

<p><b>Dagangan:</b></p> <p><b>173. SOLAR ABSORPTION AIR CONDITIONING (SPLIT SYSTEM)</b>  Brand : Sedna Aire  Model : SWM 9 SP / SP 9C</p>	<p><b>Kod Tarif :</b></p> <p>8514.10.000</p>
<p><b>Keterangan :</b></p> <p>Barangan merupakan suatu sistem terdiri daripada komponen utama seperti <i>solar absorption compressor, condenser, evaporator, fans, metering device dan solar panel</i> yang dihubungkan dengan copper pipe. <i>Compressor dan condenser</i> terdapat dalam <i>outdoor unit</i> sedangkan <i>evaporator</i> pula dipasangkan dalam <i>indoor unit</i>. <i>Solar absorption compressor</i> dihubungkan terlebih dahulu ke <i>solar panel</i> sebelum disambungkan ke <i>condenser</i>. Kebiasaan <i>solar collector</i> dipasangkan di atas bumbung bangunan. <i>Solar panel is made up of advanced collector vacuum tubes, U-type copper branches, hot terminal, cold terminal and aluminium fin inside the vacuum tube. The vacuum tube consists of a reflective layer, absorption layer and infrared reflective layer.</i></p> <p>Cara barangan ini berfungsi dijelaskan adalah seperti berikut :</p> <p><i>The Sedna Aire Solar Absorption Air Conditioning System is a system that utilizes the sun as at heat source to assist the energy needed to drive the cooling process of a typical air conditioning required to run the compressor.</i></p> <p><i>The Sedna Aire System is similar to a regular to a regular air conditioning system in that the refrigeration takes place by evaporating liquid with a very low boiling point. In both cases, when a liquid evaporates or boils, it takes some heat away with it, and can continue to do so either until the liquid is all boiled, or until everything has become so cold that the sub-zero boiling point has been reached. The difference between the two is how the gas is changed back into a liquid so that it may use again. A regular air conditioning system uses a compressor to increase the pressure on the gas, forcing it to become a liquid again through the use of the condenser coil. The change of state of the refrigerant, starts to take place approximately 2/3 rd's of the way down the condenser.</i></p> <p><i>The Sedna Aire Absorption Air Conditioning System uses a different method. It uses the solar heat from the sun to to superheat the refrigerant which enables the refrigerant to begin changing state at the top 2/3rd's of the condenser coil. By using this method it reduces the superheat of compression required to achieve the cooling process in the conventional cooling systems as well as utilizing more of the condenser cooling face of the coil. The conventional air conditioning system is only able to change a portion of the gas into a liquid state so as when the refrigerant enters into the metering device it is a saturated vapor. The Sedna Aire process allows more of the refrigerant to change state back into a liquid faster as well as allowing the transformation of more liquid into the metering device.</i></p> <p><i>The basic thermodynamic process is not a conventional thermodynamic cooling process based on Charles Law. Instead, It is based on evaporation, carrying heat, in</i></p>	

*the form of fast-moving ( hot ) molecules from one material to another material that preferentially absorbs hot molecules.*

*The Sedna Aire Solar Absorption Air Conditioning System cools by evaporating liquid R407c. The solar Absorption medium inside the Solar panels acts as a storage tank to maintain the requires temperatures needed for the cooling process. With the solar Absorption tank, the cooling process is maintained for approximately 96 hours without the need of the sun's heat. The heated medium also act as an absorbent to the refrigerant through the solar panel process. With this process, the Sedna Aire maintains its energy required for the cooling of the controlled space.*

**Fakta :**

- Sistem penghawa dingin ini sama seperti sistem penghawa dingin biasa yang lain terdiri daripada empat komponen utama i.e *compressor, condenser, evaporator dan fans* dengan **Compressor, condenser** dan **outdoor fan** dipasangkan dalam *outdoor unit* & **evaporator dan indoor fan** pula dipasangkan di dalam *indoor unit*. Solar panel merupakan komponen tambahan sahaja kepada sistem penghawa dingin ini yang dihubungkan di antara *compressor* dengan *condenser*.
- *Refrigerant* yang digunakan adalah R407c iaitu sejenis gas yang mudah bertukar bentuk daripada gas ke cecair atau daripada cecair ke gas dan biasa digunakan dalam sebarang sistem penghawa dingin..

