



Industrie Service

Herewith it is confirmed to the company

ebm-papst Mulfingen GmbH & Co.KG
in
D-74673 Mulfingen

based on the positive results of the completed test at the

Design Software
„FanScout 3.0.3.xxxxx“
„ebmPapstFan.dll 3.0.3.xxxxx“

that the software is suitable to configure fans of the model ranges

„RADIPAC R3G / K3G generation 1
size 250 ... 900“
„RADIPAC R3G / K3G generation 2
size 250 ... 1000“

with the drive options
EC-external rotor motor

under consideration of annex 1 to 4

according to the RLT-RICHTLINIE Zertifizierung:2017-11
and is granted the right to label these with the following
TÜV SÜD Certification Mark.



This certificate is valid until 2020-12-31

Certificate Registration Number: 13/14/105




Certification Body for Products
Refrigeration and Air-Conditioning
Munich, 2019-03-28





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List of the certified fan types R3G und K3G of the generation 1 relating to the fan size and the nominal motor power

Fan size -aa-		R3G-aa- ¹⁾	K3G-aa- ¹⁾
	calculation accuracy [B 0]		
	Type of motor	Nominal Power [kW]	Nominal Power [kW]
250	M3G084-DF	0,448	0,448
	M3G084-FA	0,75	0,75
	M3G084-GF	0,82	0,82
280	M3G084-FA	0,415	0,415
	M3G084-GF	0,715; 1,0	0,715; 1,0
310	M3G112-EA	1	1
	M3G112-GA	1,65	1,65
	M3G112-IA	3,24	3,24
355	M3G112-EA	1	1
	M3G112-GA	1,7	1,7
	M3G112-IA	2,25	2,25
400	M3G112-IA	1,85	1,85
	M3G150-FF	3,0; 3,47	3,0; 3,47
450	M3G112-IA	1,615	1,615
	M3G150-FF	2,73	2,73
	M3G150-IF	5,37	5,37
500	M3G150-FF	3,51	3,51
	M3G150-IF	5,5	5,5
560	M3G150-IF	3	3
	M3G150-NA	4,7	4,7
630	M3G150-NA	2,9	2,9
	M3G200-HF	-	6,75
	M3G200-QA	-	11
710	M3G150-NA	2,8	2,8
	M3G200-LA	-	7,7
	M3G200-QA	-	12
800	M3G200-QA	-	7,53; 11,6
900	M3G200-QA	-	7,3; 8,7

Legend:

¹⁾ with the constructions centrifugal fan, support bracket and support bracket/cube design





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List of the certified fan types R3G und K3G of the generation 2 relating to the fan size and the nominal motor power			
Fan size -aa-		R3G-aa- ¹⁾	K3G-aa- ¹⁾
	calculation accuracy [B 0]		
	Type of motor	Nominal Power [kW]	Nominal Power [kW]
250	M3G 084-DF	0,50; 0,75; 1,18	0,50; 0,75; 1,18
280	M3G 084-DF	0,50; 0,75	0,50; 0,75
	M3G 084-FA	1,05	1,05
310	M3G 084-GF	1,23	1,23
	M3G 112-GA	1,80; 2,95	1,80; 2,95
355	M3G 112-EA	1,10	1,10
	M3G 112-GA	1,90	1,90
	M3G 112-IA	2,68	2,68
400	M3G 112-IA	2,50	2,50
	M3G 150-FF	3,35; 3,80	3,35; 3,80
450	M3G 112-IA	1,74	1,74
	M3G 150-FF	2,90; 4,50	2,90; 4,50
	M3G 150-IF	5,25	5,25
500	M3G 150-FF	3,45; 3,80	3,45; 3,80
	M3G 150-IF	5,70; 4,20	5,70; 4,20
560	M3G 150-IF	3,30; 4,40	3,30; 4,40
	M3G 150-NA	5,00	5,00
630	M3G 150-NA	2,90; 4,25	2,90; 4,25
	M3G 200-HF	6,75	6,75
	M3G 200-QA	11,00	11,00
710	M3G 150-NA	2,80	2,80
	M3G 200-LA	7,86	7,86
	M3G 200-QA	11,80	11,80
800	M3G 200-QA	7,53; 11,60	7,53; 11,60
900	M3G 200-QA	7,52; 8,70	7,52; 8,70
1000	M3G 200-QA	6,5	6,5

