Turbomachinery
High-speed motor elements

- Induction and pm-motor elements
- Stator OD up to 900mm
- Power up to 1MW
- Speed up to 500krpm
Turbomachinery
High-speed motor elements

Highlights of e+a Permanent Magnet Synchronous Machine elements for Motors and Generators are:

- Maximal power density
- Best efficiency
- Can be used in motor or generator mode
- For maximal shaft diameter
- Fully customized
- Low rotor heating
- Simple mounting and dismounting of rotor elements to the shaft

Permanent magnet stator & rotor elements are available in 2 or 4 pole configuration for turbo machine applications. 2-pole machines can be used in hyper speed applications or with a cost-saving drive in high speed applications. 4-pole stator & rotor elements are designed to provide maximum power density at best efficiency. All pm-rotors are fitted with CFRP-sleeves which are developed in-house to withstand high strains and stresses.

For turbo machine applications, 2-pole induction machine designs offer several advantages due to their robust design and simple operating conditions. The rigid rotor-shaft assembly allows a tolerant operation in mechanically and thermally demanding environments. Together with its low requirements to converters, it is an excellent alternative to 2-pole permanent magnet synchronous machines.

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e+a offers support regarding all aspects of permanent magnet synchronous machines and inductions machines already in the project planning phase. With state-of-the-art simulation tools, a well equipped test bench and experience of many challenging motor designs, e+a also offers consultation in machine cooling, shaft dimensioning, selection and evaluation of the VFD as well as support in trouble shooting.

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