Intelligent Drivesystems, Worldwide Services

EN

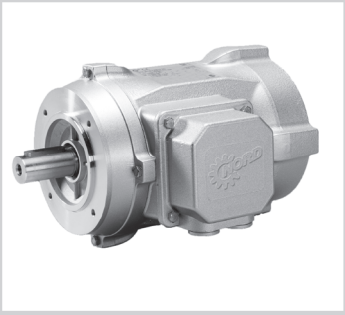
M7010

Motors with smooth surface

Smooth motors type HM
Smooth motors type HMT **nsd tupH** surface

NORD® DRIVESYSTEMS

Contents



DRIVESYSTEMS

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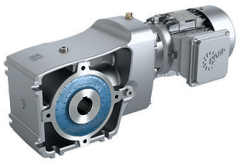
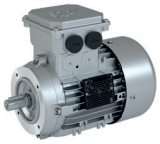
NORD DRIVESYSTEMS Group

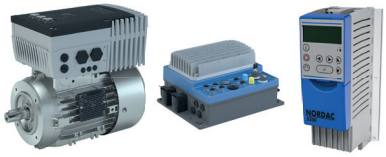
Headquarters and Technology Centre

- in Bargteheide, close to Hamburg

Mechanical products	Electrical products	Electronic products
Gear units	Motors	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

The above map image is for information purpose and may not have been prepared or be suitable for legal purpose and we do not own any responsibility for correctness or authenticity of the same.

Subsidiaries and sales partners in 89 countries on 5 continents

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

More than 3.600 employees throughout the world

- create customer oriented solutions

NORD smooth surface motors

NORD DRIVESYSTEMS builds motors both with and without brakes for the international market.

Our own motor production facilities guarantee that NORD is independent from supply bottlenecks, ensuring short delivery times.

This is a decisive benefit for our customers. The use of NORD energy-saving three-phase motors with considerably higher efficiencies allows you to reduce operating costs.

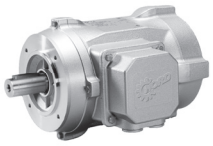
This catalogue presents unventilated and ventilated NORD motors with smooth surfaces. Smooth surfaces are important, for example, where motors must be simply and thoroughly cleaned.

Advantages

- Smooth surfaces, especially suitable for applications in the food and beverage industry.
- A wide choice of motor sizes 71, 80, 90, 100 for the major applications.
- The aluminium frame motors are available with the optional **nsd tupH** surface treatment to give the benefits of stainless steel drives at very economic cost.
- The motors are based on the NORD modular construction system and therefore offer maximum flexibility.

Features

- Aluminium housing (smooth surface).
- Easy to clean thanks to smooth surfaces (Washdown = water always runs off).
- Special corrosion protection can be purchased with optional **nsd tupH** (⇨🕮 B12).
- Perfectly suited for NORD smooth surface gear units as complete gearmotor assembles.



Nomenclature

Motor power labelling

Shaft height 71, 80, 90, 100

Power code S, L, T

Efficiency class **H/P** = premium **T** 1,3,5 = **IE4** **IE3** unventilated **IE2** ventilated

Number of poles 4-pole

Motor type **Labelling only for motors with special characteristics**

HM Smooth motors

HMT Smooth motors nsd tupH surface refinement

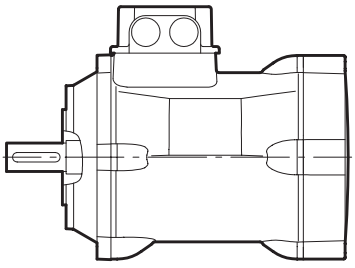
Variant unventilated (Standard)

L/H ventilated

Option ⇨🕮 A4-5

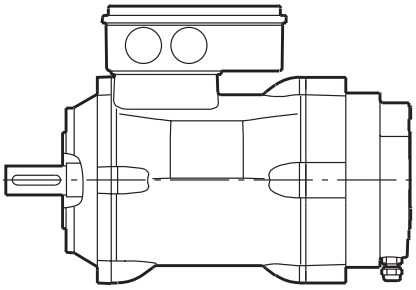
Example

100	L	H	/	4	HM		TF = Shaft height **100** Power code **L** Efficiency class **H** No. of poles **4** Motor type **HM** Option **TF**



Standard

Smooth motor, unventilated



Standard

Smooth motor with brake, unventilated

IE2 IE3 IP66

NORD smooth surface motors always comply with protection class IP66 and can be combined with every gear unit type.

The tables on pages ⇨🕮A6-A7 help you dimensioning your application, especially in intermittent operation.

Options

		Smooth motor						
		unventilated S / L		unventilated		ventilated	unventilated T	
		Standard HM	nsd tupH HMT [4]	Standard HM	nsd tupH HMT [4]	HM [5]	PMSM HM	PMSM HMT
Abbreviations	**Meaning**							
IP66 BRE ...+ [1]	Brake / braking torque + sub-option			x [5]	x [2][5]	x	x	x
IR	Current relay			x [5]	x [5]	x		
FHL	Lockable manual release			-	-	x		
HL	Manual brake release			x [5]	-	x		
MIK	Micro switch			x [5]	-	x		
BRB	Standstill heater / Brake			x [5]	-	x		
NRB 1	Noise-reduced brake			-	x [5]	-		
NRB 2	Noise-reduced brake			x [5]	x [5]	x		
IP69K	Protection class	x	x	x	x	x	x	x
TF	Thermistor, PTC resistor	x	x	x	x	x	x	x
TW	Thermostat, bimetallic switch	x	x	x	x	x	x	x
SH [3]	Standstill heating	x	x	x	x	x	x	x
WE +	2. Shaft end			-	-	x		
HR	Hand wheel			-	-	x		
RD	Protective shield			-	-	x		
RDT	Protective shield, textile fan cowl			-	-	x		
RDD	Double fan-cowl			-	-	x		
KB	closeable condensation hole	x	x	x	x	x	x	x
KKV	Terminal box, encapsulated	x	x	x	x	x	x	x
MS	Plug-on motor coupling			x	-	x		
F	External fan			-	-	x		
IG1 (IG11, 12)	Pulsed incremental encoder 1024			-	x [5]	x		
IG2 (IG21, 22)	Pulsed incremental encoder 2048			-	x [5]	x		
IG4 (IG41, 42)	Pulsed incremental encoder 4096			-	x [5]	x		
IG.K	Encoder with terminal box			-	-	x		

1) it is quick-switching rectifier to use
2) integrated brake ⇨🕮 B7
3) Brake terminal box
4) nsd tupH coating with A+B bearing cover, stator housing and terminal box
5) not for size 71

Options

Brake - attached brake IP66 (BRE)

By default, a closed brake is directly screwed to the B-bearing cover of the motor;

E.g.: 80 LH/4 HM **BRE5**

Brake - with cover (BRE) integrated brake

Especially for motors with **nsd tupH** coating, the brake is protected by an aluminium cover also coated with **nsd tupH**;

E.g.: 80 LH/4 HMT **BRE5** (⇨🕮 B7 - integrated brake)

Current measuring relay (IR)

Generator operation is excluded after the motor was switched off;

E.g.: 80 LH/4 HM **BRE5 IR**

Micro switch (MIK)

Brake with electronic release monitor;

E.g.: 80 LH/4 HM **BRE5 MIK**

Standstill heater / brake (BRB)

To prevent the condensation of moisture and freezing of the brake, a standstill heater for the brake with bifilar windings (BRB) can be implemented;

E.g.: 80 LH/4 HM **BRB**

IP69K

Protection against the ingress of dust (**IP6_**) and
Protection against the penetration of water, even with high pressure or steam jet cleaning (**IP_9K**)

Thermal motor protection

NORD can supply two heat protection components.

