

Engineering Information for Catalog DA 12

Supplement on the subject of

"Changing over fan motors to energy efficiency class IE2"

06/06/2011

From June 16, 2011, within specific power classes, only motors with IE2 energy efficiency class or higher may be marketed in the European Economic Area.

For further information see: <http://www.siemens.com/international-efficiency>

In some cases, the drive motors for the fan units of DC motors are involved with this new legislation. In-line with the new legislation coming into force, the DC motors to be shipped will be equipped with the specified fan motors.

As a result of this change, some of the technical data change regarding separately-driven fan units in the Engineering Information DA 12 T, January 2008, Section "Fan units" Pages 18 to 20.

See Information and Download Center:

https://www.automation.siemens.com/mcms/infocenter/content/en/Pages/order_form.aspx?nodeKey=key_516838&Linkit=DE4AA472-B129-40B2-83B6-081D93A4C913

The section is updated here and has been completely copied out. The data that have changed are shown in red.

Fan units

1GG, 1HQ and 1HS motors have built-on fan units with a three-phase motor supply voltage of 3-ph. 400 V AC, 50 Hz or 460 V, 60 Hz.

For operation at 60 Hz, for motors from frame size 250 and higher, a plain text indication in the order is necessary.

The specific data of fan motors can be taken from the following tables.

The motor protection circuit breakers should be set to the specified maximum currents.

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Motor type	Three-phase fan motor size	Rated voltage V	Connection	Frequency Hz	Rated output kW	Rated current A	
1GG6 162 to 166	71M	400	Y	50	0.55	1.4	
		460	Y	60	0.75 HP	1.3	
	182 to 222	90 S	400	Y	50	1.5	3.05
			460	Y	60	1.5	2.55
	226 to 288	100 L	400	Y	50	3	6.1
			460	Y	60	3.45	5.8
1GG7 351 to 455	132 S	400	Δ	50	7.5	14.1	
		460	Δ	60	8.6	13.7	
1GG5 500 to 635	132 S (2 x)	400	Δ	50	7.5	14.1	
		460	Δ	60	8.6	13.7	

1HS6 186 to 208	90 S	400	Y	50	1.5	3.05
		460	Y	60	1.5	2.55
222 to 288	100 L	400	Y	50	3	6.1
		460	Y	60	3.45	5.8
1HS7 351 to 455	132 S	400	Δ	50	7.5	14.1
		460	Δ	60	8.6	13.7
1HS5 500 to 635	132 S (2 x)	400	Δ	50	7.5	14.1
		460	Δ	60	8.6	13.7

Internal air

1HQ6 186 to 208	90 S	400	Y	50	1.5	3.05
		460	Y	60	1.5	2.55
222 to 288	100 L	400	Y	50	3	6.1
		460	Y	60	3.45	5.8
1HQ7 351 to 455	132 S	400	Δ	50	7.5	14.1
		460	Δ	60	8.6	13.7
1HQ5 500 to 635	132 S (2 x)	400	Δ	50	7.5	14.1
		460	Δ	60	8.6	13.7

External air

1HQ6 186 to 208	80	400	Y	50	0.75	1.71
	2-pole	460	Y	60	0.86	
	90 S	400	Y	50	1.5	3.05
222 to 288	2-pole	460	Y	60	1.5	2.55
	100 L	400	Y	50	2.2	4.6
1HQ7 351 to 455	4-pole	460	Y	60	2.55	
	100 L	400	Δ	50	3	6.3
1HQ5 500 to 504	4-pole	460	Δ	60	3.45	
	631 to 635	112 M	400	Δ	50	4
4-pole		460	Δ	60	4.6	

The fan motors are designed as follows:

- Type of construction B5
- Degree of protection IP55
- Insulation class F
- Cooling medium temperature 55 °C
- Voltage tolerance ±10 %
- Rating plate with 50 and 60 Hz data

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Three-phase terminals of the fan motors

All fan motors are equipped with a plastic terminal box. The terminal box is freely accessible.

Each terminal box has six terminals. Threaded holes with metric threads are provided for cable entries according to the table below.

Assignment of the entry holes of the fan motor terminal boxes:

For motor type	Cable glands	Max. conductor cross-section mm ²
1GG6 162 to 166 186 to 208 226 to 288	1x M16 x 1.5 and 1x M25 x 1.5	2.5
	2x M25 x 1.5	2.5
	2x M25 x 1.5	4
1GG7 351 to 455	2x M32 x 1.5	6
1GG5 500 to 635	2x M32 x 1.5	6

For motor type	Internal air circuit		External terminal air circuit (only 1HQ-motors)	
	Cable glands	Max. conductor cross-section mm ²	Cable glands	Max. conductor cross-section mm ²
1HQ6 186 to 208 226 to 288	2x M25 x 1.5	2.5	2x M25 x 1.5	2.5
	2x M25 x 1.5	4	2x M25 x 1.5	2.5
1HQ7 351 to 455	2x M32 x 1.5	6	2x M25 x 1.5	4
1HQ5 500 to 633	2x M32 x 1.5	6	2x M25 x 1.5	4
1HS6 186 to 208 226 to 288	2x M25 x 1.5	2.5	–	–
	2x M25 x 1.5	4	–	–
1HS7 351 to 455	2x M32 x 1.5	6	–	–
1HS5 500 to 633	2x M32 x 1.5	6	–	–