



**BRUSHLESS FANS,
BLOWERS
& COOLANT PUMPS**

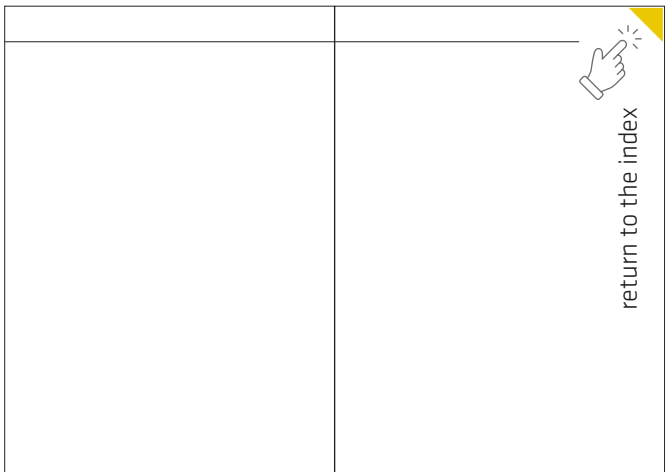
12V - 24V











General index

Field applications	Pag. 04
Warranty conditions	Pag. 06
Usage recommendations	Pag. 07
Guidelines	Pag. 08
Certificates & Notice	Pag. 11
Summary	Pag. 12
Axial fans 12V	Pag. 15
Centrifugal blowers 12V	Pag. 51
Axial fans 24V	Pag. 57
Centrifugal blowers 24V	Pag. 91
Coolant pumps 24V	Pag. 99
Fans & Blowers accessories	Pag. 107
Pumps accessories	Pag. 111

BRUSHLESS FANS, BLOWERS & COOLANT PUMPS

12V - 24V





→ Car



→ Bus & Coach



→ Powersport



→ Truck



→ Agriculture



→ Construction Equipment



→ Oil Cooling



→ Mobile Refrigeration



→ Stationary Applications







Warranty conditions

DEFINITIONS:

- SPAL: SPAL S.r.l. con unico socio
- Client/s: any company, body or corporate entity, which purchases the Products of SPAL from the latter;
- Conditions: these General Warranty Conditions.
- Product/s: any Brushless goods supplied by SPAL to the client.

CONDITIONS:

1. SPAL guarantees the compliance of its Products with the technical features declared and the absence of production defects and faults, provided that they have been correctly stored and used in compliance with the Usage Recommendations..
2. The warranty has a validity of 36 months as from the date of shipment of the Products;
3. The Conditions do not apply to Products which present:
 - Damages caused during transportation and/or by erroneous handling;
 - Damages due to accidental events;
 - Damages consequent to negligent or improper use of the same;
 - Damages caused by use not in line with the SPAL usage recommendations and specifications (*see "Usage recommendations"*);
 - Repairs, tampering or modifications made by the Client or third parties;
 - Normal wear and tear of the Product.
4. These Conditions do not cover indirect or consequential damages of any kind, or rather by way of example, the lack of earnings, lack of production, lack of sales, costs for product recalls, labour, inconveniences, transport costs, telephone calls, board and lodging, losses of income or incomings, as well as damages caused to the purchaser and/or to third parties, or to property or objects possessed by the purchaser and/or third parties, consequent to defects covered by these Conditions, manifesting during the use of the Product.
5. These Conditions cannot leave aside a contract/sales agreement that they form an integral part of; the same are therefore exclusively applicable vis-à-vis the purchaser with the exclusion of third parties.
6. In any event, the Client cannot enforce the warranty rights vis-à-vis SPAL if the Client has an outstanding debt with the same, also in the event that the failure to make the payments under the agreed terms and conditions, refers to Products other than those in relation to which the Client intends to enforce the warranty.

**WARNING:**

failure to observe these recommendations could cause the breakdown of the Product with the consequent risk of fire, explosion, serious injury or death.

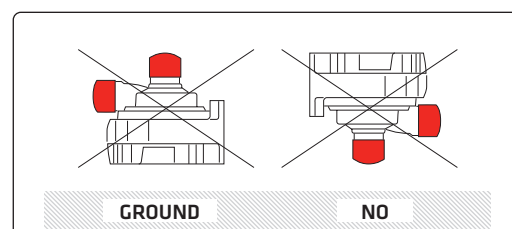
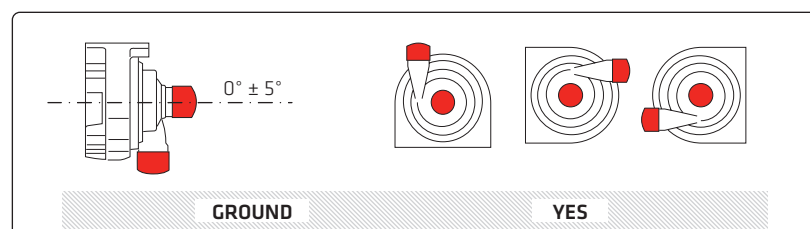
SPAL declines all responsibility for damages of any kind, both direct and indirect, caused to property or individuals, which are the consequence of incorrect use of the Product.

Usage recommendations

The Client is exclusively responsible for checking that the Product chosen by the same is suitable for the requirements and the operating conditions of its technical specifications and related applications. If the Client requests as such, SPAL is willing to provide its support in identifying the most appropriate solutions. However, SPAL will not issue any declaration or guarantee relating to the suitability of the choice made, complete responsibility for the same will remain exclusively with the Client.

Our usage recommendations for the Products are as follows:

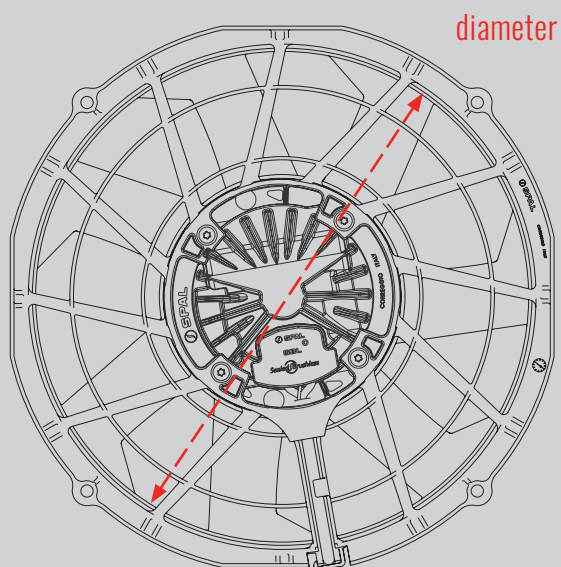
1. The Product must be powered according to the voltage indicated on the specific Product datasheet;
2. Unless otherwise indicated on specific datasheets, the power supply must be adjusted and stabilised with residual ripple values of less than 3%. Higher residual ripple values considerably reduce the duration of the Product and cause irregular functioning of the same;
3. The operating temperatures is indicated on each Product specific datasheets;
4. In general, you are recommended to check that the working conditions are not more severe than those for which the Products have been tested.
5. Each individual Product must be suitably protected via fuse or similar device which interrupts the electricity supply in the event of accidental blockage;
6. The supporting structure of the Product shall be designed and manufactured to minimize vibrations, keeping them within an acceptable range. The use of vibration dampening components is recommended to further enhance performance and stability.
7. Fans: in applications where the electric fan is installed in a horizontal position with the motor cover facing upwards, the use of a fan with drainage holes in the hub is recommended;
8. Pumps: the pump must be assembled on a flat and regular surface. Pump inlet (as the rotational axe) must be oriented parallel to the ground with a tolerance of $\pm 5^\circ$, if this condition is satisfied the pump outlet can be oriented in any orientation. Pump inlet can't be oriented perpendicular to the ground.



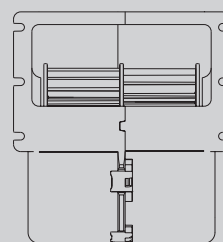
9. Never use the SPAL Products in the presence of inflammable/combustible substances or in environments at risk of explosion.
10. You are recommended to store the Product in environments lacking humidity, protected from external agents and under temperature conditions that do not exceed the working ones envisaged.

For any information relating to the Product usage recommendations, please contact us at the following e-mail address: info@spalautomotive.com

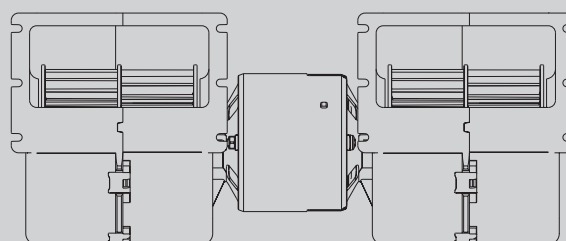
For any information on the up-dates of the Products, please visit our website: www.spalautomotive.com



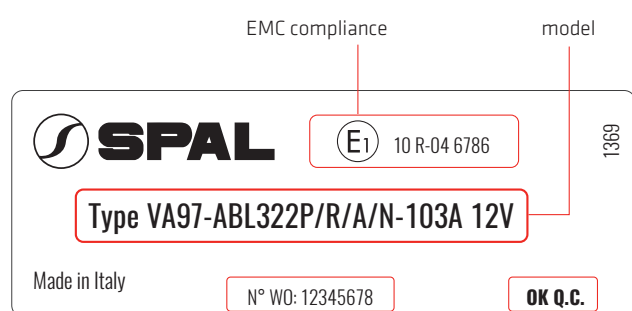
Single Blower



Double Blower



Label example:



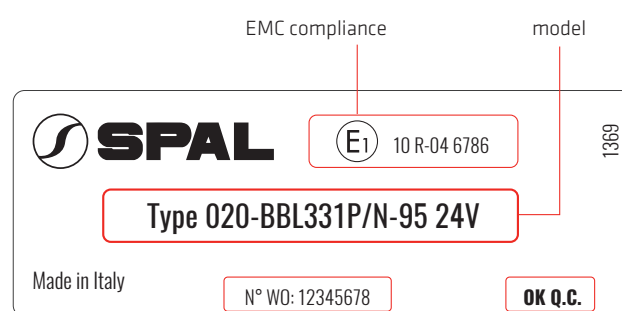
VA97-ABL322P/R/A/N-103A VA97-ABL322P/R/A/N-103A

shroud

blade

motor

Label example:



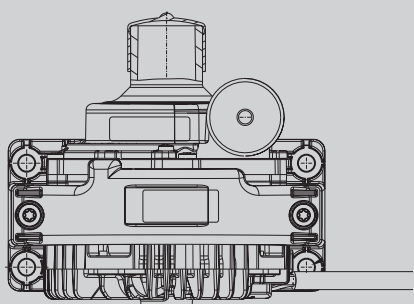
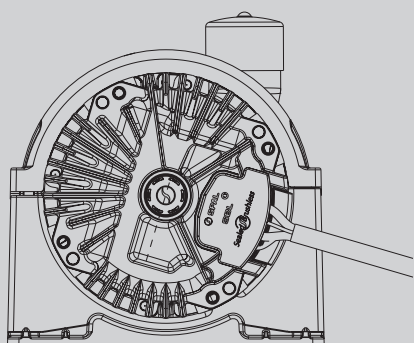
020-BBL331P/N-95

housing

blade

020-BBL331P/N-95

motor



Label example:

Pump description approval number E1 label code

SPAL XXXX

PUMP C02-BBL393P/P-G02

E1 10 R-04 6786

Made in Italy N° WO: 12345678 **OK Q.C.**

work order ok quality control

C02-BBL393P/P-G02 C02-BBL393P/P-G02

▼ ▼ ▼

housing impeller motor







Certificates

Certifications can be downloaded from our official website.

- ▶ IATF 16949
- ▶ UNI EN ISO 14001:2015
- ▶ UNI EN ISO 9001:2015
- ▶ UNI EN ISO 45001:2018
- ▶ AEO
- ▶ AUTOMOTIVE SPICE 3.1 ASSESSMENT
- ▶ TÜV Laboratoty Testing UN-R 10, 97/24/EC and 2009/64/EC
- ▶ TISAX ASSESSMENT



Notice

- The fan models are listed by decreasing fan diameter, and within the same diameter, by decreasing power rate.
- The blower models are listed by blower type (double and/or single) and by decreasing power rating.
- Pumps models are listed by decreasing power rate.
- It is exclusive client's responsibility to verify and make sure that selected products, listed in this catalogue, fully suit client's technical requirements, correct working conditions and in accordance to the application involved.
- In case you are unable to find a suitable fan for your application, please contact us and we will help you finding the best solution for your specific requirements. Upon request, we will support you in co-designing and developing new products and solutions.
- Our technical specification are purely indicative and might change without any previous notice.

Fans are listed by decreasing diameter, and within the same diameter, in decreasing order of power.



diameter	shroud	IP	pag.
465 mm - 18"	VA164	IP68 IP6K9K	16
405 mm - 16"	VA117 VA97		20 22
385 mm - 15"	VA207 VA91		26 28
355 mm - 14"	VA116		30
305 mm - 12"	VA113 VA90 VA89		34 36 38
280 mm - 11"	VA99		40
255 mm - 10"	VA109		42
155 mm - 6"	VA193		44
130 mm - 5"	VA195		48



diameter	shroud	IP	pag.
465 mm - 18"	VA223 VA164	IP68 IP6K9K	58 60
405 mm - 16"	VA97		64
385 mm - 15"	VA91		66
355 mm - 14"	VA116		68
305 mm - 12"	VA113 VA191 VA90 VA89		70 72 74 76
280 mm - 11"	VA99		80
255 mm - 10"	VA109		82
225 mm - 9"	VA224		84
155 mm - 6"	VA193		86
130 mm - 5"	VA195		88



CENTRIFUGAL 12V d.c.

blower type	housing	IP	pag.
DOUBLE WHEEL	020	IP68 IP6K9K	52
SINGLE WHEEL BLOWER WITHOUT HOUSING	NA		54



CENTRIFUGAL 24V d.c.

blower type	housing	IP	pag.
DOUBLE WHEEL	020	IP68 IP6K9K	92
DOUBLE WHEEL	019		94
SINGLE WHEEL BLOWER WITHOUT HOUSING	NA		96



COOLANT PUMPS 24V d.c.

power	housing	IP	pag.
1.000 W	C01	IP68 IP6K9K	100
650 W	C01		102
300 W	C02		104







HIGH-PERFORMANCE SEALED BRUSHLESS MOTOR
AXIAL FANS

12V

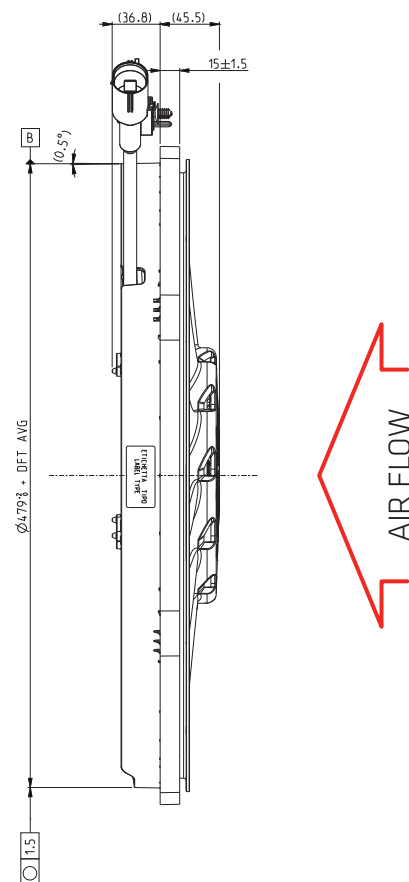
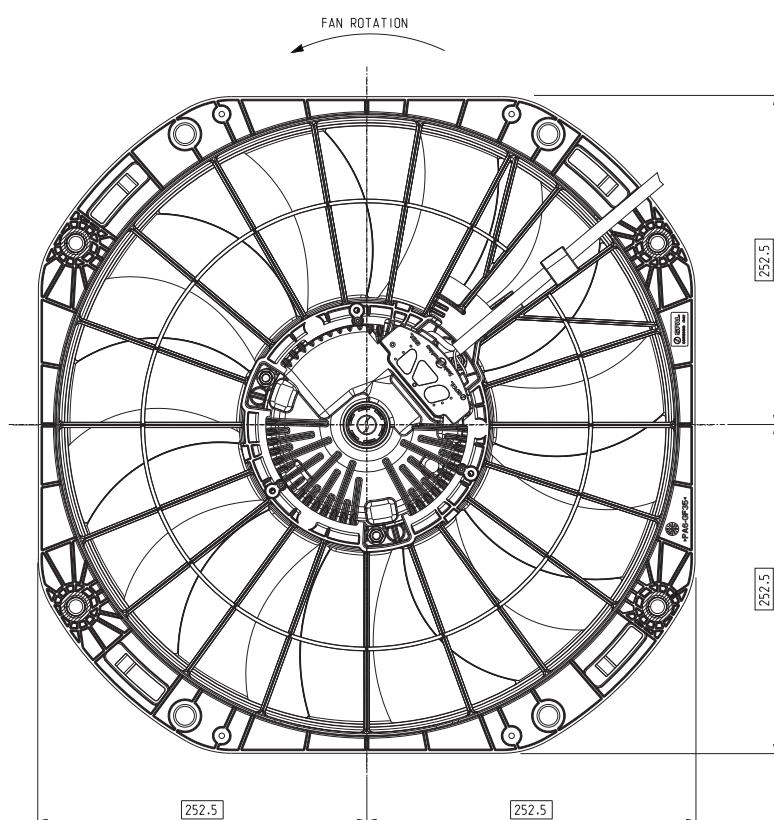
Ø 465 mm - 18"

VA164A-ABL1002HT/R-124A



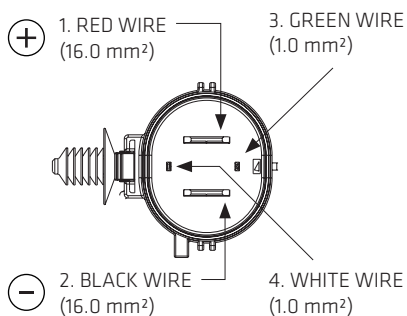
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 125 °C
Mounting Torque	15±3 Nm - Use M8 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI YPT (USCAR-2 compliant) - Part number: 7286-1397-30



Identification (*)	+D	-D	E	PWM*/FO*
Pin number	1	2	3	4
Wire Color	RED	BLACK	GREEN	WHITE
Sealing p/n	7158-3672-50	7158-3672-50	7158-3031-90	7158-3031-90
Pin p/n	7114-5623-06	7114-5623-06	7114-4103-06	7114-4103-06
Section [mm²]	16.0	16.0	1.0	1.0

Note: Never handle the fan module via the cable harness

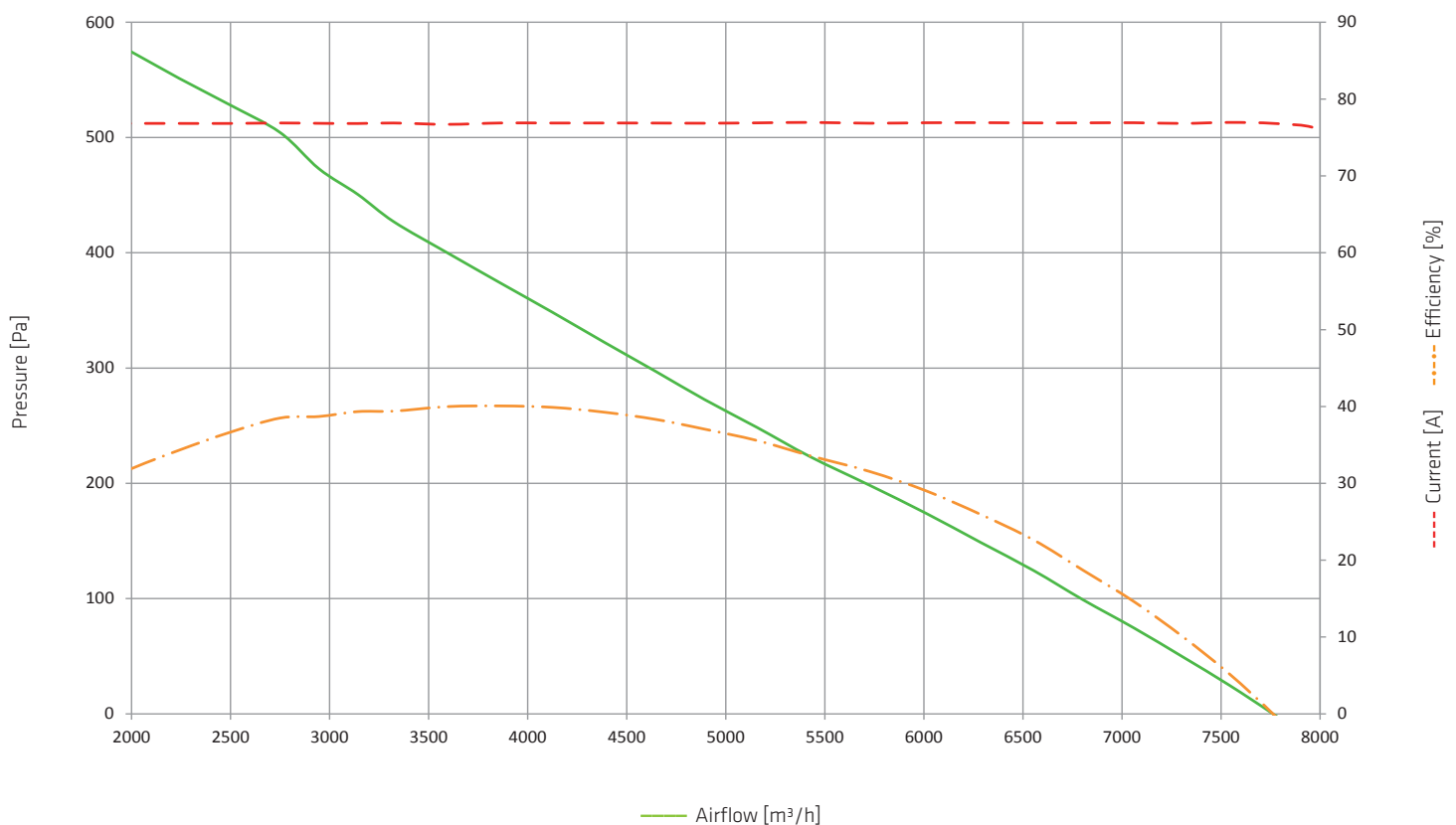
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	3.400±2% (1)
Min fan speed	rpm	800±2%
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	86±0.5
Weight	kg	5.9kg ±5%
Operating supply voltage range (at the Drive connector)	V	8.0 .. 16.5
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.5
Operating ambient temperature range	°C	-40 .. +125
Max operating ambient temperature at max fan speed	°C	+115 (2)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	22
Load dump protection (Pulse 5b) - Pulse peak voltage (U _s *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) The drive has a power limit software feature limiting the fan speed in order to not overcome the maximum power of 1kW. The maximum speed can be reduced (from 3400 RPM) based on the temperature and pressure conditions. (2) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O

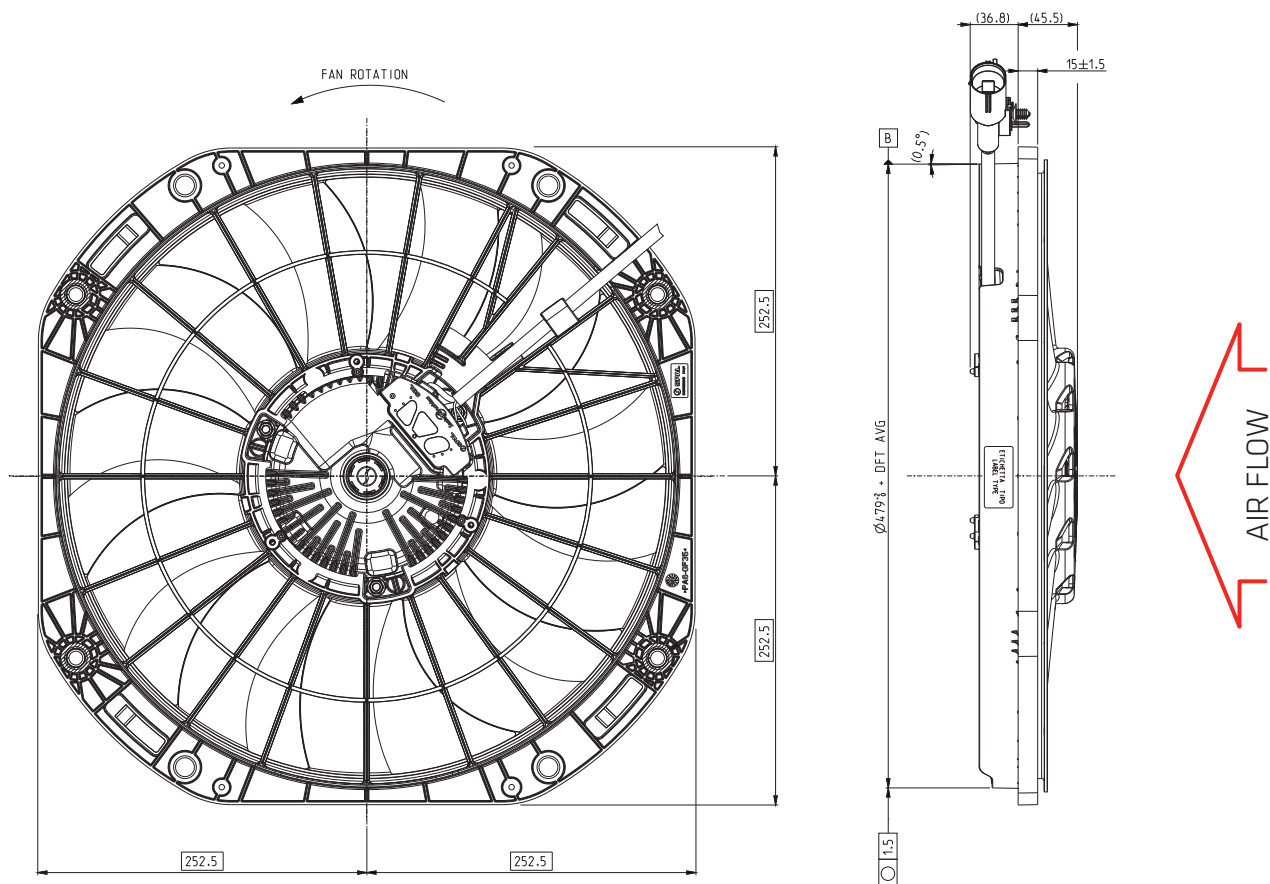


VA164-ABL806HT/R-116A



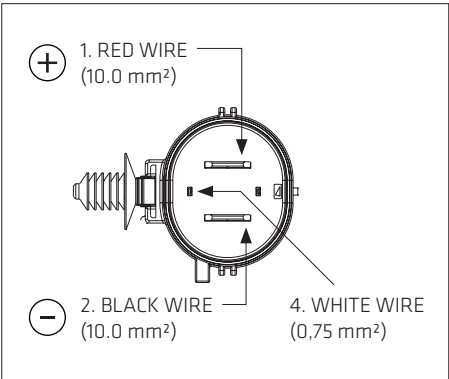
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 120 °C
Mounting Torque	15±3 Nm - Use M8 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI YPT HYBRID (USCAR-2 compliant) - Part number: 7286-1398-10



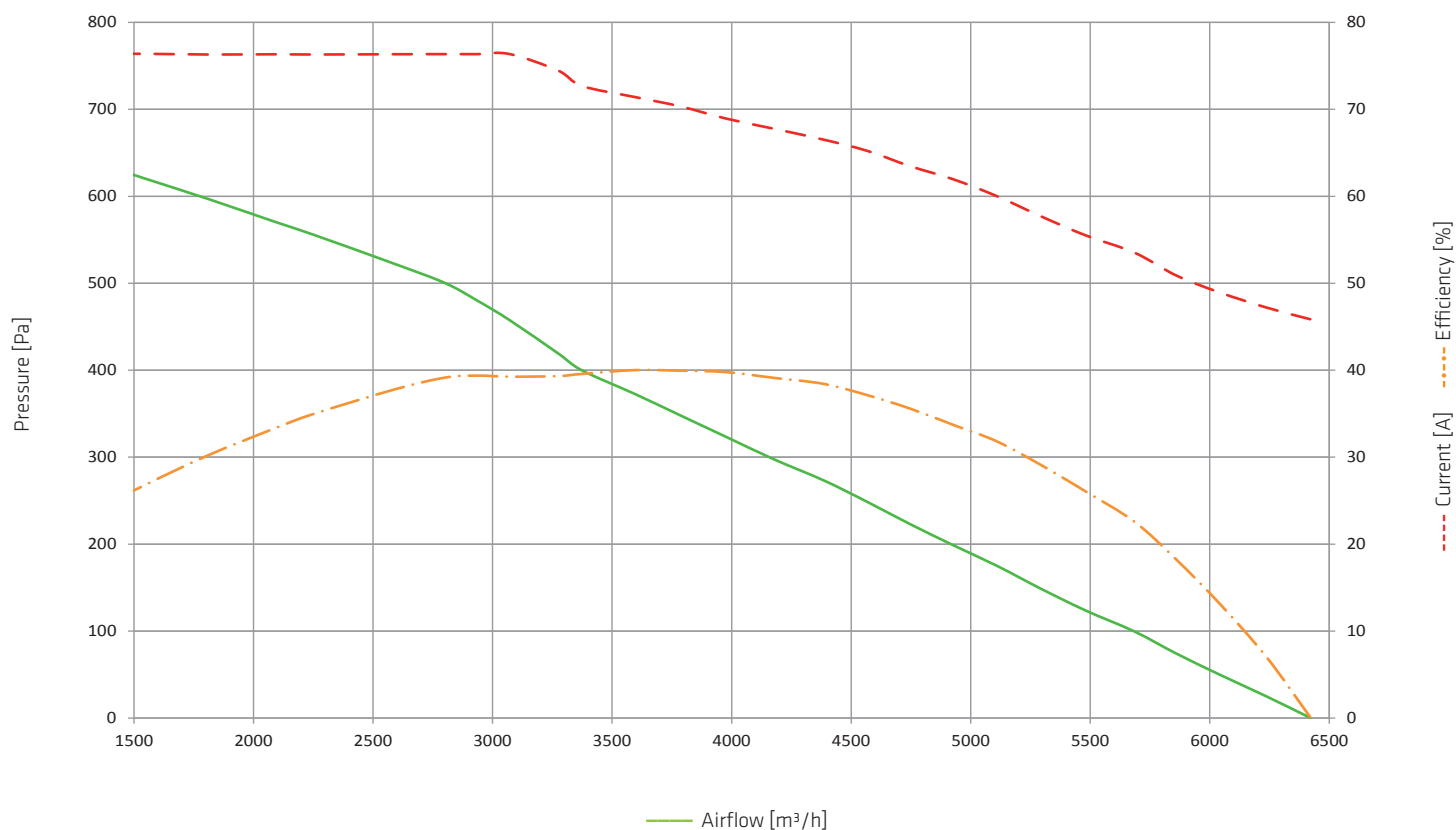
Identification (*)	+D	-D	-	PWM* /E*
Pin number	1	2	-	4
Wire Color	RED	BLACK	-	WHITE
Sealing p/n	7158-3713-70	7158-3713-70	-	7158-3031-90
Pin p/n	7114-5623-02	7114-5623-02	-	7114-4103-02
Section [mm²]	10.0	10.0	-	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed - forward	rpm	2.800
Max fan speed - reverse	rpm	2.800
Min fan speed	rpm	800±0.5
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	82
Weight	kg	4.8
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed (250 Pa e 4.600 m³/h)	°C	+100 (1)
Storage temperature range	°C	-40..+125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	15
Load dump protection (Pulse 5b) - Pulse peak voltage (U ₅ *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class D - device fully functional after the test, after replacing all blown fuse links and after correcting the polarity		
Structural Validation - Random ISO 16750-3 2012 §4.1.2.4		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



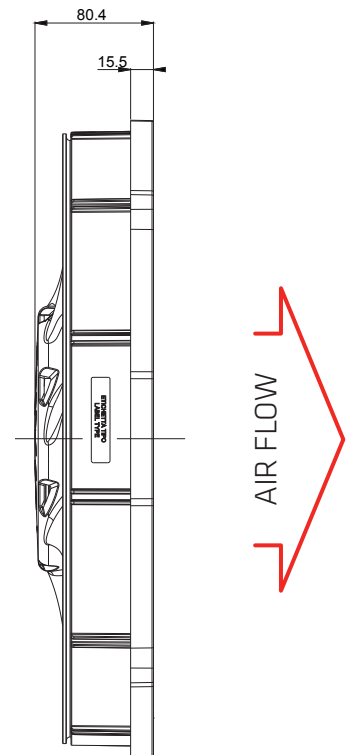
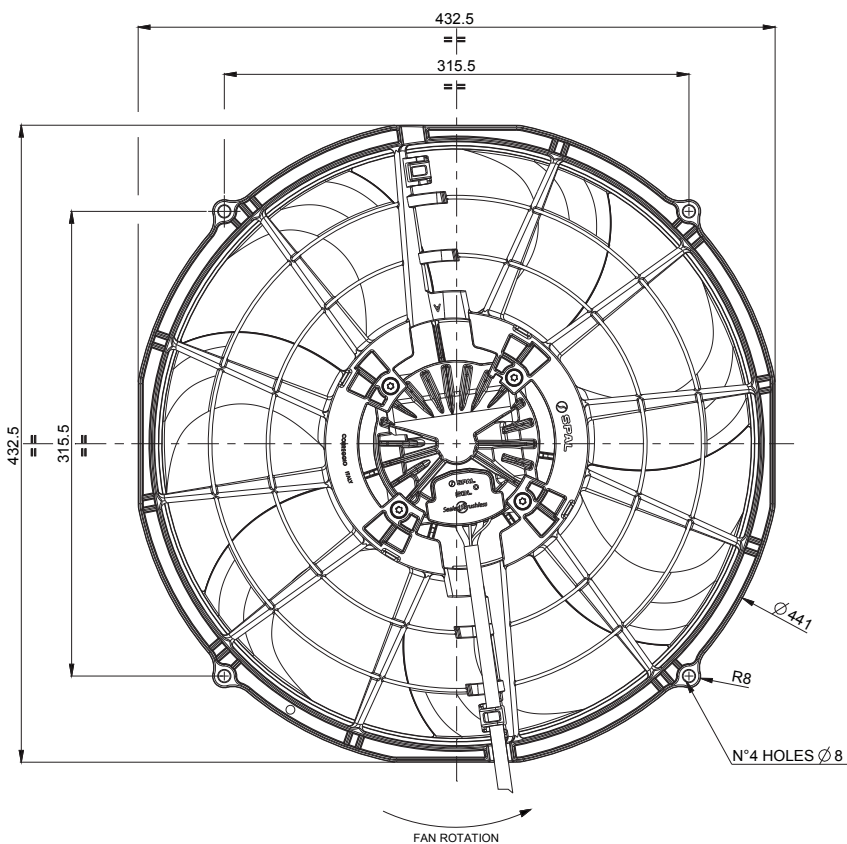
Ø 405 mm - 16"

VA117-ABL506P/R/A/N-103A



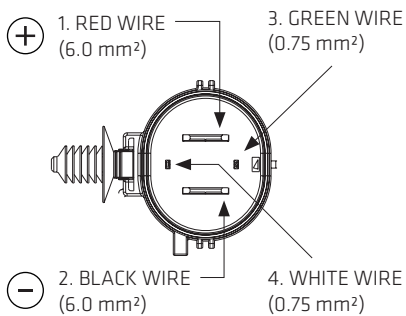
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



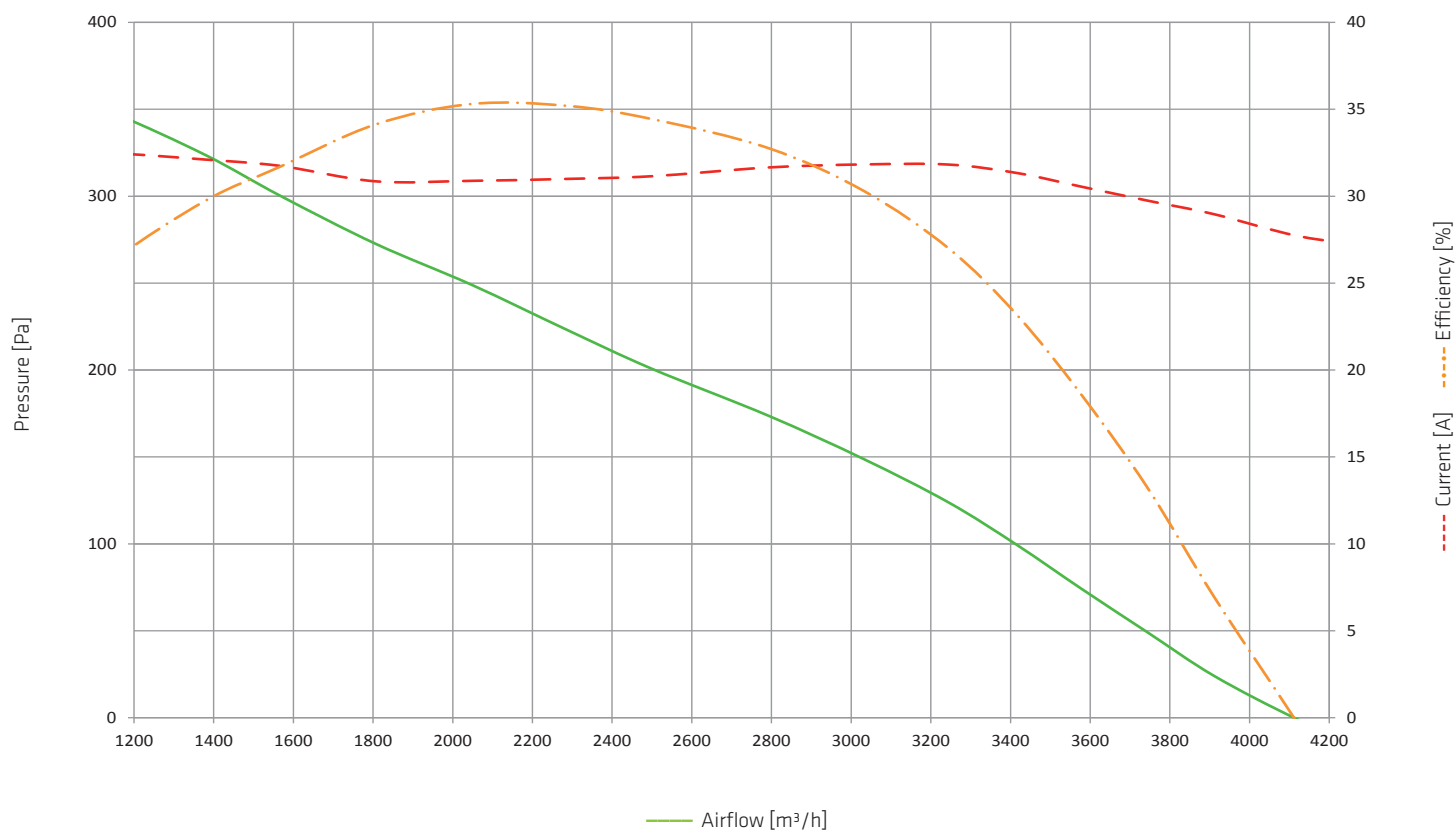
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7158-3035	7158-3035	7158-3031-90	7158-3031-90
Pin p/n	7114-3250	7114-3250	7114-4103-02	7114-4103-02
Section [mm²]	6.0	6.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	2.800
Min fan speed	rpm	900
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	76±0.5
Weight	kg	3.25
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +120
Speed derating threshold	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	12
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C-device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



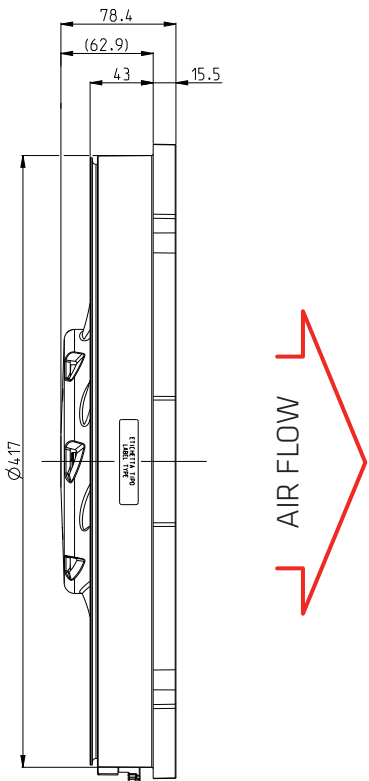
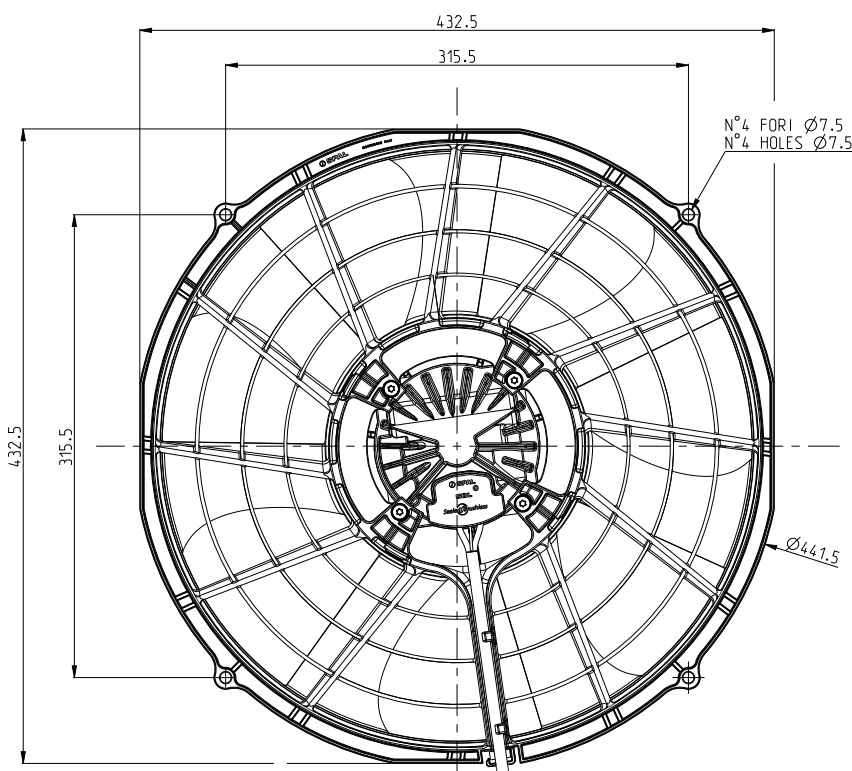
Ø 405 mm - 16"

VA97-ABL341P/R/A/N-98A



GENERAL INFORMATION

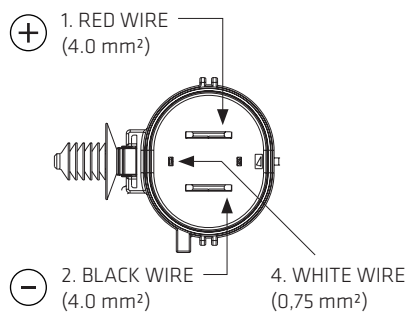
EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 85 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



