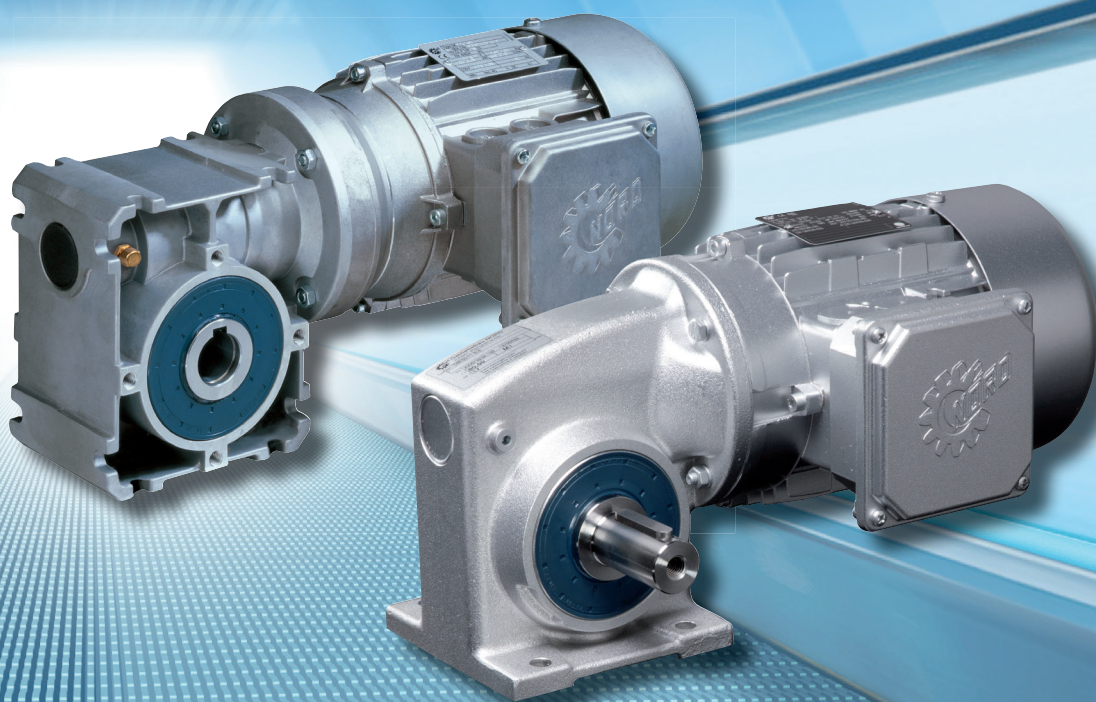


Intelligent Drivesystems, Worldwide Services

FAMCO
هایپر صنعت



EN

G1035

IE1
Standard

IE2

IE3

UNIVERSAL Worm gear units
SI and SMI

NORD
DRIVESYSTEMS

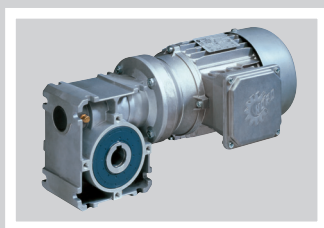
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Tel: +91-48000049
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روبروی پالایشگاه نفت پارس، پلاک ۱۲

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NORD DRIVESYSTEMS Group

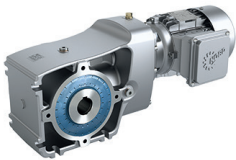


Headquarters and Technology Centre

- in Bargteheide, close to Hamburg

Mechanical products

Gear units



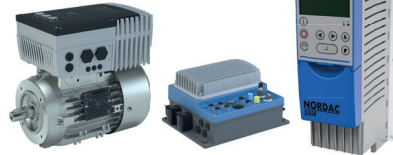
Electrical products

Motors



Electronic products

Inverters, motor starters and distribution systems



Innovative drive solutions

- for more than 100 branches of industrial



Gear unit production



Motor production



Inverter production

7 state-of-the-art production plants

- produce gear units, motors and inverters also for complete drive solutions from a single source



Subsidiaries and sales partners in 89 countries on 5 continents

- provide local stocks
- assembly and production centres
- technical support
- customer service

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More than 3.600 employees throughout the world

- create customer oriented solutions

Product and catalog overview

Helical gear unit (Catalogue G1000)



- ✓ Foot or flange mounted versions
- ✓ UNICASE housing

Sizes	11
kW	0,12 – 160
Nm	23 – 23.160
i	1,24:1 – 14.340,31:1

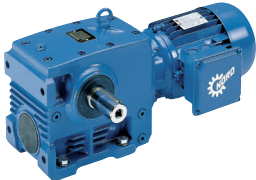
Parallel shaft gear units (Catalogue G1000)



- ✓ Push-on, foot or flange mounted versions
- ✓ Hollow or solid shaft
- ✓ Compact design
- ✓ UNICASE housing

Sizes	15
kW	0,12 – 200
Nm	65 – 90.000
i	4,03:1 – 6.616,79:1

Helical worm gear units (Catalogue G1000)



- ✓ Push-on, foot or flange mounted versions
- ✓ Hollow or solid shaft
- ✓ UNICASE housing

Sizes	6
kW	0,12 – 15
Nm	46 – 3.090
i	4,40:1 – 7.095,12:1

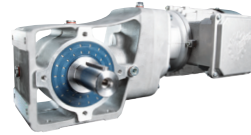
NORDBLOC.1 helical gear units (Catalogue G1000, G1012)



- ✓ Foot or flange mounted versions
- ✓ Die-cast aluminium housing (5 sizes)
- ✓ UNICASE housing
- ✓ Dimensions according to industrial standards

Sizes	8
kW	0,12 – 37
Nm	55 – 3.300
i	2,10:1 – 456,77:1

2-stage bevel gear units (Catalogue G1000, G1014)



- ✓ Up to 97% efficiency
- ✓ Push-on, foot or flange mounted versions
- ✓ Hollow or solid shaft
- ✓ UNICASE housing
- ✓ Die-cast aluminium housing

Sizes	5
kW	0,12 – 9,2
Nm	90 – 660
i	3,55:1 – 70:1

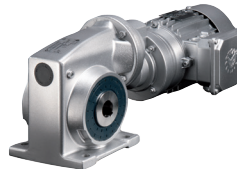
3-stage bevel gear units (Catalogue G1000)



- ✓ Up to 95% efficiency
- ✓ Push-on, foot or flange mounted versions
- ✓ Hollow or solid shaft
- ✓ UNICASE housing

Sizes	11
kW	0,12 – 200
Nm	180 – 50.000
i	8,04:1 – 13.432,68:1

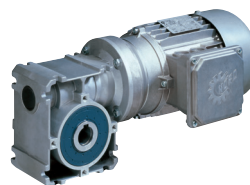
SMI worm gear units (Catalogue G1035)



- ✓ Smooth surface
- ✓ Lifetime oil filling

Sizes	5
kW	0,12 – 4,0
Nm	21 – 427
i	5,00:1 – 3.000,00:1

SI worm gear units (Catalogue G1035)



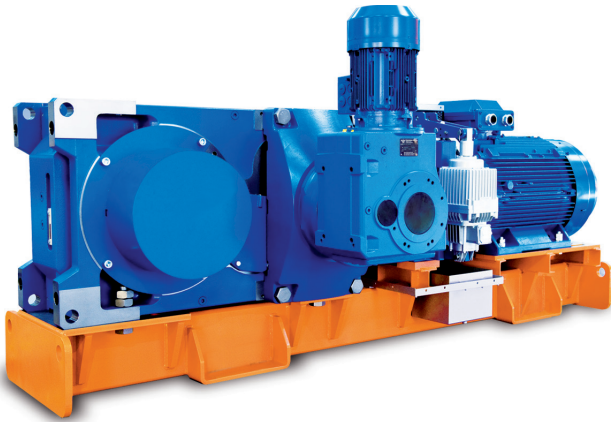
- ✓ Modular
- ✓ Universal fastening facilities
- ✓ IEC versions

Sizes	5
kW	0,12 – 4,0
Nm	21 – 427
i	5,00:1 – 3.000,00:1



Product and catalog overview

Industrial gear units (Catalogue G1050)



- ✓ All bearing points and sealing surfaces are machined in one operation
- ✓ No separating joints in the housing, therefore no sealing surfaces subject to torque
- ✓ High-precision axis alignment, quiet running
- ✓ Long life, low maintenance
- ✓ Short, compact design
- ✓ Gear ratios from 5.54 to 400: 1 with the same foot dimensions
- ✓ Parallel axis and right-angled gear units

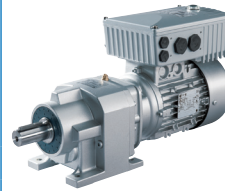
Sizes	11
kW	2,2 - 3.000
kNm	up to 250
i	5,6 - 30.000:1

IE2/IE3 motors and components for decentralised drive control (Catalogue M7000)



- ✓ Single and 3-phase electric motors
- ✓ Further range of starters and components for decentralised drive control

SK 180E (F3018)



- ✓ PLC functionality
- ✓ Energy-saving function
- ✓ Ethernet-based BUS systems
- ✓ Decentralised modules combined as a system
- ✓ On board AS interface

Sizes	2
U[V]	1~100 ... 120 ± 10% 1~200 ... 240 ± 10% 3~380 ... 480 -20% / +10%
P[kW]	0,25 – 2,2

SK 200E (F3020)



- ✓ PLC functionality
- ✓ "Safe Stop" compliant with EN 954-1
- ✓ Commissioning via integrated DIP switches and potentiometers possible
- ✓ Energy-saving function
- ✓ Ethernet-based BUS systems
- ✓ Performance grading according to application
- ✓ Decentralised modules combined as a system
- ✓ Integrated "Posicon" positioning control
- ✓ On board AS interface versions

Sizes	4
U[V]	1~100 ... 120 ± 10% 1~200 ... 240 ± 10% 3~200 ... 240 ± 10% 3~380 ... 500 -20% / +10%
P[kW]	0,25 – 22

SK 500E (F3050)



- ✓ PLC functionality
- ✓ Compact design
- ✓ Energy-saving function
- ✓ Performance grading according to application (e.g.: "Posicon" positioning control)
- ✓ Push-on modules for control and communication (field bus)
- ✓ Ethernet-based BUS systems

Sizes	11
U[V]	1~110 ... 120 ± 10% 1/3 ~200 ... 240 ± 10% 3~200 ... 240 ± 10% 3~380 ... 480 -20% / +10%
P[kW]	0,25 – 160

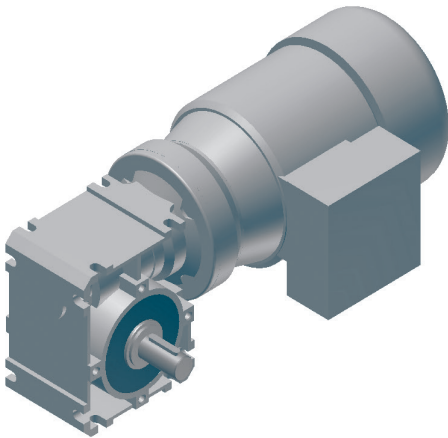
General Product Information

This catalogue contains both series of the NORD UNIVERSAL worm gear product range - SI worm gear units and SMI worm gear units

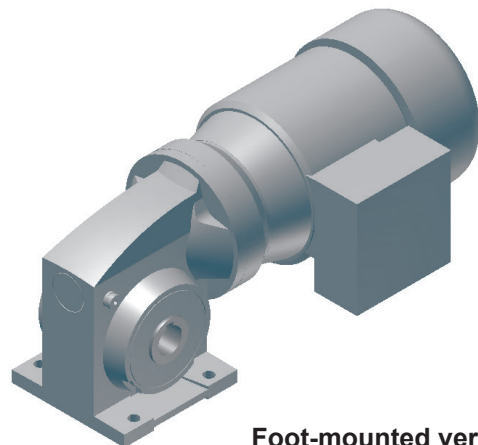
The **SI series** is a modular gear unit family which uses a universal housing. The basic gear unit is supplemented with a range of easily configured components which are either supplied as assembled units by NORD, or which are assembled by the customer. These modular standard components provide maximum flexibility for applications. Due to the global availability of the individual components, very short delivery times are guaranteed.

The **SMI series** is characterised by its smooth surface design. This series can either be supplied with IEC/ NEMA motors, or for direct mounting on the motor without a coupling. Because of the smooth surfaces, the **SMI series** is especially suitable for washdown applications, as well as for applications in the **food and beverage industry**. A differentiation is made between the foot-mounted version (Version X) and the flange-mounted version (Version Z).

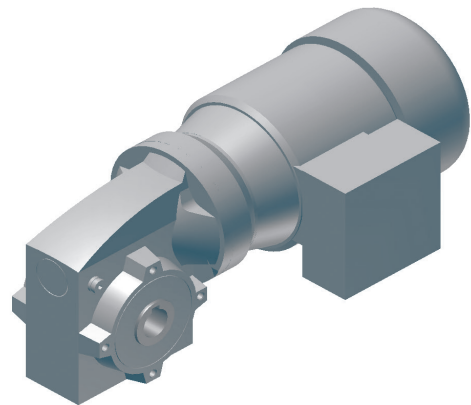
SI worm gear units



SMI worm gear unit



Foot-mounted version X



Flange-mounted version Z


- **Components for individual combinations**

The possibility of ordering from a selection of individual components demonstrates the variety and versatility of NORD UNIVERSAL worm gear units. NORD offers this solution for the **SI** series. Customers can select the optimum combination for their application using only a few components. The great flexibility of being able to order individual components instead of completely assembled drive units often results in lower stock levels for our customers.

The components include all parts which are required for the assembly of complete drive units, including assembly instructions.

It is no longer necessary to state the version and the mounting position.

- **Fully assembled drive units ex-works**


Ordering of completely assembled drive units ex-works is made via the type designation (⇒  A30-31). For this type of order, the installation position and the speed ratio must be stated in addition to the version.

Gear unit versions for **direct mounting on the motor** can only be ordered in this manner.

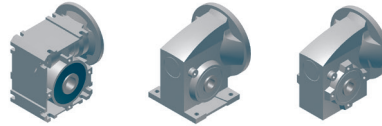
Similarly, the **SMI** series is only supplied in the form of complete drive units. For solid shaft versions a one-piece output shaft is always supplied. The dimensions of this shaft correspond to those of the plug-in shaft of the SI series.

- **NORD UNIVERSAL worm gear motors with directly mounted motors**

NORD also supplies both UNIVERSAL worm gear motors from the series SI and SMI in a version for direct mounting on the motor without the use of a coupling. These gear units are only assembled to order.

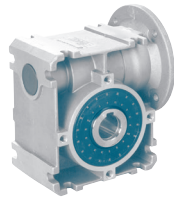
Because the gear unit is attached to the motor without a coupling, the direct motor-mounted version is especially compact, which is useful where space is at a premium. For further information please refer to Page ⇒  A29.

Construction kit system



Construction kit - overview

Worm gear units



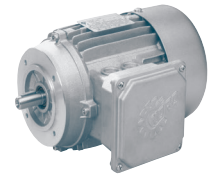
Helical gear input stage H10



Double worm gear adapter



IEC three-phase motor /
brake motor



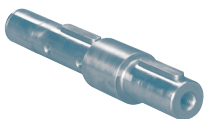
IEC motor adapter
NEMA motor adapter



Free drive shaft
Type W

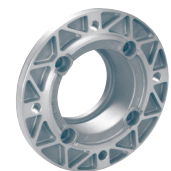


Plug-in shaft V, L, VF



vent
(not illustrated)

Output flange B5

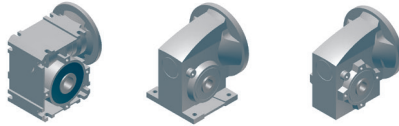


Torque support



Cover



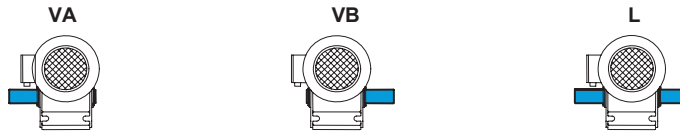


Overview of versions (⇒ A23-28 mounting variants)

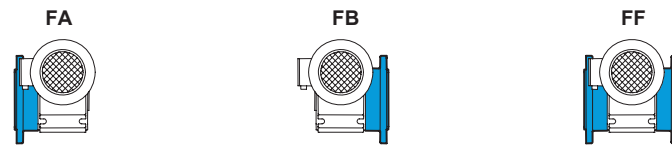
Basic version



Plug-in shaft



Flange B5



Torque support



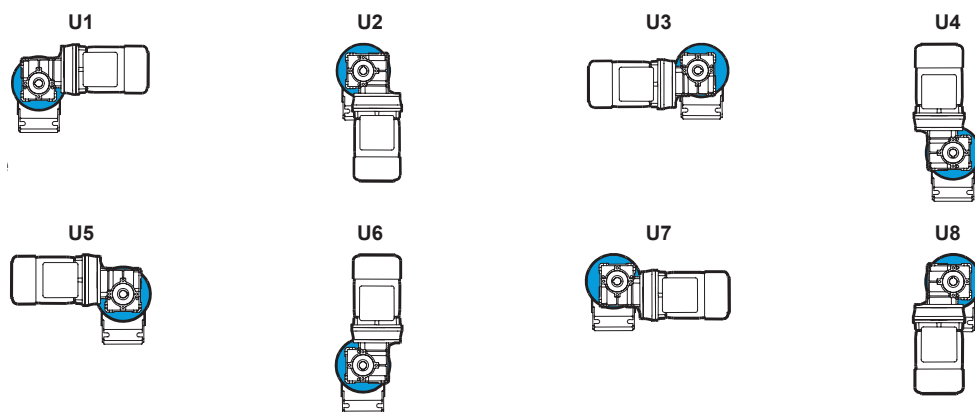
Covering cap



Helical gear input stage H10

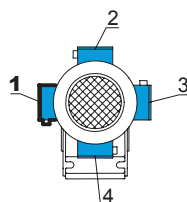


Double worm gear input stage



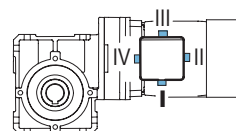
Terminal box

KK1/I, KK2/I, KK3/I, KK4/I

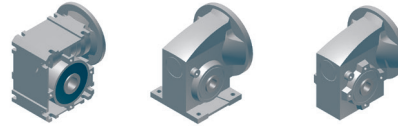


Cable gland

KK1/I, KK1/II, KK1/III, KK1/IV



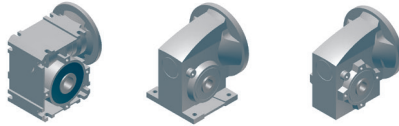
IEC / NEMA mounting



Overview of IEC / NEMA adapters

Designation	Description	Sizes and version						
		SI31	SMI31X	SMI31Z	SI40	SMI40X	SMI40Z	
1SI__	UNIVERSAL worm gear units	x			x			B52 - 77
1SMI_X	UNIVERSAL worm gear units Foot-mounted version, smooth surface		x			x		
1SMI_Z	UNIVERSAL worm gear units Flange-mounted version, smooth surface			x			x	
Input options								
IEC__	IEC motor adapter							B30 - 47
	IEC56	x	x	x	x	x	x	
	IEC63	x	x	x	x	x	x	
	IEC71	x	x	x	x	x	x	
	IEC80				x	x	x	
	IEC90				x	x	x	
	IEC100							
	IEC112							
NEMA__	NEMA motor adapter							See USA catalogue www.2.nord.com - Heading DOCUMENTATION
	NEMA 48C	x	x	x				
	NEMA 56C	x	x	x	x	x	x	
	NEMA140TC				x	x	x	
	NEMA180TC							
H10	Helical gear input stage				x	x	x	B72 - 77
W	Free drive shaft				x	x	x	
_/__	Double worm gear adapter				x	x	x	
Output options								
D	Torque support	x		x	x		x	B52 - 71
F	Output flange B5	x		x	x		x	
H	Covering cap	x		x	x		x	
L	Plug-in shaft on both sides	x	x ¹⁾	x ¹⁾	x	x ¹⁾	x ¹⁾	
V	Plug-in shaft on one side	x	x ¹⁾	x ¹⁾	x	x ¹⁾	x ¹⁾	
VF	One-side extended plug-in shaft with output flange B5	x		x ¹⁾	x		x ¹⁾	
Further options								
	Vent	x	x	x	x	x	x	
	Painting	x	x	x	x	x	x	
	NSD TupH		x	x		x	x	
	Long-term storage	x	x	x	x	x	x	

x¹⁾ One-piece solid shaft, as only assembled to order, Plug-in shaft are available on special request



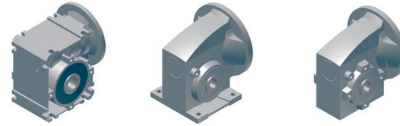
IEC / NEMA mounting

Overview of IEC / NEMA adapters

Designation	Description	Sizes and version									
		SI50	SMI50X	SMI50Z	SI63	SMI63X	SMI63Z	SI75	SMI75X	SMI75Z	
1SI__	UNIVERSAL worm gear units	x			x			x			B52 - 77
1SMI__X	UNIVERSAL worm gear units Foot-mounted version, smooth surface		x			x			x		
1SMI__Z	UNIVERSAL worm gear units Flange-mounted version, smooth surface			x			x			x	
Input options											
IEC__	IEC motor adapter										B30 - 47
	IEC56	x	x	x	x	x	x				
	IEC63	x	x	x	x	x	x				
	IEC71	x	x	x	x	x	x	x	x	x	
	IEC80	x	x	x	x	x	x	x	x	x	
	IEC90	x	x	x	x	x	x	x	x	x	
	IEC100							x	x	x	
	IEC112							x	x	x	
NEMA__	NEMA motor adapter										See USA catalogue www.2.nord.com - Heading DOCUMENTATION
	NEMA 48C										
	NEMA 56C	x	x	x	x	x	x	x	x	x	
	NEMA140TC	x	x	x	x	x	x	x	x	x	
	NEMA180TC				x	x	x	x	x	x	
H10	Helical gear input stage	x	x	x	x	x	x	x	x	x	B72 - 77
W	Free drive shaft	x	x	x	x	x	x	x	x	x	
_/__	Double worm gear adapter	x	x	x	x	x	x	x	x	x	
Output options											
D	Torque support	x		x	x		x	x		x	B52 - 71
F	Output flange B5	x		x	x		x	x		x	
H	Covering cap	x		x	x		x	x		x	
L	Plug-in shaft on both sides	x	x1)	x1)	x	x1)	x1)	x	x1)	x1)	
V	Plug-in shaft on one side	x	x1)	x1)	x	x1)	x1)	x	x1)	x1)	
VF	One-side extended plug-in shaft with output flange B5	x		x1)	x		x1)	x		x1)	
Further options											
	Vent	x	x	x	x	x	x	x	x	x	
	Painting	x	x	x	x	x	x	x	x	x	
	NSD TupH		x	x		x	x		x	x	
	Long-term storage	x	x	x	x	x	x	x	x	x	

x1) One-piece solid shaft, as only assembled to order, Plug-in shaft are available on special request

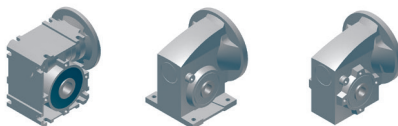
Direct motor mounting



Overview of direct motor mounting

Designation	Description	Sizes and version							
		SID31	SMID31X	SMID31Z	SID40	SMID40X	SMID40Z		
1SID__	UNIVERSAL worm gear units	x			x			The NORDCAD program can be found on the NORD homepage under www.nord.com - Heading DOCUMENTATION / Software.	
1SMID__X	UNIVERSAL worm gear unit, foot-mounted version, smooth surface		x			x			
1SMID__Z	UNIVERSAL worm gear unit, flange-mounted version, smooth surface			x			x		
Input options									
	Direct motor mounting								
	Motor size 63	x	x	x	x	x	x		
	Motor size 71	x	x	x	x	x	x		
	Motor size 80				x	x	x		
	Motor size 90								
2S__	Helical gear input stage				x	x	x		
_/__	Double worm gear adapter				x	x	x		
Output options									
D	Torque support	x		x	x		x		
F	Output flange B5	x		x	x		x		
H	Covering cap	x		x	x		x		
L	Plug-in shaft on both sides	x	x ¹⁾	x ¹⁾	x	x ¹⁾	x ¹⁾		
V	Plug-in shaft on one side	x	x ¹⁾	x ¹⁾	x	x ¹⁾	x ¹⁾		
VF	One-side extended plug-in shaft with output flange B5	x		x ¹⁾	x		x ¹⁾		
Further options									
	Vent	x	x	x	x	x	x		
	Painting	x	x	x	x	x	x		
	NSD TupH		x	x		x	x		
	Long-term storage	x	x	x	x	x	x		

x¹⁾ One-piece solid shaft, as only assembled to order, Plug-in shaft are available on special request



Direct motor mounting

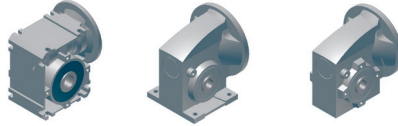
Overview of direct motor mounting

Designation	Description	Sizes and version										
		SID50	SMID50X	SMID50Z	SID63	SMID63X	SMID63Z	SID75	SMID75X	SMID75Z		
1SID__	UNIVERSAL worm gear units	x			x							The NORDCAD program can be found on the NORD homepage under www.nord.com - Heading DOCUMENTATION / Software.
1SMID__X	UNIVERSAL worm gear unit, foot-mounted version, smooth surface		x			x						
1SMID__Z	UNIVERSAL worm gear unit, flange-mounted version, smooth surface			x			x					
Input options												
	Direct motor mounting											
	Motor size 63											
	Motor size 71	x	x	x								
	Motor size 80	x	x	x	x	x	x					
	Motor size 90	x	x	x	x	x	x					
2S__	Helical gear input stage	x	x	x	x	x	x					
_/__	Double worm gear adapter	x	x	x	x	x	x					
Output options												
D	Torque support	x		x	x		x					
F	Output flange B5	x		x	x		x					
H	Covering cap	x		x	x		x					
L	Plug-in shaft on both sides	x	x ¹⁾	x ¹⁾	x	x ¹⁾	x ¹⁾					
V	Plug-in shaft on one side	x	x ¹⁾	x ¹⁾	x	x ¹⁾	x ¹⁾					
VF	One-side extended plug-in shaft with output flange B5	x		x ¹⁾	x		x ¹⁾					
Further options												
	Vent	x	x	x	x	x	x					
	Painting	x	x	x	x	x	x					
	NSD TupH		x	x		x	x					
	Long-term storage	x	x	x	x	x	x					

x¹⁾ One-piece solid shaft, as only assembled to order, Plug-in shaft are available on special request



Technical explanations



Sizes

Both the SI and SMI gear unit series are available in sizes 31, 40, 50, 63 and 75.

Speed ratios

The speed ratios of the single-stage gear units cover a wide range. The speed ratios are the same for all sizes.

Standard speed ratios													
5	7,5	10	12,5	15	20	25	30	40	50	60	80	100	

All speed ratios are finite and specified precisely. The worms of all worm gear units in the NORD UNIVERSAL range have a right-handed helix, from which the direction of rotation results.

Size 40, 50, 63 and 75 SI and SMI series gear units can be extended to form 2-stage helical worm gear units by fitting a H10 helical gear. The speed ratio of the H10 helical gear is the same for all sizes, namely $i_{vor} = 10$.

In addition, the SMI gear unit series also provides the possibility of creating a highly compact first stage with a speed ratio of $i_{vor} = 5$ by mounting the motor directly. This first stage is available for sizes 40, 50 and 63.

By means of the double worm gear adapter the speed ratio range can be extended up to $i_{ges} = 10000$. The double worm gear adapter allows the combination of two worm gear units to form a single drive unit. This is available for SI and SMI series gear units. Sizes 40/31, 50/31, 63/31 and 75/40 can be combined.

NSD TupH **nsd**^{tupH}

As a global leader in the field of drive technology, NORD DRIVESYSTEMS now has a coating solution for drive technology used in extreme ambient conditions that is applied to product materials that are familiar for standard gear motors yet offer the durability of stainless steel and provide an excellent price/performance ratio.

In a special process, an extremely durable protective layer is created from the basic material. In combination with a special sealing, this layer is up to 7x harder than the basic aluminium material and up to 1000x harder than paints and varnishes, and therefore offers excellent protection against corrosion.

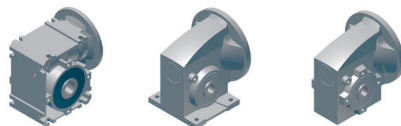
We call this treatment **nsd**^{tupH}.

This NORD process is free of chromium (VI), is compliant with RoHS and even without further painting it achieves corrosion categories C4 / C5.

Further advantages of treated surfaces:

- no formation of blisters
- no detachment or flaking
- scratch resistant, impact resistant and corrosion resistant
- resistant to chemical cleaning agents and salt

Due to the considerably improved adhesion of **nsd**^{tupH} to the treated aluminium components, additional corrosion protection can be achieved by subsequent painting. As a weight-saving to stainless steel, aluminium components treated with **nsd**^{tupH} are therefore suitable for the most stringent requirements and once again ensure NORD's optimisation of efficiency.



Technical explanations

Torques

In continuous operation with uniform loading, the maximum output torques M_{2max} represent the maximum load limit.

Design of the gear units is carried out according to the section "Gear unit selection" taking the operating factors into account.

Type designations and torques				
Type	IEC motor mounting		Torques in Nm	
	SI	SMI	M_{2max}	M_{2grenz}
Single-stage worm gear units	1SI31	1SMI31	30	75
	1SI40	1SMI40	50	125
	1SI50	1SMI50	90	225
	1SI63	1SMI63	160	400
	1SI75	1SMI75	260	650
Helical worm gear units $i_{vor} = 10$	1SI40/H10	1SMI40/H10	81	125
	1SI50/H10	1SMI50/H10	146	225
	1SI63/H10	1SMI63/H10	260	400
	1SI75/H10	1SMI75/H10	427	650
Double worm gear units	1SI40/31	1SMI40/31	99	125
	1SI50/31	1SMI50/31	178	225
	1SI63/31	1SMI63/31	316	400
	1SI75/40	1SMI75/40	427	650

Type designations and torques				
Type	Direct motor mounting		Torques in Nm	
	SI	SMI	M_{2max}	M_{2grenz}
Single-stage worm gear units	1SID31	1SMID31	30	75
	1SID40	1SMID40	50	125
	1SID50	1SMID50	90	225
	1SID63	1SMID63	160	400
Helical worm gear units $i_{vor} = 5$	2SID40	2SMID40	74	125
	2SID50	2SMID50	133	225
	2SID63	2SMID63	237	400
Double worm gear units	2SID40/31	2SMID40/31	99	125
	2SID50/31	2SMID50/31	178	225
	2SID63/31	2SMID63/31	316	400
	2SID75/40	2SMID75/40	427	650

The torques M_{2max} apply for an input speed of $n_1 = 1400 \text{min}^{-1}$. The limiting output torques M_{2grenz} can be withstood while stationary and for short periods of operation without damage to the gear unit. The limiting output torques M_{2grenz} represent the permissible load limit and must not be exceeded, even with short peak loads.

Speeds

The gear units are designed for a motor or input speed of up to 1800min^{-1} . Higher input speeds reduce the service life of the gear unit. NORD UNIVERSAL worm gear units are suitable for short period or intermittent operation with frequency inverters up to the 87Hz characteristic curve.

Please enquire in case of other modes of operation with input speeds greater than 1800min^{-1} .

Efficiency

Specially smoothed gear flanks and the standard use of synthetic lubricants ensure favourable efficiencies for NORD UNIVERSAL worm gear units.

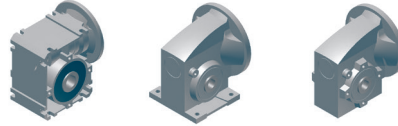
With new worm gear units, the efficiency is increased by running-in the worm gear meshing in the initial phase of normal operation.

The output torques and powers which are stated in the selection lists take the efficiency η in the run-in state into account.

Efficiency η [%] at $n_1 = 1400 \text{min}^{-1}$							
i_{sch}	5	7,5	10	12,5	15	20	25
Size 31	86	82	80	76	71	67	63
Size 40	88	85	82	80	75	71	68
Size 50	90	87	85	83	79	75	72
Size 63	92	89	87	86	82	79	76
Size 75	93	90	84	88	84	82	80

Efficiency η [%] at $n_1 = 1400 \text{min}^{-1}$						
i_{sch}	30	40	50	60	80	100
Size 31	55	50	45	42	36	32
Size 40	60	54	50	46	41	36
Size 50	65	60	56	52	46	42
Size 63	69	64	61	57	51	47
Size 75	77	69	65	62	57	52

(Continuation ⇒ A14)



Technical explanations

Efficiency

Due to the hydrodynamic lubrication of the teeth, the efficiency of worm gear units increases with the input speed. Because of this, when starting from standstill, there is initially a lower efficiency η_a . This must be taken into account for the motor torque if the unit is to be started under load. The following table gives guideline values for the starting efficiency η_a depending on the worm gear speed ratio i_{sch} :

Efficiency on start-up													
Speed ratio i_{sch}	5	7,5	10	13	15	20	25	30	40	50	60	80	100
Start-up efficiency η_a [%]	72	67	62	59	53	47	43	36	31	27	25	20	17

Lubrication

Ex-works, the worm gear units are lubricated for life with a high quality, synthetic long-life lubricant on a polyglycol basis. The gear units are therefore maintenance-free. As standard, NORD UNIVERSAL worm gear units are equipped with oil plugs. This enables the worm gear units to be vented \Rightarrow A28 Vent.

Lubricant quantity CLP PG VG 680 DIN 51502					
Size	31	40	50	63	75
SI series	30ml	55ml	95ml	180ml	360ml
SMI series	45ml	80ml	130ml	270ml	420ml

When the gear types with direct motor mounting (SID, SMID) the lubricant quantity is dependent on the mounting position.

Lubricant capacities

[L]	M1	M2	M3	M4	M5	M6
SK 1SID31	0,050	0,090	0,070	0,050	0,070	0,070
SK 1SID40	0,090	0,150	0,110	0,080	0,120	0,120
SK 1SID50	0,170	0,200	0,170	0,150	0,180	0,180
SK 1SID63	0,280	0,360	0,290	0,240	0,310	0,310

[L]	M1	M2	M3	M4	M5	M6
SK 1SMID31	0,060	0,105	0,070	0,050	0,070	0,070
SK 1SMID40	0,100	0,165	0,120	0,090	0,120	0,120
SK 1SMID50	0,175	0,260	0,195	0,160	0,195	0,195
SK 1SMID63	0,285	0,425	0,325	0,270	0,325	0,325

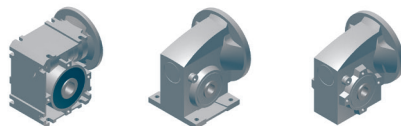
Self-locking

Due to the self-locking of NORD UNIVERSAL worm gear units, the stationary gear unit cannot rotate, even with large torques at the output (worm gear shaft). Due to the self-locking characteristics while running, the drive automatically comes to rest when the motor is switched off.

With a mass-acceleration factor of $m_{af} > 1$ (see the section 'Gear unit selection') the self-locking can result in sudden blocking of the drive or rattling vibrations in case of load reversals in thrust operation (see VDI 2158). Gear units which are not self-locking should be selected for these fields of application.

Self-locking and self-braking depends on the speed ration in the worm stage.

Self-locking with NORD UNIVERSAL worm gear units			
$i_{sch} = 5 - 10$	$i_{sch} = 12.5 - 40$	$i_{sch} = 50 - 80$	$i_{sch} = 100$
No self-locking	No specific statement regarding self-locking	Self-locking at rest and with no vibration	Self-locking
No self-braking	No self-braking	No specific statement regarding self-braking	Self-braking at $n_1 < 1500 \text{min}^{-1}$ for sizes 31, 40, 50



Technical explanations

Radial and axial forces

In the selection lists, the permissible radial forces F_R and F_{RF} are listed in addition to the torques M_2 which may act on the output shaft. Calculation of the permissible radial force is based on the assumption that the external forces act on the centre of the shaft journal.

SI series worm gear units are supplied with a hollow shaft as standard. Plug-in shaft are available for the solid shaft versions. As standard, the SMI series is also available in a solid shaft version. The dimensions of the free ends of the shafts correspond to the plug-in shaft.

The permissible radial forces F_R apply for the plug-in shaft VA/I and L (see dimensioned drawings). The permissible radial forces F_{RF} apply for the plug-in shaft VA/II, which are used in combination with the B5 output flange.

With central application of the force on the hollow shaft, the permissible radial force is $2xF_R$.

The calculation of the permissible radial forces takes into account the unfavourable direction of the application of the force, the bearings of the gear unit, the gear unit housing and the shaft geometry.

With NORD UNIVERSAL worm gear units, the standard output shaft is equipped with unusually large ball bearings. Because of this, NORD UNIVERSAL the output sides of worm gear units can also withstand radial forces in addition to the axial forces.

Permissible axial force at output F_A					
Size	31	40	50	63	75
F_{Azul}	1800N	3200N	4800N	6300N	8000N

For the input shaft Type W, the permissible radial forces with application of the force to the centre of the free end of the shaft are given in the following table.

Permissible radial force F_R on the free input shaft - Type W					
Size	31	40	50	63	75
F_{Rzul}	-		1200N		1500N

Weights

The following table shows the weights of the worm gear unit. The details are approximate values.

Weight of the worm gear					
Size	31	40	50	63	75
Weight	1.3kg	2.4kg	4.1kg	7.6kg	12kg

Dimensions and tolerances

Definitive dimensioned drawings, CAD models and CAD outline drawings of the drive units are available for download from the NORD homepage www.nord.com.

The drive units are produced to the following tolerances:

- Threaded holes in the shaft journals: in reference DIN 332, Sheet 2
- Parallel keys: DIN 6885, Sheet 1
- Flange centring: H7 or j6 according to DIN ISO 286-2
- Shaft tolerances: H7 or h6 according to DIN ISO 286-2
- Flange hole circle diameter: DIN 42948
- Axis height: DIN 747

The dimensions k_{Bre} and g_{1Bre} in the dimensioned drawings (\Rightarrow B28 - B50) relate to the brake motor version.

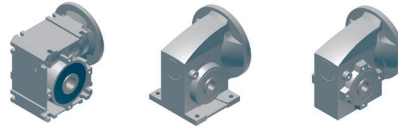
As standard, all NORD UNIVERSAL worm gear units have a hollow output shaft with normal dimensions. For large series, the gear unit concept allows the possibility of providing considerably larger hollow shaft diameters.

Hollow shaft with parallel key groove according to DIN 6885, sheet 1					
Size	31	40	50	63	75
Standard	14mm	18mm	25mm	25mm	35mm
Max.	17mm	25mm	30mm	42mm	50mm

Assembly /disassembly of plug-in shafts

A small amount of a suitable lubricant applied to the shaft or the the plug-in shaft and the hollow output shaft during assembly facilitates assembly and subsequent disassembly and reduces fretting corrosion. For this, we recommend the use of NORD Anti-Corrosion-Paste (5g per packet), available under order number 08900099.

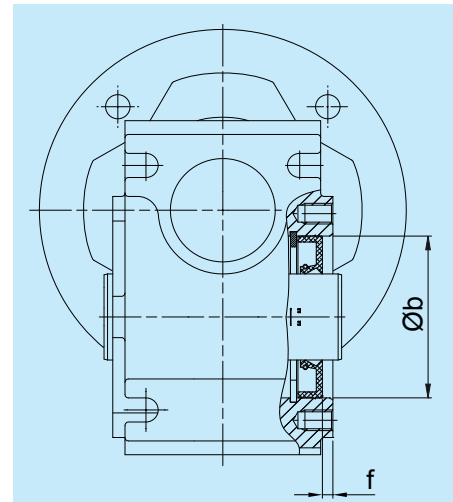
Technical explanations



Centring of output flange B14

The standard B14 output flanges of NORD SI and SMI series UNIVERSAL worm gear units (Version Z) provide the possibility for centring.

Centring of output flange B14					
Size	31	40	50	63	75
øbH7	47	62	80	100	120
f	3	3	3	4	4

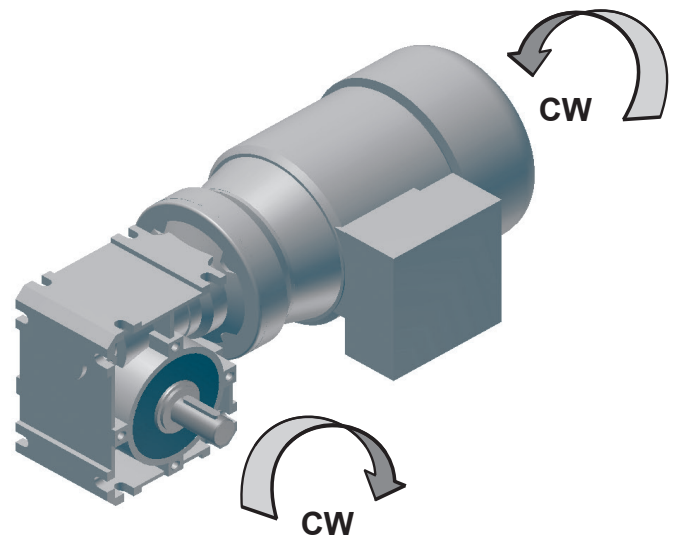


Direction of rotation

All worms of NORD UNIVERSAL worm gear units have a right-handed helix
The direction of rotation results as follows:

CW = Clockwise - Clockwise direction of rotation, **Right-hand rotation**

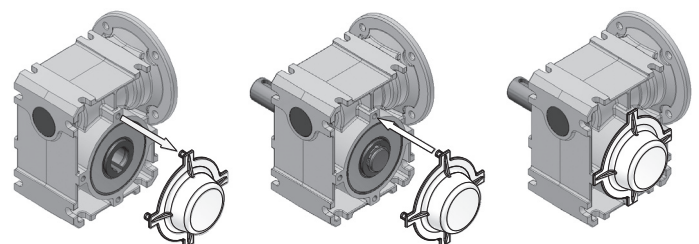
CCW = Counter clockwise - Counter clockwise direction of rotation, **Left-hand rotation**

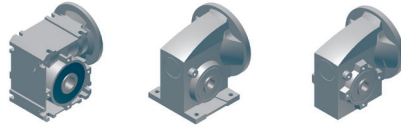


Fitting the covers

Many versions of the universal worm gear unit are supplied with plastic cover caps as standard. These cover caps protect the shaft sealing ring against the entry of dust and other possible contamination. The cover caps can be removed by hand without the use of tools and pushed onto the A or B side.

The cover cap must be removed before installing the universal worm gear unit. After installation is complete, the cover cap must be pushed into the threaded holes on the output flange on the corresponding side. Care must be taken that the cover cap is removed and pushed on vertically, in order not to damage the expansion elements of the cover cap.





Installation positions

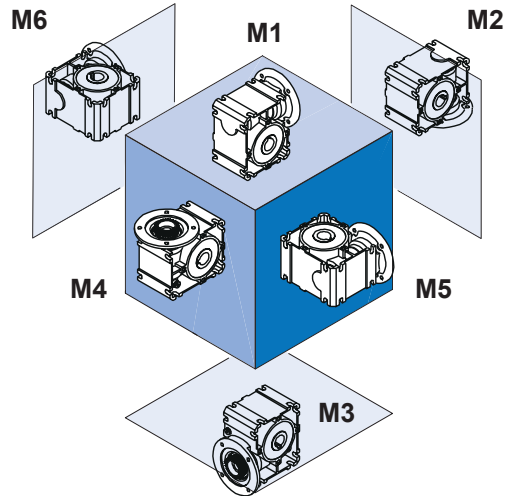
Installation positions

NORD UNIVERSAL worm gear units are suitable for all installation positions. Separate sealing of each stage of the gear unit and the design of the housing enables a uniform oil quantity for all installation positions.

