

# DRIVESYSTEMS

## **Highest efficiency through application-specific drive configuration: Optimizing drive solutions, tapping power reserves**

*Despite the introduction of energy efficiency classes IE2, IE3 etc. and the subsequent information that is now available, finding the most resource-efficient drive solution is not easy. A simple catalog based choice will often miss out on potential savings and therefore motors should be carefully selected according to the actual load profile of the application. To avoid inefficient drive specifications, NORD Drivesystems concentrates on power reserves which are derived from various sources. Firstly, the power a motor can generate in compliance with its temperature class is higher than the rated output as given in the catalog and on the motor type plate. Secondly, performance classes rise gradually; for a 3.7 kW output, for instance, it takes a 4 kW motor. Many customers will even select the next motor in size. This kind of »bigger is better« approach is anything but efficient.*



Yet more reserves are added during the drive configuration stage. Many mechanical engineers anticipate the worst case while disregarding that only normal motor operation (around 100 %) will ensure high efficiency and optimum savings. Comprehensive motor specifications will include overload tolerances, i.e. which high and peak performance motors can run permanently or temporarily. Machine manufacturers know the typical load profiles but in addition, a consultation with the end user might be advisable; after all, they are the ones primarily profiting from lower operating costs and they can often help determine the requirements. Additional potential power reserves result from different operation modes. While catalog specifications of nominal loads refer to continuous operation under constant load (operating mode S1), many actual applications require only periodic duty. During short-time and intermittent operation longer overload periods are possible, provided that motors can cool down sufficiently in interim periods. NORD drive experts offer application-specific support considering these and related aspects for tailored drive configurations. For a quick overview and in addition to face-to-face consultation, NORD provides helpful and instructive information about efficient drive solutions at [www.nord.com](http://www.nord.com); the material includes a decision tree for motors in line with energy efficiency requirements, an interactive energy saving calculator, and a motor catalog listing the various different international regulations on efficient drive solutions.

Illustration: For energy-saving motors NORD employs innovative material concepts and technologies however, optimum efficiency also necessitates careful configuration

#### *Company Background*

*A developer and manufacturer of drive technology, NORD Drivesystems employs some 2, 800 people and is one of the world's leading suppliers of full-scale, comprehensive drive solutions. NORD's portfolio ranges from standard drives to customized solutions for demanding application requirements, e.g. based on energy-efficient or explosion-protected drives. Gross sales amounted to EUR 337 mn in the 2010 business year. Founded in 1965, the company has grown to include 35 subsidiaries around the world today. NORD has established an extensive distribution and service network to ensure minimal lead times and provide customer-oriented services wherever needed on short notice. NORD's wide variety of gear types covers torques from 10 Nm to 200, 000 Nm. The company also manufactures motors delivering outputs from .12 kW to 200 kW, and power electronics ranging from frequency inverters to servo controllers. NORD's inverter line-up features conventional models for installation in control cabinets as well as design types for fully integrated drive units in decentralized automation environments.*

*[www.nord.com](http://www.nord.com)*

#### **NORD Drivesystems Pvt. Ltd.**

282/2, 283/2, Village Mann,  
Tal. Mulshi, Adj. Hinjewadi MIDC II  
Pune 411057 India  
SINGH Sweta  
Phone: 09765490890  
SSingh@nord-in.com

#### **Getriebebau NORD GmbH & Co. KG**

Rudolf-Diesel-Straße 1  
22941 Bargteheide/Hamburg  
Germany  
NIERMANN Jörg  
Phone: +49(0) 45 32 / 401 - 360  
Fax: +49(0) 45 32 / 401 - 254  
Joerg.Niermann@nord.com