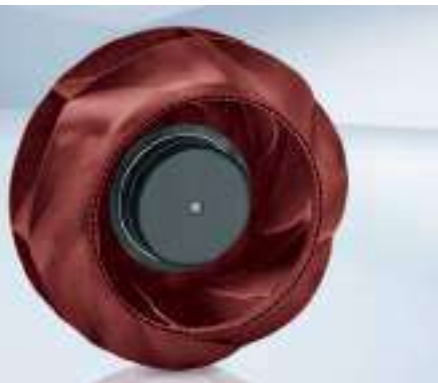




Max. 1215 m<sup>3</sup>/h

# DC centrifugal fans – RadiCal

Ø 220 mm



- **Material:** Impeller: PA plastic  
Rotor: Painted black
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 44, depending on installation and position
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

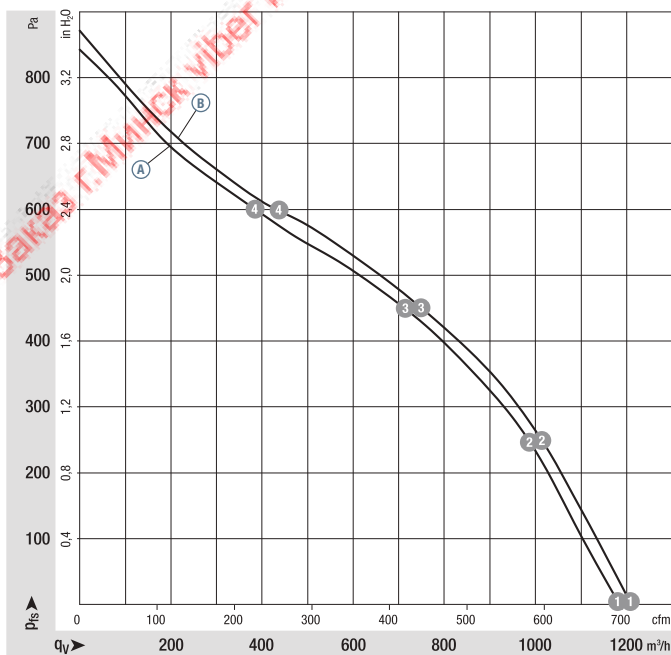
VBS0220RUNES

## Nominal data

Type	Motor	Curve	Nominal voltage		Air flow	Nominal speed	Power consumption	Input current	Sound pressure level	Admissible amb. temp.	Technical features and connection diagram
			VDC	VDC							
<b>R3G 220</b>	M3G 074-CF	Ⓐ	24	16-28	1200	3460	157	6.50	73	-25...+60	p. 277 / J5)
<b>R3G 220</b>	M3G 074-CF	Ⓑ	48	36-57	1215	3510	160	3.40	73	-25...+60	p. 277 / J5)

Subject to change

## Curves:



	n	P <sub>ed</sub>	I	L <sub>WA</sub>
	rpm <sup>-1</sup>	W	A	dB(A)
Ⓐ 1	3460	157	6.50	81
Ⓐ 2	3420	171	7.11	77
Ⓐ 3	3360	182	7.59	74
Ⓐ 4	3455	168	6.97	79
Ⓑ 1	3510	160	3.40	81
Ⓑ 2	3450	168	3.50	77
Ⓑ 3	3385	178	3.71	74
Ⓑ 4	3460	167	3.47	79

Air performance measured according to: ISO 5801, Installation category A, with ebm-papst inlet ring without contact protection. Suction-side noise levels: LWA according to ISO 13347, L<sub>WA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 277
- **Cable exit:** Variable
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** EAC



Weight  
centrifugal fans



Centrifugal fans

kg

Inlet ring

R3G 220-RN12 -01

1.9

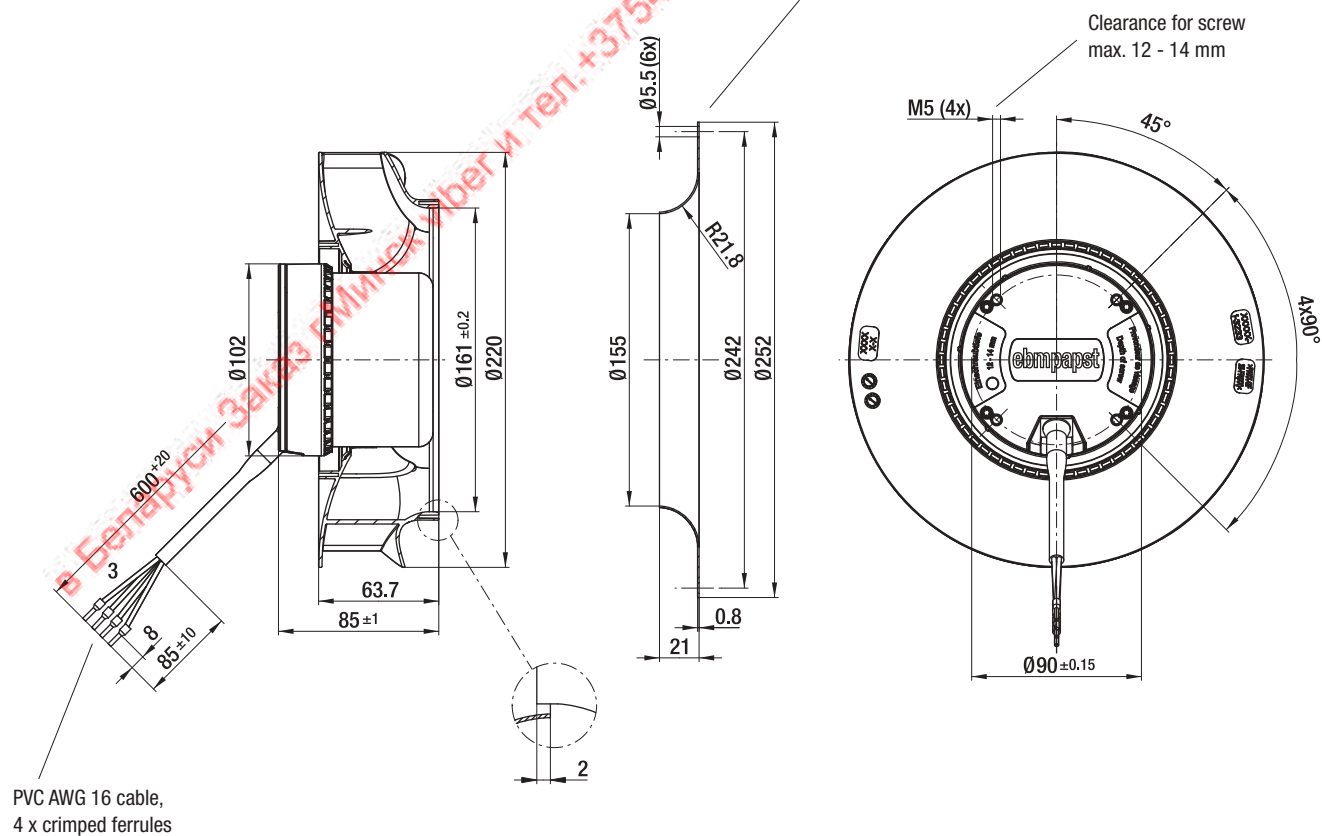
09609-2-4013

R3G 220-RNB6 -02

1.9

09609-2-4013

Accessory part: Inlet ring 09609-2-4013  
not included in the standard scope of delivery



Max. 1250 m<sup>3</sup>/h  
**S-Force**

# DC centrifugal fans – RadiCal

Ø 220 x 71 mm



- **Material:** Impeller: GRP<sup>1)</sup>
  - **Direction of air flow:** Axial: Intake, Centrifugal: Exhaust
  - **Direction of rotation:** Clockwise, looking towards rotor
  - **Connection:** Via single wires AWG 18, 20 or AWG 22, TR 64, speed signal and control input AWG 22
  - **Highlights:** Highly efficient and smoothly operating 3-phase fan drive Backward-curved impeller
  - **Weight:** 940 g
- **Possible special versions:** (See chapter DC fans - specials)
    - Speed signal
    - Go / NoGo alarm
    - Alarm with speed limit
    - External temperature sensor
    - Internal temperature sensor
    - PWM control input
    - Analog control input
    - Multi-option control input
    - Humidity protection
    - Salt spray protection
    - Degree of protection: IP 54

1) Fiberglass-reinforced plastic

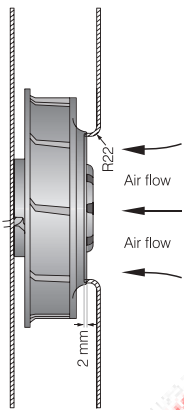
Series RER 220 TD  
VBS0200RULCS  
VBS0200RULDS

**Nominal data**

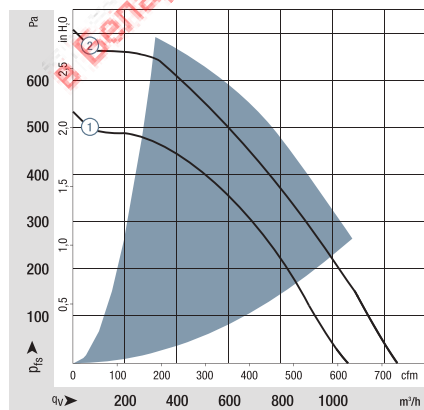
Type	Air flow		Nominal voltage	Voltage range		Sound power level	Sintec sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L <sub>10</sub> (40 °C) ebm-papst standard	Service life L <sub>10</sub> (T max) ebm-papst standard	Life expectancy L <sub>10</sub> IPC (40 °C) see page 15	Curve
	m <sup>3</sup> /h	cfm		VDC	VDC									
RER 220-43/14/2 TDM0*	1063	625	24	16...36	7.5	■	110	3 000	-20...+55	65 000 / 45 000	110 000	①		
RER 220-43/18/2 TDM0	1063	625	48	36...72	7.5	■	110	3 000	-20...+55	65 000 / 45 000	110 000	①		
RER 220-43/18/2 TDO	1250	735	48	36...72	7.8	■	160	3 500	-20...+55	60 000 / 42 500	102 500	②		

Subject to change  
\* On request

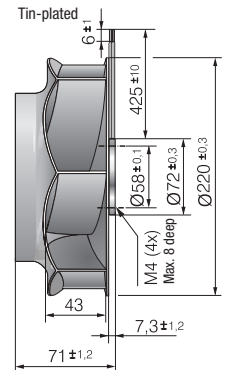
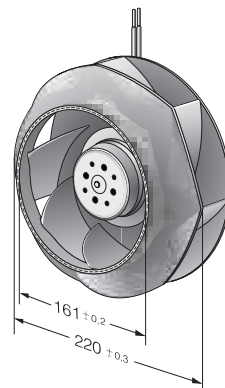
Speed control range from 800 rpm<sup>-1</sup> at 7 % PWM up to nominal speed at > 90 % PWM.  
Standstill at 0 % PWM, Standstill if control cable is interrupted.



The air flow and sound level of the centrifugal fans without external housing depend on their individual installation conditions.  
The stated air flow and sound level were recorded under the following measurement parameters:  
Centrifugal fan mounted on a foundation plate 260 x 260 mm.  
Cover plate 260 x 260 mm, with an air inlet opening Ø 155 mm, arranged concentrically to the impeller.



Air performance measured according to: ISO 5801.  
Installation category A, with ebm-papst inlet ring without contact protection.  
Noise: Total sound power level LWA ISO 10302 measured on a hemisphere with a distance of 2 m.  
Sound pressure level LpA measured at 1 m distance from fan axis.  
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.  
In the event of deviation from the standard configuration, the parameters must be checked after installation!  
For detailed information see <http://www.ebmpapst.com/general conditions>



Max. 1600 m<sup>3</sup>/h  
**S-Force**

# DC centrifugal fans

Ø 225 x 99 mm



- **Material:** Impeller: GRP<sup>1)</sup>
  - **Direction of air flow:** Axial: Intake, Centrifugal: Exhaust
  - **Direction of rotation:** Clockwise, looking towards rotor
  - **Connection:** Via single wires AWG 18, 20 or AWG 22, TR 64, speed signal and control input AWG 22
  - **Highlights:** Highly efficient and smoothly operating 3-phase fan drive Backward-curved impeller
  - **Weight:** 1030 g
- **Possible special versions:** (See chapter DC fans - specials)
    - Speed signal
    - Go / NoGo alarm
    - Alarm with speed limit
    - External temperature sensor
    - Internal temperature sensor
    - PWM control input
    - Analog control input
    - Multi-option control input
    - Humidity protection
    - Salt spray protection
    - Degree of protection: IP 54

1) Fiberglass-reinforced plastic

Series RER 225 TD  
VBS0225XULDS  
VBS0225RULFS

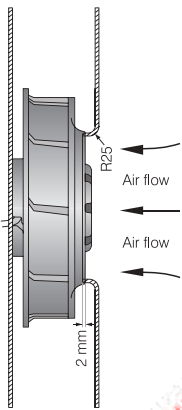
### Nominal data

Type	Air flow		Nominal voltage	Voltage range		Sound power level	Sinter sleeve bearings Ball bearings	Power consumption	Nominal speed	Temperature range	Service life L <sub>10</sub> (40 °C) ebm-papst standard	Service life L <sub>10</sub> (T max) ebm-papst standard	Life expectancy L <sub>10</sub> (IPC (40 °C) see page 15	Curve
	m <sup>3</sup> /h	cfm		VDC	VDC									
RER 225-63/18/2 TDML0	1190	700	48	36...72	7.2	■	77	2 500	-20...+55	70 000 / 50 000	122 500	①		
RER 225-63/18/2 TDMO	1340	789	48	36...72	7.8	■	108	2 800	-20...+55	55 000 / 40 000	92 500	②		
RER 225-63/18/2 TDO	1600	941	48	36...72	8.1	■	163	3 300	-20...+55	52 500 / 37 500	87 500	③		
RadiCal RER 225-55/18/2 TDO	1540	906	48	36...72	8.0	■	225,6	3 500	-20...+55	50 000 / 35 000	85 000	④		

Subject to change

Speed control range from 800 rpm<sup>-1</sup> at 7 % PWM up to nominal speed at > 90 % PWM.

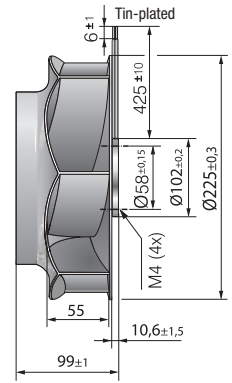
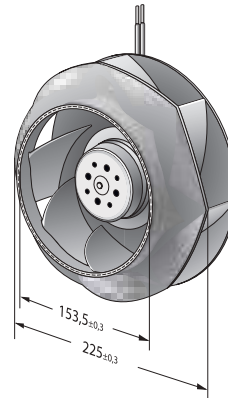
Standstill at 0 % PWM, Type O: Standstill if control cable is interrupted. Type P: Maximum speed if control cable is interrupted.



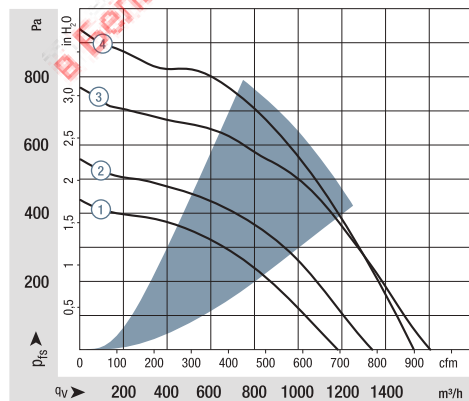
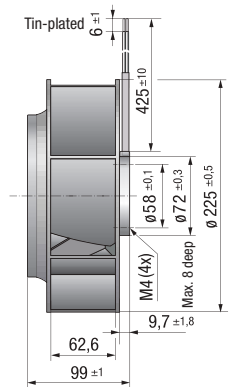
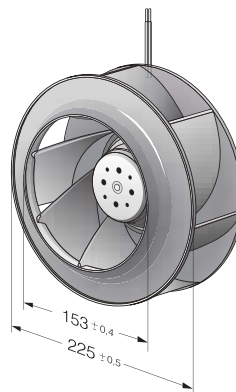
The air flow and sound level of the centrifugal fans without external housing depend on their individual installation conditions.

The stated air flow and sound level were recorded under the following measurement parameters:  
Centrifugal fan mounted on a foundation plate  
266 x 266 mm.  
Cover plate 266 x 266 mm, with an air inlet opening Ø 146 mm, arranged concentrically to the impeller.

