product Characteristics favourable:*Product itself -

- (a) Without halons – halons are ozone depleting substances
- (b) Favour fire fighting equipment that uses water or halon-substitute or carbon dioxide. However, it should be noted that carbon dioxide is also a greenhouse gas though it is less harmful than halons.

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

Company	Contact Information	Brand	Remarks
Honour Marine Safety Equipment Co. Ltd	2B, On Fat Ind Bldg, Po Wing Rd, Kwai Chung, NT Tel: (852) 2819 8417 Fax: (852) 2819 8443 Email: info@honourmarine.com Website: www.honourmarine.com	N/A	Products need to be reviewed and justified in accordance to sustainability principles
Merito Technical Services Ltd	69 Tong Yan San Tsuen Road, Yuen Long, NT Tel: (852) 2443 1505 Fax: (852) 2470 9452 Email: marito@netvigator.com Website: www.merito.com.hk	Halotron I	Environmentally acceptable Halotron stored pressure Fire Extinguisher contains substance Halotron I has been approved by the EPA as the "Clean Agent" for Class A, B and C hazards. It has low ODP (Ozone Depletion Potential) and is a rapidly evaporating liquid which means it leaves no residue after usage.
Safety Fire Fighting Equipment Ltd	G/F, No. 263 Queen's Road East, Wanchai, HK Tel: (852) 2866 6895 Fax: (852) 2866 6795 Email: info@fire.hk Website: www.fire.com.hk	N/A	Products need to be reviewed and justified in accordance to sustainability principles
Universal Fire Engineering Co.	G/F., 6A Un Chau St., Sham Shui Po, Kowloon, Tel: (852) 2386 2981 Fax: (852) 2728 6901 Email: support@ufec.net Website: www.ufec.net	N/A	Products need to be reviewed and justified in accordance to sustainability principles

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(8) Water Conserving Shower Heads*Product Characteristics favourable:*Product itself -

- (a) Maximum flow rate of 9.5 litres per minute at 5.5 kg/cm² or 2.4 gallons per minutes at 80 psi
- (b) Favour products accompanied by consumer education outlining usage
- (c) Be accompanied by a reasonable warranty

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

Brands	Remark
Gardena	Irrigation products such as sprinkler nozzle, drip irrigation, hose, etc.

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(9) Water Conserving Toilet Devices*Product Characteristics favourable:*Product itself -

- (a) Should not inhibit the flushing cycle and efficiency of the toilet
- (b) Total flush volume less than or equal to 6 liters
- (c) Can reduce water consumption by at least 20%
- (d) Favour products accompanied by consumer education outlining usage
- (e) Be accompanied by a reasonable warranty

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

Company	Contact Information	Products
Desert HK <i>Blue Beluga Limited</i> (Distributors)	Room 1006, World-Wide House, 19 Des Voeux Road Central, Central, HKSAR Tel: (852)21696349 Fax: (852)21696300 Email: b.bluega@gmail.com Webpage: www.desert.com.au	Desert Cube® Waterless Urinal system

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(10) Trickle Valves*Product Characteristics favourable:*Product itself -

- (a) Use 6 litres or less of water per flushing cycle
- (b) Favour products accompanied by consumer education outlining usage
- (c) Be accompanied by a reasonable warranty

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

C. Building Materials

(1) Water Based Paints

Product Characteristics favourable:

Product itself -

- (a) Not formulated or manufactured with formaldehyde
- (b) Not formulated or manufactured with halogenated solvents
- (c) Not formulated or manufactured with mercury or mercury compounds or are tinted with pigments of lead, cadmium or chromium VI
- (d) Have a flash point of 61.0 degrees centigrade or greater
- (e) Not be formulated or manufactured with aromatic hydrocarbons
- (f) Lead-free

Packaging -

- (a) Packaging materials shall not contain chlorine-based plastics

Additional remarks:

Water based paints should be given preference over oil paints because:

- I They contain smaller amounts of the non-renewable resource – oil, and in some case none at all.
 - I They contain less VOC (e.g. petroleum distillates)
 - I They require only soap and water for clean up as opposed to solvents or turpentine
- Paint is considered an environmental risk as it contributes to smog as well as poses a health hazard during application.