**Ketetapan :**

Mesyuarat Panel Penetapan Penjenisan ( Ketetapan Kastam ) Bil. 45/2009 memutuskan barangan ini sesuai dipenjeniskan mengikut **General Interpretation Rule 1** di bawah kod tarif **8415.10.000** sebagai **air conditioning machine, split system** berdasarkan alasan-alasan berikut :-

- A. Sistem ini masih dibentuk daripada empat komponen utama iaitu *compressor, condenser, evaporator* dan fans yang berfungsi untuk menyejukkan ruang udara dalam bangunan. Barangan seperti ini mendapat liputan dalam EN 2007, m.s. XVI-8415-1 & 2. Seperti berikut:

*This heading covers certain apparatus for maintaining required conditions of temperature and humidity in closed spaces. The machines may also comprise elements for the purification of air.*

*They are used for air conditioning offices, homes, public halls, ships, motor vehicles, etc., and also .....*

*The heading applies **only** to machines :*

- (1) *Equipped with a motor-driven fan or blower, **and***

- (2) *Designed to change both the temperature (a heating or cooling element or both) and the humidity (a humidifying or drying element or both) of air, and*
- (3) *For which the elements mentioned in (1) and (2) are presented together.*

*In these machines the elements for humidifying or drying the air may be separate from those for heating or cooling it. However, certain types incorporate only a single unit which changes both the temperature and, by condensation, the humidity of the air. These air conditioning machines cool and dry (by condensation of water vapour on a cold coil) the air of the room in which they are installed or, if they have an outside air intake (damper), a mixture of fresh air and room air. They are generally provided with drip pans to catch the condensate.*

*The machines may be in the form of single units encompassing all the required elements, such as self-contained window or wall types (referred to as “through-the-wall” units). Alternatively, they may be in the form of “split-systems” which operate when connected together, i.e., a condenser unit for external installation plus an evaporator unit for internal installation. These “split-systems” are ductless and utilize a separate evaporator for each area to be air conditioned (e.g., each room).*

*From the structural point of view, the air conditioning machines of this heading must therefore incorporate, in addition to the motor-driven fan or blower for circulating the air, **at least** the following elements :*

*An air heating device (operated by hot water, steam or hot air tubes or by electric resistances, etc.) **and** an air humidifier (generally consisting of a water spray) or an air de-humidifier; .....*

*or A cold water coil or a refrigerator unit evaporator (either of which changes both the temperature and, by condensation, the humidity of the air);*

juga dalam ***Subheading Explanatory Notes*** seperti berikut:

#### ***Subheading 8415.10***

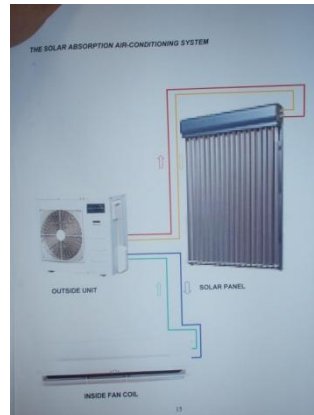
*This subheading covers air conditioning machines of window or wall types, self-contained or “split-system”.*

*The self-contained type air conditioners are in the form of single units encompassing all the required elements and being self-contained.*

*The “split-system” type air conditioners are ductless and utilize a separate evaporator for each area to be air conditioned (e.g., each room).*

B. *Tambahan Solar panel* kepada system penghawa dingin ini hanyalah untuk membantu *compressor* bagi mempercepatkan penukaran fasa *refrigerant* daripada cecair kepada gas sebelum *refrigerant* (dalam bentuk gas) mengalir ke *condenser*. Oleh itu fungsi barangan ini tetap sama iaitu untuk menyejukkan bilik atau bangunan.

**Gambar :**



**SOLAR ABSORPTION AIR CONDITIONING (SPLIT SYSTEM)**

Brand : Sedna Aire

Model : SWM 9 SP / SP 9C