AIR FLOW

all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8496-30



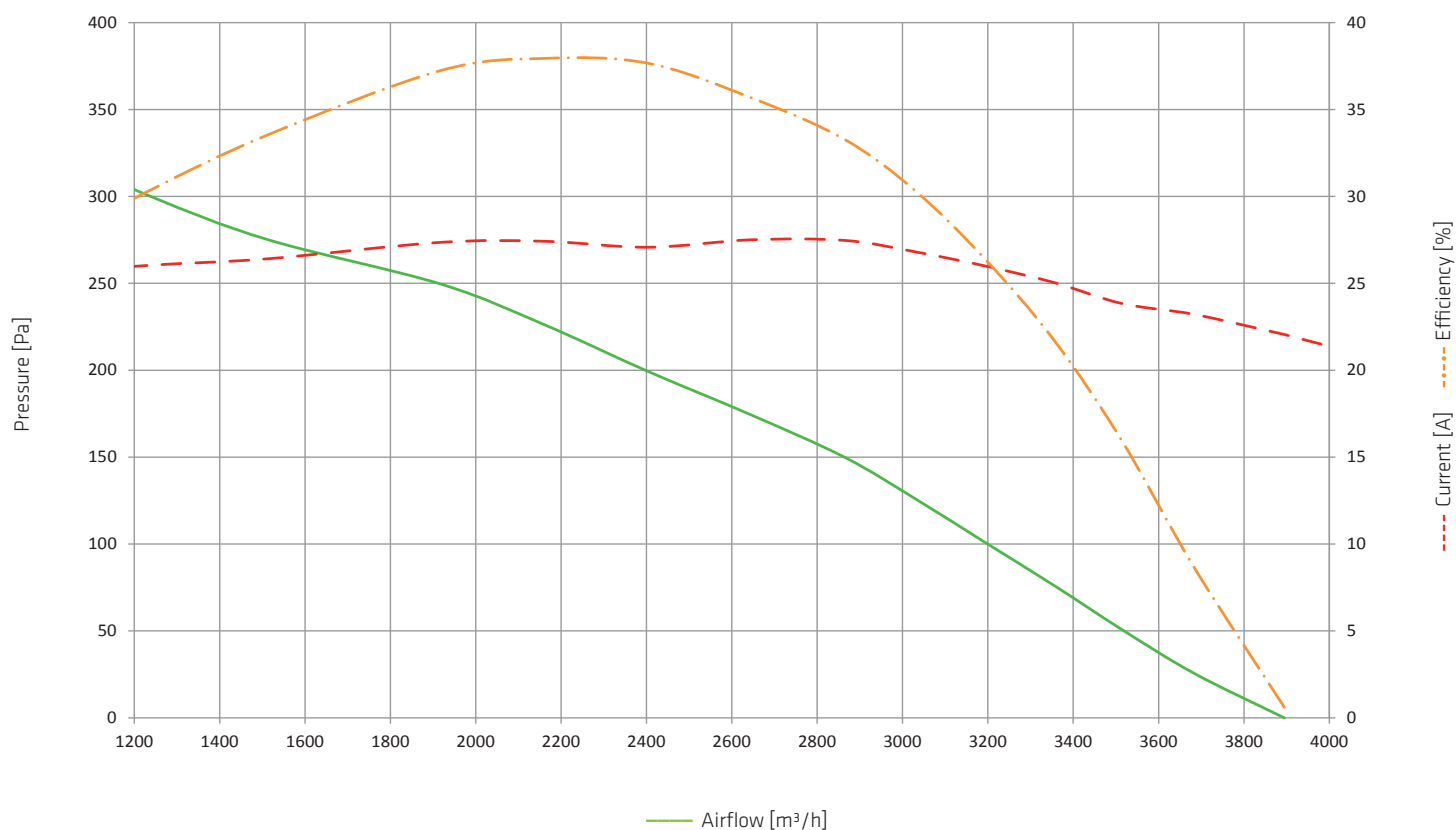
Identification	+D	-D	-	PWM* / E*
Pin number	1	2	-	4
Wire Color	RED	BLACK	-	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	-	7158-3031-90
Pin p/n	7114-3251	7114-3251	-	7114-4103-02
Section [mm ²]	4.0	4.0	-	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	2.800
Min fan speed	rpm	800
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	77.5±0.5
Weight	kg	2.8
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +85
Max operating ambient temperature at max fan speed	°C	+65 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	13
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



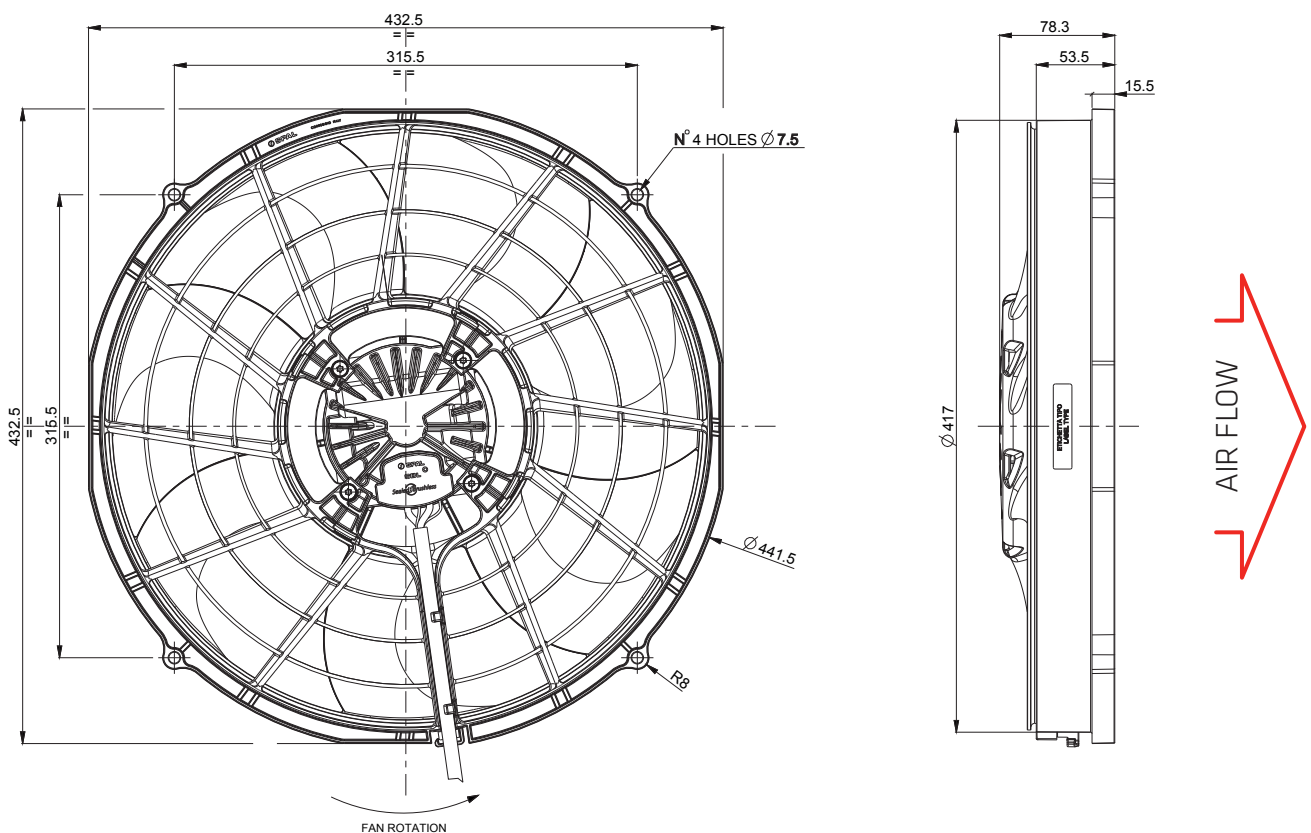
Ø 405 mm - 16"

VA97-ABL322P/R/A/N-103A



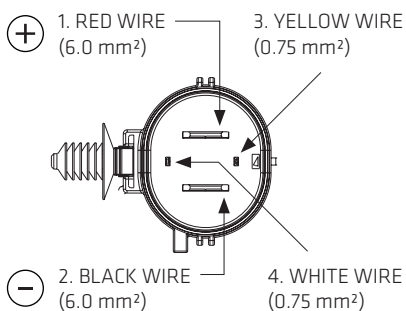
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 115 °C
Mounting Torque	5 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



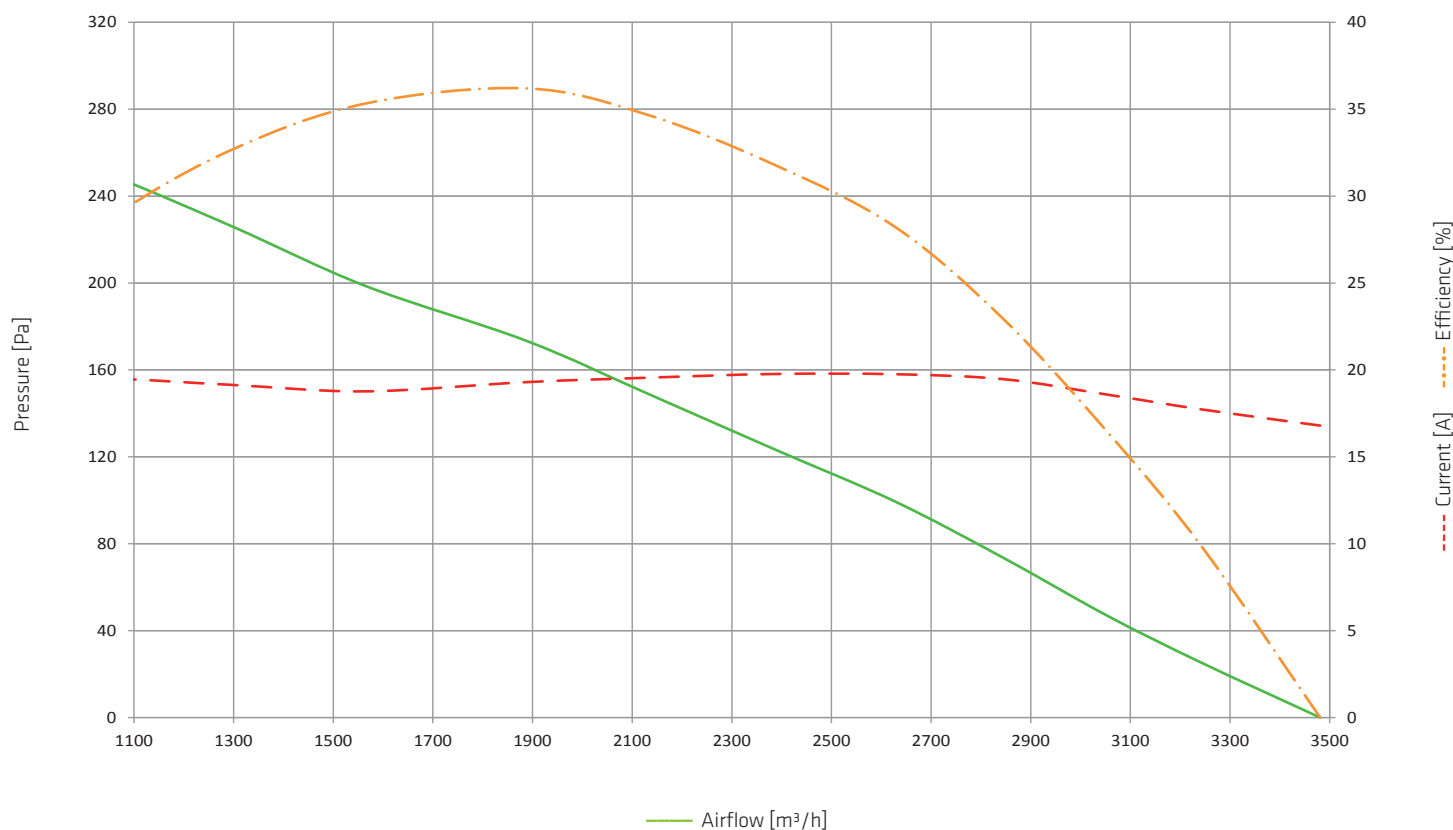
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7158-3035	7158-3035	7158-3031-90	7158-3031-90
Pin p/n	7114-3250	7114-3250	7114-4103-02	7114-4103-02
Section [mm²]	6.0	6.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	2.350
Min fan speed	rpm	600
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	71±0.5 (2)
Weight	kg	2.8
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +115
Max operating ambient temperature at max fan speed	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	10
Load dump protection (Pulse 5b) - Pulse peak voltage (Us*) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating. (2) Free flow noise value is for reference only and it's not representative for performance on the application due to the effect of specific radiator/restrictions.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



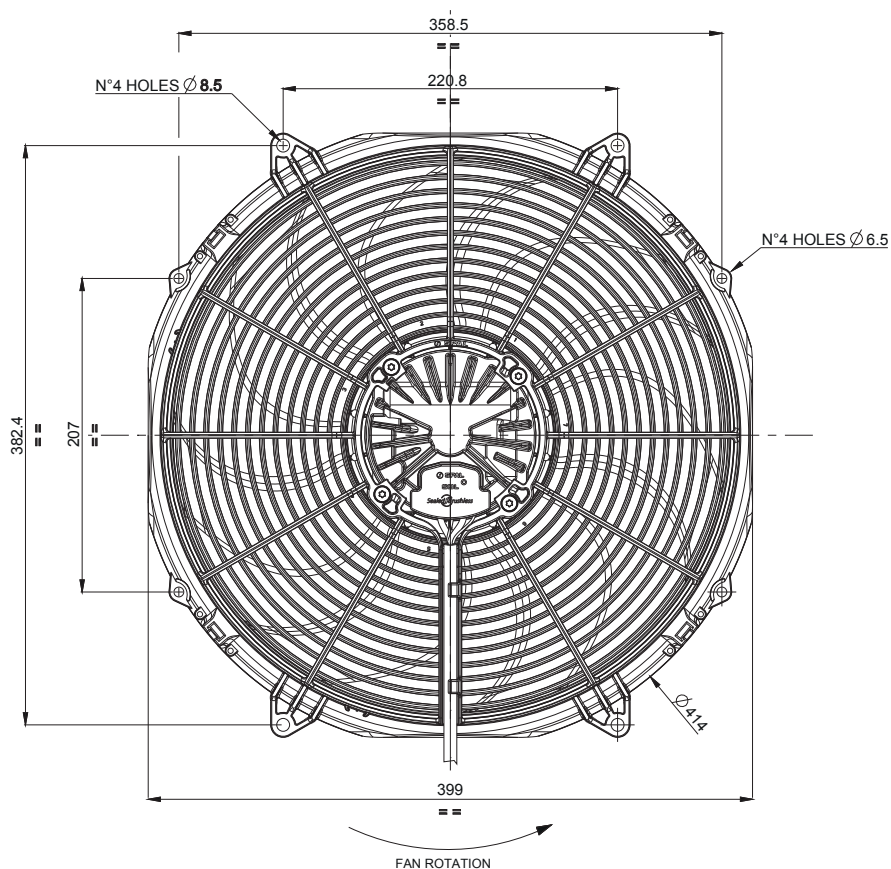
Ø 385 mm - 15"

VA207-ABL523P/R/A/N-65A



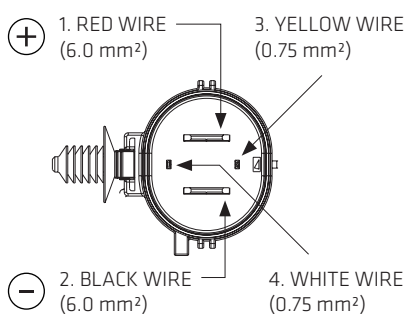
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



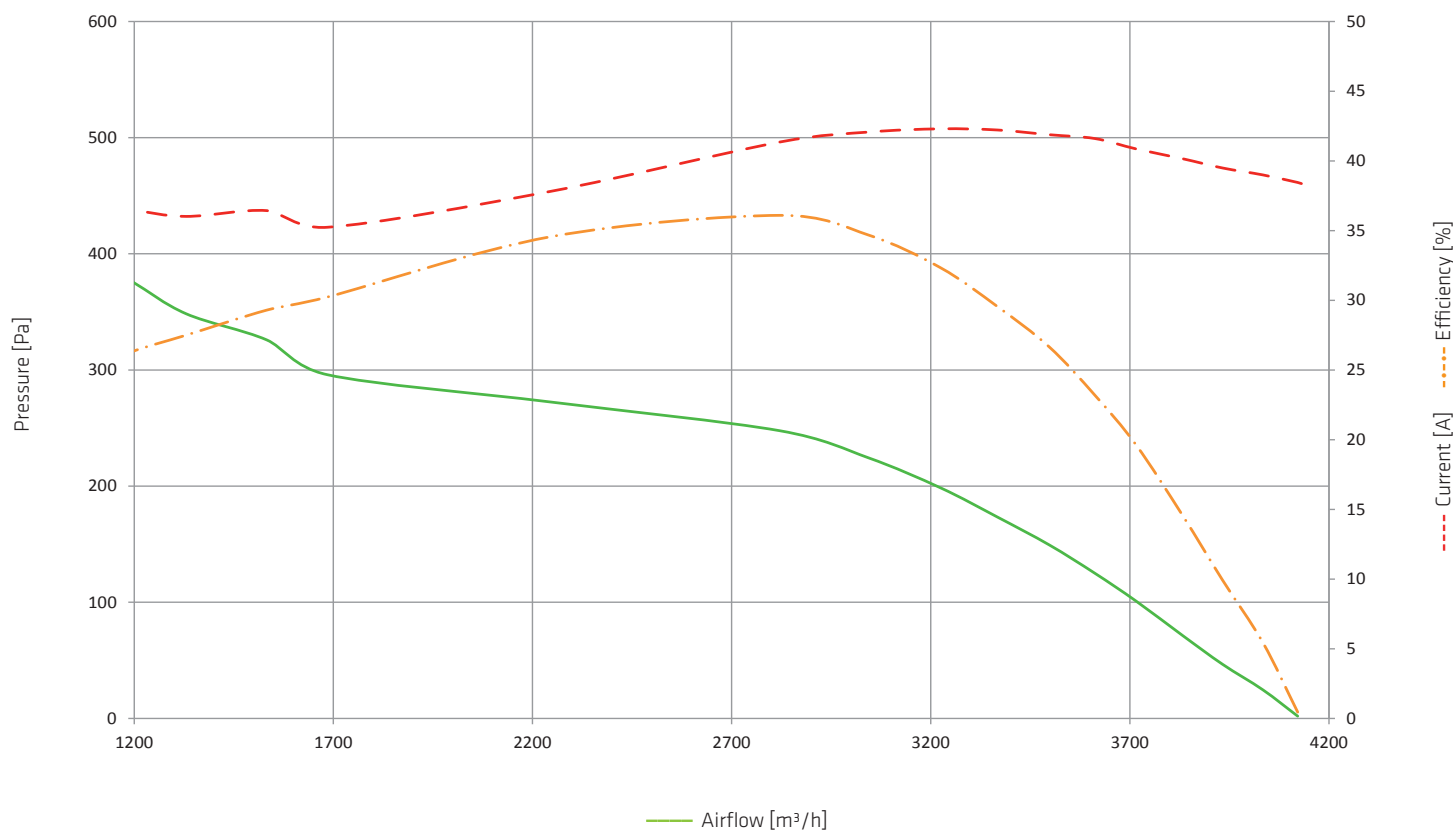
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7158-3035	7158-3035	7158-3031-90	7158-3031-90
Pin p/n	7114-3250	7114-3250	7114-4103-02	7114-4103-02
Section [mm²]	6.0	6.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed - forward	rpm	3.150
Max fan speed - reverse	rpm	3.150
Min fan speed	rpm	850
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	83±0.5
Weight	kg	2.9
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	15
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



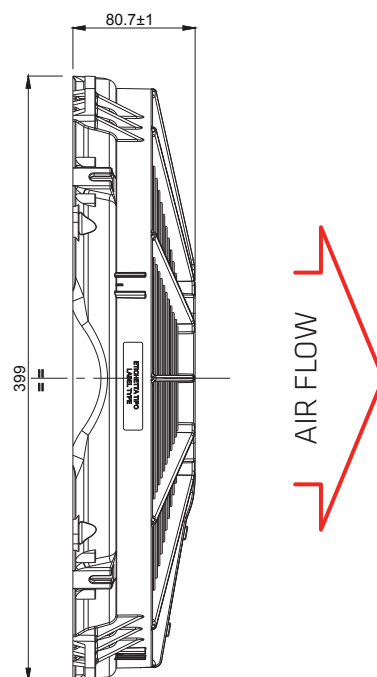
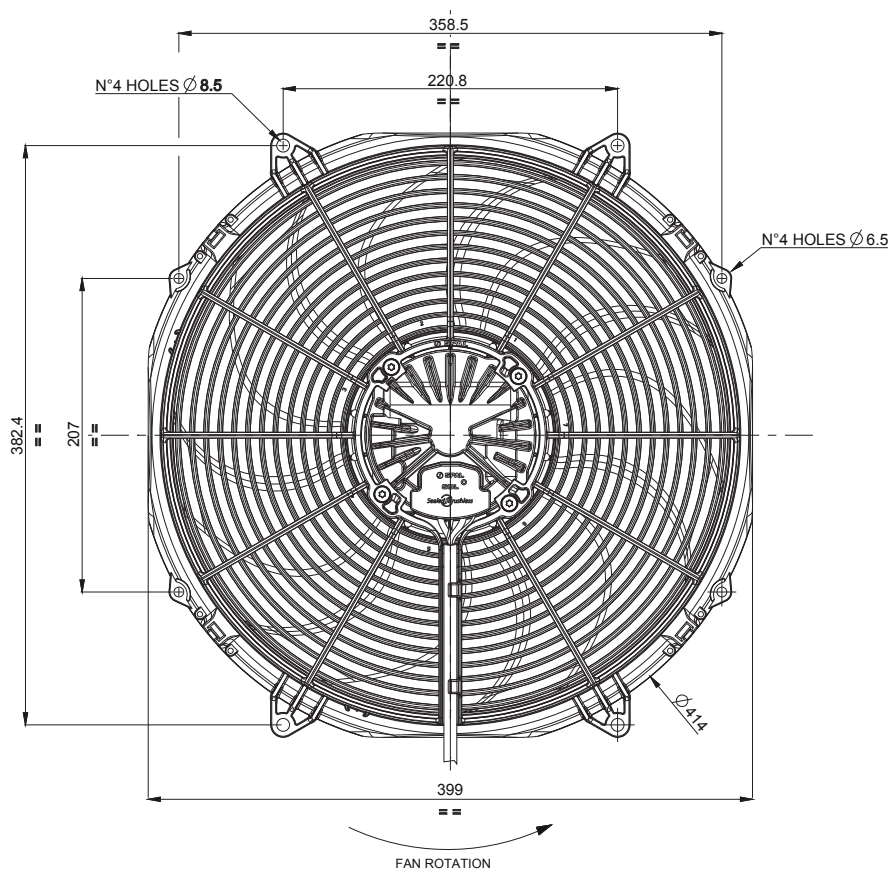
Ø 385 mm - 15"

VA91-ABL326P/R/A/N-65A



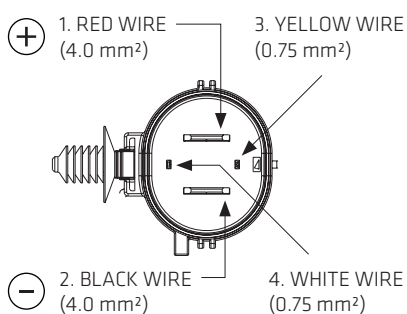
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



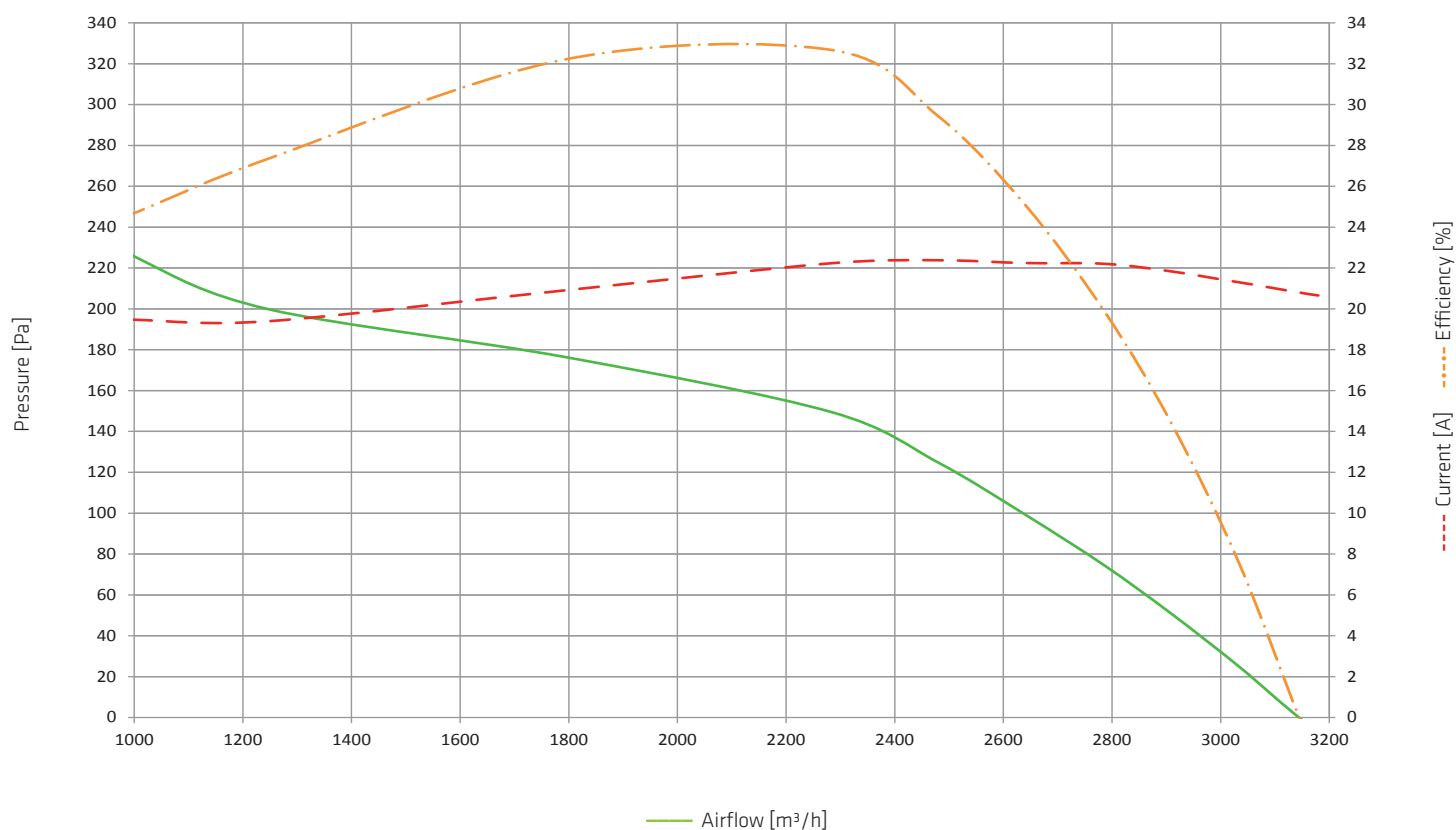
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	7158-3031-90	7158-3031-90
Pin p/n	7114-3251	7114-3251	7114-4103-02	7114-4103-02
Section [mm²]	4.0	4.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	2.500
Min fan speed	rpm	850
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	77±0.5
Weight	kg	2.4
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +120
Speed derating threshold	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	14.5
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



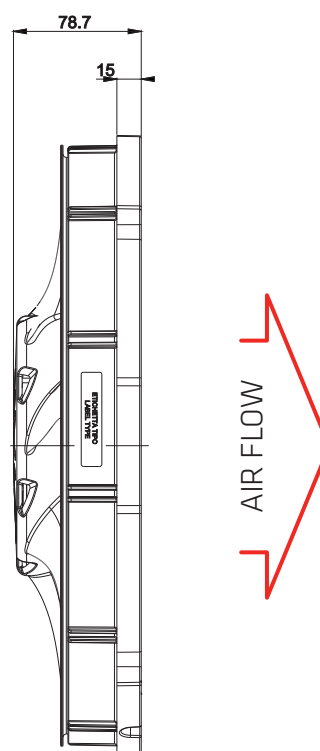
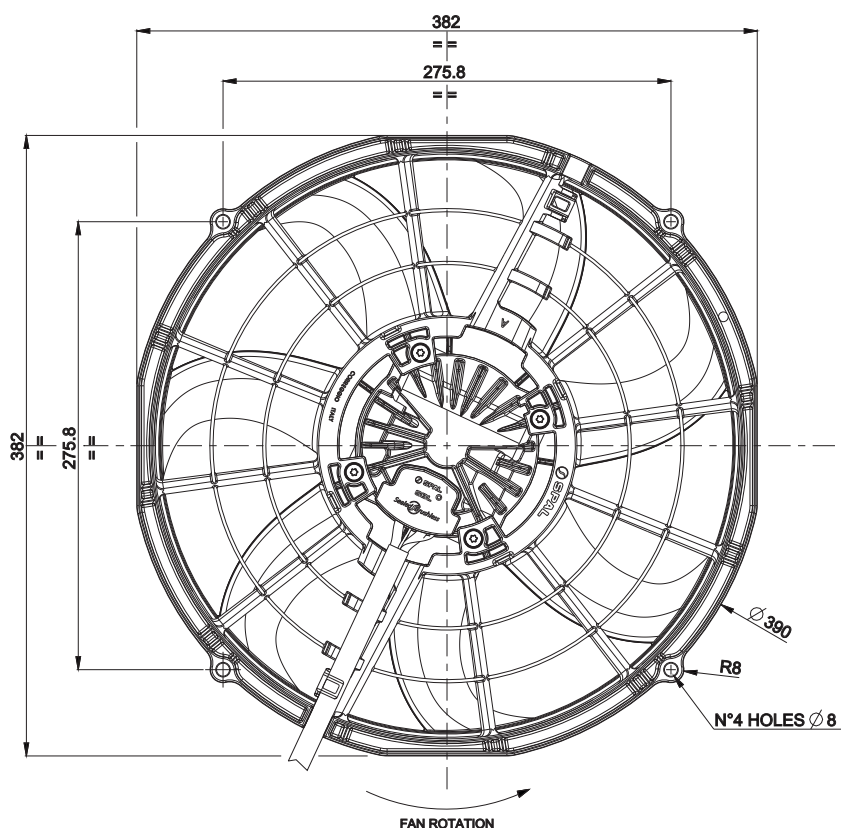
Ø 355 mm - 14"

VA116-ABL505P/R/A/N-105A



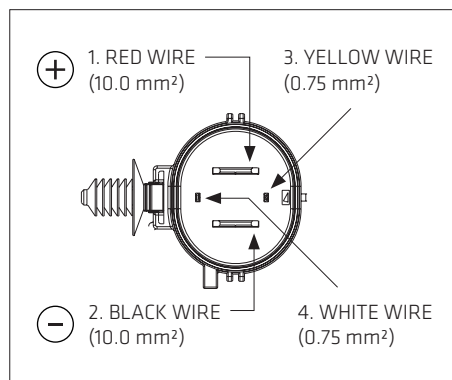
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



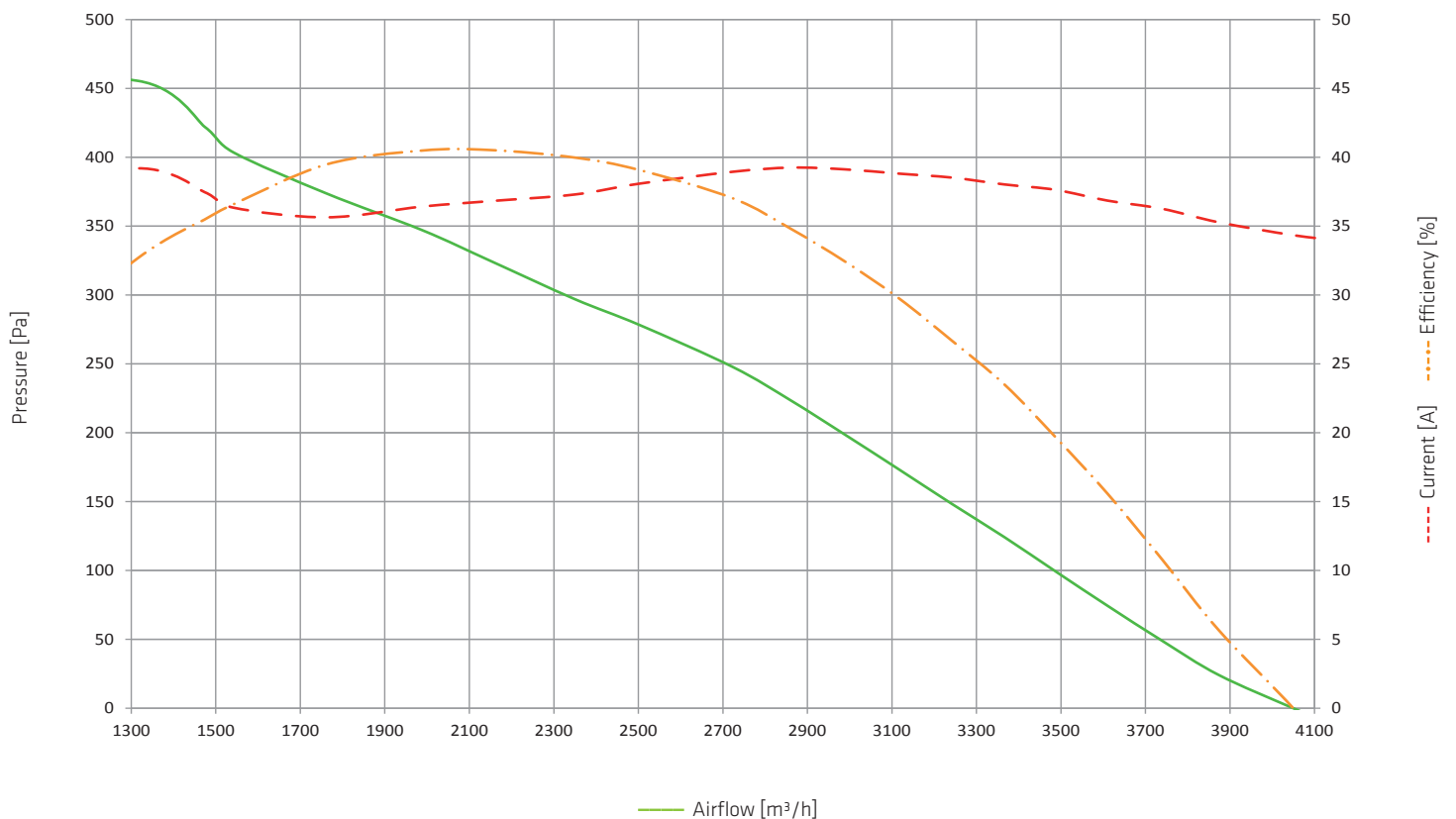
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7158-3036-70	7158-3036-70	7158-3031-90	7158-3031-90
Pin p/n	7114-3273-02	7114-3273-02	7114-4103-02	7114-4103-02
Section [mm²]	10.0	10.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	3.350
Min fan speed	rpm	1.100
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	77.5±0.5
Weight	kg	2.7
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +120
Speed derating threshold	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	17
Load dump protection - (Pulse 5b) Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



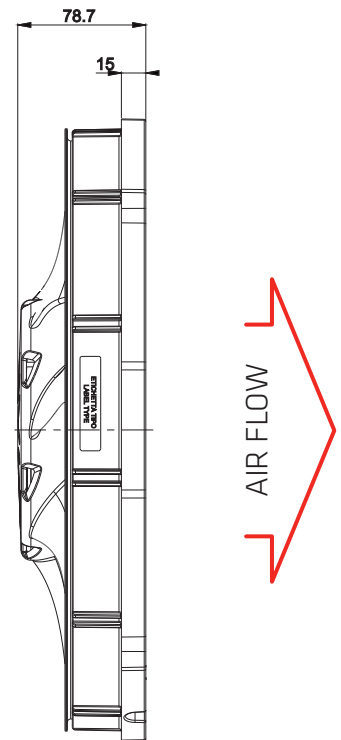
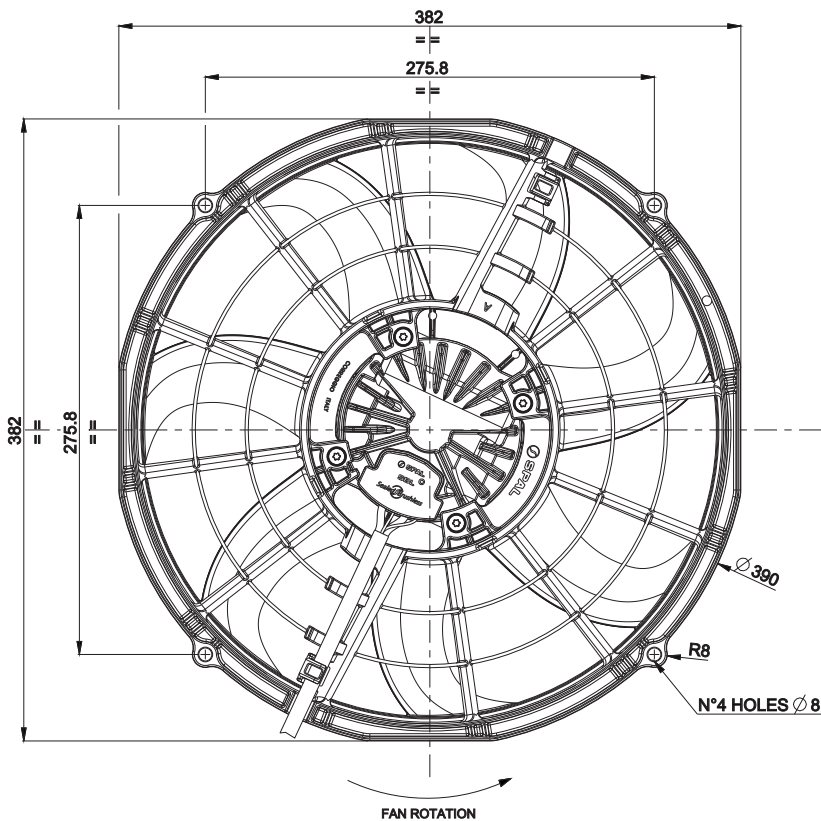
Ø 355 mm - 14"

VA116-ABL324P/R/A/N-105A



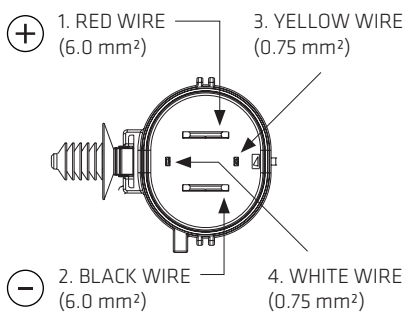
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



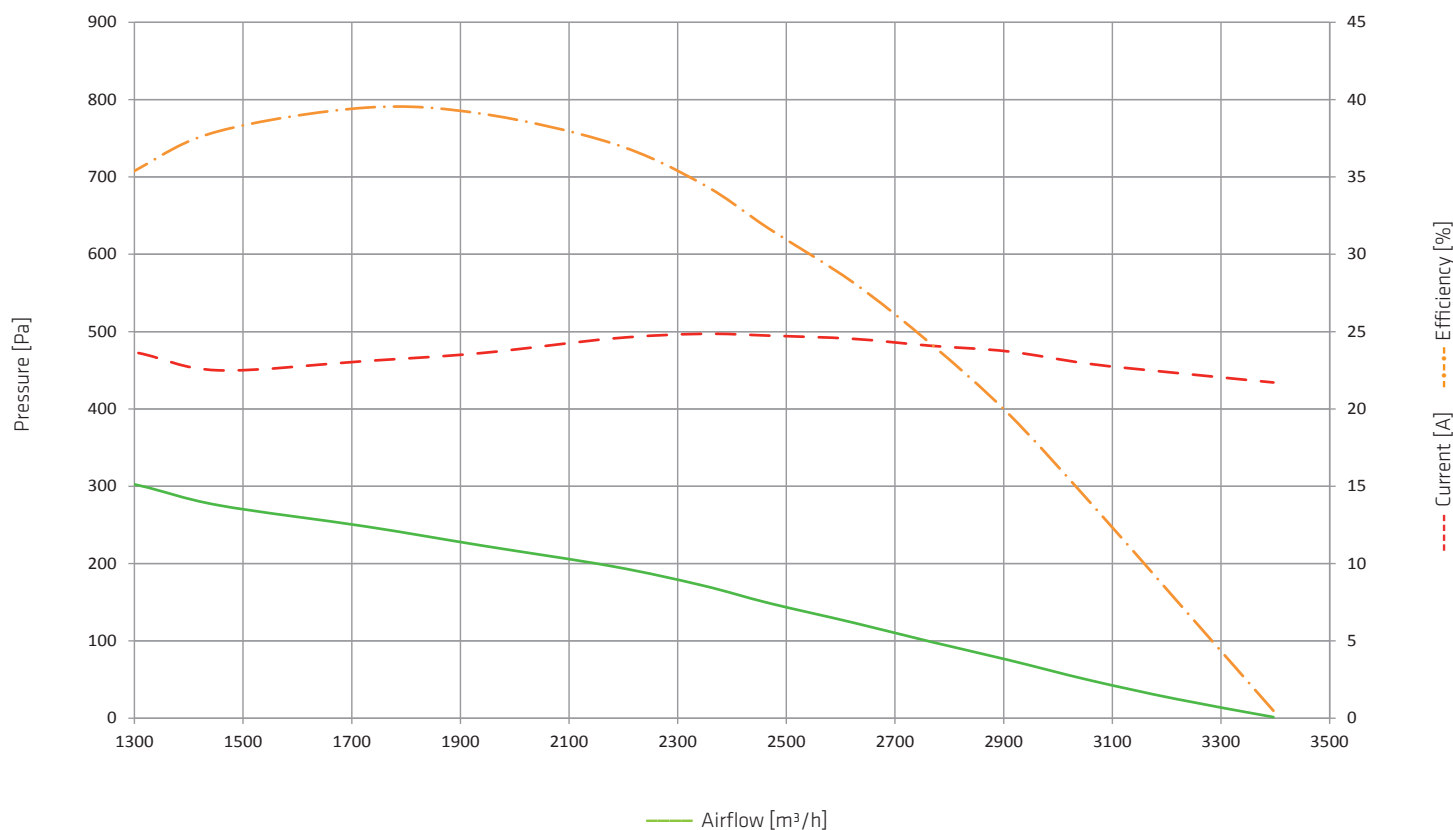
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7158-3035	7158-3035	7158-3031-90	7158-3031-90
Pin p/n	7114-3250	7114-3250	7114-4103-02	7114-4103-02
Section [mm²]	6.0	6.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	2.800
Min fan speed	rpm	900
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	74±0.5
Weight	kg	2.4±2%
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +120
Speed derating threshold	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	11
Load dump protection (Pulse 5b) - Pulse peak voltage (U ₅ *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



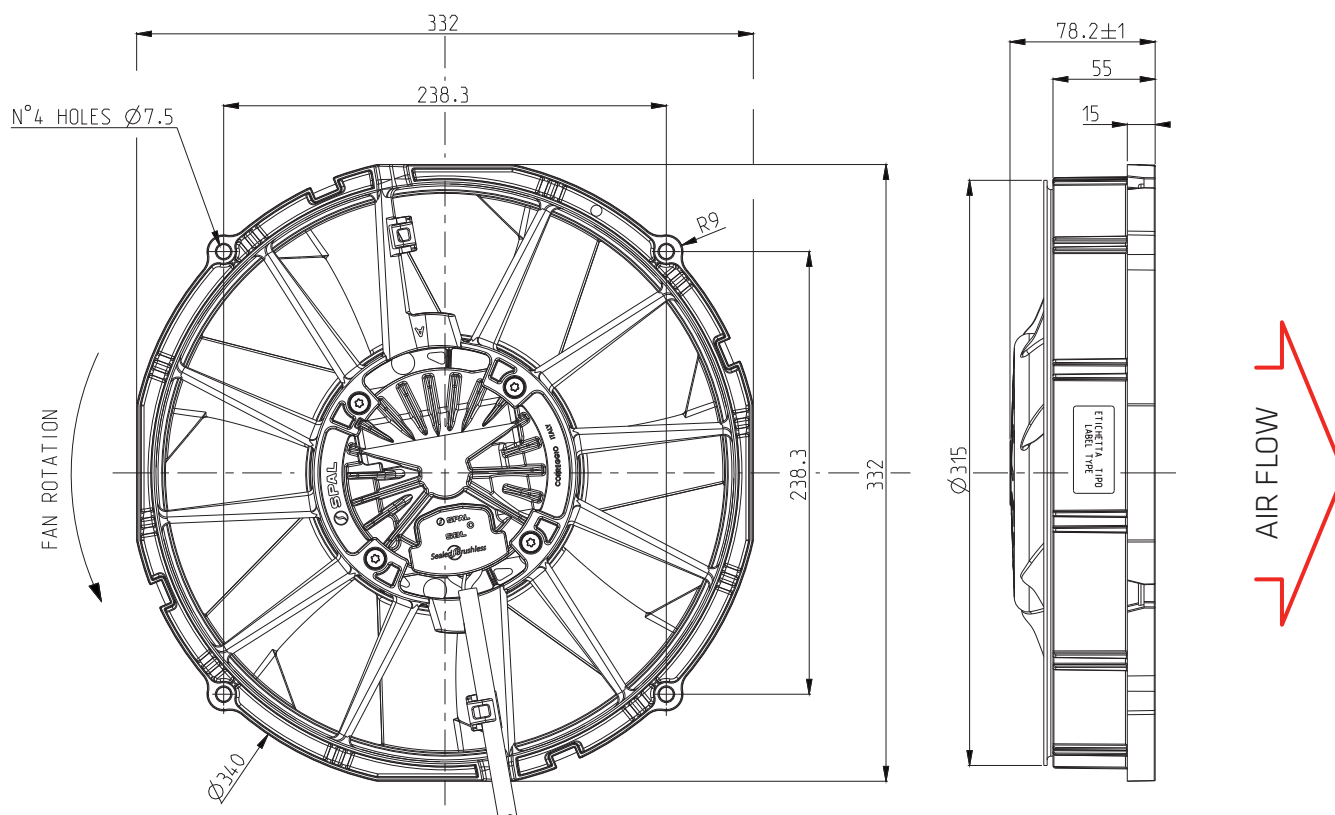
Ø 305 mm - 12"