Legend:

¹⁾ with the constructions centrifugal fan, support bracket and support bracket/cube design

Remark to the tables of Annex 1 and 2 :

The specified calculation accuracy is only valid for the stated and recommended operating range of the respective fan. Outside the recommended application range, the calculation accuracy can be less.

The recommended operating range is in the map range with fan speeds between 20% to 100% of the maximum speed. The recommended efficiencies are declared with $\eta_{a>} = 0.9 \times \eta_{aopt}$ (left of the optimum) and $\eta_{a>} = 0.8 \times \eta_{aopt}$ (right of the optimum) of the respective air performance curve or, partial load air performance curve.





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The following specific values of the software were verified

R3G und K3G			
Definition according to the standard DIN EN ISO 5801	Definition used in „FanScout“	symbol	unit
volume flow rate	air flow	q_v	[m ³ /s]
static fan pressure	static pressure increase	p_{fs}	[Pa]
rotational speed	speed	n	[rpm]
input power	electrical power input	P_{ed}	[kW]
overall static efficiency fan/motor/drive	overall static efficiency	η_{es}	[%]

Table of calculation accuracy

Value	Deviations of the classes		
	B0	B1	B2
Volume flow	± 1 %	± 2,5 %	± 5 %
Pressure increase	± 1 %	± 2,5 %	± 5 %
Power input	+ 2 %	+ 3 %	+ 8 %
Efficiency	- 1 %	- 2 %	- 5 %





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Regarding to the RLT-RICHTLINIE Zertifizierung:2017-11, the correction values listed below must be included into the air handling unit design software.

Installation losses and fan walls of the fan types R3G and K3G

The certification of the fan design software FanScout 3.03.xxxxx included the verification of the installation losses according to the RLT-RICHTLINIE Zertifizierung:2017-11, for the fan types listed in Annex 1 and 2.

If the correction values for the installation losses, of the design software FanScout 3.03.xxxxx, according to the RLT-RICHTLINIE Zertifizierung:2017-11, are used for the fan types specified in Annex 1 and 2, no further correction values for the installation losses in the RLT design software must be taken into account.

If the correction values for the installation losses of the design software FanScout 3.03.xxxxx are not used, the standard correction factors of the the RLT-RICHTLINIE Zertifizierung:2017-11 must be used for the fan types listed in Annex 1 and 2.

Efficiency of the control equipment of the fan types R3G and K3G [f_R]:

The measurements carried out to certify the design software of the fan models listed in Annex 1 includes the efficiency of the control device. For fan and motor combinations listed in Annex 1 and 2 the correction factor of the control device shall be applied to **f_R=1,00**.

Nominal motor efficiency of the fan types R3G and K3G [f_M]:

The measurements carried out to certify the design software of the fan models listed in Annex 1 were carried out with fan and motor combinations. For fan and motor combinations listed in Annex 1 and 2 the correction factor of the nominal efficiency **f_M=1,00** shall be applied.

Part load efficiency of the fan types R3G and K3G [f_{TL}]:

The measurements carried out to certify the design software of the fan models listed in Annex 1 and 2 were carried out in part load. For fan and motor combinations listed in Annex 1 the correction factor of the part load **f_{TL} = 1,00** shall be applied.

Accuracy class of the fan types R3G and K3G [f_G]:

Due to the accuracy class specified by the manufacturer, the correction class shall be applied to **f_G= 1.00**

