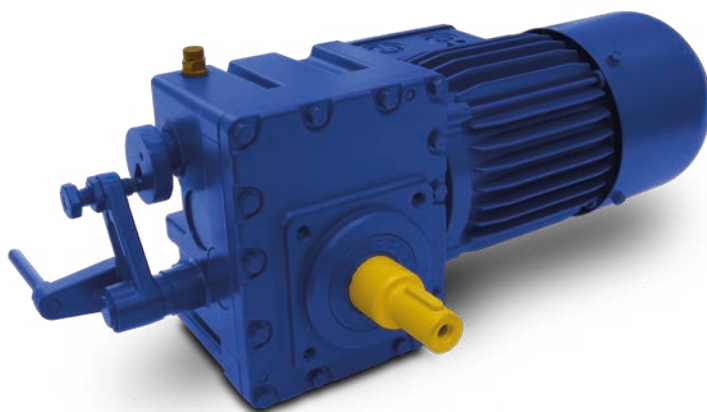




**ENERGY EFFICIENT
GEARED MOTORS**
ELECTRIC OVERHEAD
CONVEYORS



BAUER GEAR MOTOR™

**PRODUCT
CATALOG**

Type Designations

BM 10 - 7 1 V / D.. 09L A 4 - TF - ST - G - SL- K / ES 010 A 9 HN / C2

BM 10 Z X - 7 1 V

V = Flange A or C front
H = Flange A or C rear
UO = Foot below and above
1 = Solid shaft, front
2 = Solid shaft, rear
3 = Solid shaft, front and rear
7 = Solid shaft front, flush with standard flange only BM30-BM40
0 = Gearbox housing, no machined surfaces
6 = Gear housing, foot-threaded bores
7 = Gear housing, C - flange
- = Separates gearbox type from gearbox version
X = Reinforced bearing for higher wheel loads
Z = Gearbox with pre-stage
•• = Gear size (09,10, 20, 30, 40)
B M = Gear type (BM)

D.. 09 LA 4 - TF - S

S = Rectifier
TF = Motor monitoring
4 = No. of pole for motor
LA = Motor core length and design
09 = Motor size
.. = SE Three-phase motor with increased efficiency according to IE1
.. = HE Three-phase motor with increased efficiency according to IE2
.. = PE Three-phase motor with increased efficiency according to IE3
D = Three-phase motor
S = Permanent magnet excited synchronous motor with efficiency according to IE4

ES 010 A 9 HN

HA = Hand release (lockable)
HN = Hand release (none lockable)
9 = Code for setting torque
A = Design
010 = Brake size
ES = Single disk brakes - HOLDING BRAKE
ZS = Double disk brakes - HOLDING BRAKE
ESX = Single disk brakes - WORKING BRAKE
ZSX = Double disk brakes - WORKING BRAKE

BM .. - 0 7 V /.. / S ..

01 = A-flange and solid shaft pulled forward on gearbox part side V (BM30, BM40)
02 = A-flange and solid shaft „far“ forward on gearbox side V (BM30, BM40)
V = Flange A
7 = Vollwellenfront, nur mit Standardflansch bündig BM30-40
0 = Gearbox housing, no machined surfaces
- = Separates gearbox type from gearbox version
.. = Gearbox size (09, 10, 20, 30, 40)
BM = Gear type (BM)

Table of contents

1	General	13
	Advantages of Bauer-Geared Motors	15
	Bauer-electric overhead conveyors systems	15
	Bauer Gearboxes	15
	Bauer Motors	15
	Bauer Brakes	15
2	Product Description	17
	Selection of geared motors	19
	Installed positions of geared motors	19
	Notes on safety	19
	Guards for rotating parts	19
	Touch protection	19
	Operating noise	19
	Painting and corrosion protection	19
	Description of BM geared motors	20
	Five unit sizes to handle every load	20
3	Type Designations	21
	Significance of type designation	23
	Significance of type designation	23
	Electric overhead conveyors series BM	24
	Versions and options	25
	Gear unit designs	25
	Type designation and components of the BM-series geared motors	25
	Motor	26
	Three-phase motor	26
	Motor protection	26
	Brake rectifier in motor terminal box	26
	Plug connector	26
	Heavy-duty fan	26
	Protective cover	26
	Motor Mounted Components	27
	Brake	27
	Reverse rotation block	27
	Encoders	27
	Second shaft end	27
	Forced ventilation	27
	Overall design	27
4	Getriebemotoren Auswahl	29
	Projektierungshinweise	31
	Vorgehensweise bei der Auswahl von Getriebemotoren der BM-Reihe	31
	Fahrwerkskonstruktion	34
	Spezifikation von Getriebe­motoren	36
5	Gearboxes & Lubrication	39
	Geared motor selection	41
	Standard fitting position of BM geared motors	41
	Position of the terminal box and the cable glands	41
	Lubricants	42
	Lubricants	42
	Lubricant quantities	43
	Lubricant quantities, BM-series gears	44
	Lubricant quantity the primary stage (Z) for installation type H1	45
	Gear ventilation	45
	Threaded plugs	46
	Position of threaded plugs	
	- BM-series gears	46
	- pre-stage gears (Z)	47
	- in the System Cover Design with Standard Geared Motor	48

Energy Efficient Geared Motors

Table of contents

6	Selection tables ASM-IE1	49
	Selection table asynchronous motors ASM IE1	51
7	Selection tables ASM-IE2	63
	Selection table asynchronous motors ASM IE2	65
8	Selection tables ASM IE3	75
	Selection table asynchronous motors ASM IE3	77
9	Selection tables PMSM IE5	89
	Selection table asynchronous motors PMSM IE5 1500 1/min	91
	Selection table asynchronous motors PMSM IE5 3000 1/min	101
10	Electric overhead conveyors series BM - Dimension	111
	Dimension - Standard	113
	BM09	113
	BM10-BM10X	114
	BM20-BM20Z	116
	BM30-BM30Z	118
	BM40-BM40Z	120
	Additional Dimension Sheet	122
	Standard terminal box	122
	Plug-connector terminal box.....	123
	Standard brakes.....	124
	“Heavy-Duty“- brake.....	125
	Motors with back stop.....	126
	Motors with second shaft end	127
	Motors with brake and second shaft end.....	128
	Motors with “heavy duty” brake and second shaft end	129
	Motors with protective hood.....	130
	Motors with independent fan	131
	Motors with brake and independent fan	132
	Motors with encoder and built-on independent fan.....	133
	Motors with brake and encoder with built-on independent fan.....	134
	Motors with standard encoder.....	135
	Motors with “heavy duty” encoder	136
	Motors with brake and encoder	137
	Motors with “heavy duty” brake and encoder	138
	Motors in IEC design	139
11	Motoren - ASM	141
	General	143
	ErP Directive 2009/125/EC	143
	Regulation (EU) 2019/1781	144
	Torques	146
	Line voltages	146
	Line frequencies	147
	Rating plate	147
	Terminal box	147
	Motor connections	148
	Terminal connections for single speed motors without motor protection	149
	Terminal connections for single speed motors with motor protection	150
	Terminal connections for pole changing motors in Dahlander connection (Δ/YY or Y/YY).....	151
	Terminal connections for pole changing motors with two separate windings (Y/Y or Δ/Δ).....	152
	Plug-and-socket connection	153
	Motor protection	154
	Thermistors (PTC)	154
	Thermostatic protection	155
	KTY sensors	156
	PT100 sensors	157
	Insulation	158
	IP – Protection classes	158
	Degrees of protection provided by enclosures for electrical equipment	158
	Speed of output shaft	159

Duty types as defined by EN 60034	160
General	160
Continuous running duty (S1)	160
Short-time duty (S2)	160
Intermittent periodic duty (S3)	161
Intermittent periodic duty with starting (S4)	162
Intermittent periodic duty with electric braking (S5)	163
Continuous-operation periodic duty (S6)	164
Continuous-operation periodic duty with electric braking (S7)	164
Continuous-operation periodic duty with relative load/speed changes (S8)	165
Duty with non-periodic load and speed variations (S9)	165
Duty with discreet constant loads and speeds (S10)	166
Operation with frequency converter.....	167
Notes on design	167
Increased torque with reduced duty factor	167
Increased torque with external fan	167
Energy-saving function	168
Regeneration	168
Notes on operation with other-make frequency inverters	168
Technical data.....	169
Technical data of the 50 Hz motors.....	169
4-pole IE1 motors for continuous operation S1, line frequency 50 Hz	169
4-pole IE2 motors for continuous operation S1, line frequency 50 Hz	170
4-pole IE2 motors for continuous operation S1, mains frequency 50 Hz.....	171
4-pole IE3 motors for continuous operation S1, line frequency 50 Hz	172
4-pole IE3 motors for continuous operation S1, mains frequency 50 Hz.....	173
4 pole motors for periodic duty S3/S6-75 %, Mains Frequency 50 Hz.....	174
4 pole motors for periodic duty S3/S6, Mains Frequency 50 Hz	175
4/2-pole Δ /YY motors for continuous running duty (S1) and 50 Hz mains frequency.....	176
8/4-pole Δ /YY motors for continuous running duty (S1) and 50 Hz mains frequency.....	177
8/2-pole Y/Y motors for intermittent periodic duty S3 25/75 % and 50 Hz mains frequency	178
12/2-pole Y/Y motors for intermittent periodic duty S3 25/75 % and 50 Hz mains frequency	179
Technical data of the 60 Hz motors.....	180
4-pole IE1 motors for continuous operation S1, mains frequency 60 Hz.....	180
4-pole IE2 motors for continuous operation S1, mains frequency 60 Hz.....	181
4-pole IE2 motors for continuous operation S1, mains frequency 60 Hz.....	182
4-pole IE3 motors for continuous operation S1, line frequency 60 Hz	183
4-pole IE3 motors for continuous operation S1, mains frequency 60 Hz.....	184
4-pole motors for intermittent periodic duty (S3/S6 75 %) and 60 Hz mains frequency	185
4-pole motors for intermittent periodic duty (S3/S6) and 60 Hz mains frequency	186
4/2-pole motors Δ /YY for continuous operation S1, line frequency 60 Hz.....	187
8/4-pole motors Δ /YY for continuous operation S1, line frequency 60 Hz.....	188
8/2-pole Y/Y motors for intermittent periodic duty S3 25/75 % and 60 Hz mains frequency	189
12/2-pole motors Y/Y for intermittent periodic duty S3-25/75 %, line frequency 60 Hz.....	190
Operation with frequency converter, 50 Hz	191
IE1 Motor torques for frequency-converter range 5 Hz - 70 Hz, line frequency 50 Hz	191
IE1 Motor torques for frequency-converter range 5 Hz - 100 Hz, line frequency 50 Hz	192
IE2 Motor torques for frequency-converter range 5 Hz - 70 Hz, line frequency 50 Hz	193
IE2 Motor torques for frequency-converter range 5 Hz - 100 Hz, line frequency 50 Hz	194
IE3 Motor torques for frequency-converter range 5 Hz - 70 Hz, line frequency 50 Hz	195
IE3 Motor torques for frequency-converter range 5 Hz - 100 Hz, line frequency 50 Hz	196
Operation with frequency converter, 60 Hz	197
IE1 Motor torques for frequency-converter range 6 Hz - 84 Hz, line frequency 60 Hz	197
IE1 Motor torques for frequency-converter range 6 Hz - 120 Hz, line frequency 60 Hz	198
IE2 Motor torques for frequency-converter range 5 Hz - 80 Hz, line frequency 60 Hz	199
IE2 Motor torques for frequency-converter range 5 Hz - 120 Hz, line frequency 60 Hz	200
IE3 Motor torques for frequency-converter range 5 Hz - 80 Hz, line frequency 60 Hz	201
IE3 Motor torques for frequency-converter range 5 Hz - 120 Hz, line frequency 60 Hz	202
12 Motoren - BM	203
Motor configuration.....	205
Torque-speed characteristic	205
Motor configuration.....	206
Technical data.....	209

Energy Efficient Geared Motors

Table of contents

Standard Motors	209
Motors with rated speed 1500 1/min	209
Rated speed 1500 1/min	210
Motor-Drehmomente bei Stellbereich 150 1/min - 1800 1/min, Betriebsart S1	211
Motors with rated speed 2250 1/min	215
Rated speed 2250 1/min	216
Motor-Drehmomente bei Stellbereich 150 1/min - 2600 1/min, Betriebsart S1	217
Motors with rated speed 3000 1/min	219
Rated speed 3000 1/min	220
Motor torques in the adjusting range 150 1/min - 3600 1/min, duty type S1	222
13 Motor Mounted Components	227
Brake	229
Functional description	229
Product description of type ES(X) spring-actuated brakes	229
Product description of type ZS(X) spring-actuated brakes	230
Brake selection and sizing	231
Electrical connection	234
Specifications of holding brakes with emergency stop capability	237
Specifications of working brakes	238
Connection	240
DC connection via terminals (K)	240
Standard rectifier (S)	241
Rectifier for electronic rapid shutdown (E)	242
Rectifier for overexcitation and rapid shutdown (M)	243
Brake connection, operation with frequency converter	245
Brake connection, pole-changing motors	245
Manual release (HA, HN)	245
Explosion protection	245
Back stop (RR, RL)	245
Second motor shaft extension (ZW, ZV)	246
Protective fan cowl (D)	246
Motor-independent fan (FV)	246
Technical Data Motor-independent fan	246
Encoder System	247
Shaft encoder (G)	247
Incremental rotary encoder	248
Functional description	248
Electrical specifications	248
Plug end view with male pin insert	248
Signal assignments	248
Functional description	249
Profibus DP interface	249
Absolute rotary encoders	250
SSI interface	250
14 BAUER global	253
North America	255
Latin America	256
Europe	257
Eastern Europe	261
Middle East & Africa	262
APAC	264
China	265

Energy Efficient Geared Motors

Bauer Gear Motor - profile

Innovation since 1927

During its 90-year history, Bauer Gear Motor has developed to become the preferred international provider of high-quality and extremely reliable geared motors. A great deal of knowledge has been accrued over the decades, and this has continually been built upon and shared. Bauer has pioneered many new geared motor solutions and will continue to do so in the future. Our engineers develop technically-advanced solutions that feature energy-efficient motors paired with optimal gearboxes so that we can offer our customers the lowest possible operating costs. It is not without reason that the Bauer brand has become world famous; this is because our geared motor solutions are the driving power in drive technology.



Competent and customer-focused

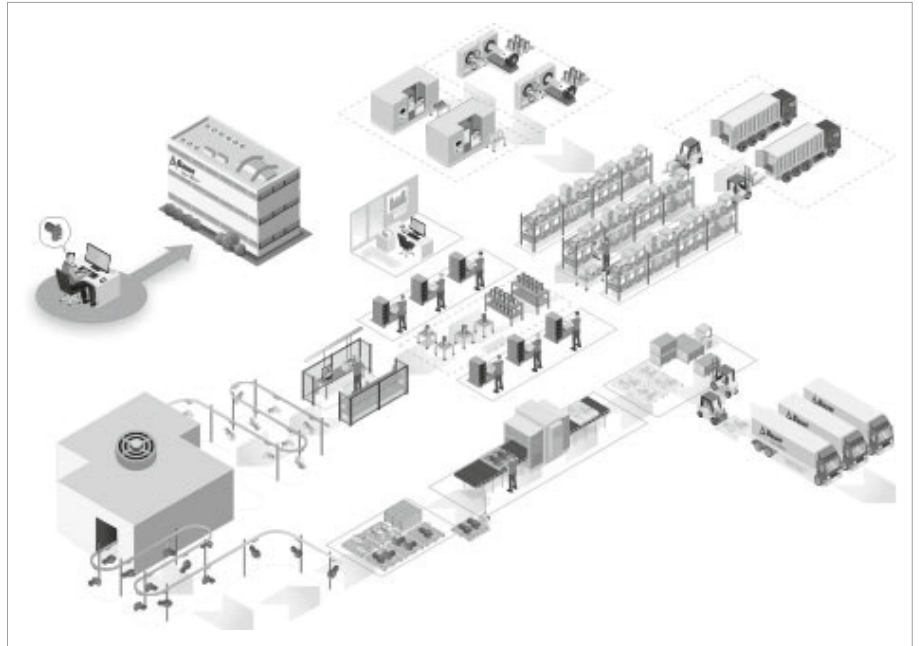
We see ourselves as the value adding partner for individual drive technology solutions along the entire customer value chain ... **Uncomplicated ... Competent ... Enduring.** With our global sales and expertise, we are there to support you side by side- right from the design of your drive. Our employees will ensure that you have the optimum geared motor solution for your application

Our quick response time to requests ensures that you receive the required offer within 24 hours. After your order has arrived, we check your order details and you will receive a confirmation of the order within 24 hours. This means that you will have the details for your own production planning process by the following day.

As we concentrate our production in regional factories, we are also able to deliver customised solutions from the factory reliably and directly, with an extremely short delivery period.

Energy Efficient Geared Motors

Bauer Gear Motor - profile



Closer to the customer's needs thanks to greater flexibility

Orders are processed immediately and passed on to our production team. By reducing set-up times, we are able to start producing the order specific parts right away. This is synchronised with assembly, ensuring that the parts are available according to just-in-time principles.

The entire manufacturing processes starting from the production of the motor, the mechanical geared motor parts and the electrical components, are perfectly coordinated to ensure greater process reliability and availability. This means that a high delivery reliability of over 95% can be achieved, while maintaining Bauer's high quality.

The product range



Energy Efficient Geared Motors

Bauer Gear Motor - profile

Helical Geared Motors

- Power range from 0.03 kW to 75 kW
- 13 gear sizes for torques ranging from 20 Nm to 18500 Nm
- New attachment possibilities with low design height
- High efficiency through 2-stage base design
- High protection rating of IP65 as standard

Shaft Mounted Geared Motors

- Power range from 0.03 kW to 75 kW
- 10 gear sizes for torques ranging from 90 Nm to 18500 Nm
- Gearbox housing with integral torque arm
- High efficiency through 2-stage base design
- High protection rating of IP65 as standard

Bevel Geared Motors

- Power range from 0.03 kW to 75 kW
- 10 gearbox sizes for torques ranging from 80 Nm to 18500 Nm
- Right angle with universal, space-saving mounting options
- High efficiency through 2-stage base design
- High protection rating of IP65 as standard

Worm Geared Motors

- Power range from 0.03 kW to 5.5 kW
- 8 gearbox sizes for torques ranging from 25 Nm to 1000 Nm
- Hollow shaft version available from 25 Nm
- Heavy duty worm gearing for a long service life
- High protection rating of IP65 as standard

Monorail Geared Motor Drives

- Torque rating from 30 Nm to 680 Nm
- Radial force up to 25,000 N
- Gearboxes with a wide range of mounting options
- High protection rating of IP65 as standard
- Improved efficiency
- low energy consumption - ideal for travel drives
- Reverse motion of gearbox possible with released brake

AsepticDRIVE

- Motor without cooling ribs and fan
- Available with helical, shaft-mounted, bevel and worm gearboxes
- Motor winding with thermistors and ISO class F as standard
- IP67 and IP69K protection ratings with alkali and acid-resistant coating as standard.
- Motor connection through standard, round stainless steel connector

CleanDRIVE

- Motor without cooling ribs and fan
- Available with helical, shaft-mounted, bevel and worm gearboxes
- Motor winding with thermistors and ISO class F as standard
- Motor connection through a standard terminal box or stainless steel cable gland

Energy Efficient Geared Motors

Bauer Gear Motor - profile

HiflexDRIVE

BK04 gearbox

- Torque 80 Nm
- Gear reductions 7.25 – 63.33

BK08 gearbox

- Torque 200 Nm
- Gear reductions 4.44 - 102.5

BK17 gearbox

- Torque 330 Nm
- Gear reductions 4.54 - 108.6

Motors

- Output power 0.12 kW ... 3.0 kW
- Efficiency classes no rating and IE1 to IE4
- Enclosure IP65 (standard)
IP67 / IP69K (optional)

Energy-efficient motor solutions

Mains Supply

- IE1 asynchronous technology 0.12 kW – 30 kW
- IE2 asynchronous technology 0.12 kW – 22 kW
- IE3 asynchronous technology 0.12 kW – 37 kW
- IE4 asynchronous technology 0.55 kW – 4 kW

Inverter Duty

- IE3 PMSM-technology 1.5 kW – 15 kW
- IE4 PMSM-technology 0.55 kW – 11 kW

Energy-efficient motor solutions for explosion hazard areas

The S series in permanent magnet synchronous motors (PMSMs) offers variable-speed geared motors in efficiency class IE4 for use in explosion hazard areas^[1].

- Design torque M_N : 5 Nm – 48 Nm
- Rated power P_N : 0.75 kW – 15 kW
- Increased safety for zone 1 II 2 G Ex e IIC T1 - T3 Gb
- Dust explosion protection – Zone 21 II 2 D Ex tb IIIC T 160°C ... 120° Db

^[1] Individual motor designs can show lower efficiency classes than IE4 at rated torque.

EtaK2.0 Decentral Solutions

- PMSM enabled
- Integrated safety technology and field bus communication according to specific needs
- Modular structure minimises spare parts stock
- Energy savings of up to 30 % possible under partial load conditions
- Suited to extremely harsh environments thanks to IP65 enclosure rating
- 200 % overload current (3 s)
- Sensorless vector control
- CANopen, Profibus, Profinet, EtherCAT, EtherNet/IP and AS-Interface
- STO safety function

Energy Efficient Geared Motors

Bauer Gear Motor - profile

Submersible Solutions

- **Special sealing concepts** for maximum leakage protection
- **Reinforced bearings** for higher strength and longer service life
- **Shafts** available on request in V4A steel or coating
- **Motor Connection**
 - Standard with cast terminal box
 - Optional with special plug connection
- **Additional features:**
 - Special design for continuous submersible operation
 - Electronic leakage detection available on request
 - Brakes available in IP68 design
 - Water depths of 5m (deeper on request)
- **Corrosion category Im2** based on DIN ISO 12944-5

Customised geared motor solutions for all applications

- Special applications
- Special adaptations
- Special environments
- Series production

Based on our modular, geared motor programme, we offer specific solutions for applications in all key markets such as, for example, food & beverage, energy, wastewater, concrete, metals and material handling in applications such as washdown conveyor systems, rolling mills, monorail systems and overhead conveyors, sludge thickeners, cranes, fans and blowers and turbines. Our aim is to provide our customers with products tailored to their needs. At the same time, we take care to ensure that a geared motor solution will prove to be especially profitable throughout its entire life cycle.

We already equip our geared motors with highly efficient permanent magnet motors to achieve low life cycle costs because low energy consumption will be particularly important in the future. We are very confident that we are once again pioneers in this sector

Learn more about Bauer Gear Motor, its products and philosophy at www.bauergears.com.



General

General13

Advantages of Bauer-Geared Motors15

 Bauer-electric overhead conveyors systems 15

 Bauer Gearboxes 15

 Bauer Motors 15

 Bauer Brakes 15

Advantages of Bauer-Geared Motors

Bauer-electric overhead conveyors systems

What we offer...	Your benefit...
Tried and tested technology with several thousand drives in the field	Reliability
Flexible assembly possibility	Simple engineering
Coupling lever always on the front side	Simple engineering, easy to reach
Gearboxes designed for efficiency	Energy saving
Industry standard shaft connection	Flexible choice of wheel
Long service intervals	High productivity
Finely graduated brake torques	High availability
Asynchronous and permanent magnet technology	High flexibility in engineering reduces stocking costs and increases the working capital
Permanent magnet synchronous motors	Energy saving, high power density, weight reduction
Customer specific modifications	Flexibility
Drives can be reversed without disengaging the clutch	Reduced downtime

1

Bauer Gearboxes

Easy access to the fixation points reduces assembly times and installation costs

- Low servicing costs as the lubrication change results in normal duty with a lubrication temperature of approx. 80 °C first after 15.000 operating hours when using CLP oils or 25.000 operating hours when using PGLP oils
- 2-stage gearbox concept reduces the spare part stocking
- A variety of attachment possibilities (Foot, Flange, Solid and Hollow shafts, Torque arms)
- Sealed housing design reduces the risk of oil leakage and increases the oil lifetime
- The large housing volume allows usage in very harsh environments

Bauer Motors

- Low operating costs due to high motor efficiencies (IE2, IE3 and IE4 as Standard)
- Low installation costs through CAGE CLAMP® instead of the classical terminal block connection
- A variety of additional designs (connectors, brakes, backstops, rain covers, forced cooling, encoders etc.)
- Cost reduction of connection cabling and avoidance of additional protective elements (chokes, filters etc.), through built-on inverters (ETA-K)
- Ideal for frequency inverter

Bauer Brakes

- Low servicing costs through long lifetime of the brake discs
- Brake-Motor correlation tailor made to the application by virtue of on average three brake sizes per motor size
- A variety of designs (lockable and non-lockable hand release, microswitch, heaters)
- Robust design for heavy duty applications
- Enclosure IP65 as standard
- Very high wear resistance.



2

Product Description

Product Description17

Selection of geared motors19

 Installed positions of geared motors 19

 Notes on safety 19

 Guards for rotating parts 19

 Touch protection 19

 Operating noise 19

 Painting and corrosion protection 19

Description of BM geared motors20

 Five unit sizes to handle every load20

Product Description

Selection of geared motors

2

Installed positions of geared motors

Bauer geared motors can be supplied for any type of fitting position. Vertical installation positions (motor-down) place a particularly severe strain on the shaft seal. It is advisable to avoid this arrangement especially at high motor speeds (e.g. above 1800 r/min) and continuous operation.

Notes on safety

See the notes on safety regarding installation in Operating Instructions.

Guards for rotating parts

The shrink disk (SSV) guards required under the German law relating to technical materials (Law Concerning Industrial Equipment - Equipment safety law GPSG) or by the Accident Prevention Regulations (UVV) are not included in the standard scope of supply because they are fitted by the customer in most cases, or the risk of accident can be eliminated by suitable installation.

See the Operating Instruction.

Touch protection

The fan hoods, via the externally mounted fan wheels, of the entire B2000 motor series fulfil the protection against contact with the standard finger (Ø12 mm).

Operating noise

The typical operating noise levels of BAUER geared motors are within the limits stipulated by VDI directive 2159 for gears and EN 60034-9, Table 2 for motors.

For physical reasons, low-ratio, high-speed gears produce more noise than medium- and high-ratio gears operating at low speeds.

Painting and corrosion protection

BAUER geared motors are spray-painted in RAL 7031 to DIN 1843 as standard. Other RAL colours are available at extra cost.

The output shafts are shipped in protective sleeves or with a protective coating to prevent corrosion.

The prerequisite for achieving a long protection period is the right choice of coating. The coating system from Bauer Gear Motor GmbH, offers suitable and long-lasting corrosion protection for all areas of application.

Category	Loads	Examples of indoor areas	Examples of outdoor areas	Possible IP-Protection class
Standard	Insignificant	Insulated and heated buildings with neutral atmosphere	—	IP54 IP65
C1	Insignificant	Insulated and heated buildings with neutral atmosphere	—	IP54 IP65
C2	Low	Uninsulated and unheated buildings where condensation can occur, e.g. warehouses, sports halls	Atmosphere with low corrosive load, mostly rural areas	IP54 IP65
C3	Moderate	Production rooms with high relative humidity and some air pollution, e.g. facilities for food production, laundries, breweries, dairies	Urban and industrial atmosphere, moderate pollution by sulphur dioxide. Moderate coastal area with low salt pollution	IP65 IP66
C4	Strong	chemical plants, swimming pools, objects above sea water	Industrial and coastal areas with moderate salt exposure	IP65 IP66
C5-I	Very strong (industry)	areas with almost constant condensation and heavy contamination	Industrial areas with high relative humidity and aggressive atmosphere	IP66
C5-M	Very strong (sea)	areas with almost constant condensation and heavy contamination	Coastal and offshore areas with high salt pollution, buildings with almost constant condensation and heavy air pollution	IP66
IM2*	Sea or brackish water	IP68 Underwater Drives	Port areas, lock gates, moles, offshore installations	IP68
Aseptics (proprietary development of Bauer)	Very strong	For indoor and outdoor use with very high environmental pollution and in hygiene-sensitive areas, in each case with high-pressure cleaning with chemical cleaning agents		IP67/IP69K

* The IM2 coating, consisting of modified epoxy resin, is a functional coating. Condensation of air humidity during or immediately after application can lead to a matt surface. The gloss level can therefore vary from drive to drive. Epoxy resins are not UV-resistant and will chalk and yellow when exposed to the elements. However, this does not affect the durability of the coating.

Product Description

Description of BM geared motors

Five unit sizes to handle every load

The BM (Bauer Monorail) series offers five gear unit sizes which differ in their permissible torques (from 50 to 680 Nm). The gear units are also offered in heavy duty versions for increased permissible radial loads.

Gear unit		F_{RN} in N	d_{AW} in mm	Shaft height in mm	Shaft collar in mm
1	BM09	4400	20	61	30
	BM09X	6500	25	61	30
2	BM10	8000	25	62,5 (60)	34,5
	BM10X	10000	25	62,5 (60)	34,5
3	BM20	10000	30	70,5 (68)	35
	BM20X	12000	30	70,5 (68)	35
4	BM30(Z)	12000	35	94 (90)	45
	BM30(Z)X	15000	35	94 (90)	45
5	BM40(Z)	20000	55	125 (120)	60
	BM40(Z)X	25000	55	125 (120)	60

Type	Allowable torque [Nm]	Allowable wheel load at power application *ML [N]	Gear ratios	Speed (based on wheel [m/min])	Wheel diameter [mm]	Output shaft [mm]
BM09	30 - 100	4400	11.34 - 53.85	10 - 100	125	20 x 35
BM09X	-	6500	-	12.8 - 128	160	25 x 35
BM10	140 - 160	8000	11.68 - 58.18	12 - 128	160	25 x 35
BM10X	-	10000	-	16 - 160	200	25 x 35
BM20	182 - 220	10000	7.66 - 74.76	9 - 69	160	30 x 35
BM20X	-	12000	-	12 - 87	200	30 x 35
BM30	260 - 350	12000	7.91 - 71.09	13 - 186	200	35 x 49
BM30X	-	15000	-	16 - 233	250	35 x 49
BM40	600 - 680	20000	11.17 - 104	11 - 162	250	55 x 110
BM40X	-	25000	-	13 - 194	300	55 x 110

*ML: The position of the power application point „centre of wheel“ can be seen on the applicable dimensional drawings. Significantly higher gear ratios are optional.

The BM09 and BM10 gear units can run on “C1 profiles”. Compliance with the VDI Code of practice 3643 (C1-Standard) and the need to reduce the cost of overhead conveyor drives of this size resulted in a thoroughly tested design which uses a worm-gear set in the first stage and a spur gear set in the second stage. The worm-gear stage with its very small reduction ratios offers particularly high levels of efficiency (greater than 85 %) thanks to the high speeds. The mechanical claw clutch engages the first stage on the BM09 and the final stage on the BM10.

BM20, BM30 and BM40 are heavy-load overhead conveyor drives and have a helical-gear set in the first stage and a bevel-gear set in the final stage. The clutch is mounted in the final stage on these gear units also.

The BM10, BM20, BM30 and BM40 offer additional mounting options. The flange can be located outside on the front of the gear unit, or on the back (“H” side). A version with sturdy securing threads on the underside (“U”) and on top (“O”) of the gear unit can also be supplied. This enables new and easy - to - maintain carriage designs. The use of BM gear units as drive units for floor conveyors is simplified by the version with an output shaft on both sides. Hollow shaft design available on request.

Energy Efficient Geared Motors

Electric overhead conveyors series BM

BAUER		73734 Esslingen Made in Germany	
3-Mot.-No. # 11873812-1	A/ 188W573	40/2022	
Type BM30-61UO/D08MA4-TF-ST-S/E008B6HN/ TM			
0,55 kW	cosφ	0,75	S1
50 Hz	Y	400 V	1,8 A
n _n 1400	n _s 28,5 min	49,66	143 Nm
20-50-60 Hz	196-400-400 V	0,21-0,47-0,57 kW	
B34001123803	FLU	100 %	
IP H1	IP 65	1,2 L	PGLP 460
T _{amb} -20...40 °C		49,4 kg	
180 V DC	0,15 A	6,5 Nm	380...420 V AC 0,11 A
CE		SCHÖH EN60034	

3

Type Designations

Type Designations	21
Significance of type designation	23
Significance of type designation	23
Electric overhead conveyors series BM.....	24
Versions and options	25
Gear unit designs	25
Type designation and components of the BM-series geared motors.....	25
Motor	26
Three-phase motor	26
Motor protection	26
Brake rectifier in motor terminal box	26
Plug connector	26
Heavy-duty fan	26
Protective cover	26
Motor Mounted Components	27
Brake	27
Reverse rotation block.....	27
Encoders	27
Second shaft end	27
Forced ventilation	27
Overall design	27

Type Designations

Significance of type designation

Example: Monorail geared motor with brake and series options

Significance of type designation

The type designation of a BAUER geared motor is a code designating all the features in the drive configuration.

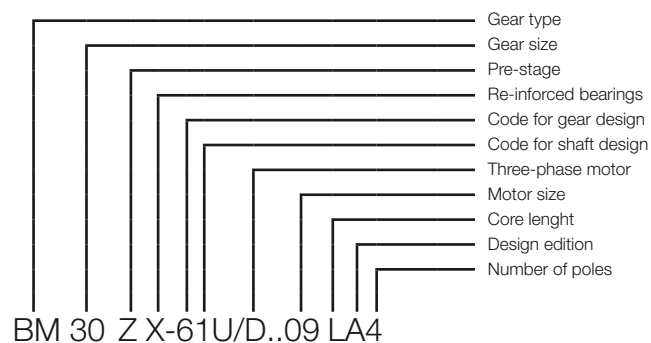
The type designation of a BAUER geared motor is a code designating of all the features in the drive configuration. The build-up of the type designation is explained with the help of the following example of a monorail geared motor with brake and series options.

	Gear										/	Motor										/	Brake					
	BM	40	Z	-	1	1	U	W	/	D..	09L	A	4	-	TF	-	S	/	ES	010	A	9	HN	/	C2			
Bauer-Monorail																												
Gear size 40																												
With pre-stage																												
Separates gear type from gear design																												
Gear housing, foot with clearance holes at bottom																												
Solid output shaft at front																												
Foot with clearance holes at bottom																												
Double shaft seals																												
End of gear part, start of motor part																												
Three-phase motor																												
Motor size																												
State of construction of motor																												
Poles of Winding																												
Separates motor-type from motor supplement																												
Motor protection, thermistors from thermal class F																												
Separation between motor supplements																												
Standard brake rectifier, in the motor terminal box																												
End of motor, start of brake																												
Single disc brake																												
Brake size																												
State of construction of brake																												
Code for braking torque set																												
Manual release non lockable																												
End of supplement, start total design																												
Unit in corrosion protection CORO2																												

Type Designations

Electric overhead conveyors series BM

3



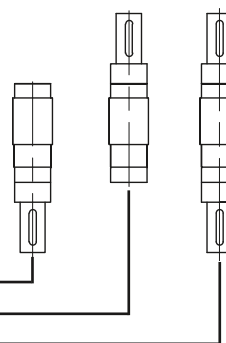
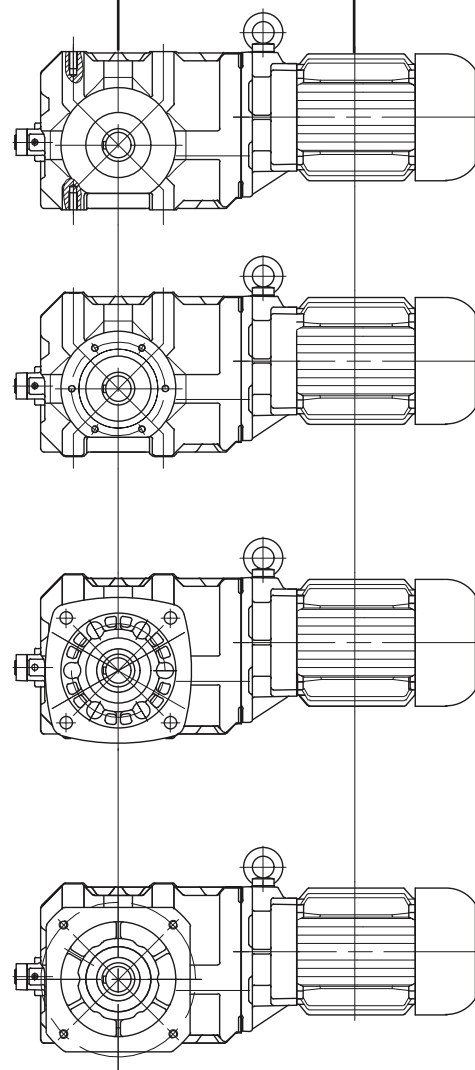
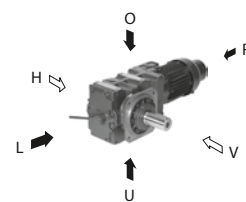
- 6 . 0 ——— Foot with threaded holes, top
- 6 . U ——— Foot with threaded holes, bottom
- 6 . UO ——— Foot with threaded holes, bottom and top

- 7 . V ——— C-flange with threaded holes, front
- 7 . H ——— C-flange with threaded holes, rear

- 8 . ——— completely machined
- 07 . V /.../ S02 ——— wide protruding front flange

- 07 . V /.../ S01 ——— Front advanced flange

- . 1 ——— Solid shaft on gear side V
- . 2 ——— Solid shaft on gear side H
- . 3 ——— Solid shaft on gear side V and H

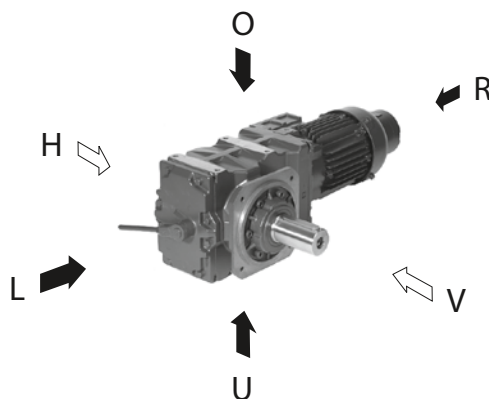


Gear unit designs

Gear unit	1st stage	2nd stage	Flange on rear	"U" and "O" foot threads	Output shaft on both sides	Output shaft on rear	Preferred flange
BM09(X)	Worm-gear	Helical-gear	-	-	-	-	-
BM10(X)	Worm-gear	Helical-gear	Option	Option	Option	-	-
BM20(X)	Helical-gear	Bevel-gear	Option	Option	Option	-	-
BM30Z(X)	Helical-gear	Bevel-gear	Option	Option	Option	-	Option
BM40Z(X)	Helical-gear	Bevel-gear	Option	Option	Option	Option	Option

Type designation and components of the BM-series geared motors

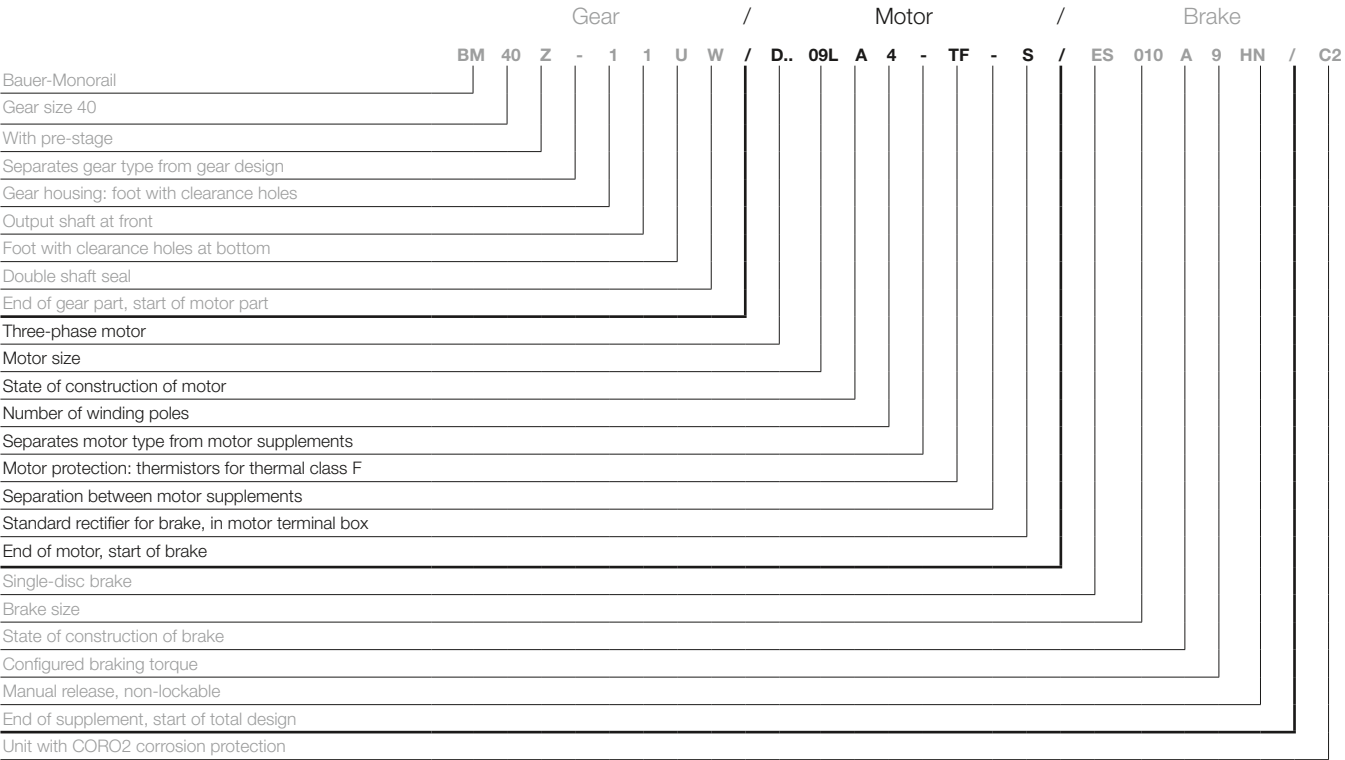
BM..-	Bauer Monorail geared motor Gear unit size (BM09, 10, 20, 30, 40)
BM..Z-..	Gear unit with additional primary stage for very high reduction ratios
BM..G-..	Gear unit with double gearing for very high reduction ratios
BM..X-..	Reinforced gear unit for high wheel loads
BM..-7.V	C-flange with threaded holes on the "V" side of the gear unit
BM..-7.H	C-flange with threaded holes on the "H" side of the gear unit (available on request)
BM..-6.UO/	Foot thread on the "U" and "O" sides of the gear unit (not with BM09)
BM..-.1/	Solid shaft on the "V" side of the gear unit
BM..-.2/	Solid shaft on the "H" side of the gear unit (available on request)
BM..-.3/	Solid shaft on the "V" and "H" sides of the motor (available on request)
BM..-07V/..S01	A-flange and solid shaft extended on the V side of the gear unit (BM30; BM40)
BM..-07V/..S02	A-flange and solid shaft "greatly" extended on the V side of the gear unit (BM30; BM40)



V =	Front The side of the gear unit facing toward the viewer looking toward the type H1 unit
H =	Rear The side of the gear unit facing away from the viewer looking toward the type H1 unit
L =	Left The left side of the gear unit as viewed from the output shaft side of type H1, or the torque brace oriented to the left
O =	Top The top side of the gear unit as viewed from the output shaft side of type H1, or the torque brace oriented upwards
U =	Bottom The bottom side of the gear unit as viewed from the output shaft side of type H1, or the torque brace oriented downwards

Type Designations

Motor



Three-phase motor	D	=	Three-phase motor	
	E	=	Single-phase motor (Steinmetz circuit)	
	S	=	PM-Synchronous motor	
	.	A	Aseptic motor (germ-free drive)	
	.	SE	Three-phase motor with enhanced efficiency compliant with IE1	
	.	HE	Three-phase motor with enhanced efficiency compliant with IE2	
	.	PE	Three-phase motor with enhanced efficiency compliant with IE3	
	.	N	Motor without gear unit; foot-mount version	
	.	NF	Motor without gear unit; flange-mount version	
	.	R	Roller table motor	
	.	XE	Explosion-proof motor with increased safety	
	.	XD	Explosion-proof motors	
	.	W	Torque motor	
	.	L	Special rotor for traction and slewing gear motors	
	.	C	With main and auxiliary windings; only with single-phase motors (EC....)	
Motor protection	.	V	Multiple voltage ranges (wide voltage range)	
	.	U	Unventilated (no forced ventilation)	
	TB	=	Thermistor 140°	
	TF	=	Thermistor 160°	
	TH	=	Thermistor 180°	
	TEB	=	Thermistor warning/shutdown 120°/140°	
	TBF	=	Thermistor warning/shutdown 140°/160°	
	TFH	=	Thermistor warning/shutdown 160°/180°	
	TOB	=	Thermostatic switch, NC 140°	
	TOF	=	Thermostatic switch, NC 160°	
	TOH	=	Thermostatic switch, NC 180°	
Brake rectifier in motor terminal box	TSB	=	Thermostatic switch, NO 125°	
	TSF	=	Thermostatic switch, NO 160°	
	TSH	=	Thermostatic switch, NO 180°	
	TX	=	Other	
	S	=	Standard rectifier	SG
	E	=	Special rectifier	ESG
	M	=	Special rectifier	MSG
Plug connector	ST	=	Harting (other)	
	SL			
	D			
Heavy-duty fan				
Protective cover				

Type Designations

Motor Mounted Components

	Gear										/	Motor										/	Brake									
	BM	40	Z	-	1	1	U	W	/	D..	09L	A	4	-	TF	-	S	/	ES	010	A	9	HN	/	C2							
Bauer-Monorail																																
Gear size 40																																
With pre-stage																																
Separates gear type from gear design																																
Gear housing: foot with clearance holes																																
Output shaft at front																																
Foot with clearance holes at bottom																																
Double shaft seal																																
End of gear part, start of motor part																																
Three-phase motor																																
Motor size																																
State of construction of motor																																
Number of winding poles																																
Separates motor type from motor supplements																																
Motor protection: thermistors for thermal class F																																
Separation between motor supplements																																
Standard rectifier for brake, in motor terminal box																																
End of motor, start of brake																																
Single-disc brake																																
Brake size																																
State of construction of brake																																
Configured braking torque																																
Manual release, non-lockable																																
End of supplement, start of total design																																
Unit with CORO2 corrosion protection																																

Brake

E	= Single-disc brake
ES	= Single-disc holding brake
EH	= Single-disc holding brake in heavy duty
ZS	= Two-disc holding brake
ESX	= Single-disc service brake
EHX	= Single-disc service brake in heavy duty version
ZSX	= Two-disc service brake
... 010	= Brake size
... .. A	= Construction state
... .. 9	= Code for configured braking torque
... .. HN	= Manual release (not lockable)
... .. HA	= Manual release (lockable)

Reverse rotation block

RR	= Blocking direction clockwise
RL	= Blocking direction counterclockwise

Encoders

G

Second shaft end

ZW	= With parallel key
ZV	= With square shaft

Forced ventilation

FV

Overall design

AV	= USA/Canada version with shaft dimensions in inches
AM	= USA/Canada version with metric shaft dimensions
UL	= US version
CS	= Canadian version
C1	= Coro1 corrosion protection
C2	= Coro2 corrosion protection
C3	= Coro3 corrosion protection
C4	= Coro4 corrosion protection
C5I	= Coro5 corrosion protection
C5M	= Coro5 corrosion protection
IM2	= Protection against sea or brackish water
SP	= Non-catalogue version



4

Gear Motor Selection

Gear Motor Selection	29
Project planning advice	31
Procedure for selecting BM-series geared motors	31
Carriage design	34
Selection of geared motors	36

Procedure for selecting BM-series geared motors

Bauer has an experienced team of experts available for the dimensioning of EHB carriage drives.

