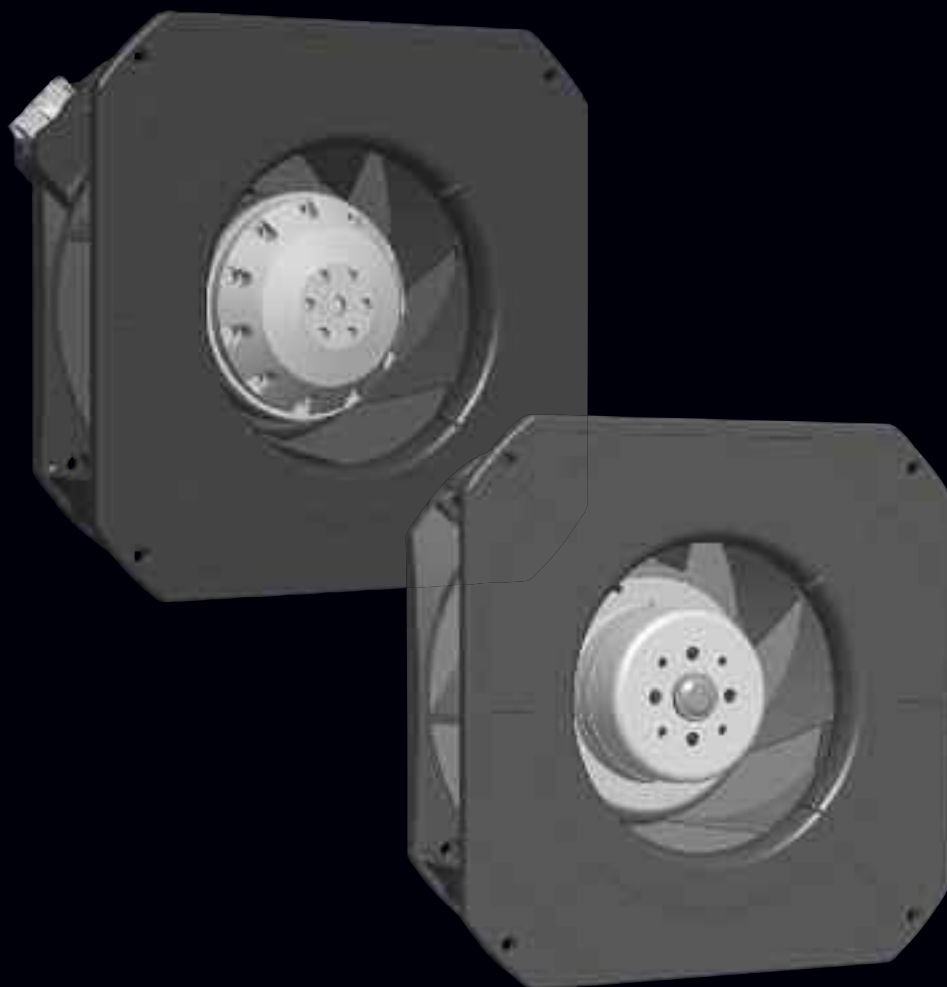


# Compact centrifugal modules with AC, EC and DC motors

version 10/2009



The engineer's choice

**ebmpapst**

# Compact centrifugal modules

Centrifugal fans with backward curved blades need additional components so they can be placed inside the final unit without putting their proper function at risk. In the past, the majority of such components used to be designed and built by the unit manufacturers themselves.

With the new compact centrifugal modules, this extra expenditure is no longer needed, as they come with a square mounting plate with integrated inlet nozzle and motor suspension.

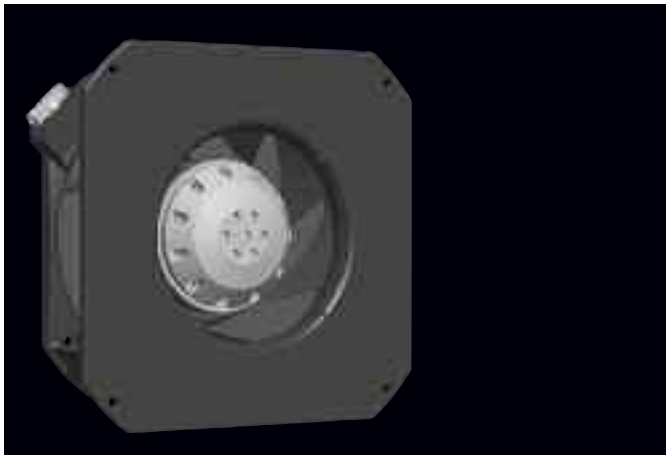
Mounting plate, inlet nozzle and motor suspension are made of robust and durable plastic, with the additional benefit of not having to go for compromises in terms of aero-acoustic design.

The centrifugal modules are available with impellers in diameters ranging from 175 to 225 mm and with either AC, EC or DC motors. They are extremely compact and simple to install – adjusting the impeller to the nozzle at great expense is no longer needed. Optionally, a guard grille on the suction side may be plugged on.

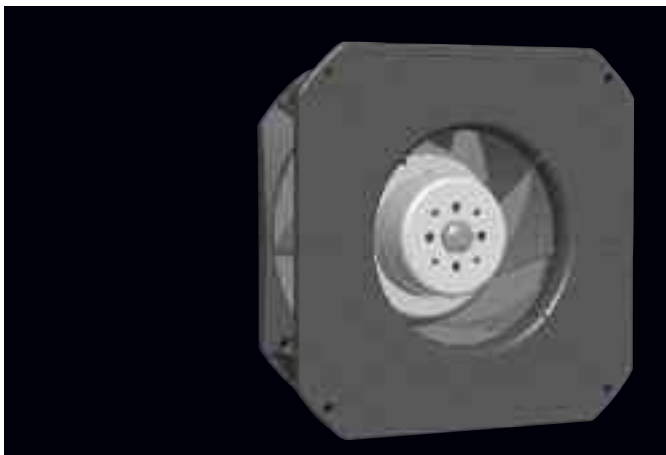
Take advantage of what a completely pre-installed functional unit has to offer:

- Compact design
- Optimised, certified and guaranteed functional unit
- Plug-and-Play characteristics
- AC, EC and DC versions with dimensions allowing for simple interchange
- Optional guard grille
- Simple logistics

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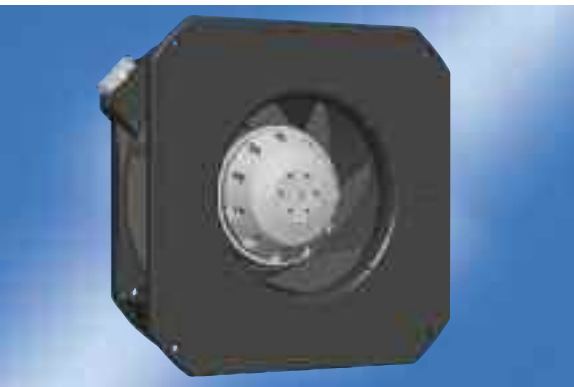


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# AC centrifugal module

backward curved, Ø 175



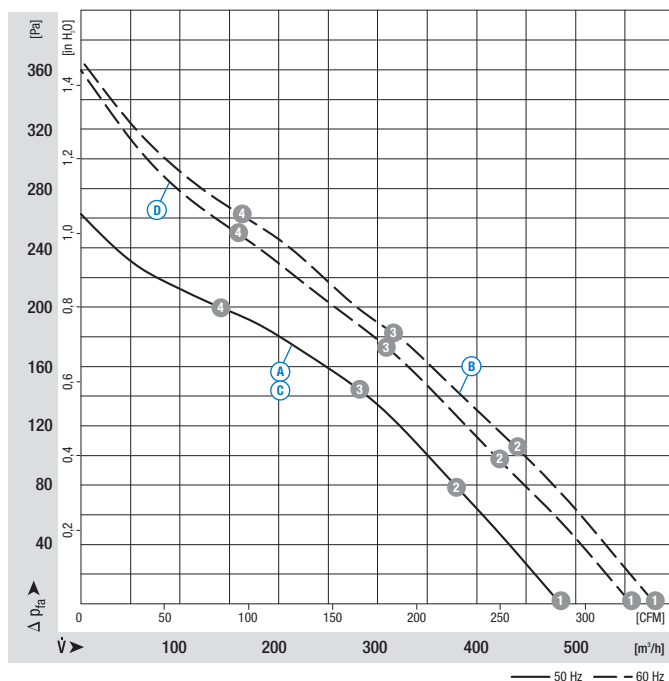
- **Material:** Housing: PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Coated in black
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** IP 44
- **Insulation class:** "F"
- **Mounting position:** Any
- **Condensate discharges:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Sound level	Perm. amb. temp.	Electr. connection
Type	Motor	VAC	Hz	m³/h	rpm	W	A	µF/VDB	dB(A)	°C	p. 30	
K2E 175 <sup>(1)</sup>	M2E 052-CA	(A) 1~ 115	50	480	2600	51	0,46	5,0/250	67	-25...+50	A1)	
		(B) 1~ 115	60	580	3000	52	0,47	5,0/250	70	-25...+60		
K2E 175 <sup>(2)</sup>	M2E 052-CA	(C) 1~ 230	50	480	2550	42	0,20	1,5/400	67	-25...+60	A1)	
		(D) 1~ 230	60	550	2950	51	0,24	1,5/400	70	-25...+60		

subject to alterations

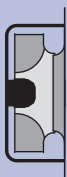
(1) external capacitor required; (2) capacitor included

## Curves



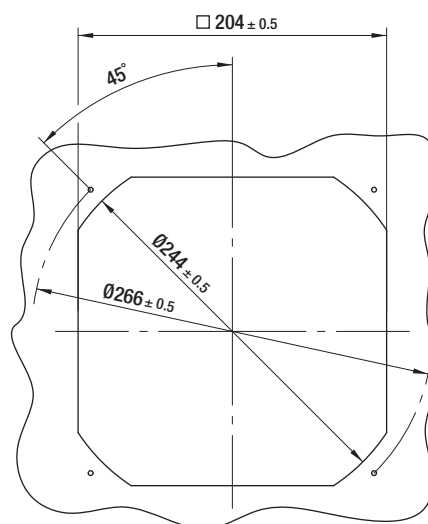
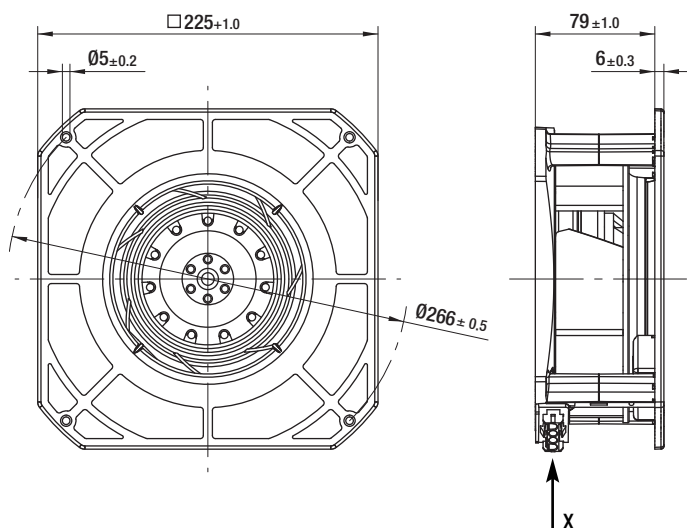
	n [rpm]	P <sub>1</sub> [W]	I [A]	L <sub>wA</sub> [dB(A)]
(A) 1	2600	51	0,46	67
(A) 2	2510	53	0,52	63
(A) 3	2455	54	0,52	61
(A) 4	2540	52	0,52	66
(B) 1	3000	52	0,47	70
(B) 2	2870	58	0,50	66
(B) 3	2755	61	0,53	64
(B) 4	2905	56	0,49	69
(C) 1	2550	42	0,20	67
(C) 2	2495	44	0,19	63
(C) 3	2450	46	0,20	61
(C) 4	2525	44	0,19	66
(D) 1	2950	51	0,24	70
(D) 2	2780	56	0,24	66
(D) 3	2680	58	0,25	63
(D) 4	2820	55	0,24	68

- **Motor protection:** TOP wired internally
- **Connection leads:** Plug system, Cable design on request
- **Protection class:** I
- **Product conforming to standard:** EN 60335-1, CE
- **Approvals:** CCC, GOST



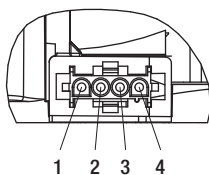
Mass of centrifugal module with support basket

Centrifugal module	kg
K2E 175-AR66 -02	1,3
K2E 175-AR54 -01	1,3



**Coded plug system**  
 AMP Universal-Mate-N-Lok  
 Connector shell: AMP 350 780-1  
 4 x Pin connector: AMP 926 886-1  
 Mating connector  
 (not part of delivery):  
 Connector shell: AMP 350 779-4  
 4 x female terminal: AMP 926 884-1

