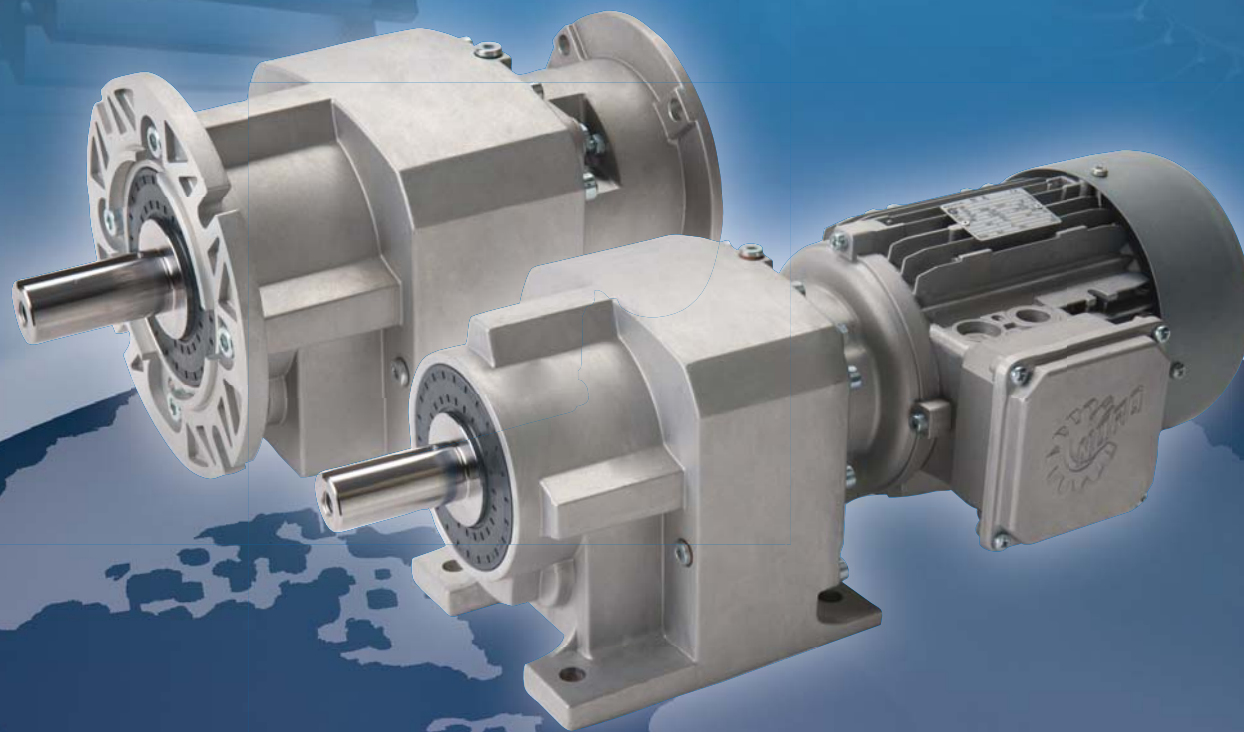


## Intelligent Drivesystems

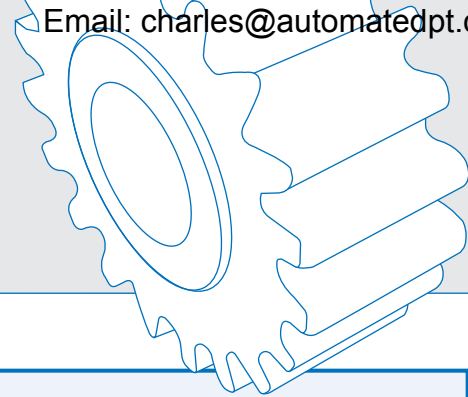


# NORDBLOC®.1 SERIES

Innovative Design

F1012



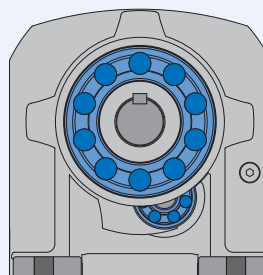


# Nordbloc® .1 Innovative Design

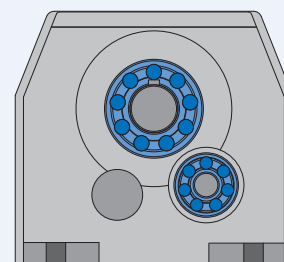
## Bearing Design

The design of the bearing systems is a key innovation in the new NORDBLOC® .1 units. The output bearing is greatly oversized which provides a number of important advantages. This design results in a much larger bearing capacity than what is needed if the bearings were selected based on load forces. It also results in an output bearing that is much physically larger than competitive gear units. In order to accommodate the larger bearings, an innovative design called staggered bearing topology was developed.

