

# Synchronous motor with IE5 + energy efficiency

Efficient, hygienic und compact



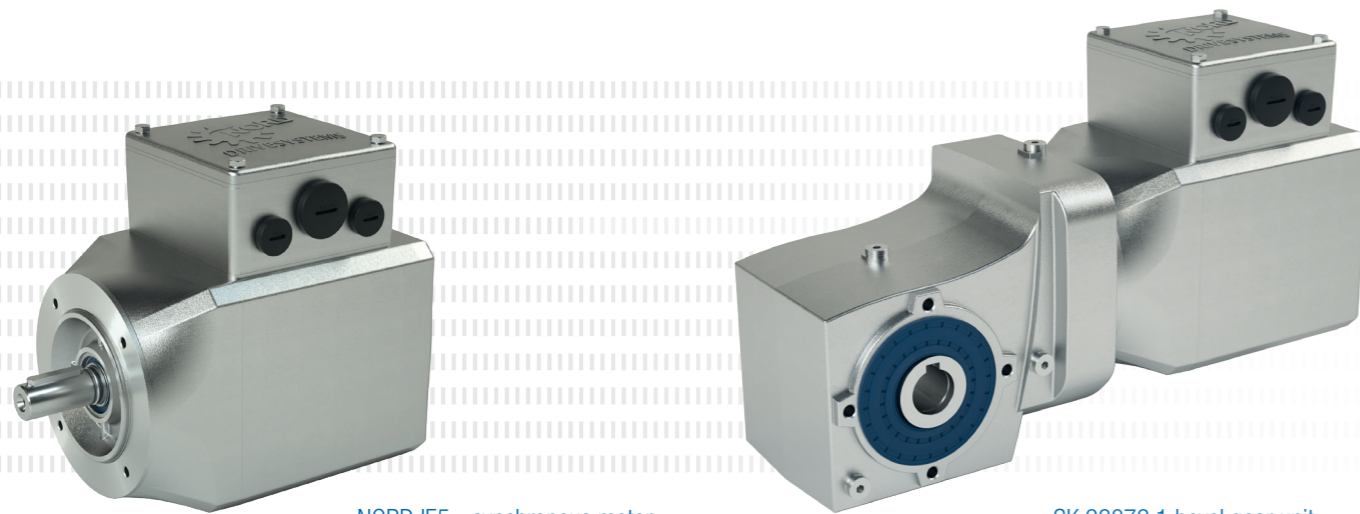
# Synchronous motor with IE5+ energy efficiency

The new generation of IE5+ motors are especially suitable for reducing operating costs in wash-down applications

- ▶ Highest operational efficiency with IE5 technology
- ▶ Reduced TOC and fast ROI
- ▶ Reduction of versions through constant torque over a wide speed range
- ▶ Easy to clean and corrosion-proof due to smooth and fanless motor design
- ▶ Fully matched modular NORD system solution with inverter, gear unit and motor
- ▶ Compact and hygienic design for ultimate application diversity

## Features

- ▶ Latest generation permanent magnet synchronous motor (PMSM)
- ▶ Power range from 0.35 to 1.1 kW in a single size
- ▶ IEC B14 flange mounting, IEC B5 flange mounting, NEMA C-face flange mounting, direct mounting to all NORD gear units
- ▶ Continuous torque of 1.6 to 4.8 Nm in a single size
- ▶ Speed range from 0 to 2,100 rpm
- ▶ Optionally with nsd tupH surface treatment and IP69K protection class
- ▶ Optionally motor-integrated encoder; optionally integrated mechanical brake