- **TF** = Thermistor temperature sensor (series)
- **TW** = Bimetal temperature sensor (for an extra charge)

These are used to directly monitor the temperature of the windings with full utilisation of the motor power;

E.g.: 80 LH/4 HM **TF**

Standstill heating (SH)

A standstill heater must be used in case of severe temperature fluctuations, high humidity or extreme climatic conditions. This prevents condensation inside the motor;

E.g.: 100 LH/4 HM **SH**

2. shaft end (WE)

Motors with a second shaft end on the B side;

E.g.: 100 LH/4 HM L/H **WE**

Handwheel (HR)

Motors with a handwheel mounted on the rear shaft end of the shaft;

E.g.: 90 SH/4 HM L/H **HR**

Protective cover (RD)

Protection against rain and entry of foreign bodies for vertical installation with the shaft pointing downwards;

E.g.: 100 LH/4 HM L/H **RD** (⇨🕮 B9, B11)

Protective cover, textile fan cowl (RDT)

These motors have a fan cowl which is specially designed for use in the field of textiles. The lack of a normal ventilation grille prevents the build-up of flakes and fluff, which could impair the cooling of the motor;

E.g.: 80 LH/4 HM L/H **RDT** (⇨🕮 B9, B11)

Double fan cowl (RDD)

Protection against rain and snow and entry of foreign bodies for vertical installation with the shaft pointing downwards. Suitable for water jets from all directions;

E.g.: 90 SH/4 HM L/H **RDD** (⇨🕮 B9, B11)

Condensation drain hole (KB)

Depending on installation position, condensation drainage holes are drilled at the lowest position of the A or B bearing plate. These are closed with hex screws.

⚠The version must be stated!

E.g.: 80 LH/4 HM **KB**

Encapsulated terminal box (KKV)

Terminal box base encapsulated in direction of interior;

E.g.: 80 LH/4 HM **KKV**

Motor plug connectors (MS)

Normal version

Terminal box at 1, plug at II (to B-side, plug at I + III possible)

The plug connector is mounted on the side of the terminal box. Housings with 2-clamp transverse locking are used. At the motor, there is a 10-pole pin version;

E.g.: 80 LH/4 HM **MS**

External fan (F)

Motor with separately controlled fan;

E.g.: 90 SH/4 HM **F**

Encoders

Incremental encoder (IG)

Incremental encoders with various pulse numbers and interfaces are available. With “unventilated” motor variants, the encoder is protected underneath an aluminium cover. With the “ventilated” variants, the encoder is mounted under the fan cover.

IG1K, IG2K or IG4K

With ventilated motors, an alternative connection in a separate terminal box is possible with the options IG1K, IG2K or IG4K (extra charge).

Quick-switching rectifier for installation in control cabinet

Extended operation range and intermittent operation S3

In the S3 mode, the motors are not subject to the efficiency classification. The following data can be used for motor planning. The breakdown torque is always higher than the 1.6-fold operating torque. The maximum utilisation of the motors is in accordance with thermal class 155 (F).
The heating of unventilated motors greatly depends on the installation conditions. The maximum surface temperature is only insignificantly below the temperature of the windings.

400 V / 50 Hz
4 - pole

unventilated

Type	S1			S3-60%			S3-40%			S3-25%		
	P_N	I	n	P	I	n	P	I	n	P	I	n
	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]
80 LH/4	0,37	0,98	1425	0,5	1,2	1390	0,63	1,5	1340	0,7	1,67	1325
90 SH/4	0,55	1,27	1435	0,75	1,61	1405	0,9	1,9	1385	1,2	2,66	1305
100 SH/4	0,75	1,65	1450	1,1	2,25	1420	1,35	2,75	1395	1,5	3,0	1390
100 LH/4	1,1	2,4	1445	1,5	3,05	1425	1,8	3,6	1410	2,2	4,4	1380

460 V / 60 Hz
4 - pole

unventilated

Type	S1			S3-60%			S3-40%			S3-25%		
	P_N	I	n	P	I	n	P	I	n	P	I	n
	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]
80 LH/4	0,37	0,89	1735	0,5	1,05	1710	0,63	1,26	1680	0,7	1,38	1670
90 SH/4	0,55	1,14	1740	0,75	1,4	1720	0,9	1,62	1705	1,2	2,13	1665
100 SH/4	0,75	1,47	1755	1,1	1,95	1735	1,35	2,32	1715	1,5	2,55	1710
100 LH/4	1,1	2,14	1755	1,5	2,65	1735	1,8	3,1	1725	2,2	3,7	1710

Motors with increased power are electrically and mechanically modified compared with the energy-efficient motors.

400 V / 50 Hz
4 - pole

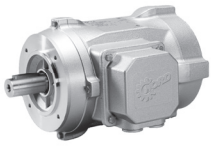
unventilated / Increased power

Type	S1			S3-60%			S3-40%			S3-25%		
	P_N	I	n	P	I	n	P	I	n	P	I	n
	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]
80 L/4	0,47	1,25	1420	0,6	1,46	1395	0,75	1,76	1360	0,9	2,15	1310
90 S/4	0,67	1,58	1435	0,9	1,94	1410	1,1	2,3	1390	1,4	3,0	1335
100 S/4	1,0	2,2	1445	1,3	2,67	1425	1,5	3,0	1415	1,7	3,4	1405
100 L/4	1,3	2,95	1450	1,75	3,62	1430	2,1	4,22	1415	2,5	5,0	1395

460 V / 60 Hz
4 - pole

unventilated / Increased power

Type	S1			S3-60%			S3-40%			S3-25%		
	P_N	I	n	P	I	n	P	I	n	P	I	n
	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]
80 L/4	0,53	1,2	1720	0,7	1,43	1690	0,85	1,68	1665	1,0	1,97	1630
90 S/4	0,77	1,53	1735	1,0	1,84	1715	1,25	2,22	1690	1,6	2,86	1640
100 S/4	1,15	2,13	1740	1,5	2,62	1725	1,8	3,08	1705	2,05	3,48	1695
100 L/4	1,45	2,8	1750	2,0	3,5	1725	2,4	4,1	1710	2,9	4,9	1690