VA113-ABL511P/R/A/N-94A



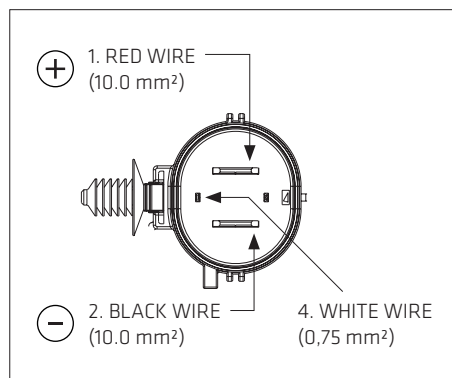
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 95 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID (USCAR-2 compliant) - Part number: 7282-8496-30



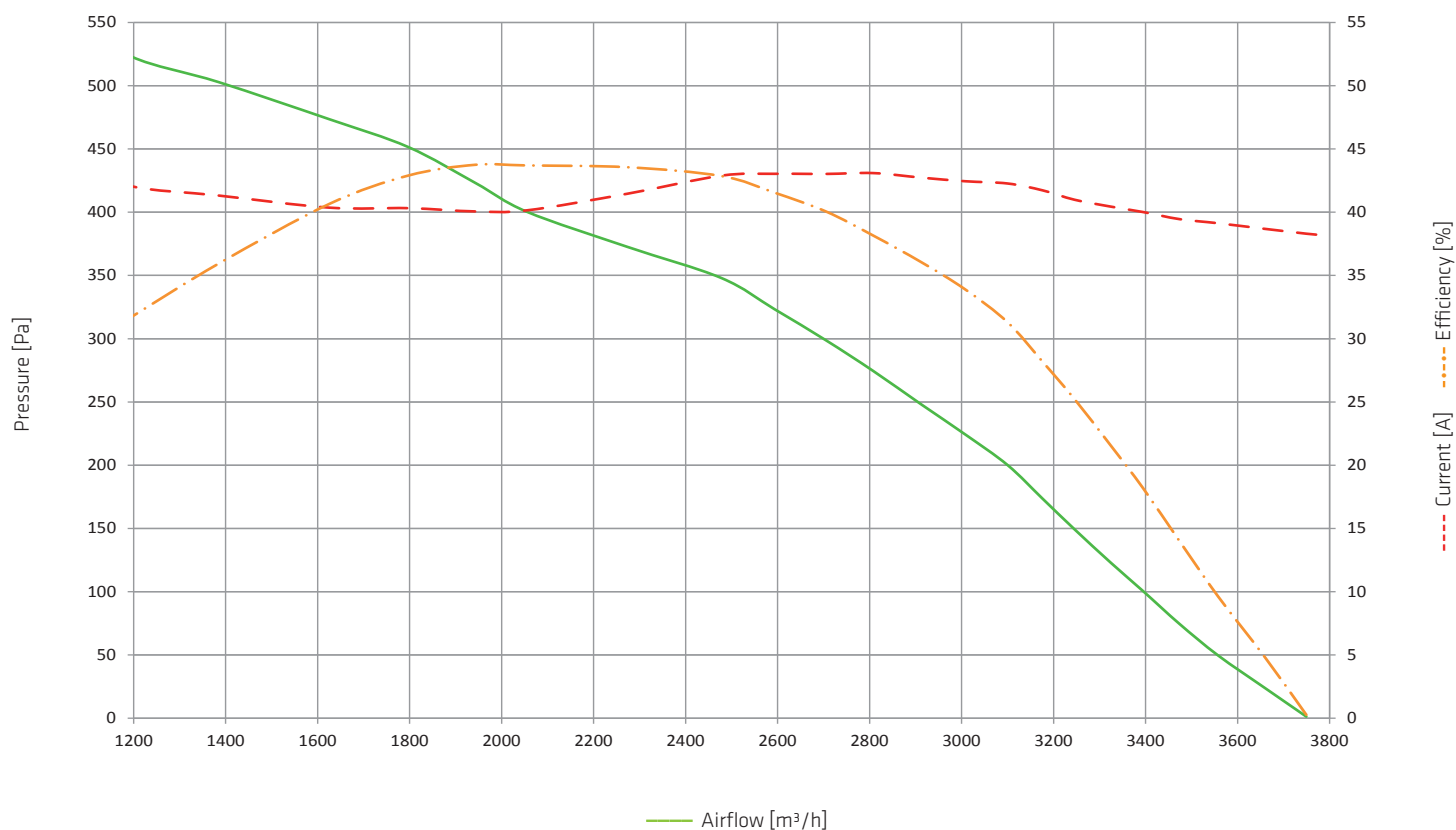
Identification (*)	+D	-D	-	PWM* / E*
Pin number	1	2	-	4
Wire Color	RED	BLACK	-	WHITE
Sealing p/n	7158-3036-70	7158-3036-70	-	7158-3031-90
Pin p/n	7114-3273-02	7114-3273-02	-	7114-4103-02
Section [mm²]	10.0	10.0	-	0,75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	4.100
Min fan speed	rpm	1.350
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	81±0.5
Weight	kg	2.6
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +95
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	15
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



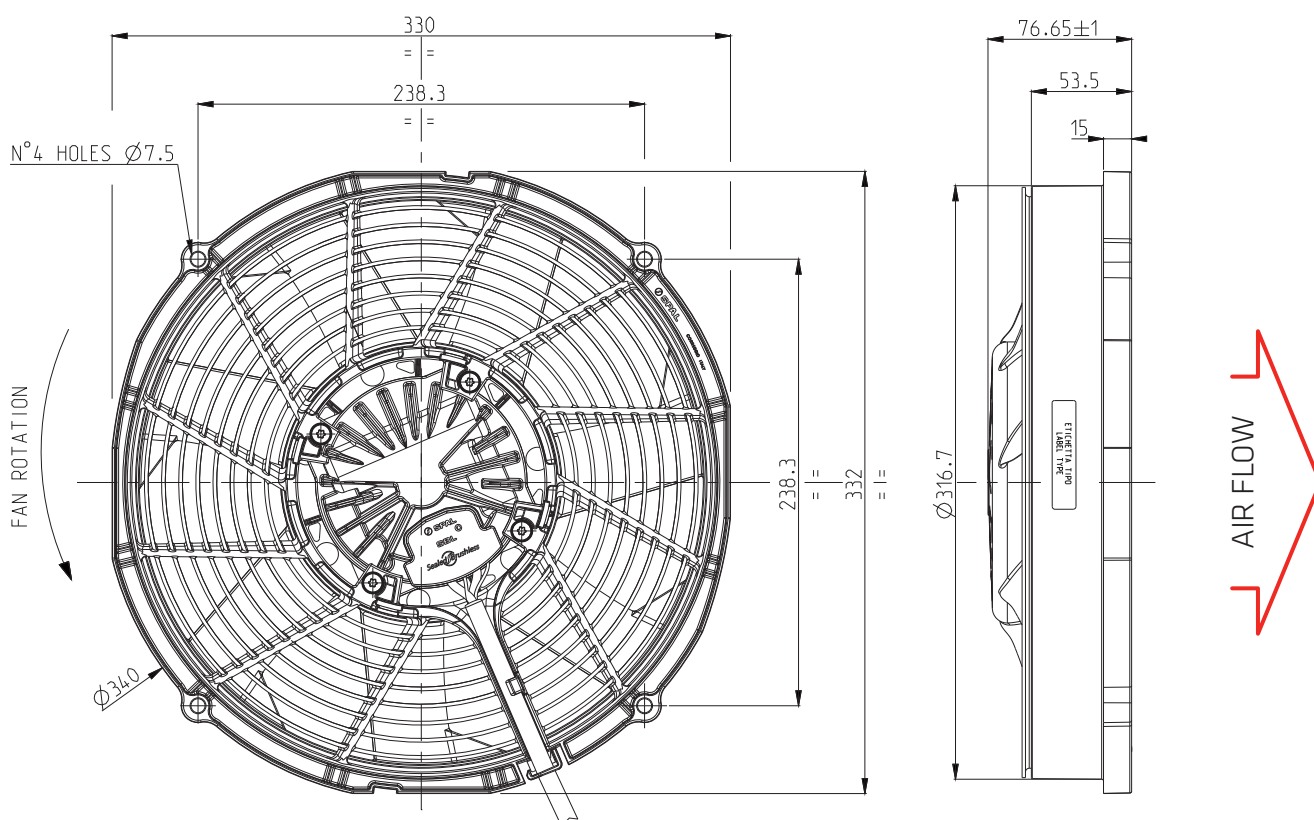
Ø 305 mm - 12"

VA90-ABL320P/R/A/N-94A



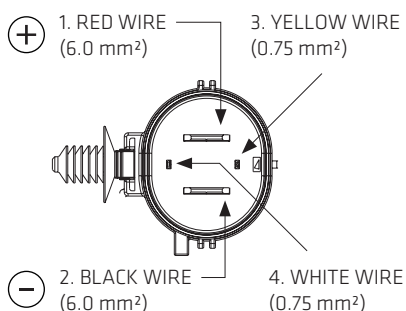
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 115 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7158-3035	7158-3035	7158-3031-90	7158-3031-90
Pin p/n	7114-3250	7114-3250	7114-4103-02	7114-4103-02
Section [mm²]	6.0	6.0	0.75	0.75

Note: Never handle the fan module via the cable harness

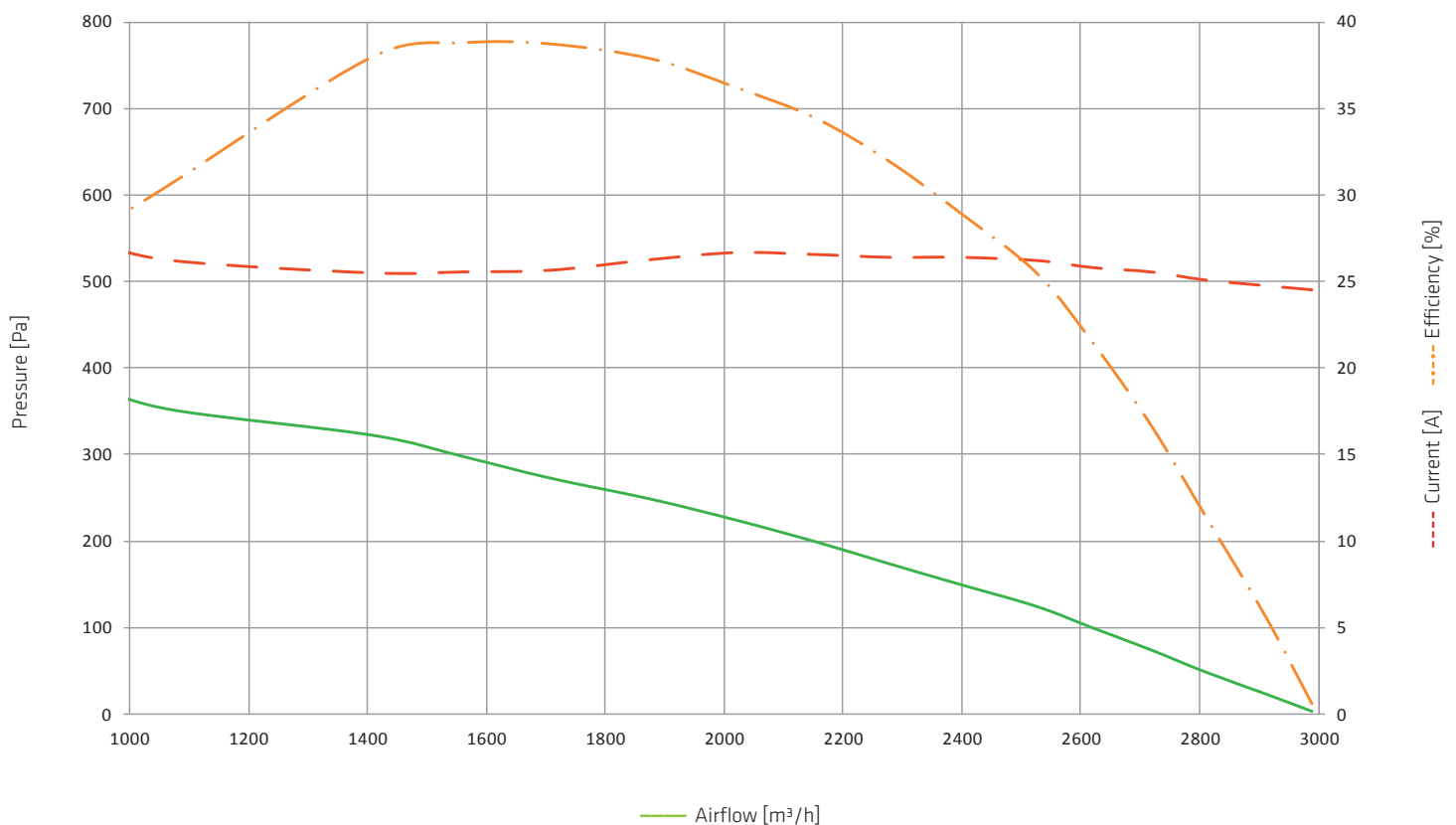
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	3.500
Min fan speed	rpm	900
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	74±0.5
Weight	kg	2.4
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +115
Max operating ambient temperature at max fan speed	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	10
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



Air density 1.17 kg/m³ - Test bench compliant to ANSI AMCA 210 - TAMB = 20 °C ± 5 °C - UB = 13.0 V at the Drive connector

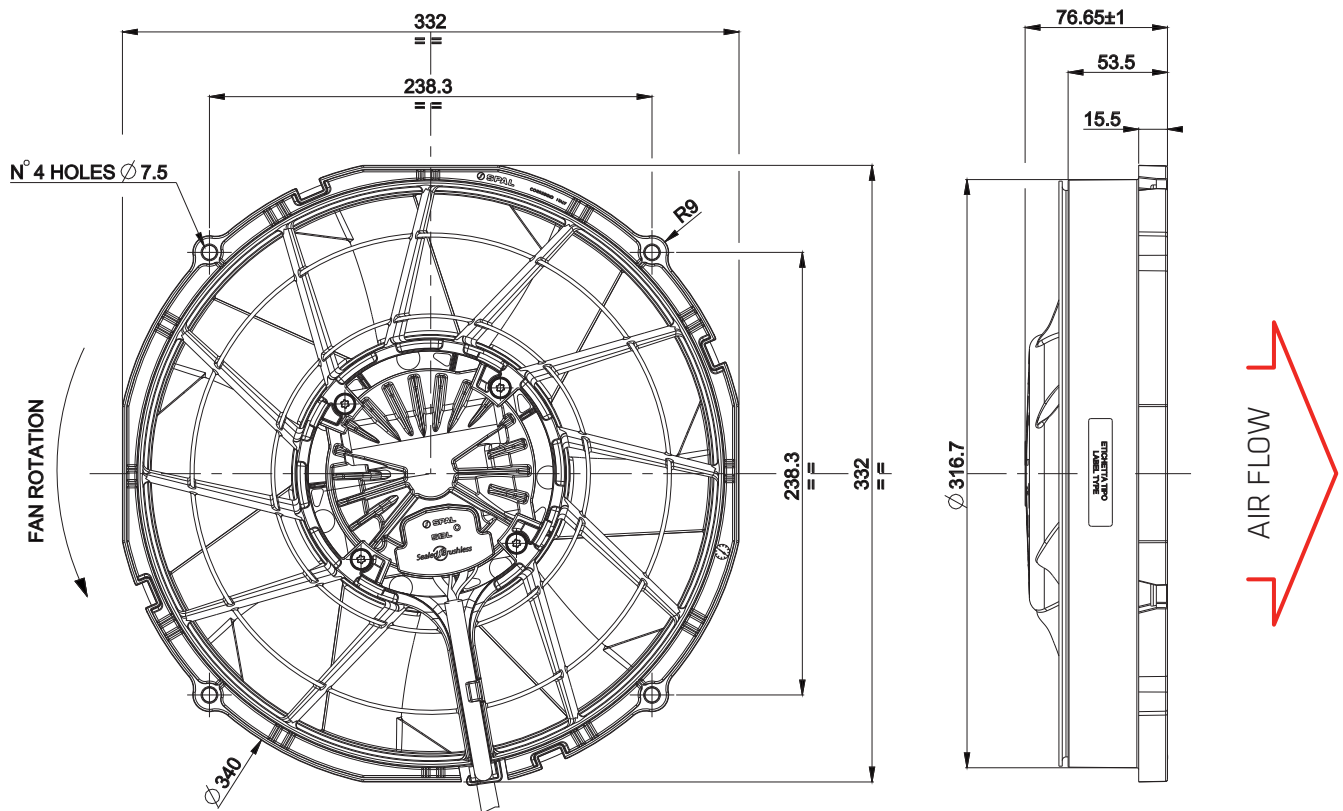
Ø 305 mm - 12"

VA89-ABL320P/R/A/N-94A



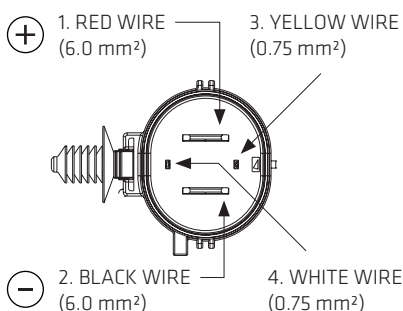
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 115 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7158-3035	7158-3035	7158-3031-90	7158-3031-90
Pin p/n	7114-3250	7114-3250	7114-4103-02	7114-4103-02
Section [mm²]	6.0	6.0	0.75	0.75

Note: Never handle the fan module via the cable harness

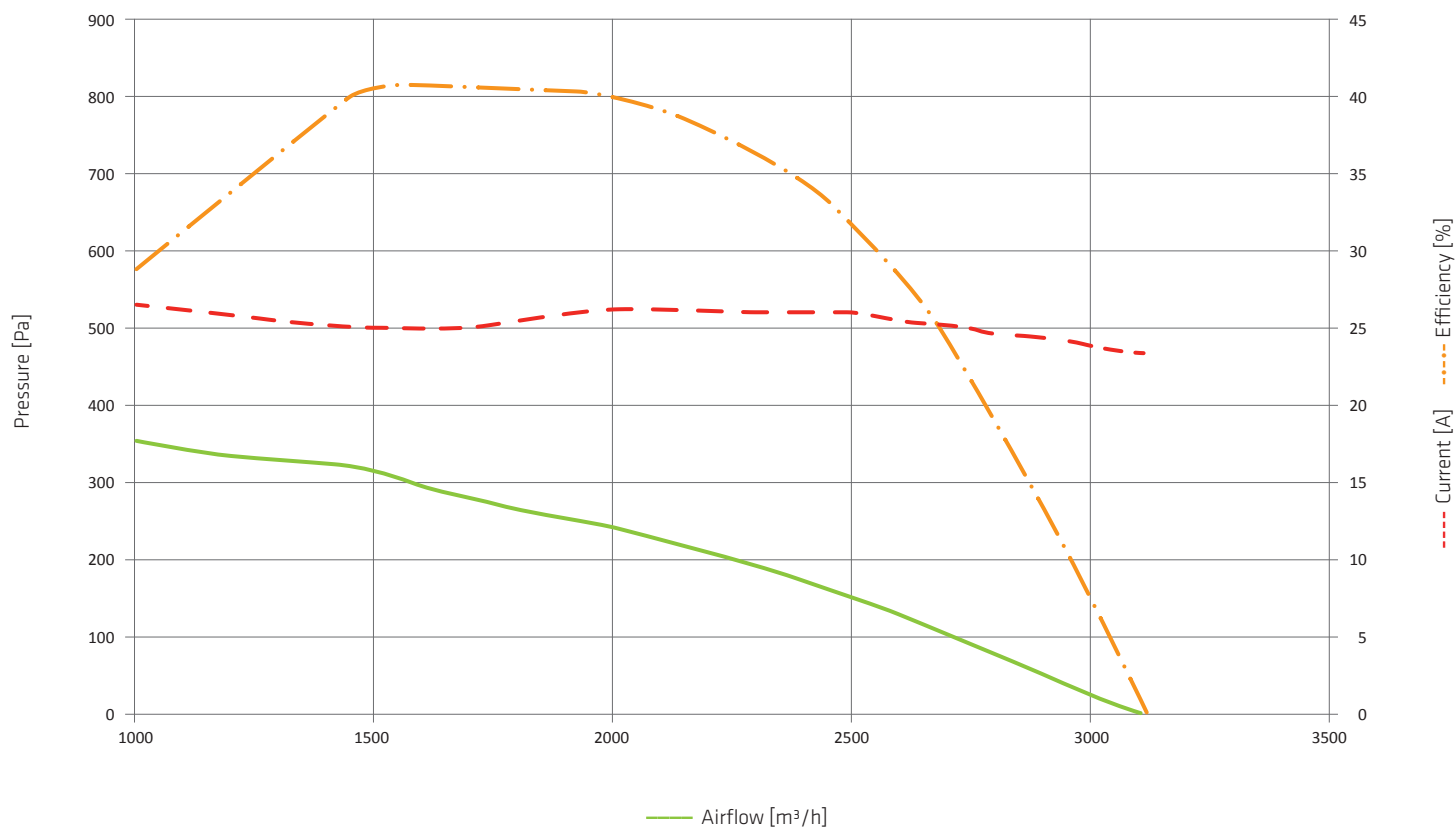
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	3.500
Min fan speed	rpm	900
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	76±0.5
Weight	kg	2.5
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +115
Max operating ambient temperature at max fan speed	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	10
Load dump protection (Pulse 5b) Pulse peak voltage (U ₅ *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



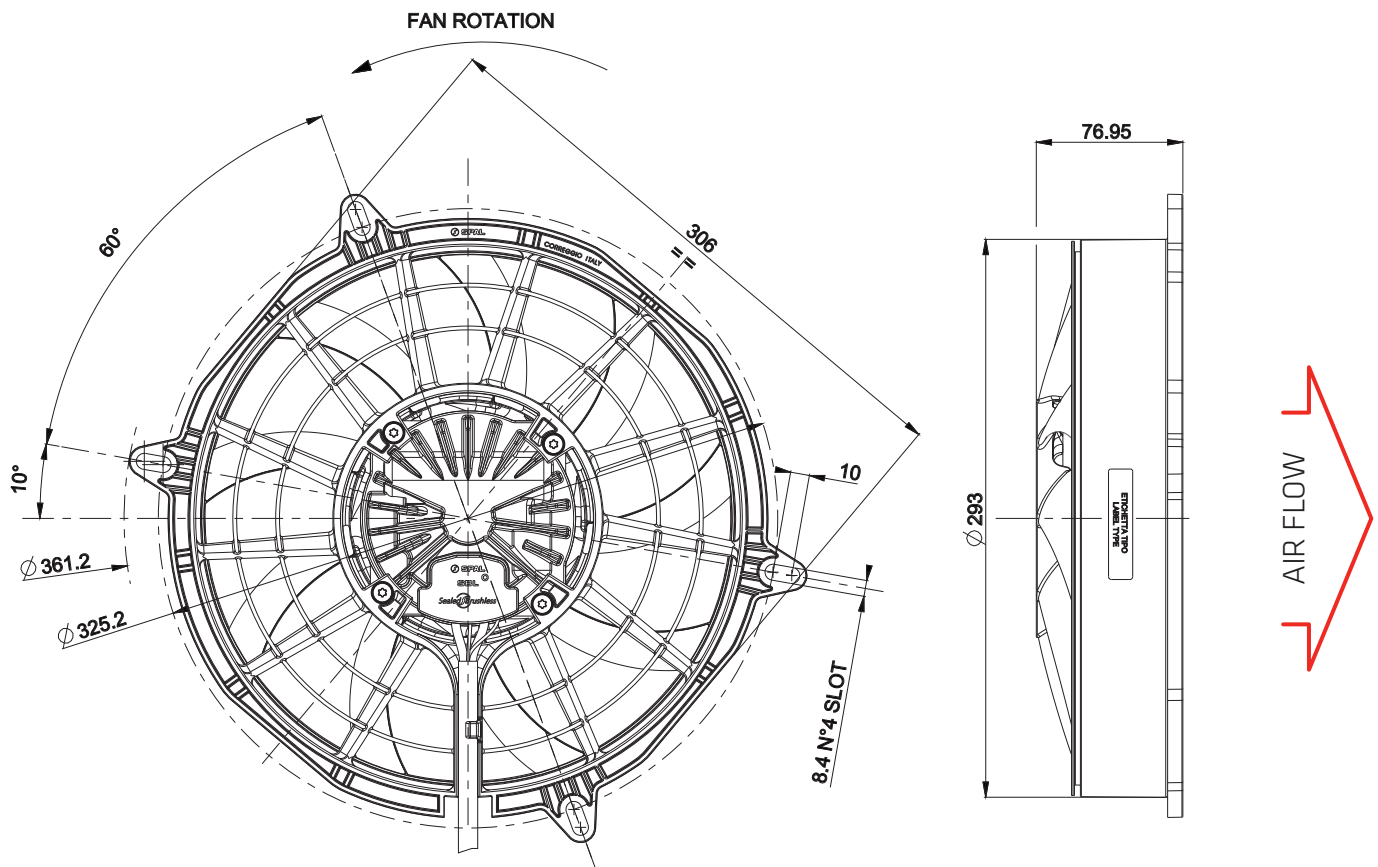
Ø 280 mm - 11"

VA99-ABL315P/R/A/N-101A/SH



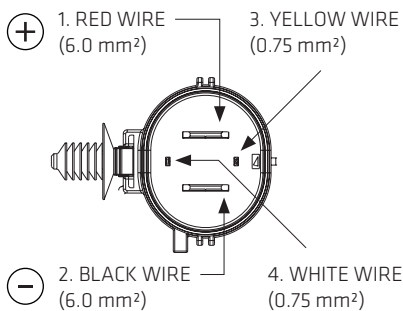
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 115 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7158-3035	7158-3035	7158-3031-90	7158-3031-90
Pin p/n	7114-3250	7114-3250	7114-4103-02	7114-4103-02
Section [mm²]	6.0	6.0	0.75	0.75

Note: Never handle the fan module via the cable harness

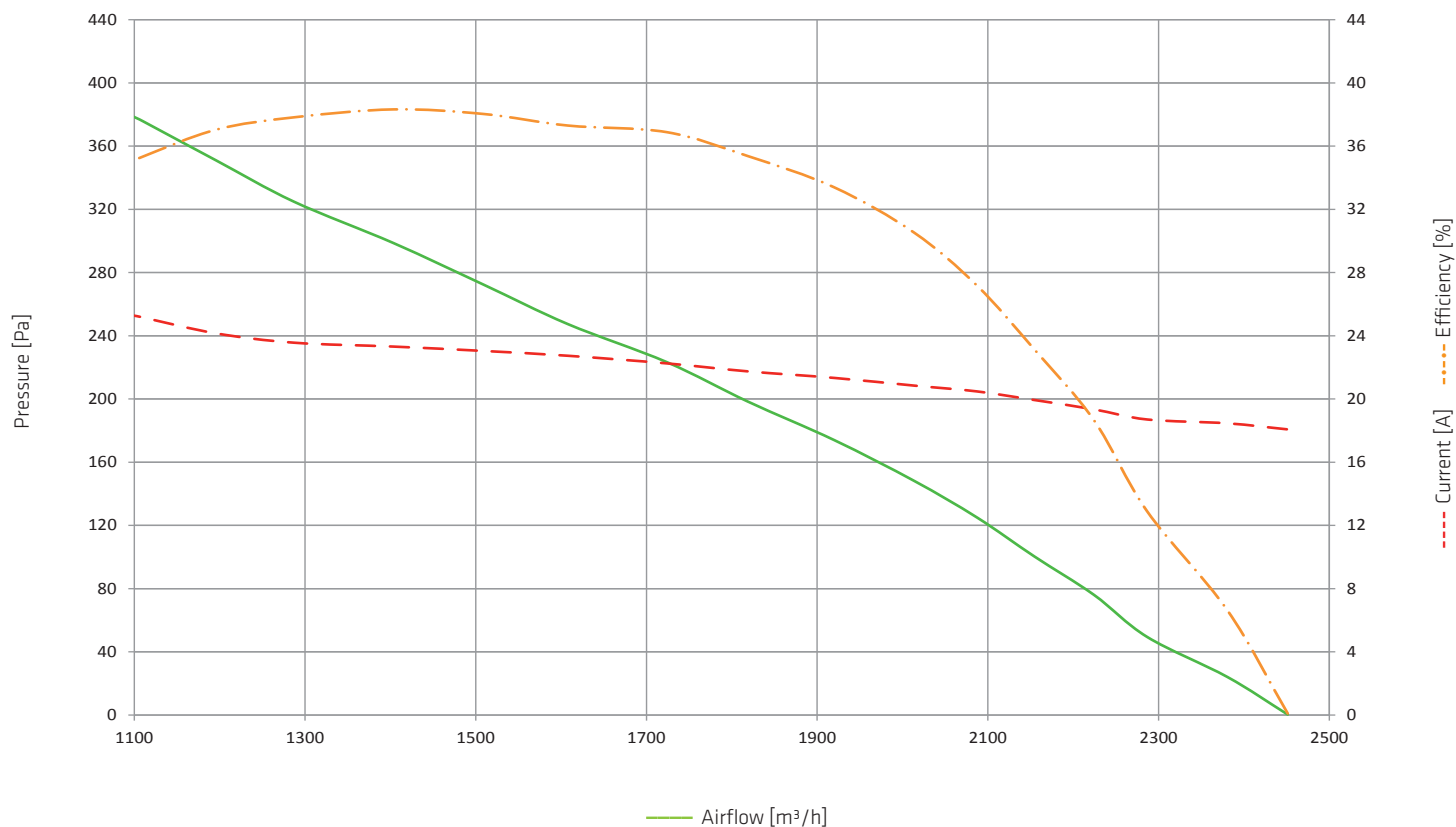
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	3.800
Min fan speed	rpm	950
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	74±0.5 (2)
Weight	kg	2.5
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +115
Max operating ambient temperature at max fan speed	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	15
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating. (2) Free flow noise value is for reference only and it's not representative for performance on the application due to the effect of specific radiator/restrictions.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



Air density 1.18 kg/m³ - Test bench compliant to ANSI AMCA 210 - TAMB = 20 °C ± 5 °C - UB = 13.0 V at the Drive connector

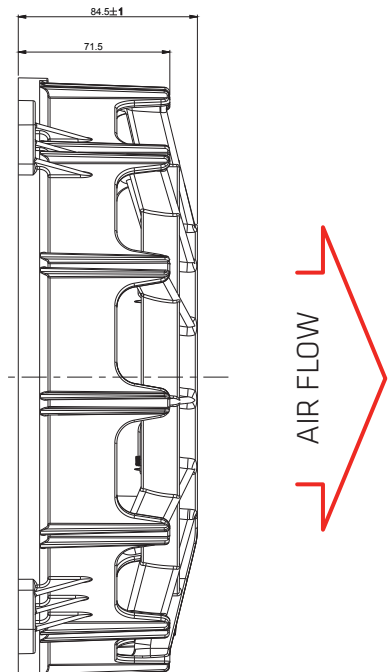
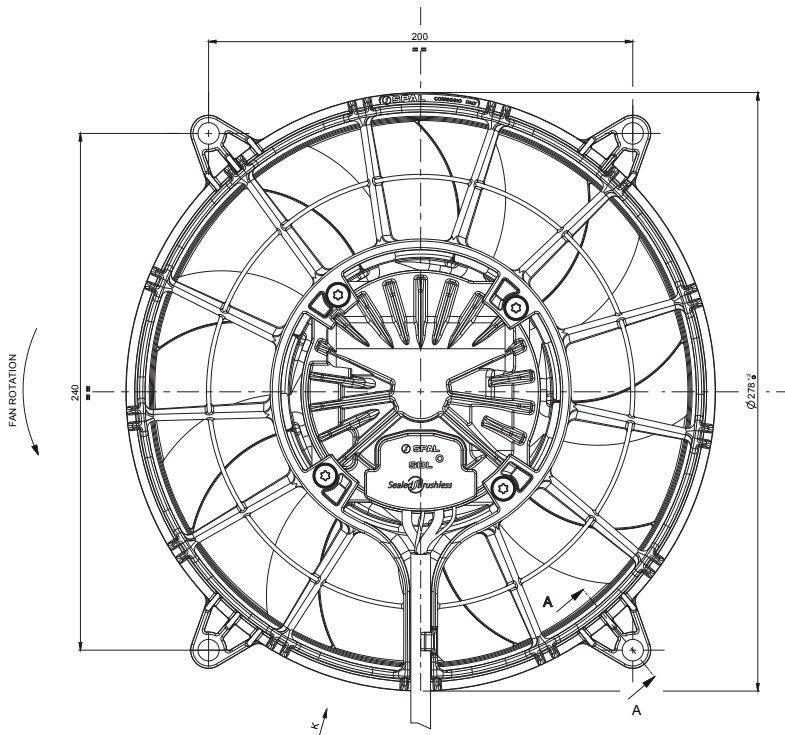
Ø 255 mm - 10"

VA109-ABL321P/R/A/N-109A/SH



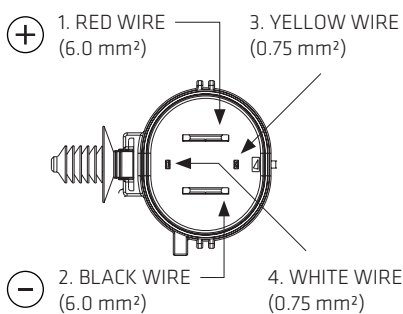
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 115 °C
Mounting Torque	5 Nm (+1/0) - Use M8 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



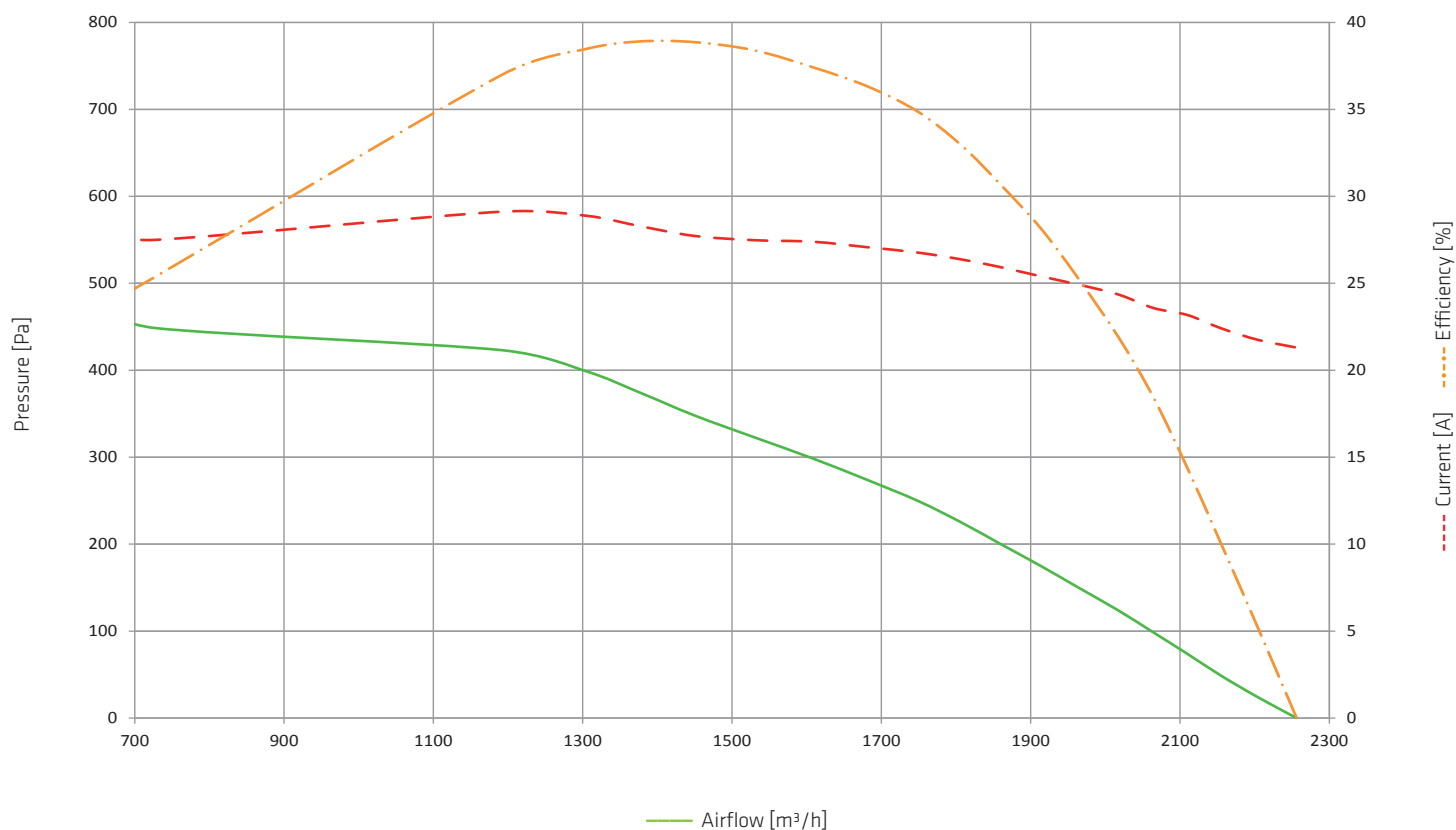
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7158-3035	7158-3035	7158-3031-90	7158-3031-90
Pin p/n	7114-3250	7114-3250	7114-4103-02	7114-4103-02
Section [mm²]	6.0	6.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	4.000
Min fan speed	rpm	1.000
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	76±0.5
Weight	kg	2.1
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +115
Max operating ambient temperature at max fan speed	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	14
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



Air density 1.19 kg/m³ - Test bench compliant to ANSI AMCA 210 - TAMB = 20 °C ± 5 °C - UB = 13.0 V at the Drive connector

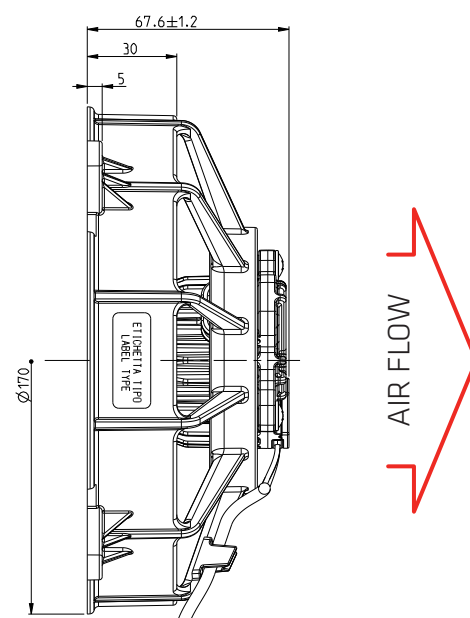
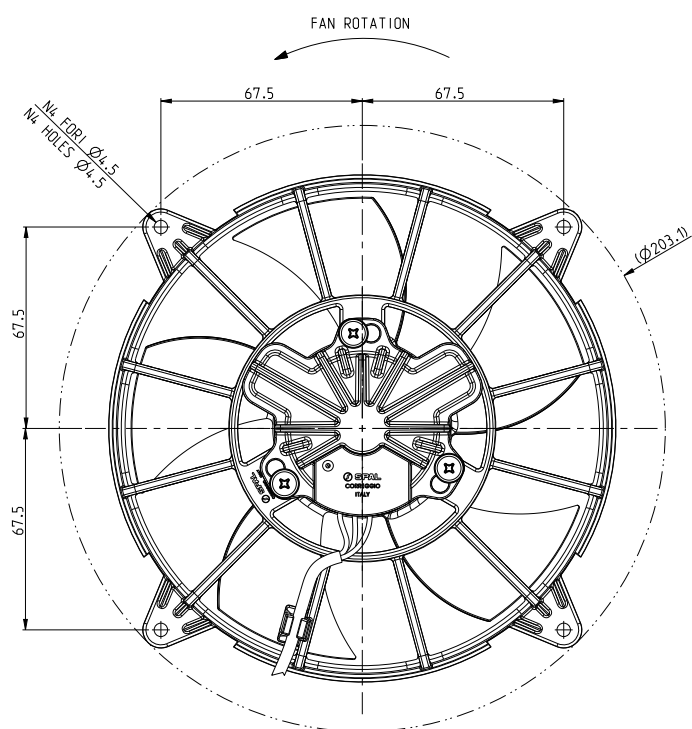
Ø 155 mm - 6"

VA193-ABL40.5/N-117A/SH



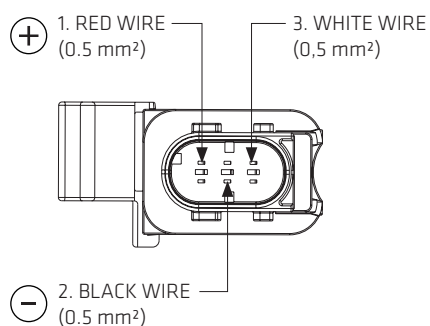
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M4 screws for fixing



all dimensions are expressed in mm

CONNECTOR: AMP SERIES HDSCS GRUPP A - Part number : 1-1670730-1



Identification (*)	+D	-D	PWM*/E*	-
Pin number	1	2	3	-
Wire Color	RED	BLACK	WHITE	-
Sealing p/n	963530-1	963530-1	963530-1	-
Pin p/n	964269-2	964269-2	964269-2	-
Section [mm²]	0.5	0.5	0.5	-

Note: Never handle the fan module via the cable harness

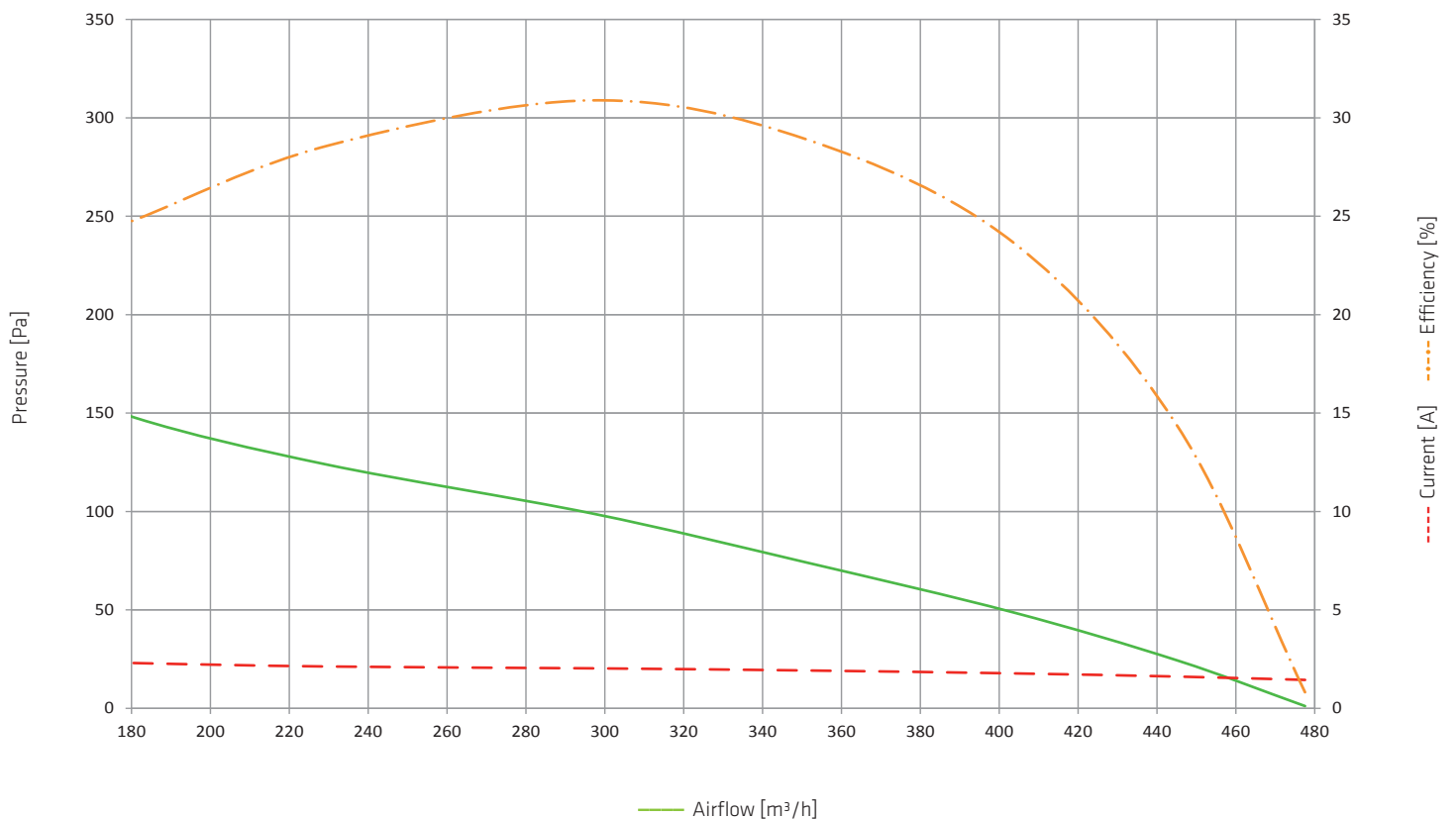
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	4.500
Min fan speed	rpm	1.100
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	57±0.5
Weight	kg	0.48
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	9
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection > No reverse polarity protection		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O

