

The new EC axial fans - HyBlade®

A new and unique hybrid blade design makes ebm-papst axial fans even quieter, more powerful and lasting longer. The novel HyBlade® fan blades use a support structure made of highly robust, corrosion-proof aluminium alloy and a coating made of special reinforced fibre plastics. Their aerodynamically optimal form results in enormous acoustic benefits at even higher efficiencies compared to conventional blades. And this, in turn, offers further benefits when used in refrigeration, heating and ventilation.

A revolutionary development

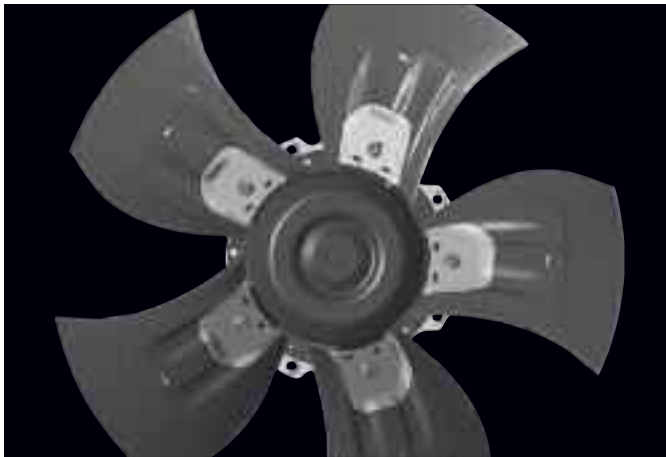
In refrigeration and ventilation, axial fans are frequently used, for instance to cool heat exchangers with air passing through them. For compact systems, the best tried and tested choice is the ebm-papst external-rotor motor with the axial fan blades mounted onto its rotor. Apart from compact dimensions, the fans in such applications are expected to yield high air performance at minimal noise.

So far, fan blades are conventionally made of sheet steel or aluminium. In order to meet exacting requirement for optimum efficiency and acoustic behaviour, ebm-papst focused intensely on developing new blade geometries. However, the limited design possibilities of a monolithic sheet metal blade with uniform sheet thickness are obstacles engineers have to simply accept.

To manage the required quantum leap and arrive at lower noise and better efficiency, new construction principles and materials, or component structures, to be more precise, are needed. This is the approach ebm-papst took with its revolutionary hybrid blade concept, using hybrid components and structures to join seemingly irreconcilable characteristic in one harmonious functional unit.

The modular system consisting of motor, electronics and impeller allows for optimum configuration, making the new line of EC HyBlade® axial fans unbeatable as to combinatorics and power range. The integrated motor electronics are based on state-of-the-art EC technology and correspond to the "2nd generation". This makes them highly efficient and they already comply with the latest standards of the defined European Efficiency Classes.

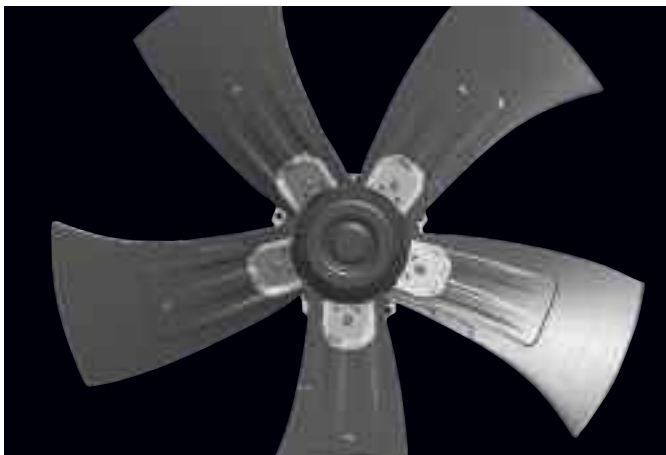
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EC axial fans - HyBlade®

Ø 500



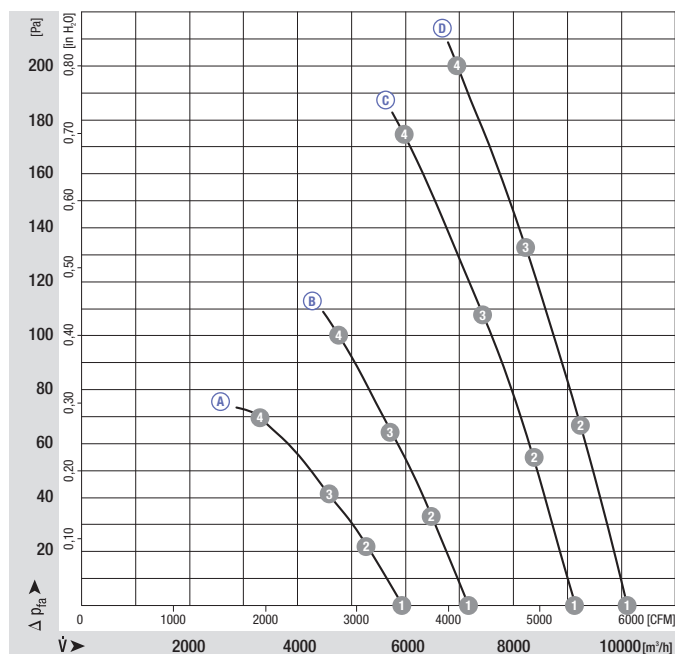
- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Pressed-on round sheet steel plate, extrusion-coated in PP plastics
Rotor: Coated in black
Electronics enclosure: Die-cast aluminium, [Ⓒ] [Ⓓ] coated in black additionally
- **Number of blades:** 5
- **Direction of rotation:** Counter-clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** "B" ("F" applying to the main components as per EN)
- **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		Blade angle	Curve	Nominal voltage range	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Max. operative range	Perm. amb. temp.	Mass without attachments	Technical features and electr. connections
Type	Motor			VAC	Hz	rpm	kW	A	Pa	°C	kg	
*3G 500	M3G 084-DF	0°	A	1~ 200-277	50/60	870	0,18	1,20	70	-25..+65	4,6	p. 36 / K1)
*3G 500	M3G 084-GF	0°	B	1~ 200-277	50/60	1100	0,36	2,20	100	-25..+55	6,2	p. 36 / K1)
*3G 500	M3G 112-EA	0°	C	1~ 200-277	50/60	1420	0,75	3,40	175	-25..+60	7,2	p. 37 / L3)
*3G 500	M3G 112-GA	0°	D	3~ 380-480	50/60	1600	0,94	1,60	200	-25..+60	9,2	p. 39 / K3)

subject to alterations

(1) Nominal data in operating point with maximum load and 230 VAC or 400 VAC

Curves



	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
A 1	920	0,15	0,97	68
A 2	905	0,16	1,04	64
A 3	890	0,17	1,09	61
A 4	870	0,18	1,20	62
B 1	1100	0,25	1,53	70
B 2	1100	0,29	1,76	68
B 3	1100	0,32	1,92	66
B 4	1100	0,36	2,20	67
C 1	1420	0,55	2,51	78
C 2	1420	0,62	2,80	75
C 3	1420	0,68	3,03	73
C 4	1420	0,75	3,40	74
D 1	1600	0,68	1,14	78
D 2	1600	0,77	1,29	75
D 3	1600	0,85	1,39	74
D 4	1600	0,94	1,60	76

- **Technical features:** See electrical connections p. 36 ff.
- **EMC:** **A** **B** **D** Interference emission acc. to EN 61000-6-3
C Interference emission acc. to EN 61000-6-4
 Interference immunity acc. to EN 61000-6-2
 Harmonics acc. to EN 61000-3-2/3
- **Leakage current:** < 3.5 mA acc. to EN 61800-5-1
- **Cable exit:** Variable
- **Optional terminal box design:** Electrical connection via terminal strip, see p. 34
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standards:** CE
- **Approvals:** VDE, CCC, GOST are applied for; UL, CSA on request

Direction of air flow			
	Without attachments	With full square nozzle	With guard grille for short nozzle
"V"	A3G 500-AF48 -51*	W3G 500-GF48 -51	S3G 500-AF48 -51
"V"	A3G 500-AD01 -51*	W3G 500-GD01 -51	S3G 500-AD01 -51
"V"	A3G 500-AM56 -21*	W3G 500-GM56 -21	S3G 500-AM56 -21
"V"	A3G 500-AN33 -01*	W3G 500-GN33 -01	S3G 500-AN33 -01

*Optional terminal box design: Electrical connection via terminal strip, see p. 34

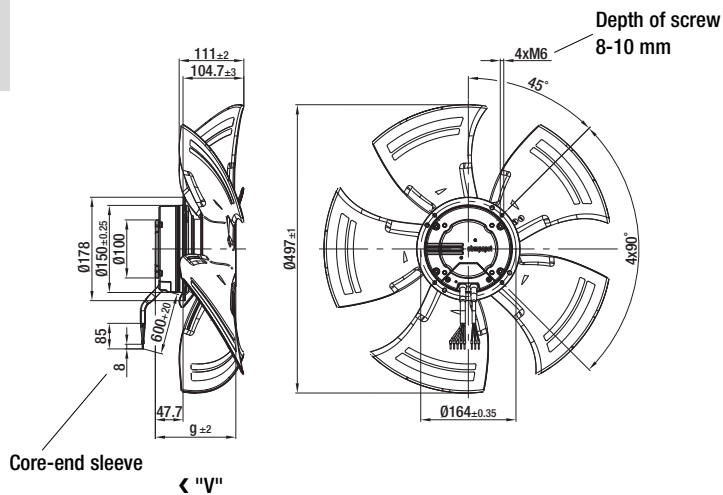
EC axial fans - HyBlade®

Ø 500 with motor M3G084, drawings for direction of air flow "V"



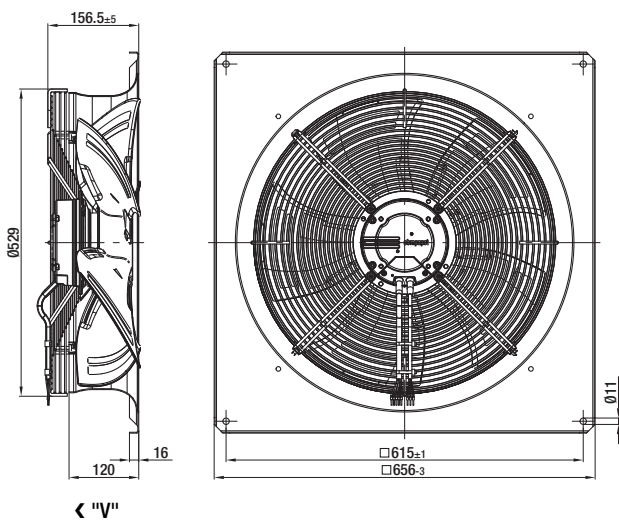
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Type	Mass [kg]	g
A3G 500-AF48 -51	4,6	139,0
A3G 500-AD01 -51	6,2	160,0



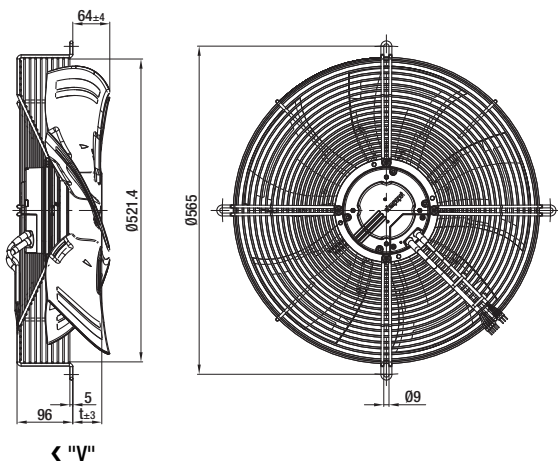
With full square nozzle

Type	Mass [kg]
W3G 500-GF48 -51	10,6
W3G 500-GD01 -51	12,2



With guard grille for short nozzle

Type	Mass [kg]	t
S3G 500-AF48 -51	7,1	50,0
S3G 500-AD01 -51	8,7	71,4



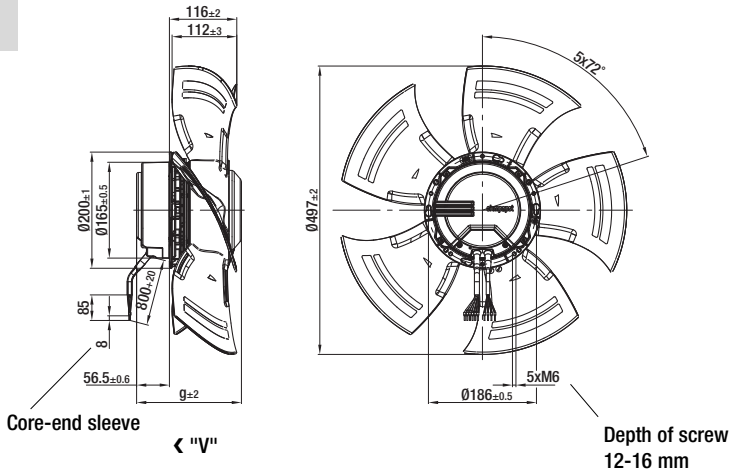
EC axial fans - HyBlade®

Ø 500 with motor M3G112, drawings for direction of air flow "V"



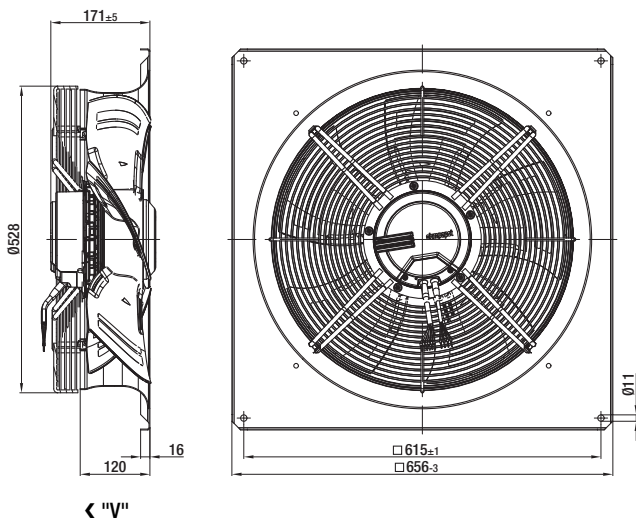
Without attachments

Type	Mass [kg]	g
A3G 500-AM56 -21	7,2	160,5
A3G 500-AN33 -01	9,2	180,5



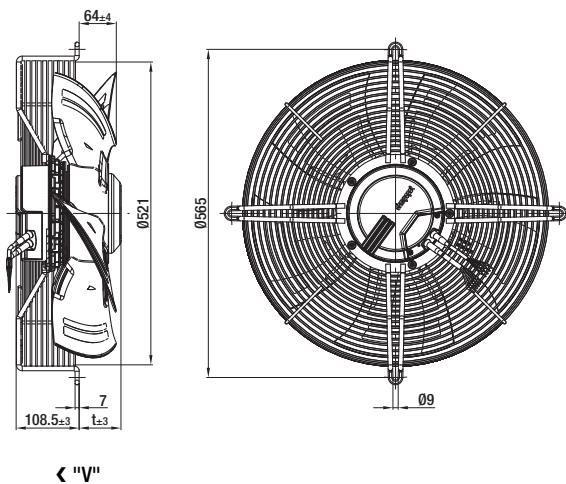
With full square nozzle

Type	Mass [kg]
W3G 500-GM56 -21	17,2
W3G 500-GN33 -01	19,2



With guard grille for short nozzle

Type	Mass [kg]	t
S3G 500-AM56 -21	10,5	52,0
S3G 500-AN33 -01	12,5	72,0



EC axial fans - HyBlade®

Ø 560



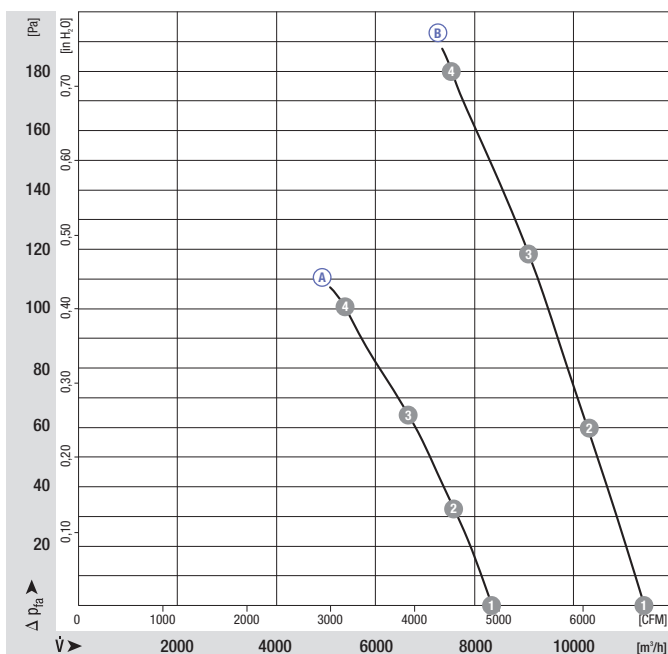
- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Insertion part made of sheet aluminium, extrusion-coated in PP plastics
Rotor: Coated in black
Electronics enclosure: Die-cast aluminium, coated in black
- **Number of blades:** 5
- **Direction of rotation:** Counter-clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** "B" ("F" applying to the main components as per EN)
- **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		Blade angle	Curve	Nominal voltage range	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Max. operative range	Perm. amb. temp.	Mass without attachments	Technical features and electr. connections
Type	Motor			VAC	Hz	rpm	kW	A	Pa	°C	kg	
*3G 560	M3G 112-EA	-5°	A	1~ 200-277	50/60	1000	0,40	1,80	100	-25..+60	7,2	p. 36 / K1)
*3G 560	M3G 112-GA	-5°	B	3~ 380-480	50/60	1350	0,95	1,50	180	-25..+60	9,3	p. 39 / K3)

subject to alterations

(1) Nominal data in operating point with maximum load and 230 VAC or 400 VAC

Curves



	n [rpm]	P ₁ [kW]	I [A]	Lw _A [dB(A)]
A 1	1000	0,29	1,29	67
A 2	1000	0,33	1,47	66
A 3	1000	0,36	1,58	65
A 4	1000	0,40	1,80	69
B 1	1350	0,67	1,11	75
B 2	1350	0,78	1,25	74
B 3	1350	0,86	1,37	73
B 4	1350	0,95	1,50	77