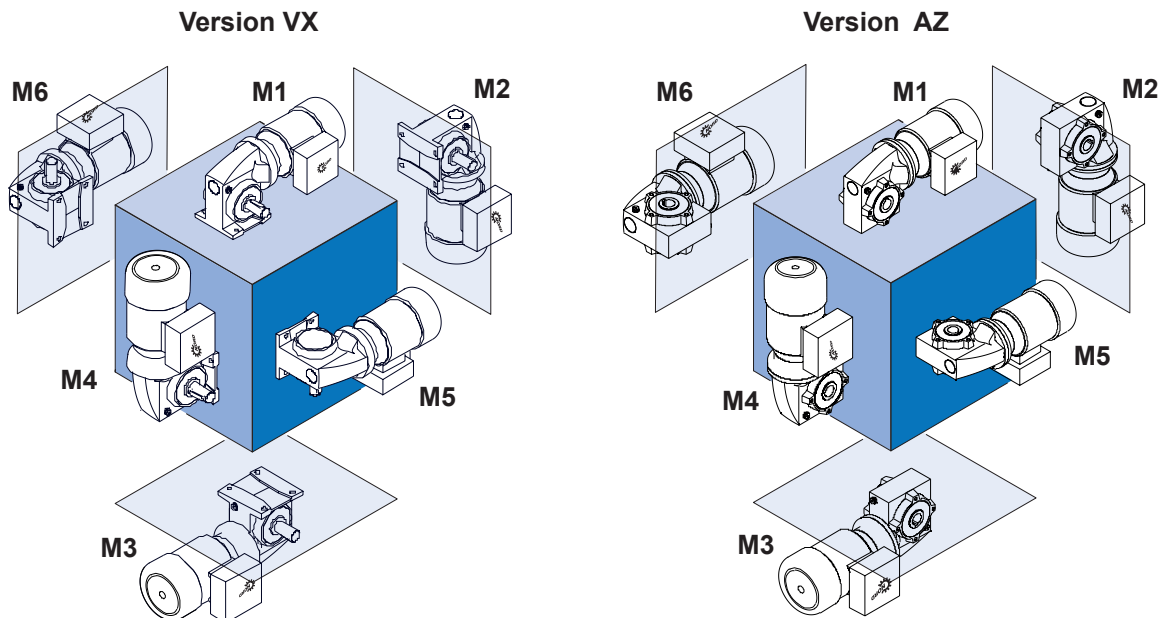
For gear units with direct motor mounting, the installation position must be stated, in order to install the optional vent in the correct position at the factory.

Please give us a call if you have any special questions!

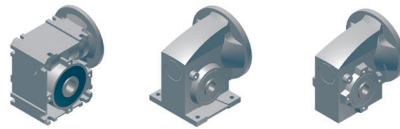
SI worm gear units



SMI worm gear motors



Gear unit selection



Gear unit selection

The selection lists for the combination of UNIVERSAL worm gear units with 4-pole standard three-phase motors state the resulting output torques of the gear unit M_2 , output speeds n_2 and the operating factors f_B . The operating factor f_B designates the reliability of the gear unit with the stated drive power.

Every application has its own specific loads, e.g. due to shocks, frequent starts, intermittent operation and high ambient temperatures, and therefore requires a certain minimum operating factor f_{Bmin} , in order to ensure reliable operation. When selecting gear units with the aid of the selection lists, care should be taken that the selected drive unit has the same or higher operating factor f_B than the minimum operating factor f_{Bmin} .

The selection list "n₁ = 1400 / 900 / 500 / 250 min⁻¹" on page ⇒ B24 and the following pages should be used if a standard 4-pole three-phase motor is not fitted.

This selection list is based on an operating factor of $f_B = 1.0$. Taking into account the minimum operating factor f_{Bmin} the installed motor power must not exceed P_{emax} / f_{Bmin} .

The necessary minimum operating factor f_{Bmin} for a particular application is calculated as follows:

$$f_{Bmin} = f_{B0} \cdot f_{B1} \cdot f_{B2}$$

The operating factor f_{B0} takes into account load types B or C, the frequency of switching and the daily operating time. The operating factor f_{B1} takes various ambient temperatures into account.

The operating factor f_{B2} takes intermittent operation into account. The following diagrams are used to determine the operating factors f_{B0} , f_{B1} and f_{B2} .

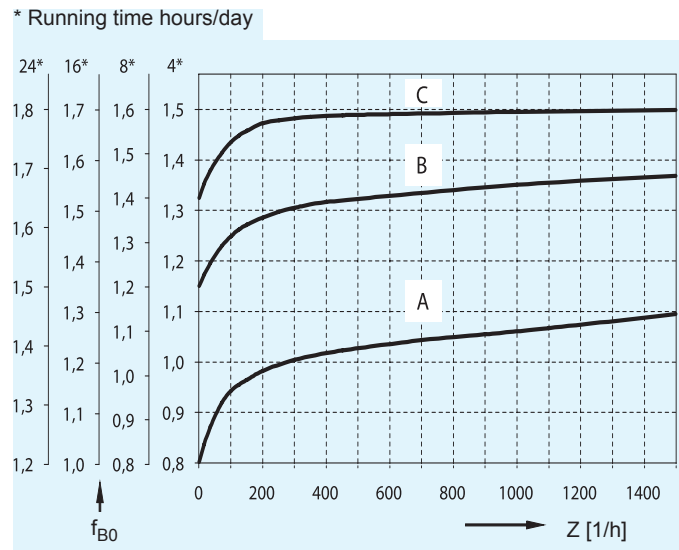


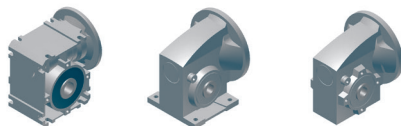
Diagram 1: Minimum operating factor f_{B0}

If the gear unit transmits a very high power over a longer continuous period (>1h), high gear oil temperatures result, which reduce the service life.

In order to avoid these high temperatures, the motor powers listed below should not be exceeded in continuous operation. A larger gear units should be selected if higher motor powers are required in continuous operation.

Max. motor powers in continuous operation - Thermal power limits [kW]							
i_{sch}	5	7.5	10	12.5	15	20	25
Size 50	1.5	1.5	1.5	1.1	1.1	0.75	0.55
Size 63	1.5	1.5	1.5	1.5	1.5	1.1	1.1
Size 75	4	4	3	2.2	2.2	1.5	1.1

Max. motor powers in continuous operation - Thermal power limits [kW]							
i_{sch}	30	40	50	60	80	100	
Size 50	0.55	0.37	0.37	0.37	0.25	0.18	
Size 63	0.75	0.55	0.55	0.55	0.37	0.37	
Size 75	1.1	0.75	0.75	0.55	0.37	0.37	



Gear unit selection

Examples of gear unit loadings:

- A** Light conveyor screws, fans, assembly lines, light conveyor belts, small agitators, elevators, controlling machines, belt conveyors.
- B** Decoilers, feed drives for woodworking machines, hoists, balancing machines, tapping units, medium-size agitators and mixers, winches, sliding doors, dung removal machines, packaging machines, bending machines and gear pumps.
- C** Shears, presses, punching machines, folding machines, tumbling barrels, vibrators and chopping machines

The load types A, B, and C are defined as follows:

A: uniform operation and $m_{af} \leq 0,25$

B: irregular operation and $m_{af} \leq 3$

C: highly irregular operation and $m_{af} \leq 10$

Whereby m_{af} is the mass acceleration factor:

$$m_{af} = \frac{J_{ex.red.}}{J_{Mot.}} = \frac{J_{ex.}}{J_{Mot.}} \cdot \left(\frac{1}{i_{ges}} \right)^2$$

$J_{ex.red.}$ = all external moments of inertia are reduced to the drive motor

J_{mot} = moment of inertia of the motor

Please contact us for $m_{af} > 10$.

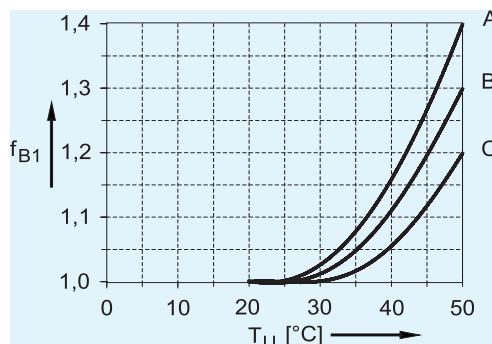


Diagram 2: Operating factor f_{B1}

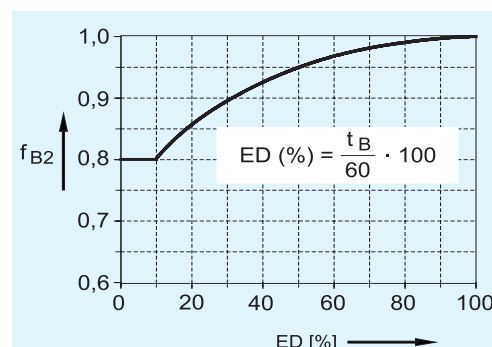
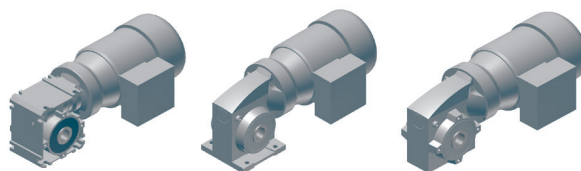


Diagram 3: Operating factor f_{B2}

ED = Duration of switch-on
 t_B = Load time in min/h

Energy-saving motors with the classification IE2 have higher breakdown torques and performance reserves. If required by the application and not limited electrically, they may also provide a permanently impermissible power. This should be considered when selecting a gear unit.

Motor selection



NORD three-phase motors

The IEC three-phase motors are self-cooled, 4-pole squirrel-cage motors in a three-phase version. They are suitable both for mains operation as well as for operation with frequency inverters and are available as IE1 and IE2 versions. As standard, the three-phase motors are equipped with IEC-B14 flanges.

If required, B5 flanges, single-phase motors, 2, 6 and 8-pole motors, phase-switched motors, integrated encoders, external fans, ATEX and CUS/UL- compliant motors as well as other versions are available.

Please request our motor catalogue M7000.

Motor relevant standards	
IEC 60034-30 DIN-EN 60034-30	Efficiency classification
IEC 60 034-1 (DIN EN 60 034-1)	General regulations
IEC 60 034-5 (DIN EN 60 034-5)	Protection classes
IEC 60 034-6 (DIN EN 60 034-6)	Cooling types
IEC 60 034-8 (DIN EN 60 034-8)	Connection designations and direction of rotation
IEC 60 034-9 (DIN EN 60 034-9)	Noise level limits
IEC 60 034-11 (DIN EN 60 034-11)	Integrated thermal protection
IEC 60 034-14 (DIN EN 60 034-14)	Mechanical vibrations
IEC 60 038 (DIN EN 60 038)	IEC standard voltages

Motors with efficiency class IE1 with powers of 0.75 kW and above may only be used in special cases in Europe. For continuous operation under standard conditions, motors with efficiency class IE2 must be used. All motors comply with the standards for the product and have the CE mark.

Standard / IE1

1500 1/min
50 Hz

230/400 V / 400/690 V
4-pole

Type	$-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +45^{\circ}\text{C}$											Noise emission from self-cooled motors		J	kg	
	P_N	n_N	I_N	cos	η			M_N	M_A/M_N	M_K/M_N	I_A/I_N	50 Hz 1500/min				* [kg]
	S1, S9		400 V	ϕ	1/2xP _N	3/4xP _N	4/4xP _N					L _{PA}	L _{WA}			
[kW]	[1/min]	[A]		[%]	[%]	[%]	[Nm]					[dB(A)]				
63 S/4	0.12	1335	0.55	0.64	40.9	48.1	49.9	0.86	2.7	2.7	2.9	40	52	0.00021	3.6	
63 L/4	0.18	1360	0.68	0.64	51.2	56	56.2	1.26	2.5	2.6	3.3	40	52	0.00028	4.2	
71 S/4	0.25	1380	0.76	0.77	51.7	58.2	61.3	1.73	2.2	2.1	3.3	45	57	0.00072	5.4	
71 L/4	0.37	1380	1.09	0.71	52.8	59.2	64.4	2.56	2.0	2.4	3.6	45	57	0.00086	6.3	
80 S/4	0.55	1375	1.52	0.73	74.5	75.9	75.1	3.82	1.9	2.0	3.3	47	59	0.00109	8.0	
80 L/4	0.75	1375	2.1	0.74	74.7	76.3	75.5	5.21	2.0	2.1	3.5	47	59	0.00145	9.0	
90 S/4	1.1	1395	2.81	0.74	75.7	77.9	77.6	7.53	2.3	2.6	4.4	49	61	0.00235	12.0	
90 L/4	1.5	1395	3.55	0.78	78.7	79.1	77.5	10.3	2.3	2.6	4.8	49	61	0.00313	14.0	
100 L/4	2.2	1440	5.22	0.74	79.5	81.2	80.8	14.6	2.3	3.0	5.1	51	64	0.0045	18.0	
100 LA/4	3	1415	6.54	0.80	83.3	84.2	83.3	20.2	2.5	2.9	5.4	51	64	0.006	21.0	
112 M/4	4	1445	8.3	0.80	86.4	86.4	85.1	26.4	2.3	2.8	5.3	54	66	0.011	30.0	

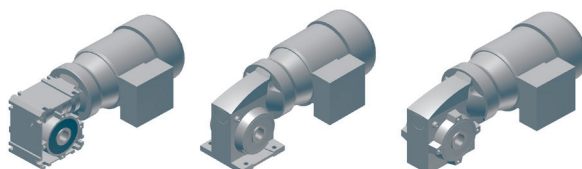
* Version B5, without options ** not IE1

IE2

1500 1/min
50 Hz

230/400 V & 400/690 V
4-pole

Type	IE2 S1														
	P_N	n_N	M_N	I_N		cos	η			$\eta^{(1)}$	M_A/M_N	M_K/M_N	I_A/I_N	J	kg
	S1			230/400 V	400/690 V	ϕ	1/2xP _N	3/4xP _N	4/4xP _N	4/4xP _N				[kgm ²]	[kg]
	[kW]	[1/min]	[Nm]	[A]	[A]		[%]	[%]	[%]	[%]					
80 SH/4	0.55	1420	3.73	2.44/1.41	1.41/0.81	0.70	77.7	80.7	80.8	80.4	3.1	3.2	5.1	0.0014	9.0
80 LH/4	0.75	1415	5.06	3.05/1.76	1.76/1.02	0.75	81.6	83.0	82.4	81.6	3.0	3.1	5.2	0.0019	10.2
90 SH/4	1.1	1435	7.32	4.19/2.42	2.42/1.4	0.80	80.9	82.0	81.8	81.4	3.1	3.5	6.1	0.0034	15.1
90 LH/4	1.5	1415	10.1	5.8/3.34	3.34/1.93	0.79	81.3	82.4	82.8	82.8	3.3	3.5	5.8	0.0039	16.8
100 LH/4	2.2	1445	14.5	8.1/4.65	4.65/2.68	0.79	85.2	86.7	86.6	85.3	3.7	4.3	7.3	0.0075	25.2
100 AH/4	3	1425	20.3	11.4/6.59	6.59/3.8	0.77	86.4	86.7	85.6	85.5	3.1	3.5	6.3	0.0075	25.2
112 MH/4	4	1440	26.6	13.9/8.02	8.02/4.63	0.83	87.4	87.6	86.7	86.6	3.1	3.6	7.5	0.014	35.5



Motor selection

NORD brake motors

Motors for the IEC three-phase motors are also available with a brake. The brake motors are indicated in the selection lists and the dimensioned drawings section with the symbol (Ⓜ). NORD brake motors are NORD three-phase motors with integrated electro-magnetic spring-loaded brakes. The brake is released by means of the DC electromagnet. In case of power interruptions the brake is applied automatically by means of pressure springs. The adjustment ring enables continuous reduction of the braking torque by up to 50%.

As standard, the DC voltage of the brake windings is 205V or 180V DC. Therefore the rectifier which is installed in the terminal box enables the brake to be connected to the three-phase $\Delta 230V/Y400V$ AC or $\Delta 400V/Y690V$ AC power supply.

If required, different winding voltages or brake torques, higher protection classes, dust protection rings, stainless scraper plates, manual release levers and other options are available.

Please request our motor catalogue M7000.

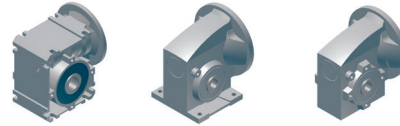
Techn. data of brakes for brake motors				
Type	M_B [Nm]	P_{20} [W]	W_{max} [J]	a [mm]
63S/4 BRE5 63L/4 BRE5	5	22	1500	0.2
71S/4 BRE5 71L/4 BRE5	5	22	1500	0.2
80S/4 BRE5 80L/4 BRE10	5 10	22 28	1500 3000	0.2 0.2
90S/4 BRE10 90L/4 BRE20	10 20	28 34	3000 6000	0.2 0.3
100L/4 BRE20 100LA/4 BRE40	20 40	34 42	6000 12500	0.3 0.3
112M/4 BRE40	40	42	12500	0.3

Protection class: IP 55
Coil voltage: 205V DC suitable for $\Delta 230V/Y400V$ AC
180V DC suitable for $\Delta 400V/Y690V$ AC

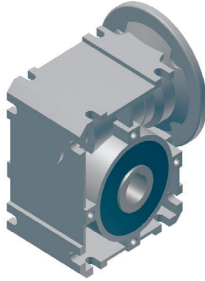
MB: Braking torque;
P20: Coil power;
Wmax: Max. friction per application at $n_1 = \text{approx. } 1400 \text{ min}^{-1}$;
a: Nominal air gap

Abbreviations	Meaning	Unit
ED	Relative switch-on time	[%]
P_N	Nominal power	[kW]
n_N	Nominal speed	[min^{-1}]
n_{syn}	Synchronous speed:	[min^{-1}]
I_N	Nominal current	[A]
I_A/I_N	Start-up current / nominal current (Relationship of start-up current to nominal current)	[-]
$\cos \varphi$	Power factor	[-]
η	Efficiency	[%]
M_N	Nominal torque	[Nm]
M_A/M_N	Starting torque / nominal torque (relationship of starting torque to nominal torque)	[-]
M_K/M_N	Breakdown torque / nominal torque (relationship of breakdown torque to nominal torque)	[-]
M_B	Braking torque	[Nm]
J	Moment of inertia	[kgm^2]
L_{PA}	Noise level	[dB(A)]
L_{WA}	Noise level	[dB(A)]
T_{amb}	Ambient temperature	[°C]

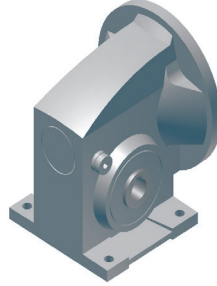
NORD UNIVERSAL Worm gear units



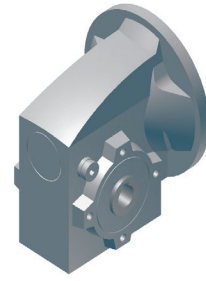
NORD UNIVERSAL worm gear units



SI version



SMI - version X



SMI - version Z

NORD UNIVERSAL worm gear units are available in three different housing versions:

- Die-cast aluminium housing UNIVERSAL foot-mounted and flange-mounted, Type SI
- Cast aluminium housing, foot-mounted version, Type SMI X
- Cast aluminium housing, B14-flange-mounted version, Type SMI Z

The one-piece housings are characterised by high rigidity and precision machining. The housings are a consistent continuation of the NORD "Unicase" concept. All bearing and seal seats are integrated into the housing and therefore ensure great reliability.

Machining of the bearing seats and mounting surfaces is carried out in a single step. This ensures precise positioning of the intermeshing, bearings and radial shaft sealing rings and results in both a long service life of all components and quiet running.

The innovative assembly principle requires oversize output bearings, so that the gear units can accept high additional external loads. This design results in a very long bearing life. The use of larger output bearings also enable the use of large hollow shaft diameters or free shaft ends with an increased diameter.

All housings are produced from a high-strength aluminium alloy. NORD UNIVERSAL worm gear units therefore provide a better power-to-weight ratio than comparable cast iron worm gear units of a similar power. As well as this, the natural corrosion protection of the aluminium alloy also provides an advantage, as no additional painting is necessary for protected installations (indoor installation).

If NORD UNIVERSAL worm gear units are used in an aggressive environment (outdoor installation, washdown applications) our NSD TupH treatment [nsd](#) provides excellent corrosion protection as an option for these applications (see A12).

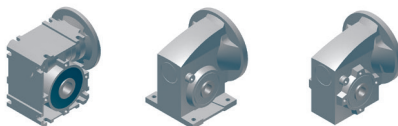
The SMI series was specially developed for applications in the food and beverage industry as well as for hygiene applications. It features smooth surfaces without undercuts, which greatly facilitates cleaning of the gear units. We recommend our NSD TupH especially for these applications [nsd](#).

As standard, NORD UNIVERSAL worm gear units are provided with life-long lubrication and do not require any maintenance.

The standard version of the NORD UNIVERSAL worm gear unit is designed as a hollow shaft version. The hollow shaft is equipped with a parallel key groove in accordance with DIN 6885 Sheet 1. The following table shows the standard diameter as well as the maximum possible hollow shaft diameter for each size.

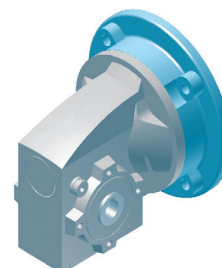
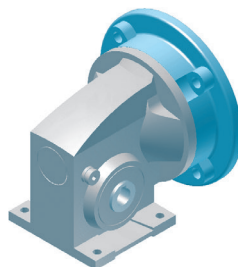
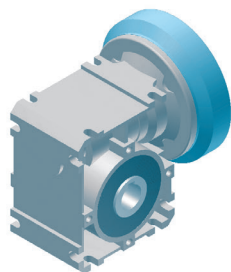
Hollow shaft with parallel key groove according to DIN 6885, Sheet 1					
Size	31	40	50	63	75
Standard	14mm	18mm	25mm	25mm	35mm
Max.	17mm	25mm	30mm	42mm	50mm

The input sides of NORD UNIVERSAL worm gear units are equipped with coupling splines, which enables the simple attachment of IEC or NEMA motors, or the attachment of input components by means of a coupling sleeve. The coupling sleeve is always supplied with the relevant components.



Mounting variants

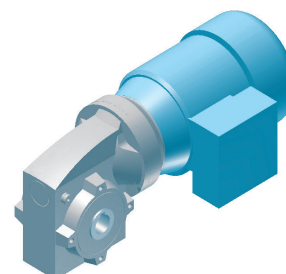
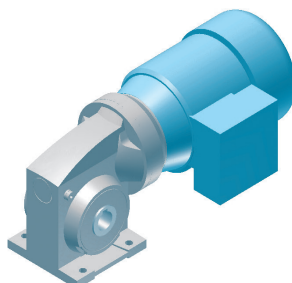
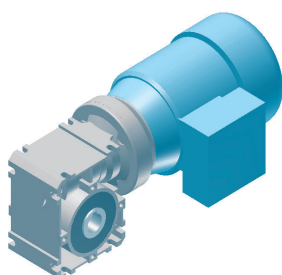
IEC motor mounting, NEMA motor mounting



Short, compact motor mounts enable the attachment of standard IEC motor sizes from 56 to 112 or NEMA standard motors from 48C to 184TC

(For details please refer to the USA Motor Catalogue www.2.nord.com - Heading DOCUMENTATION).

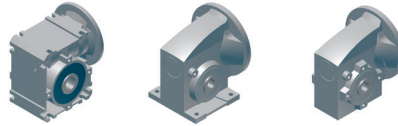
IEC three-phase motor / brake motor



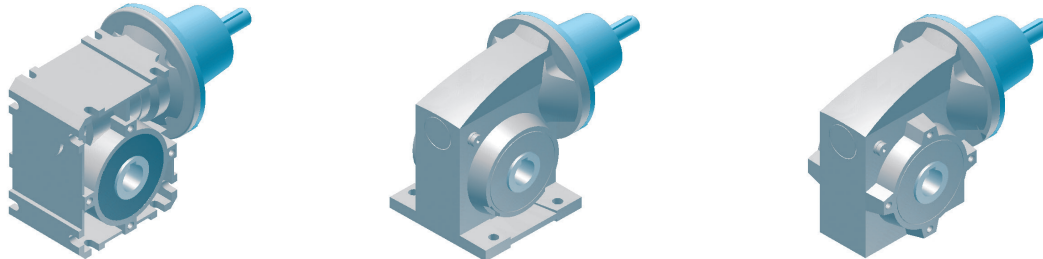
In combination with the IEC standard motor mounting, NORD 3-phase squirrel-cage asynchronous motors can be mounted on NORD UNIVERSAL worm gear units.

The motors are also available as energy-efficient motors compliant with IE2, or as brake motors. For further details, please refer to the NORD motor catalogue M7000.

Mounting variants



Type W free input shaft



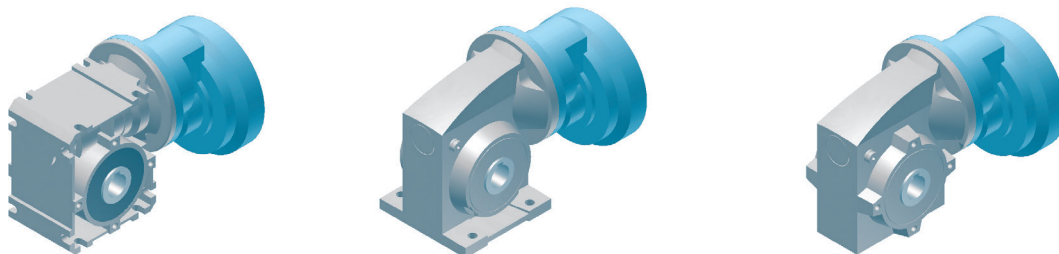
The Type W free input shaft was developed to attach couplings, belt pulleys or chain wheels to the input of NORD UNIVERSAL worm gear units. The Type W free drive shaft is available for sizes 40, 50, 63 and 75. The components includes the pre-assembled, lubricated-for-life unit, the coupling sleeve and all the necessary fastening elements.

The Type W free input shaft can be combined with NORD UNIVERSAL worm gear units as well as the H10 helical gear input. It can be used in all installation positions.

The free shaft end is produced in the tolerance k6. The dimensions are shown in the following table:

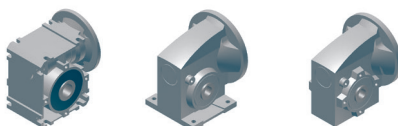
free shaft end - Typ W Parallel key according to DIN 6885, Sheet 1:					
Size	31	40	50	63	75
Shaft end	--	Ø16x40			Ø24x50

Helical input stage H10



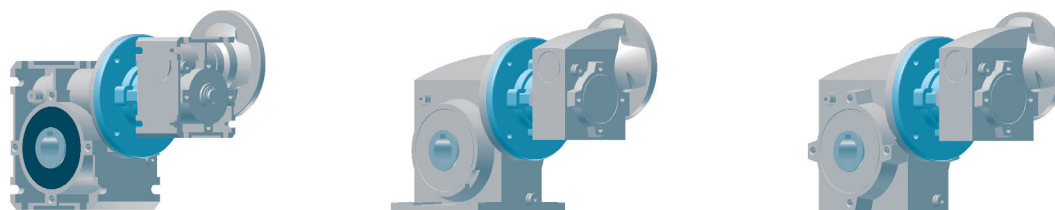
With the H10 helical gear input, the NORD UNIVERSAL worm gear unit is converted into a 2-stage helical worm gear unit. The speed ratio of the H10 helical gear is the same for all sizes, namely $i_{vor} = 10$.

The H10 helical gear is a lubricated-for-life unit, which is available for all NORD UNIVERSAL worm gear units.



Mounting variants

Double worm gear adapter

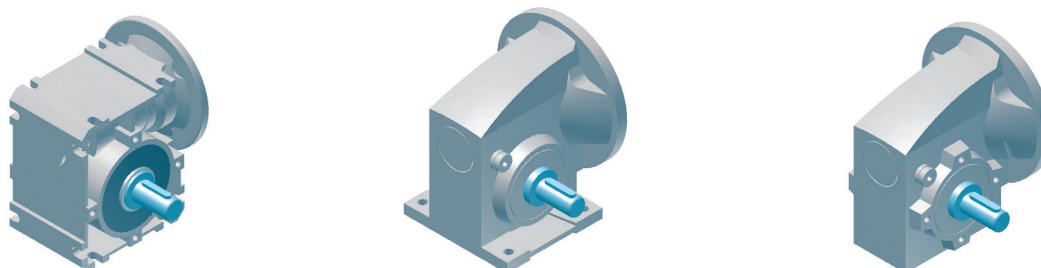


The double worm gear adapter enables the connection of two NORD UNIVERSAL worm gear units to form a double worm gear unit. The double worm gear units can be installed as both angular gear units or as parallel axis units.

The SI series or the SMI series can be used as input gear units.

The double gear unit adapter is available for the size combinations 40/31, 50/31, 63/31 and 75/40.

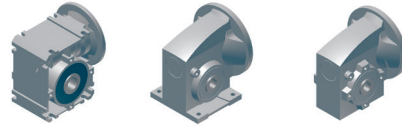
Plug-in shaft V



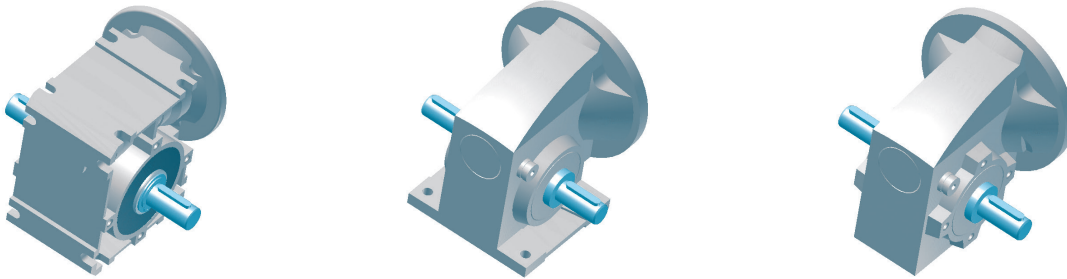
The plug-in shaft V (single side plug-in shaft) are plugged in to the standard hollow shaft of the NORD UNIVERSAL worm gear unit and axially secured. The standard journal dimensions for the individual sizes are shown in the following table. The tolerance of the free shaft journal is h6 for all units.

Free shaft end of the plug-in shaft with parallel key DIN 6885 Sheet 1					
Size	31	40	50	63	75
Shaft journal	Ø14 x 30	Ø18 x 40	Ø25 x 50	Ø25 x 50	Ø35 x 70

Mounting variants



Plug-in shaft L



The plug-in shaft L converts the NORD UNIVERSAL worm gear unit with standard hollow shaft into a gear unit with solid shafts on both sides.

The dimensions of the free shaft ends correspond to those of version V.

Plug-in shaft for output flange B5 VF



The plug-in shaft VF is an extended form of the plug-in shaft V, which matches the B5 output flange.

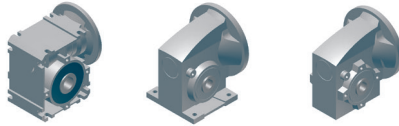
The plug-in shaft VF is not available for NORD UNIVERSAL foot-mounted worm gear units (Type series SM X) as in this case, a flange cannot be fitted.

Attention : For the SMI series, instead of

- Plug-in shaft V,
- Plug-in shaft L and
- Plug-in shaft for output flange B5 VF

an output shaft is supplied as standard, as these drive units are assembled to order.

Plug-in shaft are available by special request!



Mounting variants

B5 flange

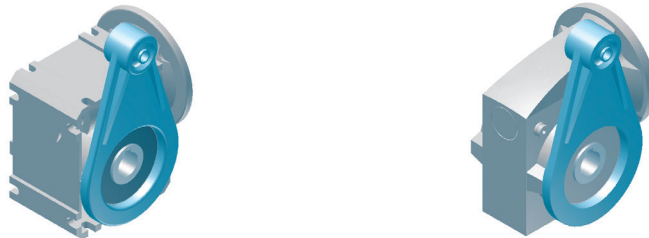


The B5 flange provides a simple possibility for mounting the NORD UNIVERSAL worm gear unit onto a large diameter flange with through holes.

The flange is centred on the NORD UNIVERSAL worm gear units in the radial shaft sealing ring holes (⇒ A16).

B5 output flange are available in various flange diameters and optionally with inner or outer centring.

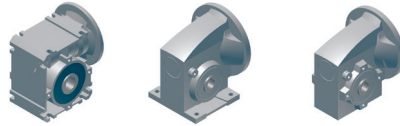
Torque arm



The torque arm is a compact and simple method for absorbing reaction torques with shaft-mounted gear units. The torque arm is mounted on the B14 threaded holes of the NORD UNIVERSAL worm gear unit and can be installed with rotation steps of 45°.

The torque arm includes a pressed-in rubber element on the fastening holes to absorb shock loads.

Mounting variants



Cover



The cover covers the rotating output shaft and the shaft sealing rings.

The scope of delivery consists of the cover and the necessary screws.

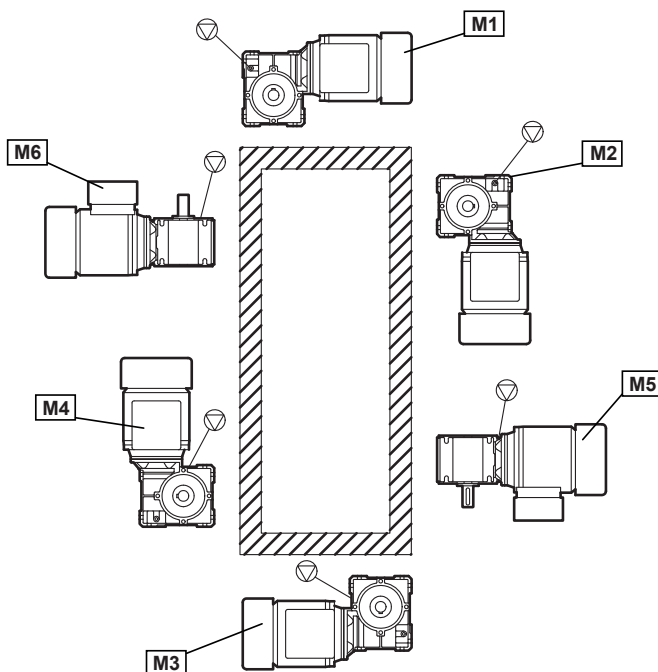
Vent (not illustrated)

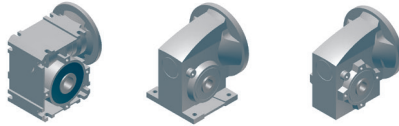
Optionally, the worm gear units can be supplied with a vent for most installation positions. The installation position must be stated for vented gear units ⇒ A17.

The vent can be used for worm gear units in the following installation positions with input speeds $n_1 = 1800\text{min}^{-1}$.

Vent for worm gear units						
Size	Installation positions					
	M1	M2	M3	M4	M5	M6
31		x	x	x		x
40		x	x	x		x
50	x	x	x	x		x
63	x	x	x	x	x	x
75	x	x	x	x		x

The venting position in response to the mounting position



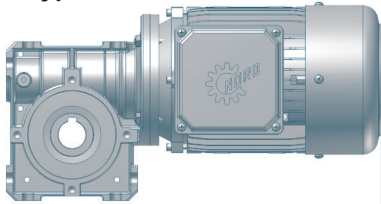


Mounting variants

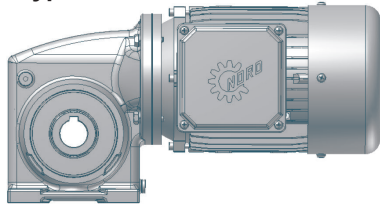
Direct motor mounting / IEC motor mounting

Direct motor mounting

Typ SID

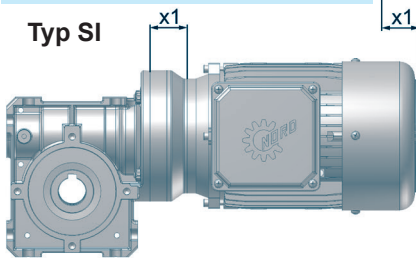


Typ SMID

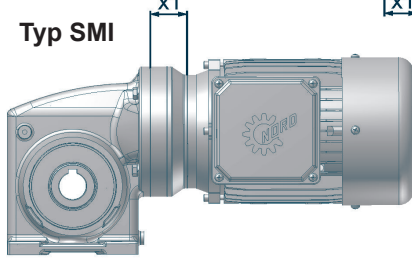


Standard IEC motor mounting

Typ SI



Typ SMI



Reduction of total length by x1 in mm				
Size	Motor sizes			
	63S/L	71S/L	80S/L	90S/L
31	29.5	29.5		
40	32.5	32.5	32.5	
50		32.5	32.5	45.5
63			32.5	32.5

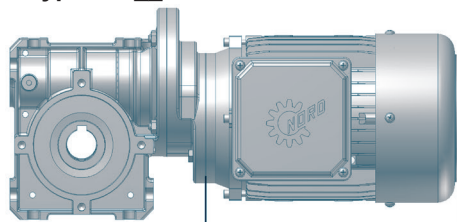
Direct mounting of the motor considerably reduces the total length of NORD UNIVERSAL worm gear units. This applies to both the SI and the SMI series. The table shows the length reduction for the selection of direct motor mounting in comparison with an IEC standard motor mounting for the various sizes of gear units with mounting of various motor sizes.

Direct motor mounting does not utilise a coupling. The worm is attached directly to a special motor shaft. For this reason, directly mounted motors can only be supplied as fully assembled worm gear motor units.

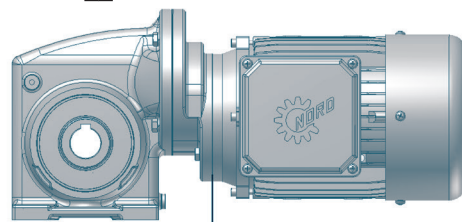
2-stage helical worm gear unit

Direct motor mounting

Typ 2SID__

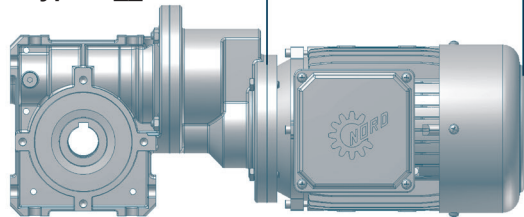


Typ 2SMID__

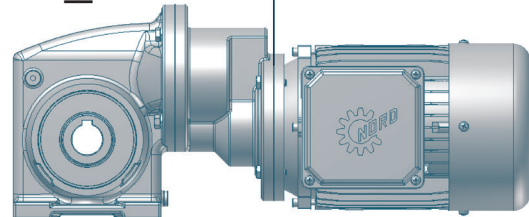


Standard IEC motor mounting

Typ 1SI_/H10



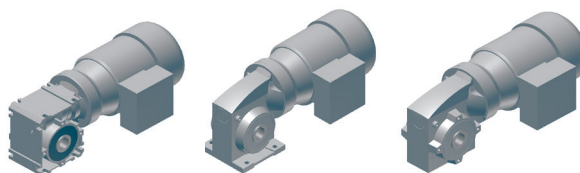
Typ 1SMI_/H10



The total length of a helical worm gear unit from the NORD UNIVERSAL worm gear unit series has a shorter total length of $z_1 = 48\text{mm}$ with direct mounting of the motor.

In the case of direct motor mounting, the input speed ratio i_{vor} is $i_{\text{vor}} = 5$.