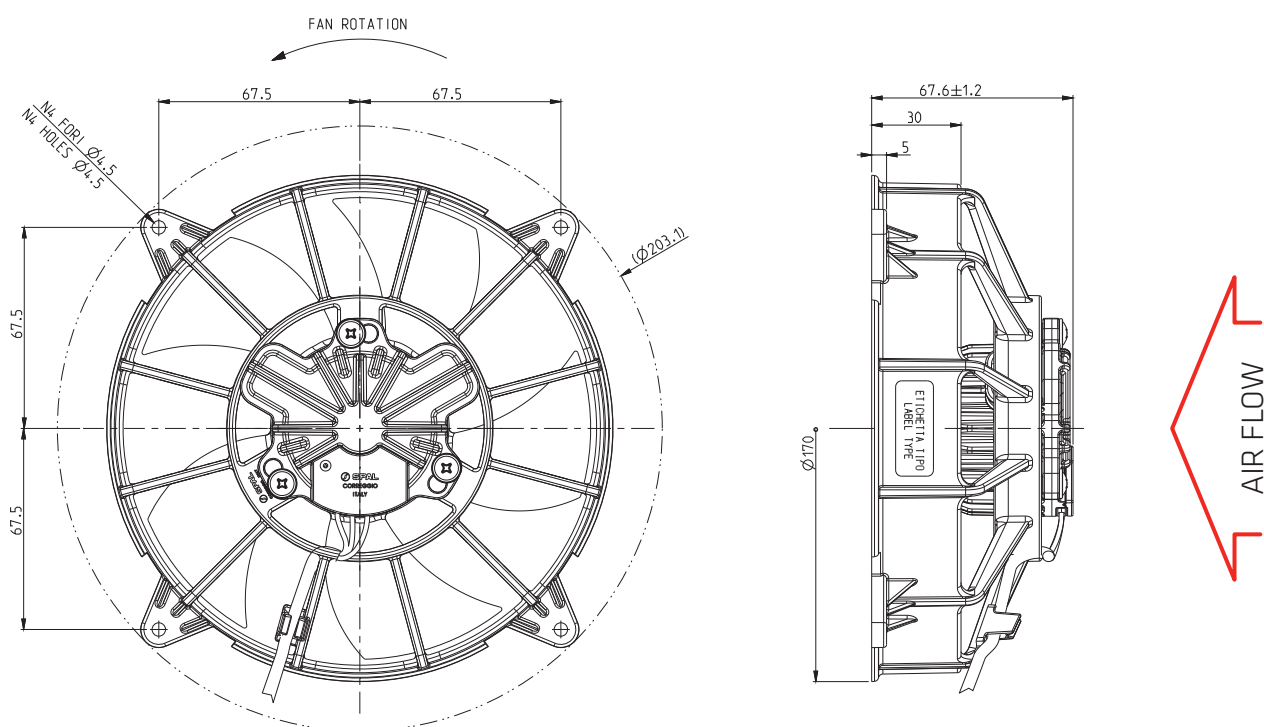


VA193-ABL40.3/N-125S/SH



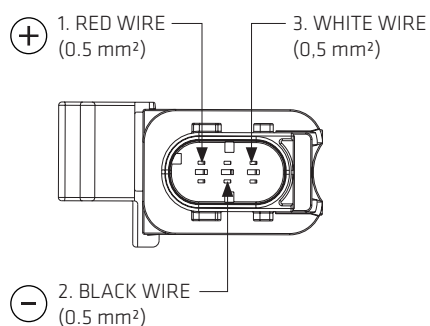
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M4 screws for fixing



all dimensions are expressed in mm

CONNECTOR: AMP SERIES HDSCS GRUPP A - Part number : 1-1670730-1



Identification (*)	+D	-D	PWM*/E*	-
Pin number	1	2	3	-
Wire Color	RED	BLACK	WHITE	-
Sealing p/n	963530-1	963530-1	963530-1	-
Pin p/n	964269-2	964269-2	964269-2	-
Section [mm²]	0.5	0.5	0.5	-

Note: Never handle the fan module via the cable harness

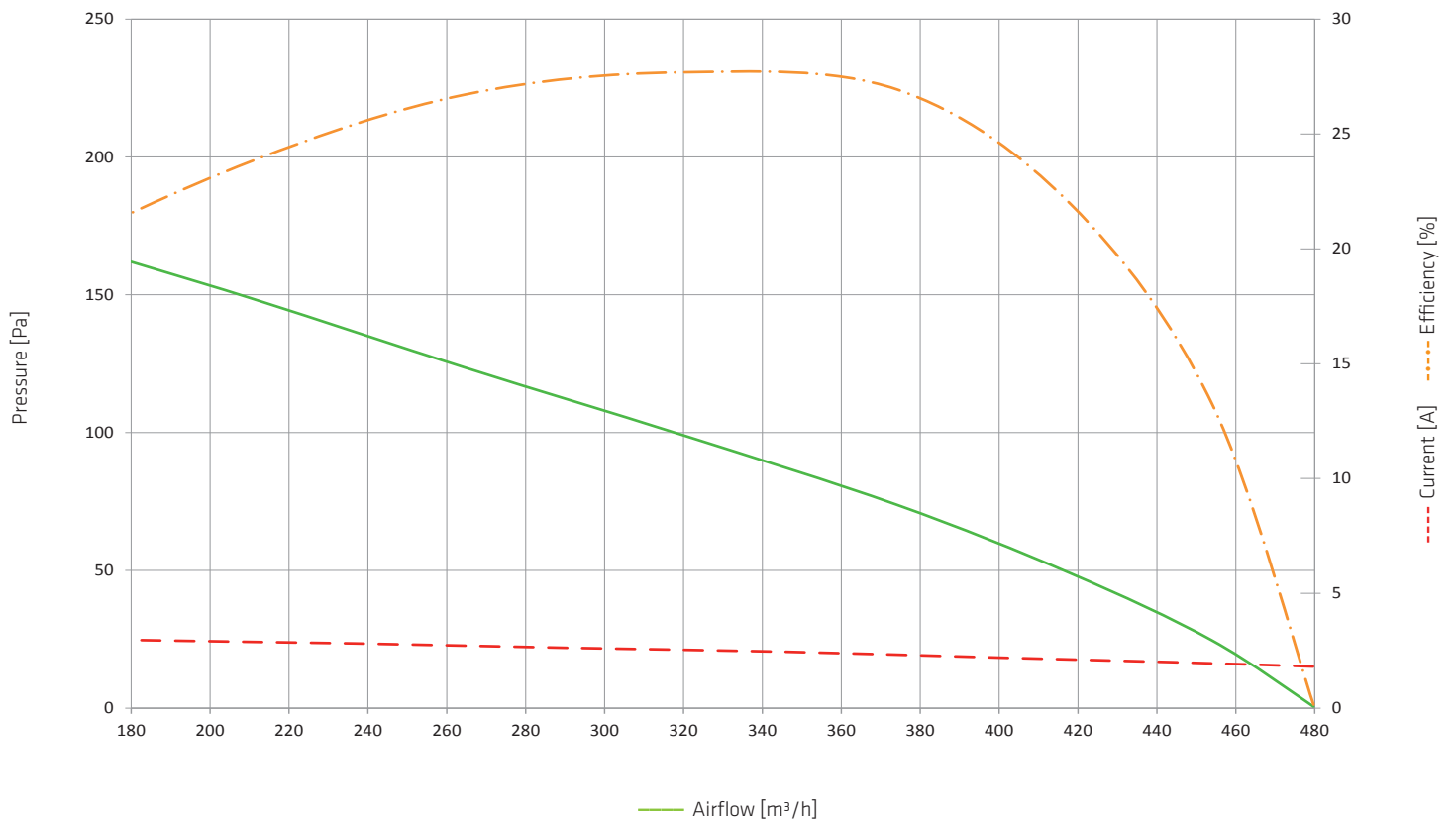
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	4.500
Min fan speed	rpm	1.100
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	60.9±0.5
Weight	kg	0.48
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+110 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	9
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection > No reverse polarity protection		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O

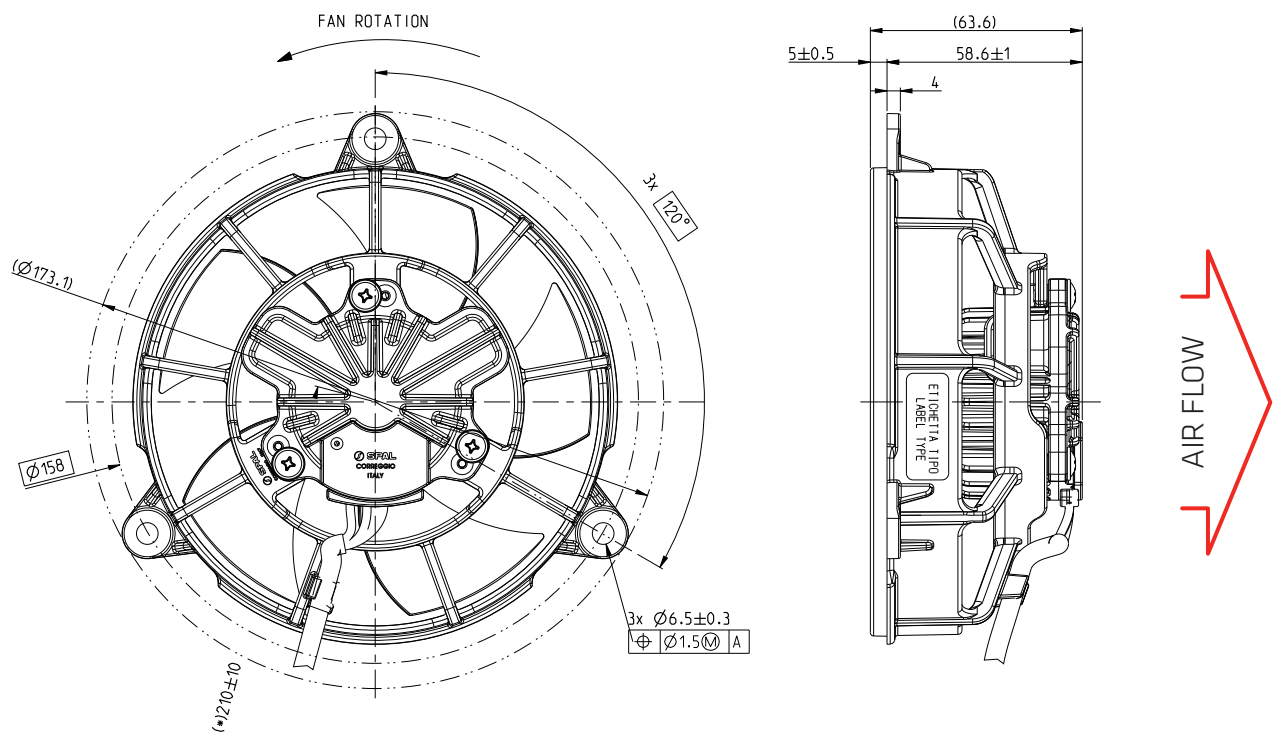


VA195-ABL40.4/N-107A/SH



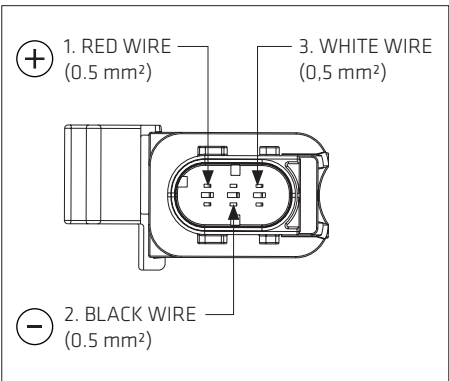
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M5 screws for fixing



all dimensions are expressed in mm

CONNECTOR: AMP SERIES HDSCS GRUPP A - Part number : 1-1670730-1



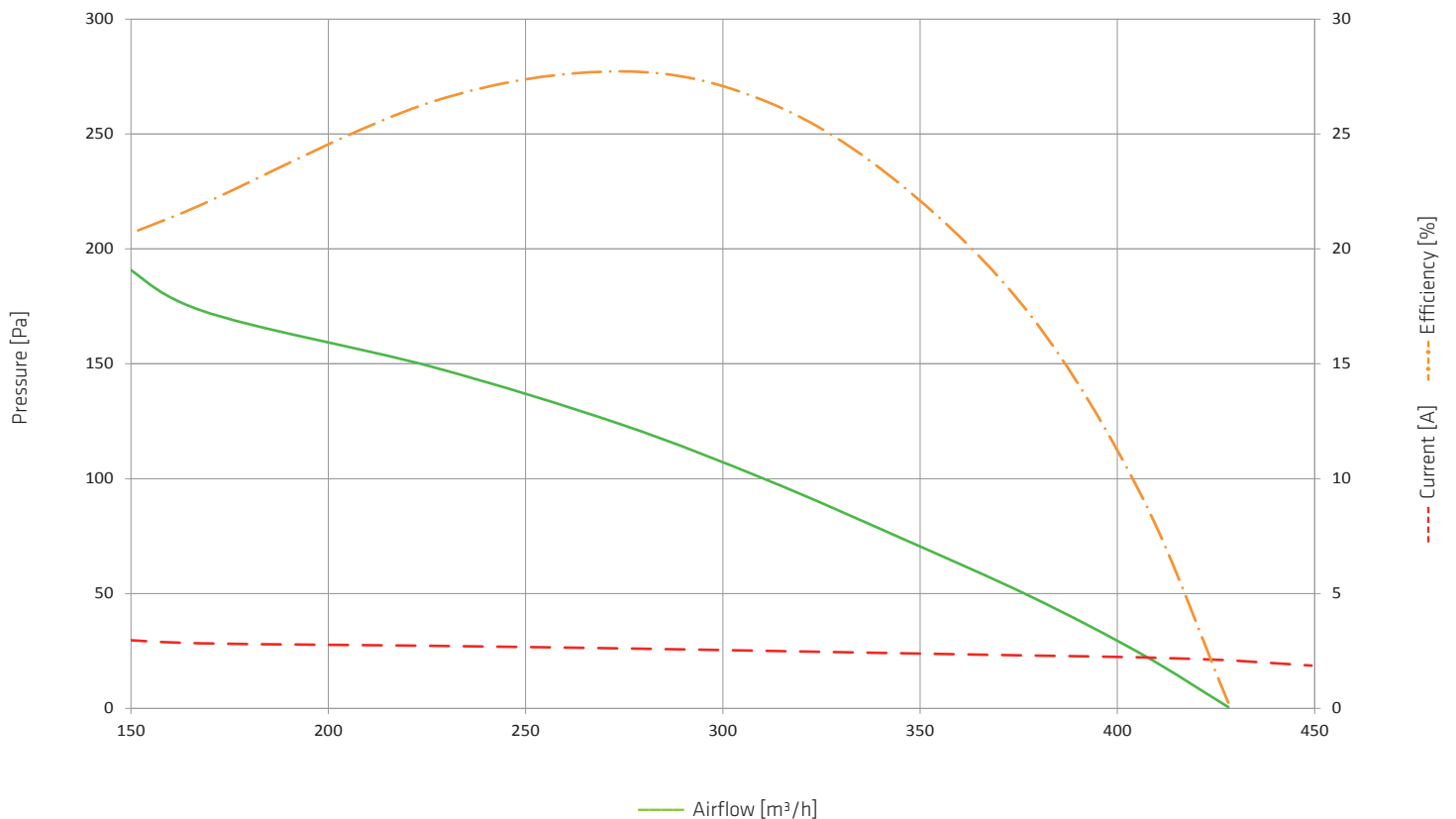
Identification (*)	+D	-D	PWM*/E*	-
Pin number	1	2	3	-
Wire Color	RED	BLACK	WHITE	-
Sealing p/n	963530-1	963530-1	963530-1	-
Pin p/n	964269-2	964269-2	964269-2	-
Section [mm²]	0.5	0.5	0.5	-
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	5.250
Min fan speed	rpm	1.300
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	60±0.5
Weight	kg	0.46
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	8
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	35
Reverse polarity protection > No reverse polarity protection		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



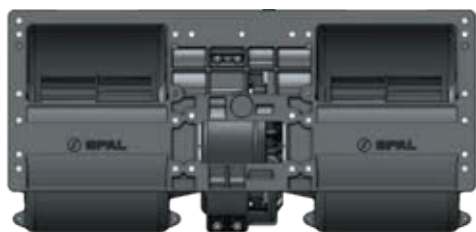




**HIGH-PERFORMANCE SEALED BRUSHLESS MOTOR
CENTRIFUGAL BLOWERS**

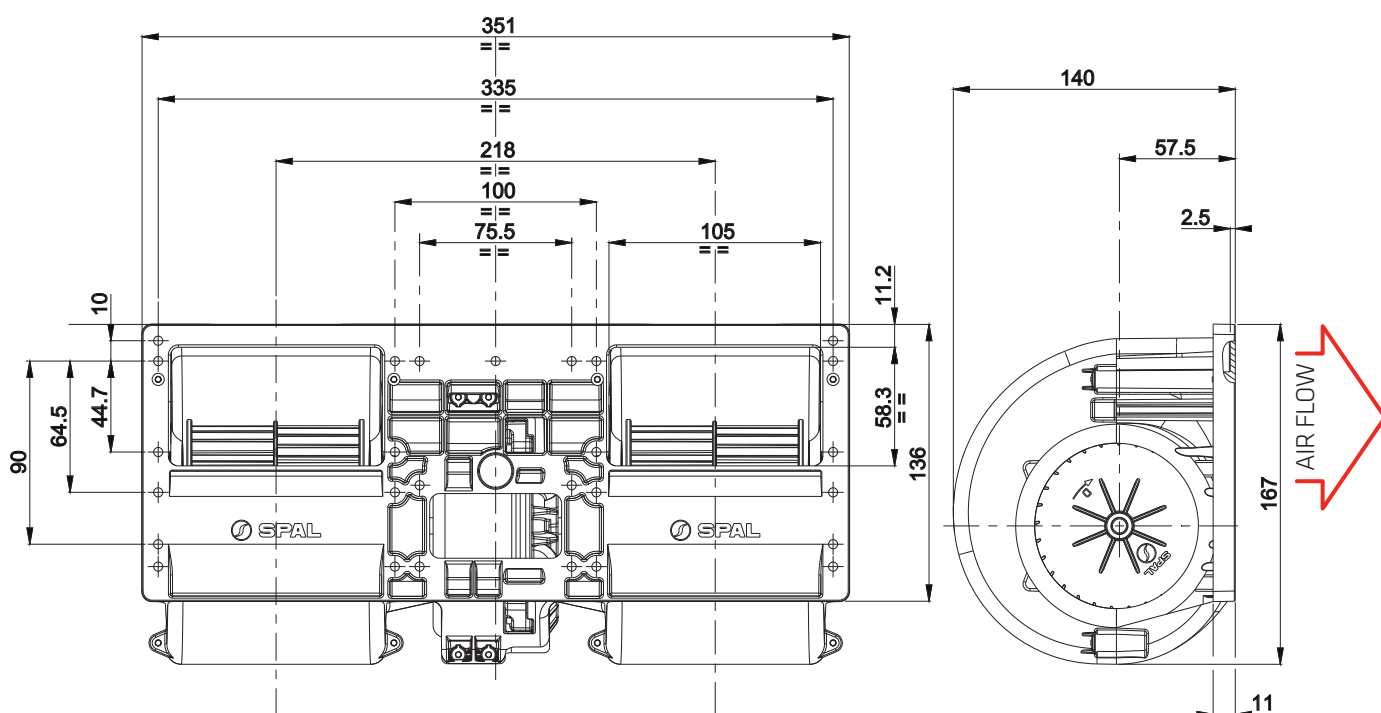
12V

020-ABL313P/R/N-95



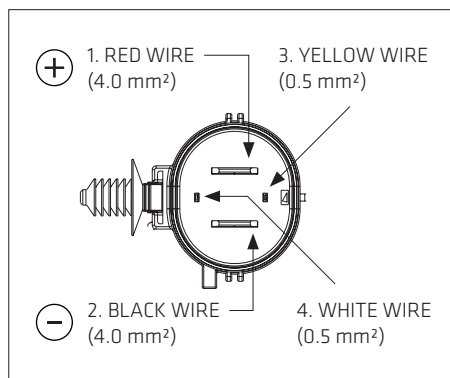
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 95 °C
Mounting Torque	3 Nm (+1/0) - Use M4 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90

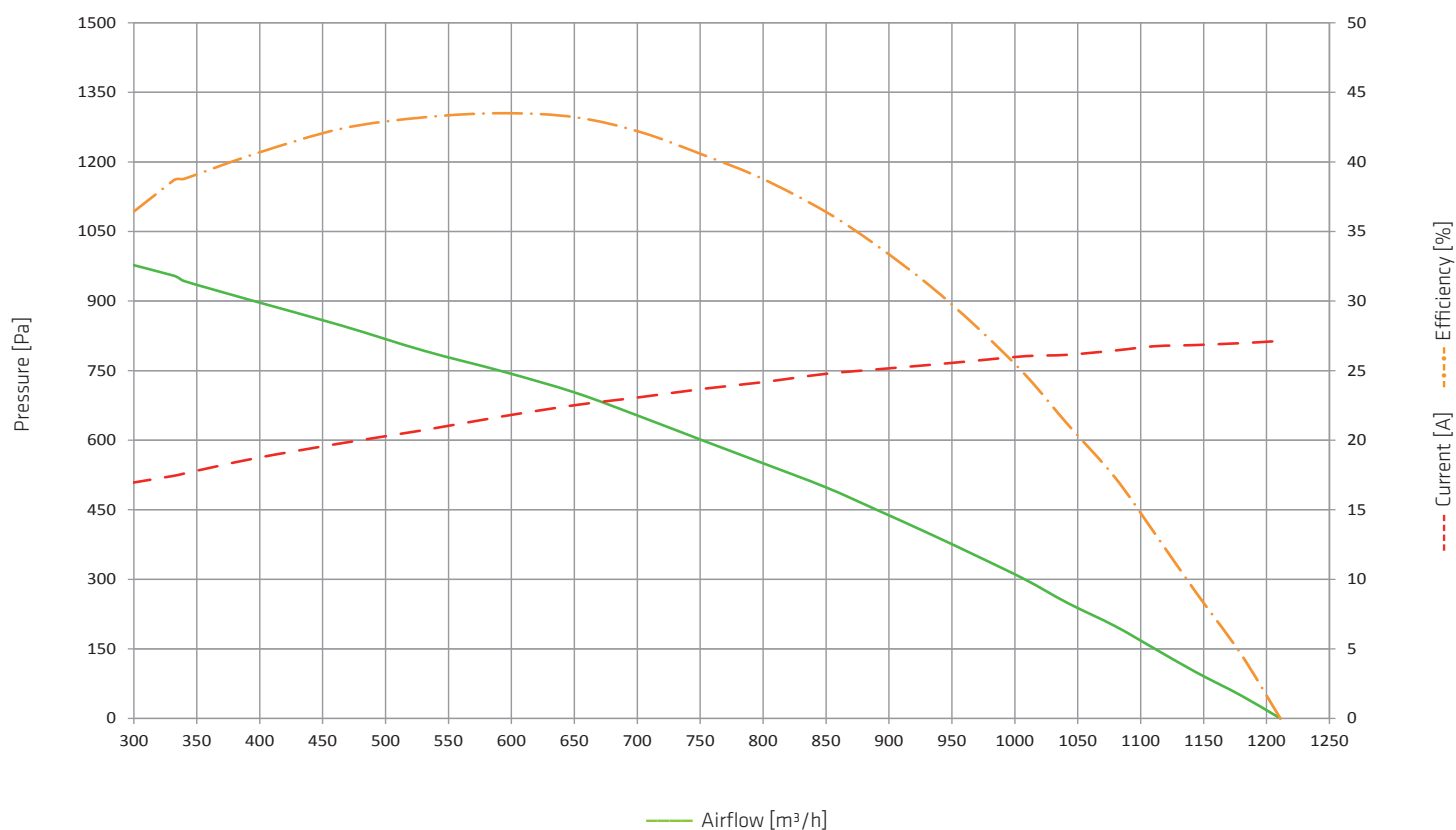


Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	7158-3030-50	7158-3030-50
Pin p/n	7114-3251	7114-3251	7114-4102-02	7114-4102-02
Section [mm²]	4.0	4.0	0.5	0.5
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	3.680
Min fan speed	rpm	1.100
Free flow sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	73±0.5 (2)
Weight	kg	2.3
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +95
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	13
Load dump protection (Pulse 5b) - Pulse peak voltage (Us*) - ISO16750-2:2010	V	35
Reverse polarity protection > No reverse polarity protection		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating. (2) Free flow noise value is for reference only and it's not representative for performance on the application due to the effect of specific radiator/restrictions.		

BLOWER PERFORMANCE CURVE

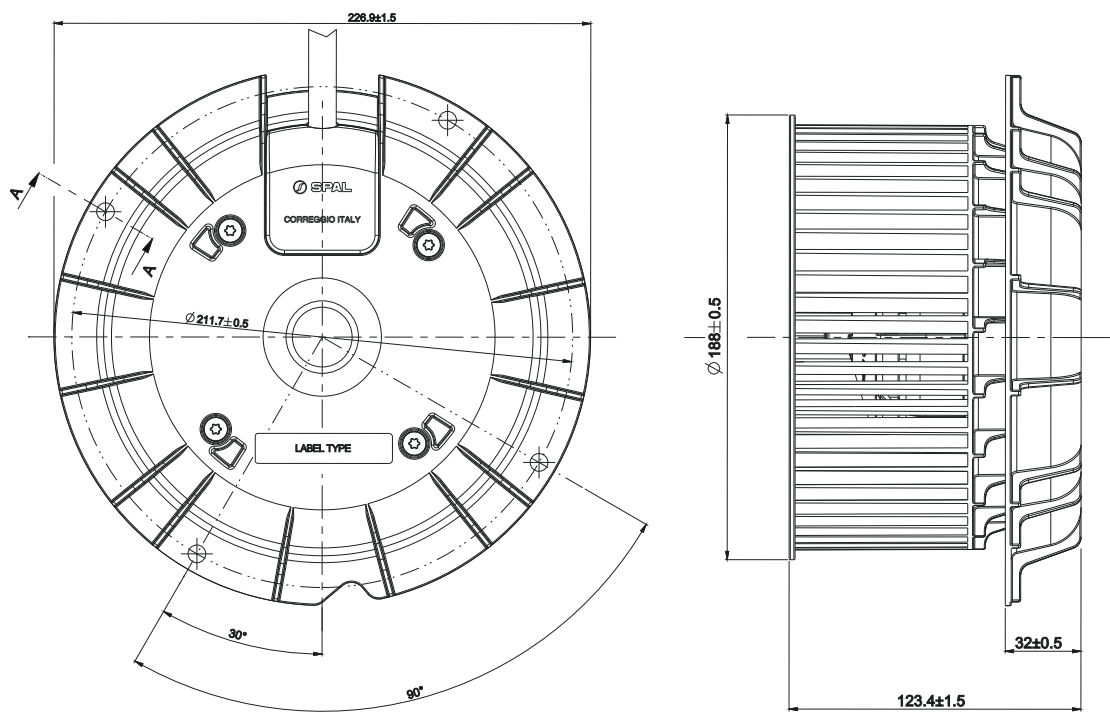
Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂OAir density 1.17 kg/m³ - Test bench compliant to ANSI AMCA 210 - TAMB = 20 °C ± 5 °C - UB = 13.0 V at the Drive connector

ABL359P/R/N-120S



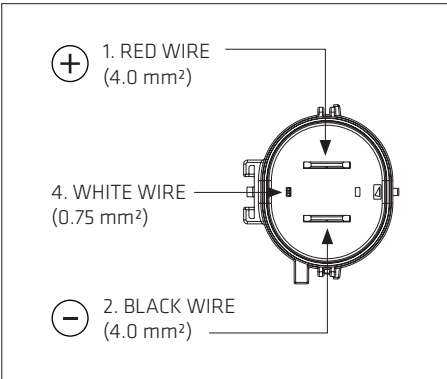
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	13V dc
Working Temperature	-40 + 95 °C
Mounting Torque	3 Nm (+1/0) - Use M4 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8496-30

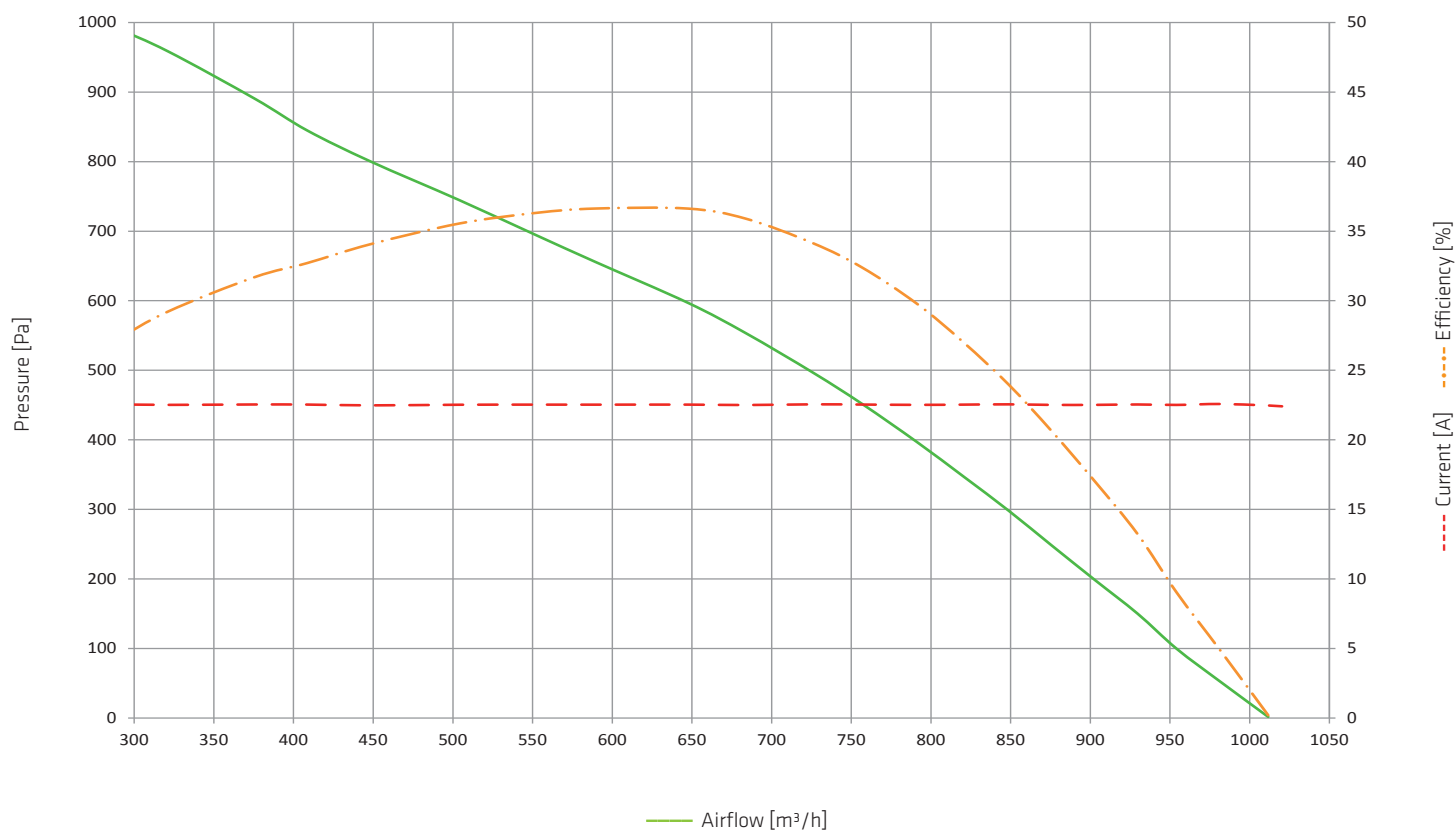


Identification	+D	-D	-	PWM* / E*
Pin number	1	2	-	4
Wire Color	RED	BLACK	-	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	-	7158-3031-90
Pin p/n	7114-3251	7114-3251	-	7114-4103-02
Section [mm²]	4.0	4.0	-	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

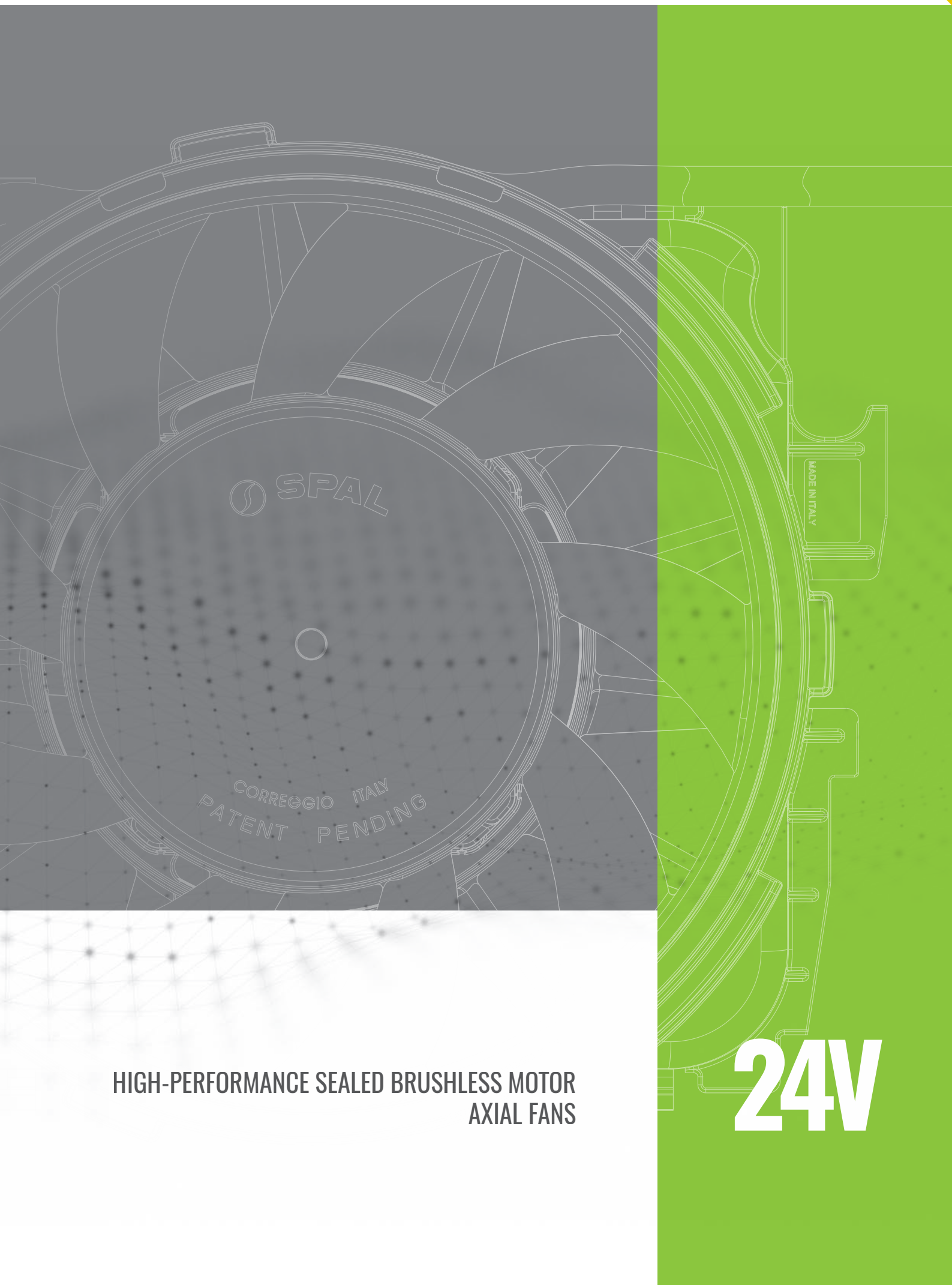
FEATURES

Max fan speed (at 0 Pa)	rpm	1.950
Min fan speed	rpm	800
Sound pressure level at max speed (at 1m from the fan module lateral side)	dBA	73±0.5 (2)
Weight	kg	1.9
Operating supply voltage range (at the Drive connector)	V	9.0 .. 16.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +95
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +120
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	22
Load dump protection (Pulse 5b) - Pulse peak voltage (U _{S*}) - ISO16750-2:2010	V	35
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

BLOWER PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂OAir density 1.17 kg/m³ - Test bench compliant to ANSI AMCA 210 - TAMB = 20 °C ± 5 °C - UB = 13.0 V at the Drive connector





HIGH-PERFORMANCE SEALED BRUSHLESS MOTOR
AXIAL FANS

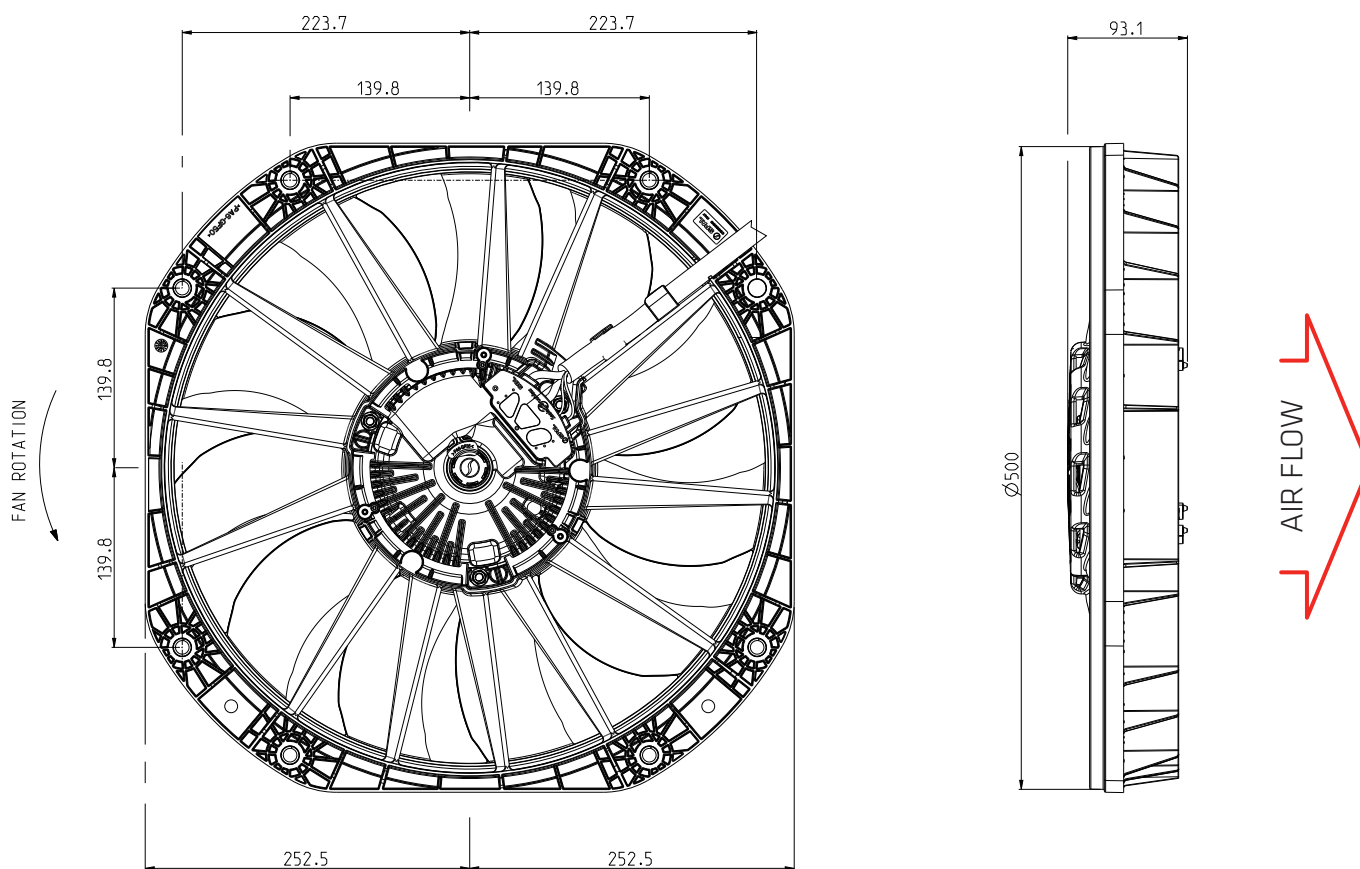
24V

VA223-BBL1009HT/R-140A



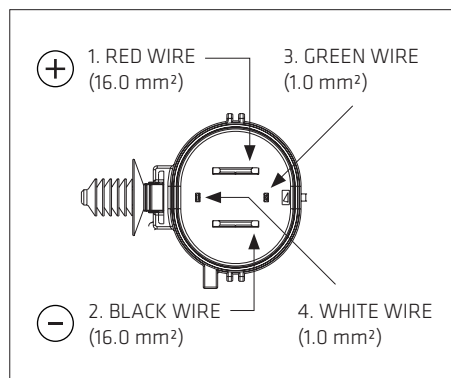
GENERAL INFORMATION

Nominal Power	2.000 W
EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 85 °C
Mounting Torque	15±1 Nm - Use M8 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI YPT HYBRID (USCAR-2 compliant) - Part number: 7286-1398-10



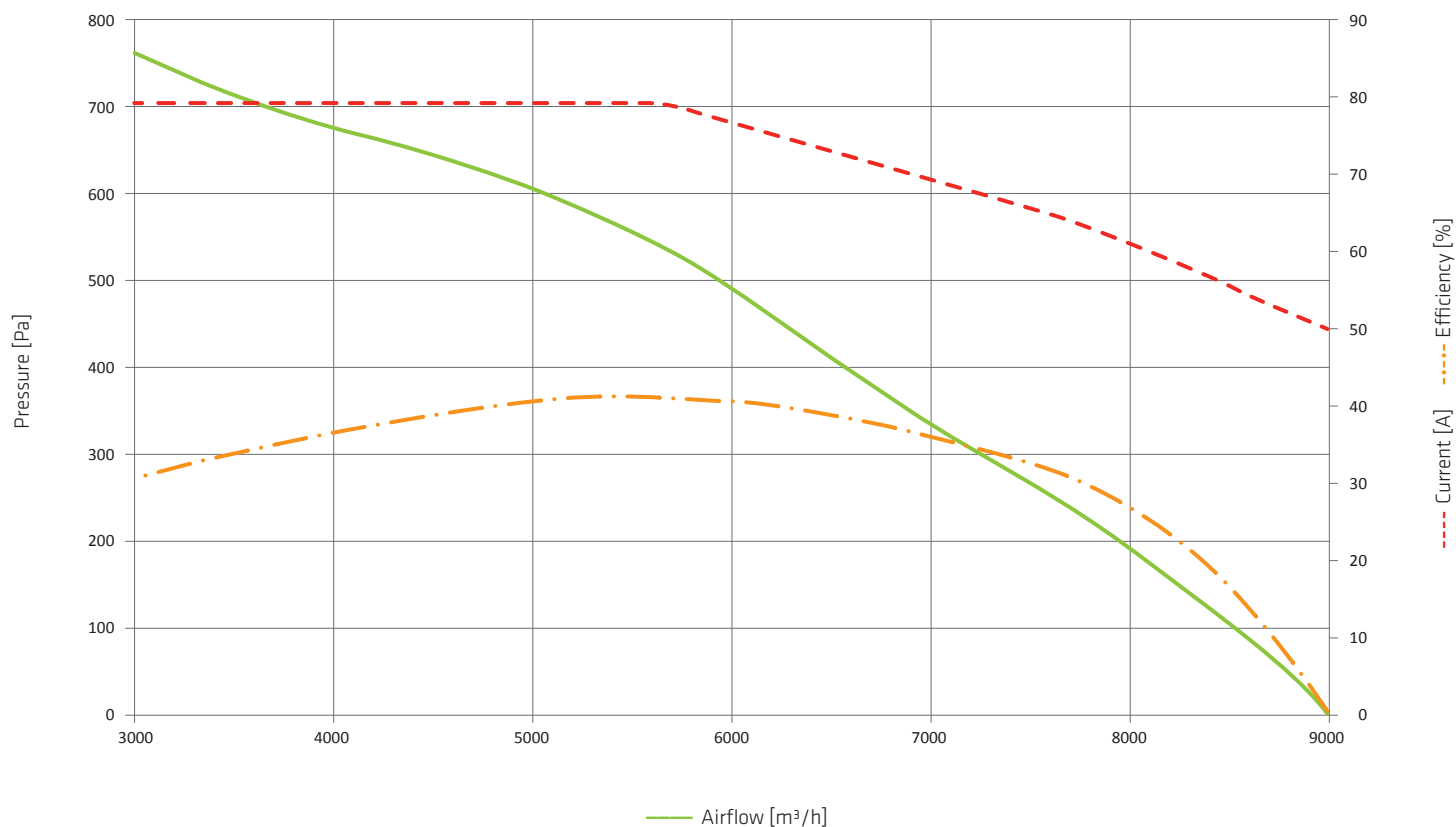
Identification (*)	+D	-D	FO*	PWM*/E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	GREEN	WHITE
Sealing p/n	7158-3672-50	7158-3672-50	7158-3031-90	7158-3031-90
Pin p/n	7114-5623-06	7114-5623-06	7114-4103-06	7114-4103-06
Section [mm²]	16.0	16.0	1.0	1.0
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	3.200
Min fan speed	rpm	800
Maximum Power 25°C	W	2.000
Maximum Power 85°C	W	1.700
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	90 (2)
Weight	kg	6.1
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +85
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Time from 0 rpm to max speed	s	24
Load dump protection (Pulse 5b) - Pulse peak voltage (U _{5*}) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating. (2) Free flow noise value is for reference only and it's not representative for performance on the application due to the effect of specific radiator/restrictions.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