It is common to have the support bearings for different shafts in the same plane; this greatly restricts the physical size of the bearings. As you can see in the scale drawing, the output bearing in the NORD unit is much larger than the competitors unit. A key part of the bearing system design is to have large bearing spans. This also increases the overall bearing system capacity. As a byproduct of the larger bearings, the internal shaft diameters increase – thus increasing the shaft strength. The gear housing also has larger output bearing bores which increases the housing strength.



Nordbloc.1® Unit

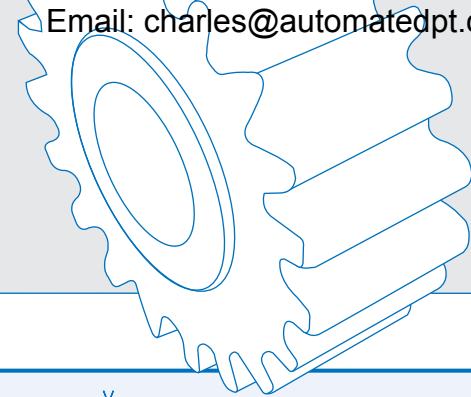


Competitor Unit

## NORD Bearing Advantages & Benefits

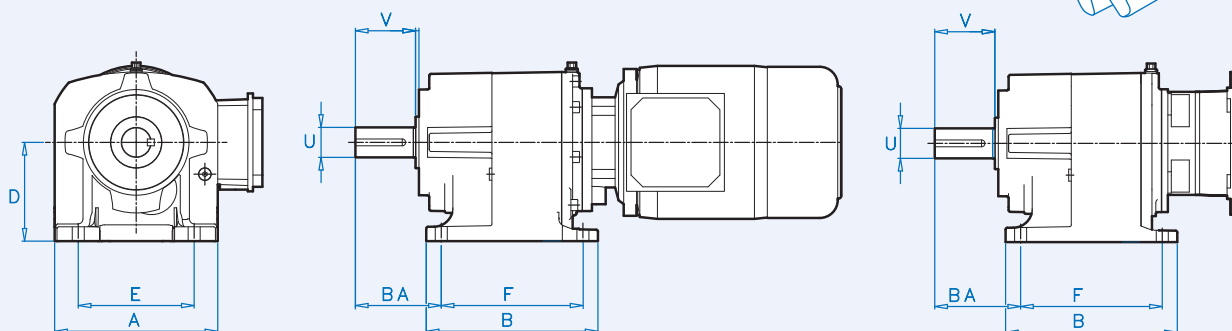
- Oversized bearings
- Staggered bearing topology
- Longer bearing life
- Higher overhung load capacity
- Increased thrust capacity
- No assembly covers needed





# Nordbloc® .1

## Innovative Design



### Dimensions [inch]

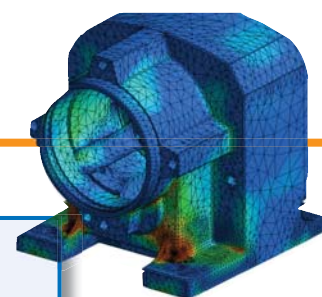
Size	A	B	BA	D	E	F	U	V
SK 072.1	4.09	4.29	1.89	2.56	3.35	3.74	0.750	1.57
SK 172.1	5.51	5.31	2.28	2.95	4.33	4.33	0.750	1.57
SK 372.1 SK 373.1	5.91	6.30	2.95	3.54	4.33	5.12	1.000	1.97
SK 572.1 SK 573.1	7.48	7.87	3.54	4.53	5.31	6.50	1.250 & 1.375	2.36
SK 672.1 SK 673.1	8.27	9.25	3.93	5.12	5.91	7.68	1.375	2.75
SK 772.1 SK 773.1	9.33	9.65	4.57	5.51	6.69	8.07	1.625	3.15
SK 872.1 SK 873.1	11.81	12.20	5.55	7.09	8.46	10.24	2.125	3.94
SK 972.1 SK 973.1	13.70	14.37	6.33	8.86	9.84	12.20	2.375	4.72