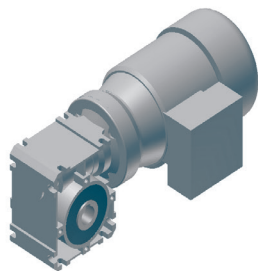
Assembly combinations



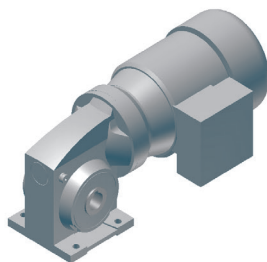
Combinations with the basic versions of NORD UNIVERSAL

- worm gear motors using the example of size 50

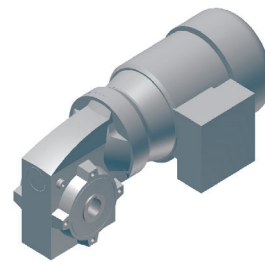
Single-stage worm gear motor with IEC motor



1SI50-IEC71-71S/4

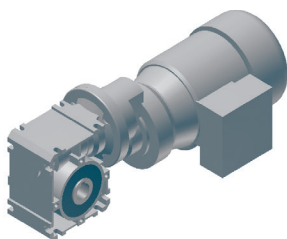


1SMI50X-IEC71-71S/4

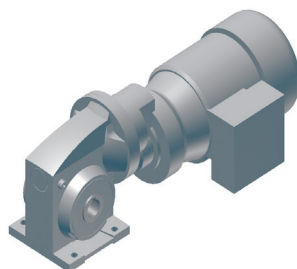


1SMI50Z-IEC71-71S/4

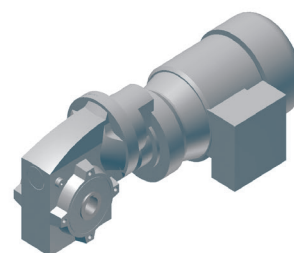
Helical worm gear motor with IEC motor



1SI50/H10-IEC71-71S/4

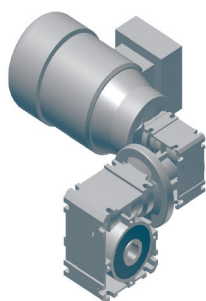


1SMI50/H10X-IEC71-71S/4

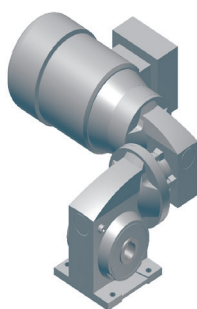


1SMI50/H10Z-IEC71-71S/4

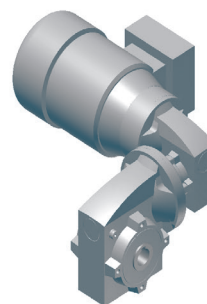
Double worm gear motor with IEC motor



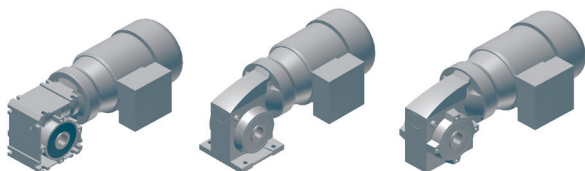
1SI50/31-IEC71-71S/4



1SMI50/31X-IEC71-71S/4

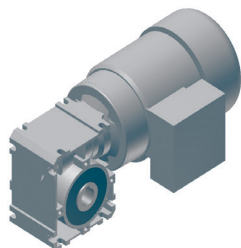


1SMI50/31Z-IEC71-71S/4

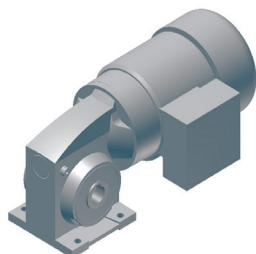


Assembly combinations

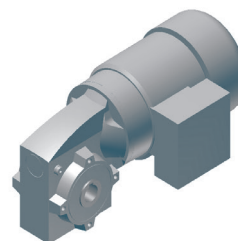
Single-stage worm gear motor with directly mounted motor



1SID50-71S/4

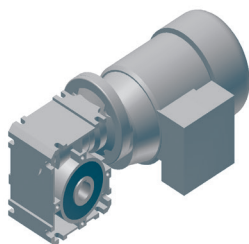


1SMID50X-71S/4

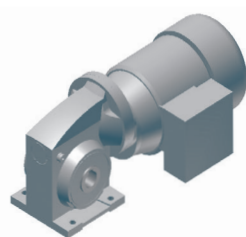


1SMID50Z-71S/4

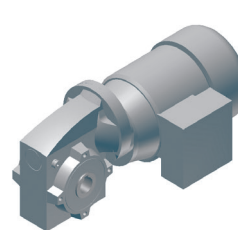
Helical worm gear motor with directly mounted motor



2SID50-71S/4

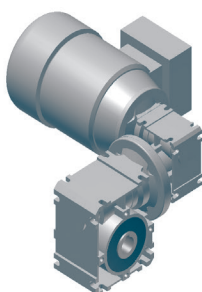


2SMID50X-71S/4

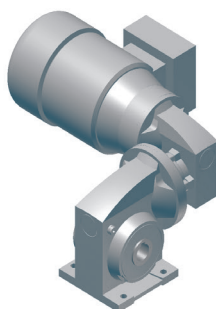


2SMID50Z-71S/4

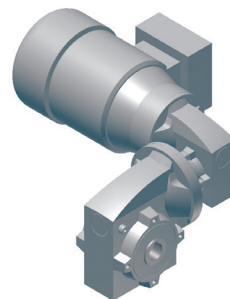
Double worm gear motor with directly mounted motor



2SID50/31-71S/4



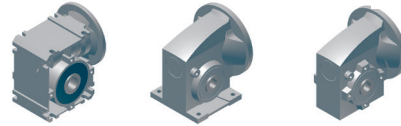
2SMID50/31X-71S/4



2SMID50/31Z-71S/4

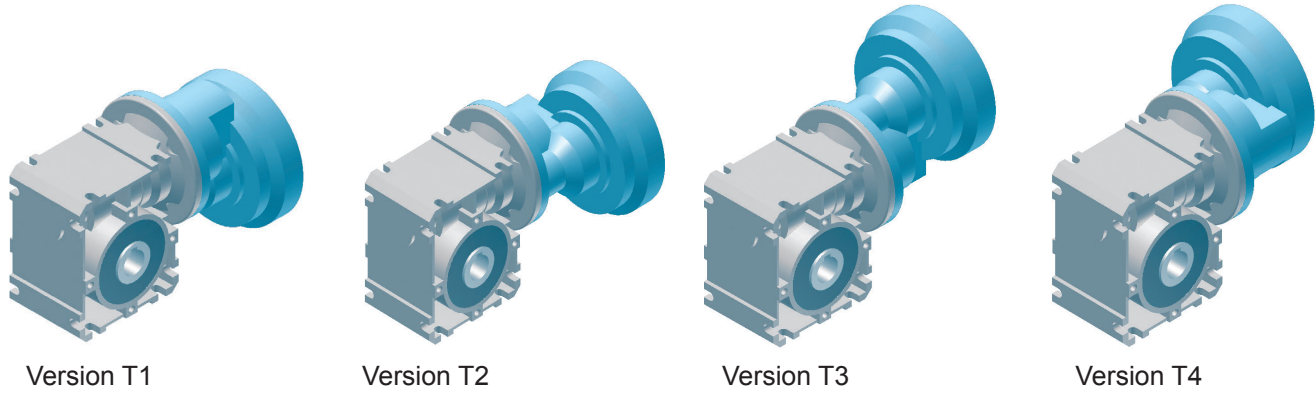


With our NORDCAD program you can depict all the possible variants as 3D models as well as 2D dimensioned drawings. The NORDCAD program can be found on the NORD homepage under www.nord.com - Heading **DOCUMENTATION / Software**.



Versions

H10 helical gear input stage versions



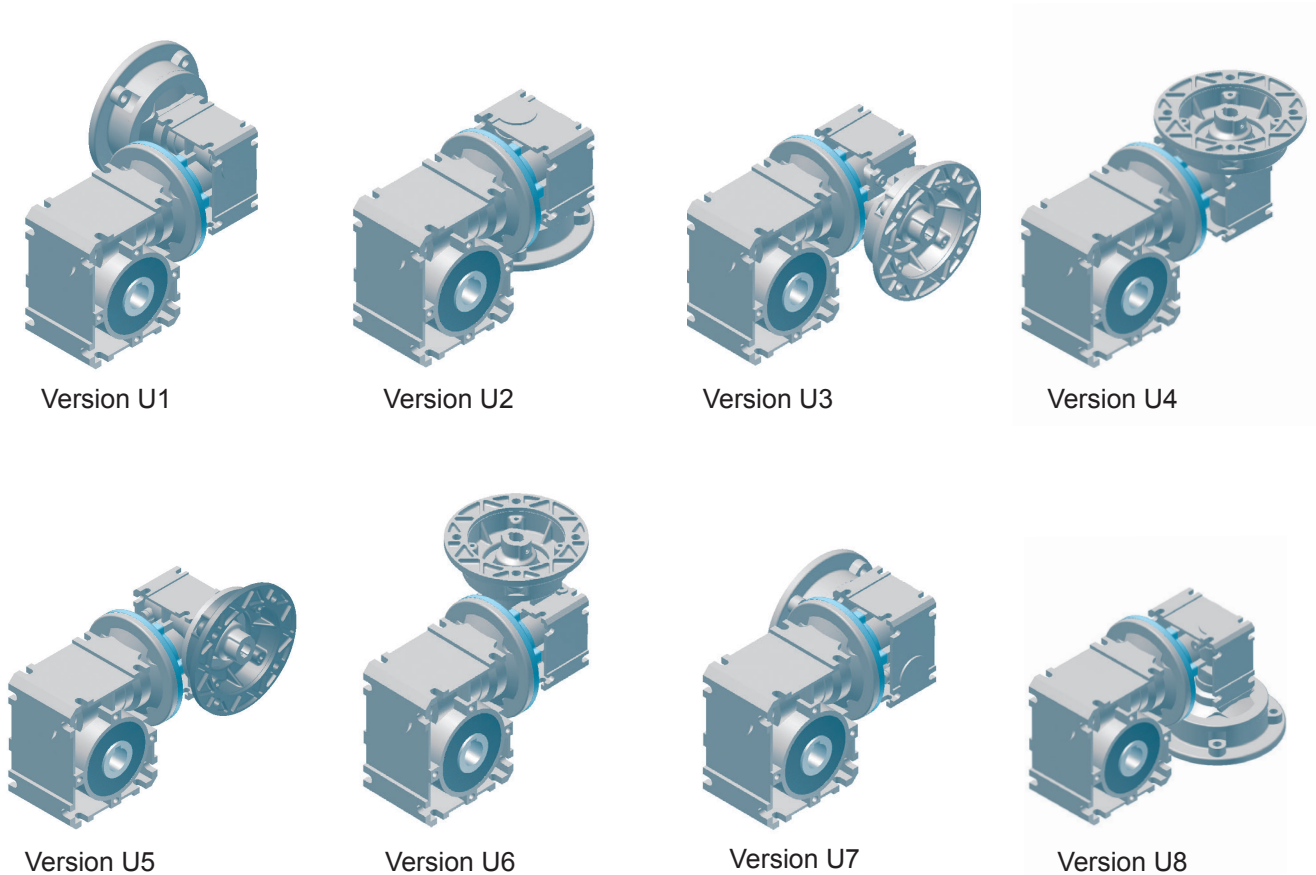
Version T1

Version T2

Version T3

Version T4

Double worm attachment versions



Version U1

Version U2

Version U3

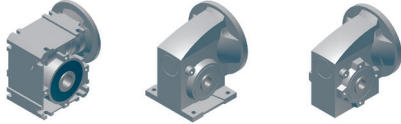
Version U4

Version U5

Version U6

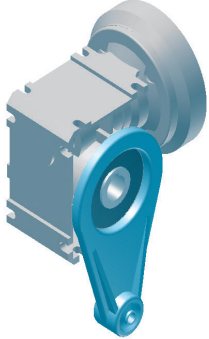
Version U7

Version U8

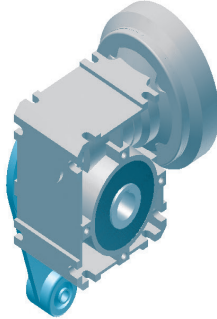


Versions

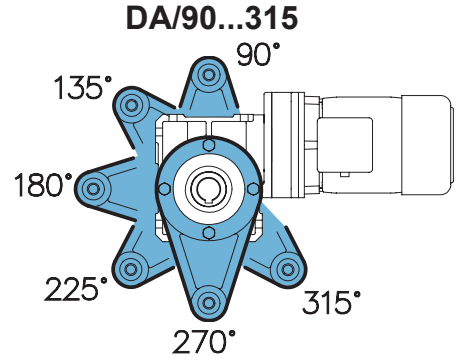
Torque support versions



Version DA/270

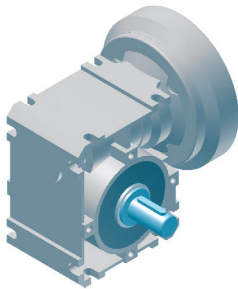


Version DB/270

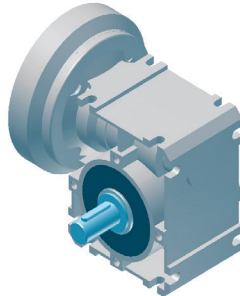


The torque support can be mounted in 45° steps to the angles 90 - 315 both on output side A and output side B.

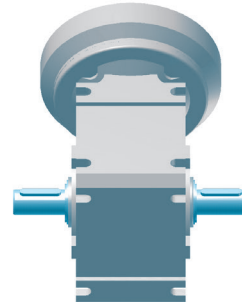
Plug-in shaft versions



Version VA

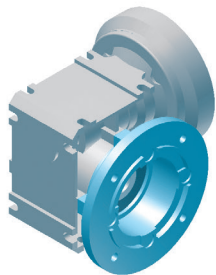


Version VB

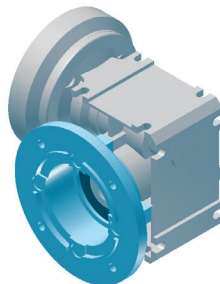


Version L

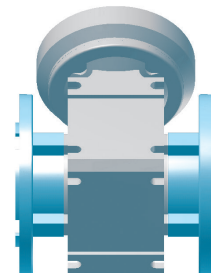
B5 output shaft versions



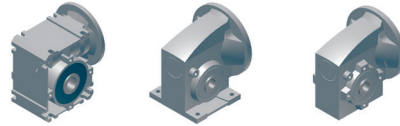
Version FA



Version FB

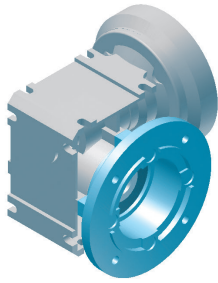


Version FF

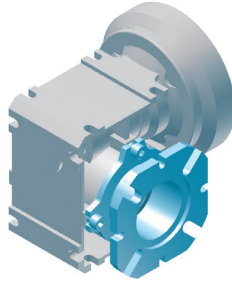


Versions

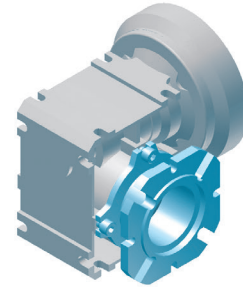
Type of flange



FA I round flange
with external centring

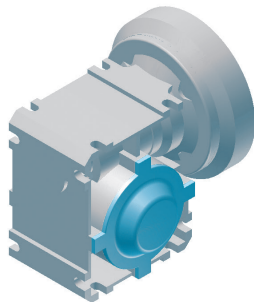


FA II square flange
with internal centring

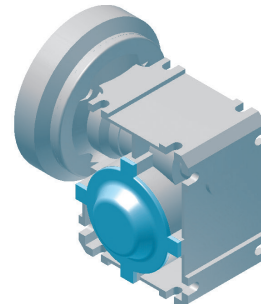


FA III square flange
with external centring

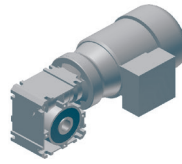
Cover versions



Version HA



Version HB



Order check list

UNIVERSAL SI worm gear motors

SK Gear units **1SI** Size _____ Gear unit options _____ Input _____ Motor _____ Motor options _____

UNIVERSAL Version

Mounting position for venting option

M1
 M2
 M3
 M4
 M5
 M6
 Special _____
 ⇒ A28

Size

31
 40
 40/H10
 40/31
 50
 50/H10
 50/31
 63
 63/H10
 63/31
 75
 75/H10
 75/40

Gear unit options

V - single side plug-in shaft
 VA VB
 L - plug-in shaft, both sides
 VF - plug-in shaft, output flange B5
 VFA VFB
 F - output flange B5
 FA FB FF
 D - Torque support
 DA DB
 H - cover
 HA HB
 Vent
 Pressure vent

See catalogue M7000

NEMA - see USA catalogue
www.2.nord.com
- Heading DOCUMENTATION

NEMA Adapter	IEC
N48C	IEC 63
N56C	IEC 71
N140TC	IEC 80
N180TC	IEC 90
	IEC 100
	IEC 112

Motors	Energy efficient motors	Brake motors	Energy efficient brake motors
63S/4 - 0.12kW	80SH/4 - 0.55kW	63S/4 BRE 5 - 0.12kW	80SH/4 BRE 5 - 0.55kW
63L/4 - 0.18kW	80LH/4 - 0.75kW	63L/4 BRE 5 - 0.18kW	80LH/4 BRE10 - 0.75kW
71S/4 - 0.25kW	90SH/4 - 1.1kW	71S/4 BRE 5 - 0.25kW	90SH/4 BRE10 - 1.1kW
71L/4 - 0.37kW	90LH/4 - 1.5kW	71L/4 BRE 5 - 0.37kW	90LH/4 BRE20 - 1.5kW
80S/4 - 0.55kW	100LH/4 - 2.2kW	80S/4 BRE 5 - 0.55kW	100LH/4 BRE20 - 2.2kW
80L/4 - 0.75kW	100AH/4 - 3kW	80L/4 BRE10 - 0.75kW	100AH/4 BRE40 - 3kW
90S/4 - 1.1kW	112MH/4 - 4kW	90S/4 BRE10 - 1.1kW	112MH/4 BRE40 - 4kW
90L/4 - 1.5kW		90L/4 BRE20 - 1.5kW	
100L/4 - 2.2kW		100L/4 BRE20 - 2.2kW	
100A/4 - 3kW		100A/4 BRE40 - 3kW	
112M/4 - 4kW		112M/4 BRE40 - 4kW	

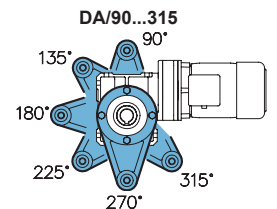
Product specifications

Worms		Helical worm SI_/H10		Double worm SID_/31 or SI 75/40	
Speed ratios	Version	Speed ratios	Version	Speed ratios	Version
<input type="radio"/> 5	<input type="radio"/> T1	<input type="radio"/> 50	<input type="radio"/> U1	<input type="radio"/> 150	<input type="radio"/> U1
<input type="radio"/> 7,5	<input type="radio"/> T2	<input type="radio"/> 75	<input type="radio"/> U2	<input type="radio"/> 225	<input type="radio"/> U2
<input type="radio"/> 10	<input type="radio"/> T3	<input type="radio"/> 100	<input type="radio"/> U3	<input type="radio"/> 300	<input type="radio"/> U3
<input type="radio"/> 12,5	<input type="radio"/> T4	<input type="radio"/> 125	<input type="radio"/> U4	<input type="radio"/> 375	<input type="radio"/> U4
<input type="radio"/> 15		<input type="radio"/> 150	<input type="radio"/> U5	<input type="radio"/> 450	<input type="radio"/> U5
<input type="radio"/> 20		<input type="radio"/> 200	<input type="radio"/> U6	<input type="radio"/> 600	<input type="radio"/> U6
<input type="radio"/> 25		<input type="radio"/> 250	<input type="radio"/> U7	<input type="radio"/> 750	<input type="radio"/> U7
<input type="radio"/> 30		<input type="radio"/> 300	<input type="radio"/> U8	<input type="radio"/> 900	<input type="radio"/> U8
<input type="radio"/> 40		<input type="radio"/> 400		<input type="radio"/> 1200	
<input type="radio"/> 50		<input type="radio"/> 500		<input type="radio"/> 1500	
<input type="radio"/> 60		<input type="radio"/> 600		<input type="radio"/> 1800	
<input type="radio"/> 80		<input type="radio"/> 800		<input type="radio"/> 2400	
<input type="radio"/> 100		<input type="radio"/> 1000		<input type="radio"/> 3000	

Painting	Direction of torque support (if selected)	
<input type="radio"/> Unpainted (standard)	<input type="radio"/> 90°	<input type="radio"/> 225°
<input type="radio"/> NSD TupH	<input type="radio"/> 135°	<input type="radio"/> 270°
<input type="radio"/> Paint type _____	<input type="radio"/> 180°	<input type="radio"/> 315°
Colour _____		

Output flange B5 versions (if selected)

F I round flange, externally centred
 F II square flange, internally centred
 F III square flange, externally centred



Details of geared motor only

Voltage/Frequency

230/400V - 50 Hz
 400/690V - 50 Hz
 Other _____

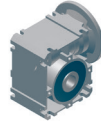
Terminal box position

KK1
 KK2
 KK3
 KK4

Cable gland

I*
 II
 III*
 IV

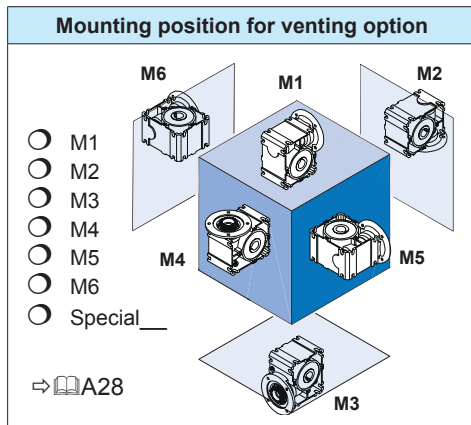
* Brake motor options



Order check list

UNIVERSAL SI worm gear units

SK	Gear units	Size	Gear unit options	Input
	1SI			
	UNIVERSAL Version	Size <input type="radio"/> 31 <input type="radio"/> 40 <input type="radio"/> 40/H10 <input type="radio"/> 40/31 <input type="radio"/> 50 <input type="radio"/> 50/H10 <input type="radio"/> 50/31 <input type="radio"/> 63 <input type="radio"/> 63/H10 <input type="radio"/> 63/31 <input type="radio"/> 75 <input type="radio"/> 75/H10 <input type="radio"/> 75/40	Gear unit options <input type="checkbox"/> V - single side plug-in shaft <input type="radio"/> VA <input type="radio"/> VB <input type="checkbox"/> L - plug-in shaft, both sides <input type="checkbox"/> VF - plug-in shaft, output flange B5 <input type="radio"/> VFA <input type="radio"/> VFB <input type="checkbox"/> F - output flange B5 <input type="radio"/> FA <input type="radio"/> FB <input type="radio"/> FF <input type="checkbox"/> D - Torque support <input type="radio"/> DA <input type="radio"/> DB <input type="checkbox"/> H - cover <input type="radio"/> HA <input type="radio"/> HB <input type="checkbox"/> Vent <input type="checkbox"/> Pressure vent	



Input options

<input type="radio"/> W		
<input type="radio"/> IEC56	<input type="radio"/> B14 C105	<input type="radio"/> B5 A120
<input type="radio"/> IEC63	<input type="radio"/> B14 C90	<input type="radio"/> B14 C120 <input type="radio"/> B5 A140
<input type="radio"/> IEC71	<input type="radio"/> B14 C105	<input type="radio"/> B14 C140 <input type="radio"/> B5 A160
<input type="radio"/> IEC80	<input type="radio"/> B14 C120	<input type="radio"/> B14 C160 <input type="radio"/> B5 A200
<input type="radio"/> IEC90	<input type="radio"/> B14 C140	<input type="radio"/> B14 C160 <input type="radio"/> B5 A200
<input type="radio"/> IEC100	<input type="radio"/> B14 C160	<input type="radio"/> B14 C200 <input type="radio"/> B5 A250
<input type="radio"/> IEC112	<input type="radio"/> B14 C160	<input type="radio"/> B14 C200 <input type="radio"/> B5 A250

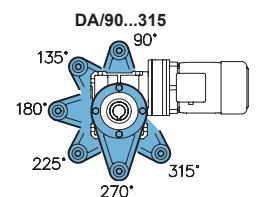
Product specifications

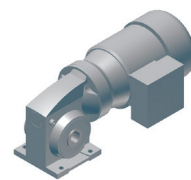
Worms		Helical worm SI_/H10		Double worm SID_/31 or SI 75/40	
Speed ratios	Speed ratios	Version	Speed ratios	Version	
<input type="radio"/> 5	<input type="radio"/> 50	<input type="radio"/> T1	<input type="radio"/> 150	<input type="radio"/> U1	
<input type="radio"/> 7.5	<input type="radio"/> 75	<input type="radio"/> T2	<input type="radio"/> 225	<input type="radio"/> U2	
<input type="radio"/> 10	<input type="radio"/> 100	<input type="radio"/> T3	<input type="radio"/> 300	<input type="radio"/> U3	
<input type="radio"/> 12.5	<input type="radio"/> 125	<input type="radio"/> T4	<input type="radio"/> 375	<input type="radio"/> U4	
<input type="radio"/> 15	<input type="radio"/> 150		<input type="radio"/> 450	<input type="radio"/> U5	
<input type="radio"/> 20	<input type="radio"/> 200		<input type="radio"/> 600	<input type="radio"/> U6	
<input type="radio"/> 25	<input type="radio"/> 250		<input type="radio"/> 750	<input type="radio"/> U7	
<input type="radio"/> 30	<input type="radio"/> 300		<input type="radio"/> 900	<input type="radio"/> U8	
<input type="radio"/> 40	<input type="radio"/> 400		<input type="radio"/> 1200		
<input type="radio"/> 50	<input type="radio"/> 500		<input type="radio"/> 1500		
<input type="radio"/> 60	<input type="radio"/> 600		<input type="radio"/> 1800		
<input type="radio"/> 80	<input type="radio"/> 800		<input type="radio"/> 2400		
<input type="radio"/> 100	<input type="radio"/> 1000		<input type="radio"/> 3000		

Painting	Direction of torque support (if selected)	
<input type="radio"/> Unpainted (standard) <input type="radio"/> NSD TupH <input type="radio"/> Paint type _____ Colour _____	<input type="radio"/> 90° <input type="radio"/> 135° <input type="radio"/> 180°	<input type="radio"/> 225° <input type="radio"/> 270° <input type="radio"/> 315°

Output flange B5 versions (if selected)

- F I round flange, externally centred
- F II square flange, internally centred
- F III square flange, externally centred





Order check list

UNIVERSAL SMI worm gear motors

SK Gear units: **1SMI** Size: Gear unit options: **X** Input: Motor: Motor options: See catalogue M7000

UNIVERSAL Version

Mounting position for venting option

M1 M2 M3
 M4 M5 M6
 Special
 ⇒ A28

Size

31
 40
 40/H10
 40/31
 50
 50/H10
 50/31
 63
 63/H10
 63/31
 75
 75/H10
 75/40

Gear unit options

V - single side solid shaft
 VA VB
 L - solid shaft, both sides
 Vent
 Pressure vent

NEMA - see USA catalogue
www.2.nord.com
- Heading DOCUMENTATION

NEMA Adapter	IEC
N48C	IEC 63
N56C	IEC 71
N140TC	IEC 80
N180TC	IEC 90
	IEC 100
	IEC 112

Motors	Energy efficient motors	Brake motors	Energy efficient brake motors
63S/4 - 0.12kW	80SH/4 - 0.55kW	63S/4 BRE 5 - 0.12kW	80SH/4 BRE 5 - 0.55kW
63L/4 - 0.18kW	80LH/4 - 0.75kW	63L/4 BRE 5 - 0.18kW	80LH/4 BRE10 - 0.75kW
71S/4 - 0.25kW	90SH/4 - 1.1kW	71S/4 BRE 5 - 0.25kW	90SH/4 BRE10 - 1.1kW
71L/4 - 0.37kW	90LH/4 - 1.5kW	71L/4 BRE 5 - 0.37kW	90LH/4 BRE20 - 1.5kW
80S/4 - 0.55kW	100LH/4 - 2.2kW	80S/4 BRE 5 - 0.55kW	100LH/4 BRE20 - 2.2kW
80L/4 - 0.75kW	100AH/4 - 3kW	80L/4 BRE10 - 0.75kW	100AH/4 BRE40 - 3kW
90S/4 - 1.1kW	112MH/4 - 4kW	90S/4 BRE10 - 1.1kW	112MH/4 BRE40 - 4kW
90L/4 - 1.5kW		90L/4 BRE20 - 1.5kW	
100L/4 - 2.2kW		100L/4 BRE20 - 2.2kW	
100A/4 - 3kW		100A/4 BRE40 - 3kW	
112M/4 - 4kW		112M/4 BRE40 - 4kW	

Product specifications

Worms		Helical worm SMI_/H10		Double worm gear SMI_/31 or SMI 75/40	
Speed ratios	Version	Speed ratios	Version	Speed ratios	Version
<input type="radio"/> 5	<input type="radio"/> T1	<input type="radio"/> 50	<input type="radio"/> T1	<input type="radio"/> 150	<input type="radio"/> U1
<input type="radio"/> 7.5	<input type="radio"/> T2	<input type="radio"/> 75	<input type="radio"/> T2	<input type="radio"/> 225	<input type="radio"/> U2
<input type="radio"/> 10	<input type="radio"/> T3	<input type="radio"/> 100	<input type="radio"/> T3	<input type="radio"/> 300	<input type="radio"/> U3
<input type="radio"/> 12.5	<input type="radio"/> T4	<input type="radio"/> 125	<input type="radio"/> T4	<input type="radio"/> 375	<input type="radio"/> U4
<input type="radio"/> 15		<input type="radio"/> 150		<input type="radio"/> 450	<input type="radio"/> U5
<input type="radio"/> 20		<input type="radio"/> 200		<input type="radio"/> 600	<input type="radio"/> U6
<input type="radio"/> 25		<input type="radio"/> 250		<input type="radio"/> 750	<input type="radio"/> U7
<input type="radio"/> 30		<input type="radio"/> 300		<input type="radio"/> 900	<input type="radio"/> U8
<input type="radio"/> 40		<input type="radio"/> 400		<input type="radio"/> 1200	
<input type="radio"/> 50		<input type="radio"/> 500		<input type="radio"/> 1500	
<input type="radio"/> 60		<input type="radio"/> 600		<input type="radio"/> 1800	
<input type="radio"/> 80		<input type="radio"/> 800		<input type="radio"/> 2400	
<input type="radio"/> 100		<input type="radio"/> 1000		<input type="radio"/> 3000	

Painting

Unpainted (standard)
 NSD TupH
 Paint type _____
 Colour _____

Details of geared motor only

Voltage/Frequency

230/400V - 50 Hz
 400/690V - 50 Hz
 Other _____

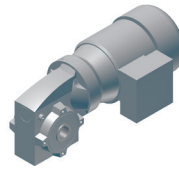
Terminal box position

KK1
 KK2
 KK3
 KK4

Cable gland

I*
 II
 III*
 IV

* Brake motor options



Order check list

UNIVERSAL SMI worm gear motors

SK Gear units: **1SMI** Size: Gear unit options: **Z** Input: Motor: Motor options: See catalogue M7000

UNIVERSAL Version

Mounting position for venting option

M1 M2 M3 M4 M5 M6
 Special

Size

- 31
- 40
- 40/H10
- 40/31
- 50
- 50/H10
- 50/31
- 63
- 63/H10
- 63/31
- 75
- 75/H10
- 75/40

Gear unit options

- V - single side solid shaft
 - VA VB
- L - solid shaft, both sides
- VF - solid shaft, output flange B5
 - VFA VFB
- F - output flange B5
 - FA FB FF
- D - Torque support
 - DA DB
- H - cover
 - HA HB
- Vent
- Pressure vent

NEMA - see USA catalogue
www.2.nord.com
- Heading DOCUMENTATION

NEMA Adapter	IEC
N48C	IEC 63
N56C	IEC 71
N140TC	IEC 80
N180TC	IEC 90
	IEC 100
	IEC 112

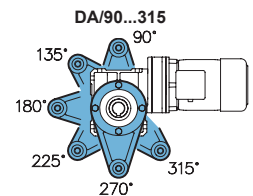
Motors	Energy efficient motors	Brake motors	Energy efficient brake motors
63S/4 - 0.12kW	80SH/4 - 0.55kW	63S/4 BRE 5 - 0.12kW	80SH/4 BRE 5 - 0.55kW
63L/4 - 0.18kW	80LH/4 - 0.75kW	63L/4 BRE 5 - 0.18kW	80LH/4 BRE10 - 0.75kW
71S/4 - 0.25kW	90SH/4 - 1.1kW	71S/4 BRE 5 - 0.25kW	90SH/4 BRE10 - 1.1kW
71L/4 - 0.37kW	90LH/4 - 1.5kW	71L/4 BRE 5 - 0.37kW	90LH/4 BRE20 - 1.5kW
80S/4 - 0.55kW	100LH/4 - 2.2kW	80S/4 BRE 5 - 0.55kW	100LH/4 BRE20 - 2.2kW
80L/4 - 0.75kW	100AH/4 - 3kW	80L/4 BRE10 - 0.75kW	100AH/4 BRE40 - 3kW
90S/4 - 1.1kW	112MH/4 - 4kW	90S/4 BRE10 - 1.1kW	112MH/4 BRE40 - 4kW
90L/4 - 1.5kW		90L/4 BRE20 - 1.5kW	
100L/4 - 2.2kW		100L/4 BRE20 - 2.2kW	
100A/4 - 3kW		100A/4 BRE40 - 3kW	
112M/4 - 4kW		112M/4 BRE40 - 4kW	

Product specifications

Worms	Helical worm SMI_/H10		Double worm gear SMI_/31 or SMI 75/40	
Speed ratios	Speed ratios	Version	Speed ratios	Version
<input type="radio"/> 5	<input type="radio"/> 50	<input type="radio"/> T1	<input type="radio"/> 150	<input type="radio"/> U1
<input type="radio"/> 7,5	<input type="radio"/> 75	<input type="radio"/> T2	<input type="radio"/> 225	<input type="radio"/> U2
<input type="radio"/> 10	<input type="radio"/> 100	<input type="radio"/> T3	<input type="radio"/> 300	<input type="radio"/> U3
<input type="radio"/> 12,5	<input type="radio"/> 125	<input type="radio"/> T4	<input type="radio"/> 375	<input type="radio"/> U4
<input type="radio"/> 15	<input type="radio"/> 150		<input type="radio"/> 450	<input type="radio"/> U5
<input type="radio"/> 20	<input type="radio"/> 200		<input type="radio"/> 600	<input type="radio"/> U6
<input type="radio"/> 25	<input type="radio"/> 250		<input type="radio"/> 750	<input type="radio"/> U7
<input type="radio"/> 30	<input type="radio"/> 300		<input type="radio"/> 900	<input type="radio"/> U8
<input type="radio"/> 40	<input type="radio"/> 400		<input type="radio"/> 1200	
<input type="radio"/> 50	<input type="radio"/> 500		<input type="radio"/> 1500	
<input type="radio"/> 60	<input type="radio"/> 600		<input type="radio"/> 1800	
<input type="radio"/> 80	<input type="radio"/> 800		<input type="radio"/> 2400	
<input type="radio"/> 100	<input type="radio"/> 1000		<input type="radio"/> 3000	

Painting	Direction of torque support (if selected)	
<input type="radio"/> Unpainted (standard)	<input type="radio"/> 90°	<input type="radio"/> 225°
<input type="radio"/> NSD TupH	<input type="radio"/> 135°	<input type="radio"/> 270°
<input type="radio"/> Paint type _____	<input type="radio"/> 180°	<input type="radio"/> 315°
Colour _____		

Output flange B5 versions (if selected)
<input type="radio"/> F I round flange, externally centred
<input type="radio"/> F II square flange, internally centred
<input type="radio"/> F III square flange, externally centred



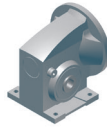
Details of geared motor only

Voltage/Frequency
<input type="radio"/> 230/400V - 50 Hz
<input type="radio"/> 400/690V - 50 Hz
<input type="radio"/> Other _____

Terminal box position
<input type="radio"/> KK1
<input type="radio"/> KK2
<input type="radio"/> KK3
<input type="radio"/> KK4

Cable gland
<input type="radio"/> I*
<input type="radio"/> II
<input type="radio"/> III*
<input type="radio"/> IV

* Brake motor options



Order check list

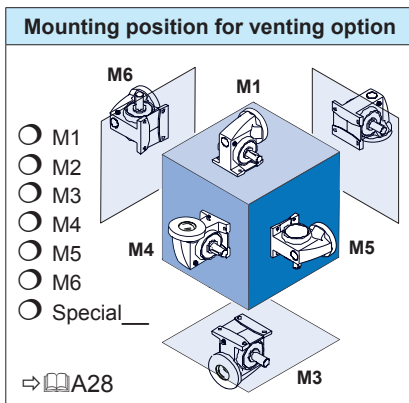
UNIVERSAL SMI worm gear unit

SK **1SMI** Size Gear unit options **X** - Input

UNIVERSAL
Version

- Size**
- 31
 - 40
 - 40/H10
 - 40/31
 - 50
 - 50/H10
 - 50/31
 - 63
 - 63/H10
 - 63/31
 - 75
 - 75/H10
 - 75/40

- Gear unit options**
- V - single side solid shaft
 - VA VB
 - L - solid shaft, both sides
 - Vent
 - Pressure vent



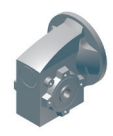
- Input options**
- W
 - IEC56
 - B14 C105
 - B5 A120
 - IEC63
 - B14 C90
 - B14 C120
 - B5 A140
 - IEC71
 - B14 C105
 - B14 C140
 - B5 A160
 - IEC80
 - B14 C120
 - B14 C160
 - B5 A200
 - IEC90
 - B14 C140
 - B14 C160
 - B5 A200
 - IEC100
 - B14 C160
 - B14 C200
 - B5 A250
 - IEC112
 - B14 C160
 - B14 C200
 - B5 A250

Product specifications

Worms		Helical worm SMI_/H10		Double worm SMI_/31 or SMI 75/40	
Speed ratios	Speed ratios	Version	Speed ratios	Version	
<input type="radio"/> 5	<input type="radio"/> 50	<input type="radio"/> T1	<input type="radio"/> 150	<input type="radio"/> U1	
<input type="radio"/> 7,5	<input type="radio"/> 75	<input type="radio"/> T2	<input type="radio"/> 225	<input type="radio"/> U2	
<input type="radio"/> 10	<input type="radio"/> 100	<input type="radio"/> T3	<input type="radio"/> 300	<input type="radio"/> U3	
<input type="radio"/> 12,5	<input type="radio"/> 125	<input type="radio"/> T4	<input type="radio"/> 375	<input type="radio"/> U4	
<input type="radio"/> 15	<input type="radio"/> 150		<input type="radio"/> 450	<input type="radio"/> U5	
<input type="radio"/> 20	<input type="radio"/> 200		<input type="radio"/> 600	<input type="radio"/> U6	
<input type="radio"/> 25	<input type="radio"/> 250		<input type="radio"/> 750	<input type="radio"/> U7	
<input type="radio"/> 30	<input type="radio"/> 300		<input type="radio"/> 900	<input type="radio"/> U8	
<input type="radio"/> 40	<input type="radio"/> 400		<input type="radio"/> 1200		
<input type="radio"/> 50	<input type="radio"/> 500		<input type="radio"/> 1500		
<input type="radio"/> 60	<input type="radio"/> 600		<input type="radio"/> 1800		
<input type="radio"/> 80	<input type="radio"/> 800		<input type="radio"/> 2400		
<input type="radio"/> 100	<input type="radio"/> 1000		<input type="radio"/> 3000		

Painting

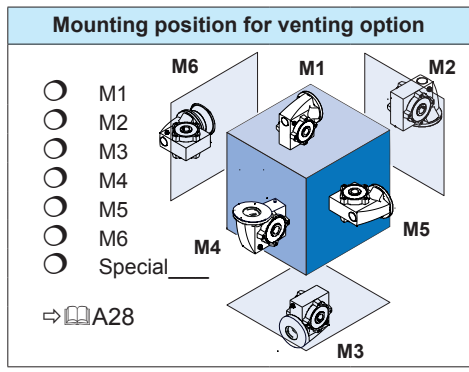
- Unpainted (standard)
- NSD TupH
- Paint type _____
Colour _____



Order check list

UNIVERSAL SMI worm gear unit

SK	Gear units	Size	Gear unit options	Input
	1SMI	Z		
	UNIVERSAL Version	Size <input type="radio"/> 31 <input type="radio"/> 40 <input type="radio"/> 40/H10 <input type="radio"/> 40/31 <input type="radio"/> 50 <input type="radio"/> 50/H10 <input type="radio"/> 50/31 <input type="radio"/> 63 <input type="radio"/> 63/H10 <input type="radio"/> 63/31 <input type="radio"/> 75 <input type="radio"/> 75/H10 <input type="radio"/> 75/40	Gear unit options <input type="checkbox"/> V - single side solid shaft <input type="radio"/> VA <input type="radio"/> VB <input type="checkbox"/> L - solid shaft, both sides <input type="checkbox"/> VF - solid shaft, output flange B5 <input type="radio"/> VFA <input type="radio"/> VFB <input type="checkbox"/> F - output flange B5 <input type="radio"/> FA <input type="radio"/> FB <input type="radio"/> FF <input type="checkbox"/> D - Torque support <input type="radio"/> DA <input type="radio"/> DB <input type="checkbox"/> H - cover <input type="radio"/> HA <input type="radio"/> HB <input type="checkbox"/> Vent <input type="checkbox"/> Pressure vent	



Input options

<input type="radio"/> W		<input type="radio"/> B5 A120
<input type="radio"/> IEC56	<input type="radio"/> B14 C105	<input type="radio"/> B5 A140
<input type="radio"/> IEC63	<input type="radio"/> B14 C90	<input type="radio"/> B5 A160
<input type="radio"/> IEC71	<input type="radio"/> B14 C105	<input type="radio"/> B5 A200
<input type="radio"/> IEC80	<input type="radio"/> B14 C120	<input type="radio"/> B5 A200
<input type="radio"/> IEC90	<input type="radio"/> B14 C140	<input type="radio"/> B5 A200
<input type="radio"/> IEC100	<input type="radio"/> B14 C160	<input type="radio"/> B5 A250
<input type="radio"/> IEC112	<input type="radio"/> B14 C160	<input type="radio"/> B5 A250

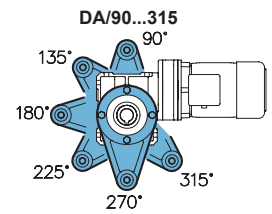
Product specifications

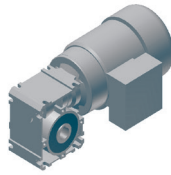
Worms		Helical worm SMI_/H10		Double worm SMI_/31 or SMI 75/40	
Speed ratios	Speed ratios	Version	Speed ratios	Version	
<input type="radio"/> 5	<input type="radio"/> 50	<input type="radio"/> T1	<input type="radio"/> 150	<input type="radio"/> U1	
<input type="radio"/> 7,5	<input type="radio"/> 75	<input type="radio"/> T2	<input type="radio"/> 225	<input type="radio"/> U2	
<input type="radio"/> 10	<input type="radio"/> 100	<input type="radio"/> T3	<input type="radio"/> 300	<input type="radio"/> U3	
<input type="radio"/> 12,5	<input type="radio"/> 125	<input type="radio"/> T4	<input type="radio"/> 375	<input type="radio"/> U4	
<input type="radio"/> 15	<input type="radio"/> 150		<input type="radio"/> 450	<input type="radio"/> U5	
<input type="radio"/> 20	<input type="radio"/> 200		<input type="radio"/> 600	<input type="radio"/> U6	
<input type="radio"/> 25	<input type="radio"/> 250		<input type="radio"/> 750	<input type="radio"/> U7	
<input type="radio"/> 30	<input type="radio"/> 300		<input type="radio"/> 900	<input type="radio"/> U8	
<input type="radio"/> 40	<input type="radio"/> 400		<input type="radio"/> 1200		
<input type="radio"/> 50	<input type="radio"/> 500		<input type="radio"/> 1500		
<input type="radio"/> 60	<input type="radio"/> 600		<input type="radio"/> 1800		
<input type="radio"/> 80	<input type="radio"/> 800		<input type="radio"/> 2400		
<input type="radio"/> 100	<input type="radio"/> 1000		<input type="radio"/> 3000		

Painting	Direction of torque support (if selected)	
<input type="radio"/> Unpainted (standard) <input type="radio"/> NSD TupH <input type="radio"/> Paint type _____ <input type="radio"/> Colour _____	<input type="radio"/> 90° <input type="radio"/> 135° <input type="radio"/> 180°	<input type="radio"/> 225° <input type="radio"/> 270° <input type="radio"/> 315°

Output flange B5 versions (if selected)

<input type="radio"/> F I round flange, externally centred <input type="radio"/> F II square flange, internally centred <input type="radio"/> F III square flange, externally centred





Order check list

UNIVERSAL SID worm gear motor with direct motor mounting

SK	Nr. of stages	Gear units	Size	Gear unit options	Motor	Motor options	
		SID				See catalogue M7000	
	Number of stages <input type="radio"/> 1 <input type="radio"/> 2		Size <input type="radio"/> 31 <input type="radio"/> 40 <input type="radio"/> 40/31 <input type="radio"/> 50 <input type="radio"/> 50/31 <input type="radio"/> 63 <input type="radio"/> 63/31 <input type="radio"/> 75/40		Gear unit options <input type="checkbox"/> V - single side solid shaft <input type="radio"/> VA <input type="radio"/> VB <input type="checkbox"/> L - solid shaft, both sides <input type="checkbox"/> VF - solid shaft, output flange B5 <input type="radio"/> VA <input type="radio"/> VB <input type="checkbox"/> F - output flange B5 <input type="radio"/> FA <input type="radio"/> FB <input type="radio"/> FF <input type="checkbox"/> D - Torque support <input type="radio"/> DA <input type="radio"/> DB <input type="checkbox"/> H - cover <input type="checkbox"/> Pressure vent		

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 E-mail: info@famcocorp.com
 @famco_group

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 روبروی پالایشگاه نفت پارس، پلاک ۱۲
 Tel: +۹۰۲۱-۴۸۰۰۰۰۴۹
 Fax: +۹۰۲۱-۴۴۹۹۴۶۴۲