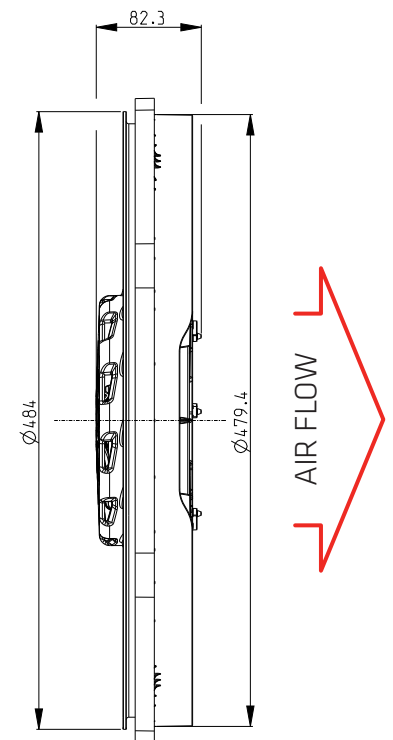
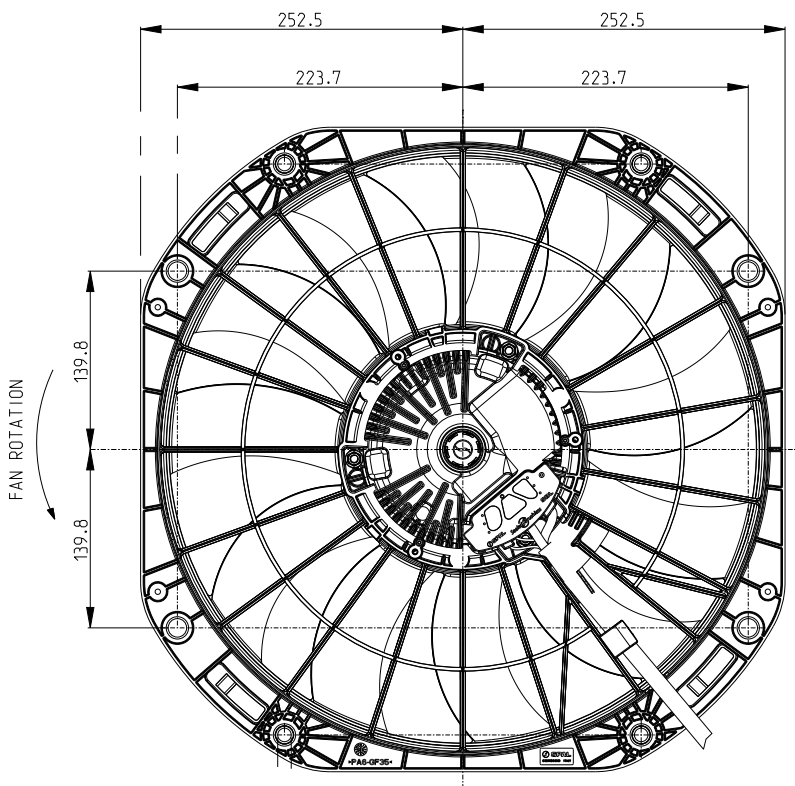
Ø 465 mm - 18"

VA164A-BBL1005HT/R-124A



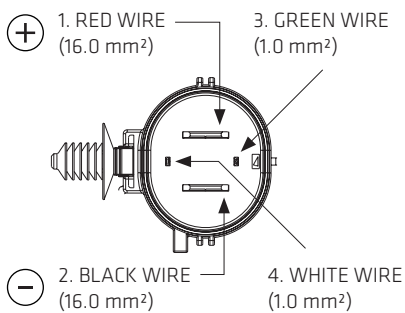
GENERAL INFORMATION

Nominal Power	1.400 W
EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 120 °C
Mounting Torque	15±3 Nm - Use M8 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI YPT HYBRID (USCAR-2 compliant) - Part number: 7286-1398-10



Identification (*)	+D	-D	FO*	PWM*/E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	GREEN	WHITE
Sealing p/n	7158-3672-50	7158-3672-50	7158-3031-90	7158-3031-90
Pin p/n	7114-5623-06	7114-5623-06	7114-4103-06	7114-4103-06
Section [mm²]	16.0	16.0	1.0	1.0

Note: Never handle the fan module via the cable harness

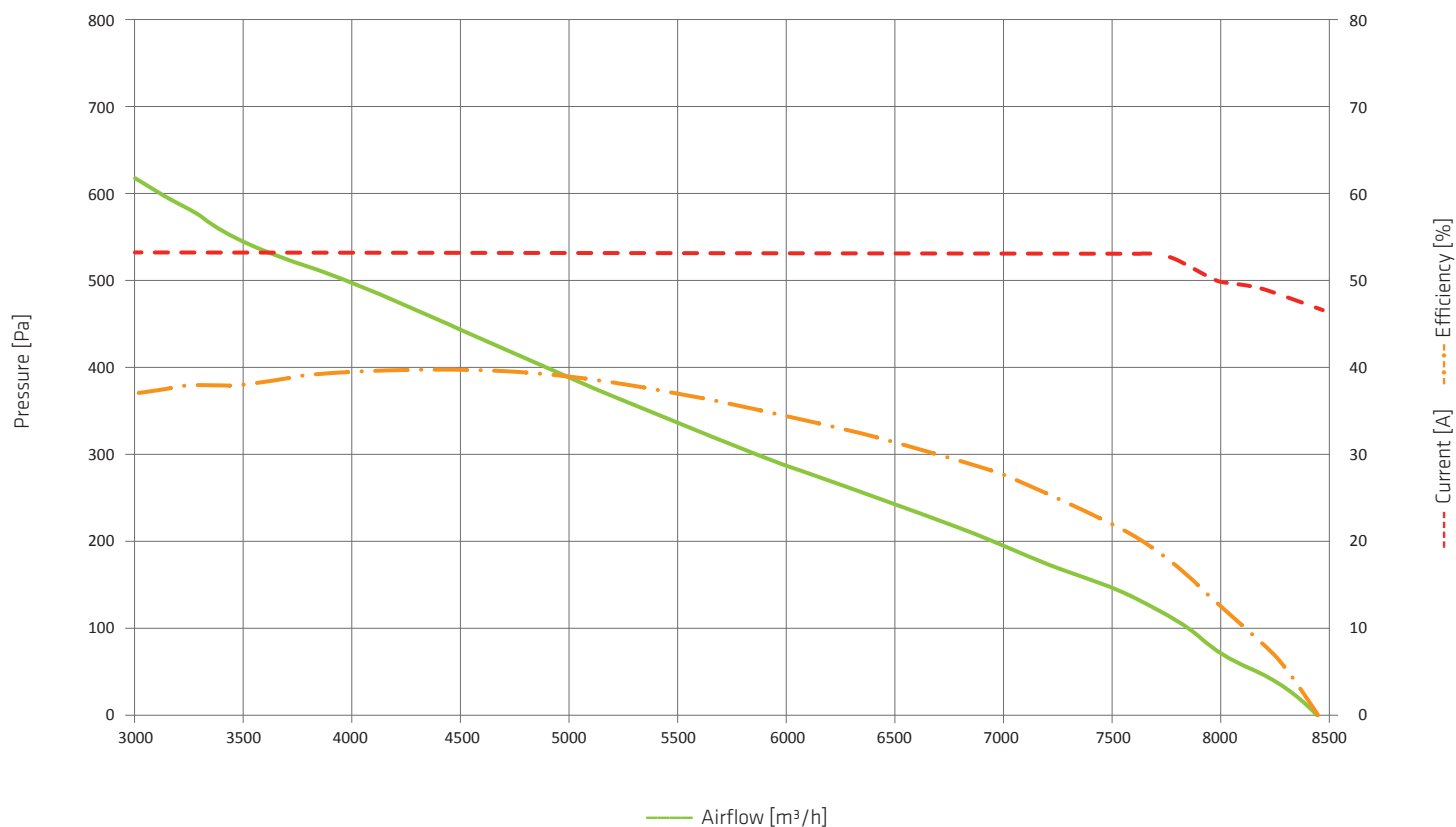
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	3.650
Min fan speed	rpm	600
Maximum Power 25°C	W	1.400
Maximum Power 85°C	W	1.300
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	88
Weight	kg	5.4
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+100 (1)
Storage temperature range	°C	-40 .. + 125
Time from 0 rpm to max speed	s	24
Load dump protection (Pulse 5b) - Pulse peak voltage (U _s *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



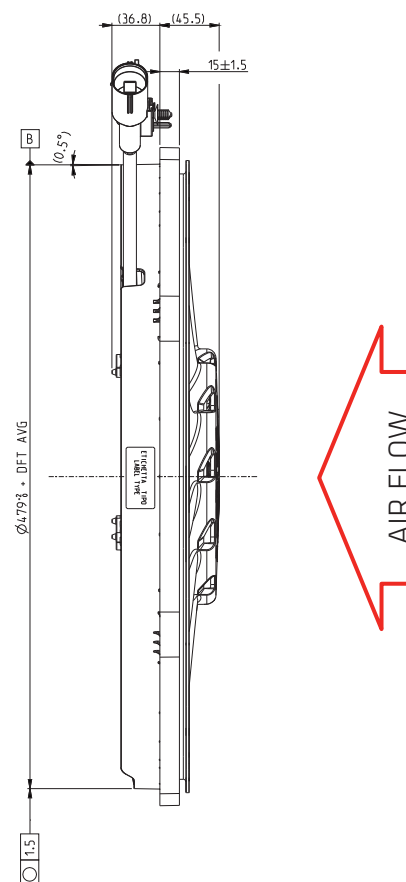
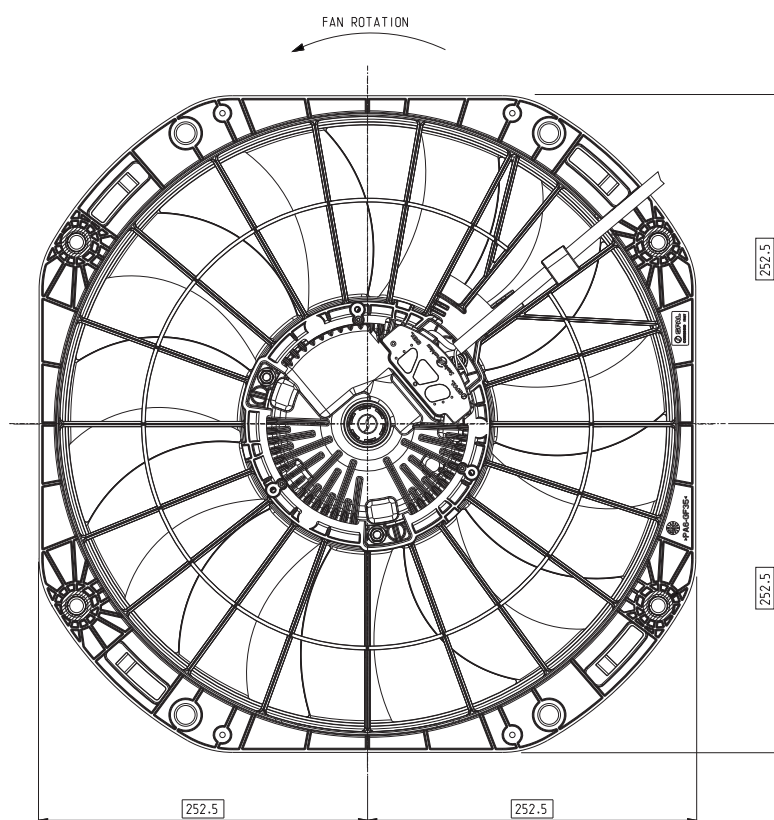
Ø 465 mm - 18"

VA164A-BBL1006HT/R-124A



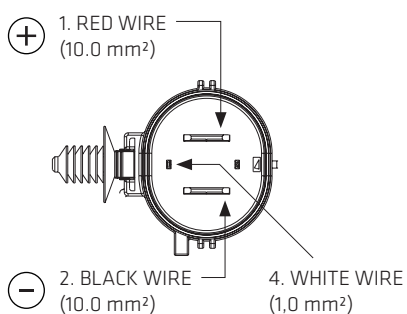
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 120 °C
Mounting Torque	15±3 Nm - Use M8 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI YPT HYBRID (USCAR-2 compliant) - Part number: 7286-1398-10



Identification (*)	+D	-D	-	PWM* /E*
Pin number	1	2	-	4
Wire Color	RED	BLACK	-	WHITE
Sealing p/n	7158-3713-70	7158-3713-70	-	7158-3031-90
Pin p/n	7114-5623-02	7114-5623-02	-	7114-4103-02
Section [mm²]	10.0	10.0	-	1.0

Note: Never handle the fan module via the cable harness

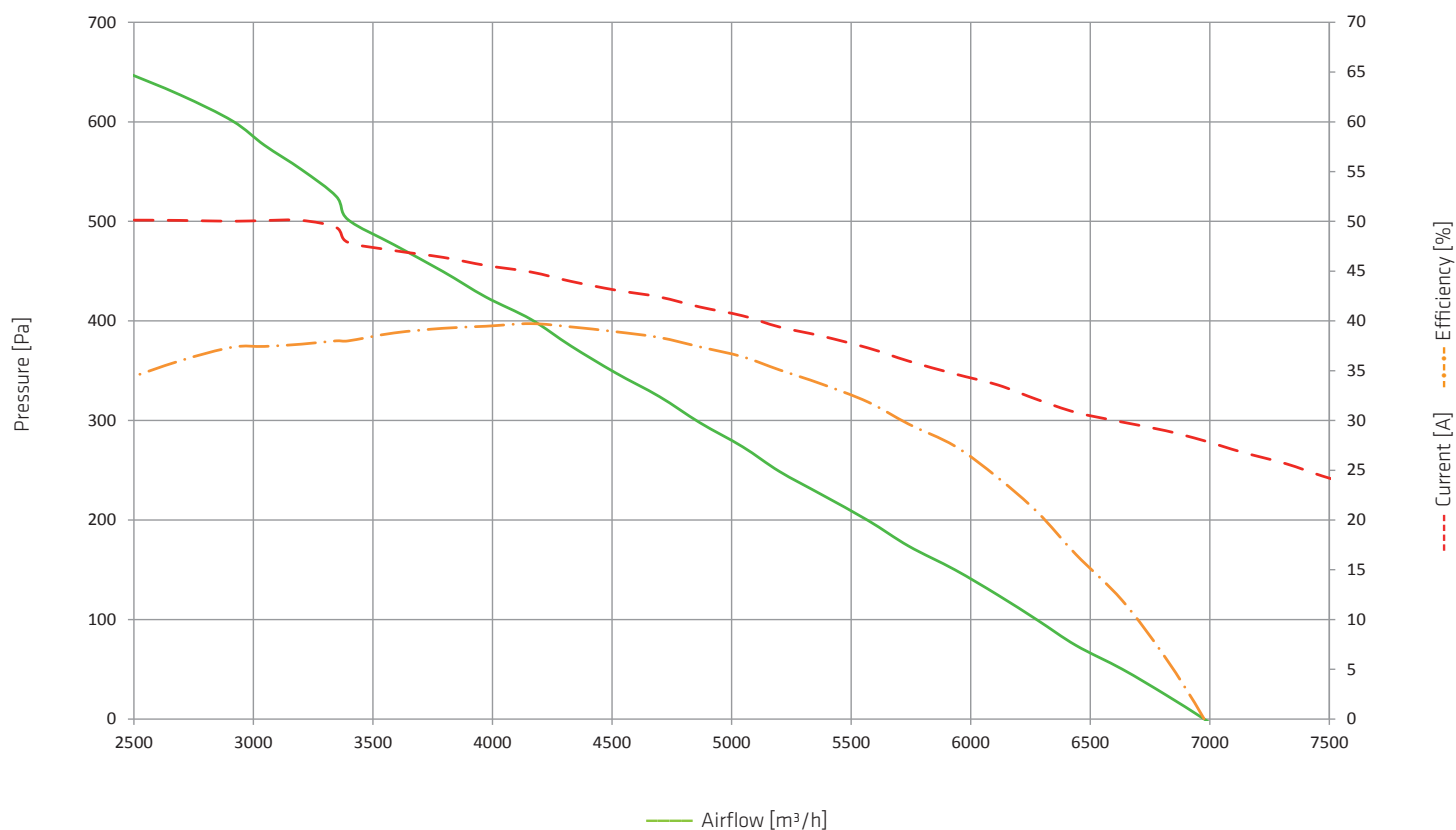
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed forward	rpm	3.050
Max fan speed reverse	rpm	3.050
Min fan speed	rpm	1.020
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	81.5±0.5 (2)
Weight	kg	4.8
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+95 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	15
Load dump protection (Pulse 5b) - Pulse peak voltage (U _{5*}) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating. (2) Free flow noise value is for reference only and it's not representative for performance on the application due to the effect of specific radiator/restrictions.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O

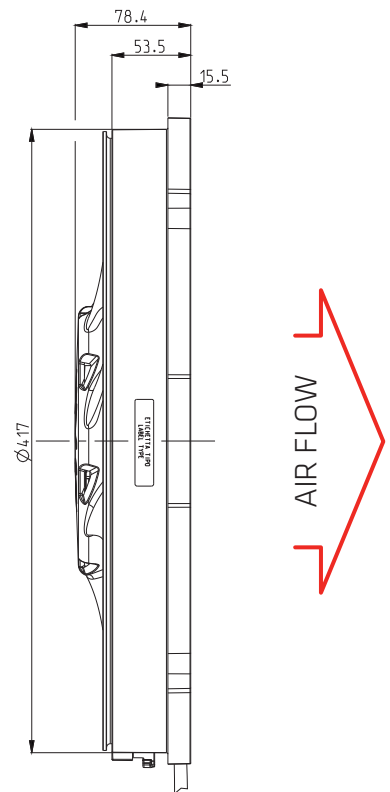
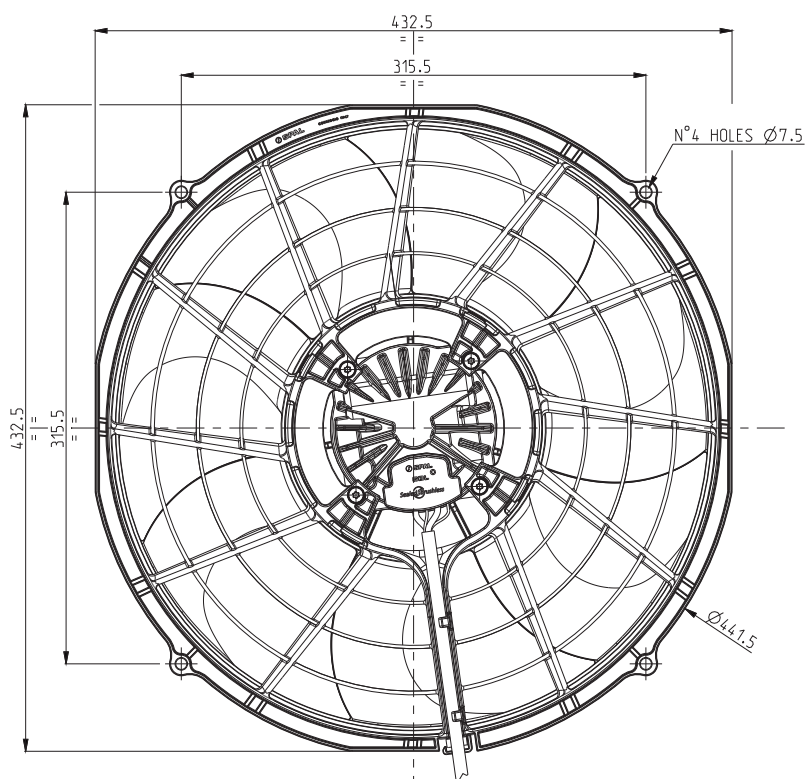


VA97-BBL339P/R/A/N-103A



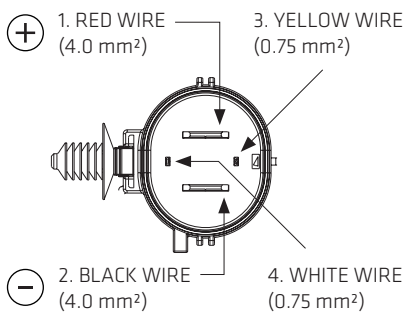
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 95 °C
Mounting Torque	5 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



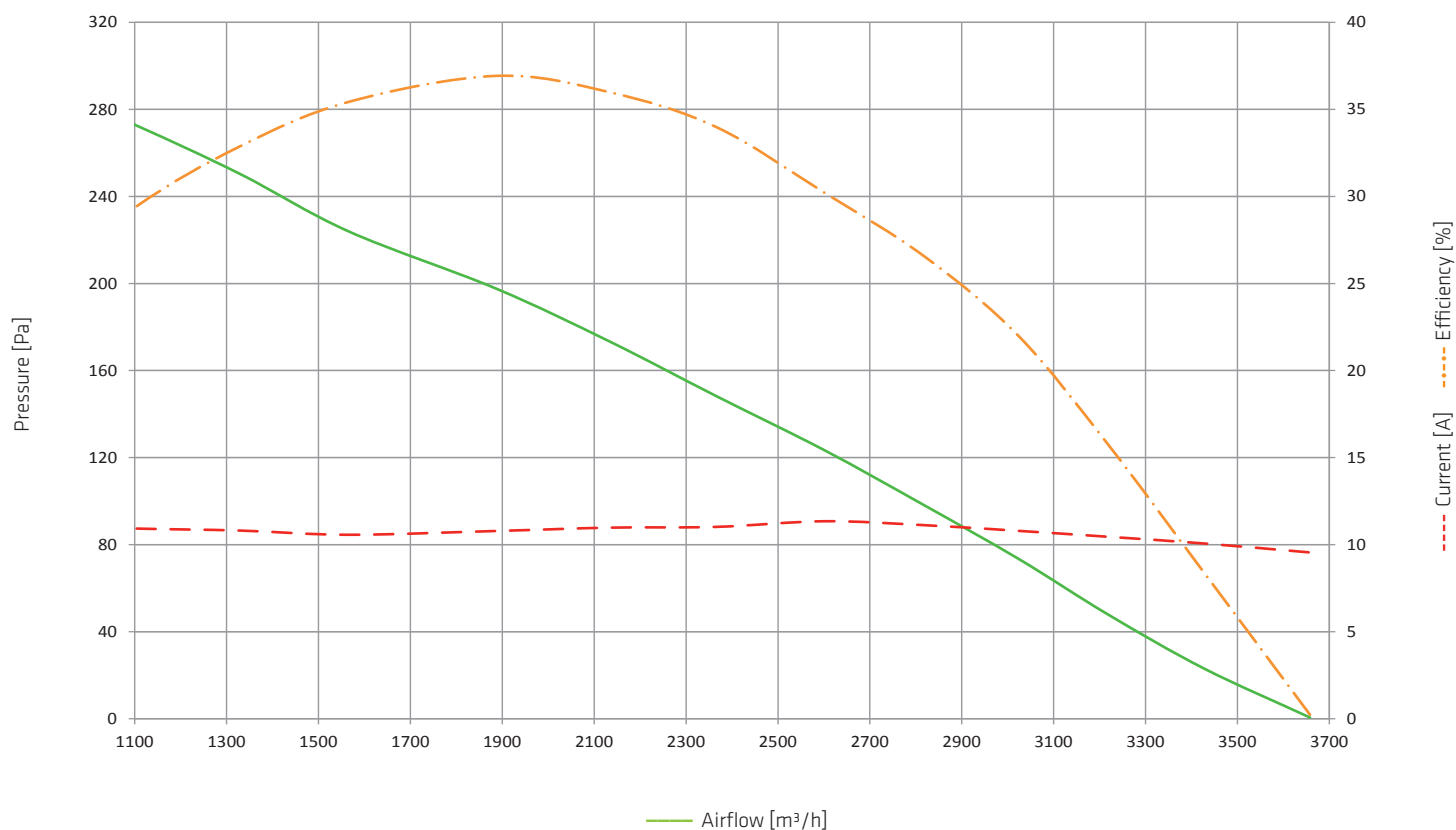
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	7158-3031-90	7158-3031-90
Pin p/n	7114-3251	7114-3251	7114-4103-02	7114-4103-02
Section [mm²]	4.0	4.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	2.450
Min fan speed	rpm	600
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	73±0.5 (2)
Weight	kg	2.75
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +95
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	17
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating. (2) Free flow noise value is for reference only and it's not representative for performance on the application due to the effect of specific radiator/restrictions.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



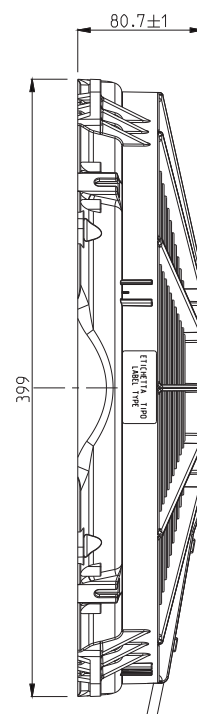
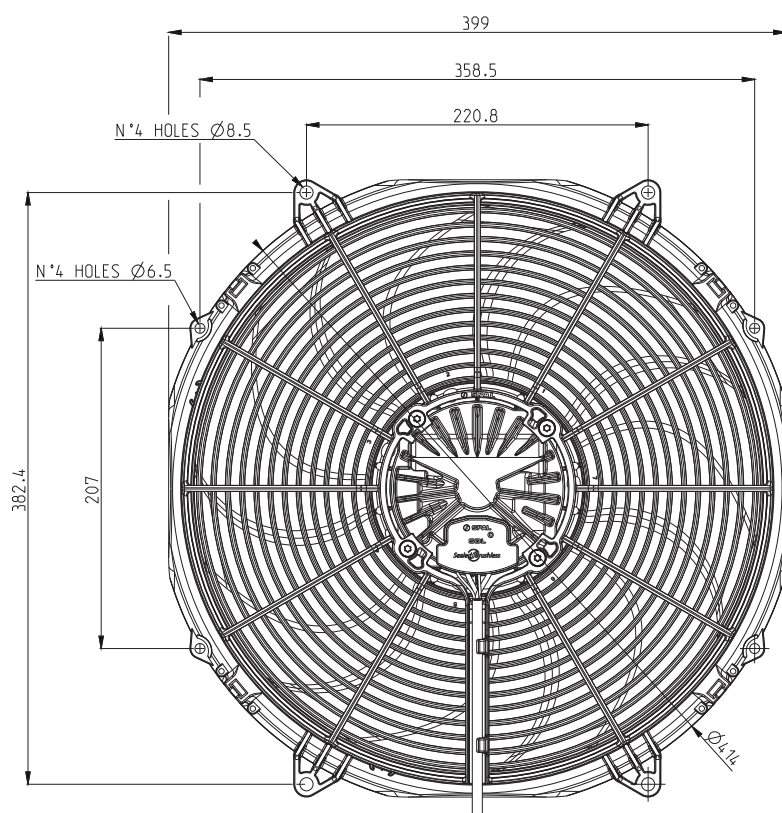
Ø 385 mm - 15"

VA91-BBL341P/R/A/N-65A



GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing

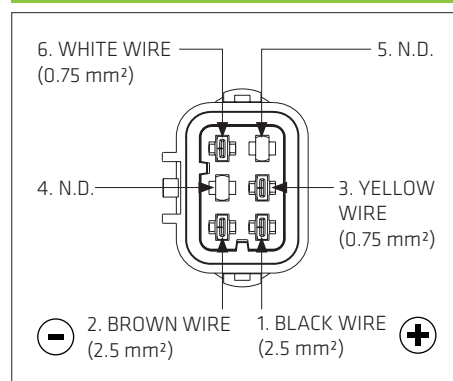


AIR FLOW

FAN ROTATION

all dimensions are expressed in mm

CONNECTOR: DELPHI 12185126 - Secondary lock part number : DELPHI 12185000



Identification	+D	-D	PWM / E	N.D.	N.D.	FO
Pin number	1	2	3	4	5	6
Wire Color	BLACK	BROWN	YELLOW	-	-	WHITE
Sealing p/n	15324973	15324973	15324974	10730124	10730124	15324974
Pin p/n	12185237	12185237	12185129	-	-	12185129
Section [mm ²]	2.5	2.5	0.75	-	-	0.75

Note: Never handle the fan module via the cable harness

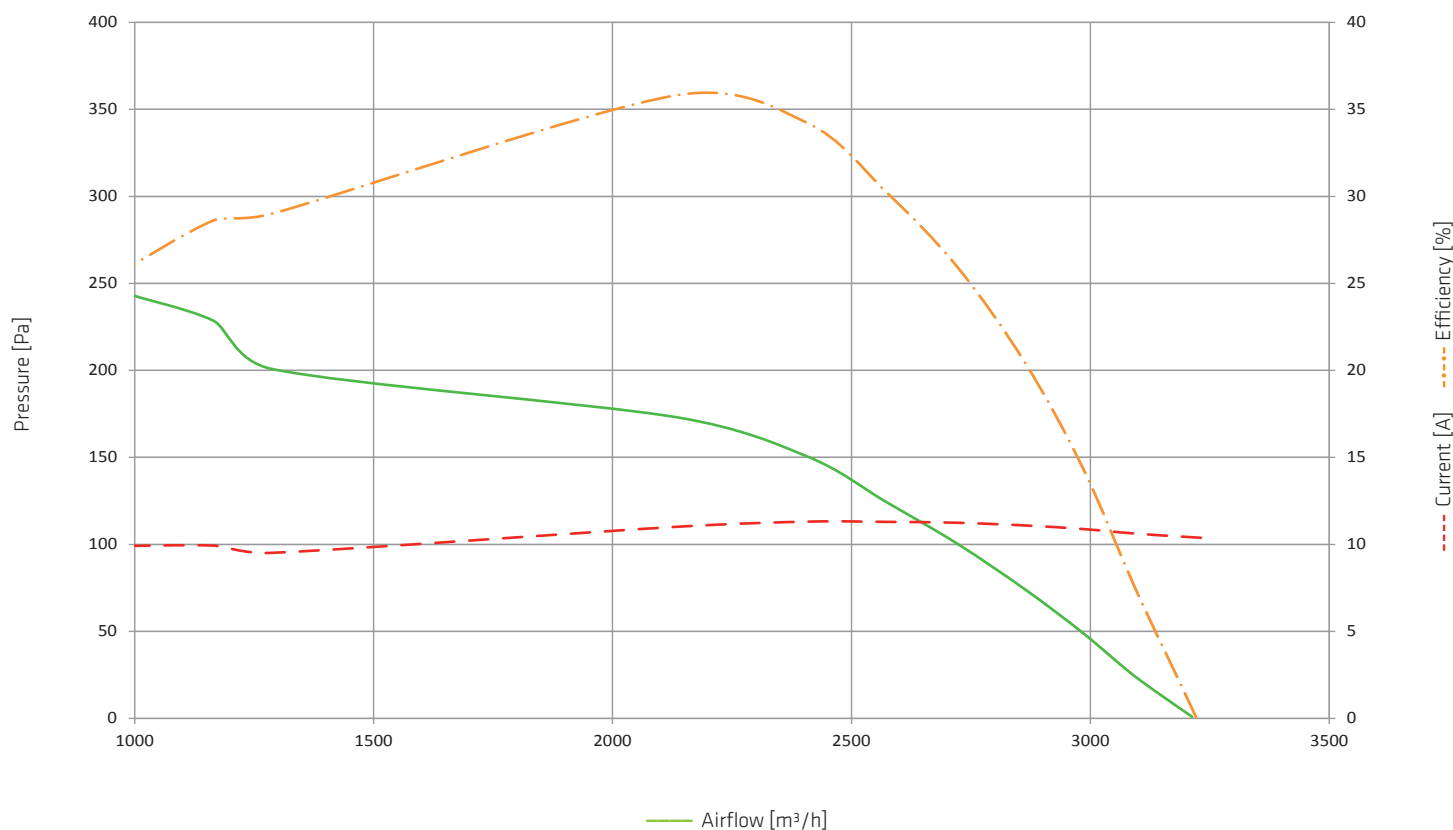
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	2.570
Min fan speed	rpm	800
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	77±0.5
Weight	kg	2.4
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+103 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	11
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



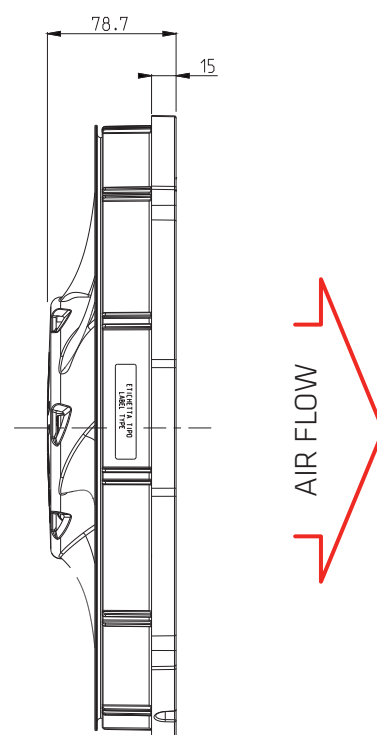
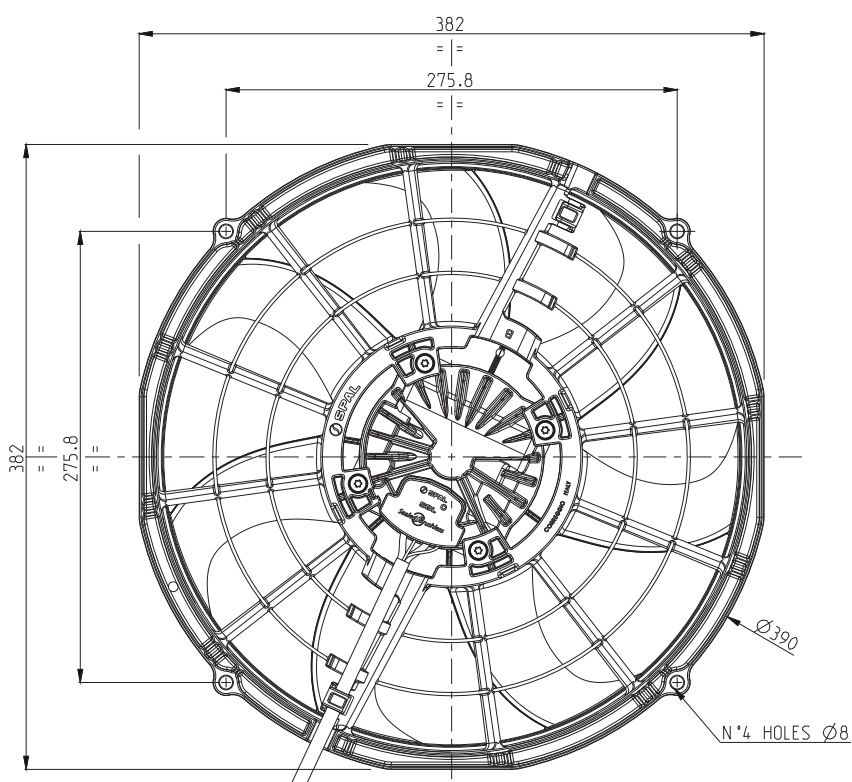
Ø 355 mm - 14"

VA116-BBL511P/R/A/N-105A



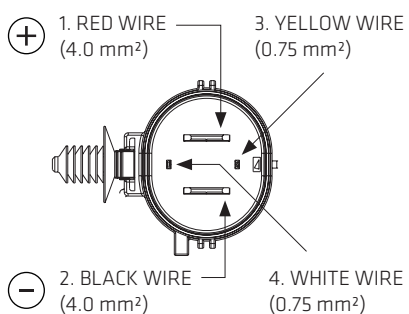
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 95 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



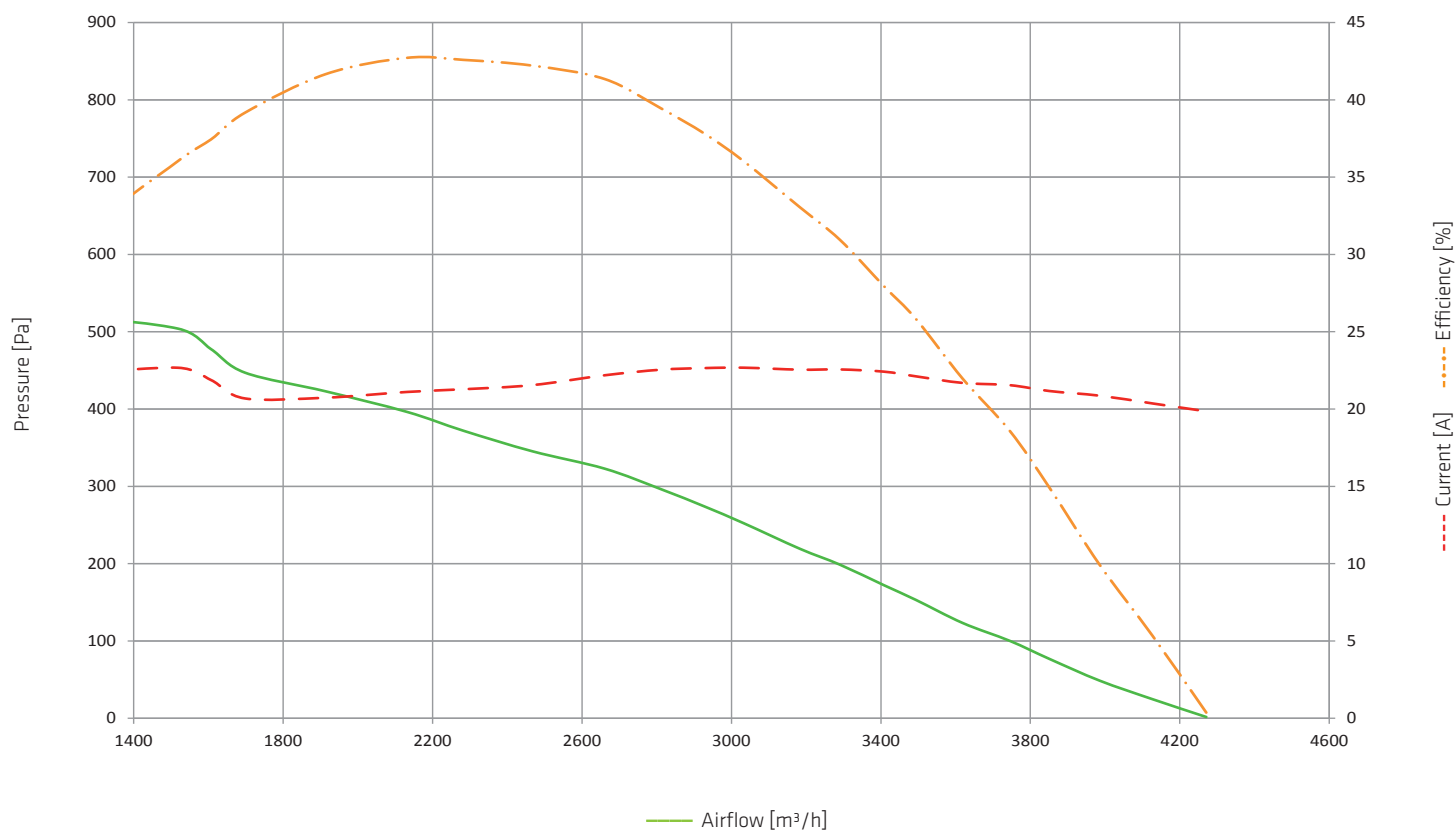
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	7158-3030-50	7158-3030-50
Pin p/n	7114-3251	7114-3251	7114-4102-02	7114-4102-02
Section [mm²]	4.0	4.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	3.500
Min fan speed	rpm	900
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	79.5±0.5
Weight	kg	2.8
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +95
Speed derating threshold	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	11
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



Air density 1.19 kg/m³ - Test bench compliant to ANSI AMCA 210 - TAMB = 20 °C ± 5 °C - UB = 26.0 V at the Drive connector

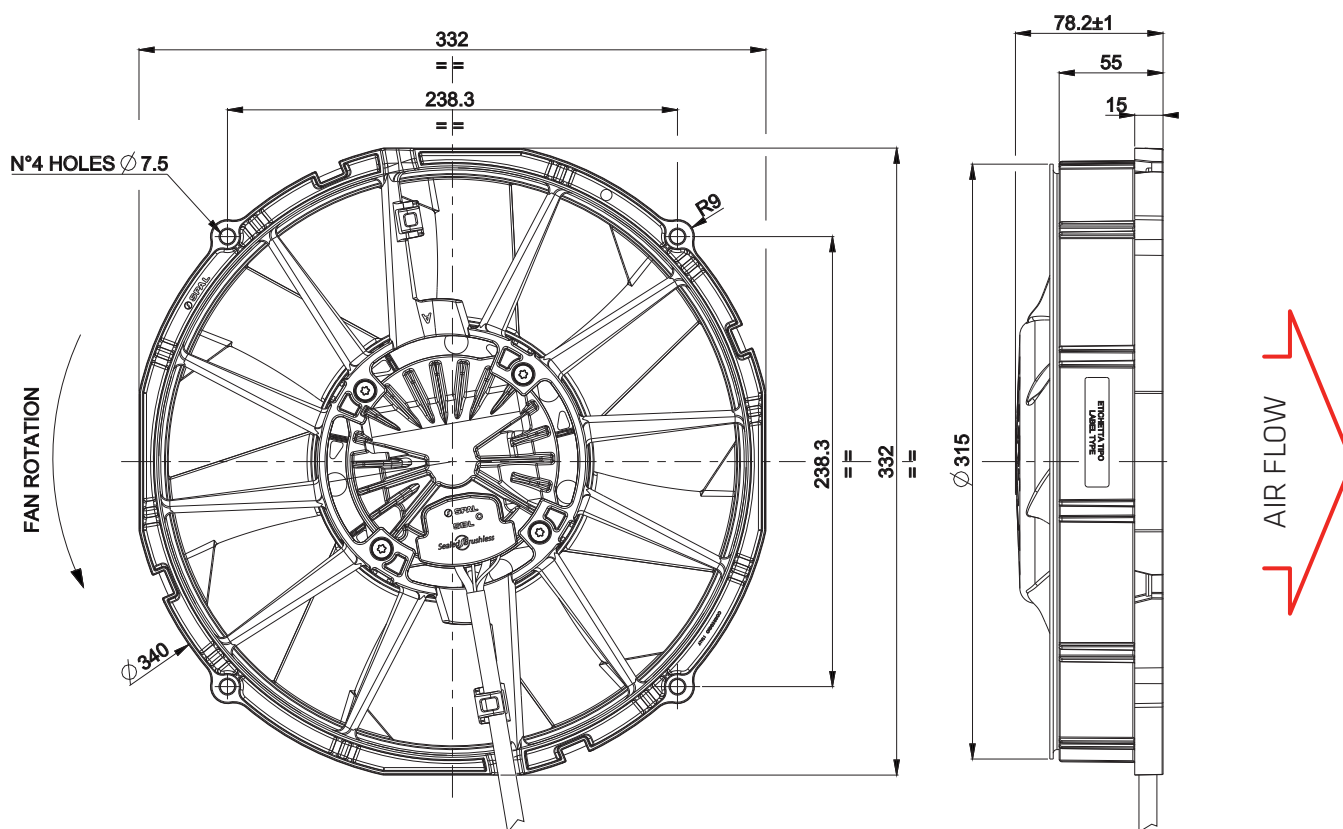
Ø 305 mm - 12"

VA113-BBL504P/R/A/N-94A



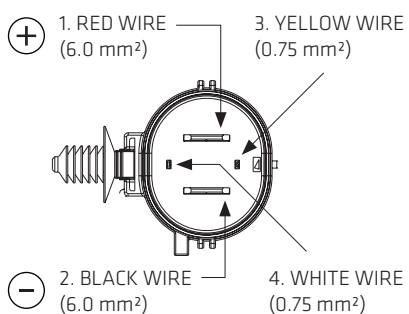
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 110 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7158-3035	7158-3035	7158-3031-90	7158-3031-90
Pin p/n	7114-3250	7114-3250	7114-4103-02	7114-4103-02
Section [mm²]	6.0	6.0	0.75	0.75

