



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 generation 1
size 250 ... 900“

„RADIPAC generation 2
size 250 ... 1000“

„RADIPAC generation 3
size 280 ... 630“

with the drive options
EC-external rotor motor

under consideration of annex 1 to 5

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 2024-06-30

Certificate Registration Number: 13/14/105 (Revision 01)



Certification Body for Products
Refrigeration and Air-Conditioning
Munich, 2022-07-04



This certificate is valid only in conjunction with the following attachment, consisting of 4 pages.



Industrie Service

List of the certified fan types RADIPAC generation 1 relating to the fan size and the nominal motor power

Fan size -a-		R3G-a- ¹⁾	K3G-a- ¹⁾
	calculation accuracy [B 0]		
	Type of motor	Nominal Power [kW]	Nominal Power [kW]
0250	M3G084	0,5 – 0,8	0,5 – 0,8
0280	M3G084	0,4 – 1,0	0,4 – 1,0
0310	M3G112	1,0 – 3,2	1,0 – 3,2
0355	M3G112	1,0 – 2,3	1,0 – 2,3
0400	M3G112	1,9	1,9
	M3G150	3,0 – 3,5	3,0 – 3,5
0450	M3G112	1,6	1,6
	M3G150	2,7 – 5,4	2,7 – 5,4
0500	M3G150	3,5 – 5,5	3,5 – 5,5
0560	M3G150	3,0 – 4,7	3,0 – 4,7
0630	M3G150	2,9	2,9
	M3G200	-	6,8 – 11,0
0710	M3G150	2,8	2,8
	M3G200	-	7,7 – 12,0
0800	M3G200	-	7,5 – 11,6
0900	M3G200	-	7,3 – 8,7

Legend:

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

-a- defines the fan size





Industrie Service

List of the certified fan types RADIPAC generation 2 relating to the fan size and the nominal motor power

Fan size -a-		R3G-a- ¹⁾	K3G-a- ¹⁾
	calculation accuracy [B 0]		
	Type of motor	Nominal Power [kW]	Nominal Power [kW]
0250	M3G 084	0,5 – 1,2	0,5 – 1,2
0280	M3G 084	0,5 – 1,1	0,5 – 1,1
0310	M3G 084	1,2	1,2
	M3G 112	1,8 – 3,0	1,8 – 3,0
0355	M3G 112	1,1 – 2,7	1,1 – 2,7
0400	M3G 112	2,5	2,5
	M3G 150	3,4 – 3,8	3,4 – 3,8
0450	M3G 112	1,7	1,7
	M3G 150	2,9 – 5,3	2,9 – 5,3
0500	M3G 150	3,5 – 5,7	3,5 – 5,7
0560	M3G 150	3,3 – 5,0	3,3 – 5,0
0630	M3G 150	2,9 – 4,3	2,9 – 4,3
	M3G 200	6,8 – 11,0	6,8 – 11,0
0710	M3G 150	2,8	2,8
	M3G 200	7,9 – 11,8	7,9 – 11,8
0800	M3G 200	7,5 – 11,6	7,5 – 11,6
0900	M3G 200	7,5 – 8,7	7,5 – 8,7
1000	M3G 200	6,5	6,5

Legend:

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

-a- defines the fan size





Industrie Service

List of the certified fan types RADIPAC generation 3 relating to the fan size and the nominal motor power		
Fan size -b-	VB-a-b-C	
	calculation accuracy [B 0]	
	Type of motor	Nominal Power [kW]
0280	M3G074	0,5 – 1,0
0310	M3G074	0,5 – 4,5
	M3G084	
	M3G112	
0355	M3G074	0,4 – 4,0
	M3G084	
	M3G112	
0400	M3G084	1,0 – 6,5
	M3G112	
	M3G150	
0450	M3G112	3,0 – 8,0
	M3G150	
0500	M3G112	0,5 – 8,0
	M3G150	
0560	M3G150	4,0 – 6,5
0630	M3G150	1,0 – 6,5

Legend:

- a- defines the product design:
 - S= single inlet
 - H= single inlet suspended combination
 - F= single inlet standing combination
- b- defines the fan size

Remark to the tables of Annex 1 and 3 :

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

RADIPAC generation 1,2 and 3			
Definition according to the standard DIN EN ISO 5801	Definition used in „FanScout“	symbol	unit
volume flow rate	air flow	q_v	[m ³ /h]
static fan pressure	static pressure increase	p_{fs}	[Pa]
rotational speed	fan 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 %





Industrie Service

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:

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 1,2 and 3.

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 1,2 and 3, **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 1,2 and 3.

Efficiency of the control equipment of the fan [f_R]:

The measurements carried out to certify the design software of the fan models listed in Annex 1,2 and 3 includes the efficiency of the control device. For fan and motor combinations listed in Annex 1,2 and 3 the correction factor of the control device shall be applied to **f_R=1,00**.

Nominal motor efficiency of the fan [f_M]:

The measurements carried out to certify the design software of the fan models listed in Annex 1,2 and 3 were carried out with fan and motor combinations. For fan and motor combinations listed in Annex 1,2 and 3 the correction factor of the nominal efficiency **f_M=1,00** shall be applied.

Part load efficiency of the fan [f_{TL}]:

The measurements carried out to certify the design software of the fan models listed in Annex 1,2 and 3 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 [f_e]:

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