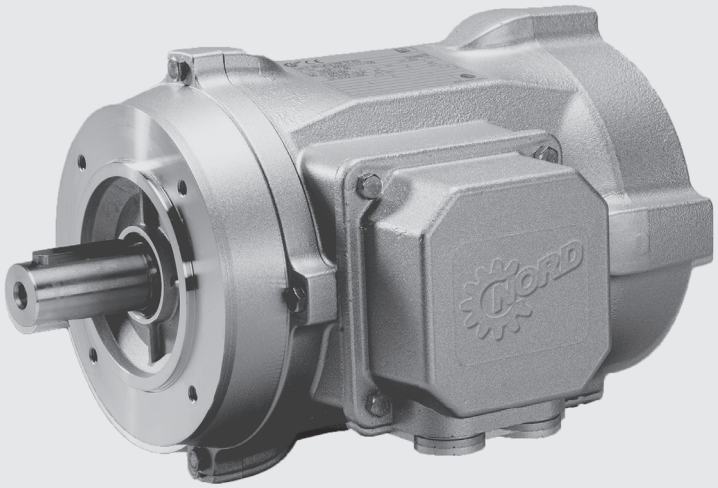
400 V / 50 Hz 4 - pole — ventilated

Type	P_N	P_{S1max}	S1 I	S1 n	S3-60% P	S3-60% I	S3-60% n	S3-40% P	S3-40% I	S3-40% n	S3-25% P	S3-25% I	S3-25% n
	[kW]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]
80 LH/4 HM L/H	0,75	1,0	2,4	1360	1,1	2,63	1340	1,2	2,9	1310	1,3	3,17	1285
90 SH/4 HM L/H	1,1	1,5	3,28	1380	1,65	3,6	1365	1,8	3,93	1345	2,0	4,42	1315
100 SH/4 HM L/H	1,5	2,15	4,36	1400	2,35	4,77	1390	2,55	5,21	1375	2,85	5,94	1355
100 LH/4 HM L/H	2,2	2,75	5,65	1415	3,0	6,11	1405	3,3	6,7	1390	3,75	7,67	1370

460 V / 60 Hz 4 - pole — ventilated

Type	P_N	P_{S1max}	S1 I	S1 n	S3-60% P	S3-60% I	S3-60% n	S3-40% P	S3-40% I	S3-40% n	S3-25% P	S3-25% I	S3-25% n
	[kW]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]	[kW]	[A]	[1/min]
80 LH/4 HM L/H	0,75	1,25	2,46	1640	1,35	2,67	1620	1,45	2,89	1600	1,55	3,11	1585
90 SH/4 HM L/H	1,1	1,85	3,37	1665	2,0	3,63	1650	2,15	3,92	1635	2,35	4,31	1620
100 SH/4 HM L/H	1,5	2,55	4,38	1695	2,8	4,82	1680	3,0	5,18	1675	3,4	6,0	1645
100 LH/4 HM L/H	2,2	3,3	5,68	1705	3,65	6,25	1695	3,95	6,75	1685	4,45	7,66	1665

Notes



MOTOR DATA

Standard HM/HMT
unbelüftet

1500 1/min **230/400 V / 400/690 V**
50 Hz **4 - polig**

S1

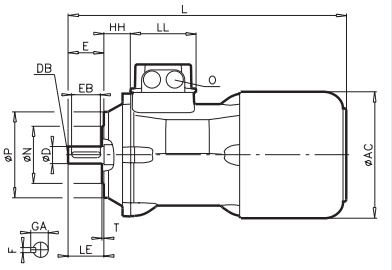
Type	P_N S1	n_N	I_N 230/400 V	I_N 400/690 V	cos φ	η 1/2xP	η 3/4xP	η 4/4xP	M_N	M_A/M_N	M_K/M_N	I_A/I_N	J
	[kW]	[1/min]	[A]	[A]		[%]	[%]	[%]	[Nm]				[kgm²]
80 LH4 HM	0,47	1395	2,0 /1,15	1,15/0,66	0,74	77,7	79,0	78,9	3,21	2,5	2,6	5,0	0,0019
90 SH4 HM	0,87	1400	2,46/1,42	1,42/0,82	0,84	79,5	81,8	81,5	4,56	2,4	2,7	5,6	0,0034
100 SH4 HM	1,0	1425	3,48/2,0	2,0 /1,16	0,86	81,0	83,8	83,6	6,7	2,4	2,8	6,2	0,006
100 LH4 HM	1,3	1435	4,64/2,68	2,68/1,55	0,81	84,2	86,0	85,8	8,64	3,0	3,5	7,3	0,0075

1800 1/min **265/460 V / 460 VΔ**
60 Hz **4 - polig**

S1

Type	P_N S1	n_N	I_N 265/460 V	I_N 460 VΔ	cos φ	η 1/2xP	η 3/4xP	η 4/4xP	M_N	M_A/M_N	M_K/M_N	I_A/I_N	J
	[kW]	[1/min]	[A]	[A]		[%]	[%]	[%]	[Nm]				[kgm²]
80 LH4 HM	0,53	1700	1,9 /1,1	1,1	0,74	79,6	81,0	80,9	2,97	2,5	2,6	5,4	0,0019
90 SH4 HM	0,77	1700	2,4 /1,38	1,38	0,84	80,8	83,1	82,9	4,33	2,4	2,8	6,0	0,0034

DIMENSIONED DRAWINGS OF MOTORS



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1500 1/min | **230/400 V / 400/690 V** | **IE3**
50 Hz | **4 - pole**

S1

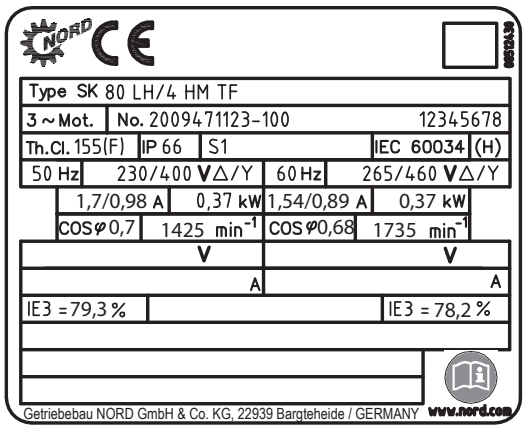
Type	P_N	n_N	I_N	I_N	cos	η			M_N	M_A/M_N	M_K/M_N	I_A/I_N	J	kg
	S1		230/400 V	400/690 V	φ	1/2xP_N	3/4xP_N	4/4xP_N						
	[kW]	[1/min]	[A]	[A]		[%]	[%]	[%]	[Nm]				[kgm²]	[kg]
71 SP/4 HM	0,12	1420	0,66/0,38	0,38/0,22	0,66	60,1	66,8	69,2	0,81	3,22	3,17	4,80	0,00072	5,27
71 MP/4 HM	0,18	1400	0,95/0,55	0,55/0,32	0,70	63,5	68,9	70,0	1,22	3,04	2,98	4,70	0,00086	5,96
71 LP/4 HM	0,25	1400	1,15/0,67	0,67/0,38	0,72	70,1	73,6	73,7	1,69	3,04	2,89	4,80	0,0011	6,85
80 LH/4 HM	0,37	1425	1,70/0,98	0,98/0,57	0,70	73,9	78,2	79,3	2,48	3,50	3,50	5,50	0,0019	10,20
90 SH/4 HM	0,55	1435	2,20/1,27	1,27/0,73	0,78	76,2	80,1	81,2	3,66	3,60	4,10	7,20	0,0034	15,10
100 SH/4 HM	0,75	1450	2,86/1,65	1,65/0,95	0,80	76,9	81,0	82,5	4,94	3,50	4,10	7,70	0,0060	21,00
100 LH/4 HM	1,10	1445	4,16/2,40	2,40/1,39	0,78	79,5	83,0	84,1	7,25	3,90	4,30	7,90	0,0075	25,20