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(2) Solvent Based Paints

Product Characteristics favourable:

Product itself -

- (a) Not formulated or manufactured with formaldehyde
- (b) Not formulated or manufactured with mercury or mercury compounds or are tinted with pigments of lead, cadmium or chrome VI, and their oxides
- (c) Have a flash point of 37.8 degrees centigrade or greater
- (d) Not contain volatile organic compounds in excess of 380g/L
- (e) Not be formulated or manufactured with aromatic hydrocarbons in excess of 10% by weight
- (f) Not contain any halogenated solvent
- (g) Lead-free

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

Paint contains a percentage of oil-based solvents. These solvents emit levels of VOCs, which are harmful to the environment as well as to human health during application. VOCs are much lower in water based (latex) paints than solvent based paints (alkyd). Water based paints can now be used for applications where traditionally, only solvent based paints could have been used.

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(3) Carpets*Product Characteristics favourable:*Product itself -

- (a) Favour under padding which contains recycled materials
- (b) Plastic under lays
- (c) Carpet fabrics should be made of natural fibres such as cotton or wool

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

Carpeting is an environmental concern as well as human health concern. Worn carpets are a bulky waste can take hundreds of years to decompose at a landfill site. Adhesives used for backings, and synthetics used for surface materials can off-gas for years after installation and pose a health risk to workers.

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(4) Asphalts*Product Characteristics favourable:*Product itself -

- (a) Favour recycled asphalt for new roads
- (b) Favour asphalt with secondary materials content (e.g. glass, rubber, recycled asphalt)

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

International standards indicate that roads that are comprised of 25% recycled and 75% virgin materials meet the specifications for good road construction.

Some of the available brands/suppliers:

Company	Contact Information	Products
Earth-Link Technology Enterprises Ltd	Post Box No. 584, 75 Mo Fan Heung, Yuen Long, N. T., Hong Kong Tel: (852) 25451728 Fax: (852) 29151198 Email: earth-link@earth-link.com.hk Website: www.earth-link.com.hk	RubberSoil™ from scrap tyres, used for embankment, retaining wall, bridge abutment, fill slope, etc.

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(5) Adhesives*Product Characteristics favourable:*Product itself -

- (a) Low or no VOC content

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(6) Wood and Wood products (e.g. for office furniture)

Product Characteristics favourable:

Product itself -

- (a) Favour sustainable wood product such as but not limited to “Plastic Wood” which made of recycled plastics and scraped tyres, FSC certified wood, wood of fast growing species
- (b) Wood products that contain natural preservatives as opposed to those that are chemically treated
- (c) Avoid purchasing tropical hardwoods and wood from old growth forests
- (d) Avoid the purchase of woods that are not harvested in a sustainable manner – that is, ensure that woods come from a managed forest

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

It is preferred to purchase FSC certified forest products. The Forest Stewardship Council (FSC) is an independent, not for profit, non-government organization based in Bonn, Germany, that provides standard setting, trademark assurance and accreditation services for companies and organizations interested in responsible forestry. Buying and selling FSC certified forest products supports environmentally responsible, socially beneficial and economic viable management of the world's forests. The FSC label enables consumers to choose forest products with the confidence that they are not contributing to the destruction of the world's forests. By buying from certified sources, an incentive is provided for responsible forest management.

Some of the available brands/suppliers:

Synthetic wood (wood from recycled plastics) -

Company	Contact Information	Brand name	Products
Jet Technics Ltd	14/F Nathan Centre, 580G-K, Nathan Rd, Kowloon Tel: (852)23851604 Email: enquiry@jets.hk Website: www.jets.com.hk	Concerto	Garden furniture from recyclable plastic wood, which is from plastic waste and scrap tires
Parks Supplies Co. Ltd	Rm 7-12, 16/F, Wing Hang Ind Bldg., 13-29 Kwai Hei Street, Kwai Chung, NT Tel: (852)23906833 Email: hq@parks.com.hk Website: www.parks-supplies.com	DuMor	Landscape furniture from high-density polyethylene by recycling post-consumer bottle waste (90% recycled content) (only wood strip)

FSC certified suppliers (Source: The WWF Asia Pacific forests programme) -

Company	Contact Information	Cert Information	Products
Callisto Limited	Suite 1103-6, Tower 1, The Gateway, 25 Canton Road Kowloon Email: saleshk@calisto-ltd.com Website: www.callisto-ltd.com	FSC SW-COC-902 Chain-of-Custody (Secondary Manufacturer, Exporter)	Barbeque tools BBQ Grills, smokers and accessories 500
CCG Asia Ltd	20/F Eight Commercial Tower, 8 Sun Yip Street, Chai Wan, Hong Kong Tel: (852)25159686	SGS-COC-0158	Wooden candle arches, Decorative lights