Mounting position for venting option

M1
 M2
 M3
 M4
 M5
 M6
 Special _____

⇒ A28

Motors	Energy efficient motors	Brake motors	Energy efficient brake motors
63S/4 - 0.12kW	80SH/4 - 0.55kW	63S/4 BRE 5 - 0.12kW	80SH/4 BRE 5 - 0.55kW
63L/4 - 0.18kW	80LH/4 - 0.75kW	63L/4 BRE 5 - 0.18kW	80LH/4 BRE10 - 0.75kW
71S/4 - 0.25kW	90SH/4 - 1.1kW	71S/4 BRE 5 - 0.25kW	90SH/4 BRE10 - 1.1kW
71L/4 - 0.37kW	90LH/4 - 1.5kW	71L/4 BRE 5 - 0.37kW	90LH/4 BRE20 - 1.5kW
80S/4 - 0.55kW		80S/4 BRE 5 - 0.55kW	
80L/4 - 0.75kW		80L/4 BRE10 - 0.75kW	
90S/4 - 1.1kW		90S/4 BRE10 - 1.1kW	
90L/4 - 1.5kW		90L/4 BRE20 - 1.5kW	

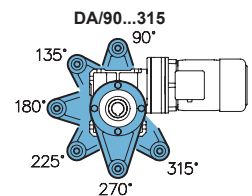
Product specifications

Worms Single-stage Speed ratios	Helical worm 2-stage Speed ratios	Double worm SID__/31 or SID 75/40	
		Speed ratios	Version
<input type="radio"/> 5	<input type="radio"/> 25	<input type="radio"/> 150	<input type="radio"/> U1
<input type="radio"/> 7,5	<input type="radio"/> 37,5	<input type="radio"/> 225	<input type="radio"/> U2
<input type="radio"/> 10	<input type="radio"/> 50	<input type="radio"/> 300	<input type="radio"/> U3
<input type="radio"/> 12,5	<input type="radio"/> 62,5	<input type="radio"/> 375	<input type="radio"/> U4
<input type="radio"/> 15	<input type="radio"/> 75	<input type="radio"/> 450	<input type="radio"/> U5
<input type="radio"/> 20	<input type="radio"/> 100	<input type="radio"/> 600	<input type="radio"/> U6
<input type="radio"/> 25	<input type="radio"/> 125	<input type="radio"/> 750	<input type="radio"/> U7
<input type="radio"/> 30	<input type="radio"/> 150	<input type="radio"/> 900	<input type="radio"/> U8
<input type="radio"/> 40	<input type="radio"/> 200	<input type="radio"/> 1200	
<input type="radio"/> 50	<input type="radio"/> 250	<input type="radio"/> 1500	
<input type="radio"/> 60	<input type="radio"/> 300	<input type="radio"/> 1800	
<input type="radio"/> 80	<input type="radio"/> 400	<input type="radio"/> 2400	
<input type="radio"/> 100	<input type="radio"/> 500	<input type="radio"/> 3000	

Painting	Direction of torque support (if selected)	
<input type="radio"/> Unpainted (standard)	<input type="radio"/> 90°	<input type="radio"/> 225°
<input type="radio"/> NSD TupH	<input type="radio"/> 135°	<input type="radio"/> 270°
<input type="radio"/> Paint type _____	<input type="radio"/> 180°	<input type="radio"/> 315°
Colour _____		

**Output flange B5 versions
(if selected)**

F I round flange, externally centred
 F II square flange, internally centred
 F III square flange, externally centred



Details of geared motor only

Voltage/Frequency

230/400V - 50 Hz
 400/690V - 50 Hz
 Other _____

Terminal box position

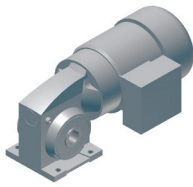
KK1
 KK2
 KK3
 KK4

Cable gland

I*
 II
 III*
 IV

* Brake motor options

Order check list



UNIVERSAL SMID worm gear motor with direct motor mounting

SK	Nr. of stages	Gear units	Size	Gear unit options	Motor	Motor options
		SMID		X		
	Number of stages <input type="radio"/> 1 <input type="radio"/> 2		Size <input type="radio"/> 31 <input type="radio"/> 40 <input type="radio"/> 40/31 <input type="radio"/> 50 <input type="radio"/> 50/31 <input type="radio"/> 63 <input type="radio"/> 63/31 <input type="radio"/> 75/40	Gear unit options <input type="checkbox"/> V - single side solid shaft <input type="radio"/> VA <input type="radio"/> VB <input type="checkbox"/> L - solid shaft, both sides <input type="checkbox"/> Vent <input type="checkbox"/> Pressure vent	See catalogue M7000	

Mounting position for venting option

M1
 M2
 M3
 M4
 M5
 M6
 Special

⇒ A28

Motors	Energy efficient motors	Brake motors	Energy efficient brake motors
63S/4 - 0.12kW	80SH/4 - 0.55kW	63S/4 BRE 5 - 0.12kW	80SH/4 BRE 5 - 0.55kW
63L/4 - 0.18kW	80LH/4 - 0.75kW	63L/4 BRE 5 - 0.18kW	80LH/4 BRE10 - 0.75kW
71S/4 - 0.25kW	90SH/4 - 1.1kW	71S/4 BRE 5 - 0.25kW	90SH/4 BRE10 - 1.1kW
71L/4 - 0.37kW	90LH/4 - 1.5kW	71L/4 BRE 5 - 0.37kW	90LH/4 BRE20 - 1.5kW
80S/4 - 0.55kW		80S/4 BRE 5 - 0.55kW	
80L/4 - 0.75kW		80L/4 BRE10 - 0.75kW	
90S/4 - 1.1kW		90S/4 BRE10 - 1.1kW	
90L/4 - 1.5kW		90L/4 BRE20 - 1.5kW	

Product specifications

Worms Single-stage	Helical worm 2-stage	Double worm SMID_/31 or SMID 75/40	
		Speed ratios	Version
<input type="radio"/> 5	<input type="radio"/> 25	<input type="radio"/> 150	<input type="radio"/> U1
<input type="radio"/> 7,5	<input type="radio"/> 37,5	<input type="radio"/> 225	<input type="radio"/> U2
<input type="radio"/> 10	<input type="radio"/> 50	<input type="radio"/> 300	<input type="radio"/> U3
<input type="radio"/> 12,5	<input type="radio"/> 62,5	<input type="radio"/> 375	<input type="radio"/> U4
<input type="radio"/> 15	<input type="radio"/> 75	<input type="radio"/> 450	<input type="radio"/> U5
<input type="radio"/> 20	<input type="radio"/> 100	<input type="radio"/> 600	<input type="radio"/> U6
<input type="radio"/> 25	<input type="radio"/> 125	<input type="radio"/> 750	<input type="radio"/> U7
<input type="radio"/> 30	<input type="radio"/> 150	<input type="radio"/> 900	<input type="radio"/> U8
<input type="radio"/> 40	<input type="radio"/> 200	<input type="radio"/> 1200	
<input type="radio"/> 50	<input type="radio"/> 250	<input type="radio"/> 1500	
<input type="radio"/> 60	<input type="radio"/> 300	<input type="radio"/> 1800	
<input type="radio"/> 80	<input type="radio"/> 400	<input type="radio"/> 2400	
<input type="radio"/> 100	<input type="radio"/> 500	<input type="radio"/> 3000	

Painting

Unpainted (standard)
 NSD TupH
 Paint type _____
 Colour _____

Details of geared motor only

Voltage/Frequency

230/400V - 50 Hz
 400/690V - 50 Hz
 Other _____

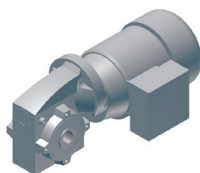
Terminal box position

KK1
 KK2
 KK3
 KK4

Cable gland

I*
 II
 III*
 IV

* Brake motor options



UNIVERSAL SMID worm gear motor with direct motor mounting

Nr. of stages	Gear units	Size	Gear unit options	Motor	Motor options		
SK	SMID	Z		-			
Number of stages <input type="radio"/> 1 <input type="radio"/> 2		Size <input type="radio"/> 31 <input type="radio"/> 40 <input type="radio"/> 40/31 <input type="radio"/> 50 <input type="radio"/> 50/31 <input type="radio"/> 63 <input type="radio"/> 63/31 <input type="radio"/> 75/40		Gear unit options <input type="checkbox"/> V - single side solid shaft <input type="radio"/> VA <input type="radio"/> VB <input type="checkbox"/> L - solid shaft, both sides <input type="checkbox"/> VF - solid shaft, output flange B5 <input type="radio"/> VA <input type="radio"/> VB <input type="checkbox"/> F - output flange B5 <input type="radio"/> FA <input type="radio"/> FB <input type="radio"/> FF <input type="checkbox"/> D - Torque support <input type="radio"/> DA <input type="radio"/> DB <input type="checkbox"/> H - cover <input type="radio"/> HA <input type="radio"/> HB <input type="checkbox"/> Vent <input type="checkbox"/> Pressure vent		See catalogue M7000	

Mounting position for venting option

- M1
- M2
- M3
- M4
- M5
- M6
- Special _____

⇒ A28

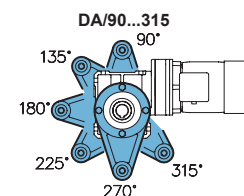
Motors	Energy efficient motors	Brake motors	Energy efficient brake motors
63S/4 - 0.12kW	80SH/4 - 0.55kW	63S/4 BRE 5 - 0.12kW	80SH/4 BRE 5 - 0.55kW
63L/4 - 0.18kW	80LH/4 - 0.75kW	63L/4 BRE 5 - 0.18kW	80LH/4 BRE10 - 0.75kW
71S/4 - 0.25kW	90SH/4 - 1.1kW	71S/4 BRE 5 - 0.25kW	90SH/4 BRE10 - 1.1kW
71L/4 - 0.37kW	90LH/4 - 1.5kW	71L/4 BRE 5 - 0.37kW	90LH/4 BRE20 - 1.5kW
80S/4 - 0.55kW		80S/4 BRE 5 - 0.55kW	
80L/4 - 0.75kW		80L/4 BRE10 - 0.75kW	
90S/4 - 1.1kW		90S/4 BRE10 - 1.1kW	
90L/4 - 1.5kW		90L/4 BRE20 - 1.5kW	

Product specifications

Worms Single-stage	Helical worm 2-stage	Double worm SMID__/31 or SMID 75/40		Painting	Direction of torque support (if selected)	
Speed ratios	Speed ratios	Speed ratios	Version			
<input type="radio"/> 5	<input type="radio"/> 25	<input type="radio"/> 150	<input type="radio"/> U1	<input type="radio"/> Unpainted (standard)	<input type="radio"/> 90°	<input type="radio"/> 225°
<input type="radio"/> 7,5	<input type="radio"/> 37,5	<input type="radio"/> 225	<input type="radio"/> U2	<input type="radio"/> NSD TupH	<input type="radio"/> 135°	<input type="radio"/> 270°
<input type="radio"/> 10	<input type="radio"/> 50	<input type="radio"/> 300	<input type="radio"/> U3	<input type="radio"/> Paint type _____	<input type="radio"/> 180°	<input type="radio"/> 315°
<input type="radio"/> 12,5	<input type="radio"/> 62,5	<input type="radio"/> 375	<input type="radio"/> U4	Colour _____		
<input type="radio"/> 15	<input type="radio"/> 75	<input type="radio"/> 450	<input type="radio"/> U5			
<input type="radio"/> 20	<input type="radio"/> 100	<input type="radio"/> 600	<input type="radio"/> U6			
<input type="radio"/> 25	<input type="radio"/> 125	<input type="radio"/> 750	<input type="radio"/> U7			
<input type="radio"/> 30	<input type="radio"/> 150	<input type="radio"/> 900	<input type="radio"/> U8			
<input type="radio"/> 40	<input type="radio"/> 200	<input type="radio"/> 1200				
<input type="radio"/> 50	<input type="radio"/> 250	<input type="radio"/> 1500				
<input type="radio"/> 60	<input type="radio"/> 300	<input type="radio"/> 1800				
<input type="radio"/> 80	<input type="radio"/> 400	<input type="radio"/> 2400				
<input type="radio"/> 100	<input type="radio"/> 500	<input type="radio"/> 3000				

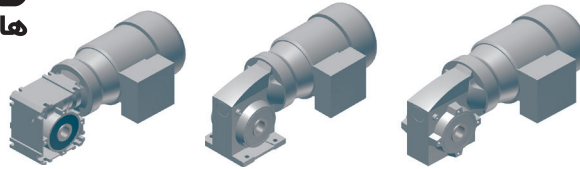
Output flange B5 versions (if selected)

- F I round flange, externally centred
- F II square flange, internally centred
- F III square flange, externally centred



Details of geared motor only

Voltage/Frequency	Terminal box position	Cable gland
<input type="radio"/> 230/400V - 50 Hz <input type="radio"/> 400/690V - 50 Hz <input type="radio"/> Other _____	<input type="radio"/> KK1 <input type="radio"/> KK2 <input type="radio"/> KK3 <input type="radio"/> KK4	<input type="radio"/> I* <input type="radio"/> II <input type="radio"/> III* <input type="radio"/> IV
		* Brake motor options



Selection list structure

0,55 kW → Gear unit motor power

Rated motor power

Output speed at the rated motor speed

Output torque

Service factor

Gear unit motor types

with standard efficiency level **IE1**

with high efficiency level **IE2** **IE3**

Dimension drawing see page

Weight

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Getriebemotor			IE1 kg	mm
									IE1	IE2	IE3		
0,55	6,3	417	0,8	225	30	7,5	8,0	4,6	SK 1SI 75/40 IEC80 - 80 S/4	SK 1SI 75/40 IEC80 - 80 SH/4			B50
	9,5	303	1,1	150	30	5	8,0	4,8	SK 1SMI 75/40 IEC80 - 80 S/4	SK 1SMI 75/40 IEC80 - 80 SH/4	25		B50
0,75	9,4	414	0,8	150	30	5	8,0	4,6	SK 1SI 75/40 IEC80 - 80 L/4	SK 1SI 75/40 IEC80 - 80 LH/4	SK 1SI 75/40 IEC80 - 80 LP/4		B50
									SK 1SMI 75/40 IEC80 - 80 L/4	SK 1SMI 75/40 IEC80 - 80 LH/4	SK 1SMI 75/40 IEC80 - 80 LP/4	26	B50

Gear unit reduction ratio
Total

Gear unit reduction ratio
Worm gear units

Gear unit reduction ratio
Input stage

Permitted overhung force, output end
at plug-in shaft for output flange B5

Permitted overhung force, output end
at plug-in shaft

According to the ecological design directive, known as EU Directive 2009/125/EU Ordinance No. 640/2009, at present only motors of at least efficiency class IE2 may be sold in the European Union for certain applications in the power range from 0.75 kW to 375 kW.

NORD already supplies motors with efficiency class IE2 from a power of 0.55 kW, even though this is only mandatory above a power of 0.75 kW. In addition, NORD already supplies highly efficient IE3 motors, which will only become mandatory from 2015 or 2017.

However, depending on the application, the previously used lower efficiency motors, e.g. with efficiency class IE1 may also be used.

The exempted applications are listed on page ⇒ A5 of the NORD motor catalogue M7000.

The power and speed ratio tables for gear units and geared motors apply for both geared motor types with the high efficiency levels IE2 and IE3 as well as for geared motor types with standard efficiency (IE1).

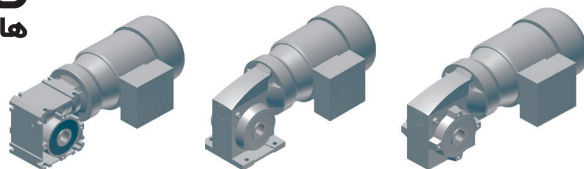
The output speeds n₂, output torques M₂ and operating factors f_B are based on motor powers of 0.55 kW and above for NORD motors with efficiency level IE2, and rated motor powers less than 0.55 kW are based on the nominal speeds of NORD motors with efficiency class IE1.

Regardless of the efficiency class which is actually selected, the output speeds n₂, output torques M₂ and operating factors f_B as listed in the power and speed tables always give sufficiently accurate results, as the deviation in speed due to the efficiency class is at the most 3% for IE1 and IE3.

Usually, other influences, e.g. the torque required by the application (idling, partial load, full load) have a greater effect on the precise speed.

Please contact us in case you have very high requirements for precise speed.

The NORD motor catalogue M7000 lists the motor data for the various efficiency classes IE1, IE2, IE3.



Selection list structure

• Power and speed ratio tables for various input speed

Gear unit motor types

various gear units input speeds

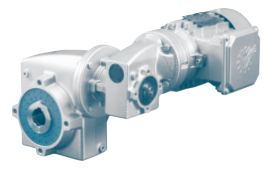
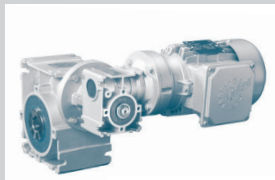
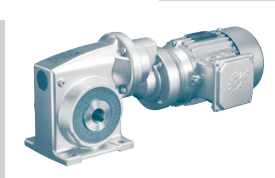
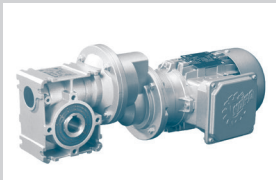
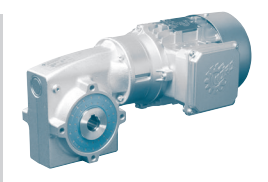
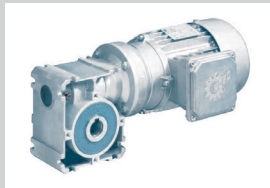
Type SI Type SMI	i_{ges}	i_{sch}	i_{vor}	$n_1 = 1400 \text{ min}^{-1}$			$n_1 = 900 \text{ min}^{-1}$			$n_1 = 500 \text{ min}^{-1}$			$n_1 = 250 \text{ min}^{-1}$		
				n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}
				[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]
SK 1SI 40/31	150	30	5	9,3	74	0,18	6	79	0,11	3,3	83	0,06	1,7	89	0,04
SK 1SMI 40/31	225	30	7,5	6,2	79	0,13	4	82	0,08	2,2	87	0,05	1,1	94	0,03
	300	30	10	4,7	81	0,11	3	85	0,06	1,7	89	0,04	0,83	96	0,02
W	375	30	12,5	3,7	83	0,10	2,4	87	0,05	1,3	92	0,03	0,67	97	0,02
	450	30	15	3,1	84	0,09	2	88	0,04	1,1	94	0,03	0,56	98	0,01
+	600	30	20	2,3	87	0,07	1,5	90	0,03	0,83	96	0,02	0,42	99	0,01
	750	30	25	1,9	88	0,06	1,2	93	0,03	0,67	97	0,02	0,33	100	0,01
IEC	900	30	30	1,6	90	0,06	1	94	0,02	0,56	98	0,01	0,28	104	0,01
	1200	30	40	1,2	93	0,05	0,75	97	0,02	0,42	99	0,01	0,21	109	0,01
	1500	30	50	0,93	95	0,05	0,6	98	0,01	0,33	100	0,01	0,17	112	0
mm \Rightarrow B53, 49	1800	30	60	0,78	96	0,04	0,5	99	0,01	0,28	104	0,01	0,14	115	0
	2400	30	80	0,58	98	0,04	0,38	100	0,01	0,21	109	0,01	0,1	117	0
	3000	30	100	0,47	99	0,03	0,3	102	0,01	0,17	112	0	0,08	119	0

Gear unit reduction ratio Total \leftarrow
 Gear unit reduction ratio Worm gear units \leftarrow
 Gear unit reduction ratio Input stage \leftarrow

\rightarrow max. drive power ($f_B=1,0$) at input of gear unit
 \rightarrow max. output torque ($f_B=1,0$) at drive speed $n_1=900\text{min}^{-1}$
 \rightarrow Gear unit output speed

Tolerances

Category	Information			
Output and input shafts	<p>Tolerance of shaft diameters (DIN 478): $\varnothing 14 - \varnothing 35 \text{ mm} = \text{ISO h6}$</p> <p>Threaded holes: $= \varnothing 14 - \varnothing 16 \text{ mm} \rightarrow \text{M5}$ $> \varnothing 16 - \varnothing 21 \text{ mm} \rightarrow \text{M6}$ $> \varnothing 21 - \varnothing 24 \text{ mm} \rightarrow \text{M8}$ $> \varnothing 24 - \varnothing 30 \text{ mm} \rightarrow \text{M10}$ $> \varnothing 30 - \varnothing 38 \text{ mm} \rightarrow \text{M12}$</p> <p>Parallel keys according to DIN 6885, sheets 1 and 3</p>			
Hollow shafts	<p>Hollow shaft tolerances - \varnothing (DIN 748) according to ISO H7</p> <p>Parallel keys according to DIN 6885, sheets 1 and 3</p> <p>Parallel keys according to DIN 6885, sheet 3</p>			
Frame size	Shaft height „h“ according to DIN 747			
Flanges	<p>Tolerance of hole circle diameter according to DIN EN 50347</p> <p>Tolerance of flange centring diameters: $\leq \varnothing 230 \text{ mm}$ according to ISO j6 $> \varnothing 230 \text{ mm}$ according to ISO h6</p>			
IEC - adapter	<p>Tolerance of hole circle diameter according to DIN EN 50347</p> <p>Tolerance of flange centring diameters according to ISO H7</p>			
Motors	<p>Some motor dimensions may change under certain circumstances.</p> <table style="margin-left: 40px;"> <tr> <td style="vertical-align: middle;"> <p>g1Bre kBre oBre mBre nBre pBre</p> </td> <td style="font-size: 3em; vertical-align: middle; padding: 0 10px;">}</td> <td style="vertical-align: middle;"> <p>Brake motor dimensions</p> </td> </tr> </table>	<p>g1Bre kBre oBre mBre nBre pBre</p>	}	<p>Brake motor dimensions</p>
<p>g1Bre kBre oBre mBre nBre pBre</p>	}	<p>Brake motor dimensions</p>		
Thread	Fastening threads in cast components for use by customers (housing / IEC attachment adapter) are produced as standard threads according to DIN 13-1.			



AVAILABLE VERSIONS B - 2

GEAR UNIT MOTOR DATA

Power and speed tables B - 4
Power and speed ratio tables
W and IEC adapters B - 25

DIMENSIONED DRAWINGS

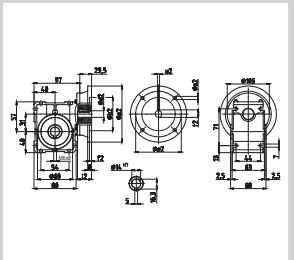
Worm gear unit Type SI B - 30
Worm gear unit Type SMI B - 40
Helical gear input stage H10 B - 50
Double worm gear adapter B - 52
IEC-motor adapter B - 54
IEC-three-phase motor / brake motor B - 55
Free drive shaft Type W B - 56

Available versions

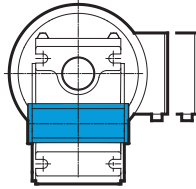
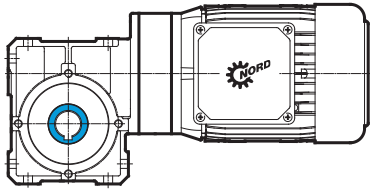
Examples - available versions - Type SI worm gear motors

	SK 15I 63 IEC90 - 90 SMI4 Hollow shaft, basic version
	SK 15I 40 VA.I IEC90 - 90 SMI4 Plug-in shaft, side
	SK 15I 40 VA.I IEC90 - 90 SMI4 Plug-in shaft, side flange, side A

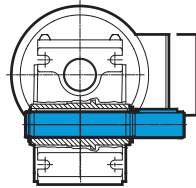
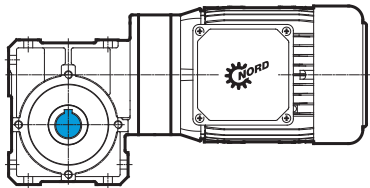
P ₁	n ₂	M ₂	f _B	i _{ges}	i _{sch}	i _{vor}	F _F
[kW]	[min ⁻¹]	[Nm]					
0,55	14	199	0,9	100	100		8,1
	17	171	1,2	80	80		8,1
	23	142	1,6	60	60		8,1
	28	124	1,9	50	50		8,1
	34	105	2,4	40	40		8,1
	46	88	2,5	30	30		8,1
	55	75	3,0	25	25		8,1



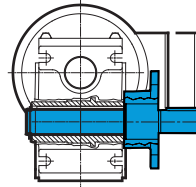
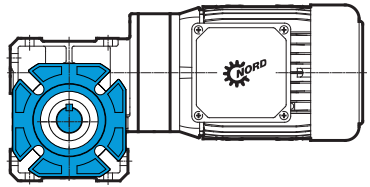
Examples - available versions - Type SI worm gear motors



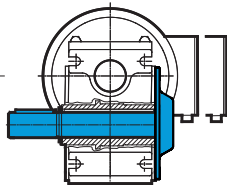
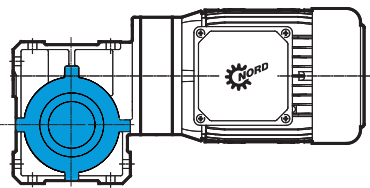
SK 1SI 63
IEC90 - 90 SH/4
Hollow shaft,
basic version



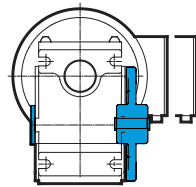
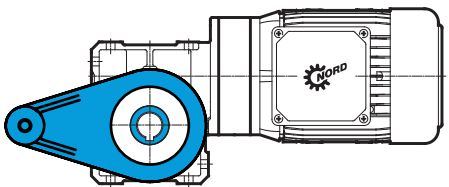
SK 1SI 40 VA/I
IEC80 - 80 SH/4
Plug-in shaft, side A



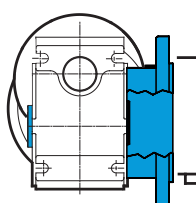
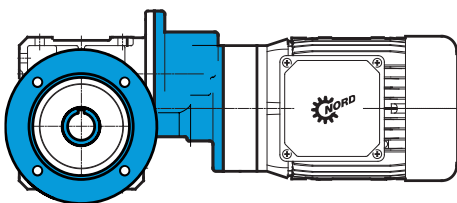
SK 1SI 40 VA/I FA/II
IEC80 - 80 SH/4
Plug-in shaft, side A,
flange, side A



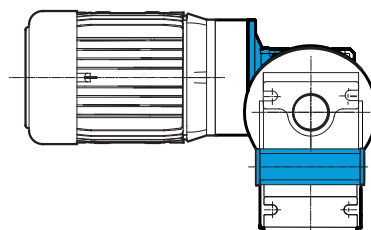
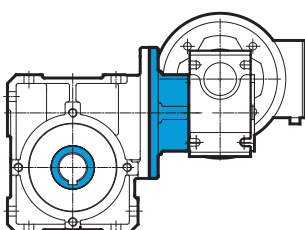
SK 1SI 50 VB/I HA
IEC90 - 90 SH/4
Plug-in shaft, side B,
cover side A



SK 1SI 50 DA 180°
IEC71 - 71 S/4
Hollow shaft,
torque support 180° side A



SK 1SI 63/H10 FA/I
IEC71 - 71 L/4
Hollow shaft,
flange side A,
helical worm gear motor T1

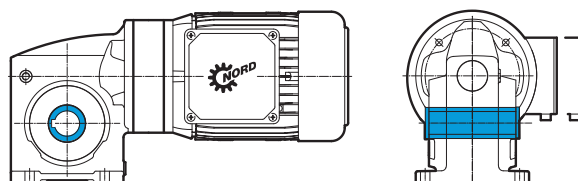


SK 1SI 75/40
IEC80 - 80 SH/4
Hollow shaft,
double worm gear motor U1,
terminal box location KK1

Examples - available versions - Type SMI worm gear motors

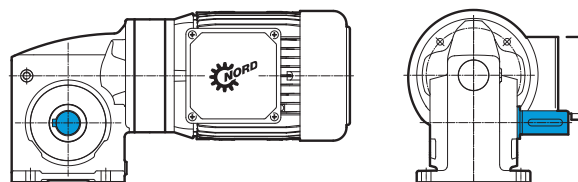
SK 1SMI 63 AX
IEC90 - 90 SH/4

Foot-mounted housing,
Hollow shaft,



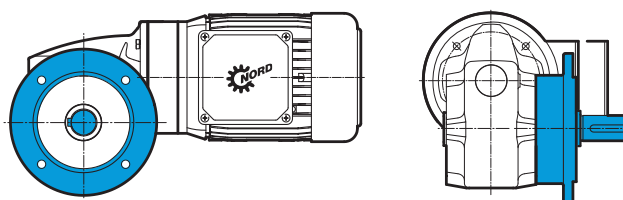
SK 1SMI 40 VX
IEC80 - 80 SH/4

Foot-mounted housing,
Solid shaft, side A



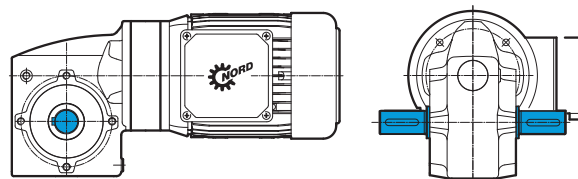
SK 1SMI 40 V FA/
IEC80 - 80 SH/4

Solid shaft, side A,
flange, side A



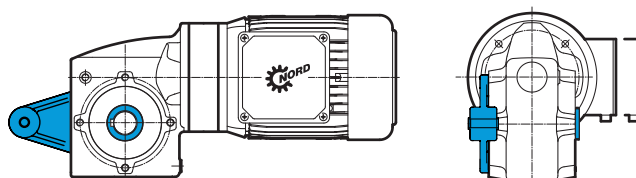
SK 1SMI 50 LZ
IEC90 - 90 SH/4

Solid shaft, side A and B,



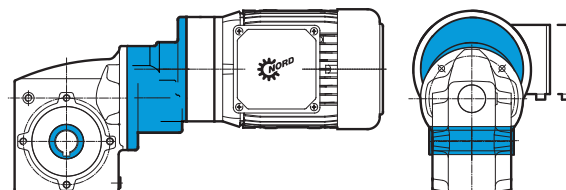
SK 1SMI 50 DB 180°
IEC71 - 71 S/4

Hollow shaft,
torque support 180°, side B



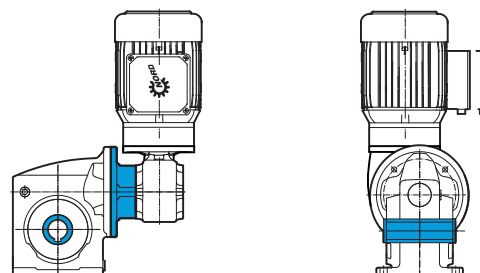
SK 1SMI 50/H10
IEC71 - 71 L/4

Hollow shaft,
helical worm gear unit motor T3

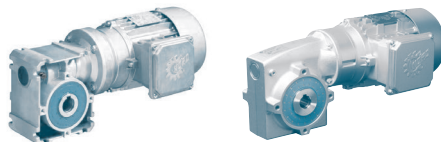


SK 1SMI 63/31
IEC71 - 71 L/4

Housing for foot mounting,
hollow shaft,
double worm gear motor U6,
terminal box location KK4



0,12 kW

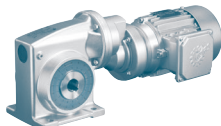
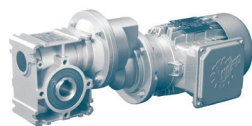


FAMCO
هایپر صنعت



1 SI, 1 SMI - Worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF} [kN]	Gear motor			IE1 kg	mm H-D B						
									IE1	IE2	IE3								
0,12	13	39	2,8	100	100		5,6	2,5	SK 1SI 63 IEC63 - 63 S/4		SK 1SI 63 IEC63 - 63 SP/4		B36-37						
									SK 1SMI 63 IEC63 - 63 S/4		SK 1SMI 63 IEC63 - 63 SP/4	10	B46-47						
	13	35	1,8	100	100		4,8	2,5	SK 1SI 50 IEC63 - 63 S/4		SK 1SI 50 IEC63 - 63 SP/4		B34-35						
									17	32	2,1	80	80	4,8	2,5				
									22	27	2,7	60	60	4,8	2,5	SK 1SMI 50 IEC63 - 63 S/4		SK 1SMI 50 IEC63 - 63 SP/4	8
	13	31	1,1	100	100		2,8	1,1	SK 1SI 40 IEC63 - 63 S/4		SK 1SI 40 IEC63 - 63 SP/4		B32-33						
									17	27	1,3	80	80	2,8	1,1				
									22	24	1,7	60	60	2,8	1,2				
									27	21	2,0	50	50	2,8	1,2				
									33	19	2,5	40	40	2,8	1,2				
									44	15	3,3	30	30	2,8	1,2				
	53	14	2,9	25	25		2,8	1,2	SK 1SMI 40 IEC63 - 63 S/4		SK 1SMI 40 IEC63 - 63 SP/4	6	B42-43						
	13	26	0,8	100	100		1,8	0,6	SK 1SI 31 IEC63 - 63 S/4		SK 1SI 31 IEC63 - 63 SP/4		B30-31						
									17	25	0,9	80	80	1,8	0,6				
									22	21	1,1	60	60	1,8	0,6				
									27	19	1,3	50	50	1,8	0,6				
									33	17	1,6	40	40	1,8	0,6				
									44	14	2,1	30	30	1,8	0,6				
									53	14	1,8	25	25	1,8	0,6				
									67	12	2,3	20	20	1,8	0,7				
									89	9	3,2	15	15	1,7	0,7				
									107	8	2,9	12,5	12,5	1,6	0,7				
									134	7	3,8	10	10	1,5	0,7				
									178	5	5,1	7,5	7,5	1,3	0,7				
267	4	6,2	5	5	1,2	0,7													
									SK 1SMI 31 IEC63 - 63 S/4		SK 1SMI 31 IEC63 - 63 SP/4	5	B40-41						

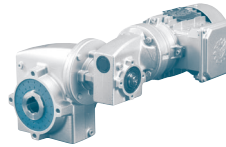
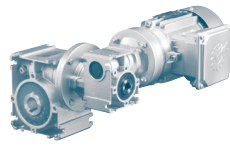


1 SI, 1 SMI - Helical worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm
									IE1	IE2	IE3		
0,12	1,3	249	1,2	1.000	100	10	8,0	5,0	SK 1SI 75/H10 IEC63 - 63 S/4		SK 1SI 75/H10 IEC63 - 63 SP/4	B51	
	1,7	228	1,4	800	80	10	8,0	5,0					
	2,2	200	1,8	600	60	10	8,0	5,0					
	2,7	181	2,1	500	50	10	8,0	5,0					
	3,3	160	2,5	400	40	10	8,0	5,0					
	4,5	146	2,4	300	30	10	8,0	5,0					
	5,3	129	2,9	250	25	10	8,0	5,0					
	6,7	110	3,6	200	20	10	8,0	5,0					
	8,9	87,8	4,9	150	15	10	8,0	5,0					
	11	79,4	4,5	125	12	10	8,0	5,0					
	13	65,8	5,6	100	10	10	8,0	5,0					
	18	51,2	6,0	75	7,5	10	8,0	5,0	SK 1SMI 75/H10 IEC63 - 63 S/4	SK 1SMI 75/H10 IEC63 - 63 SP/4	19,3 B51		
	27	36,0	6,0	50	5	10	8,0	5,0					
	1,3	*224	0,8	1000	100	10	4,6	2,1	SK 1SI 63/H10 IEC63 - 63 S/4		SK 1SI 63/H10 IEC63 - 63 SP/4	B50	
	1,7	213	0,9	800	80	10	4,7	2,1					
	2,2	191	1,1	600	60	10	4,9	2,2					
	2,7	172	1,3	500	50	10	5,0	2,3					
	3,3	151	1,6	400	40	10	5,2	2,3					
	4,4	129	2,0	300	30	10	5,3	2,4					
	5,3	124	1,8	250	25	10	5,3	2,4					
	6,7	106	2,2	200	20	10	5,4	2,4					
	8,9	85	3,0	150	15	10	5,5	2,5					
	11	77	2,7	125	12,5	10	5,5	2,5					
	13	64	2,9	100	10	10	5,5	2,5					
									SK 1SMI 63/H10 IEC63 - 63 S/4	SK 1SMI 63/H10 IEC63 - 63 SP/4	11 B50		
	1,3	*126	0,8	1000	100	10	4,8	2,4	SK 1SI 50/H10 IEC63 - 63 S/4		SK 1SI 50/H10 IEC63 - 63 SP/4	B50	
	1,7	*135	0,8	800	80	10	4,8	2,3					
	2,2	*148	0,8	600	60	10	4,8	2,3					
	2,7	*156	0,8	500	50	10	4,8	2,3					
	3,3	148	0,9	400	40	10	4,8	2,3					
	4,4	124	1,2	300	30	10	4,8	2,4					
	5,3	120	1,0	250	25	10	4,8	2,4					
	6,7	103	1,3	200	20	10	4,8	2,4					
	8,9	84	1,7	150	15	10	4,8	2,4					
	11	76	1,5	125	12,5	10	4,8	2,5					
	13	64	1,9	100	10	10	4,8	2,5					
	18	50	2,6	75	7,5	10	4,8	2,5	SK 1SMI 50/H10 IEC63 - 63 S/4	SK 1SMI 50/H10 IEC63 - 63 SP/4	10 B50		
	27	35	2,9	50	5	10	4,8	2,5					
	1,3	*69	0,8	1000	100	10	2,6	1,0	SK 1SI 40/H10 IEC63 - 63 S/4		SK 1SI 40/H10 IEC63 - 63 SP/4	B50	
	1,7	*75	0,8	800	80	10	2,5	1,0					
	2,2	*82	0,8	600	60	10	2,4	1,0					
	2,7	*88	0,8	500	50	10	2,4	1,0					
	3,3	*94	0,8	400	40	10	2,3	0,9					
	4,4	*101	0,8	300	30	10	2,2	0,9					
	5,3	*86	0,8	250	25	10	2,4	1,0					
	6,7	*91	0,8	200	20	10	2,3	0,9					
	8,9	81	1,0	150	15	10	2,4	1,0					
	11	74	0,9	125	12,5	10	2,5	1,0					
	13	62	1,1	100	10	10	2,6	1,1					
	18	49	1,5	75	7,5	10	2,7	1,1	SK 1SMI 40/H10 IEC63 - 63 S/4	SK 1SMI 40/H10 IEC63 - 63 SP/4	8 B50		
	27	35	1,8	50	5	10	2,8	1,1					

* Maximum output torque with f_B = 0,8

0,12 kW



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1 SI, 1 SMI - Double worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm				
									IE1	IE2	IE3						
0,12	0,44	464	0,9	3000	30	100	8,0	4,4	SK 1SI 75/40 IEC63 - 63 S/4	SK 1SI 75/40 IEC63 - 63 SP/4	20	B53					
	0,56	420	1,0	2400	30	80	8,0	4,5									
	0,74	362	1,1	1800	30	60	8,0	4,7									
	0,89	328	1,3	1500	30	50	8,0	4,7									
	1,1	289	1,4	1200	30	40	8,0	4,8									
	1,5	237	1,6	900	30	30	8,0	4,9									
	1,8	229	1,7	750	30	25	8,0	4,9									
	2,2	194	1,9	600	30	20	8,0	4,9									
														SK 1SMI 75/40 IEC63 - 63 S/4	SK 1SMI 75/40 IEC63 - 63 SP/4	20	B53
0,44	0,44	340	0,9	3000	30	100	2,7	1,2	SK 1SI 63/31 IEC63 - 63 S/4	SK 1SI 63/31 IEC63 - 63 SP/4	11	B52					
	0,56	334	0,9	2400	30	80	2,9	1,3									
	0,74	285	1,1	1800	30	60	3,8	1,7									
	0,89	261	1,2	1500	30	50	4,1	1,9									
	1,1	232	1,3	1200	30	40	4,5	2,0									
	1,5	195	1,5	900	30	30	4,8	2,2									
	1,8	187	1,5	750	30	25	4,9	2,2									
	2,2	162	1,7	600	30	20	5,1	2,3									
	3,0	132	2,1	450	30	15	5,3	2,4									
	3,6	120	2,2	375	30	12,5	5,3	2,4									
4,4	102	2,6	300	30	10	5,4	2,4										
5,9	81	3,1	225	30	7,5	5,5	2,5										
									SK 1SMI 63/31 IEC63 - 63 S/4	SK 1SMI 63/31 IEC63 - 63 SP/4	11	B52					
0,44	0,44	*222	0,8	3000	30	100	4,7	2,1	SK 1SI 50/31 IEC63 - 63 S/4	SK 1SI 50/31 IEC63 - 63 SP/4	10	B52					
	0,56	*220	0,8	2400	30	80	4,7	2,1									
	0,74	*216	0,8	1800	30	60	4,7	2,1									
	0,89	*214	0,8	1500	30	50	4,7	2,1									
	1,1	*210	0,8	1200	30	40	4,8	2,1									
	1,5	195	0,8	900	30	30	4,8	2,2									
	1,8	187	0,9	750	30	25	4,8	2,2									
	2,2	159	1,0	600	30	20	4,8	2,3									
	3,0	129	1,2	450	30	15	4,8	2,4									
	3,6	115	1,3	375	30	12,5	4,8	2,4									
4,4	98	1,5	300	30	10	4,8	2,4										
5,9	78	1,8	225	30	7,5	4,8	2,5										
8,9	56	2,4	150	30	5	4,8	2,5										
									SK 1SMI 50/31 IEC63 - 63 S/4	SK 1SMI 50/31 IEC63 - 63 SP/4	10	B52					
0,44	0,44	*124	0,8	3000	30	100	1,8	0,7	SK 1SI 40/31 IEC63 - 63 S/4	SK 1SI 40/31 IEC63 - 63 SP/4	8	B52					
	0,56	*123	0,8	2400	30	80	1,8	0,7									
	0,74	*120	0,8	1800	30	60	1,9	0,8									
	0,89	*119	0,8	1500	30	50	1,9	0,8									
	1,1	*116	0,8	1200	30	40	1,9	0,8									
	1,5	*112	0,8	900	30	30	2,0	0,8									
	1,8	*110	0,8	750	30	25	2,0	0,8									
	2,2	*109	0,8	600	30	20	2,1	0,8									
	3,0	*105	0,8	450	30	15	2,1	0,9									
	3,6	*104	0,8	375	30	12,5	2,1	0,9									
4,4	94	0,9	300	30	10	2,3	0,9										
5,9	73	1,1	225	30	7,5	2,5	1,0										
8,9	53	1,4	150	30	5	2,7	1,1										
									SK 1SMI 40/31 IEC63 - 63 S/4	SK 1SMI 40/31 IEC63 - 63 SP/4	8	B52					

* Maximum output torque with f_B = 0,8

B6

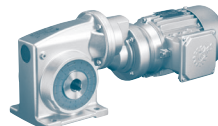
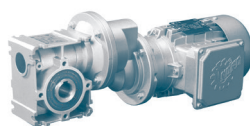