- **Technical features:** See electrical connections p. 36 ff.
- **EMC:**
 - ⓑ Interference emission acc. to EN 61000-6-3
 - Ⓐ Interference emission acc. to EN 61000-6-4
 - Interference immunity acc. to EN 61000-6-2
 - Harmonics acc. to EN 61000-3-2/3
- **Leakage current:** < 3.5 mA acc. to EN 61800-5-1
- **Cable exit:** Variable
- **Optional terminal box design:** Electrical connection via terminal strip, see p. 34
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standards:** CE
- **Approvals:** VDE, CCC, GOST are applied for; UL, CSA on request

Direction of air flow			
	Without attachments	With full square nozzle	With guard grille for short nozzle
"V"	A3G 560-AP68 -21*	W3G 560-GP68 -21	S3G 560-AP68 -21
"V"	A3G 560-AQ41 -01*	W3G 560-GQ41 -01	S3G 560-AQ41 -01

*Optional terminal box design: Electrical connection via terminal strip, see p. 34

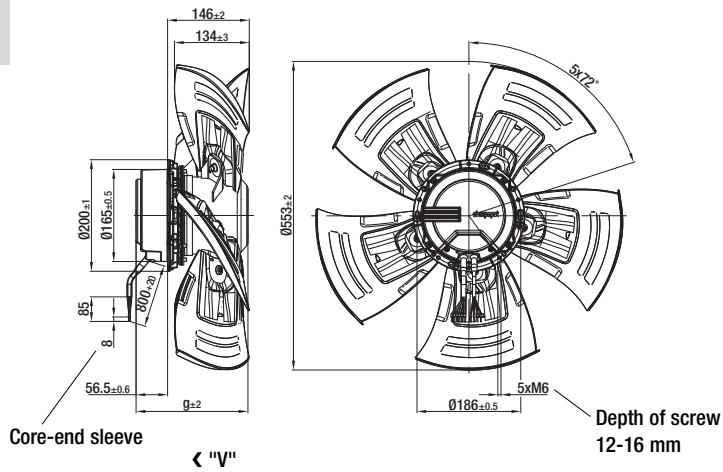
EC axial fans - HyBlade®

Ø 560 with motor M3G112, drawings for direction of air flow "V"



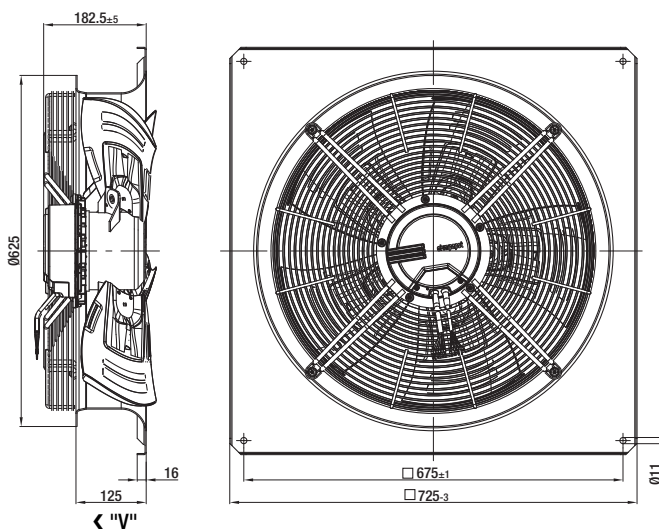
Without attachments

Type	Mass [kg]	g
A3G 560-AP68 -21	7,2	180,5
A3G 560-AQ41 -01	9,3	200,5



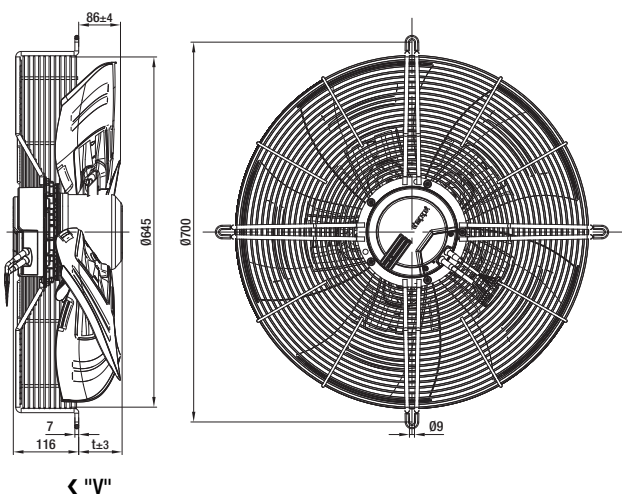
With full square nozzle

Type	Mass [kg]
W3G 560-GP68 -21	18,9
W3G 560-GQ41 -01	21,0



With guard grille for short nozzle

Type	Mass [kg]	t
S3G 560-AP68 -21	11,8	64
S3G 560-AQ41 -01	13,9	84



EC axial fans - HyBlade®

Ø 630



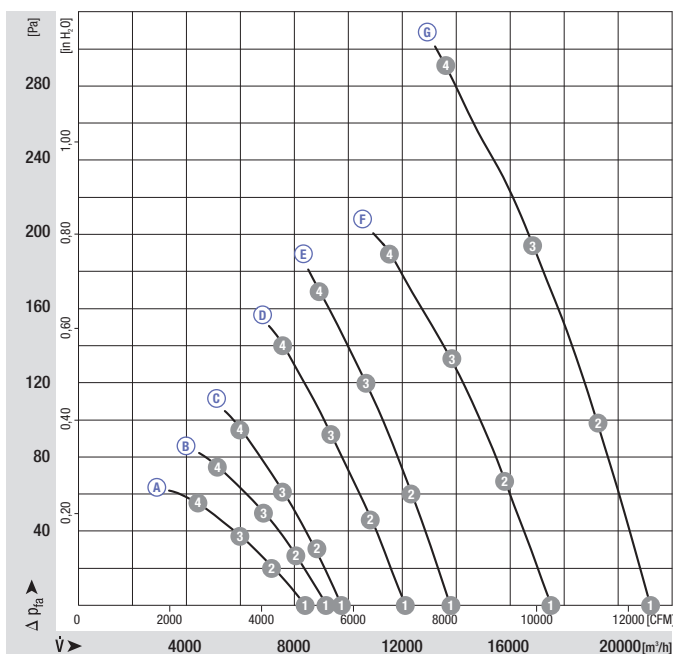
- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades (5): (A) (B) (C) (D) (E) Pressed-on round sheet steel plate; (F) (G) Insertion part made of sheet aluminium; Both versions extrusion-coated in PP plastics
Rotor: Coated in black
Electronics enclosure: Die-cast aluminium, (C) (D) (E) (F) (G) coated in black additionally
- **Direction of rotation:** (A) (B) (C) (D) (E) counter-clockwise, (F) (G) clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** (A) (B) (C) (D) (E) "B" ("F" applying to the main components as per EN), (F) (G) "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		Blade angle	Curve	Nominal voltage range	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Max. operative range	Perm. amb. temp.	Mass without attachments	Technical features and electr. connections
Type	Motor			VAC	Hz	rpm	kW	A	Pa	°C	kg	
*3G 630	M3G 084-FA	0°	(A)	1~ 200-277	50/60	690	0,18	1,20	55	-25..+60	5,5	p. 36 / K1)
*3G 630	M3G 084-GF	0°	(B)	1~ 200-277	50/60	800	0,28	1,70	75	-25..+60	6,3	p. 36 / K1)
*3G 630	M3G 112-EA	-5°	(C)	1~ 200-277	50/60	820	0,40	1,80	95	-25..+60	7,3	p. 36 / K1)
*3G 630	M3G 112-GA	-5°	(D)	1~ 200-277	50/60	1000	0,72	3,20	140	-25..+60	9,3	p. 37 / L3)
*3G 630	M3G 112-IA	-5°	(E)	3~ 380-480	50/60	1140	0,99	1,60	170	-25..+60	11,3	p. 39 / K3)
*3G 630	M3G 150-FF	0°	(F)	3~ 380-480	50/60	1230	1,85	2,85	190	-25..+70	20,4	p. 38 / L5)
*3G 630	M3G 150-IF	0°	(G)	3~ 380-480	50/60	1510	3,20	4,90	290	-25..+65	24,4	p. 38 / L5)

subject to alterations

(1) Nominal data in operating point with maximum load and 230 VAC or 400 VAC

Curves



	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
(A) 1	750	0,14	0,90	61
(A) 2	725	0,16	1,01	60
(A) 3	710	0,17	1,09	60
(A) 4	690	0,18	1,20	64
(B) 1	800	0,18	0,82	65
(B) 2	800	0,23	1,02	63
(B) 3	800	0,27	1,17	63
(B) 4	800	0,28	1,70	68
(C) 1	820	0,25	1,09	66
(C) 2	820	0,30	1,31	63
(C) 3	820	0,35	1,52	64
(C) 4	820	0,40	1,80	67
(D) 1	1000	0,46	2,11	71
(D) 2	1000	0,55	2,51	68
(D) 3	1000	0,64	2,88	68
(D) 4	1000	0,72	3,20	71

- **Technical features:** See electrical connections p. 36 ff.
- **EMC:** **A B E F G** Interference emission acc. to EN 61000-6-3
C D Interference emission acc. to EN 61000-6-4
 Interference immunity acc. to EN 61000-6-2
 Harmonics acc. to EN 61000-3-2/3
- **Leakage current:** < 3.5 mA acc. to EN 61800-5-1
- **Cable exit:** **A B C D E** Variable
- **Optional terminal box design:** **A B C D E** Electrical connection via terminal strip, see p. 34
- **Terminal box:** **F G** Electrical connection via terminal strip
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standards:** CE
- **Approvals:** VDE, CCC, GOST are applied for; UL, CSA on request

Direction of air flow			
	Without attachments	With full square nozzle	With guard grille for short nozzle
"V"	A3G 630-AC52 -51*	W3G 630-GC52 -51	S3G 630-AC52 -51
"V"	A3G 630-AD03 -A1*	W3G 630-GD03 -A1	S3G 630-AD03 -A1
"V"	A3G 630-AP70 -21*	W3G 630-GP70 -21	S3G 630-AP70 -21
"V"	A3G 630-AQ37 -21*	W3G 630-GQ37 -21	S3G 630-AQ37 -21
"V"	A3G 630-AR85 -01*	W3G 630-GR85 -01	S3G 630-AR85 -01
"V"	A3G 630-AS21 -01	W3G 630-GS21 -01	S3G 630-AS21 -01
"V"	A3G 630-AU23 -01	W3G 630-GU23 -01	S3G 630-AU23 -01

*Optional terminal box design: Electrical connection via terminal strip, see p. 34

	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
E ①	1140	0,64	1,02	74
E ②	1140	0,78	1,25	71
E ③	1140	0,89	1,42	72
E ④	1140	0,99	1,60	74
F ①	1230	1,47	2,26	77
F ②	1230	1,60	2,46	76
F ③	1230	1,75	2,70	77
F ④	1230	1,85	2,85	81
G ①	1510	2,49	3,77	81
G ②	1510	2,74	4,18	81
G ③	1510	2,94	4,47	81
G ④	1510	3,20	4,90	86

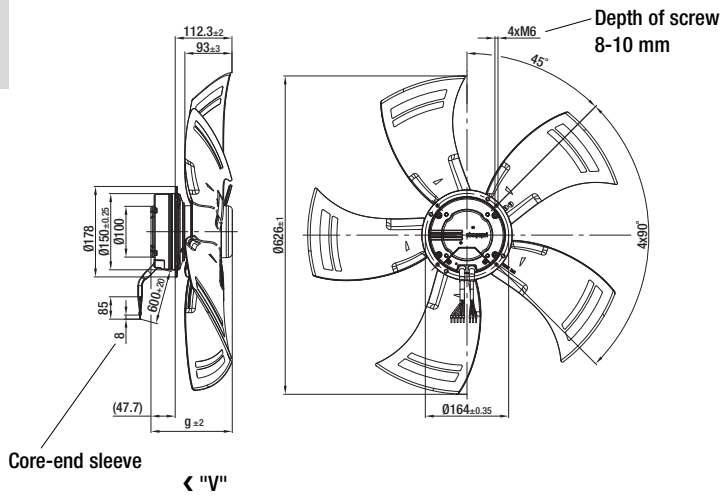
EC axial fans - HyBlade®

Ø 630 with motor M3G084, drawings for direction of air flow "V"



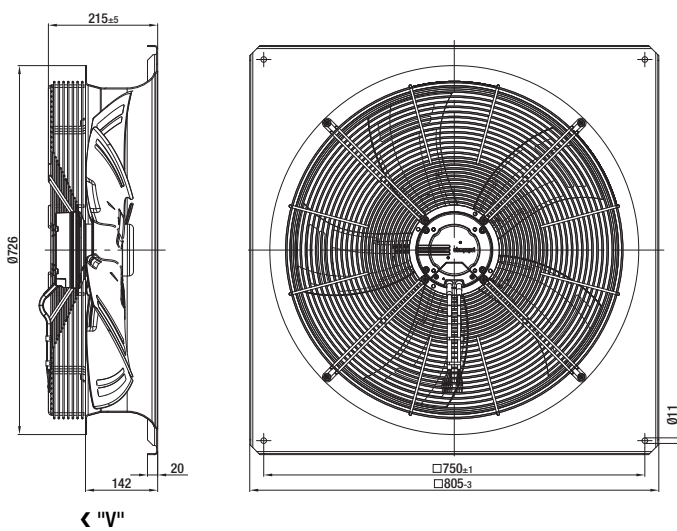
Without attachments

Type	Mass [kg]	g
A3G 630-AC52 -51	5,5	145,0
A3G 630-AD03 -A1	6,3	160,0



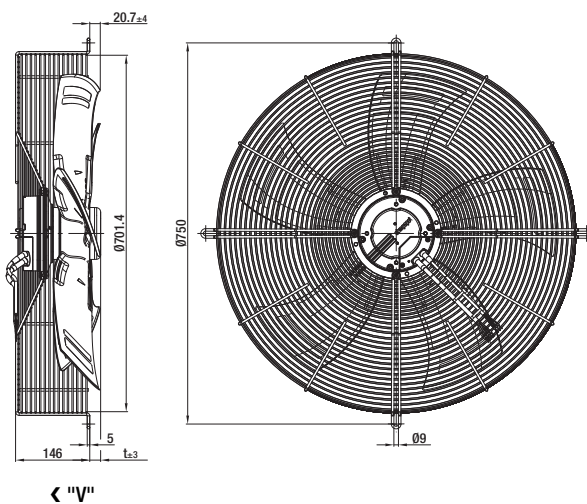
With full square nozzle

Type	Mass [kg]
W3G 630-GC52 -51	19,6
W3G 630-GD03 -A1	20,4



With guard grille for short nozzle

Type	Mass [kg]	t
S3G 630-AC52 -51	9,8	6,4
S3G 630-AD03 -A1	10,6	21,4



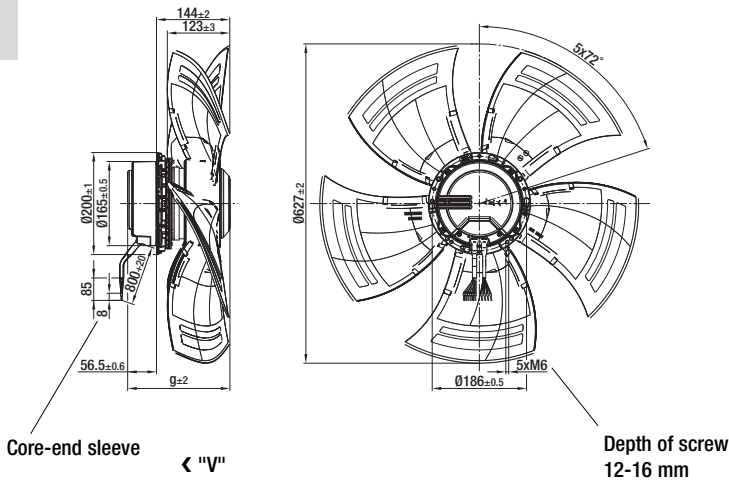
EC axial fans - HyBlade®

Ø 630 with motor M3G112, drawings for direction of air flow "V"



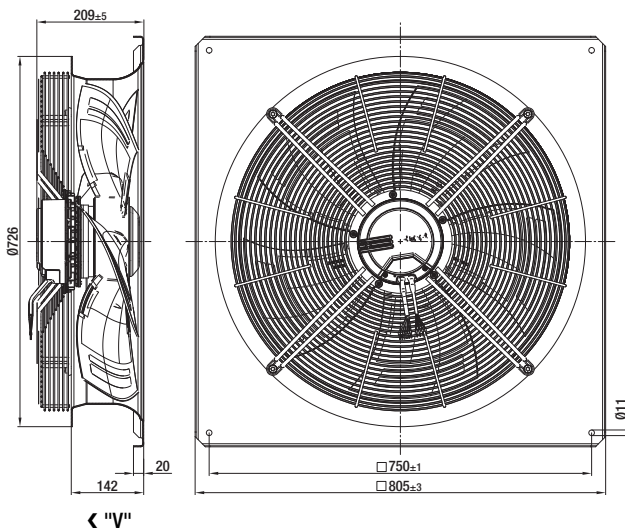
Without attachments

Type	Mass [kg]	g
A3G 630-AP70 -21	7,3	180,5
A3G 630-AQ37 -21	9,3	180,5
A3G 630-AR85 -01	11,3	200,5



