

KENDRION

KENDRION AUTOMOTIVE

Adaptive suspension components

Air spring | Semi active damping

PRECISION. SAFETY. MOTION.

Kendrion adaptive suspension components

We control and adjust your system quickly and reliably.





Improving driving comfort and increasing vehicle safety are at the core of today's development of suspensions. Flexible, adjustable dynamic systems control the vertical movement of the wheels relative to the chassis. The result is a suspension that offers a higher level of driver safety and comfort in varied driving and road conditions.

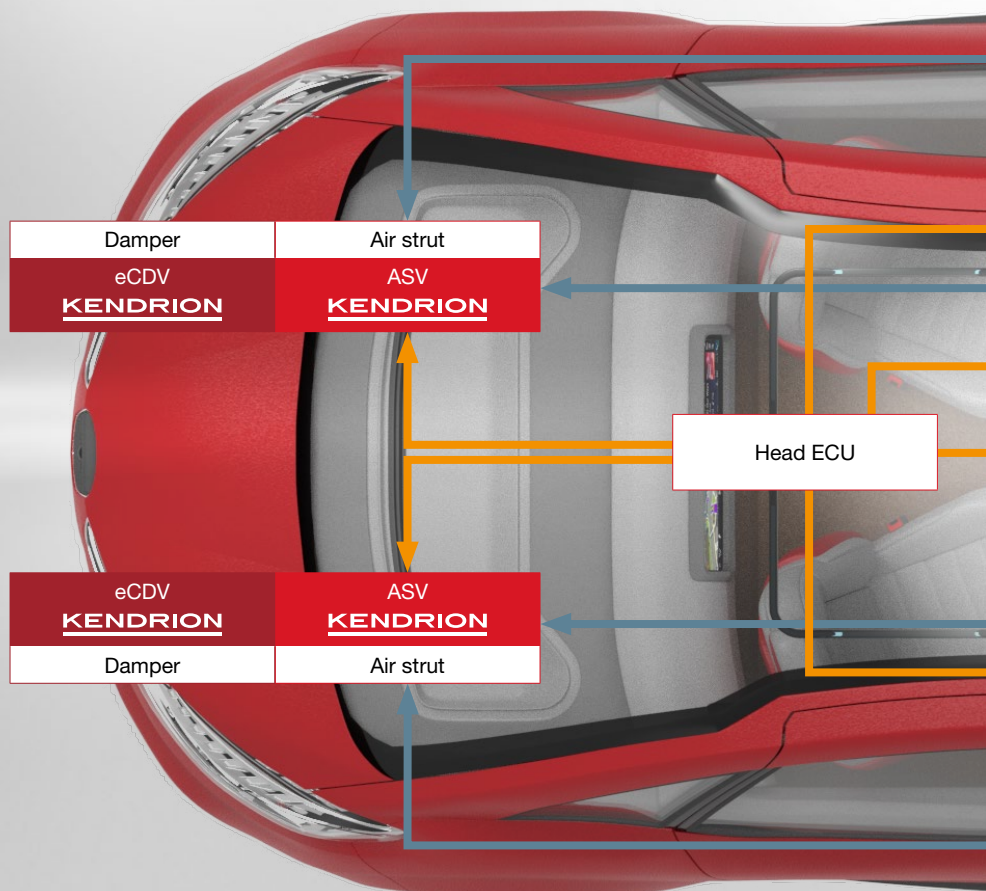
Kendrion is dedicated to meet the future needs of the market. Our products continuously adjust the suspension, stabilizing the chassis and increasing road grip and comfort. Using our modular and highly adjustable designs, car suspension manufacturers can substantially shorten design turnaround times and reduce total cost of ownership.