If you give a precise description of the conditions of operation, using our questionnaire (see 14.2), a quote for the best drive for you can be processed as quickly as possible.

For frequently used applications where the drives are supplied from a frequency inverter, however, the selection tables below can be used for rough drive dimensioning.

1) Establish the wheel load and running wheel diameter

$$F_A = m_A \cdot g$$

F_A	[N]	(Wheel load on running wheel)
m_A	[kg]	(Mass acting on the drive wheel)
g	[9,81 m/s ²]	Acceleration due to gravity
F_{RN}	[N]	(Maximum permissible radial force at the centre, of the wheel, see table „permissible radial forces“)

Selection is based on the following: $F_A < F_{RN}$

Running wheel diameter d is determined by the plant engineer (preferred diameters: 125 mm, 160 mm, 200 mm, 300 mm). Criteria are wheel load and carriage design, for example.

2) The travelling speed is a further important criterion in the selection tables.

Two setting ranges are available for selection: 1:10 and 1:20. The full range of rated torques up to these frequencies are available. At higher frequencies, the torque decreases as a result of the speed range under field control. As a rule, geared motors with the 1:10 setting range are somewhat quieter in operation and those with the 1:20 setting range have smaller, less expensive motor components. The 1:20 setting range facilitates lower positioning speeds.

$$n_2 = \frac{v}{d \cdot \pi}$$

v	[m/min]	(Travelling speed)
n_2	[1/min]	(Speed at the output shaft)
d	[m]	(Running wheel diameter)

3) Geared motor selection in accordance with the required acceleration torque M_{acc2} (specification: $M_{acc2} > M_{tot}$) and the permissible long-term rated torque M_{N2} (specification: $M_{N2} > M_r + M_h$).

The values for M_{acc2} and M_{N2} are contained in the selection tables. If acceleration torque M_{acc2} is not sufficient, the table usually provides higher values for torques M_{acc2} and M_{N2} at a higher permissible radial force F_{RN} .

Torque from rolling friction [Nm]:

$$M_w = F_w \cdot \frac{d}{2} = m \cdot f_w \cdot \frac{d}{2}$$

Lift on gradient: [Nm]:

$$M_h = m \cdot g \cdot \sin \alpha \cdot \frac{d}{2}$$

Acceleration torque [Nm]:

$$M_a = m \cdot a \cdot \frac{d}{2} = m \cdot \frac{v}{t_a} \cdot \frac{d}{2}$$

Total torque required during acceleration [Nm]:

$$M_{\text{tot}} = M_W + M_h + M_a$$

M_{acc2} = Torque [Nm] available at the output shaft during acceleration

M_{N2} = Torque [Nm] available at the output shaft during continuous operation.

d	[m]	(Running wheel diameter)
m	[kg]	(Moving mass)
f_W	[N/kg]	(Rolling resistance from rolling friction per 1000 kg , guide value approximately ca. 200 N / 1000 kg = 0.2 N/kg)
F_W	[N]	(Rolling resistance from rolling friction)
v	[m/s]	(Maximum travelling speed)
t_a	[s]	(Run-up time)
a	[m/s ²]	(Acceleration, standard values approximately 0,3 m/s ² ...1 m/s ²)
α	[°]	(Angle of inclination)

4) Establishing the brake size in the brake selection table.

Choose a brake which can be fitted externally and then select the required braking torque.

Guide value for braking torque on the forizontal $M_{br1} = 0,9 \cdot M_{N1}$.

Total load and rotor at the moment of inertia at the rotor shaft [kgm²]

$$J_{\text{tot1}} = J_{\text{Last1}} + J_{r_{ot}} (+J_{SL}) \quad (J_{SL}, \text{ with heavy cast-iron fan impeller})$$

Load at the moment of inertia at the rotor shaft [kgm²]

$$J_{\text{Last1}} = m \cdot \frac{\left(\frac{d}{2}\right)^2}{i^2} \quad \text{oder} \quad J_{\text{Last1}} = 91,2 \cdot m \cdot \frac{v^2}{n_1^2}$$

Braking time [s]:

$$t_{br} = \frac{J_{\text{tot1}} \cdot n_1}{9,55 \cdot M_{br}}$$

n_1	[1/min]	Rotor shaft speed
M_{br}	[Nm]	Brake torque of the mechanical brake

$$a_{br} = \frac{v}{t_{br}}$$

Rate of deceleration [m/s²]:

v	[m/s]	Travelling speed
a_{br}	[m/s ²]	Rate of deceleration

The calculated rate of deceleration a_{br} is a guide value which is exceeded somewhat in practice since the rolling resistance and level of efficiency are not taken into account.

d	[m]	(Running wheel diameter))
m	[kg]	(Moving mass)
i		Gear reduction ratio
v	[m/s]	Travelling speed
n_1	[1/min]	Rotor shaft speed
J_{rot}	[kgm ²]	Moment of inertia of the rotor at the rotor shaft from the motor table
J_{SL}	[kgm ²]	Moment of inertia of the heavy cast-iron fan from the motor table

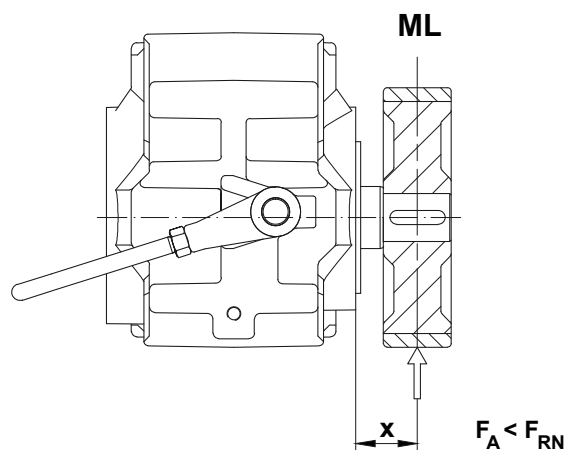
5) Compare the dimensional drawing of the geared motor with the carriage design, and determine the position of the terminal box.

6) Compare the electrical data of the motor (IN und Iacc) with the data of the inverter supplied.

Permissible radial forces

d_{Wheel} in mm	F_{RN} in N	Gear unit type	D_{Shaft} in mm
125	4400	BM09	20
125	6500	BM09X	25
125	8000	BM10	25
160	6500	BM09X	25
160	8000	BM10	25
200	8000	BM10	25
200	10000	BM10X	25
200	10000	BM20	30
200	12000	BM20X	30
200	12000	BM30(Z)	35
200	15000	BM30(Z)X	35
250	15000	BM30(Z)	35
250	20000	BM40(Z)	55
300	20000	BM40(Z)	55
300	25000	BM40(Z)X	55

Definition of force on wheel



Dimension x, see related drawing

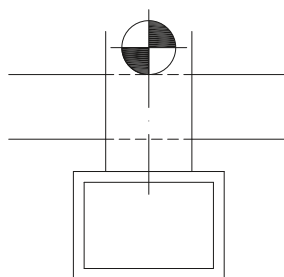
Abbreviations in the selection tables:

v	Travelling speed of the wheel diameter at a synchronous speed
i	Gear reduction ratio
$M_{\text{acc}2}$	Acceleration torque at the output shaft
$M_{\text{N}2}$	Permissible permanent load torque at the output shaft between 30 and 50 or 30 and 87 Hz in inverter duty
I_{acc}	Acceleration current (must be produced by the inverter)
I_{L}	Required current in inverter duty with $M_{\text{L}} = M_{\text{N}2}$
P	Rated output
n_2	Rated speed of the output shaft on a 50 Hz system
F_{RN}	Permissible radial force at the centre of the wheel (see dimension diagram)
d_{Wheel}	Running wheel diameter
d_{AW}	Output shaft diameter

Carriage design

Prinzip „X/X“ = „/“ (Please enter principle used)

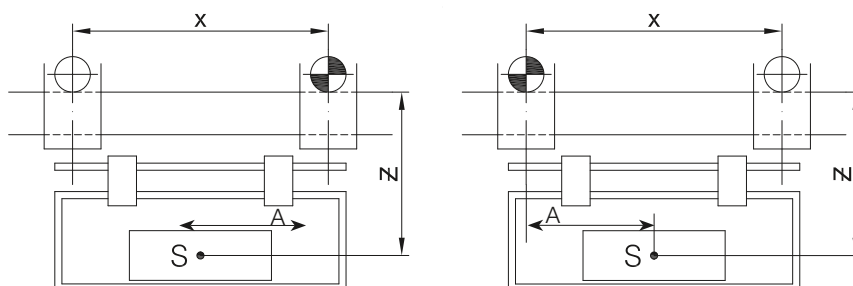
Prinzip „1/1“: One running wheel / one driven wheel



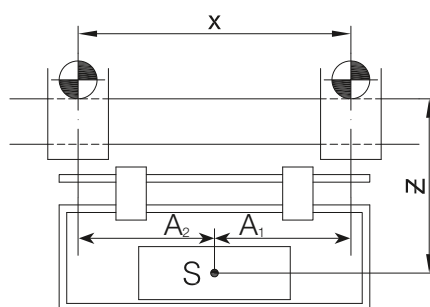
Legend:

- S Load centre of gravity
- Z Distance from rail to load centre of gravity
- X Distance between running wheels
- Y Distance between pivot joints
- A, A₁, A₂ Distance from middle of running wheel to centre of gravity
-  Driven wheel
-  Non-driven wheel

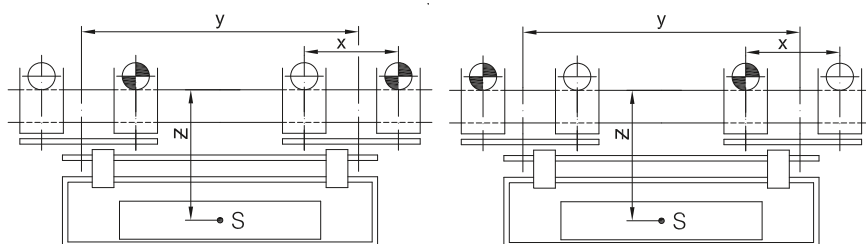
Prinzip „1/2“: Two running wheels / one driven wheel



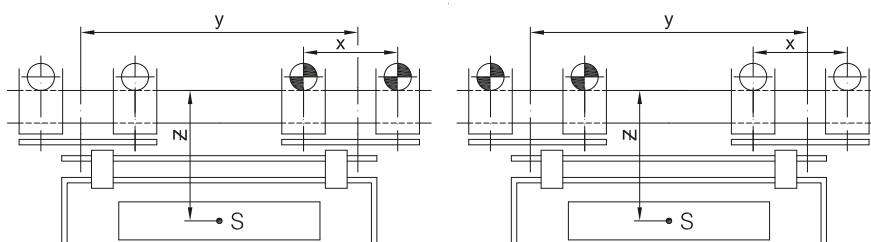
Prinzip „2/2“: Two running wheels / two driven wheels



Prinzip „1/4“: four running wheels/with one driven wheel per trolley

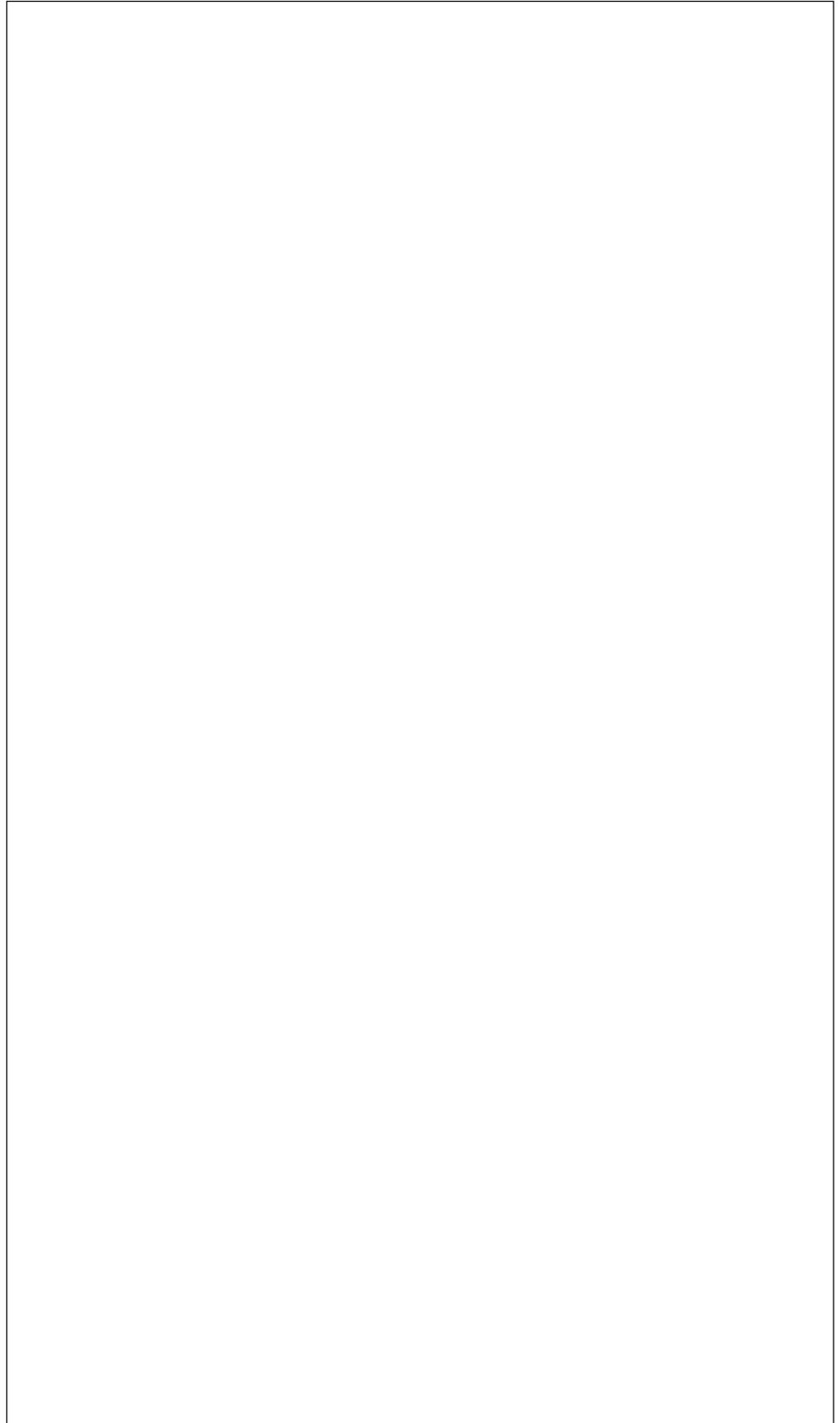


Prinzip „2/4“: four running wheels/two driven wheels per trolley



Note, „Principle 2/2“ and „Principle 2/4“ both involve carriages with two drives. Particular attention must be paid to cornering in such cases since different speeds will be present on the two drives when entering and exiting the corner; in practice this is resolved by the different motor slip on the two drives. This can cause considerable additional loading on the gear unit and motor, particularly where curves are tight and there are large distances between the drives wheels.

Please provide a sketch of your own principle here:



Gear Motor Selection

Selection of geared motors

BAUER GEAR MOTOR™
A REGAL REXNORD BRAND



Bauer Gear Motor GmbH
Eberhard-Bauer-Str. 37 73734 Esslingen
+49 (0) 711 3518-0 www.bauergears.com

Information

Company: _____

Contact person: _____

Phone: _____

Email: _____

Questionnaire for geared motor selection

Gearbox type

- ☐ BM
Electric overhead
conveyors



Number of items: _____

Country of operation: _____

Trolley construction

Trolley construction ☐ 1/2 ☐ 2/2 ☐ 1/4 ☐ 2/4 ☐ Sonder

Dimensions	X	[mm]	Y	[mm]	Z	[mm]
	A	[mm]	A1	[mm]	A2	[mm]

Operating Conditions

Installation height (above sea level)	_____ [m]	min	_____ [°C]	max	_____ [°C]
--	-----------	-----	------------	-----	------------

Mains voltage	_____ [V]	Mains frequency	_____ [Hz]
---------------	-----------	-----------------	------------

Regulations _____

Further information _____

Technical data - drive

Trolley mass	_____ [kg]	Suspension gear mass	_____ [kg]
Gear motor mass	_____ [kg]	Transport load mass	_____ [kg]
Wheel load of the driving wheel	_____ [N]		
Radial force on the main shaft	_____ [N]	Distance from shaft collar of...	_____ [mm]
Axial force on the main shaft	_____ [N]	Bogie wheel diameter d	_____ [mm]
Bogie wheel material	_____ [--]	Minimum curve radius	_____ [m]
Angle of the sharpest curve	_____ [°]	Total track length	_____ [m]

Horizontal travel

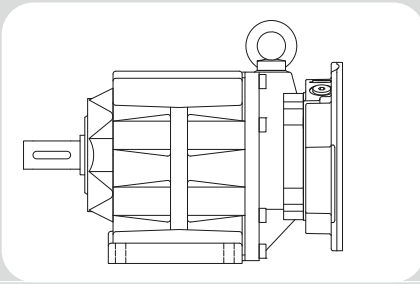
Travel velocity	max	_____ [m/min]	Duty cycle	_____ [%]
Number of start-ups per hour		_____ [--]		
Travel velocity	min	_____ [m/min]	Duty cycle	_____ [%]
Number of start-ups per hour		_____ [--]		
Travel through curves				
Travel velocity	max	_____ [m/min]	Duty cycle	_____ [%]
Number of start-ups per hour		_____ [--]		
Travel velocity (curve)	min	_____ [m/min]	Duty cycle	_____ [%]
Number of start-ups per hour		_____ [--]		
Desired acceleration		_____ [m/s²]	Desired deceleration	_____ [m/s²]
Permissible braking distance during operation		_____ [mm]	Requisite stopping accuracy	_____ [mm]
Permissible braking distance for emergency stop		_____ [mm]	Number of start-ups per hour	_____ [--]
Coupling		☐ manual coupling	☐ mechanical coupling	
Coupling and uncoupling possible while loaded		☐ YES	☐ NO	

Gear Motor Selection

Selection of geared motors

4

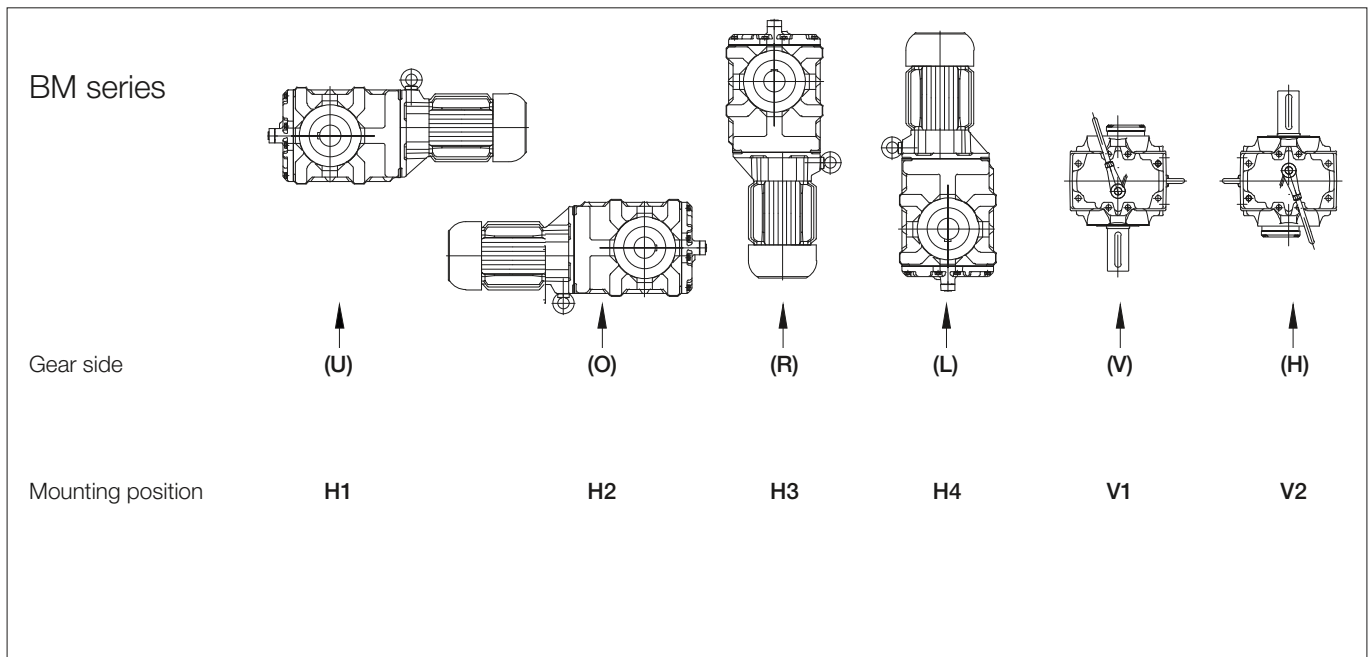
Technical data - ascent			
Ascent	[°]	Length of inclined track	[m]
Travel velocity	[m/min]	Duty cycle	[%]
Number of start-ups per hour	[-]	Desired acceleration	[m/s²]
Desired deceleration	[m/s²]	Permissible braking distance during operation	[mm]
Requisite stopping accuracy	[mm]	Permissible braking distance for emergency stop	[mm]
Number of start-ups per hour	[-]	Ascent assistance available	☐ YES ☐ NO
Surface pressure	[N]		
Technical data - descent			
Descent	[°]	Length of declined track	[m]
Travel velocity	[m/min]	Duty cycle	[%]
Number of start-ups per hour	[-]	Desired acceleration	[-]
Desired deceleration	[m/s²]	Permissible braking distance during operation	[mm]
Requisite stopping accuracy	[mm]	Permissible braking distance during emergency stop	[mm]
Number of start-ups per hour	[-]	Ascent assistance available	☐ YES ☐ NO
Surface pressure	[N]		
Further drive versions			
Mechanical brakes	☐ YES ☐ NO		
Manual release	☐ YES ☐ NO		
Brake supply voltage	[V]		
Brake rectifier	☐ on trolley control panel ☐ in terminal box		
Brake switching	☐ AC ☐ DC	Motor protection	☐ PTC ☐ thermostat
Motor connection	☐ terminal box ☐ connector		
Main shaft			
Dimensions	dlx [mm]	Model	☐ with keyway ☐ without keyway
Construction	[-]	Terminal box position	[-]
RAL tone paint (Bauer-Standard RAL 7031)	[-]		



5

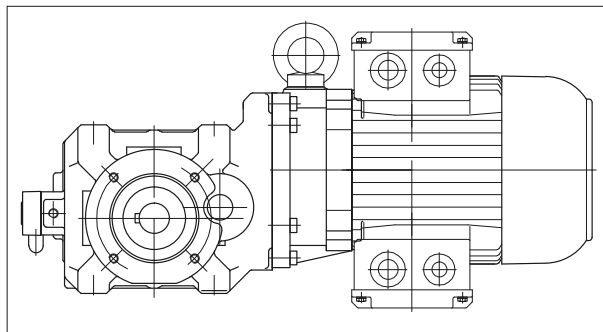
Gearboxes & Lubrication

Gearboxes & Lubrication	39
Geared motor selection	41
Standard fitting position of BM geared motors.....	41
Position of the terminal box and the cable glands.....	41
Lubricants	42
Lubricants	42
Lubricant quantities	43
Lubricant quantities, BM-series gears	44
Lubricant quantity the primary stage (Z) for installation type H1	45
Gear ventilation	45
Threaded plugs	46
Position of threaded plugs	
- BM-series gears	46
- pre-stage gears (Z).....	47
- in the System Cover Design with Standard Geared Motor.....	48



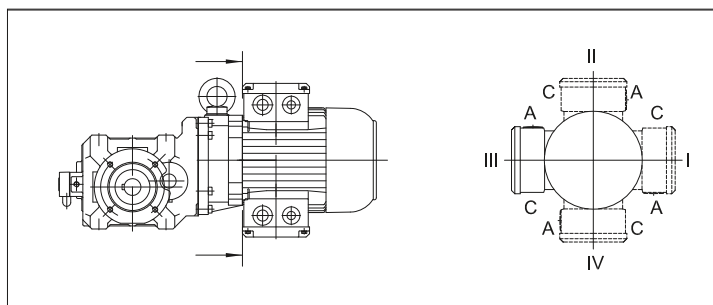
Standard fitting position of BM geared motors

Geared motor carriages for overhead conveyors are almost always installed horizontally in installation type H1. The lubricant quantity is adapted to suit the resulting inclined positions of the gear unit where ascents and descents have to be negotiated. Please therefore specify the rise angle with your enquiries or orders. BM-series geared motors can also **be used as** point operating gears. Please indicate the mounting orientation. This usually differs from the fitting position of the carriage drives.



Position of the terminal box and the cable glands

The standard position of the terminal box for BM geared motors is position III, opposite the output shaft pointing towards the "H" side of the gear unit. This position is preferred for most overhead conveyor applications. The terminal box can be supplied rotated by 90 degrees about the motor axis upon request. The standard cable entry is from side A or C. Cable entry towards the fan cowl (B) available on request.



Gearboxes & Lubrication

Lubricants

Lubricants

The drives are shipped ready-filled with gear lubricant. Lubricated in this way, the gear units are suitable for ambient temperatures in the range -20 °C to + 40 °C. The quantity of lubricant is optimised for the desired installed position as is stated on the nameplate. The type of lubricant is stated in the Operating Instructions. Lubricants for other temperature ranges or special applications available on request.

Wear-protective EP gear oils as indicated in the following table have proven particularly effective:

Lubricant Manufacturer	Lubricant type
	Synthetic Oil
	ISO VG 460
	Standard oil for gearboxes in the series
	BM20-BM40 High temperature oil for gearboxes BM20-BM40
AGIP	BLASIA S 460 [13 02 06]
BECHEM RHUS	BERUSYNTH EP 460 [13 02 06]
CASTROL	ALPHASYN PG 460 [13 02 06] OPTIGEAR 800/460 [13 02 06] OPTIGEAR 1300/460 [13 02 06] ALPHASYN GS 460 [13 02 06]
CHEVRON	Meropa Synlube WS 460 [13 02 06]
FUCHS	RENOLIN PG 460 [13 02 06]
KLÜBER	KLÜBERSYNTH GH 6-460 [13 02 06]
MOBIL	MOBIL SHC Gear 460 [13 02 06] MOBIL SHC 634*** [13 02 06]
OEST	—
SHELL	OMALA S4 WE 460 [13 02 06]
TOTAL	CARTER SY 460 [13 02 06]
WINTERSHALL	—

[...] European Waste Catalogue Code (Decision 2001/118/CE)

Important:

Synthetic gear oils of a Polyglykol base (e.g. PGLP...) must be disposed of separately to mineral oil as **Special Waste**.

So long as the ambient temperature does not fall below $-20\text{ }^{\circ}\text{C}$ the international definition of the viscosity class at $40\text{ }^{\circ}\text{C}$ according to ISO 3448 and DIN 51519 ISO the viscosity class VG220 (SAE90) is recommended according, in North America AGMA 5EP.

For lower temperatures it is recommended to use oils of a lower nominal viscosity with a corresponding better starting characteristic, for instance a PGLP with a nominal viscosity VG68 (SAE80) or AGMA 2EP respectively. These types of oil can already be necessary at a temperature around the freezing point, if the break away torque of a drive is reduced by some smooth starting device or if the motor has a relatively low power.

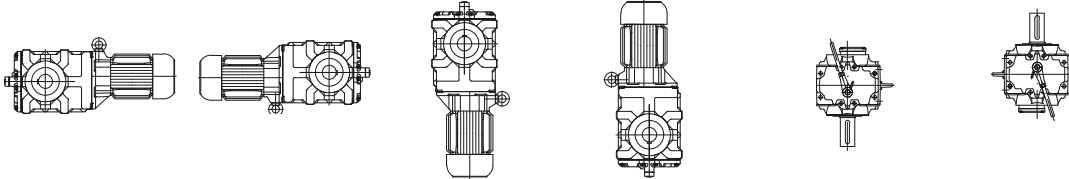
Lubricant quantities

The preferred quantity of lubricant for the planned type of installation is stated on the motor's rating plate (symbol "oil can" ). When topping up care should be taken to ensure that, depending on the fitting position, gearwheels and rolling contact bearings positioned at the top are also properly oiled. In special versions the oil level mark should be noted. Information about the quantity of lubricant required for other types of installation can be obtained from the factory.

Gearboxes & Lubrication

Lubricants

Lubricant quantities, BM-series gears

											
Gear type	H1	H2	H3	H4	V1	V2					
BM09	0,5	on request	on request	on request	on request	on request					
BM10	0,65										
BM20	0,7										
BM30	1,2										
	1,8*										
BM30/S1	1,2										
	1,8*										
BM30/S2	1,3										
	1,9*										
BM40	2,5										
	3,2*										
BM40/S1	2,5										
	3,2*										
BM40/S2	2,6										
	3,3*										
*: with BM30Z/BM40Z the prepress lubricant is filled via the main gearbox.											
Lubrication quantity in litre											

Lubricant quantity the primary stage (Z) for installation type H1

Gear unit	Litres in the primary stage (Z)
BM09(X)	-
BM10(X)	-
BM20(X)	0,15
BM30(X)	-
BM40(X)	-
BM30Z(X)	0,2
BM40Z(X)	0,32

Lubricant quantities for other types of installation available on request.

Gear ventilation

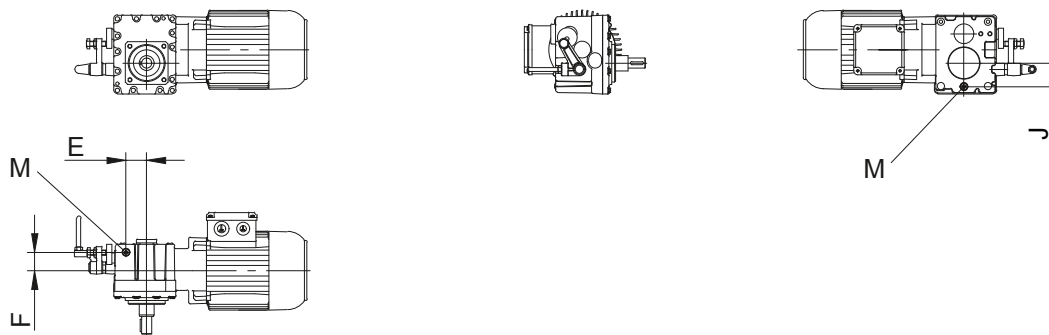
BM gear units are shipped ready-equipped with a vent plug. Low operating temperatures are achieved thanks to the high levels of efficiency of BM gear units and the fact that their surfaces have been designed for optimum heat dissipation. This results in oil change intervals of 2500.

Gearboxes & Lubrication

Threaded plugs

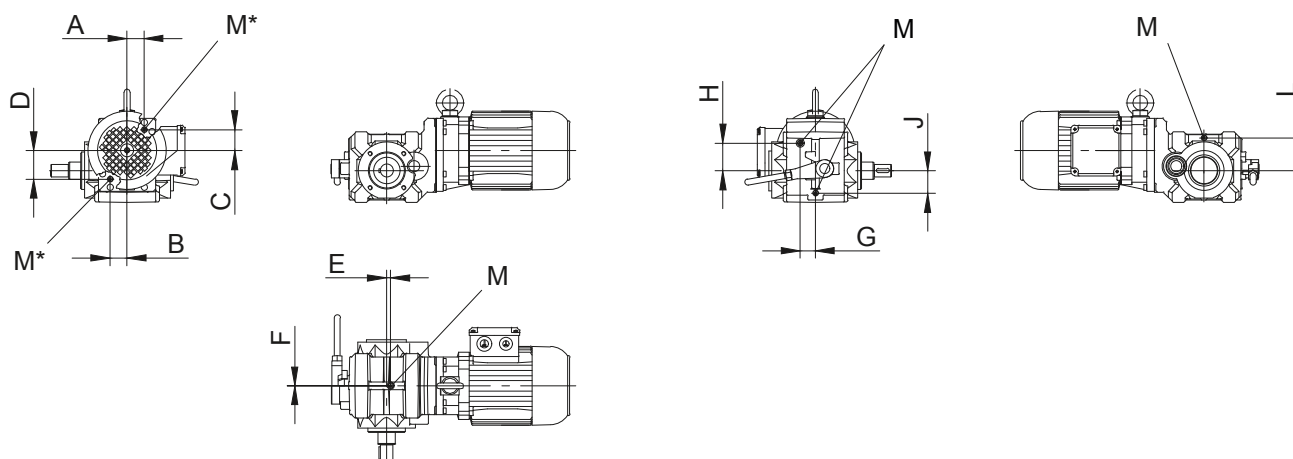
Position of threaded plugs - BM-series gears

BM09



5

BM10-BM40

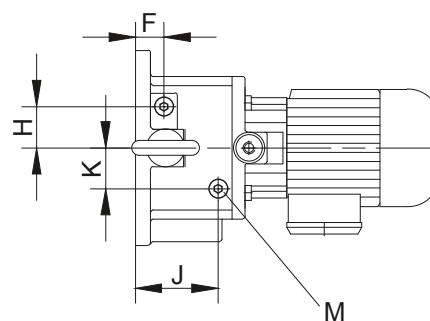
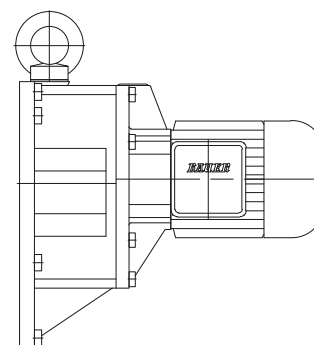
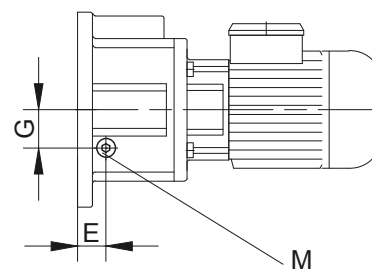
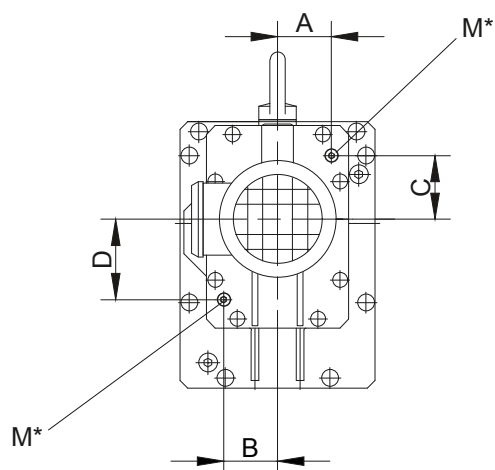


Type	A	B	C	D	E	F	G	H	J	L	M
BM09		-			41	36	-	-	46.5	-	M10x1
BM10	* see Position of the oil drain and filler plugs on the system cover	*Tab.I-Tab.III size B.10			8	0	30	55	45	-	M10x1
BM20		*Tab.I-Tab.III size B.20			0	49	-	-	45	62	M10x1
BM30		*Tab.I-Tab.III size B.30			-	-	0	70	-	-	M10x1
BM40		*Tab.I-Tab.III size B.40			-	-	0	-	-	-	-

M = Plug according to DIN 908
Dimensions in millimetres (mm)

M* =Factor and position of the drain plug see page 48.

Position of threaded plugs - pre-stage gears (Z)



Type	A	B	C	D	E	F	G	H	J	K	M
BM20(Z)	-	-	-	-	49	-	28.5	-	23.5	28	M10x1
BM30(Z)	*see Position of the oil drain and filler plugs on the system cover	*Tab.I-Tab.III size	B.10		-	24	-	30	-	-	M10x1
BM40(Z)		*Tab.I-Tab.III size	B.10		-	27.5	-	36.5	-	-	M14x1.5
M = Plug according to DIN 908											
Maße in Millimeter (mm)											

M* =Factor and position of the drain plug see page 48.