### RER 225 TD RadiCal



### RER 225 TD



Air performance measured according to: ISO 5801.  
Installation category A, with ebm-papst inlet ring without contact protection.  
Noise: Total sound power level LWA ISO 10302 measured on a hemisphere with a distance of 2 m.  
Sound pressure level LpA measured at 1 m distance from fan axis.  
The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions.  
In the event of deviation from the standard configuration, the parameters must be checked after installation!  
For detailed information see <http://www.ebmpapst.com/general-conditions>

Max. 1130 m<sup>3</sup>/h

# EC centrifugal fans – RadiCal

Ø 225 mm



- **Material:** Impeller: PA plastic  
Rotor: Galvanized
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** Motor IP24 KM, electronics IP6K9K (mating connector installed)
- **Insulation class:** "B"
- **Installation position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensation drainage holes:** On rotor side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Ball bearing; (sealed)

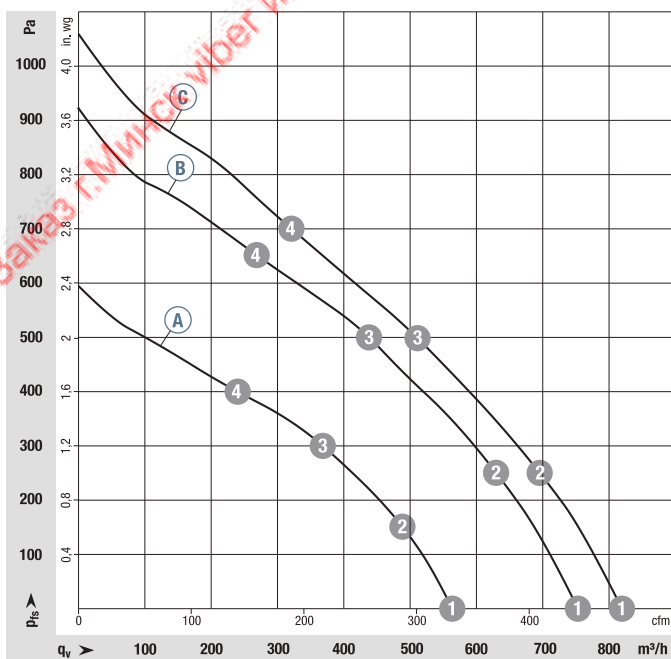
VBS0225RUNCS

## Nominal data

Type	Motor	Curve	Nominal voltage		Air flow	Nominal speed	Power consumption	Input current	Admissible amb. temp.	Technical features and connection diagram
			VDC	VDC						
<b>R1G 225</b>	M1G 074-BF	Ⓐ	12	8...16	990	2350	85	8.00	-25...+70	p. 278 / Q)
<b>R1G 225</b>	M1G 074-BF	Ⓑ	24	16...28	1125	2700	120	4.90	-25...+70	p. 278 / Q)
<b>R1G 225</b>	M1G 074-BF	Ⓒ	48	36...57	1130	2700	115	2.40	-25...+70	p. 279 / R)

Subject to change

## Curves:



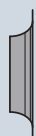
	n	P <sub>ed</sub>	I
	rpm <sup>-1</sup>	W	A
Ⓐ 1	2350	85	8.00
Ⓐ 2	2245	89	8.54
Ⓐ 3	2245	89	8.56
Ⓐ 4	2380	82	7.80
Ⓑ 1	2700	120	4.90
Ⓑ 2	2535	121	5.06
Ⓑ 3	2525	121	5.06
Ⓑ 4	2710	117	4.87
Ⓒ 1	2700	115	2.40
Ⓒ 2	2610	118	2.50
Ⓒ 3	2545	119	2.50
Ⓒ 4	2720	116	2.40

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Suction-side noise levels: LWA according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

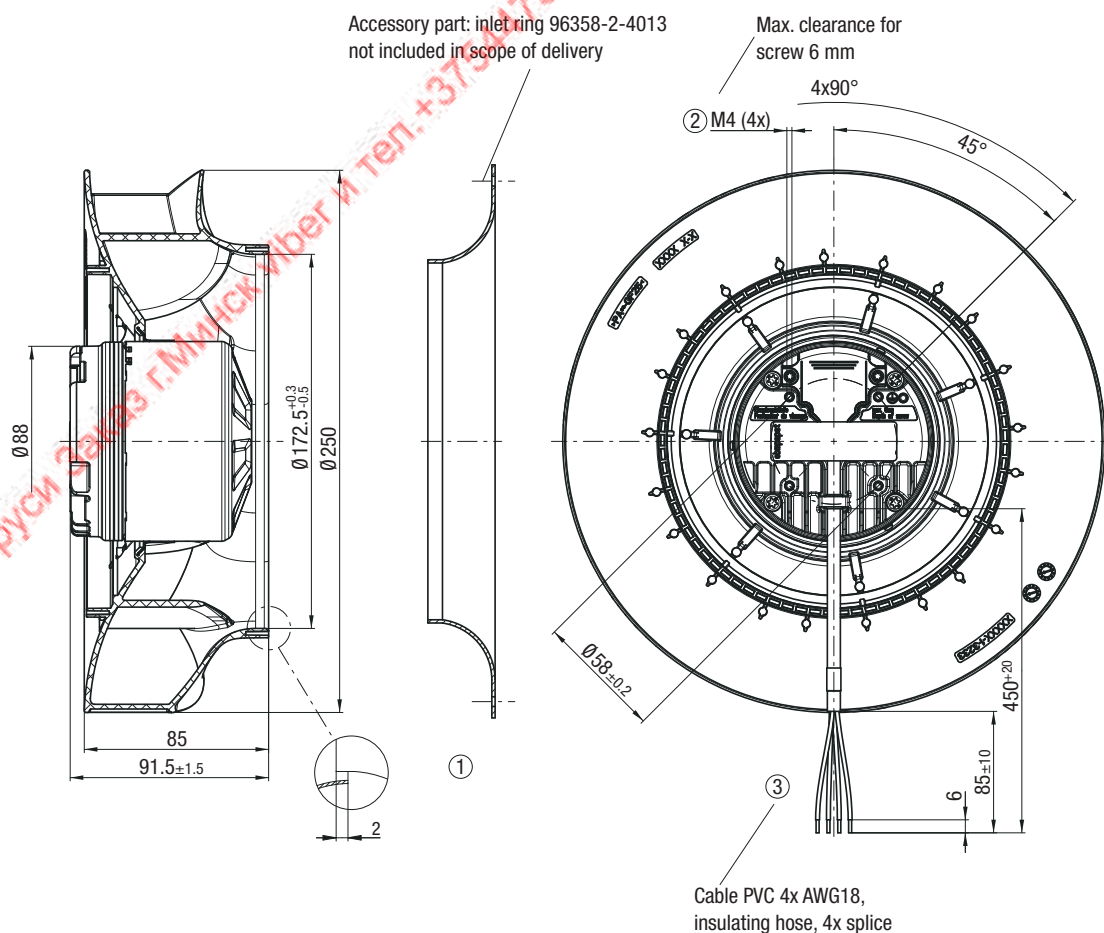
- **Technical features:** See connection diagram p. 278/279
- **Cable exit:** Axial
- **Approvals:** EAC; CSA C22.2 No. 113; UL 507



Weight centrifugal fans



Centrifugal fans	kg	Inlet ring
R1G 225-RD59-02	1.6	96358-2-4013
R1G 225-RD14-02	1.6	96358-2-4013
R1G 225-RD18-02	1.6	96358-2-4013



Max. 1340 m<sup>3</sup>/h

# DC centrifugal fans – RadiCal

Ø 225 mm



- **Material:** Impeller: PA plastic  
Rotor: Painted black
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 44, depending on installation and position
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

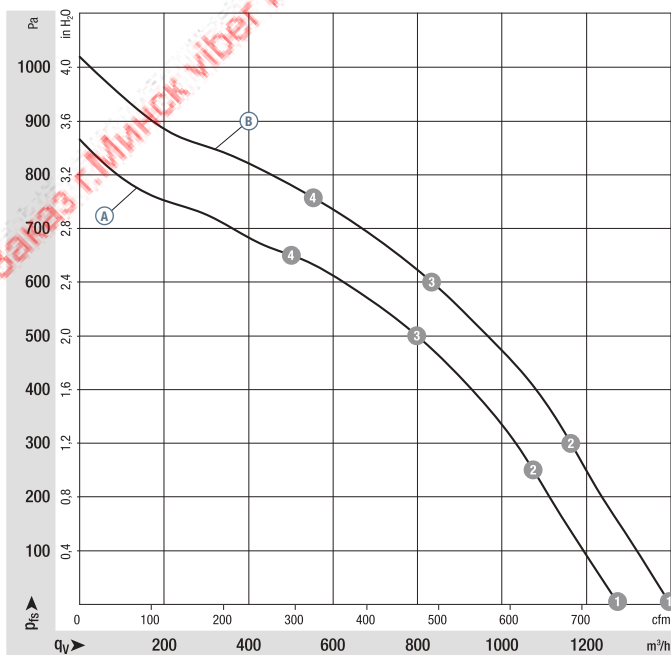
VBS0225RUNES

## Nominal data

Type	Motor	Curve	Nominal voltage		Air flow	Nominal speed	Power consumption	Input current	Sound pressure level	Admissible amb. temp.	Technical features and connection diagram
			VDC	VDC							
<b>R3G 225</b>	M3G 074-CF	Ⓐ	24	16-28	1300	3270	205	8.50	75	-25...+60	p. 277 / J5)
<b>R3G 225</b>	M3G 074-CF	Ⓑ	48	36-57	1340	3400	230	4.80	73	-25...+60	p. 277 / J5)

Subject to change

## Curves:



	n	P <sub>ed</sub>	I	L <sub>WA</sub>
	rpm <sup>-1</sup>	W	A	dB(A)
Ⓐ ①	3270	205	8.50	81
Ⓐ ②	3200	208	8.66	78
Ⓐ ③	3185	213	8.88	74
Ⓐ ④	3260	194	8.02	77
Ⓑ ①	3400	230	4.80	83
Ⓑ ②	3440	257	5.35	80
Ⓑ ③	3435	260	5.43	76
Ⓑ ④	3500	239	4.97	78

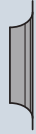
Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Suction-side noise levels: L<sub>WA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>



- **Technical features:** See connection diagram p. 277
- **Cable exit:** Variable
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** EAC



Weight centrifugal fans



**Centrifugal fans**

**kg**

**Inlet ring**

**R3G 225-RN28 -01**

2.1

96358-2-4013

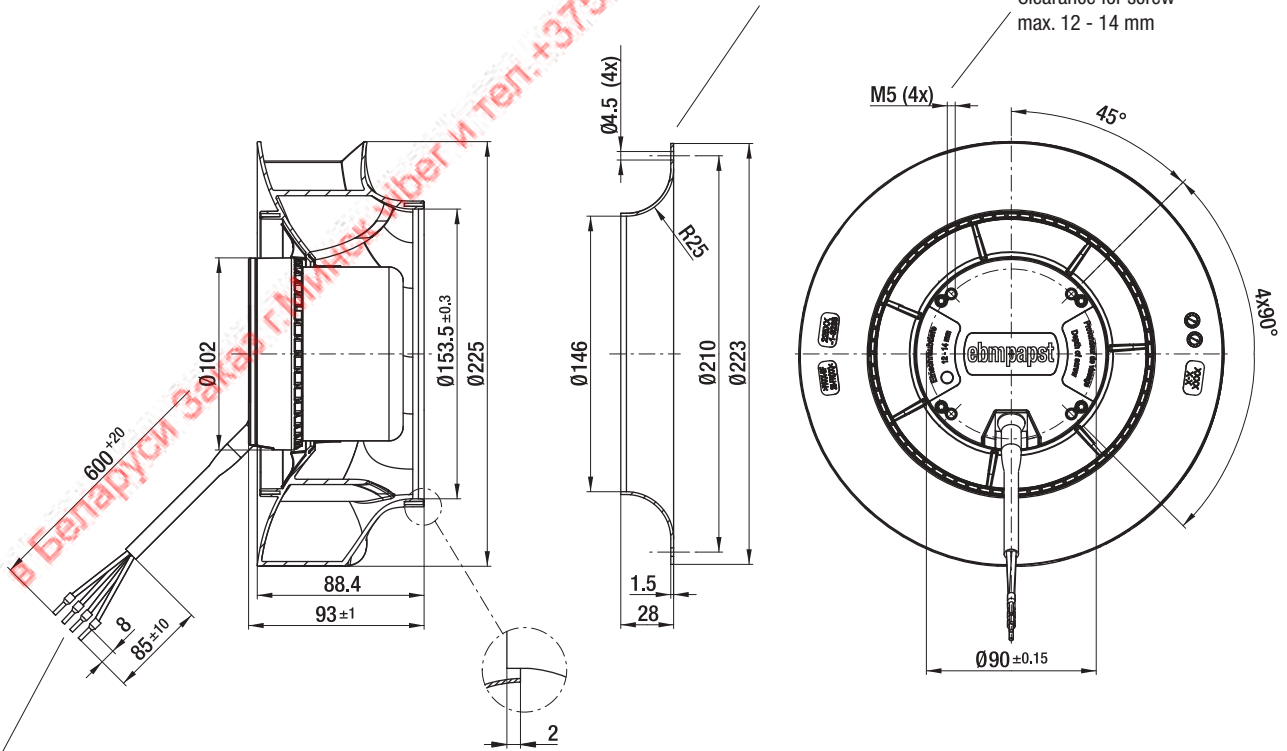
**R3G 225-RN18 -02**

2.1

96358-2-4013

Accessory part: Inlet ring 96358-2-4013 not included in the standard scope of delivery

Clearance for screw max. 12 - 14 mm



PVC AWG 16 cable, 4 x crimped ferrules

max. 1505 m<sup>3</sup>/h

# EC centrifugal fans – RadiCal

Ø 250 mm



- **Material:** Impeller: PA plastic  
Rotor: Galvanized
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** Motor IP24 KM, electronics IP6K9K (mating connector installed)
- **Insulation class:** "B"
- **Installation position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensation drainage holes:** On rotor side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Ball bearing; (sealed)

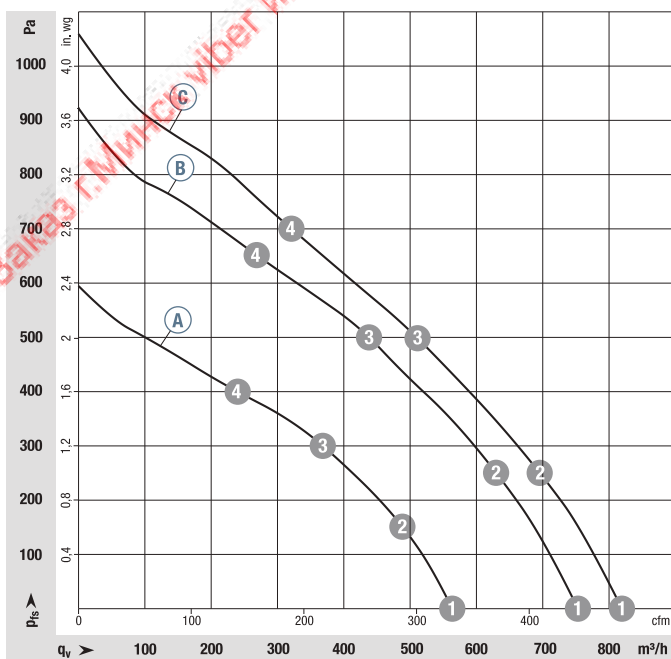
VBS0250RUNES

## Nominal data

Type	Motor	Curve	Nominal voltage		Air flow	Nominal speed	Power consumption	Input current	Admissible amb. temp.	Technical features and connection diagram
			VDC	VDC						
<b>R1G 250</b>	M1G 074-CF	Ⓐ	12	8...16	1035	2000	64	5.40	-25...+70	p. 278 / Q)
<b>R1G 250</b>	M1G 074-CF	Ⓑ	24	16...28	1295	2500	120	4.90	-25...+60	p. 278 / Q)
<b>R1G 250</b>	M1G 074-CF	Ⓒ	48	36...57	1505	2850	175	3.70	-25...+60	p. 279 / R)

Subject to change

## Curves:



	n	P <sub>ed</sub>	I
	rpm <sup>-1</sup>	W	A
Ⓐ 1	2000	64	5.40
Ⓐ 2	1945	69	5.69
Ⓐ 3	1895	71	5.95
Ⓐ 4	1945	69	5.69
Ⓑ 1	2500	120	4.90
Ⓑ 2	2420	123	5.14
Ⓑ 3	2350	130	5.39
Ⓑ 4	2420	124	5.16
Ⓒ 1	2850	175	3.70
Ⓒ 2	2755	179	3.70
Ⓒ 3	2650	182	3.80
Ⓒ 4	2795	177	3.70

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Suction-side noise levels: LWA according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

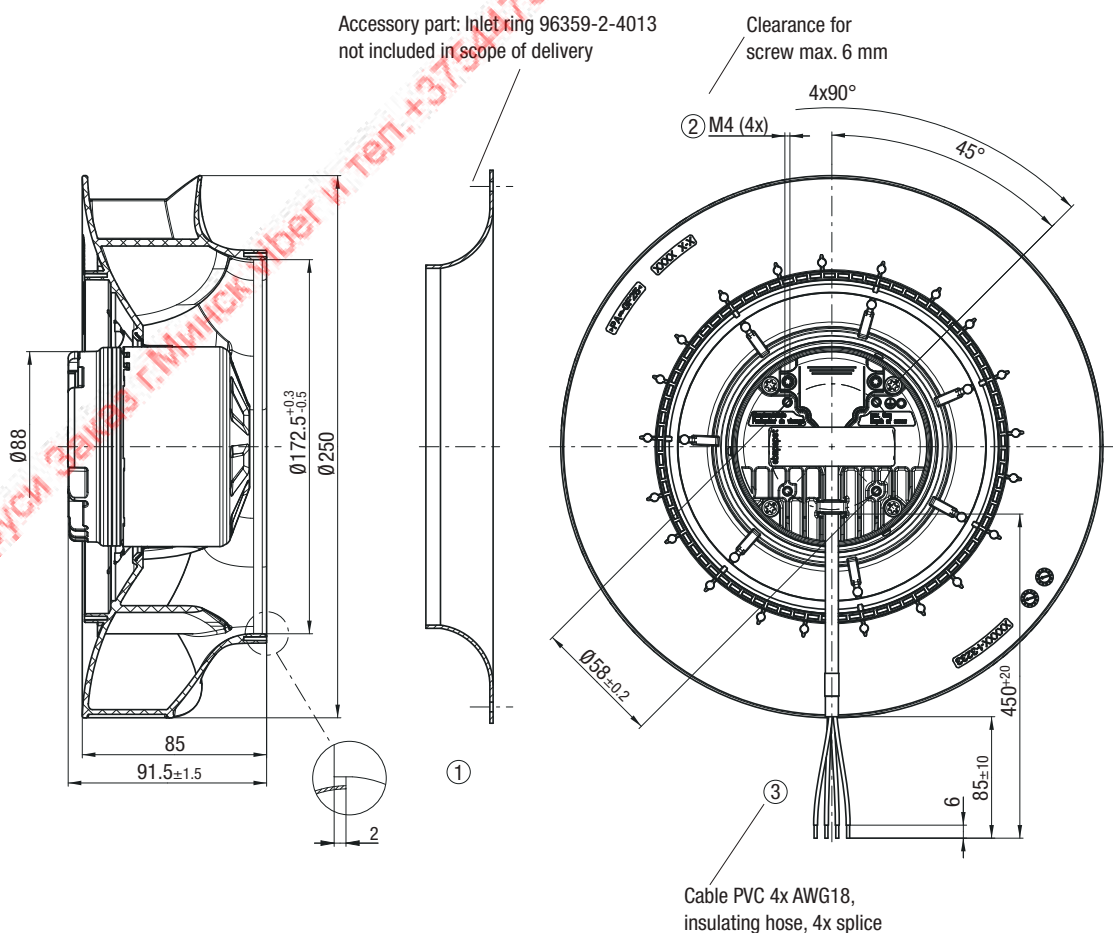
- **Technical features:** See connection diagram p. 278/279
- **Cable exit:** Axial
- **Approvals:** EAC; CSA C22.2 No. 113; UL 507