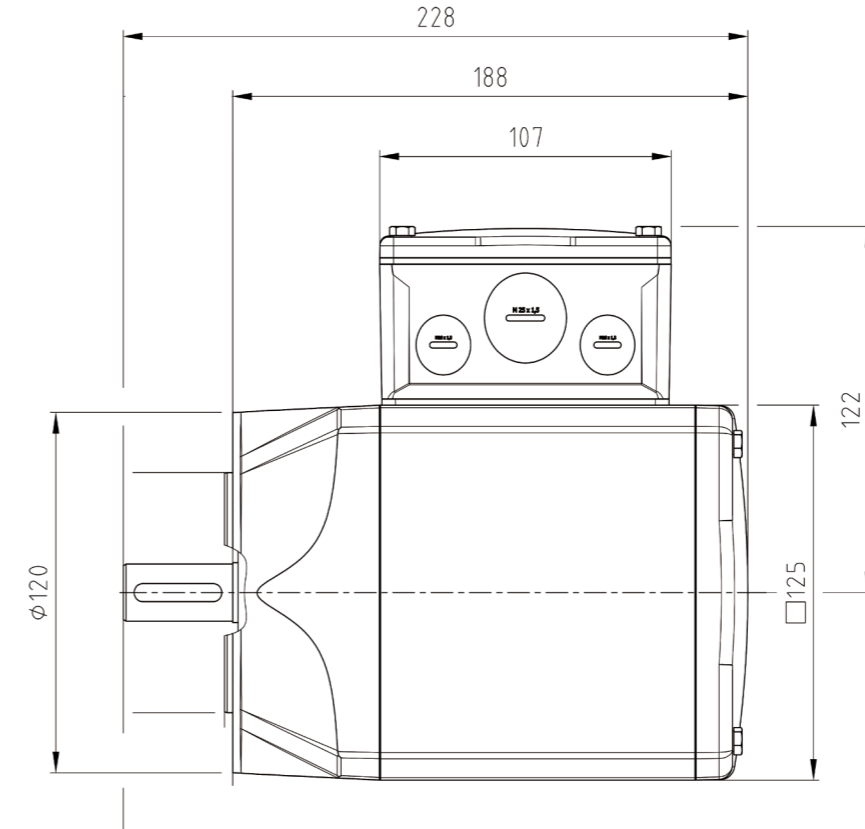


NORD IE5+ synchronous motor

SK 93072.1 bevel gear unit  
NORD IE5+ synchronous motor

| Type      | Size   | Voltage [V] | Stator connection | Frequency [Hz] | M <sub>N</sub> [Nm] | M <sub>N</sub> [lb-in] | n <sub>N</sub> [rpm] | P <sub>N</sub> [kW] | P <sub>N</sub> [hp] | I <sub>400V</sub> [A] | η [%] | cos [Φ] | M <sub>max</sub> [Nm] | Peak current [A] | Efficiency class |
|-----------|--------|-------------|-------------------|----------------|---------------------|------------------------|----------------------|---------------------|---------------------|-----------------------|-------|---------|-----------------------|------------------|------------------|
| SK 71N1/8 | IEC 71 | 400         | Y                 | 140            | 1,6                 | 14,16                  | 2100                 | 0,35                | 0,5                 | 0,76                  | 89,1  |         | 4,8                   | 2,28             |                  |
| SK 71N2/8 | IEC 71 | 400         | Y                 | 140            | 3,2                 | 28,32                  | 2100                 | 0,70                | 0,9                 | 1,45                  | 92,5  | 0,95    | 9,6                   | 4,35             | IE5+             |
| SK 71N3/8 | IEC 71 | 400         | Y                 | 140            | 4,8                 | 42,48                  | 2100                 | 1,10                | 1,5                 | 2,14                  | 93,6  |         | 14,4                  | 6,42             |                  |

## IEC motor, B14 flange



## Reduction of versions

By way of a targeted reduction of versions, it is possible to minimise administrative expenses and to set up leaner manufacturing, logistics, storage and service processes. The new generation of IE5 motors combines the benefits of the modular system with the possibilities of reducing variants. The solution will be tailored to each customer and features the following advantages:

- ▶ Motor is operable worldwide
- ▶ Utilisation of the high system overload capacity
- ▶ Wide speed range
- ▶ Explicitly tailored to the individual load range
- ▶ Minimal space requirements paired with high power density