0,12 kW

1 SI, 1 SMI - Worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm H-D B
									IE1	IE2	IE3		
0,18	14	58	1,9	100	100		5,5	2,5	SK 1SI 63 IEC63 - 63 L/4		SK 1SI 63 IEC63 - 63 LP/4	10	B36-37
	17	52	2,3	80	80		5,5	2,5					
	23	43	3,0	60	60		5,6	2,5					
	14	52	1,2	100	100		4,8	2,5	SK 1SMI 63 IEC63 - 63 L/4		SK 1SMI 63 IEC63 - 63 LP/4	9	B46-47
	17	47	1,4	80	80		4,8	2,5					
	23	39	1,9	60	60		4,8	2,5					
	27	35	2,2	50	50		4,8	2,5	SK 1SI 50 IEC63 - 63 L/4		SK 1SI 50 IEC63 - 63 LP/4		B34-35
	34	30	2,7	40	40		4,8	2,5					
	45	24	3,7	30	30		4,8	2,5					
	54	23	3,3	25	25		4,8	2,5	SK 1SMI 50 IEC63 - 63 L/4		SK 1SMI 50 IEC63 - 63 LP/4	7	B44-45
	17	40	0,9	80	80		2,7	1,1					
	23	35	1,1	60	60		2,8	1,1					
	27	32	1,4	50	50		2,8	1,1	SK 1SI 40 IEC63 - 63 L/4		SK 1SI 40 IEC63 - 63 LP/4		B32-33
	34	27	1,7	40	40		2,8	1,1					
	45	22	2,2	30	30		2,8	1,2					
	54	21	2,0	25	25		2,8	1,2	SK 1SMI 40 IEC63 - 63 L/4		SK 1SMI 40 IEC63 - 63 LP/4	7	B42-43
	68	18	2,5	20	20		2,8	1,2					
	91	14	3,4	15	15		2,8	1,2					
	109	13	3,2	12,5	12,5		2,8	1,2	SK 1SI 31 IEC63 - 63 L/4		SK 1SI 31 IEC63 - 63 LP/4		B30-31
	17	40	0,9	80	80		2,7	1,1					
	23	35	1,1	60	60		2,8	1,1					
	27	32	1,4	50	50		2,8	1,1	SK 1SI 31 IEC63 - 63 L/4		SK 1SI 31 IEC63 - 63 LP/4		B30-31
	34	25	1,1	40	40		1,8	0,6					
	45	21	1,4	30	30		1,8	0,6					
	54	20	1,3	25	25		1,8	0,6	SK 1SMI 31 IEC63 - 63 L/4		SK 1SMI 31 IEC63 - 63 LP/4	6	B40-41
	68	17	1,6	20	20		1,8	0,6					
	91	13	2,2	15	15		1,6	0,6					
	109	12	2,0	12,5	12,5		1,5	0,7	SK 1SI 31 IEC63 - 63 L/4		SK 1SI 31 IEC63 - 63 LP/4		B30-31
	136	10	2,6	10	10		1,4	0,7					
	181	8	3,5	7,5	7,5		1,3	0,7					
	272	5	4,2	5	5		1,1	0,7	SK 1SMI 31 IEC63 - 63 L/4		SK 1SMI 31 IEC63 - 63 LP/4	6	B40-41

0,18 kW



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1 SI, 1 SMI - Helical worm gear motors

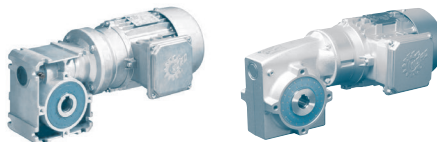
P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm H B			
									IE1	IE2	IE3					
0,18	1,4	368	0,8	1.000	100	10	8,0	5,0	SK 1SI 75/H10 IEC63 - 63 L/4		SK 1SI 75/H10 IEC63 - 63 LP/4	B51				
	1,7	336	1,0	800	80	10	8,0	5,0								
	2,3	295	1,2	600	60	10	8,0	5,0								
	2,7	268	1,4	500	50	10	8,0	5,0								
	3,4	236	1,7	400	40	10	8,0	5,0								
	4,5	215	1,7	300	30	10	8,0	5,0								
	5,4	190	2,0	250	25	10	8,0	5,0								
	6,8	162	2,5	200	20	10	8,0	5,0								
	9,1	130	3,3	150	15	10	8,0	5,0								
	11	117	3,0	125	12,5	10	8,0	5,0								
	14	97,0	3,8	100	10	10	8,0	5,0								
18	75,4	4,1	75	7,5	10	8,0	5,0									
27	53,0	4,1	50	5	10	8,0	5,0	SK 1SMI 75/H10 IEC63 - 63 L/4		SK 1SMI 75/H10 IEC63 - 63 LP/4	19,9	B51				
2,7	253	0,9	500	50	10	4,2	1,9	SK 1SI 63/H10 IEC63 - 63 L/4		SK 1SI 63/H10 IEC63 - 63 LP/4	B50					
3,4	222	1,1	400	40	10	4,6	2,1									
4,5	190	1,4	300	30	10	4,9	2,2									
5,4	183	1,2	250	25	10	4,9	2,2									
6,8	157	1,5	200	20	10	5,1	2,3									
9,1	125	2,0	150	15	10	5,3	2,4									
11	114	1,8	125	12,5	10	5,4	2,4									
14	95	2,0	100	10	10	5,4	2,4									
18	74	2,0	75	7,5	10	5,5	2,5									
												SK 1SMI 63/H10 IEC63 - 63 L/4		SK 1SMI 63/H10 IEC63 - 63 LP/4	12	B50
4,5	182	0,8	300	30	10	4,8	2,2					SK 1SI 50/H10 IEC63 - 63 L/4		SK 1SI 50/H10 IEC63 - 63 LP/4	B50	
6,8	154	0,9	200	20	10	4,8	2,3									
9,1	123	1,2	150	15	10	4,8	2,4									
11	112	1,1	125	12,5	10	4,8	2,4									
14	94	1,3	100	10	10	4,8	2,4									
18	73	1,7	75	7,5	10	4,8	2,5									
27	52	2,0	50	5	10	4,8	2,5	SK 1SMI 50/H10 IEC63 - 63 L/4		SK 1SMI 50/H10 IEC63 - 63 LP/4	10					B50
14	91	0,8	100	10	10	2,3	0,9	SK 1SI 40/H10 IEC63 - 63 L/4		SK 1SI 40/H10 IEC63 - 63 LP/4	B50					
18	72	1,0	75	7,5	10	2,5	1,0									
27	51	1,2	50	5	10	2,7	1,1					SK 1SMI 40/H10 IEC63 - 63 L/4		SK 1SMI 40/H10 IEC63 - 63 LP/4	8	B50



1 SI, 1 SMI - Double worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm
									IE1	IE2	IE3		
0,18	0,76	534	0,8	1800	30	60	8,0	4,2	SK 1SI 75/40 IEC63 - 63 L/4	SK 1SI 75/40 IEC63 - 63 LP/4	20	B53	
	0,91	483	0,9	1500	30	50	8,0	4,4					
	1,1	426	0,9	1200	30	40	8,0	4,5					
	1,5	349	1,1	900	30	30	8,0	4,7					
	1,8	337	1,1	750	30	25	8,0	4,7					
	2,3	285	1,3	600	30	20	8,0	4,8					
	3,0	235	1,6	450	30	15	8,0	4,9					
	3,6	209	1,7	375	30	12,5	8,0	4,9					
	4,5	177	2,0	300	30	10	8,0	4,9					
									SK 1SMI 75/40 IEC63 - 63 L/4	SK 1SMI 75/40 IEC63 - 63 LP/4	20	B53	
	0,91	384	0,8	1500	30	50	0,9	0,4	SK 1SI 63/31 IEC63 - 63 L/4	SK 1SI 63/31 IEC63 - 63 LP/4	12	B52	
	1,1	341	0,9	1200	30	40	2,7	1,2					
	1,5	288	1,0	900	30	30	3,8	1,7					
	1,8	275	1,0	750	30	25	4,0	1,8					
	2,3	239	1,2	600	30	20	4,4	2,0					
	3,0	194	1,4	450	30	15	4,8	2,2					
	3,6	177	1,5	375	30	12,5	5,0	2,2					
	4,5	150	1,7	300	30	10	5,2	2,3					
	6,0	119	2,1	225	30	7,5	5,3	2,4					
	9,1	88	2,7	150	30	5	5,5	2,5					
									SK 1SMI 63/31 IEC63 - 63 L/4	SK 1SMI 63/31 IEC63 - 63 LP/4	12	B52	
									SK 1SI 50/31 IEC63 - 63 L/4	SK 1SI 50/31 IEC63 - 63 LP/4	10	B52	
	3,0	190	0,8	450	30	15	4,8	2,2					
	3,6	169	0,9	375	30	12,5	4,8	2,3					
	4,5	144	1,0	300	30	10	4,8	2,3					
	6,0	114	1,2	225	30	7,5	4,8	2,4					
	9,1	83	1,6	150	30	5	4,8	2,4					
									SK 1SMI 50/31 IEC63 - 63 L/4	SK 1SMI 50/31 IEC63 - 63 LP/4	10	B52	
									SK 1SI 40/31 IEC63 - 63 L/4	SK 1SI 40/31 IEC63 - 63 LP/4	8	B52	
	9,1	78	0,9	150	30	5	2,5	1,0					
									SK 1SMI 40/31 IEC63 - 63 L/4	SK 1SMI 40/31 IEC63 - 63 LP/4	8	B52	

0,25 kW

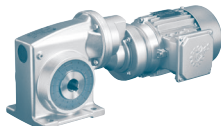
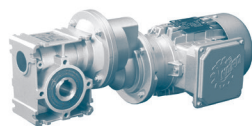


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1 SI, 1 SMI - Worm gear motors

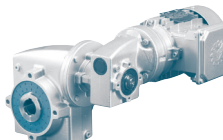
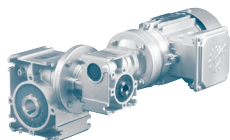
P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm H-D B
									IE1	IE2	IE3		
0,25	14	90	2,1	100	100		8,0	5,0	SK 1SI 75 IEC71 - 71 S/4		SK 1SI 75 IEC71 - 71 SP/4		B38-39
	17	78	2,6	80	80		8,0	5,0					
	14	81	1,4	100	100		5,5	2,5	SK 1SI 63 IEC71 - 71 S/4		SK 1SI 63 IEC71 - 71 SP/4		B36-37
	17	71	1,7	80	80		5,5	2,5					
	23	59	2,2	60	60		5,5	2,5					
	28	53	2,6	50	50		5,5	2,5					
	34	44	3,3	40	40		5,6	2,5	SK 1SMI 63 IEC71 - 71 S/4		SK 1SMI 63 IEC71 - 71 SP/4	12	B46-47
	14	71	0,9	100	100		4,8	2,5	SK 1SI 50 IEC71 - 71 S/4		SK 1SI 50 IEC71 - 71 SP/4		B34-35
	17	64	1,1	80	80		4,8	2,5					
	23	54	1,4	60	60		4,8	2,5					
	28	48	1,6	50	50		4,8	2,5					
	34	42	2,0	40	40		4,8	2,5					
	46	34	2,7	30	30		4,8	2,5					
	55	31	2,4	25	25		4,8	2,5					
	69	26	3,1	20	20		4,8	2,5	SK 1SMI 50 IEC71 - 71 S/4		SK 1SMI 50 IEC71 - 71 SP/4	10	B44-45
	23	48	0,8	60	60		2,7	1,1	SK 1SI 40 IEC71 - 71 S/4		SK 1SI 40 IEC71 - 71 SP/4		B32-33
	28	43	1,0	50	50		2,7	1,1					
	34	37	1,2	40	40		2,8	1,1					
	46	31	1,6	30	30		2,8	1,1					
	55	29	1,4	25	25		2,8	1,1					
	69	25	1,8	20	20		2,8	1,2					
	92	19	2,5	15	15		2,8	1,2					
	110	17	2,4	12,5	12,5		2,8	1,2					
	138	14	3,0	10	10		2,8	1,2	SK 1SMI 40 IEC71 - 71 S/4		SK 1SMI 40 IEC71 - 71 SP/4	8	B42-43
	34	35	0,8	40	40		1,8	0,6	SK 1SI 31 IEC71 - 71 S/4		SK 1SI 31 IEC71 - 71 SP/4		B30-31
	46	29	1,1	30	30		1,8	0,6					
	55	27	0,9	25	25		1,8	0,6					
	69	23	1,2	20	20		1,7	0,6					
	92	18	1,6	15	15		1,5	0,6					
	110	16	1,5	12,5	12,5		1,4	0,6					
	138	14	1,9	10	10		1,3	0,6					
	184	11	2,5	7,5	7,5		1,2	0,7					
	276	7	3,1	5	5		1,1	0,7	SK 1SMI 31 IEC71 - 71 S/4		SK 1SMI 31 IEC71 - 71 SP/4	7	B40-41



1 SI, 1 SMI - Helical worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm H-D B					
									IE1	IE2	IE3							
0,25	2,3	404	0,9	600	60	10	8,0	5,0	SK 1SI 75/H10 IEC71 - 71 S/4		SK 1SI 75/H10 IEC71 - 71 SP/4	21,1	B51					
	2,8	367	1,0	500	50	10	8,0	5,0										
	3,5	323	1,3	400	40	10	8,0	5,0										
	4,6	294	1,2	300	30	10	8,0	5,0										
	5,5	260	1,4	250	25	10	8,0	5,0										
	6,9	222	1,8	200	20	10	8,0	5,0										
	9,2	177	2,4	150	15	10	8,0	5,0										
	11	160	2,2	125	12,5	10	8,0	5,0										
	14	133	2,8	100	10	10	8,0	5,0										
	18	103	3,0	75	7,5	10	8,0	5,0										
28	72,6	3,0	50	5	10	8,0	5,0	SK 1SMI 75/H10 IEC71 - 71 S/4		SK 1SMI 75/H10 IEC71 - 71 SP/4		B51						
	3,5	304	0,8	400	40	10	3,5	1,6	SK 1SI 63/H10 IEC71 - 71 S/4		SK 1SI 63/H10 IEC71 - 71 SP/4	13	B50					
	4,6	259	1,0	300	30	10	4,2	1,9										
	5,5	251	0,9	250	25	10	4,3	1,9										
	6,9	215	1,1	200	20	10	4,7	2,1										
	9,2	171	1,5	150	15	10	5,0	2,3										
	11	156	1,3	125	12,5	10	5,1	2,3										
	14	130	1,5	100	10	10	5,3	2,4										
	18	101	1,4	75	7,5	10	5,4	2,4										
	28	72	1,5	50	5	10	5,5	2,5						SK 1SMI 63/H10 IEC71 - 71 S/4		SK 1SMI 63/H10 IEC71 - 71 SP/4		B50
	9,2	169	0,8	150	15	10	4,8	2,3						SK 1SI 50/H10 IEC71 - 71 S/4		SK 1SI 50/H10 IEC71 - 71 SP/4	12	B50
	11	154	0,8	125	12,5	10	4,8	2,3										
	14	128	1,0	100	10	10	4,8	2,4										
	18	100	1,3	75	7,5	10	4,8	2,4										
	28	71	1,5	50	5	10	4,8	2,5	SK 1SMI 50/H10 IEC71 - 71 S/4		SK 1SMI 50/H10 IEC71 - 71 SP/4		B50					
	28	70	0,9	50	5	10	2,5	1,0	SK 1SI 40/H10 IEC71 - 71 S/4		SK 1SI 40/H10 IEC71 - 71 SP/4		B50					
									SK 1SMI 40/H10 IEC71 - 71 S/4		SK 1SMI 40/H10 IEC71 - 71 SP/4		B50					

0,25 kW

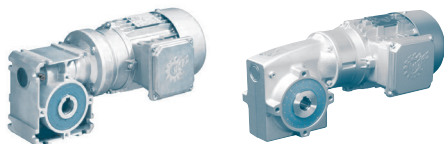


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1 SI, 1 SMI - Double worm gear motors

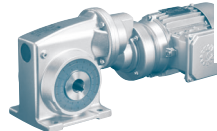
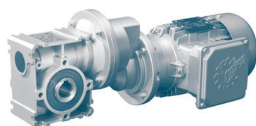
P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm H-D B
									IE1	IE2	IE3		
0,25	1,5	478	0,8	900	30	30	8,0	4,4	SK 1SI 75/40 IEC71 - 71 S/4		SK 1SI 75/40 IEC71 - 71 SP/4	22	B53
	1,8	468	0,8	750	30	25	8,0	4,4					
	2,3	398	0,9	600	30	20	8,0	4,6					
	3,1	321	1,1	450	30	15	8,0	4,8					
	3,7	291	1,2	375	30	12,5	8,0	4,8					
	4,6	243	1,4	300	30	10	8,0	4,9					
	6,1	195	1,7	225	30	7,5	8,0	4,9					
								SK 1SMI 75/40 IEC71 - 71 S/4		SK 1SMI 75/40 IEC71 - 71 SP/4		B53	
	1,8	376	0,8	750	30	25	1,4	0,6	SK 1SI 63/31 IEC71 - 71 S/4		SK 1SI 63/31 IEC71 - 71 SP/4	13	B52
	2,3	327	0,9	600	30	20	3,0	1,3					
	3,1	265	1,0	450	30	15	4,1	1,8					
	3,7	242	1,1	375	30	12,5	4,4	2,0					
	4,6	205	1,3	300	30	10	4,8	2,1					
	6,1	163	1,5	225	30	7,5	5,1	2,3					
	9,2	121	2,0	150	30	5	5,3	2,4					
									SK 1SMI 63/31 IEC71 - 71 S/4		SK 1SMI 63/31 IEC71 - 71 SP/4		B52
	6,1	156	0,9	225	30	7,5	4,8	2,3	SK 1SI 50/31 IEC71 - 71 S/4		SK 1SI 50/31 IEC71 - 71 SP/4	12	B52
	9,2	116	1,1	150	30	5	4,8	2,4					
									SK 1SMI 50/31 IEC71 - 71 S/4		SK 1SMI 50/31 IEC71 - 71 SP/4		B52



1 SI, 1 SMI - Worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm H-D B
									IE1	IE2	IE3		
0,37	14	133	1,4	100	100		8,0	5,0	SK 1SI 75 IEC71 - 71 L/4		SK 1SI 75 IEC71 - 71 LP/4		B38-39
	17	115	1,8	80	80		8,0	5,0					
	23	95	2,3	60	60		8,0	5,0	SK 1SMI 75 IEC71 - 71 L/4		SK 1SMI 75 IEC71 - 71 LP/4	20	B48-49
	28	83	2,8	50	50		8,0	5,0					
	14	120	0,9	100	100		5,3	2,4	SK 1SI 63 IEC71 - 71 L/4		SK 1SI 63 IEC71 - 71 LP/4		B36-37
	17	104	1,1	80	80		5,4	2,4					
	23	88	1,5	60	60		5,5	2,5	SK 1SMI 63 IEC71 - 71 L/4		SK 1SMI 63 IEC71 - 71 LP/4	12	B46-47
	28	78	1,8	50	50		5,5	2,5					
	34	66	2,2	40	40		5,5	2,5					
	46	53	3,0	30	30		5,5	2,5					
	55	49	2,8	25	25		5,6	2,5					
	23	80	0,9	60	60		4,8	2,4	SK 1SI 50 IEC71 - 71 L/4		SK 1SI 50 IEC71 - 71 LP/4		B34-35
	28	72	1,1	50	50		4,8	2,5					
	34	61	1,4	40	40		4,8	2,5	SK 1SMI 50 IEC71 - 71 L/4		SK 1SMI 50 IEC71 - 71 LP/4	11	B44-45
	46	50	1,8	30	30		4,8	2,5					
	55	46	1,6	25	25		4,8	2,5					
	69	38	2,1	20	20		4,8	2,5					
	92	30	2,9	15	15		4,8	2,5					
	110	27	2,7	12,5	12,5		4,8	2,5					
	34	55	0,8	40	40		2,7	1,1	SK 1SI 40 IEC71 - 71 L/4		SK 1SI 40 IEC71 - 71 LP/4		B32-33
	46	45	1,1	30	30		2,7	1,1					
	55	44	1,0	25	25		2,7	1,1	SK 1SMI 40 IEC71 - 71 L/4		SK 1SMI 40 IEC71 - 71 LP/4	9	B42-43
	69	36	1,2	20	20		2,8	1,1					
	92	29	1,7	15	15		2,8	1,1					
	110	26	1,6	12,5	12,5		2,8	1,1					
	138	21	2,0	10	10		2,8	1,2					
	184	16	2,7	7,5	7,5		2,8	1,2					
	69	34	0,8	20	20		1,5	0,6	SK 1SI 31 IEC71 - 71 L/4		SK 1SI 31 IEC71 - 71 LP/4		B30-31
	92	27	1,1	15	15		1,4	0,6					
	110	24	1,0	12,5	12,5		1,3	0,6	SK 1SMI 31 IEC71 - 71 L/4		SK 1SMI 31 IEC71 - 71 LP/4	8	B40-41
	138	20	1,3	10	10		1,2	0,6					
	184	16	1,7	7,5	7,5		1,1	0,6					
	276	11	2,1	5	5		1,0	0,7					

0,37 kW

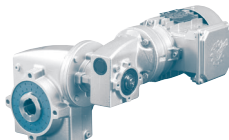
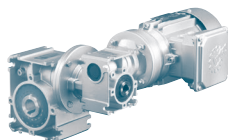


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1 SI, 1 SMI - Helical worm gear motors

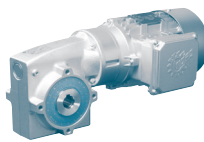
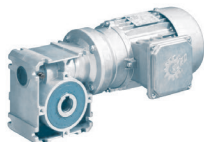
P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm
									IE1	IE2	IE3		
0,37	3,5	479	0,8	400	40	10	8,0	5,0	SK 1SI 75/H10 IEC71 - 71 L/4		SK 1SI 75/H10 IEC71 - 71 LP/4	22	B51
	4,6	436	0,8	300	30	10	8,0	5,0					
	5,5	385	1,0	250	25	10	8,0	5,0					
	6,9	328	1,2	200	20	10	8,0	5,0					
	9,2	263	1,6	150	15	10	8,0	5,0					
	11	237	1,5	125	12,5	10	8,0	5,0					
	14	197	1,9	100	10	10	8,0	5,0					
	18	153	2,0	75	7,50	10	8,0	5,0					
	28	107	2,0	50	5	10	8,0	5,0					
	9,2	253	1,0	150	15	10	4,2	1,9	SK 1SI 63/H10 IEC71 - 71 L/4		SK 1SI 63/H10 IEC71 - 71 LP/4	14	B50
	11	230	0,9	125	12,5	10	4,5	2,0					
	14	192	1,0	100	10	10	4,9	2,2					
	18	150	1,0	75	7,5	10	5,2	2,3					
	28	106	1,0	50	5	10	5,4	2,4					
	18	148	0,9	75	7,5	10	4,8	2,3	SK 1SI 50/H10 IEC71 - 71 L/4		SK 1SI 50/H10 IEC71 - 71 LP/4	12	B50
	28	105	1,0	50	5	10	4,8	2,4					
									SK 1SMI 75/H10 IEC71 - 71 L/4		SK 1SMI 75/H10 IEC71 - 71 LP/4		B51
									SK 1SMI 63/H10 IEC71 - 71 L/4		SK 1SMI 63/H10 IEC71 - 71 LP/4		B50
									SK 1SMI 50/H10 IEC71 - 71 L/4		SK 1SMI 50/H10 IEC71 - 71 LP/4		B50



1 SI, 1 SMI - Double worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm
									IE1	IE2	IE3		
0,37	3,1	475	0,8	450	30	15	8,0	4,4	SK 1SI 75/40 IEC71 - 71 L/4		SK 1SI 75/40 IEC71 - 71 LP/4	22	B53
	3,7	430	0,8	375	30	12,5	8,0	4,5					
	4,6	359	1,0	300	30	10	8,0	4,7					
	6,1	289	1,2	225	30	7,5	8,0	4,8					
	9,2	210	1,5	150	30	5	8,0	4,9					
									SK 1SMI 75/40 IEC71 - 71 L/4		SK 1SMI 75/40 IEC71 - 71 LP/4		B53
	4,6	303	0,9	300	30	10	3,5	1,6	SK 1SI 63/31 IEC71 - 71 L/4		SK 1SI 63/31 IEC71 - 71 LP/4	14	B52
	6,1	241	1,0	225	30	7,5	4,4	2,0					
	9,2	178	1,3	150	30	5	5,0	2,2					
									SK 1SMI 63/31 IEC71 - 71 L/4		SK 1SMI 63/31 IEC71 - 71 LP/4		B52
	9,2	172	0,8	150	30	5	4,8	2,2	SK 1SI 50/31 IEC71 - 71 L/4		SK 1SI 50/31 IEC71 - 71 LP/4	12	B52
								SK 1SMI 50/31 IEC71 - 71 L/4					

0,55 kW

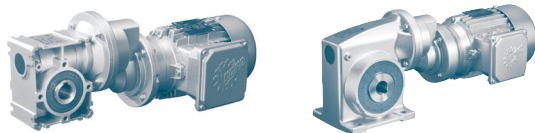


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1 SI, 1 SMI - Worm gear motors

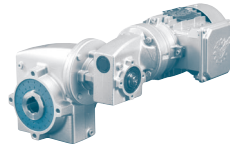
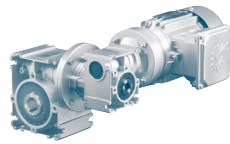
P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm H-D B					
									IE1	IE2	IE3							
0,55	14	192	1,0	100	100		8,0	4,9	SK 1SI 75 IEC80 - 80 S/4	SK 1SI 75 IEC80 - 80 SH/4			B38-39					
	18	169	1,2	80	80		8,0	4,9										
	24	138	1,6	60	60		8,0	5,0										
	28	120	1,9	50	50		8,0	5,0										
	36	102	2,4	40	40		8,0	5,0										
	47	85	2,6	30	30		8,0	5,0										
	57	74	3,1	25	25		8,0	5,0	SK 1SMI 75 IEC80 - 80 S/4	SK 1SMI 75 IEC80 - 80 SH/4		23	B48-49					
	18	154	0,8	80	80		5,1	2,3										
	24	126	1,0	60	60		5,3	2,4										
	28	113	1,2	50	50		5,4	2,4										
	36	96	1,5	40	40		5,4	2,4										
	47	77	2,1	30	30		5,5	2,5										
	57	70	1,9	25	25		5,5	2,5	SK 1SMI 63 IEC80 - 80 S/4	SK 1SMI 63 IEC80 - 80 SH/4		15	B46-47					
	71	58	2,5	20	20		5,5	2,5										
	95	45	3,4	15	15		5,6	2,5										
	114	40	3,2	12,5	12,5		5,6	2,5										
	36	89	0,9	40	40		4,8	2,4										
	47	72	1,2	30	30		4,8	2,5										
	57	67	1,1	25	25		4,8	2,5	SK 1SI 50 IEC80 - 80 S/4	SK 1SI 50 IEC80 - 80 SH/4			B34-35					
	71	55	1,5	20	20		4,8	2,5										
	95	44	2,0	15	15		4,8	2,5										
	114	38	1,9	12,5	12,5		4,8	2,5										
	142	31	2,4	10	10		4,8	2,5										
	189	24	3,2	7,5	7,5		4,8	2,5						SK 1SMI 50 IEC80 - 80 S/4	SK 1SMI 50 IEC80 - 80 SH/4		14	B44-45
	47	67	0,8	30	30		2,6	1,1										
	71	53	0,9	20	20		2,7	1,1										
	95	42	1,2	15	15		2,7	1,1										
	114	37	1,1	12,5	12,5		2,8	1,1										
	142	30	1,4	10	10		2,8	1,1	SK 1SI 40 IEC80 - 80 S/4	SK 1SI 40 IEC80 - 80 SH/4			B32-33					
	189	24	1,9	7,5	7,5		2,8	1,2										
	284	16	2,3	5	5		2,5	1,2										
														SK 1SMI 40 IEC80 - 80 S/4	SK 1SMI 40 IEC80 - 80 SH/4		12	B42-43



1 SI, 1 SMI - Helical worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF}	Gear motor			IE1 kg	mm
									IE1	IE2	IE3		
0,55	7,1	475	0,8	200	20	10	8,0	5,0	SK 1SI 75/H10 IEC80 - 80S/4	SK 1SI 75/H10 IEC80 - 80SH/4		24,7	B51
	9,5	380	1,1	150	15	10	8,0	5,0					
	11	343	1,0	125	12,5	10	8,0	5,0					
	14	284	1,3	100	10	10	8,0	5,0					
	19	221	1,4	75	7,5	10	8,0	5,0					
28	155	1,4	50	5	10	8,0	5,0	SK 1SMI 75/H10 IEC80 - 80S/4	SK 1SMI 75/H10 IEC80 - 80SH/4				

0,55 kW

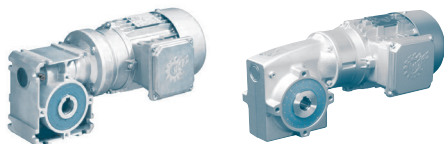


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1 SI, 1 SMI - Double worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF} [kN]	Gear motor			IE1 kg	mm H-D B
									IE1	IE2	IE3		
0,55	6,3	417	0,8	225	30	7,5	8,0	4,6	SK 1SI 75/40	SK 1SI 75/40		25	B53
	9,5	303	1,1	150	30	5	8,0	4,8	IEC80 - 80 S/4	IEC80 - 80 SH/4			
									SK 1SMI 75/40	SK 1SMI 75/40			B53
									IEC80 - 80 S/4	IEC80 - 80 SH/4			



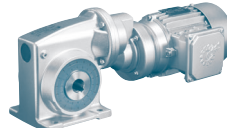
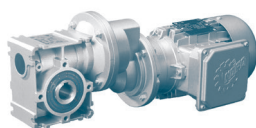
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0,75 kW

1 SI, 1 SMI - Worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF} [kN]	Gear motor			IE1 kg	mm H-D B
									IE1	IE2	IE3		
0,75	18	231	0,9	80	80		8,0	4,9	SK 1SI 75 IEC80 - 80 L/4	SK 1SI 75 IEC80 - 80 LH/4	SK 1SI 75 IEC80 - 80 LP/4		B38-39
	24	188	1,2	60	60		8,0	4,9					
	28	164	1,4	50	50		8,0	4,9					
	35	140	1,8	40	40		8,0	5,0					
	47	117	1,9	30	30		8,0	5,0					
	57	101	2,3	25	25		8,0	5,0					
	71	83	3,0	20	20		8,0	5,0	SK 1SMI 75 IEC80 - 80 L/4	SK 1SMI 75 IEC80 - 80 LH/4	SK 1SMI 75 IEC80 - 80 LP/4	24	B48-49
	24	173	0,8	60	60		5,0	2,2	SK 1SI 63 IEC80 - 80 L/4	SK 1SI 63 IEC80 - 80 LH/4	SK 1SI 63 IEC80 - 80 LP/4		B36-37
	28	154	0,9	50	50		5,1	2,3					
	35	132	1,1	40	40		5,3	2,4					
	47	105	1,5	30	30		5,4	2,4					
	57	96	1,4	25	25		5,4	2,4					
	71	80	1,8	20	20		5,5	2,5					
	94	62	2,5	15	15		5,5	2,5					
	113	54	2,4	12,5	12,5		5,5	2,5					
	142	44	3,0	10	10		5,6	2,5	SK 1SMI 63 IEC80 - 80 L/4	SK 1SMI 63 IEC80 - 80 LH/4	SK 1SMI 63 IEC80 - 80 LP/4	16	B46-47
	47	99	0,9	30	30		4,8	2,4	SK 1SI 50 IEC80 - 80 L/4	SK 1SI 50 IEC80 - 80 LH/4	SK 1SI 50 IEC80 - 80 LP/4		B34-35
	57	91	0,8	25	25		4,8	2,4					
	71	76	1,1	20	20		4,8	2,5					
	94	60	1,5	15	15		4,8	2,5					
	113	53	1,4	12,5	12,5		4,8	2,5					
	142	43	1,7	10	10		4,8	2,5					
	189	33	2,4	7,5	7,5		4,8	2,5					
	283	23	2,9	5	5		4,8	2,5	SK 1SMI 50 IEC80 - 80 L/4	SK 1SMI 50 IEC80 - 80 LH/4	SK 1SMI 50 IEC80 - 80 LP/4	15	B44-45
	94	57	0,9	15	15		2,6	1,1	SK 1SI 40 IEC80 - 80 L/4	SK 1SI 40 IEC80 - 80 LH/4	SK 1SI 40 IEC80 - 80 LP/4		B32-33
	113	51	0,8	12,5	12,5		2,7	1,1					
	142	42	1,0	10	10		2,7	1,1					
	189	32	1,4	7,5	7,5		2,8	1,1					
	283	22	1,7	5	5		2,4	1,2	SK 1SMI 40 IEC80 - 80 L/4	SK 1SMI 40 IEC80 - 80 LH/4	SK 1SMI 40 IEC80 - 80 LP/4	13	B42-43

0,75 kW

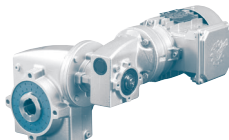
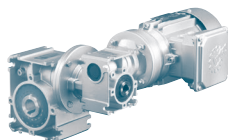


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1 SI, 1 SMI - Helical worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF} [kN]	Gear motor			IE1 kg	mm H-D B
									IE1	IE2	IE3		
0,75	9,4	520	0,8	150	15	10	8,0	5,0	SK 1SI 75/H10 IEC80 - 80 L/4	SK 1SI 75/H10 IEC80 - 80 LH/4	SK 1SI 75/H10 IEC80 - 80 LP/4		B51
	14	389	0,9	100	10	10	8,0	5,0					
	19	302	1,0	75	7,5	10	8,0	5,0					
	28	212	1,0	50	5	10	8,0	5,0					
									SK 1SMI 75/H10 IEC80 - 80 L/4	SK 1SMI 75/H10 IEC80 - 80 LH/4	SK 1SMI 75/H10 IEC80 - 80 LP/4	25,9	B51

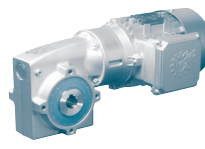
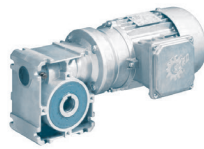


1 SI, 1 SMI - Double worm gear motors

P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF} [kN]	Gear motor			IE1 kg	mm H-D B
									IE1	IE2	IE3		
0,75	9,4	414	0,8	150	30	5	8,0	4,6	SK 1SI 75/40 IEC80 - 80 L/4	SK 1SI 75/40 IEC80 - 80 LH/4	SK 1SI 75/40 IEC80 - 80 LP/4	26	B53
									SK 1SMI 75/40 IEC80 - 80 L/4	SK 1SMI 75/40 IEC80 - 80 LH/4	SK 1SMI 75/40 IEC80 - 80 LP/4		

1,10 kW
1,50 kW

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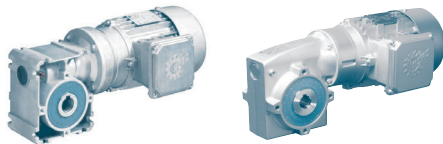


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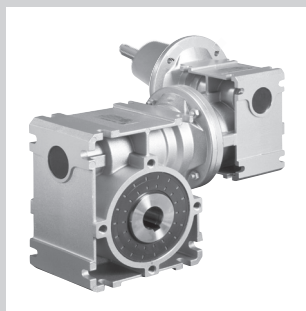
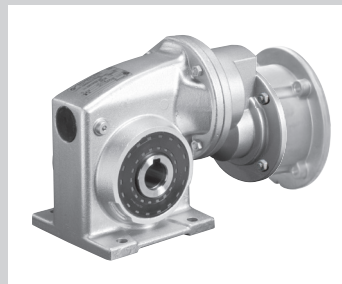
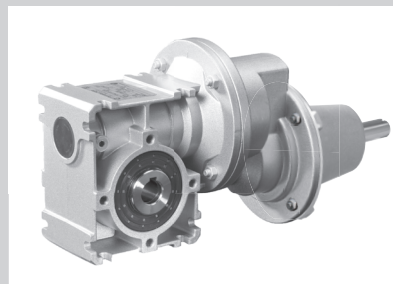
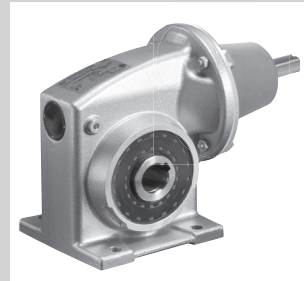
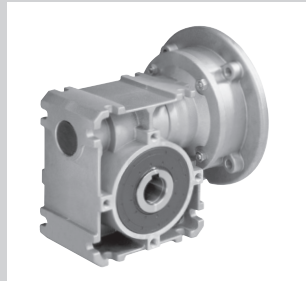
1 SI, 1 SMI - Worm gear motors

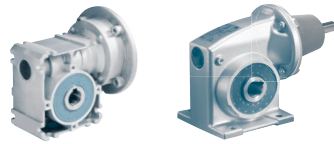
P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF} [kN]	Gear motor			IE1 kg	mm H-D B	
									IE1	IE2	IE3			
1,10	24	272	0,8	60	60		8,0	4,8	SK 1SI 75 IEC90 - 90 S/4	SK 1SI 75 IEC90 - 90 SH/4	SK 1SI 75 IEC90 - 90 SP/4		B38-39	
	29	238	1,0	50	50		8,0	4,9						
	36	202	1,2	40	40		8,0	4,9						
	48	171	1,3	30	30		8,0	4,9						
	57	146	1,6	25	25		8,0	5,0						
	72	120	2,0	20	20		8,0	5,0						
	96	92	2,9	15	15		8,0	5,0						
	115	81	2,7	12,5	12,5		8,0	5,0						
										SK 1SMI 75 IEC90 - 90 S/4	SK 1SMI 75 IEC90 - 90 SH/4	SK 1SMI 75 IEC90 - 90 SP/4	29	B48-49
		36	190	0,8	40	40		4,9	2,2	SK 1SI 63 IEC90 - 90 S/4	SK 1SI 63 IEC90 - 90 SH/4	SK 1SI 63 IEC90 - 90 SP/4		B36-37
		48	152	1,1	30	30		5,2	2,3					
		57	139	1,0	25	25		5,2	2,3					
		72	116	1,2	20	20		5,3	2,4					
		96	90	1,7	15	15		5,4	2,4					
	115	79	1,6	12,5	12,5		5,5	2,5						
	144	64	2,1	10	10		5,5	2,5						
	191	49	2,8	7,5	7,5		5,6	2,5						
									SK 1SMI 63 IEC90 - 90 S/4	SK 1SMI 63 IEC90 - 90 SH/4	SK 1SMI 63 IEC90 - 90 SP/4	21	B46-47	
	96	87	1,0	15	15		4,8	2,4	SK 1SI 50 IEC90 - 90 S/4	SK 1SI 50 IEC90 - 90 SH/4	SK 1SI 50 IEC90 - 90 SP/4		B34-35	
	115	76	0,9	12,5	12,5		4,8	2,5						
	144	62	1,2	10	10		4,8	2,5						
	191	48	1,6	7,5	7,5		4,8	2,5						
	287	33	2,0	5	5		4,8	2,5						
									SK 1SMI 50 IEC90 - 90 S/4	SK 1SMI 50 IEC90 - 90 SH/4	SK 1SMI 50 IEC90 - 90 SP/4	20	B44-45	
1,50	35	279	0,9	40	40		8,0	4,8	SK 1SI 75 IEC90 - 90 L/4	SK 1SI 75 IEC90 - 90 LH/4	SK 1SI 75 IEC90 - 90 LP/4		B38-39	
	47	234	0,9	30	30		8,0	4,9						
	57	202	1,1	25	25		8,0	4,9						
	71	166	1,5	20	20		8,0	4,9						
	94	128	2,1	15	15		8,0	5,0						
	113	111	1,9	12,5	12,5		8,0	5,0						
	142	90	2,5	10	10		8,0	5,0						
										SK 1SMI 75 IEC90 - 90 L/4	SK 1SMI 75 IEC90 - 90 LH/4	SK 1SMI 75 IEC90 - 90 LP/4	31	B48-49
		47	210	0,8	30	30		4,7	2,1	SK 1SI 63 IEC90 - 90 L/4	SK 1SI 63 IEC90 - 90 LH/4	SK 1SI 63 IEC90 - 90 LP/4		B36-37
		71	160	0,9	20	20		5,1	2,3					
		94	125	1,2	15	15		5,3	2,4					
		113	109	1,2	12,5	12,5		5,4	2,4					
		142	88	1,5	10	10		5,5	2,5					
		189	68	2,1	7,5	7,5		5,5	2,5					
		283	47	2,5	5	5		5,6	2,5					
										SK 1SMI 63 IEC90 - 90 L/4	SK 1SMI 63 IEC90 - 90 LH/4	SK 1SMI 63 IEC90 - 90 LP/4	23	B46-47
		142	86	0,9	10	10		4,8	2,4	SK 1SI 50 IEC90 - 90 L/4	SK 1SI 50 IEC90 - 90 LH/4	SK 1SI 50 IEC90 - 90 LP/4		B34-35
		189	66	1,2	7,5	7,5		4,8	2,5					
	283	46	1,4	5	5		4,6	2,5						
									SK 1SMI 50 IEC90 - 90 L/4	SK 1SMI 50 IEC90 - 90 LH/4	SK 1SMI 50 IEC90 - 90 LP/4	21	B44-45	



1 SI, 1 SMI - Worm gear motors

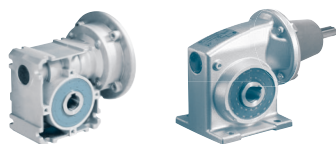
P ₁ [kW]	n ₂ [min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	i _{sch}	i _{vor}	F _R	F _{RF} [kN]	Gear motor			IE1 kg	mm H-D B	
									IE1	IE2	IE3			
2,20	58	291	0,8	25	25		8,0	4,8	SK 1SI 75 IEC100 - 100 L/4	SK 1SI 75 IEC100 - 100 LH/4	SK 1SI 75 IEC100 - 100 LP/4		B38-39	
	72	238	1,0	20	20		8,0	4,9						
	96	183	1,4	15	15		8,0	4,9						
	116	160	1,4	12,5	12,5		8,0	5,0						
	144	129	1,8	10	10		8,0	5,0						
	193	99	2,4	7,5	7,5		8,0	5,0						
	289	68	2,9	5	5		8,0	5,0						
3,00	95	253	1,0	15	15		8,0	4,9	SK 1SI 75 IEC100 - 100 LA/4	SK 1SI 75 IEC100 - 100 AH/4	SK 1SI 75 IEC100 - 100 AP/4		B38-39	
	114	221	1,0	12,5	12,5		8,0	4,9						
	142	179	1,3	10	10		8,0	4,9						
	190	137	1,7	7,5	7,5		8,0	5,0						
	285	93	2,1	5	5		8,0	5,0						
	4,00	96	334	0,8	15	15		8,0	4,7	SK 1SI 75 IEC112 - 112 M/4	SK 1SI 75 IEC112 - 112 MH/4	SK 1SI 75 IEC112 - 112 MP/4		B38-39
		144	236	1,0	10	10		8,0	4,9					
192		181	1,3	7,5	7,5		8,0	4,9						
4,00	288	123	1,6	5	5		8,0	5,0	SK 1SMI 75 IEC112 - 112 M/4	SK 1SMI 75 IEC112 - 112 MH/4	SK 1SMI 75 IEC112 - 112 MP/4		B48-49	





