

## RECOMMENDATIONS FOR THE USE OF CENTRIFUGAL BLOWER MODULES WITH BRUSHED MOTORS

1. In order to maximize product life, the power supply must be rectified and stabilized with residual RIPPLE values of less than 1%. Higher RIPPLE values will considerably reduce motor life and cause anomalous operation. In case of application with higher RIPPLE values expected, please contact Spal at [info@spalautomotive.com](mailto:info@spalautomotive.com)
2. For a proper protection of the blower module, use an external fuse correctly rated for every installed fan in order to interrupt the power supply in case of accidental blockage. This is an indispensable protection for wire harness and motor.
3. For blower modules driven by an electronic speed control (linear, PWM or any other external speed control), please ensure that the external power supply is cut off in case of overload conditions such as partial or total blockage and over temperature.
4. We recommend to use electronic speed control to increase the fan module protection level. Please, note that the electronic controls **must** be compatible to our products. Contact Spal at [info@spalautomotive.com](mailto:info@spalautomotive.com) for additional information.
5. For blowers modules with open motors, it is sole customer's responsibility to verify the environmental conditions for the proper use of the fan module. Contact Spal at [info@spalautomotive.com](mailto:info@spalautomotive.com) for additional information.
6. It is sole customer's responsibility to adequately protect the system and the centrifugal blower against overload conditions or accidental rotor blockage.
7. **It is sole customer's responsibility to verify that the selected product suits the technical requirements and working conditions according to its own specifications and application. In case of customer specific request, we will be pleased to support him to detect the best possible solutions; however SPAL will not release any declaration or guarantee regarding the suitability of the selected item. Full responsibility and liability remains with the customer.**
8. For any product update, please refer to [www.spalautomotive.com](http://www.spalautomotive.com)
9. **Never use blower modules in flammable, combustibles or blowing environments.**



failure to strictly follow these recommendations could cause the product to fail, resulting in a fire, severe personal injury or even death.

Should you have any questions, contact SPAL at [info@spalautomotive.com](mailto:info@spalautomotive.com) or +39.0522.731311