Position of the drain plugs
- in the System Cover Design with Standard Geared Motor

5

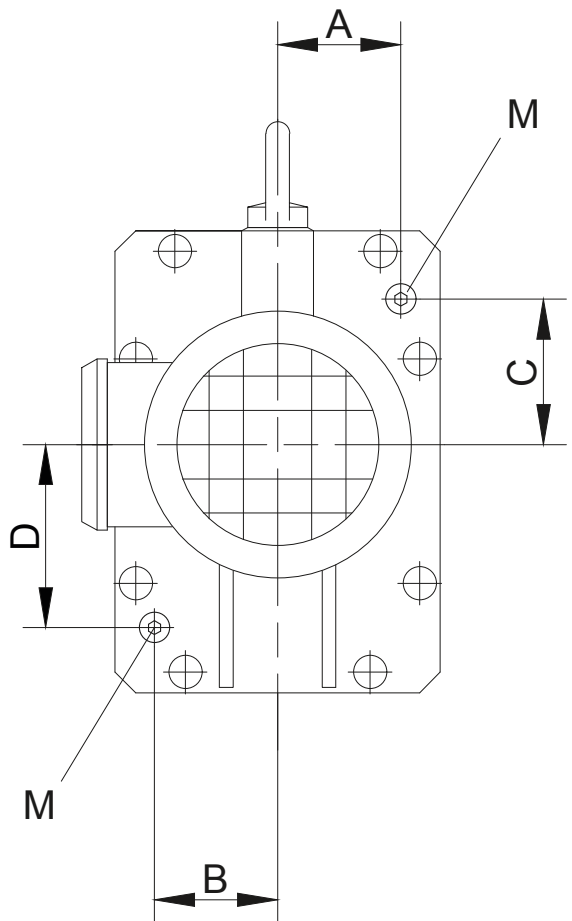
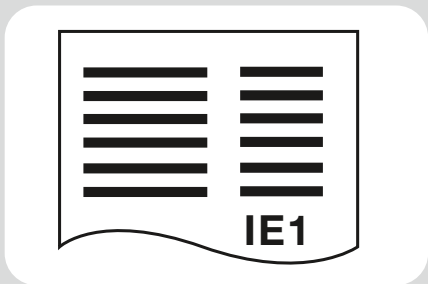


Table I: Design with Standard Geared Motor

Gear	Size	A	B	C	D	M
BM10(X)	D05-D..09	36	34	43.5	59	M10x1
BM20(X)	D05-D..09	44	44	58	72.5	M10x1
BM30(X)	D05-D..09	56.5	40	58.2	75	M10x1
BM40(X)	D08-D..11	66	71	71	94	M14x1.5
M = Plug according to DIN 908 Dimensions in millimetres (mm)						



6

Selection tables ASM-IE1

Selection tables ASM-IE149

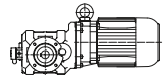
Selection table asynchronous motors ASM IE151

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE1

0.03 kW

IE1

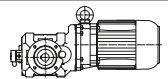


P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.03	16.5	15.4	10	82.54	BM10G06-../D04LA4	23	8000	10000
0.03	15	17.3	8.7	90.78	BM10G06-../D04LA4	23	8000	10000
0.03	13.5	18.6	8.1	102.7	BM10G06-../D04LA4	23	8000	10000
0.03	11.5	21.5	7.0	120.5	BM10G06-../D04LA4	23	8000	10000
0.03	10.5	24	6.7	133.7	BM10G06-../D04LA4	23	8000	10000
0.03	9.0	27	5.6	150.7	BM10G06-../D04LA4	23	8000	10000
0.03	8.1	30	5.3	167.2	BM10G06-../D04LA4	23	8000	10000
0.03	7.2	35	4.3	189.8	BM10G06-../D04LA4	23	8000	10000
0.03	6.2	39.5	4.1	219.4	BM10G06-../D04LA4	23	8000	10000
0.03	5.3	46	3.5	258.1	BM10G06-../D04LA4	23	8000	10000
0.03	4.4	55	2.9	308.9	BM10G06-../D04LA4	23	8000	10000
0.03	4.0	61	2.6	345.4	BM10G06-../D04LA4	23	8000	10000
0.03	3.6	68	2.4	377.0	BM10G06-../D04LA4	23	8000	10000
0.03	3.3	74	2.2	415.3	BM10G06-../D04LA4	23	8000	10000
0.03	3.0	82	1.95	452.9	BM10G06-../D04LA4	23	8000	10000
0.03	2.5	98	1.65	544.2	BM10G06-../D04LA4	23	8000	10000
0.03	2.3	107	1.5	593.9	BM10G06-../D04LA4	23	8000	10000
0.03	2.0	123	1.3	698.8	BM10G06-../D04LA4	23	8000	10000
0.03	1.7	144	1.1	836.2	BM10G06-../D04LA4	23	8000	10000
0.03	1.5	164	0.98	938.2	BM10G06-../D04LA4	23	8000	10000
0.03	1.2	160*	1.0	1186	BM10G06-../D04LA4	23	8000	10000
0.03	0.95	160*	1.0	1482	BM10G06-../D04LA4	23	8000	10000
0.03	0.8	160*	1.0	1701	BM10G06-../D04LA4	23	8000	10000
0.03	0.7	160*	1.0	1935	BM10G06-../D04LA4	23	8000	10000
0.03	0.65	160*	1.0	2111	BM10G06-../D04LA4	23	8000	10000
0.03	0.6	160*	1.0	2254	BM10G06-../D04LA4	23	8000	10000
0.03	0.55	160*	1.0	2459	BM10G06-../D04LA4	23	8000	10000
0.03	2.1	122	2.9	663.4	BM30G06-../D04LA4	44	12000	15000
0.03	1.8	143	2.4	780.6	BM30G06-../D04LA4	44	12000	15000
0.03	1.5	171	2.0	934.1	BM30G06-../D04LA4	44	12000	15000
0.03	1.2	210	1.65	1143	BM30G06-../D04LA4	44	12000	15000
0.03	1.1	230	1.5	1325	BM30G06-../D04LA4	44	12000	15000
0.03	0.9	285	1.25	1518	BM30G06-../D04LA4	44	12000	15000
0.03	0.85	300	1.15	1656	BM30G06-../D04LA4	44	12000	15000
0.03	0.75	340	1.05	1900	BM30G06-../D04LA4	44	12000	15000
0.03	0.65	350*	1.0	2162	BM30G06-../D04LA4	44	12000	15000
0.03	0.6	350*	1.0	2358	BM30G06-../D04LA4	44	12000	15000
0.03	0.5	350*	1.0	2747	BM30G06-../D04LA4	44	12000	15000

6

0.04 kW

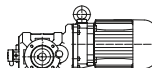
IE1

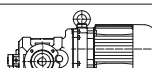


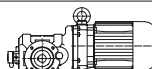
P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.04	25.5	13.6	10	53.03	BM10G06-../D04LA4	23	8000	10000
0.04	23	15.1	9.9	58.79	BM10G06-../D04LA4	23	8000	10000
0.04	19.5	17.8	7.9	69.61	BM10G06-../D04LA4	23	8000	10000
0.04	18.5	18.3	7.9	74.41	BM10G06-../D04LA4	23	8000	10000
0.04	16.5	20.5	7.6	82.54	BM10G06-../D04LA4	23	8000	10000
0.04	15	23	6.5	90.78	BM10G06-../D04LA4	23	8000	10000
0.04	13.5	24.5	6.1	102.7	BM10G06-../D04LA4	23	8000	10000
0.04	11.5	29	5.2	120.5	BM10G06-../D04LA4	23	8000	10000
0.04	10.5	32	5.0	133.7	BM10G06-../D04LA4	23	8000	10000
0.04	9.0	36.5	4.1	150.7	BM10G06-../D04LA4	23	8000	10000
0.04	8.1	40.5	4.0	167.2	BM10G06-../D04LA4	23	8000	10000
0.04	7.2	46.5	3.2	189.8	BM10G06-../D04LA4	23	8000	10000
0.04	6.2	52	3.1	219.4	BM10G06-../D04LA4	23	8000	10000
0.04	5.3	61	2.6	258.1	BM10G06-../D04LA4	23	8000	10000
0.04	4.4	74	2.2	308.9	BM10G06-../D04LA4	23	8000	10000
0.04	4.0	82	1.95	345.4	BM10G06-../D04LA4	23	8000	10000
0.04	3.6	91	1.75	377.0	BM10G06-../D04LA4	23	8000	10000
0.04	3.3	99	1.6	415.3	BM10G06-../D04LA4	23	8000	10000
0.04	3.0	109	1.45	452.9	BM10G06-../D04LA4	23	8000	10000
0.04	2.5	131	1.2	544.2	BM10G06-../D04LA4	23	8000	10000
0.04	2.3	142	1.15	593.9	BM10G06-../D04LA4	23	8000	10000
0.04	2.0	164	0.98	698.8	BM10G06-../D04LA4	23	8000	10000
0.04	1.7	193	0.83	836.2	BM10G06-../D04LA4	23	8000	10000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE1

0.04 kW 								
P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.04	5.4	67	2.7	253.0	BM20Z-../D04LA4	21	12000	12000
0.04	3.0	114	3.1	463.9	BM30G06-../D04LA4	44	12000	15000
0.04	2.6	132	2.7	533.9	BM30G06-../D04LA4	44	12000	15000
0.04	2.1	163	2.1	663.4	BM30G06-../D04LA4	44	12000	15000
0.04	1.8	191	1.85	780.6	BM30G06-../D04LA4	44	12000	15000
0.04	1.5	225	1.55	934.1	BM30G06-../D04LA4	44	12000	15000
0.04	1.2	285	1.25	1143	BM30G06-../D04LA4	44	12000	15000
0.04	1.1	310	1.15	1325	BM30G06-../D04LA4	44	12000	15000

0.06 kW 								
P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.06	33.5	14.3	10	40.56	BM10-../D06LA4	21	8000	10000
0.06	30	16	10	45.00	BM10-../D06LA4	21	8000	10000
0.06	26	18	8.3	52.44	BM10-../D06LA4	21	8000	10000
0.06	23.5	19.9	8.0	58.18	BM10-../D06LA4	21	8000	10000
0.06	10.5	48	3.3	133.7	BM10G06-../D06LA4	26	8000	10000
0.06	9.0	54	2.8	150.7	BM10G06-../D06LA4	26	8000	10000
0.06	8.1	60	2.7	167.2	BM10G06-../D06LA4	26	8000	10000
0.06	7.2	70	2.1	189.8	BM10G06-../D06LA4	26	8000	10000
0.06	6.2	79	2.0	219.4	BM10G06-../D06LA4	26	8000	10000
0.06	5.3	92	1.75	258.1	BM10G06-../D06LA4	26	8000	10000
0.06	4.4	111	1.45	308.9	BM10G06-../D06LA4	26	8000	10000
0.06	4.0	123	1.3	345.4	BM10G06-../D06LA4	26	8000	10000
0.06	3.6	136	1.2	377.0	BM10G06-../D06LA4	26	8000	10000
0.06	3.3	149	1.05	415.3	BM10G06-../D06LA4	26	8000	10000
0.06	3.0	164	0.98	452.9	BM10G06-../D06LA4	26	8000	10000
0.06	2.5	197	0.81	544.2	BM10G06-../D06LA4	26	8000	10000
0.06	7.6	71	2.9	178.9	BM20Z-../D06LA4	24	12000	12000
0.06	6.6	82	2.4	205.3	BM20Z-../D06LA4	24	12000	12000
0.06	5.4	100	1.8	253.0	BM20Z-../D06LA4	24	12000	12000
0.06	4.7	109	3.2	288.3	BM30G06-../D06LA4	47	12000	15000
0.06	4.0	128	2.7	345.1	BM30G06-../D06LA4	47	12000	15000
0.06	3.5	147	2.4	385.8	BM30G06-../D06LA4	47	12000	15000
0.06	3.0	171	2.0	463.9	BM30G06-../D06LA4	47	12000	15000
0.06	2.6	198	1.75	533.9	BM30G06-../D06LA4	47	12000	15000
0.06	2.1	245	1.45	663.4	BM30G06-../D06LA4	47	12000	15000
0.06	1.8	285	1.25	780.6	BM30G06-../D06LA4	47	12000	15000
0.06	1.5	340	1.05	934.1	BM30G06-../D06LA4	47	12000	15000
0.06	1.2	425	0.82	1143	BM30G06-../D06LA4	47	12000	15000
0.06	2.5	205	3.3	540.0	BM40G10-../D06LA4	68	20000	25000
0.06	2.1	245	2.8	660.2	BM40G10-../D06LA4	68	20000	25000
0.06	1.8	285	2.4	756.7	BM40G10-../D06LA4	68	20000	25000
0.06	1.7	300	2.3	838.4	BM40G10-../D06LA4	68	20000	25000
0.06	1.4	365	1.85	998.3	BM40G10-../D06LA4	68	20000	25000
0.06	1.2	425	1.6	1189	BM40G10-../D06LA4	68	20000	25000
0.06	0.95	540	1.25	1428	BM40G10-../D06LA4	68	20000	25000
0.06	0.8	640	1.05	1798	BM40G10-../D06LA4	68	20000	25000

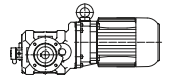
0.09 kW 								
P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.09	51	14.8	10	26.55	BM10-../D06LA4	21	8000	10000
0.09	46	16.4	9.8	29.45	BM10-../D06LA4	21	8000	10000
0.09	41	18	8.3	33.19	BM10-../D06LA4	21	8000	10000
0.09	37	19.9	8.0	36.82	BM10-../D06LA4	21	8000	10000
0.09	33.5	21.5	7.0	40.56	BM10-../D06LA4	21	8000	10000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE1

0.09 kW

IE1

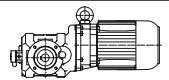


P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.09	30	24	6.7	45.00	BM10-../D06LA4	21	8000	10000
0.09	26	27	5.6	52.44	BM10-../D06LA4	21	8000	10000
0.09	23.5	29.5	5.4	58.18	BM10-../D06LA4	21	8000	10000
0.09	15	52	2.9	90.78	BM10G06-../D06LA4	26	8000	10000
0.09	13.5	56	2.7	102.7	BM10G06-../D06LA4	26	8000	10000
0.09	11.5	65	2.3	120.5	BM10G06-../D06LA4	26	8000	10000
0.09	10.5	72	2.2	133.7	BM10G06-../D06LA4	26	8000	10000
0.09	9.0	82	1.85	150.7	BM10G06-../D06LA4	26	8000	10000
0.09	8.1	91	1.75	167.2	BM10G06-../D06LA4	26	8000	10000
0.09	7.2	105	1.45	189.8	BM10G06-../D06LA4	26	8000	10000
0.09	6.2	119	1.35	219.4	BM10G06-../D06LA4	26	8000	10000
0.09	5.3	139	1.15	258.1	BM10G06-../D06LA4	26	8000	10000
0.09	4.4	167	0.96	308.9	BM10G06-../D06LA4	26	8000	10000
0.09	4.0	184	0.87	345.4	BM10G06-../D06LA4	26	8000	10000
0.09	11.5	71	3.1	117.9	BM20Z-../D06LA4	24	12000	12000
0.09	9.5	85	2.6	142.8	BM20Z-../D06LA4	24	12000	12000
0.09	7.6	107	1.95	178.9	BM20Z-../D06LA4	24	12000	12000
0.09	6.6	123	1.55	205.3	BM20Z-../D06LA4	24	12000	12000
0.09	5.4	151	1.2	253.0	BM20Z-../D06LA4	24	12000	12000
0.09	7.3	105	3.3	186.7	BM30G06-../D06LA4	47	12000	15000
0.09	6.5	120	2.9	208.6	BM30G06-../D06LA4	47	12000	15000
0.09	5.6	138	2.5	245.1	BM30G06-../D06LA4	47	12000	15000
0.09	4.7	164	2.1	288.3	BM30G06-../D06LA4	47	12000	15000
0.09	4.0	193	1.8	345.1	BM30G06-../D06LA4	47	12000	15000
0.09	3.5	220	1.6	385.8	BM30G06-../D06LA4	47	12000	15000
0.09	3.0	255	1.35	463.9	BM30G06-../D06LA4	47	12000	15000
0.09	2.6	295	1.2	533.9	BM30G06-../D06LA4	47	12000	15000
0.09	2.1	365	0.96	663.4	BM30G06-../D06LA4	47	12000	15000
0.09	1.8	425	0.82	780.6	BM30G06-../D06LA4	47	12000	15000
0.09	3.9	178	2.8	348.7	BM40Z-../D06LA4	64	20000	25000
0.09	3.2	210	2.4	430.0	BM40Z-../D06LA4	64	20000	25000
0.09	2.8	275	2.5	487.3	BM40G10-../D06LA4	68	20000	25000
0.09	2.5	305	2.2	540.0	BM40G10-../D06LA4	68	20000	25000
0.09	2.1	365	1.85	660.2	BM40G10-../D06LA4	68	20000	25000
0.09	1.8	425	1.6	756.7	BM40G10-../D06LA4	68	20000	25000
0.09	1.7	455	1.5	838.4	BM40G10-../D06LA4	68	20000	25000
0.09	1.4	550	1.25	998.3	BM40G10-../D06LA4	68	20000	25000
0.09	1.2	640	1.05	1189	BM40G10-../D06LA4	68	20000	25000

6

0.11 kW

IE1



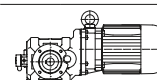
P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.11	31	30.5	4.6	44.15	BM10G06-../D04LA4	23	8000	10000
0.11	25.5	37	3.8	53.03	BM10G06-../D04LA4	23	8000	10000
0.11	23	41.5	3.6	58.79	BM10G06-../D04LA4	23	8000	10000
0.11	19.5	49	2.9	69.61	BM10G06-../D04LA4	23	8000	10000
0.11	18.5	50	2.9	74.41	BM10G06-../D04LA4	23	8000	10000
0.11	16.5	56	2.8	82.54	BM10G06-../D04LA4	23	8000	10000
0.11	15	63	2.4	90.78	BM10G06-../D04LA4	23	8000	10000
0.11	13.5	68	2.2	102.7	BM10G06-../D04LA4	23	8000	10000
0.11	11.5	80	1.9	120.5	BM10G06-../D04LA4	23	8000	10000
0.11	10.5	88	1.8	133.7	BM10G06-../D04LA4	23	8000	10000
0.11	9.0	100	1.5	150.7	BM10G06-../D04LA4	23	8000	10000
0.11	8.1	111	1.45	167.2	BM10G06-../D04LA4	23	8000	10000
0.11	7.2	128	1.15	189.8	BM10G06-../D04LA4	23	8000	10000
0.11	6.2	145	1.1	219.4	BM10G06-../D04LA4	23	8000	10000
0.11	5.3	170	0.94	258.1	BM10G06-../D04LA4	23	8000	10000
0.11	4.4	160*	1.0	308.9	BM10G06-../D04LA4	23	8000	10000
0.11	4.0	160*	1.0	345.4	BM10G06-../D04LA4	23	8000	10000
0.11	3.6	160*	1.0	377.0	BM10G06-../D04LA4	23	8000	10000
0.11	3.3	160*	1.0	415.3	BM10G06-../D04LA4	23	8000	10000
0.11	3.0	160*	1.0	452.9	BM10G06-../D04LA4	23	8000	10000
0.11	2.5	160*	1.0	544.2	BM10G06-../D04LA4	23	8000	10000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE1

0.11 kW

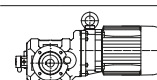
IE1



P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.11	2.3	160*	1.0	593.9	BM10G06-../D04LA4	23	8000	10000
0.11	2.0	160*	1.0	698.8	BM10G06-../D04LA4	23	8000	10000
0.11	1.7	160*	1.0	836.2	BM10G06-../D04LA4	23	8000	10000
0.11	1.5	160*	1.0	938.2	BM10G06-../D04LA4	23	8000	10000
0.11	1.2	160*	1.0	1186	BM10G06-../D04LA4	23	8000	10000
0.11	0.95	160*	1.0	1482	BM10G06-../D04LA4	23	8000	10000
0.11	0.8	160*	1.0	1701	BM10G06-../D04LA4	23	8000	10000
0.11	0.7	160*	1.0	1935	BM10G06-../D04LA4	23	8000	10000
0.11	0.65	160*	1.0	2111	BM10G06-../D04LA4	23	8000	10000
0.11	0.6	160*	1.0	2254	BM10G06-../D04LA4	23	8000	10000
0.11	0.55	160*	1.0	2459	BM10G06-../D04LA4	23	8000	10000
0.11	14	71	3.1	99.47	BM20Z-../D04LA4	21	12000	12000
0.11	11.5	86	2.6	117.9	BM20Z-../D04LA4	21	12000	12000
0.11	9.5	105	2.1	142.8	BM20Z-../D04LA4	21	12000	12000
0.11	7.6	131	1.6	178.9	BM20Z-../D04LA4	21	12000	12000
0.11	6.6	151	1.3	205.3	BM20Z-../D04LA4	21	12000	12000
0.11	5.4	184	0.99	253.0	BM20Z-../D04LA4	21	12000	12000
0.11	7.3	129	2.7	186.7	BM30G06-../D04LA4	44	12000	15000
0.11	6.5	147	2.4	208.6	BM30G06-../D04LA4	44	12000	15000
0.11	5.6	168	2.1	245.1	BM30G06-../D04LA4	44	12000	15000
0.11	4.7	200	1.75	288.3	BM30G06-../D04LA4	44	12000	15000
0.11	4.0	235	1.5	345.1	BM30G06-../D04LA4	44	12000	15000
0.11	3.5	270	1.3	385.8	BM30G06-../D04LA4	44	12000	15000
0.11	3.0	315	1.1	463.9	BM30G06-../D04LA4	44	12000	15000
0.11	2.6	360	0.97	533.9	BM30G06-../D04LA4	44	12000	15000
0.11	2.1	350*	1.0	663.4	BM30G06-../D04LA4	44	12000	15000
0.11	1.8	350*	1.0	780.6	BM30G06-../D04LA4	44	12000	15000
0.11	1.5	350*	1.0	934.1	BM30G06-../D04LA4	44	12000	15000
0.11	1.2	350*	1.0	1143	BM30G06-../D04LA4	44	12000	15000
0.11	1.1	350*	1.0	1325	BM30G06-../D04LA4	44	12000	15000
0.11	0.9	350*	1.0	1518	BM30G06-../D04LA4	44	12000	15000
0.11	0.85	350*	1.0	1656	BM30G06-../D04LA4	44	12000	15000
0.11	0.75	350*	1.0	1900	BM30G06-../D04LA4	44	12000	15000
0.11	0.65	350*	1.0	2162	BM30G06-../D04LA4	44	12000	15000
0.11	0.6	350*	1.0	2358	BM30G06-../D04LA4	44	12000	15000
0.11	0.5	350*	1.0	2747	BM30G06-../D04LA4	44	12000	15000

0.12 kW

IE1



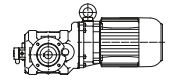
P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.12	31	33.5	4.2	44.15	BM10G06-../DSE04LA4	23	8000	10000
0.12	25.5	40.5	3.5	53.03	BM10G06-../DSE04LA4	23	8000	10000
0.12	23	45	3.3	58.79	BM10G06-../DSE04LA4	23	8000	10000
0.12	19.5	53	2.6	69.61	BM10G06-../DSE04LA4	23	8000	10000
0.12	18.5	55	2.6	74.41	BM10G06-../DSE04LA4	23	8000	10000
0.12	16.5	61	2.5	82.54	BM10G06-../DSE04LA4	23	8000	10000
0.12	15	69	2.2	90.78	BM10G06-../DSE04LA4	23	8000	10000
0.12	13.5	74	2.0	102.7	BM10G06-../DSE04LA4	23	8000	10000
0.12	11.5	87	1.7	120.5	BM10G06-../DSE04LA4	23	8000	10000
0.12	10.5	96	1.65	133.7	BM10G06-../DSE04LA4	23	8000	10000
0.12	9.0	109	1.4	150.7	BM10G06-../DSE04LA4	23	8000	10000
0.12	8.1	121	1.3	167.2	BM10G06-../DSE04LA4	23	8000	10000
0.12	7.2	140	1.05	189.8	BM10G06-../DSE04LA4	23	8000	10000
0.12	6.2	158	1.0	219.4	BM10G06-../DSE04LA4	23	8000	10000
0.12	5.3	185	0.86	258.1	BM10G06-../DSE04LA4	23	8000	10000
0.12	4.4	160*	1.0	308.9	BM10G06-../DSE04LA4	23	8000	10000
0.12	4.0	160*	1.0	345.4	BM10G06-../DSE04LA4	23	8000	10000
0.12	3.6	160*	1.0	377.0	BM10G06-../DSE04LA4	23	8000	10000
0.12	3.3	160*	1.0	415.3	BM10G06-../DSE04LA4	23	8000	10000
0.12	3.0	160*	1.0	452.9	BM10G06-../DSE04LA4	23	8000	10000
0.12	2.5	160*	1.0	544.2	BM10G06-../DSE04LA4	23	8000	10000
0.12	2.3	160*	1.0	593.9	BM10G06-../DSE04LA4	23	8000	10000
0.12	2.0	160*	1.0	698.8	BM10G06-../DSE04LA4	23	8000	10000
0.12	1.7	160*	1.0	836.2	BM10G06-../DSE04LA4	23	8000	10000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE1

0.12 kW

IE1



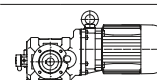
P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[·1]		[kg]	[N]	[N]
0.12	1.5	160*	1.0	938.2	BM10G06-../DSE04LA4	23	8000	10000
0.12	1.2	160*	1.0	1186	BM10G06-../DSE04LA4	23	8000	10000
0.12	0.95	160*	1.0	1482	BM10G06-../DSE04LA4	23	8000	10000
0.12	0.8	160*	1.0	1701	BM10G06-../DSE04LA4	23	8000	10000
0.12	0.7	160*	1.0	1935	BM10G06-../DSE04LA4	23	8000	10000
0.12	0.65	160*	1.0	2111	BM10G06-../DSE04LA4	23	8000	10000
0.12	0.6	160*	1.0	2254	BM10G06-../DSE04LA4	23	8000	10000
0.12	0.55	160*	1.0	2459	BM10G06-../DSE04LA4	23	8000	10000
0.12	16	68	3.2	85.45	BM20Z-../DSE04LA4	21	12000	12000
0.12	14	77	2.9	99.47	BM20Z-../DSE04LA4	21	12000	12000
0.12	11.5	94	2.3	117.9	BM20Z-../DSE04LA4	21	12000	12000
0.12	9.5	114	1.95	142.8	BM20Z-../DSE04LA4	21	12000	12000
0.12	7.6	143	1.45	178.9	BM20Z-../DSE04LA4	21	12000	12000
0.12	6.6	164	1.2	205.3	BM20Z-../DSE04LA4	21	12000	12000
0.12	5.4	200	0.91	253.0	BM20Z-../DSE04LA4	21	12000	12000
0.12	7.3	141	2.5	186.7	BM30G06-../DSE04LA4	44	12000	15000
0.12	6.5	160	2.2	208.6	BM30G06-../DSE04LA4	44	12000	15000
0.12	5.6	184	1.9	245.1	BM30G06-../DSE04LA4	44	12000	15000
0.12	4.7	215	1.65	288.3	BM30G06-../DSE04LA4	44	12000	15000
0.12	4.0	255	1.35	345.1	BM30G06-../DSE04LA4	44	12000	15000
0.12	3.5	290	1.2	385.8	BM30G06-../DSE04LA4	44	12000	15000
0.12	3.0	340	1.05	463.9	BM30G06-../DSE04LA4	44	12000	15000
0.12	2.6	395	0.89	533.9	BM30G06-../DSE04LA4	44	12000	15000
0.12	2.1	350*	1.0	663.4	BM30G06-../DSE04LA4	44	12000	15000
0.12	1.8	350*	1.0	780.6	BM30G06-../DSE04LA4	44	12000	15000
0.12	1.5	350*	1.0	934.1	BM30G06-../DSE04LA4	44	12000	15000
0.12	1.2	350*	1.0	1143	BM30G06-../DSE04LA4	44	12000	15000
0.12	1.1	350*	1.0	1325	BM30G06-../DSE04LA4	44	12000	15000
0.12	0.9	350*	1.0	1518	BM30G06-../DSE04LA4	44	12000	15000
0.12	0.85	350*	1.0	1656	BM30G06-../DSE04LA4	44	12000	15000
0.12	0.75	350*	1.0	1900	BM30G06-../DSE04LA4	44	12000	15000
0.12	0.65	350*	1.0	2162	BM30G06-../DSE04LA4	44	12000	15000
0.12	0.6	350*	1.0	2358	BM30G06-../DSE04LA4	44	12000	15000
0.12	0.5	350*	1.0	2747	BM30G06-../DSE04LA4	44	12000	15000
0.12	120	12.6	2.4	11.34	BM09-../DSE05LA4	13	4400	6500
0.12	103	14.6	2.2	13.23	BM09-../DSE05LA4	13	4400	6500
0.12	77	19.6	2.4	17.73	BM09-../DSE05LA4	13	4400	6500
0.12	64	23.5	2.4	21.20	BM09-../DSE05LA4	13	4400	6500
0.12	55	27.5	2.1	24.74	BM09-../DSE05LA4	13	4400	6500
0.12	52	29	2.4	25.98	BM09-../DSE05LA4	13	4400	6500
0.12	45	33.5	2.1	30.31	BM09-../DSE05LA4	13	4400	6500
0.12	41	36.5	2.4	32.97	BM09-../DSE05LA4	13	4400	6500
0.12	35.5	42.5	2.2	38.46	BM09-../DSE05LA4	13	4400	6500
0.12	32	46.5	1.85	42.44	BM09-../DSE05LA4	13	4400	6500
0.12	25.5	58	1.85	53.85	BM09-../DSE05LA4	13	4400	6500
0.12	30	48	3.3	45.00	BM10-../DSE06LA4	21	8000	10000
0.12	26	54	2.8	52.44	BM10-../DSE06LA4	21	8000	10000
0.12	23.5	59	2.7	58.18	BM10-../DSE06LA4	21	8000	10000
0.12	23	68	2.2	58.79	BM10G06-../DSE06LA4	26	8000	10000
0.12	19.5	80	1.75	69.61	BM10G06-../DSE06LA4	26	8000	10000
0.12	18.5	82	1.75	74.41	BM10G06-../DSE06LA4	26	8000	10000
0.12	16.5	92	1.7	82.54	BM10G06-../DSE06LA4	26	8000	10000
0.12	15	104	1.45	90.78	BM10G06-../DSE06LA4	26	8000	10000
0.12	13.5	112	1.35	102.7	BM10G06-../DSE06LA4	26	8000	10000
0.12	11.5	131	1.15	120.5	BM10G06-../DSE06LA4	26	8000	10000
0.12	10.5	144	1.1	133.7	BM10G06-../DSE06LA4	26	8000	10000
0.12	9.0	164	0.91	150.7	BM10G06-../DSE06LA4	26	8000	10000
0.12	8.1	182	0.88	167.2	BM10G06-../DSE06LA4	26	8000	10000
0.12	22.5	72	2.7	60.64	BM20-../DSE06LA4	23	12000	12000
0.12	18.5	88	2.1	74.76	BM20-../DSE06LA4	23	12000	12000
0.12	16	102	2.2	85.45	BM20Z-../DSE06LA4	24	12000	12000
0.12	14	116	1.9	99.47	BM20Z-../DSE06LA4	24	12000	12000
0.12	11.5	142	1.55	117.9	BM20Z-../DSE06LA4	24	12000	12000
0.12	9.5	171	1.3	142.8	BM20Z-../DSE06LA4	24	12000	12000
0.12	7.6	210	1.0	178.9	BM20Z-../DSE06LA4	24	12000	12000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE1

0.12 kW

IE1



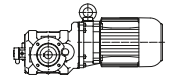
P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.12	19	79	3.3	71.09	BM30-../DSE06LA4	39	12000	15000
0.12	13.5	109	3.2	100.7	BM30Z-../DSE06LA4	41	12000	15000
0.12	11	134	2.6	128.2	BM30Z-../DSE06LA4	41	12000	15000
0.12	9.0	162	2.2	150.3	BM30Z-../DSE06LA4	41	12000	15000
0.12	7.7	189	1.85	177.2	BM30Z-../DSE06LA4	41	12000	15000
0.12	7.3	210	1.65	186.7	BM30G06-../DSE06LA4	47	12000	15000
0.12	6.5	240	1.45	208.6	BM30G06-../DSE06LA4	47	12000	15000
0.12	5.6	275	1.25	245.1	BM30G06-../DSE06LA4	47	12000	15000
0.12	4.7	325	1.1	288.3	BM30G06-../DSE06LA4	47	12000	15000
0.12	4.0	385	0.91	345.1	BM30G06-../DSE06LA4	47	12000	15000
0.12	3.5	440	0.8	385.8	BM30G06-../DSE06LA4	47	12000	15000
0.12	6.4	220	3.1	211.5	BM40Z-../DSE06LA4	64	20000	25000
0.12	5.5	250	2.7	246.6	BM40Z-../DSE06LA4	64	20000	25000
0.12	4.7	295	2.0	289.8	BM40Z-../DSE06LA4	64	20000	25000
0.12	3.9	355	1.45	348.7	BM40Z-../DSE06LA4	64	20000	25000
0.12	3.2	425	1.2	430.0	BM40Z-../DSE06LA4	64	20000	25000
0.12	2.8	550	1.25	487.3	BM40G10-../DSE06LA4	68	20000	25000
0.12	2.5	610	1.1	540.0	BM40G10-../DSE06LA4	68	20000	25000
0.12	2.1	730	0.93	660.2	BM40G10-../DSE06LA4	68	20000	25000
0.12	1.8	850	0.8	756.7	BM40G10-../DSE06LA4	68	20000	25000
0.12	120	17.5	1.7	11.34	BM09-../DSE05LA4	13	4400	6500
0.12	103	20	1.6	13.23	BM09-../DSE05LA4	13	4400	6500
0.12	77	27	1.75	17.73	BM09-../DSE05LA4	13	4400	6500
0.12	64	32.5	1.7	21.20	BM09-../DSE05LA4	13	4400	6500
0.12	55	38	1.55	24.74	BM09-../DSE05LA4	13	4400	6500
0.12	52	40	1.75	25.98	BM09-../DSE05LA4	13	4400	6500
0.12	45	46.5	1.55	30.31	BM09-../DSE05LA4	13	4400	6500
0.12	41	51	1.7	32.97	BM09-../DSE05LA4	13	4400	6500
0.12	35.5	59	1.55	38.46	BM09-../DSE05LA4	13	4400	6500
0.12	32	64	1.35	42.44	BM09-../DSE05LA4	13	4400	6500
0.12	25.5	81	1.35	53.85	BM09-../DSE05LA4	13	4400	6500
0.12	41	50	3.0	33.19	BM10-../DSE06LA4	21	8000	10000
0.12	37	55	2.9	36.82	BM10-../DSE06LA4	21	8000	10000
0.12	33.5	59	2.5	40.56	BM10-../DSE06LA4	21	8000	10000
0.12	30	66	2.4	45.00	BM10-../DSE06LA4	21	8000	10000
0.12	26	75	2.0	52.44	BM10-../DSE06LA4	21	8000	10000
0.12	23.5	83	1.95	58.18	BM10-../DSE06LA4	21	8000	10000
0.12	23	94	1.6	58.79	BM10G06-../DSE06LA4	26	8000	10000
0.12	19.5	111	1.25	69.61	BM10G06-../DSE06LA4	26	8000	10000
0.12	18.5	114	1.25	74.41	BM10G06-../DSE06LA4	26	8000	10000
0.12	16.5	128	1.2	82.54	BM10G06-../DSE06LA4	26	8000	10000
0.12	15	144	1.05	90.78	BM10G06-../DSE06LA4	26	8000	10000
0.12	13.5	155	0.97	102.7	BM10G06-../DSE06LA4	26	8000	10000
0.12	11.5	182	0.82	120.5	BM10G06-../DSE06LA4	26	8000	10000
0.12	10.5	200	0.8	133.7	BM10G06-../DSE06LA4	26	8000	10000
0.12	32.5	69	3.2	42.18	BM20-../DSE06LA4	23	12000	12000
0.12	26	87	2.4	52.84	BM20-../DSE06LA4	23	12000	12000
0.12	22.5	100	1.95	60.64	BM20-../DSE06LA4	23	12000	12000
0.12	18.5	122	1.5	74.76	BM20-../DSE06LA4	23	12000	12000
0.12	16	141	1.55	85.45	BM20Z-../DSE06LA4	24	12000	12000
0.12	14	162	1.35	99.47	BM20Z-../DSE06LA4	24	12000	12000
0.12	11.5	197	1.1	117.9	BM20Z-../DSE06LA4	24	12000	12000
0.12	9.5	235	0.94	142.8	BM20Z-../DSE06LA4	24	12000	12000
0.12	22.5	93	2.9	61.33	BM30-../DSE06LA4	39	12000	15000
0.12	19	110	2.3	71.09	BM30-../DSE06LA4	39	12000	15000
0.12	16	129	2.7	85.96	BM30Z-../DSE06LA4	41	12000	15000
0.12	13.5	152	2.3	100.7	BM30Z-../DSE06LA4	41	12000	15000
0.12	11	186	1.9	128.2	BM30Z-../DSE06LA4	41	12000	15000
0.12	9.0	225	1.55	150.3	BM30Z-../DSE06LA4	41	12000	15000
0.12	7.7	260	1.35	177.2	BM30Z-../DSE06LA4	41	12000	15000
0.12	7.3	290	1.2	186.7	BM30G06-../DSE06LA4	47	12000	15000
0.12	6.5	330	1.05	208.6	BM30G06-../DSE06LA4	47	12000	15000
0.12	5.6	380	0.92	245.1	BM30G06-../DSE06LA4	47	12000	15000
0.12	9.5	210	3.2	143.0	BM40Z-../DSE06LA4	64	20000	25000
0.12	8.0	245	2.8	169.0	BM40Z-../DSE06LA4	64	20000	25000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE1

0.12 kW

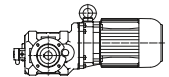
IE1



P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.12	6.4	305	2.2	211.5	BM40Z-../DSE06LA4	64	20000	25000
0.12	5.5	350	1.95	246.6	BM40Z-../DSE06LA4	64	20000	25000
0.12	4.7	410	1.45	289.8	BM40Z-../DSE06LA4	64	20000	25000
0.12	3.9	495	1.0	348.7	BM40Z-../DSE06LA4	64	20000	25000
0.12	3.2	590	0.85	430.0	BM40Z-../DSE06LA4	64	20000	25000
0.12	2.8	760	0.89	487.3	BM40G10-../DSE06LA4	68	20000	25000
0.12	2.5	850	0.8	540.0	BM40G10-../DSE06LA4	68	20000	25000

0.37 kW

IE1



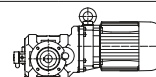
P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.37	120	25.5	1.2	11.34	BM09-../DSE07LA4	17	4400	6500
0.37	103	30	1.05	13.23	BM09-../DSE07LA4	17	4400	6500
0.37	77	40	1.2	17.73	BM09-../DSE07LA4	17	4400	6500
0.37	64	48.5	1.15	21.20	BM09-../DSE07LA4	17	4400	6500
0.37	55	56	1.05	24.74	BM09-../DSE07LA4	17	4400	6500
0.37	52	59	1.15	25.98	BM09-../DSE07LA4	17	4400	6500
0.37	45	69	1.05	30.31	BM09-../DSE07LA4	17	4400	6500
0.37	41	75	1.15	32.97	BM09-../DSE07LA4	17	4400	6500
0.37	35.5	87	1.05	38.46	BM09-../DSE07LA4	17	4400	6500
0.37	32	96	0.89	42.44	BM09-../DSE07LA4	17	4400	6500
0.37	25.5	120	0.9	53.85	BM09-../DSE07LA4	17	4400	6500
0.37	60	51	2.9	22.62	BM10-../DSE07LA4	23	8000	10000
0.37	54	57	2.8	25.09	BM10-../DSE07LA4	23	8000	10000
0.37	51	60	2.5	26.55	BM10-../DSE07LA4	23	8000	10000
0.37	46	67	2.4	29.45	BM10-../DSE07LA4	23	8000	10000
0.37	41	74	2.0	33.19	BM10-../DSE07LA4	23	8000	10000
0.37	37	82	1.95	36.82	BM10-../DSE07LA4	23	8000	10000
0.37	33.5	88	1.7	40.56	BM10-../DSE07LA4	23	8000	10000
0.37	30	98	1.65	45.00	BM10-../DSE07LA4	23	8000	10000
0.37	26	111	1.35	52.44	BM10-../DSE07LA4	23	8000	10000
0.37	23.5	123	1.3	58.18	BM10-../DSE07LA4	23	8000	10000
0.37	23	139	1.1	58.79	BM10G06-../DSE07LA4	28	8000	10000
0.37	19.5	164	0.85	69.61	BM10G06-../DSE07LA4	28	8000	10000
0.37	18.5	169	0.86	74.41	BM10G06-../DSE07LA4	28	8000	10000
0.37	16.5	190	0.82	82.54	BM10G06-../DSE07LA4	28	8000	10000
0.37	46	72	3.1	29.39	BM20-../DSE07LA4	26	12000	12000
0.37	38.5	87	2.5	35.25	BM20-../DSE07LA4	26	12000	12000
0.37	32.5	103	2.1	42.18	BM20-../DSE07LA4	26	12000	12000
0.37	26	129	1.6	52.84	BM20-../DSE07LA4	26	12000	12000
0.37	22.5	149	1.3	60.64	BM20-../DSE07LA4	26	12000	12000
0.37	18.5	181	1.0	74.76	BM20-../DSE07LA4	26	12000	12000
0.37	16	205	1.05	85.45	BM20Z-../DSE07LA4	27	12000	12000
0.37	14	235	0.94	99.47	BM20Z-../DSE07LA4	27	12000	12000
0.37	27.5	114	2.8	49.66	BM30-../DSE07LA4	41	12000	15000
0.37	22.5	138	1.95	61.33	BM30-../DSE07LA4	41	12000	15000
0.37	19	163	1.6	71.09	BM30-../DSE07LA4	41	12000	15000
0.37	16	192	1.8	85.96	BM30Z-../DSE07LA4	44	12000	15000
0.37	13.5	225	1.55	100.7	BM30Z-../DSE07LA4	44	12000	15000
0.37	11	275	1.25	128.2	BM30Z-../DSE07LA4	44	12000	15000
0.37	9.0	330	1.05	150.3	BM30Z-../DSE07LA4	44	12000	15000
0.37	7.7	390	0.9	177.2	BM30Z-../DSE07LA4	44	12000	15000
0.37	7.3	435	0.8	186.7	BM30G06-../DSE07LA4	50	12000	15000
0.37	11.5	260	2.6	118.2	BM40Z-../DSE07LA4	66	20000	25000
0.37	9.5	310	2.2	143.0	BM40Z-../DSE07LA4	66	20000	25000
0.37	8.0	365	1.85	169.0	BM40Z-../DSE07LA4	66	20000	25000
0.37	6.4	450	1.5	211.5	BM40Z-../DSE07LA4	66	20000	25000
0.37	5.5	520	1.3	246.6	BM40Z-../DSE07LA4	66	20000	25000
0.37	4.7	600	1.0	289.8	BM40Z-../DSE07LA4	66	20000	25000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE1

0.55 kW

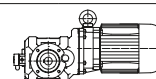
IE1



P _N	n ₂	50 Hz	f _B	i	Type	m	F _{RN}	F _{RV}
[kW]	[1/min]	M ₂ [Nm]	[—]	[:1]		[kg]	[N]	[N]
0.55	124	37	0.81	11.34	BM09-../DSE08MA4	18	4400	6500
0.55	79	58	0.81	17.73	BM09-../DSE08MA4	18	4400	6500
0.55	67	68	0.82	21.20	BM09-../DSE08MA4	18	4400	6500
0.55	54	85	0.81	25.98	BM09-../DSE08MA4	18	4400	6500
0.55	42.5	108	0.81	32.97	BM09-../DSE08MA4	18	4400	6500
0.55	86	54	2.7	16.39	BM10-../DSE08MA4	24	8000	10000
0.55	78	59	2.6	18.18	BM10-../DSE08MA4	24	8000	10000
0.55	62	74	2.0	22.62	BM10-../DSE08MA4	24	8000	10000
0.55	56	82	1.95	25.09	BM10-../DSE08MA4	24	8000	10000
0.55	53	87	1.7	26.55	BM10-../DSE08MA4	24	8000	10000
0.55	48	96	1.65	29.45	BM10-../DSE08MA4	24	8000	10000
0.55	42.5	106	1.4	33.19	BM10-../DSE08MA4	24	8000	10000
0.55	38.5	117	1.35	36.82	BM10-../DSE08MA4	24	8000	10000
0.55	35	126	1.2	40.56	BM10-../DSE08MA4	24	8000	10000
0.55	31.5	140	1.15	45.00	BM10-../DSE08MA4	24	8000	10000
0.55	27	159	0.94	52.44	BM10-../DSE08MA4	24	8000	10000
0.55	24.5	175	0.91	58.18	BM10-../DSE08MA4	24	8000	10000
0.55	71	70	3.1	19.72	BM20-../DSE08MA4	26	12000	12000
0.55	56	89	2.5	25.25	BM20-../DSE08MA4	26	12000	12000
0.55	48	103	2.1	29.39	BM20-../DSE08MA4	26	12000	12000
0.55	40	124	1.75	35.25	BM20-../DSE08MA4	26	12000	12000
0.55	33.5	148	1.5	42.18	BM20-../DSE08MA4	26	12000	12000
0.55	26.5	188	1.1	52.84	BM20-../DSE08MA4	26	12000	12000
0.55	23.5	210	0.92	60.64	BM20-../DSE08MA4	26	12000	12000
0.55	21	235	0.94	66.74	BM20Z-../DSE08MA4	28	12000	12000
0.55	40.5	118	3.0	34.88	BM30-../DSE08MA4	42	12000	15000
0.55	34.5	137	2.6	41.13	BM30-../DSE08MA4	42	12000	15000
0.55	28.5	164	1.95	49.66	BM30-../DSE08MA4	42	12000	15000
0.55	23	200	1.35	61.33	BM30-../DSE08MA4	42	12000	15000
0.55	20	230	1.1	71.09	BM30-../DSE08MA4	42	12000	15000
0.55	16.5	275	1.25	85.96	BM30Z-../DSE08MA4	45	12000	15000
0.55	14	320	1.1	100.7	BM30Z-../DSE08MA4	45	12000	15000
0.55	11	410	0.85	128.2	BM30Z-../DSE08MA4	45	12000	15000
0.55	20	225	3.0	70.11	BM40-../DSE08MA4	63	20000	25000
0.55	17	265	2.3	84.36	BM40-../DSE08MA4	63	20000	25000
0.55	13.5	330	1.8	104.0	BM40-../DSE08MA4	63	20000	25000
0.55	12	370	1.85	118.2	BM40Z-../DSE08MA4	67	20000	25000
0.55	9.8	450	1.5	143.0	BM40Z-../DSE08MA4	67	20000	25000
0.55	8.3	520	1.3	169.0	BM40Z-../DSE08MA4	67	20000	25000
0.55	6.7	640	1.05	211.5	BM40Z-../DSE08MA4	67	20000	25000
0.55	5.7	740	0.92	246.6	BM40Z-../DSE08MA4	67	20000	25000

