

Permanent Magnet Rotors.

Pushing Boundaries. Engineering Possibilities.



Product Overview.

Sintex a/s is a specialist in the development and production of maintenance-free permanent magnetic rotors, available in both dry runner and wet runner configurations. These rotors are designed to meet demanding performance requirements while offering long service life and minimal maintenance. Over the years, Sintex has developed its own patented rotor solutions, which are optimized for efficiency, robustness, and lifecycle economy.

All components are engineered with a focus on durability and energy optimization, making them suitable for a wide range of industrial applications. The use of advanced materials and proprietary designs ensures that Sintex rotors deliver consistent performance even in challenging environments.

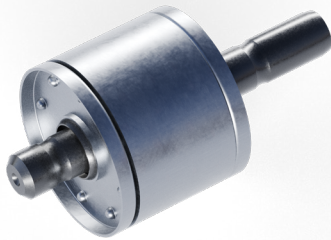


Figure 1: IP Magnet with isotropic NdFeB powder.

Rotor Configurations

Sintex offers two main rotor configurations: dry runners and wet runners. Each is designed to suit specific operational environments and application needs.

Dry runners are intended for use in sealed systems where the rotor does not come into direct contact with fluids. These rotors are ideal for applications such as enclosed motors or systems requiring isolation from external media. Their design ensures minimal wear and long-term reliability.

Wet runners, on the other hand, are engineered to operate directly in liquids. This makes them suitable for submersible systems, fluid pumps, and other applications where the rotor must function in a wet or chemically active environment. Sintex's wet runner rotors are built with corrosion-resistant materials and encapsulated magnetic structures to ensure durability and performance under continuous exposure to fluids.

Rotor Types and Magnetic Materials

Sintex offers three distinct rotor types, each tailored to specific engineering needs and performance profiles. These are differentiated by their magnetic material composition and orientation:

Bonded Rotors

These rotors use isotropic magnets, typically made from bonded magnetic materials. The isotropic nature allows magnetization in multiple directions, offering high flexibility in design. Bonded rotors are ideal for applications where complex geometries or lightweight construction is required. They are cost-effective and suitable for moderate performance requirements.

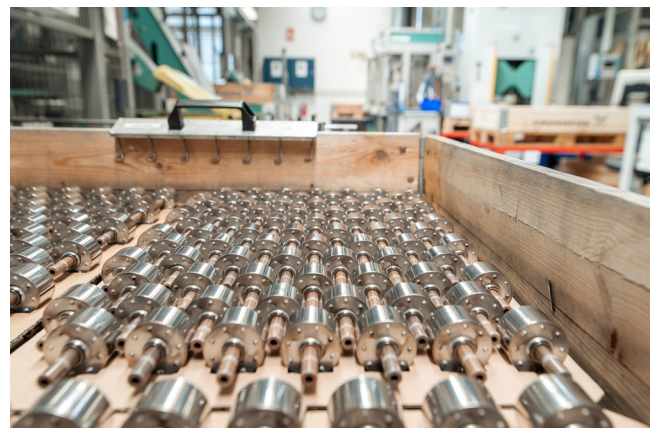
IP (Injection Plastic) Rotors

IP (Injection Plastic) Rotors Also isotropic, IP rotors are manufactured using injectionmolded magnetic plastic. This method allows for highvolume production and intricate shapes, making them suitable for compact motor designs. Like bonded rotors, they offer design flexibility but with improved mechanical properties and environmental resistance.

Sintered Rotors

These rotors use anisotropic magnets, which are magnetized in a single direction. This results in significantly stronger magnetic fields and higher torque output. However, the trade-off is reduced flexibility in design. Sintered rotors are ideal for high-performance applications where strength and precision are critical, such as in industrial motors or specialized fluid systems.

The choice between these rotor types depends on the application's torque requirements, environmental conditions, temperature range, and design constraints. Sintex works closely with its customers to select the optimal configuration.



Patented Magnetic Rotor Technology

The core of Sintex's rotor offering lies in its patented magnetic rotor technology. These designs are the result of extensive research and development, and they reflect Sintex's commitment to rethinking components for tomorrow's engineering challenges. The rotors are optimized not only for magnetic performance but also for mechanical integration, thermal stability, and environmental resistance.

Sintex's approach to rotor design emphasizes energy efficiency and robustness. By minimizing mechanical wear and maximizing magnetic force transmission, the rotors contribute to lower operational costs and improved system reliability. This makes them particularly valuable in high-duty-cycle applications where downtime and maintenance must be minimized.

Engineering and Validation Capabilities

To support the development and customization of its rotors, Sintex collaborates with external partners for advanced simulation services. These simulations help ensure that rotor designs meet the required performance criteria under various operating conditions.

In addition to simulation, Sintex maintains a dedicated measurement lab equipped with both standard and custom-built machines. This facility enables precise testing and validation of rotor designs, supporting rapid prototyping and iterative development. With decades of experience in rotor manufacturing, Sintex delivers tailored solutions that meet customer-specific requirements with short lead times.

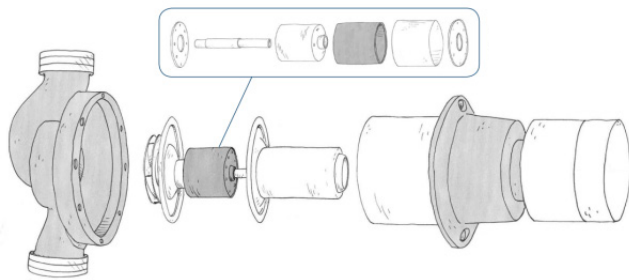


Figure 2: Exploded view of a Sintex magnetic rotor in a circulation pump.

Materials and Encapsulation

Sintex rotors are manufactured using corrosion-resistant materials and are encapsulated in stainless steel to protect the highly corrosive magnets from degradation. This encapsulation ensures long-term durability by shielding the rotor components from environmental factors such as moisture, chemicals, and high temperatures.

The choice of materials and encapsulation method is tailored to the specific application. Whether the rotor operates in a dry, sealed system or in a wet, aggressive fluid environment, Sintex ensures that the solution meets the performance and longevity requirements of the installation.

More information

For more information about Sintex's permanent magnet rotors, including technical consultation or customization options please contact us.

Version 2025-10-20



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Unleash
the power
within.

