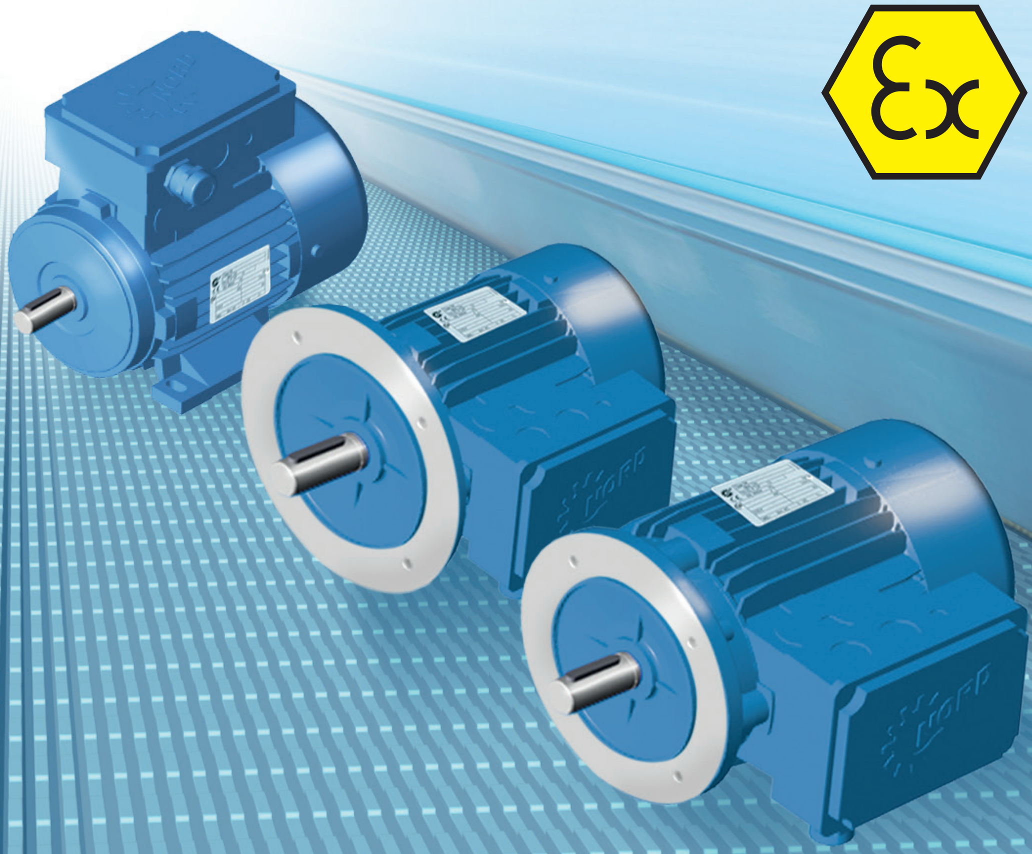
Intelligent Drivesystems, Worldwide Services

NORD ATEX
II 2G Ex e Motors

ATEX konform II 2G



EN

PRODUCT CATALOGUE
M7003

NORD DRIVESYSTEMS

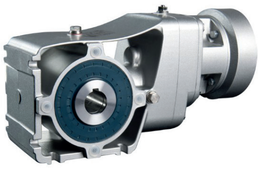
Contents

NORD DRIVESYSTEMS Group

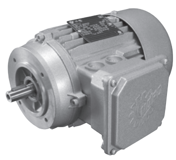
Headquarters and Technology Centre

- In Bargteheide near Hamburg

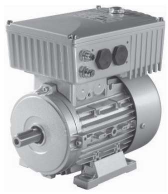
Mechanical products	Electrical products	Electronic products
Gear units	Motor	Frequency inverters and motor starters



Gear unit production



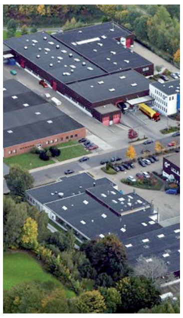
Motor production



Inverter production

Innovative drive solutions

- For more than 100 industrial sectors



7 production locations with cutting edge technology

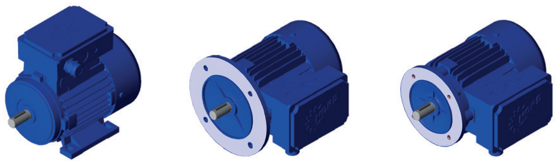
- For all drive components

36 subsidiaries on 5 continents

- Provide local supplies
- Assembly centres
- Technical support
- Customer service

More than 3,200 employees throughout the world

- Create customised solutions



Increased safety (Ex e)

Explosion protected motors with ignition protection class Ex e fulfil the stringent requirements of EN 60079-0 and EN 60079-7.

Special constructional features reliably prevent the occurrence of impermissibly high temperatures as well as arcing in sparks on and in the electric motor. Electric motors with ignition protection class Ex e are therefore suitable for use in Zone 1 and Zone 2 according to EN 60079-10-1. Compliance with the relevant operating and maintenance instructions is essential for safe operation.

Notice!

Depending on their size, electric motors with ignition protection class Ex e which are produced as of 2015 are supplied with unreduced motor power. Please note the performance rating table on page ⇨🕮 3.

Motor protection

Each Ex e motor must by protected against impermissible heating due to overload by means of a motor protection switch. The function test is certified by a notified body.