Company	Contact Information	Cert Information	Products
Hayward Industrial (Hong Kong) Ltd.	Rm. 1704-5, Nan Fung Commercial Centre, 19 Lam Lok Street, Kowloon Bay, Kowloon, Tel: (852)27967911	FSC SGS-COC-0774 Chain-of-Custody (Wholesaler / Distributor, Exporter)	Export and trade of certified products (for large quantity only)
ScanCom Hong Kong	Unit B, 17/F One Capital Place, 18 Luard Road, Wanchai Hong Kong Tel: (852)31010904 Email: scancomhk@scancom.net Website: www.scancom.net	FSC SW-COC-911 Chain-of-Custody (Broker)	Furniture - outdoor/garden, logs, lumber
Shell Electric MFG (Holdings) Co Ltd.	1/F Shell Ind Building 12 Lee Chuan St Chai Wan Industrial Dist. Chaiwan, Hong Kong Tel: (852)25580181 Email: jeff@smc.com.hk Website: www.smc.com.hk	FSC SGS-COC-0329 Chain-of-Custody (Secondary Manufacturer)	Ceiling fan blades manufactured using MDF
Si Hui Tai Wah Wooden Furniture Co., Ltd.	Rm. 1910-22, Paul Y. Centre, 51 Hung To Road, Kwun Tong, Kln. Tel: (852)27906156 or 27906077 Email: fred@taiwah.com.hk Website: www.taiwahdoor.com	FSC SW-COC-651 Chain-of-Custody (Secondary Manufacturer)	Doors, flooring and furniture
Tai Wah Construction Limited	Rm. 1910-22, Paul Y. Centre, 51 Hung To Road, Kwun Tong, Kln. Tel: (852)27906156 or 27906077 Email: fred@taiwah.com.hk Website: www.taiwahdoor.com	FSC SW-COC-650 Chain-of-Custody (Wholesaler/ Distributor)	Doors, flooring
The Shelf and Storage Ltd	Rm. 1704-5, Nan Fung Commercial Centre, 19 Lam Lok Street, Kowloon Bay, Kowloon, Tel: (852)27967911	FSC SGS-COC-0948 Chain-of-Custody (Wholesaler / Distributor, Exporter)	Wooden shelves and furniture (for large quantity only)

Other suppliers -

Company	Contact Information	Remarks
Dorfield Limited	No. 146E Pok Wai, Yuen Long, NT Tel: (852) 2471 1159 Fax: (852) 2471 1026 Email: florence@dorfield.com.hk Website: www.dorfield.com.hk	Products need to be reviewed and justified in accordance to sustainability principles with evidence such as relevant importing and trading certificate, etc.
San Cheong Building Material Co	G/F, No. 12, Block 3, Fuk On Bldg, Wan Tau Tong St, Tai Po, NT Tel: (852) 2656 6686 Fax: (852) 2653 7300	Products need to be reviewed and justified in accordance to sustainability principles with evidence such as relevant importing and trading certificate, etc.
Yat Lee Hardware Store Ltd	Unit A/B, 4/F Hang Seng Centre, 95-97 Tung Chau Street, Kowloon Tel: (852) 2787 9788 Fax: (852) 2398 7680 Email: yatleehk@netvigator.com Website: www.yat-lee.com.hk	Products need to be reviewed and justified in accordance to sustainability principles with evidence such as relevant importing and trading certificate, etc.

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

D. Vehicles and Parts

(1) Cars and Trucks etc.

Product Characteristics favourable:

Product itself -

- (a) Hybrid vehicles
- (b) Low fuel consumption
- (c) Without CFC air conditioners
- (d) Avoid purchasing pre 1995 vehicles which carry A/C units that contain CFCs
- (e) Vehicles using unleaded fuel only and when needed, fitted with a catalytic converter to accommodate unleaded fuel
- (f) Vehicles are appropriately sized for function

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(2) Tyres

Product Characteristics favourable:

Product itself -

- (a) Purchase optimal size for vehicle (both for fuel efficiency and safety)

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

E. Canteen Supplies

(1) Plates and Cutlery

Product Characteristics favourable:

Product itself -

- (a) Durable

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(2) General Electrical Appliances

Product Characteristics favourable:

Product itself -

- (a) Energy efficient (e.g. fridge, dishwashers etc.)
- (b) Free of CFCs and other ozone depleting substances

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(3) Condiments

Product Characteristics favourable:

Product itself -

- (a) Bulk purchasing of coffee, milk, sugar, etc.