View X

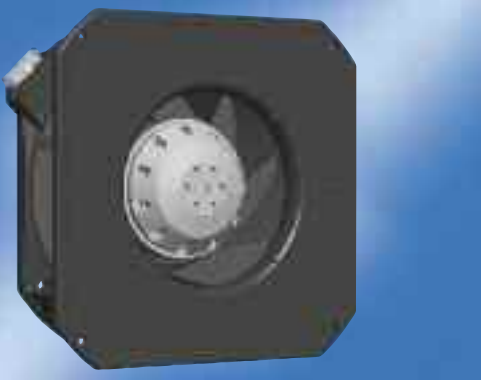


**115V:**  
 1 = Protective earth  
 2 = N  
 3 = L + capacitor  
 4 = Capacitor

**230V:**  
 1 = Protective earth  
 2 = N  
 3 = L  
 4 = Not assigned (capacitor)

# AC centrifugal module

backward curved, Ø 190



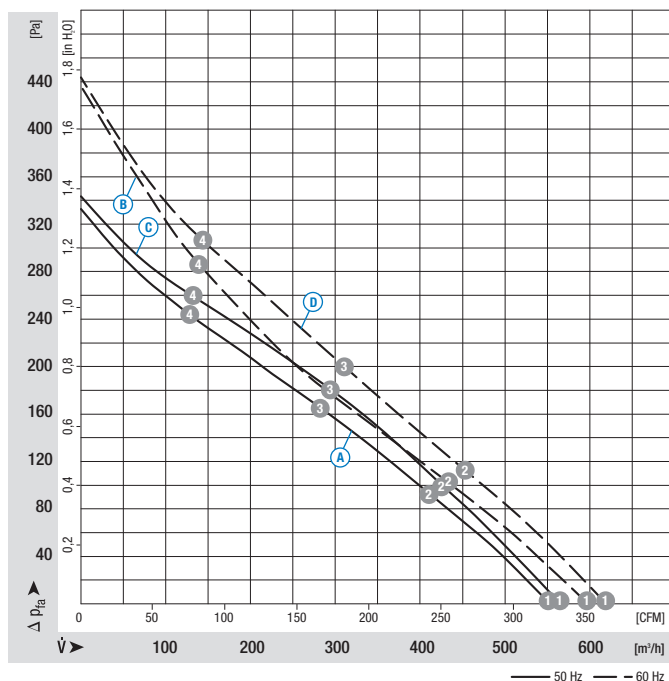
- **Material:** Housing: PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Coated in black
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** IP 44
- **Insulation class:** "B"
- **Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensate discharges:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Sound level	Perm. amb. temp.	Electr. connection
Type	Motor	VAC	Hz	m³/h	rpm	W	A	µF/VDB	dB(A)	°C	p. 30	
K2E 190 <sup>(1)</sup>	M2E 068-BF	(A) 1~ 115	50	550	2400	50	0,45	6,0/250	68	-25...+60	A1)	
		(B) 1~ 115	60	590	2600	62	0,55	6,0/250	69	-25...+60		
K2E 190 <sup>(2)</sup>	M2E 068-BF	(C) 1~ 230	50	560	2500	57	0,26	2,0/400	68	-25...+50	A1)	
		(D) 1~ 230	60	610	2700	74	0,33	2,0/400	70	-25...+55		

subject to alterations

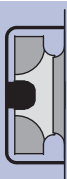
(1) external capacitor required; (2) capacitor included

## Curves



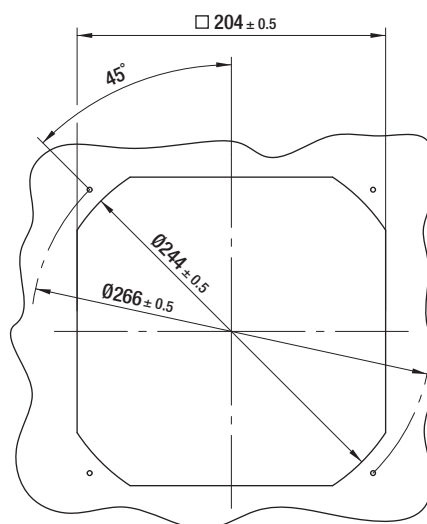
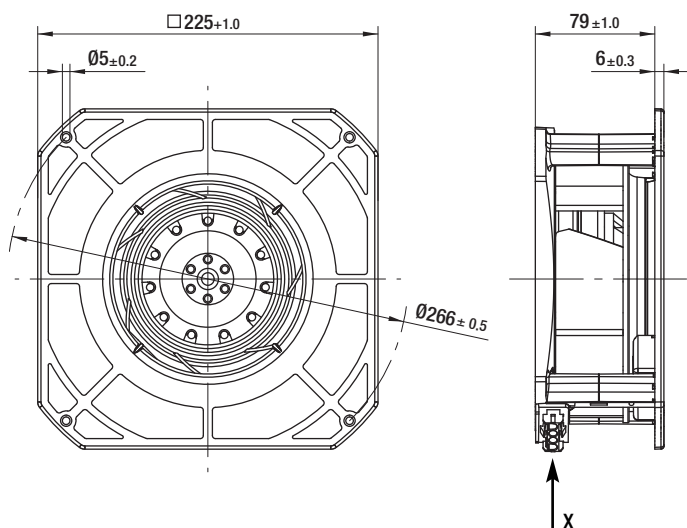
	n [rpm]	P <sub>1</sub> [W]	I [A]	L <sub>WA</sub> [dB(A)]
(A) 1	2400	50	0,45	68
(A) 2	2320	52	0,46	64
(A) 3	2270	54	0,47	62
(A) 4	2415	49	0,43	66
(B) 1	2600	62	0,55	69
(B) 2	2440	65	0,57	65
(B) 3	2360	66	0,57	62
(B) 4	2610	61	0,53	67
(C) 1	2500	57	0,26	68
(C) 2	2415	59	0,26	67
(C) 3	2375	60	0,26	62
(C) 4	2515	57	0,25	67
(D) 1	2700	74	0,33	70
(D) 2	2565	77	0,34	69
(D) 3	2505	78	0,35	64
(D) 4	2720	74	0,33	69

- **Motor protection:** TOP wired internally
- **Connection leads:** Plug system, Cable design on request
- **Protection class:** I
- **Product conforming to standard:** EN 60335-1, CE
- **Approvals:** CCC, GOST



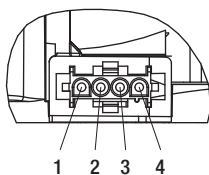
Mass of centrifugal module with support basket

Centrifugal module	kg
K2E 190-A050 -02	1,6
K2E 190-A026 -01	1,6



**Coded plug system**  
 AMP Universal-Mate-N-Lok  
 Connector shell: AMP 350 780-1  
 4 x Pin connector: AMP 926 886-1  
 Mating connector  
 (not part of delivery):  
 Connector shell: AMP 350 779-4  
 4 x female terminal: AMP 926 884-1

View X

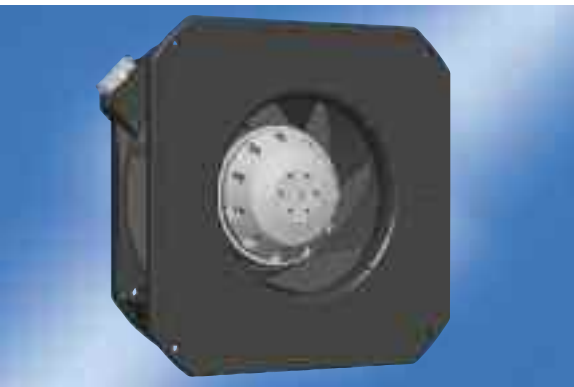


**115V:**  
 1 = Protective earth  
 2 = N  
 3 = L + capacitor  
 4 = Capacitor

**230V:**  
 1 = Protective earth  
 2 = N  
 3 = L  
 4 = Not assigned (capacitor)

# AC centrifugal module

backward curved, Ø 220



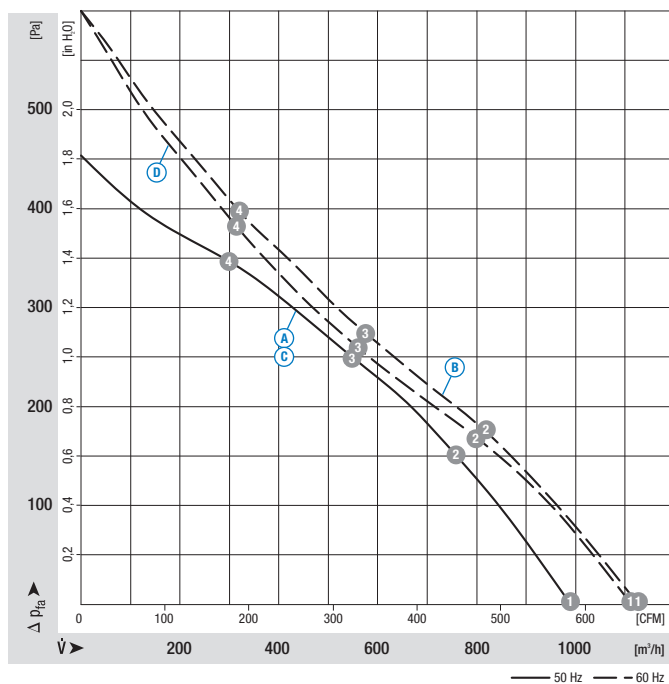
- **Material:** Housing: PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Coated in black
- **Number of blades:** 11
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** IP 44
- **Insulation class:** "F"
- **Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensate discharges:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Sound level	Perm. amb. temp.	Electr. connection
Type	Motor	VAC	Hz	m³/h	rpm	W	A	µF/VDB	dB(A)	°C	p.30	
K2E 220 <sup>(1)</sup>	M2E 068-CF	(A) 1~ 115	50	990	2650	90	0,80	10,0/250	74	-25...+40	A1)	
		(B) 1~ 115	60	1120	3050	120	1,05	10,0/250	76	-25...+55		
K2E 220 <sup>(2)</sup>	M2E 068-CF	(C) 1~ 230	50	990	2650	85	0,38	2,5/400	74	-25...+55	A1)	
		(D) 1~ 230	60	1110	3000	110	0,49	2,5/400	76	-25...+55		

subject to alterations

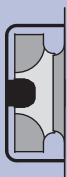
(1) external capacitor required; (2) capacitor included

## Curves



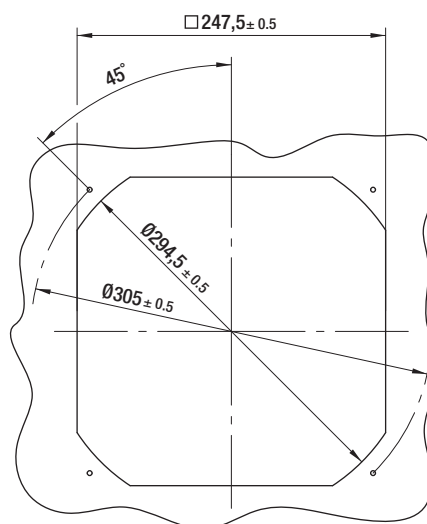
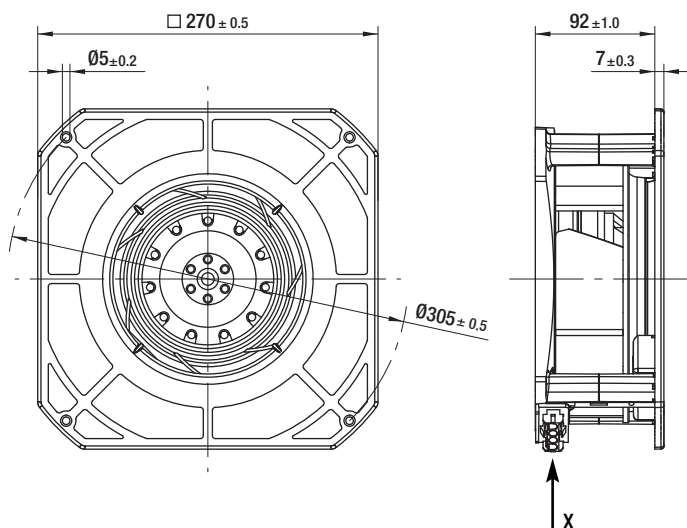
	n [rpm]	P <sub>1</sub> [W]	I [A]	Lw <sub>A</sub> [dB(A)]
(A) 1	2650	90	0,80	74
(A) 2	2530	109	0,98	70
(A) 3	2460	117	1,04	67
(A) 4	2540	109	0,98	70
(B) 1	3050	120	1,05	76
(B) 2	2720	146	1,26	71
(B) 3	2555	155	1,34	68
(B) 4	2740	144	1,24	71
(C) 1	2650	85	0,38	74
(C) 2	2515	104	0,46	70
(C) 3	2440	111	0,49	67
(C) 4	2515	102	0,45	70
(D) 1	3000	110	0,49	76
(D) 2	2665	137	0,59	71
(D) 3	2490	145	0,63	68
(D) 4	2670	135	0,59	71