Thermal protection of the machine by means of direct temperature monitoring of the windings with a thermistor temperature sensor is permissible, if this is certified and stated on the rating plate.

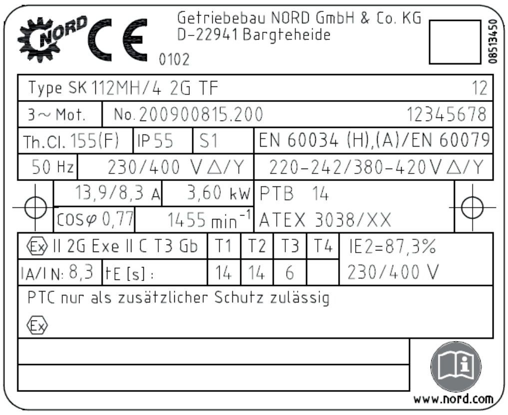
If the only protection is a PTC thermistor temperature sensor, a performance-tested, PTC tripping device certified by a designated body must be used.

Ex II (2) G

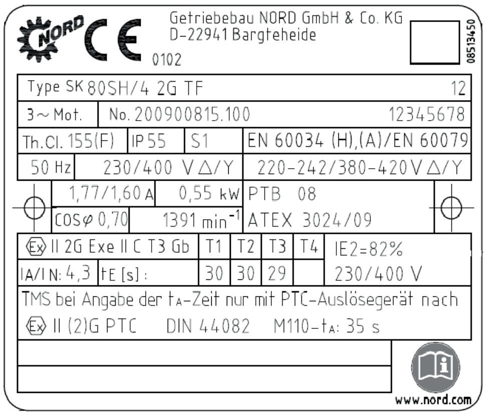
The PTC tripping device must be equipped with this protection class labelling.

Type plate - examples

No sole means of protection via temperature sensor



Sole protection via temperature sensor



Attention! Danger!

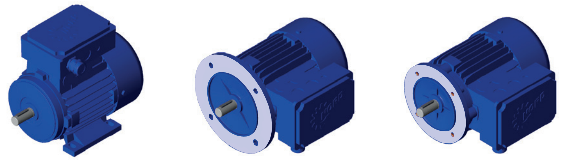
- If the time tA is not stated on the type plate, the thermistor is not permissible as the sole means of protection

  It is essential that the motor is protected with a motor protection relay which has been approved by a testing facility. The motor protection relay must be approved for the ignition protection class which is stated on the motor.

- A thermistor is permissible as the sole protection

Direct mounting

As with all NORD motors, Ex e motors can be directly mounted on NORD gear units.



NORD ATEX 2G (Gas) - Ex e motors

Temperature classes: T1, T2, T3
Efficiency class: > 0,37 kW IE2
Voltage: 230/ 400V , 400/690V - 50 Hz
Operating mode: S1

Type	P_N	n_N	M_N	I_N		cos φ	η	M_A/M_N	M_K/M_N	I_A/I_N	J	kg	Sole protec. with therm.	Time $_{tE}$	Time $_{tE}$	Ma	Mk
				230/400 V	400/690 V							*	**	T1/T2	T3		
	[kW]	[1/min]	[Nm]				[%]				[kgm²]	[kg]		[s]	[s]	[Nm]	[Nm]
63	coming soon																
71																	
80SH/4 2G	0,55	1415	3,71	2,86/1,65		0,66	77,1	3,2	3,2	4,8	0,0014	9,0	ja	45/45	40	11,7	11,9
80LH/4 2G	0,75	1400	5,12	3,55/2,05		0,68	79,6	3,0	3,1	4,9	0,0019	10,2	ja	45/45	31	15,2	15,7
90SH/4 2G	1,10	1425	7,37	5,00/2,90		0,70	81,4	3,1	3,5	5,8	0,0034	15,1	ja	24/24	21	22,7	25,6
90LH/4 2G	1,50	1425	10,05	7,53/4,35		0,65	83,6	3,3	3,5	5,6	0,0039	16,8	ja	17/17	9	33,3	35,4
100LH/4 2G	2,20	1445	14,54	10,00/5,80	5,80/3,35	0,71	84,3	3,7	4,3	7,1	0,0075	25,2	ja	18/18	13	54,0	62,0
100AH/4 2G	3,00	1450	19,76	12,64/7,30	7,30/4,21	0,76	85,5	2,4	3,6	6,5	0,0081	27,4	ja	10/10	9	47,7	70,2
112MH/4 2G	3,60	1445	23,79	13,90/8,00	8,00/4,64	0,77	86,2	3,4	4,0	8,3	0,014	35,5	nein	14/14	6	82,0	96,0
132SH/4 2G	5,50	1460	35,98	20,78/12,00	12,00/6,93	0,77	87,7	3,1	3,5	7,7	0,032	55,0	ja	14/14	9	113	127
132MH/4 2G	7,50	1460	44,48	29,10/16,80	16,80/9,70	0,74	88,7	3,6	4,3	8,0	0,035	62,0	nein	12/12	7	162	191
160MH/4 2G	11,00	1470	71,46	38,97/22,50	22,50/13,00	0,82	89,8	2,9	3,4	8,6	0,067	93,0	nein	12/12	5	206	241
160LH/4 2G	13,50	1470	87,70	45,90/26,50	26,50/15,30	0,85	90,4	3,32	3,85	9,53	0,092	107	ja	14/14	6	291	338
180	coming soon																
200																	

* version B5, without options

** If "No" is stated for sole thermistor protection, the thermistor may only be used as additional protection.
It is therefore essential that a certified motor protection relay is used for the ignition protection class Ex e.

