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AMENDMENT 2
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Air-cooled air conditioners and air-to-air heat pumps — Testing and calculating methods for seasonal performance factors —

Part 1:
Cooling seasonal performance factor

AMENDMENT 2

Climatiseurs à condenseur à air et pompes à chaleur air/air — Essais et méthodes de calcul des coefficients de performance saisonniers —

Partie 1: Coefficient de performance saisonnier de refroidissement (COPSR)

AMENDEMENT 2

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Air-cooled air conditioners and air-to-air heat pumps — Testing and calculating methods for seasonal performance factors —

Part 1:
Cooling seasonal performance factor

AMENDMENT 2

5.2, Table 1

Replace Table 1 with the following:

Table 1 — Temperature and humidity conditions and default values for cooling at T1 moderate climate condition of ISO 5151, ISO 13253 and ISO 15042

Test	Characteristics	Fixed	Two-stage	Multi-stage	Variable	Default value
Standard cooling capacity Indoor DB 27 °C WB 19 °C Outdoor DB 35 °C WB 24 °C	Full capacity $\phi_{ful}(35)$ (W)	■	■	■	■	—
	Full power input $P_{ful}(35)$ (W)					
	Half capacity $\phi_{haf}(35)$ (W)	—	—	○[a]	■	$\phi_{haf}(29)/1{,}077$
	Half power input $P_{haf}(35)$ (W)					$P_{haf}(29)/0{,}914$
	Minimum capacity $\phi_{min}(35)$ (W)	—	○[b,c]	○[b,c]	○[b,c]	$\phi_{min}(29)/1{,}077$
	Minimum power input $P_{min}(35)$ (W)					$P_{min}(29)/0{,}914$
Low temperature cooling capacity Indoor DB 27 °C WB 19 °C Outdoor DB 29 °C WB 19 °C	Full capacity $\phi_{ful}(29)$ (W)	■	■	■	—	$1{,}077 \times \phi_{ful}(35)$
	Full power input $P_{ful}(29)$ (W)					$0{,}914 \times P_{ful}(35)$
	Half capacity $\phi_{haf}(29)$ (W)	—	—	■	○[a]	$1{,}077 \times \phi_{haf}(35)$
	Half power input $P_{haf}(29)$ (W)					$0{,}914 \times P_{haf}(35)$
	Minimum capacity $\phi_{min}(29)$ (W)	—	■	○[b,c]	○[b,c]	—
	Minimum power input $P_{min}(29)$ (W)					

Key

■ required test.

○ optional test.

[a]   If $t_{z,haf}$ as calculated by Formula (28) is greater than $t_0 - 5$, the optional half capacity and power test data shall be deemed invalid, and the default values specified in this table shall be used.

[b]   If $t_{z,min}$ as calculated by Formula (29) is greater than $t_0 - 5$, the optional minimum capacity and power data shall be deemed invalid, and shall not be used.

[c]   If the minimum capacity test is measured, min(29) test is conducted first. Min(35) test may be measured or may be calculated by using default value.

NOTE 2   Voltage(s) and frequency(ies) are as given in ISO 5151, ISO 13253 and ISO 15042.

Table 1 *(continued)*

Test	Characteristics		Fixed	Two-stage	Mul-ti-stage	Variable	Default value
Low humidity and cyclic cooling Indoor DB 27 °C WB 16 °C or lower Outdoor DB 29 °C WB -	Degradation coefficient C_D	Full capacity	○	—	—	—	0,25
		Half capacity	—	—	○a	—	0,25
		Minimum capacity	—	○b,c	○b,c	—	0,25

Key

■ required test.

○ optional test.

a   If $t_{z,haf}$ as calculated by Formula (28) is greater than $t_0 - 5$, the optional half capacity and power test data shall be deemed invalid, and the default values specified in this table shall be used.

b   If $t_{z,min}$ as calculated by Formula (29) is greater than $t_0 - 5$, the optional minimum capacity and power data shall be deemed invalid, and shall not be used.

c   If the minimum capacity test is measured, min(29) test is conducted first. Min(35) test may be measured or may be calculated by using default value.

NOTE 2   Voltage(s) and frequency(ies) are as given in ISO 5151, ISO 13253 and ISO 15042.

5.3.2

Insert the following after the fourth paragraph:

The temperature $t_{z,haf}$ at which P_{haf} is equal to zero shall be determined by Formula (28):

$$t_{z,haf} = 35 + \frac{P_{haf}(35) \times (35-29)}{P_{haf}(29) - P_{haf}(35)} \tag{28}$$

If $t_{z,haf}$ is greater than $t_0 - 5$, the optional half capacity and power data shall be deemed invalid, and the default values specified in Table 1 shall be used.

The temperature $t_{z,min}$ at which P_{min} is equal to zero shall be determined by Formula (29):

$$t_{z,min} = 35 + \frac{P_{min}(35) \times (35-29)}{P_{min}(29) - P_{min}(35)} \tag{29}$$

If $t_{z,min}$ is greater than $t_0 - 5$, the optional minimum capacity and power data shall be deemed invalid and shall not be used.

D.1.2

Insert the following after d):

NOTE   For valid calculations, 0 % load outdoor temperature can be no lower than 18 °C.