- **Motor protection:** TOP wired internally
- **Connection leads:** Plug system, Cable design on request
- **Protection class:** I
- **Product conforming to standard:** EN 60335-1, CE
- **Approvals:** CCC, GOST



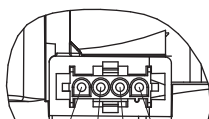
Mass of centrifugal module with support basket

Centrifugal module	kg
K2E 220-BB08 -02	2,5
K2E 220-BB06 -01	2,5



**Coded plug system**  
 AMP Universal-Mate-N-Lok  
 Connector shell: AMP 350 780-1  
 4 x Pin connector: AMP 926 886-1  
 Mating connector  
 (not part of delivery):  
 Connector shell: AMP 350 779-4  
 4 x female terminal: AMP 926 884-1

View X

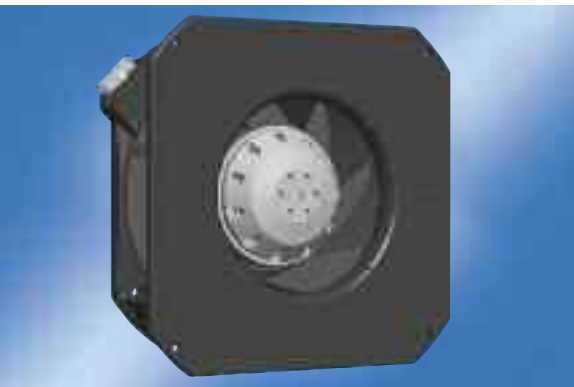


**115V:**  
 1 = Protective earth  
 2 = N  
 3 = L + capacitor  
 4 = Capacitor

**230V:**  
 1 = Protective earth  
 2 = N  
 3 = L  
 4 = Not assigned (capacitor)

# AC centrifugal module

backward curved, Ø 225



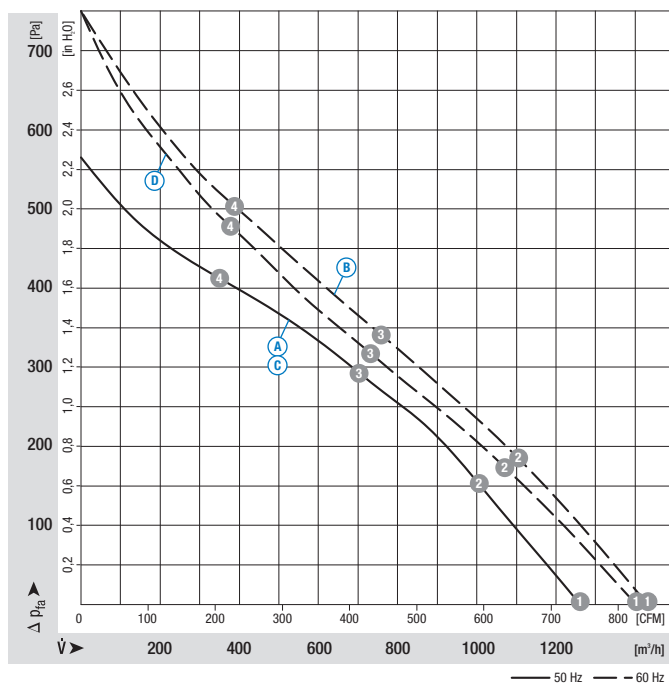
- **Material:** Back of housing: Die-cast aluminium  
Front of housing (suction side): PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Coated in black
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** IP 44
- **Insulation class:** "F"
- **Mounting position:** Shaft horizontal or rotor on bottom; rotor on top on request
- **Condensate discharges:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Frequency	Air flow	Speed/rpm	Power input	Current draw	Capacitor	Sound level	Perm. amb. temp.	Electr. connection
Type	Motor	VAC	Hz	m³/h	rpm	W	A	µF/VDB	dB(A)	°C	p. 30	
K2E 225 <sup>(1)</sup>	M2E 068-DF	(A) 1~ 115	50	1260	2650	140	1,25	16,0/250	75	-25...+45	A1)	
		(B) 1~ 115	60	1430	3000	195	1,72	16,0/250	78	-25...+55		
K2E 225 <sup>(2)</sup>	M2E 068-DF	(C) 1~ 230	50	1260	2650	135	0,60	4,0/450	75	-25...+55	A1)	
		(D) 1~ 230	60	1400	2950	200	0,90	4,0/450	77	-25...+50		

subject to alterations

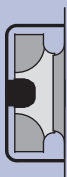
(1) external capacitor required; (2) capacitor included

## Curves



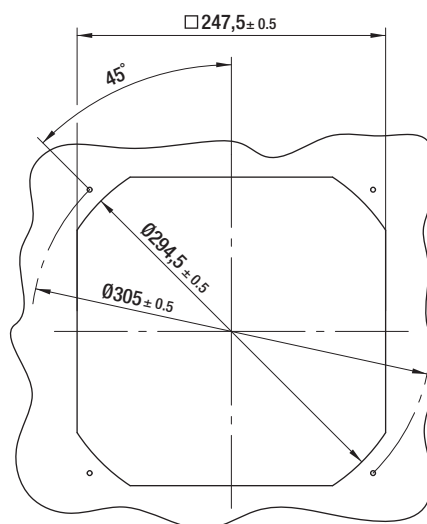
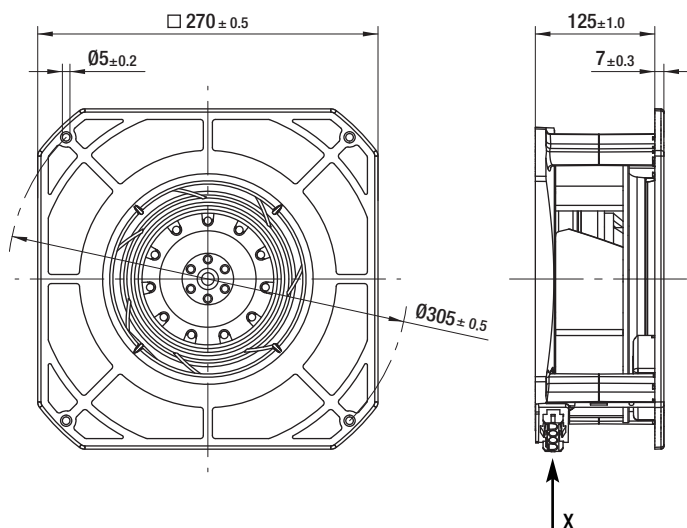
	n [rpm]	P <sub>1</sub> [W]	I [A]	L <sub>wA</sub> [dB(A)]
(A) 1	2650	140	1,25	75
(A) 2	2620	154	1,37	74
(A) 3	2565	164	1,46	70
(A) 4	2650	148	1,33	73
(B) 1	3000	195	1,72	78
(B) 2	2885	214	1,86	74
(B) 3	2755	226	1,97	71
(B) 4	2925	208	1,81	76
(C) 1	2650	135	0,60	75
(C) 2	2600	147	0,64	74
(C) 3	2545	157	0,68	70
(C) 4	2620	143	0,62	73
(D) 1	2950	200	0,90	77
(D) 2	2790	212	0,93	74
(D) 3	2660	220	0,96	71
(D) 4	2825	208	0,91	75

- **Motor protection:** TOP wired internally
- **Connection leads:** Plug system, Cable design on request
- **Protection class:** I
- **Product conforming to standard:** EN 60335-1, CE
- **Approvals:** CCC, GOST



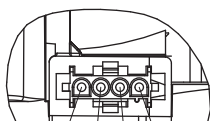
Mass of centrifugal module with support basket

Centrifugal module	kg
K2E 225-AD40 -02	3,1
K2E 225-AD92 -01	3,1



**Coded plug system**  
 AMP Universal-Mate-N-Lok  
 Connector shell: AMP 350 780-1  
 4 x Pin connector: AMP 926 886-1  
 Mating connector  
 (not part of delivery):  
 Connector shell: AMP 350 779-4  
 4 x female terminal: AMP 926 884-1

View X



**115V:**  
 1 = Protective earth  
 2 = N  
 3 = L + capacitor  
 4 = Capacitor

**230V:**  
 1 = Protective earth  
 2 = N  
 3 = L  
 4 = Not assigned (capacitor)

# EC centrifugal module

backward curved, Ø 175



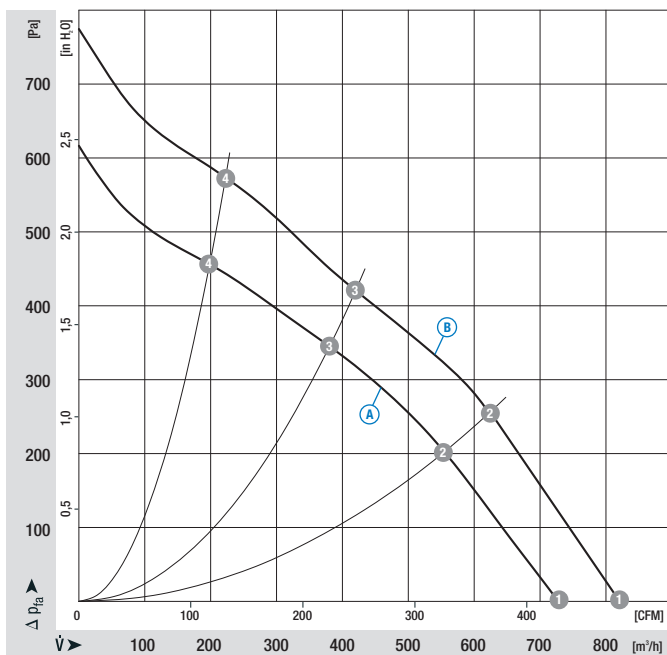
- **Material:** Housing: PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Galvanised  
Electronics enclosure: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** IP 44
- **Insulation class:** "B"
- **Mounting position:** Any
- **Condensate discharges:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Frequency	Speed/rpm <sup>(1)</sup>	Max. power input <sup>(1)</sup>	Max. current draw <sup>(1)</sup>	Perm. amb. temp.	Electr. connection
Type	Motor	VAC	Hz	rpm	W	A	°C	p. 31	
<b>K3G 175</b>	M3G 055-CF	Ⓐ 1~ 115	50/60	3700	90	1,30	-25..+60	H1)	
<b>K3G 175</b>	M3G 055-CF	Ⓑ 1~ 230	50/60	4060	116	0,90	-25..+60	H1)	

subject to alterations

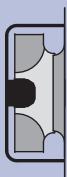
(1) Nominal data in operating point with maximum load and 115 or 230 VAC

## Curves



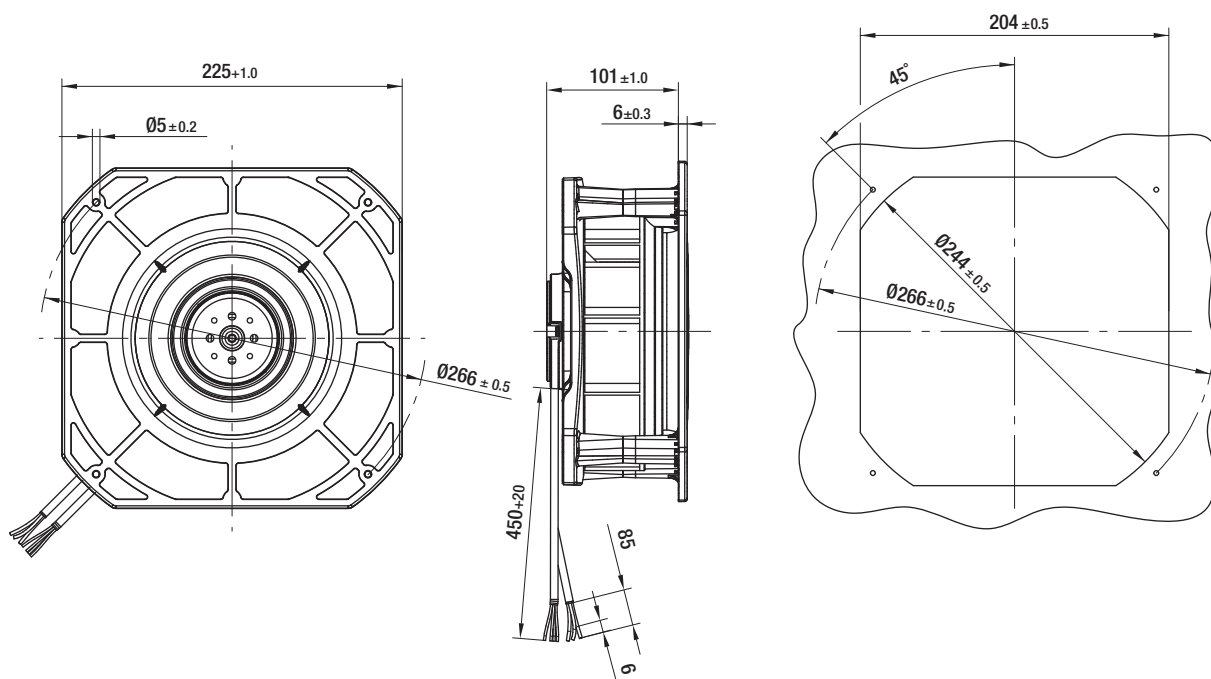
	n [rpm]	P <sub>1</sub> [W]	I [A]	Lw <sub>A</sub> [dB(A)]
Ⓐ 1	3965	70	1,00	77
Ⓐ 2	3765	82	1,17	73
Ⓐ 3	3700	90	1,30	74
Ⓐ 4	3845	81	1,14	77
Ⓑ 1	4485	99	0,72	80
Ⓑ 2	4245	116	0,85	76
Ⓑ 3	4060	116	0,90	77
Ⓑ 4	4290	110	0,81	80