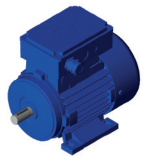
Possible options

Voltage: 104 - 725V ±5%

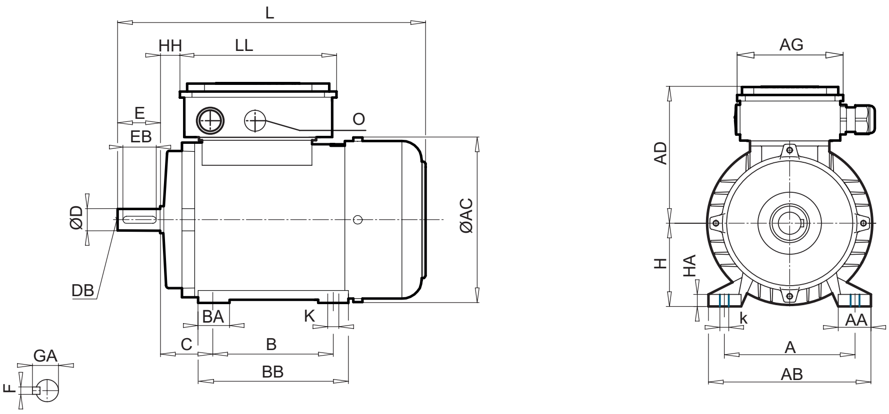
Frequency: 50Hz, 60Hz on request

Options:
TF - Thermistor temperature sensor (always provided)
RD - Protective shield (against mechanical influences)
WE - 2nd shaft end
KB - Condensation drain holes

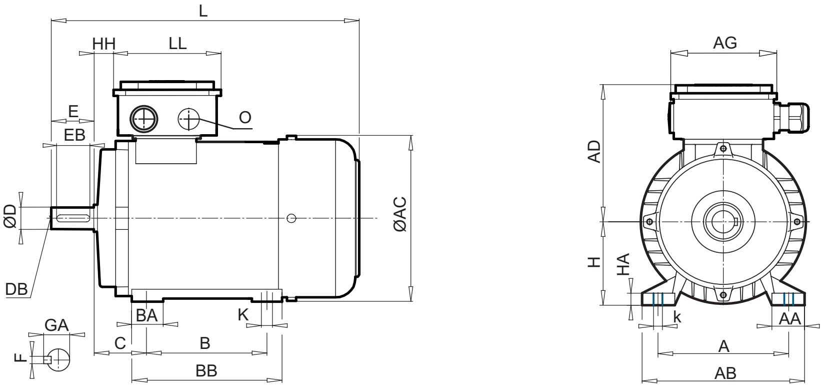
IEC - B3

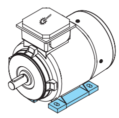


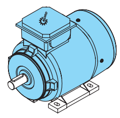
BG 80 - 132



BG 160

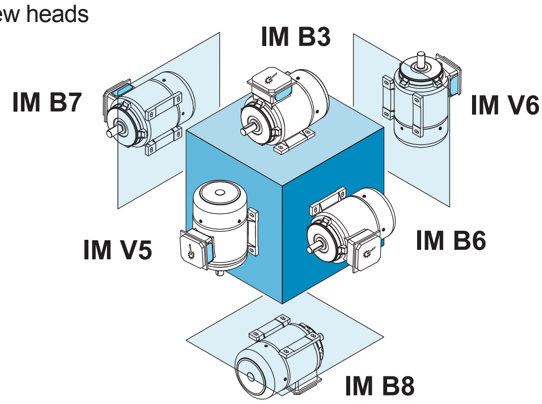


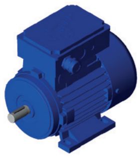




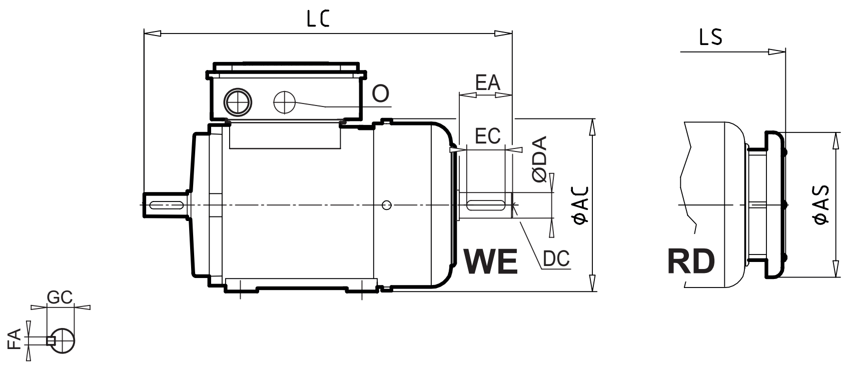
Type	IE1*	IE2	A	AA	AB	B	BA	BB	HA	k	K	AC	AC**	AD	AG	C	H	HH	L	LL
		[mm]																		
63		-																		
71		-																		
80	-	SH/LH	125	30	160	100	30	125	11	17	9	156	165	142	108	50	80	25	276	153
90	-	SH/LH	140	34	174	125	35	155	12	17	9	176	183	147	108	56	90	30	326	153
100	-	LH/AH	160	37	192	140	30	175	15	22	12	194	202	173	108	63	100	36	366	153
112	-	MH	190	40	224	140	34	175	15	22	12	218	228	182	108	70	112	39	411	153
132	-	SH/MH	216	58	260	178	37	218	18	30	14	258	266	201	139	89	132	38	491	185
160 160	- -	MH LH	254	72	318	210	52	264	25	30	14	310	320	240	186	108	160	52	602 646	186
180	-																			
200	-																			