0.75 kW

IE1



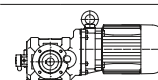
P _N	n ₂	50 Hz	f _B	i	Type	m	F _{RN}	F _{RV}
[kW]	[1/min]	M ₂ [Nm]	[—]	[:1]		[kg]	[N]	[N]
0.75	120	54	2.6	11.68	BM10-../DSE08LA4	26	8000	10000
0.75	109	59	2.5	12.95	BM10-../DSE08LA4	26	8000	10000
0.75	86	74	1.95	16.39	BM10-../DSE08LA4	26	8000	10000
0.75	78	81	1.9	18.18	BM10-../DSE08LA4	26	8000	10000
0.75	62	101	1.5	22.62	BM10-../DSE08LA4	26	8000	10000
0.75	56	112	1.45	25.09	BM10-../DSE08LA4	26	8000	10000
0.75	53	118	1.25	26.55	BM10-../DSE08LA4	26	8000	10000
0.75	48	131	1.2	29.45	BM10-../DSE08LA4	26	8000	10000
0.75	42.5	144	1.05	33.19	BM10-../DSE08LA4	26	8000	10000
0.75	38.5	159	1.0	36.82	BM10-../DSE08LA4	26	8000	10000
0.75	35	171	0.88	40.56	BM10-../DSE08LA4	26	8000	10000
0.75	31.5	191	0.84	45.00	BM10-../DSE08LA4	26	8000	10000
0.75	84	81	2.7	16.72	BM20-../DSE08LA4	28	12000	12000
0.75	71	95	2.3	19.72	BM20-../DSE08LA4	28	12000	12000
0.75	56	121	1.8	25.25	BM20-../DSE08LA4	28	12000	12000
0.75	48	141	1.55	29.39	BM20-../DSE08LA4	28	12000	12000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE1

0.75 kW

IE1

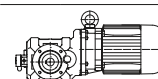


P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.75	40	170	1.3	35.25	BM20-../DSE08LA4	28	12000	12000
0.75	33.5	200	1.1	42.18	BM20-../DSE08LA4	28	12000	12000
0.75	26.5	255	0.82	52.84	BM20-../DSE08LA4	28	12000	12000
0.75	25	270	0.81	56.58	BM20Z-../DSE08LA4	30	12000	12000
0.75	60	108	3.2	23.38	BM30-../DSE08LA4	44	12000	15000
0.75	47.5	137	2.6	29.76	BM30-../DSE08LA4	44	12000	15000
0.75	40.5	160	2.2	34.88	BM30-../DSE08LA4	44	12000	15000
0.75	34.5	186	1.9	41.13	BM30-../DSE08LA4	44	12000	15000
0.75	28.5	220	1.45	49.66	BM30-../DSE08LA4	44	12000	15000
0.75	23	270	1.0	61.33	BM30-../DSE08LA4	44	12000	15000
0.75	20	315	0.82	71.09	BM30-../DSE08LA4	44	12000	15000
0.75	16.5	375	0.93	85.96	BM30Z-../DSE08LA4	46	12000	15000
0.75	14	435	0.8	100.7	BM30Z-../DSE08LA4	46	12000	15000
0.75	27.5	225	3.0	51.18	BM40-../DSE08LA4	64	20000	25000
0.75	23.5	265	2.6	59.66	BM40-../DSE08LA4	64	20000	25000
0.75	20	310	2.2	70.11	BM40-../DSE08LA4	64	20000	25000
0.75	17	365	1.65	84.36	BM40-../DSE08LA4	64	20000	25000
0.75	13.5	450	1.35	104.0	BM40-../DSE08LA4	64	20000	25000
0.75	12	500	1.35	118.2	BM40Z-../DSE08LA4	69	20000	25000
0.75	9.8	610	1.1	143.0	BM40Z-../DSE08LA4	69	20000	25000
0.75	8.3	710	0.96	169.0	BM40Z-../DSE08LA4	69	20000	25000

6

1.1 kW

IE1



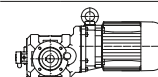
P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
1.1	120	79	1.75	11.68	BM10-../DSE08XA4	27	8000	10000
1.1	109	87	1.7	12.95	BM10-../DSE08XA4	27	8000	10000
1.1	86	108	1.35	16.39	BM10-../DSE08XA4	27	8000	10000
1.1	78	119	1.3	18.18	BM10-../DSE08XA4	27	8000	10000
1.1	62	149	1.0	22.62	BM10-../DSE08XA4	27	8000	10000
1.1	56	165	0.97	25.09	BM10-../DSE08XA4	27	8000	10000
1.1	53	174	0.86	26.55	BM10-../DSE08XA4	27	8000	10000
1.1	48	192	0.83	29.45	BM10-../DSE08XA4	27	8000	10000
1.1	138	72	3.1	10.15	BM20-../DSE08XA4	29	12000	12000
1.1	105	95	2.3	13.34	BM20-../DSE08XA4	29	12000	12000
1.1	84	118	1.85	16.72	BM20-../DSE08XA4	29	12000	12000
1.1	71	140	1.55	19.72	BM20-../DSE08XA4	29	12000	12000
1.1	56	178	1.25	25.25	BM20-../DSE08XA4	29	12000	12000
1.1	48	205	1.05	29.39	BM20-../DSE08XA4	29	12000	12000
1.1	40	245	0.9	35.25	BM20-../DSE08XA4	29	12000	12000
1.1	87	111	3.2	16.10	BM30-../DSE08XA4	45	12000	15000
1.1	71	136	2.6	19.96	BM30-../DSE08XA4	45	12000	15000
1.1	60	159	2.2	23.38	BM30-../DSE08XA4	45	12000	15000
1.1	47.5	200	1.75	29.76	BM30-../DSE08XA4	45	12000	15000
1.1	40.5	235	1.5	34.88	BM30-../DSE08XA4	45	12000	15000
1.1	34.5	270	1.3	41.13	BM30-../DSE08XA4	45	12000	15000
1.1	28.5	325	0.97	49.66	BM30-../DSE08XA4	45	12000	15000
1.1	26.5	340	0.82	53.67	BM30Z-../DSE08XA4	48	12000	15000
1.1	40.5	230	3.0	34.61	BM40-../DSE08XA4	65	20000	25000
1.1	34.5	270	2.5	40.88	BM40-../DSE08XA4	65	20000	25000
1.1	27.5	335	2.0	51.18	BM40-../DSE08XA4	65	20000	25000
1.1	23.5	390	1.75	59.66	BM40-../DSE08XA4	65	20000	25000
1.1	20	455	1.5	70.11	BM40-../DSE08XA4	65	20000	25000
1.1	17	530	1.15	84.36	BM40-../DSE08XA4	65	20000	25000
1.1	13.5	660	0.91	104.0	BM40-../DSE08XA4	65	20000	25000
1.1	12	740	0.92	118.2	BM40Z-../DSE08XA4	70	20000	25000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE1

1.5 kW

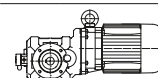
IE1



P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
1.5	122	106	1.3	11.68	BM10-../DSE09LA4	34	8000	10000
1.5	110	118	1.25	12.95	BM10-../DSE09LA4	34	8000	10000
1.5	87	146	0.99	16.39	BM10-../DSE09LA4	34	8000	10000
1.5	79	161	0.96	18.18	BM10-../DSE09LA4	34	8000	10000
1.5	186	73	2.7	7.66	BM20-../DSE09LA4	36	9100	10900
1.5	140	97	2.3	10.15	BM20-../DSE09LA4	36	12000	12000
1.5	107	127	1.75	13.34	BM20-../DSE09LA4	36	12000	12000
1.5	85	160	1.4	16.72	BM20-../DSE09LA4	36	12000	12000
1.5	73	186	1.2	19.72	BM20-../DSE09LA4	36	12000	12000
1.5	57	235	0.94	25.25	BM20-../DSE09LA4	36	12000	12000
1.5	114	115	3.0	12.46	BM30-../DSE09LA4	52	12000	15000
1.5	89	148	2.4	16.10	BM30-../DSE09LA4	52	12000	15000
1.5	72	183	1.9	19.96	BM30-../DSE09LA4	52	12000	15000
1.5	61	210	1.65	23.38	BM30-../DSE09LA4	52	12000	15000
1.5	48	270	1.3	29.76	BM30-../DSE09LA4	52	12000	15000
1.5	41	315	1.1	34.88	BM30-../DSE09LA4	52	12000	15000
1.5	35	365	0.96	41.13	BM30-../DSE09LA4	52	12000	15000
1.5	50	255	2.7	28.59	BM40-../DSE09LA4	72	20000	25000
1.5	41.5	310	2.2	34.61	BM40-../DSE09LA4	72	20000	25000
1.5	35	365	1.85	40.88	BM40-../DSE09LA4	72	20000	25000
1.5	28	450	1.5	51.18	BM40-../DSE09LA4	72	20000	25000
1.5	24	520	1.3	59.66	BM40-../DSE09LA4	72	20000	25000
1.5	20.5	600	1.15	70.11	BM40-../DSE09LA4	72	20000	25000
1.5	17	730	0.82	84.36	BM40-../DSE09LA4	72	20000	25000

2.2 kW

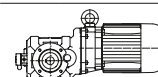
IE1



P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
2.2	122	156	0.9	11.68	BM10-../DSE09XA4	38	8000	10000
2.2	110	173	0.87	12.95	BM10-../DSE09XA4	38	8000	10000
2.2	186	107	1.85	7.66	BM20-../DSE09XA4	40	9100	10900
2.2	140	142	1.55	10.15	BM20-../DSE09XA4	40	12000	12000
2.2	107	186	1.2	13.34	BM20-../DSE09XA4	40	12000	12000
2.2	85	230	0.96	16.72	BM20-../DSE09XA4	40	12000	12000
2.2	73	270	0.81	19.72	BM20-../DSE09XA4	40	12000	12000
2.2	180	107	3.0	7.91	BM30-../DSE09XA4	56	11000	13800
2.2	142	136	2.6	10.06	BM30-../DSE09XA4	56	12000	15000
2.2	114	169	2.1	12.46	BM30-../DSE09XA4	56	12000	15000
2.2	89	215	1.65	16.10	BM30-../DSE09XA4	56	12000	15000
2.2	72	265	1.3	19.96	BM30-../DSE09XA4	56	12000	15000
2.2	61	310	1.15	23.38	BM30-../DSE09XA4	56	12000	15000
2.2	48	395	0.89	29.76	BM30-../DSE09XA4	56	12000	15000
2.2	79	235	2.9	18.05	BM40-../DSE09XA4	76	20000	25000
2.2	64	295	2.3	22.44	BM40-../DSE09XA4	76	20000	25000
2.2	50	375	1.8	28.59	BM40-../DSE09XA4	76	20000	25000
2.2	41.5	455	1.5	34.61	BM40-../DSE09XA4	76	20000	25000
2.2	35	540	1.25	40.88	BM40-../DSE09XA4	76	20000	25000
2.2	28	660	1.05	51.18	BM40-../DSE09XA4	76	20000	25000
2.2	24	770	0.88	59.66	BM40-../DSE09XA4	76	20000	25000

3 kW

IE1



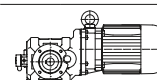
P _N	50 Hz			i	Type	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
3	180	146	2.2	7.91	BM30-../DSE11SA4	65	11000	13800
3	142	185	1.9	10.06	BM30-../DSE11SA4	65	12000	15000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE1

3 kW

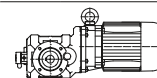
IE1



P _N	n ₂	50 Hz	f _B	i	Type	m	F _{RN}	F _{RV}
[kW]	[1/min]	M ₂ [Nm]	[-]	[:1]		[kg]	[N]	[N]
3	114	230	1.5	12.46	BM30-../DSE11SA4	65	12000	15000
3	89	295	1.2	16.10	BM30-../DSE11SA4	65	12000	15000
3	72	365	0.96	19.96	BM30-../DSE11SA4	65	12000	15000
3	61	425	0.82	23.38	BM30-../DSE11SA4	65	12000	15000
3	128	200	3.1	11.17	BM40-../DSE11SA4	90	18300	22900
3	98	260	2.6	14.50	BM40-../DSE11SA4	90	20000	25000
3	79	325	2.1	18.05	BM40-../DSE11SA4	90	20000	25000
3	64	400	1.7	22.44	BM40-../DSE11SA4	90	20000	25000
3	50	510	1.35	28.59	BM40-../DSE11SA4	90	20000	25000
3	41.5	620	1.1	34.61	BM40-../DSE11SA4	90	20000	25000
3	35	730	0.93	40.88	BM40-../DSE11SA4	90	20000	25000

4 kW

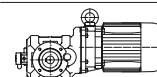
IE1



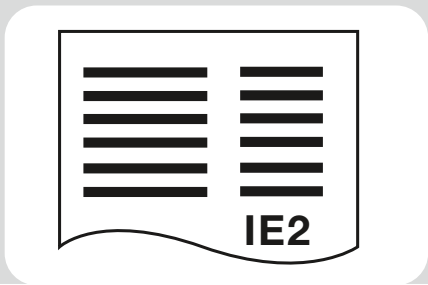
P _N	n ₂	50 Hz	f _B	i	Type	m	F _{RN}	F _{RV}
[kW]	[1/min]	M ₂ [Nm]	[-]	[:1]		[kg]	[N]	[N]
4	180	195	1.65	7.91	BM30-../DSE11MA4	65	11000	13800
4	142	245	1.45	10.06	BM30-../DSE11MA4	65	12000	15000
4	114	305	1.15	12.46	BM30-../DSE11MA4	65	12000	15000
4	89	390	0.9	16.10	BM30-../DSE11MA4	65	12000	15000
4	128	265	2.4	11.17	BM40-../DSE11MA4	90	18300	22900
4	98	350	1.95	14.50	BM40-../DSE11MA4	90	20000	25000
4	79	435	1.55	18.05	BM40-../DSE11MA4	90	20000	25000
4	64	530	1.3	22.44	BM40-../DSE11MA4	90	20000	25000
4	50	680	1.0	28.59	BM40-../DSE11MA4	90	20000	25000
4	41.5	820	0.83	34.61	BM40-../DSE11MA4	90	20000	25000

5.5 kW

IE1



P _N	n ₂	50 Hz	f _B	i	Type	m	F _{RN}	F _{RV}
[kW]	[1/min]	M ₂ [Nm]	[-]	[:1]		[kg]	[N]	[N]
5.5	180	265	1.2	7.91	BM30-../DSE11LA4	76	11000	13800
5.5	142	340	1.05	10.06	BM30-../DSE11LA4	76	12000	15000
5.5	114	420	0.83	12.46	BM30-../DSE11LA4	76	12000	15000
5.5	128	365	1.7	11.17	BM40-../DSE11LA4	102	18300	22900
5.5	98	480	1.4	14.50	BM40-../DSE11LA4	102	20000	25000
5.5	79	590	1.15	18.05	BM40-../DSE11LA4	102	20000	25000
5.5	64	730	0.93	22.44	BM40-../DSE11LA4	102	20000	25000



7

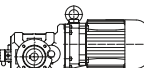
Selection tables ASM-IE2

Selection tables ASM-IE263

Selection table asynchronous motors ASM IE265

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE2

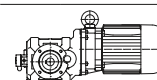
0.12 kW								
IE2 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.12	123	8.1	3.7	11.34	BM09-../DHE05LA4	13	4400	6500
0.12	106	9.5	3.4	13.23	BM09-../DHE05LA4	13	4400	6500
0.12	79	12.7	3.7	17.73	BM09-../DHE05LA4	13	4400	6500
0.12	66	15.2	3.7	21.20	BM09-../DHE05LA4	13	4400	6500
0.12	57	17.6	3.4	24.74	BM09-../DHE05LA4	13	4400	6500
0.12	54	18.6	3.7	25.98	BM09-../DHE05LA4	13	4400	6500
0.12	46	21.5	3.3	30.31	BM09-../DHE05LA4	13	4400	6500
0.12	42.5	23.5	3.7	32.97	BM09-../DHE05LA4	13	4400	6500
0.12	36.5	27.5	3.3	38.46	BM09-../DHE05LA4	13	4400	6500
0.12	33	30	2.8	42.44	BM09-../DHE05LA4	13	4400	6500
0.12	26	38	2.8	53.85	BM09-../DHE05LA4	13	4400	6500
0.12	20	52	2.7	69.61	BM10G06-../DHE06LA4	26	8000	10000
0.12	19	53	2.7	74.41	BM10G06-../DHE06LA4	26	8000	10000
0.12	17	59	2.6	82.54	BM10G06-../DHE06LA4	26	8000	10000
0.12	15.5	67	2.2	90.78	BM10G06-../DHE06LA4	26	8000	10000
0.12	13.5	74	2.0	102.7	BM10G06-../DHE06LA4	26	8000	10000
0.12	11.5	87	1.7	120.5	BM10G06-../DHE06LA4	26	8000	10000
0.12	10.5	96	1.65	133.7	BM10G06-../DHE06LA4	26	8000	10000
0.12	9.2	107	1.4	150.7	BM10G06-../DHE06LA4	26	8000	10000
0.12	8.3	118	1.35	167.2	BM10G06-../DHE06LA4	26	8000	10000
0.12	7.3	138	1.1	189.8	BM10G06-../DHE06LA4	26	8000	10000
0.12	6.4	153	1.05	219.4	BM10G06-../DHE06LA4	26	8000	10000
0.12	5.4	182	0.88	258.1	BM10G06-../DHE06LA4	26	8000	10000
0.12	4.5	160*	1.0	308.9	BM10G06-../DHE06LA4	26	8000	10000
0.12	4.1	160*	1.0	345.4	BM10G06-../DHE06LA4	26	8000	10000
0.12	3.7	160*	1.0	377.0	BM10G06-../DHE06LA4	26	8000	10000
0.12	3.4	160*	1.0	415.3	BM10G06-../DHE06LA4	26	8000	10000
0.12	3.1	160*	1.0	452.9	BM10G06-../DHE06LA4	26	8000	10000
0.12	2.6	160*	1.0	544.2	BM10G06-../DHE06LA4	26	8000	10000
0.12	2.4	160*	1.0	593.9	BM10G06-../DHE06LA4	26	8000	10000
0.12	2.0	160*	1.0	698.8	BM10G06-../DHE06LA4	26	8000	10000
0.12	1.7	160*	1.0	836.2	BM10G06-../DHE06LA4	26	8000	10000
0.12	1.5	160*	1.0	938.2	BM10G06-../DHE06LA4	26	8000	10000
0.12	1.2	160*	1.0	1186	BM10G06-../DHE06LA4	26	8000	10000
0.12	0.95	160*	1.0	1482	BM10G06-../DHE06LA4	26	8000	10000
0.12	0.85	160*	1.0	1701	BM10G06-../DHE06LA4	26	8000	10000
0.12	0.75	160*	1.0	1935	BM10G06-../DHE06LA4	26	8000	10000
0.12	0.7	160*	1.0	2111	BM10G06-../DHE06LA4	26	8000	10000
0.12	0.65	160*	1.0	2254	BM10G06-../DHE06LA4	26	8000	10000
0.12	0.6	160*	1.0	2459	BM10G06-../DHE06LA4	26	8000	10000
0.12	19	57	3.2	74.76	BM20-../DHE06LA4	23	12000	12000
0.12	14	77	2.9	99.47	BM20Z-../DHE06LA4	24	12000	12000
0.12	12	90	2.4	117.9	BM20Z-../DHE06LA4	24	12000	12000
0.12	9.7	112	1.95	142.8	BM20Z-../DHE06LA4	24	12000	12000
0.12	7.8	139	1.5	178.9	BM20Z-../DHE06LA4	24	12000	12000
0.12	6.8	160	1.2	205.3	BM20Z-../DHE06LA4	24	12000	12000
0.12	5.5	197	0.92	253.0	BM20Z-../DHE06LA4	24	12000	12000
0.12	7.9	123	2.8	177.2	BM30Z-../DHE06LA4	41	12000	15000
0.12	7.5	137	2.6	186.7	BM30G06-../DHE06LA4	47	12000	15000
0.12	6.7	155	2.3	208.6	BM30G06-../DHE06LA4	47	12000	15000
0.12	5.7	180	1.95	245.1	BM30G06-../DHE06LA4	47	12000	15000
0.12	4.9	210	1.65	288.3	BM30G06-../DHE06LA4	47	12000	15000
0.12	4.1	250	1.4	345.1	BM30G06-../DHE06LA4	47	12000	15000
0.12	3.6	285	1.25	385.8	BM30G06-../DHE06LA4	47	12000	15000
0.12	3.0	340	1.05	463.9	BM30G06-../DHE06LA4	47	12000	15000
0.12	2.6	395	0.89	533.9	BM30G06-../DHE06LA4	47	12000	15000
0.12	2.1	350*	1.0	663.4	BM30G06-../DHE06LA4	47	12000	15000
0.12	1.8	350*	1.0	780.6	BM30G06-../DHE06LA4	47	12000	15000
0.12	1.5	350*	1.0	934.1	BM30G06-../DHE06LA4	47	12000	15000
0.12	1.3	350*	1.0	1143	BM30G06-../DHE06LA4	47	12000	15000
0.12	1.1	350*	1.0	1325	BM30G06-../DHE06LA4	47	12000	15000
0.12	0.95	350*	1.0	1518	BM30G06-../DHE06LA4	47	12000	15000
0.12	0.85	350*	1.0	1656	BM30G06-../DHE06LA4	47	12000	15000
0.12	0.75	350*	1.0	1900	BM30G06-../DHE06LA4	47	12000	15000
0.12	0.65	350*	1.0	2162	BM30G06-../DHE06LA4	47	12000	15000
0.12	0.6	350*	1.0	2358	BM30G06-../DHE06LA4	47	12000	15000
0.12	0.55	350*	1.0	2747	BM30G06-../DHE06LA4	47	12000	15000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE2

0.12 kW

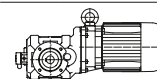
IE2



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.12	4.8	193	3.1	289.8	BM40Z-../DHE06LA4	64	20000	25000
0.12	4.0	230	2.2	348.7	BM40Z-../DHE06LA4	64	20000	25000
0.12	3.3	275	1.8	430.0	BM40Z-../DHE06LA4	64	20000	25000
0.12	2.9	355	1.9	487.3	BM40G10-../DHE06LA4	68	20000	25000
0.12	2.6	395	1.7	540.0	BM40G10-../DHE06LA4	68	20000	25000
0.12	2.1	490	1.4	660.2	BM40G10-../DHE06LA4	68	20000	25000
0.12	1.9	540	1.25	756.7	BM40G10-../DHE06LA4	68	20000	25000
0.12	1.7	600	1.15	838.4	BM40G10-../DHE06LA4	68	20000	25000
0.12	1.4	730	0.93	998.3	BM40G10-../DHE06LA4	68	20000	25000
0.12	1.2	850	0.8	1189	BM40G10-../DHE06LA4	68	20000	25000
0.12	1.0	680*	1.0	1428	BM40G10-../DHE06LA4	68	20000	25000
0.12	0.8	680*	1.0	1798	BM40G10-../DHE06LA4	68	20000	25000
0.12	0.7	680*	1.0	2108	BM40G10-../DHE06LA4	68	20000	25000
0.12	0.6	680*	1.0	2350	BM40G10-../DHE06LA4	68	20000	25000
0.12	0.55	680*	1.0	2604	BM40G10-../DHE06LA4	68	20000	25000
0.12	0.46	680*	1.0	3077	BM40G10-../DHE06LA4	68	20000	25000
0.12	0.41	680*	1.0	3429	BM40G10-../DHE06LA4	68	20000	25000
0.12	0.37	680*	1.0	3800	BM40G10-../DHE06LA4	68	20000	25000
0.12	0.32	680*	1.0	4363	BM40G10-../DHE06LA4	68	20000	25000

0.18 kW

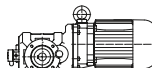
IE2

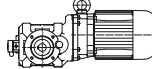


P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.18	122	12.3	2.4	11.34	BM09-../DHE05LA4	13	4400	6500
0.18	104	14.5	2.2	13.23	BM09-../DHE05LA4	13	4400	6500
0.18	78	19.3	2.4	17.73	BM09-../DHE05LA4	13	4400	6500
0.18	65	23	2.4	21.20	BM09-../DHE05LA4	13	4400	6500
0.18	56	27	2.2	24.74	BM09-../DHE05LA4	13	4400	6500
0.18	53	28.5	2.4	25.98	BM09-../DHE05LA4	13	4400	6500
0.18	45.5	33	2.2	30.31	BM09-../DHE05LA4	13	4400	6500
0.18	42	36	2.4	32.97	BM09-../DHE05LA4	13	4400	6500
0.18	36	42	2.2	38.46	BM09-../DHE05LA4	13	4400	6500
0.18	32.5	46	1.85	42.44	BM09-../DHE05LA4	13	4400	6500
0.18	26	57	1.9	53.85	BM09-../DHE05LA4	13	4400	6500
0.18	26.5	53	2.8	52.44	BM10-../DHE06LA4	21	8000	10000
0.18	24	58	2.8	58.18	BM10-../DHE06LA4	21	8000	10000
0.18	23.5	66	2.3	58.79	BM10G06-../DHE06LA4	26	8000	10000
0.18	20	78	1.8	69.61	BM10G06-../DHE06LA4	26	8000	10000
0.18	18.5	82	1.75	74.41	BM10G06-../DHE06LA4	26	8000	10000
0.18	17	89	1.75	82.54	BM10G06-../DHE06LA4	26	8000	10000
0.18	15.5	100	1.5	90.78	BM10G06-../DHE06LA4	26	8000	10000
0.18	13.5	112	1.35	102.7	BM10G06-../DHE06LA4	26	8000	10000
0.18	11.5	131	1.15	120.5	BM10G06-../DHE06LA4	26	8000	10000
0.18	10.5	144	1.1	133.7	BM10G06-../DHE06LA4	26	8000	10000
0.18	9.1	162	0.93	150.7	BM10G06-../DHE06LA4	26	8000	10000
0.18	8.2	180	0.89	167.2	BM10G06-../DHE06LA4	26	8000	10000
0.18	23	71	2.7	60.64	BM20-../DHE06LA4	23	12000	12000
0.18	18.5	88	2.1	74.76	BM20-../DHE06LA4	23	12000	12000
0.18	16.5	98	2.2	85.45	BM20Z-../DHE06LA4	24	12000	12000
0.18	14	116	1.9	99.47	BM20Z-../DHE06LA4	24	12000	12000
0.18	12	136	1.6	117.9	BM20Z-../DHE06LA4	24	12000	12000
0.18	9.6	170	1.3	142.8	BM20Z-../DHE06LA4	24	12000	12000
0.18	7.7	210	1.0	178.9	BM20Z-../DHE06LA4	24	12000	12000
0.18	6.7	240	0.8	205.3	BM20Z-../DHE06LA4	24	12000	12000
0.18	14	105	3.3	100.7	BM30Z-../DHE06LA4	41	12000	15000
0.18	11	134	2.6	128.2	BM30Z-../DHE06LA4	41	12000	15000
0.18	9.2	158	2.2	150.3	BM30Z-../DHE06LA4	41	12000	15000
0.18	7.8	187	1.85	177.2	BM30Z-../DHE06LA4	41	12000	15000
0.18	7.4	205	1.7	186.7	BM30G06-../DHE06LA4	47	12000	15000
0.18	6.6	235	1.5	208.6	BM30G06-../DHE06LA4	47	12000	15000
0.18	5.6	275	1.25	245.1	BM30G06-../DHE06LA4	47	12000	15000
0.18	4.8	320	1.1	288.3	BM30G06-../DHE06LA4	47	12000	15000
0.18	4.0	385	0.91	345.1	BM30G06-../DHE06LA4	47	12000	15000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE2

0.18 kW								
IE2 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.18	3.6	425	0.82	385.8	BM30G06-../DHE06LA4	47	12000	15000
0.18	6.5	215	3.2	211.5	BM40Z-../DHE06LA4	64	20000	25000
0.18	5.6	245	2.8	246.6	BM40Z-../DHE06LA4	64	20000	25000
0.18	4.8	290	2.1	289.8	BM40Z-../DHE06LA4	64	20000	25000
0.18	4.0	345	1.45	348.7	BM40Z-../DHE06LA4	64	20000	25000
0.18	3.2	425	1.2	430.0	BM40Z-../DHE06LA4	64	20000	25000
0.18	2.9	530	1.3	487.3	BM40G10-../DHE06LA4	68	20000	25000
0.18	2.6	590	1.15	540.0	BM40G10-../DHE06LA4	68	20000	25000
0.18	2.1	730	0.93	660.2	BM40G10-../DHE06LA4	68	20000	25000
0.18	1.9	810	0.84	756.7	BM40G10-../DHE06LA4	68	20000	25000

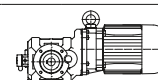
0.25 kW								
IE2 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.25	122	17.2	1.75	11.34	BM09-../DHE07LA4	17	4400	6500
0.25	104	20	1.6	13.23	BM09-../DHE07LA4	17	4400	6500
0.25	78	26.5	1.75	17.73	BM09-../DHE07LA4	17	4400	6500
0.25	65	32	1.75	21.20	BM09-../DHE07LA4	17	4400	6500
0.25	56	37.5	1.55	24.74	BM09-../DHE07LA4	17	4400	6500
0.25	53	39.5	1.75	25.98	BM09-../DHE07LA4	17	4400	6500
0.25	45.5	46	1.55	30.31	BM09-../DHE07LA4	17	4400	6500
0.25	42	50	1.75	32.97	BM09-../DHE07LA4	17	4400	6500
0.25	36	58	1.6	38.46	BM09-../DHE07LA4	17	4400	6500
0.25	32.5	63	1.35	42.44	BM09-../DHE07LA4	17	4400	6500
0.25	26	79	1.35	53.85	BM09-../DHE07LA4	17	4400	6500
0.25	41.5	49	3.1	33.19	BM10-../DHE07LA4	23	8000	10000
0.25	37.5	54	3.0	36.82	BM10-../DHE07LA4	23	8000	10000
0.25	34	58	2.6	40.56	BM10-../DHE07LA4	23	8000	10000
0.25	31	64	2.5	45.00	BM10-../DHE07LA4	23	8000	10000
0.25	26.5	73	2.1	52.44	BM10-../DHE07LA4	23	8000	10000
0.25	24	81	2.0	58.18	BM10-../DHE07LA4	23	8000	10000
0.25	23.5	92	1.65	58.79	BM10G06-../DHE07LA4	28	8000	10000
0.25	20	108	1.3	69.61	BM10G06-../DHE07LA4	28	8000	10000
0.25	18.5	114	1.25	74.41	BM10G06-../DHE07LA4	28	8000	10000
0.25	17	124	1.25	82.54	BM10G06-../DHE07LA4	28	8000	10000
0.25	15.5	140	1.05	90.78	BM10G06-../DHE07LA4	28	8000	10000
0.25	13.5	155	0.97	102.7	BM10G06-../DHE07LA4	28	8000	10000
0.25	11.5	182	0.82	120.5	BM10G06-../DHE07LA4	28	8000	10000
0.25	10.5	200	0.8	133.7	BM10G06-../DHE07LA4	28	8000	10000
0.25	33	68	3.2	42.18	BM20-../DHE07LA4	26	12000	12000
0.25	26.5	85	2.5	52.84	BM20-../DHE07LA4	26	12000	12000
0.25	23	98	1.95	60.64	BM20-../DHE07LA4	26	12000	12000
0.25	18.5	122	1.5	74.76	BM20-../DHE07LA4	26	12000	12000
0.25	16.5	137	1.6	85.45	BM20Z-../DHE07LA4	27	12000	12000
0.25	14	162	1.35	99.47	BM20Z-../DHE07LA4	27	12000	12000
0.25	12	189	1.15	117.9	BM20Z-../DHE07LA4	27	12000	12000
0.25	9.7	230	0.96	142.8	BM20Z-../DHE07LA4	27	12000	12000
0.25	22.5	93	2.9	61.33	BM30-../DHE07LA4	41	12000	15000
0.25	19.5	107	2.4	71.09	BM30-../DHE07LA4	41	12000	15000
0.25	16	129	2.7	85.96	BM30Z-../DHE07LA4	44	12000	15000
0.25	14	146	2.4	100.7	BM30Z-../DHE07LA4	44	12000	15000
0.25	11	186	1.9	128.2	BM30Z-../DHE07LA4	44	12000	15000
0.25	9.2	220	1.6	150.3	BM30Z-../DHE07LA4	44	12000	15000
0.25	7.8	260	1.35	177.2	BM30Z-../DHE07LA4	44	12000	15000
0.25	7.4	290	1.2	186.7	BM30G06-../DHE07LA4	50	12000	15000
0.25	6.6	325	1.1	208.6	BM30G06-../DHE07LA4	50	12000	15000
0.25	5.7	375	0.93	245.1	BM30G06-../DHE07LA4	50	12000	15000
0.25	9.7	205	3.3	143.0	BM40Z-../DHE07LA4	66	20000	25000
0.25	8.2	240	2.8	169.0	BM40Z-../DHE07LA4	66	20000	25000
0.25	6.6	295	2.3	211.5	BM40Z-../DHE07LA4	66	20000	25000
0.25	5.6	345	1.95	246.6	BM40Z-../DHE07LA4	66	20000	25000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE2

0.25 kW

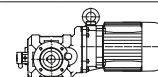
IE2



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.25	4.8	400	1.5	289.8	BM40Z-../DHE07LA4	66	20000	25000
0.25	4.0	480	1.05	348.7	BM40Z-../DHE07LA4	66	20000	25000
0.25	3.2	590	0.85	430.0	BM40Z-../DHE07LA4	66	20000	25000
0.25	2.9	740	0.92	487.3	BM40G10-../DHE07LA4	71	20000	25000
0.25	2.6	820	0.83	540.0	BM40G10-../DHE07LA4	71	20000	25000

0.3 kW

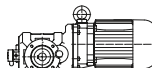
IE2

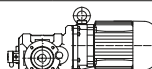


P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.3	120	21	1.45	11.34	BM09-../DHE07LA4	17	4400	6500
0.3	103	24	1.35	13.23	BM09-../DHE07LA4	17	4400	6500
0.3	77	32.5	1.45	17.73	BM09-../DHE07LA4	17	4400	6500
0.3	65	38.5	1.45	21.20	BM09-../DHE07LA4	17	4400	6500
0.3	55	45.5	1.3	24.74	BM09-../DHE07LA4	17	4400	6500
0.3	53	47.5	1.45	25.98	BM09-../DHE07LA4	17	4400	6500
0.3	45	56	1.3	30.31	BM09-../DHE07LA4	17	4400	6500
0.3	41.5	60	1.45	32.97	BM09-../DHE07LA4	17	4400	6500
0.3	35.5	71	1.3	38.46	BM09-../DHE07LA4	17	4400	6500
0.3	32.5	76	1.1	42.44	BM09-../DHE07LA4	17	4400	6500
0.3	25.5	97	1.1	53.85	BM09-../DHE07LA4	17	4400	6500
0.3	52	48	3.1	26.55	BM10-../DHE07LA4	23	8000	10000
0.3	46.5	54	3.0	29.45	BM10-../DHE07LA4	23	8000	10000
0.3	41	60	2.5	33.19	BM10-../DHE07LA4	23	8000	10000
0.3	37	66	2.4	36.82	BM10-../DHE07LA4	23	8000	10000
0.3	34	70	2.1	40.56	BM10-../DHE07LA4	23	8000	10000
0.3	30.5	78	2.1	45.00	BM10-../DHE07LA4	23	8000	10000
0.3	26	90	1.65	52.44	BM10-../DHE07LA4	23	8000	10000
0.3	23.5	99	1.6	58.18	BM10-../DHE07LA4	23	8000	10000
0.3	23.5	110	1.35	58.79	BM10G06-../DHE07LA4	28	8000	10000
0.3	20	130	1.1	69.61	BM10G06-../DHE07LA4	28	8000	10000
0.3	18.5	137	1.05	74.41	BM10G06-../DHE07LA4	28	8000	10000
0.3	16.5	154	1.0	82.54	BM10G06-../DHE07LA4	28	8000	10000
0.3	15	173	0.87	90.78	BM10G06-../DHE07LA4	28	8000	10000
0.3	13.5	186	0.81	102.7	BM10G06-../DHE07LA4	28	8000	10000
0.3	39	69	3.2	35.25	BM20-../DHE07LA4	26	12000	12000
0.3	32.5	83	2.7	42.18	BM20-../DHE07LA4	26	12000	12000
0.3	26	104	2.0	52.84	BM20-../DHE07LA4	26	12000	12000
0.3	22.5	120	1.6	60.64	BM20-../DHE07LA4	26	12000	12000
0.3	18.5	147	1.25	74.76	BM20-../DHE07LA4	26	12000	12000
0.3	16	170	1.3	85.45	BM20Z-../DHE07LA4	27	12000	12000
0.3	14	194	1.15	99.47	BM20Z-../DHE07LA4	27	12000	12000
0.3	12	225	0.98	117.9	BM20Z-../DHE07LA4	27	12000	12000
0.3	22.5	112	2.4	61.33	BM30-../DHE07LA4	41	12000	15000
0.3	19.5	129	2.0	71.09	BM30-../DHE07LA4	41	12000	15000
0.3	16	155	2.3	85.96	BM30Z-../DHE07LA4	44	12000	15000
0.3	14	175	2.0	100.7	BM30Z-../DHE07LA4	44	12000	15000
0.3	11	220	1.6	128.2	BM30Z-../DHE07LA4	44	12000	15000
0.3	9.1	265	1.3	150.3	BM30Z-../DHE07LA4	44	12000	15000
0.3	7.7	315	1.1	177.2	BM30Z-../DHE07LA4	44	12000	15000
0.3	7.3	350	1.0	186.7	BM30G06-../DHE07LA4	50	12000	15000
0.3	6.6	395	0.89	208.6	BM30G06-../DHE07LA4	50	12000	15000
0.3	9.6	250	2.7	143.0	BM40Z-../DHE07LA4	66	20000	25000
0.3	8.1	290	2.3	169.0	BM40Z-../DHE07LA4	66	20000	25000
0.3	6.5	360	1.9	211.5	BM40Z-../DHE07LA4	66	20000	25000
0.3	5.6	410	1.65	246.6	BM40Z-../DHE07LA4	66	20000	25000
0.3	4.7	490	1.2	289.8	BM40Z-../DHE07LA4	66	20000	25000
0.3	4.0	580	0.87	348.7	BM40Z-../DHE07LA4	66	20000	25000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE2

0.37 kW								
IE2 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.37	127	24	1.25	11.34	BM09-../DHE08MA4	18	4400	6500
0.37	109	28.5	1.1	13.23	BM09-../DHE08MA4	18	4400	6500
0.37	81	38	1.25	17.73	BM09-../DHE08MA4	18	4400	6500
0.37	68	45.5	1.25	21.20	BM09-../DHE08MA4	18	4400	6500
0.37	58	53	1.1	24.74	BM09-../DHE08MA4	18	4400	6500
0.37	56	55	1.25	25.98	BM09-../DHE08MA4	18	4400	6500
0.37	47.5	65	1.1	30.31	BM09-../DHE08MA4	18	4400	6500
0.37	43.5	71	1.25	32.97	BM09-../DHE08MA4	18	4400	6500
0.37	37.5	82	1.1	38.46	BM09-../DHE08MA4	18	4400	6500
0.37	34	90	0.94	42.44	BM09-../DHE08MA4	18	4400	6500
0.37	27	113	0.96	53.85	BM09-../DHE08MA4	18	4400	6500
0.37	64	48.5	3.1	22.62	BM10-../DHE08MA4	24	8000	10000
0.37	57	54	3.0	25.09	BM10-../DHE08MA4	24	8000	10000
0.37	54	57	2.6	26.55	BM10-../DHE08MA4	24	8000	10000
0.37	49	63	2.5	29.45	BM10-../DHE08MA4	24	8000	10000
0.37	43.5	69	2.2	33.19	BM10-../DHE08MA4	24	8000	10000
0.37	39	77	2.1	36.82	BM10-../DHE08MA4	24	8000	10000
0.37	35.5	83	1.8	40.56	BM10-../DHE08MA4	24	8000	10000
0.37	32	92	1.75	45.00	BM10-../DHE08MA4	24	8000	10000
0.37	27.5	105	1.45	52.44	BM10-../DHE08MA4	24	8000	10000
0.37	25	115	1.4	58.18	BM10-../DHE08MA4	24	8000	10000
0.37	24.5	131	1.15	58.79	BM10G06-../DHE08MA4	33	8000	10000
0.37	21	153	0.92	69.61	BM10G06-../DHE08MA4	33	8000	10000
0.37	19.5	161	0.9	74.41	BM10G06-../DHE08MA4	33	8000	10000
0.37	17.5	179	0.87	82.54	BM10G06-../DHE08MA4	33	8000	10000
0.37	49	68	3.2	29.39	BM20-../DHE08MA4	26	12000	12000
0.37	41	81	2.7	35.25	BM20-../DHE08MA4	26	12000	12000
0.37	34	98	2.2	42.18	BM20-../DHE08MA4	26	12000	12000
0.37	27.5	122	1.7	52.84	BM20-../DHE08MA4	26	12000	12000
0.37	24	139	1.4	60.64	BM20-../DHE08MA4	26	12000	12000
0.37	19.5	172	1.05	74.76	BM20-../DHE08MA4	26	12000	12000
0.37	17	197	1.1	85.45	BM20Z-../DHE08MA4	28	12000	12000
0.37	14.5	230	0.96	99.47	BM20Z-../DHE08MA4	28	12000	12000
0.37	12.5	265	0.83	117.9	BM20Z-../DHE08MA4	28	12000	12000
0.37	29	108	2.9	49.66	BM30-../DHE08MA4	42	12000	15000
0.37	23.5	132	2.0	61.33	BM30-../DHE08MA4	42	12000	15000
0.37	20.5	151	1.7	71.09	BM30-../DHE08MA4	42	12000	15000
0.37	17	180	1.95	85.96	BM30Z-../DHE08MA4	45	12000	15000
0.37	14.5	205	1.7	100.7	BM30Z-../DHE08MA4	45	12000	15000
0.37	11.5	260	1.35	128.2	BM30Z-../DHE08MA4	45	12000	15000
0.37	9.6	310	1.15	150.3	BM30Z-../DHE08MA4	45	12000	15000
0.37	8.1	370	0.95	177.2	BM30Z-../DHE08MA4	45	12000	15000
0.37	7.7	410	0.85	186.7	BM30G06-../DHE08MA4	54	12000	15000
0.37	17	180	3.3	84.36	BM40-../DHE08MA4	63	20000	25000
0.37	14	210	2.9	104.0	BM40-../DHE08MA4	63	20000	25000
0.37	12.5	240	2.8	118.2	BM40Z-../DHE08MA4	67	20000	25000
0.37	10	295	2.3	143.0	BM40Z-../DHE08MA4	67	20000	25000
0.37	8.5	345	1.95	169.0	BM40Z-../DHE08MA4	67	20000	25000
0.37	6.8	425	1.6	211.5	BM40Z-../DHE08MA4	67	20000	25000
0.37	5.8	490	1.4	246.6	BM40Z-../DHE08MA4	67	20000	25000
0.37	5.0	570	1.05	289.8	BM40Z-../DHE08MA4	67	20000	25000