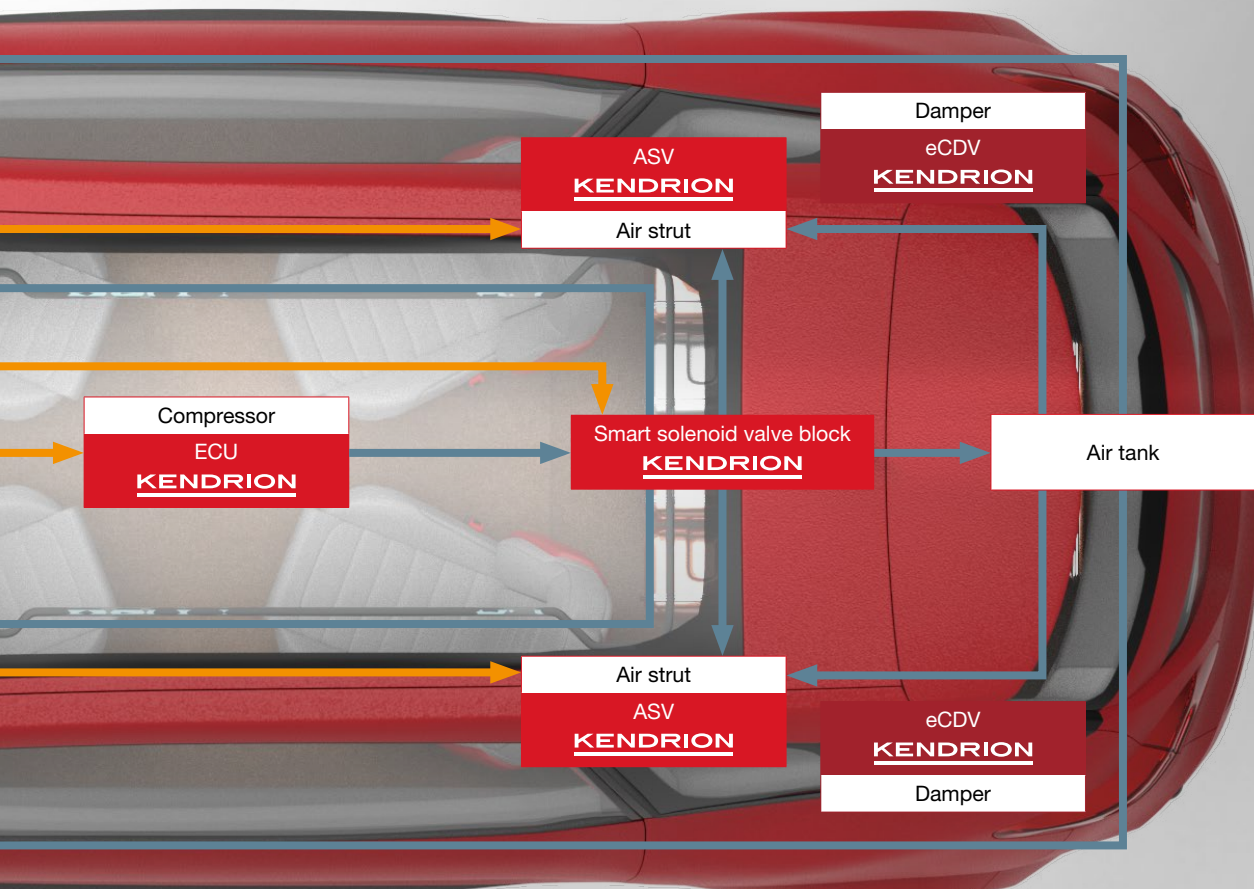


We find the
best solution
for you!

Kendrion product scope

Our products for suspension systems guarantee the highest level of safety and comfort under different driving and road conditions.





eCDV – Active damping platform

Kendrion's brand-new product platform for external continuous damping valves (eCDVs)

Customer benefits



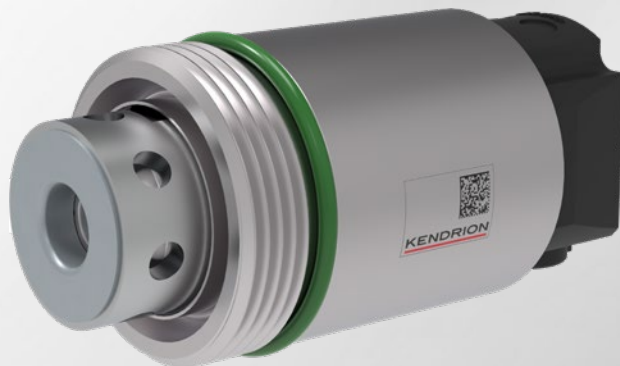
MODULAR

- » Platform design
- » Flexible: connector | PQ curve | fail-safe
- » Reduced costs

PERFORMANCE

- » Lowest hysteresis in the market
- » Shortest design in the market





Valves for semi-active dampers

Driving dynamics for tomorrow's vehicles

With our eCDV we are ready for today, tomorrow and the future. We can produce multiple variants and higher volumes, more quickly and with less R&D resources. This means Kendrion can quickly provide with a proven and still customized solution.