1800 1/min | **265/460 V / 460 VΔ** | **IE3**
60 Hz | **4 - pole**

S1

Type	P_N	n_N	I_N	I_N	cos	η			M_N	M_A/M_N	M_K/M_N	I_A/I_N	J	kg
	S1		265/460 V	460 VΔ	φ	1/2xP_N	3/4xP_N	4/4xP_N						
	[kW]	[1/min]	[A]	[A]		[%]	[%]	[%]	[Nm]				[kgm²]	[kg]
71 SP/4 HM	0,12	1730	0,59/0,34	0,34	0,61	59,2	66,4	69,5	0,66	4,00	4,03	5,70	0,00072	5,27
71 MP/4 HM	0,18	1720	0,85/0,49	0,49	0,65	63,3	70,1	72,3	1,00	3,86	3,80	5,60	0,00086	5,96
71 LP/4 HM	0,25	1720	1,03/0,60	0,60	0,69	70,1	74,8	76,2	1,38	3,76	3,70	6,00	0,0011	6,85
80 LH/4 HM	0,37	1735	1,54/0,89	0,89	0,68	69,8	75,6	78,2	2,03	4,20	4,30	6,50	0,0019	10,20
90 SH/4 HM	0,55	1740	1,97/1,14	1,14	0,75	73,7	78,9	81,1	3,01	4,30	4,90	8,20	0,0034	15,10
100 SH/4 HM	0,75	1755	2,55/1,47	1,47	0,78	79,9	83,9	85,5	4,08	4,20	4,90	8,80	0,0060	21,00
100 LH/4 HM	1,10	1755	3,71/2,10	2,10	0,76	81,4	85,1	86,5	6,00	4,60	5,10	9,10	0,0075	25,20

Type plate



1500 1/min **230/400 V / 400/690 V**
50 Hz **4 - pole**

S1

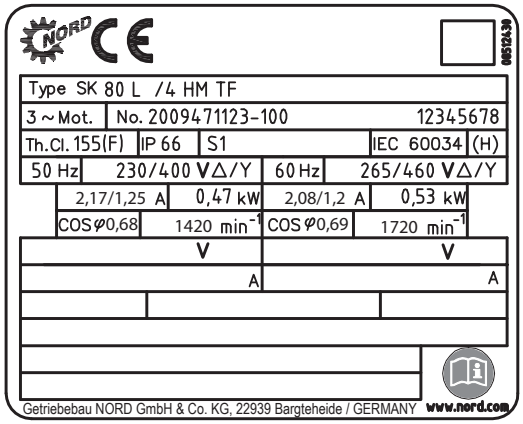
Type	P_N	n_N	I_N	I_N	cos	η			M_N	M_A/M_N	M_K/M_N	I_A/I_N	J	kg
	S1		230/400 V	400/690 V	φ	1/2xP_N	3/4xP_N	4/4xP_N						
	[kW]	[1/min]	[A]	[A]		[%]	[%]	[%]	[Nm]				[kgm²]	[kg]
80 L/4 HM	0,47	1420	2,17/1,25	1,25/0,72	0,68	70,9	75,7	77,3	3,15	3,6	3,6	5,4	0,0019	10,2
90 S/4 HM	0,67	1435	2,74/1,58	1,58/0,91	0,74	72,4	77,3	79,1	4,45	3,6	4,2	7,2	0,0034	15,1
100 S/4 HM	1,0	1445	3,8 /2,2	2,2 /1,27	0,79	75,3	79,5	81,0	6,61	3,3	3,9	7,3	0,006	21,0
100 L/4 HM	1,3	1450	5,0 /2,95	2,95/1,67	0,75	75,9	80,4	82,1	8,56	4,1	4,5	7,9	0,0075	25,2

1800 1/min **265/460 V / 460 VΔ**
60 Hz **4 - pole**

S1

Type	P_N	n_N	I_N	I_N	cos	η			M_N	M_A/M_N	M_K/M_N	I_A/I_N	J	kg
	S1		265/460 V	460 VΔ	φ	1/2xP_N	3/4xP_N	4/4xP_N						
	[kW]	[1/min]	[A]	[A]		[%]	[%]	[%]	[Nm]				[kgm²]	[kg]
80 L/4 HM	0,53	1720	2,08/1,2	1,2	0,69	75,8	80	81,3	2,94	3,6	3,7	5,9	0,0019	10,2
90 S/4 HM	0,77	1735	2,65/1,53	1,53	0,76	76,8	81,0	82,5	4,23	3,8	4,3	7,6	0,0034	15,1
100 S/4 HM	1,15	1740	3,69/2,13	2,13	0,8	79,0	82,8	84,0	6,3	3,4	4,0	7,6	0,006	21,0
100 L/4 HM	1,45	1750	4,85/2,8	2,8	0,75	77,9	82,2	84,0	7,92	4,3	4,7	8,6	0,0075	25,2

Type plate



1500 1/min | 230/400 V & 400/690 V | IE2
50 Hz | 4 - pole

S1

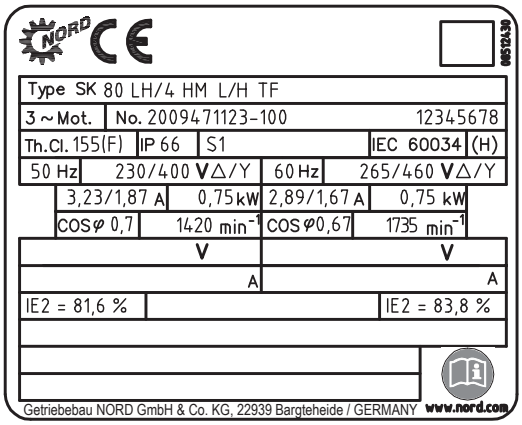
Type	P_N	n_N	I_N		cos	η			M_N	M_A/M_N	M_K/M_N	I_A/I_N	J	kg
			230/400 V	400/690 V	φ	1/2xP_N	3/4xP_N	4/4xP_N						
	[kW]	[1/min]	[A]	[A]		[%]	[%]	[%]	[Nm]				[kgm²]	[kg]
80 LH/4 HM L/H	0,75	1420	3,23/1,87	1,87/1,08	0,7	80,4	82,0	81,6	5,05	3,15	3,3	5,3	0,0019	10,2
90 SH/4 HM L/H	1,1	1435	4,40/2,54	2,54/1,47	0,76	81,5	83,8	83,6	7,4	3,35	3,7	6,4	0,0034	15,1
100 SH/4 HM L/H	1,5	1445	5,56/3,21	3,21/1,85	0,8	84,9	86,3	85,8	10,1	3,05	3,65	7,2	0,006	21,0
100 LH/4 HM L/H	2,2	1440	8,33/4,81	4,81/2,78	0,8	85,4	86,4	85,8	15,2	3,2	3,7	7,1	0,0075	25,2

1800 1/min | 265/460 V & 460 V D | IE2
60 Hz | 4 - pole

S1

Type	P_N	n_N	I_N		cos	η			M_N	M_A/M_N	M_K/M_N	I_A/I_N	J	kg
			265/460 V	460 V	φ	1/2xP_N	3/4xP_N	4/4xP_N						
	[kW]	[1/min]	[A]	[A]		[%]	[%]	[%]	[Nm]				[kgm²]	[kg]
80 LH/4 HM L/H	0,75	1735	2,89/1,67	1,67	0,67	80,1	83,2	83,8	4,13	3,7	4,0	6,4	0,0019	10,2
90 SH/4 HM L/H	1,1	1745	3,91/2,26	2,26	0,73	81,5	84,3	85,1	6,1	3,9	4,6	7,8	0,0034	15,1
100 SH/4 HM L/H	1,5	1755	4,88/2,82	2,82	0,78	83,7	86,4	86,9	8,28	3,4	4,45	8,6	0,006	21,0
100 LH/4 HM L/H	2,2	1750	7,10/4,10	4,10	0,77	85,4	87,6	87,8	12,5	3,7	4,5	8,7	0,0075	25,2

