

ELECTRIC RECIRCULATION VALVE



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Pierburg's electric recirculation valve is an innovative solution for modern turbo charged engines. It prevents the turbocharger compressor wheel from surge when the throttle valve is closed, and, allows for a more dynamic engine speed control thus significantly reducing the turbo lag. Direct electronic control eliminates the need for pneumatic components such as vacuum reservoirs and non-return valves, shortening the switching process and improving response behavior. Optimized pressure balancing allows for miniaturization of valve size and weight.

During operation, the valve can open within milliseconds to allow a recirculation of compressed air back to the inlet of the turbocharger, thus generating additional airflow through the compressor wheel when needed. This way, the speed of turbocharger and engine can be reduced in a shorter time, improving driving experience and gas consumption.

Leaving the valve open at low and medium engine load can keep turbo speed up higher than actually needed, so when load conditions change, the maximum boost pressure will be achieved much faster, allowing for more dynamic and sportive driving.

In essence, the valve can avoid pressure oscillation from surge and thus load on affected components. It will help reduce gas consumption, noise to the driver and improve drive dynamics and driver experience.

BENEFITS

- Lightweight and compact
- Fast response time
- Quiet during operation
- Standard interface

- Modular for resistance and suppressor
- Production in 3 locations (EU, ASIA and AMERICA)

TECHNICAL DATA

Operating voltage	12 V DC
Pressure range Δp	250 kPa max.
Media temperature	210 °C
Environmental temperature	-40 °C to 160 °C
Opening times (@ $\Delta p=200\text{kPa}$, $T_u120\text{ °C}$, $U=12\text{V}$)	$\leq 70\text{ ms}$
Closing times	$\leq 40\text{ ms}$

PIERBURG

Pierburg, as a heritage brand, is a system provider for high-quality and innovative solutions and control technologies for the automotive and energy industries, among others.

With its Business Sections, Pierburg stands for outstanding expertise in the following areas: air management, thermal management, e-mobility and hydrogen technology.

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