* + Standard ** Dimensions over screw heads





BG 80 - 132



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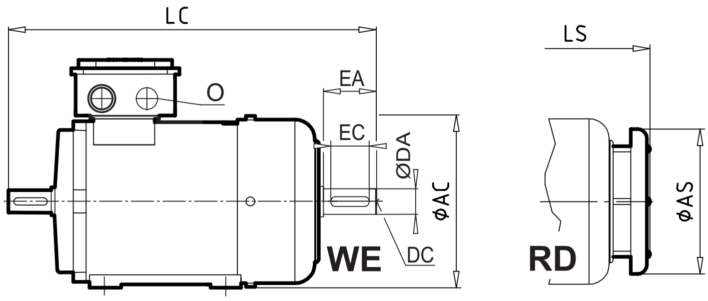
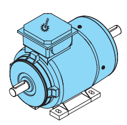
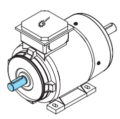
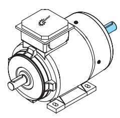


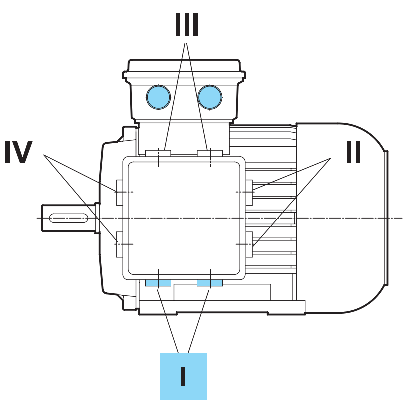


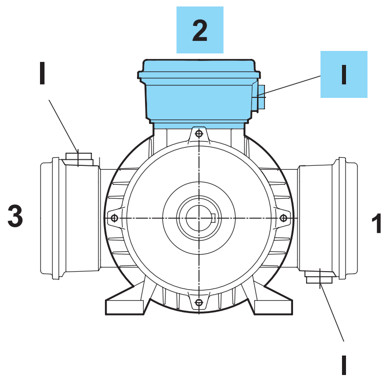




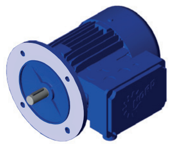
[mm]

AS	LS	LC	O	D	DB	E	EB	F	GA	DA	DC	EA	EC	FA	GC	Cable gland
155	292	309	M25x1,5	19	M6	40	32	6	21,5	14	M5	30	20	5	16,0	M25 x 1,5
175	342	373	M25x1,5	24	M8	50	40	8	27,0	19	M6	40	32	6	21,5	M25 x 1,5
193	382	422	M32x1,5	28	M10	60	50	8	31,0	24	M8	50	40	8	27,0	M32 x 1,5
217	426	465	M32x1,5	28	M10	60	50	8	31,0	24	M8	50	40	8	27,0	M32 x 1,5
256	511	589	M32x1,5	38	M12	80	70	10	41,0	32	M12	80	70	10	35,0	M32 x 1,5
310	621 665	721 765	M40x1,5	42	M16	110	90	12	45,0	42	M16	110	90	12	45,0	M40 x 1,5