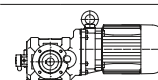
0.55 kW								
IE2 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.55	125	36.5	0.82	11.34	BM09-../DHE08LA4	20	4400	6500
0.55	80	57	0.82	17.73	BM09-../DHE08LA4	20	4400	6500
0.55	67	68	0.82	21.20	BM09-../DHE08LA4	20	4400	6500
0.55	55	84	0.82	25.98	BM09-../DHE08LA4	20	4400	6500
0.55	43	107	0.81	32.97	BM09-../DHE08LA4	20	4400	6500
0.55	87	53	2.7	16.39	BM10-../DHE08LA4	26	8000	10000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE2

0.55 kW

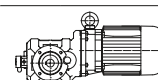
IE2



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.55	78	59	2.6	18.18	BM10-../DHE08LA4	26	8000	10000
0.55	63	73	2.1	22.62	BM10-../DHE08LA4	26	8000	10000
0.55	57	81	2.0	25.09	BM10-../DHE08LA4	26	8000	10000
0.55	54	85	1.75	26.55	BM10-../DHE08LA4	26	8000	10000
0.55	48.5	95	1.7	29.45	BM10-../DHE08LA4	26	8000	10000
0.55	43	105	1.45	33.19	BM10-../DHE08LA4	26	8000	10000
0.55	38.5	117	1.35	36.82	BM10-../DHE08LA4	26	8000	10000
0.55	35	126	1.2	40.56	BM10-../DHE08LA4	26	8000	10000
0.55	31.5	140	1.15	45.00	BM10-../DHE08LA4	26	8000	10000
0.55	27	159	0.94	52.44	BM10-../DHE08LA4	26	8000	10000
0.55	24.5	175	0.91	58.18	BM10-../DHE08LA4	26	8000	10000
0.55	72	69	3.2	19.72	BM20-../DHE08LA4	28	12000	12000
0.55	57	87	2.5	25.25	BM20-../DHE08LA4	28	12000	12000
0.55	48.5	102	2.2	29.39	BM20-../DHE08LA4	28	12000	12000
0.55	40.5	123	1.8	35.25	BM20-../DHE08LA4	28	12000	12000
0.55	34	146	1.5	42.18	BM20-../DHE08LA4	28	12000	12000
0.55	27	184	1.15	52.84	BM20-../DHE08LA4	28	12000	12000
0.55	23.5	210	0.92	60.64	BM20-../DHE08LA4	28	12000	12000
0.55	21.5	230	0.96	66.74	BM20Z-../DHE08LA4	30	12000	12000
0.55	41	116	3.0	34.88	BM30-../DHE08LA4	44	12000	15000
0.55	34.5	137	2.6	41.13	BM30-../DHE08LA4	44	12000	15000
0.55	28.5	164	1.95	49.66	BM30-../DHE08LA4	44	12000	15000
0.55	23.5	196	1.4	61.33	BM30-../DHE08LA4	44	12000	15000
0.55	20	230	1.1	71.09	BM30-../DHE08LA4	44	12000	15000
0.55	16.5	275	1.25	85.96	BM30Z-../DHE08LA4	46	12000	15000
0.55	14.5	310	1.15	100.7	BM30Z-../DHE08LA4	46	12000	15000
0.55	11.5	390	0.9	128.2	BM30Z-../DHE08LA4	46	12000	15000
0.55	20.5	220	3.1	70.11	BM40-../DHE08LA4	64	20000	25000
0.55	17	265	2.3	84.36	BM40-../DHE08LA4	64	20000	25000
0.55	14	315	1.9	104.0	BM40-../DHE08LA4	64	20000	25000
0.55	12	370	1.85	118.2	BM40Z-../DHE08LA4	69	20000	25000
0.55	9.9	445	1.55	143.0	BM40Z-../DHE08LA4	69	20000	25000
0.55	8.4	510	1.35	169.0	BM40Z-../DHE08LA4	69	20000	25000
0.55	6.7	640	1.05	211.5	BM40Z-../DHE08LA4	69	20000	25000
0.55	5.8	730	0.93	246.6	BM40Z-../DHE08LA4	69	20000	25000

0.75 kW

IE2



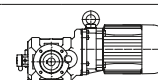
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.75	122	53	2.6	11.68	BM10-../DHE08XA4	27	8000	10000
0.75	110	59	2.5	12.95	BM10-../DHE08XA4	27	8000	10000
0.75	87	73	2.0	16.39	BM10-../DHE08XA4	27	8000	10000
0.75	79	80	1.95	18.18	BM10-../DHE08XA4	27	8000	10000
0.75	63	100	1.5	22.62	BM10-../DHE08XA4	27	8000	10000
0.75	57	110	1.45	25.09	BM10-../DHE08XA4	27	8000	10000
0.75	54	116	1.3	26.55	BM10-../DHE08XA4	27	8000	10000
0.75	48.5	129	1.25	29.45	BM10-../DHE08XA4	27	8000	10000
0.75	43	143	1.05	33.19	BM10-../DHE08XA4	27	8000	10000
0.75	39	157	1.0	36.82	BM10-../DHE08XA4	27	8000	10000
0.75	35.5	169	0.89	40.56	BM10-../DHE08XA4	27	8000	10000
0.75	32	188	0.85	45.00	BM10-../DHE08XA4	27	8000	10000
0.75	85	80	2.8	16.72	BM20-../DHE08XA4	29	12000	12000
0.75	73	93	2.4	19.72	BM20-../DHE08XA4	29	12000	12000
0.75	57	119	1.85	25.25	BM20-../DHE08XA4	29	12000	12000
0.75	48.5	140	1.55	29.39	BM20-../DHE08XA4	29	12000	12000
0.75	40.5	168	1.3	35.25	BM20-../DHE08XA4	29	12000	12000
0.75	34	200	1.1	42.18	BM20-../DHE08XA4	29	12000	12000
0.75	27	250	0.84	52.84	BM20-../DHE08XA4	29	12000	12000
0.75	25.5	265	0.83	56.58	BM20Z-../DHE08XA4	31	12000	12000
0.75	61	106	3.3	23.38	BM30-../DHE08XA4	45	12000	15000
0.75	48	135	2.6	29.76	BM30-../DHE08XA4	45	12000	15000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE2

0.75 kW

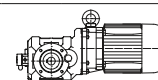
IE2



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.75	41	158	2.2	34.88	BM30-../DHE08XA4	45	12000	15000
0.75	35	184	1.9	41.13	BM30-../DHE08XA4	45	12000	15000
0.75	29	215	1.45	49.66	BM30-../DHE08XA4	45	12000	15000
0.75	23.5	265	1.0	61.33	BM30-../DHE08XA4	45	12000	15000
0.75	20	315	0.82	71.09	BM30-../DHE08XA4	45	12000	15000
0.75	17	365	0.96	85.96	BM30Z-../DHE08XA4	48	12000	15000
0.75	14.5	420	0.83	100.7	BM30Z-../DHE08XA4	48	12000	15000
0.75	28	225	3.0	51.18	BM40-../DHE08XA4	65	20000	25000
0.75	24	260	2.6	59.66	BM40-../DHE08XA4	65	20000	25000
0.75	20.5	300	2.3	70.11	BM40-../DHE08XA4	65	20000	25000
0.75	17	365	1.65	84.36	BM40-../DHE08XA4	65	20000	25000
0.75	14	430	1.4	104.0	BM40-../DHE08XA4	65	20000	25000
0.75	12.5	485	1.4	118.2	BM40Z-../DHE08XA4	70	20000	25000
0.75	10	600	1.15	143.0	BM40Z-../DHE08XA4	70	20000	25000
0.75	8.5	690	0.99	169.0	BM40Z-../DHE08XA4	70	20000	25000

1.1 kW

IE2



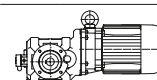
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
1.1	124	77	1.8	11.68	BM10-../DHE09LA4	34	8000	10000
1.1	112	85	1.75	12.95	BM10-../DHE09LA4	34	8000	10000
1.1	88	106	1.35	16.39	BM10-../DHE09LA4	34	8000	10000
1.1	80	116	1.35	18.18	BM10-../DHE09LA4	34	8000	10000
1.1	64	144	1.05	22.62	BM10-../DHE09LA4	34	8000	10000
1.1	58	159	1.0	25.09	BM10-../DHE09LA4	34	8000	10000
1.1	55	168	0.89	26.55	BM10-../DHE09LA4	34	8000	10000
1.1	49	188	0.85	29.45	BM10-../DHE09LA4	34	8000	10000
1.1	142	70	3.1	10.15	BM20-../DHE09LA4	36	12000	12000
1.1	108	92	2.4	13.34	BM20-../DHE09LA4	36	12000	12000
1.1	87	114	1.95	16.72	BM20-../DHE09LA4	36	12000	12000
1.1	74	134	1.65	19.72	BM20-../DHE09LA4	36	12000	12000
1.1	58	172	1.3	25.25	BM20-../DHE09LA4	36	12000	12000
1.1	49	200	1.1	29.39	BM20-../DHE09LA4	36	12000	12000
1.1	41	240	0.92	35.25	BM20-../DHE09LA4	36	12000	12000
1.1	90	107	3.3	16.10	BM30-../DHE09LA4	52	12000	15000
1.1	73	132	2.7	19.96	BM30-../DHE09LA4	52	12000	15000
1.1	62	154	2.3	23.38	BM30-../DHE09LA4	52	12000	15000
1.1	48.5	197	1.8	29.76	BM30-../DHE09LA4	52	12000	15000
1.1	41.5	230	1.5	34.88	BM30-../DHE09LA4	52	12000	15000
1.1	35.5	265	1.3	41.13	BM30-../DHE09LA4	52	12000	15000
1.1	29	320	0.99	49.66	BM30-../DHE09LA4	52	12000	15000
1.1	27	335	0.84	53.67	BM30Z-../DHE09LA4	54	12000	15000
1.1	21	435	0.8	69.35	BM30Z-../DHE09LA4	54	12000	15000
1.1	42	225	3.0	34.61	BM40-../DHE09LA4	72	20000	25000
1.1	35.5	265	2.6	40.88	BM40-../DHE09LA4	72	20000	25000
1.1	28.5	320	2.1	51.18	BM40-../DHE09LA4	72	20000	25000
1.1	24.5	375	1.8	59.66	BM40-../DHE09LA4	72	20000	25000
1.1	21	435	1.55	70.11	BM40-../DHE09LA4	72	20000	25000
1.1	17.5	520	1.15	84.36	BM40-../DHE09LA4	72	20000	25000
1.1	14	630	0.95	104.0	BM40-../DHE09LA4	72	20000	25000
1.1	12.5	710	0.96	118.2	BM40Z-../DHE09LA4	76	20000	25000
1.1	10.5	840	0.81	143.0	BM40Z-../DHE09LA4	76	20000	25000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE2

1.5 kW

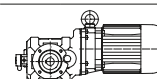
IE2



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
1.5	124	105	1.35	11.68	BM10-../DHE09XA4	38	8000	10000
1.5	112	116	1.3	12.95	BM10-../DHE09XA4	38	8000	10000
1.5	88	144	1.0	16.39	BM10-../DHE09XA4	38	8000	10000
1.5	80	159	0.97	18.18	BM10-../DHE09XA4	38	8000	10000
1.5	188	72	2.8	7.66	BM20-../DHE09XA4	40	9100	10900
1.5	142	95	2.3	10.15	BM20-../DHE09XA4	40	12000	12000
1.5	108	126	1.75	13.34	BM20-../DHE09XA4	40	12000	12000
1.5	87	156	1.4	16.72	BM20-../DHE09XA4	40	12000	12000
1.5	74	183	1.2	19.72	BM20-../DHE09XA4	40	12000	12000
1.5	58	230	0.96	25.25	BM20-../DHE09XA4	40	12000	12000
1.5	49	275	0.8	29.39	BM20-../DHE09XA4	40	12000	12000
1.5	116	113	3.1	12.46	BM30-../DHE09XA4	56	12000	15000
1.5	90	146	2.4	16.10	BM30-../DHE09XA4	56	12000	15000
1.5	73	180	1.95	19.96	BM30-../DHE09XA4	56	12000	15000
1.5	62	210	1.65	23.38	BM30-../DHE09XA4	56	12000	15000
1.5	48.5	265	1.3	29.76	BM30-../DHE09XA4	56	12000	15000
1.5	41.5	310	1.15	34.88	BM30-../DHE09XA4	56	12000	15000
1.5	35.5	360	0.97	41.13	BM30-../DHE09XA4	56	12000	15000
1.5	51	250	2.7	28.59	BM40-../DHE09XA4	76	20000	25000
1.5	42	305	2.2	34.61	BM40-../DHE09XA4	76	20000	25000
1.5	35.5	360	1.9	40.88	BM40-../DHE09XA4	76	20000	25000
1.5	28.5	440	1.55	51.18	BM40-../DHE09XA4	76	20000	25000
1.5	24.5	510	1.35	59.66	BM40-../DHE09XA4	76	20000	25000
1.5	21	590	1.15	70.11	BM40-../DHE09XA4	76	20000	25000
1.5	17.5	710	0.85	84.36	BM40-../DHE09XA4	76	20000	25000

2.2 kW

IE2



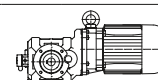
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
2.2	122	156	0.9	11.68	BM10-../DHE09XB4	38	8000	10000
2.2	110	173	0.87	12.95	BM10-../DHE09XB4	38	8000	10000
2.2	186	107	1.85	7.66	BM20-../DHE09XB4	40	9100	10900
2.2	140	142	1.55	10.15	BM20-../DHE09XB4	40	12000	12000
2.2	107	186	1.2	13.34	BM20-../DHE09XB4	40	12000	12000
2.2	85	230	0.96	16.72	BM20-../DHE09XB4	40	12000	12000
2.2	73	270	0.81	19.72	BM20-../DHE09XB4	40	12000	12000
2.2	180	107	3.0	7.91	BM30-../DHE09XB4	56	11000	13800
2.2	142	136	2.6	10.06	BM30-../DHE09XB4	56	12000	15000
2.2	114	169	2.1	12.46	BM30-../DHE09XB4	56	12000	15000
2.2	89	215	1.65	16.10	BM30-../DHE09XB4	56	12000	15000
2.2	72	265	1.3	19.96	BM30-../DHE09XB4	56	12000	15000
2.2	61	310	1.15	23.38	BM30-../DHE09XB4	56	12000	15000
2.2	48	395	0.89	29.76	BM30-../DHE09XB4	56	12000	15000
2.2	79	235	2.9	18.05	BM40-../DHE09XB4	76	20000	25000
2.2	64	295	2.3	22.44	BM40-../DHE09XB4	76	20000	25000
2.2	50	375	1.8	28.59	BM40-../DHE09XB4	76	20000	25000
2.2	41.5	455	1.5	34.61	BM40-../DHE09XB4	76	20000	25000
2.2	35	540	1.25	40.88	BM40-../DHE09XB4	76	20000	25000
2.2	28	660	1.05	51.18	BM40-../DHE09XB4	76	20000	25000
2.2	24	770	0.88	59.66	BM40-../DHE09XB4	76	20000	25000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE2

3 kW

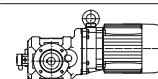
IE2



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
3	183	144	2.2	7.91	BM30-../DHE11MA4	65	11000	13800
3	144	183	1.9	10.06	BM30-../DHE11MA4	65	12000	15000
3	116	225	1.55	12.46	BM30-../DHE11MA4	65	12000	15000
3	90	290	1.2	16.10	BM30-../DHE11MA4	65	12000	15000
3	73	360	0.97	19.96	BM30-../DHE11MA4	65	12000	15000
3	62	420	0.83	23.38	BM30-../DHE11MA4	65	12000	15000
3	129	199	3.1	11.17	BM40-../DHE11MA4	90	18300	22900
3	100	255	2.7	14.50	BM40-../DHE11MA4	90	20000	25000
3	80	320	2.1	18.05	BM40-../DHE11MA4	90	20000	25000
3	65	395	1.7	22.44	BM40-../DHE11MA4	90	20000	25000
3	51	500	1.35	28.59	BM40-../DHE11MA4	90	20000	25000
3	42	610	1.1	34.61	BM40-../DHE11MA4	90	20000	25000
3	35.5	720	0.94	40.88	BM40-../DHE11MA4	90	20000	25000

4 kW

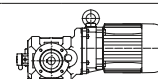
IE2



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
4	183	192	1.7	7.91	BM30-../DHE11LA4	76	11000	13800
4	144	240	1.45	10.06	BM30-../DHE11LA4	76	12000	15000
4	116	300	1.15	12.46	BM30-../DHE11LA4	76	12000	15000
4	90	390	0.9	16.10	BM30-../DHE11LA4	76	12000	15000
4	129	265	2.4	11.17	BM40-../DHE11LA4	102	18300	22900
4	100	340	2.0	14.50	BM40-../DHE11LA4	102	20000	25000
4	80	425	1.6	18.05	BM40-../DHE11LA4	102	20000	25000
4	65	520	1.3	22.44	BM40-../DHE11LA4	102	20000	25000
4	51	670	1.0	28.59	BM40-../DHE11LA4	102	20000	25000
4	42	810	0.84	34.61	BM40-../DHE11LA4	102	20000	25000

5.5 kW

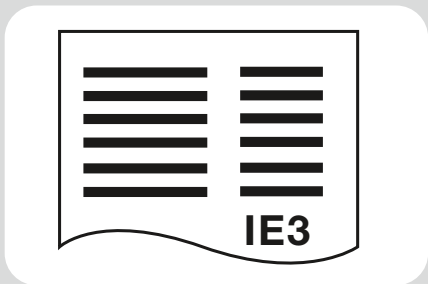
IE2



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
5.5	184	260	1.25	7.91	BM30-../DHE11LB4	76	11000	13800
5.5	145	330	1.05	10.06	BM30-../DHE11LB4	76	12000	15000
5.5	117	410	0.85	12.46	BM30-../DHE11LB4	76	12000	15000
5.5	130	360	1.75	11.17	BM40-../DHE11LB4	102	18300	22900
5.5	100	470	1.45	14.50	BM40-../DHE11LB4	102	20000	25000
5.5	81	580	1.15	18.05	BM40-../DHE11LB4	102	20000	25000
5.5	65	720	0.94	22.44	BM40-../DHE11LB4	102	20000	25000

Energy Efficient Geared Motors

Electric overhead conveyors series BM



8

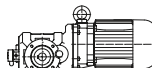
Selection tables ASM IE3

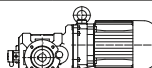
Selection tables ASM IE3.....75

Selection table asynchronous motors ASM IE377

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

0.03 kW 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.03	16.5	15.4	10	82.54	BM10G06-../D04LA4	23	8000	10000
0.03	15	17.3	8.7	90.78	BM10G06-../D04LA4	23	8000	10000
0.03	13.5	18.6	8.1	102.7	BM10G06-../D04LA4	23	8000	10000
0.03	11.5	21.5	7.0	120.5	BM10G06-../D04LA4	23	8000	10000
0.03	10.5	24	6.7	133.7	BM10G06-../D04LA4	23	8000	10000
0.03	9.0	27	5.6	150.7	BM10G06-../D04LA4	23	8000	10000
0.03	8.1	30	5.3	167.2	BM10G06-../D04LA4	23	8000	10000
0.03	7.2	35	4.3	189.8	BM10G06-../D04LA4	23	8000	10000
0.03	6.2	39.5	4.1	219.4	BM10G06-../D04LA4	23	8000	10000
0.03	5.3	46	3.5	258.1	BM10G06-../D04LA4	23	8000	10000
0.03	4.4	55	2.9	308.9	BM10G06-../D04LA4	23	8000	10000
0.03	4.0	61	2.6	345.4	BM10G06-../D04LA4	23	8000	10000
0.03	3.6	68	2.4	377.0	BM10G06-../D04LA4	23	8000	10000
0.03	3.3	74	2.2	415.3	BM10G06-../D04LA4	23	8000	10000
0.03	3.0	82	1.95	452.9	BM10G06-../D04LA4	23	8000	10000
0.03	2.5	98	1.65	544.2	BM10G06-../D04LA4	23	8000	10000
0.03	2.3	107	1.5	593.9	BM10G06-../D04LA4	23	8000	10000
0.03	2.0	123	1.3	698.8	BM10G06-../D04LA4	23	8000	10000
0.03	1.7	144	1.1	836.2	BM10G06-../D04LA4	23	8000	10000
0.03	1.5	164	0.98	938.2	BM10G06-../D04LA4	23	8000	10000
0.03	1.2	160*	1.0	1186	BM10G06-../D04LA4	23	8000	10000
0.03	0.95	160*	1.0	1482	BM10G06-../D04LA4	23	8000	10000
0.03	0.8	160*	1.0	1701	BM10G06-../D04LA4	23	8000	10000
0.03	0.7	160*	1.0	1935	BM10G06-../D04LA4	23	8000	10000
0.03	0.65	160*	1.0	2111	BM10G06-../D04LA4	23	8000	10000
0.03	0.6	160*	1.0	2254	BM10G06-../D04LA4	23	8000	10000
0.03	0.55	160*	1.0	2459	BM10G06-../D04LA4	23	8000	10000
0.03	2.1	122	2.9	663.4	BM30G06-../D04LA4	44	12000	15000
0.03	1.8	143	2.4	780.6	BM30G06-../D04LA4	44	12000	15000
0.03	1.5	171	2.0	934.1	BM30G06-../D04LA4	44	12000	15000
0.03	1.2	210	1.65	1143	BM30G06-../D04LA4	44	12000	15000
0.03	1.1	230	1.5	1325	BM30G06-../D04LA4	44	12000	15000
0.03	0.9	285	1.25	1518	BM30G06-../D04LA4	44	12000	15000
0.03	0.85	300	1.15	1656	BM30G06-../D04LA4	44	12000	15000
0.03	0.75	340	1.05	1900	BM30G06-../D04LA4	44	12000	15000
0.03	0.65	350*	1.0	2162	BM30G06-../D04LA4	44	12000	15000
0.03	0.6	350*	1.0	2358	BM30G06-../D04LA4	44	12000	15000
0.03	0.5	350*	1.0	2747	BM30G06-../D04LA4	44	12000	15000

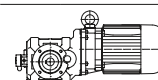
0.04 kW 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.04	25.5	13.6	10	53.03	BM10G06-../D04LA4	23	8000	10000
0.04	23	15.1	9.9	58.79	BM10G06-../D04LA4	23	8000	10000
0.04	19.5	17.8	7.9	69.61	BM10G06-../D04LA4	23	8000	10000
0.04	18.5	18.3	7.9	74.41	BM10G06-../D04LA4	23	8000	10000
0.04	16.5	20.5	7.6	82.54	BM10G06-../D04LA4	23	8000	10000
0.04	15	23	6.5	90.78	BM10G06-../D04LA4	23	8000	10000
0.04	13.5	24.5	6.1	102.7	BM10G06-../D04LA4	23	8000	10000
0.04	11.5	29	5.2	120.5	BM10G06-../D04LA4	23	8000	10000
0.04	10.5	32	5.0	133.7	BM10G06-../D04LA4	23	8000	10000
0.04	9.0	36.5	4.1	150.7	BM10G06-../D04LA4	23	8000	10000
0.04	8.1	40.5	4.0	167.2	BM10G06-../D04LA4	23	8000	10000
0.04	7.2	46.5	3.2	189.8	BM10G06-../D04LA4	23	8000	10000
0.04	6.2	52	3.1	219.4	BM10G06-../D04LA4	23	8000	10000
0.04	5.3	61	2.6	258.1	BM10G06-../D04LA4	23	8000	10000
0.04	4.4	74	2.2	308.9	BM10G06-../D04LA4	23	8000	10000
0.04	4.0	82	1.95	345.4	BM10G06-../D04LA4	23	8000	10000
0.04	3.6	91	1.75	377.0	BM10G06-../D04LA4	23	8000	10000
0.04	3.3	99	1.6	415.3	BM10G06-../D04LA4	23	8000	10000
0.04	3.0	109	1.45	452.9	BM10G06-../D04LA4	23	8000	10000
0.04	2.5	131	1.2	544.2	BM10G06-../D04LA4	23	8000	10000
0.04	2.3	142	1.15	593.9	BM10G06-../D04LA4	23	8000	10000
0.04	2.0	164	0.98	698.8	BM10G06-../D04LA4	23	8000	10000
0.04	1.7	193	0.83	836.2	BM10G06-../D04LA4	23	8000	10000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

0.04 kW

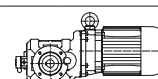
IE3



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.04	5.4	67	2.7	253.0	BM20Z-../D04LA4	21	12000	12000
0.04	3.0	114	3.1	463.9	BM30G06-../D04LA4	44	12000	15000
0.04	2.6	132	2.7	533.9	BM30G06-../D04LA4	44	12000	15000
0.04	2.1	163	2.1	663.4	BM30G06-../D04LA4	44	12000	15000
0.04	1.8	191	1.85	780.6	BM30G06-../D04LA4	44	12000	15000
0.04	1.5	225	1.55	934.1	BM30G06-../D04LA4	44	12000	15000
0.04	1.2	285	1.25	1143	BM30G06-../D04LA4	44	12000	15000
0.04	1.1	310	1.15	1325	BM30G06-../D04LA4	44	12000	15000

0.06 kW

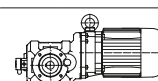
IE3



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.06	33.5	14.3	10	40.56	BM10-../D06LA4	21	8000	10000
0.06	30	16	10	45.00	BM10-../D06LA4	21	8000	10000
0.06	26	18	8.3	52.44	BM10-../D06LA4	21	8000	10000
0.06	23.5	19.9	8.0	58.18	BM10-../D06LA4	21	8000	10000
0.06	10.5	48	3.3	133.7	BM10G06-../D06LA4	26	8000	10000
0.06	9.0	54	2.8	150.7	BM10G06-../D06LA4	26	8000	10000
0.06	8.1	60	2.7	167.2	BM10G06-../D06LA4	26	8000	10000
0.06	7.2	70	2.1	189.8	BM10G06-../D06LA4	26	8000	10000
0.06	6.2	79	2.0	219.4	BM10G06-../D06LA4	26	8000	10000
0.06	5.3	92	1.75	258.1	BM10G06-../D06LA4	26	8000	10000
0.06	4.4	111	1.45	308.9	BM10G06-../D06LA4	26	8000	10000
0.06	4.0	123	1.3	345.4	BM10G06-../D06LA4	26	8000	10000
0.06	3.6	136	1.2	377.0	BM10G06-../D06LA4	26	8000	10000
0.06	3.3	149	1.05	415.3	BM10G06-../D06LA4	26	8000	10000
0.06	3.0	164	0.98	452.9	BM10G06-../D06LA4	26	8000	10000
0.06	2.5	197	0.81	544.2	BM10G06-../D06LA4	26	8000	10000
0.06	7.6	71	2.9	178.9	BM20Z-../D06LA4	24	12000	12000
0.06	6.6	82	2.4	205.3	BM20Z-../D06LA4	24	12000	12000
0.06	5.4	100	1.8	253.0	BM20Z-../D06LA4	24	12000	12000
0.06	4.7	109	3.2	288.3	BM30G06-../D06LA4	47	12000	15000
0.06	4.0	128	2.7	345.1	BM30G06-../D06LA4	47	12000	15000
0.06	3.5	147	2.4	385.8	BM30G06-../D06LA4	47	12000	15000
0.06	3.0	171	2.0	463.9	BM30G06-../D06LA4	47	12000	15000
0.06	2.6	198	1.75	533.9	BM30G06-../D06LA4	47	12000	15000
0.06	2.1	245	1.45	663.4	BM30G06-../D06LA4	47	12000	15000
0.06	1.8	285	1.25	780.6	BM30G06-../D06LA4	47	12000	15000
0.06	1.5	340	1.05	934.1	BM30G06-../D06LA4	47	12000	15000
0.06	1.2	425	0.82	1143	BM30G06-../D06LA4	47	12000	15000
0.06	2.5	205	3.3	540.0	BM40G10-../D06LA4	68	20000	25000
0.06	2.1	245	2.8	660.2	BM40G10-../D06LA4	68	20000	25000
0.06	1.8	285	2.4	756.7	BM40G10-../D06LA4	68	20000	25000
0.06	1.7	300	2.3	838.4	BM40G10-../D06LA4	68	20000	25000
0.06	1.4	365	1.85	998.3	BM40G10-../D06LA4	68	20000	25000
0.06	1.2	425	1.6	1189	BM40G10-../D06LA4	68	20000	25000
0.06	0.95	540	1.25	1428	BM40G10-../D06LA4	68	20000	25000
0.06	0.8	640	1.05	1798	BM40G10-../D06LA4	68	20000	25000

0.09 kW

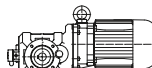
IE3

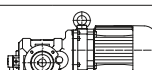


P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.09	51	14.8	10	26.55	BM10-../D06LA4	21	8000	10000
0.09	46	16.4	9.8	29.45	BM10-../D06LA4	21	8000	10000
0.09	41	18	8.3	33.19	BM10-../D06LA4	21	8000	10000
0.09	37	19.9	8.0	36.82	BM10-../D06LA4	21	8000	10000
0.09	33.5	21.5	7.0	40.56	BM10-../D06LA4	21	8000	10000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

0.09 kW								
IE3 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.09	30	24	6.7	45.00	BM10-../D06LA4	21	8000	10000
0.09	26	27	5.6	52.44	BM10-../D06LA4	21	8000	10000
0.09	23.5	29.5	5.4	58.18	BM10-../D06LA4	21	8000	10000
0.09	15	52	2.9	90.78	BM10G06-../D06LA4	26	8000	10000
0.09	13.5	56	2.7	102.7	BM10G06-../D06LA4	26	8000	10000
0.09	11.5	65	2.3	120.5	BM10G06-../D06LA4	26	8000	10000
0.09	10.5	72	2.2	133.7	BM10G06-../D06LA4	26	8000	10000
0.09	9.0	82	1.85	150.7	BM10G06-../D06LA4	26	8000	10000
0.09	8.1	91	1.75	167.2	BM10G06-../D06LA4	26	8000	10000
0.09	7.2	105	1.45	189.8	BM10G06-../D06LA4	26	8000	10000
0.09	6.2	119	1.35	219.4	BM10G06-../D06LA4	26	8000	10000
0.09	5.3	139	1.15	258.1	BM10G06-../D06LA4	26	8000	10000
0.09	4.4	167	0.96	308.9	BM10G06-../D06LA4	26	8000	10000
0.09	4.0	184	0.87	345.4	BM10G06-../D06LA4	26	8000	10000
0.09	11.5	71	3.1	117.9	BM20Z-../D06LA4	24	12000	12000
0.09	9.5	85	2.6	142.8	BM20Z-../D06LA4	24	12000	12000
0.09	7.6	107	1.95	178.9	BM20Z-../D06LA4	24	12000	12000
0.09	6.6	123	1.55	205.3	BM20Z-../D06LA4	24	12000	12000
0.09	5.4	151	1.2	253.0	BM20Z-../D06LA4	24	12000	12000
0.09	7.3	105	3.3	186.7	BM30G06-../D06LA4	47	12000	15000
0.09	6.5	120	2.9	208.6	BM30G06-../D06LA4	47	12000	15000
0.09	5.6	138	2.5	245.1	BM30G06-../D06LA4	47	12000	15000
0.09	4.7	164	2.1	288.3	BM30G06-../D06LA4	47	12000	15000
0.09	4.0	193	1.8	345.1	BM30G06-../D06LA4	47	12000	15000
0.09	3.5	220	1.6	385.8	BM30G06-../D06LA4	47	12000	15000
0.09	3.0	255	1.35	463.9	BM30G06-../D06LA4	47	12000	15000
0.09	2.6	295	1.2	533.9	BM30G06-../D06LA4	47	12000	15000
0.09	2.1	365	0.96	663.4	BM30G06-../D06LA4	47	12000	15000
0.09	1.8	425	0.82	780.6	BM30G06-../D06LA4	47	12000	15000
0.09	3.9	178	2.8	348.7	BM40Z-../D06LA4	64	20000	25000
0.09	3.2	210	2.4	430.0	BM40Z-../D06LA4	64	20000	25000
0.09	2.8	275	2.5	487.3	BM40G10-../D06LA4	68	20000	25000
0.09	2.5	305	2.2	540.0	BM40G10-../D06LA4	68	20000	25000
0.09	2.1	365	1.85	660.2	BM40G10-../D06LA4	68	20000	25000
0.09	1.8	425	1.6	756.7	BM40G10-../D06LA4	68	20000	25000
0.09	1.7	455	1.5	838.4	BM40G10-../D06LA4	68	20000	25000
0.09	1.4	550	1.25	998.3	BM40G10-../D06LA4	68	20000	25000
0.09	1.2	640	1.05	1189	BM40G10-../D06LA4	68	20000	25000

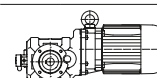
0.11 kW								
IE3 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.11	31	30.5	4.6	44.15	BM10G06-../D04LA4	23	8000	10000
0.11	25.5	37	3.8	53.03	BM10G06-../D04LA4	23	8000	10000
0.11	23	41.5	3.6	58.79	BM10G06-../D04LA4	23	8000	10000
0.11	19.5	49	2.9	69.61	BM10G06-../D04LA4	23	8000	10000
0.11	18.5	50	2.9	74.41	BM10G06-../D04LA4	23	8000	10000
0.11	16.5	56	2.8	82.54	BM10G06-../D04LA4	23	8000	10000
0.11	15	63	2.4	90.78	BM10G06-../D04LA4	23	8000	10000
0.11	13.5	68	2.2	102.7	BM10G06-../D04LA4	23	8000	10000
0.11	11.5	80	1.9	120.5	BM10G06-../D04LA4	23	8000	10000
0.11	10.5	88	1.8	133.7	BM10G06-../D04LA4	23	8000	10000
0.11	9.0	100	1.5	150.7	BM10G06-../D04LA4	23	8000	10000
0.11	8.1	111	1.45	167.2	BM10G06-../D04LA4	23	8000	10000
0.11	7.2	128	1.15	189.8	BM10G06-../D04LA4	23	8000	10000
0.11	6.2	145	1.1	219.4	BM10G06-../D04LA4	23	8000	10000
0.11	5.3	170	0.94	258.1	BM10G06-../D04LA4	23	8000	10000
0.11	4.4	160*	1.0	308.9	BM10G06-../D04LA4	23	8000	10000
0.11	4.0	160*	1.0	345.4	BM10G06-../D04LA4	23	8000	10000
0.11	3.6	160*	1.0	377.0	BM10G06-../D04LA4	23	8000	10000
0.11	3.3	160*	1.0	415.3	BM10G06-../D04LA4	23	8000	10000
0.11	3.0	160*	1.0	452.9	BM10G06-../D04LA4	23	8000	10000
0.11	2.5	160*	1.0	544.2	BM10G06-../D04LA4	23	8000	10000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

0.11 kW

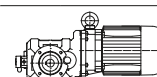
IE3



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.11	2.3	160*	1.0	593.9	BM10G06-../D04LA4	23	8000	10000
0.11	2.0	160*	1.0	698.8	BM10G06-../D04LA4	23	8000	10000
0.11	1.7	160*	1.0	836.2	BM10G06-../D04LA4	23	8000	10000
0.11	1.5	160*	1.0	938.2	BM10G06-../D04LA4	23	8000	10000
0.11	1.2	160*	1.0	1186	BM10G06-../D04LA4	23	8000	10000
0.11	0.95	160*	1.0	1482	BM10G06-../D04LA4	23	8000	10000
0.11	0.8	160*	1.0	1701	BM10G06-../D04LA4	23	8000	10000
0.11	0.7	160*	1.0	1935	BM10G06-../D04LA4	23	8000	10000
0.11	0.65	160*	1.0	2111	BM10G06-../D04LA4	23	8000	10000
0.11	0.6	160*	1.0	2254	BM10G06-../D04LA4	23	8000	10000
0.11	0.55	160*	1.0	2459	BM10G06-../D04LA4	23	8000	10000
0.11	14	71	3.1	99.47	BM20Z-../D04LA4	21	12000	12000
0.11	11.5	86	2.6	117.9	BM20Z-../D04LA4	21	12000	12000
0.11	9.5	105	2.1	142.8	BM20Z-../D04LA4	21	12000	12000
0.11	7.6	131	1.6	178.9	BM20Z-../D04LA4	21	12000	12000
0.11	6.6	151	1.3	205.3	BM20Z-../D04LA4	21	12000	12000
0.11	5.4	184	0.99	253.0	BM20Z-../D04LA4	21	12000	12000
0.11	7.3	129	2.7	186.7	BM30G06-../D04LA4	44	12000	15000
0.11	6.5	147	2.4	208.6	BM30G06-../D04LA4	44	12000	15000
0.11	5.6	168	2.1	245.1	BM30G06-../D04LA4	44	12000	15000
0.11	4.7	200	1.75	288.3	BM30G06-../D04LA4	44	12000	15000
0.11	4.0	235	1.5	345.1	BM30G06-../D04LA4	44	12000	15000
0.11	3.5	270	1.3	385.8	BM30G06-../D04LA4	44	12000	15000
0.11	3.0	315	1.1	463.9	BM30G06-../D04LA4	44	12000	15000
0.11	2.6	360	0.97	533.9	BM30G06-../D04LA4	44	12000	15000
0.11	2.1	350*	1.0	663.4	BM30G06-../D04LA4	44	12000	15000
0.11	1.8	350*	1.0	780.6	BM30G06-../D04LA4	44	12000	15000
0.11	1.5	350*	1.0	934.1	BM30G06-../D04LA4	44	12000	15000
0.11	1.2	350*	1.0	1143	BM30G06-../D04LA4	44	12000	15000
0.11	1.1	350*	1.0	1325	BM30G06-../D04LA4	44	12000	15000
0.11	0.9	350*	1.0	1518	BM30G06-../D04LA4	44	12000	15000
0.11	0.85	350*	1.0	1656	BM30G06-../D04LA4	44	12000	15000
0.11	0.75	350*	1.0	1900	BM30G06-../D04LA4	44	12000	15000
0.11	0.65	350*	1.0	2162	BM30G06-../D04LA4	44	12000	15000
0.11	0.6	350*	1.0	2358	BM30G06-../D04LA4	44	12000	15000
0.11	0.5	350*	1.0	2747	BM30G06-../D04LA4	44	12000	15000

0.12 kW

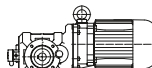
IE3



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.12	124	8.1	3.7	11.34	BM09-../DPE05LA4	13	4400	6500
0.12	107	9.4	3.4	13.23	BM09-../DPE05LA4	13	4400	6500
0.12	80	12.6	3.7	17.73	BM09-../DPE05LA4	13	4400	6500
0.12	67	15	3.7	21.20	BM09-../DPE05LA4	13	4400	6500
0.12	57	17.6	3.4	24.74	BM09-../DPE05LA4	13	4400	6500
0.12	55	18.3	3.8	25.98	BM09-../DPE05LA4	13	4400	6500
0.12	46.5	21.5	3.3	30.31	BM09-../DPE05LA4	13	4400	6500
0.12	43	23	3.8	32.97	BM09-../DPE05LA4	13	4400	6500
0.12	37	27	3.4	38.46	BM09-../DPE05LA4	13	4400	6500
0.12	33.5	29.5	2.9	42.44	BM09-../DPE05LA4	13	4400	6500
0.12	26.5	37.5	2.9	53.85	BM09-../DPE05LA4	13	4400	6500
0.12	20.5	50	2.8	69.61	BM10G06-../DPE06LA4	26	8000	10000
0.12	19	53	2.7	74.41	BM10G06-../DPE06LA4	26	8000	10000
0.12	17	59	2.6	82.54	BM10G06-../DPE06LA4	26	8000	10000
0.12	15.5	67	2.2	90.78	BM10G06-../DPE06LA4	26	8000	10000
0.12	14	72	2.1	102.7	BM10G06-../DPE06LA4	26	8000	10000
0.12	12	84	1.8	120.5	BM10G06-../DPE06LA4	26	8000	10000
0.12	10.5	96	1.65	133.7	BM10G06-../DPE06LA4	26	8000	10000
0.12	9.3	105	1.45	150.7	BM10G06-../DPE06LA4	26	8000	10000
0.12	8.4	117	1.35	167.2	BM10G06-../DPE06LA4	26	8000	10000
0.12	7.4	136	1.1	189.8	BM10G06-../DPE06LA4	26	8000	10000
0.12	6.4	153	1.05	219.4	BM10G06-../DPE06LA4	26	8000	10000
0.12	5.5	179	0.89	258.1	BM10G06-../DPE06LA4	26	8000	10000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