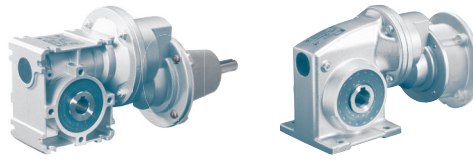
Worm gear units

Type SI Type SMI				$n_1 = 1400 \text{ min}^{-1}$			$n_1 = 900 \text{ min}^{-1}$			$n_1 = 500 \text{ min}^{-1}$			$n_1 = 250 \text{ min}^{-1}$		
	i_{ges}	i_{sch}	i_{vor}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}
				[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]
SK 1SI 75 SK 1SMI75 W + IEC mm \rightarrow B56, 38, 48 I I	100	100		14	185	0,52	9	217	0,43	5	250	0,33	2,5	278	0,21
	80	80		18	199	0,66	11	233	0,52	6,2	269	0,39	3,1	299	0,26
	60	60		23	218	0,85	15	255	0,69	8,3	295	0,50	4,2	327	0,33
	50	50		28	231	1,04	18	270	0,83	10	312	0,59	5	346	0,38
	40	40		35	247	1,31	22	289	1,03	12	334	0,71	6,2	371	0,46
	30	30		47	216	1,38	30	253	1,07	17	292	0,75	8,3	324	0,45
	25	25		56	228	1,67	36	267	1,30	20	308	0,89	10	342	0,54
	20	20		70	242	2,17	45	284	1,69	25	327	1,14	12	364	0,66
	15	15		93	260	3,03	60	305	2,34	33	352	1,56	17	392	0,96
	12,5	12,5		112	216	2,88	72	252	2,21	40	291	1,47	20	324	0,86
	10	10		140	224	3,70	90	263	2,81	50	303	1,87	25	337	1,09
	7,5	7,5		187	232	4,00	120	271	2,64	67	313	2,00	33	348	0,72
	5	5		280	194	4,00	180	227	2,64	100	262	2,00	50	291	0,72
SK 1SI 63 SK 1SMI 63 W + IEC mm \rightarrow B56, 36, 46 I I	100	100		14	110	0,34	9	129	0,29	5	149	0,22	2,5	165	0,14
	80	80		18	118	0,44	11	138	0,34	6,2	160	0,25	3,1	177	0,16
	60	60		23	130	0,55	15	152	0,45	8,3	175	0,32	4,2	194	0,21
	50	50		28	137	0,66	18	160	0,53	10	185	0,38	5	206	0,24
	40	40		35	147	0,84	22	172	0,65	12	198	0,45	6,2	220	0,29
	30	30		47	160	1,14	30	187	0,90	17	216	0,64	8,3	240	0,38
	25	25		56	135	1,04	36	158	0,82	20	183	0,56	10	203	0,34
	20	20		70	144	1,34	45	169	1,05	25	195	0,71	12	216	0,41
	15	15		93	155	1,50	60	182	0,99	33	210	0,75	17	233	0,27
	12,5	12,5		112	129	1,50	72	151	0,99	40	174	0,75	20	193	0,27
	10	10		140	134	1,50	90	157	0,99	50	181	0,75	25	201	0,27
	7,5	7,5		187	139	1,50	120	163	0,99	67	188	0,75	33	209	0,27
	5	5		280	118	1,50	180	138	0,99	100	159	0,75	50	177	0,27
SK 1SI 50 SK 1SMI 50 W + IEC mm \rightarrow B56, 34, 44 I I	100	100		14	62	0,22	9	72	0,18	5	84	0,13	2,5	93	0,08
	80	80		18	67	0,27	11	78	0,21	6,2	90	0,15	3,1	100	0,10
	60	60		23	73	0,34	15	85	0,28	8,3	98	0,20	4,2	109	0,12
	50	50		28	77	0,40	18	90	0,33	10	104	0,23	5	116	0,14
	40	40		35	83	0,50	22	97	0,40	12	112	0,27	6,2	124	0,17
	30	30		47	90	0,68	30	105	0,54	17	122	0,38	8,3	135	0,23
	25	25		56	76	0,62	36	89	0,49	20	103	0,33	10	114	0,20
	20	20		70	81	0,79	45	95	0,61	25	109	0,42	12	122	0,24
	15	15		93	87	1,08	60	102	0,85	33	118	0,56	17	131	0,34
	12,5	12,5		112	72	1,02	72	85	0,79	40	98	0,52	20	109	0,30
	10	10		140	75	1,30	90	88	1,00	50	102	0,66	25	113	0,38
	7,5	7,5		187	78	1,50	120	91	0,99	67	105	0,75	33	117	0,27
	5	5		280	66	1,50	180	77	0,99	100	89	0,75	50	99	0,27
SK 1SI 40 SK 1SMI 40 W + IEC mm \rightarrow B56, 32, 42 I I	100	100		14	34	0,14	9	40	0,11	5	46	0,08	2,5	52	0,05
	80	80		18	37	0,17	11	43	0,13	6,2	50	0,10	3,1	55	0,06
	60	60		23	40	0,21	15	47	0,17	8,3	55	0,12	4,2	61	0,07
	50	50		28	43	0,25	18	50	0,20	10	58	0,14	5	64	0,09
	40	40		35	46	0,31	22	54	0,24	12	62	0,17	6,2	69	0,10
	30	30		47	50	0,41	30	58	0,32	17	67	0,23	8,3	75	0,13
	25	25		56	42	0,37	36	50	0,29	20	57	0,20	10	64	0,12
	20	20		70	45	0,47	45	53	0,37	25	61	0,25	12	68	0,14
	15	15		93	49	0,63	60	57	0,49	33	66	0,33	17	73	0,20
	12,5	12,5		112	41	0,59	72	47	0,46	40	55	0,31	20	61	0,18
	10	10		140	42	0,75	90	50	0,50	50	57	0,38	25	64	0,14
	7,5	7,5		187	44	0,75	120	52	0,50	67	60	0,38	33	66	0,14
	5	5		280	38	0,75	180	45	0,50	100	51	0,38	50	57	0,14



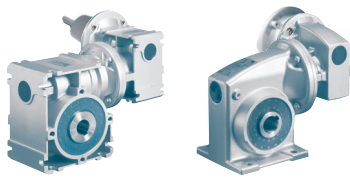
Worm gear units

Type SI Type SMI	i_{ges}	i_{sch}	i_{vor}	$n_1 = 1400 \text{ min}^{-1}$			$n_1 = 900 \text{ min}^{-1}$			$n_1 = 500 \text{ min}^{-1}$			$n_1 = 250 \text{ min}^{-1}$		
				n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}
				[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]
SK 1SI 31	100	100		14	21	0,10	9	24	0,08	5	28	0,06	2,5	31	0,04
SK 1SMI 31	80	80		18	22	0,12	11	26	0,09	6,2	30	0,06	3,1	33	0,04
	60	60		23	24	0,14	15	28	0,11	8,3	33	0,08	4,2	36	0,05
W	50	50		28	26	0,17	18	30	0,13	10	35	0,09	5	39	0,05
	40	40		35	28	0,20	22	32	0,16	12	37	0,11	6,2	41	0,07
+	30	30		47	30	0,27	30	35	0,21	17	41	0,15	8,3	45	0,08
	25	25		56	25	0,24	36	30	0,18	20	34	0,12	10	38	0,07
IEC	20	20		70	27	0,30	45	32	0,23	25	37	0,15	12	41	0,09
	15	15		93	29	0,37	60	34	0,24	33	40	0,19	17	44	0,07
	12,5	12,5		112	24	0,37	72	29	0,24	40	33	0,19	20	37	0,07
	10	10		140	26	0,37	90	30	0,24	50	34	0,19	25	38	0,07
mm \rightarrow B30, 40	7,5	7,5		187	27	0,37	120	31	0,24	67	36	0,19	33	40	0,07
\rightarrow	5	5		280	23	0,37	180	27	0,24	100	31	0,19	50	35	0,07



Helical worm gear units

Type SI Type SMI				$n_1 = 1400 \text{ min}^{-1}$			$n_1 = 900 \text{ min}^{-1}$			$n_1 = 500 \text{ min}^{-1}$			$n_1 = 250 \text{ min}^{-1}$		
	i_{ges}	i_{sch}	i_{vor}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}
				[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]	[min^{-1}]	[Nm]	[kW]
SK 1SI 75/H10 SK 1SMI 75/H10	1000	100	10	1,4	304	0,15	0,90	317	0,11	0,50	334	0,07	0,25	359	0,04
W	800	80	10	1,8	327	0,18	1,1	341	0,13	0,63	358	0,08	0,31	386	0,04
	600	60	10	2,3	358	0,22	1,5	373	0,16	0,83	393	0,10	0,42	423	0,05
+	500	50	10	2,8	379	0,26	1,8	395	0,18	1,0	416	0,11	0,50	448	0,06
	400	40	10	3,5	406	0,32	2,3	423	0,22	1,3	445	0,14	0,63	479	0,08
IEC	300	30	10	4,7	355	0,31	3,0	369	0,21	1,7	389	0,13	0,83	419	0,07
	250	25	10	5,6	374	0,36	3,6	390	0,25	2,0	410	0,15	1,0	442	0,08
mm \rightarrow B56, 54, 51 \updownarrow	200	20	10	7,0	398	0,46	4,5	415	0,32	2,5	436	0,19	1,3	470	0,10
	150	15	10	9,3	429	0,61	6,0	447	0,42	3,3	470	0,25	1,7	506	0,14
	125	12,5	10	11	354	0,56	7,2	369	0,38	4,0	388	0,23	2,0	418	0,13
	100	10	10	14	369	0,70	9,0	384	0,48	5,0	404	0,29	2,5	435	0,16
	75	7,5	10	19	306	0,75	12	397	0,64	6,7	417	0,38	3,3	449	0,21
	50	5	10	28	215	0,75	18	329	0,75	10	349	0,45	5,0	376	0,24
SK 1SI 63/H10 SK 1SMI 63/H10	1000	100	10	1,4	179	0,10	0,9	186	0,07	0,5	196	0,04	0,25	211	0,02
W	800	80	10	1,8	192	0,12	1,1	200	0,08	0,62	210	0,05	0,31	227	0,03
	600	60	10	2,3	210	0,14	1,5	219	0,10	0,83	231	0,06	0,42	248	0,03
+	500	50	10	2,8	223	0,16	1,8	232	0,12	1	244	0,07	0,5	263	0,04
	400	40	10	3,5	239	0,19	2,2	248	0,13	1,2	261	0,08	0,62	282	0,05
IEC	300	30	10	4,7	260	0,26	3	271	0,18	1,7	285	0,11	0,83	307	0,06
	250	25	10	5,6	220	0,22	3,6	229	0,15	2	241	0,09	1	260	0,05
mm \rightarrow B56, 54, 50 \updownarrow	200	20	10	7	234	0,28	4,5	244	0,19	2,5	257	0,11	1,2	276	0,06
	150	15	10	9,3	253	0,37	6	263	0,25	3,3	277	0,15	1,7	298	0,09
	125	12,5	10	11	209	0,33	7,2	218	0,23	4	229	0,14	2	247	0,07
	100	10	10	14	189	0,37	9	227	0,29	5	239	0,17	2,5	257	0,09
	75	7,5	10	19	145	0,37	12	227	0,37	6,7	248	0,23	3,3	267	0,12
	50	5	10	28	105	0,37	18	161	0,37	10	210	0,27	5	226	0,15
SK 1SI 50/H10 SK 1SMI 50/H10	1000	100	10	1,4	101	0,06	0,9	105	0,04	0,5	110	0,02	0,25	119	0,01
W	800	80	10	1,8	108	0,07	1,1	113	0,04	0,62	118	0,03	0,31	128	0,02
	600	60	10	2,3	118	0,08	1,5	123	0,06	0,83	130	0,03	0,42	140	0,02
+	500	50	10	2,8	125	0,09	1,8	131	0,06	1	137	0,04	0,5	148	0,02
	400	40	10	3,5	134	0,11	2,2	140	0,08	1,2	147	0,05	0,62	158	0,03
IEC	300	30	10	4,7	146	0,15	3	152	0,10	1,7	160	0,06	0,83	173	0,03
	250	25	10	5,6	124	0,13	3,6	129	0,09	2	136	0,05	1	146	0,03
mm \rightarrow B56, 54, 50 \updownarrow	200	20	10	7	132	0,16	4,5	137	0,11	2,5	144	0,07	1,2	155	0,03
	150	15	10	9,3	142	0,21	6	148	0,15	3,3	156	0,09	1,7	168	0,05
	125	12,5	10	11	118	0,19	7,2	122	0,13	4	129	0,08	2	139	0,04
	100	10	10	14	122	0,24	9	128	0,16	5	134	0,10	2,5	145	0,05
	75	7,5	10	19	127	0,33	12	132	0,22	6,7	139	0,13	3,3	150	0,07
	50	5	10	28	103	0,37	18	111	0,26	10	117	0,15	5	126	0,08
SK 1SI 40/H10 SK 1SMI 40/H10	1000	100	10	1,4	56	0,03	0,9	58	0,02	0,5	61	0,01	0,25	66	0,01
W	800	80	10	1,8	60	0,04	1,1	62	0,03	0,62	66	0,02	0,31	71	0,01
	600	60	10	2,3	66	0,05	1,5	68	0,03	0,83	72	0,02	0,42	78	0,01
+	500	50	10	2,8	70	0,06	1,8	72	0,04	1	76	0,02	0,5	82	0,01
	400	40	10	3,5	75	0,07	2,2	78	0,05	1,2	82	0,03	0,62	88	0,02
IEC	300	30	10	4,7	81	0,09	3	85	0,06	1,7	89	0,04	0,83	96	0,02
	250	25	10	5,6	69	0,07	3,6	72	0,05	2	75	0,03	1	81	0,02
mm \rightarrow B56, 54, 50 \updownarrow	200	20	10	7	73	0,09	4,5	76	0,06	2,5	80	0,04	1,2	87	0,02
	150	15	10	9,3	79	0,12	6	82	0,08	3,3	87	0,05	1,7	93	0,03
	125	12,5	10	11	66	0,11	7,2	69	0,08	4	72	0,04	2	78	0,02
	100	10	10	14	69	0,14	9	72	0,09	5	75	0,06	2,5	81	0,03
	75	7,5	10	19	72	0,19	12	75	0,13	6,7	79	0,07	3,3	85	0,04
	50	5	10	28	62	0,22	18	64	0,15	10	68	0,09	5	73	0,05



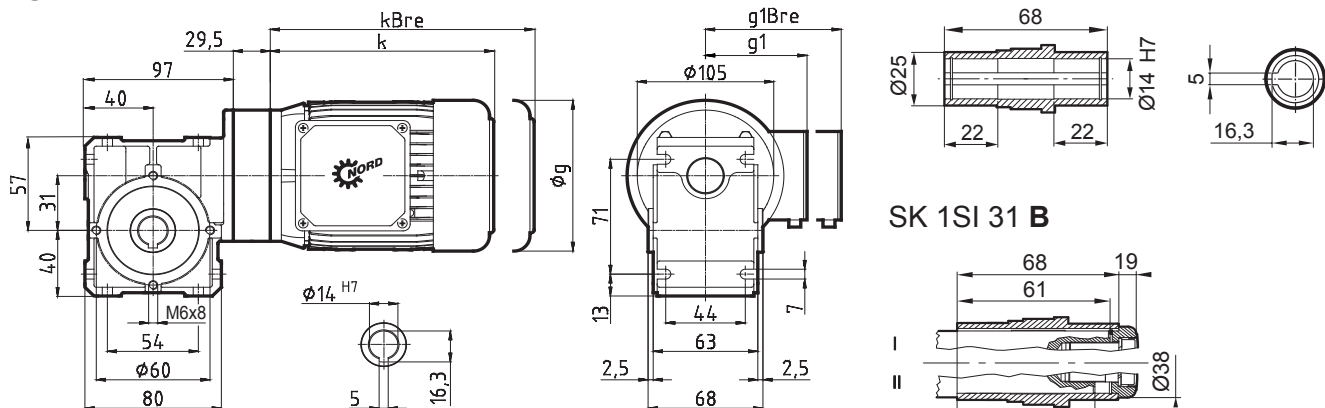
Double worm gear units

Type SI Type SMI				$n_1 = 1400 \text{ min}^{-1}$			$n_1 = 900 \text{ min}^{-1}$			$n_1 = 500 \text{ min}^{-1}$			$n_1 = 250 \text{ min}^{-1}$		
	i_{ges}	i_{sch}	i_{vor}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}	n_2	M_{2max}	P_{emax}
				[min ⁻¹]	[Nm]	[kW]	[min ⁻¹]	[Nm]	[kW]	[min ⁻¹]	[Nm]	[kW]	[min ⁻¹]	[Nm]	[kW]
SK 1SI 75/40 SK 1SMI 75/40 W + IEC	3000	30	100	0,47	427	0,13	0,3	443	0,03	0,17	486	0,02	0,08	513	0,01
	2400	30	80	0,58	423	0,14	0,38	431	0,03	0,21	473	0,02	0,1	506	0,01
	1800	30	60	0,78	416	0,16	0,5	426	0,04	0,28	450	0,03	0,14	495	0,01
	1500	30	50	0,93	411	0,17	0,6	422	0,05	0,33	432	0,03	0,17	486	0,02
	1200	30	40	1,2	402	0,19	0,75	417	0,06	0,42	429	0,04	0,21	473	0,02
	900	30	30	1,6	388	0,22	1	408	0,08	0,56	424	0,05	0,28	450	0,03
	750	30	25	1,9	382	0,23	1,2	401	0,10	0,67	420	0,06	0,33	432	0,03
	600	30	20	2,3	375	0,25	1,5	390	0,12	0,83	414	0,07	0,42	429	0,04
	450	30	15	3,1	364	0,3	2	380	0,15	1,1	404	0,09	0,56	424	0,05
	375	30	12,5	3,7	358	0,36	2,4	374	0,17	1,3	396	0,10	0,67	420	0,06
	300	30	10	4,7	351	0,37	3	365	0,24	1,7	384	0,19	0,83	414	0,07
mm → B56, 53 I I	225	30	7,5	6,2	340	0,37	4	356	0,24	2,2	377	0,19	1,1	404	0,07
	150	30	5	9,3	320	0,37	6	341	0,24	3,3	361	0,19	1,7	384	0,07
SK 1SI 63/31 SK 1SMI 63/31 IEC	3000	30	100	0,47	316	0,11	0,3	328	0,02	0,17	360	0,01	0,08	380	0,01
	2400	30	80	0,58	423	0,14	0,38	431	0,03	0,21	473	0,02	0,1	506	0,01
	1800	30	60	0,78	416	0,16	0,5	426	0,04	0,28	450	0,03	0,14	495	0,01
	1500	30	50	0,93	411	0,17	0,6	422	0,05	0,33	432	0,03	0,17	486	0,02
	1200	30	40	1,2	402	0,19	0,75	417	0,06	0,42	429	0,04	0,21	473	0,02
	900	30	30	1,6	388	0,22	1	408	0,08	0,56	424	0,05	0,28	450	0,03
	750	30	25	1,9	382	0,23	1,2	401	0,10	0,67	420	0,06	0,33	432	0,03
	600	30	20	2,3	375	0,25	1,5	390	0,12	0,83	414	0,07	0,42	429	0,04
	450	30	15	3,1	364	0,3	2	380	0,15	1,1	404	0,09	0,56	424	0,05
	375	30	12,5	3,7	358	0,36	2,4	374	0,17	1,3	396	0,10	0,67	420	0,06
	mm → B52 I I	300	30	10	4,7	351	0,37	3	365	0,24	1,7	384	0,19	0,83	414
	225	30	7,5	6,2	340	0,37	4	356	0,24	2,2	377	0,19	1,1	404	0,07
	150	30	5	9,3	320	0,37	6	341	0,24	3,3	361	0,19	1,7	384	0,07
SK 1SI 50/31 SK 1SMI 50/31 IEC	3000	30	100	0,47	178	0,06	0,3	185	0,01	0,17	203	0,01	0,08	214	0
	2400	30	80	0,58	176	0,07	0,38	179	0,02	0,21	197	0,01	0,1	211	0,01
	1800	30	60	0,78	173	0,07	0,5	178	0,02	0,28	188	0,01	0,14	206	0,01
	1500	30	50	0,93	171	0,08	0,6	176	0,02	0,33	180	0,01	0,17	203	0,01
	1200	30	40	1,2	168	0,09	0,75	174	0,03	0,42	179	0,02	0,21	197	0,01
	900	30	30	1,6	162	0,11	1	170	0,04	0,56	177	0,02	0,28	188	0,01
	750	30	25	1,9	159	0,11	1,2	167	0,05	0,67	175	0,03	0,33	180	0,01
	600	30	20	2,3	156	0,12	1,5	163	0,06	0,83	173	0,03	0,42	179	0,02
	450	30	15	3,1	152	0,15	2	158	0,07	1,1	168	0,04	0,56	177	0,02
	375	30	12,5	3,7	149	0,17	2,4	156	0,09	1,3	165	0,05	0,67	175	0,03
	mm → B52 I I	300	30	10	4,7	146	0,18	3	152	0,10	1,7	160	0,06	0,83	173
	225	30	7,5	6,2	141	0,22	4	148	0,13	2,2	157	0,08	1,1	168	0,04
	150	30	5	9,3	133	0,30	6	142	0,18	3,3	150	0,11	1,7	160	0,06
SK 1SI 40/31 SK 1SMI 40/31 IEC	3000	30	100	0,47	99	0,03	0,3	102	0,01	0,17	112	0	0,08	119	0
	2400	30	80	0,58	98	0,04	0,38	100	0,01	0,21	109	0,01	0,1	117	0
	1800	30	60	0,78	96	0,04	0,5	99	0,01	0,28	104	0,01	0,14	115	0
	1500	30	50	0,93	95	0,05	0,6	98	0,01	0,33	100	0,01	0,17	112	0
	1200	30	40	1,2	93	0,05	0,75	97	0,02	0,42	99	0,01	0,21	109	0,01
	900	30	30	1,6	90	0,06	1	94	0,02	0,56	98	0,01	0,28	104	0,01
	750	30	25	1,9	88	0,06	1,2	93	0,03	0,67	97	0,02	0,33	100	0,01
	600	30	20	2,3	87	0,07	1,5	90	0,03	0,83	96	0,02	0,42	99	0,01
	450	30	15	3,1	84	0,09	2	88	0,04	1,1	94	0,03	0,56	98	0,01
	375	30	12,5	3,7	83	0,10	2,4	87	0,05	1,3	92	0,03	0,67	97	0,02
	mm → B52 I I	300	30	10	4,7	81	0,11	3	85	0,06	1,7	89	0,04	0,83	96
	225	30	7,5	6,2	79	0,13	4	82	0,08	2,2	87	0,05	1,1	94	0,03
	150	30	5	9,3	74	0,18	6	79	0,11	3,3	83	0,06	1,7	89	0,04

SK 1SI 31 IEC...

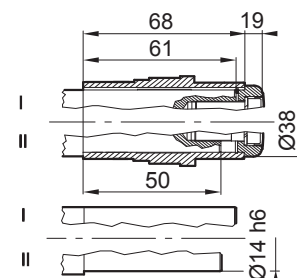


Worm gear unit motor

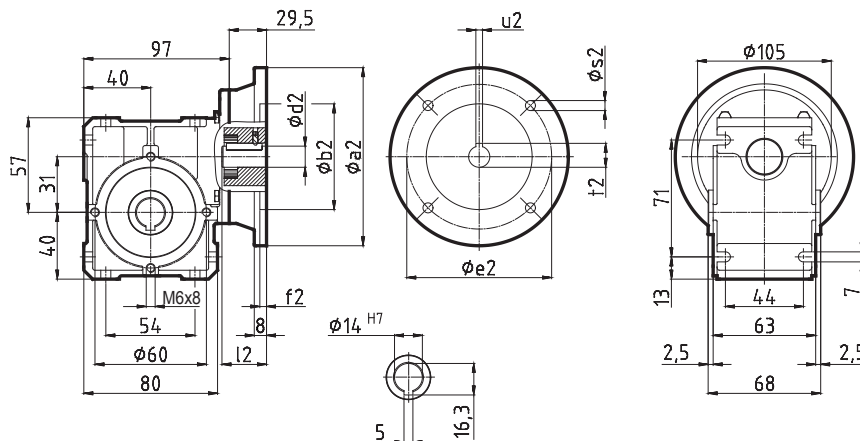


	SK 1SI 31 IEC63	SK 1SI 31 IEC71
IE1	63 S/L	71 S/L
IE2	-	-
IE3	SP/LP	SP/LP
g	130	145
g1	115	124
g1Bre	123	133
k	192	214
kBre	248	272

SK 1SI 31 B

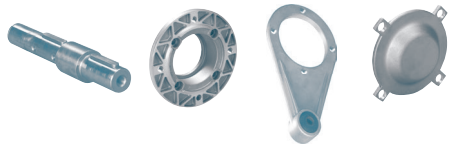


Worm gear unit for attachment to IEC standard motors

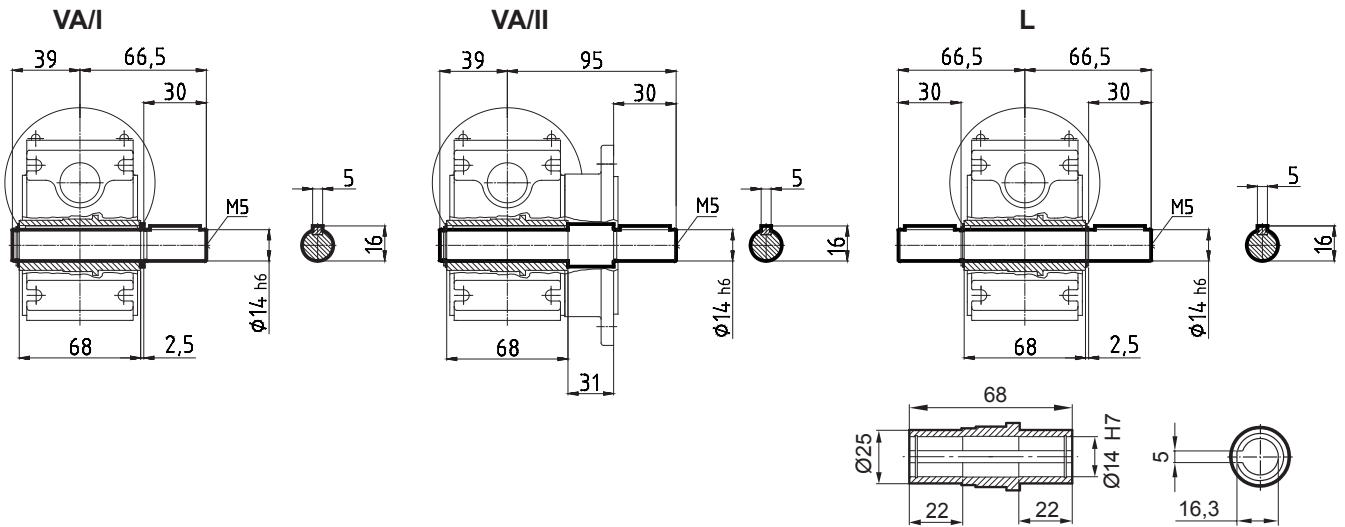


IEC-standard motor-adapter

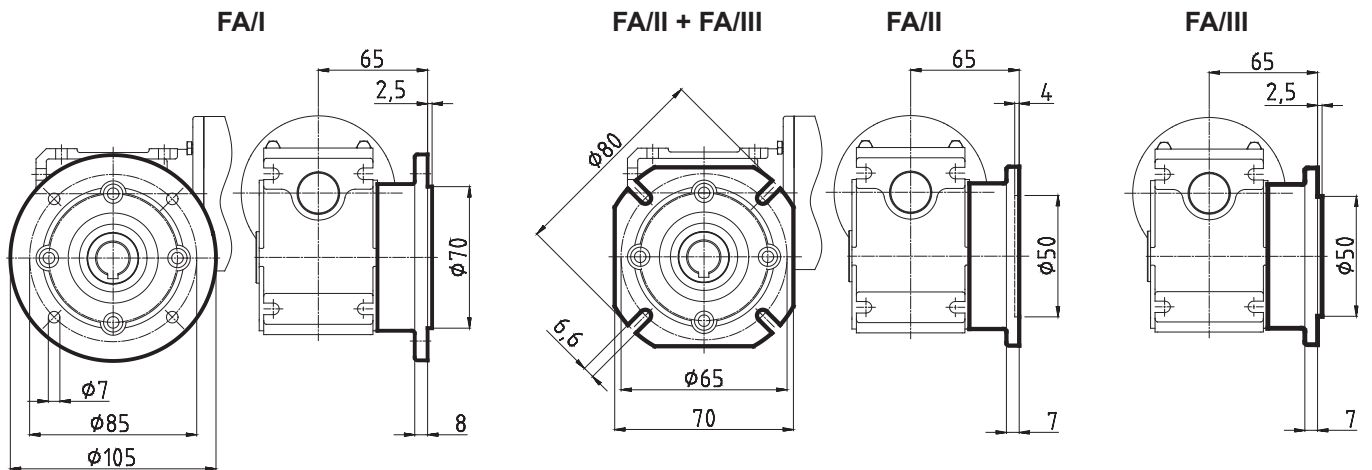
	IEC 56	IEC 56	IEC 63	IEC 63	IEC 63	IEC 71	IEC 71			
	B14	B5	B14	B14	B5	B14	B14			
	C105	A120	C90	C120	A140	C105	C140			
a2	105	120	90	120	140	105	140			
b2	70	80	60	80	95	70	95			
c2	-	-	-	-	8	-	-			
d2	9	9	11	11	11	14	14			
e2	85	100	75	100	115	85	115			
f2	3	3,5	3	3,5	3,5	3	3,5			
l2	20	20	23	23	23	30	30			
s2	7	7	6	7	9	7	9			
t2	11,4	11,4	12,8	12,8	12,8	16,3	16,3			
u2	3	3	4	4	4	5	5			



Plug-in shafts

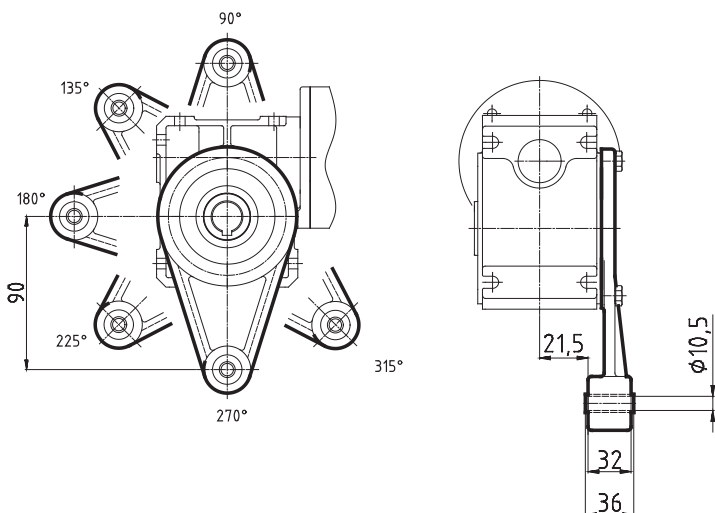


Output flange B5



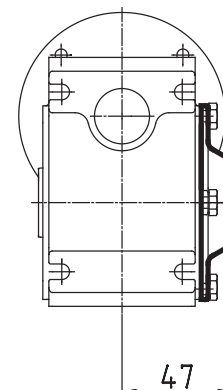
Torque support

DA/I 90 .. DA/I 315

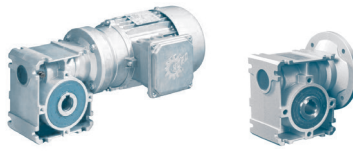


Covering cap

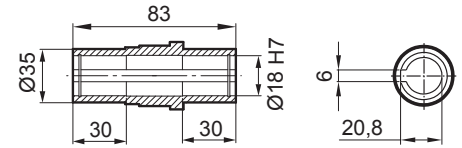
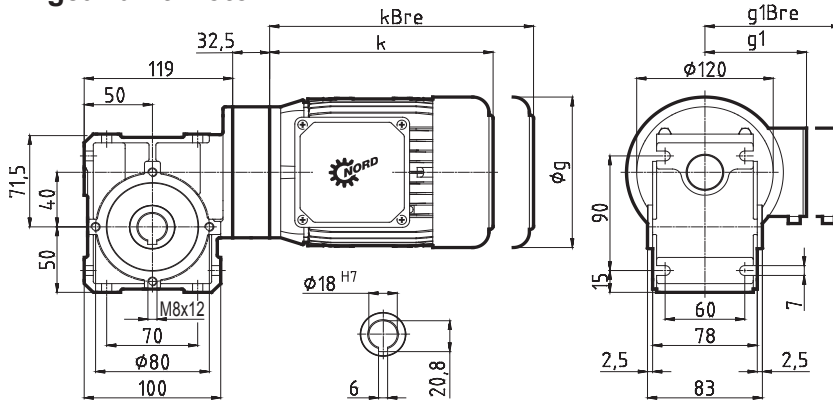
HA



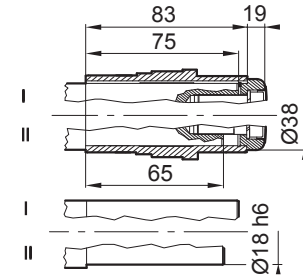
SK 1 SI 40 IEC...



Worm gear unit motor

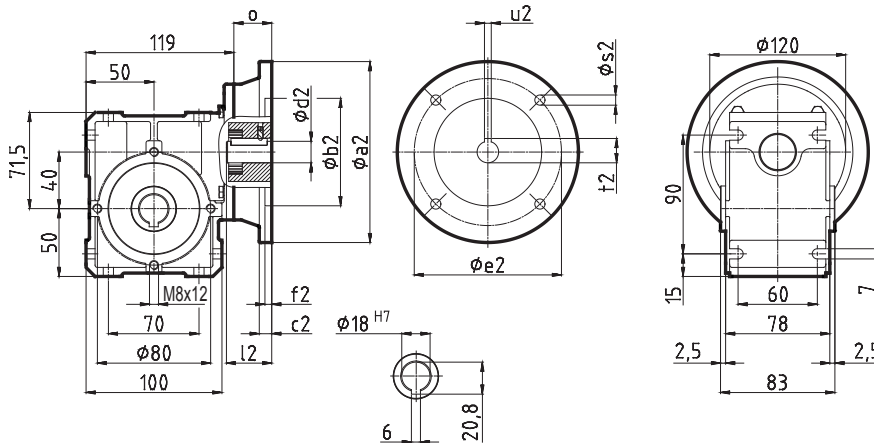


SK 1 SI 40 B



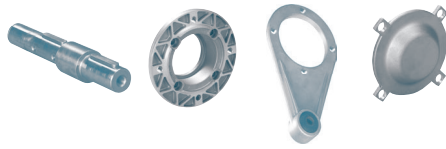
	SK 1 SI 40 IEC63	SK 1 SI 40 IEC71	SK 1 SI 40 IEC80
IE1	63 S/L	71 S/L	80 S / L
IE2	-	-	SH / LH
IE3	SP/LP	SP/LP	- / LP
g	130	145	165
g1	115	124	142
g1Bre	123	133	143
k	192	214	236
kBre	248	272	300

Worm gear unit for attachment to IEC standard motors

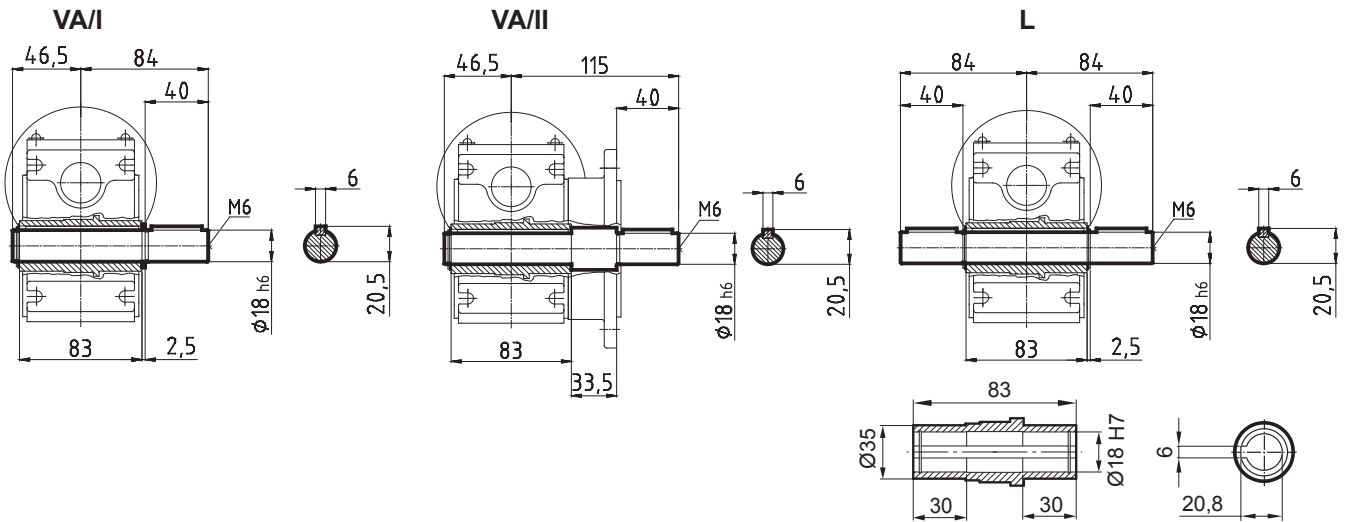


IEC-standard motor-adapter

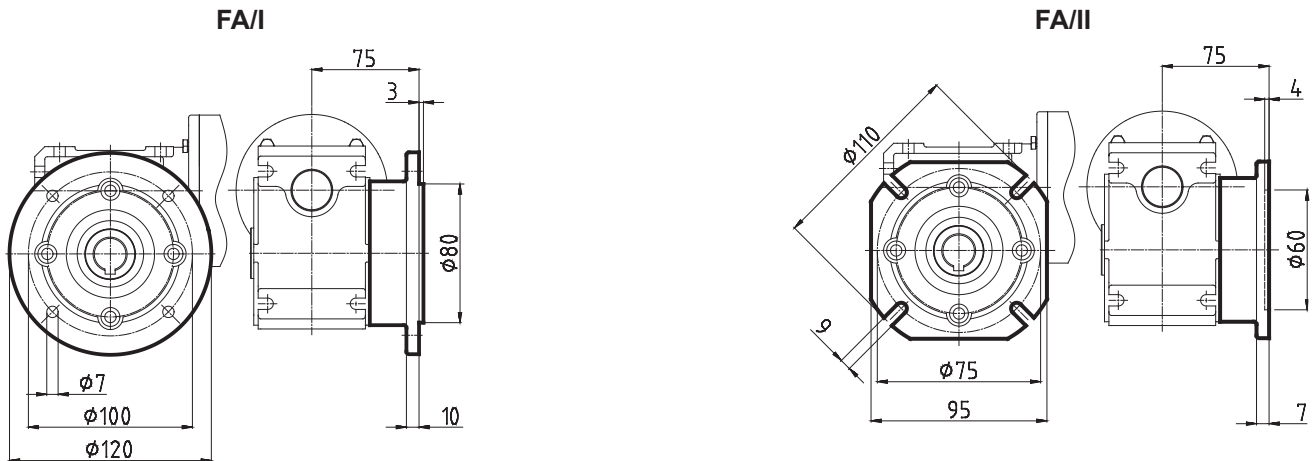
	IEC 56	IEC 56	IEC 63	IEC 63	IEC 63	IEC 71	IEC 71	IEC 71	IEC 80	IEC 80	IEC 80	IEC 90	IEC 90
	B14	B5	B14	B14	B5	B14	B14	B5	B14	B14	B5	B14	B14
	C105	A120	C90	C120	A140	C105	C140	A160	C120	C160	A200	C140	C160
a2	105	120	90	120	140	105	140	160	120	160	200	140	160
b2	70	80	60	80	95	70	95	110	80	110	130	95	110
c2	-	-	-	-	8	-	-	8	-	8	20	-	8
d2	9	9	11	11	11	14	14	14	19	19	19	24	24
e2	85	100	75	100	115	85	115	130	100	130	165	115	130
f2	3	3,5	3	3,5	3,5	3	3,5	4	3,5	4	4	3,5	4
l2	20	20	23	23	23	30	30	30	40	40	40	50	50
o	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	45,5	45,5
s2	7	7	6	7	9	7	9	9	7	9	M10	9	9
t2	11,4	11,4	12,8	12,8	12,8	16,3	16,3	16,3	21,8	21,8	21,8	27,3	27,3
u2	3	3	4	4	4	5	5	5	6	6	6	8	8



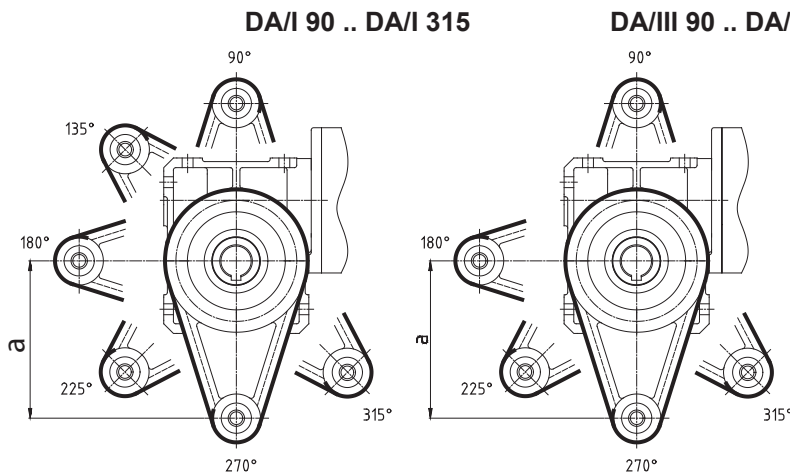
Plug-in shafts



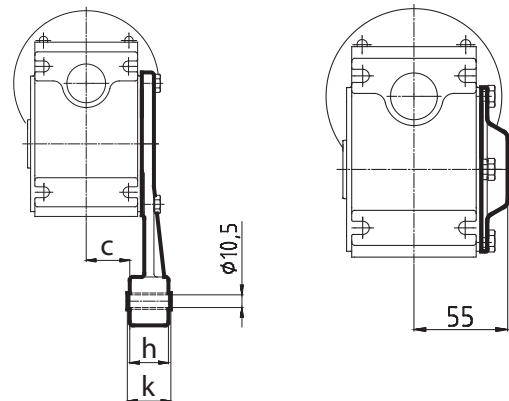
Output flange B5



Torque support



Covering cap HA

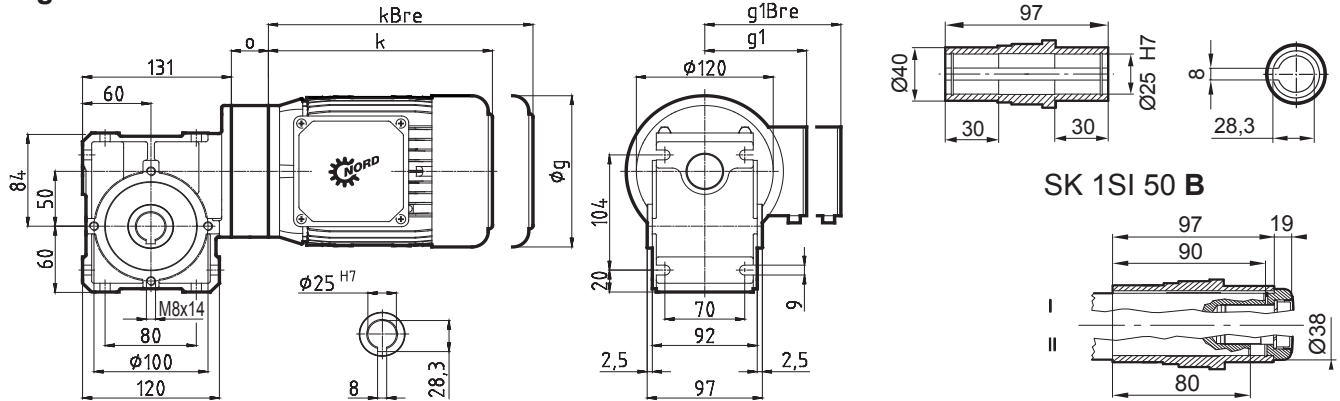


	a	c	h	k
I	130	29	32	36
III	100	34	14	14

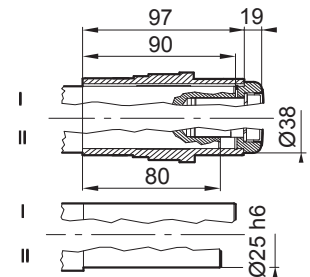
SK 1 SI 50 IEC...