- **Technical features:**
  - Control input 0-10 VDC / PWM
  - Output 10 VDC max. 1,1 mA
- **EMC:** Interference emission acc. to EN 61000-6-3  
Interference immunity acc. to EN 61000-6-2  
Harmonics acc. to DIN EN 61000-3-2/3
- **Leakage current:** < 3.5 mA acc. to EN 60950-1
- **Cable exit:** Variable
- **Protection class:** I
- **Product conforming to standards:** EN 60335-1, CE
- **Approvals:** VDE, UL, CSA, CCC, GOST are applied for
  - Tach output
  - Locked-rotor protection



Mass of centrifugal module with support basket

Centrifugal module	kg
K3G 175-CF25 -02	1,6
K3G 175-CF19 -01	1,6



# EC centrifugal module

backward curved, Ø 190



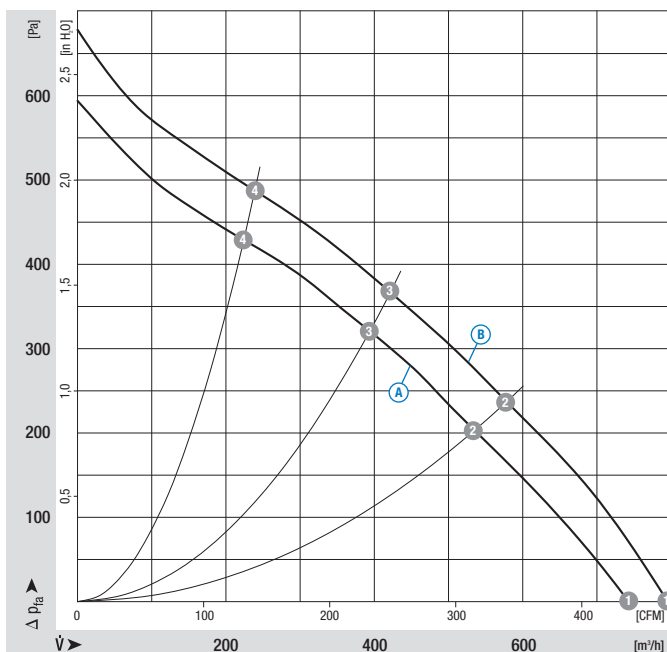
- **Material:** Housing: PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Galvanised  
Electronics enclosure: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** IP 44
- **Insulation class:** "B"
- **Mounting position:** Any
- **Condensate discharges:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Frequency	Speed/rpm <sup>(1)</sup>	Max. power input <sup>(1)</sup>	Max. current draw <sup>(1)</sup>	Perm. amb. temp.	Electr. connection
Type	Motor	VAC	Hz	rpm	W	A	°C	p. 31	
<b>K3G 190</b>	M3G 055-CF	Ⓐ	1~ 115	50/60	3150	85	1,20	-25..+60	H1)
<b>K3G 190</b>	M3G 055-CF	Ⓑ	1~ 230	50/60	3395	104	0,75	-25..+60	H1)

subject to alterations

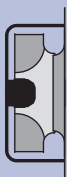
(1) Nominal data in operating point with maximum load and 115 or 230 VAC

## Curves



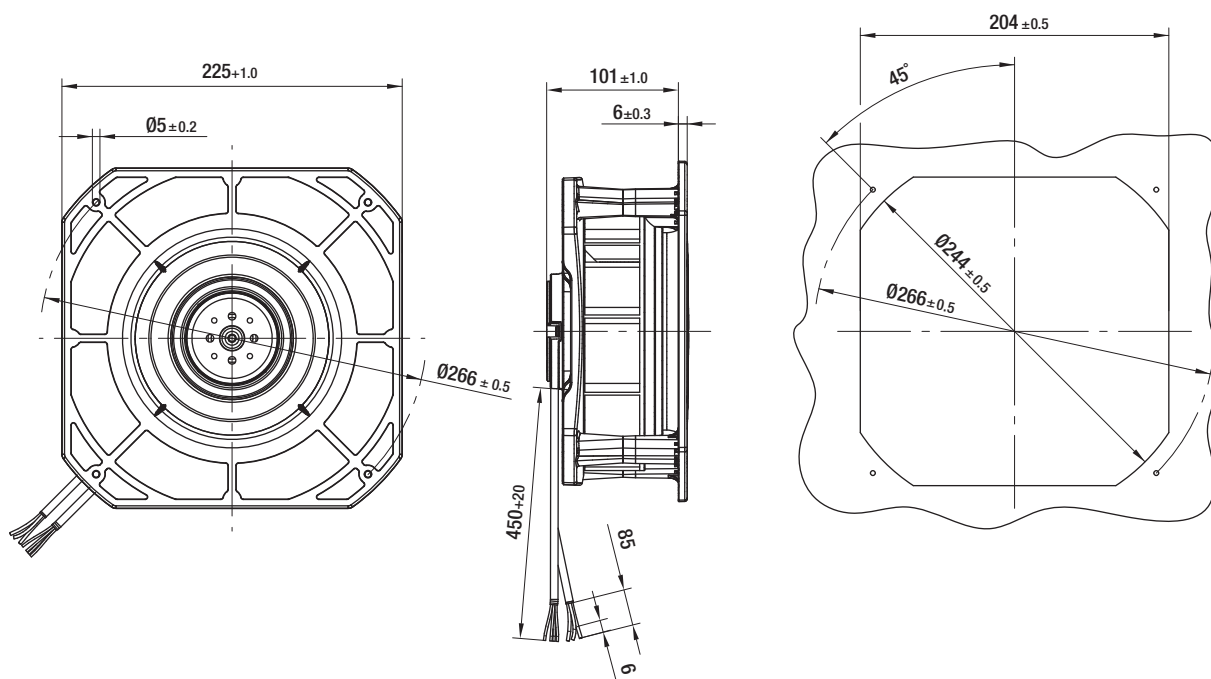
	n [rpm]	P <sub>1</sub> [W]	I [A]	Lw <sub>A</sub> [dB(A)]
Ⓐ 1	3265	76	1,09	74
Ⓐ 2	3160	85	1,22	71
Ⓐ 3	3150	85	1,20	69
Ⓐ 4	3265	78	1,11	73
Ⓑ 1	3515	91	0,68	76
Ⓑ 2	3375	103	0,75	73
Ⓑ 3	3395	104	0,75	71
Ⓑ 4	3485	94	0,71	75

- **Technical features:**
  - Control input 0-10 VDC / PWM
  - Output 10 VDC max. 1,1 mA
- **EMC:** Interference emission acc. to EN 61000-6-3  
Interference immunity acc. to EN 61000-6-2  
Harmonics acc. to DIN EN 61000-3-2/3
- **Leakage current:** < 3.5 mA acc. to EN 60950-1
- **Cable exit:** Variable
- **Protection class:** I
- **Product conforming to standards:** EN 60335-1, CE
- **Approvals:** VDE, UL, CSA, CCC, GOST are applied for
  - Tach output
  - Locked-rotor protection



Mass of centrifugal module with support basket

Centrifugal module	kg
K3G 190-CB15 -02	1,7
K3G 190-CB23 -01	1,7



# EC centrifugal module

backward curved, Ø 220



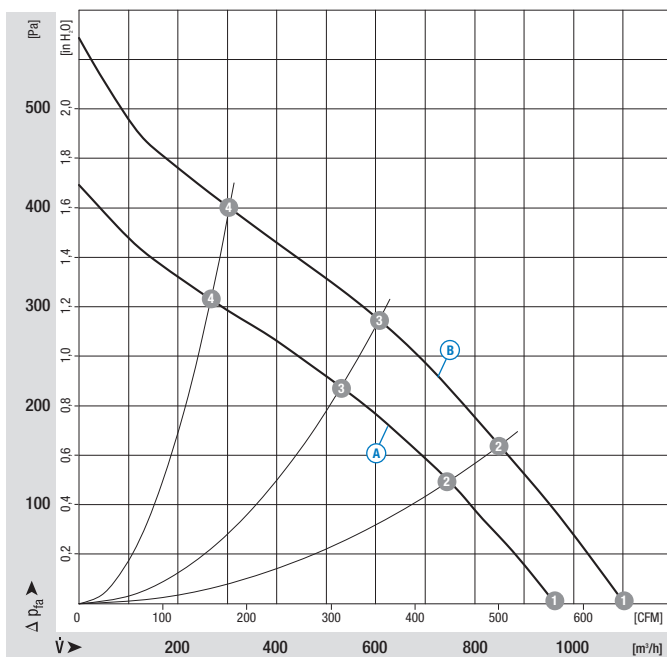
- **Material:** Housing: PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Galvanised  
Electronics enclosure: Die-cast aluminium
- **Number of blades:** 11
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** IP 44
- **Insulation class:** "B"
- **Mounting position:** Any
- **Condensate discharges:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Frequency	Speed/rpm <sup>(1)</sup>	Max. power input <sup>(1)</sup>	Max. current draw <sup>(1)</sup>	Perm. amb. temp.	Electr. connection
Type	Motor	VAC	Hz	rpm	W	A	°C	p. 31	
K3G 220	M3G 055-CF	Ⓐ 1~115	50/60	2340	75	1,10	-25..+60	H1)	
K3G 220	M3G 055-CF	Ⓑ 1~230	50/60	2630	114	0,84	-25..+60	H1)	

subject to alterations

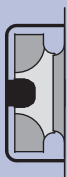
(1) Nominal data in operating point with maximum load and 115 or 230 VAC

## Curves



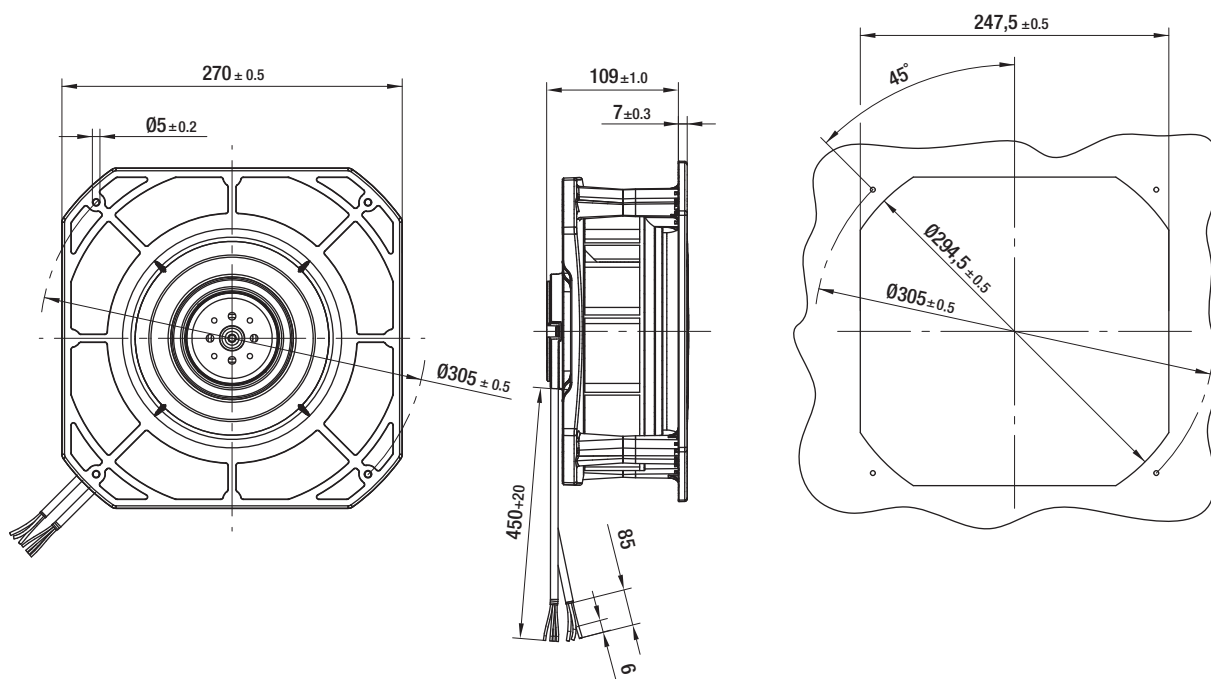
	n [rpm]	P <sub>1</sub> [W]	I [A]	L <sub>wA</sub> [dB(A)]
Ⓐ ①	2600	56	0,82	72
Ⓐ ②	2435	70	1,03	68
Ⓐ ③	2340	75	1,10	65
Ⓐ ④	2420	68	0,99	69
Ⓑ ①	2965	88	0,65	76
Ⓑ ②	2730	104	0,76	72
Ⓑ ③	2630	114	0,84	70
Ⓑ ④	2740	104	0,79	73