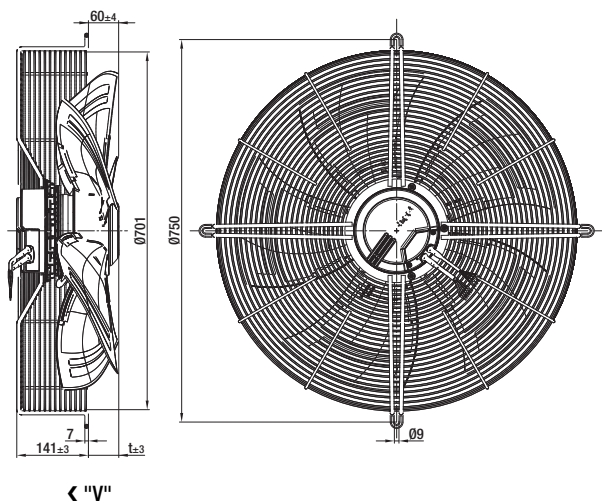
With full square nozzle

Type	Mass [kg]
W3G 630-GP70 -21	22,3
W3G 630-GQ37 -21	24,3
W3G 630-GR85 -01	26,3



With guard grille for short nozzle

Type	Mass [kg]	t
S3G 630-AP70 -21	12,6	39,5
S3G 630-AQ37 -21	14,6	39,5
S3G 630-AR85 -01	16,6	59,5



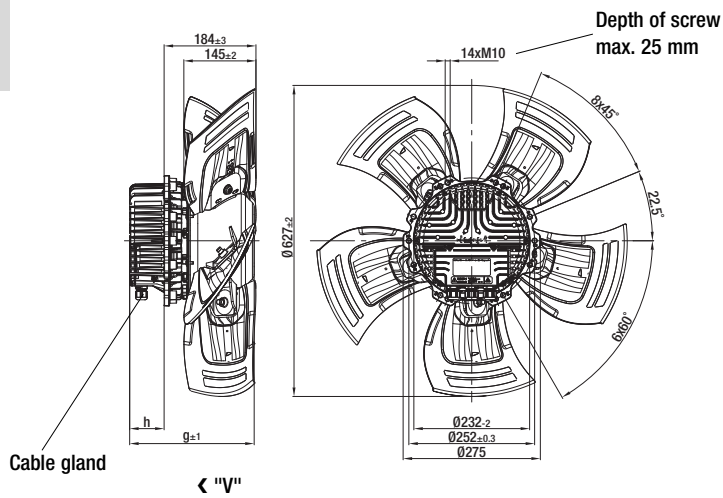
EC axial fans - HyBlade®

Ø 630 with motor M3G150, drawings for direction of air flow "V"



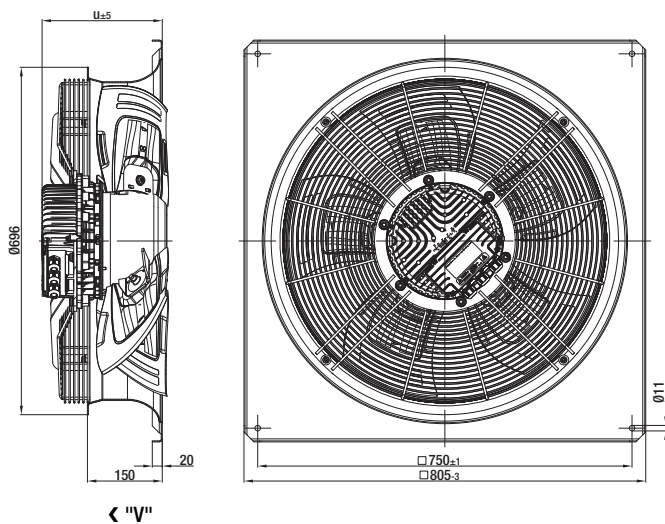
Without attachments

Type	Mass		
	[kg]	g	h
A3G 630-AS21 -01	20,4	238,0	57,5
A3G 630-AU23 -01	24,4	250,5	70,0



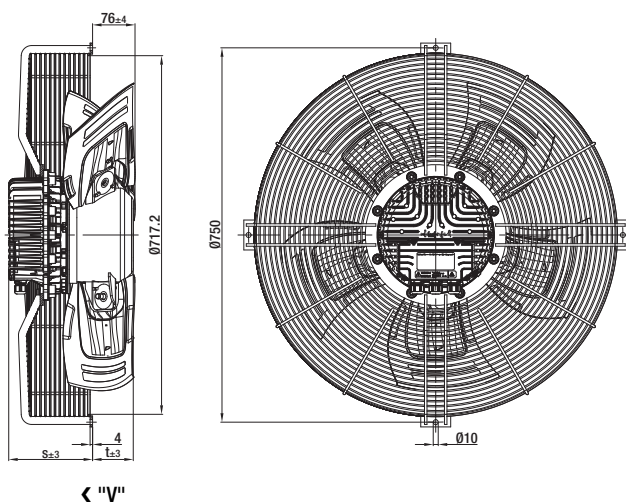
With full square nozzle

Type	Mass	
	[kg]	u
W3G 630-GS21 -01	35,5	237,5
W3G 630-GU23 -01	39,5	250,0



With guard grille for short nozzle

Type	Mass [kg]		
		s	t
S3G 630-AS21 -01	27,5	165,5	72,5
S3G 630-AU23 -01	31,5	178,0	72,5



EC axial fans - HyBlade®

Ø 710



- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Insertion part made of sheet aluminium, extrusion-coated in PP plastics
Rotor: Coated in black
Electronics enclosure: Die-cast aluminium, coated in black
- **Number of blades:** 5
- **Direction of rotation:** Ⓐ Ⓑ Ⓒ counter-clockwise, Ⓓ Ⓔ clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** Ⓐ Ⓑ Ⓒ "B" ("F" applying to the main components as per EN), Ⓓ Ⓔ "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

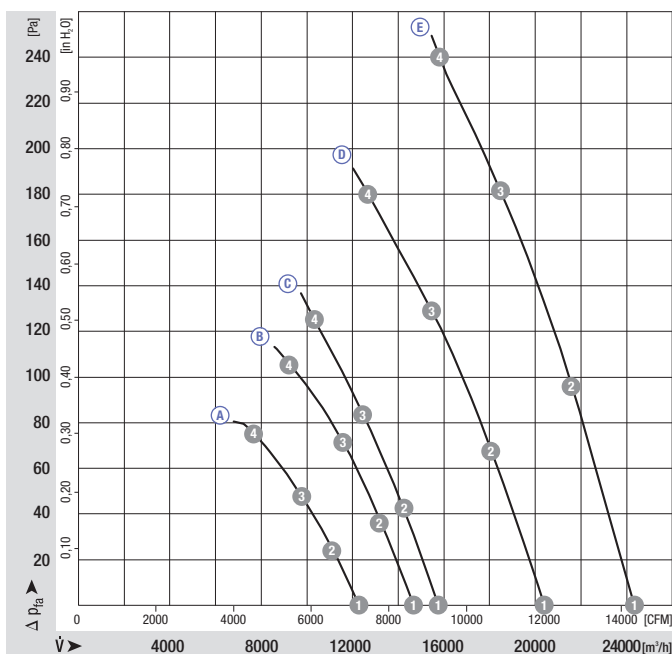
Nominal data

Type	Motor	Blade angle	Curve	Nominal voltage range	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Max. operative range	Perm. amb. temp.	Mass without attachments	Technical features and electr. connections
				VAC	Hz	rpm	kW	A	Pa	°C	kg	
*3G 710	M3G 112-GA	0°	Ⓐ	1~ 200-277	50/60	710	0,46	2,00	75	-25..+60	10,0	p. 36 / K1)
*3G 710	M3G 112-IA	0°	Ⓑ	1~ 200-277	50/60	830	0,70	3,10	105	-25..+60	12,0	p. 37 / L3)
*3G 710	M3G 112-IA	0°	Ⓒ	3~ 380-480	50/60	900	0,93	1,50	125	-25..+60	12,0	p. 39 / K3)
*3G 710	M3G 150-FF	0°	Ⓓ	3~ 380-480	50/60	1030	1,72	2,70	180	-25..+65	21,3	p. 38 / L5)
*3G 710	M3G 150-IF	0°	Ⓔ	3~ 380-480	50/60	1250	2,80	4,40	240	-25..+60	25,3	p. 38 / L5)

subject to alterations

(1) Nominal data in operating point with maximum load and 230 VAC or 400 VAC

Curves



	n [rpm]	P ₁ [kW]	I [A]	Lw _A [dB(A)]
Ⓐ 1	710	0,28	1,24	65
Ⓐ 2	710	0,34	1,51	64
Ⓐ 3	710	0,40	1,74	64
Ⓐ 4	710	0,46	2,00	72
Ⓑ 1	830	0,45	2,08	69
Ⓑ 2	830	0,55	2,49	67
Ⓑ 3	830	0,64	2,86	68
Ⓑ 4	830	0,70	3,10	76
Ⓒ 1	900	0,59	0,96	70
Ⓒ 2	900	0,70	1,12	69
Ⓒ 3	900	0,81	1,30	70
Ⓒ 4	900	0,93	1,50	77
Ⓓ 1	1030	1,31	2,00	74
Ⓓ 2	1030	1,46	2,22	73
Ⓓ 3	1030	1,61	2,45	74
Ⓓ 4	1030	1,72	2,70	79
Ⓔ 1	1250	2,15	3,30	79
Ⓔ 2	1250	2,44	3,71	79
Ⓔ 3	1250	2,67	4,06	79
Ⓔ 4	1250	2,80	4,40	83

- **Technical features:** See electrical connections p. 36 ff.
- **EMC:** **C** **D** **E** Interference emission acc. to EN 61000-6-3
A **B** Interference emission acc. to EN 61000-6-4
 Interference immunity acc. to EN 61000-6-2
 Harmonics acc. to EN 61000-3-2/3
- **Leakage current:** < 3.5 mA acc. to EN 61800-5-1
- **Cable exit:** **A** **B** **C** Variable
- **Optional terminal box design:** **A** **B** **C** Electrical connection via terminal strip, see p. 34
- **Terminal box:** **D** **E** Electrical connection via terminal strip
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standards:** CE
- **Approvals:** VDE, CCC, GOST are applied for; UL, CSA on request

Direction of air flow			
	Without attachments	With full square nozzle	With guard grille for short nozzle
"V"	A3G 710-AN48 -21*	W3G 710-GN48 -21	S3G 710-AN48 -21
"V"	A3G 710-A085 -21*	W3G 710-G085 -21	S3G 710-A085 -21
"V"	A3G 710-A081 -01*	W3G 710-G081 -01	S3G 710-A081 -01
"V"	A3G 710-AS30 -01	W3G 710-GS30 -01	S3G 710-AS30 -01
"V"	A3G 710-AU21 -01	W3G 710-GU21 -01	S3G 710-AU21 -01

*Optional terminal box design: Electrical connection via terminal strip, see p. 34

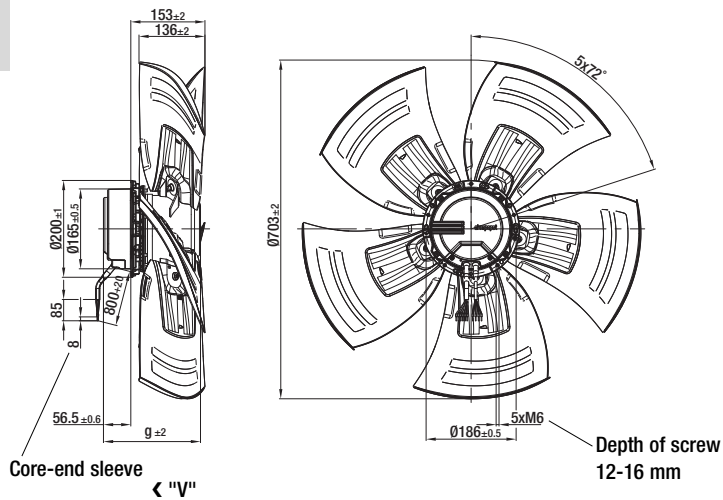
EC axial fans - HyBlade®

Ø 710 with motor M3G112, drawings for direction of air flow "V"



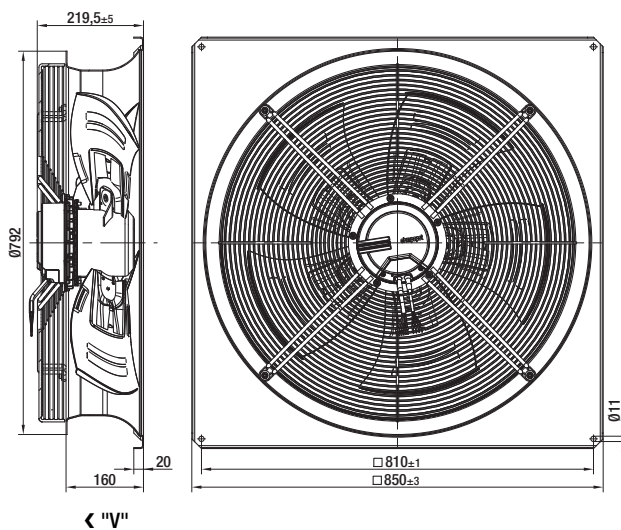
Without attachments

Type	Mass [kg]	g
A3G 710-AN48 -21	10,0	180,5
A3G 710-A085 -21	12,0	200,5
A3G 710-A081 -01	12,0	200,5



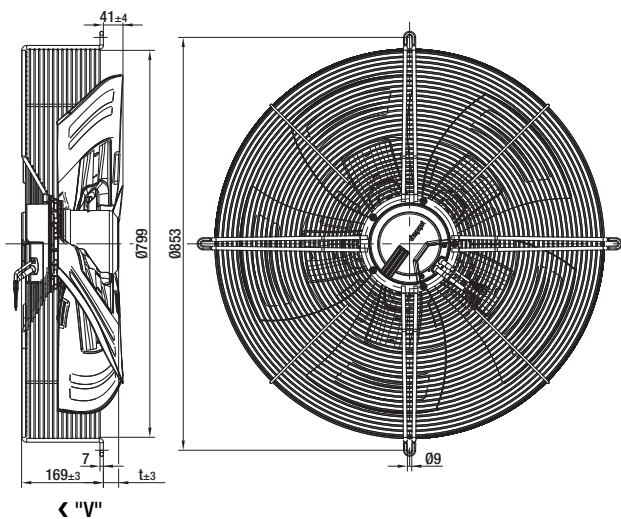
With full square nozzle

Type	Mass [kg]
W3G 710-GN48 -21	24,9
W3G 710-G085 -21	26,9
W3G 710-G081 -01	26,9



With guard grille for short nozzle

Type	Mass [kg]	t
S3G 710-AN48 -21	16,8	11,5
S3G 710-A085 -21	18,8	31,5
S3G 710-A081 -01	18,8	31,5



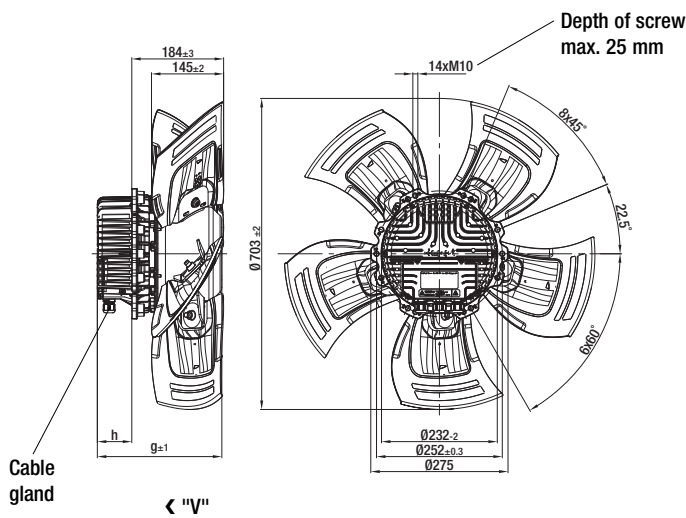
EC axial fans - HyBlade®

Ø 710 with motor M3G150, drawings for direction of air flow "V"



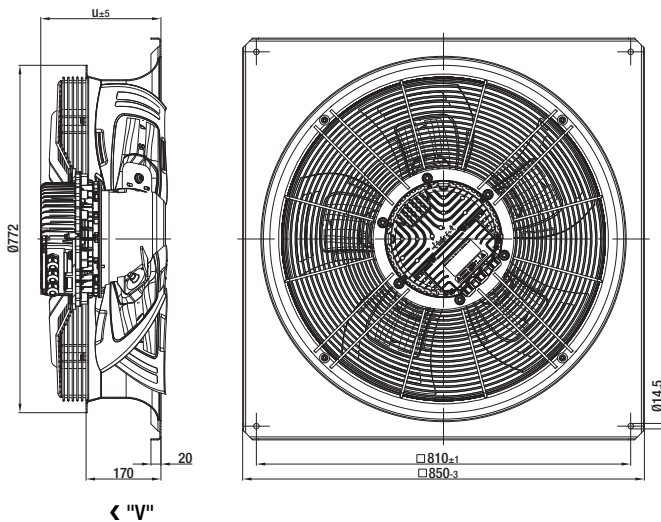
Without attachments

Type	Mass		
	[kg]	g	h
A3G 710-AS30 -01	21,3	238,0	57,5
A3G 710-AU21 -01	25,3	250,5	70,0



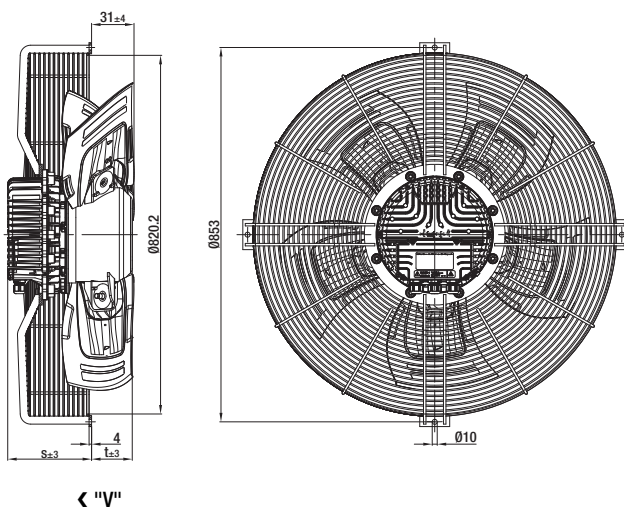
With full square nozzle

Type	Mass	
	[kg]	u
W3G 710-GS30 -01	38,4	272,0
W3G 710-GU21 -01	42,4	284,5



With guard grille for short nozzle

Type	Mass [kg]		
		s	t
S3G 710-AS30 -01	30,5	211,0	27,0
S3G 710-AU21 -01	34,5	223,5	27,0