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(4) Food and Beverages

Product Characteristics favourable:

Product itself -

- (a) Locally produced (i.e. source is located as close as possible)
- (b) Fresh, with minimal additive and processing
- (c) Organic and/or fair-traded product
- (d) Free of chemical additives such as MSG and sulphates
- (e) Foodstuff not obtained through environmentally unsound practices (e.g. purchasing fish that are undersized or lobster and conch out of season)

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(5) Dishwashing Detergent

Product Characteristics favourable:

Product itself -

- (a) Favour detergents formulated or manufactured with a total phosphorus and nitrogen-based builders of less than 7.8 grams per dose
- (b) Accompanied by detailed instructions for proper use to maximize product performance and minimize waste

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

F. Pesticides, Fertilizers and Cleaning Agent

(1) Pesticides and Fertilizers

Product Characteristics favourable:

Product itself -

- (a) Organic pesticides and fertilizers
- (b) Biodegradable

Packaging -

- (a) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Some of the available brands/suppliers:

Company	Contact Information	Brand	Remarks
Hanwai Chemical Products Co. Ltd	Room 1802, Seaview Plaza, 283 Shaukeiwan Road, HK Tel: (852) 2151 8798 Fax: (852) 2151 1798 Email: hanwaichem@yahoo.com.hk Website: www.hanwai.com	Green Circle	Lavical Oil

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

(2) Cleaning Agents

Product Characteristics favourable:

Product itself -

- (a) Products (cleaning agents, detergents and soaps) which are biodegradable and contain low or no phosphates
- (b) Minimize the amount of volatile organic compounds (VOCs)
- (c) Products which require only a small amount to clean well should be chosen over others which require a larger amount provided that all other performance criteria are met (e.g. concentrates)
- (d) Cleaning products should be purchased in containers that are reusable (refillable) returnable or recyclable
- (e) Avoid aerosols – look for products in non-aerosol containers

Packaging –

- (a) Reduced packaging – purchase in bulk
- (b) Packaging materials shall be low environmental impact, e.g. not contain chlorine-based plastics

Additional remarks:

The examination of the cleaning operation must be considered as important as choosing the clean product. When using concentrates, proper measuring devices should be included with the product – for measuring the correct amounts and for minimizing spillage, and these devices must be made available to the persons using the product.

Some of the available brands/suppliers:

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

G. Renewable Energy Products

Some of the available brands/suppliers:

Company	Contact Information
BillionGroup Technologies	Flat C, 10/F, Meyer Industrial Building, No. 2 Chong Yip Street, Kwun Tong, Kowloon, Hongkong Tel: (852) 2511 0838 Fax: (852) 2511 2698 Website: www.billiongroup.com
Charter Asia Technology Ltd	Room 907, Hang Seng TST Bldg., 18 Canarvon Road, Tsimshatsui, Hongkong Tel: (852) 2649 3887 Fax: (852) 2690 3438 Email: casiate@netvigator.com
Chinetek Analytical System Ltd	Unit 709, 7/F, Lu Plaza, 2 Wing Yip Street, Kwun Tong, Kowloon, Hongkong Tel: (852) 2628 1221 Fax: (852) 2628 1226 Website: www.chintek.com.hk
Ecotech (HK) Ltd	Rm 103, Chung Ying Building, 20/20A, Connaught Road West, Sheung Wan, Hong Kong Tel: (852) 2405 2252 Fax: (852) 2405 3252 Email: inquiry@ecotech.com.hk Website: www.ecotech.com.hk
New Energy and Nano-Technology Company Limited	Room B, 7/F., Yan's Tower, 27 Wong Chuk Hang Rd., Aberdeen, Hong Kong Tel: (852) 3102 1238 Fax: (852) 3016 8573 Email: info@newenergynanotech.com Website: www.newenergynanotech.com
Renewable Energy Infrastructure Limited	Rm 1001, 10/F, VTC tower, 27 Wood Road, Wanchai, Hong Kong Tel: (852) 2291 3338 Fax: (852) 2291 3388 Email: md@reihk.com Website: www.reihk.com
Renewable Energy Group Limited	Suite 1006, 10/F, World-Wide House, Central, Hong Kong Tel: (852) 2860 0022 Fax: (852) 2169 6300 Email: %20jackson@regrp.com Website: www.regrp.com
Solarnet Limited	Rm 1006, 10/F, World-Wide House, 19 Des Voeux Road, Central, Hong Kong Tel: (852) 2231 9618 Fax: (852) 2914 2626 Email: hctam@solarnet.com.hk

*Information may be passed to SO working Procurement Officer to add in new brands/suppliers.

