

DENSO Develops Highly Standardized Automotive Climate Control Unit

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Contact: Bridgette LaRose

DENSO International America, Inc.

Phone: (248) 372-8266

Email: bridgette_larose@denso-diam.com

The world's first automotive climate control unit that can be used across vehicle models

KARIYA, Japan – Global automotive supplier DENSO has developed a new automotive climate control unit that can be used in a wide variety of vehicles ranging from compact to luxury cars. Conventional climate control units are often designed and tailored to each vehicle model; however, because of unit's new structure, the company was able to standardize components while also meeting the required performance. This highly standardized automotive climate control unit, which is also smaller and lighter than previous models, is the world's first of its kind.

"Many of the subcomponents for this product, such as air mix door, servo motor and blower fan are newly developed, which allowed us to reduce the unit's size by 20 percent compared to DENSO's conventional model," said Katsuhisa Shimokawa, executive director responsible for DENSO Corporation's Thermal Systems Business Unit.

The thickness of the air mix door is half that of DENSO's conventional one, which reduces the depth and weight of the unit. Also, the conventional unit required several servo motors to operate the air mix door, whereas the new unit has standardized doors and needs only one, enabling the unit case to be made smaller. The new blower fan's wing blades are re-shaped to best suite the wind flow, which allowed the new fan to become 15 percent smaller and consume 20 percent less power, while also maintaining high air discharge capacity.

"Customers are very receptive to our new design concept due to its performance benefits and smaller size," said Pat Bassett, vice president of Thermal Systems, DENSO International America, Inc. "Despite its

common design customers are developing their own unique ways to utilize the benefits of the new climate control unit.”

With these new technologies, the new smaller, lighter climate control unit with higher performance can also be used in eco-friendly cars. For instance, for stop/start system the evaporator in the unit can be replaced with a cold storage evaporator, and for hybrid and electric vehicles the heater core can be replaced with a heat pump air conditioning system. Also by changing the blower fan to two layer – structure, to take in external air and circulate internal air simultaneously, the air conditioning system could be used for vehicles with limited heat sources.

DENSO’s new climate control unit is used in the new HARRIER, which was released last December and in the NOAH and VOXY which was released this month. This new climate control unit will be offered for a wide variety of vehicle models all over the world. DENSO will continue to help create an advanced automotive society by developing technologies that can improve the comfort and environmental performance of vehicles.

DENSO Corporation, headquartered in Kariya, Aichi prefecture, Japan, is a leading global automotive supplier of advanced technology, systems and components in the areas of thermal, powertrain control, electronics and information and safety. Its customers include all the world’s major carmakers. Worldwide, the company has more than 200 subsidiaries and affiliates in 36 countries and regions (including Japan) and employs more than 130,000 people. Consolidated global sales for the fiscal year ending March 31, 2013, totaled US\$38.1 billion. Last fiscal year, DENSO spent 9.4 percent of its global consolidated sales on research and development. DENSO common stock is traded on the Tokyo and Nagoya stock exchanges. For more information, go to www.globaldenso.com.

Currently, in North America, DENSO employs more than 17,000 people at 32 consolidated companies and affiliates. Of these, 28 are manufacturing facilities located in the U.S., Canada and Mexico. In the U.S. alone, DENSO employs more than 11,000 people in California, Michigan, North Carolina, South Carolina, Tennessee, Kentucky, Georgia, Iowa, Ohio, and Arkansas. DENSO’s North American consolidated sales totaling US\$6.8 billion for the fiscal year ending March 31, 2013.

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