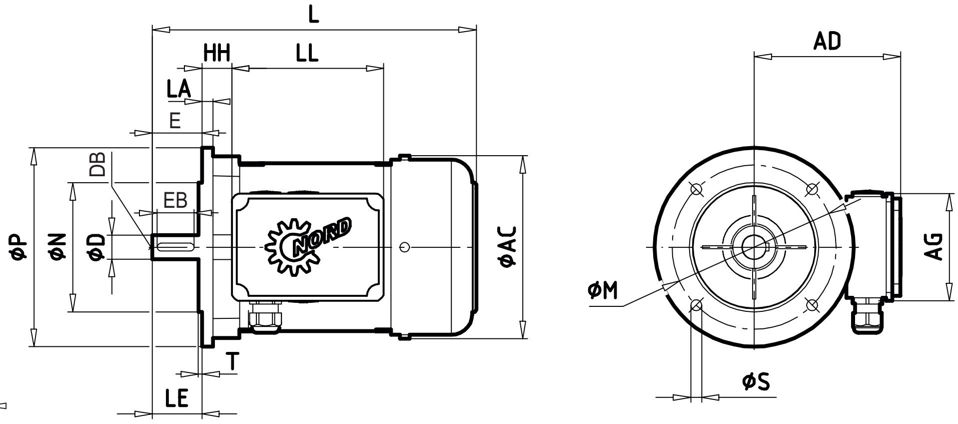


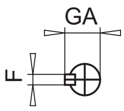
ATEX 2G Ex e
NORD-MOTORS   IEC - B5



NORD DRIVESYSTEMS

BG 80 - 132





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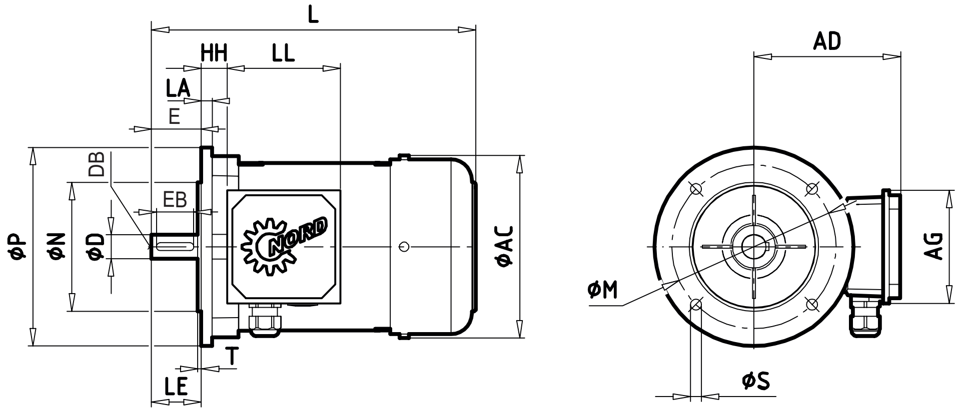
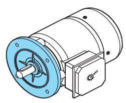
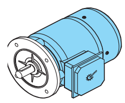
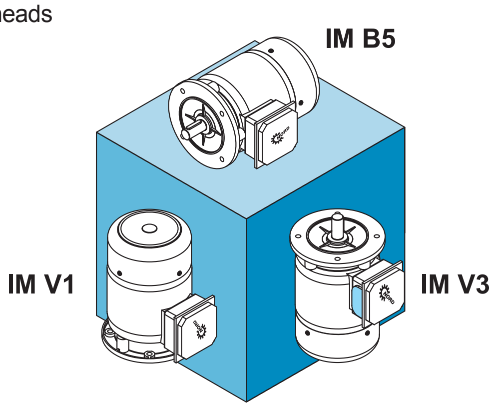


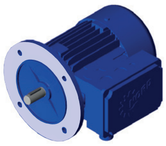




Type	IE1*	IE2 [mm]	M	N	P	S	T	LA	AC	AC**	AD	AG	HH	L	LL
63		-													
71		-													
80	-	SH/LH	165	130	200	4 x Ø11	4,0	11	157	165	141	108	25	276	153
90	-	SH/LH	165	130	200	4 x Ø11	4,0	11	177	185	146	108	30	326	153
100	-	LH/AH	215	180	250	4 x Ø13,5	4,0	15	195	203	171	108	36	366	153
112	-	MH	215	180	250	4 x Ø13	4,0	15	219	227	181	108	39	411	153
132	-	SH/MH	265	230	300	4 x Ø13	4,0	20	258	266	200	139	38	491	185
160 160	- -	MH LH	300	250	350	4 x Ø17,5	5,0	20	310	320	241	186	52	602 646	186
180	-														
200	-														

* + Standard   ** Dimensions over screw heads





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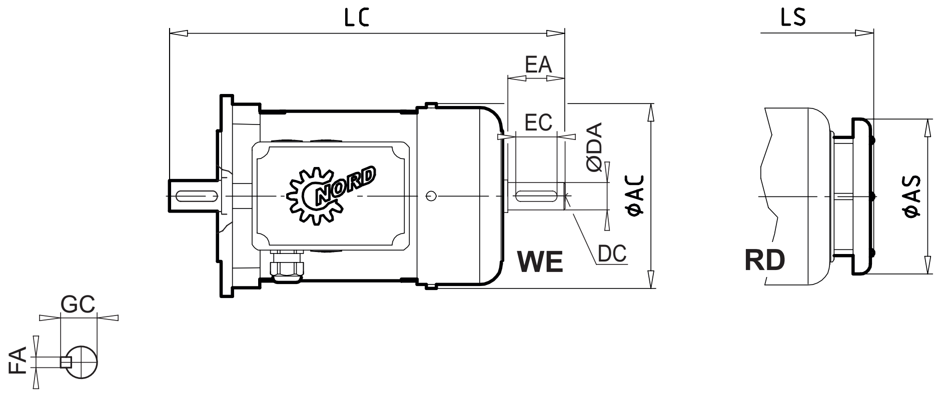
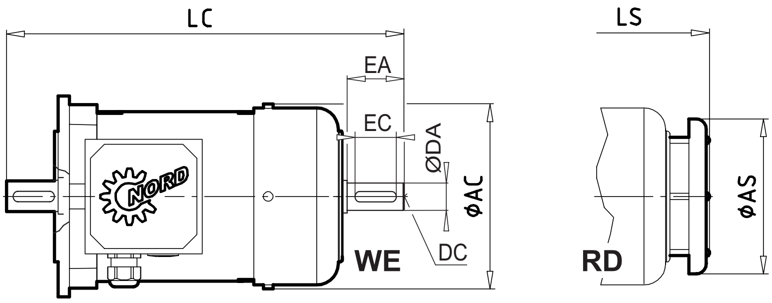
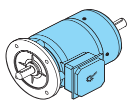
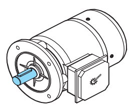
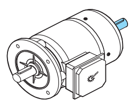