### Unicase®

NORD heavy-duty, one-piece housings are precisely machined to meticulous standards. Internal reinforcements further increase strength and rigidity. All bearings and seal seats are contained within the casting, eliminating splits or bolt-on carriers that can weaken the housing and allow oil leakage. Bores and mounting faces are machined in one step, producing extremely precise tolerances — thus ensuring accurate positioning of gear teeth, bearings and seals, and longer life for all components.

### Rigid Housing Design (FEM)

NORD's new NORDBLOC® design used state-of-the-art Finite Element Modeling as a key design tool. This allowed optimal structural design to maximize the strength & rigidity of the gear box components.

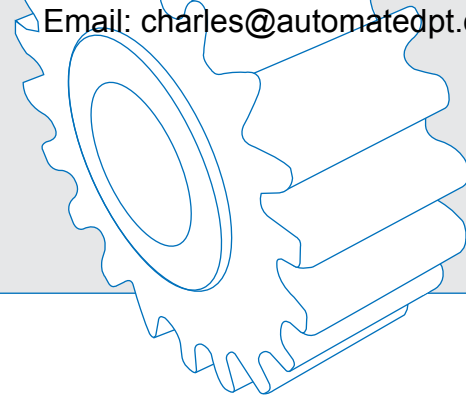


### Rigid Unicase® Housing Advantages & Benefits

- Leak-free design
- Quiet operation
- High output torque capabilities



DRIVESYSTEMS



# Nordbloc® .1

## Innovative Design

### Corrosion Resistant Aluminum Alloy Housing

The point one NORDBLOC® .1 makes use of the many advantageous material properties of an optimized aluminum alloy for the gear housing. The aluminum alloy housing provides a higher strength to weight ratio than cast iron. The housing material is also inherently corrosion resistant and does not need a paint coating. Finally the aluminum alloy housing is a much better heat conductor than cast iron which will decrease the gear units operating temperature this benefits the internal components and will yield longer service life.

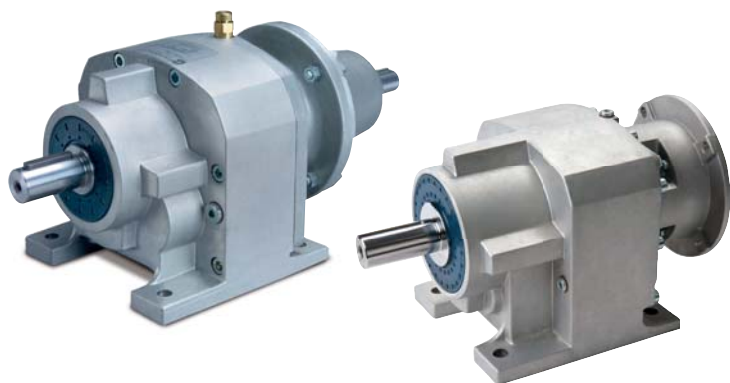
#### Alloy Housing Advantages & Benefits

- Paint free
- Light weight
- Corrosion resistant
- Better thermal conductivity (lower temperature)
- Longer service life



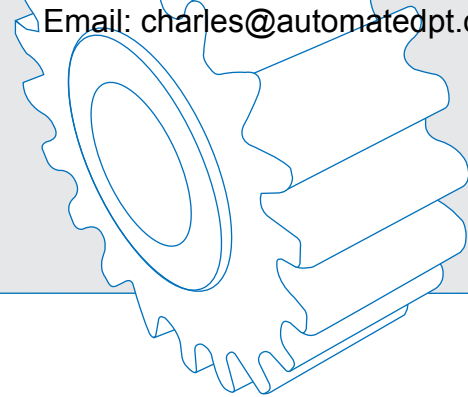
### Smooth Solid Gear Housing Surface

One goal of the new NORDBLOC® .1 units was to provide a smooth surface to prevent liquids from pooling or, solid material build-up on the units. This is an advantage in applications where cleanliness is important. Also, the gear units are designed to not have any assembly covers. This increases the product strength and also provides a smoother surface. No rubberized bore plugs are used which provides a smoother, more uniform surface, greater strength and increased sealing integrity.