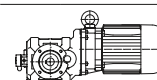
0.12 kW								
IE3 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.12	4.6	160*	1.0	308.9	BM10G06-../DPE06LA4	26	8000	10000
0.12	4.1	160*	1.0	345.4	BM10G06-../DPE06LA4	26	8000	10000
0.12	3.8	160*	1.0	377.0	BM10G06-../DPE06LA4	26	8000	10000
0.12	3.4	160*	1.0	415.3	BM10G06-../DPE06LA4	26	8000	10000
0.12	3.1	160*	1.0	452.9	BM10G06-../DPE06LA4	26	8000	10000
0.12	2.6	160*	1.0	544.2	BM10G06-../DPE06LA4	26	8000	10000
0.12	2.4	160*	1.0	593.9	BM10G06-../DPE06LA4	26	8000	10000
0.12	2.1	160*	1.0	698.8	BM10G06-../DPE06LA4	26	8000	10000
0.12	1.7	160*	1.0	836.2	BM10G06-../DPE06LA4	26	8000	10000
0.12	1.5	160*	1.0	938.2	BM10G06-../DPE06LA4	26	8000	10000
0.12	1.2	160*	1.0	1186	BM10G06-../DPE06LA4	26	8000	10000
0.12	0.95	160*	1.0	1482	BM10G06-../DPE06LA4	26	8000	10000
0.12	0.85	160*	1.0	1701	BM10G06-../DPE06LA4	26	8000	10000
0.12	0.75	160*	1.0	1935	BM10G06-../DPE06LA4	26	8000	10000
0.12	0.7	160*	1.0	2111	BM10G06-../DPE06LA4	26	8000	10000
0.12	0.65	160*	1.0	2254	BM10G06-../DPE06LA4	26	8000	10000
0.12	0.6	160*	1.0	2459	BM10G06-../DPE06LA4	26	8000	10000
0.12	19	57	3.2	74.76	BM20-../DPE06LA4	23	12000	12000
0.12	14.5	75	2.9	99.47	BM20Z-../DPE06LA4	24	12000	12000
0.12	12	90	2.4	117.9	BM20Z-../DPE06LA4	24	12000	12000
0.12	9.9	109	2.0	142.8	BM20Z-../DPE06LA4	24	12000	12000
0.12	7.9	137	1.55	178.9	BM20Z-../DPE06LA4	24	12000	12000
0.12	6.9	157	1.25	205.3	BM20Z-../DPE06LA4	24	12000	12000
0.12	5.6	194	0.94	253.0	BM20Z-../DPE06LA4	24	12000	12000
0.12	8.0	121	2.9	177.2	BM30Z-../DPE06LA4	41	12000	15000
0.12	7.5	137	2.6	186.7	BM30G06-../DPE06LA4	47	12000	15000
0.12	6.8	153	2.3	208.6	BM30G06-../DPE06LA4	47	12000	15000
0.12	5.8	177	2.0	245.1	BM30G06-../DPE06LA4	47	12000	15000
0.12	4.9	210	1.65	288.3	BM30G06-../DPE06LA4	47	12000	15000
0.12	4.1	250	1.4	345.1	BM30G06-../DPE06LA4	47	12000	15000
0.12	3.7	275	1.25	385.8	BM30G06-../DPE06LA4	47	12000	15000
0.12	3.1	330	1.05	463.9	BM30G06-../DPE06LA4	47	12000	15000
0.12	2.7	380	0.92	533.9	BM30G06-../DPE06LA4	47	12000	15000
0.12	2.2	350*	1.0	663.4	BM30G06-../DPE06LA4	47	12000	15000
0.12	1.8	350*	1.0	780.6	BM30G06-../DPE06LA4	47	12000	15000
0.12	1.5	350*	1.0	934.1	BM30G06-../DPE06LA4	47	12000	15000
0.12	1.3	350*	1.0	1143	BM30G06-../DPE06LA4	47	12000	15000
0.12	1.1	350*	1.0	1325	BM30G06-../DPE06LA4	47	12000	15000
0.12	0.95	350*	1.0	1518	BM30G06-../DPE06LA4	47	12000	15000
0.12	0.85	350*	1.0	1656	BM30G06-../DPE06LA4	47	12000	15000
0.12	0.75	350*	1.0	1900	BM30G06-../DPE06LA4	47	12000	15000
0.12	0.65	350*	1.0	2162	BM30G06-../DPE06LA4	47	12000	15000
0.12	0.6	350*	1.0	2358	BM30G06-../DPE06LA4	47	12000	15000
0.12	0.55	350*	1.0	2747	BM30G06-../DPE06LA4	47	12000	15000
0.12	4.9	189	3.2	289.8	BM40Z-../DPE06LA4	64	20000	25000
0.12	4.1	225	2.3	348.7	BM40Z-../DPE06LA4	64	20000	25000
0.12	3.3	275	1.8	430.0	BM40Z-../DPE06LA4	64	20000	25000
0.12	2.9	355	1.9	487.3	BM40G10-../DPE06LA4	68	20000	25000
0.12	2.6	395	1.7	540.0	BM40G10-../DPE06LA4	68	20000	25000
0.12	2.2	465	1.45	660.2	BM40G10-../DPE06LA4	68	20000	25000
0.12	1.9	540	1.25	756.7	BM40G10-../DPE06LA4	68	20000	25000
0.12	1.7	600	1.15	838.4	BM40G10-../DPE06LA4	68	20000	25000
0.12	1.5	680	1.0	998.3	BM40G10-../DPE06LA4	68	20000	25000
0.12	1.2	850	0.8	1189	BM40G10-../DPE06LA4	68	20000	25000
0.12	1.0	680*	1.0	1428	BM40G10-../DPE06LA4	68	20000	25000
0.12	0.8	680*	1.0	1798	BM40G10-../DPE06LA4	68	20000	25000
0.12	0.7	680*	1.0	2108	BM40G10-../DPE06LA4	68	20000	25000
0.12	0.6	680*	1.0	2350	BM40G10-../DPE06LA4	68	20000	25000
0.12	0.55	680*	1.0	2604	BM40G10-../DPE06LA4	68	20000	25000
0.12	0.46	680*	1.0	3077	BM40G10-../DPE06LA4	68	20000	25000
0.12	0.41	680*	1.0	3429	BM40G10-../DPE06LA4	68	20000	25000
0.12	0.37	680*	1.0	3800	BM40G10-../DPE06LA4	68	20000	25000
0.12	0.33	680*	1.0	4363	BM40G10-../DPE06LA4	68	20000	25000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

0.18 kW

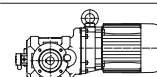
IE3



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.18	124	12.1	2.5	11.34	BM09-../DPE07LA4	17	4400	6500
0.18	106	14.2	2.3	13.23	BM09-../DPE07LA4	17	4400	6500
0.18	79	19.1	2.5	17.73	BM09-../DPE07LA4	17	4400	6500
0.18	67	22.5	2.5	21.20	BM09-../DPE07LA4	17	4400	6500
0.18	57	26.5	2.2	24.74	BM09-../DPE07LA4	17	4400	6500
0.18	54	28	2.5	25.98	BM09-../DPE07LA4	17	4400	6500
0.18	46.5	32.5	2.2	30.31	BM09-../DPE07LA4	17	4400	6500
0.18	42.5	35.5	2.5	32.97	BM09-../DPE07LA4	17	4400	6500
0.18	36.5	41	2.2	38.46	BM09-../DPE07LA4	17	4400	6500
0.18	33	45	1.9	42.44	BM09-../DPE07LA4	17	4400	6500
0.18	26	57	1.9	53.85	BM09-../DPE07LA4	17	4400	6500
0.18	27	52	2.9	52.44	BM10-../DPE07LA4	23	8000	10000
0.18	24.5	57	2.8	58.18	BM10-../DPE07LA4	23	8000	10000
0.18	24	65	2.3	58.79	BM10G06-../DPE07LA4	28	8000	10000
0.18	20.5	76	1.85	69.61	BM10G06-../DPE07LA4	28	8000	10000
0.18	19	80	1.8	74.41	BM10G06-../DPE07LA4	28	8000	10000
0.18	17	89	1.75	82.54	BM10G06-../DPE07LA4	28	8000	10000
0.18	15.5	100	1.5	90.78	BM10G06-../DPE07LA4	28	8000	10000
0.18	14	108	1.4	102.7	BM10G06-../DPE07LA4	28	8000	10000
0.18	12	126	1.2	120.5	BM10G06-../DPE07LA4	28	8000	10000
0.18	10.5	144	1.1	133.7	BM10G06-../DPE07LA4	28	8000	10000
0.18	9.3	158	0.95	150.7	BM10G06-../DPE07LA4	28	8000	10000
0.18	8.4	175	0.91	167.2	BM10G06-../DPE07LA4	28	8000	10000
0.18	23.5	69	2.8	60.64	BM20-../DPE07LA4	26	12000	12000
0.18	19	85	2.1	74.76	BM20-../DPE07LA4	26	12000	12000
0.18	16.5	98	2.2	85.45	BM20Z-../DPE07LA4	27	12000	12000
0.18	14.5	112	1.95	99.47	BM20Z-../DPE07LA4	27	12000	12000
0.18	12	136	1.6	117.9	BM20Z-../DPE07LA4	27	12000	12000
0.18	9.9	164	1.35	142.8	BM20Z-../DPE07LA4	27	12000	12000
0.18	7.9	205	1.0	178.9	BM20Z-../DPE07LA4	27	12000	12000
0.18	6.9	235	0.82	205.3	BM20Z-../DPE07LA4	27	12000	12000
0.18	14	105	3.3	100.7	BM30Z-../DPE07LA4	44	12000	15000
0.18	11	134	2.6	128.2	BM30Z-../DPE07LA4	44	12000	15000
0.18	9.4	155	2.3	150.3	BM30Z-../DPE07LA4	44	12000	15000
0.18	8.0	182	1.9	177.2	BM30Z-../DPE07LA4	44	12000	15000
0.18	7.5	205	1.7	186.7	BM30G06-../DPE07LA4	50	12000	15000
0.18	6.8	230	1.5	208.6	BM30G06-../DPE07LA4	50	12000	15000
0.18	5.8	265	1.3	245.1	BM30G06-../DPE07LA4	50	12000	15000
0.18	4.9	315	1.1	288.3	BM30G06-../DPE07LA4	50	12000	15000
0.18	4.1	375	0.93	345.1	BM30G06-../DPE07LA4	50	12000	15000
0.18	3.7	415	0.84	385.8	BM30G06-../DPE07LA4	50	12000	15000
0.18	6.7	210	3.2	211.5	BM40Z-../DPE07LA4	66	20000	25000
0.18	5.7	240	2.8	246.6	BM40Z-../DPE07LA4	66	20000	25000
0.18	4.9	280	2.1	289.8	BM40Z-../DPE07LA4	66	20000	25000
0.18	4.1	335	1.5	348.7	BM40Z-../DPE07LA4	66	20000	25000
0.18	3.3	415	1.2	430.0	BM40Z-../DPE07LA4	66	20000	25000
0.18	2.9	530	1.3	487.3	BM40G10-../DPE07LA4	71	20000	25000
0.18	2.6	590	1.15	540.0	BM40G10-../DPE07LA4	71	20000	25000
0.18	2.2	700	0.97	660.2	BM40G10-../DPE07LA4	71	20000	25000
0.18	1.9	810	0.84	756.7	BM40G10-../DPE07LA4	71	20000	25000

0.25 kW

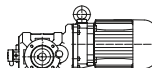
IE3

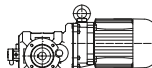


P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.25	127	16.5	1.8	11.34	BM09-../DPE08MA4	18	4400	6500
0.25	109	19.2	1.65	13.23	BM09-../DPE08MA4	18	4400	6500
0.25	82	25.5	1.85	17.73	BM09-../DPE08MA4	18	4400	6500
0.25	68	30.5	1.85	21.20	BM09-../DPE08MA4	18	4400	6500
0.25	59	35.5	1.65	24.74	BM09-../DPE08MA4	18	4400	6500
0.25	56	37.5	1.85	25.98	BM09-../DPE08MA4	18	4400	6500
0.25	48	43.5	1.65	30.31	BM09-../DPE08MA4	18	4400	6500
0.25	44	47.5	1.85	32.97	BM09-../DPE08MA4	18	4400	6500

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

0.25 kW								
IE3 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.25	37.5	56	1.65	38.46	BM09-../DPE08MA4	18	4400	6500
0.25	34	61	1.4	42.44	BM09-../DPE08MA4	18	4400	6500
0.25	27	76	1.4	53.85	BM09-../DPE08MA4	18	4400	6500
0.25	43.5	47	3.2	33.19	BM10-../DPE08MA4	24	8000	10000
0.25	39.5	51	3.1	36.82	BM10-../DPE08MA4	24	8000	10000
0.25	36	55	2.7	40.56	BM10-../DPE08MA4	24	8000	10000
0.25	32	62	2.6	45.00	BM10-../DPE08MA4	24	8000	10000
0.25	27.5	71	2.1	52.44	BM10-../DPE08MA4	24	8000	10000
0.25	25	78	2.1	58.18	BM10-../DPE08MA4	24	8000	10000
0.25	24.5	88	1.7	58.79	BM10G06-../DPE08MA4	33	8000	10000
0.25	21	103	1.35	69.61	BM10G06-../DPE08MA4	33	8000	10000
0.25	19.5	108	1.35	74.41	BM10G06-../DPE08MA4	33	8000	10000
0.25	17.5	121	1.3	82.54	BM10G06-../DPE08MA4	33	8000	10000
0.25	16	135	1.1	90.78	BM10G06-../DPE08MA4	33	8000	10000
0.25	14.5	144	1.05	102.7	BM10G06-../DPE08MA4	33	8000	10000
0.25	12	175	0.86	120.5	BM10G06-../DPE08MA4	33	8000	10000
0.25	11	191	0.84	133.7	BM10G06-../DPE08MA4	33	8000	10000
0.25	27.5	82	2.5	52.84	BM20-../DPE08MA4	26	12000	12000
0.25	24	94	2.1	60.64	BM20-../DPE08MA4	26	12000	12000
0.25	19.5	116	1.55	74.76	BM20-../DPE08MA4	26	12000	12000
0.25	17	133	1.65	85.45	BM20Z-../DPE08MA4	28	12000	12000
0.25	14.5	156	1.4	99.47	BM20Z-../DPE08MA4	28	12000	12000
0.25	12.5	181	1.2	117.9	BM20Z-../DPE08MA4	28	12000	12000
0.25	10.5	215	1.0	142.8	BM20Z-../DPE08MA4	28	12000	12000
0.25	23.5	89	3.0	61.33	BM30-../DPE08MA4	42	12000	15000
0.25	20.5	102	2.5	71.09	BM30-../DPE08MA4	42	12000	15000
0.25	17	122	2.9	85.96	BM30Z-../DPE08MA4	45	12000	15000
0.25	14.5	141	2.5	100.7	BM30Z-../DPE08MA4	45	12000	15000
0.25	11.5	178	1.95	128.2	BM30Z-../DPE08MA4	45	12000	15000
0.25	9.6	210	1.65	150.3	BM30Z-../DPE08MA4	45	12000	15000
0.25	8.2	245	1.45	177.2	BM30Z-../DPE08MA4	45	12000	15000
0.25	7.8	275	1.25	186.7	BM30G06-../DPE08MA4	54	12000	15000
0.25	7.0	310	1.15	208.6	BM30G06-../DPE08MA4	54	12000	15000
0.25	5.9	360	0.97	245.1	BM30G06-../DPE08MA4	54	12000	15000
0.25	5.0	425	0.82	288.3	BM30G06-../DPE08MA4	54	12000	15000
0.25	8.6	230	3.0	169.0	BM40Z-../DPE08MA4	67	20000	25000
0.25	6.9	280	2.4	211.5	BM40Z-../DPE08MA4	67	20000	25000
0.25	5.9	325	2.1	246.6	BM40Z-../DPE08MA4	67	20000	25000
0.25	5.0	385	1.55	289.8	BM40Z-../DPE08MA4	67	20000	25000
0.25	4.2	460	1.1	348.7	BM40Z-../DPE08MA4	67	20000	25000
0.25	3.4	560	0.89	430.0	BM40Z-../DPE08MA4	67	20000	25000
0.25	3.0	710	0.96	487.3	BM40G10-../DPE08MA4	72	20000	25000
0.25	2.7	790	0.86	540.0	BM40G10-../DPE08MA4	72	20000	25000

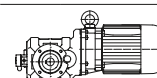
0.37 kW								
IE3 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.37	128	24	1.25	11.34	BM09-../DPE08LA4	20	4400	6500
0.37	110	28	1.15	13.23	BM09-../DPE08LA4	20	4400	6500
0.37	82	37.5	1.25	17.73	BM09-../DPE08LA4	20	4400	6500
0.37	69	45	1.25	21.20	BM09-../DPE08LA4	20	4400	6500
0.37	59	52	1.15	24.74	BM09-../DPE08LA4	20	4400	6500
0.37	56	55	1.25	25.98	BM09-../DPE08LA4	20	4400	6500
0.37	48	64	1.15	30.31	BM09-../DPE08LA4	20	4400	6500
0.37	44	70	1.25	32.97	BM09-../DPE08LA4	20	4400	6500
0.37	38	81	1.15	38.46	BM09-../DPE08LA4	20	4400	6500
0.37	34.5	89	0.96	42.44	BM09-../DPE08LA4	20	4400	6500
0.37	27	113	0.96	53.85	BM09-../DPE08LA4	20	4400	6500
0.37	64	48.5	3.1	22.62	BM10-../DPE08LA4	26	8000	10000
0.37	58	53	3.0	25.09	BM10-../DPE08LA4	26	8000	10000
0.37	55	56	2.7	26.55	BM10-../DPE08LA4	26	8000	10000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

0.37 kW

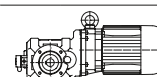
IE3



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.37	49.5	62	2.6	29.45	BM10-../DPE08LA4	26	8000	10000
0.37	44	69	2.2	33.19	BM10-../DPE08LA4	26	8000	10000
0.37	39.5	76	2.1	36.82	BM10-../DPE08LA4	26	8000	10000
0.37	36	82	1.85	40.56	BM10-../DPE08LA4	26	8000	10000
0.37	32.5	91	1.75	45.00	BM10-../DPE08LA4	26	8000	10000
0.37	28	103	1.45	52.44	BM10-../DPE08LA4	26	8000	10000
0.37	25	115	1.4	58.18	BM10-../DPE08LA4	26	8000	10000
0.37	25	128	1.15	58.79	BM10G06-../DPE08LA4	34	8000	10000
0.37	21	153	0.92	69.61	BM10G06-../DPE08LA4	34	8000	10000
0.37	19.5	161	0.9	74.41	BM10G06-../DPE08LA4	34	8000	10000
0.37	18	174	0.89	82.54	BM10G06-../DPE08LA4	34	8000	10000
0.37	49.5	67	3.3	29.39	BM20-../DPE08LA4	28	12000	12000
0.37	41	81	2.7	35.25	BM20-../DPE08LA4	28	12000	12000
0.37	34.5	97	2.3	42.18	BM20-../DPE08LA4	28	12000	12000
0.37	27.5	122	1.7	52.84	BM20-../DPE08LA4	28	12000	12000
0.37	24	139	1.4	60.64	BM20-../DPE08LA4	28	12000	12000
0.37	19.5	172	1.05	74.76	BM20-../DPE08LA4	28	12000	12000
0.37	17	197	1.1	85.45	BM20Z-../DPE08LA4	30	12000	12000
0.37	15	220	1.0	99.47	BM20Z-../DPE08LA4	30	12000	12000
0.37	12.5	265	0.83	117.9	BM20Z-../DPE08LA4	30	12000	12000
0.37	29.5	106	3.0	49.66	BM30-../DPE08LA4	44	12000	15000
0.37	24	129	2.1	61.33	BM30-../DPE08LA4	44	12000	15000
0.37	20.5	151	1.7	71.09	BM30-../DPE08LA4	44	12000	15000
0.37	17	180	1.95	85.96	BM30Z-../DPE08LA4	46	12000	15000
0.37	14.5	205	1.7	100.7	BM30Z-../DPE08LA4	46	12000	15000
0.37	11.5	260	1.35	128.2	BM30Z-../DPE08LA4	46	12000	15000
0.37	9.7	305	1.15	150.3	BM30Z-../DPE08LA4	46	12000	15000
0.37	8.2	365	0.96	177.2	BM30Z-../DPE08LA4	46	12000	15000
0.37	7.8	405	0.86	186.7	BM30G06-../DPE08LA4	55	12000	15000
0.37	14	210	2.9	104.0	BM40-../DPE08LA4	64	20000	25000
0.37	12.5	240	2.8	118.2	BM40Z-../DPE08LA4	69	20000	25000
0.37	10.5	280	2.4	143.0	BM40Z-../DPE08LA4	69	20000	25000
0.37	8.6	340	2.0	169.0	BM40Z-../DPE08LA4	69	20000	25000
0.37	6.9	415	1.65	211.5	BM40Z-../DPE08LA4	69	20000	25000
0.37	5.9	485	1.4	246.6	BM40Z-../DPE08LA4	69	20000	25000
0.37	5.0	570	1.05	289.8	BM40Z-../DPE08LA4	69	20000	25000

0.55 kW

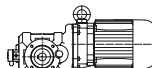
IE3

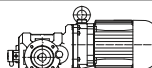


P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.55	127	36	0.83	11.34	BM09-../DPE08XA4	20	4400	6500
0.55	81	57	0.82	17.73	BM09-../DPE08XA4	20	4400	6500
0.55	68	67	0.84	21.20	BM09-../DPE08XA4	20	4400	6500
0.55	56	82	0.84	25.98	BM09-../DPE08XA4	20	4400	6500
0.55	43.5	106	0.82	32.97	BM09-../DPE08XA4	20	4400	6500
0.55	88	53	2.7	16.39	BM10-../DPE08XA4	27	8000	10000
0.55	79	59	2.6	18.18	BM10-../DPE08XA4	27	8000	10000
0.55	64	72	2.1	22.62	BM10-../DPE08XA4	27	8000	10000
0.55	57	81	2.0	25.09	BM10-../DPE08XA4	27	8000	10000
0.55	54	85	1.75	26.55	BM10-../DPE08XA4	27	8000	10000
0.55	49	94	1.7	29.45	BM10-../DPE08XA4	27	8000	10000
0.55	43.5	103	1.45	33.19	BM10-../DPE08XA4	27	8000	10000
0.55	39	115	1.4	36.82	BM10-../DPE08XA4	27	8000	10000
0.55	35.5	124	1.2	40.56	BM10-../DPE08XA4	27	8000	10000
0.55	32	137	1.15	45.00	BM10-../DPE08XA4	27	8000	10000
0.55	27.5	156	0.96	52.44	BM10-../DPE08XA4	27	8000	10000
0.55	25	172	0.93	58.18	BM10-../DPE08XA4	27	8000	10000
0.55	73	68	3.2	19.72	BM20-../DPE08XA4	29	12000	12000
0.55	57	87	2.5	25.25	BM20-../DPE08XA4	29	12000	12000
0.55	49	101	2.2	29.39	BM20-../DPE08XA4	29	12000	12000
0.55	41	121	1.8	35.25	BM20-../DPE08XA4	29	12000	12000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

0.55 kW								
IE3 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.55	34	146	1.5	42.18	BM20-../DPE08XA4	29	12000	12000
0.55	27.5	181	1.15	52.84	BM20-../DPE08XA4	29	12000	12000
0.55	24	205	0.94	60.64	BM20-../DPE08XA4	29	12000	12000
0.55	21.5	230	0.96	66.74	BM20Z-../DPE08XA4	31	12000	12000
0.55	41	116	3.0	34.88	BM30-../DPE08XA4	45	12000	15000
0.55	35	135	2.6	41.13	BM30-../DPE08XA4	45	12000	15000
0.55	29	161	1.95	49.66	BM30-../DPE08XA4	45	12000	15000
0.55	23.5	196	1.4	61.33	BM30-../DPE08XA4	45	12000	15000
0.55	20.5	225	1.15	71.09	BM30-../DPE08XA4	45	12000	15000
0.55	17	265	1.3	85.96	BM30Z-../DPE08XA4	48	12000	15000
0.55	14.5	310	1.15	100.7	BM30Z-../DPE08XA4	48	12000	15000
0.55	11.5	390	0.9	128.2	BM30Z-../DPE08XA4	48	12000	15000
0.55	20.5	220	3.1	70.11	BM40-../DPE08XA4	65	20000	25000
0.55	17	265	2.3	84.36	BM40-../DPE08XA4	65	20000	25000
0.55	14	315	1.9	104.0	BM40-../DPE08XA4	65	20000	25000
0.55	12.5	355	1.9	118.2	BM40Z-../DPE08XA4	70	20000	25000
0.55	10	440	1.55	143.0	BM40Z-../DPE08XA4	70	20000	25000
0.55	8.5	510	1.35	169.0	BM40Z-../DPE08XA4	70	20000	25000
0.55	6.8	630	1.1	211.5	BM40Z-../DPE08XA4	70	20000	25000
0.55	5.8	730	0.93	246.6	BM40Z-../DPE08XA4	70	20000	25000

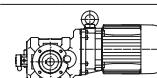
0.75 kW								
IE3 								
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
0.75	123	52	2.7	11.68	BM10-../DPE08XB4	28	8000	10000
0.75	111	58	2.6	12.95	BM10-../DPE08XB4	28	8000	10000
0.75	87	73	2.0	16.39	BM10-../DPE08XB4	28	8000	10000
0.75	79	80	1.95	18.18	BM10-../DPE08XB4	28	8000	10000
0.75	63	100	1.5	22.62	BM10-../DPE08XB4	28	8000	10000
0.75	57	110	1.45	25.09	BM10-../DPE08XB4	28	8000	10000
0.75	54	116	1.3	26.55	BM10-../DPE08XB4	28	8000	10000
0.75	48.5	129	1.25	29.45	BM10-../DPE08XB4	28	8000	10000
0.75	43	143	1.05	33.19	BM10-../DPE08XB4	28	8000	10000
0.75	39	157	1.0	36.82	BM10-../DPE08XB4	28	8000	10000
0.75	35.5	169	0.89	40.56	BM10-../DPE08XB4	28	8000	10000
0.75	32	188	0.85	45.00	BM10-../DPE08XB4	28	8000	10000
0.75	86	79	2.8	16.72	BM20-../DPE08XB4	30	12000	12000
0.75	73	93	2.4	19.72	BM20-../DPE08XB4	30	12000	12000
0.75	57	119	1.85	25.25	BM20-../DPE08XB4	30	12000	12000
0.75	48.5	140	1.55	29.39	BM20-../DPE08XB4	30	12000	12000
0.75	40.5	168	1.3	35.25	BM20-../DPE08XB4	30	12000	12000
0.75	34	200	1.1	42.18	BM20-../DPE08XB4	30	12000	12000
0.75	27	250	0.84	52.84	BM20-../DPE08XB4	30	12000	12000
0.75	25.5	265	0.83	56.58	BM20Z-../DPE08XB4	31	12000	12000
0.75	61	106	3.3	23.38	BM30-../DPE08XB4	45	12000	15000
0.75	48	135	2.6	29.76	BM30-../DPE08XB4	45	12000	15000
0.75	41	158	2.2	34.88	BM30-../DPE08XB4	45	12000	15000
0.75	35	184	1.9	41.13	BM30-../DPE08XB4	45	12000	15000
0.75	29	215	1.45	49.66	BM30-../DPE08XB4	45	12000	15000
0.75	23.5	265	1.0	61.33	BM30-../DPE08XB4	45	12000	15000
0.75	20.5	305	0.85	71.09	BM30-../DPE08XB4	45	12000	15000
0.75	17	365	0.96	85.96	BM30Z-../DPE08XB4	48	12000	15000
0.75	14.5	420	0.83	100.7	BM30Z-../DPE08XB4	48	12000	15000
0.75	28	225	3.0	51.18	BM40-../DPE08XB4	66	20000	25000
0.75	24	260	2.6	59.66	BM40-../DPE08XB4	66	20000	25000
0.75	20.5	300	2.3	70.11	BM40-../DPE08XB4	66	20000	25000
0.75	17	365	1.65	84.36	BM40-../DPE08XB4	66	20000	25000
0.75	14	430	1.4	104.0	BM40-../DPE08XB4	66	20000	25000
0.75	12.5	485	1.4	118.2	BM40Z-../DPE08XB4	70	20000	25000
0.75	10	600	1.15	143.0	BM40Z-../DPE08XB4	70	20000	25000
0.75	8.5	690	0.99	169.0	BM40Z-../DPE08XB4	70	20000	25000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

1.1 kW

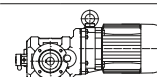
IE3



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
1.1	124	77	1.8	11.68	BM10-../DPE09XA4	38	8000	10000
1.1	112	85	1.75	12.95	BM10-../DPE09XA4	38	8000	10000
1.1	88	106	1.35	16.39	BM10-../DPE09XA4	38	8000	10000
1.1	80	116	1.35	18.18	BM10-../DPE09XA4	38	8000	10000
1.1	64	144	1.05	22.62	BM10-../DPE09XA4	38	8000	10000
1.1	58	159	1.0	25.09	BM10-../DPE09XA4	38	8000	10000
1.1	55	168	0.89	26.55	BM10-../DPE09XA4	38	8000	10000
1.1	49	188	0.85	29.45	BM10-../DPE09XA4	38	8000	10000
1.1	142	70	3.1	10.15	BM20-../DPE09XA4	40	12000	12000
1.1	108	92	2.4	13.34	BM20-../DPE09XA4	40	12000	12000
1.1	87	114	1.95	16.72	BM20-../DPE09XA4	40	12000	12000
1.1	74	134	1.65	19.72	BM20-../DPE09XA4	40	12000	12000
1.1	58	172	1.3	25.25	BM20-../DPE09XA4	40	12000	12000
1.1	49	200	1.1	29.39	BM20-../DPE09XA4	40	12000	12000
1.1	41	240	0.92	35.25	BM20-../DPE09XA4	40	12000	12000
1.1	90	107	3.3	16.10	BM30-../DPE09XA4	56	12000	15000
1.1	73	132	2.7	19.96	BM30-../DPE09XA4	56	12000	15000
1.1	62	154	2.3	23.38	BM30-../DPE09XA4	56	12000	15000
1.1	48.5	197	1.8	29.76	BM30-../DPE09XA4	56	12000	15000
1.1	41.5	230	1.5	34.88	BM30-../DPE09XA4	56	12000	15000
1.1	35.5	265	1.3	41.13	BM30-../DPE09XA4	56	12000	15000
1.1	29	320	0.99	49.66	BM30-../DPE09XA4	56	12000	15000
1.1	27	335	0.84	53.67	BM30Z-../DPE09XA4	58	12000	15000
1.1	21	435	0.8	69.35	BM30Z-../DPE09XA4	58	12000	15000
1.1	42	225	3.0	34.61	BM40-../DPE09XA4	76	20000	25000
1.1	35.5	265	2.6	40.88	BM40-../DPE09XA4	76	20000	25000
1.1	28.5	320	2.1	51.18	BM40-../DPE09XA4	76	20000	25000
1.1	24.5	375	1.8	59.66	BM40-../DPE09XA4	76	20000	25000
1.1	21	435	1.55	70.11	BM40-../DPE09XA4	76	20000	25000
1.1	17.5	520	1.15	84.36	BM40-../DPE09XA4	76	20000	25000
1.1	14	630	0.95	104.0	BM40-../DPE09XA4	76	20000	25000
1.1	12.5	710	0.96	118.2	BM40Z-../DPE09XA4	80	20000	25000
1.1	10.5	840	0.81	143.0	BM40Z-../DPE09XA4	80	20000	25000

1.5 kW

IE3



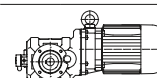
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
1.5	123	105	1.35	11.68	BM10-../DPE09XB4	38	8000	10000
1.5	111	117	1.3	12.95	BM10-../DPE09XB4	38	8000	10000
1.5	88	144	1.0	16.39	BM10-../DPE09XB4	38	8000	10000
1.5	79	161	0.96	18.18	BM10-../DPE09XB4	38	8000	10000
1.5	188	72	2.8	7.66	BM20-../DPE09XB4	40	9100	10900
1.5	142	95	2.3	10.15	BM20-../DPE09XB4	40	12000	12000
1.5	108	126	1.75	13.34	BM20-../DPE09XB4	40	12000	12000
1.5	86	158	1.4	16.72	BM20-../DPE09XB4	40	12000	12000
1.5	73	186	1.2	19.72	BM20-../DPE09XB4	40	12000	12000
1.5	57	235	0.94	25.25	BM20-../DPE09XB4	40	12000	12000
1.5	49	275	0.8	29.39	BM20-../DPE09XB4	40	12000	12000
1.5	116	113	3.1	12.46	BM30-../DPE09XB4	56	12000	15000
1.5	90	146	2.4	16.10	BM30-../DPE09XB4	56	12000	15000
1.5	72	183	1.9	19.96	BM30-../DPE09XB4	56	12000	15000
1.5	62	210	1.65	23.38	BM30-../DPE09XB4	56	12000	15000
1.5	48.5	265	1.3	29.76	BM30-../DPE09XB4	56	12000	15000
1.5	41.5	310	1.15	34.88	BM30-../DPE09XB4	56	12000	15000
1.5	35	365	0.96	41.13	BM30-../DPE09XB4	56	12000	15000
1.5	51	250	2.7	28.59	BM40-../DPE09XB4	76	20000	25000
1.5	41.5	310	2.2	34.61	BM40-../DPE09XB4	76	20000	25000
1.5	35.5	360	1.9	40.88	BM40-../DPE09XB4	76	20000	25000
1.5	28.5	440	1.55	51.18	BM40-../DPE09XB4	76	20000	25000
1.5	24.5	510	1.35	59.66	BM40-../DPE09XB4	76	20000	25000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

1.5 kW

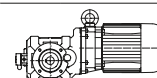
IE3



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
1.5	20.5	600	1.15	70.11	BM40-../DPE09XB4	76	20000	25000
1.5	17.5	710	0.85	84.36	BM40-../DPE09XB4	76	20000	25000

2.2 kW

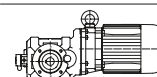
IE3



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
2.2	125	152	0.92	11.68	BM10-../DPE09XB4C	38	8000	10000
2.2	112	170	0.88	12.95	BM10-../DPE09XB4C	38	8000	10000
2.2	190	105	1.9	7.66	BM20-../DPE09XB4C	40	9100	10900
2.2	143	139	1.6	10.15	BM20-../DPE09XB4C	40	12000	12000
2.2	109	183	1.2	13.34	BM20-../DPE09XB4C	40	12000	12000
2.2	87	225	0.98	16.72	BM20-../DPE09XB4C	40	12000	12000
2.2	74	265	0.83	19.72	BM20-../DPE09XB4C	40	12000	12000
2.2	184	105	3.1	7.91	BM30-../DPE09XB4C	56	11000	13800
2.2	145	133	2.6	10.06	BM30-../DPE09XB4C	56	12000	15000
2.2	117	165	2.1	12.46	BM30-../DPE09XB4C	56	12000	15000
2.2	91	210	1.65	16.10	BM30-../DPE09XB4C	56	12000	15000
2.2	73	260	1.35	19.96	BM30-../DPE09XB4C	56	12000	15000
2.2	63	300	1.15	23.38	BM30-../DPE09XB4C	56	12000	15000
2.2	49	390	0.9	29.76	BM30-../DPE09XB4C	56	12000	15000
2.2	81	230	3.0	18.05	BM40-../DPE09XB4C	76	20000	25000
2.2	65	290	2.3	22.44	BM40-../DPE09XB4C	76	20000	25000
2.2	51	370	1.85	28.59	BM40-../DPE09XB4C	76	20000	25000
2.2	42	450	1.5	34.61	BM40-../DPE09XB4C	76	20000	25000
2.2	35.5	530	1.3	40.88	BM40-../DPE09XB4C	76	20000	25000
2.2	28.5	640	1.05	51.18	BM40-../DPE09XB4C	76	20000	25000
2.2	24.5	750	0.91	59.66	BM40-../DPE09XB4C	76	20000	25000

3 kW

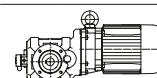
IE3



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
3	184	143	2.3	7.91	BM30-../DPE11LA4	76	11000	13800
3	145	181	1.95	10.06	BM30-../DPE11LA4	76	12000	15000
3	117	225	1.55	12.46	BM30-../DPE11LA4	76	12000	15000
3	91	285	1.25	16.10	BM30-../DPE11LA4	76	12000	15000
3	73	360	0.97	19.96	BM30-../DPE11LA4	76	12000	15000
3	63	410	0.85	23.38	BM30-../DPE11LA4	76	12000	15000
3	131	196	3.2	11.17	BM40-../DPE11LA4	102	18300	22900
3	101	255	2.7	14.50	BM40-../DPE11LA4	102	20000	25000
3	81	315	2.2	18.05	BM40-../DPE11LA4	102	20000	25000
3	65	395	1.7	22.44	BM40-../DPE11LA4	102	20000	25000
3	51	500	1.35	28.59	BM40-../DPE11LA4	102	20000	25000
3	42.5	600	1.15	34.61	BM40-../DPE11LA4	102	20000	25000
3	36	710	0.96	40.88	BM40-../DPE11LA4	102	20000	25000

4 kW

IE3



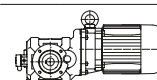
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
4	184	191	1.7	7.91	BM30-../DPE11LB4	76	11000	13800
4	145	240	1.45	10.06	BM30-../DPE11LB4	76	12000	15000
4	117	300	1.15	12.46	BM30-../DPE11LB4	76	12000	15000
4	91	385	0.91	16.10	BM30-../DPE11LB4	76	12000	15000

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors ASM IE3

4 kW

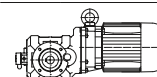
IE3



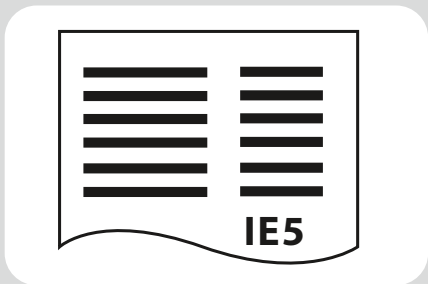
P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
4	130	260	2.4	11.17	BM40-../DPE11LB4	102	18300	22900
4	100	340	2.0	14.50	BM40-../DPE11LB4	102	20000	25000
4	81	420	1.6	18.05	BM40-../DPE11LB4	102	20000	25000
4	65	520	1.3	22.44	BM40-../DPE11LB4	102	20000	25000
4	51	670	1.0	28.59	BM40-../DPE11LB4	102	20000	25000
4	42	810	0.84	34.61	BM40-../DPE11LB4	102	20000	25000

5.5 kW

IE3



P _N	50 Hz			i	Typ	m	F _{RN}	F _{RV}
[kW]	n ₂ [1/min]	M ₂ [Nm]	f _B [—]	[:1]		[kg]	[N]	[N]
5.5	186	255	1.25	7.91	BM30-../DPE11LB4C	80	11000	13800
5.5	146	330	1.05	10.06	BM30-../DPE11LB4C	80	12000	15000
5.5	118	405	0.86	12.46	BM30-../DPE11LB4C	80	12000	15000
5.5	132	355	1.75	11.17	BM40-../DPE11LB4C	106	18300	22900
5.5	102	460	1.5	14.50	BM40-../DPE11LB4C	106	20000	25000
5.5	82	570	1.2	18.05	BM40-../DPE11LB4C	106	20000	25000
5.5	66	710	0.96	22.44	BM40-../DPE11LB4C	106	20000	25000



Selection tables PMSM IE5

Selection tables PMSM IE589

Selection table asynchronous motors PMSM IE5 1500 ¹/_{min}91

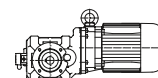
Selection table asynchronous motors PMSM IE5 3000 ¹/_{min} 101

Geared motors for electric overhead conveyors series BM

Selection table asynchronous motors PMSM IE5 1500 1/min

MN = 26.5 Nm (PN = 4 kW)

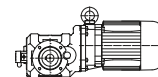
IE5



M _N	P _N	n ₂	M ₂	f _B	i	IE- Classe	Type	Speed range n ₂ [1/min] at engine speed n ₁ [1/min]					Torque range M ₂ [Nm] at engine speed n ₁ [1/min]					m	F _{RN}	F _{RV}
[Nm]	[kW]	[1/min]	[Nm]	[--]	[:1]			150	500	1000	1500	1800	150	500	1000	1500	1800	[kg]	[N]	[N]
26.5	4	83	430	1.6	18.05	IE5	BM40-../S5E11MA6	8.3	27.5	55	83	99	430	430	430	430	430	90	20000	25000
26.5	4	66	530	1.3	22.44	IE5	BM40-../S5E11MA6	6.6	22	44.5	66	80	530	530	530	530	530	90	20000	25000
26.5	4	52	680	1	28.59	IE5	BM40-../S5E11MA6	5.2	17	34.5	52	62	680	680	680	680	680	90	20000	25000
26.5	4	43	820	0.82	34.61	IE5	BM40-../S5E11MA6	4.3	14	28.5	43	52	820	820	820	820	820	90	20000	25000

MN = 35 Nm (PN = 5.5 kW)

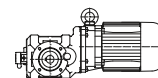
IE5



M _N	P _N	n ₂	M ₂	f _B	i	IE- Classe	Type	Speed range n ₂ [1/min]					Torque range M ₂ [Nm]					m	F _{RN}	F _{RV}
								at engine speed n ₁ [1/min]					at engine speed n ₁ [1/min]							
[Nm]	[kW]	[1/min]	[Nm]	[--]	[:1]			150	500	1000	1500	1800	150	500	1000	1500	1800	[kg]	[N]	[N]
35	5.5	189	250	1.3	7.91	IE5	BM30-../S5E11LA6	18.5	63	126	189	225	250	250	250	250	250	76	11000	13800
35	5.5	189	250	1.3	7.91	IE4	BM30-../S4E11MA6	18.5	63	126	189	225	192	215	250	250	250	65	11000	13800
35	5.5	149	320	1.1	10.06	IE4	BM30-../S4E11MA6	14.5	49.5	99	149	178	245	275	320	320	320	65	12000	15000
35	5.5	149	320	1.1	10.06	IE5	BM30-../S5E11LA6	14.5	49.5	99	149	178	320	320	320	320	320	76	12000	15000
35	5.5	120	400	0.87	12.46	IE4	BM30-../S4E11MA6	12	40	80	120	144	300	340	400	400	400	65	12000	15000
35	5.5	120	400	0.87	12.46	IE5	BM30-../S5E11LA6	12	40	80	120	144	400	400	400	400	400	76	12000	15000
35	5.5	134	350	1.8	11.17	IE4	BM40-../S4E11MA6	13	44.5	89	134	161	265	300	350	350	350	90	18300	22900
35	5.5	134	350	1.8	11.17	IE5	BM40-../S5E11LA6	13	44.5	89	134	161	350	350	350	350	350	102	18300	22900
35	5.5	103	455	1.5	14.5	IE4	BM40-../S4E11MA6	10	34	68	103	124	345	390	455	455	455	90	20000	25000
35	5.5	103	455	1.5	14.5	IE5	BM40-../S5E11LA6	10	34	68	103	124	455	455	455	455	455	102	20000	25000
35	5.5	83	560	1.2	18.05	IE5	BM40-../S5E11LA6	8.3	27.5	55	83	99	560	560	560	560	560	102	20000	25000
35	5.5	83	560	1.2	18.05	IE4	BM40-../S4E11MA6	8.3	27.5	55	83	99	430	485	560	560	560	90	20000	25000
35	5.5	66	700	0.96	22.44	IE5	BM40-../S5E11LA6	6.6	22	44.5	66	80	700	700	700	700	700	102	20000	25000
35	5.5	66	700	0.96	22.44	IE4	BM40-../S4E11MA6	6.6	22	44.5	66	80	530	600	700	700	700	90	20000	25000

MN = 48 Nm (PN = 7.5 kW)

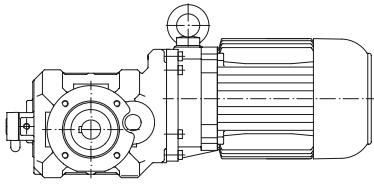
IE5



M _N	P _N	n ₂	M ₂	f _B	i	IE- Classe	Type	Speed range n ₂ [1/min]					Torque range M ₂ [Nm]					m	F _{RN}	F _{RV}
								at engine speed n ₁ [1/min]					at engine speed n ₁ [1/min]							
[Nm]	[kW]	[1/min]	[Nm]	[--]	[:1]			150	500	1000	1500	1800	150	500	1000	1500	1800	[kg]	[N]	[N]
48	7.5	189	345	0.92	7.91	IE3	BM30-../SPE11LA6	18.5	63	126	189	225	250	290	345	345	345	76	11000	13800
48	7.5	134	480	1.3	11.17	IE3	BM40-../SPE11LA6	13	44.5	89	134	161	350	400	480	480	480	102	18300	22900
48	7.5	103	620	1.1	14.5	IE3	BM40-../SPE11LA6	10	34	68	103	124	455	520	620	620	620	102	20000	25000
48	7.5	83	770	0.87	18.05	IE3	BM40-../SPE11LA6	8.3	27.5	55	83	99	560	640	770	770	770	102	20000	25000