Weight centrifugal fans



Centrifugal fans	kg	Inlet ring
R1G 250-RC77-02	2.0	96359-2-4013
R1G 250-RC87-02	2.0	96359-2-4013
R1G 250-RC89-02	2.0	96359-2-4013



Max. 1640 m<sup>3</sup>/h

# DC centrifugal fans – RadiCal

Ø 250 mm



- **Material:** Impeller: PA plastic  
Rotor: Painted black
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 44, depending on installation and position
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

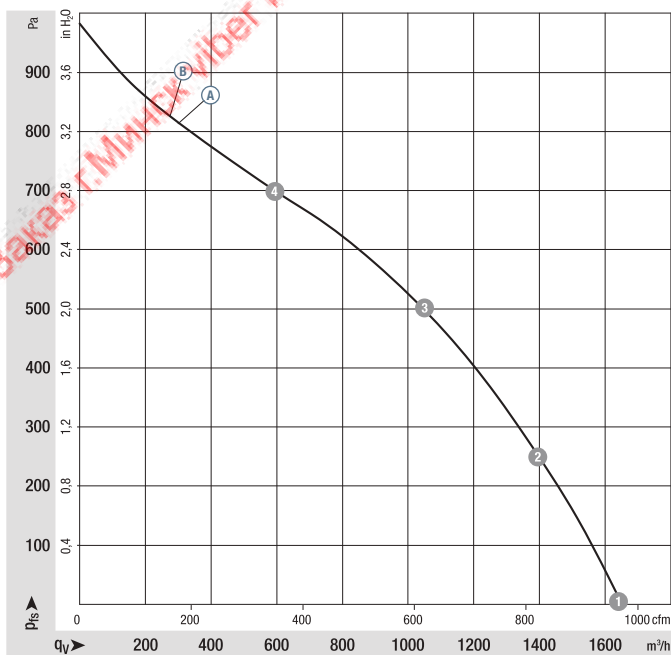
VBS0250RUNES

## Nominal data

Type	Motor	Curve	Nominal voltage		Air flow	Nominal speed	Power consumption	Input current	Sound pressure level	Admissible amb. temp.	Technical features and connection diagram
			VDC	VDC							
<b>R3G 250</b>	M3G 074-CF	Ⓐ	24	16-28	1505	2850	175	7.20	73	-25...+60	p. 277 / J5)
<b>R3G 250</b>	M3G 074-CF	Ⓑ	48	36-57	1640	3100	230	4.80	73	-25...+60	p. 277 / J5)

Subject to change

## Curves:



	n	P <sub>ed</sub>	I	L <sub>WA</sub>
	rpm <sup>-1</sup>	W	A	dB(A)
Ⓐ 1	2850	175	7.20	81
Ⓐ 2	3075	260	10.80	77
Ⓐ 3	3035	276	11.45	75
Ⓐ 4	3095	256	10.66	75
Ⓑ 1	3100	230	4.80	81
Ⓑ 2	3065	249	5.20	77
Ⓑ 3	3025	266	5.55	75
Ⓑ 4	3090	244	5.09	78

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Suction-side noise levels: L<sub>WA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

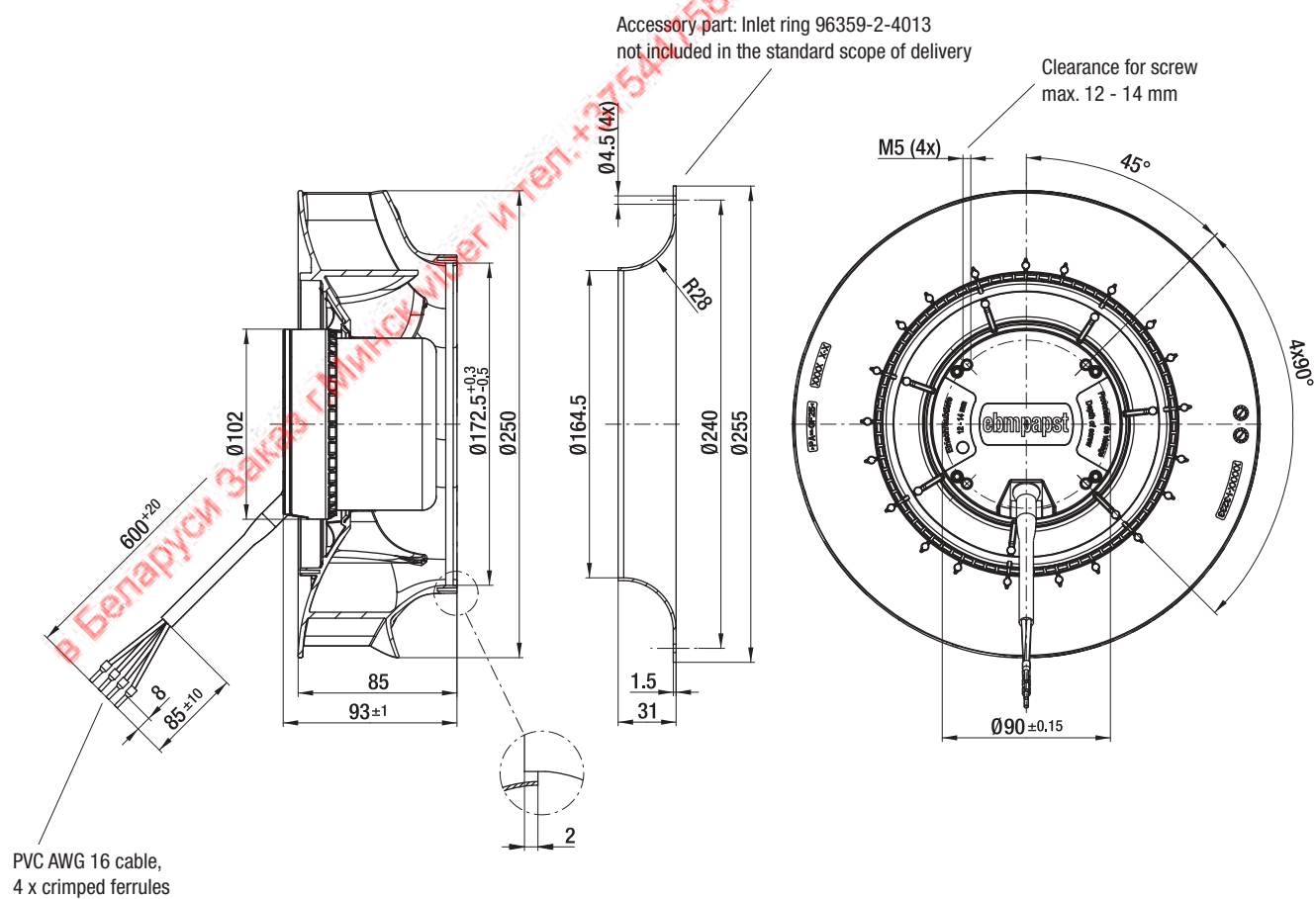
- **Technical features:** See connection diagram p. 277
- **Cable exit:** Variable
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** EAC



Weight centrifugal fans



Centrifugal fans	kg	Inlet ring
R3G 250-RN46 -01	2.1	96359-2-4013
R3G 250-RNB5 -02	2.1	96359-2-4013



max. 2120 m<sup>3</sup>/h

# EC centrifugal fans – RadiCal

Ø 280 mm



- **Material:** Impeller: PP plastic  
Rotor: Galvanized
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** Motor IP24 KM, electronics IP6K9K (mating connector installed)
- **Insulation class:** "B"
- **Installation position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensation drainage holes:** On rotor side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Ball bearing; (sealed)

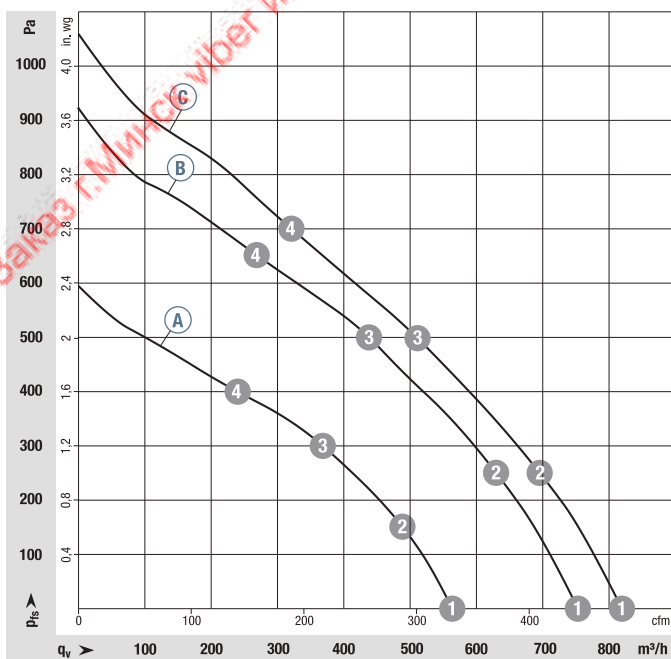
VBS0280RUNES

## Nominal data

Type	Motor	Curve	Nominal voltage		Air flow	Nominal speed	Power consumption	Input current	Admissible amb. temp.	Technical features and connection diagram
			VDC	VDC						
<b>R1G 280</b>	M1G 074-CF	Ⓐ	12	8...16	1780	1500	75	7.20	-25...+70	p. 278 / Q)
<b>R1G 280</b>	M1G 074-CF	Ⓑ	24	16...28	2035	1700	105	4.40	-25...+60	p. 278 / Q)
<b>R1G 280</b>	M1G 074-CF	Ⓒ	48	36...57	2120	1800	115	2.40	-25...+60	p. 279 / R)

Subject to change

## Curves:



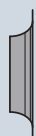
	n	P <sub>ed</sub>	I
	rpm <sup>-1</sup>	W	A
Ⓐ 1	1500	75	7.20
Ⓐ 2	1430	82	7.92
Ⓐ 3	1395	83	8.15
Ⓐ 4	1445	81	7.83
Ⓑ 1	1700	105	4.40
Ⓑ 2	1595	111	4.60
Ⓑ 3	1550	112	4.68
Ⓑ 4	1635	109	4.52
Ⓒ 1	1800	115	2.40
Ⓒ 2	1655	121	2.50
Ⓒ 3	1610	123	2.60
Ⓒ 4	1690	119	2.50

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Suction-side noise levels: LWA according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

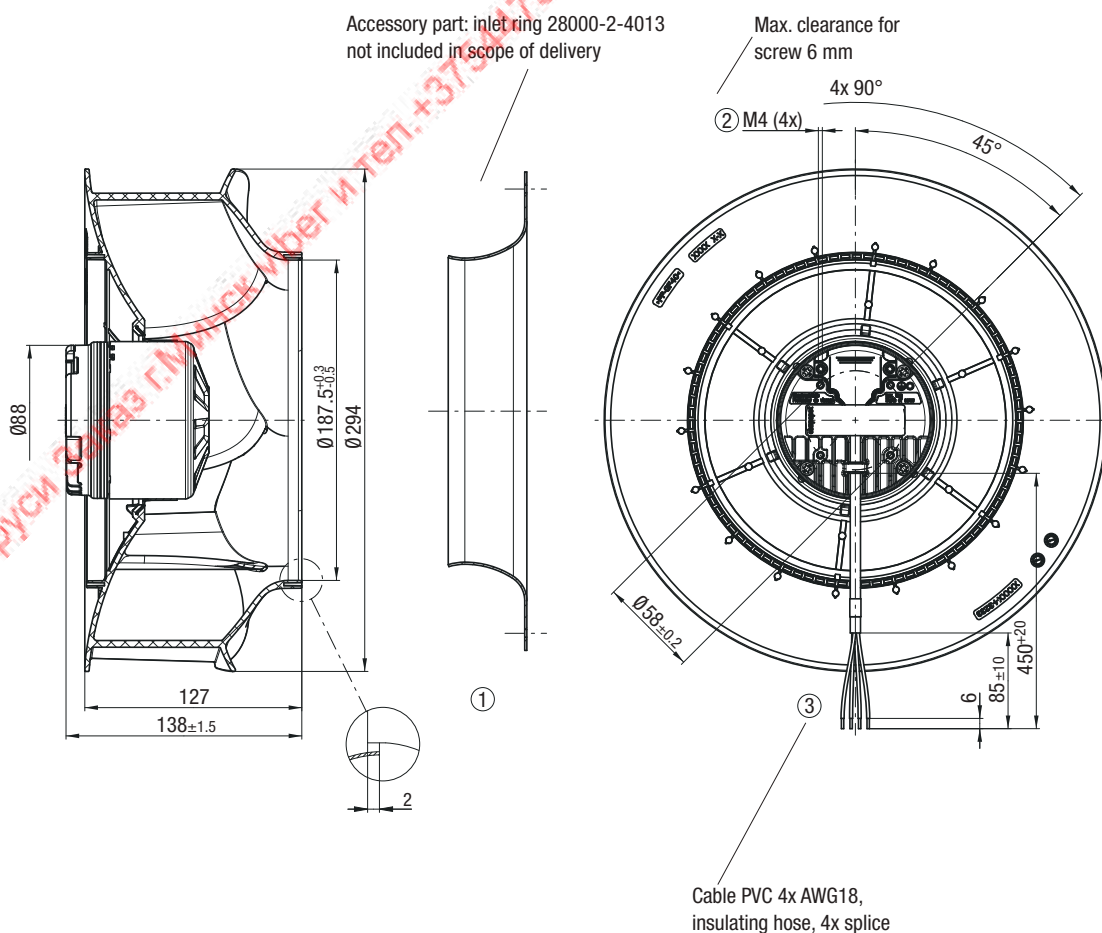
- **Technical features:** See connection diagram p. 278/279
- **Cable exit:** Variable
- **Approvals:** EAC; CSA C22.2 No. 113; UL 507



Weight centrifugal fans



Centrifugal fans	kg	Inlet ring
R1G 280-RC75-02	2.3	98000-2-4013
R1G 280-RC71-02	2.3	98000-2-4013
R1G 280-RC93-02	2.3	98000-2-4013



Max. 2190 m<sup>3</sup>/h

# DC centrifugal fans – RadiCal

Ø 280 mm



- **Material:** Impeller: PP plastic  
Rotor: Painted black
- **Number of blades:** 6
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 44, depending on installation and position
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

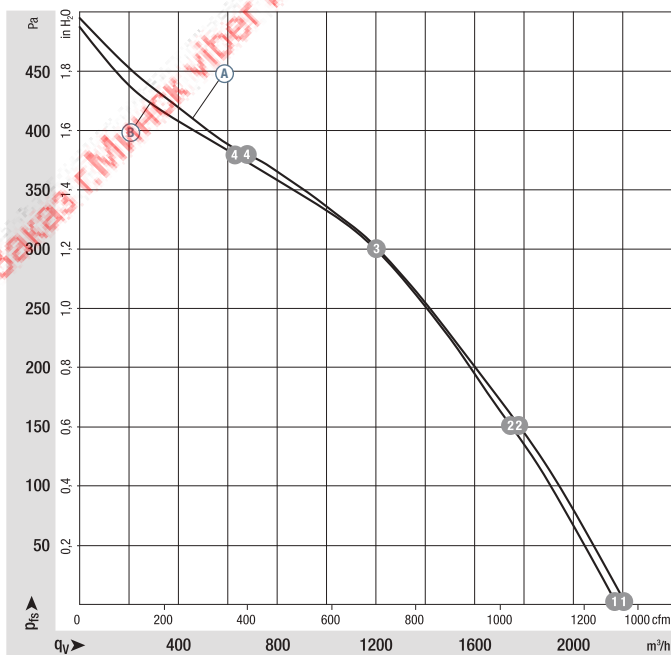
VBS0280RUNES

## Nominal data

Type	Motor	Curve	Nominal voltage VDC	Nominal voltage range VDC	Air flow m <sup>3</sup> /h	Nominal speed rpm <sup>-1</sup>	Power consumption W	Input current A	Sound pressure level dB(A)	Admissible amb. temp. °C	Technical features and connection diagram
<b>R3G 280</b>	M3G 074-CF	Ⓐ	24	16-28	2190	1900	142	5.90	67	-25...+60	p. 277 / J5)
<b>R3G 280</b>	M3G 074-CF	Ⓑ	48	36-57	2160	1910	140	2.90	67	-25...+60	p. 277 / J5)

Subject to change

## Curves:



	n rpm <sup>-1</sup>	P <sub>ed</sub> W	I A	L <sub>wA</sub> dB(A)
Ⓐ ①	1900	142	5.90	74
Ⓐ ②	1870	162	6.76	67
Ⓐ ③	1840	173	7.21	64
Ⓐ ④	1905	153	6.36	68
Ⓑ ①	1910	140	2.90	74
Ⓑ ②	1845	158	3.30	67
Ⓑ ③	1830	163	3.40	64
Ⓑ ④	1900	141	2.93	68

Air performance measured according to: ISO 5801, Installation category A, with ebm-papst inlet ring without contact protection. Suction-side noise levels: L<sub>wA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>



- **Technical features:** See connection diagram p. 277
- **Cable exit:** Variable
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** EAC