#### Smooth Gear Housing Advantages & Benefits

- Easy cleaning
- Smooth surface
- No assembly covers
- No bore plug caps



# Nordbloc® .1

## Innovative Design

### Large Ratio per Gear Stage

NORD gear cutting technology allows for the production of gear sets with a higher maximum ratio per stage than many other speed reducer manufacturers. NORD commonly produces gear sets with a maximum ratio of between 8:1 and 10:1 per stage. This allows for double reduction gear units with a maximum ratio between 60:1 and 100:1. Most speed reducer manufacturers' can only produce single-stage reduction of between 5:1 and 6:1. This means a two-stage reducer with a maximum reduction of about 25:1 to 35:1. NORD can often provide two-stage reducers when most companies must provide three-stage units. The same situation applies to three, four and larger gear stages. This allows NORD to provide superior value and performance in many conditions.

### Modular Design

All NORD products including the new NORD-BLOC®.1 units are modular in design and provide extraordinary flexibility. The NORDBLOC® units provide great mounting versatility including:

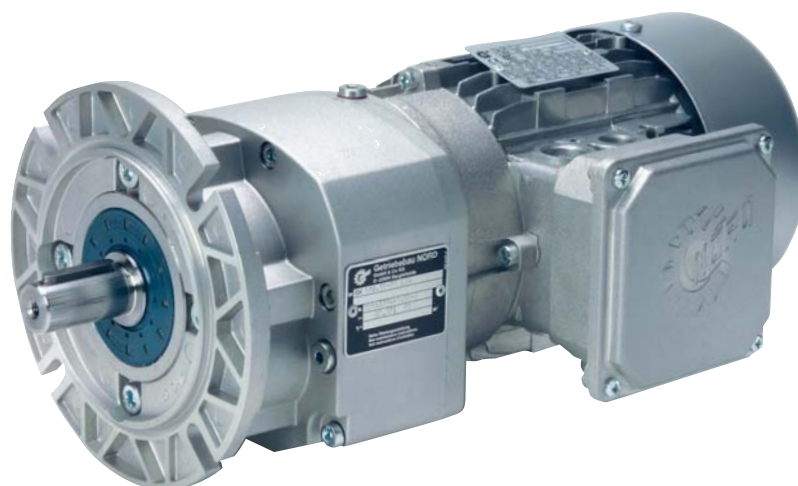
- ☑ Foot mount
- ☑ Flange mount B5
- ☑ Face flange mount B14
- ☑ Foot mount with a B5 or B14 flange

The NORDBLOC® unit can also be provided with a number of different input components including:

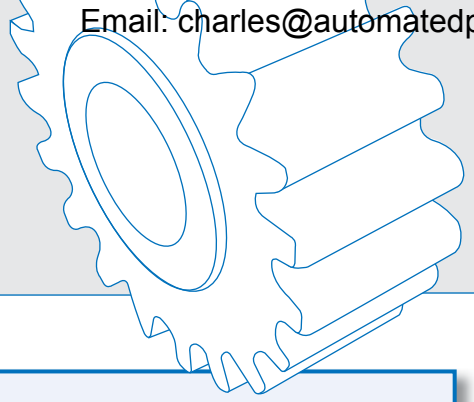
- ☑ Integral motor (Gearmotor)
- ☑ NEMA C-face motor adapter
- ☑ IEC B5 motor adapter
- ☑ Solid input shaft
- ☑ Custom motor adapter (servo, hydraulic motors, and more)

### Large Ratio Advantages & Benefits

- ☑ Better value
- ☑ Higher efficiency
- ☑ Quieter operation
- ☑ Lower weight
- ☑ Longer life



