

## Global Hybrid and Electric Vehicle Fans & Blowers Market – BEV, HEV and PHEV

*The report reviews, analyzes and projects the global market for Hybrid and Electric Vehicle Fans & Blowers for the period 2011-2020*

Published: October 2015

Report Code: AT012

Pages: 330

Charts: 258

Price: \$3960 Single User License, \$5760 Enterprise License

### SUMMARY

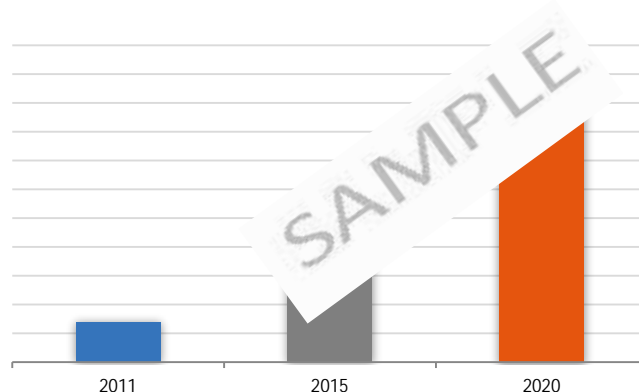
Hybrid electric vehicles, plug-in hybrid electric vehicles and battery electric vehicles employ the same kind of engine cooling and HVAC components as their conventional counterparts such as fans and blowers. Though there is no combustion engine in the battery electric vehicle, cooling modules are used to cool the radiators/condensers for electric drive cooling, air conditioning, battery cooling and power control module cooling. Apart from the vehicle HVAC systems, blowers are also employed in hybrid and electric vehicle batteries. Since these batteries operate at high voltages and generate excess heat during the operation, need to be cooled down in order to increase their life and performance. Most of the hybrid and electric vehicles are adopting brushless DC fans to increase the range with a single charge as BLDC fans consume less energy and weigh less. This phenomenon is currently high in battery electric vehicles and plug-in hybrid electric vehicles while the hybrid electric vehicles predominantly using brushed DC fans.

The production of hybrid and electric vehicles, globally, is slated to register a considerably faster CAGR of 21.9% and reach a projected 6.6 million units by 2020 from an estimated 2.4 million units in 2015. The penetration level of hybrid and electric vehicles among overall light vehicles production is likely to increase from an estimated 2.8% in 2015 (of 86 million units) to a projected 6.4% in 2020 (of 103 million). Worldwide, consumption of fans & blowers in hybrid and electric vehicles is estimated at 9.2 million units in 2015 and further expected to reach 24.8 million units by 2020 at a CAGR of 21.3% between 2014 and 2020. In terms of value, global demand for Fans & Blowers in Hybrid and Electric Vehicles is likely to register a robust 21% CAGR over the same period and to US\$3.8 billion by 2020.

Global hybrid and electric vehicle fans & blowers segments analyzed in this study include engine cooling fans, HVAC blowers and battery cooling blowers. The report reviews, analyses and projects the Hybrid and Electric Vehicle Fans & Blowers market for the global and regional markets including Asia-Pacific, Europe and North America. The regional markets further analyzed for 15 independent countries across North America – Canada, Mexico and The United States; Europe – Finland, France, Germany, Italy, Spain, Sweden, Turkey and The United Kingdom; and Asia-Pacific –China, Japan, South Korea and Malaysia.

This 330 page market research report includes 258 charts (includes a data table and graphical representation for each chart), supported with meaningful and easy to understand graphical presentation, of market numbers. The statistical tables represent the data for the global hybrid and electric vehicle fans & blowers market value in USD and volumes in units by geographic region and product segment. The report profiles 16 key global players offering thermal systems and components for global hybrid and electric vehicle industry. The research also provides the listing of the companies engaged in manufacturing and supply of hybrid and electric vehicle engine cooling fan modules, fans, HVAC systems and blowers. The global list of companies covers addresses, contact numbers and the website addresses of 277 companies including subsidiaries.