Weight  
centrifugal fans



Centrifugal fans

kg

Inlet ring

R3G 280-RN30 -01

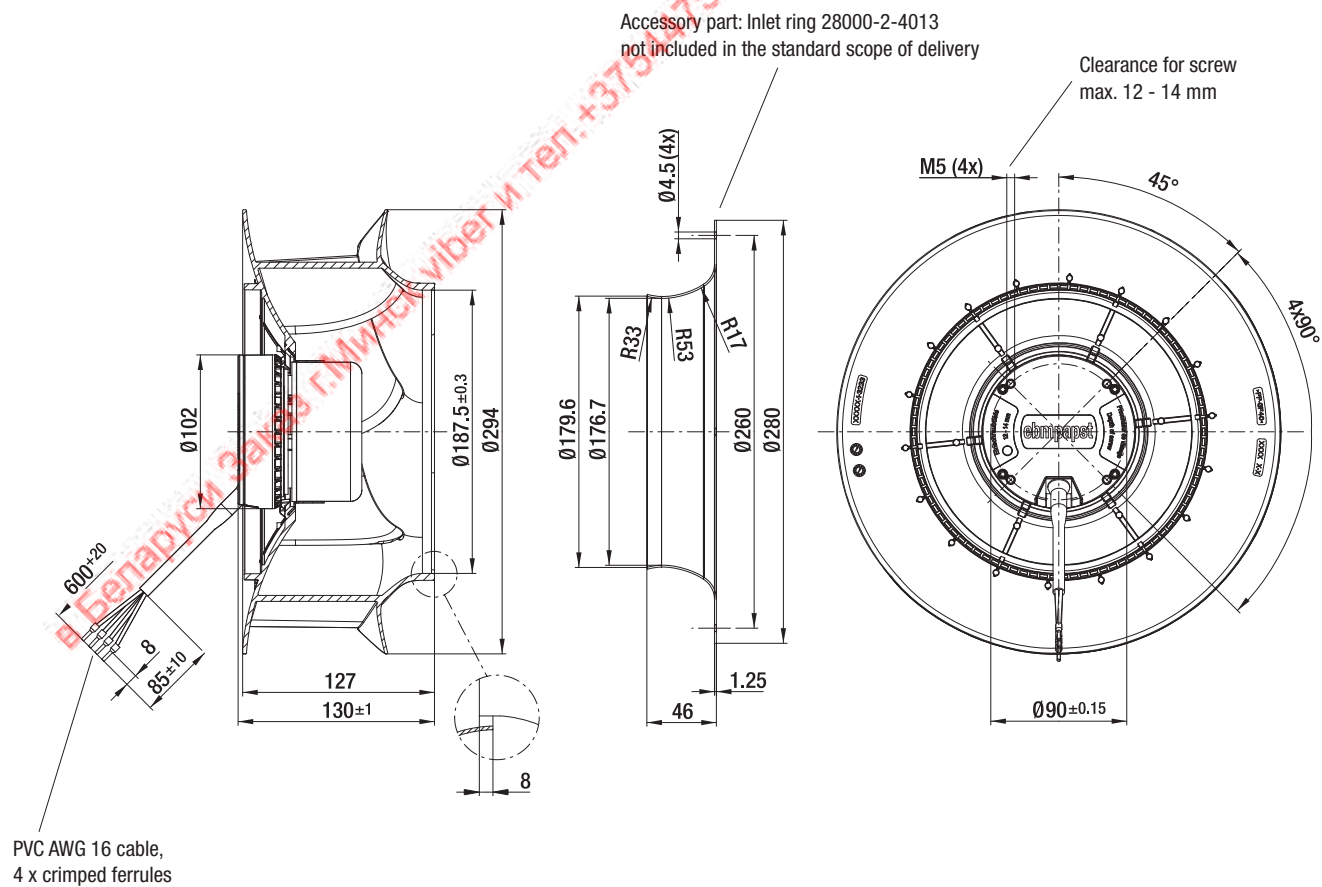
2.4

28000-2-4013

R3G 280-RNB1 -02

2.4

28000-2-4013



Max. 2380 m<sup>3</sup>/h

# DC centrifugal fans – RadiCal

Ø 310 mm



- **Material:** Impeller: PP plastic  
Rotor: Painted black
- **Number of blades:** 6
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 44, depending on installation and position
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

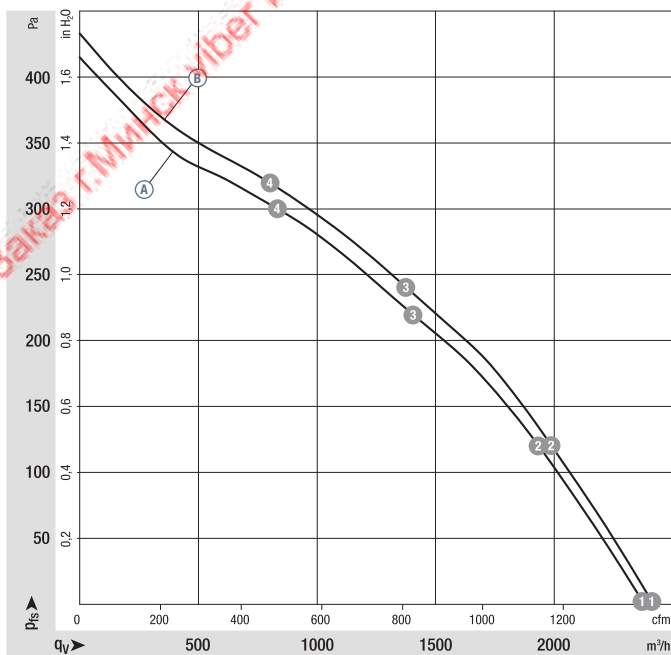
VBS031ORUNES

## Nominal data

Type	Motor	Curve	Nominal voltage VDC	Nominal voltage range VDC	Air flow m <sup>3</sup> /h	Nominal speed rpm <sup>-1</sup>	Power consumption W	Input current A	Sound pressure level dB(A)	Admissible amb. temp. °C	Technical features and connection diagram
<b>R3G 310</b>	M3G 074-CF	Ⓐ	24	16-28	2310	1580	108	4.50	64	-25...+60	p. 277 / J5)
<b>R3G 310</b>	M3G 074-CF	Ⓑ	48	36-57	2380	1620	123	2.60	64	-25...+60	p. 277 / J5)

Subject to change

## Curves:



	n rpm <sup>-1</sup>	P <sub>ed</sub> W	I A	L <sub>wA</sub> dB(A)
Ⓐ 1	1580	108	4.50	70
Ⓐ 2	1540	145	6.03	67
Ⓐ 3	1520	152	6.34	63
Ⓐ 4	1550	143	5.95	65
Ⓑ 1	1620	123	2.60	70
Ⓑ 2	1570	147	3.07	66
Ⓑ 3	1545	156	3.26	63
Ⓑ 4	1580	144	3.01	66

Air performance measured according to: ISO 5801, installation category A, with ebm-papst inlet ring without contact protection. Suction-side noise levels: L<sub>wA</sub> according to ISO 13347, L<sub>vA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 277
- **Cable exit:** Variable
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** EAC



Weight  
centrifugal fans



Centrifugal fans

kg

Inlet ring

R3G 310-RN99 -01

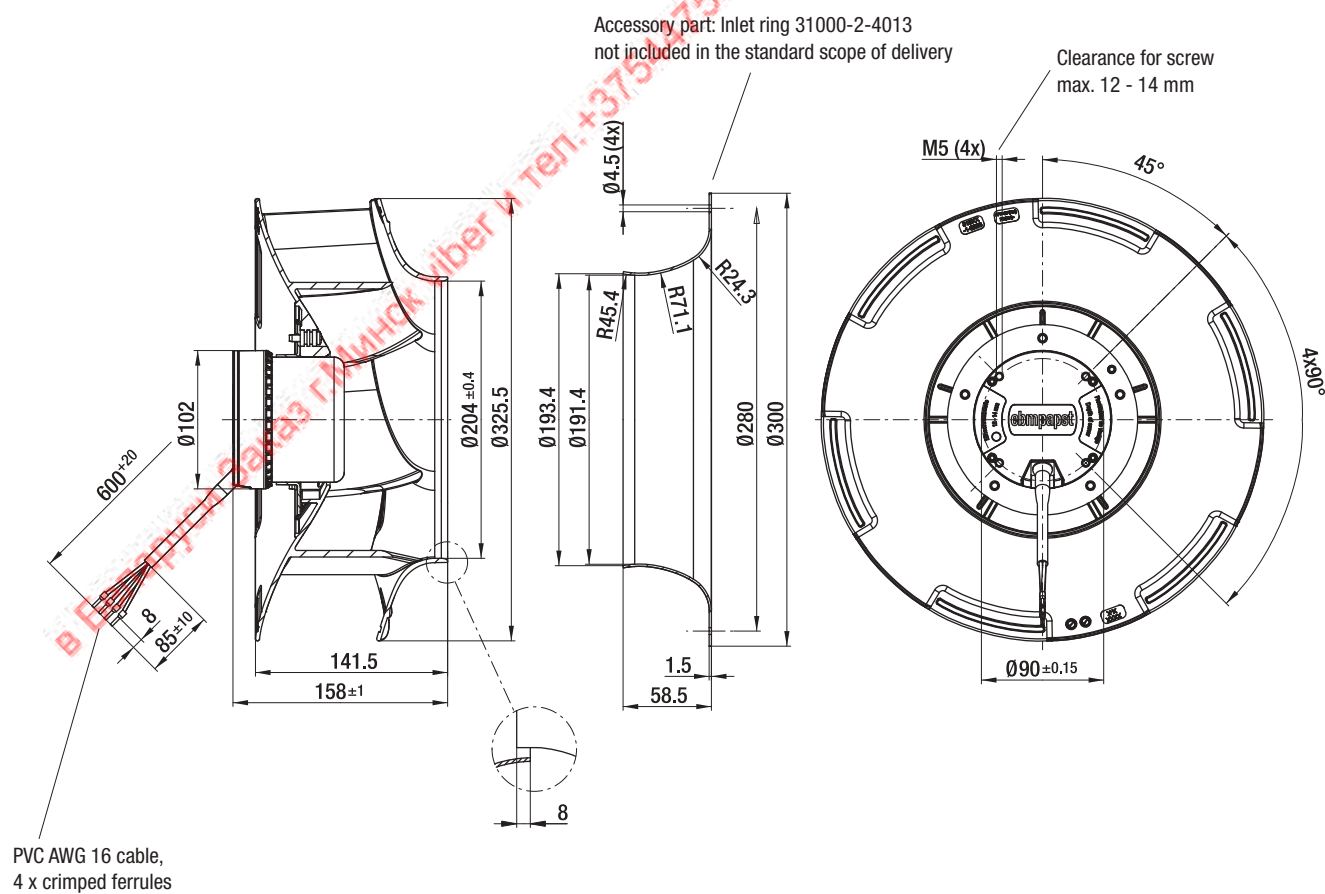
2.8

31000-2-4013

R3G 310-RN98 -02

2.8

31000-2-4013



Max. 155 m<sup>3</sup>/h

# DC tangential fans

201...413 x 50 x 48 mm



- **Material:** Housing: Aluminum  
Housing side parts: Plastic  
Impeller: Aluminum
  - **Direction of air flow:** See photo
  - **Connection:** via single wires AWG 24, TR 64
  - **Highlights:** Motor with ball bearing system  
Impeller retaining plate with sleeve bearing
  - **Weight:** 235 / 290 / 380 / 415 g
- **Possible special versions:**  
(See chapter DC fans - specials)
    - Speed signal
    - Moisture protection

Series QG 030  
VTS0030XUFBS  
VTS0030XUFCS

**Nominal data**

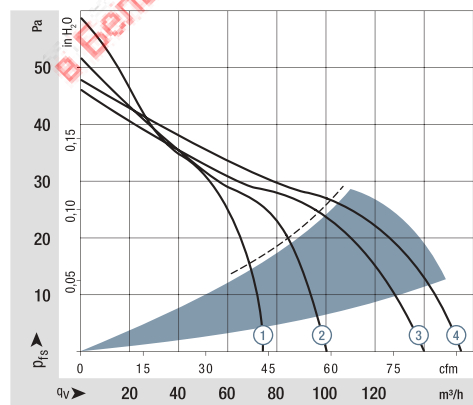
Type	Air flow		Nominal voltage	Voltage range		Sound pressure level	Sound power level	Sinter sleeve bearings		Power consumption	Temperature range	Service life L <sub>10</sub> (40 °C) ebm-papst standard	Service life L <sub>10</sub> (T <sub>max</sub> ) ebm-papst standard	Life expectancy L <sub>10</sub> IPC (40 °C) see page 15	Curve
	m <sup>3</sup> /h	cfm		VDC	VDC			db(A)	Bel(A)						
QG 030-148/12	75	44	12	8...14	49	5.7	□/■	6.2	-20...+60	30 000 / 20 000	50 000	①			
QG 030-198/12	100	59	12	8...14	51	5.8	□/■	8.0	-20...+60	30 000 / 20 000	50 000	②			
QG 030-303/12	140	82	12	8...14	51	5.8	□/■	8.7	-20...+60	30 000 / 20 000	50 000	③			
QG 030-353/12	155	91	12	8...14	51	5.9	□/■	9.6	-20...+60	30 000 / 20 000	50 000	④			
QG 030-148/14	75	44	24	16...28	49	5.7	□/■	6.2	-20...+60	30 000 / 20 000	50 000	①			
QG 030-198/14	100	59	24	16...28	51	5.8	□/■	8.0	-20...+60	30 000 / 20 000	50 000	②			
QG 030-303/14	140	82	24	16...28	51	5.8	□/■	8.7	-20...+60	30 000 / 20 000	50 000	③			
QG 030-353/14	155	91	24	16...28	51	5.9	□/■	9.6	-20...+60	30 000 / 20 000	50 000	④			

Subject to change

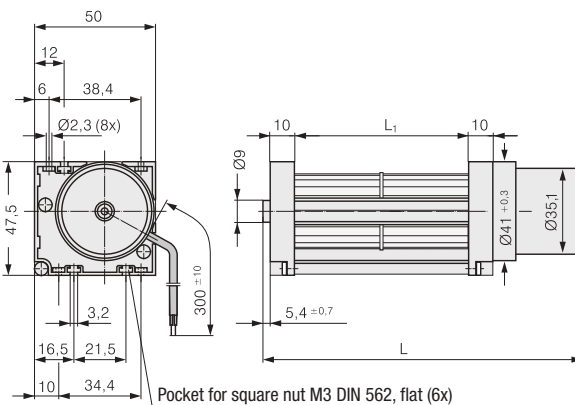
The values for service life were recorded with the fan installed horizontally.

Type	Dimension:	L	L <sub>1</sub>	Mass
QG 030-148/ ..		203.4 <sup>+1.5</sup>	148	235 g
QG 030-198/ ..		260.4 <sup>+1.5</sup>	198	290 g
QG 030-303/ ..		365.4 <sup>+1.5</sup>	303	380 g
QG 030-353/ ..		415.4 <sup>+1.5</sup>	353	415 g

----- Tangential fans are suitable only for operation with high air flow and low back-pressure.



Air performance measured according to: ISO 5801. Installation category A, without contact protection. Noise: Total sound power level LWA ISO 10302 measured on a hemisphere with a radius of 2 m. Sound pressure level LpA measured at 1 m distance to fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general conditions>



Max. 95 m<sup>3</sup>/h

# DC centrifugal fans and blowers

Ø 85 mm



- **Material:** Housing: Die-cast aluminum  
Impeller: Hot-dip galvanized sheet steel  
Rotor: Galvanized
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 22
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VHS0085XUJCS

## Nominal data

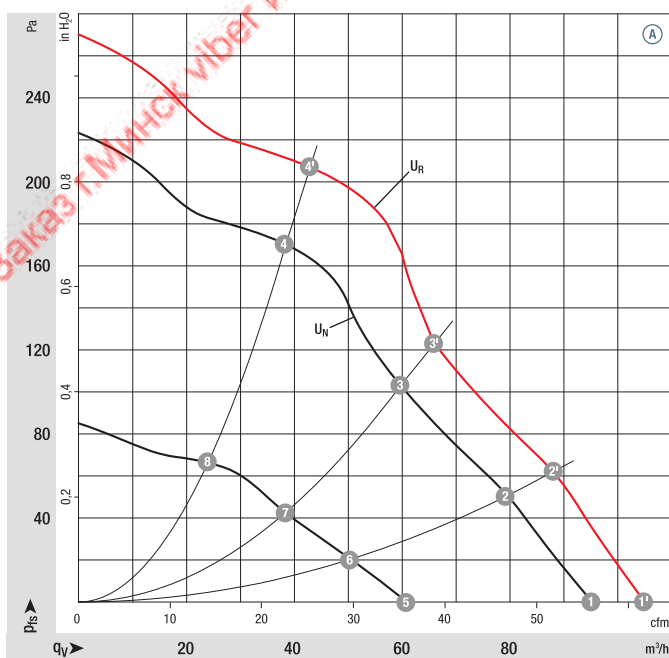
Type	Motor	Curve	Nominal voltage VDC	Nominal voltage range VDC	Air flow m <sup>3</sup> /h	Nominal speed rpm <sup>-1</sup>	Power consumption W	Input current A	Sound pressure level dB(A)	Min. back-pressure Pa	Admissible amb. temp. °C	Technical features and connection diagram
*1G 085	M1G045-BE	Ⓐ	24	16-28	95	2850	14	0.64	57	0	-25...+60	p. 274 / G)

Subject to change

### Curves:

U<sub>N</sub> = nominal voltage (24 V / 48 V)

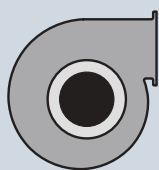
U<sub>R</sub> = over-voltage (28 V / 57 V)



	n rpm <sup>-1</sup>	P <sub>ed</sub> W	L <sub>pA</sub> dB(A)	η <sub>IL</sub> %
Ⓐ 1'	3180	19	59	—
Ⓐ 2'	3300	16	57	28
Ⓐ 3'	3500	15	57	32
Ⓐ 4'	3800	12	57	37
Ⓐ 1	2850	14	57	—
Ⓐ 2	3000	12	55	28
Ⓐ 3	3180	11	55	32
Ⓐ 4	3400	9	54	37
Ⓐ 5	1890	5	46	—
Ⓐ 6	1970	4	44	25
Ⓐ 7	2070	4	44	30
Ⓐ 8	2170	3	42	33