3. Choices of Suppliers/Consultants/Contractors

The choice of suppliers/contractors/consultants is based on the aim to encourage them to behave environmentally responsible and operate with sustainability consideration and thus to minimize the overall ecological footprint of both, the Farm and the suppliers/consultants/contractors.

It is preferred to choose suppliers/consultants/contractors with relevant “green certificate”. The product/material they used/provided shall be sustainable and cause least environmental impact. However, it is not a must to do so provided that there is evidence showing that they are environmentally responsible.

Appendix B

Common Eco-Labels/Fair Trade Labels

Reference: <http://www.hsbc.com.hk/>

Eco-labels (or environmental labels) guide consumers to choose products and services that cause less damage to the environment when compared with other similar products or services on the market. An eco-label is awarded for specific goods or services by an impartial third-party based on environmental performance criteria established by labelling organisations. In addition to the pro-environmental features of a product or service, most eco-labelling criteria also include performance indicators, because a product or service must first do its intended job before environmental impacts can be considered.

Fair trade labels are labels that distinguish products or services that are socially acceptable (for instance, food products for which farmers have been paid a fair price and exploitation of labour has not occurred). In many cases, fair trade labels also determine whether the products are more environmentally preferable.



Although most labelling schemes are developed by individual jurisdictions for use in their domestic consumer markets, it is not uncommon for these products with eco-labels or fair trade labels to be found in other markets. Examples of products found in Hong Kong with 'foreign' labels are computers, monitors, copying paper and coffee - just to name a few.



To choose a material/product that can fulfill the different selection criteria in Appendix A, a simple way is to choose materials/products with Eco-Labels / Fair Trade Labels. This Appendix lists information on common Eco-Labels / Fair Trade Labels for reference during purchasing.


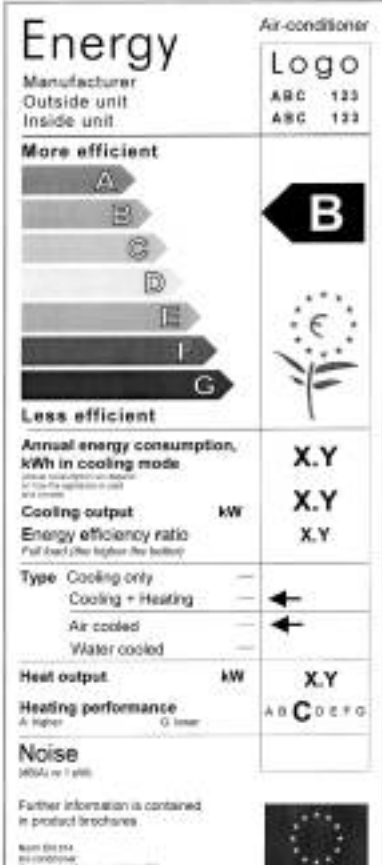
Local labels



<p>Energy Label</p> <p>'Recognition label'</p>  <p>'Grading type' label for clothes dryers</p> 	<p>This labelling scheme is operated by the Electrical and Mechanical Services Department. There are two types of labels. The 'grading type' label is divided into 5 grades, with grade 1 being most energy efficient. The 'recognition type' label is used to recognise the appliances that have met with minimum energy efficiency and performance requirements</p> <p>Product categories</p> <ul style="list-style-type: none"> • Household appliances (eg refrigerators, room coolers, washing machines, electric clothes dryers, compact fluorescent lamps, electric storage water heaters, electric rice-cookers, dehumidifiers and televisions) • Office equipment (eg photocopiers, multifunction devices, laser printers and LCD monitors) • Petrol passenger cars <p>Labelling criteria: Energy efficiency, including when on standby mode</p> <p>Source of information Electrical and Mechanical Services Department, HKSAR: http://www.emsd.gov.hk/emsd/eng/pee/eels.shtml</p>
<p>HKGLS Label</p> 	<p>Product categories</p> <ul style="list-style-type: none"> • Recycled paper and paper products/stationery • Recycled plastic products/stationery • Cleansing agents • Stationery • Computers and peripherals • Household/consumer electronic equipment • Construction material <p>Source of information: Green Council: http://www.greencouncil.org/</p>