- **Technical features:**
  - Control input 0-10 VDC / PWM
  - Output 10 VDC max. 1,1 mA
- **EMC:** Interference emission acc. to EN 61000-6-3  
Interference immunity acc. to EN 61000-6-2  
Harmonics acc. to DIN EN 61000-3-2/3
- **Leakage current:** < 3.5 mA acc. to EN 60950-1
- **Cable exit:** Variable
- **Protection class:** I
- **Product conforming to standards:** EN 60335-1, CE
- **Approvals:** VDE, UL, CSA, CCC, GOST are applied for
  - Tach output
  - Locked-rotor protection



Mass of centrifugal module with support basket

Centrifugal module	kg
K3G 220-CD21 -02	1,8
K3G 220-CD17 -01	1,8



# EC centrifugal module

backward curved, Ø 225



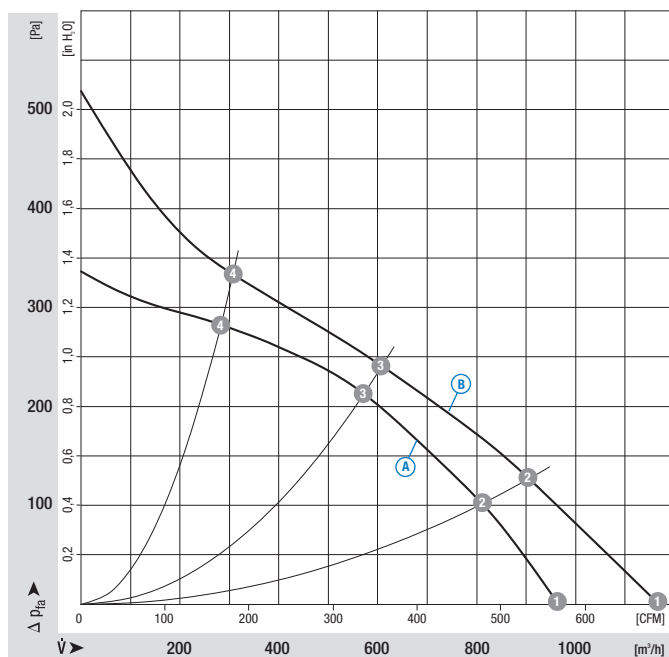
- **Material:** Housing: PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Galvanised  
Electronics enclosure: Die-cast aluminium
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** IP 44
- **Insulation class:** "B"
- **Mounting position:** Any
- **Condensate discharges:** None
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Frequency	Speed/rpm <sup>(1)</sup>	Max. power input <sup>(1)</sup>	Max. current draw <sup>(1)</sup>	Perm. amb. temp.	Electr. connection
Type	Motor	VAC	Hz	rpm	W	A	°C	p. 31	
<b>K3G 225</b>	M3G 055-CF	Ⓐ	1~ 115	50/60	2240	91	0,71	-25..+60	H1)
<b>K3G 225</b>	M3G 055-CF	Ⓑ	1~ 230	50/60	2200	81	1,16	-25..+60	H1)

subject to alterations

(1) Nominal data in operating point with maximum load and 115 or 230 VAC

## Curves



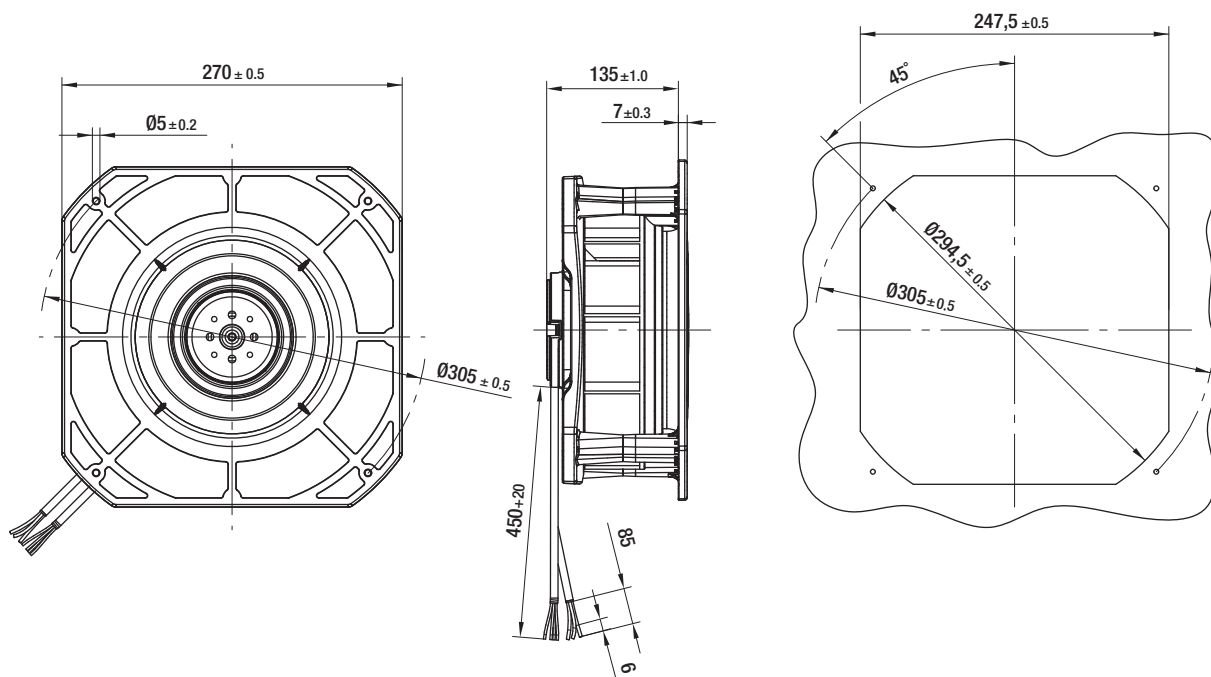
	n [rpm]	P <sub>1</sub> [W]	I [A]	Lw <sub>A</sub> [dB(A)]
Ⓐ ①	2205	58	0,84	69
Ⓐ ②	2205	73	1,05	66
Ⓐ ③	2200	81	1,16	63
Ⓐ ④	2205	68	0,98	67
Ⓑ ①	2455	75	0,57	72
Ⓑ ②	2325	86	0,65	68
Ⓑ ③	2240	91	0,71	64
Ⓑ ④	2345	83	0,65	69

- **Technical features:**
    - Control input 0-10 VDC / PWM
    - Output 10 VDC max. 1,1 mA
  - **EMC:** Interference emission acc. to EN 61000-6-3  
Interference immunity acc. to EN 61000-6-2  
Harmonics acc. to DIN EN 61000-3-2/3
  - **Leakage current:** < 3.5 mA acc. to EN 60950-1
  - **Cable exit:** Variable
  - **Protection class:** I
  - **Product conforming to standards:** EN 60335-1, CE
  - **Approvals:** VDE, UL, CSA, CCC, GOST are applied for
- Tach output
  - Locked-rotor protection



Mass of centrifugal module with support basket

Centrifugal module	kg
K3G 225-CE21 -02	2,1
K3G 225-CE11 -02	2,1



# DC centrifugal module

backward curved, Ø 175



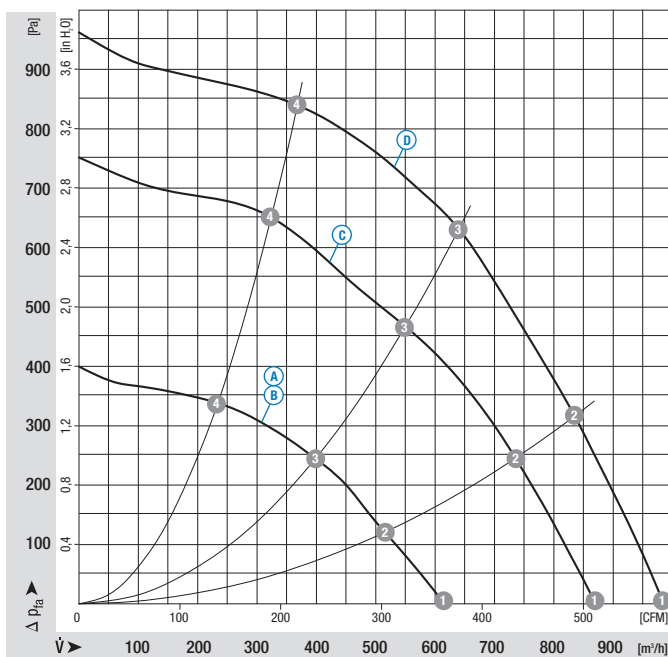
- **Material:** Housing: PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Galvanised
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** IP 20
- **Insulation class:** "E"
- **Mounting position:** Any
- **Condensate discharges:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Voltage Range	Air flow <sup>(1)</sup>	Speed/rpm <sup>(1)</sup>	Max. Power input <sup>(1)</sup>	Max. Current draw <sup>(1)</sup>	Sound level <sup>(1)</sup>	Perm. amb. temp.	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> Δ (40°C)	Electr. connection
Type	Motor	VDC	VDC	m <sup>3</sup> /h	rpm	W	A	dB(A)	°C	Hours	Hours		p. 33	
RG 175	54.14; 3ph.	Ⓐ	24	16-30	395	3355	68	2,87	69	-20..+65	72500 / 45000	145000	G2)	
RG 175	54.14; 3ph.	Ⓑ	48	36-57	400	3375	68	1,44	69	-20..+65	72500 / 45000	145000	G2)	
RG 175	54.20; 3ph.	Ⓒ	24	16-36	550	4650	153	6,39	79	-20..+65	70000 / 40000	140000	G2)	
RG 175	54.20; 3ph.	Ⓓ	48	36-72	640	5420	248	5,20	81	-20..+65	60000 / 32500	115000	G2)	

subject to alterations

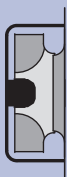
(1) Nominal data in operating point with maximum load

