



SMART TECHNOLOGY FOR SMARTER MOBILITY

MEDIA INFORMATION

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Valeo at APTA Expo Florida 2023 to display its Intelligent Systems for Bus Thermal Management without emissions

Orlando County Convention Center,
Hall B1 | Booth #3070

From October 9 to 11, 2023, Valeo will showcase innovative thermal management technologies for buses of all sizes at **APTA Expo 2023**, the world's largest public transportation event held annually in Orlando/FL.

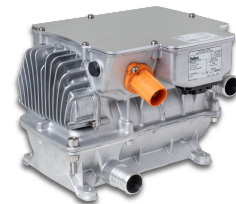


Valeo is committed to developing solutions for greener mobility and a world leader in technologies to reduce CO2 emissions and improve comfort on board for buses and coaches. At APTA Expo 2023, Valeo will focus on thermal management systems for buses worldwide - thermal comfort without compromise, maximum safety and fleet-efficient solutions with zero emissions. It will be presenting its all-electric **air conditioning systems for zero emission electric buses: REVO®-E Global** for roof-mounted applications, the first-ever **REVO®-E RAC electric rear-mounted solution** and, a new generation of

high-performance e-split system for electric mini bus and school bus segments.

The shift towards low-carbon mobility and subsequent fast growing market share of electrically powered buses has a significant impact on vehicle development and powertrain-related systems, including the heating and air conditioning systems.

The fast growing electrification of mobility – particularly in public transport – requires high-performance mobile energy storage systems that enhance travel comfort. Valeo has been pioneering e-heating worldwide, and will be showcasing in Orlando its **Thermo HV** solution, a high-voltage heater for electric buses whose heat





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output can be infinitely adjusted via an integrated control unit. This is done either by controlling the water outlet temperature or by limiting the maximum heating output or power consumption. With this function, the high-voltage heater Thermo HV, which has been in series production since June 2023, can also be actively integrated into the thermal management of the vehicle and the overall efficiency of the system can be increased. With a voltage range of 450-850 VDC, the Thermo HV ensures a consistently high heating output of 12kW. Its 12kW/800V model is considered unrivaled. In addition, it is CAN-capable and transmits important operating data to the vehicle system via an intelligent diagnostic function.

With limited electrical energy available from traction batteries, innovative and efficient HVAC solutions for buses are needed. A strategic leader in this market, Valeo's innovations provide a comfortable interior climate for passengers and efficient solutions for fleet owners whatever the weather conditions, the size of the vehicle, its powertrain type, the mode (urban, suburban or long-distance) and the duration of the journey.

At APTA Expo 2023, Valeo will also present its latest global air conditioning development for buses with alternative powertrains is the all-electric **REVO®-E Global**, designed specifically to meet the demands of global markets. Particular emphasis has been placed on lightweight construction, performance and ease of installation. In addition to heat pump technology, customers also have the option of PTC heating and battery cooling. To enhance riders' experience, the system cools and heats the interior of the electric vehicle efficiently and with low energy consumption. The system is a "plug & play" unit that can even be delivered pre-filled to the customer.

Valeo is serving customers in the heavy duty segment with the **REVO®-E RAC**. Heavy duty buses have special requirements in terms of performance and ease of installation. The latest member of the **REVO®-E HVAC family** - available in Q1 2024 - is characterized in particular by its consistent lightweight design. The system is available with two refrigerant types and an optional compressor; fans are continuously variable. The A/C range has recently been complemented by a highly efficient **modular e-split system for electric mini buses and school buses**, where electrification is advancing rapidly and energy and cost savings are top priorities for fleet owners.

About Valeo

As a technology company and partner to all automakers and new mobility players, Valeo is innovating to make mobility cleaner, safer and smarter. Valeo enjoys technological and industrial leadership in electrification, driving assistance systems, reinvention of the interior experience and lighting everywhere. These four areas, vital to the transformation of mobility, are the Group's growth drivers. Valeo in figures: 20 billion euros in sales in 2022 | 109,900 employees at December 31, 2022 | 29 countries, 183 plants, 21 research centers, 44 development centers, 18 distribution platforms. Valeo is listed on the Paris Stock Exchange.

With its Thermal Business Valeo has a leading position in the bus market, developing and manufacturing customized A/C and heating systems, roof hatches and smart electronic control units.



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Group Media Relations

Dora Khosrof | +33 7 61 52 82 75
Caroline De Gezelle | + 33 7 62 44 17 85
press-contact.mailbox@valeo.com

For more information on products and services

Valeo Thermal Commercial Vehicles North America Inc.
+ 1 574 264 2190
tcv.na.sales.mailbox@valeo.com

Valeo is listed on the Paris Stock Exchange

Media Relations

+33 6 67 88 89 33 | +33 7 61 52 82 75
press-contact.mailbox@valeo.com

Investor Relations

+33 1 40 55 37 93
valeo.corporateaccess.mailbox@valeo.com