BG 160



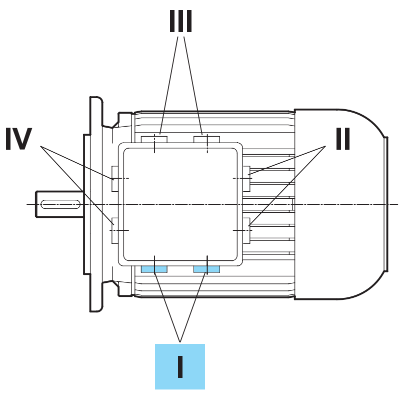


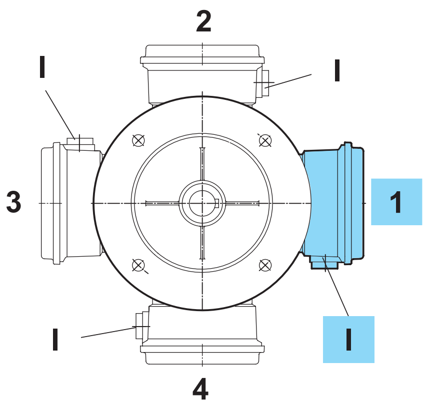




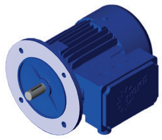
[mm]

AS	LS	LC	D	DB	E	EB	LE	F	GA	DA	DC	EA	EC	FA	GC	Cable gland
138	310	309	19	M6	40	32	40	6	21,5	14	M5	30	20	5	16,0	M25 x 1,5
156	366	373	24	M8	50	40	50	8	27,0	19	M6	40	32	6	21,5	M25 x 1,5
176	419	422	28	M10	60	50	60	8	31,0	24	M8	50	40	8	27,0	M32 x 1,5
194	466	465	28	M10	60	50	60	8	31,0	24	M8	50	40	8	27,0	M32 x 1,5
218	550	589	38	M12	80	70	80	10	41,0	32	M12	80	70	10	35,0	M32 x 1,5
310	669 713	721 765	42	M16	110	90	110	12	45,0	42	M16	110	90	12	45,0	M40 x 1,5



