

North American International Auto Show
2015

Contact: Bridgette LaRose
DENSO International America, Inc.
(248) 372-8266
bridgette_larose@denso-diam.com

DENSO Develops World-first Standardized Automotive Climate Control Unit

—20 percent smaller and more efficient than DENSO's conventional unit—

- Global automotive supplier DENSO has developed a world-first climate control unit that can be used in a wide variety of vehicles ranging from compact to luxury cars.
- This highly standardized automotive climate control unit is about 20 percent smaller and more efficient than the company's conventional unit, and also achieves a significant noise reduction.
- DENSO's new technology will allow customers to commonize its climate control units across multiple vehicle lines resulting in a simplified manufacturing process and overall cost-savings.
- This also allows for the cost-effective expandability of eco-friendly vehicles.

Conventional Units

Conventional climate control units are often designed and tailored to each vehicle model within vehicle segments, resulting in multiple designs differing in size, shape and function. DENSO's new product has a fixed height and depth, and variations in performance needed to span performance requirements across vehicle segments are accommodated by stretching the width of the unit's cases and the corresponding heat exchangers inside.

Simplified Manufacturing Process:

The internal structure of DENSO's new unit is standardized, which enables commonization of many sub-component parts, which simplifies the manufacturing process,

Smaller, Lighter Components:

Many of the sub-components for this product, like the air blend doors and the blower fan are newly developed, which allowed DENSO to reduce its size. DENSO used sophisticated forming techniques to reduce the thickness of the air blend doors by more than 50 percent. Also, DENSO utilized new fan and scroll technology, which allowed the fan wheel to be downsized by approximately 15 percent. The layout of the module itself allows air blending to occur in a more simplified manner, enabling a significant pressure drop reduction to occur in the unit. This results in approximately 20 percent less power consumption.

DENSO's new climate control unit is used in the new Toyota HARRIER, which was released last December and in the Toyota NOAH 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. In North America, DENSO will manufacture this product at its thermal facilities in the United States, Canada and Mexico for customers in the 2015 timeframe.

DENSO will continue to help create an advanced automotive society by developing technologies that can improve the comfort and environmental performance of vehicles.