Overseas/Global

<p>Green Seal (US)</p> 	<p>Product categories</p> <ul style="list-style-type: none"> • Electric chillers • Cleaners • Fleet vehicle maintenance • Food packaging • Paints and coating • Papers and newsprint • Water-efficient fixtures • Windows and doors <p>Labelling criteria The emphasis of criteria varies between product categories. Most criteria focus on just a few environmental attributes (eg labelling criteria of electric chillers only emphasise the use of refrigerants and energy efficiency).</p> <p>Source of information Green Seal: http://www.greenseal.org/</p>
<p>Energy Star</p> 	<p>The Energy Star is the most common energy efficient label worldwide. So far more than 28,000 products for household use have been awarded this label.</p> <p>Product categories (more than 40 categories)</p> <ul style="list-style-type: none"> • Appliances (eg clothes washers, refrigerators, etc.) • Heating and cooling (eg central air conditioners, boilers, etc.) • Home Electronics (eg television, home audio, etc.) • Lighting (eg compact fluorescent light bulbs, light fixtures, etc) • Commercial food service (eg steam cookers, fryers etc.) • Other (eg water coolers, traffic signals, etc.) <p>Labelling criteria The energy efficiency of the products, including energy efficiency during standby mode.</p> <p>Source of information : Energy Star website: http://www.energystar.gov/</p>

<p>European Union Eco-label (also known as the EU Flower)</p> 	<p>Product categories</p> <ul style="list-style-type: none"> • Bedding (eg mattresses) • Gardening (eg soil improvers) • Electronic equipment (eg personal computers, televisions) • Footwear • Household appliances (eg dishwashers, refrigerators) • Textiles (eg clothing, bed linen and indoor textiles) • Do-it-yourself (eg hard floor, paints and varnish) • Cleaning (eg dishwashing, detergents) • Paper (eg tissue paper, copying and graphic paper) <p>Labelling criteria The emphasis of criteria for labelling varies between product categories. While criteria of some product categories (eg detergents) focus on just a few environmental attributes, more and more criteria (eg for household appliances, footwear) are being revised to consider the products' life cycle and environmental impacts.</p> <p>Source of information : EU eco-label website: http://www.eco-label.com/</p>
<p>Blue Angel (Germany)</p> 	<p>About 3,800 products and services from approximately 710 label users in Germany and abroad use the Blue Angel label.</p> <p>Product categories</p> <ul style="list-style-type: none"> • Paper products made of recycled paper (eg copying paper, toilet paper) • Rechargeable batteries • Solar powered products (eg watches, calculators) • Mechanical watches and clocks • Low noise construction machinery • Building materials made from waste (eg made from waste paper, waste glass) • Computer peripherals (eg keyboards, monitors) • Biodegradable lubricants • Low emission wooden furniture and panels. <p>Labelling criteria The emphasis of criteria for labelling varies between product categories. Most criteria focus on just a few environmental attributes.</p> <p>Source of information : Blue Angel website: http://www.blauer-engel.de/</p>

<p>Nordic Swan (Scandinavia)</p> 	<p>Product categories</p> <ul style="list-style-type: none"> • Building and decorating products (eg flooring) • Household appliances (eg washing machines, audio visual equipment) • Office equipment, computer and computer peripherals (eg computer keyboards, toner cartridges, printers, copiers) • Car products(eg vehicle tyres) • Domestic chemicals (eg adhesives, detergents) • Office products (copying paper, envelopes, pens) • Paper products (eg coffee filters, tissue paper) <p>Labelling criteria The emphasis of criteria for eco-labels varies between product categories. Some may focus on just a few environmental attributes. However, virtually all criteria require that the environmental legislation of countries in which the products are produced be complied with.</p> <p>Source of information : SIS Eco-labelling website: http://www.svanen.nu/Eng/</p>
<p>EU Energy Efficiency Fiche</p> 	<p>This energy efficiency label is required under the EU Energy Labelling Directive.</p> <p>Product categories</p> <ul style="list-style-type: none"> • Refrigerators • Freezers and their combinations • Washing machines, dryers and their combinations • Dishwashers • Ovens • Water heaters and hot water storage appliances • Lighting sources • Air conditioning units <p>Labelling criteria Energy efficiency, including energy consumption in standby mode.</p> <p>Source of information : "Energy labelling of household appliances" page of Europa Website: http://europa.eu.int/scadplus/leg/en/lvb/l32004.htm</p>