DRIVESYSTEMS



# Nordbloc® .1

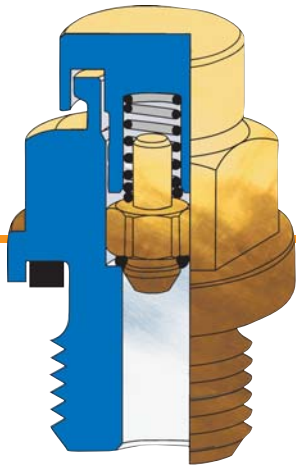
## Standard Features

### Autovent™

The AUTOVENT™ prevents bearing damage by blocking entry of foreign material (water, dust, corrosives, etc.) through breather. A ball and spring check valve opens at 2-3 psi during operation and closes tightly when the gearbox cools, producing a slightly negative pressure that ensures the valve seals tight. This keeps contaminants out of the oil to maintain proper oil cleanliness reducing contamination, foaming & oxidation. The AUTOVENT™ is perfect for humid conditions, washdown applications, and dusty environments.

### Autovent Advantages & Benefits

- ☑ Cleaner gearbox oil
- ☑ Extended lubrication life
- ☑ Longer-lasting seals, gears, and bearings

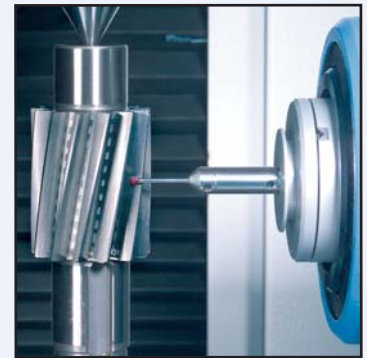


### High-Quality Gearing (Infinite Life Design)

NORD continually invests in state-of the-art gear production equipment and in gear research. This allows us to produce exceptional high quality gears.

### High-Quality Gearing Advantages & Benefits

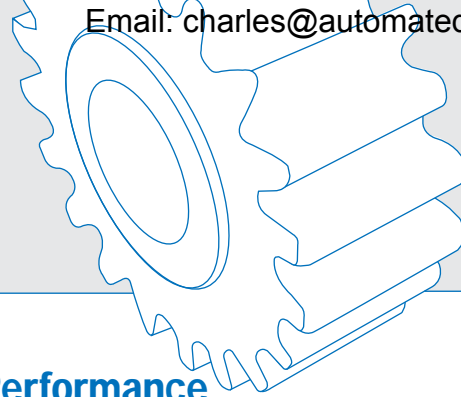
- ☑ Designed and manufactured up to AGMA CLASS 13
- ☑ Infinite design life
- ☑ Case-hardened steel
- ☑ Exceptional hardness: 58 Rc minimum
- ☑ High-speed gears are ground; low speed gears skive hobbled
- ☑ 275% momentary overload capacity
- ☑ Low noise
- ☑ Low maintenance



### Energy Efficiency

Lowering your operating costs is one of our greatest goals. NORD research and development focuses on energy efficiency inverters designed for lower energy consumption. Our highly diverse line of in-line or right angle units and motors has been developed to suit your needs.





# Nordbloc® .1

## Standard Features

### Compact Coupled NEMA C-face Motor Adapter

NORD's unique NEMA C-face motor adapter provides the user with a high performance motor attachment system in a compact space. Historically, to have a compact C-face motor mounting the only choice was a low performance quill design with its distinct disadvantages including excessive bearing loading, rapid seal wear and metal-to-metal fretting corrosion. The fretting corrosion inherent with a quill design made the removal of a motor almost impossible. Also in the past, the use of a superior coupling system meant increased cost and a much longer motor bell. NORD's compact NEMA C-face adapter uses a high strength motor coupling and provides the space advantages of a quill but without the quills severe drawbacks.

### Compact coupled Nema C-Face Advantages & Benefits

- Compact space saving design
- Easy mounting
- Easy motor removal
- Motor coupling (not quill)
- Low bearing loading (long bearing life)
- Lower weight



### NORD High-Performance Motors and Options

NORD motors are designed to run cool for producing longer service life. Low rotor inertia and high starting torque allow peak performance in the most difficult applications for inverter and vector duty per NEMA MG 1-2006 Section 31.4.4.2 voltage spikes. Our motors are internationally accepted, conforming to North American NEMA MG 1 and international IEC electrical specifications. High performance options include brakes, encoders, and forced cooling fans.