Type plate



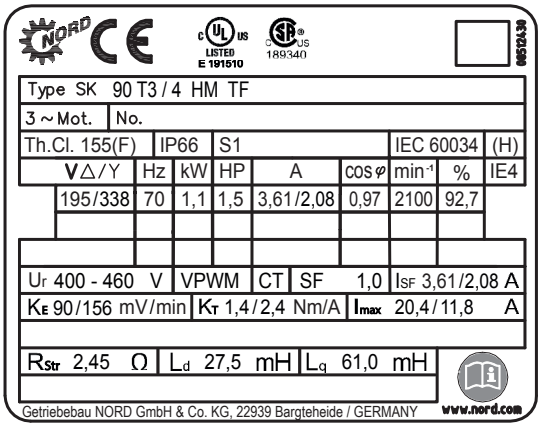
2100 1/min | **400 V** | **IE4**
70 Hz | **4 - pole**

S1

Type	M_N	P_N	n_N	I_N	η	M_{max}*	kT	kE	J	kg
				400 V	4/4xP_N					
	[Nm]	[kW]	[1/min]	[A]	[%]	[Nm]	[Nm/A]	[mV/rpm]	[kgm²]	[kg]
80 T1/4 HM	3,41	0,75	2100	1,46	91,2	13,5	2,30	154,00	0,0011	7,8
90 T3/4 HM	5	1,1	2100	2,08	93,0	28,3	2,40	156,00	0,0024	11,6
100 T5/4 HM	10	2,2	2100	4,16	91,2	53,5	2,40	165,00	0,0060	20,2

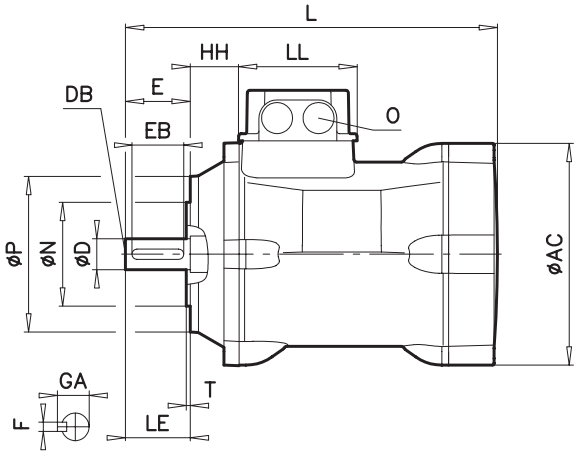
* short time

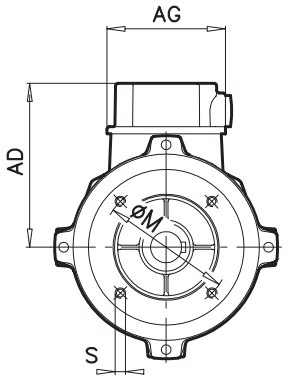
Type plate



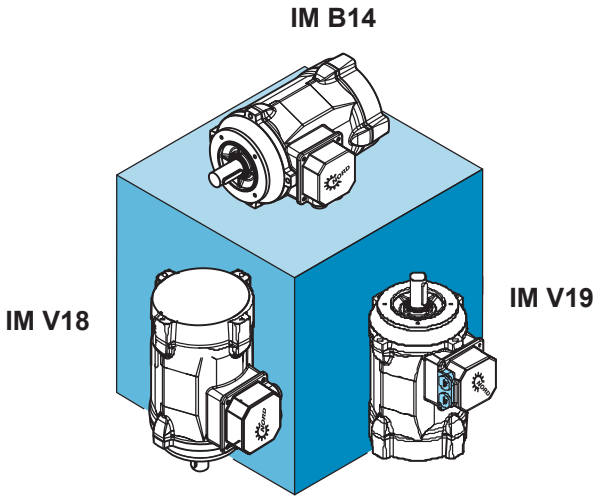
B14 unventilated + PMSM HM

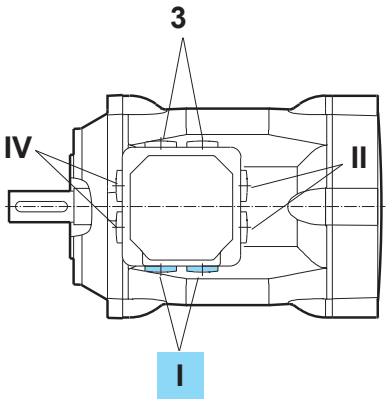
Standard

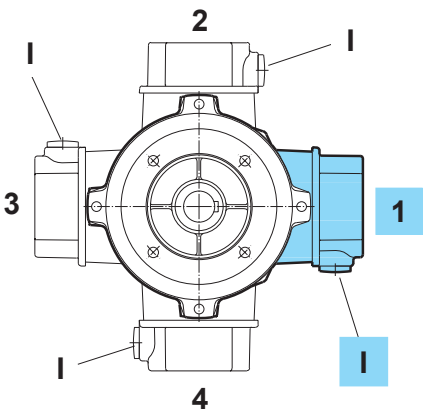




Type HM / HMT unventilated																				
[mm]	M	N	P	S	T	AC	AD	AG	HH	L	O	LE	LL	D	DB	E	EB	F	GA
71 SP / MP / LP	85	70	105	M6x12	2,0	136	109	75	32	207	M16x1,5	30	75	14	M5	30	20	5	16
80 L / LH / T1	100	80	120	M6x12	3,0	154	123,5	92	34	243	M20x1,5	40	92	19	M6	40	32	6	21,5
90 S / SH / T3	115	95	140	M8x15	3,0	171	128,5	92	37	288	M20x1,5	50	92	24	M8	50	40	8	27
100 S / L / SH / LH / T5	130	110	160	M8x16	3,5	192	139,5	92	43	324	M20x1,5	60	92	28	M10	60	50	8	31