Note: Never handle the fan module via the cable harness

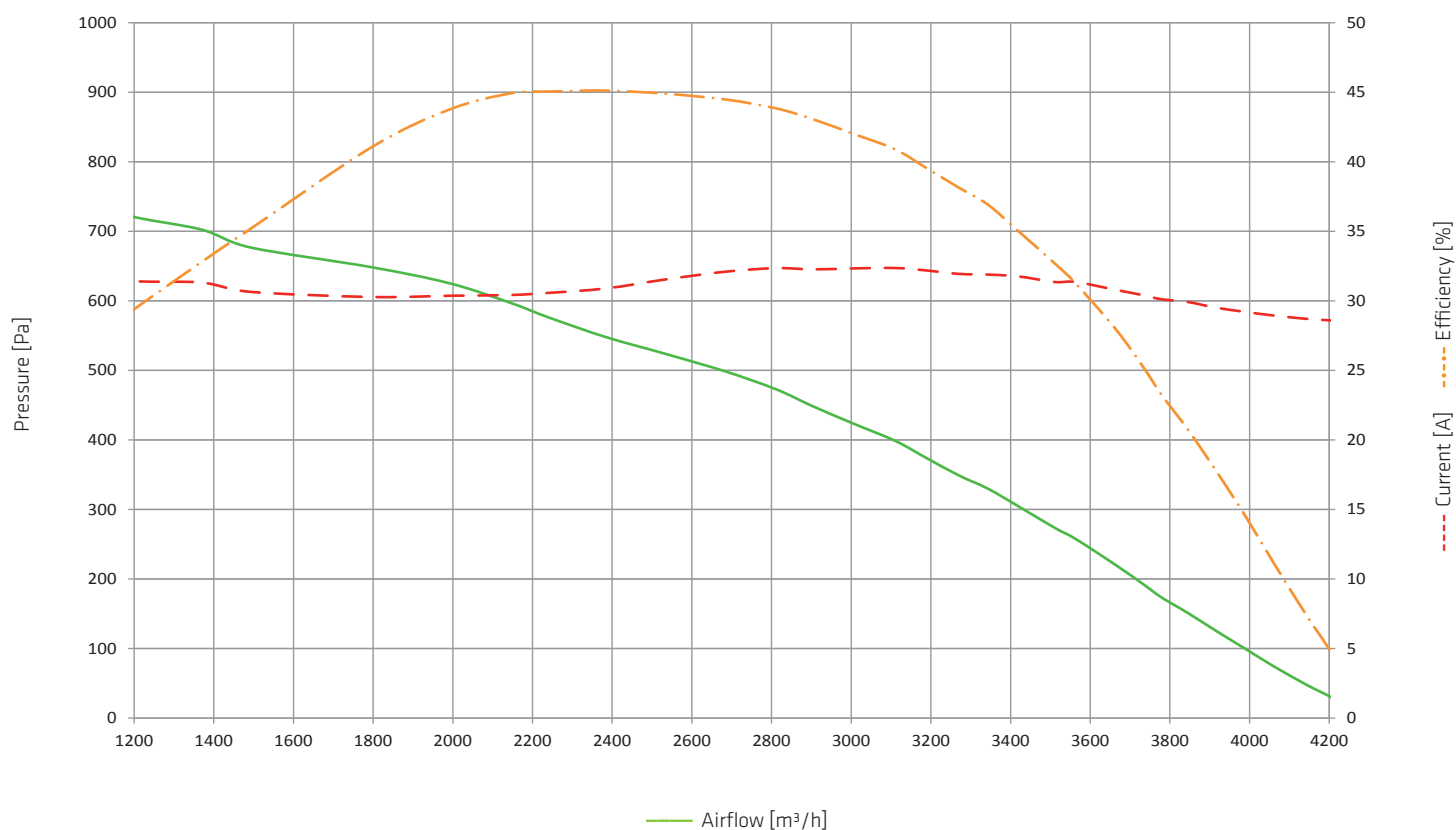
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	4.750
Min fan speed	rpm	1.200
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	86±0.5
Weight	kg	2.5
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +110
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	10
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O

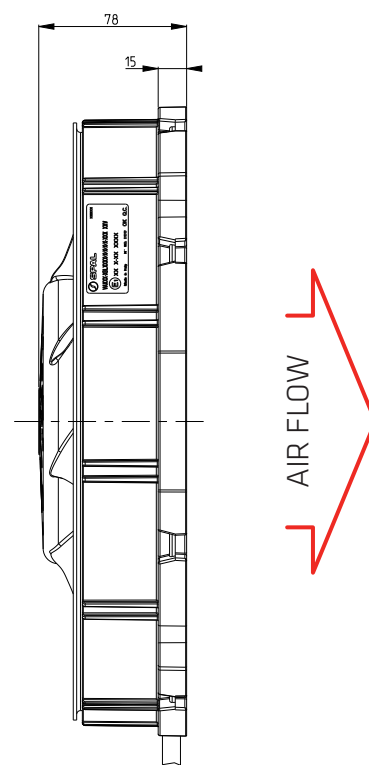
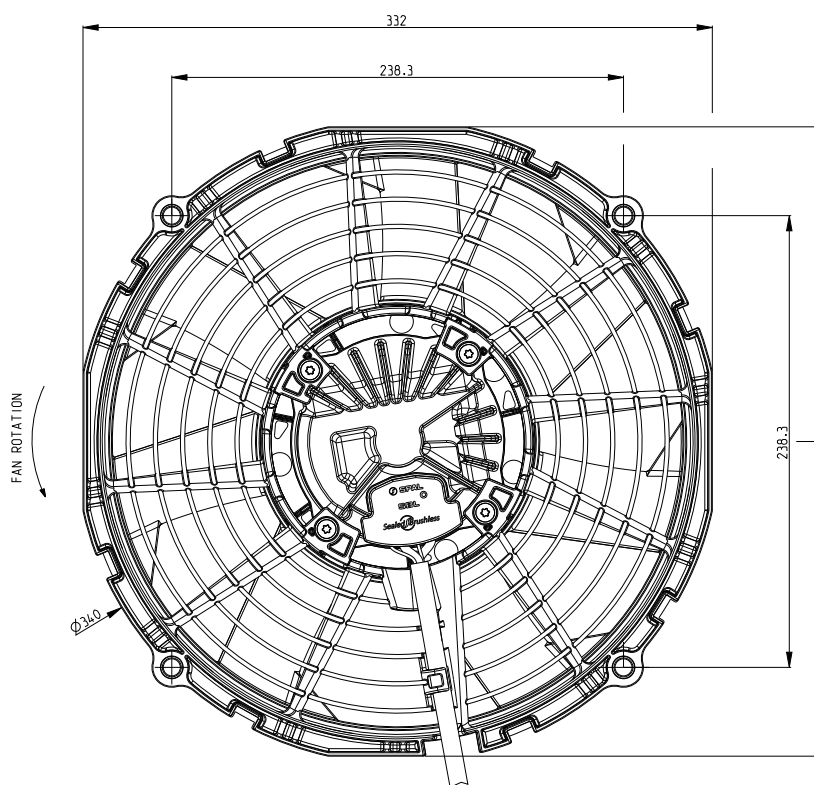


VA191-BBL530M/R/A/N-94A



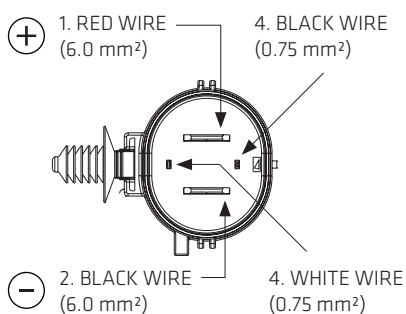
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M8 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	BLACK	WHITE
Sealing p/n	7158-3035	7158-3035	7158-3031-90	7158-3031-90
Pin p/n	7114-3250	7114-3250	7114-4103-02	7114-4103-02
Section [mm²]	6.0	6.0	0.75	0.75

Note: Never handle the fan module via the cable harness

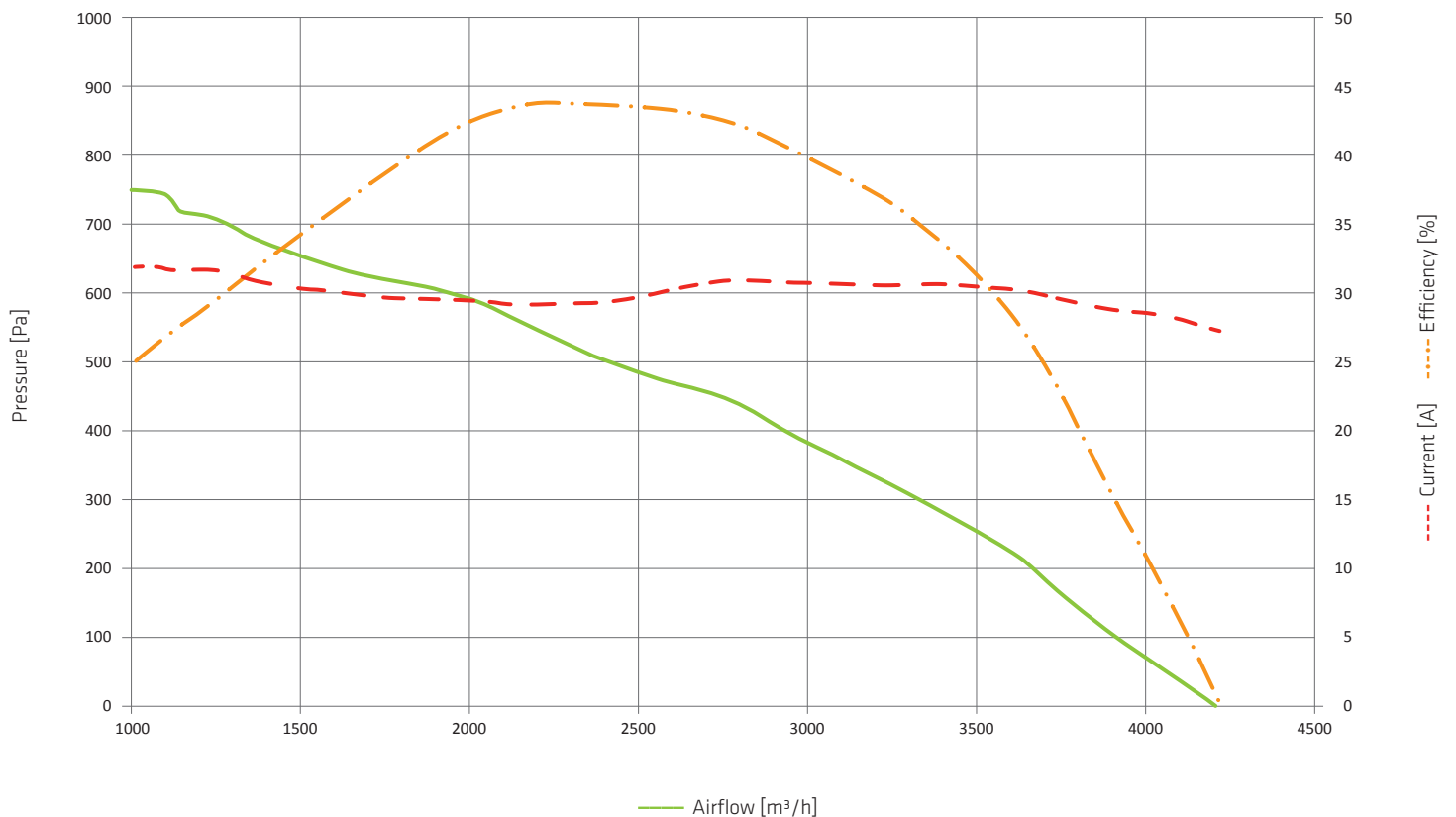
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	4.750
Min fan speed	rpm	1.200
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	85±0.5 (2)
Weight	kg	2.8
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	14 ± 2% (20°C)
Load dump protection (Pulse 5b) - Pulse peak voltage (Us*) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating. (2) Free flow noise value is for reference only and it's not representative for performance on the application due to the effect of specific radiator/restrictions		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



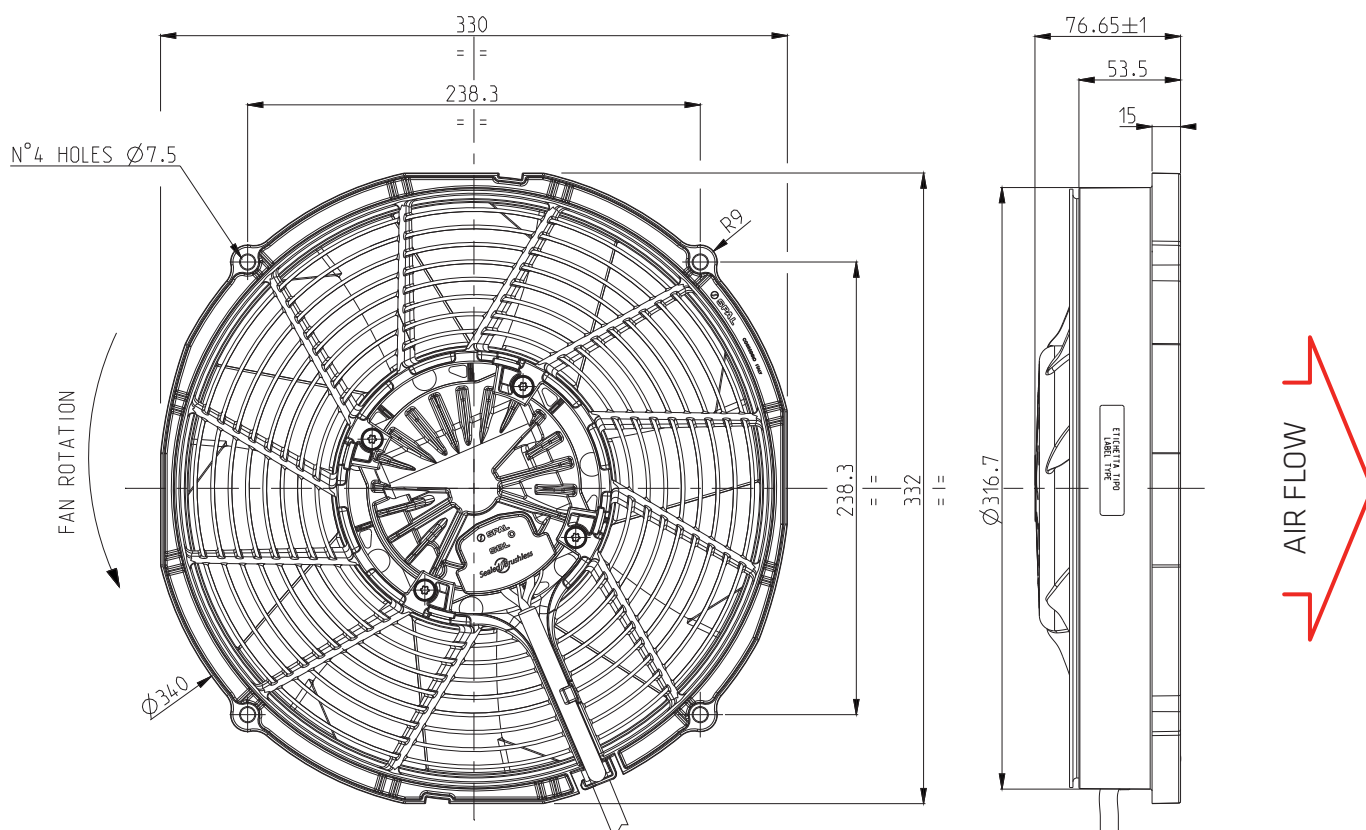
Ø 305 mm - 12"

VA90-BBL338P/R/A/N-94A



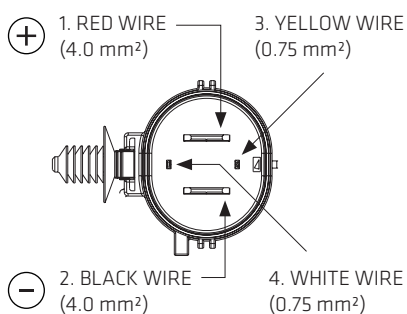
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 95 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



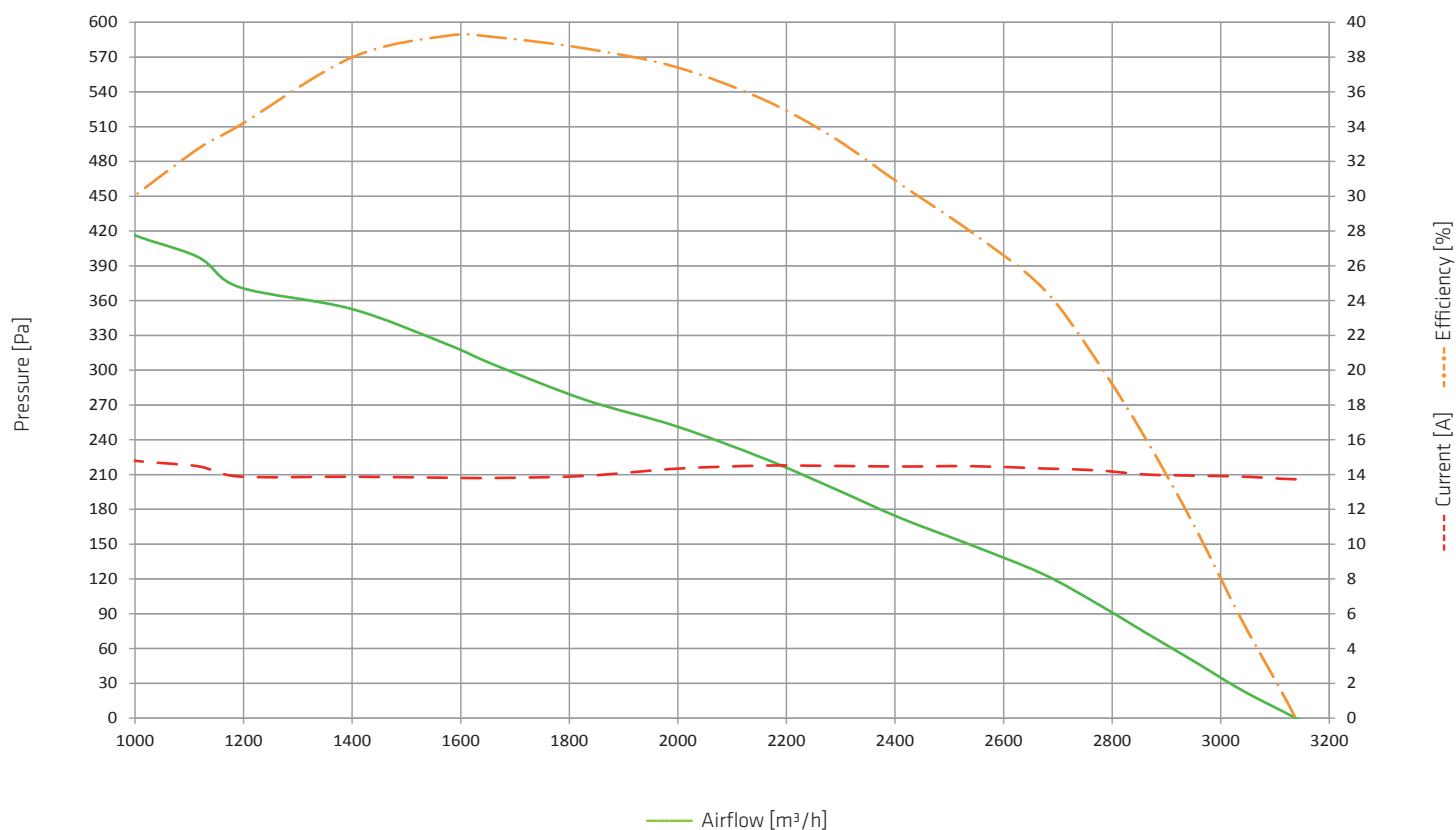
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	7158-3030-50	7158-3030-50
Pin p/n	7114-3251	7114-3251	7114-4102-02	7114-4102-02
Section [mm²]	4.0	4.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	3.650
Min fan speed	rpm	900
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	75.6±0.5
Weight	kg	2.4
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +95
Speed derating threshold	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	15
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



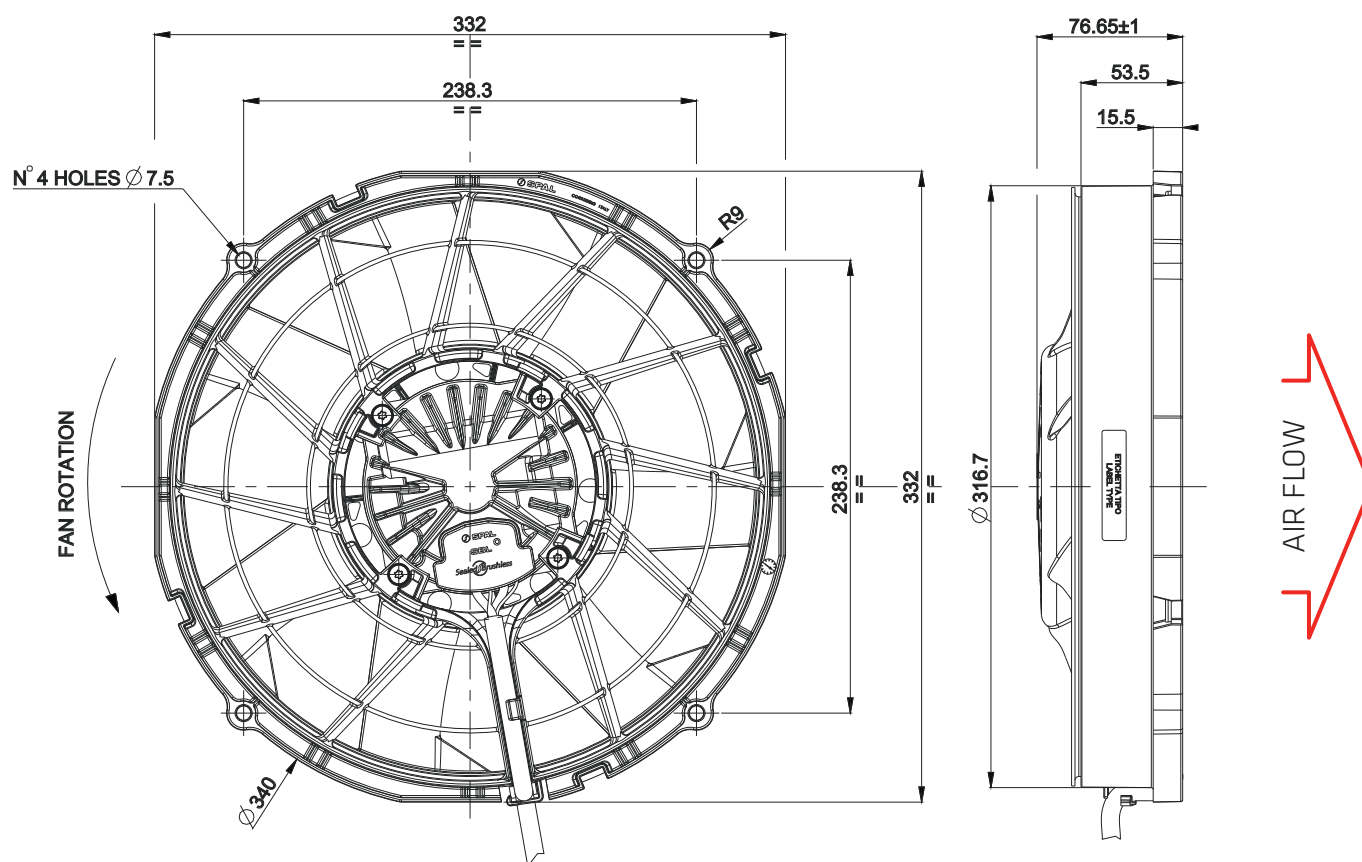
Ø 305 mm - 12"

VA89-BBL338P/R/A/N-94A



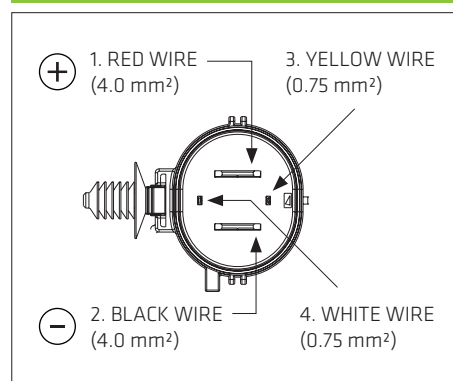
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



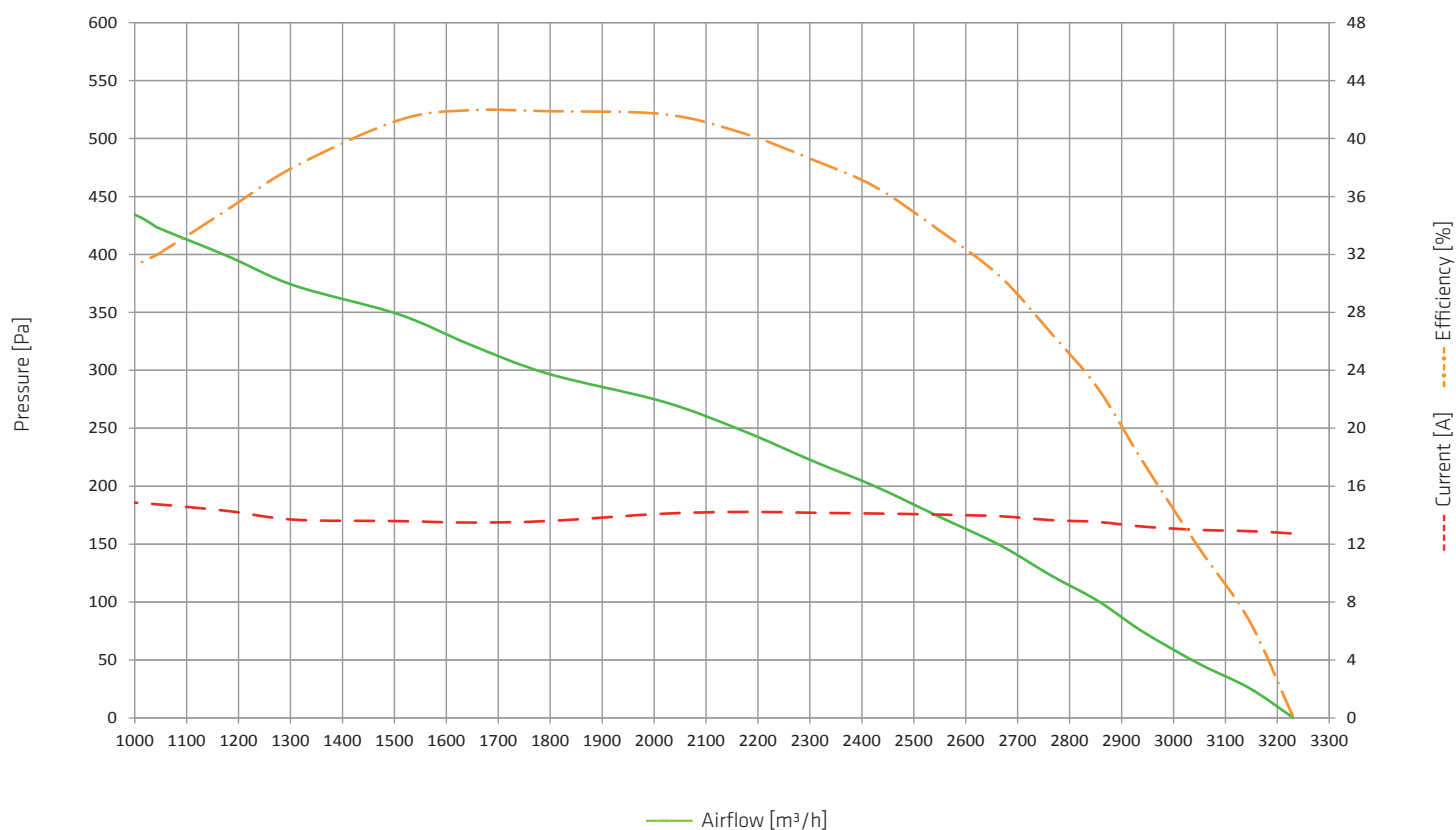
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	7158-3031-90	7158-3031-90
Pin p/n	7114-3251	7114-3251	7114-4103-02	7114-4103-02
Section [mm²]	4.0	4.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	3.650
Min fan speed	rpm	900
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	78±0.5
Weight	kg	2.5
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+95 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	11
Load dump protection (Pulse 5b) - Pulse peak voltage (U _{5*}) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



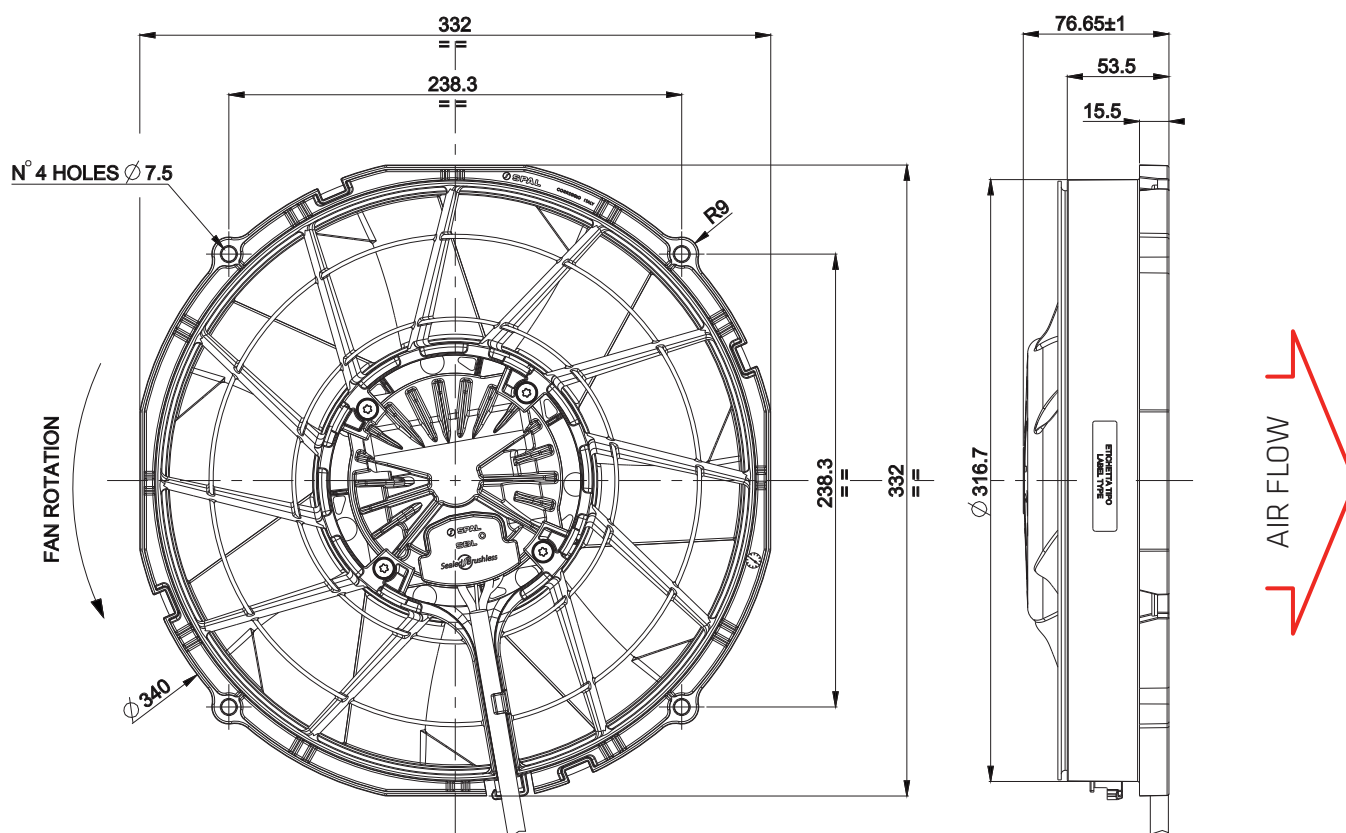
Ø 305 mm - 12"

VA89-BBL328P/R/A/N-94A



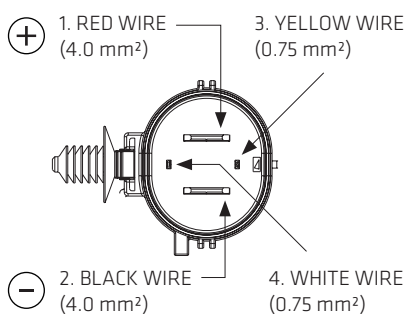
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 110 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	7158-3031-90	7158-3031-90
Pin p/n	7114-3251	7114-3251	7114-4103-02	7114-4103-02
Section [mm²]	4.0	4.0	0.75	0.75

Note: Never handle the fan module via the cable harness

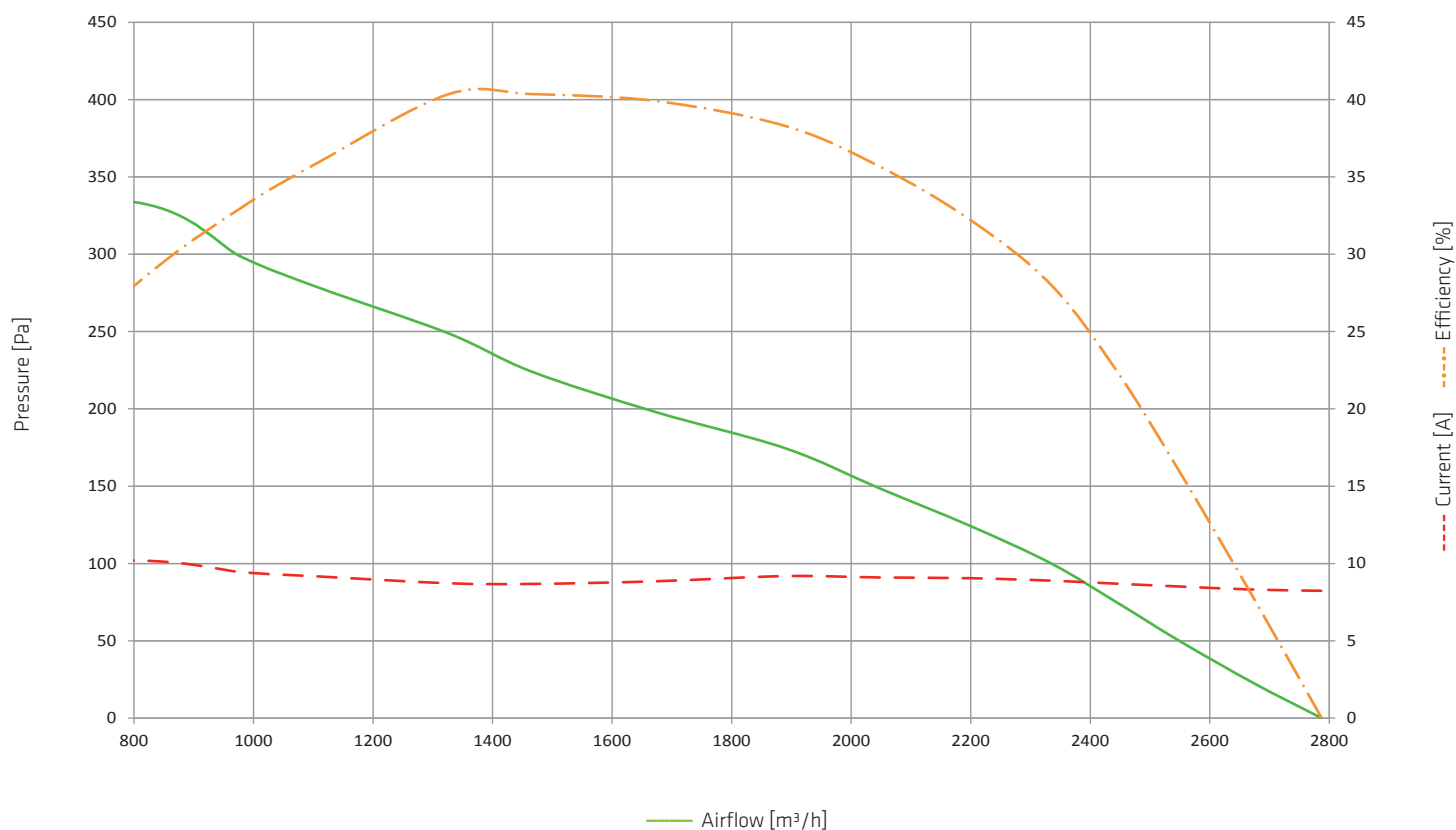
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	3.400
Min fan speed	rpm	850
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	75±0.5
Weight	kg	2.5
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +110
Max operating ambient temperature at max fan speed	°C	+95 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	15
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



Air density 1.16 kg/m³ - Test bench compliant to ANSI AMCA 210 - TAMB = 20 °C ± 5 °C - UB = 26.0 V at the Drive connector

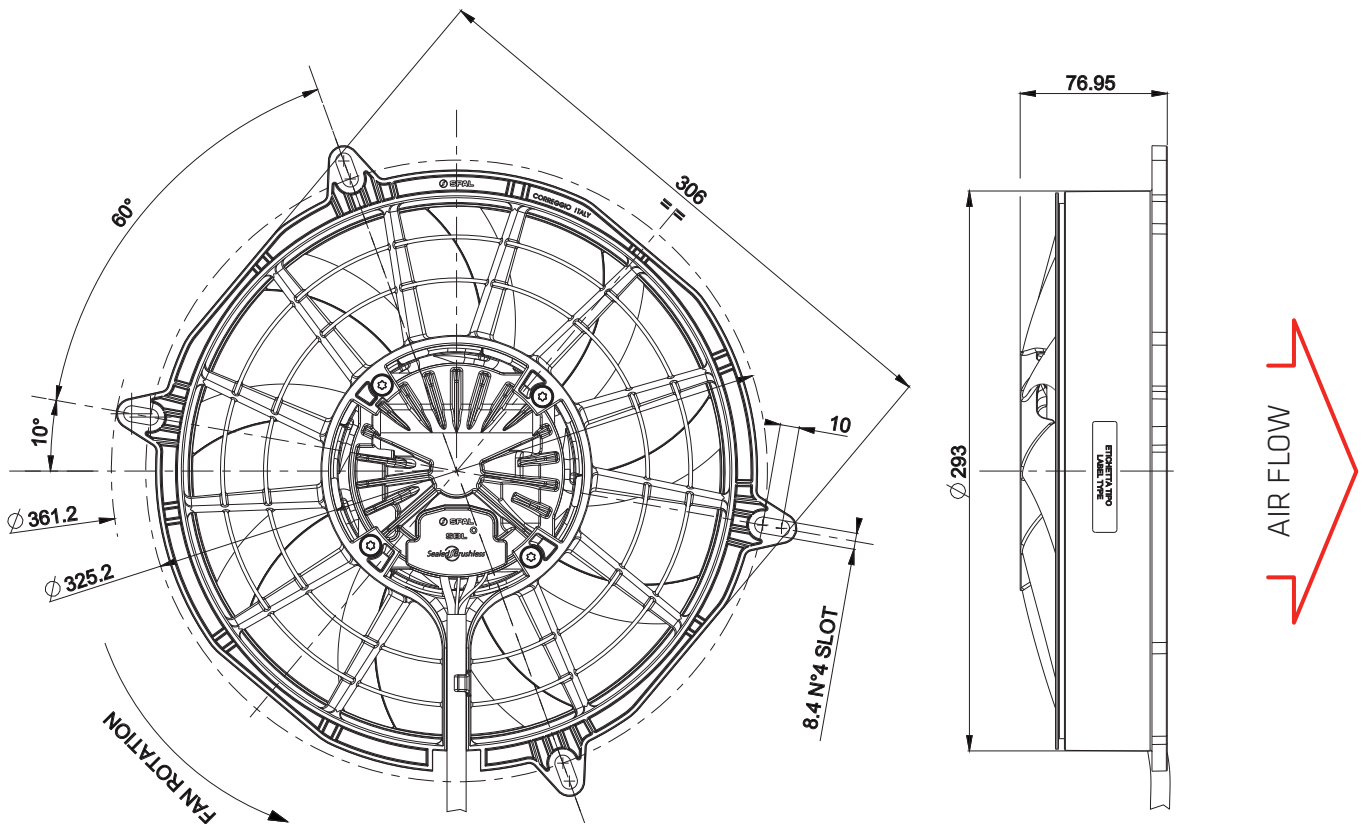
Ø 280 mm - 11"

VA99-BBL324P/R/A/N-101A/SH



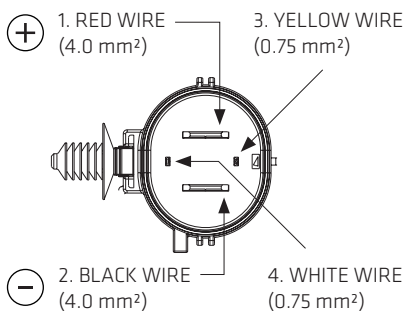
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 95 °C
Mounting Torque	3 Nm (+1/0) - Use M8 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



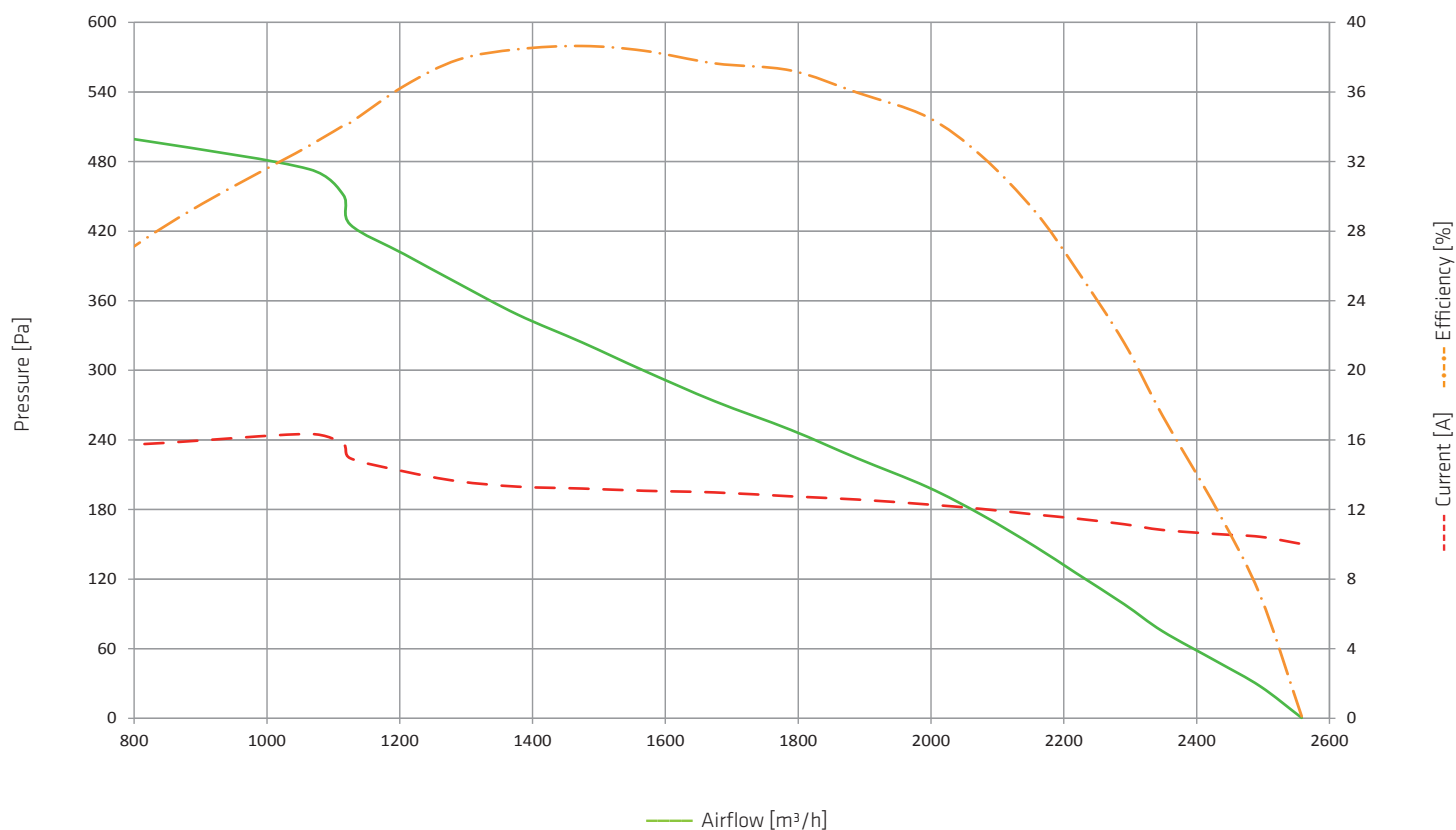
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	7158-3031-90	7158-3031-90
Pin p/n	7114-3251	7114-3251	7114-4103-02	7114-4103-02
Section [mm²]	4.0	4.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	4.000
Min fan speed	rpm	1.000
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	76±0.5
Weight	kg	2.5
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +95
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	14
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