Air performance measured according to: ISO 5801, installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>pA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **Cable exit:** Axial
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** EAC



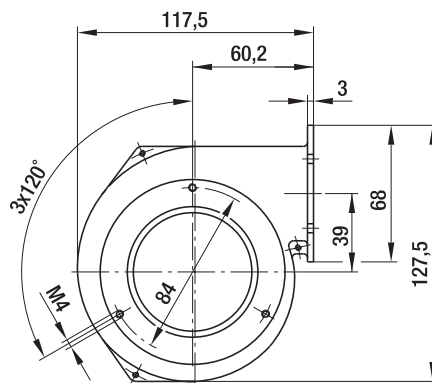
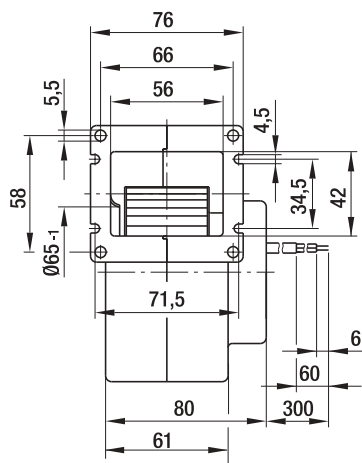
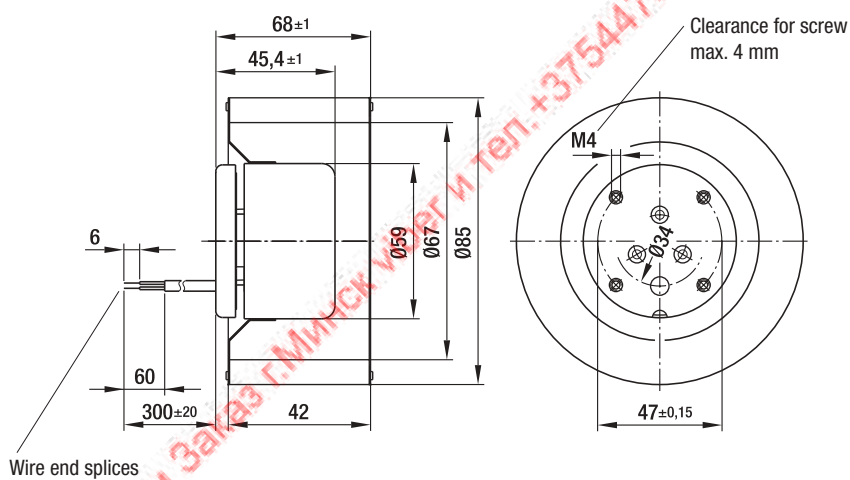
Weight  
centrifugal fans

Centrifugal blowers  
with flange

kg

G1G 085-AB05 -01

0.8



Max. 95 m<sup>3</sup>/h

# DC centrifugal fans and blowers

Ø 97 mm



- **Material:** Housing: Hot-dip galvanized sheet steel  
Impeller: Hot-dip galvanized sheet steel  
Rotor: Galvanized
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 22
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VFS0097XUJCS  
VHS0097XUJCS

## Nominal data

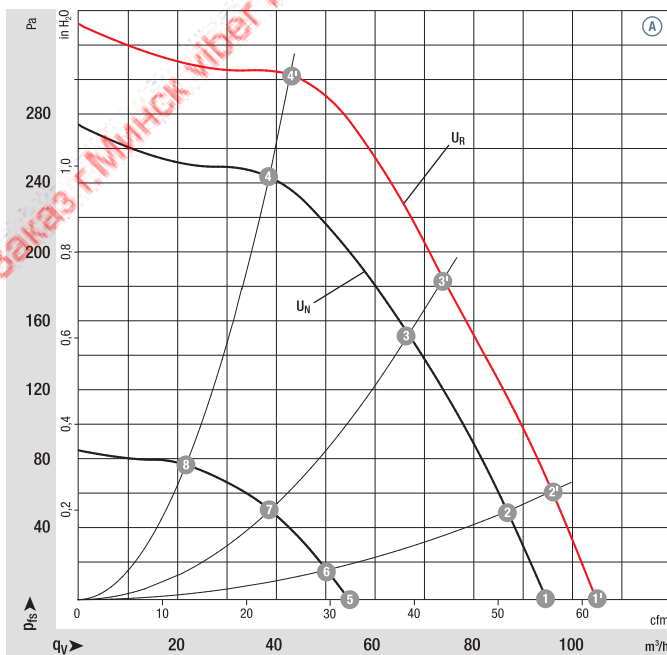
Type	Motor	Curve	Nominal voltage		Air flow	Nominal speed	Power consumption	Input current	Sound pressure level	Min. back-pressure	Admissible amb. temp.	Technical features and connection diagram
			VDC	VDC								
*1G 097	M1G045-BE	Ⓐ	24	16-28	95	2650	16	0.75	59	0	-25...+60	p. 274 / G)
*1G 097	M1G045-BE	Ⓐ	48	36-57	95	2650	16	0.38	59	0	-25...+60	p. 274 / G)

Subject to change

## Curves:

$U_N$  = nominal voltage  
(24 V / 48 V)

$U_R$  = over-voltage  
(28 V / 57 V)



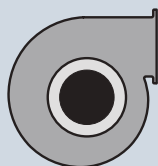
	n	P <sub>ed</sub>	L <sub>pA</sub>	η <sub>IL</sub>
	rpm <sup>-1</sup>	W	dB(A)	%
Ⓐ 1'	2920	22	62	—
Ⓐ 2'	3030	21	61	41
Ⓐ 3'	3300	17	59	48
Ⓐ 4'	3700	13	58	48
Ⓐ 1	2650	16	59	—
Ⓐ 2	2730	15	58	41
Ⓐ 3	2960	13	56	48
Ⓐ 4	3290	10	55	48
Ⓐ 5	1615	4	45	—
Ⓐ 6	1650	4	45	38
Ⓐ 7	1745	4	43	46
Ⓐ 8	1880	3	42	47

Air performance measured according to: ISO 5801, Installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>WA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **Cable exit:** Axial
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** EAC

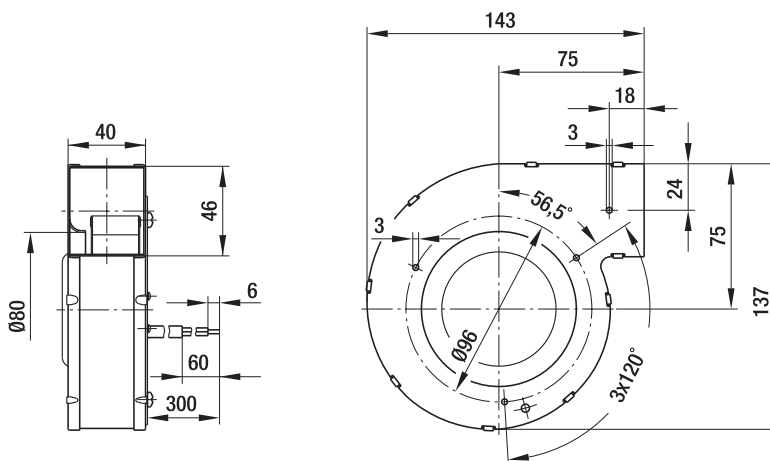
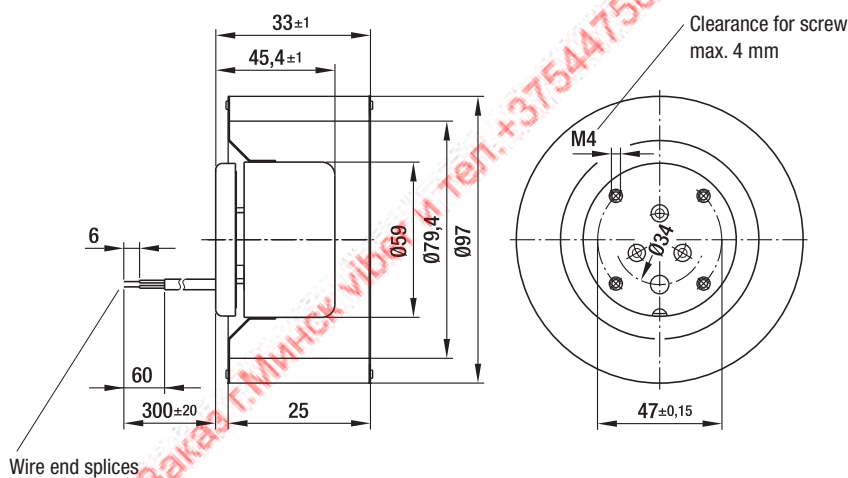


Weight centrifugal fans



Weight centrifugal blowers

Centrifugal fans	kg	Centrifugal blowers with flange	kg
R1G 097-AA05 -01	0.5	G1G 097-AA05 -01	0.8
R1G 097-AA07 -07	0.5	G1G 097-AA07 -01	0.8





Max. 200 m<sup>3</sup>/h

# DC centrifugal fans and blowers

Ø 108 mm



- **Material:** Housing: Die-cast aluminum  
Impeller: Hot-dip galvanized sheet steel  
Rotor: Painted black
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 22
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VFS0108XULCS  
VHS0108XULCS

### Nominal data

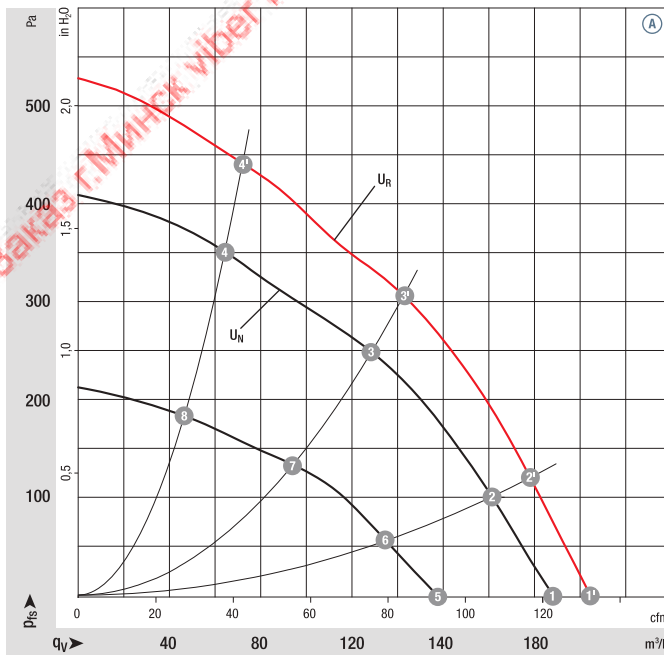
Type	Motor	Curve	Nominal voltage		Air flow m <sup>3</sup> /h	Nominal speed rpm <sup>-1</sup>	Power consumption W	Input current A	Sound pressure level dB(A)	Min. back-pressure Pa	Admissible amb. temp. °C	Technical features and connection diagram
			VDC	VDC								
*1G 108	M1G055-BD	Ⓐ	24	16-28	200	3000	42	2.00	65	0	-25...+60	p. 274 / G)
*1G 108	M1G055-BD	Ⓐ	48	36-57	200	3000	42	1.00	65	0	-25...+60	p. 274 / G)

Subject to change

### Curves:

U<sub>N</sub> = nominal  
voltage  
(24 V / 48 V)

U<sub>R</sub> = over-  
voltage  
(28 V / 57 V)



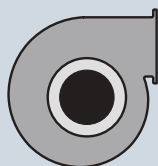
	n rpm <sup>-1</sup>	P <sub>ed</sub> W	L <sub>pA</sub> dB(A)	η <sub>IL</sub> %
Ⓐ 1'	3230	55	67	—
Ⓐ 2'	3410	52	66	33
Ⓐ 3'	3800	43	65	41
Ⓐ 4'	4100	35	64	33
Ⓐ 1	3000	42	65	—
Ⓐ 2	3140	40	64	33
Ⓐ 3	3420	32	63	41
Ⓐ 4	3690	26	63	33
Ⓐ 5	2300	20	61	—
Ⓐ 6	2380	17	58	33
Ⓐ 7	2550	14	55	41
Ⓐ 8	2720	11	55	33

Air performance measured according to: ISO 5801, Installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>WA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **Cable exit:** Axial
- **Protection class:** I
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** ⓐ (24 VDC) UL, CSA, ⓐ (48 VDC) CCC

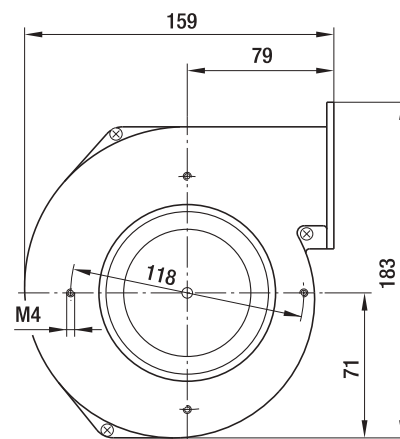
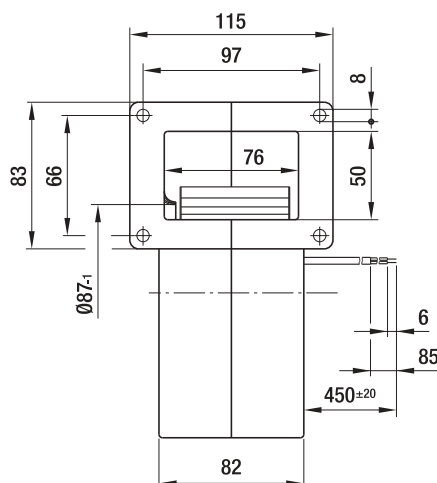
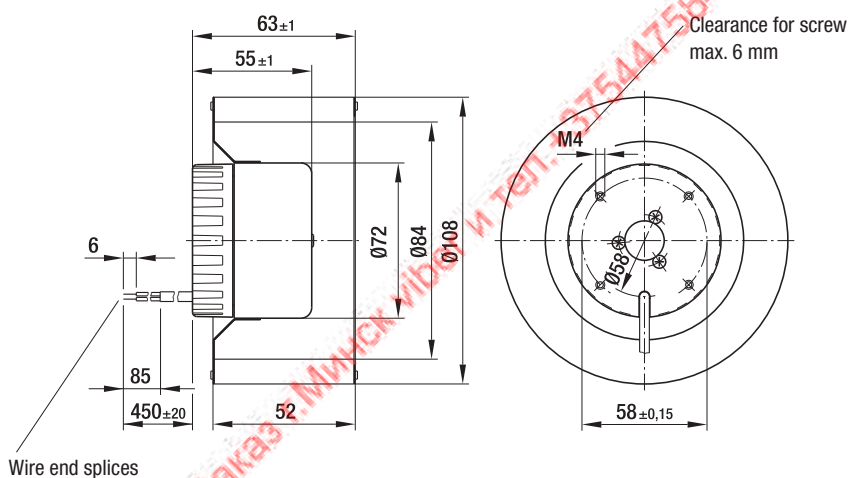


Weight centrifugal fans



Weight centrifugal blowers

Centrifugal fans	kg	Centrifugal blowers with flange	kg
R1G 108-AB17 -02	0.7	G1G 108-AB17 -02	1.4
R1G 108-AB41 -02	0.7	G1G 108-AB41 -02	1.4



Max. 255 m<sup>3</sup>/h

# DC centrifugal fans and blowers

Ø 120 mm



- **Material:** Housing: Die-cast aluminum  
Impeller: Hot-dip galvanized sheet steel  
Rotor: Galvanized
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 22
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VFS0120XULCS  
VHS0120XULCS

### Nominal data

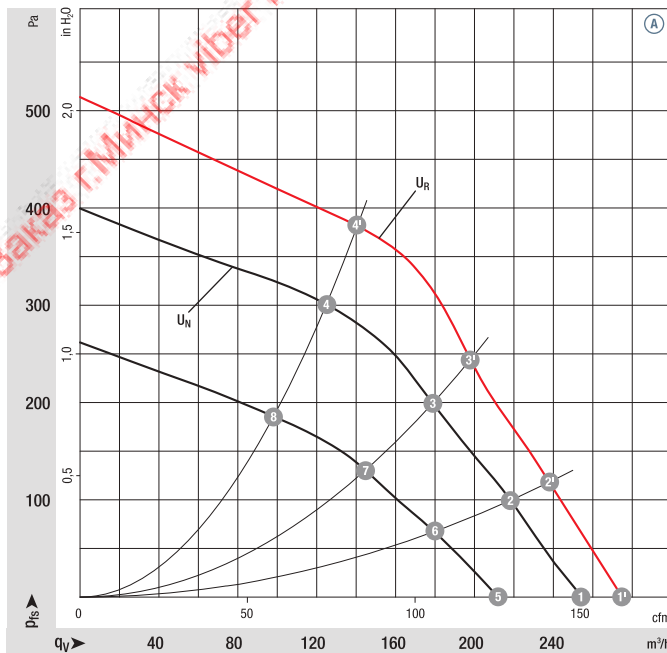
Type	Motor	Curve	Nominal voltage		Air flow m <sup>3</sup> /h	Nominal speed rpm <sup>-1</sup>	Power consumption W	Input current A	Sound pressure level dB(A)	Min. back-pressure Pa	Admissible amb. temp. °C	Technical features and connection diagram
			VDC	VDC								
*1G 120	M1G055-BD	Ⓐ	24	16-28	255	2200	40	1.90	62	0	-25...+60	p. 274 / G)
*1G 120	M1G055-BD	Ⓐ	48	36-57	255	2200	40	0.95	62	0	-25...+60	p. 274 / G)

Subject to change

### Curves:

U<sub>N</sub> = nominal  
voltage  
(24 V / 48 V)

U<sub>R</sub> = over-  
voltage  
(28 V / 57 V)



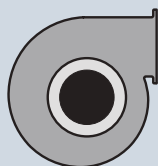
	n rpm <sup>-1</sup>	P <sub>ed</sub> W	L <sub>pA</sub> dB(A)	η <sub>IL</sub> %
Ⓐ 1'	2410	50	63	—
Ⓐ 2'	2620	47	62	58
Ⓐ 3'	2870	44	61	60
Ⓐ 4'	3200	36	62	55
Ⓐ 1	2200	40	62	—
Ⓐ 2	2410	36	60	59
Ⓐ 3	2600	32	58	62
Ⓐ 4	2880	25	58	55
Ⓐ 5	1870	24	55	—
Ⓐ 6	1990	21	54	58
Ⓐ 7	2100	18	53	61
Ⓐ 8	2310	14	54	54