Worm gear unit motor

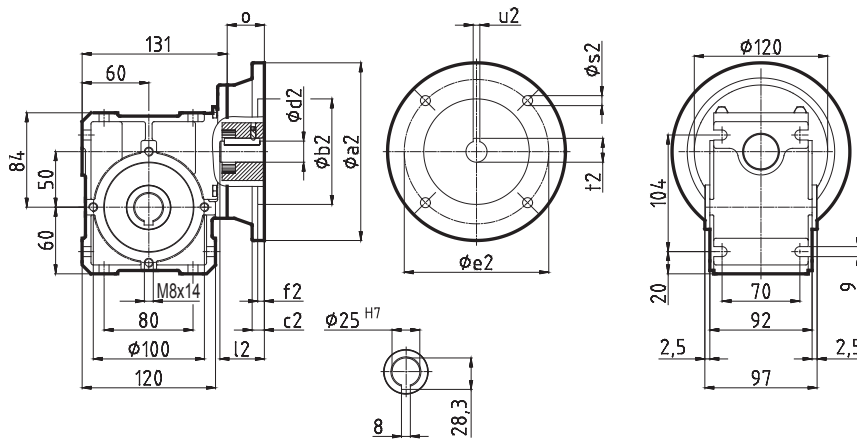


SK 1 SI 50 B



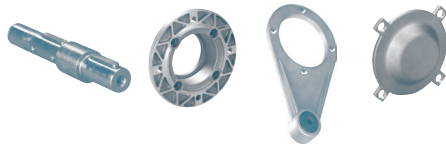
	SK 1 SI 50 IEC63	SK 1 SI 50 IEC71	SK 1 SI 50 IEC80	SK 1 SI 50 IEC90
IE1	63 S/L	71 S/L	80 S / L	90 S / L
IE2	-	-	SH / LH	SH / LH
IE3	SP/LP	SP/LP	- / LP	SP / LP
g	130	145	165	183
g1	116	124	142	147
g1Bre	124	133	143	148
k	192	214	236	276
kBre	248	272	300	351
o	32,5	32,5	32,5	45,5

Worm gear unit for attachment to IEC standard motors

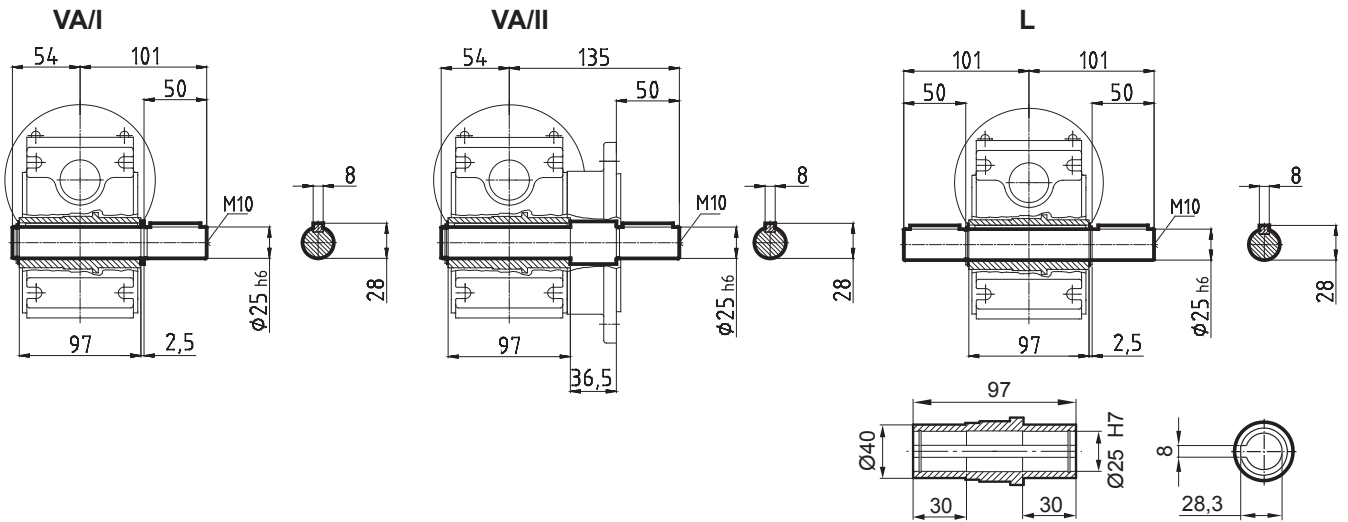


IEC-standard motor-adapter

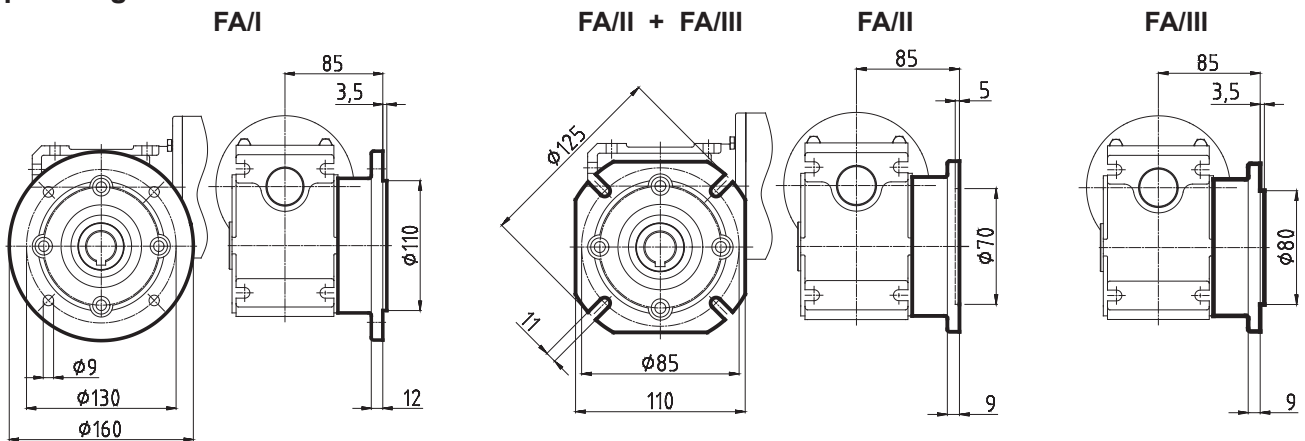
	IEC 56	IEC 56	IEC 63	IEC 63	IEC 63	IEC 71	IEC 71	IEC 71	IEC 80	IEC 80	IEC 80	IEC 90	IEC 90
	B14	B5	B14	B14	B5	B14	B14	B5	B14	B14	B5	B14	B14
	C105	A120	C90	C120	A140	C105	C140	A160	C120	C160	A200	C140	C160
a2	105	120	90	120	140	105	140	160	120	160	200	140	160
b2	70	80	60	80	95	70	95	110	80	110	130	95	110
c2	-	-	-	-	8	-	-	8	-	8	20	-	8
d2	9	9	11	11	11	14	14	14	19	19	19	24	24
e2	85	100	75	100	115	85	115	130	100	130	165	115	130
f2	3	3,5	3	3,5	3,5	3	3,5	4	3,5	4	4	3,5	4
l2	20	20	23	23	23	30	30	30	40	40	40	50	50
o	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	45,5	45,5
s2	7	7	6	7	9	7	9	9	7	9	M10	9	9
t2	11,4	11,4	12,8	12,8	12,8	16,3	16,3	16,3	21,8	21,8	21,8	27,3	27,3
u2	3	3	4	4	4	5	5	5	6	6	6	8	8



Plug-in shafts



Output flange B5



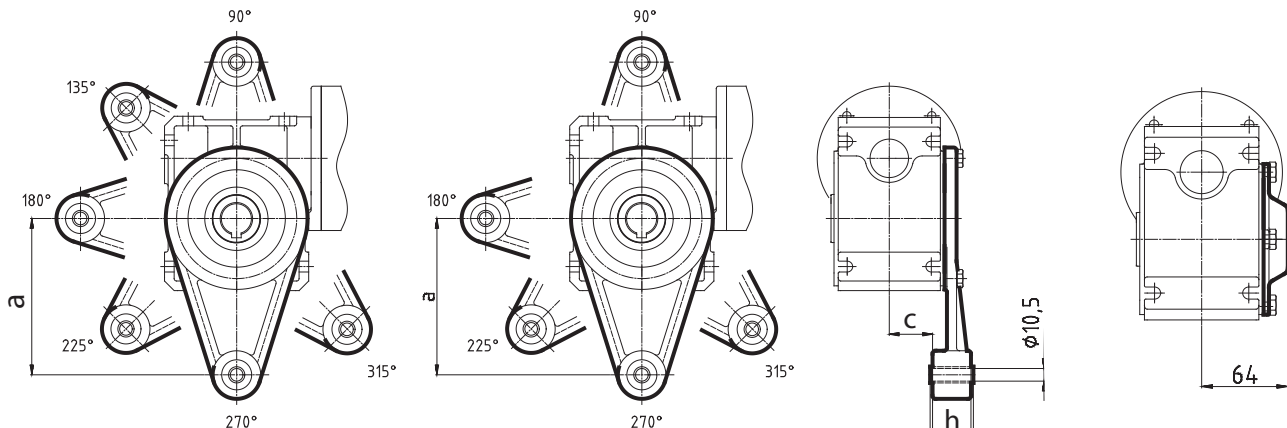
Torque support

DA/I 90 .. DA/I 315

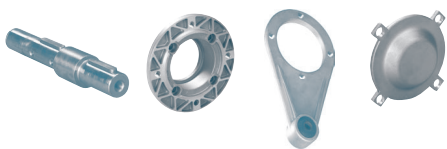
DA/II 90.. DA/II 315 + DA/III 90.. DA/III 315

Covering cap

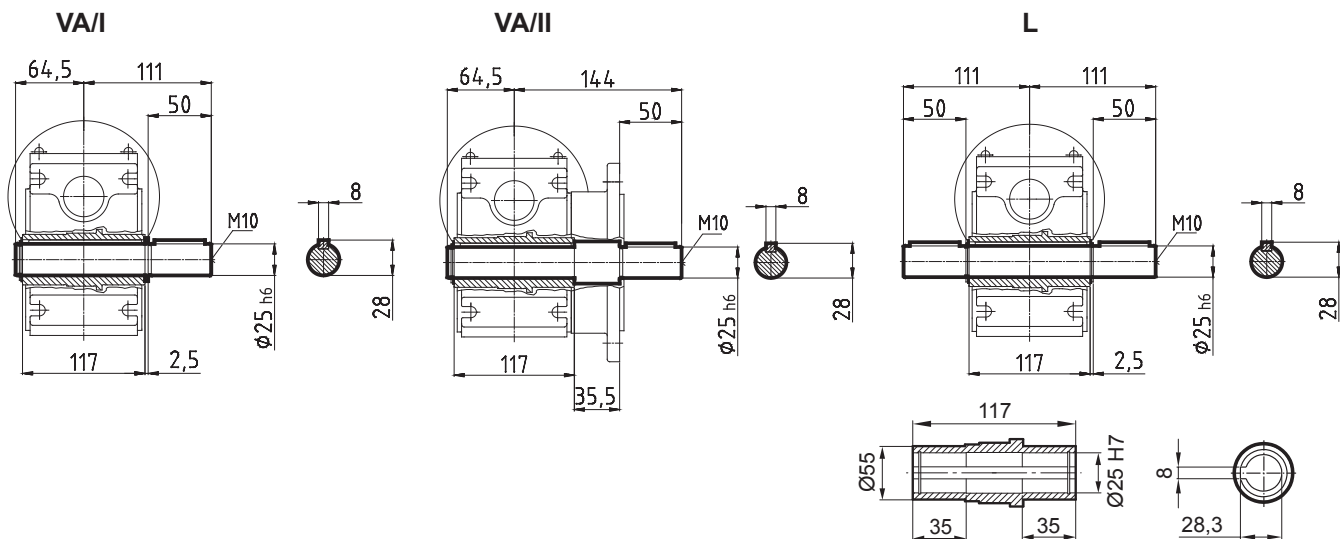
HA



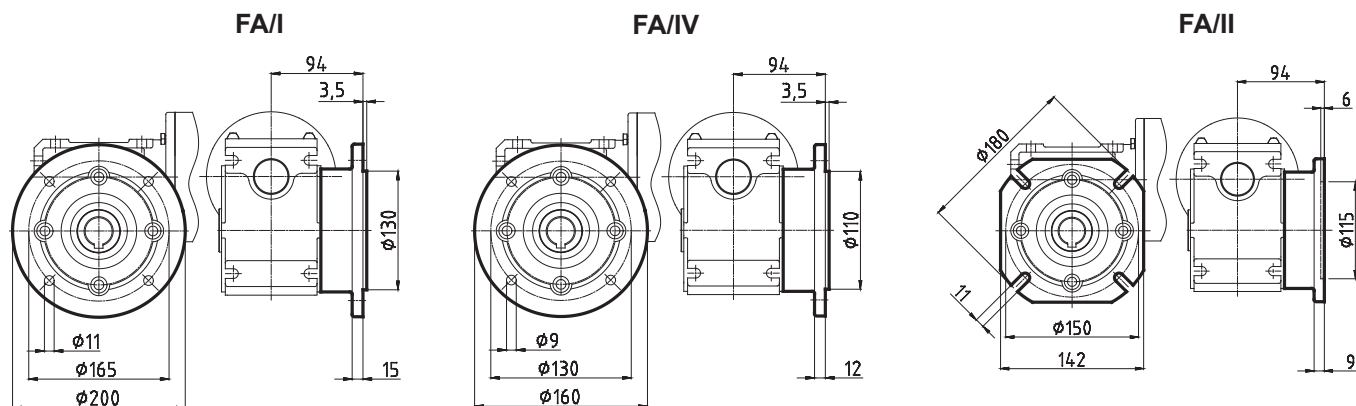
	a	c	h	k
I	130	36	32	36
II	110	41	14	14
III	100	41	14	14



Plug-in shafts

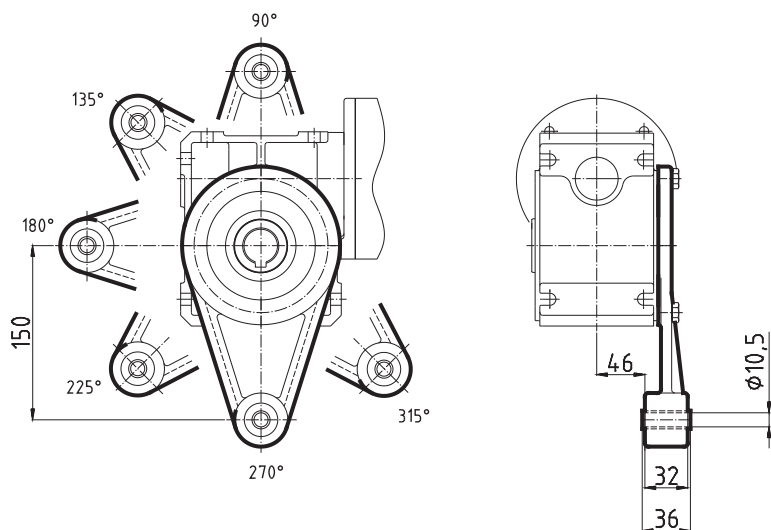


Output flange B5



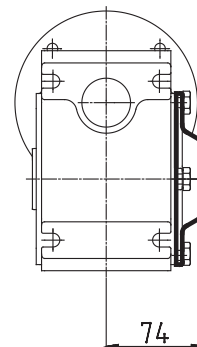
Torque support

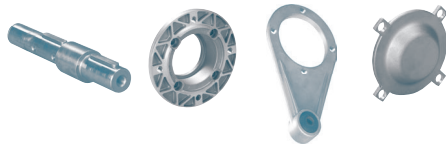
DA/I 90 .. DA/I 315



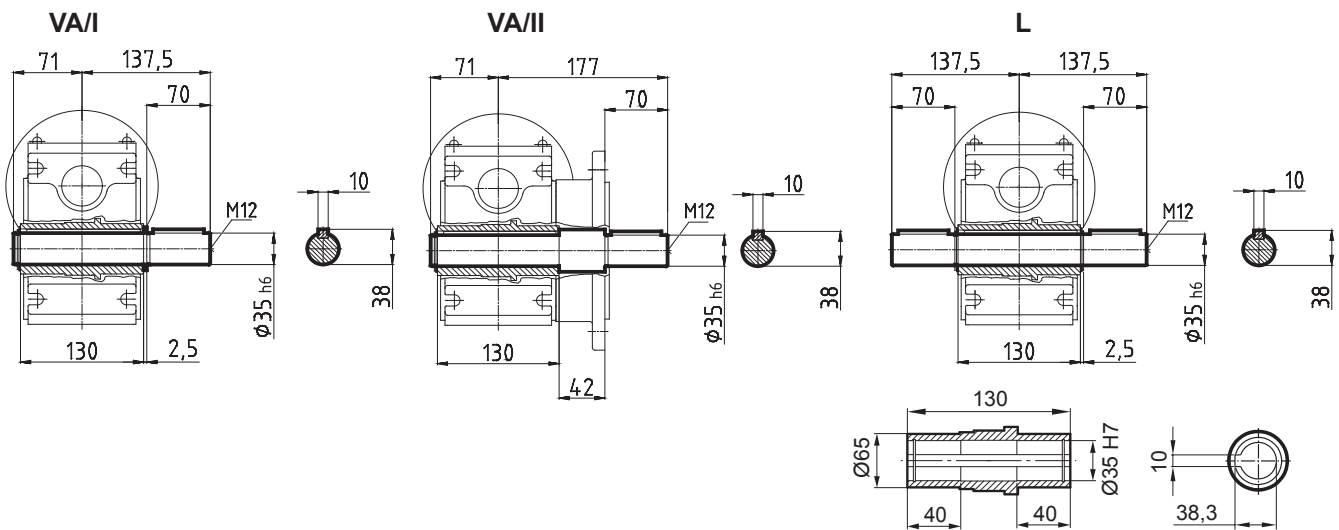
Covering cap

HA

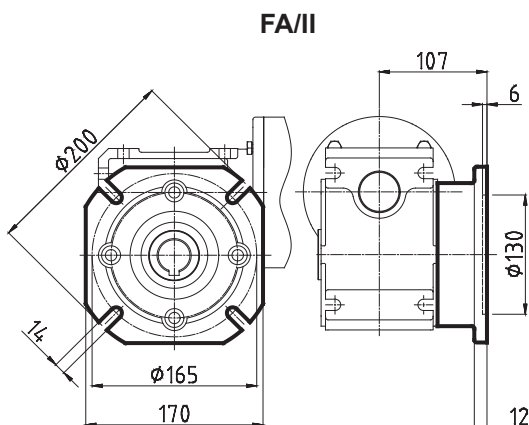




Plug-in shafts

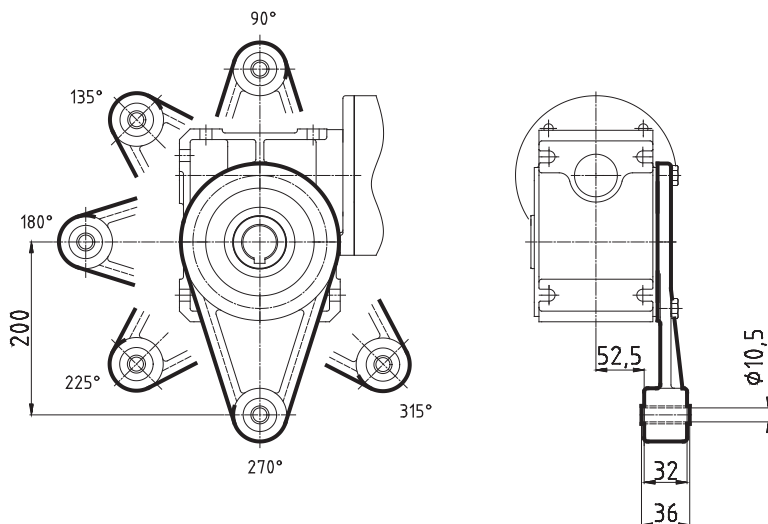


Output flange B5



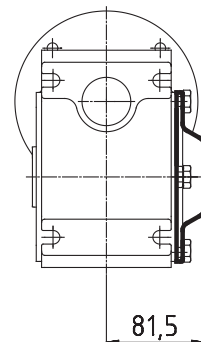
Torque support

DA/I 90 .. DA/I 315

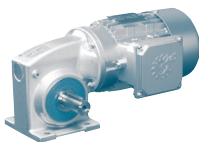


Covering cap

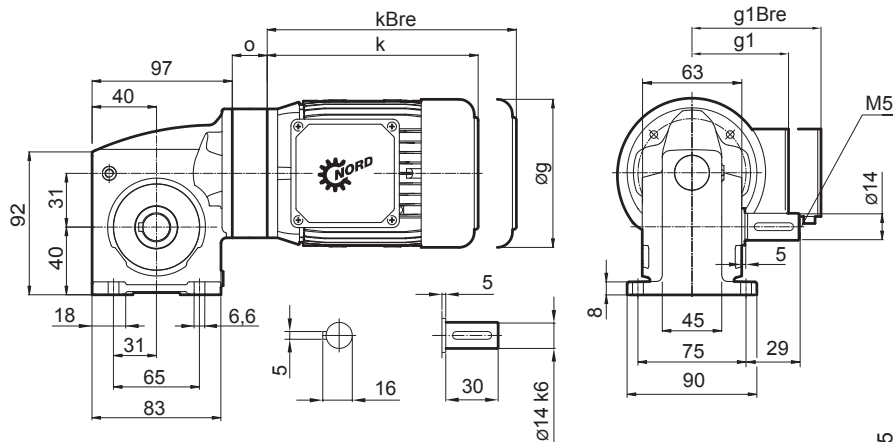
HA



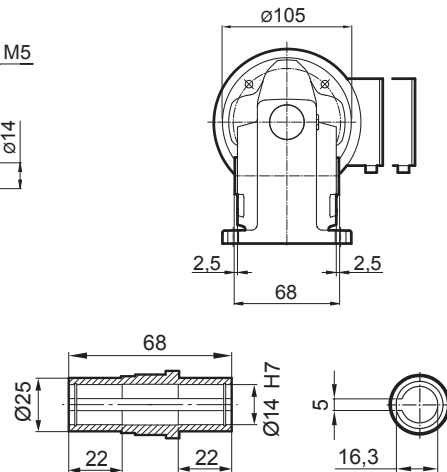
SK 1SMI 31



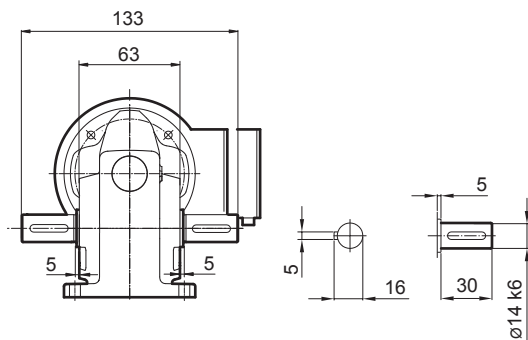
SK 1SMI 31 VX



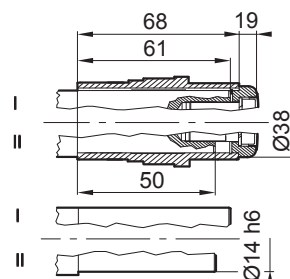
SK 1SMI 31 AX



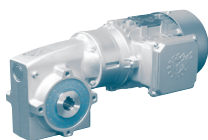
SK 1SMI 31 LX



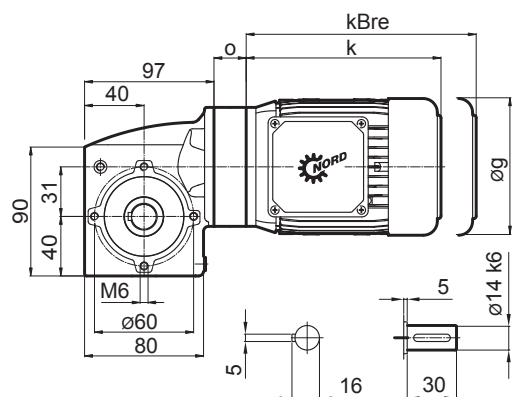
SK 1SMI 31 AXB(AZB)



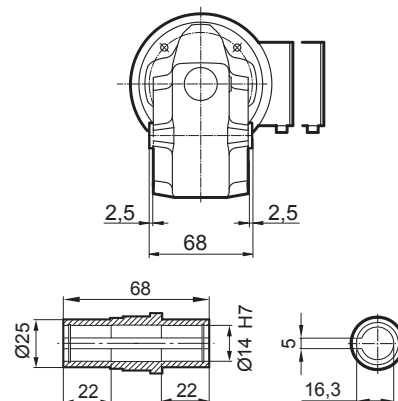
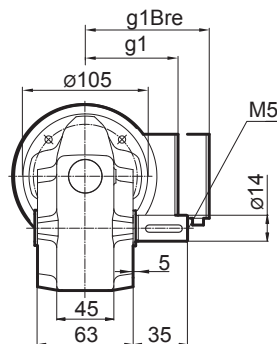
IE1 IE2 IE3	63 S / L - SP / LP	71 S / L - SP / LP			
g	130	145			
g1	116	124			
g1Bre	124	133			
k	192	214			
kBre	248	272			
o	29,5	29,5			



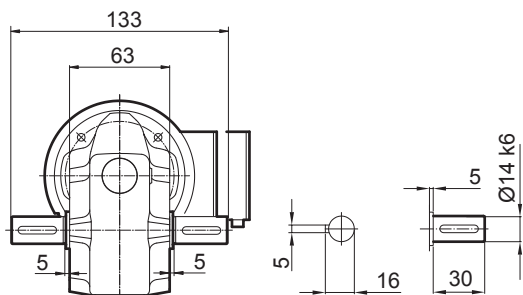
SK 1SMI 31 VZ



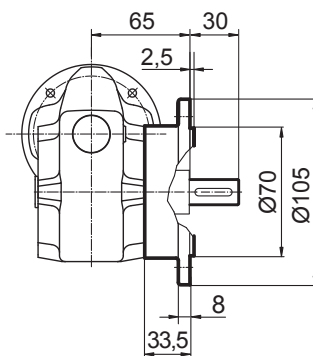
SK 1SMI 31 AZ



SK 1SMI 31 LZ

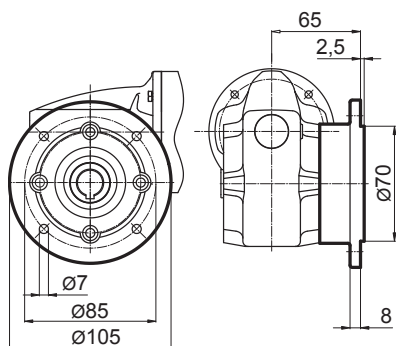


SK 1SMI 31 VF

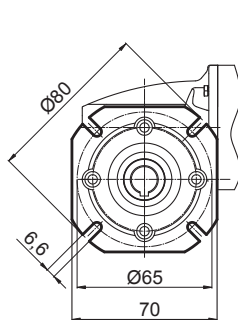


Output flange B5

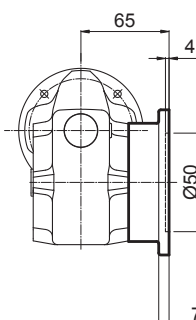
FA/I



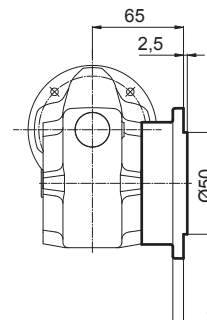
FA/II + F/III



FA/II

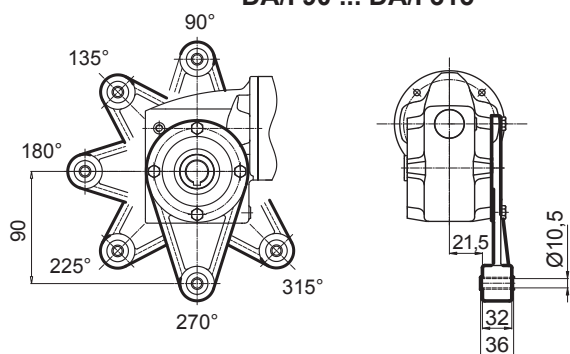


FA/III



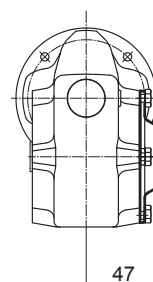
Torque support

DA/I 90 ... DA/I 315

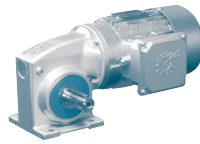


Covering cap

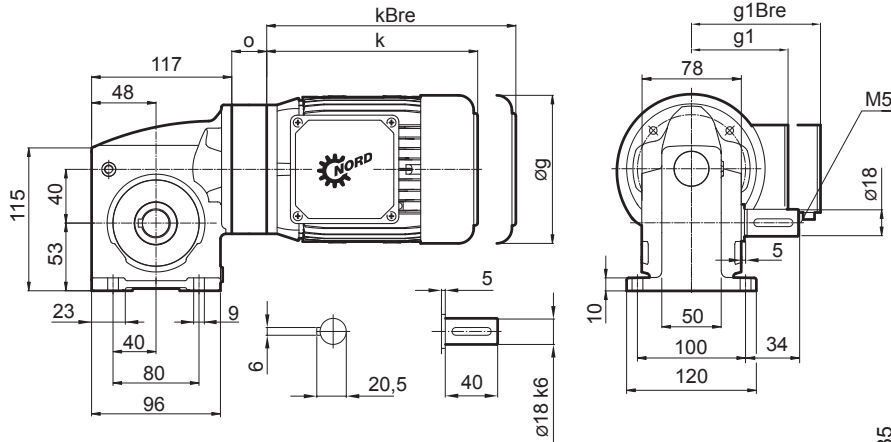
HA



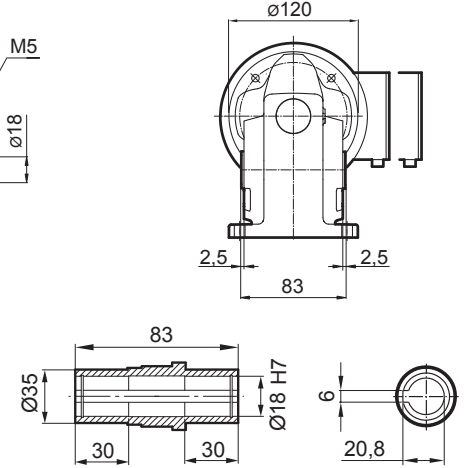
SK 1SMI 40



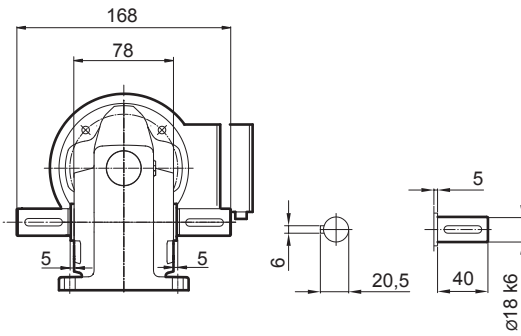
SK 1SMI 40 VX



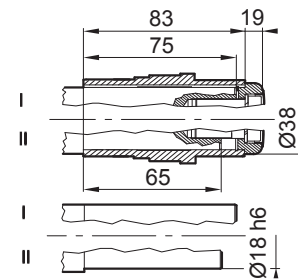
SK 1SMI 40 AX



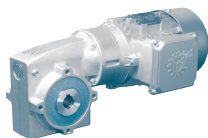
SK 1SMI 40 LX



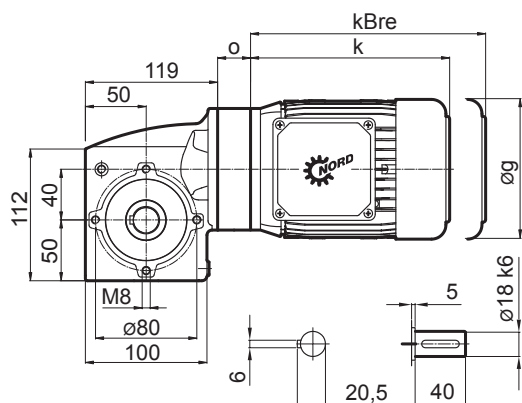
SK 1SMI 40 AXB(AZB)



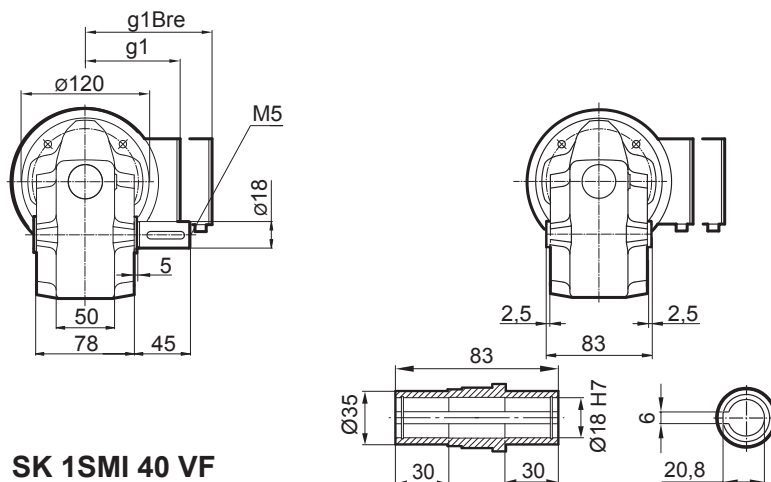
IE1 IE2 IE3	63 S / L - SP / LP	71 S / L - SP / LP	80 S / L SH / LH - / LP		
g	130	145	165		
g1	116	124	142		
g1Bre	124	133	143		
k	192	214	236		
kBre	248	272	300		
o	32,5	32,5	32,5		



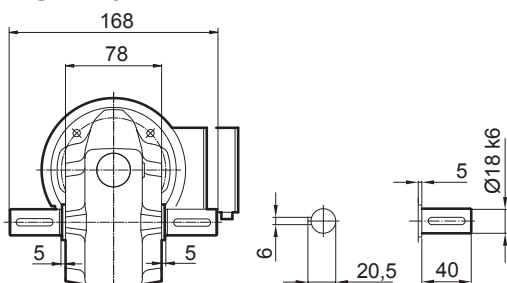
SK 1SMI 40 VZ



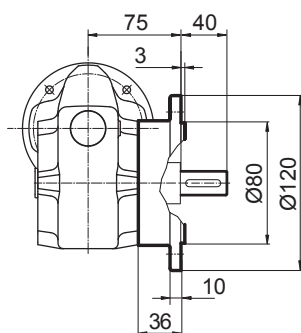
SK 1SMI 40 AZ



SK 1SMI 40 LZ

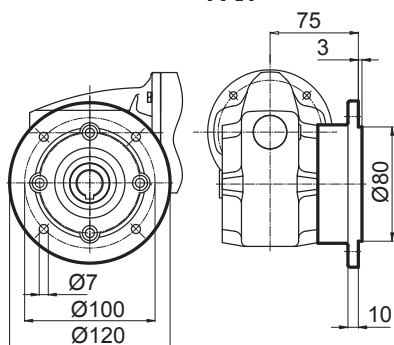


SK 1SMI 40 VF

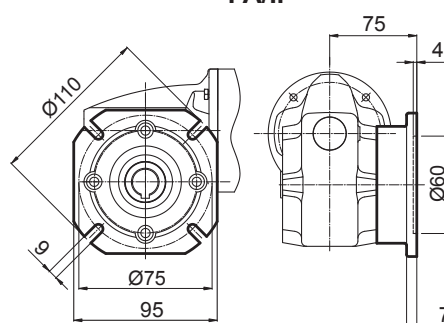


Output flange B5

FA/I

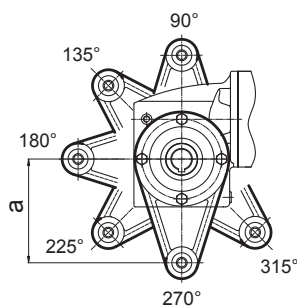


FA/II

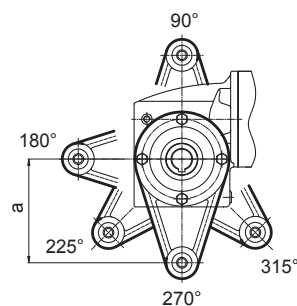


Torque support

DA/I 90 ... DA/I 315

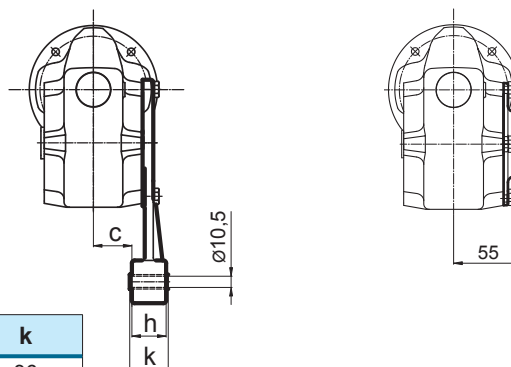


DA/III 90 ... DA/III 315



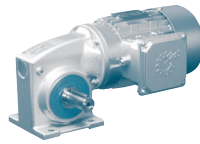
Covering cap

HA

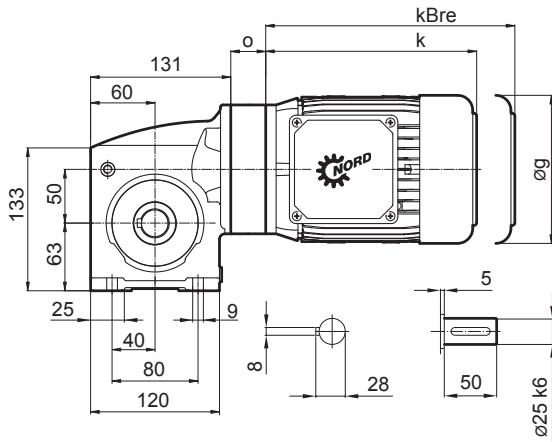


	a	c	h	k
I	130	29	32	36
III	100	34	14	14

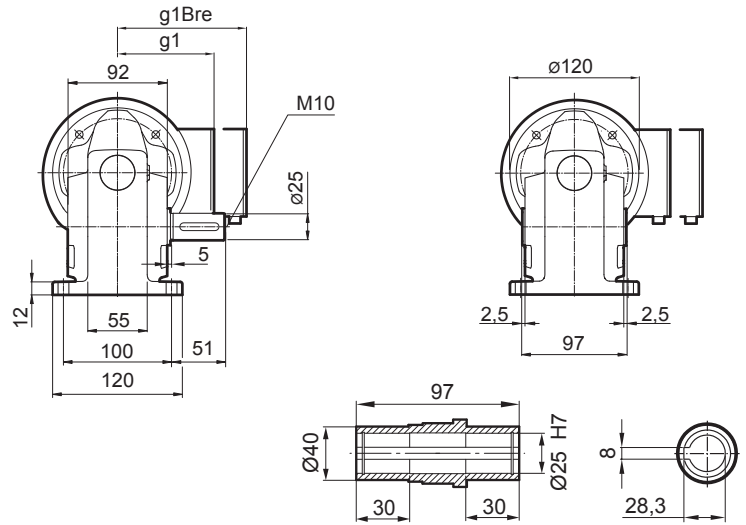
SK 1 SMI 50



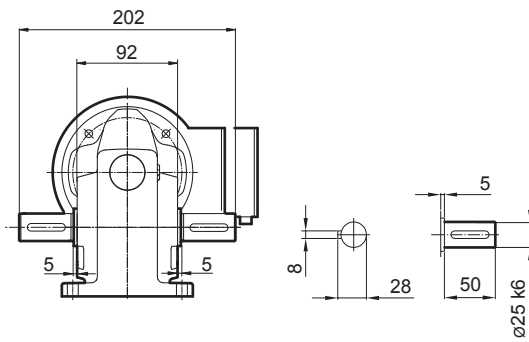
SK 1 SMI 50 VX



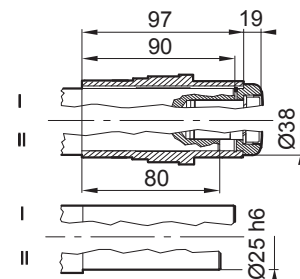
SK 1 SMI 50 AX



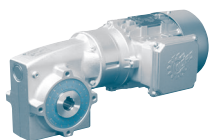
SK 1 SMI 50 LX



SK 1 SMI 50 AXB(AZB)



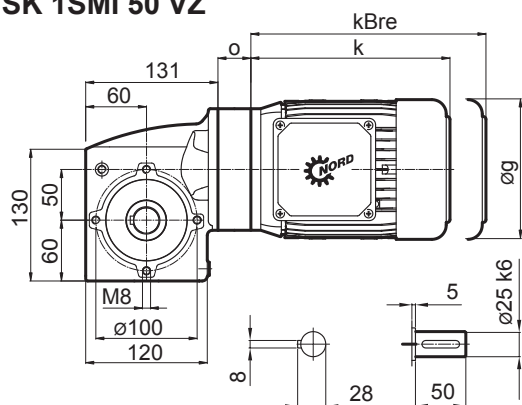
IE1 IE2 IE3	63 S / L - SP / LP	71 S / L - SP / LP	80 S / L SH / LH - / LP	90 S / L SH / LH SP / LP	
g	130	145	165	183	
g1	116	124	142	147	
g1Bre	124	133	143	148	
k	192	214	236	276	
kBre	248	272	300	351	
o	32,5	32,5	32,5	45,5	



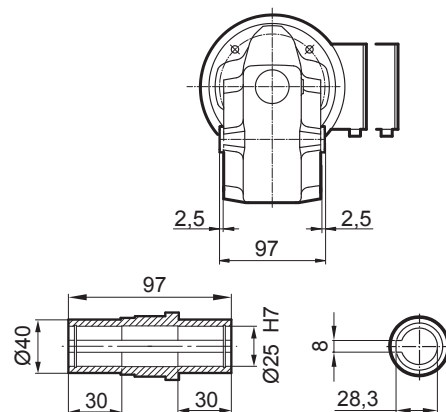
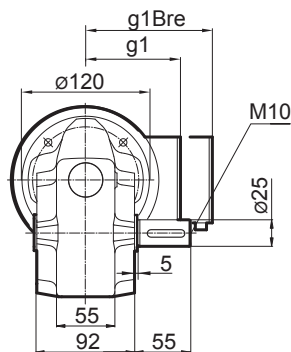
FAMCO
هایپر صنعت