EC axial fans - HyBlade®

Ø 800



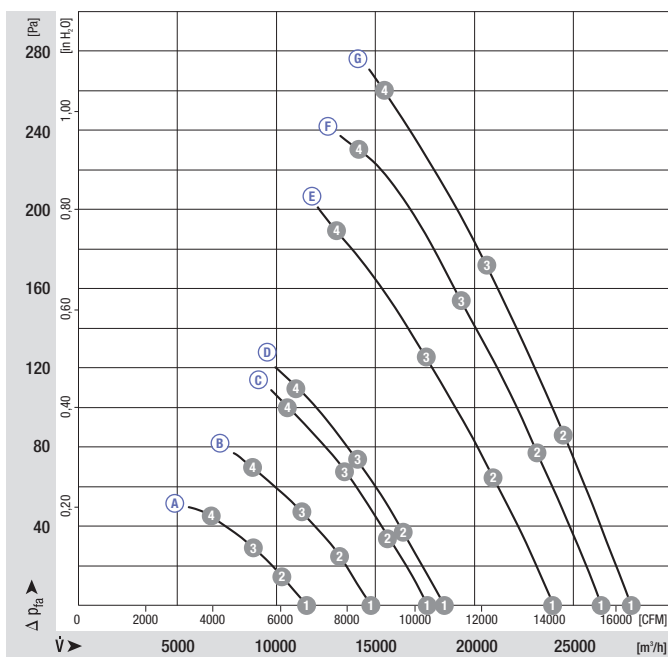
- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades (5): (A) (B) (C) (D) Pressed-on round sheet steel plate; (E) (F) (G) Insertion part made of sheet aluminium; Both versions extrusion-coated in PP plastics
Rotor: Coated in black
Electronics enclosure: Die-cast aluminium, coated in black
- **Direction of rotation:** clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** (A) (B) (C) (D) "B" ("F" applying to the main components as per EN), (E) (F) (G) "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		Blade angle	Curve	Nominal voltage range	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Max. operative range	Perm. amb. temp.	Mass without attachments	Technical features and electr. connections
Type	Motor			VAC	Hz	rpm	kW	A	Pa	°C	kg	
*3G 800	M3G 112-EA	0°	(A)	1~ 200-277	50/60	470	0,22	1,00	45	-25..+60	8,0	p. 36 / K1)
*3G 800	M3G 112-GA	0°	(B)	1~ 200-277	50/60	600	0,44	1,90	70	-25..+60	10,0	p. 36 / K1)
*3G 800	M3G 112-IA	0°	(C)	1~ 200-277	50/60	710	0,73	3,20	100	-25..+60	12,1	p. 37 / L3)
*3G 800	M3G 112-IA	0°	(D)	3~ 380-480	50/60	735	0,84	1,40	110	-25..+60	12,1	p. 39 / K3)
*3G 800	M3G 150-GF	0°	(E)	3~ 380-480	50/60	925	1,85	2,85	190	-25..+60	23,0	p. 38 / L5)
*3G 800	M3G 150-IF	0°	(F)	3~ 380-480	50/60	1020	2,56	3,90	230	-25..+60	25,9	p. 38 / L5)
*3G 800	M3G 150-NA	0°	(G)	3~ 380-480	50/60	1090	2,86	4,50	260	-25..+65	30,4	p. 38 / L5)

subject to alterations

(1) Nominal data in operating point with maximum load and 230 VAC or 400 VAC

Curves



	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
(A) 1	470	0,14	0,85	59
(A) 2	470	0,17	0,99	57
(A) 3	470	0,19	0,95	54
(A) 4	470	0,22	1,00	59
(B) 1	600	0,29	1,27	64
(B) 2	600	0,34	1,51	61
(B) 3	600	0,38	1,69	59
(B) 4	600	0,44	1,90	65
(C) 1	710	0,45	2,08	69
(C) 2	710	0,55	2,49	66
(C) 3	710	0,63	2,84	64
(C) 4	710	0,73	3,20	70
(D) 1	735	0,52	0,88	70
(D) 2	735	0,62	1,02	66
(D) 3	735	0,72	1,18	64
(D) 4	735	0,84	1,40	70

- **Technical features:** See electrical connections p. 36 ff.
- **EMC:** **D E F G** Interference emission acc. to EN 61000-6-3
A B C Interference emission acc. to EN 61000-6-4
 Interference immunity acc. to EN 61000-6-2
 Harmonics acc. to EN 61000-3-2/3
- **Leakage current:** < 3.5 mA acc. to EN 61800-5-1
- **Cable exit:** **A B C D** Variable
- **Optional terminal box design:** **A B C D** Electrical connection via terminal strip, see p. 34
- **Terminal box:** **E F G** Electrical connection via terminal strip
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standards:** CE
- **Approvals:** VDE, CCC, GOST are applied for; UL, CSA on request

Direction of air flow			
	Without attachments	With full square nozzle	With guard grille for full nozzle
"V"	A3G 800-AM67 -21*	W3G 800-GM67 -21	S3G 800-BM67 -21
"V"	A3G 800-AN36 -21*	W3G 800-GN36 -21	S3G 800-BN36 -21
"V"	A3G 800-AO81 -21*	W3G 800-GO81 -21	S3G 800-BO81 -21
"V"	A3G 800-AO84 -01*	W3G 800-GO84 -01	S3G 800-BO84 -01
"V"	A3G 800-AT21 -01	W3G 800-GT21 -01	S3G 800-BT21 -01
"V"	A3G 800-AU25 -01	W3G 800-GU25 -01	S3G 800-BU25 -01
"V"	A3G 800-AV01 -01	W3G 800-GV01 -01	S3G 800-BV01 -01

*Optional terminal box design: Electrical connection via terminal strip, see p. 34

	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
E ①	925	1,18	1,81	72
E ②	925	1,39	2,12	72
E ③	925	1,59	2,42	74
E ④	925	1,85	2,85	80
F ①	1020	1,62	2,47	75
F ②	1020	1,88	2,88	75
F ③	1020	2,15	3,29	77
F ④	1020	2,56	3,90	85
G ①	1090	1,87	2,84	76
G ②	1090	2,18	3,32	76
G ③	1090	2,50	3,81	78
G ④	1090	2,86	4,50	85

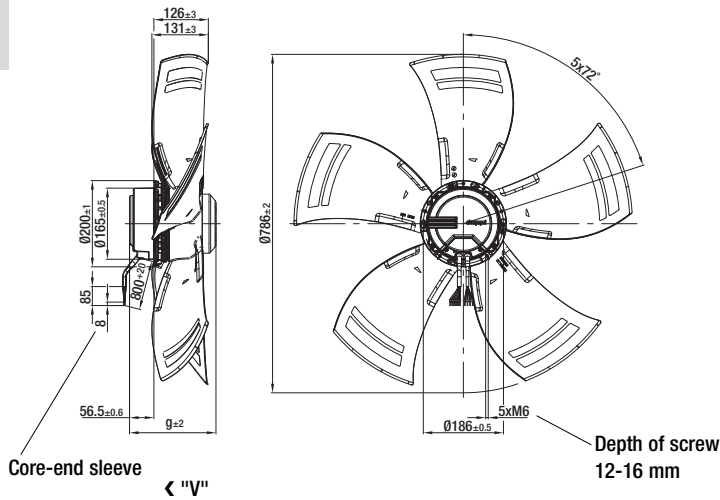
EC axial fans - HyBlade®

Ø 800 with motor M3G112, drawings for direction of air flow "V"



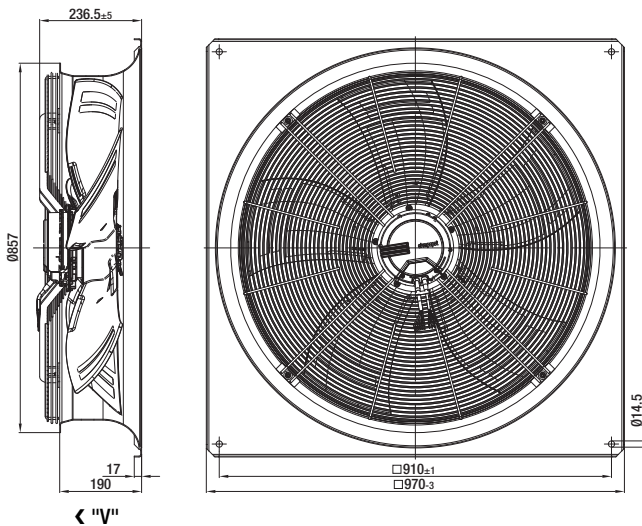
Without attachments

Type	Mass [kg]	g
A3G 800-AM67 -21	8,0	160,5
A3G 800-AN36 -21	10,0	180,5
A3G 800-A081 -21	12,1	200,5
A3G 800-A084 -01	12,1	200,5



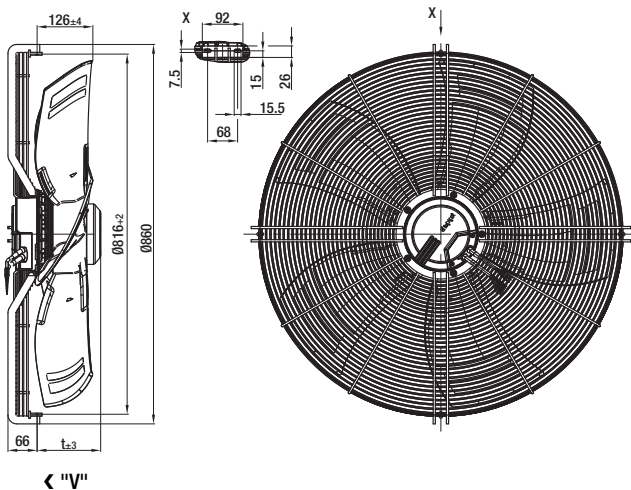
With full square nozzle

Type	Mass [kg]
W3G 800-GM67 -21	29,2
W3G 800-GN36 -21	31,2
W3G 800-G081 -21	33,3
W3G 800-G084 -01	33,3



With guard grille for full nozzle

Type	Mass [kg]	t
S3G 800-BM67 -21	14,2	104,0
S3G 800-BN36 -21	16,2	124,0
S3G 800-B081 -21	18,3	144,0
S3G 800-B084 -01	18,3	144,0

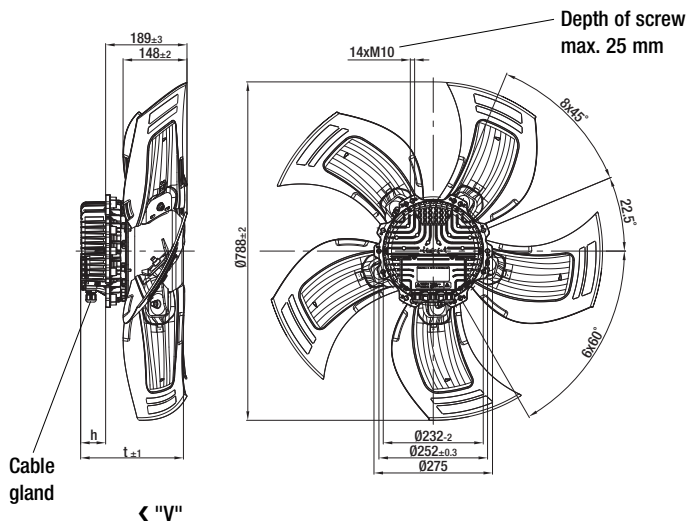


EC axial fans - HyBlade®

Ø 800 with motor M3G150, drawings for direction of air flow "V"

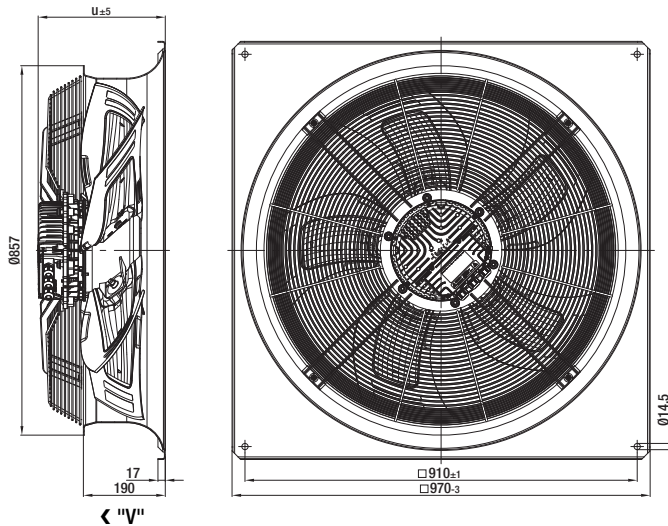


Without attachments



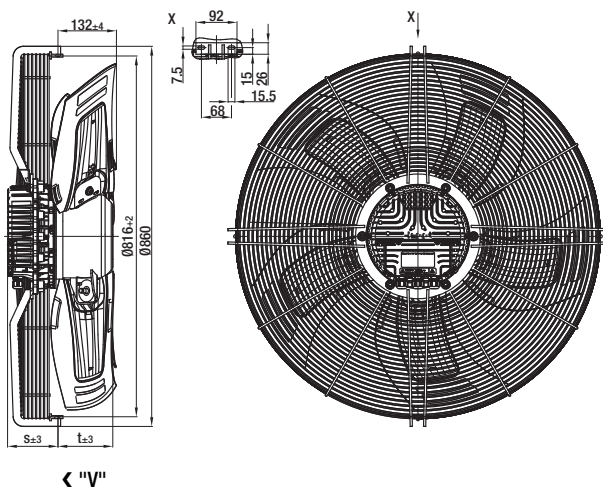
Type	Mass		
	[kg]	g	h
A3G 800-AT21 -01	23,0	238,0	57,5
A3G 800-AU25 -01	25,9	250,5	70,0
A3G 800-AV01 -01	30,4	289,5	70,0

With full square nozzle



Type	Mass	
	[kg]	u
W3G 800-GT21 -01	42,8	294,5
W3G 800-GU25 -01	45,7	307,0
W3G 800-GV01 -01	50,2	307,0

With guard grille for full nozzle



Type	Mass [kg]		
		s	t
S3G 800-BT21 -01	30,8	114,0	124,0
S3G 800-BU25 -01	33,7	126,5	124,0
S3G 800-BV01 -01	38,2	126,5	163,0

EC axial fans - HyBlade®

Ø 910



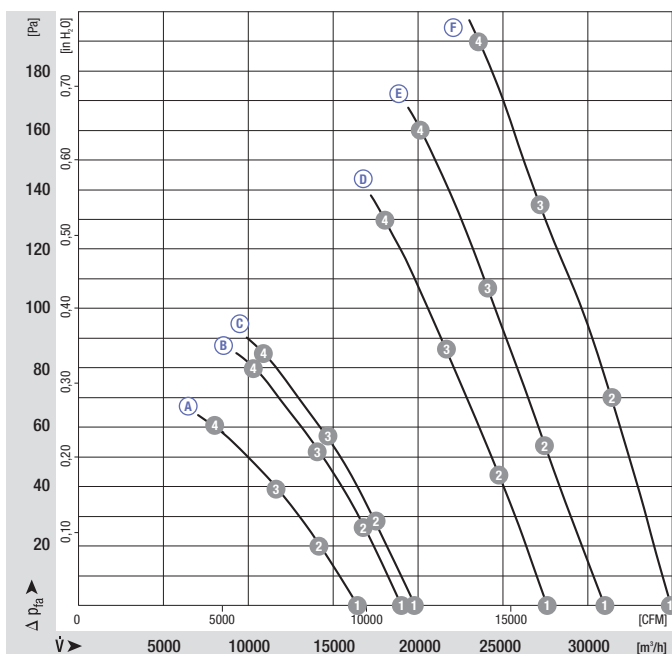
- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades (5): (A) (B) (C) Pressed-on round sheet steel plate; (D) (E) (F) Insertion part made of sheet aluminium; Both versions extrusion-coated in PP plastics
Rotor: Coated in black
Electronics enclosure: Die-cast aluminium, coated in black
- **Direction of rotation:** clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **Insulation class:** (A) (B) (C) "B" ("F" applying to the main components as per EN), (D) (E) (F) "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		Blade angle	Curve	Nominal voltage range	Frequency	Speed/rpm ⁽¹⁾	Max. power input ⁽¹⁾	Max. current draw ⁽¹⁾	Max. operative range	Perm. amb. temp.	Mass without attachments	Technical features and electr. connections
Type	Motor			VAC	Hz	rpm	kW	A	Pa	°C	kg	
*3G 910	M3G 112-GA	0°	(A)	1~ 200-277	50/60	510	0,38	1,70	60	-25..+60	10,1	p. 36 / K1)
*3G 910	M3G 112-IA	0°	(B)	1~ 200-277	50/60	590	0,58	2,60	80	-25..+60	12,2	p. 37 / L3)
*3G 910	M3G 112-IA	0°	(C)	3~ 380-480	50/60	610	0,63	1,10	85	-25..+60	12,2	p. 39 / K3)
*3G 910	M3G 150-FF	0°	(D)	3~ 380-480	50/60	800	1,58	2,50	130	-25..+60	22,4	p. 38 / L5)
*3G 910	M3G 150-IF	0°	(E)	3~ 380-480	50/60	885	2,10	3,20	160	-25..+60	26,4	p. 38 / L5)
*3G 910	M3G 150-NA	0°	(F)	3~ 380-480	50/60	1000	2,88	4,40	190	-25..+65	30,9	p. 38 / L5)

subject to alterations

(1) Nominal data in operating point with maximum load and 230 VAC or 400 VAC

Curves



	n [rpm]	P ₁ [kW]	I [A]	Lw _A [dB(A)]
(A) 1	510	0,22	0,98	64
(A) 2	510	0,27	1,19	62
(A) 3	510	0,32	1,41	61
(A) 4	510	0,38	1,70	68
(B) 1	590	0,35	1,59	68
(B) 2	590	0,43	1,97	66
(B) 3	590	0,50	2,26	65
(B) 4	590	0,58	2,60	73
(C) 1	610	0,39	0,69	69
(C) 2	610	0,48	0,80	67
(C) 3	610	0,56	0,92	66
(C) 4	610	0,63	1,10	71
(D) 1	800	1,01	1,58	73
(D) 2	800	1,22	1,89	72
(D) 3	800	1,40	2,14	72
(D) 4	800	1,58	2,50	75