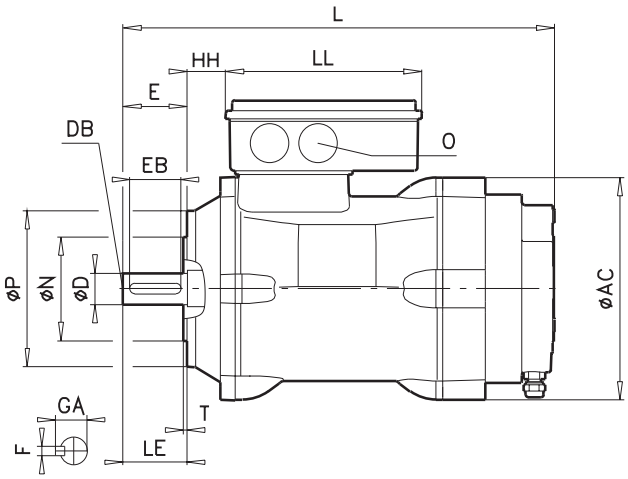


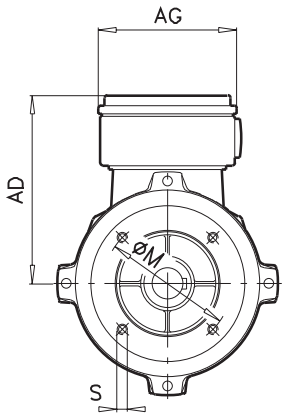


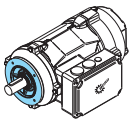


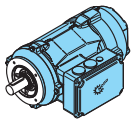
unventilated B14-BRE

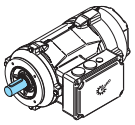
Standard





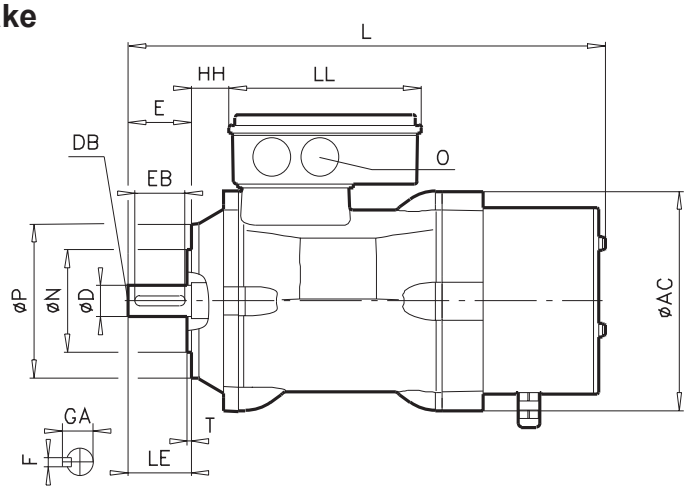


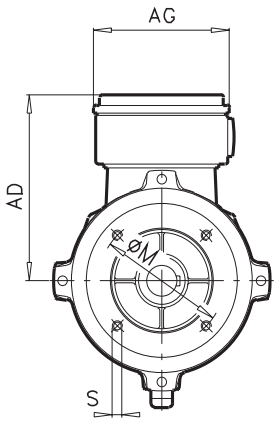


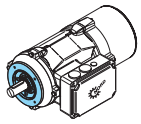


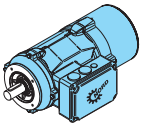
Type HM unventilated	BRE [Nm]	[mm]	M	N	P	S	T	AC	AD	AG	HH	L	O	LE	LL	D	DB	E	EB	F	GA
80	LH	5 10	100	80	120	M6x12	3,0	154	135	108	26	281 286	M25x1,5	40	153	19	M6	40	32	6	21,5
90	SH	10 20	115	95	140	M8x15	3,0	171	145	108	30	330 335	M25x1,5	50	153	24	M8	50	40	8	27
100	SH/LH	10 20	130	110	160	M8x16	3,5	192	167	108	36	367 372	M32x1,5	60	153	28	M10	60	50	8	31

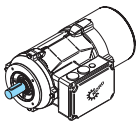
Integrated brake





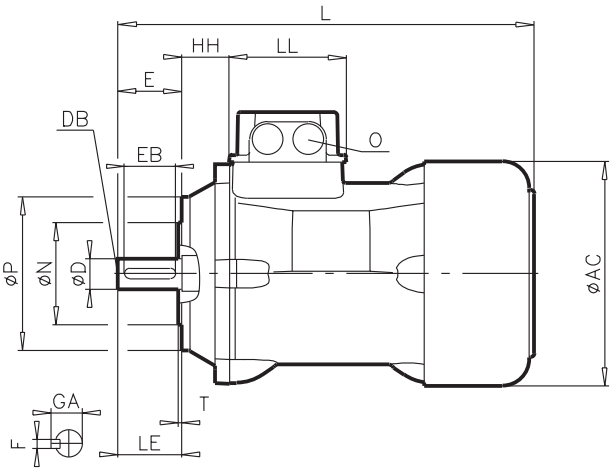


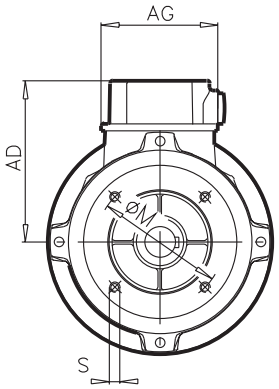


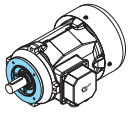


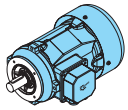
Type HMT unventilated	BRE [Nm]	[mm]	M	N	P	S	T	AC	AD	AG	HH	L	O	LE	LL	D	DB	E	EB	F	GA
80	LH	5 10	100	80	120	M6x12	3,0	154	135	108	26	333	M25x1,5	40	153	19	M6	40	32	6	21,5
90	SH	10 20	115	95	140	M8x15	3,0	171	145	108	30	378	M25x1,5	50	153	24	M8	50	40	8	27
100	SH/LH	10 20	130	110	160	M8x16	3,5	192	167	108	36	415	M32x1,5	60	153	28	M10	60	50	8	31