## Sealed Surface Conversion System

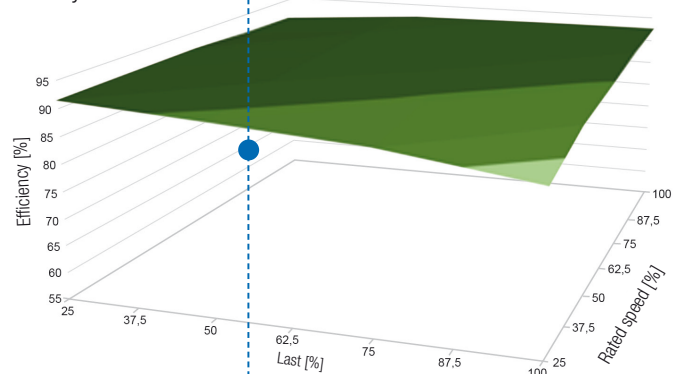
NORD geared motors with nsd tupH are the optimal choice for use in challenging environmental conditions.

- ▶ Easy to clean surfaces
- ▶ Resistant to acids and alkalis (wide pH range)
- ▶ No spreading of corrosion, even if damaged
- ▶ No flaking
- ▶ Corrosion-resistant – no contact corrosion
- ▶ Conforms to FDA Title 21 CFR 175.300
- ▶ Free from chromates

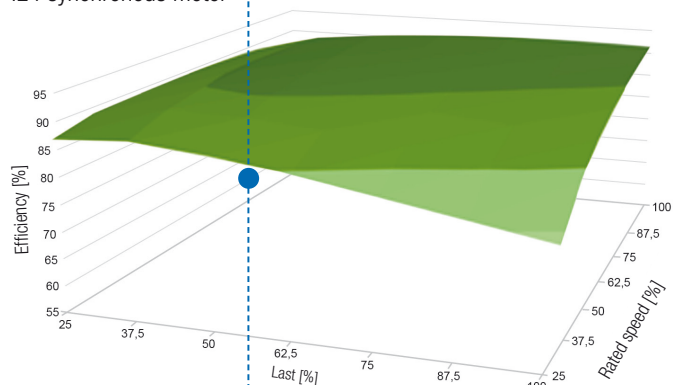
## The complete solution for extreme conditions

- ▶ Surface-treated housing components
- ▶ DIN and standard components made from stainless steel
- ▶ Wash-down housing (gear unit and motor)
- ▶ Stainless steel shafts
- ▶ Special shaft sealing rings
- ▶ Food grade oil

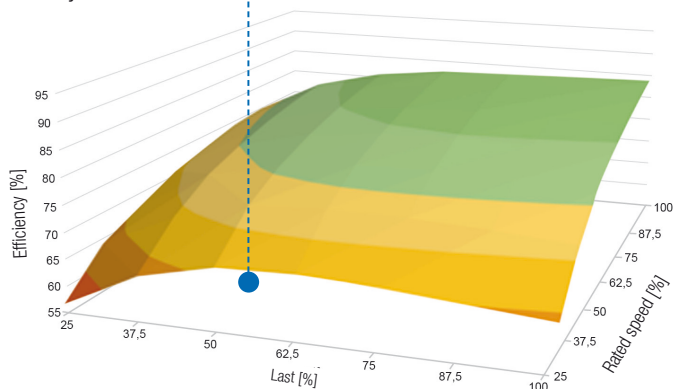
### IE5+ synchronous motor



### IE4 synchronous motor



### IE3 asynchronous motor



The new IE5+ synchronous motor is characterised by its very high efficiency rating. Compared to asynchronous motors, high energy savings are possible, especially in the partial load and partial speed range.\* This minimises the customer's TOC.

\* Efficiency example: Load 50 % / speed 37.5 %



## NORD DRIVESYSTEMS Group

- ▶ Family business from Bargteheide near Hamburg with 4,000 employees
- ▶ Drive solutions for more than 100 branches of industry
- ▶ 7 production locations worldwide
- ▶ Present in 98 countries on 5 continents
- ▶ More information: [www.nord.com](http://www.nord.com)

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