SK 1 SMI 50

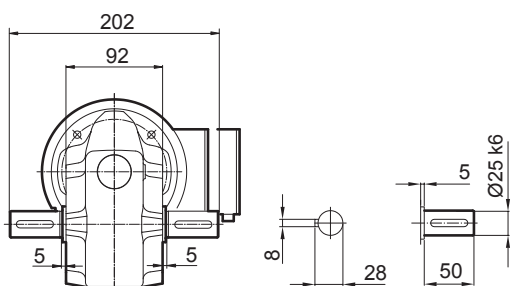
SK 1 SMI 50 VZ



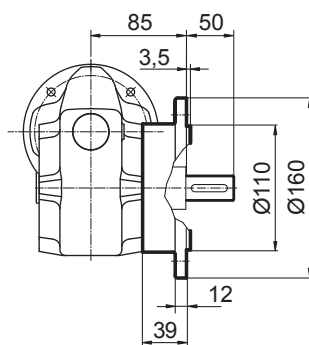
SK 1 SMI 50 AZ



SK 1 SMI 50 LZ

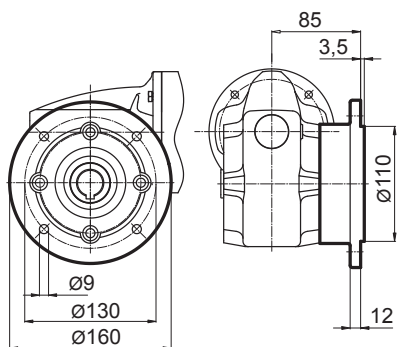


SK 1 SMI 50 VF

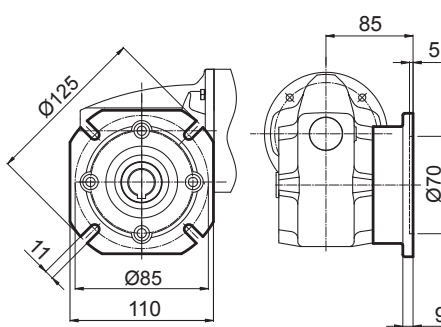


Output flange B5

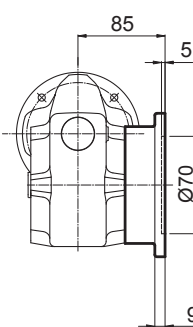
FA/I



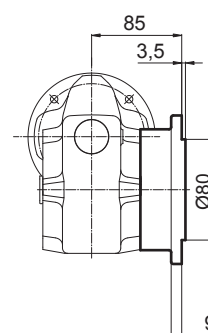
FA/II + FA/III



FA/II

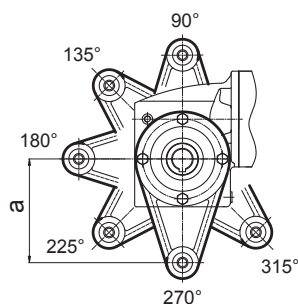


FA/III

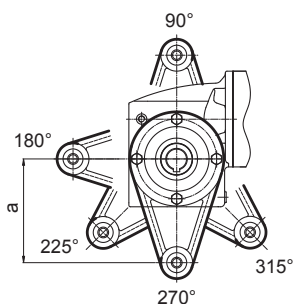


Torque support

DA/I 90 ... DA/I 315

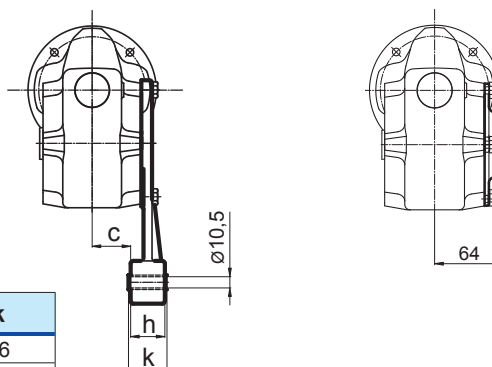


DA/II 90.. DA/II 315 + DA/III 90.. DA/III 315

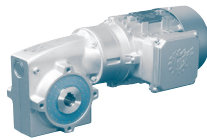


Covering cap

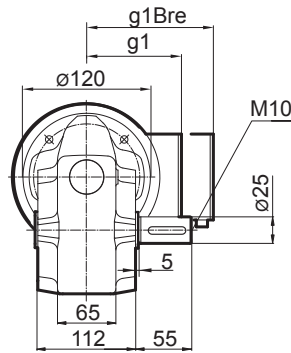
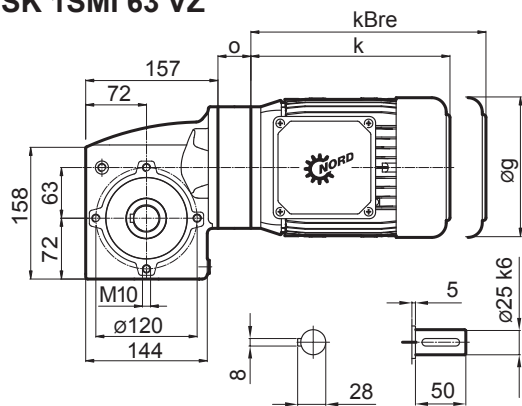
HA



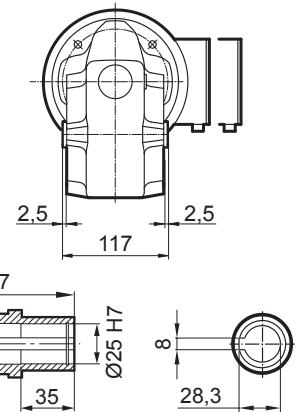
	a	c	h	k
I	130	36	32	36
II	110	41	14	14
III	100	41	14	14



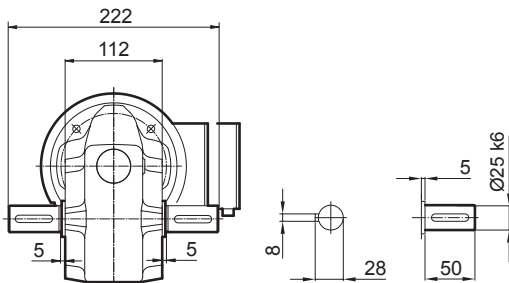
SK 1 SMI 63 VZ



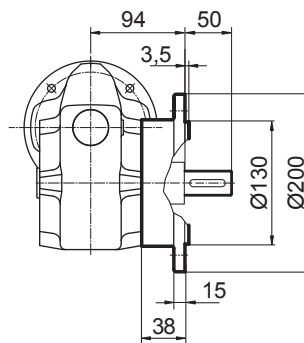
SK 1 SMI 63 AZ



SK 1 SMI 63 LZ

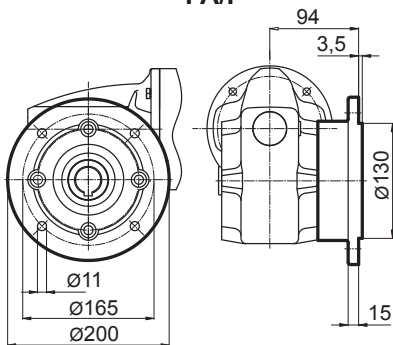


SK 1 SMI 63 VF

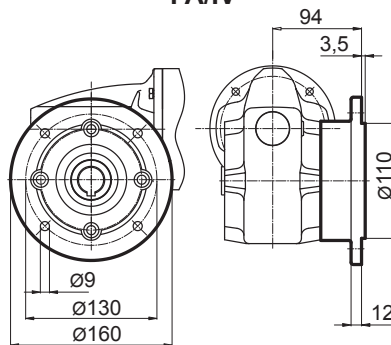


Output flange B5

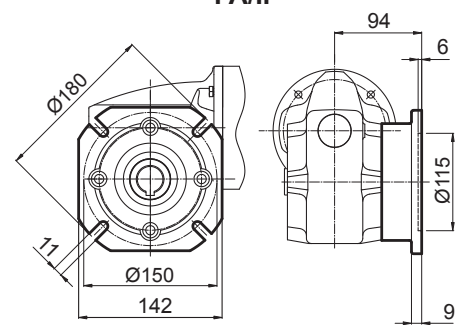
FA/I



FA/IV

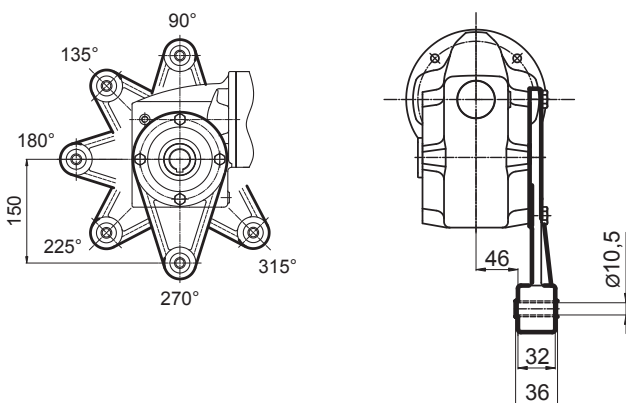


FA/II



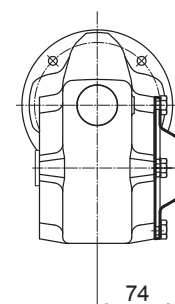
Torque support

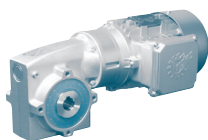
DA/I 90 ... DA/I 315



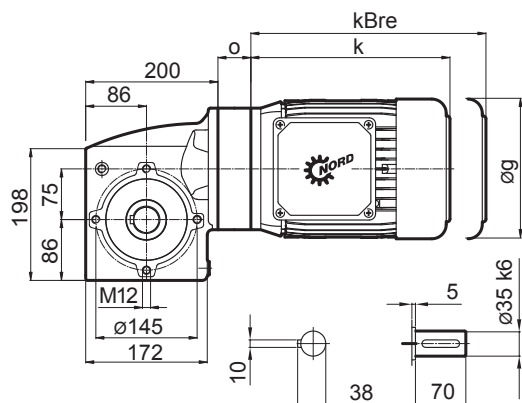
Covering cap

HA

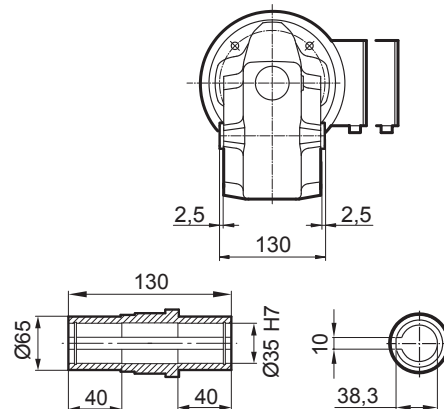
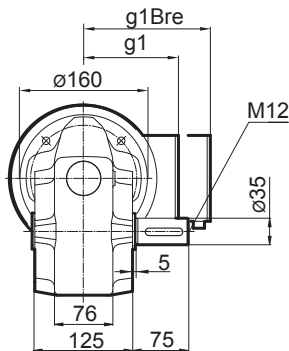




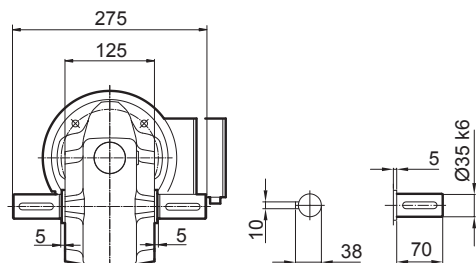
SK 1SMI 75 VZ



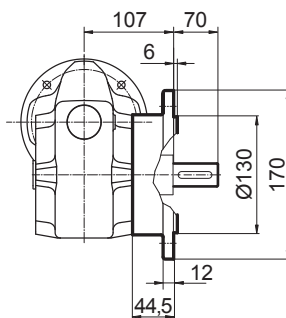
SK 1SMI 75 AZ



SK 1SMI 75 LZ

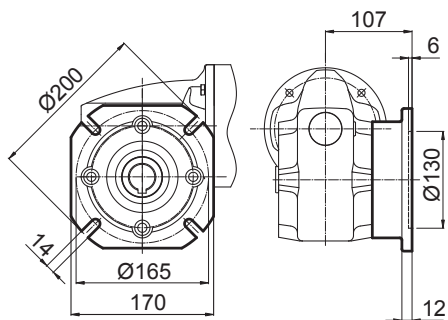


SK 1SMI 75 VF



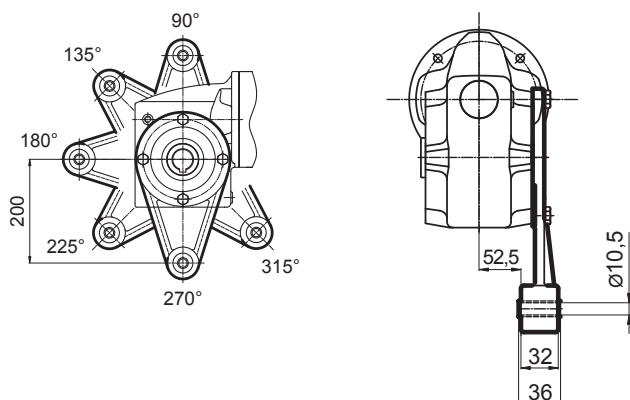
Output flange B5

FA/II



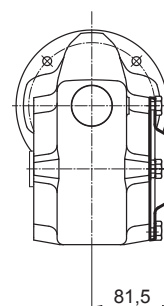
Torque support

DA/I 90 ... DA/I 315

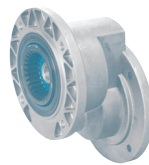


Covering cap

HA



SK 1SI 40... 50... 63/H10 SK 1SMI 40... 50... 63/H10



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Helical input stage

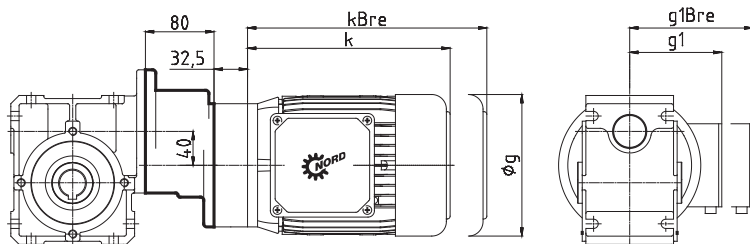
Helical input stage Type H10

The helical input stage has a speed ratio $i=10$ and is suitable for the worm gear modules SK 1SI 40, SK 1SI 50 and SK 1SI 63 as well as for the worm gear units SK 1SMI 40, SK 1SMI 50 and SK 1SMI 63.

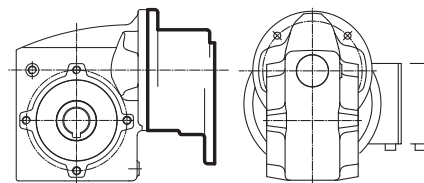
The helical input allows the construction of 2-stage helical worm gear motors and helical worm gear unit.

Helical worm gear motors

SK 1SI...



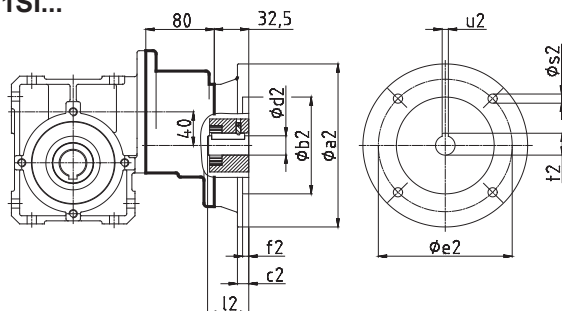
SK 1SMI...



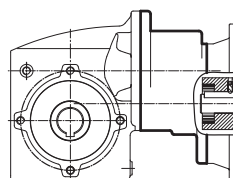
IE1 IE2 IE3	63 S / L - SP / LP	71 S / L - SP / LP
g	130	145
g1	115	124
g1Bre	123	133
k	192	214
kBre	248	272

Helical worm gear unit for attachment to IEC standard motors

SK 1SI...



SK 1SMI...



IEC-standard motor-adapter

	IEC 56	IEC 56	IEC 63	IEC 63	IEC 63	IEC 71	IEC 71	IEC 71	IEC 80	IEC 80	IEC 80		
	B14	B5	B14	B14	B5	B14	B14	B5	B14	B14	B5		
	C105	A120	C90	C120	A140	C105	C140	A160	C120	C160	A200		
a2	105	120	90	120	140	105	140	160	120	160	200		
b2	70	80	60	80	95	70	95	110	80	110	130		
c2	-	-	-	-	8	-	-	8	-	8	20		
d2	9	9	11	11	11	14	14	14	19	19	19		
e2	85	100	75	100	115	85	115	130	100	130	165		
f2	3	3,5	3	3,5	3,5	3	3,5	4	3,5	4	4		
l2	20	20	23	23	23	30	30	30	40	40	40		
s2	7	7	6	7	9	7	9	9	7	9	M10		
t2	11,4	11,4	12,8	12,8	12,8	16,3	16,3	16,3	21,8	21,8	21,8		
u2	3	3	4	4	4	5	5	5	6	6	6		

Helical input stage

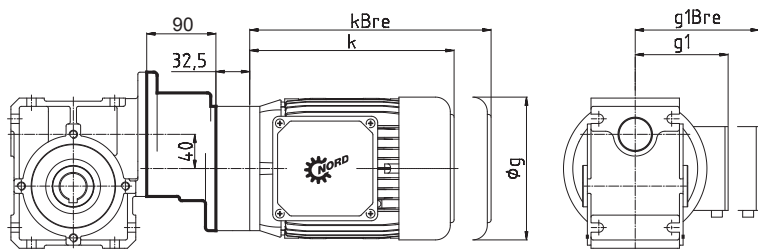
Helical input stage Type H10

The helical input stage has a speed ratio $i=10$ and is suitable for the worm gear modules SK 1SI 75, as well as for the worm gear units SK 1SMI 75.

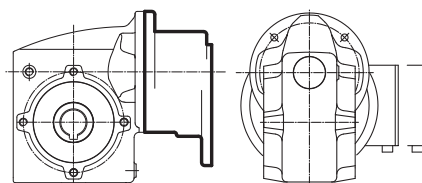
The helical input allows the construction of 2-stage helical worm gear motors and helical worm gear unit.

Helical worm gear motors

SK 1SI...



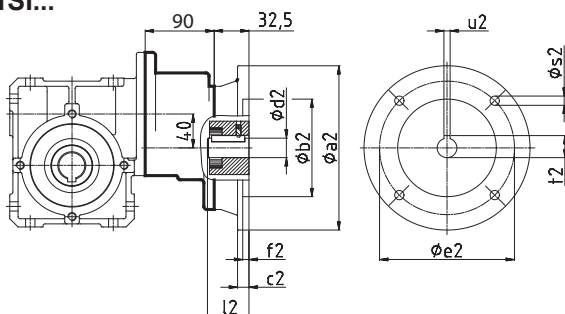
SK 1SMI...



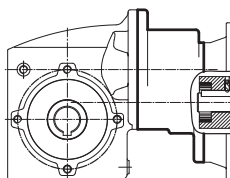
IE1 IE2 IE3	63 S / L - SP / LP	71 S / L - SP / LP	80 S / L SH / LH - / LP
g	130	145	165
g1	115	124	142
g1Bre	123	133	143
k	192	214	236
kBre	248	272	300

Helical worm gear unit for attachment to IEC standard motors

SK 1SI...



SK 1SMI...



IEC-standard motor-adapter

	IEC 56 B14 C105	IEC 56 B5 A120	IEC 63 B14 C90	IEC 63 B14 C120	IEC 63 B5 A140	IEC 71 B14 C105	IEC 71 B14 C140	IEC 71 B5 A160	IEC 80 B14 C120	IEC 80 B14 C160	IEC 80 B5 A200		
a2	105	120	90	120	140	105	140	160	120	160	200		
b2	70	80	60	80	95	70	95	110	80	110	130		
c2	-	-	-	-	8	-	-	8	-	8	20		
d2	9	9	11	11	11	14	14	14	19	19	19		
e2	85	100	75	100	115	85	115	130	100	130	165		
f2	3	3,5	3	3,5	3,5	3	3,5	4	3,5	4	4		
l2	20	20	23	23	23	30	30	30	40	40	40		
s2	7	7	6	7	9	7	9	9	7	9	M10		
t2	11,4	11,4	12,8	12,8	12,8	16,3	16,3	16,3	21,8	21,8	21,8		
u2	3	3	4	4	4	5	5	5	6	6	6		

SK 1SI 40... 50... 63/31 SK 1SMI 40... 50... 63/31



Double worm gear adapter

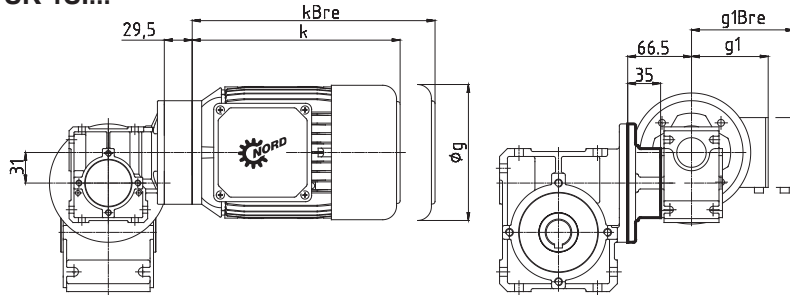
Double worm gear unit adapter

The double worm gear unit is an adapter which allows the worm gear SK 1SI 31 to be used as an input stage for the worm gear SK 1SI 40, SK 1SI 50 and SK 1SI 63 as well as for the worm gear units SK 1SMI 40, SK 1SMI 50 and SK 1SMI 63.

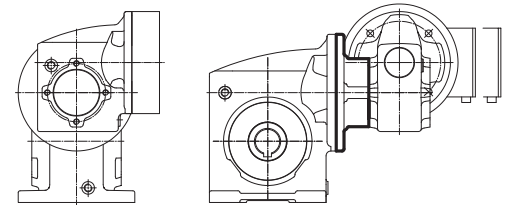
The double worm gear allows the construction of double worm gear motors and double worm gear units.

Double worm gear motors

SK 1SI...



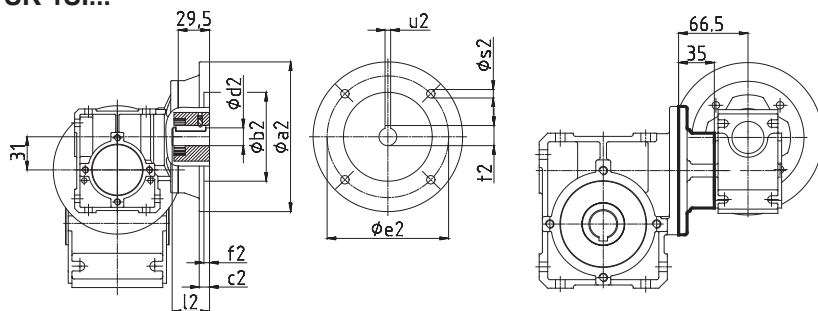
SK 1SMI...



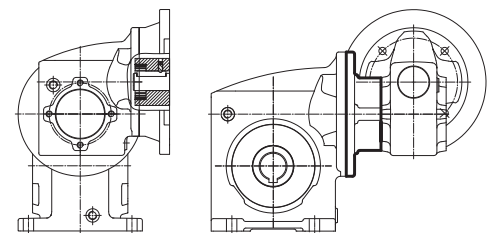
IE1	63 S / L	71 S / L
IE2	-	-
IE3	SP / LP	SP / LP
g	130	145
g1	115	124
g1Bre	123	133
k	192	214
kBre	248	272

Double worm gear unit for attachment to IEC standard motors

SK 1SI...



SK 1SMI...



IEC-standard motor-adapter

	IEC 56	IEC 56	IEC 63	IEC 63	IEC 63	IEC 71	IEC 71						
	B14	B5	B14	B14	B5	B14	B14						
	C105	A120	C90	C120	A140	C105	C140						
a2	105	120	90	120	140	105	140						
b2	70	80	60	80	95	70	95						
c2	-	-	-	-	8	-	-						
d2	9	9	11	11	11	14	14						
e2	85	100	75	100	115	85	115						
f2	3	3,5	3	3,5	3,5	3	3,5						
l2	20	20	23	23	23	30	30						
s2	7	7	6	7	9	7	9						
t2	11,4	11,4	12,8	12,8	12,8	16,3	16,3						
u2	3	3	4	4	4	5	5						



Double worm gear adapter

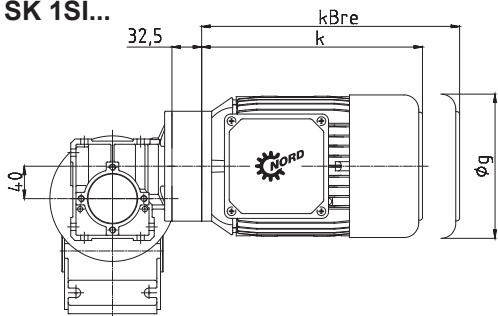
Double worm gear adapter

The double worm gear is an adapter, which allows the worm gear unit SK 1SI 40 to be used as the input stage for the worm gear SK 1SI 75 and for the worm gear unit SK 1SMI 75.

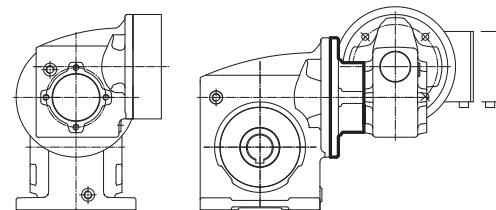
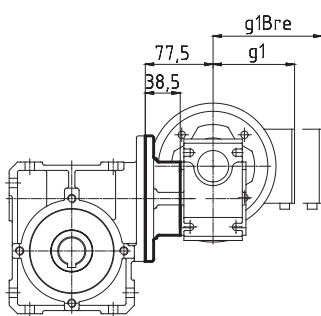
The double worm gear allows the construction of double worm gear motors and double worm gear units.

Double worm gear motor

SK 1SI...



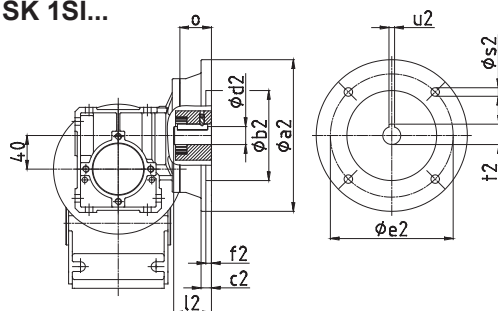
SK 1SMI...



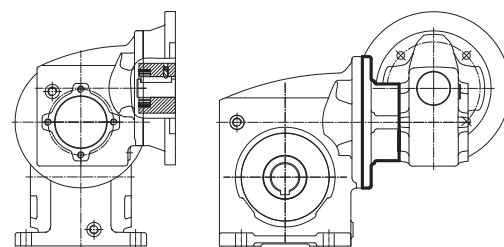
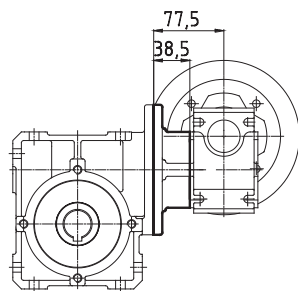
IE1	63 S / L	71 S / L
IE2	-	-
IE3	SP / LP	SP / LP
g	130	145
g1	115	124
	g1Bre 123	133
k	192	214
kBre	248	272

Double worm gear unit for attachment to IEC standard motors

SK 1SI...



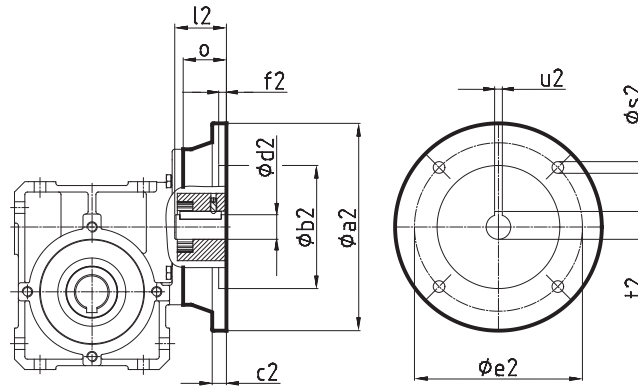
SK 1SMI...



IEC-standard motor-adapter

	IEC 56	IEC 56	IEC 63	IEC 63	IEC 63	IEC 71	IEC 71	IEC 71	IEC 80	IEC 80	IEC 80	IEC 90	IEC 90
	B14	B5	B14	B14	B5	B14	B14	B5	B14	B14	B5	B14	B14
	C105	A120	C90	C120	A140	C105	C140	A160	C120	C160	A200	C140	C160
a2	105	120	90	120	140	105	140	160	120	160	200	140	160
b2	70	80	60	80	95	70	95	110	80	110	130	95	110
c2	-	-	-	-	8	-	-	8	-	8	20	-	8
d2	9	9	11	11	11	14	14	14	19	19	19	24	24
e2	85	100	75	100	115	85	115	130	100	130	165	115	130
f2	3	3,5	3	3,5	3,5	3	3,5	4	3,5	4	4	3,5	4
l2	20	20	23	23	23	30	30	30	40	40	40	50	50
o	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	32,5	45,5	45,5
s2	7	7	6	7	9	7	9	9	7	9	M10	9	9
t2	11,4	11,4	12,8	12,8	12,8	16,3	16,3	16,3	21,8	21,8	21,8	27,3	27,3
u2	3	3	4	4	4	5	5	5	6	6	6	8	8

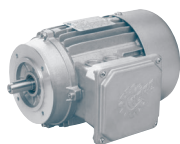
IEC standard motor adapter



Motor-adapter	a2	b2	e2	f2	s2	d2	l2	t2	u2	SI					
										SI 31	SI 40	SI 50	SI 63	SI 75	H10
IEC 56 B14 C105	105	70	85	3	7	9	20	11,4	3	29,5	32,5	32,5	32,5		32,5
IEC 56 B5 A120	120	80	100	3,5	7	9	20	11,4	3	29,5	32,5	32,5	32,5		32,5
IEC 63 B14 C90	90	60	75	3	6	11	23	12,8	4	29,5	32,5	32,5	32,5		32,5
IEC 63 B14 C120	120	80	100	3,5	7	11	23	12,8	4	29,5	32,5	32,5	32,5		32,5
IEC 63 B5 A140	140	95	115	3,5	9	11	23	12,8	4	29,5	32,5	32,5	32,5		32,5
IEC 71 B14 C105	105	70	85	3	7	14	30	16,3	5	29,5	32,5	32,5	32,5	36	32,5
IEC 71 B14 C140	140	95	115	3,5	9	14	30	16,3	5	29,5	32,5	32,5	32,5	36	32,5
IEC 71 B5 A160	160	110	130	4	9	14	30	16,3	5	-	32,5	32,5	32,5	36	32,5
IEC 80 B14 C120	120	80	100	3,5	7	19	40	21,8	6	-	32,5	32,5	32,5	36	32,5
IEC 80 B14 C160	160	110	130	4	9	19	40	21,8	6	-	32,5	32,5	32,5	36	32,5
IEC 80 B5 A200	200	130	165	4	M10	19	40	21,8	6	-	32,5	32,5	32,5	36	32,5
IEC 90 B14 C140	140	95	115	3,5	9	24	50	27,3	8	-	45,5	45,5	32,5	36	-
IEC 90 B14 C160	160	110	130	4	9	24	50	27,3	8	-	45,5	45,5	32,5	36	-
IEC 90 B5 A200	200	130	165	4	M10	24	50	27,3	8	-	45,5	45,5	32,5	36	-
IEC 100 B14 C160	160	110	130	4	9	28	60	31,3	8	-	-	-	-	36	-
IEC 100 B14 C200	200	130	165	4	11	28	60	31,3	8	-	-	-	-	36	-
IEC 100 B5 A250	250	180	215	5	M12	28	60	31,3	8	-	-	-	-	36	-
IEC 112 B14 C160	160	110	130	4	9	28	60	31,3	8	-	-	-	-	36	-
IEC 112 B14 C200	200	130	165	4	11	28	60	31,3	8	-	-	-	-	36	-
IEC 112 B5 A250	250	180	215	5	M12	28	60	31,3	8	-	-	-	-	36	-

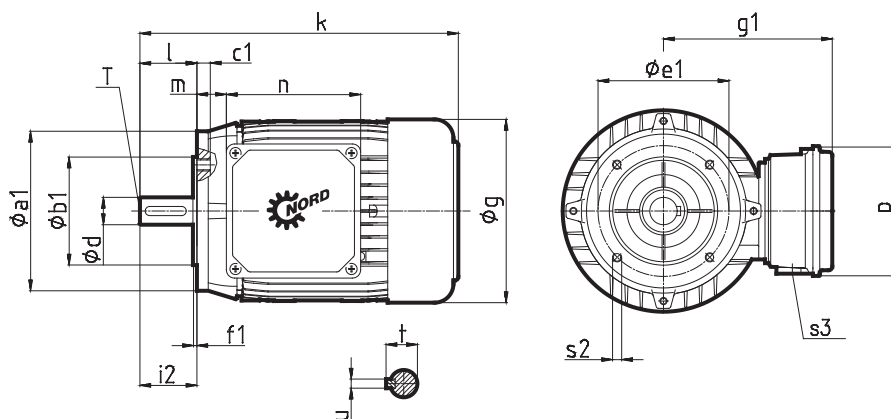
Motor-adapter	Available version					
	SK 1SI 31	SK 1SI 40	SK 1SI 50	SK 1SI 63	SK 1SI 75	SK H10
IEC 56 B14 C105	✓	✓	✓	✓		✓
IEC 56 B5 A120	✓	✓	✓	✓		✓
IEC 63 B14 C90	✓*	✓*	✓*	✓*		✓*
IEC 63 B14 C120	✓	✓	✓	✓		✓
IEC 63 B5 A140	✓	✓	✓	✓		✓
IEC 71 B14 C105	✓*	✓*	✓*	✓*	✓*	✓*
IEC 71 B14 C140	✓	✓	✓	✓	✓	✓
IEC 71 B5 A160		✓	✓	✓	✓	✓
IEC 80 B14 C120		✓*	✓*	✓*	✓*	✓
IEC 80 B14 C160		✓	✓	✓	✓	✓
IEC 80 B5 A200		✓	✓	✓	✓	✓
IEC 90 B14 C140		✓*	✓*	✓*	✓*	
IEC 90 B14 C160		✓	✓	✓	✓	
IEC 90 B5 A200		✓	✓	✓	✓	
IEC 100 B14 C160					✓	
IEC 100 B14 C200					✓	
IEC 100 B5 A250					✓*	
IEC 112 B14 C160					✓	
IEC 112 B14 C200					✓	
IEC 112 B5 A250					✓*	

* Standard



IEC three-phase motor / brake motor

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Three-phase motors					M_B	P_1	n_1	a_1	k	c_1	d	t	f_1	g	i_2	s_3	m	
IE1	IE2	IE3			[Nm]	[kW]	[min ⁻¹]	b1	[kg]	e1	T	u	s2	g1	l	n	p	
63	S/4	-	SP/4	B14 C90		0,12	1335	90 60	3,6	215	8 75	11 M4	12,5 4	2,5 M5	130 115	23 23	M20 100	12 100
63	L/4	-	LP/4	B14 C90		0,18	1350	90 60	4,2	215	8 75	11 M4	12,5 4	2,5 M5	130 115	23 23	M20 100	12 100
71	S/4	-	SP/4	B14 C105		0,25	1380	105 70	5,4	244	12 85	14 M5	16 5	2,5 M6	145 124	30 30	M20 100	20 100
71	L/4	-	LP/4	B14 C105		0,37	1380	105 70	6,3	244	12 85	14 M5	16 5	2,5 M6	145 124	30 30	M20 100	20 100
80	S/4	SH/4	-	B14 C120		0,55	1375	120 80	8	276	12 100	19 M6	21,5 6	3,0 M6	165 142	40 40	M25 114	22 114
80	L/4	LH/4	LP/4	B14 C120		0,75	1375	120 80	9	276	12 100	19 M6	21,5 6	3,0 M6	165 142	40 40	M25 114	22 114
90	S/4	SH/4	SP/4	B14 C140		1,1	1395	140 95	12	326	15 115	24 M8	27 8	3,0 M8	183 147	50 50	M25 114	26 114
90	L/4	LH/4	LP/4	B14 C140		1,5	1395	140 95	14	326	15 115	24 M8	27 8	3,0 M8	183 147	50 50	M25 114	26 114
100	L/4	LH/4	LP/4	B5 A250		2,2	1440	250 180	24	366	15 215	28 M10	31 8	4,0 14	201 169	60 60	M32 114	32 114
100	LA/4	AH/4	AP/4	B5 A250		3,0	1415	250 180	27	366	15 215	28 M10	31 8	4,0 14	201 169	60 60	M32 114	32 114
112	M/4	-	-	B5 A250		4,0	1445	250 180	36	386	15 215	28 M10	31 8	4,0 14	228 179	60 60	M32 114	45 114
112	-	MH/4	MP/4	B5 A250		4,0	1445	250 180	36	411	15 215	28 M10	31 8	4,0 14	228 179	60 60	M32 114	45 114

Brake motors					M_B	P_1	n_1	a_1	k	c_1	d	t	f_1	g	i_2	s_3	m	
IE1	IE2	IE3			[Nm]	[kW]	[min ⁻¹]	b1	[kg]	e1	T	u	s2	g1	l	n	p	
63	S/4	-	SP/4	B14 C90 BRE 5	(1)5	0,12	1335	90 60	5,6	271	8 75	11 M4	12,5 4	2,5 M5	130 123	23 23	M20 132	19 87
63	L/4	-	LP/4	B14 C90 BRE 5	(1)5	0,18	1350	90 60	6,2	271	8 75	11 M4	12,5 4	2,5 M5	130 123	23 23	M20 132	19 87
71	S/4	-	SP/4	B14 C105 BRE 5	(1)5	0,25	1380	105 70	7,4	302	12 85	14 M5	16 5	2,5 M6	146 133	30 30	M20 132	27 87
71	L/4	-	LP/4	B14 C105 BRE 5	(1)5	0,37	1380	105 70	8,3	302	12 85	14 M5	16 5	2,5 M6	146 133	30 30	M20 132	27 87
80	S/4	SH/4	-	B14 C120 BRE 5	(1)5	0,55	1375	120 80	11	340	12 100	19 M6	21,5 6	3,0 M6	165 143	40 40	M25 153	26 108
80	L/4	LH/4	LP/4	B14 C120 BRE 10	(1)10	0,75	1375	120 80	12	340	12 100	19 M6	21,5 6	3,0 M6	165 143	40 40	M25 153	26 108
90	S/4	SH/4	SP/4	B14 C140 BRE 10	(1)10	1,1	1395	140 95	17	401	15 115	11 165	27 8	3,0 M8	183 148	50 50	M25 153	30 108
90	L/4	LH/4	LP/4	B14 C140 BRE 20	(1)20	1,5	1395	140 95	19	401	15 115	24 M8	27 8	3,0 M8	183 148	50 50	M25 153	30 108
100	L/4	LH/4	LP/4	B5 A250 BRE 20	(1)20	2,2	1440	250 180	31	457	15 215	28 M10	31 8	4,0 14	201 159	60 60	M25 153	36 108
100	LA/4	AH/4	AP/4	B5 A250 BRE 40	(1)40	3,0	1415	250 180	34	479	15 215	28 M10	31 8	4,0 14	201 159	60 60	M25 153	36 108
112	M/4	-	-	B5 A250 BRE 40	(1)40	4,0	1445	250 180	46	598	15 215	28 M10	31 8	4,0 14	228 170	60 60	M25 153	49 108
112	-	MH/4	MP/4	B5 A250 BRE 40	(1)40	4,0	1445	250 180	46	623	15 215	28 M10	31 8	4,0 14	228 170	60 60	M25 153	49 108

SK 1SI 40... 50... 63... 75 - W
SK 1SMI 40... 50... 63... 75 - W



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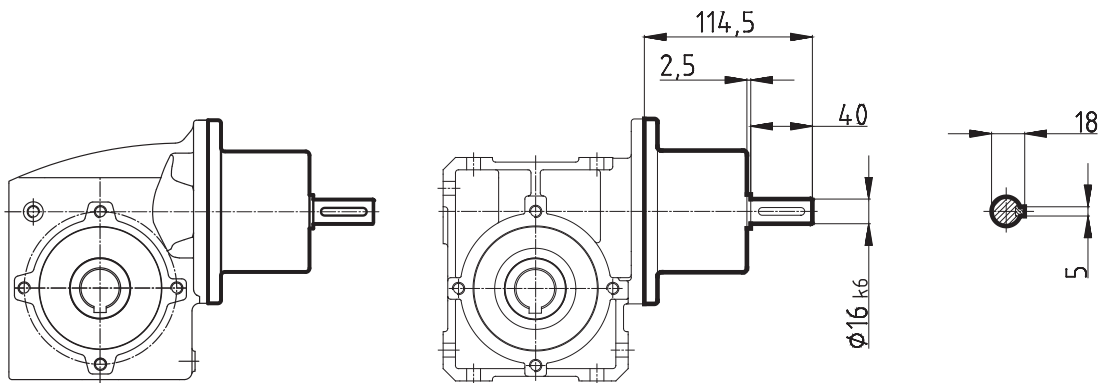


Type W - free drive shaft

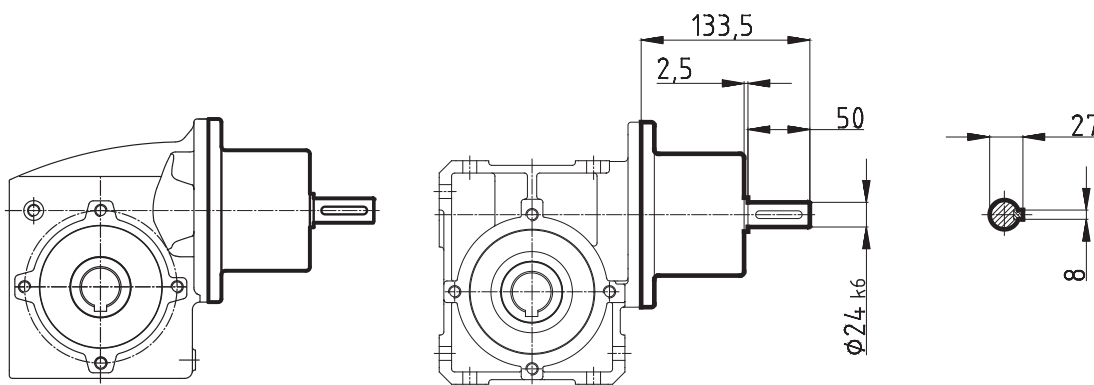
Free Drive Shaft - Type W

The Type W free drive shaft implements a free drive shaft for the worm gear modules SK 1SI 40, SK 1SI 50, SK 1SI 63, SK 1SI 75 as well as for the worm gear units SK 1SMI 40, SK 1SMI 50, SK 1SMI 63, SK 1SMI 75 and the helical gear input stage H10.

SK 1SI 40 ... 50 ... 63 - W
SK 1SMI 40 ... 50 ... 63 - W



SK 1SI 75 - W
SK 1SMI 75 - W



An overview of the NORD range

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G1000 Fixed speeds UNICASE housing 50 Hz, 60 Hz

- NORDBLOC.1 Helical geared motors
- Helical geared motors
- Parallel geared motors
- Bevel geared motors
- Helical worm geared motors

G4014 Electronic variable speed drives

- NORDBLOC.1 Helical geared motors
- Helical geared motors
- Parallel geared motors
- Bevel geared motors
- Helical worm geared motors

G1050 MAXXDRIVE Industrial gear units UNICASE housing 50 / 60 Hz

- Parallel-Axis
- Right-Angle

M7000 Motors

- Efficiency classes IE1, IE2, IE3

F3018 Frequency inverter SK180E

F3020 Frequency inverter SK200E



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in Bargteheide close to Hamburg

Innovative drive solutions
for more than 100 branches of industry

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parallell shaft, helical gear, bevel gear and worm gear units

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Electronic products
centralised and decentralised frequency inverters,
motor starters and field distribution systems

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for all drive components

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technical support and customer service

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