Air performance measured according to: ISO 5801, installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>WA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **Cable exit:** Axial
- **Protection class:** I
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** Ⓐ (24 VDC) UL, CSA, Ⓐ (48 VDC) CCC

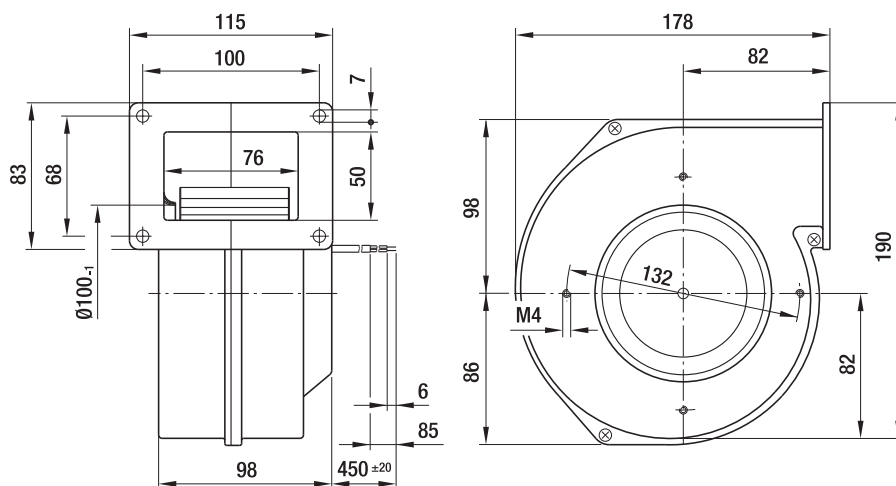
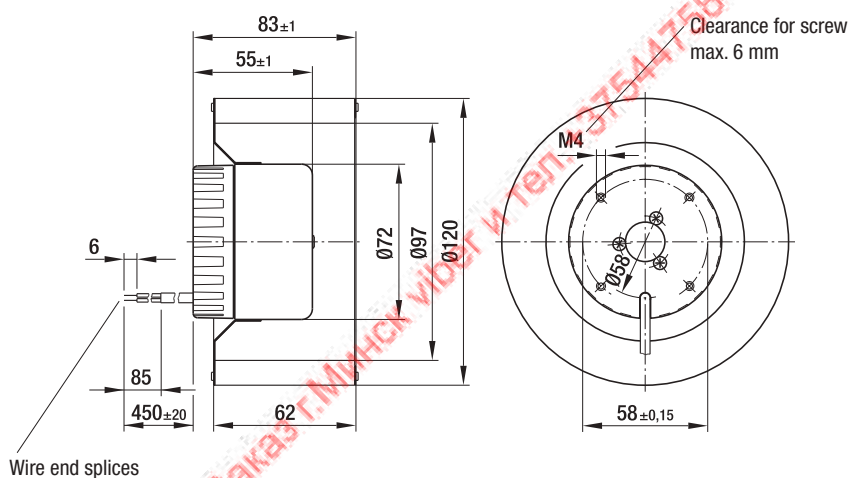


Weight centrifugal fans



Weight centrifugal blowers

Centrifugal fans	kg	Centrifugal blowers with flange	kg
R1G 120-AB67 -02	0.8	G1G 120-AB67 -02	1.6
R1G 120-AB71 -02	0.8	G1G 120-AB71 -02	1.6



Max. 225 m<sup>3</sup>/h

# DC centrifugal fans and blowers

Ø 133 mm



- **Material:** Housing: Hot-dip galvanized sheet steel  
Impeller: Hot-dip galvanized sheet steel  
Rotor: Galvanized
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 22
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VFS0133XULCS  
VHS0133XULCS

## Nominal data

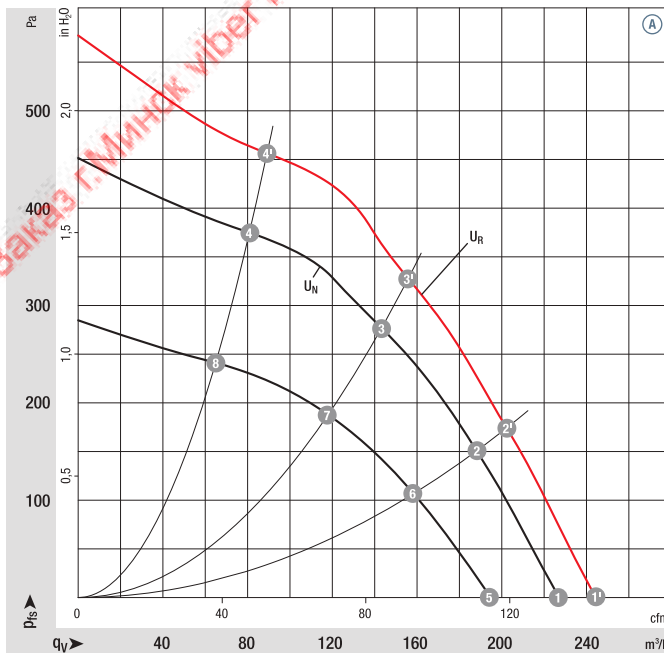
Type	Motor	Curve	Nominal voltage		Air flow m <sup>3</sup> /h	Nominal speed rpm <sup>-1</sup>	Power consumption W	Input current A	Sound pressure level dB(A)	Min. back-pressure Pa	Admissible amb. temp. °C	Technical features and connection diagram
			VDC	VDC								
*1G 133	M1G 055-BD	Ⓐ	24	16-28	225	2000	40	2.20	64	0	-25...+60	p. 274 / G)
*1G 133	M1G 055-BD	Ⓐ	48	36-57	225	2000	40	1.10	64	0	-25...+60	p. 274 / G)

Subject to change

## Curves:

U<sub>N</sub> = nominal  
voltage  
(24 V / 48 V)

U<sub>R</sub> = over-  
voltage  
(28 V / 57 V)



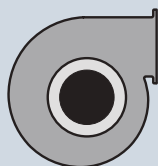
	n rpm <sup>-1</sup>	P <sub>ed</sub> W	L <sub>pA</sub> dB(A)	η <sub>IL</sub> %
Ⓐ 1'	2170	57	66	—
Ⓐ 2'	2410	51	66	47
Ⓐ 3'	2750	44	64	49
Ⓐ 4'	3200	36	66	32
Ⓐ 1	2000	45	64	—
Ⓐ 2	2230	40	64	49
Ⓐ 3	2540	35	62	51
Ⓐ 4	2920	27	63	33
Ⓐ 5	1750	28	60	—
Ⓐ 6	1910	24	59	50
Ⓐ 7	2120	20	58	53
Ⓐ 8	2370	15	59	35

Air performance measured according to: ISO 5801, Installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>WA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **Cable exit:** Lateral
- **Protection class:** I
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** Ⓐ (24 VDC) UL, CSA, Ⓐ (48 VDC) CCC

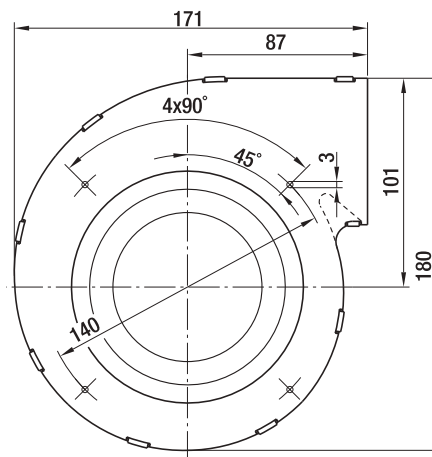
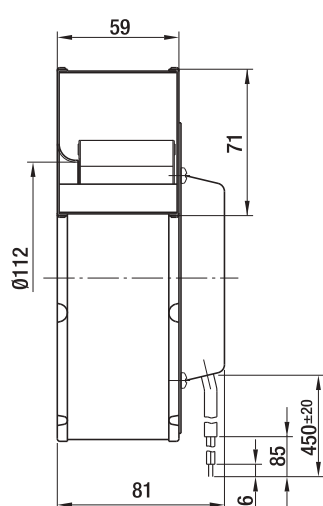
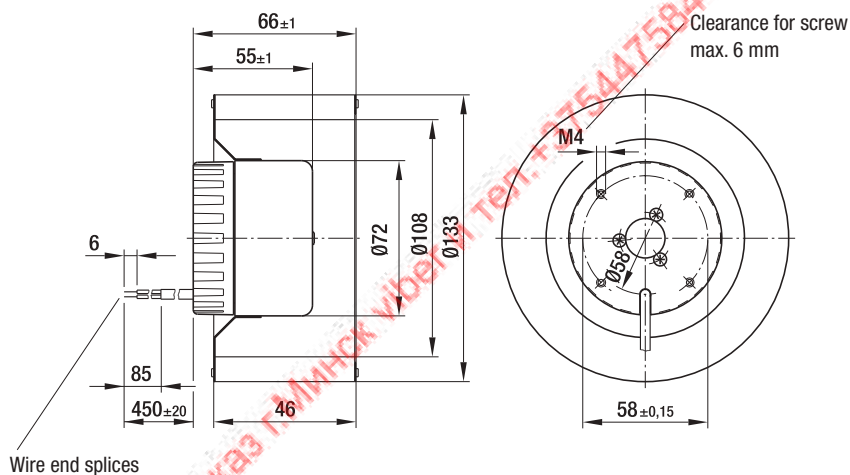


Weight centrifugal fans



Weight centrifugal blowers

Centrifugal fans	kg	Centrifugal blowers with flange	kg
R1G 133-AE19 -02	0.7	G1G 133-DE19 -02	1.3
R1G 133-AE03 -02	0.7	G1G 133-DE03 -02	1.3



Max. 410 m<sup>3</sup>/h

# DC centrifugal fans and blowers

Ø 140 mm



- **Material:** Housing: Die-cast aluminum  
Impeller: Hot-dip galvanized sheet steel  
Rotor: Painted black
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 22
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VFS0140XULES  
VHS0140XULES

## Nominal data

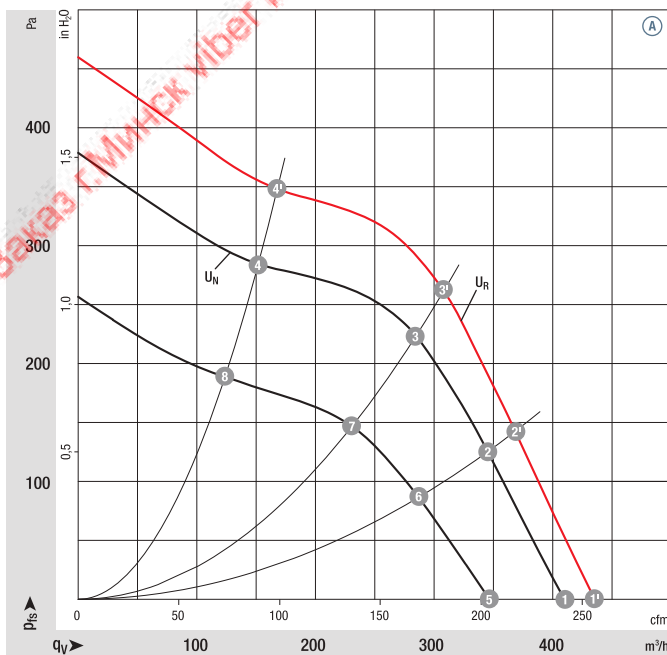
Type	Motor	Curve	Nominal voltage		Air flow	Nominal speed	Power consumption	Input current	Sound pressure level	Min. back-pressure	Admissible amb. temp.	Technical features and connection diagram
			VDC	VDC								
*1G 140	M1G055-BD	Ⓐ	24	16-28	400	1750	54	2.50	63	0	-25...+60	p. 274 / G)
*1G 140	M1G055-BD	Ⓐ	48	36-57	410	1750	54	1.30	63	0	-25...+60	p. 274 / G)

Subject to change

## Curves:

$U_N$  = nominal voltage  
(24 V / 48 V)

$U_R$  = over-voltage  
(28 V / 57 V)



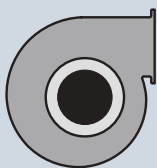
	n	P <sub>ed</sub>	L <sub>pA</sub>	η <sub>IL</sub>
	rpm <sup>-1</sup>	W	dB(A)	%
Ⓐ 1'	1850	65	64	—
Ⓐ 2'	2020	61	61	50
Ⓐ 3'	2200	57	59	54
Ⓐ 4'	2550	43	60	40
Ⓐ 1	1750	54	63	—
Ⓐ 2	1900	50	59	51
Ⓐ 3	2030	45	58	54
Ⓐ 4	2310	32	58	40
Ⓐ 5	1500	34	60	—
Ⓐ 6	1580	29	56	50
Ⓐ 7	1670	25	54	53
Ⓐ 8	1880	19	53	41

Air performance measured according to: ISO 5801, Installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>WA</sub> according to ISO 13347, L<sub>PA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **Cable exit:** Axial
- **Protection class:** I
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** Ⓐ (48 VDC) CCC

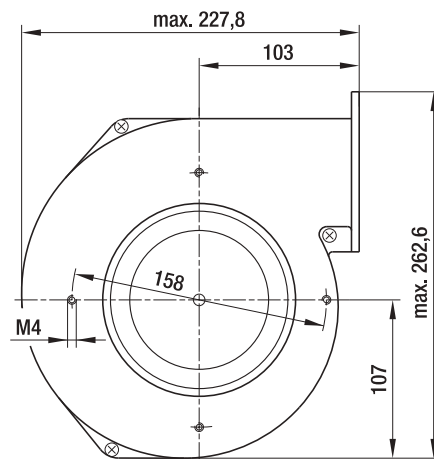
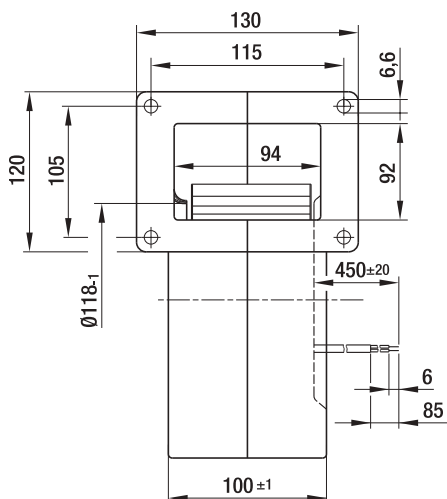
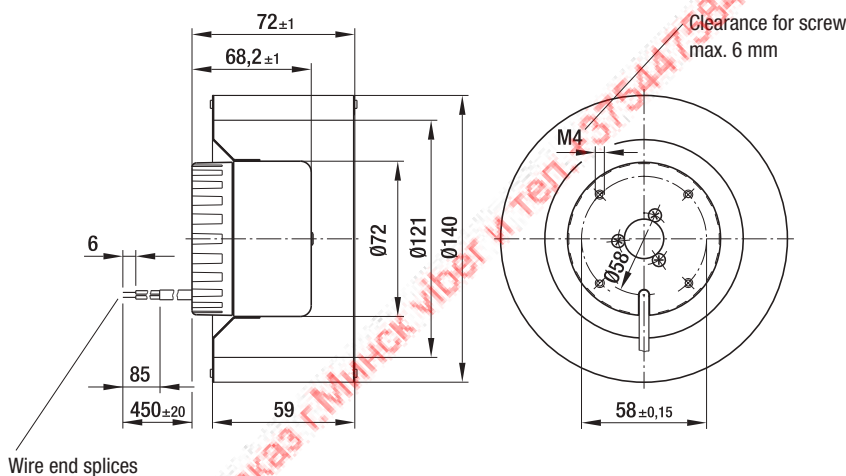


Weight centrifugal fans



Weight centrifugal blowers

Centrifugal fans	kg	Centrifugal blowers with flange	kg
R1G 140-AV17 -02	1.0	G1G 140-AV17 -02	2.3
R1G 140-AV21 -02	1.0	G1G 140-AV21 -02	2.3





Max. 470 m<sup>3</sup>/h

# DC centrifugal fans and blowers

Ø 146 mm



- **Material:** Housing: Die-cast aluminum  
Impeller: Hot-dip galvanized sheet steel  
Rotor: Painted black
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 42
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VFS0146XUNCS  
VHS0146XUNCS

## Nominal data

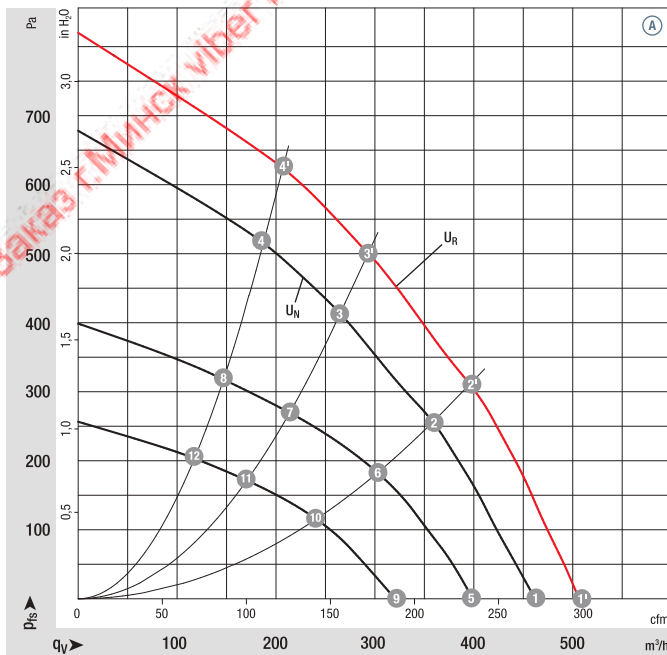
Type	Motor	Curve	Nominal voltage		Air flow m <sup>3</sup> /h	Nominal speed rpm <sup>-1</sup>	Power consumption W	Input current A	Sound pressure level dB(A)	Min. back-pressure Pa	Admissible amb. temp. °C	Technical features and connection diagram
			VDC	VDC								
*1G 146	M1G074-BF	Ⓐ	24	16-28	470	2200	100	5.00	68	0	-25...+60	p. 274 / G)
*1G 146	M1G074-BF	Ⓐ	48	36-57	465	2150	100	2.60	67	0	-25...+60	p. 274 / G)

