

Unofficial Translation

**Ministry of Energy's Notification
On Identification of Coefficient of
Minimum Performance, Cooling
Efficiency, and Electrical Power per
Ton Refrigeration of Air Conditioning
System in the Building B.E.2552**



Department of Alternative
Energy Development and Efficiency

MINISTRY OF ENERGY

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HOLIDAY CO., LTD.

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Translated by Direction Plan, Co.,Ltd. (www.Directionplan.org)

Remark: Reference to Thai legislation in any jurisdiction shall be made to the Thai version only. This translation has been made so as to establish correct understanding about this Act to the foreigners

Ministry of Energy's Notification**On Identification of Coefficient of Minimum Performance, Cooling Efficiency, and Electrical Power per Ton Refrigeration of Air Conditioning System in the Building****B.E.2552**

By virtue of Clause 5 in the Ministerial Regulation prescribing type or size of building and standard, criteria and procedures in designing the building for energy conservation B.E.2552 issued according to the Energy Conservation promotion Act B.E.2535 amended by Energy Conservation Promotion Act (No. 2) B.E.2550, which is the law that has some provisions regarding the restriction of individual rights and freedom, and the permission from section 29, 33, 41, and 43 of Thai Constitution, and by virtue of the law, Minister of Energy issues the following notification.

Clause 1 In this notification,

“Air-conditioning System” means other parts of the air-conditioning system.

“Small-sized air-conditioner” means air-conditioner (split type) that ventilates by air or water. This air-conditioner is designed for condensing unit and fan-coil unit to work together and uses alternate current with the frequency of 50 Hertz for reducing the temperature and humidity in the air that passes fan-coil unit as identified in this notification.

“Water Cooler for Air-conditioning System” means equipment that lowers the temperature of water in order to be used in the air-conditioning or cooling by using the cooling cycle (vapor compression or absorption).

“Coefficient of Performance” means ratio between net cooling capacity of air-conditioning system (Watt) and electrical power (Watt).

“Cooling Efficiency” means cooling efficiency of air-conditioning system by identifying to be ratio of energy efficiency.

“Energy Efficiency Ratio” means ratio between net cooling capacity of air-conditioning system (BTU per hour) and electrical power (Watt).

“Electrical Power per Ton Refrigeration” means ratio between electrical power (Kilowatt) and net cooling capacity of water cooler (Ton Refrigeration).

Clause 2 Several types and sizes of air-conditioning system installed in the building shall have coefficient of performance, cooling efficiency in ratio of energy efficiency and electrical power per ton refrigeration of water cooler as follows.

(1) Small-sized air-conditioners shall have coefficient of performance or ratio of minimum energy efficiency as follows.

Size of Air-conditioner (Watt)	Coefficient of Performance (Watt per Watt)	Ratio of Energy Efficiency (BTU per hour per watt)
No more than 12,000	3.22	11

(2) Large-sized air-conditioning system shall have electrical power per ton refrigeration of water cooler and other parts of air-conditioning system as follows.

(A) Water cooler for air-conditioning system shall have electrical power per ton refrigeration of no more than the following.

Type of Water Cooler for Air-conditioning System		Size of Cooling Capacity according to the size of water cooler (ton refrigeration)	Electrical power per ton refrigeration (Kilowatt per ton refrigeration)
Heat Ventilation	Compressor		
Heat Ventilation by Air	Every Type	Less than 300	1.33
		More than 300	1.31
Heat Ventilation by Water	Piston	Every Size	1.24
	Rotary, Screw or Scroll	Less than 150	0.89
		More than 150	0.78
	Centrifugal pump	Less than 500	0.76
		More than 500	0.62

(B) Other parts of air-conditioning system driven by electricity consisting of heat ventilation system, water cooling system, and cooling fan system shall have electrical power per ton refrigeration of no more than 0.5 Kilowatt per ton refrigeration.

(3) The water cooler (absorption) shall have coefficient of minimum performance as follows. The coefficient of performance shall be calculated from heat only with no electrical power in the system.

(A) Identification of level by mentioning temperature and rate of water flow into condenser as follows.

Type of Water Cooler (Absorption)	Level				Coefficient of Performance
	Cool water		Hot Water		
	Temperature of Cool Water (In)	Temperature of Cool Water (Out)	Temperature of Water Flow Into Condenser	Rate of Water Flow Into Condenser	
	(Degree Celsius)			(Liter per Second per Kilowatt)	
A. One-Level	12.0	7.0	32.0	0.105	0.65
B. Two -Level	12.0	7.0	32.0	0.075	1.10

(B) Identification of Level by mentioning temperate of hot water into and from condenser as follows.

Type of Water Cooler (Absorption)	Level				Coefficient of Performance
	Cool water		Hot Water		
	Temperature of Cool Water (In)	Temperature of Cool Water (Out)	Temperature of Water Flow Into Condenser	Temperature of Water Flow from Condenser	
	(Degree Celsius)				
A. One-Level	12.0	7.0	32.0	37.5	0.65
B. Two -Level	12.0	7.0	32.0	37.5	1.10

Clause 3 The coefficient of performance, ratio of energy efficiency and electrical power per ton refrigeration identified in Clause 2 shall not be applied to air-conditioning system using solar energy.

Given on 14th July 2009

Wannarat Charnnukul

Minister of Energy

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