



E-FANS

Intelligent solutions for electric mobility cooling

SPAL provides a wide range of high performance brushless fans and blowers, specially designed to meet new generation cooling systems requirements for automotive industry.

- Sealed Motor IP6k9k
- High efficiency
- Spark free (brushless products)
- Extended temperature range
- Intelligent Drive



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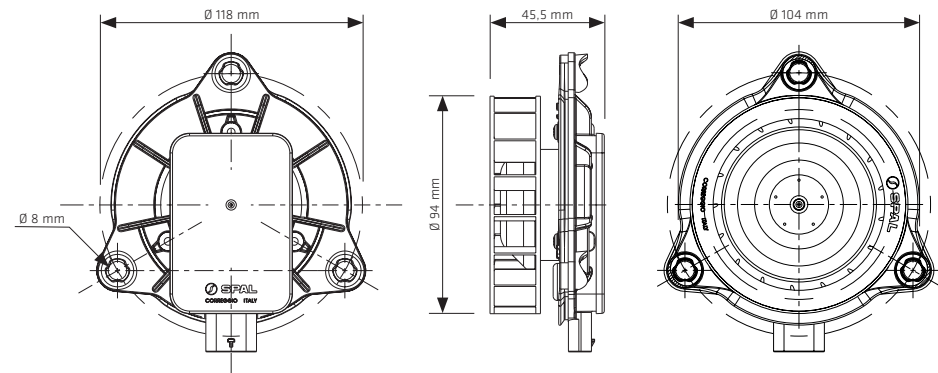
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BL10 SMALL Brushless Blower

12V

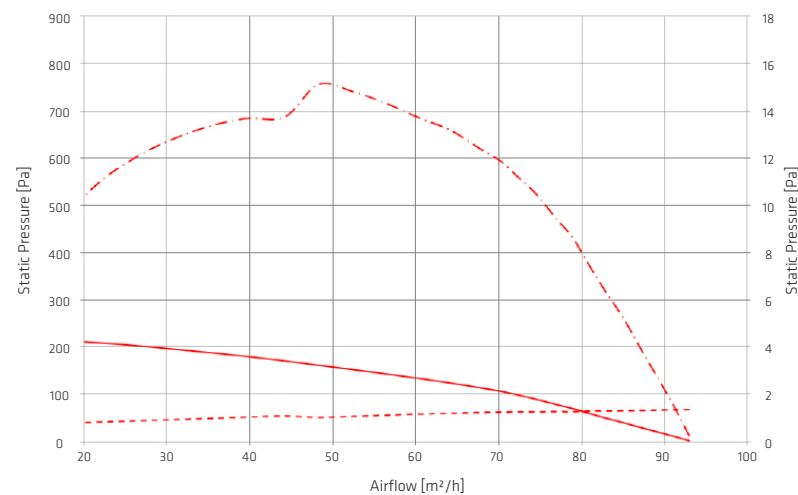
- Spark Free
- Smart Self-protected drive against:
 - » Locked rotor
 - » Mechanical overload
 - » Over Current
 - » Over Temperature
 - » Load dump
 - » Over/Under Voltage
- Feed back output available



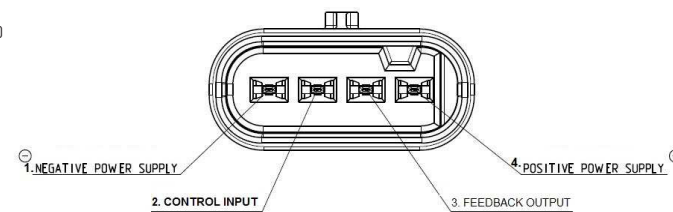
FEATURES

Fan speed	rpm	1000 - 4800
Weight	kg	0,23
Operating supply voltage range	V	9.0 .. 16.0 at the Drive Connector
Supply voltage to reach max speed	V	12.5 .. 16.0 at the Drive Connector
Operating ambient temperature range	°C	-40 .. +85
Storage temperature range	°C	-40 .. +105
Lifetime	h	up to 40000 hours depending on mission profile
Time from 0 rpm to max speed	s	7.5
Load dump protection (pulse 5b)	V	35 - Pulse peak voltage (U _S *) - ISO16750-2:2010
Efficiency	%	~ 18
Interface		PWM/LIN

Air performance at maximum speed on the application



Air density 1.17 kg / m³ - Test number: #4780 - Test bench compliant to ANSI AMCA 210
TAMB = 20 °C ± 5 °C - UB = 14 V at the Drive connector



