Our Core Markets

- Medical & laboratory
  - Patient safety, reliability, ease and life time are still the top two parameters for components in medical equipment. The two magnets consist of a hybrid stepper motor, itself equipped with an integrated electronics allowing a broad spectrum of functionalities, and an integrated controls system. This offers an unprecedented level of reliability.
  
  - Our expert production process give unrivaled reliability and lifespan.
- Automotive & Hydraulics
  - Whether mounted in an antenna or used to tune adjustable filters, hybrid steppers are an ideal solution. They are totally failsafe, and must operate with high precision under harsh off-road conditions. Sonceboz hybrid stepper motors are designed to drive membrane pump for precise liquid dosing, mounted on vehicle chassis to drive a pump head over a wide speed range with highly precise regulation and low noise.

- Motion systems
  - SONCEBOZ Motion systems
  - Our core competencies consist of design, development and production of actuators, drive systems and dedicated electronics. Our solutions are targeted to challenging applications.
  - A Sonceboz hybrid stepper motor with integral closed-loop electronics and sensorless closed-loop control algorithms. This high-tech solution must be quiet, reliable and highly efficient. The solution must be compact, robust, accurate and failsafe, and must operate with high precision under harsh off-road conditions.

- Motion systems for challenging applications
  - The ideal solution : A Sonceboz linear actuator based on a hybrid step motor, integrating rack, pinion and an electronic driver with CAN interface. This electric actuator drives the spool valve quickly, avoiding the need for a gear box, and its cost, complexity, and noise. The closed-loop operation makes noise and advancing the current during start-up virtually silent.

- Case Studies
  - Valve adjustment
    - The solution must be quiet, reliable and highly efficient. The solution must be compact, robust, accurate and failsafe, and must operate with high precision under harsh off-road conditions.

  - Peristaltic pump
    - Task : To design a peristaltic pump to pump blood in order to support life in case of emergency.
    - Challenge : To design a pump that will not leak or contaminate the liquid.
    - Solution : A Sonceboz hybrid stepper motor with integral closed-loop electronics and sensorless closed-loop control algorithms.

  - Selective Catalytic Reduction pump (SCR)
    - Task : To design an engine for a vehicle that will reduce emissions.
    - Challenge : To reduce emissions while maintaining performance.
    - Solution : A Sonceboz hybrid stepper motor with integral closed-loop electronics and sensorless closed-loop control algorithms.
LoadSense

Intelligent driver with Closed Loop Control Load Sensing

The closed-loop control is a valuable tool to improve the efficiency and performance of the motor. It allows for real-time monitoring of the motor's load and adjustments to be made accordingly. This can be particularly useful in applications where precise load control is necessary, such as in robotics or high-quality manufacturing equipment.

Benefits
- Increased efficiency
- Reduced overall consumption
- Enhanced condition monitoring and predictive maintenance
- Adjustable load for better performance
- Position control for better accuracy

Available standard products

Available standard products

<table>
<thead>
<tr>
<th>Type</th>
<th>Max. Hold. Torque</th>
<th>Diameter</th>
<th>Length</th>
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These motors offer great precision and high reliability for the performance you need under extreme conditions. They are available as standard products with better-than-standard performance. Please refer to motor datasheets at [www.sonceboz.com](http://www.sonceboz.com).

**Technology overview**

This page presents a principle of variable reluctance linked to a permanent magnet motor principle. It is a particularly useful motor for low-speed applications, where low inertia and long life are required. The motor has a series of teeth along the stator and rotor, which are polarized alternately. The motor can be used in applications where high torque is required, such as in robotics or heavy machinery. The motor is equipped with a closed-loop control that allows for precise load sensing and optimization of performance.

**Intelligent driver**

Sonceboz’ intelligent LoadSense driver can be used with sensors for very low speed regulation or sensorless for between the power consumed and the workload, which in turn increases efficiency and reduces heat and noise.

**Intelligent driver with Closed Loop Control Load Sensing**

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