Energy Efficient Geared Motors

Electric overhead conveyors series BM



Electric overhead conveyors series BM - Dimension

10

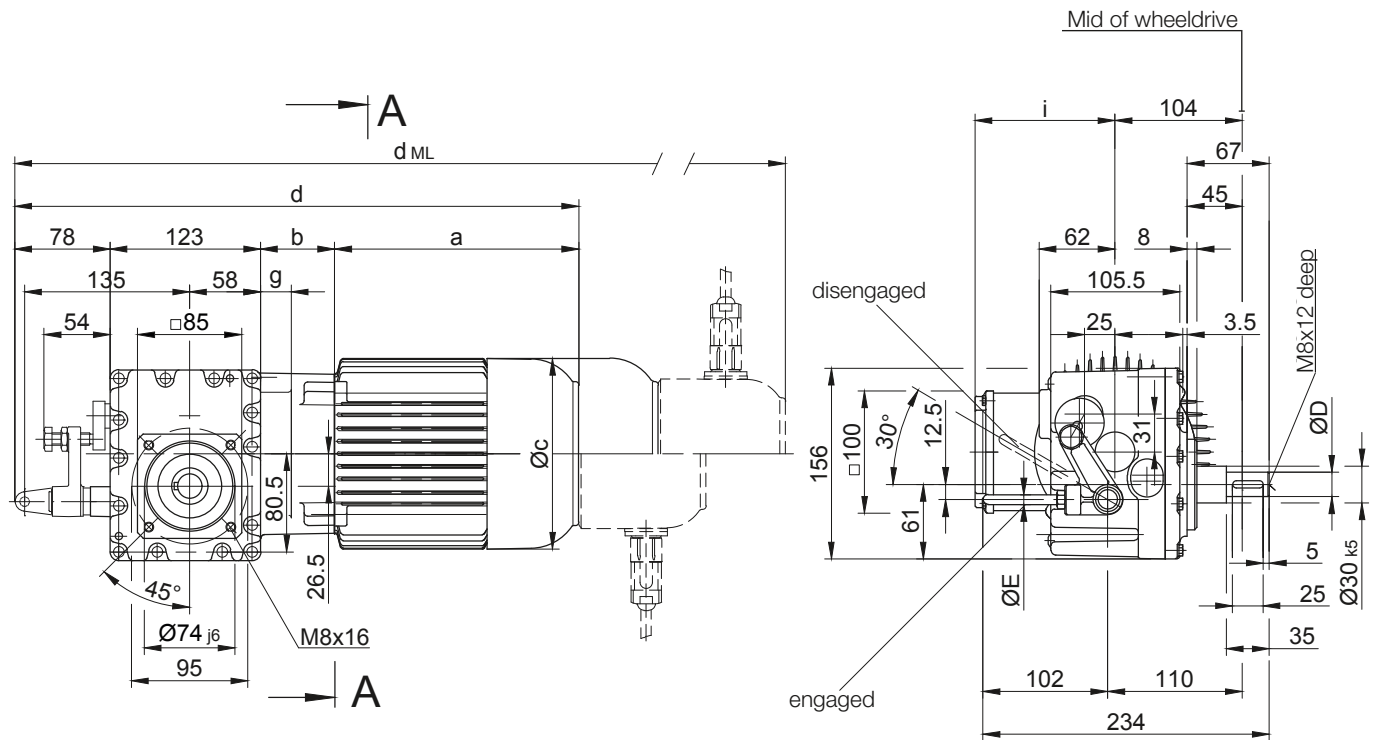
Electric overhead conveyors series BM - Dimension111

Dimension - Standard	113
BM09.....	113
BM10-BM10X.....	114
BM20-BM20Z.....	116
BM30-BM30Z.....	118
BM40-BM40Z.....	120
Additional Dimension Sheet	122
Standard terminal box.....	122
Plug-connector terminal box	123
Standard brakes	124
“Heavy-Duty“- brake	125
Motors with back stop	126
Motors with second shaft end	127
Motors with brake and second shaft end	128
Motors with “heavy duty“ brake and second shaft end	129
Motors with protective hood.....	130
Motors with independent fan.....	131
Motors with brake and independent fan	132
Motors with encoder and built-on independent fan.....	133
Motors with brake and encoder with built-on independent fan.....	134
Motors with standard encoder.....	135
Motors with “heavy duty“ encoder.....	136
Motors with brake and encoder.....	137
Motors with “heavy duty“ brake and encoder	138
Motors in IEC design.....	139

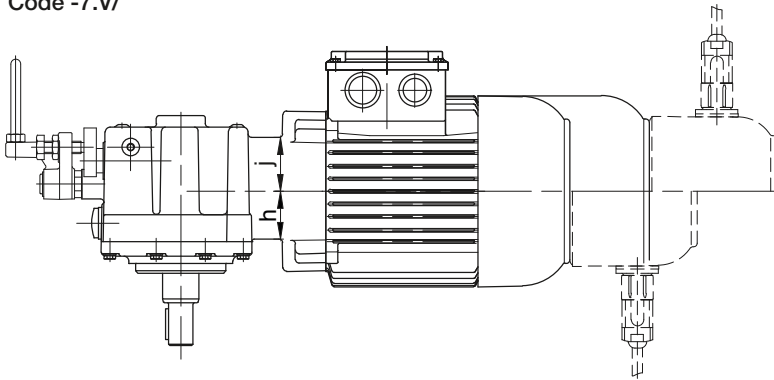
BM09

Flange with tapped holes at front. Follow-up type of SZ2-V3209

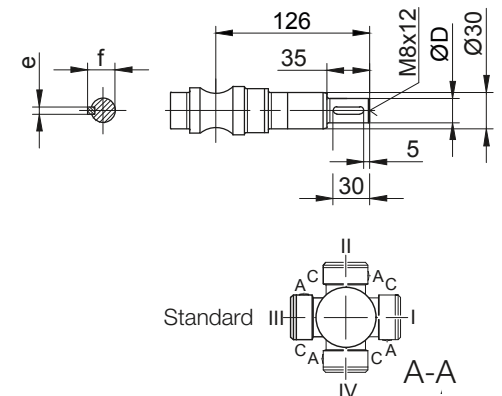
Code -7.V/



Code -7.V/



Code -1/



Type / Shaft Ø D / Clutch lever Ø E

Type	Ø D	e	f	Clutch lever Ø	Ø E
BM09-../D...	20 k6	6	22.5		8 mm
BM09X-../D...	25 k6	8	28		10 mm
					Standard
					Reinforced Version

Type	a	b	c	d	i	i _{TB}	Design with motor extensions			
							Brake	Encoder	Brake with Encoder	Back Stop
							d _{ML}	d _{ML}	d _{ML}	d _{ML}
BM09(X)-../D..05.A.	170.5	14	123	385.5	101.5	117	427.5	488	525.5	-
BM09(X)-../D..06.A.	170.5	14	123	385.5	101.5	119	427.5	488	525.5	-
BM09(X)-../S..06.A.	170.5	14	123	385.5	101.5	119	427.5	488	525.5	-
BM09(X)-../D..07.A.	190.5	14	123	405.5	101.5	119	447.5	508	545.5	-
BM09(X)-../D..08.A.	199.5	60,5	156	461	116	136.5	527	573	634,5	-
BM09(X)-../D..08.B.	199.5	60,5	156	461	116	136.5	261,5	603	664	-
BM09(X)-../S..08.A.	199.5	60,5	156	461	116	136.5	527	573	634,5	-
BM09(X)-../S..08.B.	199.5	60,5	156	461	116	136.5	261,5	603	664	-

Dimensions in millimetres (mm)

The actual gearbox design can vary from the geometry shown. Generate drive specific 3D and 2D geometries under www.BauerCat.com.

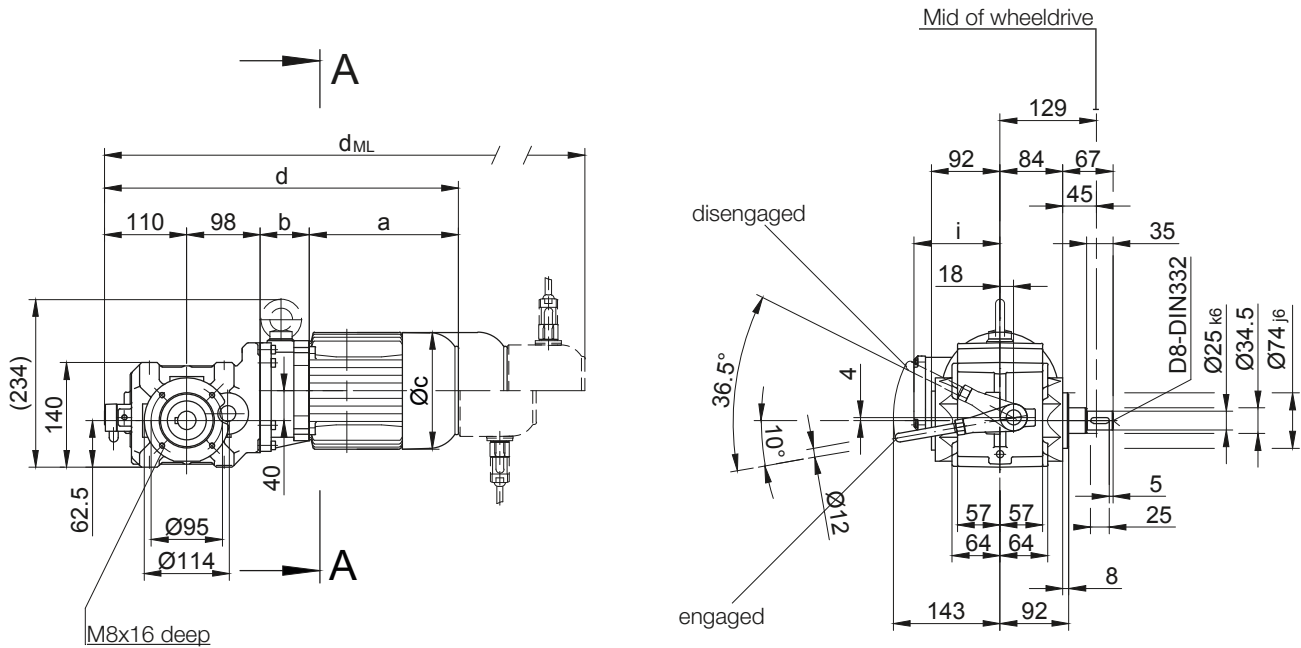
Electric overhead conveyors series BM

Dimension - Standard

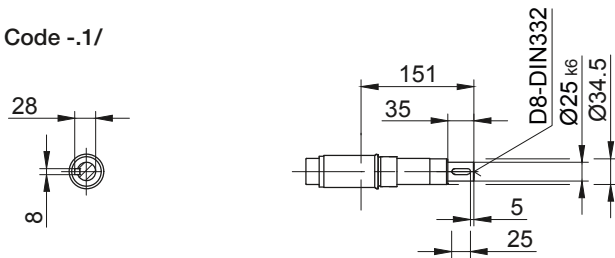
BM10-BM10X

Flange with tapped holes at front

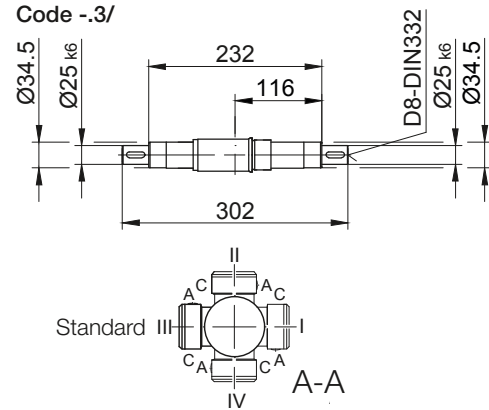
Code -7.V/



Code -.1/



Code -.3/



Type	a	b	c	d	i	Design with motor extensions				
						i _{TB}	Brake	Encoder	Brake with Encoder	Back Stop
							d _{ML}	d _{ML}	d _{ML}	d _{ML}
BM10(X)-../D..05.A.	170.5	62	123	440.5	101.5	117	482.5	543	580.5	-
BM10(X)-../D..06.A.	170.5	62	123	440.5	101.5	119	482.5	543	580.5	-
BM10(X)-../S..06.A.	170.5	62	123	440.5	101.5	119	482.5	543	580.5	-
BM10(X)-../D..07.A.	190.5	62	123	460.5	101.5	119	502.5	563	600.5	-
BM10(X)-../D..08.A.	199.5	66	156	473.5	116	136.5	539.5	585.5	647	-
BM10(X)-../D..08.B.	229.5	66	156	503.5	116	136.5	569.5	615.5	676.5	-
BM10(X)-../S..08.A.	199.5	66	156	473.5	116	136.5	539.5	585.5	647	-
BM10(X)-../S..08.B.	229.5	66	156	503.5	116	136.5	569.5	615.5	676.5	-
BM10(X)-../D..09.A.	250.5	80.5	176	539	125.5	157	632	646.5	736	-
BM10(X)-../D..09.B.	308.5	80.5	176	597	125.5	157	690	704	794	-
BM10(X)-../S..09.A.	250.5	80.5	176	539	125.5	157	632	646.5	736	-
BM10(X)-../S..09.B.	308.5	80.5	176	597	125.5	157	690	704	794	-

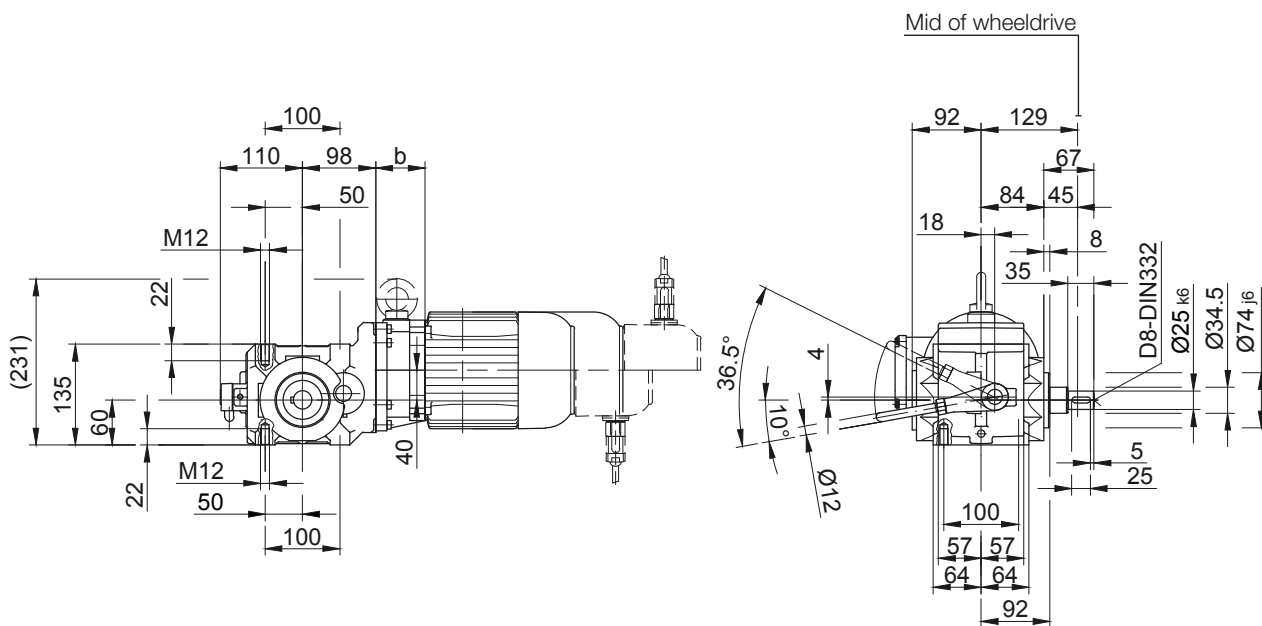
Dimensions in millimetres (mm)

The actual gearbox design can vary from the geometry shown. Generate drive specific 3D and 2D geometries under www.BauerCat.com.

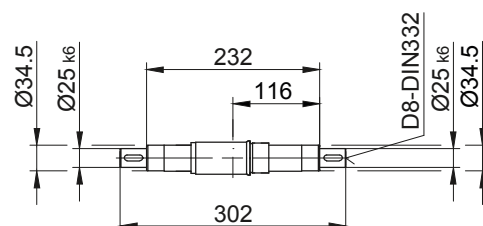
BM10-BM10X

Foot with tapped holes at bottom and top

Code -6.UO/



Code -.3/



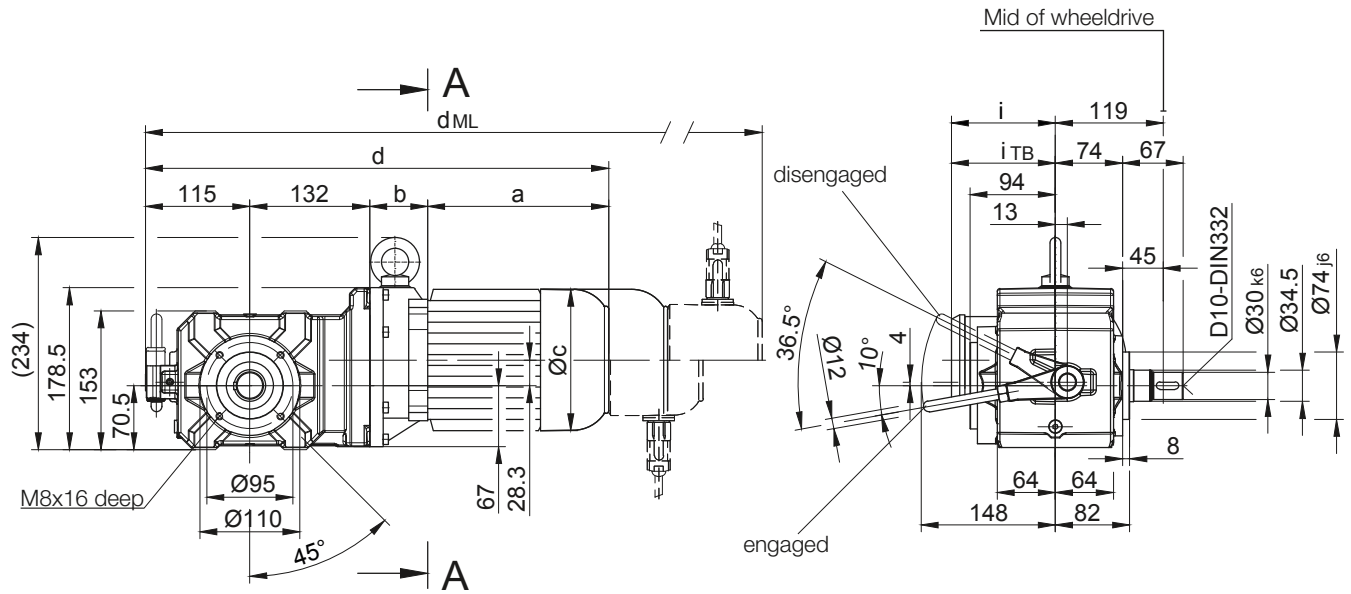
Electric overhead conveyors series BM

Dimension - Standard

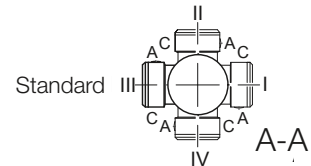
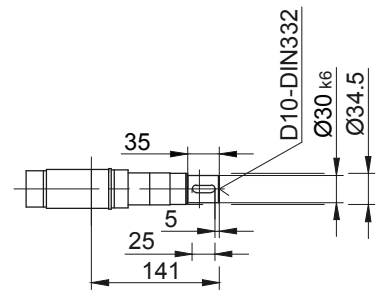
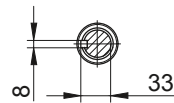
BM20-BM20Z

Flange with tapped holes at front

Code -7.V/



Code -1/



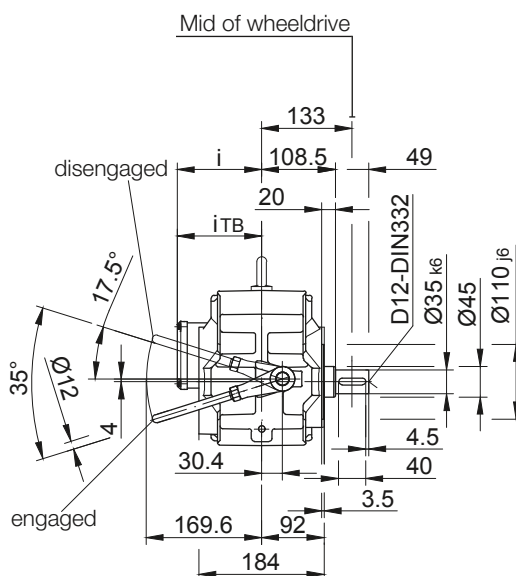
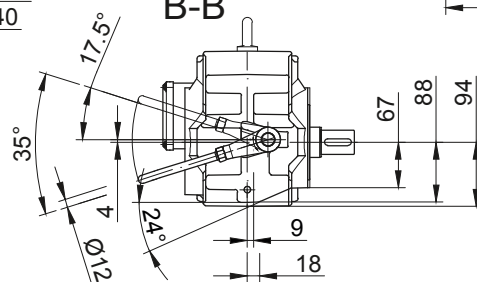
Type	a	b	c	d	i	Design with motor extensions				
						i _{TB}	Brake	Encoder	Brake with Encoder	Back Stop
							d _{ML}	d _{ML}	d _{ML}	d _{ML}
BM20Z-.1/D04.A.	142.5	100	110.5	489.5	90	112	533	577	620.5	-
BM20Z-.1/S04.A.	142.5	100	110.5	489.5	90	112	533	577	620.5	-
BM20-.1/D..05.A.	170.5	60	123	477.5	101.5	117	519.5	580	617.5	-
BM20Z-.1/D..05.A.	170.5	102	123	519.5	101.5	117	561.5	622	659.5	-
BM20-.1/D..06.A.	170.5	60	123	477.5	101.5	119	519.5	580	617.5	-
BM20-.1/D..06.A.	170.5	102	123	519.5	101.5	119	561.5	622	659.5	-
BM20-.1/S..06.A.	170.5	60	123	477.5	101.5	119	519.5	580	617.5	-
BM20-.1/S..06.A.	170.5	102	123	519.5	101.5	119	561.5	622	659.5	-
BM20-.1/D..07.A.	190.5	60	123	497.5	101.5	119	539.5	600	637.5	-
BM20Z-.1/D..07.A.	190.5	102	123	539.5	101.5	119	581.5	642	679.5	-
BM20-.1/D..08.A.	199.5	64	156	510.5	116	136.5	576.5	622.5	684	-
BM20Z-.1/D..08.A.	199.5	146	156	592.5	116	136.5	658.5	704.5	766	-
BM20-.1/S..08.A.	199.5	64	156	510.5	116	136.5	576.5	622.5	684	-
BM20Z-.1/S..08.A.	199.5	146	156	592.5	116	136.5	658.5	704.5	766	-
BM20-.1/D..08.B.	229.5	64	156	540.5	116	136.5	606.5	652.5	713.5	-
BM20Z-.1/D..08.B.	229.5	146	156	622.5	116	136.5	688.5	734.5	795.5	-
BM20-.1/S..08.B.	229.5	64	156	540.5	116	136.5	606.5	652.5	713.5	-
BM20Z-.1/S..08.B.	229.5	146	156	622.5	116	136.5	688.5	734.5	795.5	-
BM20-.1/D..09.A.	250.5	78.5	176	576	125.5	157	742.5	683.5	773	-
BM20-.1/D..09.B.	308.5	78.5	176	634	125.5	157	621	741	831	-
BM20-.1/S..09.A.	250.5	78.5	176	576	125.5	157	742.5	683.5	773	-
BM20-.1/S..09.B.	308.5	78.5	176	634	125.5	157	621	741	831	-

Dimensions in millimetres (mm)

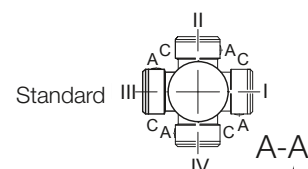
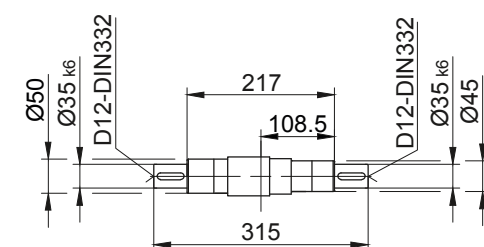
The actual gearbox design can vary from the geometry shown. Generate drive specific 3D and 2D geometries under www.BauerCat.com.

Dimension - Standard

Change with
Code -7.V/



Code -.3/

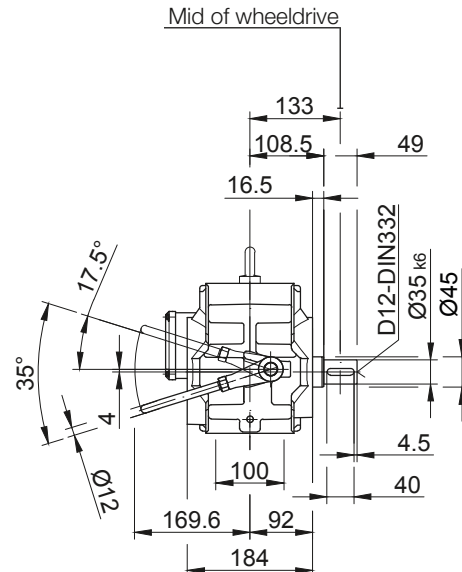
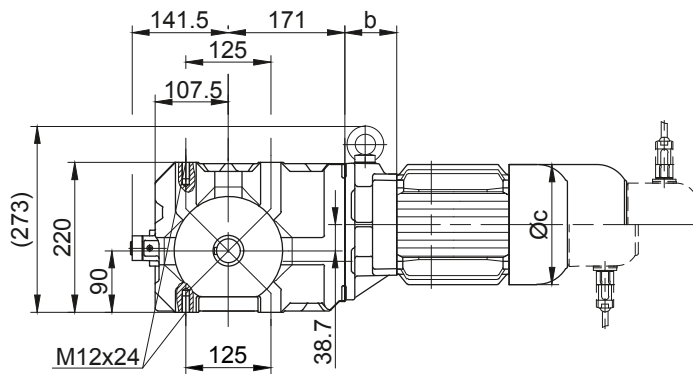
[illegible]

The actual gearbox design can vary from the geometry shown. Generate drive specific 3D and 2D geometries under www.BauerCat.com.

BM30-BM30Z

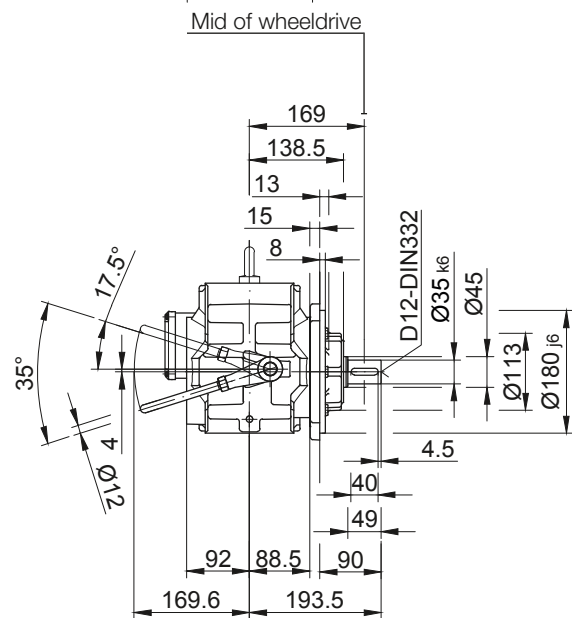
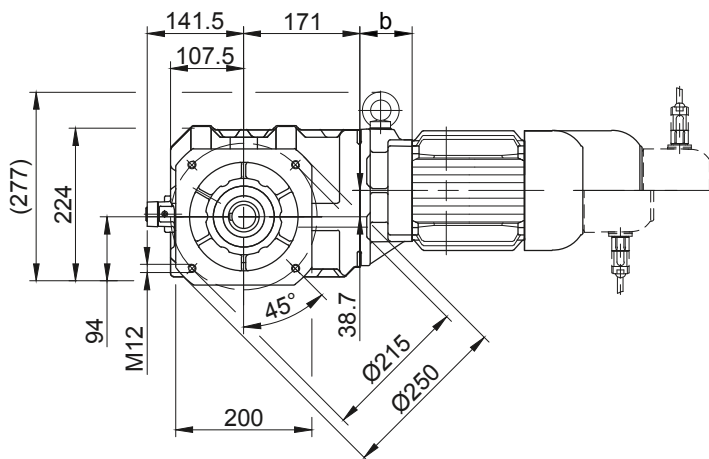
Foot with tapped holes at bottom and top

Code -6.UO/



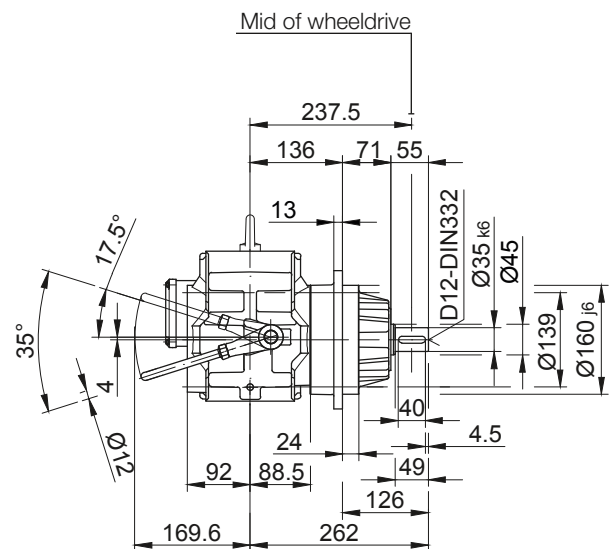
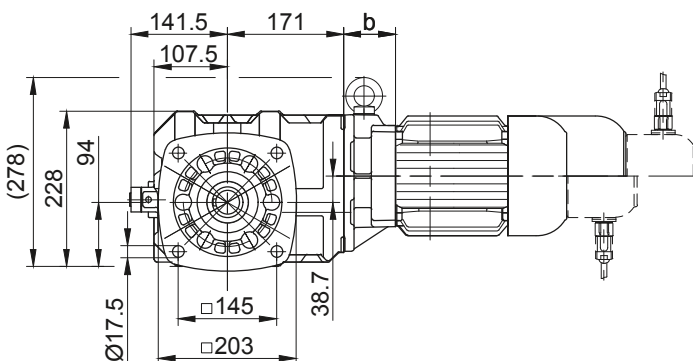
drawn flange at front

Code -07V/.../S01



far drawn flange at front

Code -07V/.../S02



Flange Dimensions

Type	Design	k	l	m	n	o	p	q	s	t
BM30..	Code -3.V/	250	215	180	16	13.5	276	152	4	78
BM30..	Code -4.V/	300	265	230	20	13.5	282	158	4	72

Dimensions in millimetres (mm)

The actual gearbox design can vary from the geometry shown. Generate drive specific 3D and 2D geometries under www.BauerCat.com.

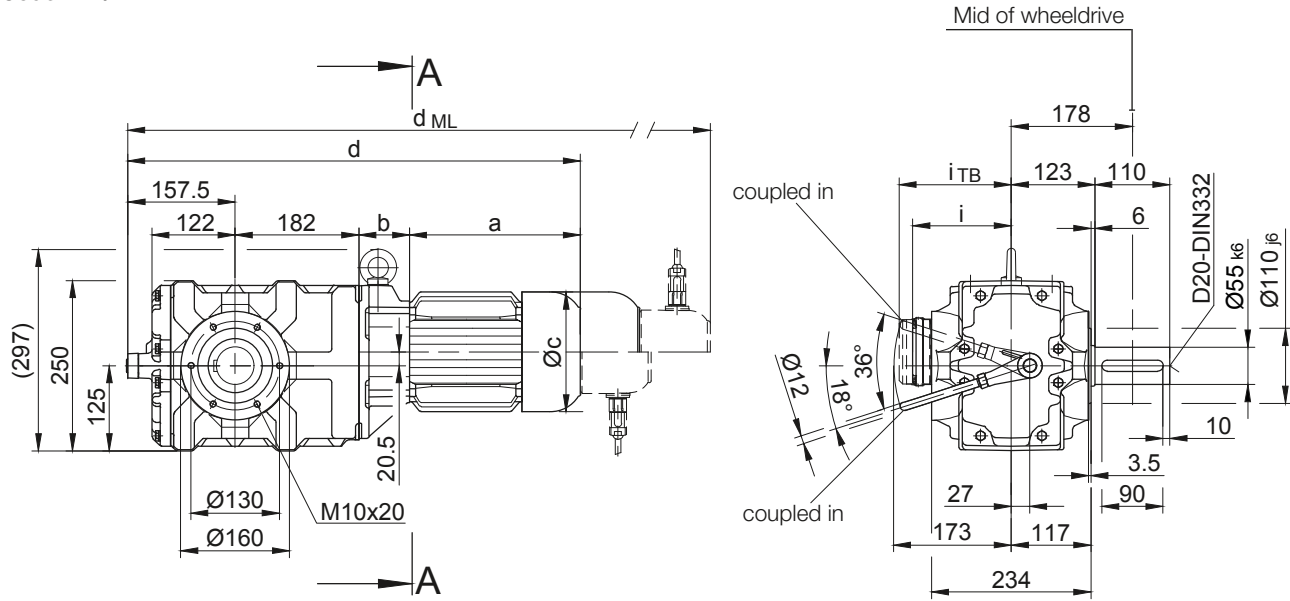
Electric overhead conveyors series BM

Dimension - Standard

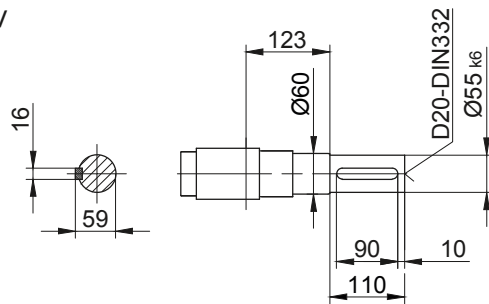
BM40-BM40Z

Flange with threaded holes at the front

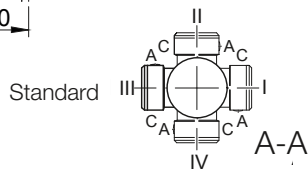
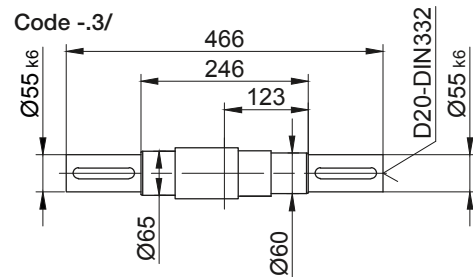
Code -7.V/



Code -1/



Code -3/



Type	a	b	c	d	i	i _{TB}	Design with motor extensions			
							Brake	Encoder	Brake with Encoder	Back Stop
BM40Z-../D..05.A.	170.5	138.5	123	648.5	101.5	117	690.5	751	788.5	-
BM40Z-../D..06.A.	170.5	138.5	123	648.5	101.5	119	690.5	751	788.5	-
BM40Z-../S..06.A.	170.5	138.5	123	648.5	101.5	119	690.5	751	788.5	-
BM40Z-../D..07.A.	190.5	138.5	123	668.5	101.5	119	710.5	771	808.5	-
BM40-../D..08.A.	199.5	60	156	599	116	136.5	665	711	772.5	-
BM40Z-../D..08.A.	199.5	142.5	156	681.5	116	136.5	747.5	793.5	855	-
BM40-../S..08.A.	199.5	60	156	599	116	136.5	665	711	772.5	-
BM40Z-../S..08.A.	199.5	142.5	156	681.5	116	136.5	747.5	793.5	855	-
BM40-../D..08.B.	229.5	60	156	629	116	136.5	695	741	802	-
BM40Z-../D..08.B.	229.5	142.5	156	711.5	116	136.5	777.5	823.5	884.5	-
BM40-../S..08.B.	229.5	60	156	629	116	136.5	695	741	802	-
BM40Z-../S..08.B.	229.5	142.5	156	711.5	116	136.5	777.5	823.5	884.5	-
BM40-../D..09.A.	250.5	74.5	176	664.5	125.5	157	757.5	772	861.5	-
BM40Z-../D..09.A.	250.5	157	176	747	125.5	157	840	854.5	944	-
BM40-../S..09.A.	250.5	74.5	176	664.5	125.5	157	757.5	772	861.5	-
BM40Z-../S..09.A.	250.5	157	176	747	125.5	157	840	854.5	944	-
BM40-../D..09.B.	308.5	74.5	176	722.5	125.5	157	815.5	829.5	919.5	-
BM40Z-../D..09.B.	308.5	157	176	805	125.5	157	898	912	1002	-
BM40-../S..09.B.	308.5	74.5	176	722.5	125.5	157	815.5	829.5	919.5	-
BM40Z-../S..09.B.	308.5	157	176	805	125.5	157	898	912	1002	-
BM40-../D..11.A.	319	81	218	739.5	165	176	837.5	847	939.5	-
BM40-../D..11.B.	387	81	218	807.5	165	176	903.5	915	1007.5	-

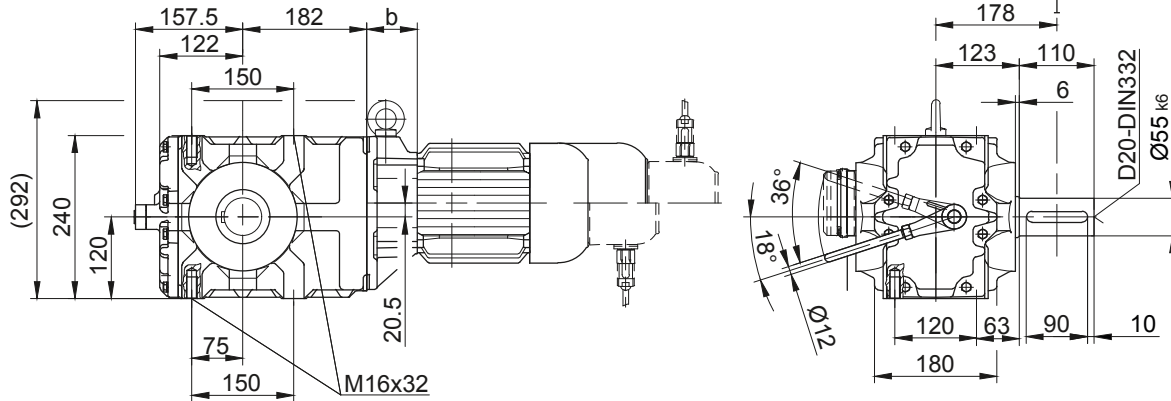
Dimensions in millimetres (mm)

The actual gearbox design can vary from the geometry shown. Generate drive specific 3D and 2D geometries under www.BauerCat.com.

BM40-BM40Z

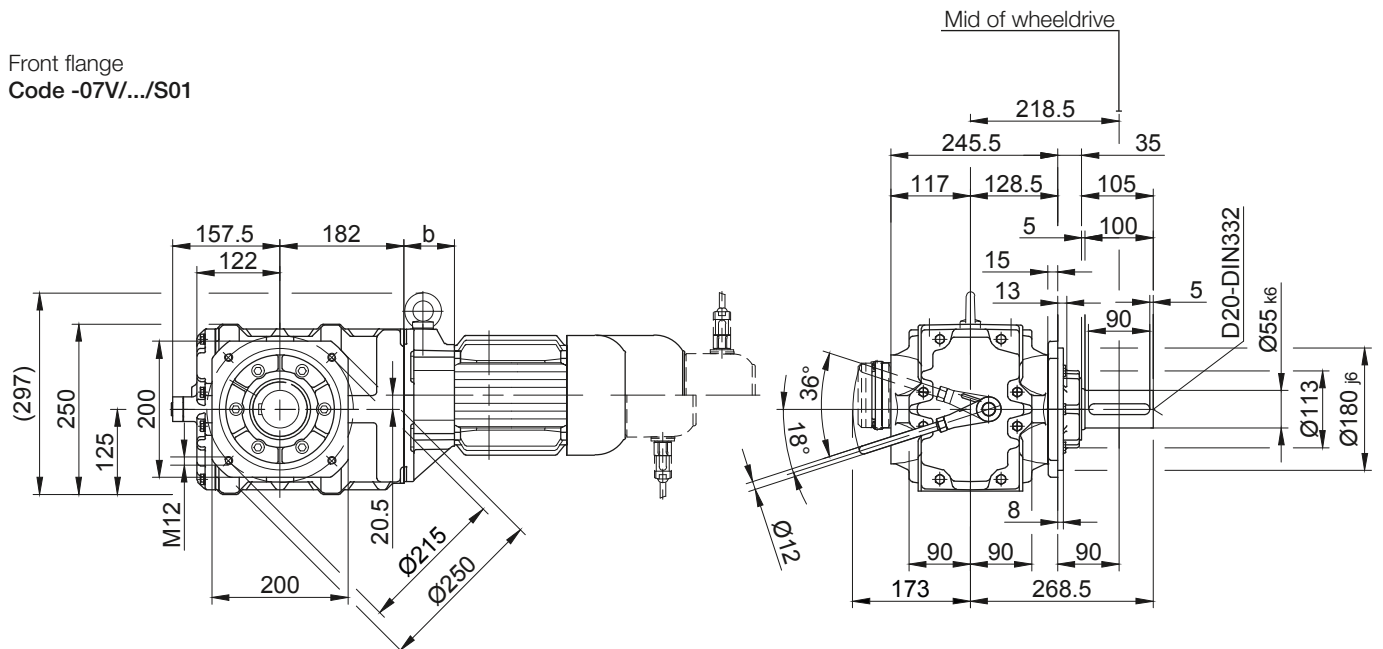
Foot with threaded holes at the bottom and top

Code -6.UO/



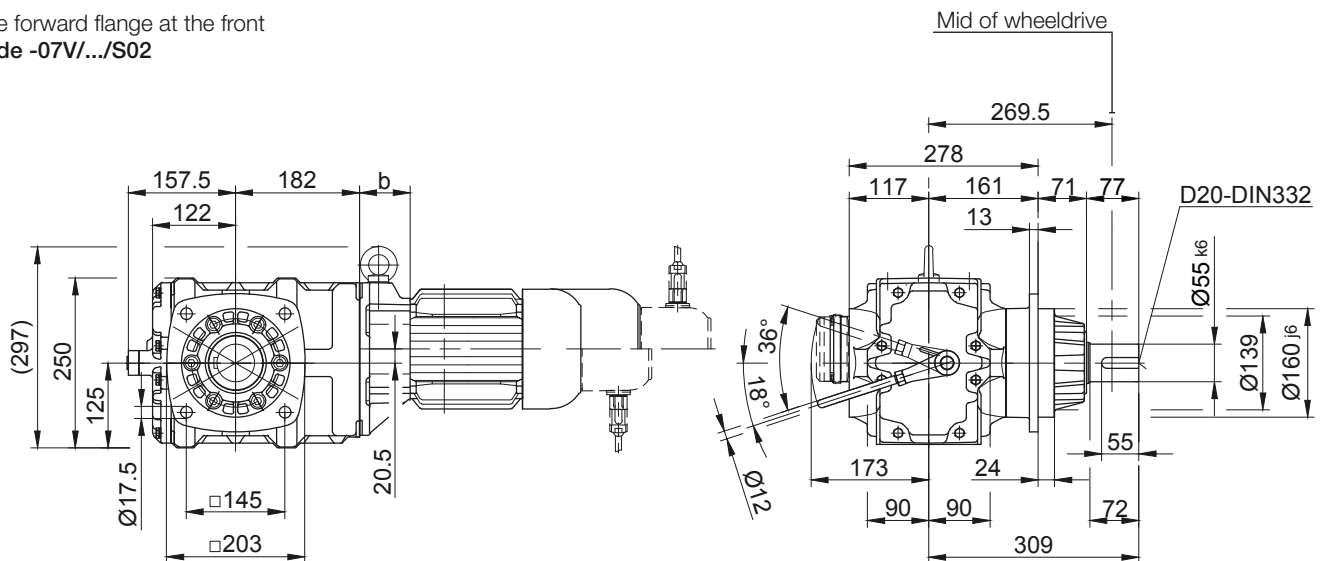
Front flange

Code -07V/.../S01



wde forward flange at the front

Code -07V/.../S02



Flange Dimensions

Type	Design	k	l	m	n	o	p	q	s	t
BM40..	Code -3.V/	250	215	180	16	13.5	276	152	4	78
BM40..	Code -4.V/	300	265	230	20	13.5	282	158	4	72

Dimensions in millimetres (mm)

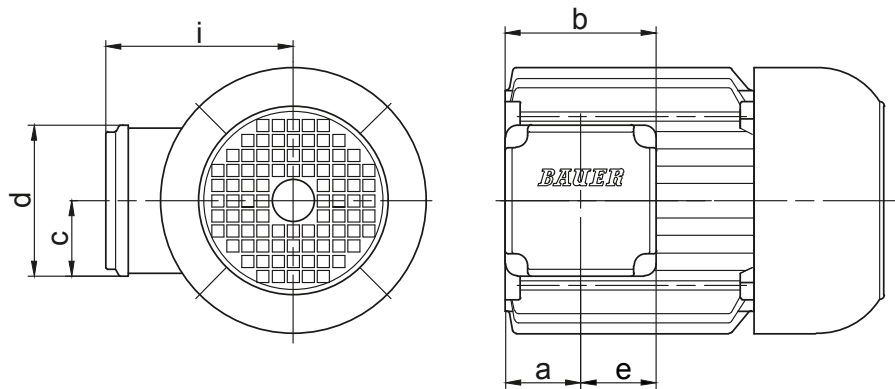
The actual gearbox design can vary from the geometry shown. Generate drive specific 3D and 2D geometries under www.BauerCat.com.

