






# THE ALTERNATIVE TO STAINLESS STEEL



Overview of advantages	Paint	Stainless steel	nsd tupH
No flaking	--	++	++
Corrosion resistant	+	++	++
Costs	+	--	o
Weight	++	-	++
Available products	+	-	+
Heat conduction	+	-	+

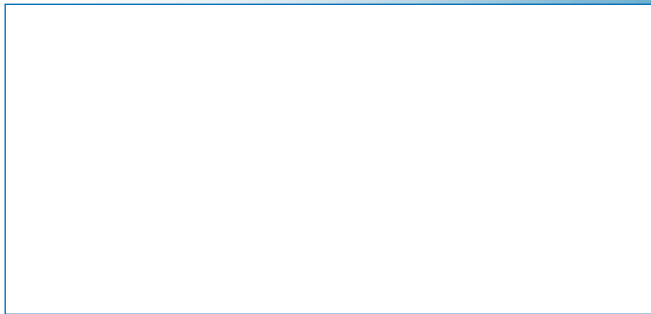
++ very advantageous, + advantageous, o neutral,  
- disadvantageous, -- very disadvantageous

## Available NORD products with nsd tupH

<b>NORDBLOC.1®</b> helical gear unit  <small>*up to size 6 or 7 (depending on version)</small>	<b>NORDBLOC.1®</b> 2-stage bevel gear unit 
<b>UNIVERSAL SI and SMI</b> worm gear unit 	<b>Smooth surface motor</b> 
<b>NORDBLOC.1®</b> parallel shaft gear units 	<b>Motor starter</b> <b>NORDAC START SK 135E</b> <b>Frequency inverter</b> <b>NORDAC BASE SK 180E</b> 

nsdtupH@nord.com

NORD DRIVESYSTEMS nsd tupH



## NORD DRIVESYSTEMS Group

**Headquarters and technology centre**  
in Bargteheide, near Hamburg

**Innovative drive solutions**  
for more than 100 branches of industry

**Mechanical products**  
Parallel shaft, helical, bevel and worm gear units

**Electrical products**  
IE2/IE3/IE4 motors

**Electronic products**  
Centralised and decentralised frequency inverters  
and motor starters

**7 production locations with cutting edge technology**  
for all drive components

**Subsidiaries and sales partners**  
**in 98 countries on 5 continents**  
provide local stocks, assembly centres,  
technical support and customer service

**More than 3,600 employees throughout the world**  
create customised solutions.

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

**Headquarters:**

**Getriebebau NORD GmbH & Co. KG**  
Getriebebau-Nord-Str. 1, 22941 Bargteheide, Germany  
T +49 4532 2890, F +49 4532 289 2253  
info@nord.com

**Member of the NORD DRIVESYSTEMS Group**

Intelligent Drivesystems | Worldwide Services

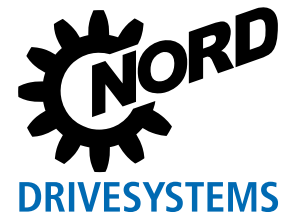
# nsd tupH

Sealed Surface Conversion System



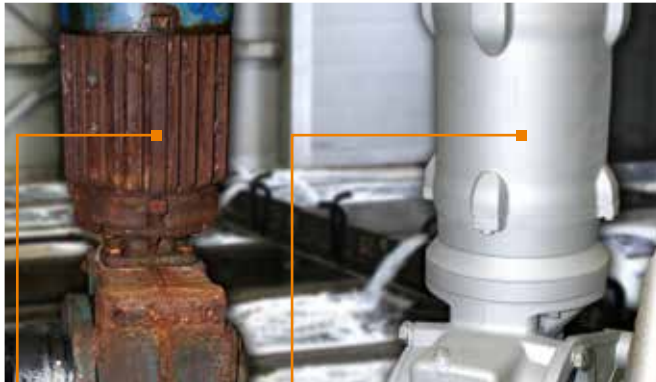
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(EN)  
**CORROSION  
PROTECTION  
FOR EXTREME  
CONDITIONS**



# THE SOLUTION FOR EXTREME CONDITIONS

**NO PAINT!  
NO FLAKING!**



Painted geared motor after 12 months of use

nsd tupH geared motor after 12 months of use in a shellfish processing system in a salty environment

## nsd tupH – Ideal for extreme conditions

- Food and beverage industry
- Dairies
- Pharmaceutical industry
- Waterworks and water treatment plants
- Car washes
- Marine and coastal areas
- Chemical cleaning (wash-down, large pH range)

## NORD DRIVESYSTEMS provides solutions for extreme conditions.

- nsd tupH surface-treated housing components
- Conforms to FDA Title 21 CFR 175.300
- Accessories in rust-proof stainless steel
- Wash-down housing (gear unit, motor, inverter)
- Stainless steel shafts
- Special shaft sealing rings
- Food-compatible oil

## Aluminium with nsd tupH surface



To simulate realistic environmental conditions, the test sample should not be continuously immersed in chemicals and cleaning agents. Instead, the sample should be subjected to an examination procedure which includes the recommended time and application of the cleaning agent with appropriate rinsing. This cycle can be repeated in rapid succession (several times/day) in order to speed up the testing.

**TIP: Expose the test sample to the actual operating conditions of your drives**

Please visit our NORD „YouTube“ channel for more information!



Substances tested by NORD DRIVESYSTEMS		
Substance	Alternative name	Conc. (max)*
Acetic acid	Vinegar	30.0%
Alcohol, ethoxylated	Non-ionic tensides	5.0%
Hydrogen peroxide		6.9%
Methane sulfonic acid		5.0%
Carbonic acid	Caprylic acid	3.3%
Peracetic acid	Peroxyacetic acid	4.4%
Phosphoric acid		27.0%
Secondary alcano sulfonates	Wetting agent	5.0%
Sodium hydroxide	Caustic soda, lye, sodium hydroxide	15.0%
Sodium hypochlorite	Bleach, Soda chloride	3.0%

\*maximum test concentration

Does your application utilize chemicals not shown on this chart? If so, please contact us via nsdtupH@nord.com or by telephone (back page). Additional chemicals may have already been tested.