Subject to change

## Curves:

U<sub>N</sub> = nominal  
voltage  
(24 V / 48 V)

U<sub>R</sub> = over-  
voltage  
(28 V / 57 V)



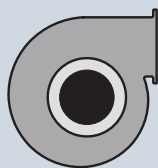
	n rpm <sup>-1</sup>	P <sub>ed</sub> W	L <sub>pA</sub> dB(A)	η <sub>IL</sub> %
Ⓐ 1'	2400	140	70	—
Ⓐ 2'	2650	130	67	45
Ⓐ 3'	3000	110	66	49
Ⓐ 4'	3300	100	67	45
Ⓐ 1	2200	100	68	—
Ⓐ 2	2445	90	65	46
Ⓐ 3	2750	84	64	49
Ⓐ 4	3025	77	65	45
Ⓐ 5	1890	68	63	—
Ⓐ 6	2075	57	60	46
Ⓐ 7	2250	48	61	49
Ⓐ 8	2335	41	61	45
Ⓐ 9	1520	37	59	—
Ⓐ 10	1670	32	55	46
Ⓐ 11	1815	27	55	49
Ⓐ 12	1920	23	55	45

Air performance measured according to: ISO 5801, Installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>WA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **Cable exit:** Axial
- **Protection class:** I
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** UL, CSA, CCC (only centrifugal blowers)

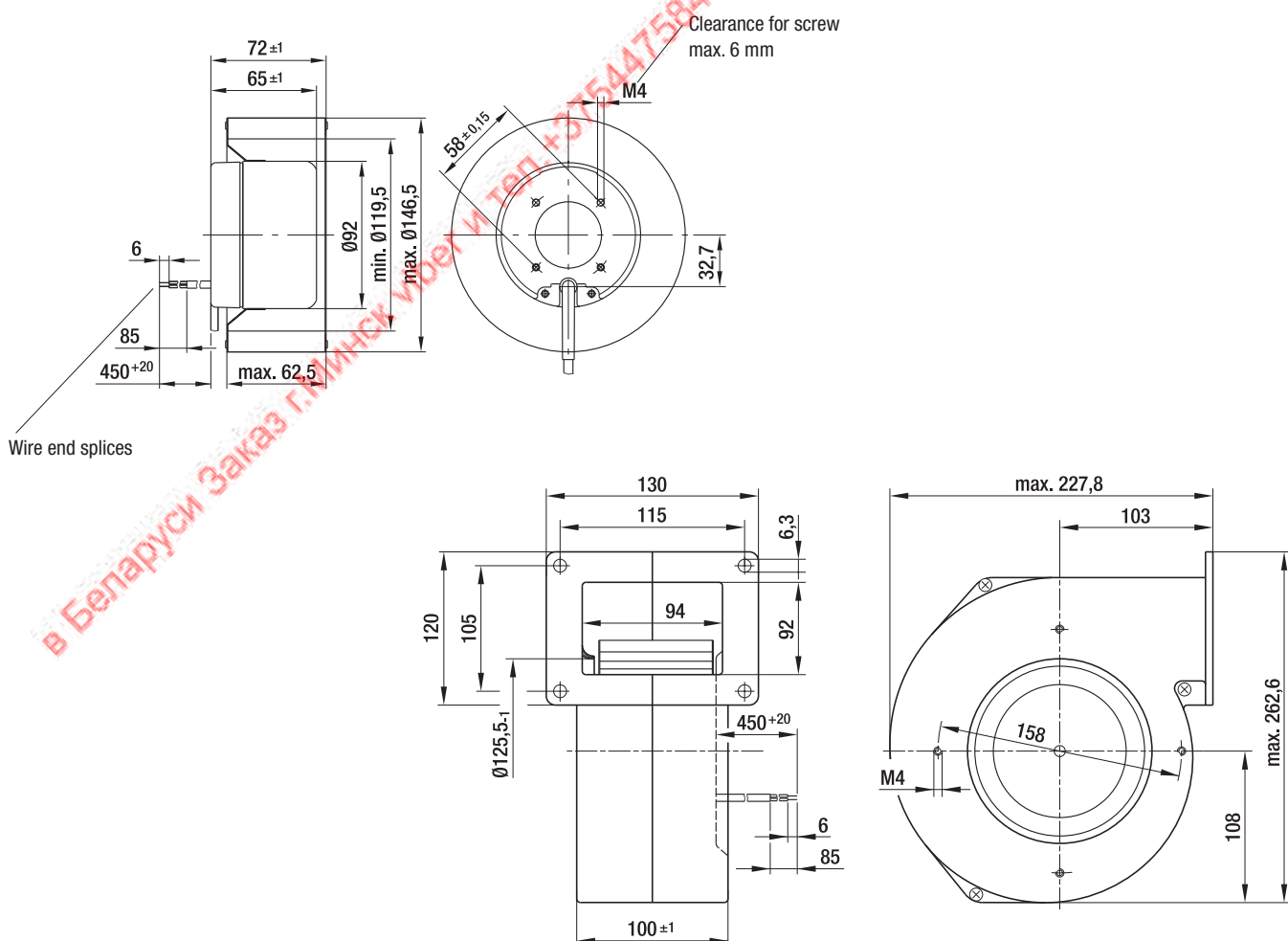


Weight centrifugal fans



Weight centrifugal blowers

Centrifugal fans	kg	Centrifugal blowers with flange	kg
R1G 146-AA07 -52	1.4	G1G 146-BA07 -52	2.8
R1G 146-AA11 -52	1.4	G1G 146-BA11 -52	2.8



Max. 505 m<sup>3</sup>/h

# DC centrifugal fans and blowers

Ø 160 mm



- **Material:** Housing: Die-cast aluminum  
Impeller: Hot-dip galvanized sheet steel  
Rotor: Painted black
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 42
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

VFS0160XUNCS  
VHS0160XUNCS

### Nominal data

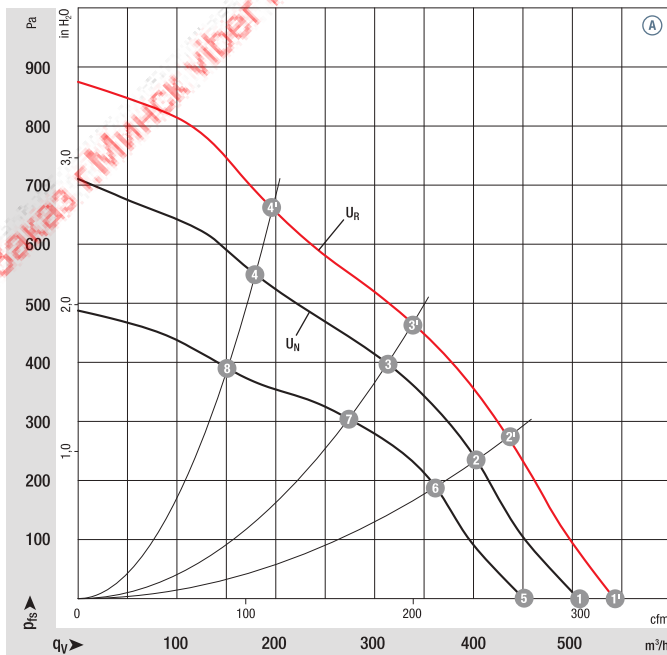
Type	Motor	Curve	Nominal voltage		Air flow	Nominal speed	Power consumption	Input current	Sound pressure level	Min. back-pressure	Admissible amb. temp.	Technical features and connection diagram
			VDC	VDC								
*1G 160	M1G074-BF	Ⓐ	24	16-28	505	1750	105	5.80	67	0	-25...+60	p. 274 / G)
*1G 160	M1G074-BF	Ⓐ	48	36-57	505	1750	105	2.90	67	0	-25...+60	p. 274 / G)

Subject to change

### Curves:

$U_N$  = nominal voltage  
(24 V / 48 V)

$U_R$  = over-voltage  
(28 V / 57 V)



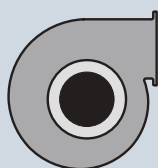
	n	P <sub>ed</sub>	L <sub>pA</sub>	η <sub>HL</sub>
	rpm <sup>-1</sup>	W	dB(A)	%
Ⓐ 1'	1890	134	68	—
Ⓐ 2'	2200	118	67	52
Ⓐ 3'	2500	110	67	57
Ⓐ 4'	2900	102	69	52
Ⓐ 1	1750	105	67	—
Ⓐ 2	2030	95	66	52
Ⓐ 3	2270	90	65	57
Ⓐ 4	2550	81	67	44
Ⓐ 5	1580	72	62	—
Ⓐ 6	1810	66	62	52
Ⓐ 7	2000	58	62	57
Ⓐ 8	2200	48	63	54

Air performance measured according to: ISO 5801, Installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>WA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **Cable exit:** Axial
- **Protection class:** I
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** UL, CSA



Weight centrifugal fans



Weight centrifugal blowers

Centrifugal fans

kg

Centrifugal blowers with flange

kg

R1G 160-AH29 -52

1.4

G1G 160-BH29 -52

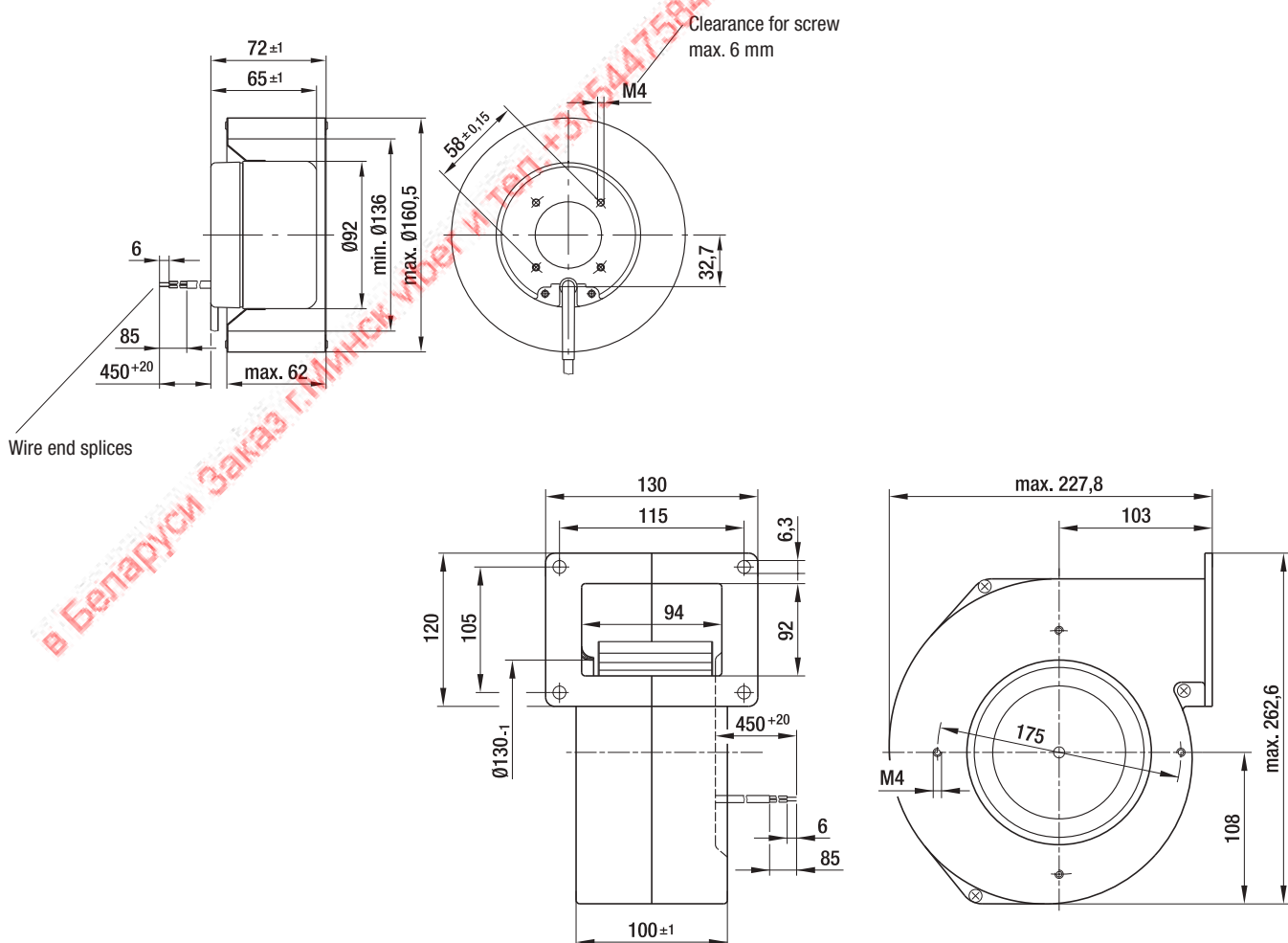
2.8

R1G 160-AH39 -52

1.4

G1G 160-BH39 -52

2.8



Max. 700 m<sup>3</sup>/h

# DC centrifugal blowers

Ø 133 mm



- **Material:** Housing: Galvanized sheet steel  
Impeller: Galvanized sheet steel  
Rotor: Painted black
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 42
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Design:** SAL motor mounted with vibration damping on both sides
- **Bearings:** Maintenance-free ball bearings

VHD0133CUNCS

## Nominal data

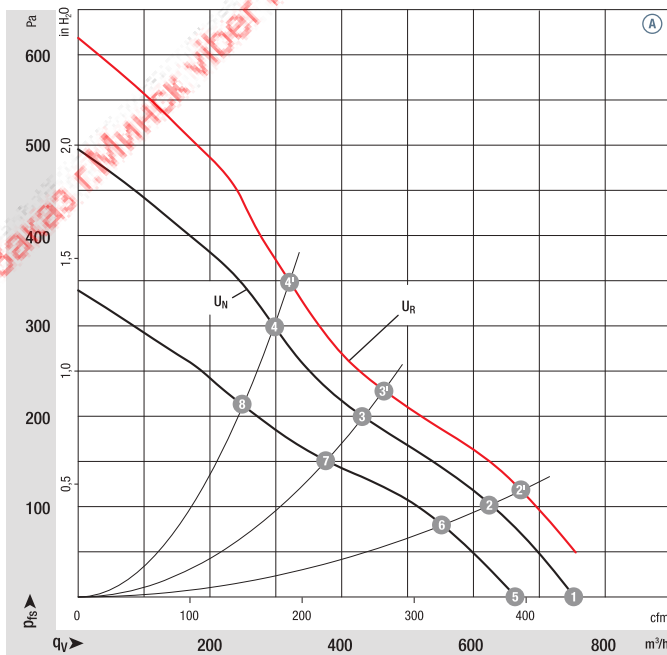
Type	Motor	Curve	Nominal voltage VDC	Nominal voltage range VDC	Air flow m <sup>3</sup> /h	Nominal speed rpm <sup>-1</sup>	Power consumption W	Input current A	Sound pressure level dB(A)	Min. back-pressure Pa	Admissible amb. temp. °C	Technical features and connection diagram
<b>D1G 133</b>	M1G074-BF	Ⓐ	24	16-28	700	1780	105	5.60	62	50	-25...+60	p. 274 / G)
<b>D1G 133</b>	M1G074-BF	Ⓐ	48	36-57	700	1780	105	2.80	62	50	-25...+60	p. 274 / G)

Subject to change

### Curves:

U<sub>N</sub> = nominal voltage  
(24 V / 48 V)

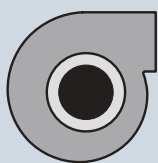
U<sub>R</sub> = over-voltage  
(28 V / 57 V)



	n rpm <sup>-1</sup>	P <sub>ed</sub> W	L <sub>pA</sub> dB(A)	η <sub>IL</sub> %
Ⓐ 1'	—	—	—	—
Ⓐ 2'	2050	121	63	49
Ⓐ 3'	2490	106	62	41
Ⓐ 4'	2820	100	62	37
Ⓐ 1	1780	105	62	—
Ⓐ 2	1900	97	61	49
Ⓐ 3	2310	86	59	41
Ⓐ 4	2630	80	60	37
Ⓐ 5	1500	73	59	—
Ⓐ 6	1720	67	57	49
Ⓐ 7	2020	58	56	41
Ⓐ 8	2230	49	56	37

Air performance measured according to: ISO 5801, Installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>WA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **Cable exit:** Variable
- **Protection class:** I
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** UL, CSA; Ⓢ (48 VDC) also CCC



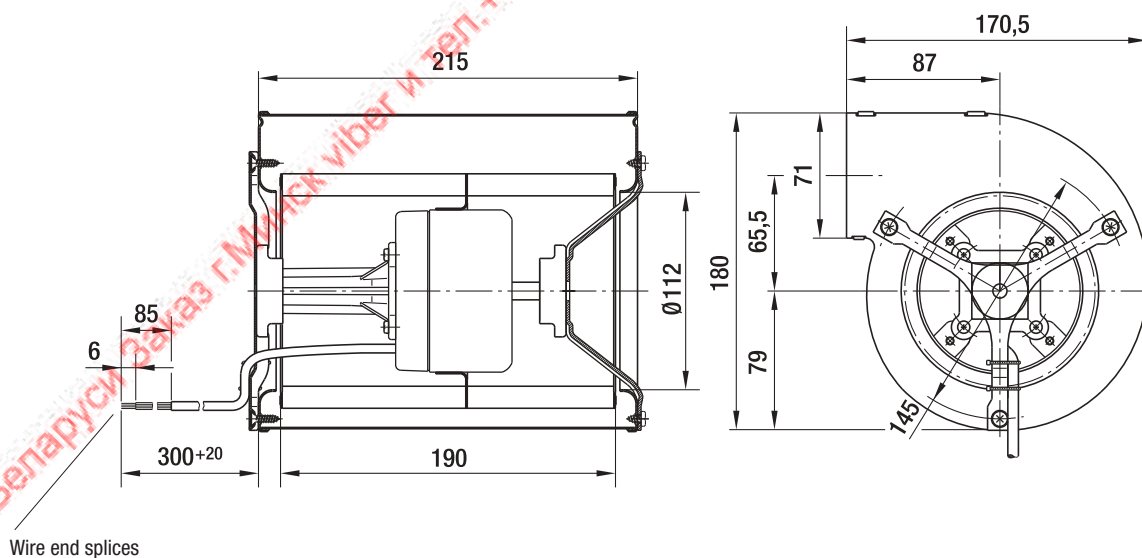
Weight centrifugal blowers

Centrifugal blowers without flange

kg

D1G 133-AB29 -52 3.3

D1G 133-AB39 -52 3.3



Max. 1020 m<sup>3</sup>/h

# DC centrifugal blowers

Ø 133 mm



- **Material:** Housing: Galvanized sheet steel  
Impeller: Galvanized sheet steel  
Rotor: Painted black
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 42
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Design:** SAL motor mounted with vibration damping on both sides
- **Bearings:** Maintenance-free ball bearings