## Curves



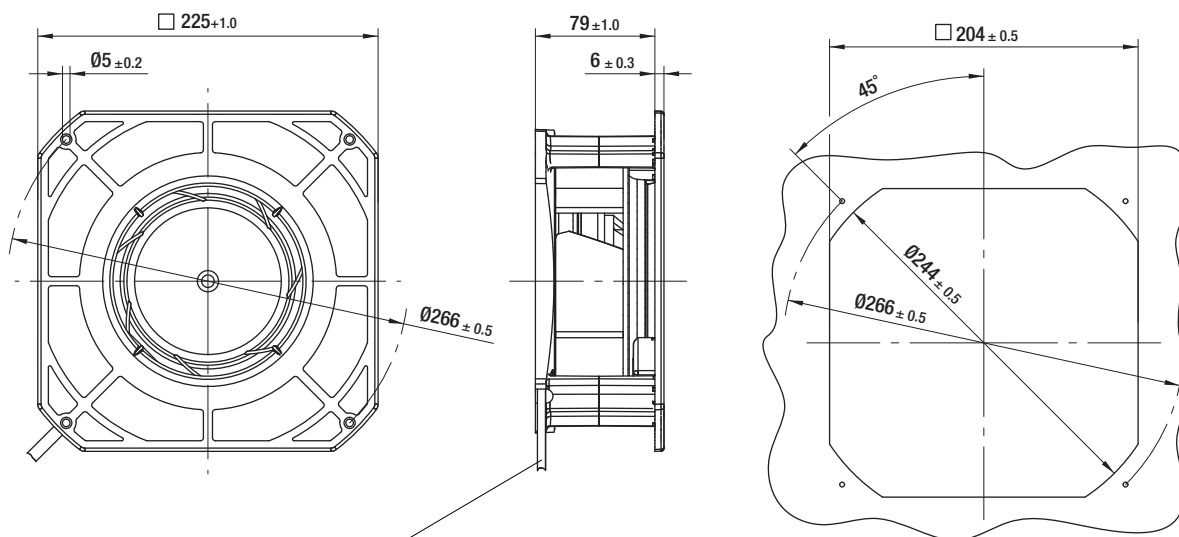
	n [rpm]	P <sub>1</sub> [W]	I [A]	L <sub>WA</sub> [dB(A)]
Ⓐ ①	3410	48	2,03	75
Ⓐ ②	3395	59	2,51	71
Ⓐ ③	3355	68	2,87	69
Ⓐ ④	3370	66	2,79	72
Ⓑ ①	3385	45	0,96	74
Ⓑ ②	3380	57	1,21	71
Ⓑ ③	3375	68	1,44	69
Ⓑ ④	3410	67	1,44	72
Ⓒ ①	4780	109	4,55	81
Ⓒ ②	4785	138	5,79	80
Ⓒ ③	4650	153	6,39	79
Ⓒ ④	4770	152	6,35	83
Ⓓ ①	5415	161	3,37	84
Ⓓ ②	5425	204	4,28	82
Ⓓ ③	5420	248	5,20	81
Ⓓ ④	5430	228	4,78	84

- **Technical features:**
  - Control input 0-10 VDC / PWM
  - Tach output
- **Cable exit:** Variable
  - Reverse polarity and locked-rotor protection
- **Protection class:** A B C III; D I
- **Product conforming to standard:** EN 60950-1, UL 507, C22.2 No.113
- **Approvals:** VDE, UL, CSA are applied for



Mass of centrifugal module with support basket

Centrifugal module	kg
RG175-42/14/2TDMLO	1,17
RG175-42/18/2TDMLO	1,17
RG175-42/14/2TDMO	1,17
RG175-42/18/2TDO	1,17



Connection via single stranded wires AWG 20; TR64;  
Tach signal and control input AWG22;  
Cable length 350 mm as of housing

# DC centrifugal module

backward curved, Ø 190



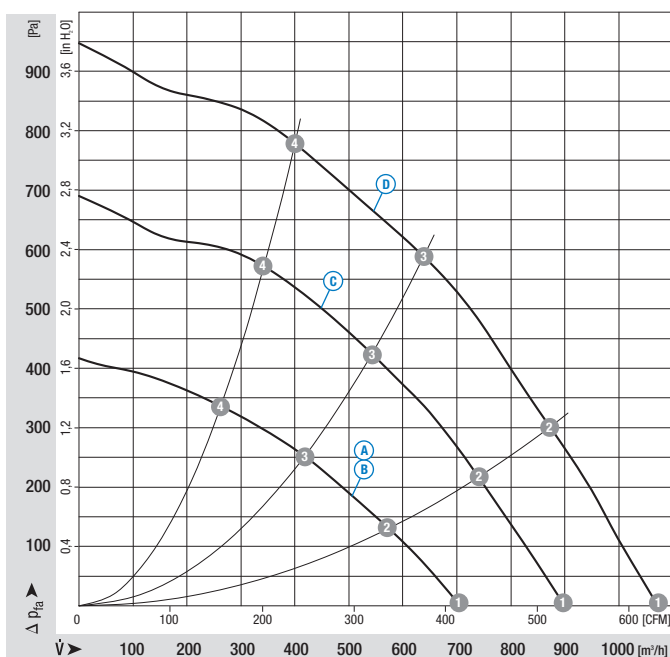
- **Material:** Housing: PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Galvanised
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** IP 20
- **Insulation class:** "E"
- **Mounting position:** Any
- **Condensate discharges:** Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Voltage Range	Air flow <sup>(1)</sup>	Speed/rpm <sup>(1)</sup>	Max. Power input <sup>(1)</sup>	Max. Current draw <sup>(1)</sup>	Sound level <sup>(1)</sup>	Perm. amb. temp.	Service Life L <sub>10</sub> (40°C) ebm-papst Standard	Service Life L <sub>10</sub> (Tmax) ebm-papst Standard	Life expectancy L <sub>10</sub> Δ (40°C)	Electr. connection
Type	Motor	VDC	VDC	m <sup>3</sup> /h	rpm	W	A	dB(A)	°C	Hours	Hours		p. 33	
RG 190	54.14; 3ph.	Ⓐ	24	16-30	415	2970	84	3,59	68	-20..+60	55000 / 35000	110000	G2)	
RG 190	54.14; 3ph.	Ⓑ	48	36-57	420	2990	78	1,66	67	-20..+60	55000 / 35000	110000	G2)	
RG 190	54.20; 3ph.	Ⓒ	24	16-36	540	3895	155	6,51	74	-20..+65	52500 / 30500	105000	G2)	
RG 190	54.20; 3ph.	Ⓓ	48	36-72	640	4540	240	5,05	77	-20..+65	42500 / 22500	80000	G2)	

subject to alterations

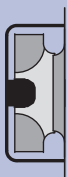
(1) Nominal data in operating point with maximum load

## Curves



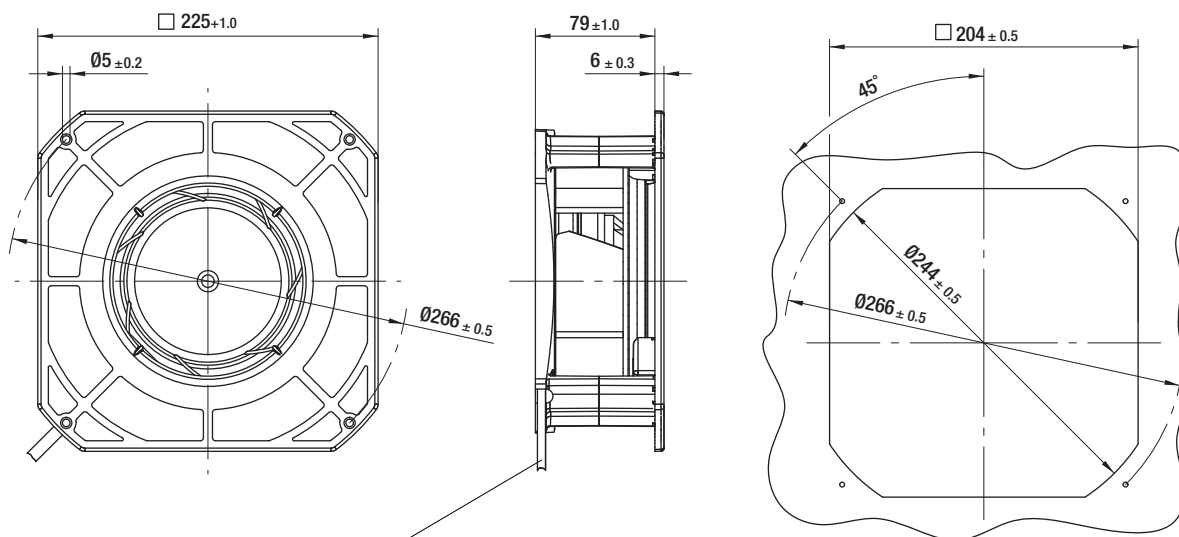
	n [rpm]	P <sub>1</sub> [W]	I [A]	L <sub>WA</sub> [dB(A)]
Ⓐ ①	3040	64	2,72	74
Ⓐ ②	3040	78	3,31	70
Ⓐ ③	2970	84	3,59	68
Ⓐ ④	3015	81	3,44	70
Ⓑ ①	3045	58	1,24	73
Ⓑ ②	2995	69	1,47	70
Ⓑ ③	2990	78	1,66	67
Ⓑ ④	3045	75	1,59	70
Ⓒ ①	3935	115	4,82	79
Ⓒ ②	3955	138	5,79	77
Ⓒ ③	3895	155	6,51	74
Ⓒ ④	3960	146	6,10	77
Ⓓ ①	4640	187	3,93	81
Ⓓ ②	4610	219	4,61	81
Ⓓ ③	4540	240	5,05	77
Ⓓ ④	4645	227	4,77	80

- **Technical features:**
  - Control input 0-10 VDC / PWM
  - Tach output
- **Cable exit:** Variable
  - Reverse polarity and locked-rotor protection
- **Protection class:** **A** **B** **C** III; **D** I
- **Product conforming to standard:** EN 60950-1, UL 507, C22.2 No.113
- **Approvals:** VDE, UL, CSA are applied for



Mass of centrifugal module with support basket

Centrifugal module	kg
RG190-45/14/2TDMLO	1,21
RG190-45/18/2TDMLO	1,21
RG190-45/14/2TDMO	1,21
RG190-45/18/2TDO	1,21



Connection via single stranded wires AWG 20; TR64;  
Tach signal and control input AWG22;  
Cable length 350 mm as of housing

# DC centrifugal module

backward curved, Ø 220



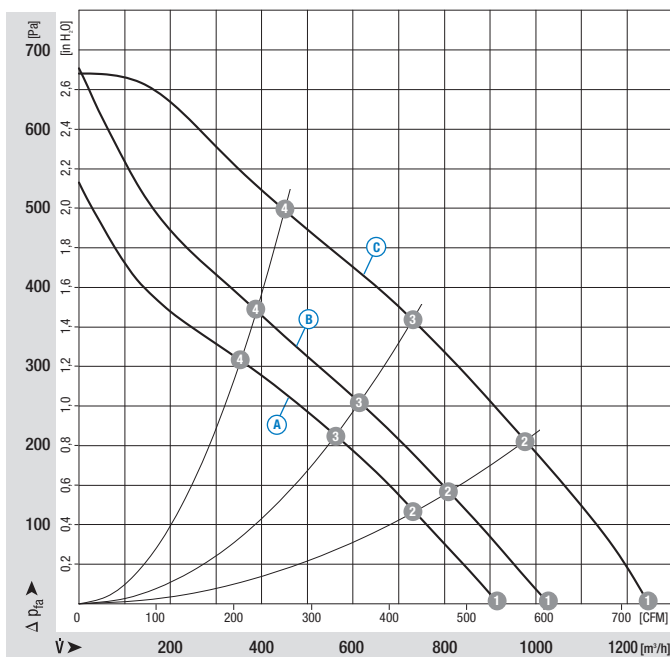
- **Material:** Housing: PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Galvanised
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** (A) (B) IP 42; (C) IP 20
- **Insulation class:** (A) (B) "B"; (C) "E"
- **Mounting position:** Any
- **Condensate discharges:** (A) (B) None; (C) Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

Nominal data		Curve	Nominal voltage	Voltage Range	Air flow <sup>(1)</sup>	Speed/rpm <sup>(1)</sup>	Max. Power input <sup>(1)</sup>	Max. Current draw <sup>(1)</sup>	Sound level <sup>(1)</sup>	Perm. amb. temp.	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> Δ (40°C)	Electr. connection
Type	Motor	VDC	VDC	m <sup>3</sup> /h	rpm	W	A	dB(A)	°C	Hours	Hours	Hours	p. 32/33	
<b>K1G 220</b>	M1G 074-BF	(A)	24	16-28	560	2430	78	3,63	68	-25..+60	95000 / 58000	126000	G1)	
<b>K1G 220</b>	M1G 074-BF	(B)	48	36-57	615	2640	98	2,44	71	-25..+60	82000 / 43000	111000	G1)	
<b>RG 220</b>	54.20; 3ph.	(C)	48	36-72	730	3155	171	3,64	77	-20..+55	55000 / 40000	110000	G2)	

subject to alterations

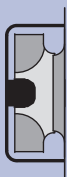
(1) Nominal data in operating point with maximum load