- **Technical features:** See electrical connections p. 36 ff.
- **EMC:** **C** **E** **F** **G** Interference emission acc. to EN 61000-6-3
A **B** Interference emission acc. to EN 61000-6-4
Interference immunity acc. to EN 61000-6-2
Harmonics acc. to EN 61000-3-2/3
- **Leakage current:** < 3.5 mA acc. to EN 61800-5-1
- **Cable exit:** **A** **B** **C** Variable
- **Optional terminal box design:** **A** **B** **C** Electrical connection via terminal strip, see p. 34
- **Terminal box:** **D** **E** **F** Electrical connection via terminal strip
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standards:** CE
- **Approvals:** VDE, CCC, GOST are applied for; UL, CSA on request

Direction of air flow			
	Without attachments	With full square nozzle	With guard grille for full nozzle
"V"	A3G 910-AN46 -21*	W3G 910-GN46 -21	S3G 910-BN46 -21
"V"	A3G 910-A084 -21*	W3G 910-G084 -21	S3G 910-B084 -21
"V"	A3G 910-A083 -01*	W3G 910-G083 -01	S3G 910-B083 -01
"V"	A3G 910-AS22 -01	W3G 910-GS22 -01	S3G 910-BS22 -01
"V"	A3G 910-AU22 -01	W3G 910-GU22 -01	S3G 910-BU22 -01
"V"	A3G 910-AV02 -01	W3G 910-GV02 -01	S3G 910-BV02 -01

*Optional terminal box design: Electrical connection via terminal strip, see p. 34

	n [rpm]	P ₁ [kW]	I [A]	L _{wA} [dB(A)]
E ①	885	1,36	2,07	76
E ②	885	1,60	2,43	75
E ③	885	1,83	2,79	75
E ④	885	2,10	3,20	79
F ①	1000	1,92	2,91	76
F ②	1000	2,29	3,49	78
F ③	1000	2,60	3,97	79
F ④	1000	2,88	4,40	83

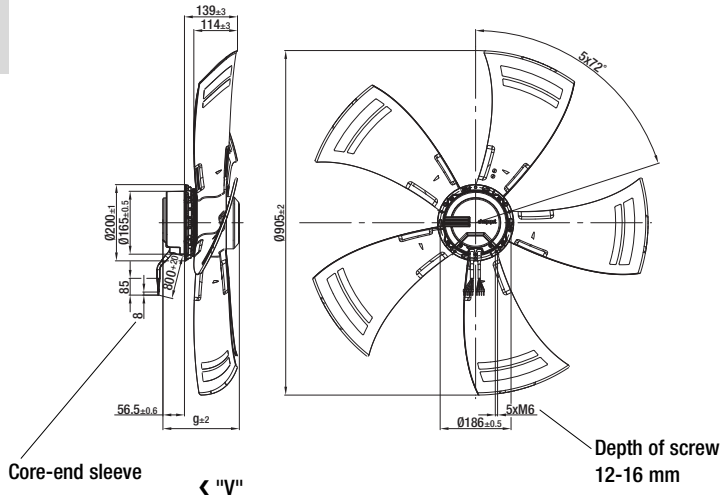
EC axial fans - HyBlade®

Ø 910 with motor M3G112, drawings for direction of air flow "V"



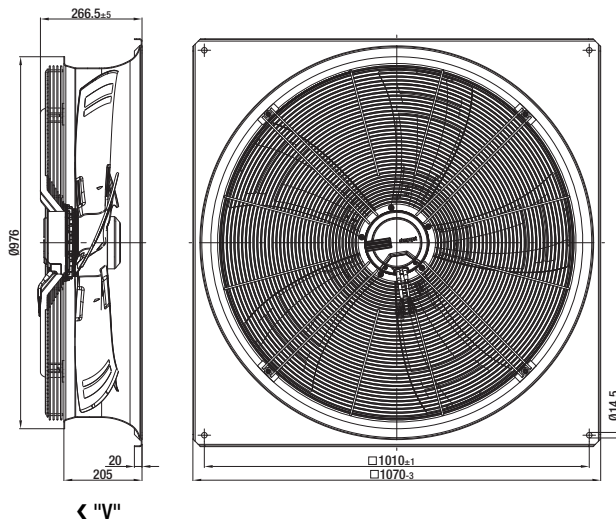
Without attachments

Type	Mass [kg]	g
A3G 910-AN46 -21	10,1	180,5
A3G 910-A084 -21	12,2	200,5
A3G 910-A083 -01	12,2	200,5



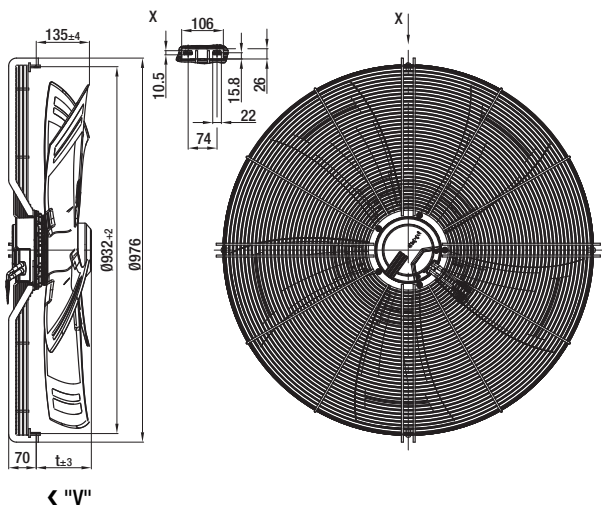
With full square nozzle

Type	Mass [kg]
W3G 910-GN46 -21	35,0
W3G 910-G084 -21	37,0
W3G 910-G083 -01	37,0



With guard grille for full nozzle

Type	Mass [kg]	t
S3G 910-BN46 -21	17,9	120,0
S3G 910-B084 -21	19,8	140,0
S3G 910-B083 -01	19,8	140,0

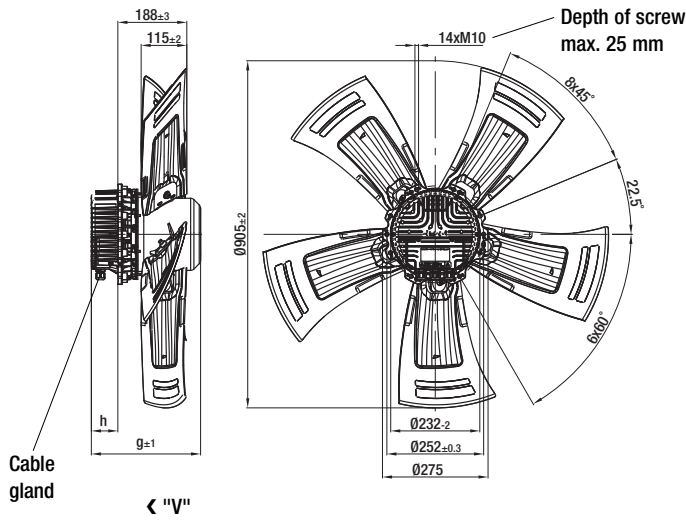


EC axial fans - HyBlade®

Ø 910 with motor M3G150, drawings for direction of air flow "V"

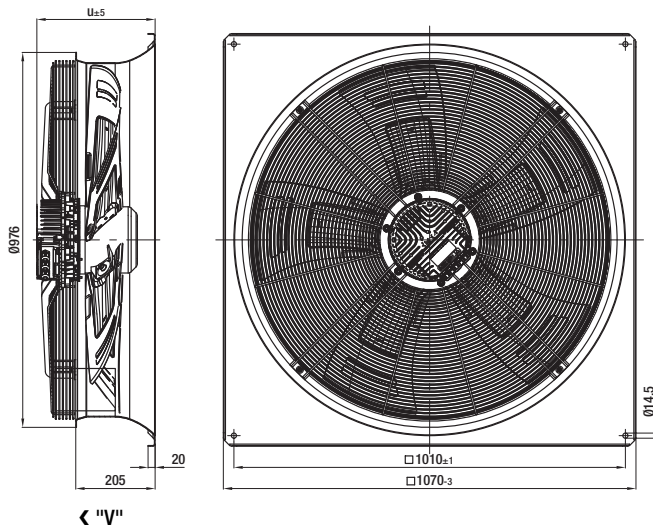


Without attachments



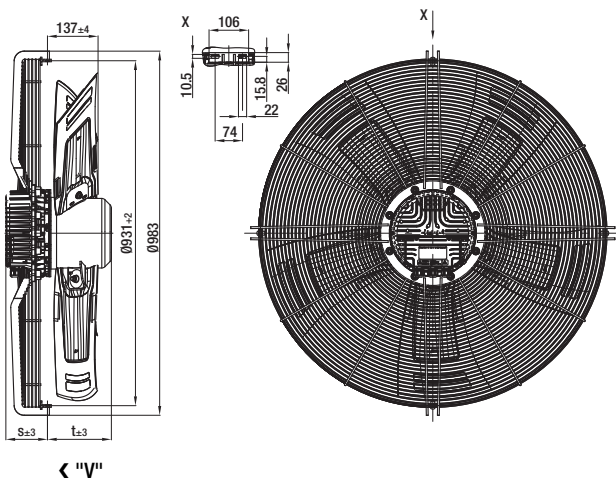
Type	Mass		
	[kg]	g	h
A3G 910-AS22 -01	22,4	238,0	57,5
A3G 910-AU22 -01	26,4	250,5	70,0
A3G 910-AV02 -01	30,9	289,5	70,0

With full square nozzle



Type	Mass	
	[kg]	u
W3G 910-GS22 -01	47,6	294,5
W3G 910-GU22 -01	51,6	307,0
W3G 910-GV02 -01	56,1	307,0

With guard grille for full nozzle



Type	Mass [kg]		
		s	t
S3G 910-BS22 -01	31,2	100,5	137,5
S3G 910-BU22 -01	35,2	113,0	137,5
S3G 910-BV02 -01	39,7	113,0	176,5

EC axial fans - HyBlade®

Ø 990



- **Material:** Guard grille: Steel, phosphated and coated in black plastic
Wall ring: Sheet steel, pre-galvanised and coated in black plastic
Blades: Insertion part made of sheet aluminium, extrusion-coated in PP plastics
Rotor: Coated in black
Electronics enclosure: Die-cast aluminium, coated in black
- **Number of blades:** 5
- **Direction of rotation:** clockwise, seen on rotor
- **Type of protection:** IP 54 (acc. to EN 60529)
- **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

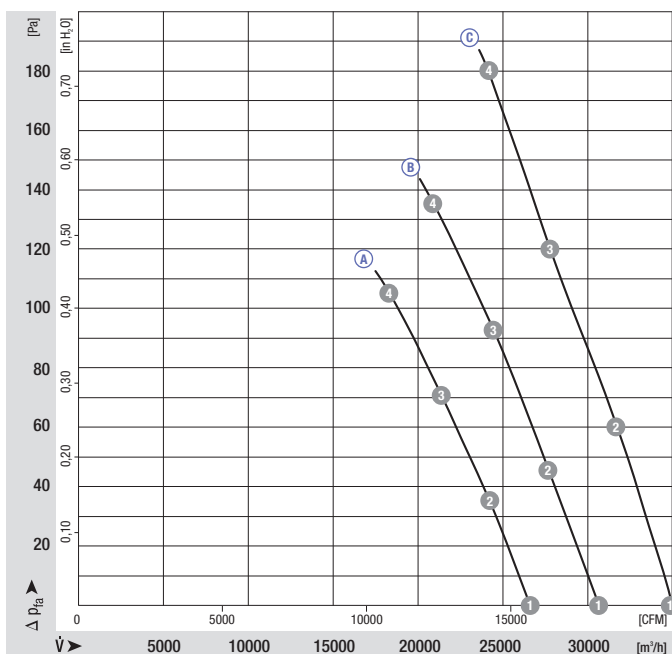
Nominal data

Type	Motor	Blade angle	Curve	Nominal voltage range VAC	Frequency Hz	Speed/rpm ⁽¹⁾ rpm	Max. power input ⁽¹⁾ kW	Max. current draw ⁽¹⁾ A	Max. operative range Pa	Perm. amb. temp. °C	Mass without attachments kg	Technical features and electr. connections
*3G 990	M3G 150-FF	-5°	A	3~ 380-480	50/60	740	1,16	1,80	105	-25..+70	22,7	p. 38 / L5)
*3G 990	M3G 150-IF	-5°	B	3~ 380-480	50/60	820	1,64	2,50	135	-25..+60	25,7	p. 38 / L5)
*3G 990	M3G 150-NA	-5°	C	3~ 380-480	50/60	960	2,58	4,00	180	-25..+70	31,2	p. 38 / L5)

subject to alterations




(1) Nominal data in operating point with maximum load and 400 VAC

Curves



	n [rpm]	P ₁ [kW]	I [A]	Lw _A [dB(A)]
A 1	740	0,68	1,07	77
A 2	740	0,85	1,32	75
A 3	740	1,02	1,56	76
A 4	740	1,16	1,80	77
B 1	820	0,98	1,49	80
B 2	820	1,22	1,85	78
B 3	820	1,46	2,23	78
B 4	820	1,64	2,50	80
C 1	960	1,49	2,27	85
C 2	960	1,90	2,88	83
C 3	960	2,26	3,43	84
C 4	960	2,58	4,00	85

- **Technical features:** See electrical connections p. 38 ff.
- **EMC:** Interference emission acc. to EN 61000-6-3
Interference immunity acc. to EN 61000-6-2
Harmonics acc. to EN 61000-3-2/3
- **Leakage current:** < 3.5 mA acc. to EN 61800-5-1
- **Terminal box:** Electrical connection via terminal strip
- **Protection class:** I (acc. to EN 61800-5-1)
- **Product conforming to standards:** CE
- **Approvals:** VDE, CCC, GOST are applied for; UL, CSA on request

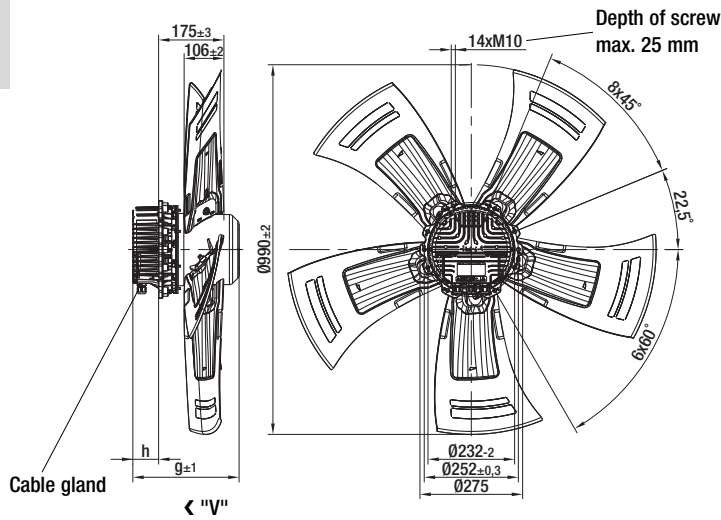
Direction of air flow			
	< "V"	< "V"	< "V"
	Without attachments	With full square nozzle	With guard grille for full nozzle
"V"	A3G 990-AW22 -01	W3G 990-GW22 -01	S3G 990-BW22 -01
"V"	A3G 990-AY28 -01	W3G 990-GY28 -01	S3G 990-BY28 -01
"V"	A3G 990-AZ02 -01	W3G 990-GZ02 -01	S3G 990-BZ02 -01

EC axial fans - HyBlade®

Ø 990 with motor M3G150, drawings for direction of air flow "V"

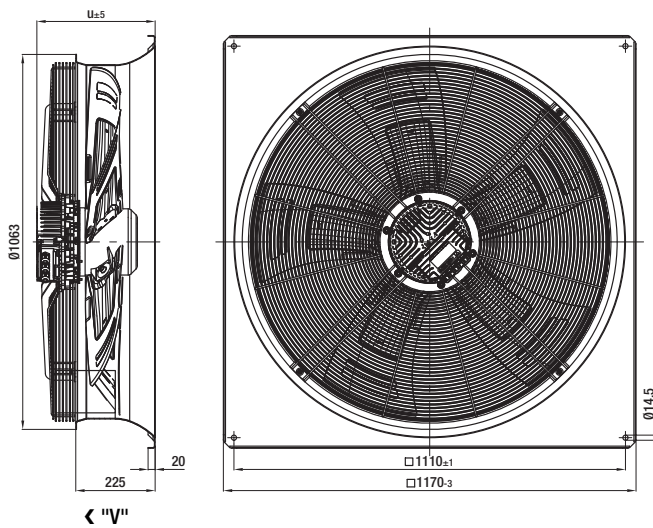


Without attachments



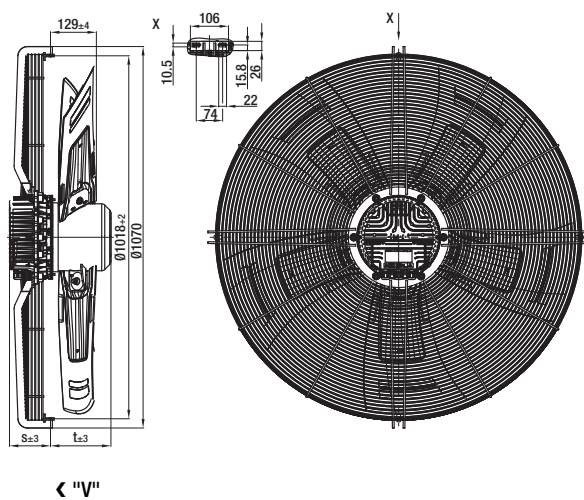
Type	Mass		
	[kg]	g	h
A3G 990-AW22 -01	22,7	238,0	57,5
A3G 990-AY28 -01	25,7	238,0	57,5
A3G 990-AZ02 -01	31,2	289,5	70,0