### Factory Oil Filled

All NORDBLOC® units are filled at the factory with the proper quantity and type of lubrication. Oil fill before shipping prevents damage from dry start-ups.

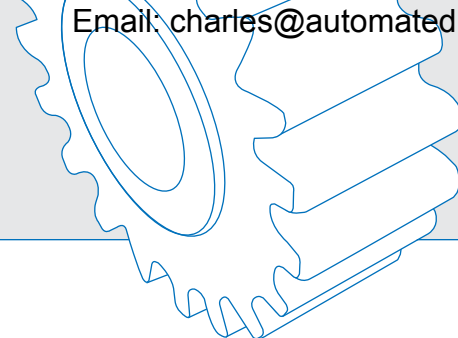
### Factory Oil Filled Advantages & Benefits

- No need for filling onsite
- Ensures proper oil grade and fill level
- Prevents dry gearbox starts



DRIVESYSTEMS

# Product Overview



## UNICASE™ SPEED REDUCERS



### HELICAL IN-LINE

- Foot or Flange Mount
- Torque up to 205,000 lb-in
- Gear ratios – 1.82:1 to over 300,000:1



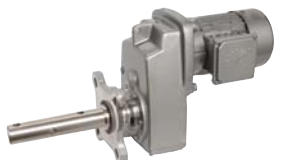
### NORDBLOC®.1 HELICAL IN-LINE

- Foot or Flange Mount
- Torque up to 26,550 lb-in
- Gear ratios – 1.88:1 to over 370:1



### PARALLEL HELICAL CLINCHER™

- Shaft, Flange or Foot Mount
- Torque up to 797,000 lb-in
- Gear ratios – 4.26:1 to over 300,000:1



### SCP SCREW CONVEYOR PACKAGE

- Shaft, or Flange Mount
- Torque up to 53,100 lb-in
- Gear ratios – 4.32:1 to over 1500:1



### RIGHT ANGLE HELICAL-BEVEL 2-STAGE

- Foot, Flange or Shaft Mount
- Torque up to 5,840 lb-in
- Gear ratios – 4.1:1 to 72:1



### RIGHT ANGLE HELICAL-BEVEL

- Foot, Flange or Shaft Mount
- Torque up to 283,000 lb-in
- Gear ratios – 8.04:1 to over 300,000:1



### RIGHT ANGLE HELICAL-WORM

- Foot, Flange or Shaft Mount
- Torque up to 27,585 lb-in
- Gear ratios – 4.40:1 to over 300,000:1

## HIGH PERFORMANCE MOTORS & BRAKEMOTORS



### INVERTER/VECTOR DUTY

- Standard or Energy Efficient
- Integral, NEMA or Metric IEC
- 1/6 to 250 hp

## UNICASE™ SPEED REDUCERS



### MINICASE™ RIGHT ANGLE WORM

- Foot, Flange or Shaft Mount
- Torque up to 3,540 lb-in
- Gear ratios – 5:1 to 500:1



### FLEXBLOC™ WORM

- Modular bolt-on options
- Torque up to 4,683 lb-in
- Gear ratios – 5:1 to 3,000:1



### MAXXDRIVE™ LARGE INDUSTRIAL GEAR UNITS PARALLEL HELICAL

- Modular bolt-on options
- Torque up to 2,027,000 lb-in
- Gear ratios – 5:1 to 1,600:1



### MAXXDRIVE™ LARGE INDUSTRIAL GEAR UNITS HELICAL-BEVEL

- Modular bolt-on options
- Torque up to 2,027,000 lb-in
- Gear ratios – 5:1 to 1,600:1

## NORDAC AC VECTOR DRIVES



### SK200E FAMILY

- Decentralized, high performance
- 380-480V, 3-phase to 10 hp
- 200-240V, 3-phase to 5 hp
- 200-240V, 1-phase to 1.5 hp
- 100-120V, 1-phase to 1 hp



### SK500E FAMILY

- Compact, high performance
- 380-480V, 3-phase, to 50hp
- 200-240V, 3-phase, to 15hp
- 200-240V, 1-phase, to 3hp
- 110-120V, 1-phase, to 1.5hp



### SK700E FAMILY

- Flexible high performance
- 380-460V, 3-phase, to 200hp



DRIVESYSTEMS

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