B14 ventilated



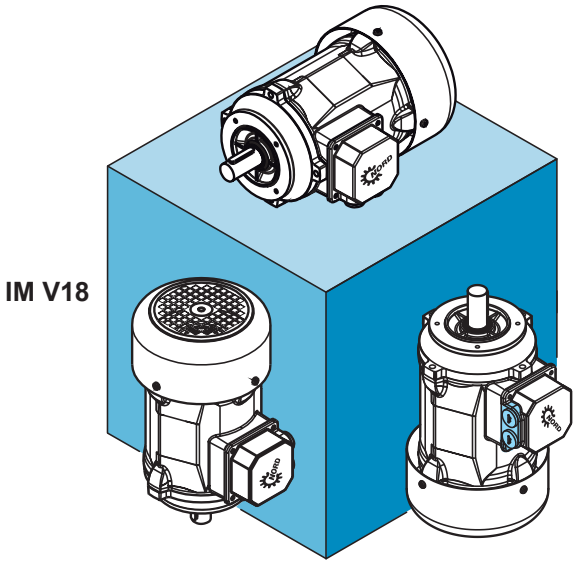






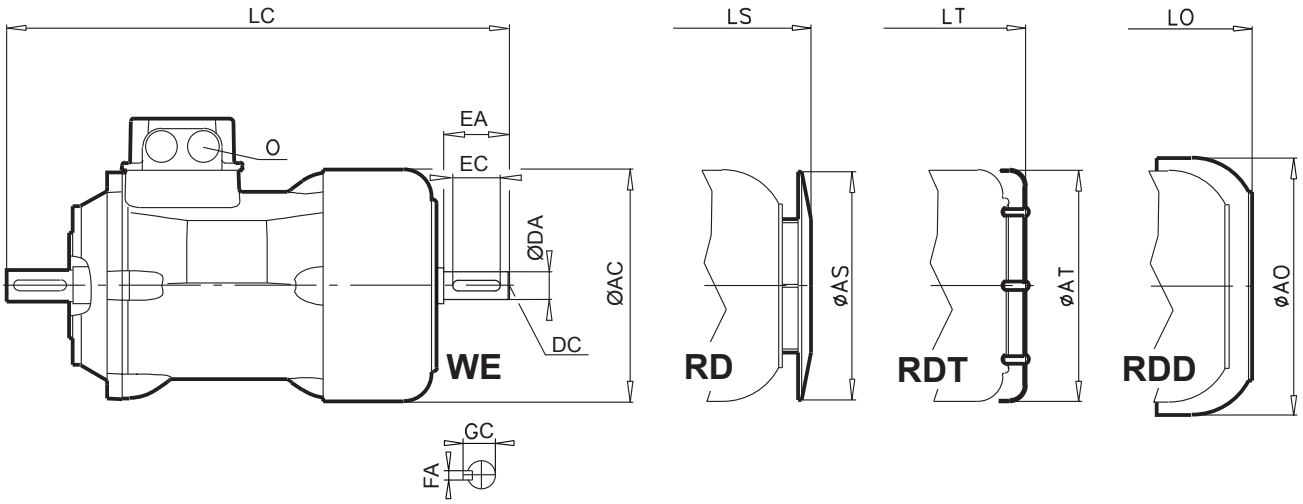
Type HM ventilated L/H		M	N	P	S	T	AC	AD	AG	HH	L	LE	LL
[mm]													
80	**LH**	100	80	120	M6 x 12	3,0	156	117	92	26	276	40	114
90	**SH**	115	95	140	M8 x 15	3,0	176	127	92	30	326	50	114
100	**SH/LH**	130	110	160	M8 x 16	3,5	194	135	92	36	366	60	114

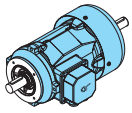
IM B14

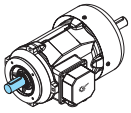


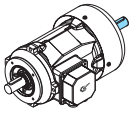
IM V18

IM V19

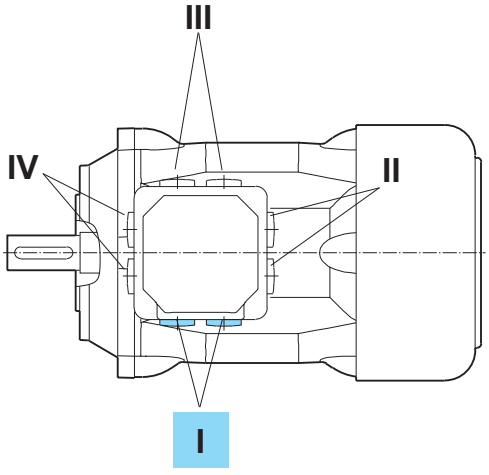


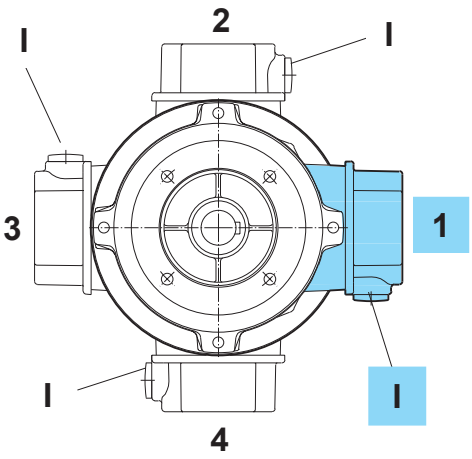




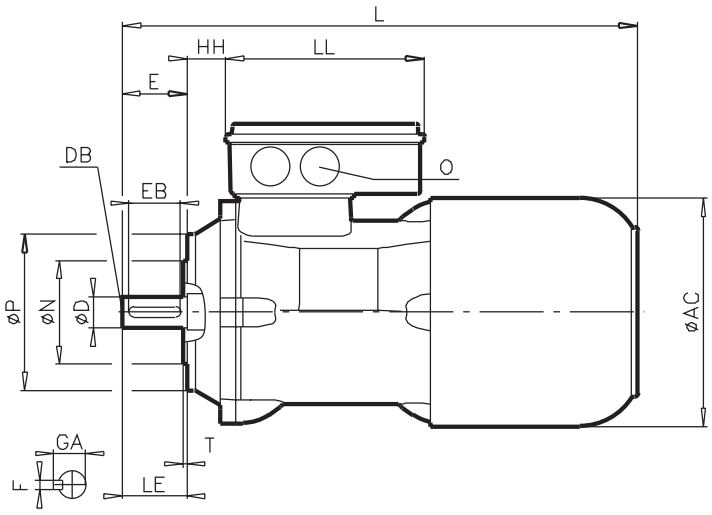


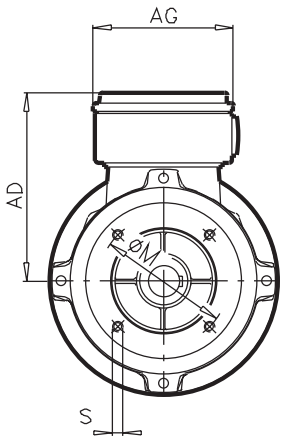
LC	AS	AT	AO	LS	LT	LO	O	D	DB	E	EB	F	GA	DA	DC	EA	EC	FA	GC
309	156	156	176	291	296	302	M20 x 1,5	19	M6	40	32	6	21,5	14	M5	30	20	5	16,0
373	176	176	194	341	345	357	M20 x 1,5	24	M8	50	40	8	27,0	14	M5	30	20	5	16,0
422	194	194	218	381	388	394	M20 x 1,5	28	M10	60	50	8	31,0	24	M8	50	40	8	27,0

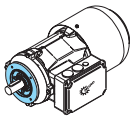


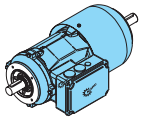


B14-BRE ventilated



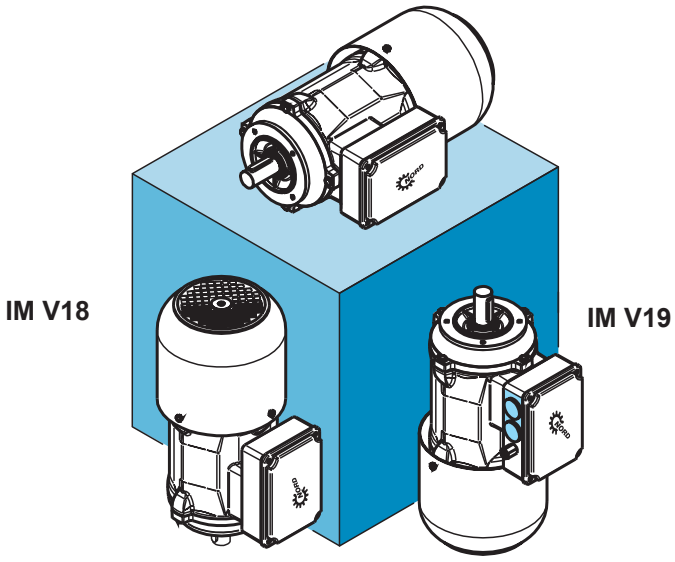






Type HM ventilated L/H		BRE [Nm]	[mm] M	N	P	S	T	AC	AD	AG	HH	L	LE	LL
80	LH	5 10	100	80	120	M6 x 12	3,0	156	135	108	26	340	40	153
90	SH	10 20	115	95	140	M8 x 15	3,0	176	145	108	30	401	50	153
100	SH/LH	10 20	130	110	160	M8 x 16	3,5	194	167	108	36	457	60	153