Connector and wires

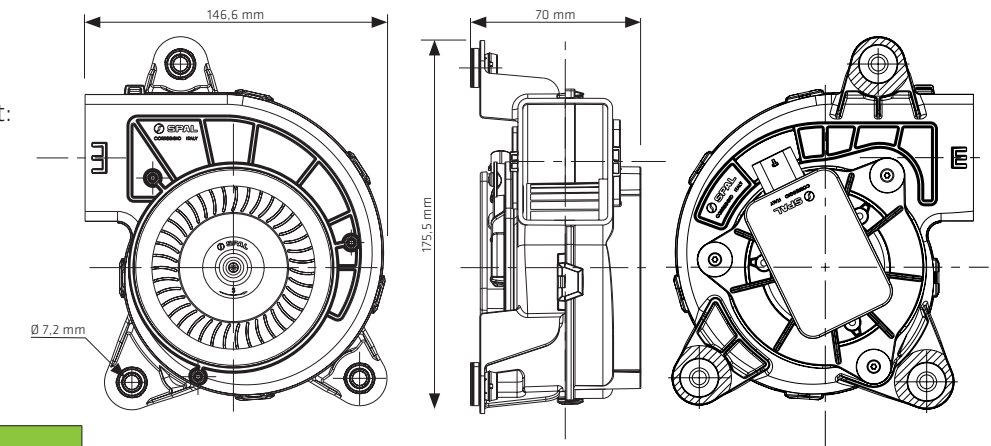
FURTHER FEATURES

Compliance	72/245/EC and updates - Automotive EMC directive ECE Reg. 10-03 - Electromagnetic compatibility 2002/95/EC RoHS - Hazardous Substances 2000/53/EC and updates - End-of Life Vehicle
Ingress Protection	IP 68 and IP6K9K design for the electronic card

BL25 SMALL Brushless Blower

12V

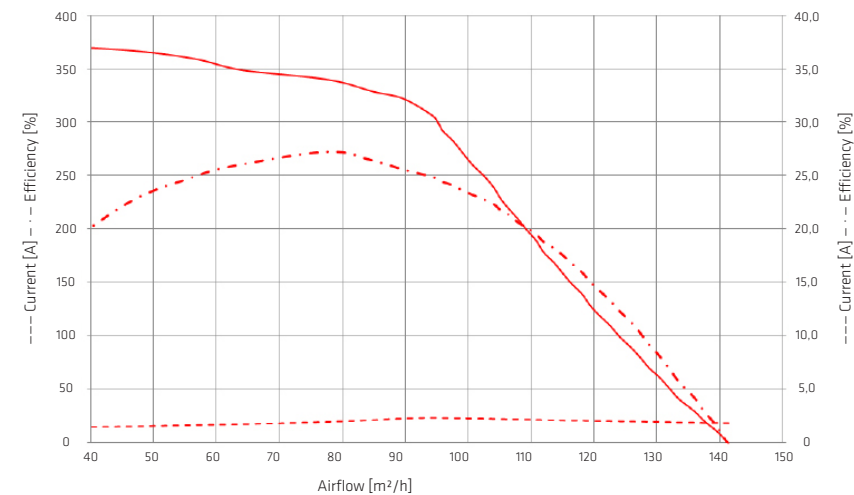
- Spark Free
- Smart Self-protected drive against:
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 - » Over/Under Voltage
- Feed back output available



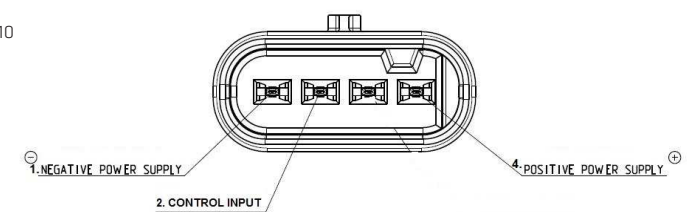
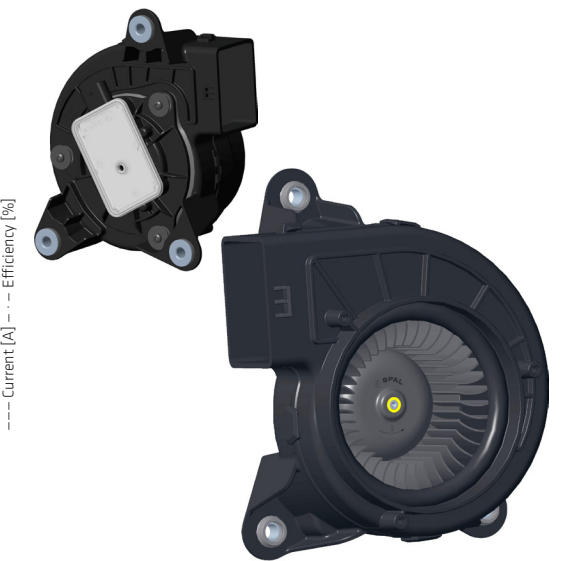
FEATURES

Fan speed	rpm	1000 - 3400
Sound pressure level	dBA	58.5 - at 1 m from the fan module- lateral side; free blowing condition
Weight	kg	0,48 ± 2%
Operating supply voltage range	V	9.0 .. 16.0 at the Drive Connector
Supply voltage to reach max speed	V	13.0 .. 16.0 at the Drive Connector
Operating ambient temperature range	°C	-40 .. +95
Storage temperature range	°C	-40 .. +105
Lifetime	h	up to 40000 hours depending on mission profile
Time from 0 rpm to max speed	s	7.5
Load dump protection (pulse 5b)	V	35 - Pulse peak voltage (U _S *) - ISO16750-2:2010
Efficiency	%	~ 30
Interface		PWM/LIN

Air performance at maximum speed



Air density 1.17 kg / m³ - Test number: #5108 - Test bench compliant to ANSI AMCA 210
TAMB = 22.8 °C ± 5 °C - UB = 14 V at the Drive connector



Connector and wires

FURTHER FEATURES

Compliance	72/245/EC and updates - Automotive EMC directive ECE Reg. 10-03 - Electromagnetic compatibility 2002/95/EC RoHS - Hazardous Substances 2000/53/EC and updates - End-of Life Vehicle
Ingress Protection	IP 68 and IP6K9K design for the electronic card