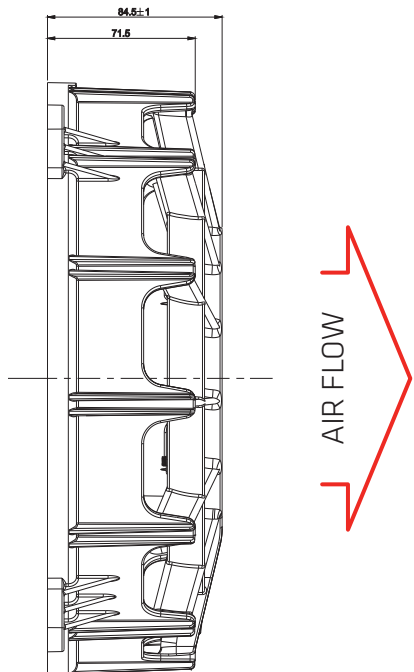
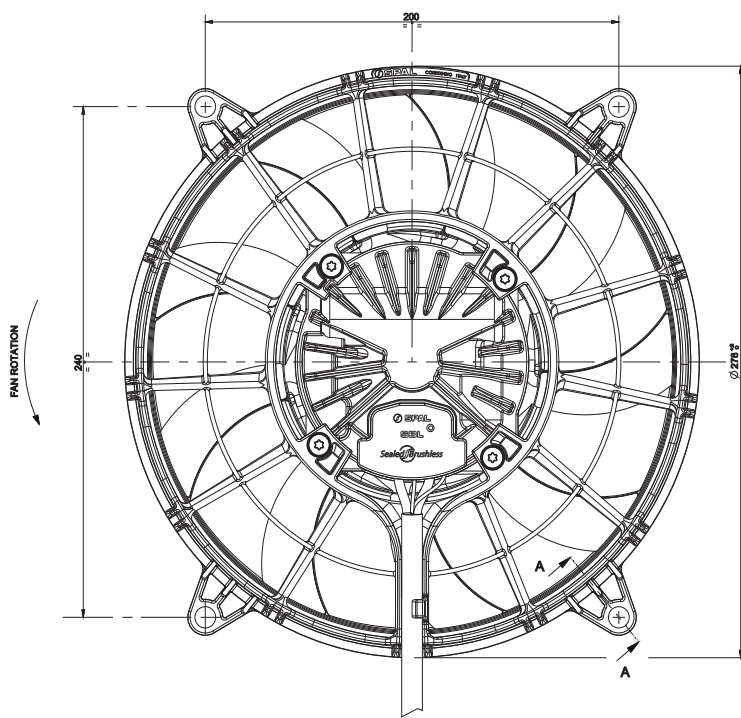
Ø 255 mm - 10"

VA109-BBL330P/R/A/N-109A/SH



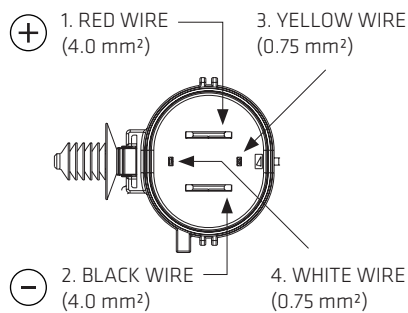
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 95 °C
Mounting Torque	5 Nm (+1/0) - Use M8 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



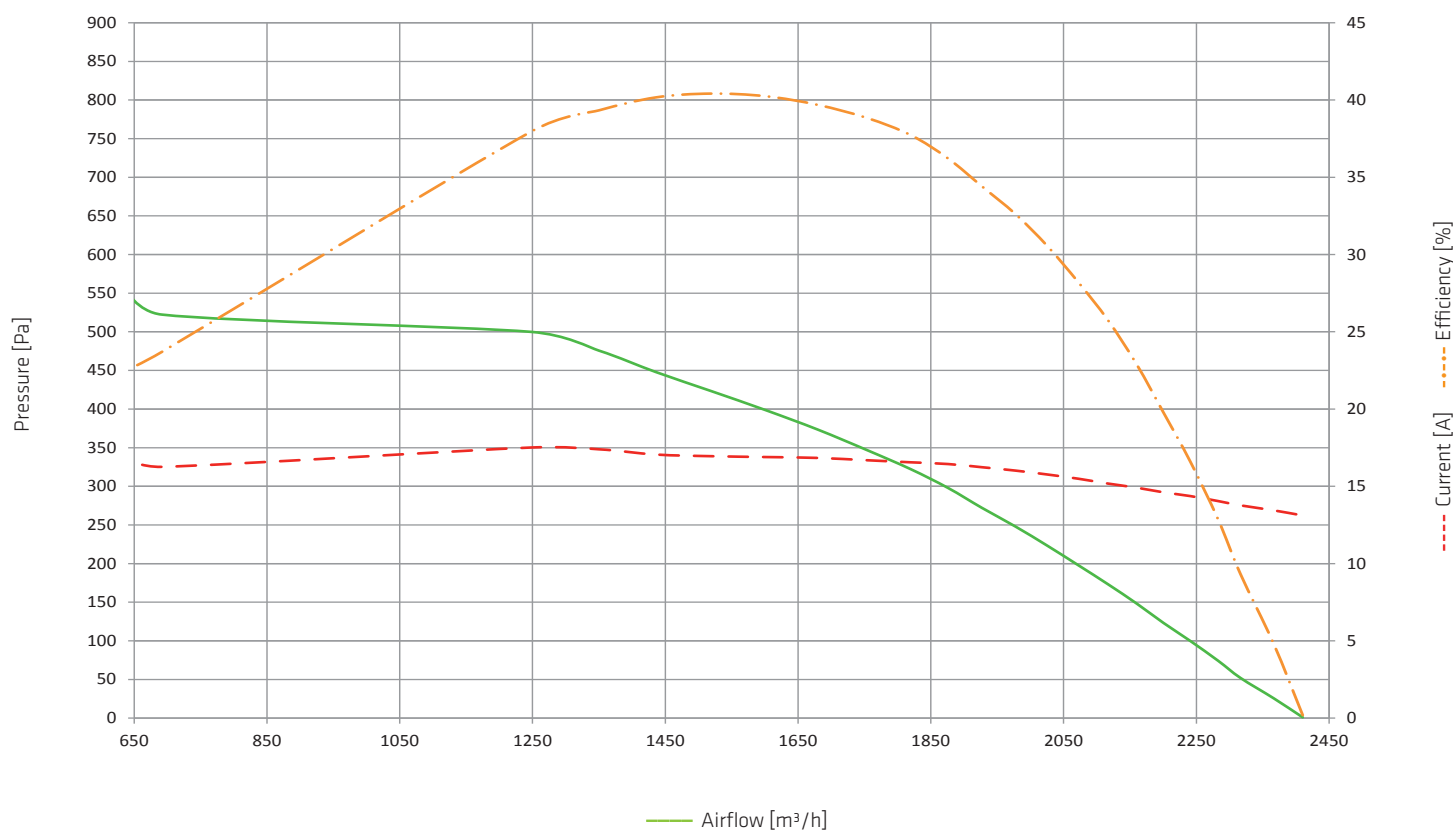
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	7158-3031-90	7158-3031-90
Pin p/n	7114-3251	7114-3251	7114-4103-02	7114-4103-02
Section [mm²]	4.0	4.0	0.75	0.75
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	4.300
Min fan speed	rpm	1.100
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	78±0.5
Weight	kg	2.0
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +95
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	14
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



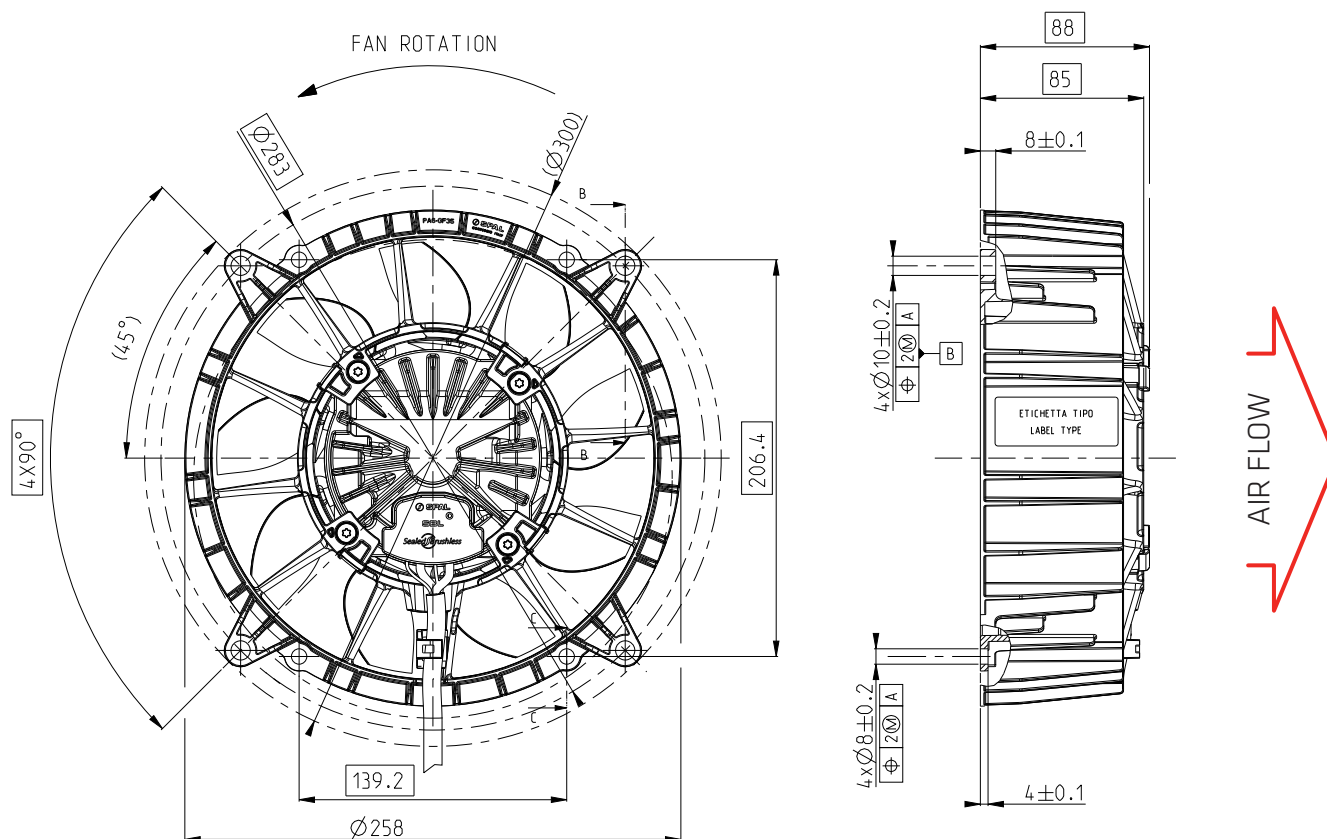
Ø 225 mm - 9"

VA224-BBL392P/R/A/N-139A/SH



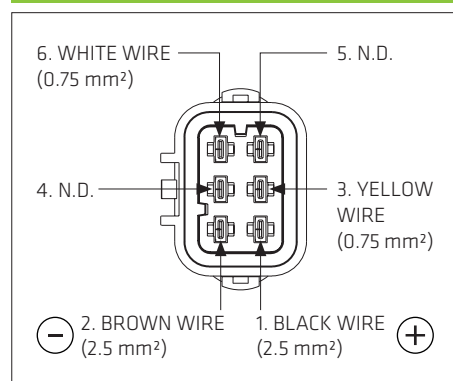
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M6 screws for fixing



all dimensions are expressed in mm

CONNECTOR: DELPHI - PART NUMBER: 12185126



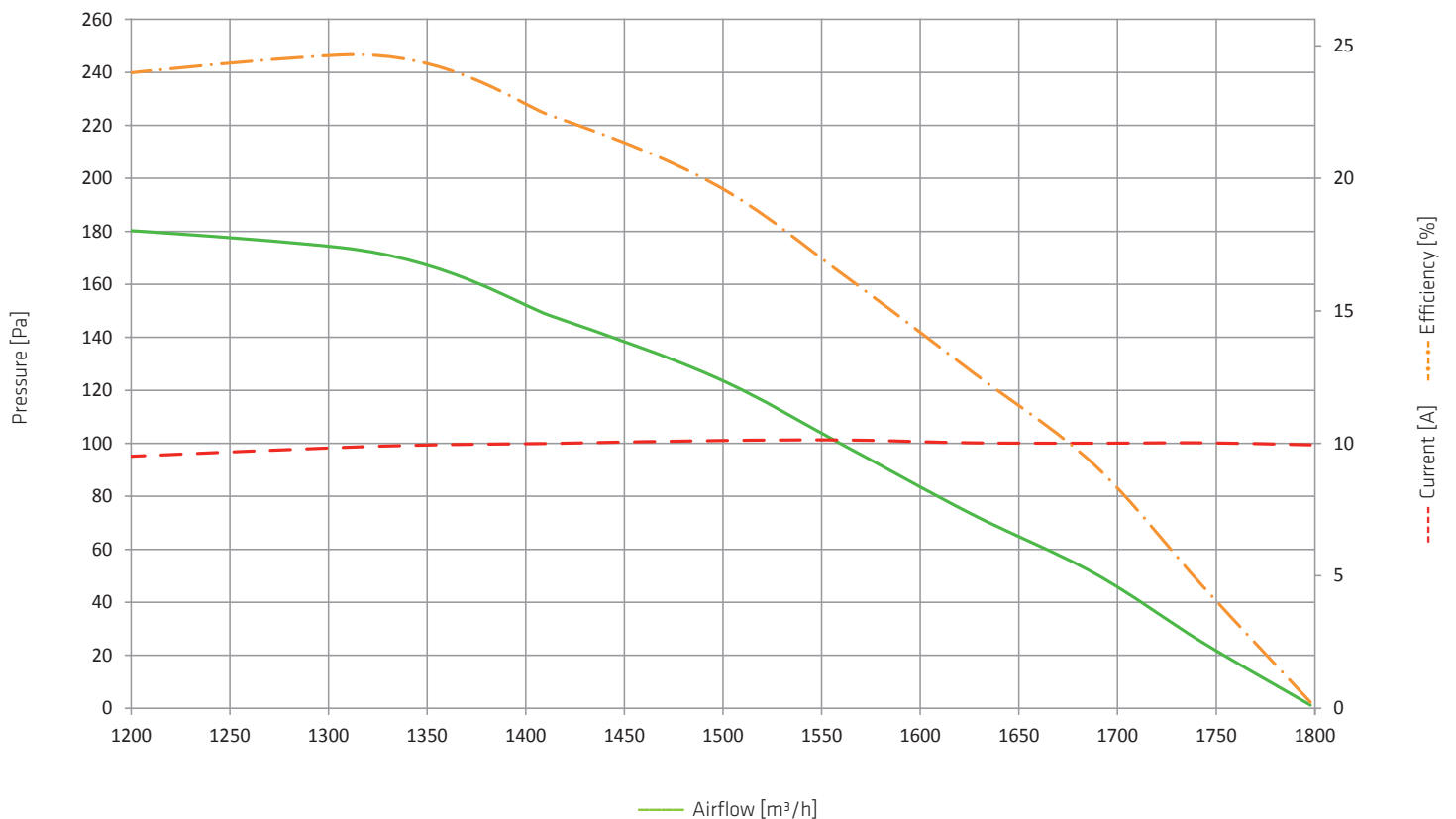
Identification	+D	-D	PWM / E	N.D.	N.D.	FO
Pin number	1	2	3	4	5	6
Wire Color	BLACK	BROWN	YELLOW	-	-	WHITE
Sealing p/n	15324973	15324973	15324974	10730124	10730124	15324974
Pin p/n	12185237	12185237	12185129	-	-	12185129
Section [mm²]	2.5	2.5	0.75	-	-	0.75
Note: Never handle the fan module via the cable harness						
Available "Counterpart Kit" see pag. 107						

FEATURES

Max fan speed	rpm	3.900
Min fan speed	rpm	600
Free flow sound pressure level at max speed (at 1 m from the fan module - lateral side)	dBA	80±0.5 (2)
Weight	kg	1.95
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	13
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating. (2) Free flow noise value is for reference only and it's not representative for performance on the application due to the effect of specific radiator/restrictions.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



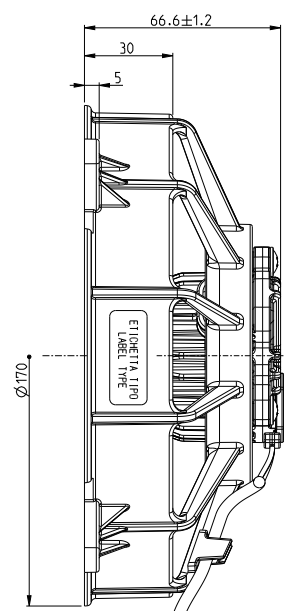
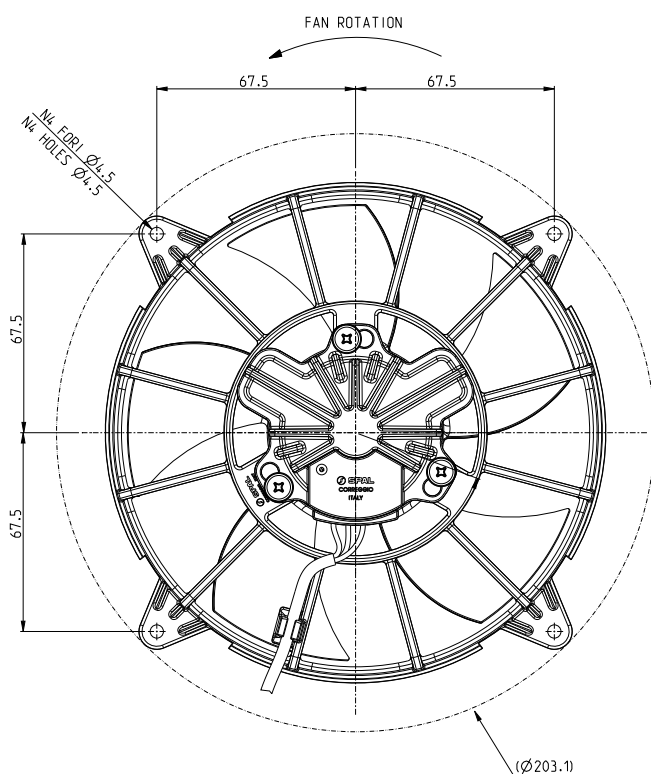
Ø 155 mm - 6"

VA193-BBL40.5/N-117A/SH



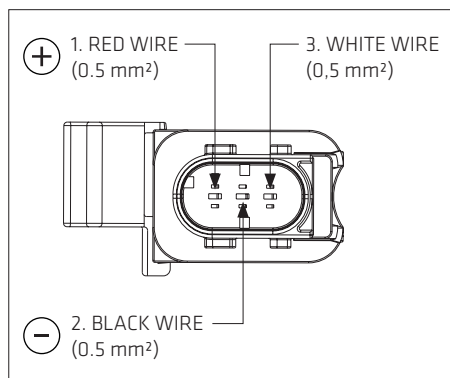
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M4 screws for fixing



all dimensions are expressed in mm

CONNECTOR: AMP SERIES HDSCS GRUPP A - Part number : 1-1670730-1



Identification (*)	+D	-D	PWM*/E*	-
Pin number	1	2	3	-
Wire Color	RED	BLACK	WHITE	-
Sealing p/n	963530-1	963530-1	963530-1	-
Pin p/n	964269-2	964269-2	964269-2	-
Section [mm²]	0.5	0.5	0.5	-

Note: Never handle the fan module via the cable harness

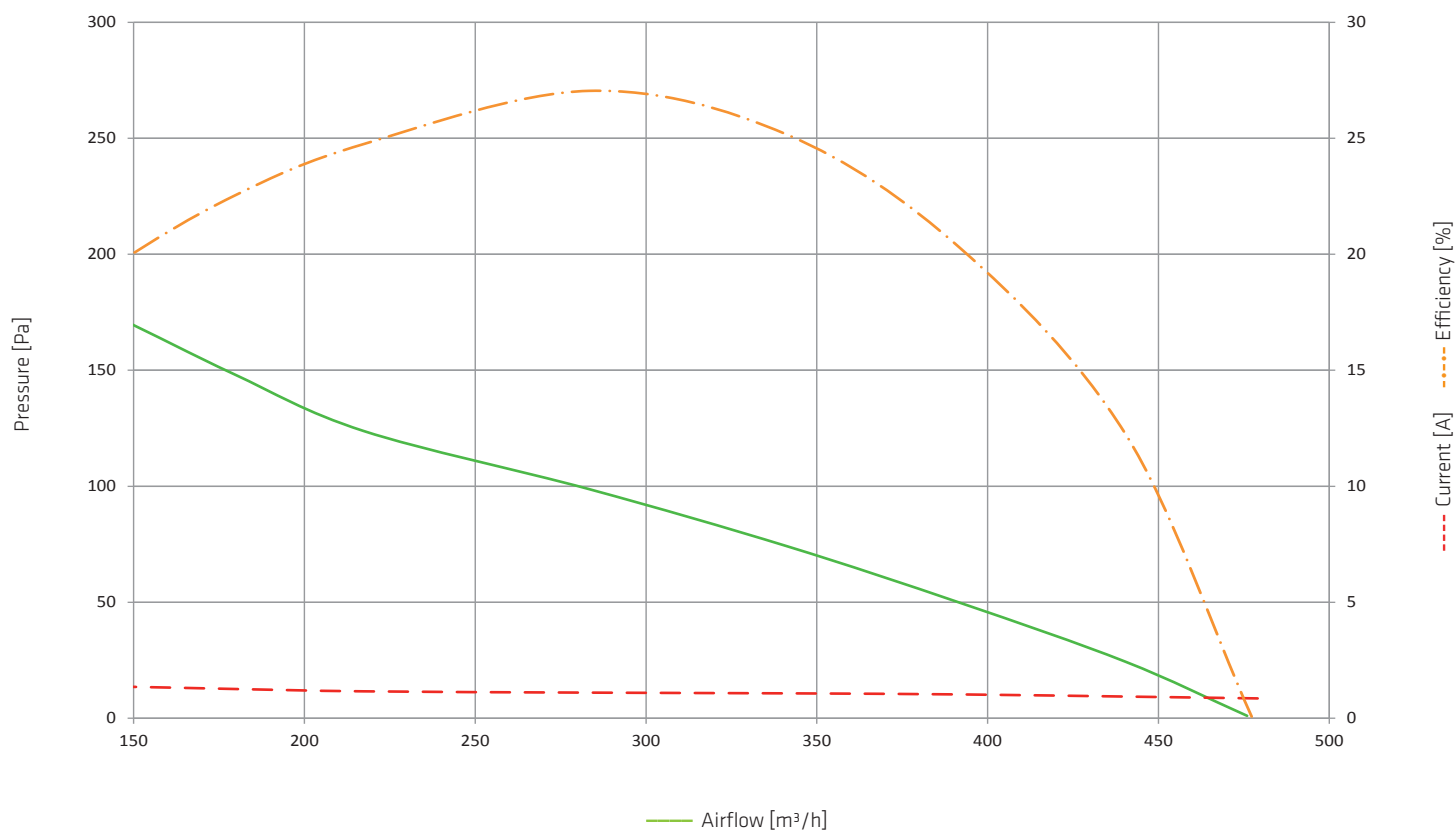
Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	4.500
Min fan speed	rpm	1.125
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	57±0.5
Weight	kg	0.50
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+90 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	10
Load dump protection (Pulse 5b) - Pulse peak voltage (U _{5*}) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O



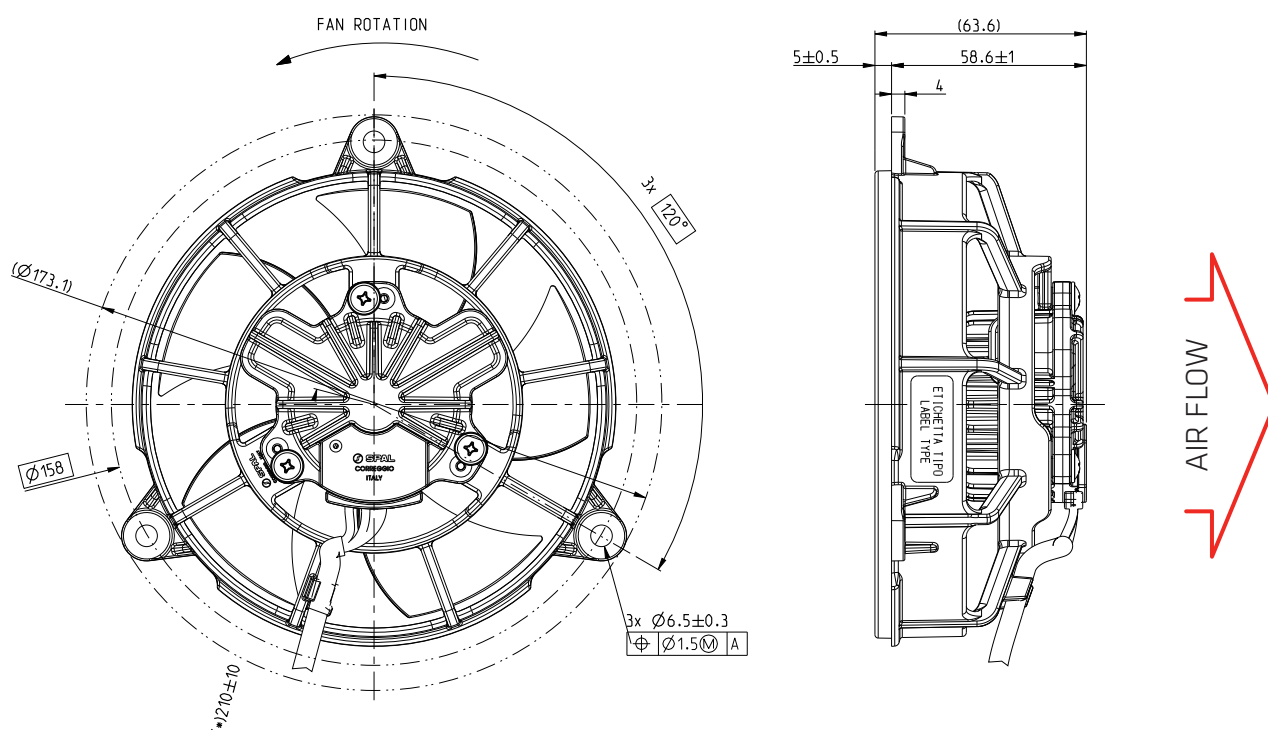
Ø 130 mm - 5"

VA195-BBL40.4/N-107A/SH



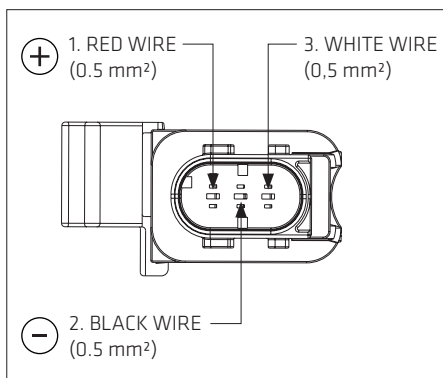
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 120 °C
Mounting Torque	3 Nm (+1/0) - Use M5 screws for fixing



all dimensions are expressed in mm

CONNECTOR: AMP 0ERIES HDSCS GRUPP A - Part number : 1-1670730-1



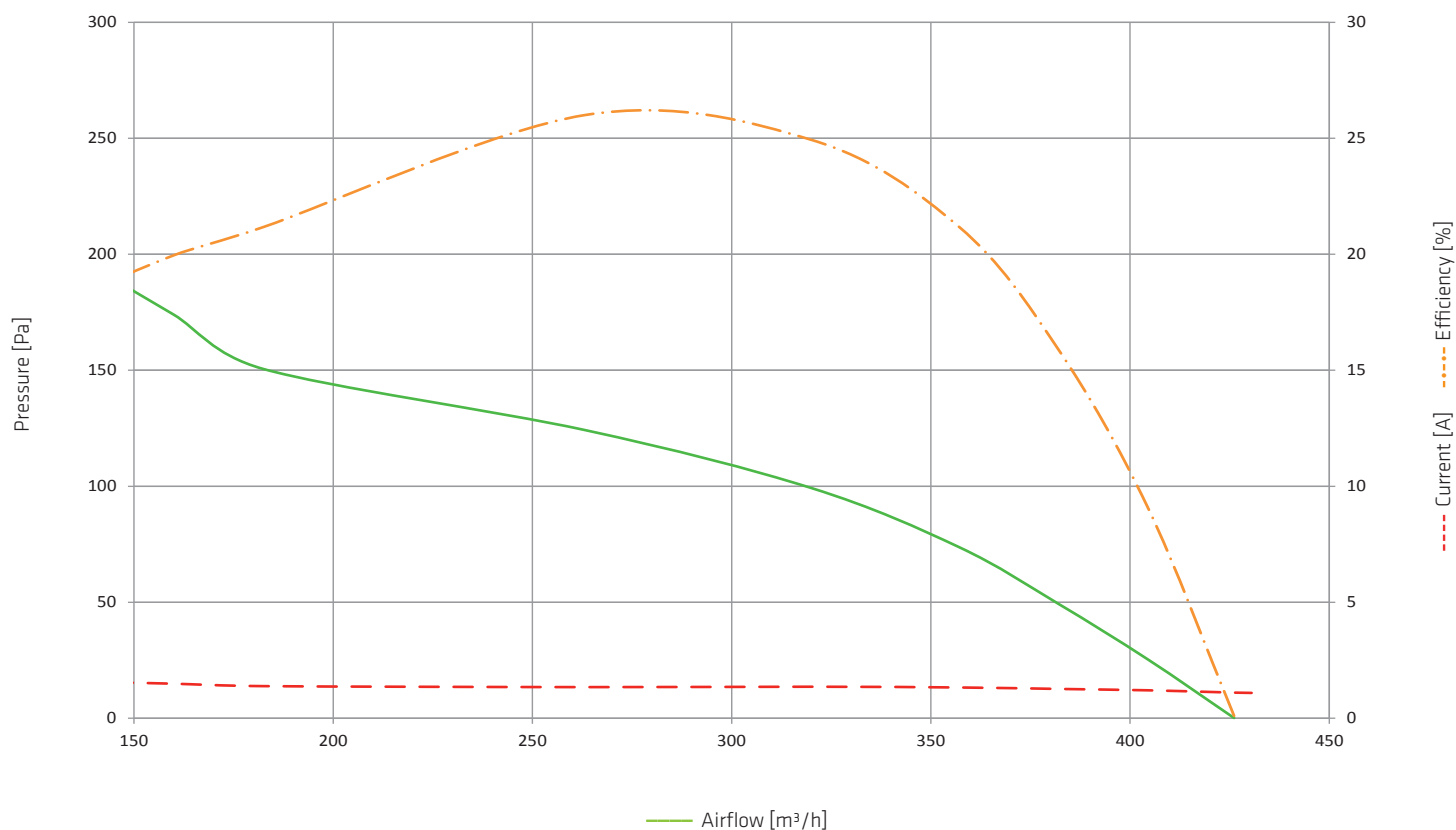
Identification (*)	+D	-D	PWM*/E*	-
Pin number	1	2	3	-
Wire Color	RED	BLACK	WHITE	-
Sealing p/n	963530-1	963530-1	963530-1	-
Pin p/n	964269-2	964269-2	964269-2	-
Section [mm²]	0.5	0.5	0.5	-
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed	rpm	5.250
Min fan speed	rpm	1.300
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	60±0.5
Weight	kg	0.46
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	13.0 .. 16.0
Operating ambient temperature range	°C	-40 .. +120
Max operating ambient temperature at max fan speed	°C	+105 (1)
Storage temperature range	°C	-40.. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	9
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	58
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O

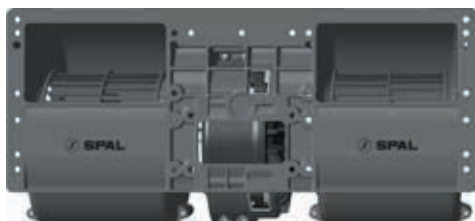




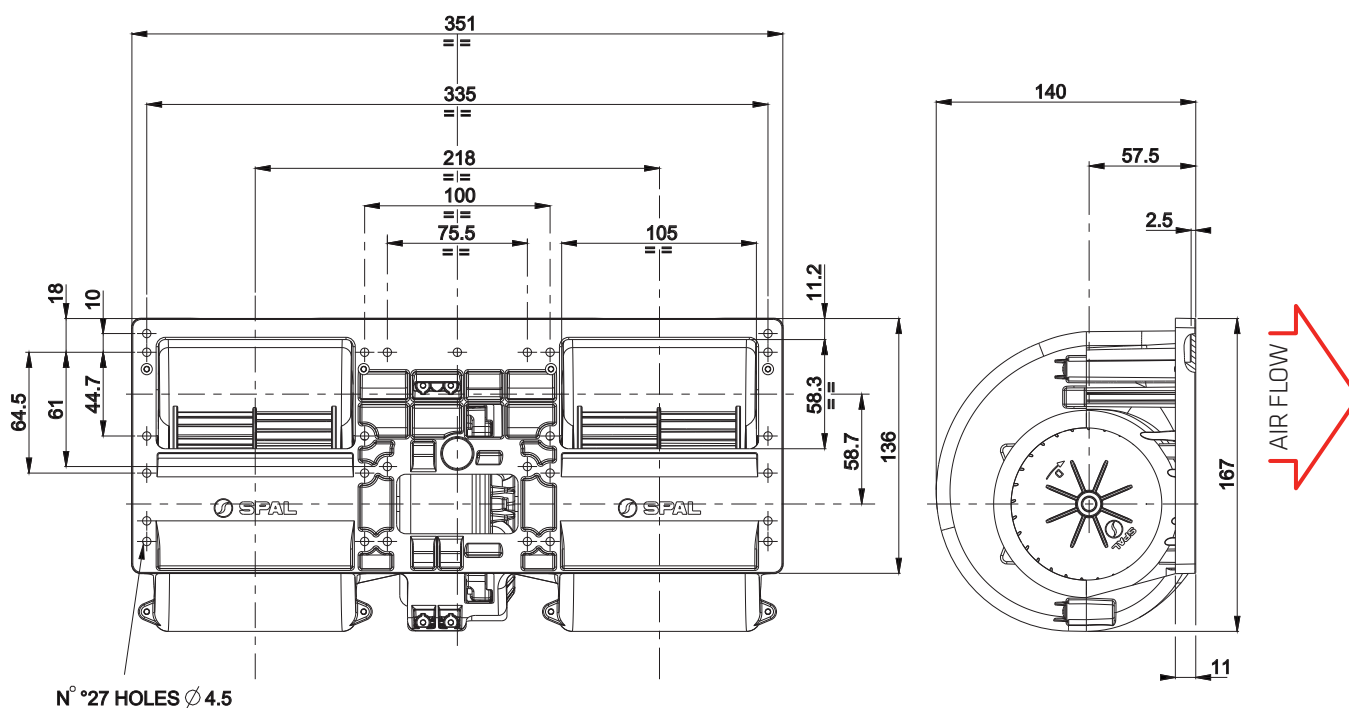


HIGH-PERFORMANCE SEALED BRUSHLESS MOTOR
CENTRIFUGAL BLOWERS

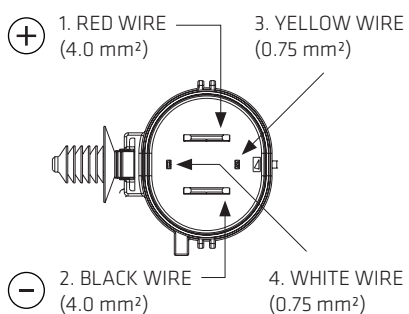
24V



EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 95 °C
Mounting Torque	3 Nm (+1/0) - Use M4 screws for fixing



CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	7158-3030-50	7158-3030-50
Pin p/n	7114-3251	7114-3251	7114-4102-02	7114-4102-02
Section [mm ²]	4.0	4.0	0.75	0.75

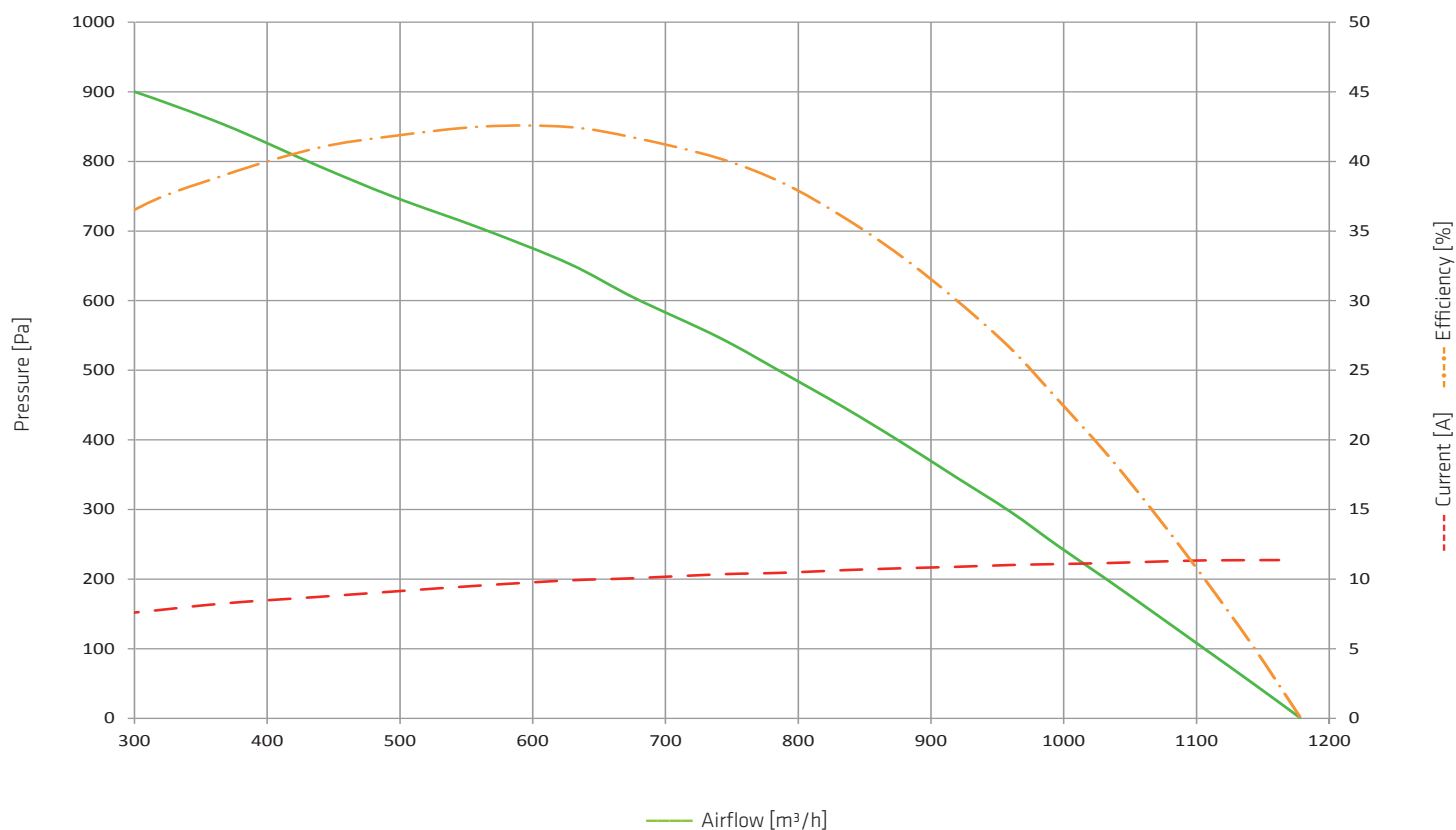
Note: Never handle the fan module via the cable harness

Available "Counterpart Kit" see pag. 107

FEATURES

Max fan speed	rpm	3.550
Min fan speed	rpm	890
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	73±0.5
Weight	kg	2.4
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +95
Speed derating threshold	°C	+85 (1)
Storage temperature range	°C	-40 .. +125
Lifetime hours up to (depending on mission profile)	h	40.000
Load dump protection (Pulse 5b) - Pulse peak voltage (U _{S*}) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

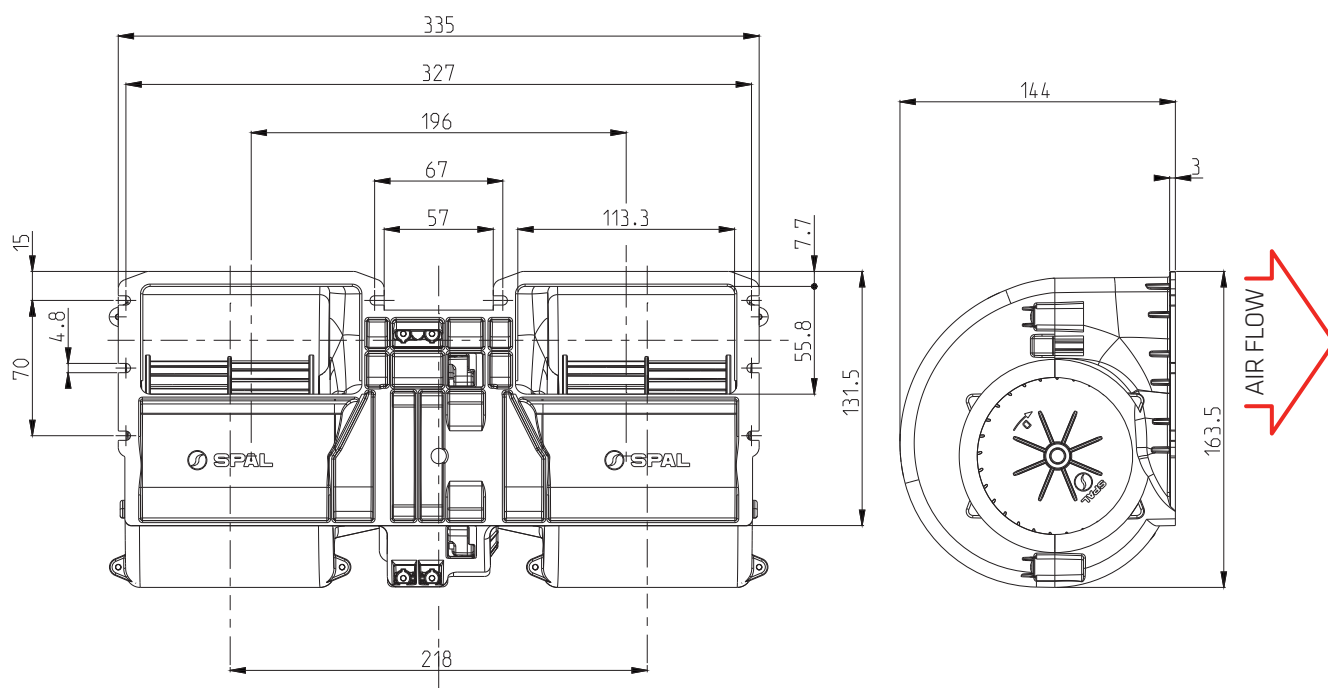
Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂OAir density 1.18 kg/m³ - Test bench compliant to ANSI AMCA 210 - TAMB = 20 °C ± 5 °C - UB = 26.0 V at the Drive connector