Global Fans & Blowers in Hybrid and Electric Vehicles Market Analysis (2011-2020) in Volume ('000 Units)



## SAMPLE COMPANY PROFILE

### AIR INTERNATIONAL THERMAL SYSTEMS (AUSTRALIA)

80 Turner Street, Port Melbourne, VIC 3207  
 Phone: 61 3 9644 4281, Fax: 61 3 9645 3292  
 E-mail: inquiries@ai-thermal.com  
 Website: www.ai-thermal.com

#### Business Profile

Melbourne, Australia-based Air International Thermal Systems, established in 1967, is a leading international tier I provider of heating, ventilation and air conditioning (HVAC), power train cooling (PTC) systems and battery thermal management systems to the auto sector. The company employs an exclusive manufacturing standard that enables in offering product flexibility and quality, in addition to cost economy cost and perfect program execution that distinguishes it from other leading global enterprises. Apart from Australia, Air International Thermal Systems' operations are located in China, Asia and North America, encompassing 21 manufacturing units and seven technical centers that cater to the needs of over 25 global automotive companies.

#### Vehicle Applications

Vehicle Type	Particulars
Passenger Cars	Engaged in designing and providing climate control systems for a variety of passenger vehicles, ranging from luxury vehicles to entry-level A segment models, among others.
SUVs/MPVs	Offers widespread expertise in developing climate control systems specially tailored to meet the increased needs of thermal capacity and air flow volume and distribution for SUVs and MPVs.
Electric Vehicles/Plug-in Hybrid EVs/Hybrids	Provides complex solutions customized for this class of vehicles, which offer efficient and reliable climate control to vehicle occupants, the battery and other vehicle systems.

#### Product Portfolio

##### Heating Ventilation Air Conditioning (HVAC) Systems

Other than fully assembled HVAC modules, the company also offers components in the major grouping of ducts, refrigeration and condensers. HVAC modules (full assembly) comprise console mounted units, overhead mounted units or small auxiliary pusher systems, in addition to single, dual, tri, or quad zone systems as per customer requirements. These modules are capable of being integrated with other alternatives, such as automatic climate control, battery cooling and glove compartment cooling.

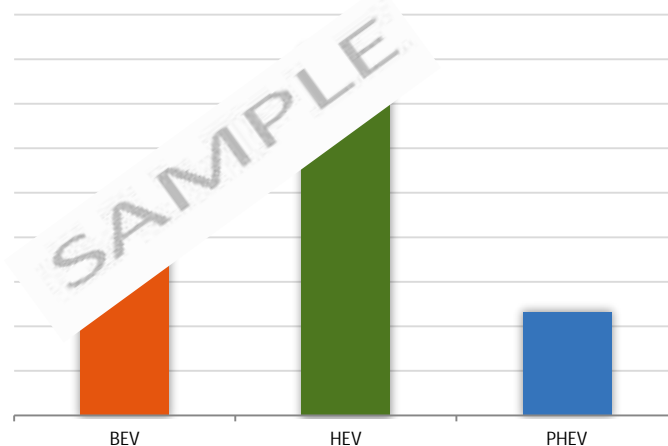
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## SAMPLE TABLE/CHART

Glance at 2015 Global Fans & Blowers in Hybrid and Electric Vehicles  
 Volume Market Share (%) Analysis by Type – Engine Cooling Fans, HVAC  
 Blowers and Battery Cooling Blowers



North American Hybrid and Electric Vehicle Production (2015) by Vehicle Type – BEV, HEV and PHEV in Units



## KEY PLAYERS PROFILED

- Air International Thermal Systems
- Amotech Co., Ltd.
- Brose Fahrzeugteile GmbH & Co KG
- Calsonic Kansei Corporation
- Delta Electronics, Inc.
- Denso Corporation
- Doowon Climate Control Co Ltd
- EBM-PAPST Group
- Hanon Systems Corp. Formerly Halla Visteon Climate Control Corp.
- Johnson Electric Group
- MAHLE Behr GmbH & Co. KG
- Mitsubishi Heavy Industries Ltd
- Sanden Holding Corporation
- SPAL Automotive Srl
- Sunonwealth Electric Machine Industry Co Ltd
- Valeo SA

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