With full square nozzle



Type	Mass	
	[kg]	u
W3G 990-GW22 -01	52,9	323,5
W3G 990-GY28 -01	55,9	323,5
W3G 990-GZ02 -01	61,4	336,0

With guard grille for full nozzle



Type	Mass [kg]		
		s	t
S3G 990-BW22 -01	32,7	103,5	134,5
S3G 990-BY28 -01	35,7	103,5	134,5
S3G 990-BZ02 -01	41,2	116,0	173,5

EC axial fans - HyBlade®

Ø 500 to 910, optional terminal box design with EC motor in size 084 and 112



< "V"



< "V"

Standard type	Page	Motor	Blade angle	Curve	Type with terminal box	Drawing no.	Electrical connections
A3G 500-AF48 -51	4	M3G 084-DF	0°	(A)	A3G 500-AF48 -58	1.)	p. 40 / K4)
A3G 500-AD01 -51	4	M3G 084-GF	0°	(B)	A3G 500-AD01 -58	1.)	p. 40 / K4)
A3G 500-AM56-21	4	M3G 112-EA	0°	(C)	A3G 500-AM56-23	3.)	p. 41 / L1)
A3G 500-AN33 -01	4	M3G 112-GA	0°	(D)	A3G 500-AN33 -03	3.)	p. 41 / L2)
A3G 560-AP68 -21	8	M3G 112-EA	-5°	(A)	A3G 560-AP68 -23	2.)	p. 40 / K4)
A3G 560-AQ41 -01	8	M3G 112-GA	-5°	(B)	A3G 560-AQ41 -03	3.)	p. 41 / L2)
A3G 630-AC52 -51	12	M3G 084-FA	0°	(A)	A3G 630-AC52 -58	1.)	p. 40 / K4)
A3G 630-AD03 -A1	12	M3G 084-GF	0°	(B)	A3G 630-AD03 -A8	1.)	p. 40 / K4)
A3G 630-AP70 -21	12	M3G 112-EA	-5°	(C)	A3G 630-AP70 -23	2.)	p. 40 / K4)
A3G 630-AQ37 -21	12	M3G 112-GA	-5°	(D)	A3G 630-AQ37 -23	3.)	p. 41 / L1)
A3G 630-AR85 -01	12	M3G 112-IA	-5°	(E)	A3G 630-AR85 -03	3.)	p. 41 / L2)
A3G 710-AN48 -21	18	M3G 112-GA	0°	(A)	A3G 710-AN48 -23	2.)	p. 40 / K4)
A3G 710-A085 -21	18	M3G 112-IA	0°	(B)	A3G 710-A085 -23	3.)	p. 41 / L1)
A3G 710-A081 -01	18	M3G 112-IA	0°	(C)	A3G 710-A081 -03	3.)	p. 41 / L2)
A3G 800-AM67-21	22	M3G 112-EA	0°	(A)	A3G 800-AM67-23	2.)	p. 40 / K4)
A3G 800-AN36 -21	22	M3G 112-GA	0°	(B)	A3G 800-AN36 -23	2.)	p. 40 / K4)
A3G 800-A081 -21	22	M3G 112-IA	0°	(C)	A3G 800-A081 -23	3.)	p. 41 / L1)
A3G 800-A084 -01	22	M3G 112-IA	0°	(D)	A3G 800-A084 -03	3.)	p. 41 / L2)
A3G 910-AN46 -21	26	M3G 112-GA	0°	(A)	A3G 910-AN46 -23	2.)	p. 40 / K4)
A3G 910-A084 -21	26	M3G 112-IA	0°	(B)	A3G 910-A084 -23	3.)	p. 41 / L1)
A3G 910-A083 -01	26	M3G 112-IA	0°	(C)	A3G 910-A083 -03	3.)	p. 41 / L2)

subject to alterations

Drawings for direction of air flow "V"

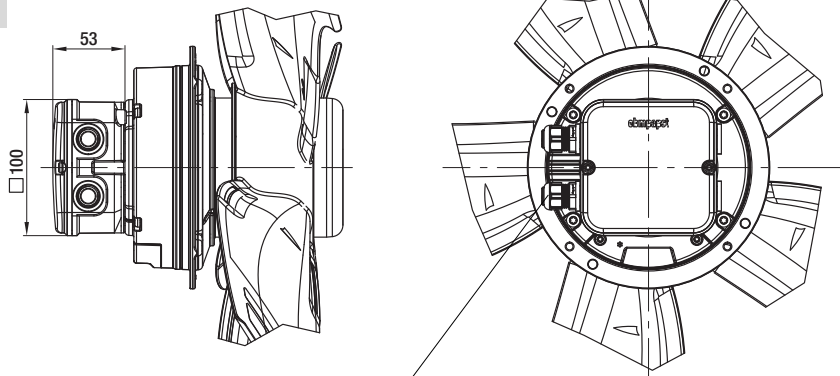
Ø 500 to 910, optional terminal box design with EC motor in size 084 and 112



1.) Motor size 084, mounted terminal box

Type

- A3G 500-AF48 -58
- A3G 500-AD01 -58
- A3G 630-AC52 -58
- A3G 630-AD03 -A8



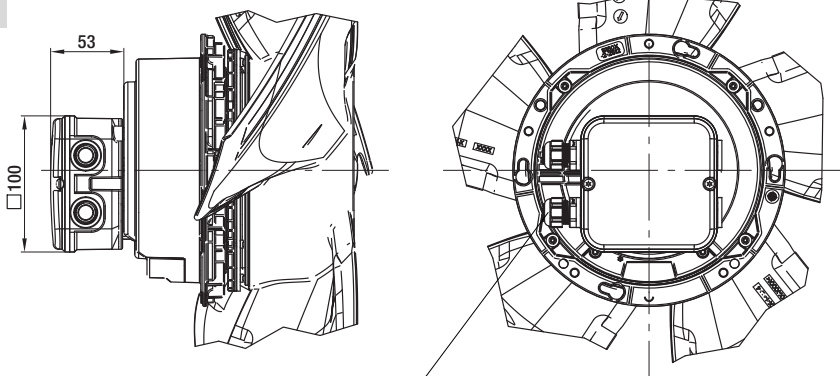
4 x screwed M16 cable gland possible
for cables from Ø 4 to Ø 10



2.) Motor size 112, mounted terminal box

Type

- A3G 560-AP68 -23
- A3G 630-AP70 -23
- A3G 710-AN48 -23
- A3G 800-AM67 -23
- A3G 800-AN36 -23
- A3G 910-AN46 -23



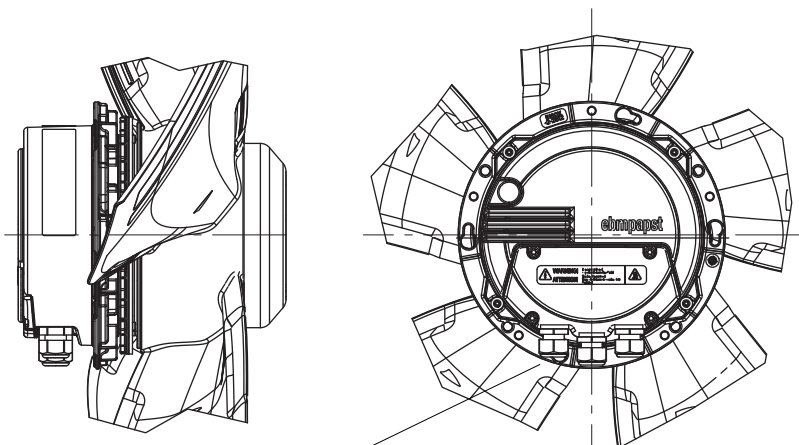
4 x screwed M16 cable gland possible
for cables from Ø 4 to Ø 10



3.) Motor size 112, integrated terminal box

Type

- A3G 500-AM56 -23
- A3G 500-AN33 -03
- A3G 560-AQ41 -03
- A3G 630-AQ37 -23
- A3G 630-AR85 -03
- A3G 710-AO85 -23
- A3G 710-AO81 -03
- A3G 800-AO81 -23
- A3G 800-AO84 -03
- A3G 910-AO84 -23
- A3G 910-AO83 -03



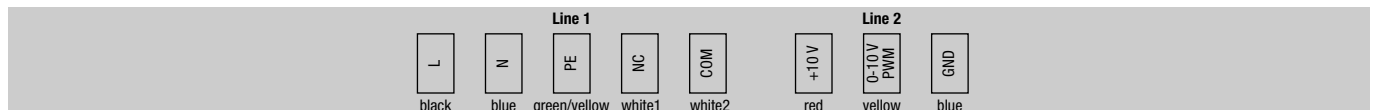
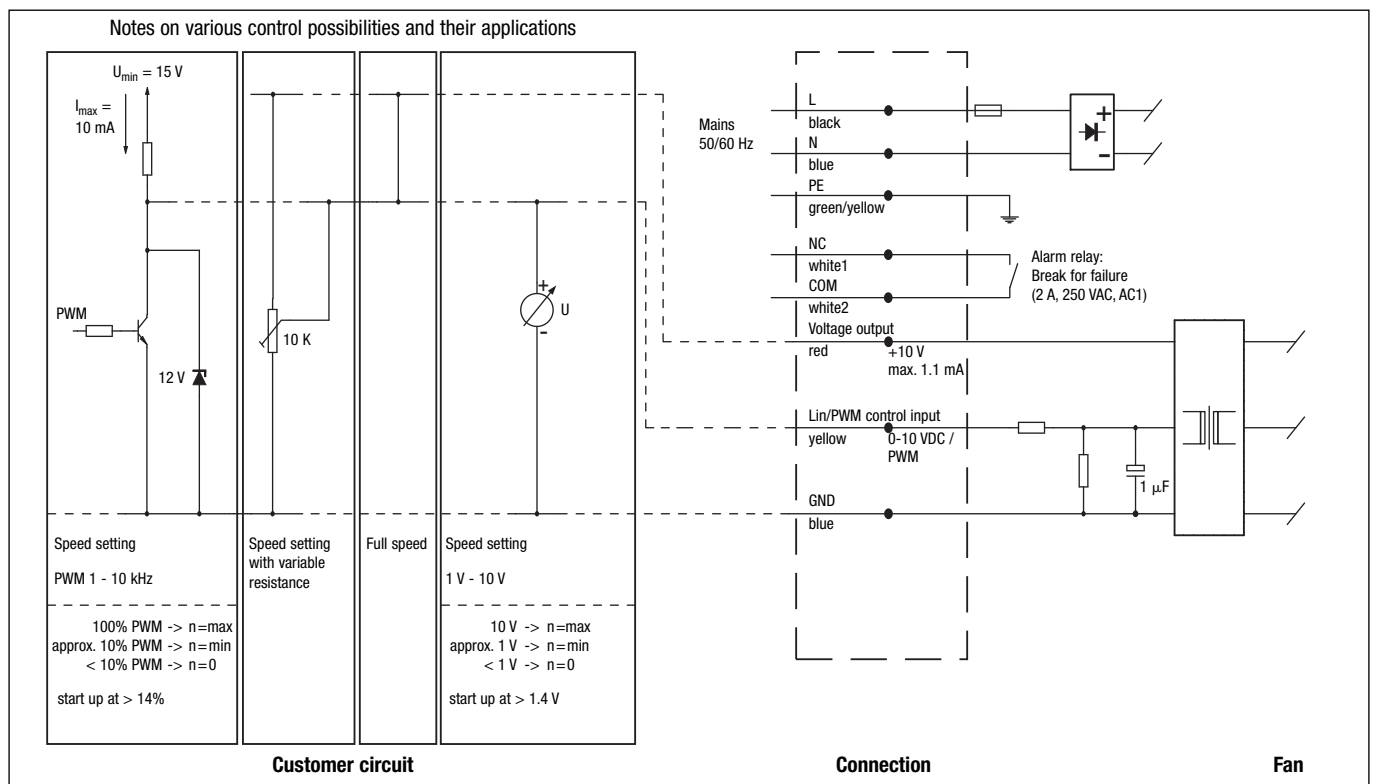
Cable gland

Electrical connections EC

K1)

Technical features:

- Control input 0-10 VDC / PWM
- Output 10 VDC max. 1.1 mA
- Alarm relay
- Electronics / motor overtemperature protection
- Line undervoltage detection
- Motor current limitation
- Locked-rotor protection
- Soft start



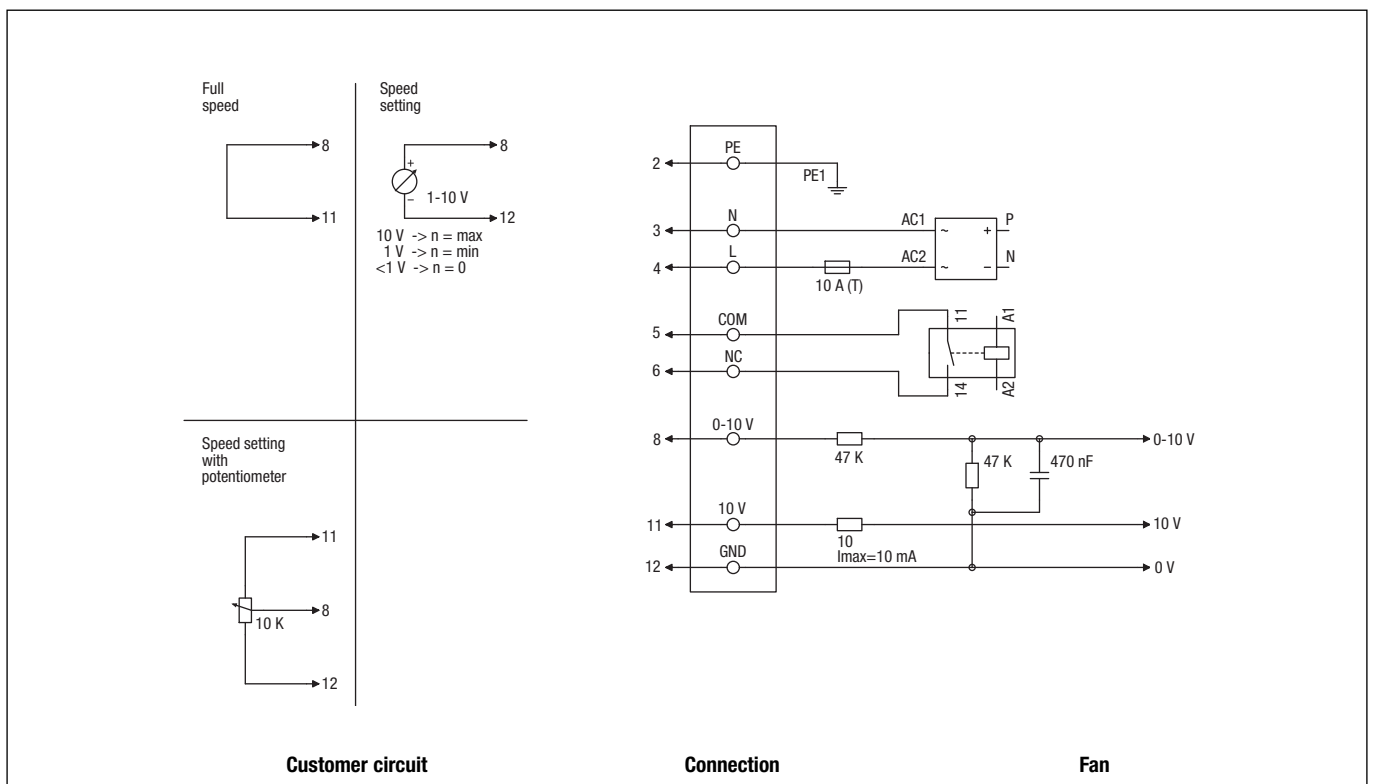
Line	Connection	Colour	Assignment / function	Line	Connection	Colour	Assignment / function
1	L	black	Mains 50/60 Hz, phase	2	+10 V	red	Voltage output +10 V max. 1.1 mA
	N	blue	Mains 50/60 Hz, neutral		0-10 V / PWM	yellow	Control input (Impedance 100 kΩ)
	PE	green/yel	Protective earth		GND	blue	GND
	NC	white1	Alarm relay, break for failure				
	COM	white2	Alarm relay, COMMON				

Electrical connections EC

L3)

Technical features:

- PFC (active)
- Control input 0-10 VDC / PWM
- Output 10 VDC max. 10 mA
- Alarm relay
- Electronics / motor overtemperature protection
- Line undervoltage detection
- Motor current limitation
- Locked-rotor protection, soft start



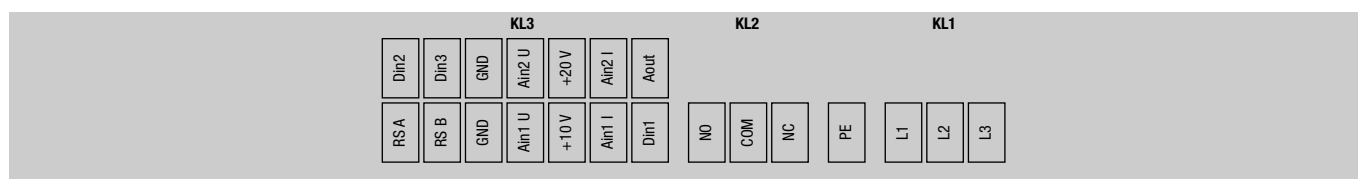
Line	Pin	Connection	Colour	Assignment / function
1	2	PE	green/yellow	Protective earth
1	3	N	blue	Mains 50/60 Hz, neutral
1	4	L	black	Mains 50/60 Hz, phase
1	5	COM	white1	Alarm relay, COMMON (2A, max. 250 VAC, min. 10 mA, AC1)
1	6	NC	white2	Alarm relay, break for failure
2	8	0-10 V	yellow	Control input (Impedance 100 kΩ), SELV
2	11	+10 V	red	Voltage output 10 VDC (+/- 3%), max. 10 mA, supply voltage for external units (e.g. potentiometer), SELV
2	12	GND	blue	GND, SELV