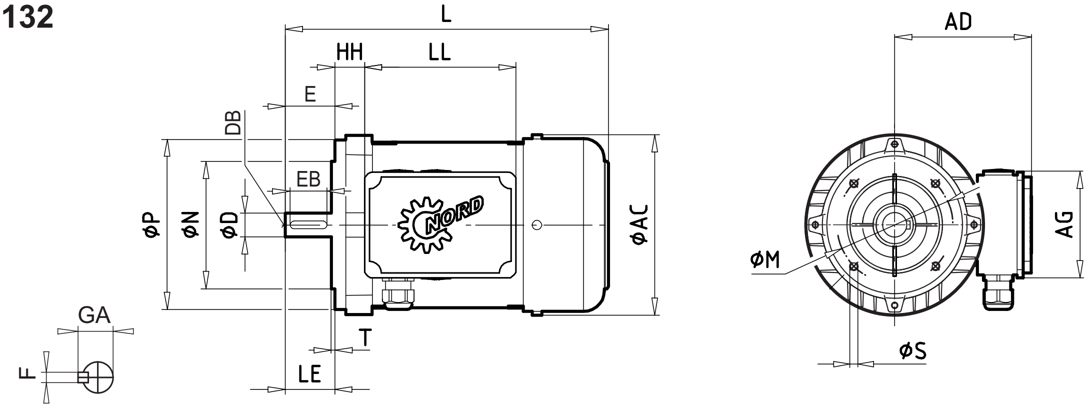


ATEX 2G Ex e
NORD-MOTORS IEC - B14

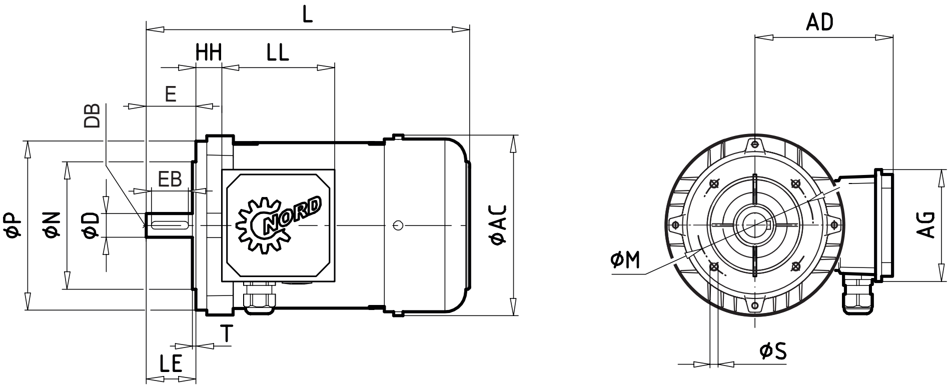


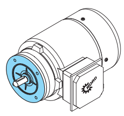
DRIVESYSTEMS

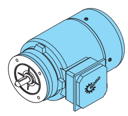
BG 80 - 132



BG 160

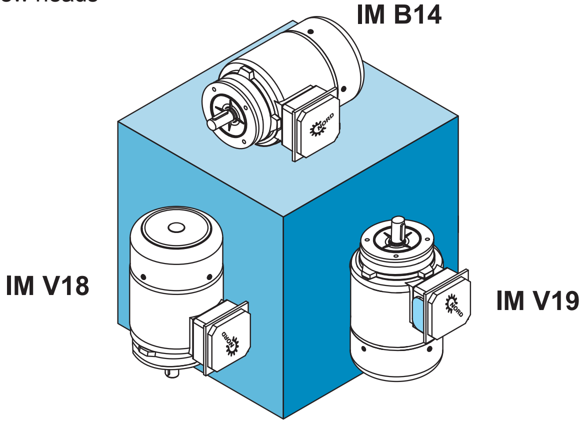


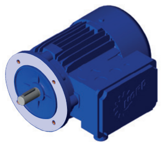




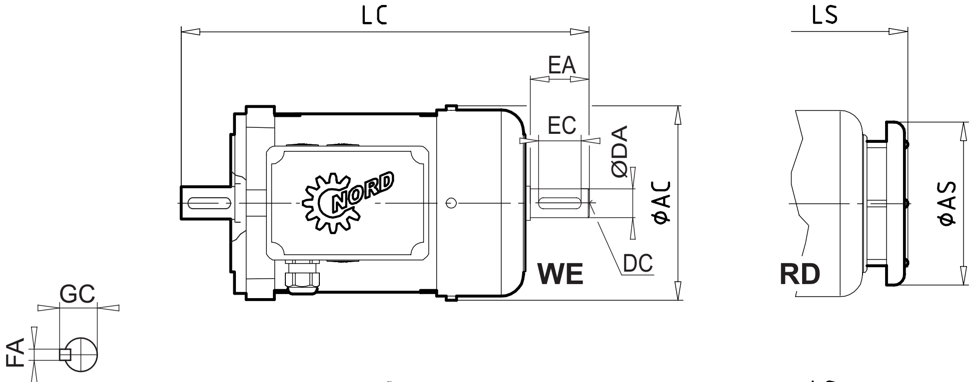
Type	IE1*	IE2	M	N	P	S	T	AC	AC**	AD	AG	HH	L	LL
		[mm]												
63		-												
71		-												
80	-	SH/LH	100	80	120	M6 x Ø12	3,0	156	165	142	108	25	276	153
90	-	SH/LH	115	95	140	M8 x Ø15	3,0	176	183	147	108	30	326	153
100	-	LH/AH	130	110	160	M8 x Ø16	3,5	194	201	173	108	36	366	153
112	-	MH	130	110	160	M8 x Ø12	3,5	218	228	182	108	39	411	153
132	-	SH/MH	165	130	200	M10 x Ø18	3,5	258	266	201	139	38	491	185
160 160	- -	MH LH	165	130	200	M10 x Ø20	3,5	310	320	240	186	52	602 646	186
180	-													
200	-													

* + Standard ** Dimensions over screw heads

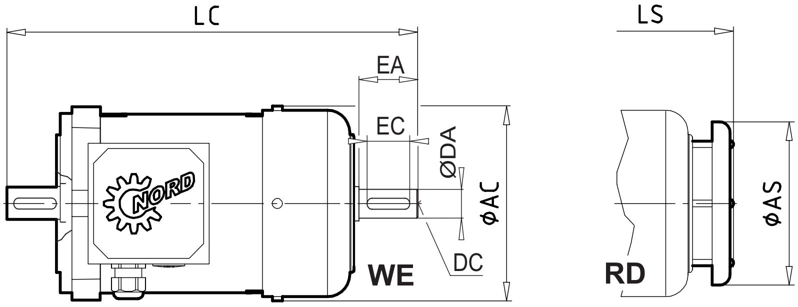


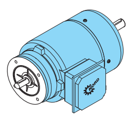


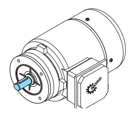
BG 80 - 132

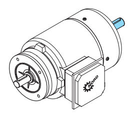


BG 160



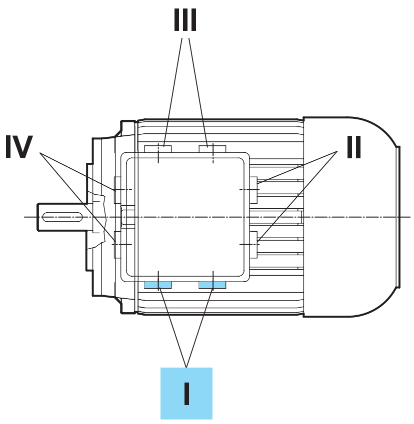


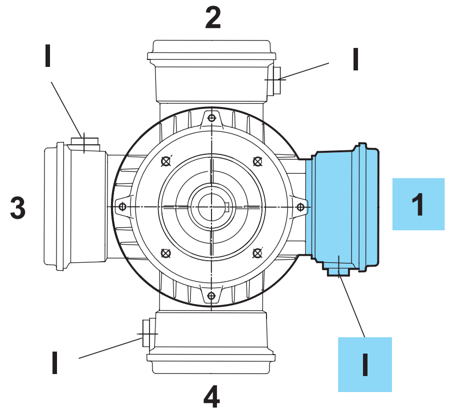




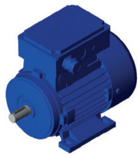
[mm]

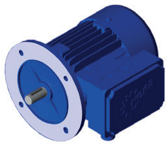
AS	LS	LC	D	DB	E	EB	LE	F	GA	DA	DC	EA	EC	FA	GC	Cable gland
155	292	309	19	M6	40	32	40	6	21,5	14	M5	30	20	5	16,0	M25 x 1,5
175	342	373	24	M8	50	40	50	8	27,0	19	M6	40	32	6	21,5	M25 x 1,5
193	382	422	28	M10	60	50	60	8	31,0	24	M8	50	40	8	27,0	M32 x 1,5
217	426	465	28	M10	60	50	60	8	31,0	24	M8	50	40	8	27,0	M32 x 1,5
256	511	589	38	M12	80	70	80	10	41,0	32	M12	80	70	10	35,0	M32 x 1,5
310	621 665	721 765	42	M16	110	90	110	12	45,0	42	M16	110	90	12	45,0	M40 x 1,5

