



PMS MOTORS WITH INTEGRATED CHOKE

ICT-INTEGRATED CHOKE TECHNOLOGY

INTEGRATED MOTOR CHOKE

STANDARD PMSM-SYSTEM*



ICT-SYSTEM*



*Exemplary representation

OUR PERFORMANCE - YOUR ADVANTAGES

The days when high-speed motors had to rely on external chokes are now a thing of the past. Thanks to our innovative SycoTec "Integrated Choke Technology", we have managed to integrate the choke features directly into the motor. Our groundbreaking "IC - Technology" allows us to develop and manufacture customized PM high-speed motors that are tailored exactly to your requirements. In doing so, the use of external chokes can be completely eliminated.

- ▷ **Customized high-speed synchronous motors according to customer requirements**
- ▷ **Integration of choke features directly in the motor**
- ▷ **Maintaining the remarkably increased S1 power density and efficiency of PMS motors compared to induction motors**
- ▷ **Reduction of overall system costs**
- ▷ **Reduced space requirement of the overall system**
- ▷ **Significant improvement in field weakening characteristics of ICT motors compared to conventional PMS motors.**

POWER DENSITY / SYSTEM INSTALLATION SPACE

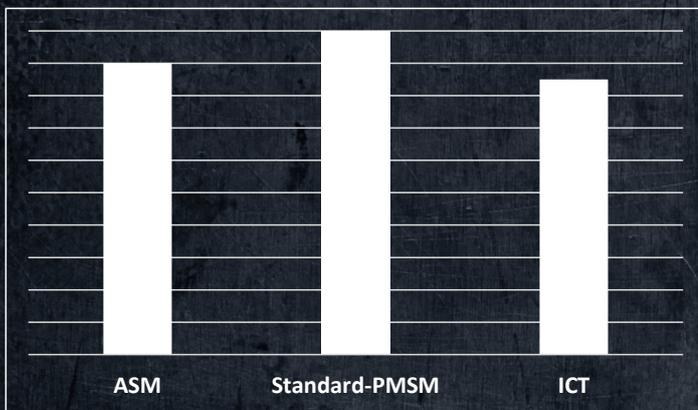
POWER DENSITY WITH THE SAME INSTALLATION SPACE & COOLING

The power density of high-speed PMS motors compared to asynchronous motors is significantly increased. However, so far, the use of an external motor choke could generally not be avoided. With the introduction of the innovative "Integrated Choke Technology", this problem is now a thing of the past.



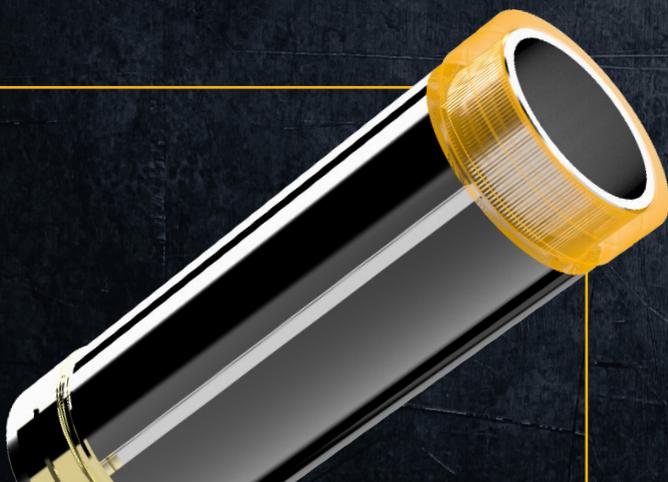
*

SYSTEM INSTALLATION SPACE WITH THE SAME PERFORMANCE



*

By integrating the choke characteristics directly into the motor without increasing the required motor installation space, the need for a separate external choke is eliminated. This leads to a considerable reduction in the space required in the overall system, consisting of inverter, choke and motor. At the same time, the power density of the overall system increases noticeably.

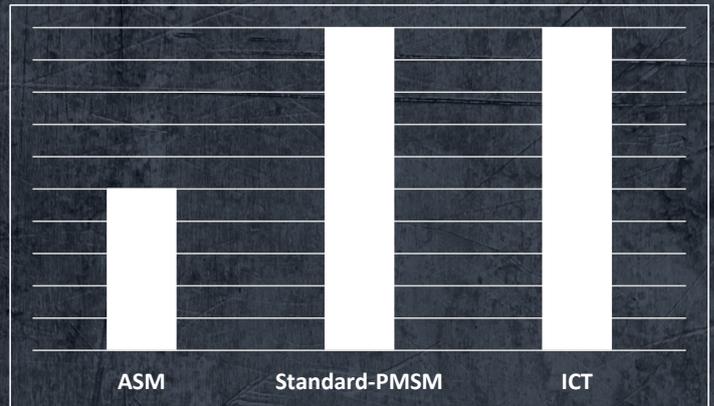


*Exemplary representation

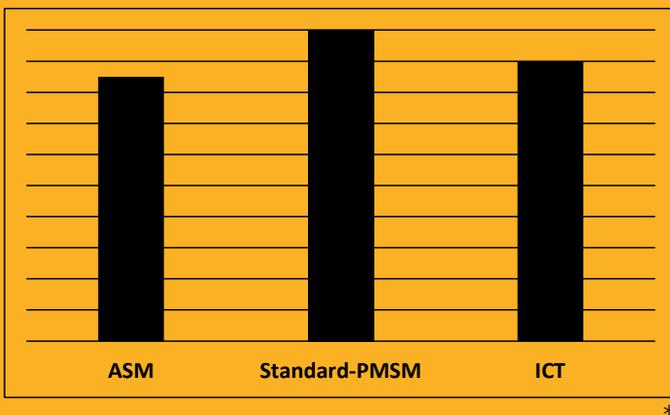
SHAFT DIAMETER / SYSTEM COSTS

POSSIBLE SHAFT DIAMETER

The stiffness of the rotor system is largely determined by the shaft diameter. In this respect, PMSM machines offer considerable advantages compared to asynchronous machines. With the new SycoTec „Integrated Choke Technology,“ you do not have to forego these benefits. It is still possible to fully utilize the maximum shaft diameter.