Electrical connections EC

L5)

Technical features:

- PFC (passive)
- Integrated PID controller
- Control input 0-10 VDC or 4-20 mA
- Input for sensor 0-10 V or 4-20 mA
- Slave output 0-10 V max. 5 mA
- Output 20 VDC ($\pm 25\%$ / -10%) max. 50 mA
- Output 10 VDC ($+3\%$) max. 10 mA
- RS485 MODBUS
- Motor current limitation, alarm relay
- Line undervoltage / phase failure detection
- Electronics / motor overtemperature protection
- Locked-rotor protection, soft start
- Digital inputs for day/night switch, enabling, cooling / heating



Connector	Connection	Assignment / function
KL1	L3	Mains; L3
	L2	Mains; L2
	L1	Mains; L1
PE	PE	Protective earth
KL2	NC	Alarm relay, break for failure
	COM	Alarm relay, COMMON (2A, 250 VAC, AC1)
	NO	Alarm relay, make for failure

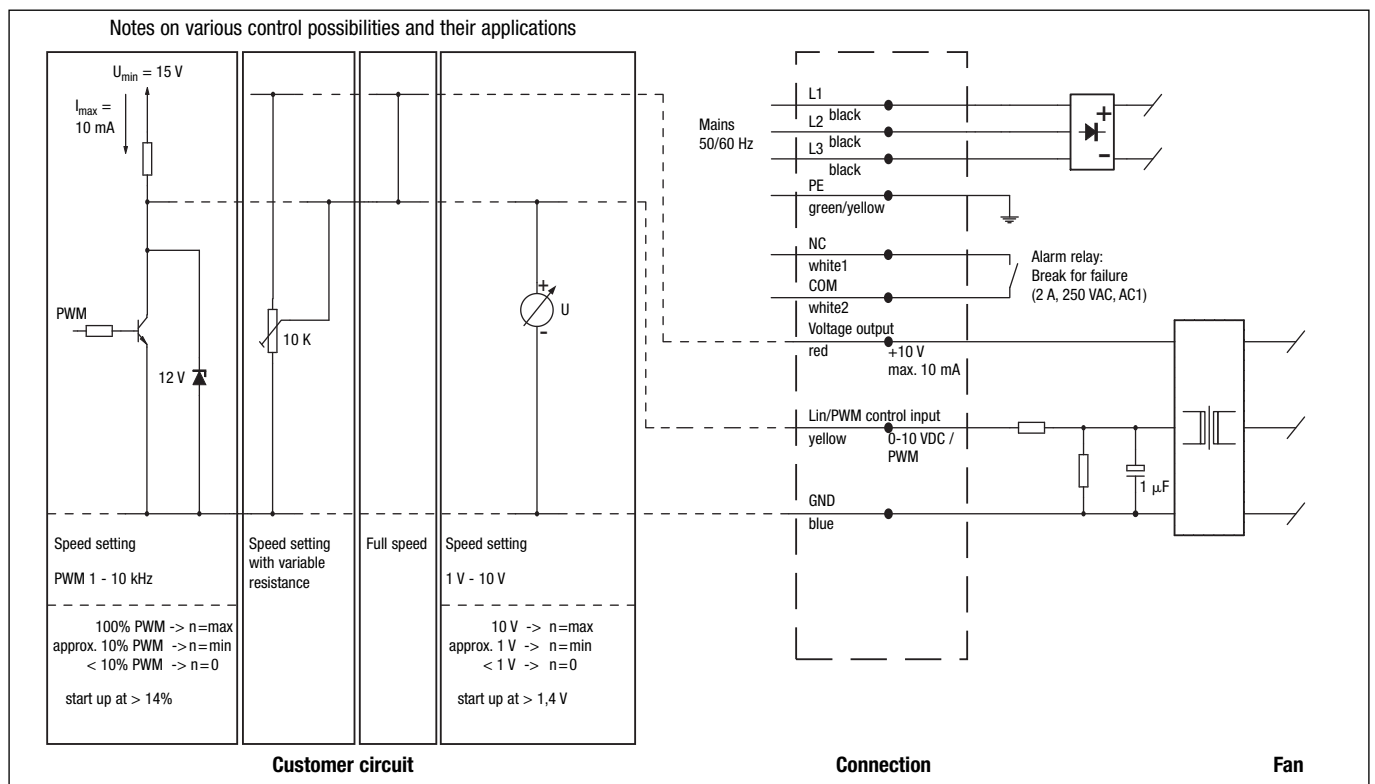
Connector	Connection	Assignment / function
KL3	Din1	Digital input 1 (enabling / disabling of electronics),, Enabling: Pin open or applied voltage 5...50 VDC Disabling: Bridge to GND or applied voltage < 1 VDC
	Ain1 I	Analogue set value input, 4-20 mA (impedance 100 Ω), only to be used as alternative to terminal Ain1 U
	+10 V	Supply for external potentiometer, 10 VDC ($\pm 3\%$) max. 10 mA
	Ain1U	Analogue set value input, 0-10 V (impedance 100 k Ω), only to be used as alternative to terminal Ain1 I
	GND	GND
	RSB	RS485 interface for MODBUS RTU; RS B
	RSA	RS485 interface for MODBUS RTU; RS A
	Aout	Analogue output 0-10 V max. 5 mA, reading of current motor speed / current motor control factor
	Ain2 I	Analog. actual value input, 4-20mA (impedance 100 Ω), only to be used as alternative to terminal Ain2 U
	+20 V	Supply for external sensor, 20 VDC ($+25\%$ / -10%) max. 40 mA
	Ain2 U	Analog. actual value input, 0-10 V (impedance 100 k Ω), only to be used as alternative to terminal Ain2 I
	GND	GND
	Din3	Digital input 3 (switch Normal / Inverse), The preset effective direction of the integrated controller can be selected via BUS or via digital input Normal/Inverse. Normal: Pin open or applied voltage 5...50 VDC Inverse: Bridge to GND or applied voltage < 1 VDC
	Din2	Digital input 2 (switch Day / Night), The preset set of parameters can be selected via BUS or via digital input Day/Night. Day: Pin open or applied voltage 5...50 VDC Night: Bridge to GND or applied voltage < 1 VDC

Electrical connections EC

K3)

Technical features:

- PFC (passive)
- Control input 0-10 VDC / PWM
- Output 10 VDC ($\pm 20\%$) max. 10 mA
- Alarm relay
- Electronics / motor overtemperature protection
- Line undervoltage / phase failure detection
- Motor current limitation
- Locked-rotor protection, soft start



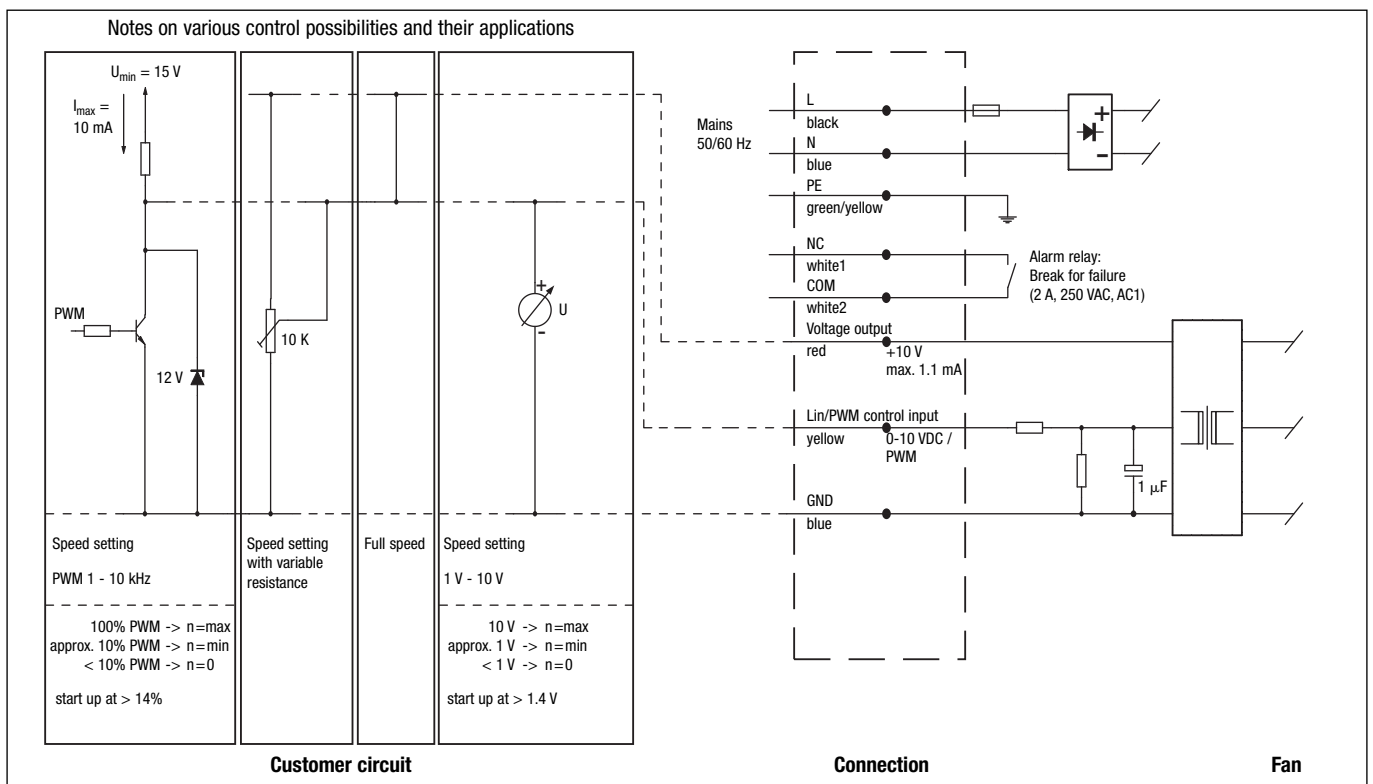
Line	Connection	Colour	Assignment / function	Line	Connection	Colour	Assignment / function
1	L1	black	Mains; L1	2	+10 V	red	Voltage output +10 V max. 1.1 mA
	L2	black	Mains; L2		0-10 V / PWM	yellow	Control input (Impedance 100 k Ω)
	L3	black	Mains; L3		GND	blue	GND
	PE	green/yel	Protective earth				
	NC	white1	Alarm relay, break for failure				
	COM	white2	Alarm relay, COMMON				

Electrical connections EC

K4)

Technical features:

- Control input 0-10 VDC / PWM
- Output 10 VDC max. 1.1 mA
- Alarm relay
- Electronics / motor overtemperature protection
- Line undervoltage detection
- Motor current limitation
- Locked-rotor protection
- Soft start



KL 1



Connector	Connection	Assignment / function	Connector	Connection	Assignment / function
KL1	PE	Protective earth	KL1	COM	Alarm relay, COMMON
	N	Mains 50/60 Hz, neutral		GND	GND
	L	Mains 50/60 Hz, phase		0-10 V / PWM	Control input (Impedance 100 kΩ)
	NC	Alarm relay, break for failure		+10 V	Voltage output +10 V max. 1.1 mA

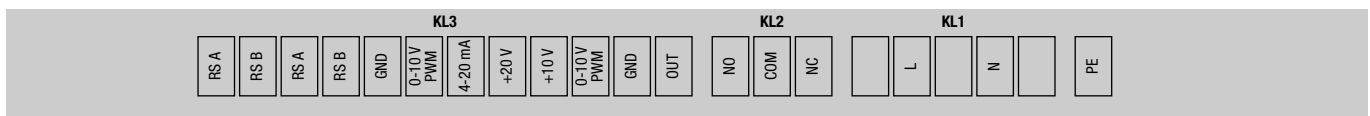
Electrical connections EC

L1) and L2)

Technical features:

- L1 = PFC (active) / L2 = PFC (passive)
- Integrated PID controller
- Control input 0-10 VDC / PWM
- Input for sensor 0-10 V or 4-20 mA
- Slave output 0-10 V max. 3 mA
- Output 20 VDC ($\pm 20\%$) max. 50 mA
- Output 10 VDC ($+10\%$) max. 10 mA
- RS485 ebmBUS
- Alarm relay
- Line undervoltage detection
- only L2 = Phase failure detection
- Motor current limitation
- Electronics / motor overtemperature protection
- Locked-rotor protection
- Soft start

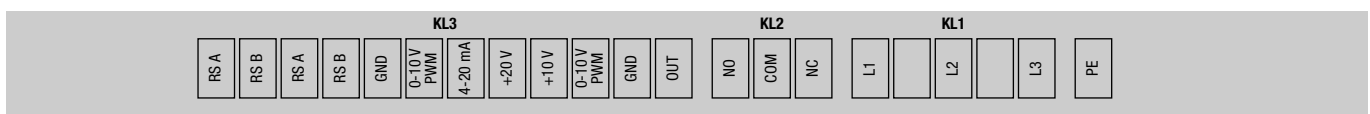
L1)



Connector	Connection	Assignment / function
PE	PE	Protective earth
KL1	N	Mains 50/60 Hz, neutral
	L	Mains 50/60 Hz, phase
KL2	NC	Alarm relay, break for failure
	COM	Alarm relay, COMMON (2A, 250 VAC, AC1)
	NO	Alarm relay, make for failure





Connector	Connection	Assignment / function
KL3	OUT	Master output 0-10 V max. 3 mA
	GND	GND
	0-10 V / PWM	Control / Actual value input (Impedance 100 k Ω)
	+10 V	Supply for external potentiometer, 10 VDC ($+10\%$) max. 10 mA
	+20 V	Supply for external sensor, 20 VDC ($\pm 20\%$) max. 50 mA
	4-20 mA	Control / Actual value input
	0-10 V / PWM	Control / Actual value input
	GND	GND
	RSB	RS485 interface for ebmBUS; RS B
	RSA	RS485 interface for ebmBUS; RS A
RSB	RS485 interface for ebmBUS; RS B	
RSA	RS485 interface for ebmBUS; RS A	

L2)



Connector	Connection	Assignment / function
PE	PE	Protective earth
KL1	L3	Mains; L3
	L2	Mains; L2
	L1	Mains; L1
KL2	NC	Alarm relay, break for failure
	COM	Alarm relay, COMMON (2A, 250 VAC, AC1)
	NO	Alarm relay, make for failure

Connector	Connection	Assignment / function
KL3	OUT	Master output 0-10 V max. 3 mA
	GND	GND
	0-10 V / PWM	Control / Actual value input (Impedance 100 k Ω)
	+10 V	Supply for external potentiometer, 10 VDC ($+10\%$) max. 10 mA
	+20 V	Supply for external sensor, 20 VDC ($\pm 20\%$) max. 50 mA
	4-20 mA	Control / Actual value input
	0-10 V / PWM	Control / Actual value input
	GND	GND
	RSB	RS485 interface for ebmBUS; RS B
	RSA	RS485 interface for ebmBUS; RS A
RSB	RS485 interface for ebmBUS; RS B	
RSA	RS485 interface for ebmBUS; RS A	

-  fan agent
-  compact fan agent
-  motor specialist
-  motor agent

ebm-papst representatives & subsidiaries

Germany

ebm-papst Muldingen GmbH & Co. KG

Bachmühle 2
D-74673 Muldingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com

www.ebmpapst.com

ebm-papst St. Georgen GmbH & Co. KG

Hermann-Papst-Straße 1
D-78112 St. Georgen
Phone +49 7724 81-0
Fax +49 7724 81-1309
info2@de.ebmpapst.com

www.ebmpapst.com

ebm-papst Landshut GmbH

Hofmark-Aich-Straße 25
D-84030 Landshut
Phone +49 871 707-0
Fax +49 871 707-465
info3@de.ebmpapst.com

www.ebmpapst.com

Agencies

-  **Berlin**
 Dipl.-Ing. (TH) Jens Duchow
 Händelstraße 7
D-16341 Panketal
Phone +49 30 944149-62
Fax +49 30 944149-63
Jens.Duchow@de.ebmpapst.com
-  **Bielefeld**
 Dipl.-Ing. (FH) Wolf-Jürgen Weber
 Niehausweg 13
D-33739 Bielefeld
Phone +49 5206 91732-31
Fax +49 5206 91732-35
Wolf-Juergen.Weber@de.ebmpapst.com
-  **Dortmund**
 Dipl.-Ing. (FH) Hans-Joachim Pundt
 Auf den Steinern 3
D-59519 Möhnesee-Völlinghausen
Phone +49 2925 800-407
Fax +49 2925 800-408
Hans-Joachim.Pundt@de.ebmpapst.com
-  **Frankfurt**
 Dipl.-Ing. Christian Kleffmann
 Dr.-Hermann-Krause-Straße 23
D-63452 Hanau
Phone +49 6181 1898-12
Fax +49 6181 1898-13
Christian.Kleffmann@de.ebmpapst.com
-  **Halle**
 Dipl.-Ing. (TU) Michael Hanning
 Lerchenweg 4
D-06120 Lieskau
Phone +49 345 55124-56
Fax +49 345 55124-57
Michael.Hanning@de.ebmpapst.com
-  **Hamburg**
 Ingenieurbüro Breuell GmbH
 Ing. Dirk Kahl
Elektroingenieur
Grützmühlenweg 40
D-22339 Hamburg
Phone +49 40 538092-19
Fax +49 40 538092-84
Dirk.Kahl@de.ebmpapst.com