Technical specifications

Valve type	suspension valve, 2/2 proportional
Valve setting	comfort at low power, firm at full current
Fail safe	0 to 0.15 A
Max. working pressure	200 bar
Max. pressure loss at 30 lpm	6 to 8 bar
Min. pressure loss at 3 lpm	60 to 80 bar (adjustable)
Max. flow	100 lpm
Nominal voltage	13.5 V
Control current	0.4 to 1.6 A
Resistance	4.6 ±0,5 Ω
PWM frequency	1 to 2 kHz
Temperature range	-40°C to +120°C, short time +140°C

Air spring-rate valve (ASV) for multichamber air-springs

Adjusts your setup on the fly

Customer benefits



- » ASV enables usage of state-of-the-art air-springs
- » Shortest leadtime by pre-developed design
- » Low cost design
- » Pressure equalization for low leakage

Valves for multichamber air-springs

The ultimate solution to get the best out of the air suspension

Modern suspensions have the ability to adjust the damping force in compression and rebound as well as the chassis height.

New technologies using multi chamber air springs also allow to adjust the spring rate of the air spring on the fly. Therefore air-chambers in the spring are activated or deactivated depending on the driving-setup needed. Our valves coordinate the activation and deactivation of these chambers.



Type

Control

Ambient temperature

Operation pressure

2/2, NO, Switching

PWM, Peak-Hold Current Control,
100 % Duty Cycle, 2 A Peak / 1 A Hold

-40°C to +100°C

0 to 15 bar (rel)

Air compressor control unit

combines a very robust, heavy-duty design with very precise electronic control algorithms.

Customer benefits



COMPATIBILITY

- » ASIL-B Compatibility
- » LIN | CAN | Autosar communication interface
- » Brushless (BLDC) as well as DC



SENSOR DATA ANALYSIS

- » Reading and processing of sensor data

CONTROL POSSIBILITIES

- » Single- and two-piston compressors
- » Highly integrated system incl. ground connection to the motor
- » Sensorless rotor position detection



ECO MOUNTING OPTIONS

- » Physical separated
- » On air compressor
- » On the valve block





ECU for air compressor

Sensorless rotor detection in a robust design

The Air Compressor Control Unit is supposed to control the rounds per minute of a brushless DC motor without using a sensor to detect the rotor position. This leads to a very cost efficient design. The communication via CAN or LIN provides a flexible network integration strategy.

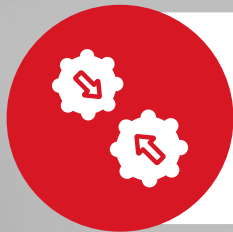
Technical specifications

Type	Sensorless BLDC Control ECU
Control	CAN, LIN
Ambient temperature	-40°C to +80°C
Operating voltage	9 to 16 V
Current range	max. 40 A
Power Consumption	up to 500 Watt

Smart valve block for air chassis applications

ECU and solenoid valve block combined

Customer benefits



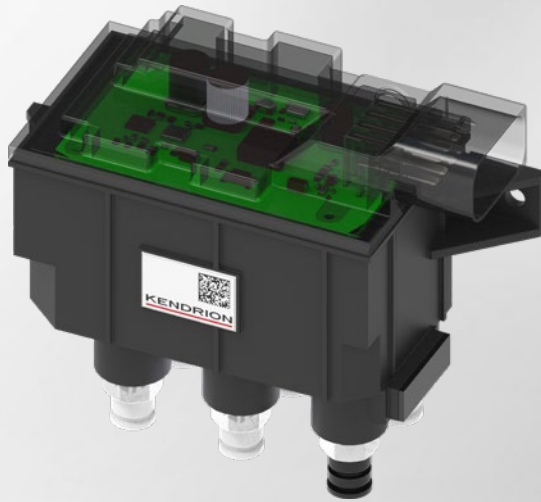
HIGHLY INTEGRATED

- » Reduced space
- » Reduced weight
- » Reduced costs

MULTIPLE OPTIONS

- » Solenoid valve block and ECU in one housing or separated
- » Solenoid valve block as stand-alone-solution
- » ECU as stand-alone-solution (previous page)





Smart valve block for air chassis applications

All in one

ECU for the air compressor and the solenoid valve block are at the core of every air spring system. They are responsible for the control of the overall setting. In combination it enables a compact and competitive solution.

Integration of the ECU in the valveblock enables sensorless position-detection of the valves. In addition, it saves an additional PCB and a housing as this can be easily combined using the already existing PCB in the solenoid valve block!

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