## Curves



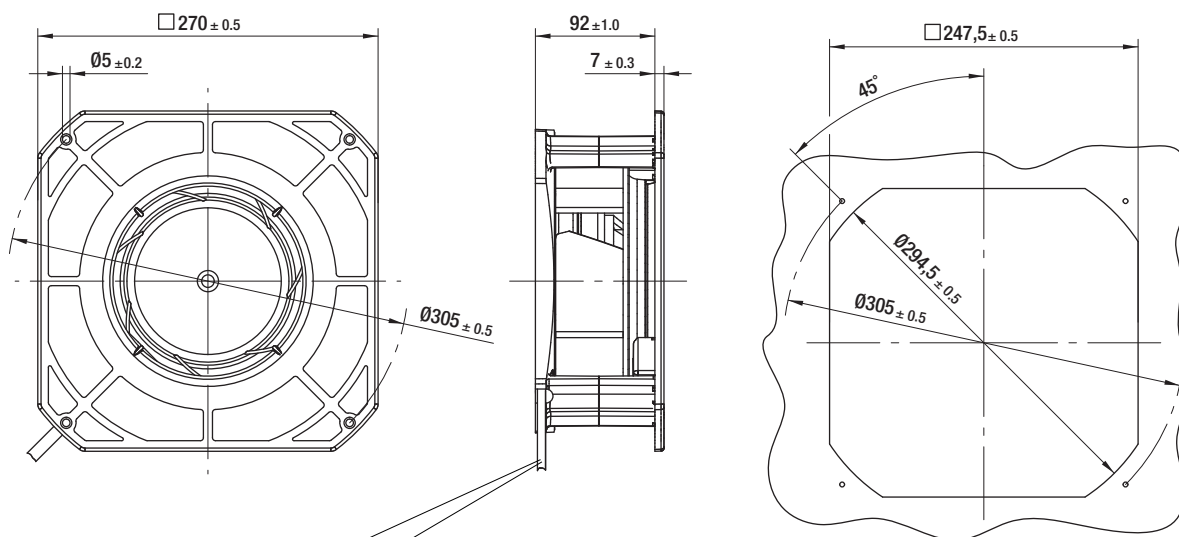
	n [rpm]	P <sub>1</sub> [W]	I [A]	L <sub>wA</sub> [dB(A)]
(A) 1	2690	66	3,05	74
(A) 2	2505	74	3,46	71
(A) 3	2430	78	3,63	68
(A) 4	2465	76	3,55	70
(B) 1	3020	92	2,18	78
(B) 2	2770	96	2,35	74
(B) 3	2640	98	2,44	71
(B) 4	2695	97	2,39	71
(C) 1	3495	128	2,70	80
(C) 2	3295	160	3,40	77
(C) 3	3155	171	3,64	77
(C) 4	3215	167	3,55	78

- **Technical features:**
  - Control input 0-10 VDC / PWM
  - Tach output
  - Reverse polarity and locked-rotor protection
- **EMC:** (A) (B) Interference emission acc. to EN 61000-6-3
  - (A) (B) Interference immunity acc. to EN 61000-6-2
- **Cable exit:** Variable
- **Protection class:** I
- **Product conforming to standard:** EN 60950-1
- **Approvals:** VDE, UL, CSA, CCC are applied for



Mass of centrifugal module with support basket

Centrifugal module	kg
K1G 220-AA89 -02	2,35
K1G 220-AA67 -02	2,35
RG220-44/18/2TDO	1,87



**RG:** Connection via single stranded wires AWG 20; TR64;  
Tach signal and control input AWG22;  
Cable length 350 mm as of housing

**K1G:** Cable length 350 mm as of housing, insulation stripped for 85 mm;  
brass lead tips attached

# DC centrifugal module

backward curved, Ø 225



- **Material:** Back of housing: Die-cast aluminium  
Front of housing (suction side): PA plastic 6, fibreglass-reinforced  
Impeller: PA plastic 6.6, fibreglass-reinforced  
Rotor: Galvanised
- **Number of blades:** 7
- **Direction of rotation:** Clockwise, seen on rotor
- **Type of protection:** (A) (B) IP 42; (C) IP 20
- **Insulation class:** (A) (B) "B"; (C) "E"
- **Mounting position:** Any
- **Condensate discharges:** (A) (B) None; (C) Rotor-side
- **Mode of operation:** Continuous operation (S1)
- **Bearings:** Maintenance-free ball bearings

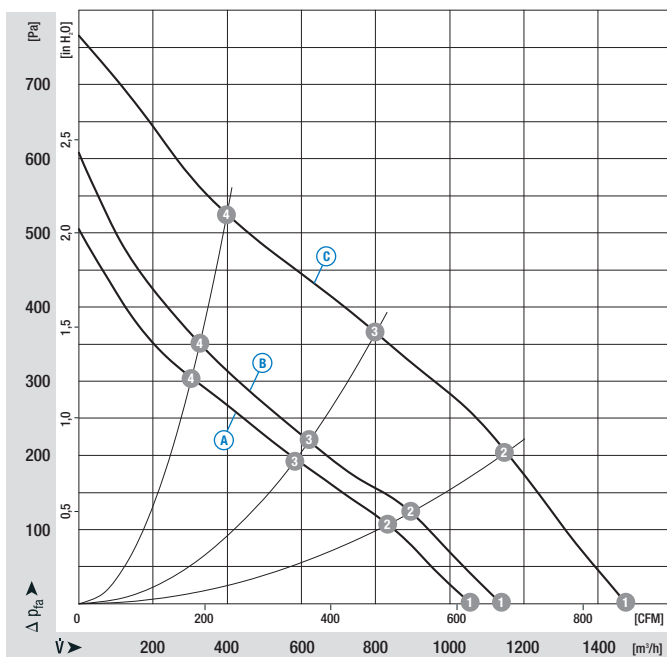
Nominal data		Curve	Nominal voltage	Voltage Range	Air flow <sup>(1)</sup>	Speed/rpm <sup>(1)</sup>	Max. Power input <sup>(1)</sup>	Max. Current draw <sup>(1)</sup>	Sound level <sup>(1)</sup>	Perm. amb. temp.	Service Life L <sub>10</sub> (40°C) ebm-papst Standard	Service Life L <sub>10</sub> (T <sub>max</sub> ) ebm-papst Standard	Life expectancy L <sub>10</sub> Δ (40°C)	Electr. connection
Type	Motor	VDC	VDC	m <sup>3</sup> /h	rpm	W	A	dB(A)	°C	Hours	Hours		p. 32/33	
<b>K1G 225</b>	M1G 074-BF	(A)	24	16-28	585	2170	75	3,55	67	-25..+60	100000 / 60000	130000	G1)	
<b>K1G 225</b>	M1G 074-BF	(B)	48	36-57	620	2290	88	2,16	68	-25..+60	96000 / 56000	130000	G1)	
<b>RG 225</b>	54.20; 3ph.	(C)	48	36-72	800	2835	181	3,91	73	-20..+55	46000* / 34000*	92000*	G2)	

subject to alterations

(1) Nominal data in operating point with maximum load

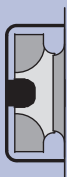
\* Preliminary Service Life

## Curves



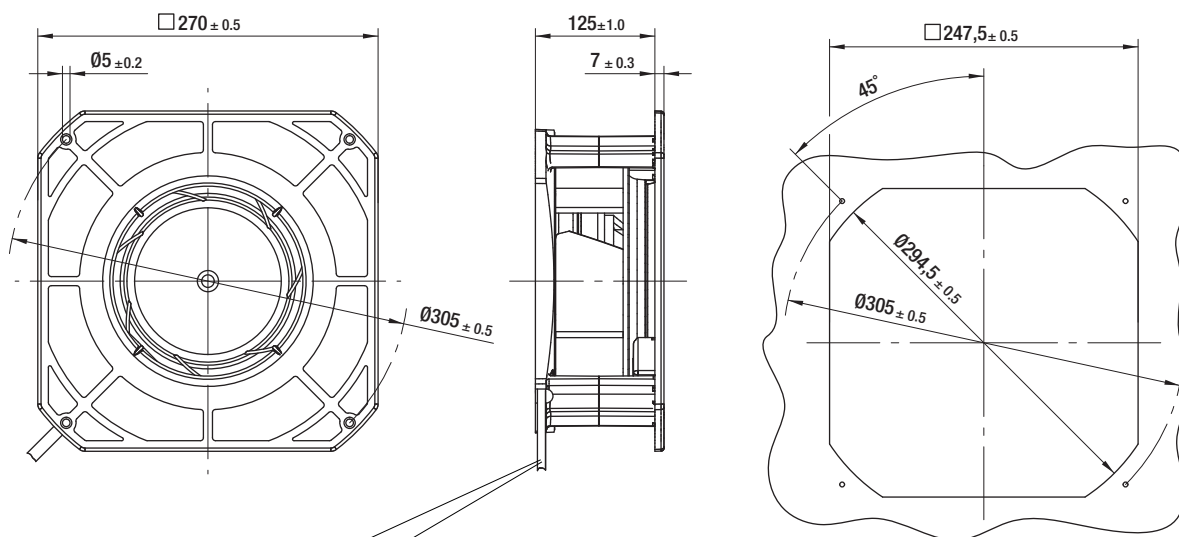
	n [rpm]	P <sub>1</sub> [W]	I [A]	L <sub>wA</sub> [dB(A)]
(A) 1	2350	69	3,21	72
(A) 2	2240	74	3,44	68
(A) 3	2170	75	3,55	67
(A) 4	2300	71	3,32	69
(B) 1	2510	83	1,96	74
(B) 2	2385	87	2,10	70
(B) 3	2290	88	2,16	68
(B) 4	2450	85	2,05	72
(C) 1	3135	157	3,36	78
(C) 2	2960	171	3,67	75
(C) 3	2835	181	3,91	73
(C) 4	2975	170	3,66	77

- **Technical features:**
  - Control input 0-10 VDC / PWM
  - Tach output
  - Reverse polarity and locked-rotor protection
- **EMC:** (A) (B) Interference emission acc. to EN 61000-6-3  
(A) (B) Interference immunity acc. to EN 61000-6-2
- **Cable exit:** Variable
- **Protection class:** I
- **Product conforming to standard:** EN 60950-1
- **Approvals:** VDE, UL, CSA, CCC are applied for



Mass of centrifugal module with support basket

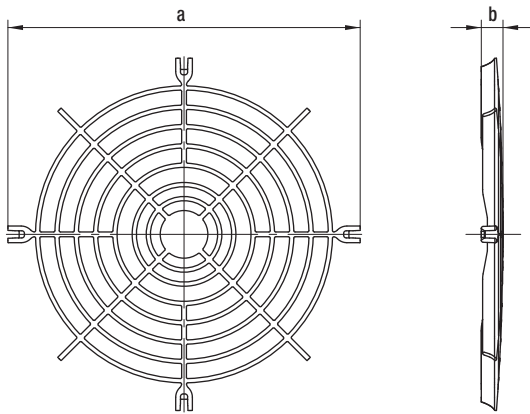
Centrifugal module	kg
K1G 225-AC49 -02	2,45
K1G 225-AC39 -02	2,45
RG225-63/18/2TDO	2,03



**RG:** Connection via single stranded wires AWG 20; TR64;  
Tach signal and control input AWG22;  
Cable length 350 mm as of housing

**K1G:** Cable length 350 mm as of housing, insulation stripped for 85 mm;  
brass lead tips attached

# Guard grille



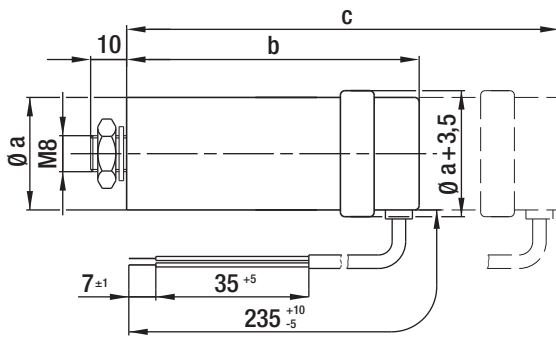
– **Material:** PA plastic 6, fibreglass-reinforced

## Guard grille for suction side for compact centrifugal modules

Part no.	Size	a	b
19050-2-2929	175 / 190	133,0	9,0
22050-2-2929	220	166,0	8,7
22550-2-2929	225	158,0	8,7

subject to alterations

# Capacitors

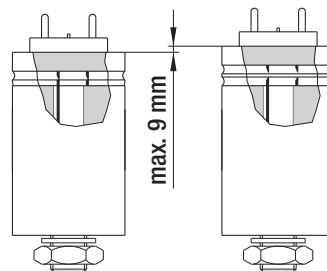


- **Material:** Plastic cap, aluminium cup
- **Designation:** FPU or P2 according to IEC 252 (non-flammable, non-explosive, circuit-breaking)
- **Approval:** VDE according to DIN EN 60252 (VDE 0560/8)
- **Calculated life time:**  
 420 V; -25 to +85°C; 30,000 hrs; class A  
 470 V; -25 to +85°C; 10,000 hrs; class B  
 500 V; -25 to +85°C; 3,000 hrs; class C