SYSTEM COSTS

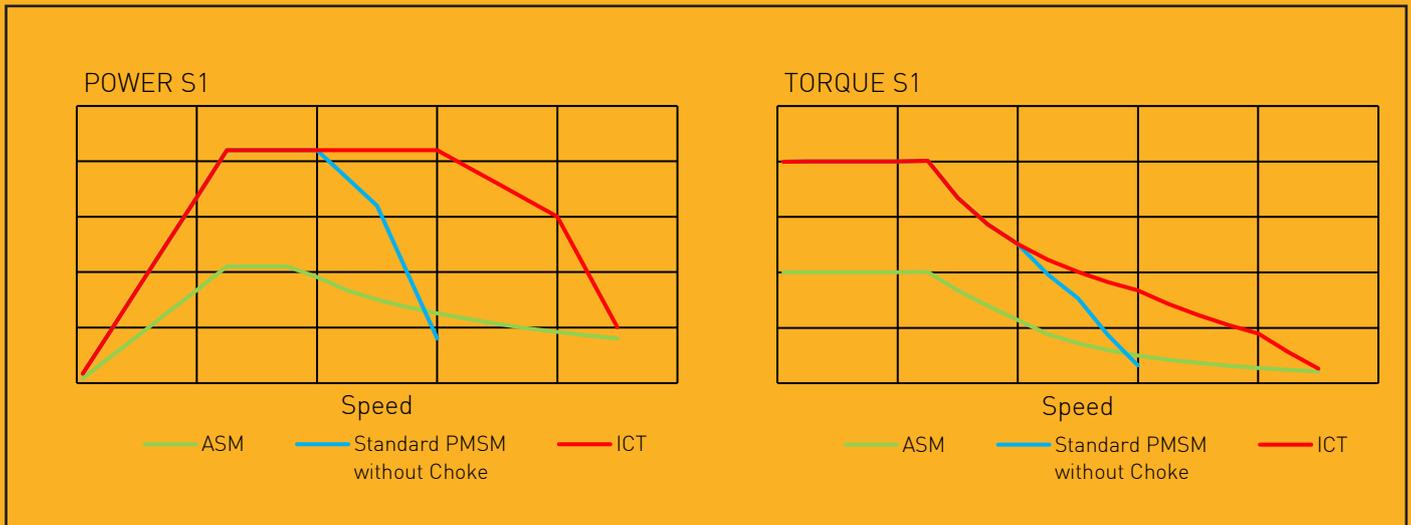


The total cost of the system can vary significantly depending on the size of motor choke required. By using SycoTec ICT motors, this necessity is eliminated, resulting in a reduction of the total system expenses.

In addition, eliminating the need for external chokes opens up other benefits. Installation costs can be reduced and operating costs may also be lower due to better cooling performance compared to asynchronous machines.

A COMPARISON IS WORTHWHILE

The comparison illustrates the superior performance of ICT & PMS motors compared to asynchronous motors in the same installation space.



DOUBLED S1 POWER AND TORQUE DENSITY

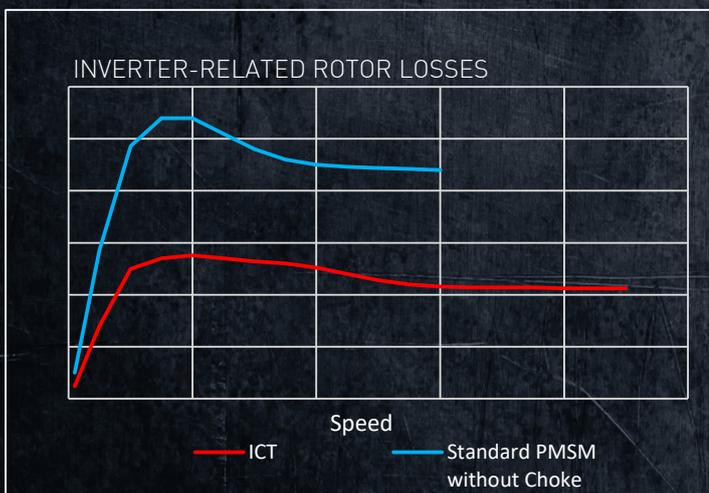
- ▷ ICT & PMS motors offer a remarkable doubling of S1 power and torque density compared to conventional induction motors.

SIGNIFICANT INCREASE IN MAXIMUM ROTATIONAL SPEED

- ▷ The use of ICT motors allows a significant increase in field weakening capability compared to conventional PMS motors, resulting in a significant increase in maximum speed.

INCREASED TORQUE STIFFNESS

- ▷ Compared to PMS motors without choke, the torque drop is significantly lower.



In addition to the remarkable increase in field weakening capability, the innovative “Integrated Choke Technology” leads to a significant reduction in rotor losses caused by the inverter. As a result, the rotor temperature is significantly reduced. This reduction has a positive effect on the thermal load on the magnets, shaft and bearings, which in turn leads to a significant increase in service life.

YOUR SPECIALIST FOR HIGH-PERFORMANCE MOTORS



Sycotec GmbH & Co. KG
Wangener Straße 78
88299 Leutkirch im Allgäu / Germany

Phone: +49 7561 86-0
Email: info@sycotec.eu
Web: www.sycotec.eu