Annex A

1) Single-phase non-ducted room air-conditioner (not being second-hand/used goods) having a cooling capacity of:

- 8.8 kW or lower, in the case of casement or window type air-conditioner;
- 17.6 kW or lower, in the case of split type (inverter) air-conditioner; or
- 17.6 kW or lower, in the case of split type (non-inverter) air-conditioner.

Single-phase non-ducted room air-conditioner means an encased assembly or assemblies of one or more evaporators, compressors and condensers, designed to be used as a permanently-installed piece of equipment to provide conditioned air to any enclosed space. It includes a prime source of refrigeration for cooling and dehumidification and may include other means for dehumidifying, circulating and cleaning the air.

Casement or window type air-conditioner means an assembly of components of a refrigeration system fixed on a common mounting to form a single unit.

Split type (non-inverter) air-conditioner means an assembly of components of a refrigeration system fixed on 2 or more mountings to form a matched functional unit that employs technologies that vary the output of the compressor by start-stop operation.

Split type (inverter) air-conditioner means an assembly of components of a refrigeration system fixed on 2 or more mountings to form a matched functional unit that employs technologies that vary the output of the compressor, by means other than start-stop operation.

1a) Single-phase portable air-conditioner (not being second-hand/used goods)

Single-phase non-ducted portable air-conditioners having a single exhaust duct, and having rated cooling capacity 12kW or lower, means a portable unitary air-conditioner that
(a) is designed to
    (i) be located wholly within a conditioned space; and
    (ii) provide free delivery of conditioned air to the conditioned space;
(b) draws air into the air-conditioner from the conditioned space; and
(c) uses a single duct to discharge the air outside the conditioned space.

2) Single-phase refrigerator (not being second-hand/used goods) with an adjusted volume of up to 900 litres

Single-phase refrigerator means an assembly consisting of a thermally insulated cabinet for the storage and preservation of foodstuffs above 0°C (32°F) and a refrigerating unit operating on the vapour compression principle and arranged to extract heat from within the cabinet, whether or not with one or more freezer compartments.

The adjusted volume of the refrigerator or $V_{adj\ tot}$ is defined as the sum of the adjusted volumes of the refrigerator compartments. The adjusted volume of a compartment is the product of the rated volume of that compartment with the corresponding volume correction factor (K) found in the following table:

Compartment Type	K
Fresh food	1.00
Four-star freezer	1.79
Three-star freezer	1.79
Two-star freezer	1.57
One-star freezer	1.36
Chill	1.07
Cellar	0.71

The compartment types are defined in accordance with Section 5.1 of IEC 62552-3:2015

3) Single-phase clothes dryer (not being second-hand/used goods) having a rated capacity of up to 10 kilograms

Single-phase clothes dryer means an assembly consisting of:

- a rotating drum in which textile material is dried by tumbling; and
- a heating device, which electrically heats the air used for drying the textile material in the rotating drum.

4) Single-phase television (not being second-hand/used goods)

Single-phase television means an appliance with an inbuilt television tuner, which is designed to be used primarily for the display and possible reception of television broadcast and similar services for terrestrial, cable, satellite and broadband network transmission of analogue or digital signals, and includes a television which has additional functions which are not required for its basic operation as a television, but excludes a television which displays broadcasts by means of front or rear projection.

5) Water Heaters for Household Use (not being second-hand/used goods)

Water heaters for household use means the following water heaters that is intended for household use:

- Electric instantaneous water heater with rated input power of ≤12kW.
- Electric storage water heater with rated input power ≤12kW and rated tank capacity of ≤500L.

- Gas instantaneous water heater with rated input power ≤59kW; or
- Heat pump water heater with rated input power ≤6kW and rated tank capacity of ≤500L.

Water heater means an appliance designed to heat water below boiling water and has a rated voltage of not more than 250V (for single-phase appliances) or 480V (for other appliances). It includes a direct current (DC) supplied appliance and a battery-operated appliance but not an appliance that collects and concentrates sunlight to heat water by means of a solar thermal collector.