<p>Öko-Tex Standard 100</p> 	<p>Product categories Products to be labelled are categorised into :</p> <ul style="list-style-type: none"> • Products for babies (under 2 years) • Products with direct contact to skin (blouses, shirts, underwear, etc.) • Products without skin contact (eg outer fabrics, linings, stuffing) • Household (decorative) products (tablecloths, floor coverings, mattresses, etc.)
<p>and Öko-Tex Standard 100+</p> 	<p>In the different product classes, components of finished articles at all stages (fibres, yarns, fabrics) as well as accessories may be certified.</p> <p>Labelling criteria Öko-Tex Standard 100 label is used on products meeting the following criteria:</p> <ul style="list-style-type: none"> • Acidity/alkalinity (pH level) • Biocides • Chlorinated phenols (e.g. pentachlorophenol) • Dibutyl and tributyl tin (DBT and TBT) • Dye-carriers (chloro-organic compounds) • Dyestuff (banned azo dyes, allergenic dyes) • Extractable heavy metals • Flame retardants • Formaldehyde • Loose dye/colour • Odours • Pesticides • Phthalates • Volatile compounds (eg solvents)
	<p>There is also the Öko-Tex Standard 100+ label, which is used on products that are both manufactured on sites conforming to the Öko-Tex Standard 1000 (a standard for environmentally friendly production) and in their own right conform to Öko-Tex Standard 100.</p> <p>Source of information : Öko-Tex Association website: http://www.oeko-tex.com/</p>

<p>TCO development labels</p>    	<p>Product categories</p> <ul style="list-style-type: none"> • Computer and computer peripherals, including conventional CRT monitors, flat screens (eg LCD monitors), keyboards, portable computers, and system units. • Mobile phones • Office furniture <p>Labelling criteria For products with a longer history of labelling (eg computers and printers), the criteria are constantly revised to include more environmental requirements. In general, labelling criteria include:</p> <ul style="list-style-type: none"> • Energy efficiency • Ergonomics • Emissions - Reduction of magnetic and electric fields • Environmental impacts - emission of brominated fire retardants and heavy metals; prohibition of the use of chlorinated solvents and CFCs in manufacture and final assembly; ISO certification of the manufacturer <p>Source of information : TCO development website: http://www.tcodevelopment.com/</p>
<p>The FSC Trademark</p> 	<p>Product categories Timber and timber products (such as paper, furniture and building materials) originated from forests managed according to the principles of sustainable development.</p> <p>Labelling criteria For timber products to obtain the FSC trademark, the timber must have originated from an FSC certified forest. The forest management certification criteria addresses legal issues, indigenous rights, labour rights, efficient use of the forest's multiple products and services, and environmental impacts surrounding forest management.</p> <p>Source of information : Forest Stewardship Council website http://www.fsc.org/</p>

<p>International Fairtrade Certificate Mark</p>  <p>The Fair Trade Certified™ label</p> 	<p>Both labels follow the same criteria of Fairtrade Labeling Organizations International (FLO), a consortium of fair trade groups worldwide. The Fair Trade Certified™ label is commonly used in the US and Canada, while the International Fair Trade Certification Mark is issued by most FLO members.</p> <p>Product categories</p> <ul style="list-style-type: none"> • Agricultural products - such as coffee, cocoa, wine, rice, sugar, honey, juices etc • Manufactured products - such as footballs <p>Labelling criteria</p> <ul style="list-style-type: none"> • Workers' rights and working conditions at workplaces - including fair wages, freedom of association, occupational health and safety, staff development, prohibition of child or forced labour • Environmental standards that restrict use of agrochemicals and foster sustainability • Fair price to producers • Long term contracts with producers that allow long-term planning and sustainable production practices • Minimum quality and price <p>Source of information : Fairtrade Labeling Organizations International (FLO) website http://www.fairtrade.net/</p> <p>TransFair USA website http://www.transfairusa.org/</p>
--	--