-  **Kassel**
 Dipl.-Ing. (FH) Ralph Brück
 Hoherainstraße 38
D-35075 Gladenbach
Phone +49 6462 4071-10
Fax +49 6462 4071-11
Ralph.Brueck@de.ebmpapst.com
-  **Koblenz**
 Winfried Schaefer
 Hinter der Kirch 10
D-56767 Uersfeld
Phone +49 2657 16-96
Fax +49 2657 16-76
Winfried.Schaefer@de.ebmpapst.com
-  **Munich**
 Dipl.-Wirtsch.-Ing. (FH) Jens Peter
 Steinbergweg 6
D-82285 Hattenhofen
Phone +49 8145 8092-25
Fax +49 8145 8092-26
Jens.Peter@de.ebmpapst.com
-  **Nuremberg**
 Friedrich Klein
 Adlerstraße 49/1
D-73540 Heubach
Phone +49 7173 4983
Fax +49 7173 8053
Friedrich.Klein@de.ebmpapst.com
-  **Offenburg**
 Dipl.-Ing. (FH) Ralf Braun
 Hubeneck 21
D-77704 Oberkirch
Phone +49 7802 9822-52
Fax +49 7802 9822-53
Ralf.Braun@de.ebmpapst.com
-  **Stuttgart**
 Dipl.-Ing. (FH) Rudi Weinmann
 Hindenburgstraße 100/1
D-73207 Plochingen
Phone +49 7153 9289-80
Fax +49 7153 9289-81
Rudi.Weinmann@de.ebmpapst.com
-  **Ulm**
 Dipl.-Wirt.-Ing. (FH) Axel Resch
 Bachmühle 2
D-74673 Muldingen
Phone +49 7938 81-7092
Fax +49 7938 81-110
Axel.Resch@de.ebmpapst.com

Distributors

-  **Frankfurt**
 R.E.D. Handelsgesellschaft mbH
 Gutenbergstraße 3
D-63110 Rodgau - Jügesheim
Phone +49 6106 841-0
Fax +49 6106 841-111
info@red-elektromechanik.de
www.red-elektromechanik.de
-  **Hamburg**
 Breuell + Hilgenfeldt GmbH
 Grützmühlenweg 40
D-22339 Hamburg
Phone +49 40 538092-20
Fax +49 40 538092-84
info@breuell-hilgenfeldt.de
-  **Munich**
 A. Schweiger GmbH
 Ohmstraße 1
D-82054 Sauerlach
Phone +49 8104 897-0
Fax +49 8104 897-90
info@schweiger-gmbh.de
www.schweiger-gmbh.com
-  ● **Express Service-Center** (1 to 5 pieces)
-  **North**
 Breuell + Hilgenfeldt GmbH
 Grützmühlenweg 40
D-22339 Hamburg
Phone +49 40 538092-20
Fax +49 40 538092-84
ebmpapst@breuell-hilgenfeldt.de
-  **South**
 HDS Ventilatoren Vertriebs GmbH
 Glaswiesenstraße 1
D-74677 Dörzbach
Phone +49 7937 802968
Fax +49 7937 802578
info@hds-gmbh.net

Europe



Austria

ebm-papst Motoren & Ventilatoren GmbH
Westbahnstraße 5
A-4490 St. Florian
Phone +43 7224 66011-0
Fax +43 7224 66011-20
info@at.ebmpapst.com
www.ebmpapst.at



Belarus

ebm-papst Bel AgmbH
P.O. Box 117
BY-220138 Minsk
Phone +375 17 3851556
Fax +375 17 3851556
info@by.ebmpapst.com
www.ebmpapst.by



Belgium

VIBO Benelux B. V.
Sales office Belgium-Luxemburg
Romeinsestraat 6/0101
Research Park Haasrode
B-3001 Heverlee-Leuven
Phone +32 16 396-200
Fax +32 16 396-220
info@vibobenelux.com
www.vibobenelux.com



Bulgaria

ebm-papst Romania S.R.L.
Str. Tirnavei Nr. 20
RO-500327 Brasov
Phone +40 268 312-805
Fax +40 268 312-805
dudasludovic@xnet.ro



Croatia

ebm-papst Industries Kft.
Ezred u. 2.
H-1044 Budapest
Phone +36 1 8722-190
Fax +36 1 8722-194
office@hu.ebmpapst.com
www.ebmpapst.hu



Cyprus

MATERO LTD
37, St. Kyriakides Avenue
P.O. Box 51744
CY-3080 Limassol
Phone +357 25 870030
Fax +357 25 381366
matero@cytanet.com.cy
www.matero.com.cy



Czech Republic / Slovakia

ebm-papst CZ s.r.o.
Krátká 379
CZ-66461 Rajhradice u Brna
Phone +420 547 232-617
Fax +420 547 232-622
info@ebmpapst.cz
www.ebmpapst.cz



Denmark

Jenk A/S
Vallensbækvej 21
DK-2605 Brøndby
Phone +45 43 63-1111
Fax +45 43 63-0505
jenk@jenk.dk
www.jenk.dk



Estonia

ebm-papst Oy Eesti Filiaal
Kadaka tee 3
EST-10621 Tallinn
Phone +372 65569-78
Fax +372 65569-79
www.ebmpapst.ee



Finland

ebm-papst Oy
Puistotie 1
FIN-02760 Espoo
Phone +358 9 887022-0
Fax +358 9 887022-13
mailbox@ebmpapst.fi
www.ebmpapst.fi



France

ebm-papst SARL
ZI Nord - rue A. Mohler
BP 62
F-67212 Obernai-Cedex
Phone +33 820 326266
Fax +33 3 88673883
info@ebmpapst.fr
www.ebmpapst.fr



Greece

Helcoma
Th. Rotas & Co OE
Davaki 65
GR-17672 Kallithea-Attiki
Phone +30 210 9513-705
Fax +30 210 9513-490
contact@helcoma.gr
www.helcoma.gr



Hungary

ebm-papst Industries Kft.
Ezred u. 2.
H-1044 Budapest
Phone +36 1 8722-190
Fax +36 1 8722-194
office@hu.ebmpapst.com
www.ebmpapst.hu



Iceland

RJ Engineers
Stangarhyl 1A
IS-110 Reykjavik
Phone +354 567 8030
Fax +354 567 8015
rj@rj.is
www.rj.is



Ireland

ebm-papst Limited
Portlaoise Business & Technology Park
Mountrath Road
IRL-Portlaoise, Co. Laois
Phone +353 5786 643-43
Fax +353 5786 643-46
sales@ie.ebmpapst.com
www.ebmpapst.ie







Italy

ebm-papst Srl
Via Cornaggia 108
I-22076 Mozzate (Co)
Phone +39 0331 836201
Fax +39 0331 821510
info@it.ebmpapst.com
www.ebmpapst.it



Macedonia

ebm-papst Industries Kft.
Ezred u. 2.
H-1044 Budapest
Phone +36 1 8722-190
Fax +36 1 8722-194
office@hu.ebmpapst.com
www.ebmpapst.hu

-  fan agent
-  compact fan agent
-  motor specialist
-  motor agent

ebm-papst representatives & subsidiaries

 **Netherlands**
 VIBO Benelux B. V.
 Engelseweg 127
 Postbus 230
 NL-5705 AC Helmond
 Phone +31 492 502-900
 Fax +31 492 502-950
verkoop@vibobenelux.com
www.vibobenelux.com

 **Norway**
 ebm-papst AS
 P.B. 173 Holmlia
 N-1203 Oslo
 Phone +47 22 763340
 Fax +47 22 619173
mailbox@ebmpapst.no
www.ebmpapst.no

 **Poland**
 ebm-papst Polska Sp. z o.o.
 ul. Annopol 4A
 PL-03236 Warszawa
 Phone +48 22 6757819
 Fax +48 22 6769587
office@ebmpapst.pl
www.ebmpapst.pl

 **Portugal**
 ebm-papst (Portugal), Lda.
 Av. Marechal Gomes da Costa, 35 e
 Rua Conselheiro Emidio Navarro
 P-1800-255 Lisboa
 Phone +351 218 394-880
 Fax +351 218 394-759
info@pt.ebmpapst.com
www.ebmpapst.pt

 **Romania**
 ebm-papst Romania S.R.L.
 Str. Tirnavei Nr. 20
 RO-500327 Brasov
 Phone +40 268 312-805
 Fax +40 268 312-805
dudasludovic@xnet.ro

 **Russia**
 ebm-papst Ural GmbH
 Posadskaja-Strasse, 23(E), 3
 RU-620102 Ekaterinburg
 Phone +7 343 2338000
 Fax +7 343 2337788
Konstantin.Molokov@ru.ebmpapst.com
www.ebmpapst.ur.ru

 ebm-papst Rus GmbH
 Nizhegorodskaya 32, str. 15 office 420
 RU-109029 Moskau
 Phone +7 495 9807524
 Fax +7 495 6715395
info@ebmpapst.ru
www.ebmpapst.ru




 **Serbia & Montenegro**
 ebm-papst Industries Kft.
 Ezred u. 2.
 H-1044 Budapest
 Phone +36 1 8722-190
 Fax +36 1 8722-194
office@hu.ebmpapst.com
www.ebmpapst.hu

 **Spain**
 ebm-papst Ibérica S.L.
 Avda. del Sistema Solar, 29
 E-28830 San Fernando de Henares (Madrid)
 Phone +34 91 6780894
 Fax +34 91 6781530
ventas@ebmpapst.es

 **Sweden**
 ebm-papst AB
 Äggelundavägen 2
 S-17562 Järfälla
 Phone +46 8 7619400
 Fax +46 8 362306
info@ebmpapst.se
www.ebmpapst.se

 **Switzerland**
 ebm-papst AG
 Rütisbergstrasse 1
 CH-8156 Oberhasli
 Phone +41 44 73220-70
 Fax +41 44 73220-77
verkauf@ebmpapst.ch
www.ebmpapst.ch

 **Turkey**
 Akantel Elektronik San. Tic. LTD. Sti.
 Atatürk Organize Sanayi
 Bölgesi 10007 SK. No.:6
 TR-35620 Cigli-Izmir
 Phone +90 232 3282090
 Fax +90 232 3280270
akantel@akantel.com.tr
www.ebmpapst.com.tr

 **Ukraine**
 ebm-papst Ukraine LLC
 Lapse Boulevard, 4, Building 47
 UA-03067 Kiev
 Phone +38 044 2063091
 Fax +38 044 2063091
mail@ebmpapst.ua
www.ebmpapst.ua

 **United Kingdom**
 ebm-papst UK Ltd.
 Chelmsford Business Park
 GB-Chelmsford Essex CM2 5EZ
 Phone +44 1245 468555
 Fax +44 1245 466336
sales@uk.ebmpapst.com
www.ebmpapst.co.uk

 ebm-papst Automotive & Drives (UK) Ltd.
 The Smithy
 Fidlers Lane, East Ilsley
 GB-Berkshire RG20 7LG
 Phone +44 1635 2811-11
 Fax +44 1635 2811-61
A&Dsales@uk.ebmpapst.com
www.ebmpapst-ad.com

America



Argentina



ebm-papst de Argentina S.A.
Hernandarias 148 Lomas del Mirador
Pcia. de Buenos Aires (1752)
Phone +54 11 46576135
Fax +54 11 46572092
ventas@ar.ebmpapst.com
www.ebmpapst.com.ar



Brasil



ebm-papst Motores Ventiladores Ltda.
Av. José Giorgi, 301 Galpões B6+B7
Condominio Logical Center
BR-06707-100 Cotia - São Paulo
Phone +55 11 3164-8900
Fax +55 11 3164-8924
vendas@br.ebmpapst.com
www.ebmpapst.com.br



Canada



ebm-papst Canada Inc.
1800 Ironstone Manor, Unit 2
CDN-Pickering, Ontario, L1W3J9
Phone +1 905 420-3533
Fax +1 905 420-3772
sales@ca.ebmpapst.com
www.ebmpapst.ca



Mexico



ebm Industrial S.de R.L. de C.V.
Paseo de Tamarindos 400-A-5º Piso
Col. Bosques de las Lomas
MEX-Mexico 05120, D.F.
Phone +52 55 3300-5144
Fax +52 55 3300-5243
sales@mx.ebmpapst.com
www.ebmpapst.com.mx

USA



ebm-papst Inc.
P.O. Box 4009
100 Hyde Road
USA-Farmington, CT 06034
Phone +1 860 674-1515
Fax +1 860 674-8536
sales@us.ebmpapst.com
www.ebmpapst.us



ebm-papst Automotive & Drives, Inc.
3200 Greenfield, Suite 255
USA-Dearborn, MI 48120
Phone +1 313 406-8080
Fax +1 313 406-8081
automotive@us.ebmpapst.com
www.ebmpapst-automotive.us





Africa



South Africa



ebm-papst South Africa (Pty) Ltd.
P.O. Box 3124
1119 Yacht Avenue
ZA-2040 Honeydew
Phone +27 11 794-3434
Fax +27 11 794-5020
info@za.ebmpapst.com
www.ebmpapst.co.za

-  fan agent
-  compact fan agent
-  motor specialist
-  motor agent

ebm-papst representatives & subsidiaries

Asia

 **China**
 ebm-papst Ventilator (Shanghai) Co., Ltd.
 No. 418, Huajing Road
 WaiGaoQiao Free Trade Zone
 No. 2001, Yang Gao (N) Road
 VRC-200131 Shanghai, P.R. of China
 Phone +86 21 5046-0183
 Fax +86 21 5046-1119
 sales@cn.ebmpapst.com
 www.ebmpapst.com.cn

 **Hong Kong**
 ebm-papst Ventilator (Shanghai) Co., Ltd.
 Hong Kong Representative Office
 Unit Nos. 13-15, 9/F, Technology Park
 18 On Lai Street, Siu Lek Yuen, Shatin,
 N.T. Hong Kong P.R. of China
 Phone +852 2145-8678
 Fax +852 2145-7678
 info@hk.ebmpapst.com

 **India**
 ebm NADI International Pvt Ltd.
 26/3, G.N.T. Road, Erukkencherry
 IND-Chennai-600118
 Phone +91 44 25372556
 Fax +91 44 25371149
 ebmnadi@md2.vsnl.net.in
 www.ebmnadi.com

 **Indonesia**
 ebm-papst Indonesia
 Wisma Slipi Building 14th Floor, No. 1410
 Jl. Letjend S. Parman Kav. 12
 RI-Jakarta Barat 11480
 Phone +62 21 536619-01
 Fax +62 21 536619-05
 salesdept@id.ebmpapst.com

 **Israel**
 Polak Bros. Import Agencies Ltd.
 9 Hamefalsim Street
 IL-Kiryat Arie, Petach-Tikva 49514
 Phone +972 3 9100300
 Fax +972 3 5796679
 polak@polak.co.il
 www.polak.co.il

 **Japan**
 ebm-papst Industries Japan K.K.
 12 Floor, Benex S-3 Bldg.
 3-20-8 Shinyokohama, Kohoku-ku
 J-222-0033 Yokohama
 Phone +81 45 47057-51
 Fax +81 45 47057-52
 info@jp.ebmpapst.com
 www.ebmpapst.jp

 **Korea**
 ebm-papst Korea Co. Ltd.
 6F, Trutec Bldg.
 B 6-2, Digital Media City (DMC)
 Sangam-Dong, Mapo-Gu
 ROK-Seoul 121-270
 Phone +82 2 366213-24
 Fax +82 2 366213-26
 info@kr.ebmpapst.com
 www.ebmpapst.co.kr

 **Malaysia**
 ebm-papst Malaysia
 Representative Office
 Block F1, 9A-4, Jln PJU 1/42
 Dataran Prima
 MAL-47301 Petaling Jaya
 Phone +60 3 780654-40
 Fax +60 3 780654-41
 salesdept@my.ebmpapst.com

 **Singapore**
 ebm-papst SEA Pte. Ltd.
 No. 23 Ubi Road 4
 #06-00 Olympia Industrial Building
 SGP-Singapore 408620
 Phone +65 65513789
 Fax +65 68428439
 salesdept@sg.ebmpapst.com

 **Taiwan**
 ETECO Engineering & Trading Corp.
 10F-I, No. 92, Teh-Wei Str.
 RC-Tsow-Inn District, Kaohsiung
 Phone +886 7 557-4268
 Fax +886 7 557-2788
 eteco@ms22.hinet.net

 **Thailand**
 ebm-papst Thailand Co., Ltd.
 99/349 Na-Nakorn Bldg., 4th Floor
 Chaeng Wattana Road, Thungsonghong,
 THA-10210 Laksi, BKK
 Phone +66 2 57615-24
 Fax +66 2 57615-42
 salesdept@th.ebmpapst.com

 **United Arab Emirates**
 ebm-papst Middle East FZE
 PO Box 17755
 Jebel Ali Free Zone / FZS1 / AP05
 UAE-Dubai
 Phone +971 4 88608-26
 Fax +971 4 88608-27
 info@ae.ebmpapst.com
 www.ebmpapst.ae

 **Vietnam**
 ebm-papst Vietnam
 Representative Office
 Room #102, 25 Nguyen Van Thu Street
 District 1
 VN-Ho Chi Minh City
 Phone +84 8 39104099
 Fax +84 8 39103970
 linh.nguyen@vn.ebmpapst.com

Australia



Australia

ebm-papst A&NZ Pty Ltd.



10 Oxford Road



AUS-Laverton North, Victoria, 3026

Phone +61 3 9360-6400

Fax +61 3 9360-6464

sales@ebmpapst.com.au

www.ebmpapst.com.au



New Zealand

ebm-papst A&NZ Pty Ltd.



102 Henderson Valley Road



NZ-Henderson, Auckland 1230

Phone +64 9 837-1884

Fax +64 9 837-1899

sales@ebmpapst.com.au

www.ebmpapst.com.au

ebm-papst
Mulfingen GmbH & Co. KG

Bachmühle 2
D-74673 Mulfingen
Phone +49 7938 81-0
Fax +49 7938 81-110
info1@de.ebmpapst.com

www.ebmpapst.com