VHD0133XUNES

## Nominal data

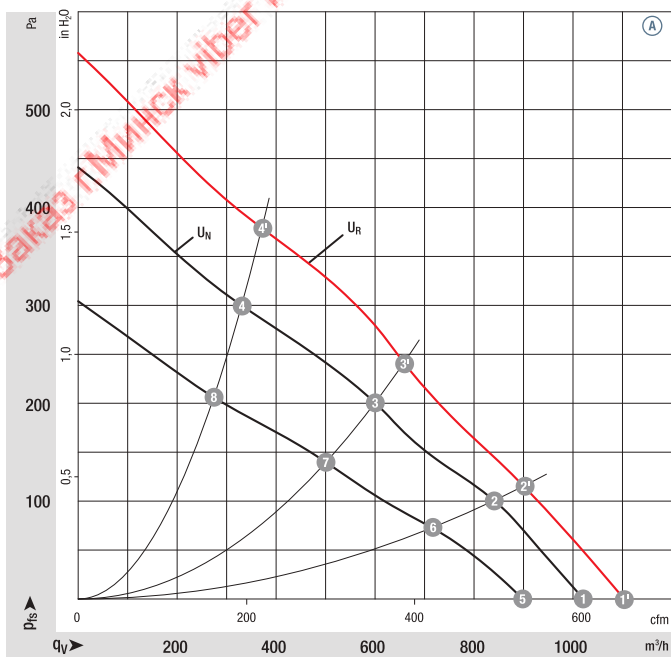
Type	Motor	Curve	Nominal voltage VDC	Nominal voltage range VDC	Air flow m <sup>3</sup> /h	Nominal speed rpm <sup>-1</sup>	Power consumption W	Input current A	Sound pressure level dB(A)	Min. back-pressure Pa	Admissible amb. temp. °C	Technical features and connection diagram
<b>D1G 133</b>	M1G074-BF	Ⓐ	24	16-28	1020	1580	118	6.00	64	0	-25...+60	p. 274 / G)
<b>D1G 133</b>	M1G074-BF	Ⓐ	48	36-57	1020	1580	118	3.00	64	0	-25...+60	p. 274 / G)

Subject to change

### Curves:

$U_N$  = nominal voltage  
(24 V / 48 V)

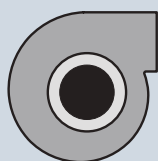
$U_R$  = over-voltage  
(28 V / 57 V)



	n rpm <sup>-1</sup>	P <sub>ed</sub> W	L <sub>pA</sub> dB(A)	η <sub>IL</sub> %
Ⓐ 1'	1700	145	65	—
Ⓐ 2'	1930	133	62	38
Ⓐ 3'	2290	122	59	41
Ⓐ 4'	2700	99	61	32
Ⓐ 1	1580	118	64	—
Ⓐ 2	1790	107	61	38
Ⓐ 3	2100	95	57	41
Ⓐ 4	2410	73	58	32
Ⓐ 5	1400	78	60	—
Ⓐ 6	1580	70	56	38
Ⓐ 7	1760	56	53	41
Ⓐ 8	2000	44	53	32

Air performance measured according to: ISO 5801, Installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>wA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **EMC (24 VDC):** Interference emission acc. to EN 55022, class B  
Immunity to interference acc. to EN 61000-6-2
- **Cable exit:** Variable
- **Protection class:** I
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** UL, CSA

Weight  
centrifugal blowersCentrifugal blowers  
without flange

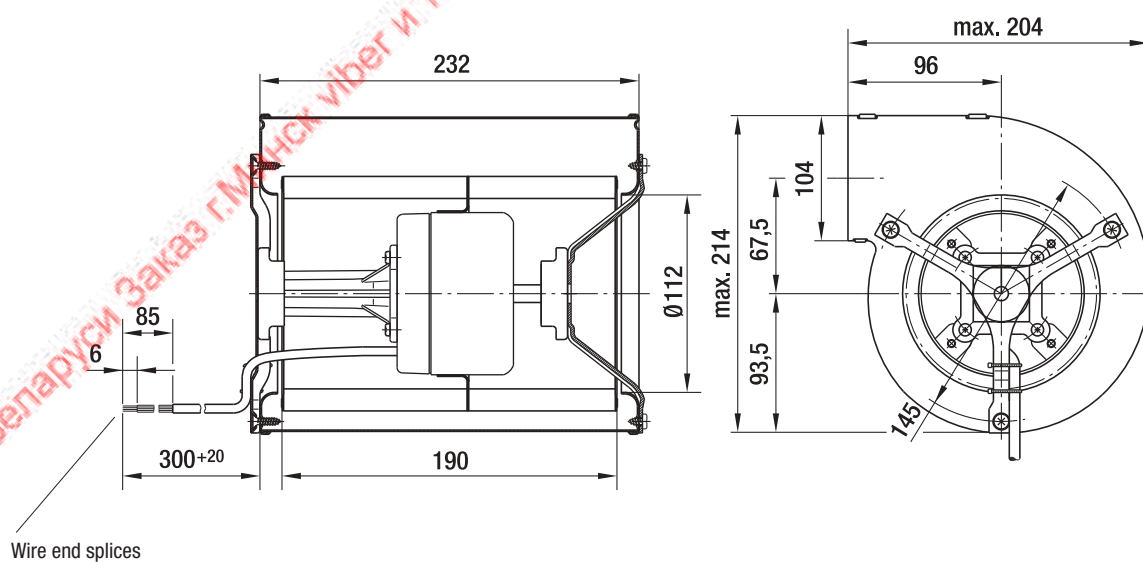
kg

D1G 133-DC13 -52

3.4

D1G 133-DC17 -52

3.4





Max. 1000 m<sup>3</sup>/h

# DC centrifugal blowers

Ø 146 mm



- **Material:** Housing: Galvanized sheet steel  
Impeller: Galvanized sheet steel  
Rotor: Painted black
- **Direction of rotation:** Clockwise, looking towards rotor
- **Degree of protection:** IP 42
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Design:** SAL motor mounted with vibration damping on both sides
- **Bearings:** Maintenance-free ball bearings

VHD0146XUNES

## Nominal data

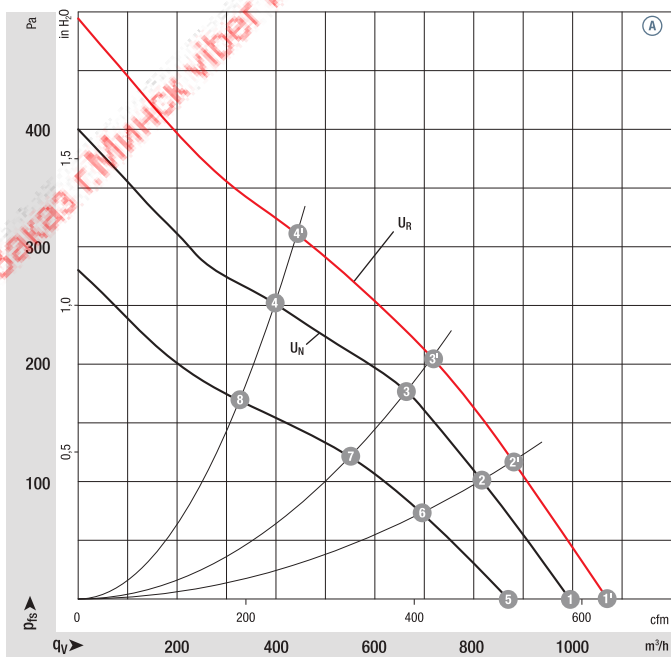
Type	Motor	Curve	Nominal voltage		Air flow	Nominal speed	Power consumption	Input current	Sound pressure level	Min. back-pressure	Admissible amb. temp.	Technical features and connection diagram
			VDC	VDC								
<b>D1G 146</b>	M1G 074-CF	Ⓐ	24	16-28	1000	1350	105	5.10	61	0	-25...+60	p. 274 / G)
<b>D1G 146</b>	M1G 074-CF	Ⓐ	48	36-57	1000	1350	105	2.60	61	0	-25...+60	p. 274 / G)

Subject to change

### Curves:

$U_N$  = nominal voltage  
(24 V / 48 V)

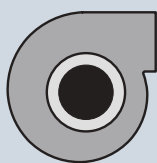
$U_R$  = over-voltage  
(28 V / 57 V)



	n	P <sub>ed</sub>	L <sub>pA</sub>	η <sub>IL</sub>
	rpm <sup>-1</sup>	W	dB(A)	%
Ⓐ 1'	1460	129	63	—
Ⓐ 2'	1680	119	60	53
Ⓐ 3'	1890	111	58	61
Ⓐ 4'	2240	95	59	55
Ⓐ 1	1350	105	61	—
Ⓐ 2	1570	95	58	53
Ⓐ 3	1750	88	56	61
Ⓐ 4	2010	70	57	55
Ⓐ 5	1210	70	56	—
Ⓐ 6	1360	60	54	53
Ⓐ 7	1460	53	52	61
Ⓐ 8	1670	42	51	55

Air performance measured according to: ISO 5801, Installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>vA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **EMC (24 VDC):** Interference emission acc. to EN 55022, class B  
Immunity to interference acc. to EN 61000-6-2
- **Cable exit:** Variable
- **Protection class:** I
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** UL, CSA

Weight  
centrifugal blowersCentrifugal blowers  
without flange

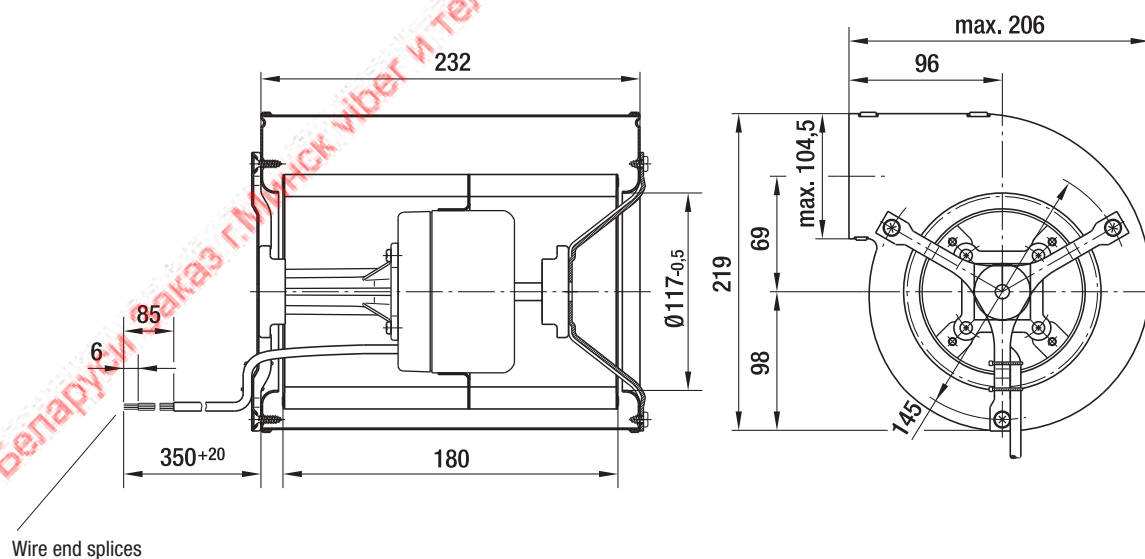
kg

D1G 146-AA19 -52

3.5

D1G 146-AA33 -52

3.5



Max. 980 m<sup>3</sup>/h

# DC centrifugal blowers

Ø 160 mm



- **Material:** Housing: Galvanized sheet steel  
Impeller: Galvanized sheet steel  
Rotor: Painted black
- **Direction of rotation:** Counterclockwise, looking towards rotor
- **Degree of protection:** IP 42
- **Insulation class:** "B"
- **Installation position:** Any
- **Condensation drainage holes:** None
- **Mode of operation:** Continuous operation (S1)
- **Design:** SAL motor mounted with vibration damping on both sides
- **Bearings:** Maintenance-free ball bearings

VHD0160XUNES

## Nominal data

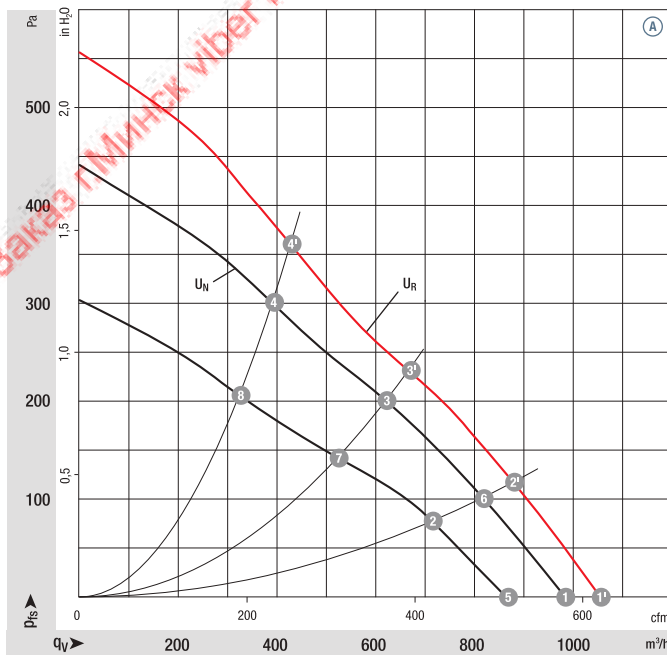
Type	Motor	Curve	Nominal voltage		Air flow	Nominal speed	Power consumption	Input current	Sound pressure level	Min. back-pressure	Admissible amb. temp.	Technical features and connection diagram
			VDC	VDC								
<b>D1G 160</b>	M1G074-CF	Ⓐ	24	16-28	980	1250	112	5.60	60	0	-25...+60	p. 274 / G)
<b>D1G 160</b>	M1G074-CF	Ⓐ	48	36-57	980	1250	112	2.90	60	0	-25...+60	p. 274 / G)

Subject to change

### Curves:

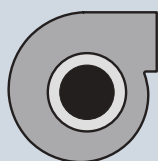
$U_N$  = nominal voltage  
(24 V / 48 V)

$U_R$  = over-voltage  
(28 V / 57 V)



Air performance measured according to: ISO 5801, Installation category A, with ebm-papst scroll housing without contact protection. Suction-side noise levels: L<sub>WA</sub> according to ISO 13347, L<sub>pA</sub> measured at 1 m distance from fan axis. The values given are applicable only under the specified measuring conditions and may differ depending on the installation conditions. In the event of deviation from the standard configuration, the parameters must be checked after installation! For detailed information see <http://www.ebmpapst.com/general-conditions>

- **Technical features:** See connection diagram p. 274
- **Cable exit:** Variable
- **Protection class:** I
- **Conformity with standard(s):** EN 60950-1
- **Approvals:** UL, CSA



Weight centrifugal blowers

Centrifugal blowers without flange

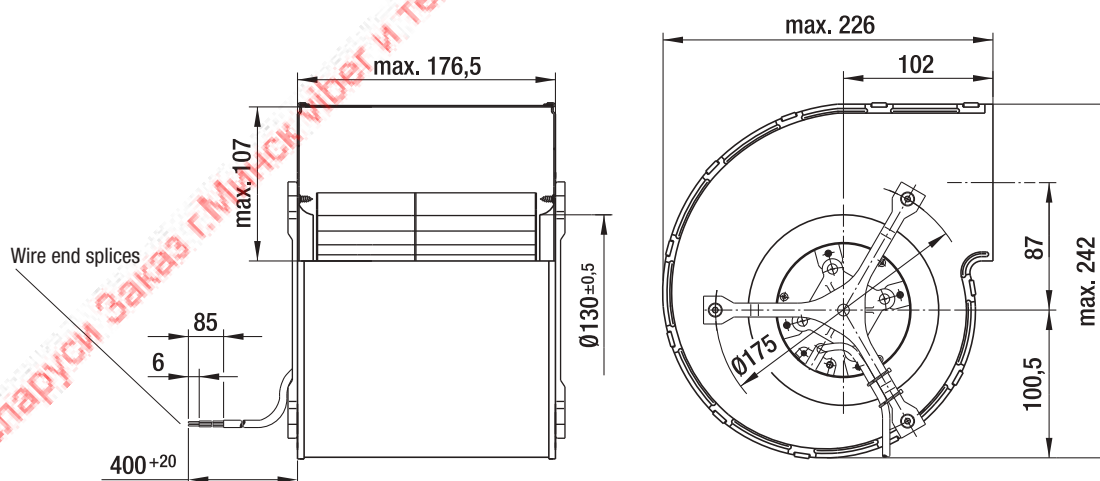
kg

D1G 160-DA19 -52

3.6

D1G 160-DA33 -52

3.6



## DC fans - specials

Speed signal	178
Alarm signal	180
Speed setting / Control input	184
FanCheck	187
Protected fans, degree of protection: IP 54 / IP 68	188



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модуль, Вентилятор, ebm-papst, ebmpapst, **w2s130**

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