## MKP motor capacitors FPU or P2 (with fuse)

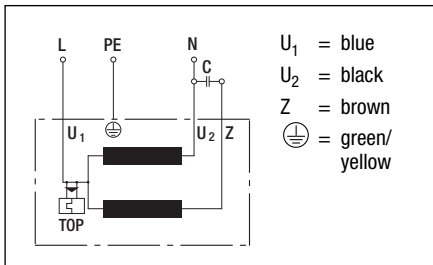
Part no.	Capacity	a	b (max.)	c (max.)
02162-4-7320	5,0 $\mu$ F	25-30	104,0	113,0
02163-4-7320	6,0 $\mu$ F	30,0	101,0	110,0
02166-4-7320	10,0 $\mu$ F	35,0	96,0	110,0
02168-4-7320	16,0 $\mu$ F	40,0	96,0	130,0

subject to alterations

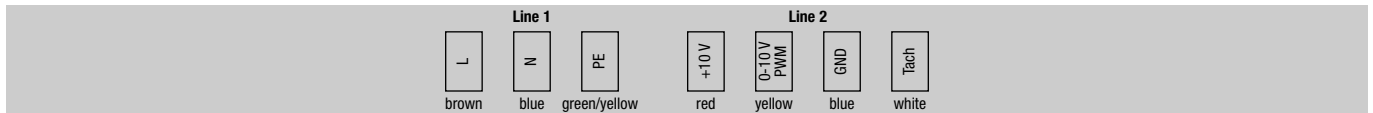
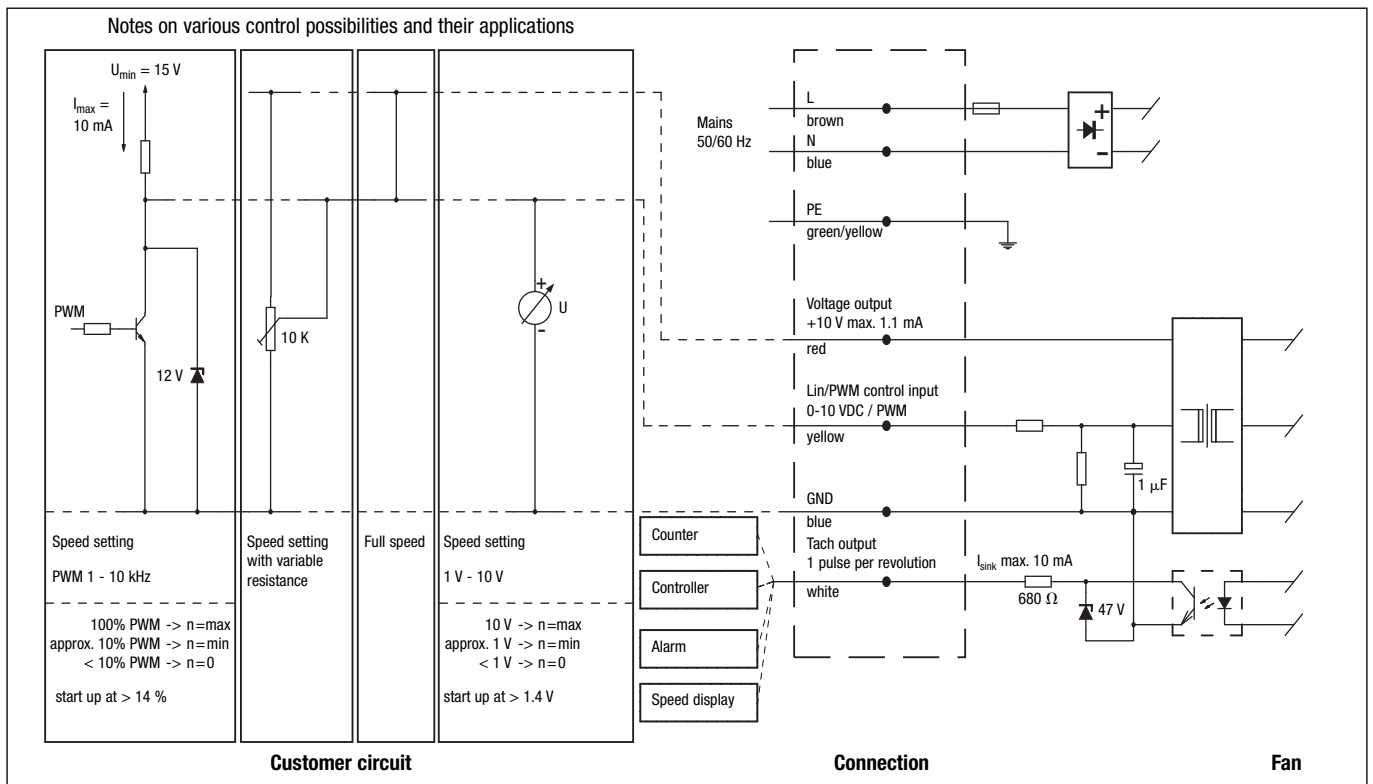


- **Pull-off protector:** The housing expands by max. 9 mm. The protector responds to overload by the generated excess pressure snapping off the internal lead in a predetermined breaking point.
- **Mounting:** c is the overall dimension of the capacitor which has to be taken into account when mounting the part. The capacitor design, however, depends on the manufacturer. The expansion (9 mm) is either added to dimension b, or it is already integrated in the capacitor.

**A1) Single-phase capacitor motor  
with TOP wired internally**



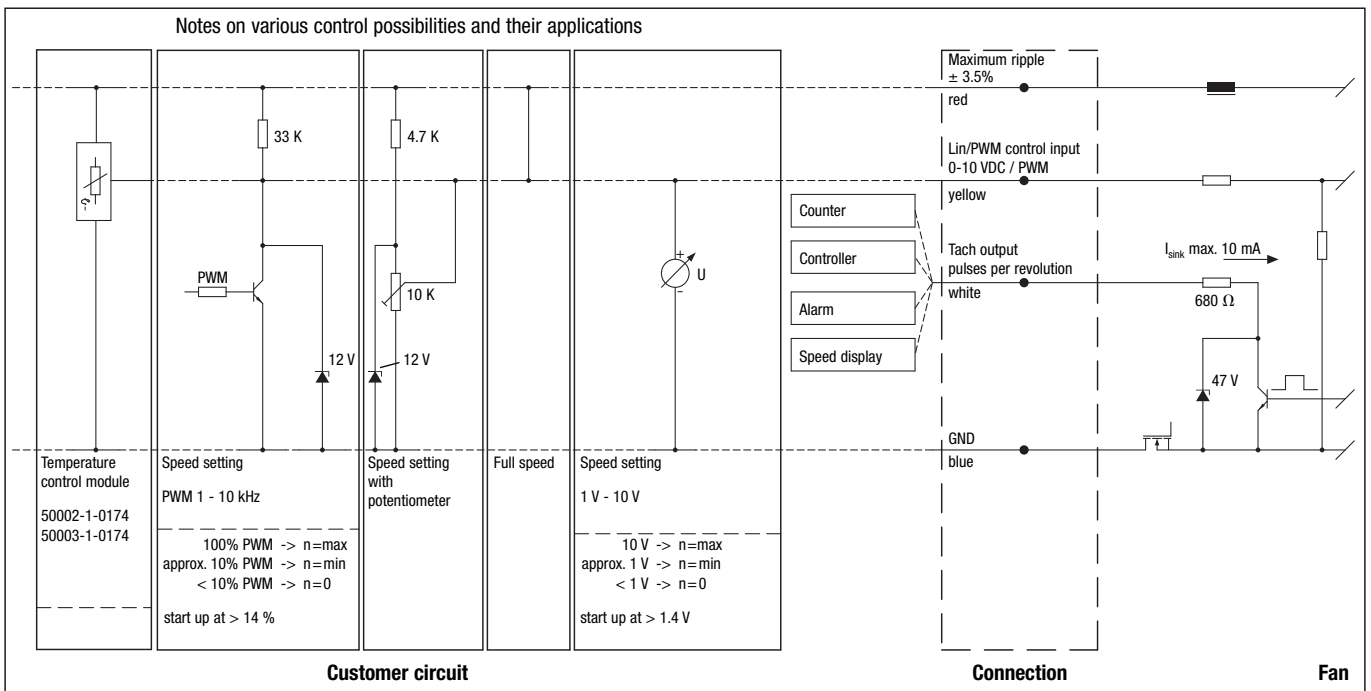
H1)



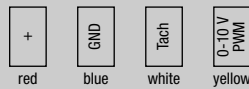
Line	Connection	Colour	Assignment / function
1	L	brown	Mains 50/60 Hz, phase
	N	blue	Mains 50/60 Hz, neutral
	PE	green/yel	Protective earth
	+10 V	red	Voltage output +10 V max. 1.1 mA
	0-10 V / PWM	yellow	Control input (Impedance 100 kΩ)
	GND	blue	GND
	Tach	white	Tach output: 1 pulse per revolution

# Electrical connections

G1)

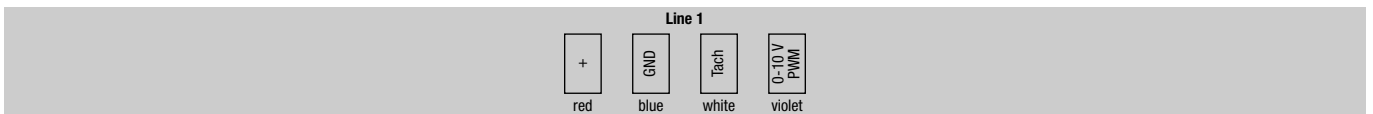
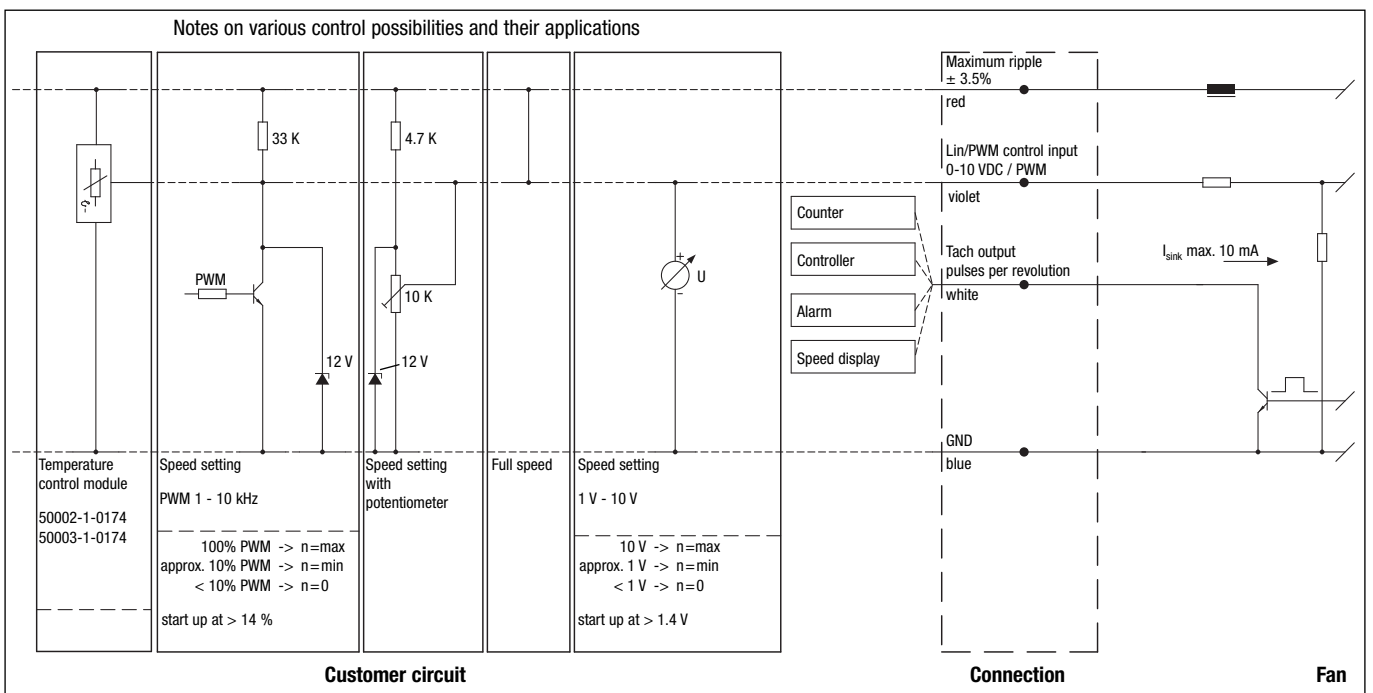


Line 1







Line	Connection	Colour	Assignment / function	Line	Connection	Colour	Assignment / function
1	+	red	Maximum ripple ± 3.5 %	1	Tach	white	Tach output: 3 pulses / revolution
	GND	blue	GND				
					0-10 V / PWM	yellow	Control input (Impedance 100 kΩ)

G2)



Line	Connection	Colour	Assignment / function	Line	Connection	Colour	Assignment / function
1	+	red	Maximum ripple ± 3.5 %	1	Tach	white	Tach output: 3 pulses / revolution
	GND	blue	GND				
					0-10 V / PWM	violet	Control input (Impedance 100 kΩ)

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

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-  fan agent
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