019-BBL337P/R/N-95



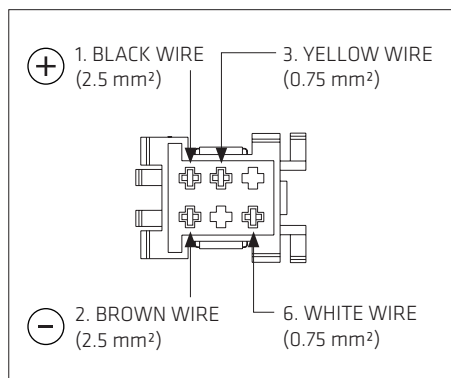
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 95 °C
Mounting Torque	3 Nm (+1/0) - Use M4 screws for fixing



all dimensions are expressed in mm

CONNECTOR: PART NUMBER: AMP 929505-2

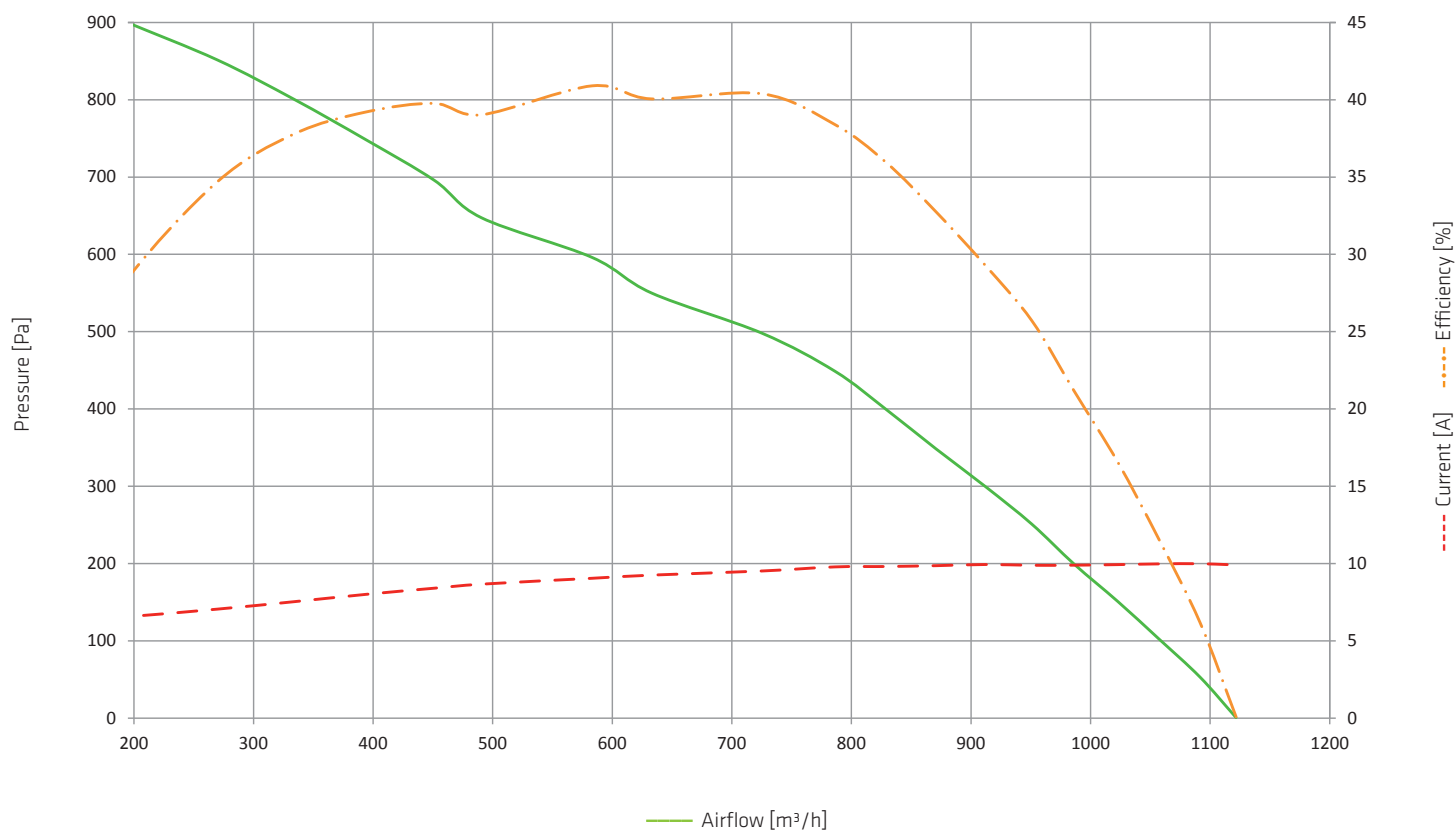


Identification	+D	-D	PWMA / E	-	-	FO
Pin number	1	2	3	4	5	6
Wire Color	BLACK	BROWN	YELLOW	-	-	WHITE
Pin p/n	AMP 0-928781-2	AMP 0-928781-2	AMP 0-928930-2	-	-	AMP 0-928930-2
Section [mm²]	2.5	2.5	0,75	-	-	0.75
Note: Never handle the fan module via the cable harness						
Available "Counterpart Kit" see pag. 107						

FEATURES

Max fan speed	rpm	3.400
Min fan speed	rpm	900
Sound pressure level at max speed (at 1 m from the fan module - lateral side)	dB(A)	72.6 ±0.5
Weight	kg	2.4
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +95
Max operating ambient temperature at max fan speed	°C	+95 (1)
Storage temperature range	°C	-40 .. +95
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	14
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

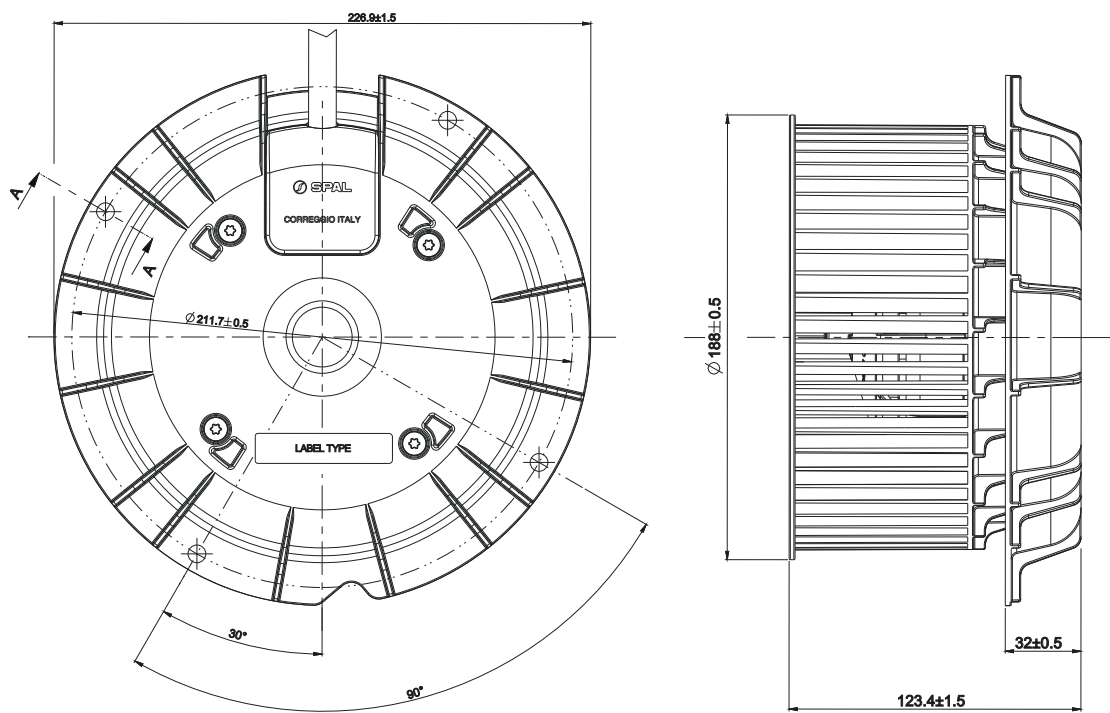
Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂OAir density 1.18 kg/m³ - Test bench compliant to ANSI AMCA 210 - TAMB = 23 °C ± 5 °C - UB = 26.0 V at the Drive connector

BBL354P/R/N-120S



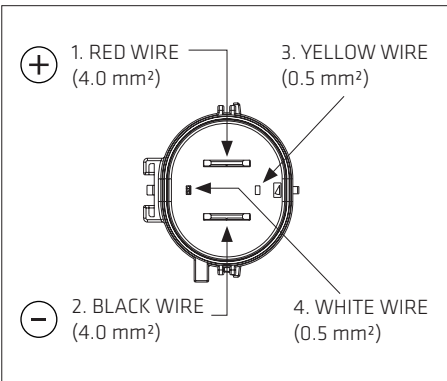
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 95 °C
Mounting Torque	3 Nm (+1/0) - Use M4 screws for fixing



all dimensions are expressed in mm

CONNECTOR: YAZAKI HYBRID - PART NUMBER: 7282-8497-90



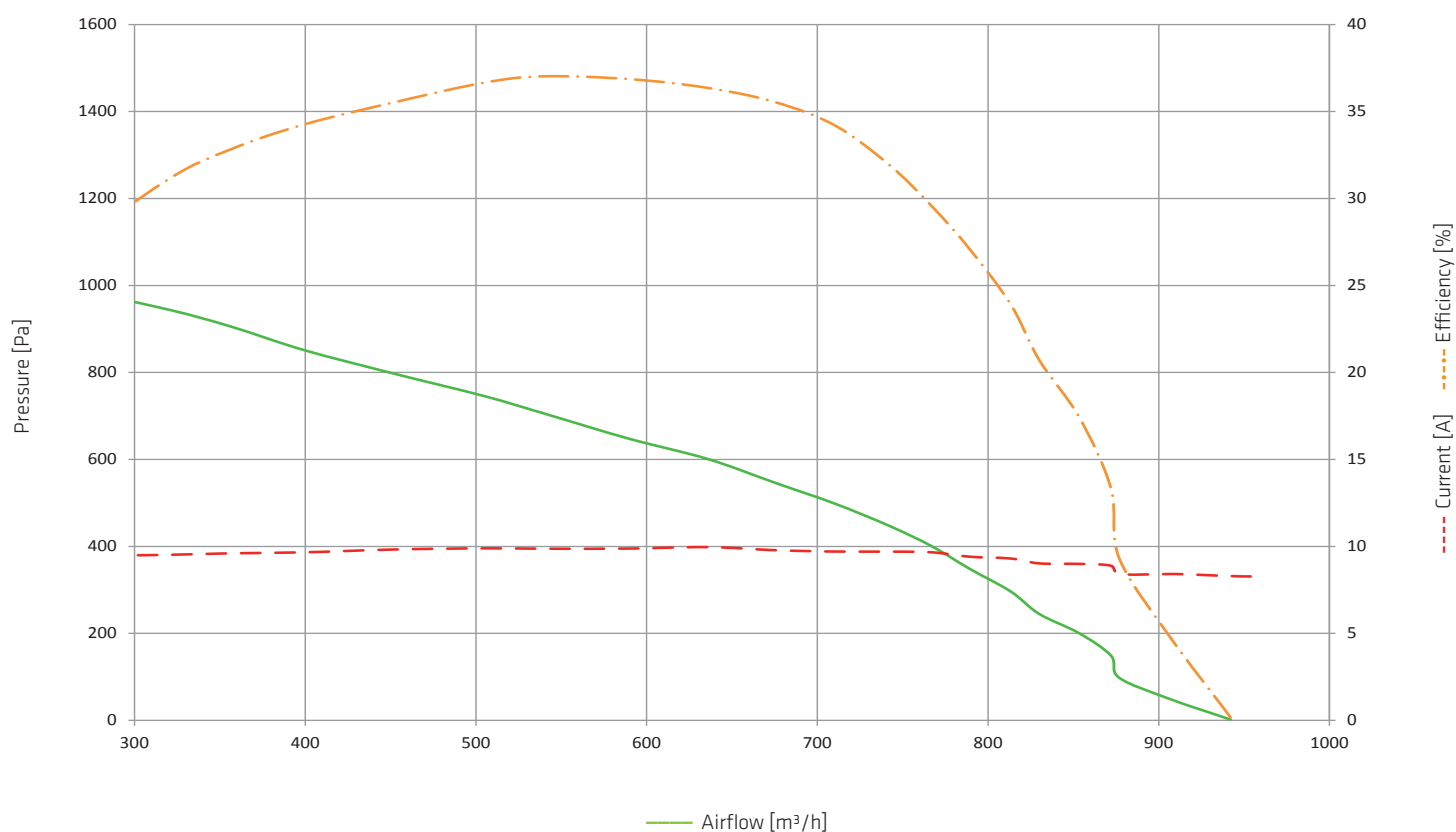
Identification	+D	-D	A	PWM* / E*
Pin number	1	2	3	4
Wire Color	RED	BLACK	YELLOW	WHITE
Sealing p/n	7157-3582-90	7157-3582-90	7158-3031-90	7158-3031-90
Pin p/n	7114-3251	7114-3251	7114-4103-02	7114-4103-02
Section [mm²]	4.0	4.0	0.5	0.5
Note: Never handle the fan module via the cable harness				
Available "Counterpart Kit" see pag. 107				

FEATURES

Max fan speed - at 0 Pa	rpm	1.900
Min fan speed	rpm	800
Sound pressure level at max speed (at 1m from the fan module lateral side, 550Pa load, 2750rpm)	dBA	73±0.5
Weight	kg	1.9
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	24.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +95
Max operating ambient temperature at max fan speed	°C	+85 (1)
Storage temperature range	°C	-40 .. +120
Lifetime hours up to (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	5
Load dump protection (Pulse 5b) - Pulse peak voltage (U _S *) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating.		

AXIAL FAN PERFORMANCE CURVE

Airflow: 1 m³/h = 0.59 cfm - Static pressure: 1 Pa = 0.004 inH₂O







COOLANT PUMPS

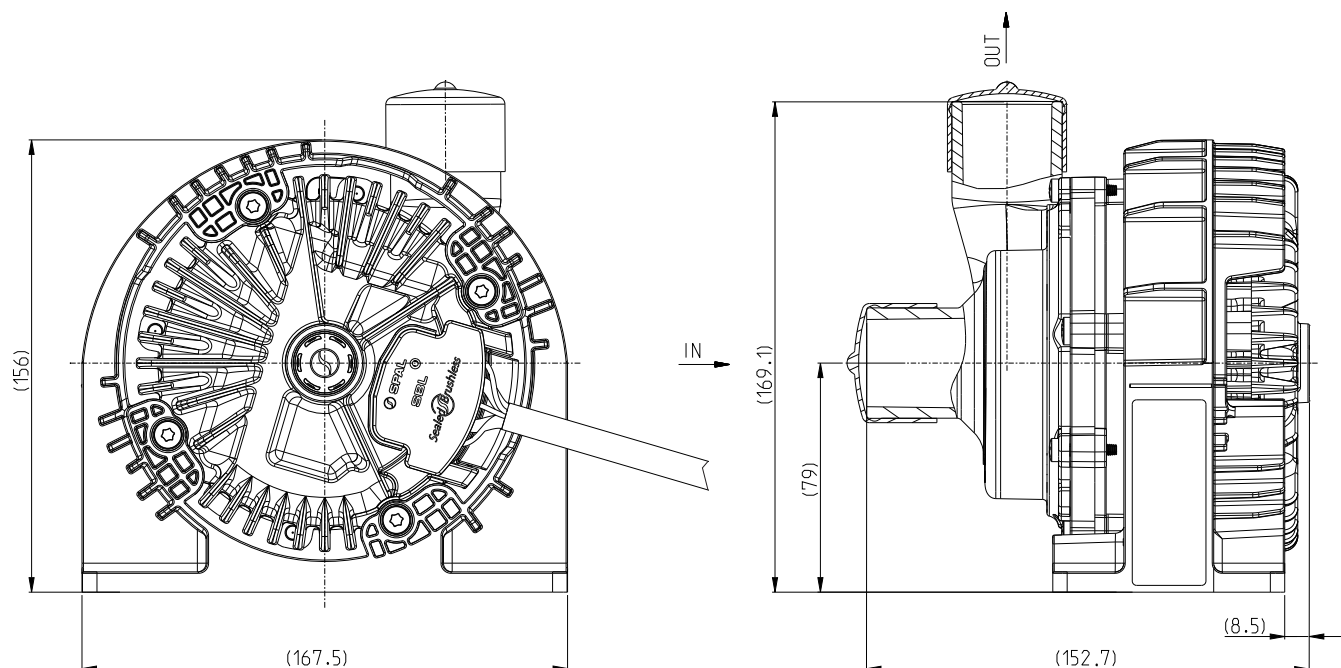
24V

C01-BBL900P/P-G01



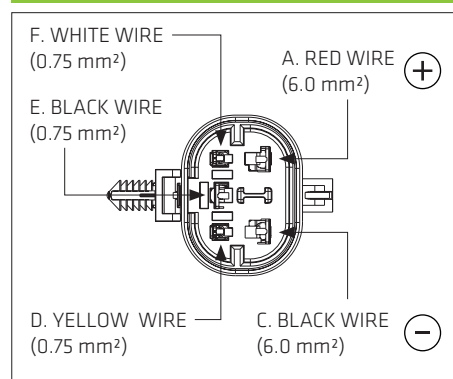
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 120 °C
Mounting Torque	5 Nm (+1/0) - Use M6 bolts with washer



all dimensions are expressed in mm

CONNECTOR: DELPHI METRI-PACK 280-630 - Part number : DELPHI 13599647



Identification	+D	-	-D	CANH	ADDR/E	CANL
Pin number	A	-	C	D	E	F
Wire Color	RED	-	BLACK	YELLOW	BLACK	WHITE
Sealing p/n	1532.4996	-	1532.4996	1532.4983	1532.4997	1532.4983
Pin p/n	1531.7330	-	1531.7330	1204.8159	1206.4734	1204.8159
Section [mm²]	6.0	-	6.0	0.75	0.75	0.75

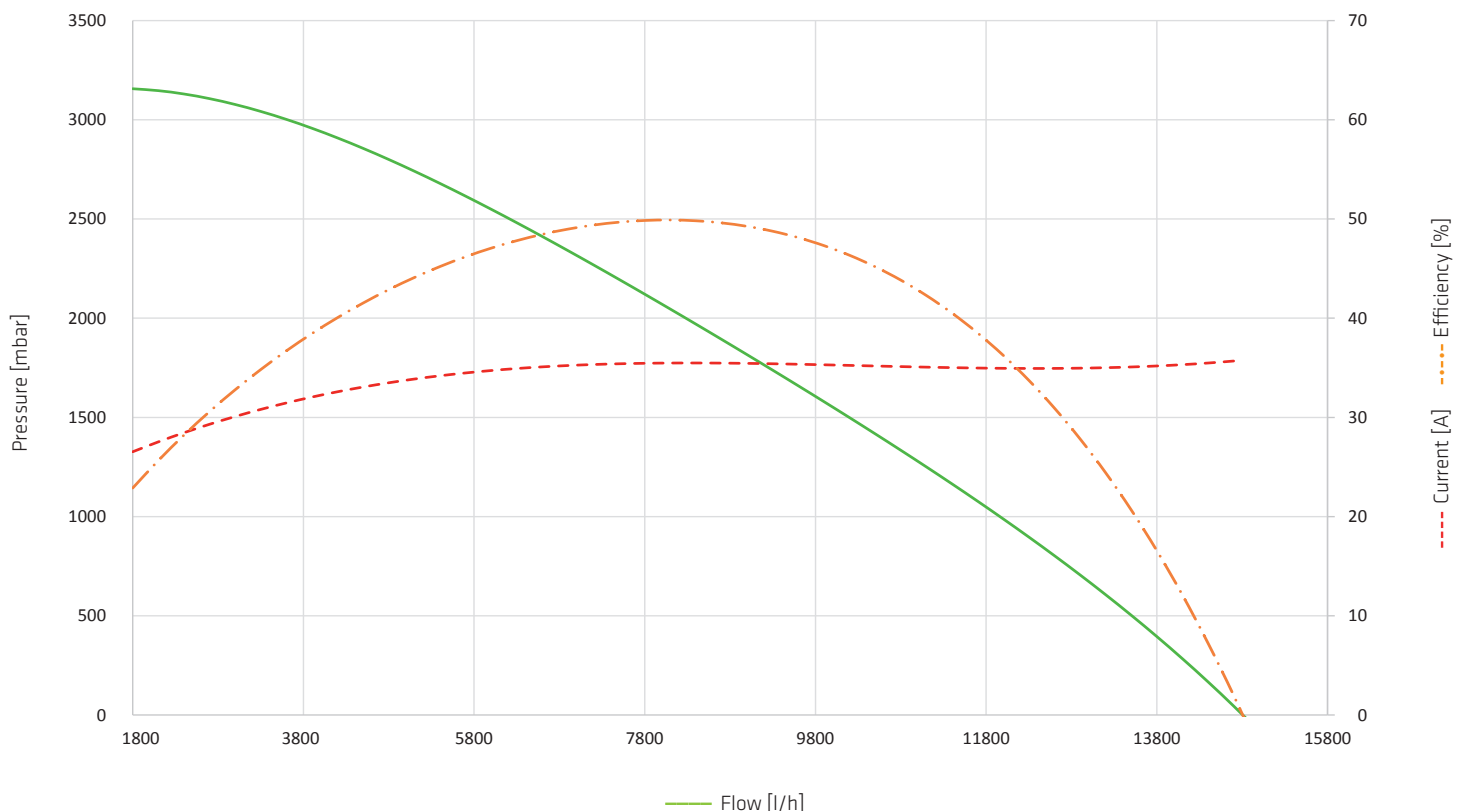
Note: Never handle the pump module via the cable harness

Available "Counterpart Kit" see pag. 107

FEATURES

Max pump speed	rpm	5.350
Min pump speed	rpm	1.500
Weight	kg	2,96
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +120 (2)
Max operating ambient temperature @ max pump speed	°C	+95 (1)
Storage temperature range	°C	-40 .. +120
Lifetime up to hours (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	18
Load dump protection (Pulse 5a) - Pulse peak voltage (U _{S*}) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating. (2) Depending on mission profile		
ATTENTION: Our technical specifications are purely indicative and might change without any prior notice		

PUMP PERFORMANCE CURVE



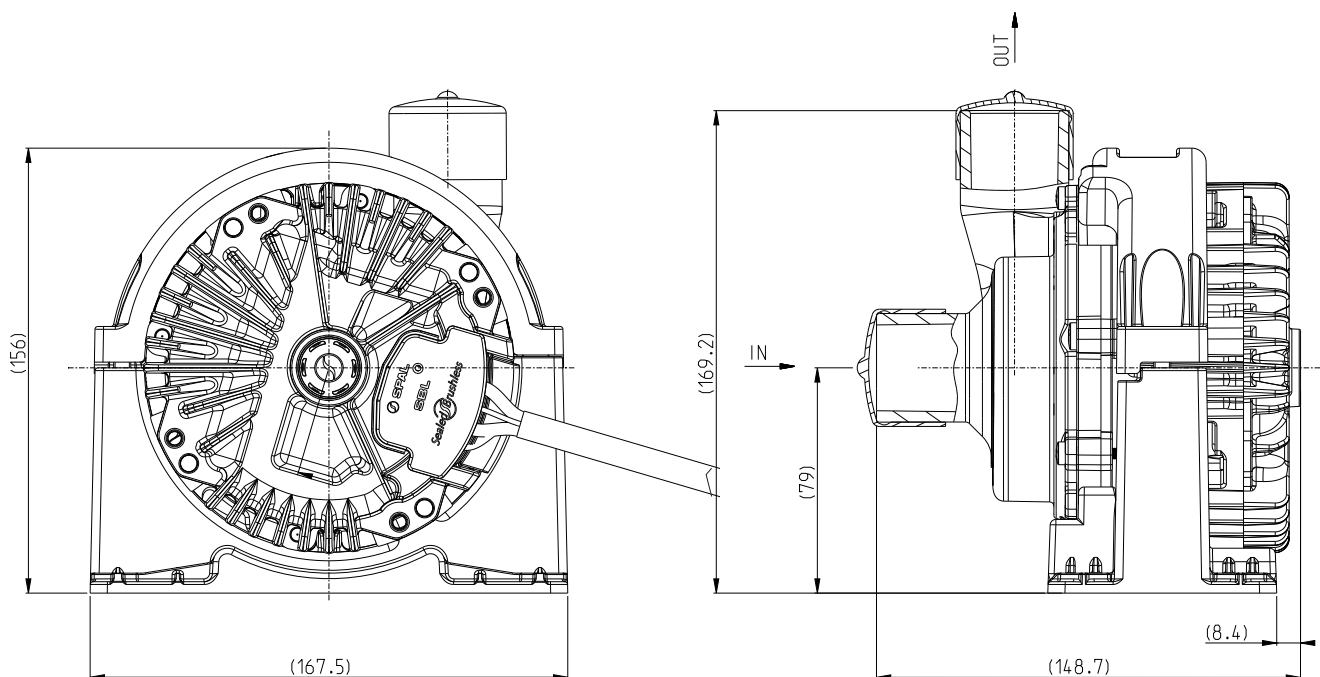
Ethylene Glycol / Water mixture 60:40 ratio by volume - Density 1,08kg / l - Test bench compliant to ISO9906 - TAMB = 20 °C ± 5 °C - UB = 26.0 V at the Drive connector

C01-BBL531P/P-G01



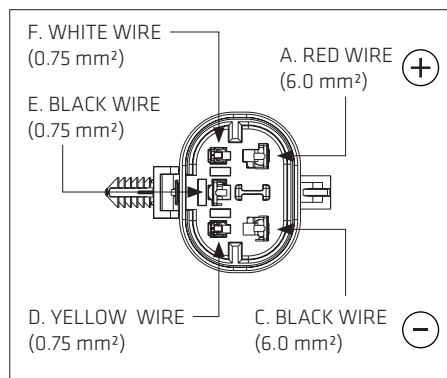
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	26V dc
Working Temperature	-40 + 120 °C
Mounting Torque	5 Nm (+1/0) - Use M6 bolts with washer



all dimensions are expressed in mm

CONNECTOR: DELPHI METRI-PACK 280-630 - Part number : DELPHI 13599647



Identification	+D	-	-D	CANH	ADDR/E	CANL
Pin number	A	-	C	D	E	F
Wire Color	RED	-	BLACK	YELLOW	BLACK	WHITE
Sealing p/n	1532.4996	-	1532.4996	1532.4983	1532.4997	1532.4983
Pin p/n	1531.7330	-	1531.7330	1204.8159	1206.4734	1204.8159
Section [mm²]	6.0	-	6.0	0.75	0.75	0.75

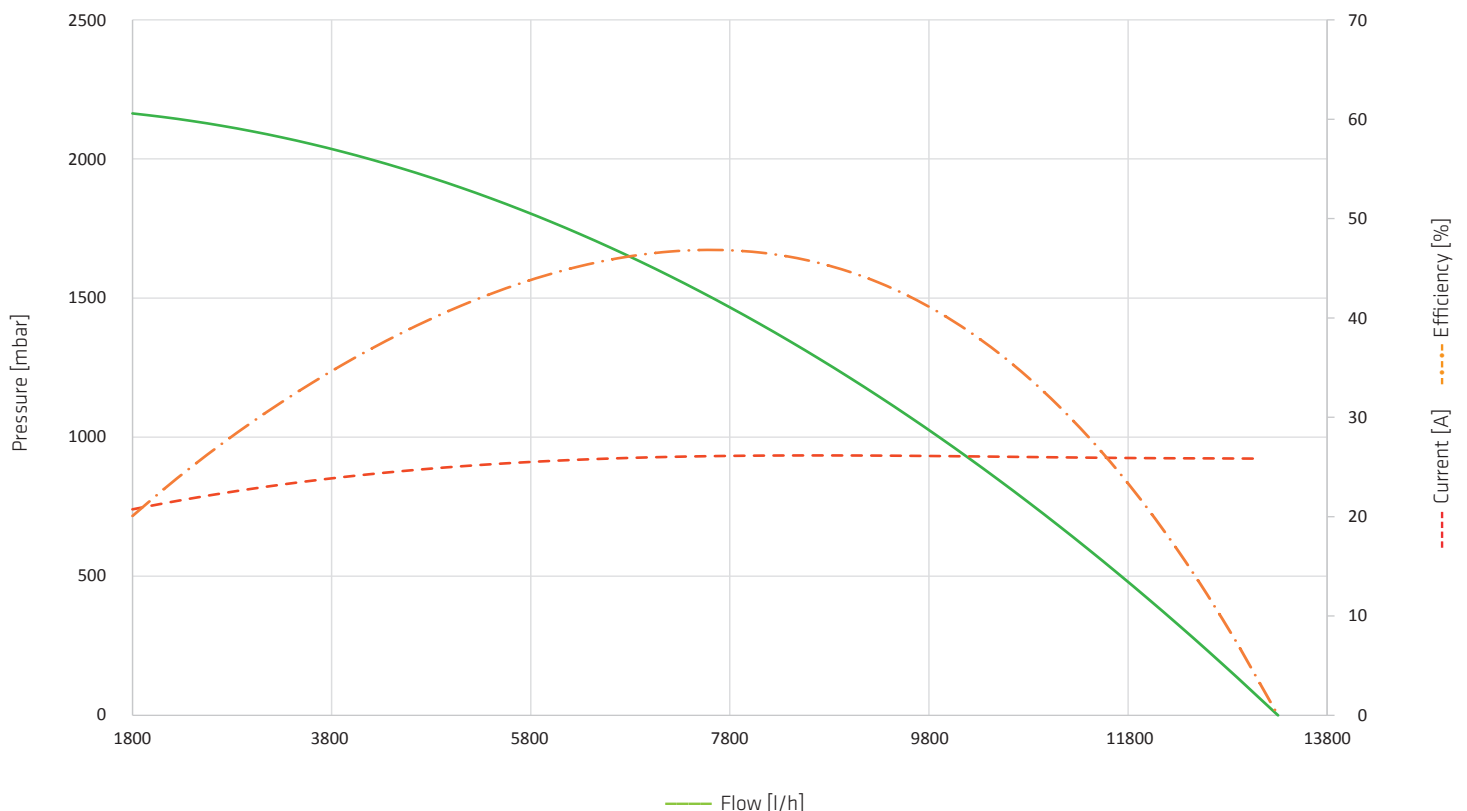
Note: Never handle the pump module via the cable harness

Available "Counterpart Kit" see pag. 107

FEATURES

Max pump speed	rpm	5.350
Min pump speed	rpm	1.500
Weight	kg	2,8
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	26.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +120 (2)
Max operating ambient temperature @ max pump speed	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime up to hours (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	18
Load dump protection (Pulse 5ab) - Pulse peak voltage (U _{S*}) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating. (2) Depending on mission profile		
ATTENTION: Our technical specifications are purely indicative and might change without any prior notice		

PUMP PERFORMANCE CURVE



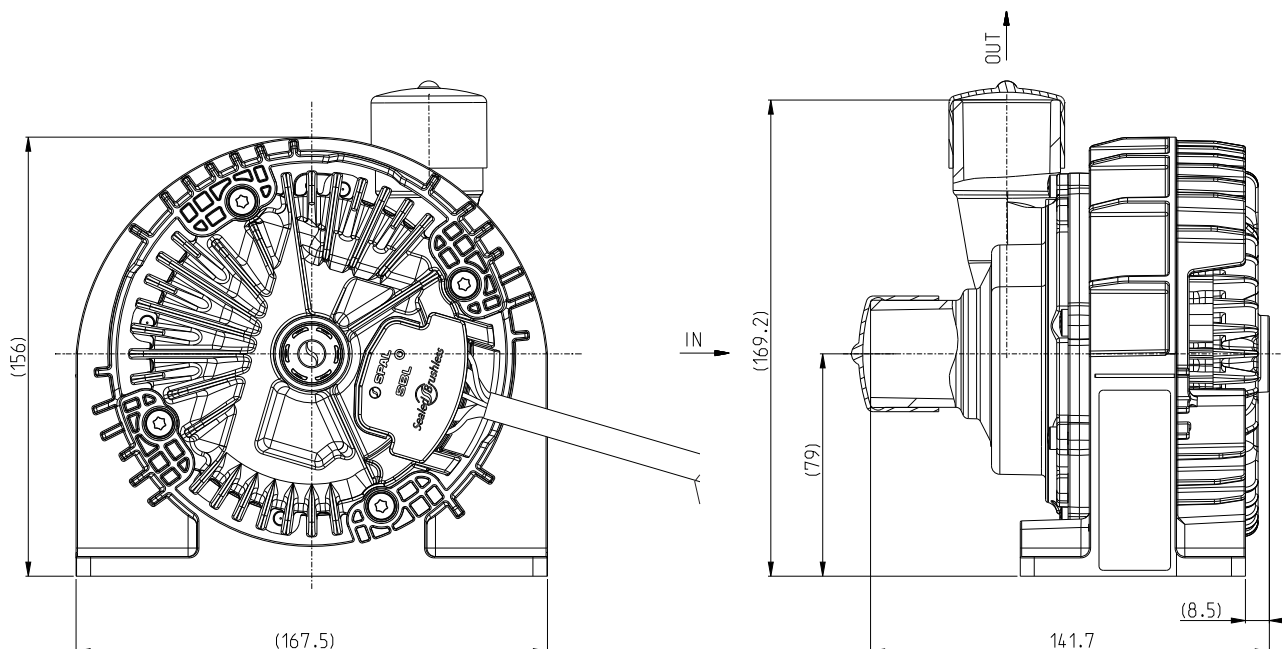
Ethylene Glycol / Water mixture 60:40 ratio by volume - Density 1,08kg / l - Test bench compliant to ISO9906 - TAMB = 20 °C ± 5 °C - UB = 26.0 V at the Drive connector

C02-BBL393P/P-G02



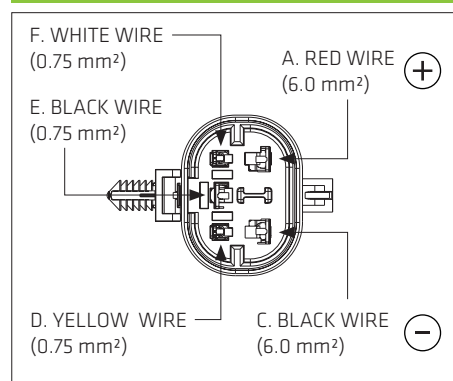
GENERAL INFORMATION

EMC Compliance	E1 Certified
Protection Degree	IP68 - IP6K9K
Test Voltage	24V dc
Working Temperature	-40 + 120 °C
Mounting Torque	5 Nm (+1/0) - Use M6 bolts with washer



all dimensions are expressed in mm

CONNECTOR: DELPHI METRI-PACK 280-630 - Part number : DELPHI 13599647



Identification	+D	-	-D	CANH	ADDR/E	CANL
Pin number	A	-	C	D	E	F
Wire Color	RED	-	BLACK	YELLOW	BLACK	WHITE
Sealing p/n	1532.4996	-	1532.4996	1532.4983	1532.4997	1532.4983
Pin p/n	1531.7330	-	1531.7330	1204.8159	1206.4734	1204.8159
Section [mm²]	6.0	-	6.0	0.75	0.75	0.75

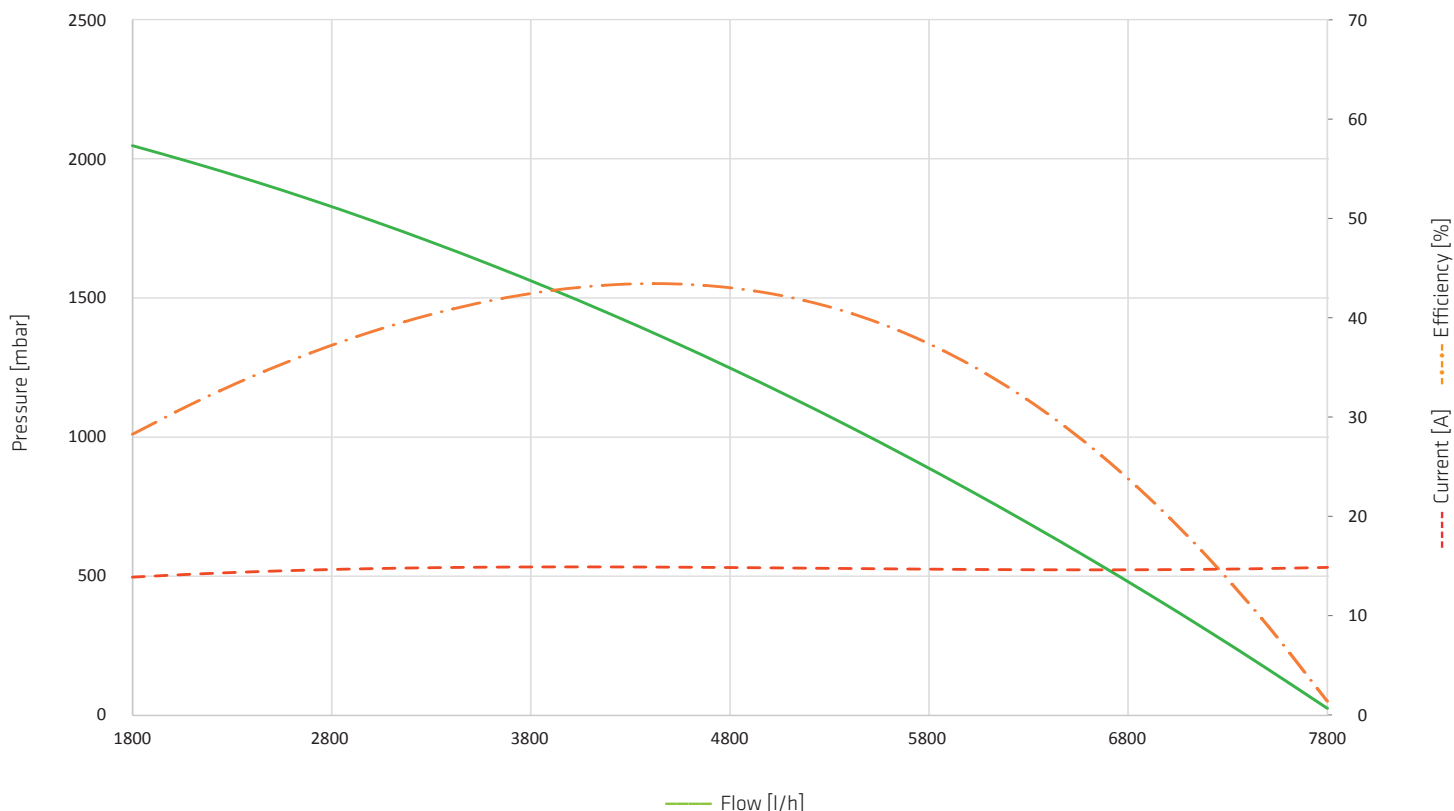
Note: Never handle the pump module via the cable harness

Available "Counterpart Kit" see pag. 107

FEATURES

Max pump speed	rpm	5.500
Min pump speed	rpm	1.500
Weight	kg	2,5
Operating supply voltage range (at the Drive connector)	V	16.0 .. 32.0
Supply voltage to reach max speed (at the Drive connector)	V	24.0 .. 32.0
Operating ambient temperature range	°C	-40 .. +120 (2)
Max operating ambient temperature @ max pump speed	°C	+105 (1)
Storage temperature range	°C	-40 .. +125
Lifetime up to hours (depending on mission profile)	h	40.000
Time from 0 rpm to max speed	s	18
Load dump protection (Pulse 5a) - Pulse peak voltage (U _{S*}) - ISO16750-2:2010	V	65
Reverse polarity protection - ISO 16750-1 functional status class C - device fully functional after correcting the polarity		
Notes: (1) Few minutes ambient temperature transients do not engage the derating owing to the thermal inertia of the system. Overloads may anticipate derating. (2) Depending on mission profile		
ATTENTION: Our technical specifications are purely indicative and might change without any prior notice		

PUMP PERFORMANCE CURVE



Ethylene Glycol / Water mixture 60:40 ratio by volume - Density 1,08kg / l - Test bench compliant to ISO9906 - TAMB = 20 °C ± 5 °C - UB = 26.0 V at the Drive connector

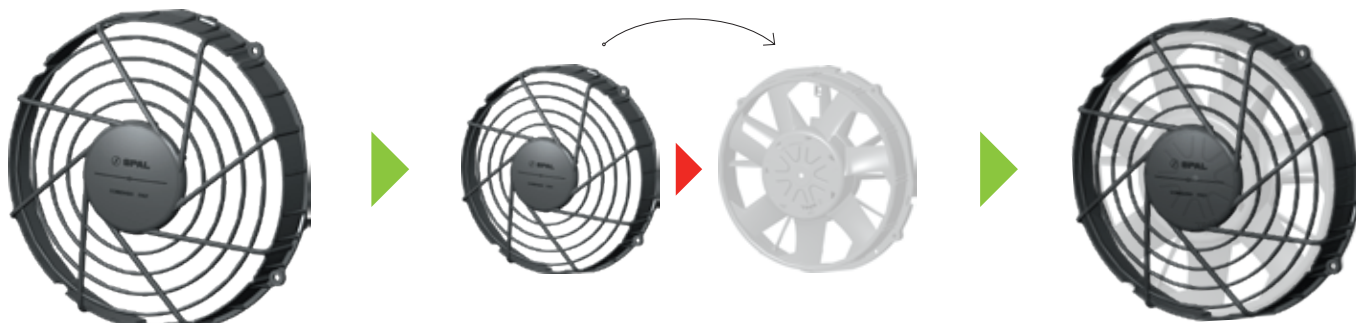




Fans & Blowers Accessories

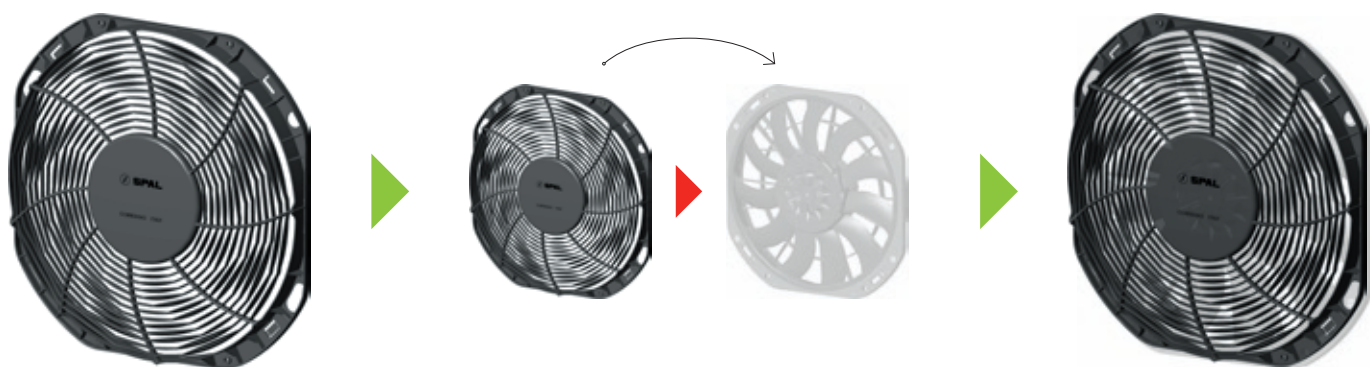
30130877

PROTECTION GUARD FOR **VA89A** AND **VA113**



30130899

PROTECTION GUARD FOR **VA164**



COUNTERPART CONNECTOR KIT

P/N	COUNTERPART FOR
30130628	CONNECTOR YAZAKI HB.WP 3-4P 12-24V
30130735	CONNECTOR DUCON 2.8 6P 24V
30130934	CONNECTOR YAZAKI YPT WP 3-4P 12-24V
30130969	CONNECTOR AMP 6P 12-24V
30130970	CONNECTOR DELPHI W/PACK WP 4P 12-24V
30130971	CONNECTOR AMP S1.5 WP 3-4P 12-24V
30130972	CONNECTOR DELPHI M/PACK 150-480 WP 7P 12-24V
30130973	CONNECTOR AMP HDSCS WP 3P 12-24V





Pumps Accessories

Coolant Pump connector counterpart:

30130628	ASS.CONTROP.CONN.YAZ.HB.WP 3-4 P 12V-24V
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SUITABLE FOR

30207004A	PUMP C01-BBL531P/P-G01 24V YAZAKI HYBRID 4P
30207011	PUMP C02-ABL366P/P-G02 12V P1 YAZAKI HYBRID 4P (under development)

30131009	ASS.CONTROP.CONN.DELPHI M/PACK 280-630 WP 5P 12V-24V
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SUITABLE FOR

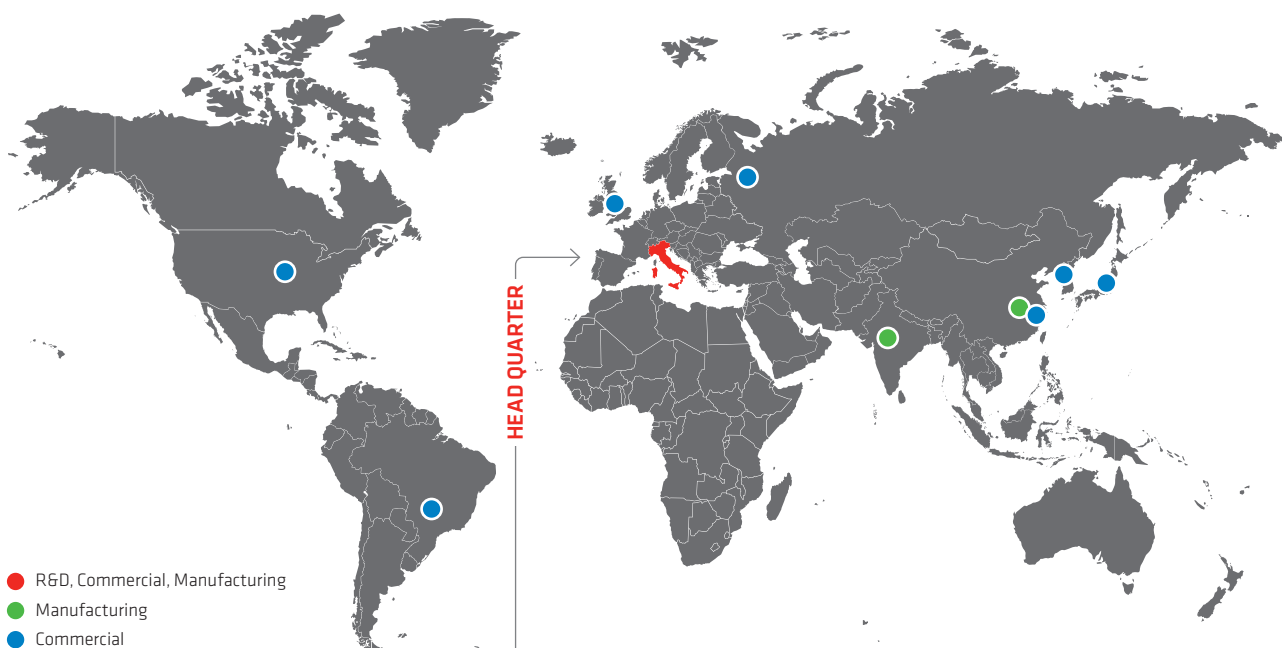
30207006B	PUMP C01-BBL533P/P-G01 24VM/PACK280-630
30207010	PUMP C02-BBL393P/P-G02 24V P1 M/PACK280-630

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