
Title:

Motor range report of "GMD/GM2ED/GM3ED/GM2ELD/GM3ELD" motors for smoke extraction at 300°C/2h according to the European standard UNE EN 12101-3:2002 and UNE EN 12101-3:2002/AC:2006, "Smoke and heat control systems - part 3: Specification for powered smoke and heat exhaust ventilators."

Tested motor range:

Motor range reference "GMD/GM2ED/GM3ED/GM2ELD/GM3ELD" supplied by GAMAK.

File number: 16/8854-303

Test Sponsor:

GAMAK MAKINA SANAYI A.S.
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Report Date:

15th March of 2016

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This document consists of 113 pages out of which 108 are annexed

EXTENSION OF THE FILES:

Tests carried out at 300°C/2 hours:

- **14/7906-364 with date 18 July of 2014.**
- **14/7906-618 with date 18 July of 2014.**
- **14/7906-621 with date 19 September of 2014.**

File number 14/7906-364

Test carried out on: 12 March of 2014.

Test standard: fan for smoke extraction at 300°C/2h according to UNE EN 12101-3:2002 and UNE EN 12101-3:2002/AC: 2006.

Fan sample: "PWA 400" of PITSAN.

Motor: "GMD F 80 4s" of Gamak with the following characteristics:

- Constructive size: 80
- Power: 0.55 kW,
- Rotational speed: 1365 rpm (4 poles),
- Voltage: 400 V,
- Frequency: 50 Hz.

Test results: Operates at 300°C for 128 minutes (121+7).

Classification: Class F300 (minimum 60 minutes of work at 300°C).

File number 14/7906-618

Test carried out on: 28 April of 2014.

Test standard: fan for smoke extraction at 300°C/2h according to UNE EN 12101-3:2002 and UNE EN 12101-3:2002/AC: 2006.

Fan sample: "PJF 1200" of PITSAN.

Motor: "GM2ED BF 225 M4" of Gamak with the following characteristics:

- Constructive size: 225
- Power: 45 kW,
- Rotational speed: 1475 rpm (4 poles)
- Voltage: 400 V,
- Frequency: 50 Hz.

Test results: Operates at 300°C for 132 minutes (122+10).

Classification: Class F300 (minimum 60 minutes of work at 300°C).

File number 14/7906-621

Test carried out on: 30 April of 2014.

Test standard: fan for smoke extraction at 300°C/2h according to UNE EN 12101-3:2002 and UNE EN 12101-3:2002/AC: 2006.

Fan sample: "PJF 450" of PITSAN.

Motor: "GMD F 100 L 4/2" of Gamak with the following characteristics:

- Constructive size: 100L
- Power: 2.7/0.66 kW,
- Rotational speed: 2845/1430 rpm (2/4 poles)
- Voltage: 400 V,
- Frequency: 50 Hz.

Test results: Operates at 300°C for 133 minutes (123+10).

Classification: Class F300 (minimum 60 minutes of work at 300°C).

File Number 16/8854-303: Extension for a range of motors at 300°C / 2h, with the reference of "GMD/GM2ED/GM3ED/GM2ELD/GM3ELD" from Gamak. This material has been provided by GAMAK, as indicated in the technical justification section.

TECHNICAL JUSTIFICATION:

After performing the tests on fan models indicated above with Gamak motors at 300°C/2 hours, as indicated in the attached technical documentation, the following range can be considered:

GMD motors		
Power (kW)	Motor size	Poles
0.55	80	4
1.1	90	
1.5		
2.2	100	
3		
4	112	
5.5	132	
7.5		
11	160	
15		
18.5	180	
22		
30	200	
37	225	
45		
22	200	6

CONCLUSION:

As indicated in the technical justification section and after performing the tests according to the UNE EN 12101-3:2002 and UNE EN 12101-3: 2002/AC:2006 Standard, "Smoke and heat control systems- part 3: Specification for powered smoke and heat exhaust ventilators", the motor range reference "GMD/GM2ED/GM3ED/GM2ELD/GM3ELD" by Gamak, can be classified as:

Motor range "GMD/GM2ED/GM3ED/GM2ELD/GM3ELD" from GAMAK:

- Motor size: from 80 a 225 (motors at 4p, 6p)
- Power:
 - 4p: from 0.55 kW to 45 kW
 - 6p: 22 kW
- Voltage: 400 V
- Frequency: 50 Hz
- Trifasic motors
- Motors according to the specified at EN 60034-1
- Insulation class: H
- Protection: IP 55
- Bearings: C4
- Grease: Dupont GPL 226 Krvtox

CLASS F 300, 60 minutes

UNCLASSIFIED 300 °C, 120 minutes



Digitally signed by
Jordi Mirabent Junyent



Digitally Signed By
Albert Ger

Fire Laboratory Responsible
LGAi Technological Center S.A.

Fire Resistance Responsible
LGAi Technological Center S.A.

The results exclusively refer to the sample, product or material provided to the Laboratory which have been tested under the conditions mentioned in this document

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