Clean Air innovation, accelerated™
The initial use of a valve in an exhaust strategy is for sound management. However, the use of valves has expanded to include many other applications, including low pressure exhaust gas recirculation and even exhaust heat recovery.

Sound Design and noise control are the initial functions of valves in exhaust systems. However, the use of valves has expanded to include many other applications, like controlling low pressure exhaust gas recirculation and even exhaust heat recovery. Tenneco has helped lead this expansion of valve technology, creating a family of valves to offer OEMs their choice of solution, depending upon their requirements.

Tenneco’s valves for acoustic applications include SAM valves, the HP valve and various electric controlled valves. In addition, a high performance electric valve variant is available for low pressure exhaust gas recirculation.

The SAM (Semi-Active Muffler) valve enables variable sound attenuation without external controls. This valve type provides a very robust function based upon more than ten years of application experience.

The High Performance (HP) valve is a passive muffler valve that reduces low frequency noise at low engine speeds and has minimal pressure drop at high engine speeds.

Electric valves, the newest members of Tenneco’s family of valves, are small, light and cost effective solutions. The acoustic versions provide precise sound design and noise control in tailpipe applications, as well as adaptive exhaust control in vehicles featuring cylinder deactivation. A high performance version allows for continuous backpressure control, meeting customer’s demands on valves for low pressure exhaust gas recirculation systems. Future developments will also provide solutions for applications like exhaust heat recovery.
Experience the clean air technology that drives better performance.

**FAMILY OF VALVES FEATURES & BENEFITS**

**SAM VALVES**
- Help reduce muffler volume by up to 30% and weight by up to 10% and offer between 5-10 dB tailpipe noise reduction
- Standardization concept enables application of cost efficient spun mufflers
- Modular valve design offers easy adaptation to different applications

**HP VALVES**
- Reduces low frequency noise over a broad frequency range within a small package space within the muffler
- Has minimal backpressure when flap is wide open under maximum flow conditions
- In-line design allows straight-through low restriction muffler designs with low frequency control

**ELECTRIC VALVES**
- Smart design offers high flexibility in terms of installation space
- Special bearing minimizes external leakage, while offering robustness and durability
- Backlash free shaft coupling allows for high positioning precision
- Suitable for exhaust gas temperatures of up to 750°C and for ambient temperatures between -40°C and 140°C, short-term up to 160°C
- High speed positioning, including speed control to slow down flap before reaching closed position to avoid switching noise
- Contactless sensor provides continuous position feedback to meet OBD II (on board diagnostics) requirements
- Actuator attached with screws to meet customer’s serviceability requirements
THE ENGINE OF INNOVATION IN CLEAN AIR
At Tenneco, innovation is a hallmark of everything we do. In our advanced clean air technologies and solutions. In our unique, total-system integration expertise and approach. In our commitment to partnership and collaboration. We’re always looking beyond the technology horizon to foresee and develop the next-generation clean air solutions that accelerate our customers’ success and keep them moving toward the future.

From development through delivery and beyond – we help our partners drive transportation innovation, full speed ahead.

TENNECO IS EVERYWHERE OUR CUSTOMERS NEED US
Our reach is global, but our focus is local, helping customers in each region adapt our global capabilities and technologies for local applications.

- Nearly 25,000 employees worldwide
- 89 manufacturing facilities
- 14 state-of-the-art research and development centers
- 4 dedicated research and development centers for emission control engineering

Markets served:
- Light vehicle
- Commercial vehicle
  - On-road
  - Off-road
- Locomotive
- Marine
- Stationary
- Large engine
- Retrofit

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Rev. 9/13