- "Electric instantaneous water heater" means an instantaneous-type water heater that heats water solely by the Joule effect in electric resistance heating.
- "Electric storage water heater" means a storage-type water heater that heats water within a tank solely by the Joule effect in electric resistive heating.
- "Gas instantaneous water heater" means an instantaneous-type water heater that heats water primarily by the combustion of fossil fuel.
- "Heat pump water heater" means a storage-type water heater that heats water within a tank primarily by transfer of thermal energy using a refrigerant.
- "Instantaneous-type water heater" means a water heater that is designed to heat water only when heated water is drawn from the water heater by means of a heat exchanger.
- "Storage-type water heater" means a water heater that heats and stores water in a tank at a thermostatically- controlled temperature for delivery on demand, either by -- (a) the Joule effect in electric resistive heating, (b) transfer of thermal energy using a refrigerant; or (c) both paragraphs (a) and (b).

6) Three-phase Variable Refrigerant Flow (VRF) Air-Conditioner base module/unit (not being second-hand/used goods)

Three-phase variable refrigerant flow (VRF) air-conditioner means an encased assembly or assemblies of one or more evaporators, compressors and condensers, designed to be used together as a permanently installed piece of equipment to provide conditioned air to any enclosed space, that

(a) is one of the variable refrigerant flow type.
(b) has one or more outdoor units that service a network of indoor units; and
(c) uses a three-phase power supply.

MEPS and MELS for VRF air-conditioners apply to the base module of three-phase VRF air-conditioner (unit efficiency) of all cooling capacities. VRF combinations, where two or more modules of VRF air-conditioners are coupled to form a larger cooling capacity system (system efficiency) are not covered.

7) Single speed three-phase 50 Hz induction motor (not being second-hand/used goods)

Single speed three-phase 50 Hz induction motor means an electric single speed, three-phase 50 Hz or 50/60 Hz, squirrel cage induction motor (including a three-phase induction motor that

runs at different speeds by means of a variable voltage or variable frequency controller) that is not an excluded three-phase induction motor and that -

- has 2 to 6 poles.
- has a rated voltage of up to 1,000 volts.
- has a rated output power between 0.75kW and 375kW; and
- is rated duty type of S1, S3 (with cyclical duration factor of 80% or more), S6 or S9, in accordance with IEC 60034-1 (2017)

"Motor" means a machine that converts electrical energy into mechanical energy; "Excluded motor" means a motor that is -

- designed to operate wholly immersed in a liquid.
- integral to its driven unit, where -
  - the motor shares common components (apart from connectors such as bolts) with the driven unit; and
  - the separation of the motor from the driven unit will render the motor inoperative.
- designed to operate exclusively -
  - where ambient temperature air temperatures exceed 60°C.
  - with a maximum operating temperature above 400°C.
  - where ambient air temperature is less than -30°C in the case of any motor, or less than 0°C in the case of a motor with water cooling.
  - where the water coolant temperature at the inlet to a product is less than 0°C or exceeding 32°C; or
  - in an atmosphere that could become explosive due to local and operational conditions.
- equipped with an electro-mechanical brake unit operating directly on the motor shaft without couplings.
- a high slip motor designed primarily to provide torque, often at or near 100% slip: or
- supplied exclusively for export to another country, or supplied exclusively for the incorporation of the motor into equipment that will be exported to another country.

"Pole" means the total number of magnetic north and south poles produced by the rotating magnetic field of the motor.

Nameplate Requirements

Regulated three-phase induction motors supplied in Singapore must have the following product information marked durably in a visible manner on the rating plate of the regulated three-phase induction motor:

- Year of manufacture
- International Energy Efficiency or IE class, and
- Nominal efficiency at rated output power and, 75% and 50% of rated output power

If the size of the rating plate is insufficient to mark all the information, only the Nominal Efficiency at rated output power shall be marked. Please refer to this link [PDF, 134KB] for the Minimum Nominal Efficiency.

8) Commerical Storage Refrigerator (not being second-hand/used goods)

Commercial storage refrigerator (CSR) means an insulated refrigerator appliance that:

a) integrates one or more compartments accessible via one or more doors or drawers.
b) is capable of continuously maintaining the temperature of foodstuffs at ≤-18°C and ≤+5°C using a vapour compression cycle.
c) is intended for the storage of foodstuffs in non-household environments but not for the display or access by customers; and
d) may have doors or drawers that are transparent, partially transparent, or opaque.

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