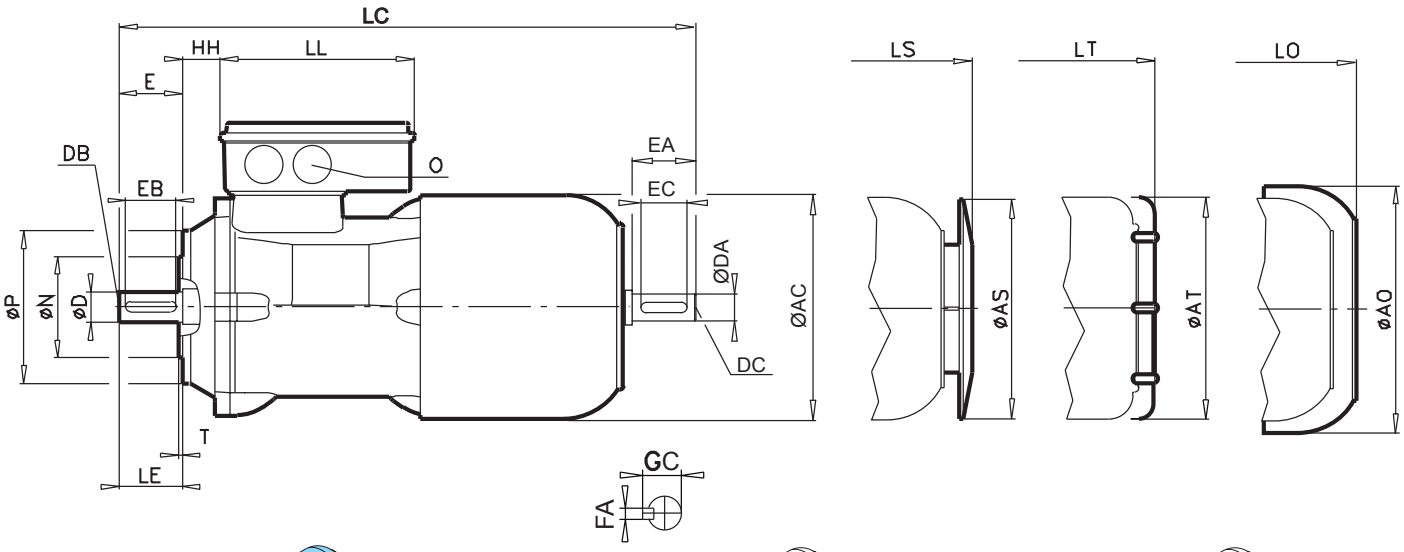
IM B14

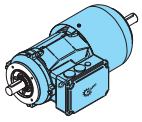


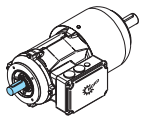
IM V18

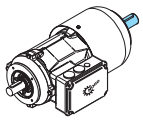
IM V19

ventilated B14-BRE

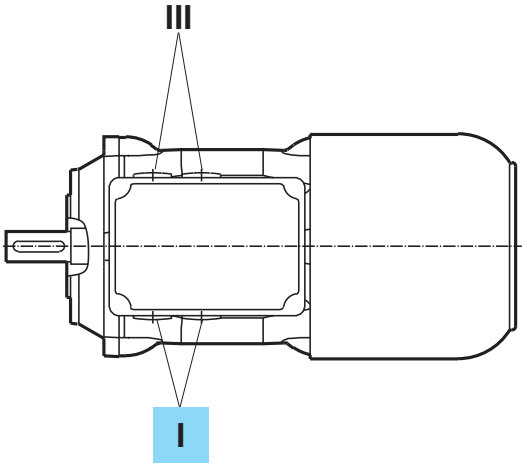


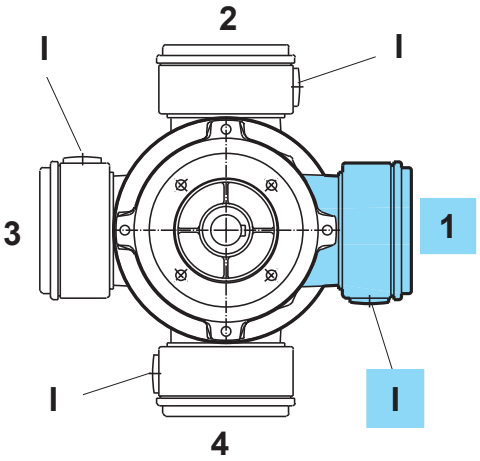






LC	AS	AT	AO	LS	LT	LO	O	D	DB	E	EB	F	GA	DA	DC	EA	EC	FA	GC
374	156	156	176	355	360	366	M25x1,5	19	M6	40	32	6	21,5	14	M5	30	20	5	16,0
439	176	176	194	416	420	431	M25x1,5	24	M8	50	40	8	27,0	14	M5	30	20	5	16,0
517	194	194	218	472	480	485	M32x1,5	28	M10	60	50	8	31,0	24	M8	50	40	8	27,0





NORD smooth surface motors

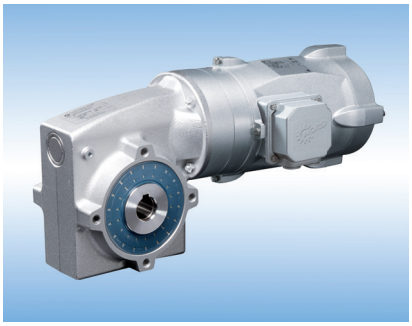
nsd tupH

Sealed Surface Conversion System

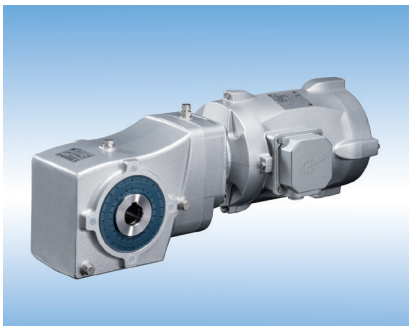
- Surface treatment
- No detachment possible
- No corrosion (like stainless steel)
- No flaking
- No undercutting

Specially for the food industry

- Developed and designed as per the following standards:
  EHEDG, ASNI / BISSC, ANSI / NSF
  Compliant with FDA Title 21
  CFR 175, 300



Smooth motor – unventilated with SMI worm gear



Smooth motor – unventilated with 2-stage bevel gear

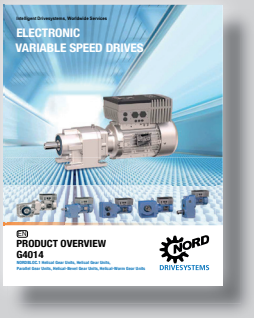
An overview of the NORD range

G1000 Fixed speeds
UNICASE housing 50 Hz, 60 Hz

- 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

G1035 UNIVERSAL Worm gear units

- SI and SMI

F3018 Frequency inverter SK180E
F3020 Frequency inverter SK200E

NORD DRIVESYSTEMS Group

Headquarters and Technology center
in Bargteheide close to Hamburg

Innovative drive solutions
for more than 100 branches of industry

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

Electrical products
IE2/IE3/IE4 motors

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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Fax +49 (0) 4532 / 289-2253
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