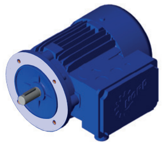




ATEX
NORD-Product Overwiew





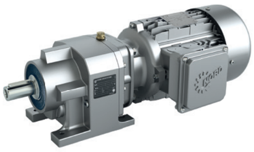


NORD DRIVESYSTEMS

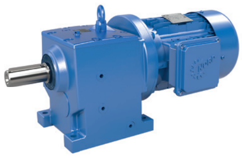
The latest drive technology compliant with Directive 94/9/EC (ATEX) from a single source

Gear units for Gas- or Dust Explosion Protection

Helical Inline NORDBLOC.1

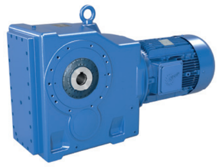


Helical Inline UNICASE

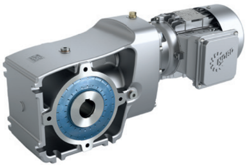


Parallel Shaft UNICASE

Helical Bevel UNICASE

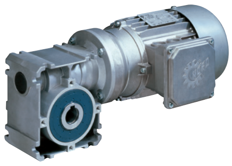


Helical Bevel NORDBLOC.1

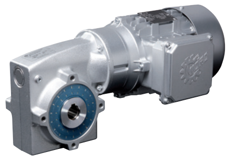


Helical Inline Standard

SI Worm UNIVERSAL

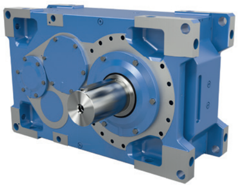


SMI Worm UNIVERSAL



Helical Worm UNICASE

Industrial Gear Units UNICASE



Motors for Gas Explosion Protection

3 motor types are available with gas explosion protection:

Ignition protection classes

- 2G “**Pressure resistant**” **Ex de** or **Ex d** — **Zone 1**
- 2G “**Increased safety**” **Ex e** — **Zone 1**
- 3G “**Non sparking**” **Ex n** — **Zone 2**

Motors for Dust Explosion Protection

2 motor types are available with dust explosion protection:

Ignition protection classes

- 2D **“Protection with housing” Ex tb** — **Zone 21**
- 3D **“Protection with housing” Ex tc** — **Zone 22**

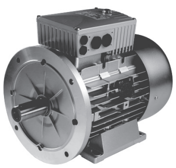
Decentralised drive technology for Dust Explosion Protection

Following motor is available with dust explosion protection:

Ignition protection class

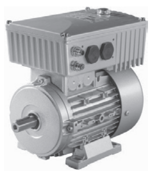
- 3D **“Protection with housing” Ex tc** — **Zone 22**

Motor starters

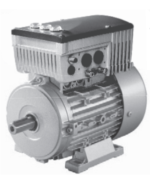


SK 135E
up to 7,5 kW

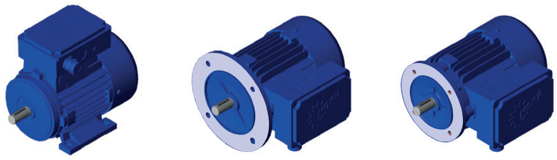
Frequency inverters



SK 180E
up to 2,2 kW



SK 200E
up to 22 kW



Product documentation

- **Manuals**
  - Operating instructions
  - Installation instructions
- **Available in 20 languages**

Certificates - ATEX, IEC Ex, RTN, CSA

The certificates can be found on the **NORD** homepage under
www.nord.com - Heading **DOCUMENTATION / CERTIFICATES ATEX Motors**

- **Constant high quality is confirmed by international certificates.**

Excerpts from the NORD range

G1000 Fixed speeds
UNICASE housing 50 Hz, 60 Hz

- Helical geared motors
- Parallel geared motors
- Bevel geared motors
- Contrate worm gear motors

G1012 NORDBLOC 50 Hz

- Helical geared motors

G1050 Industrial gear units

G4014 Electronic variable speed drives

G1022 Explosion protected drive units

- Category 3D, Zone 22, dust

F3020 Frequency inverter SK200E
F3018 Frequency inverter SK180E

NORD DRIVESYSTEMS GROUP

Headquarters and Technology Center
in Bargteheide near Hamburg, Germany

Innovative drive solutions
for more than 100 industries

Mechanic Products
Helical, Parallel Shaft, Helical Bevel and Helical Worm Gear Units

Electrical Products
IE2/IE3/IE4-Motors

Electronic Products
Centralized and decentralized frequency inverters,
Motor starters

7 state-of-the-art production plants
for all drive components

36 subsidiaries on 5 continents
provide on-site storage, assembly centers,
technical support and customer service

More than 3.200 employees around the world
create customized solutions

www.nord.com/locator

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Getriebebau-Nord-Straße 1
22941 Bargteheide, Germany
Fon +49 (0) 4532 / 289 - 0
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info@nord.com, www.nord.com

Member of the NORD DRIVESYSTEMS Group

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