

1. Latest edition of UAE.S 5010 -1: Labelling - Energy efficiency label for electrical appliances, Part 1: household air conditioner.

For Golden Sa’fa: Minimum star rating of 4 For Platinum Sa’fa: Minimum star rating of 5

2. Latest edition of UAE.S 5010 -5: Labelling - Energy efficiency label for electrical appliances, Part 5: Commercial and central air-conditioners:

- **Table 1:** Split and packaged unit including cassette type unit
- **Table 4:** Multiple split unit.

For Golden and Platinum Sa’fa: Minimum efficiency shall be at least 10% higher than the efficiencies specified in the tables or the units must be of variable flow type.

3. Latest edition of UAE.S 5010 -5: Labelling - Energy efficiency label for electrical appliances, Part 5: Commercial and central air-conditioners:

- **Table 2:** Water source heat pumps

4. For Chillers - Minimum efficiency requirements and test procedures as listed in table 502.01 (1):

Table (1) 502.01 - Minimum Efficiency Requirements for Chillers

Chillers Equipment Type	Size Category	Minimum Efficiency (T1)	Minimum Efficiency (T3)	Test procedure
Air cooled, with condenser, electrically operated	All capacities	2.8 COP 3.05 IPLV	1.9 COP	T1-ARI 550/590 T3-ISO 5151
Air cooled, without condenser, electrically operated	All capacities	3.1 COP 3.45 IPLV	2.1 COP	
Water cooled, electrically operated, positive displacement (reciprocating)	All capacities	4.2 COP 5.05 IPLV	2.75 COP	T1-ARI 550/590 T3-ISO 5151
Water cooled, electrically operated, positive displacement (rotary screw and scroll)	<150 tons	4.45 COP	2.9 COP	T1-ARI 550/590 T3-ISO 5151
	>=150 tons and <300 tons	4.9 COP	3.2 COP	
	>= 300 tons	5.6 COP	3.6 COP	
Water cooled, electrically operated, centrifugal	<150 tons	6.0 COP		T1-ARI 550/590
	>=150 tons and <300 tons	6.5 COP 7.1 IPLV		
	>=300 tons	6.5COP 7.68 IPLV		
Air-cooled absorption single effect	All capacities	0.7 COP		ARI 560
Water-cooled absorption single effect	All capacities	0.7 COP		
Absorption double effect, indirect-fired	All capacities	1.1 COP 1.1 IPLV		
Absorption double effect, direct-fired	All capacities	1.2 COP 1.2 IPLV		

The chiller equipment requirements applies to all chillers, including where the design leaving fluid temperature is <4.5° C.

502.02 Demand Controlled Ventilation

For all new air-conditioned buildings with mechanical ventilation and existing buildings where alteration, changes, modification, expansion or restoration are carried out, Demand Controlled Ventilation (DCV) using Carbon Dioxide (CO2) sensing or by other means to measure occupancy, must be used in spaces larger than 100 m² and having a maximum design occupancy density greater than or equal to 25 people per 100 m². Default occupancy density values from the latest edition of ASHRAE Standard 62.1 and 62.2., can be used when the actual occupancy is not known.

CO2 concentration set-point should be kept below 800 ppm.

An alarm must be triggered if CO2 concentration rises above 1000 ppm. This alarm can either be automatically monitored by a central control system, if available, or give a local audible or visual indication, when activated.

For all new and existing buildings with DCV, the CO2 sensors and systems must be checked and recalibrated as per manufacturer recommendations. Recalibration frequency must not exceed 12 months and must be carried out by specialized companies.

502.03 Elevators and Escalators

1. Escalators:

For all new buildings, escalators must be fitted with controls to reduce speed or to stop when no traffic is detected. Escalators shall be designed with energy saving features as described below:

- a. Reduced speed control: The escalator shall reduce to a slower speed when no activity has been detected for a maximum period of 3 minutes. Detection shall be by photocell activation, placed at the top and bottom landing areas.
- b. Use on demand: The escalator shall shut down when no activity has been detected for a maximum period of 15 minutes. Use of on-demand escalators must be designed with energy efficient soft start technology. The escalator shall start automatically when required. Detection shall be by photocell activation, placed at the top and bottom landing areas.

2. Elevators (lifts):

For all new buildings, elevators (lifts) must be provided with controls to reduce the energy demand. The following features must be incorporated in traction drive elevators:

- a. Use of AC Variable-Voltage and Variable-Frequency (VVVF) drives on non-hydraulic elevators.
- b. Energy efficient lighting inside the elevator, including controls to turn lights off when the elevator has been inactive for a maximum period of 5 minutes.