Electric overhead conveyors series BM

Additional Dimension Sheet

Standard terminal box

D/S..04.. - D/S..11..



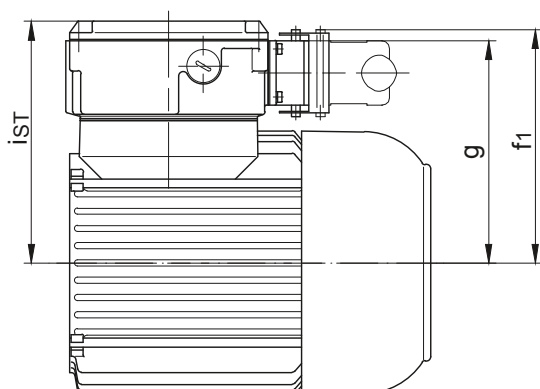
Motor/ Motor with brake		Dimensions (mm)						Code	Cable entry		max. spanner width
ASM	PMSM	a	b	c	d	e	i/iBR		Major (M)	Next to (N)	for cable entry gland
D..04..	S..04..	42.5	88	44	88	44	90	KAG1	M=2xM20x1.5	-	24
D..05..	-	50	100	50	100	50	101,5	KAG2	M=2xM20x1.5	-	29
D..06..	S..06..	50	100	50	100	50	104,5	KAG2	M=2xM20x1.5	-	29
D..07..	-		100	50	100	50	101,5	KAG2	M=2xM20x1.5	-	29
D..08..	S..08..	50	100	50	100	50	116	KAG2	M=2xM20x1.5	-	29
D..09..	S..09..	50	100	50	100	50	125,5	KAG2	M=2xM20x1.5	-	29
D..11..	S..11..	66.5	133	66.5	133	66.5	165	KAG3	M=2xM32x1.5	-	-
Dimensions in millimetres (mm)											

Electric overhead conveyors series BM

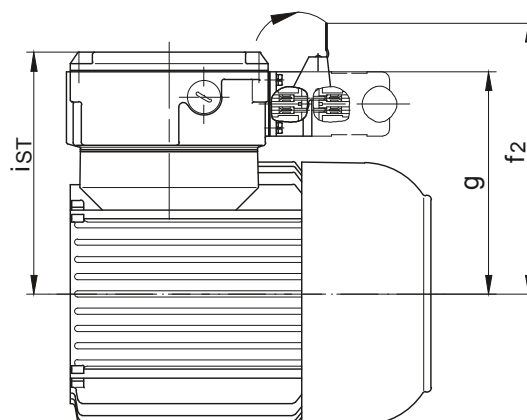
Additional Dimension Sheet

Plug-connector terminal box

Standard design (two brackets)



Optional for DESINA (one bracket)



10

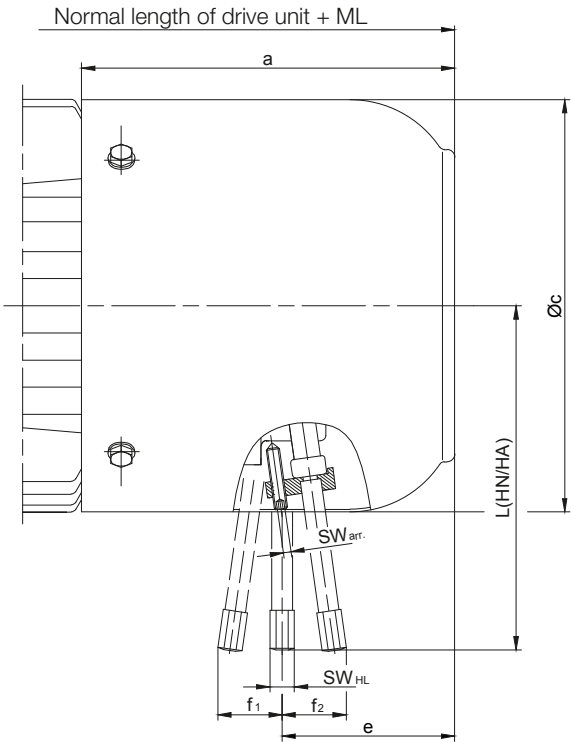
Motor		Size Terminal box	a	b	c	d	e	f_1	f_2	g	h_1	h_2	i_{ST}	x
ASM	PMSM													
D..04..	S..04..	TBS1	30	90	52.5	106	49	118.5	147	111	117	93	124.5	46
D..05..	-	TBS1	57	90	52.5	106	49	123.5	152	116	117	93	129.5	46
D..06..	S..06..	TBS1	45	90	52.5	106	49	125.5	154	118	117	93	131.5	46
D..07..	-	TBS1	45	90	52.5	106	49	125.5	154	118	117	93	131.5	46
D..08..	S..08..	TBS1	45	90	52.5	106	49	143.5	172	136	117	93	149.5	46
D..09..	S..09..	TBS2	62	132	66	135	71.5	158.5	187	158	117	93	164	68.5
D..11..	S..11..	TBS2	62	132	66	135	71.5	175.5	191	166	117	93	181	68.5

Dimensions in millimetres (mm)

Electric overhead conveyors series BM

Additional Dimension Sheet

Standard brakes

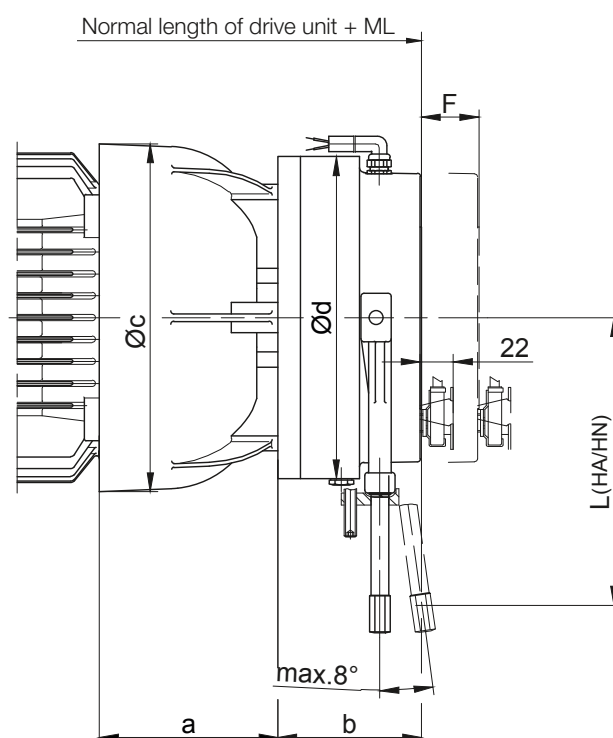


Motor		Brake	ML (mm)	Dimensions (mm)								Additional weight
ASM	PMSM		Additional length with brake	a	Øc	e	f ₁	f ₂	L(HA/HN)	SW _{HL}	SW _{arr.}	kg
D..04..	S..04..	E003	43.5	97	110.5	58.5	20.5	24	96/102	11	11	1.0
D..05..	-		42	102	123	60						
D..06..	S..06..					58.5						
D..07..	-	E003/E004										
D..08..	S..08..	ES(X)010	66	141	156	68	-	29	132	8	2.5	2.6
D..09..	S..09..	ES(X)010	93	173	176	99	-	29	132	8	2.5	2.7
		ES(X)027				91	-	35.5	162			4.2
D..11..	S..11..	ES(X)027	98	195	218	103	-	35.5	162	8	2.5	4.5
		ES(X)040				100	-	37	172			6.3
		ES(X)070				96	-	34.5	190	12	4	8.5
HA = manual release lockable HN = manual release not lockable												

Electric overhead conveyors series BM

Additional Dimension Sheet

“Heavy-Duty“- brake



Motor		Brake	Additional length with brake (mm)		Dimensions (mm)					Additional weight kg
ASM	PMSM		ML Standard	ML Microswitch	a	b	c	Ød	L (HA/HN)	
D..08..	S..08..	EH(X)010	74	96	83,5	62,5	166	120	132	4,2
D..08..	S..08..	EH(X)027	79	101	83.5	66.5	166	145	162	5.5
D..09..	S..09..	EH(X)027	82,5	104,5	102	70,5	191	145		7,6
D..09..	S..09..	EH(X)040	90	112	102	73	191	168	172	8.3
D..11..	S..11..	EH(X)070	104	126	120	85	231	188	189,5	15,2
D..11..	S..11..	EH(X)125	114	136	120	95	231	213	208.5	19.5

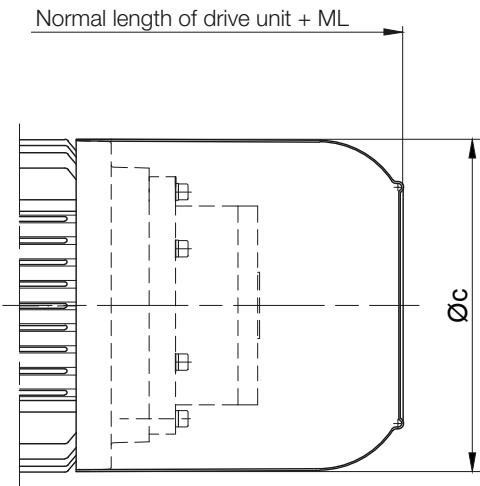
HA = manual release lockable
HN = manual release not lockable

10

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with back stop

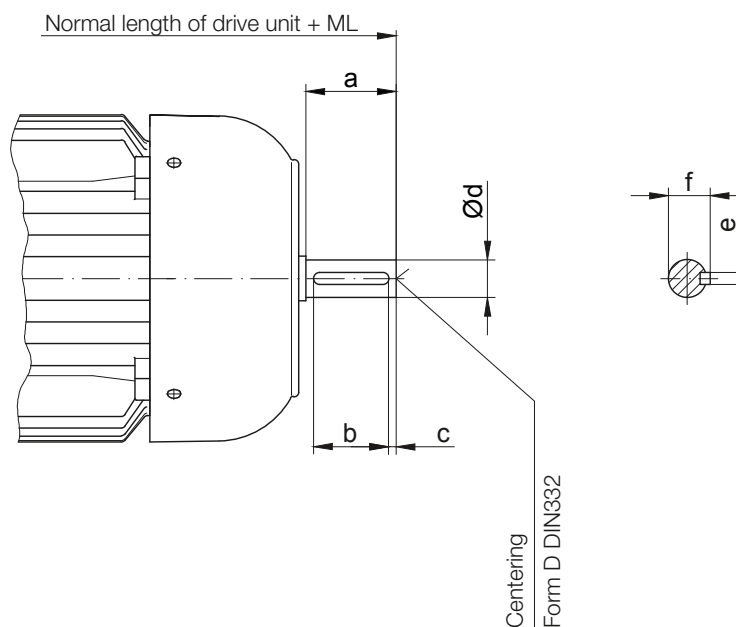


Motor		ML (mm)	Dimensions (mm)	Additional weight
ASM	PMSM	Additional length with backstop	c	kg
D..08..	S..08..	66	156	6.5
D..09..	S..09..	93	181	6.5
D..11..	S..11..	98	228	8

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with second shaft end



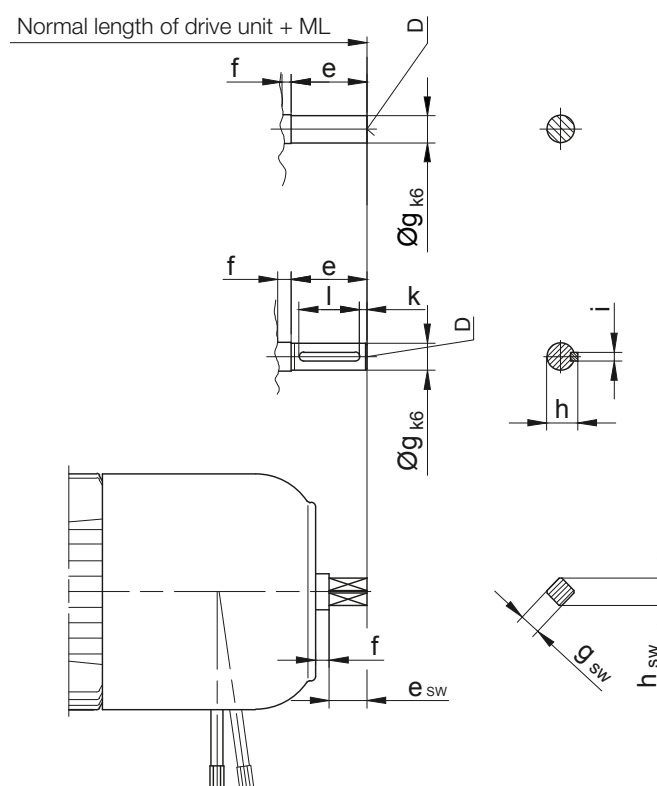
Motor		ML (mm)	Dimensions (mm)							Centering
ASM	PMSM	Additional length with second shaft end	a	b	c	d	e	f		DIN 332
D..04..	S..04..	20	15	-	-	8 _{g6}	-	-	-	-
D..05..	-	25	20	-	-	10 _{k6}	-	-	-	-
D..06..	S..06..	25	20	-	-	10 _{k6}	-	-	-	-
D..07..	-	25.5	20	-	-	10 _{k6}	-	-	-	-
D..08..	S..08..	45	40	30	5	16 _{k6}	5	18		D5
D..09..	S..09..	55	50	40	5	20 _{k6}	6	22.5		D5
D..11..	S..11..	65	60	50	5	25 _{k6}	8	28		D8

10

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with brake and second shaft end



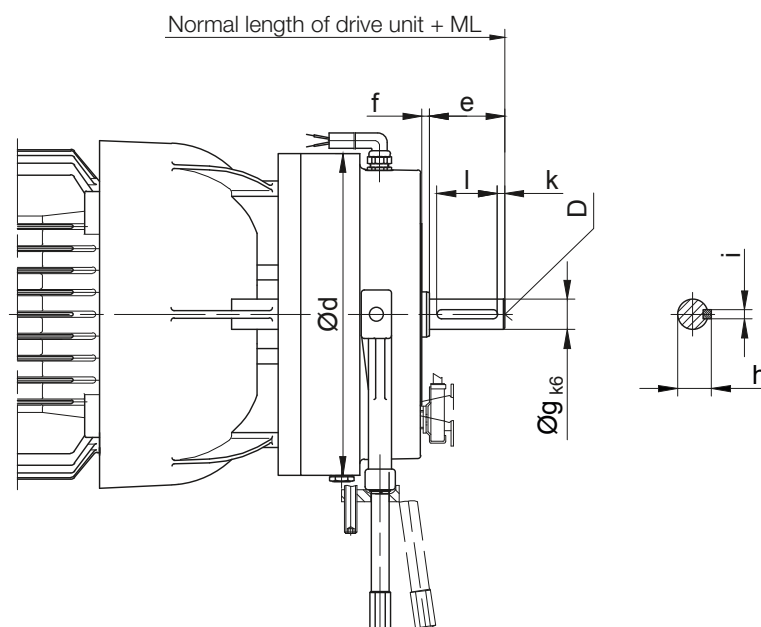
Motor		Brake	Additional length (mm)		Dimensions (mm)										Centering	SW
ASM	PMSM		ML	ML _{SW}	e	e _{SW}	f	g	g _{SW}	h	h _{SW}	i	k	l	DIN 332	
D..04..	S..04..	E003	63	-	15	-	5	8	-	-	-	-	-	-	-	-
D..05..	-				20			10								
D..06..	S..06..															
D..07..	-	E003/E004														
D..08..	S..08..	ES(X)..	121	96*	50	25*	5	18	SW14*	20.5	18*	6	5	40	D6	D4*
D..09..	S..09..		98	123*												
D..11..	S..11..		153.5*	128												

* special design with manual release

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with “heavy duty” brake and second shaft end



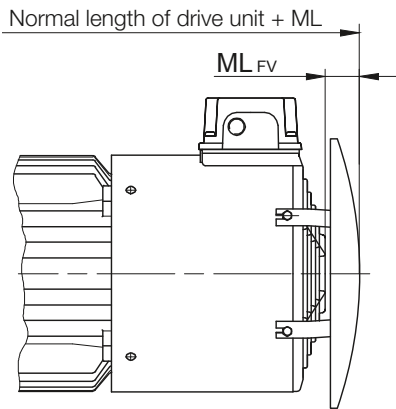
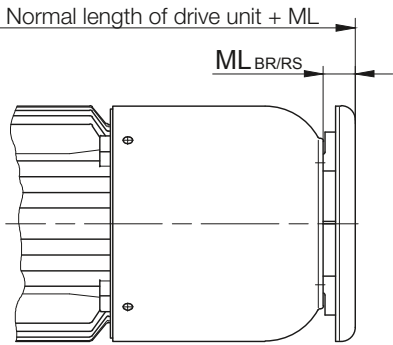
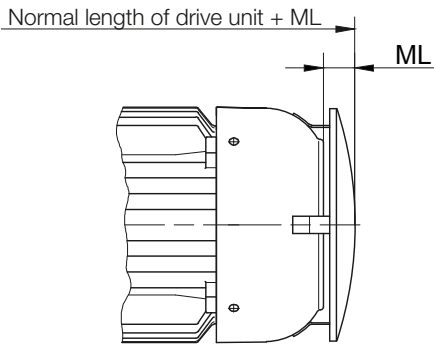
Motor		Brake	ML (mm)	Dimensions (mm)								Centering	Additional weight
ASM	PMSM		Additional length with encoder and brake	Ød	e	f	Øg	h	i	k	k	D 332	kg
D..08..	S..08..	EH(X)027	132	145	50	4	18	20.5	6	5	6	D6	6
D..09..	S..09..	EH(X)040	144	168		5	20	22.5					9
D..11..	S..11..	EH(X)125	169	213			20	22.5					20

10

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with protective hood

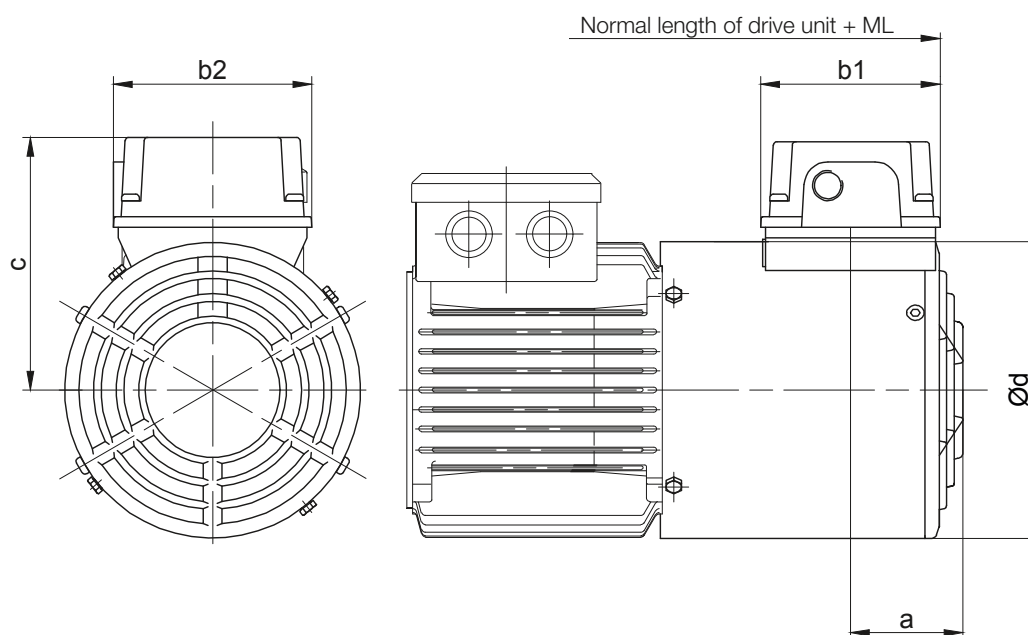


Motor		ML (mm)				Additional weight
Additional length with attached protective cover						
ASM	PMSM	ML	ML _{BR}	ML _{RS}	ML _{FV}	kg
D..04..	S04..	16	-	-	-	0.15
D..05..	-	18				0.15
D..06..	S..06..	18	-	-	-	0.15
D..07..	-	18	-	-	-	0.15
D..08..	S..08..	14.5	24.5	24.5	40	0.20
D..09..	S..09..	22	24.5	24.5	30	0.30
D..11..	S..11..	29	29.5	29.5	33	0.40

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with independent fan



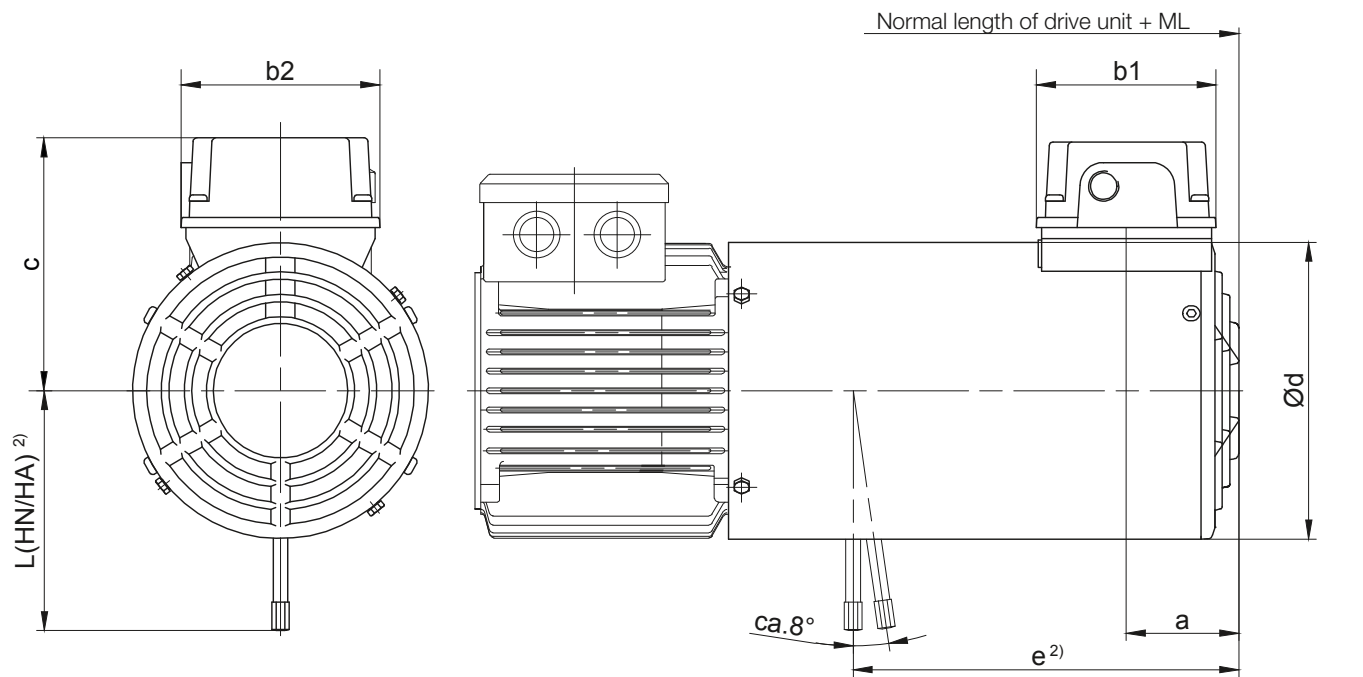
Drive Motor		Fan Motor			400 V	ML (mm)	Dimensions (mm)					Additional weight
ASM	PMSM		kW	r/min	A	Additional length with forced cooling fan	a	b1	b2	c	d	~kg
D..08..	S..08..	FV D08	0.019	2670	0.029	92	69.5	107	105	134	157	2.2
D..09..	S..09..	FV D09	0.046	2820	0.106	97	69.5	107	105	143	177	2.7
D..11..	S..11..	FV D11	0.051	2660	0.110	97	79.5	107	105	162.5	219	3.2

10

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with brake and independent fan



Motor		Brake	ML (mm) ¹⁾	Dimensions (mm)							Additional weight
ASM	PMSM		Additional length with brake and forced ventilation	a	b1	b2	c	Ød	e ²⁾	L(HA/HN) ²⁾	~kg
D..08..	S..08..	ES(X)010	202	59	107	105	134	157	204	132	5.0
D..09..	S..09..	ES(X)010	214	69.5	107	105	143	177	220	132	5.5
		ES(X)027							212	162	7.5
D..11*	S..11*	ES(X)027	221	69.5	107	105	162.5	219	226	162	8.0
		ES(X)040							223	172	10
		ES(X)070							218	184	12

* with bayonet joint

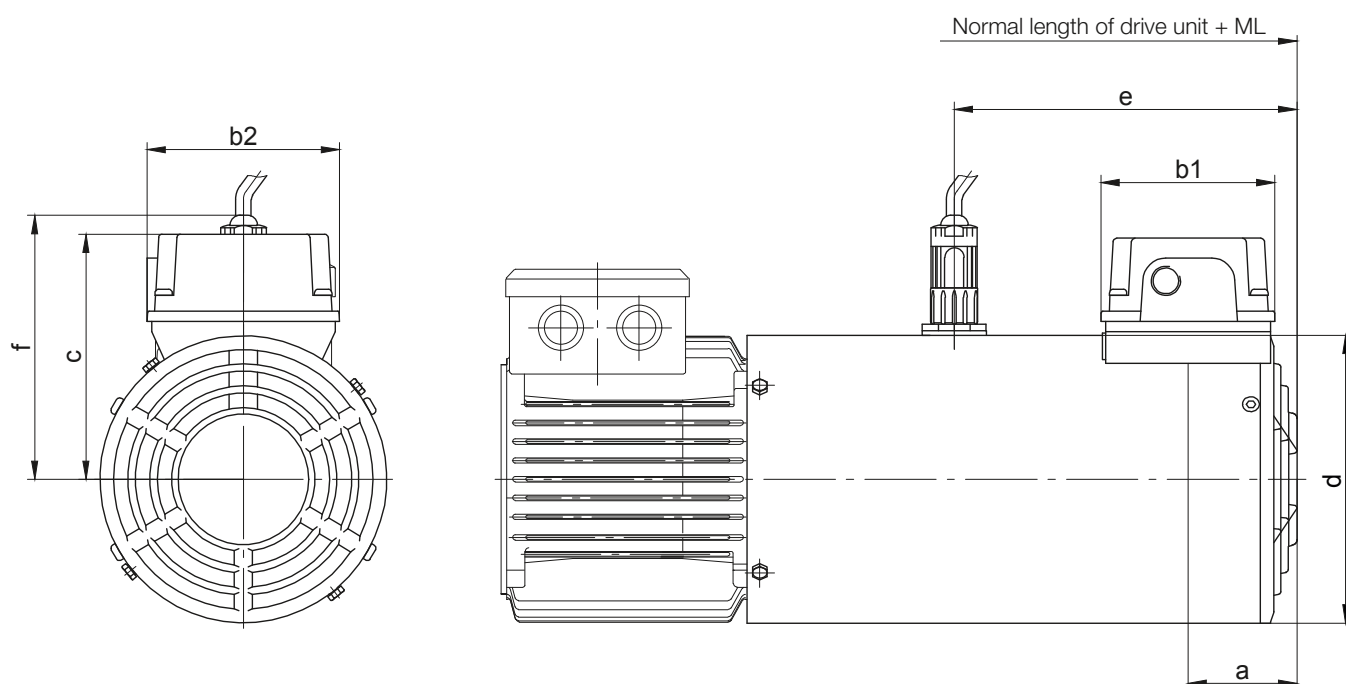
¹⁾ The additional length is for normal motor unit without brake.
Other dimensions see the appropriate normal dimensioned sketch.

²⁾ Brake release on request
HA = manual release lockable
HN = manual release not lockable

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with encoder and built-on independent fan



Motor		ML (mm) ¹⁾ Additional length with encoder and forced ventilation	Dimensions (mm)							Additional weight ~kg
ASM	PMSM		a	b1	b2	c	d	e	f	
D..08..	S..08..	202	59	107	105	134	157	187	144	2.6
D..09..	S..09..	214	69.5	107	105	143	177	192	153.5	3.3
D..11*	S..11*	221	69.5	107	105	162.5	218	192	-	4.0

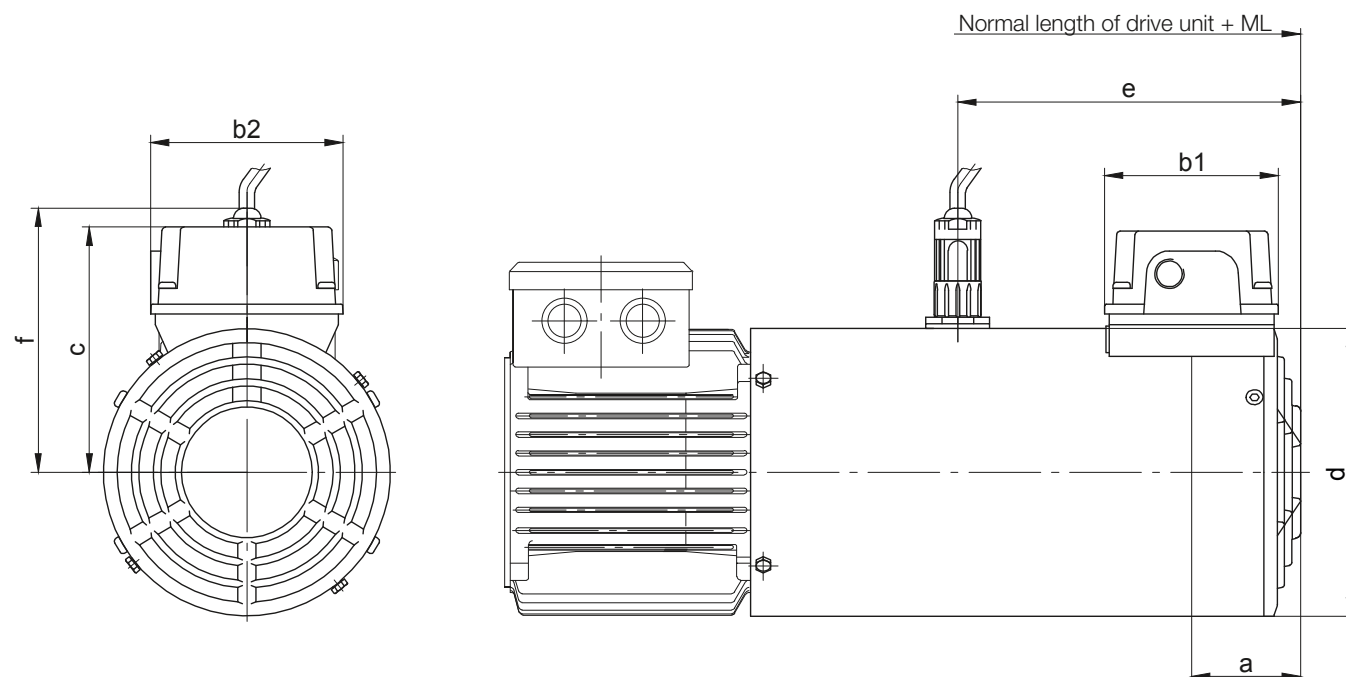
* with bayonet joint
¹⁾ The additional length is for normal motor unit without brake.
 Other dimensions see the appropriate normal dimensioned sketch.

10

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with brake and encoder with built-on independent fan



Motor		Brake	ML (mm) ¹⁾	Dimensions (mm)									Additional weight
ASM	PMSM		Additional length with brake, encoder and forced ventilation	a	b1	b2	c	Ød	e ²⁾	g	h	L(HA/HN) ²⁾	~kg
D..08..	S..08..	ES(X)010	202	59	107	105	134	157	204	150	150	132	6.0
D..09..	S..09..	ES(X)010	214	69.5	107	105	143	177	220	160	160	132	6.5
		ES(X)027							212	160		162	8.5
D..11*	S..11*	ES(X)027	221	69.5	107	105	162.5	219	226	155	175	162	9.0
		ES(X)040							223	155		172	11.5
		ES(X)070							218	155		184	13.5

* with bayonet joint

¹⁾ The additional length is for normal motor unit without brake.

Other dimensions see the appropriate normal dimensioned sketch.

²⁾ Brake release on request

HA = manual release lockable

HN = manual release not lockable

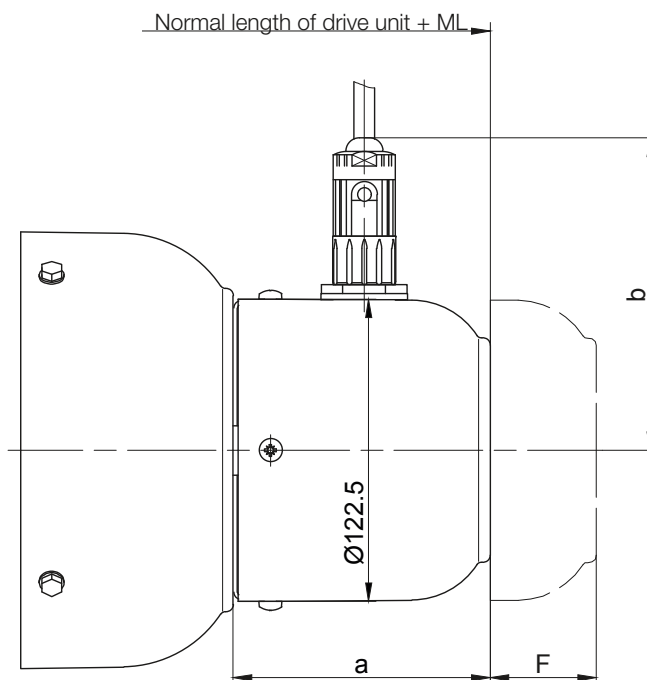
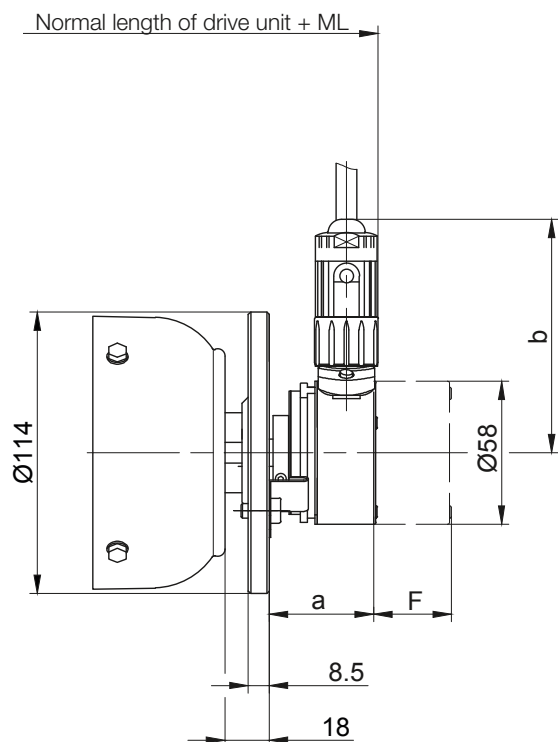
Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with standard encoder

D..04../S..04..

D..05../S..05.. - D ..11../S..11..



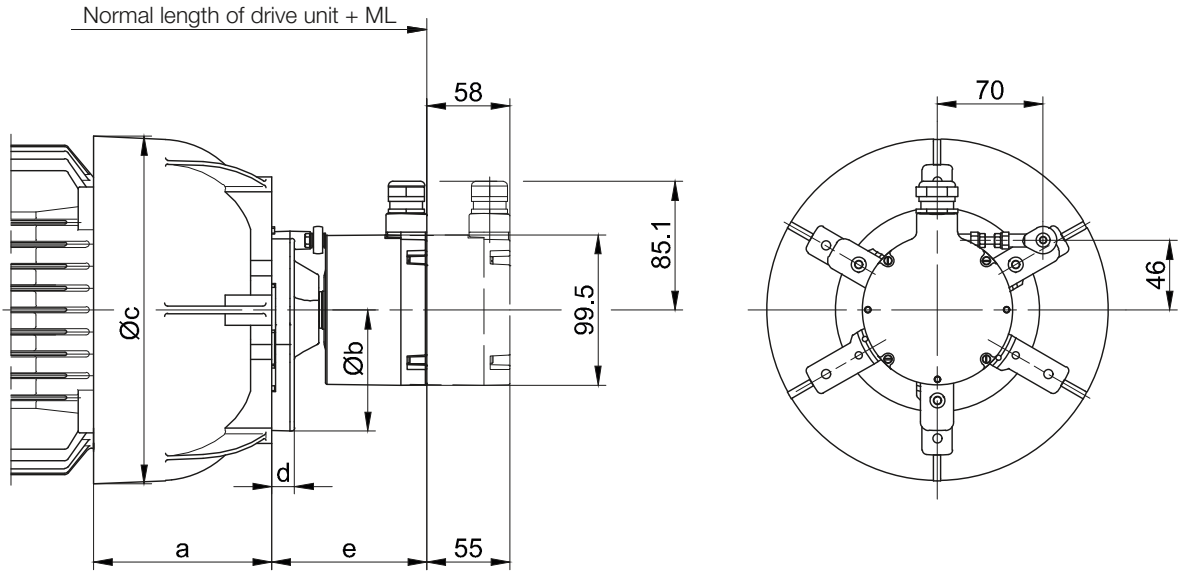
Motor		ML (mm)	Dimensions (mm)				Additional weight	Free space for removing encoder „F“	
ASM	PMSM	Additional length with encoder	Incremental encoder		Absolute encoder			Incremental encoder	Absolute encoder
			a	c	a	b			
D..04..	S04..	62.5	43.5	95	69.5	109.5	0.7	30	55
D..05..	-	103	98.5	127	98.5	127	0.9	63	88
D..06..									
D..07..									
D..08..	S..08..	107	107.5	127	107.5	127	0.8	41	66
D..09..	S..09..		104		104			43	68
D..11..	S..11..								

10

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with “heavy duty“ encoder



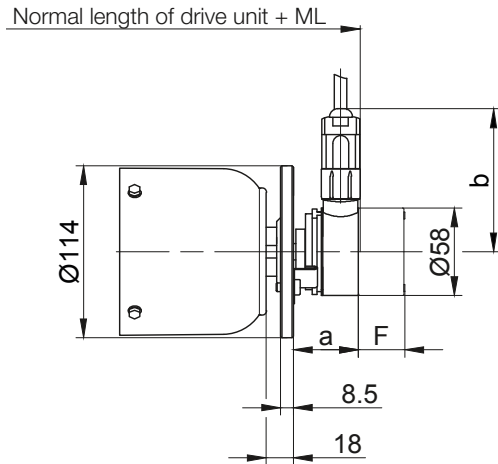
Motor		ML (mm) Additional length with encoder	Dimensions (mm)					Additional weight kg
ASM	PMSM		a	b	c	d	e	
D..08..	S..08..	114	83.5	160	166	15	102.5	2
D..09..	S..09..	118.5	102		191			
D..11..	S..11..	121.5	120		231			5.4

Electric overhead conveyors series BM

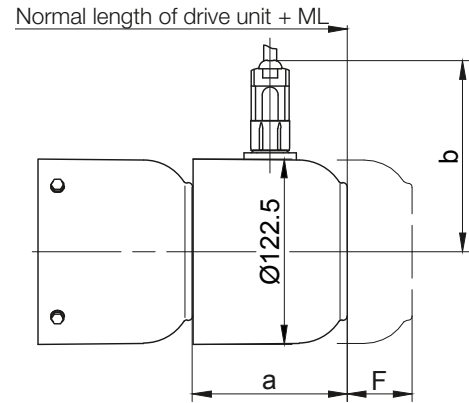
Additional Dimension Sheet

Motors with brake and encoder

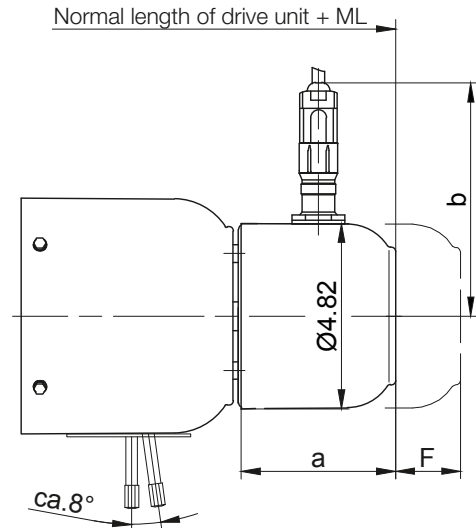
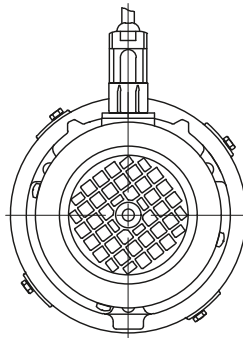
D..04..



D..05../S..05.. - D..07../S..07..



D..08../S..08.. - D..11../S..11..



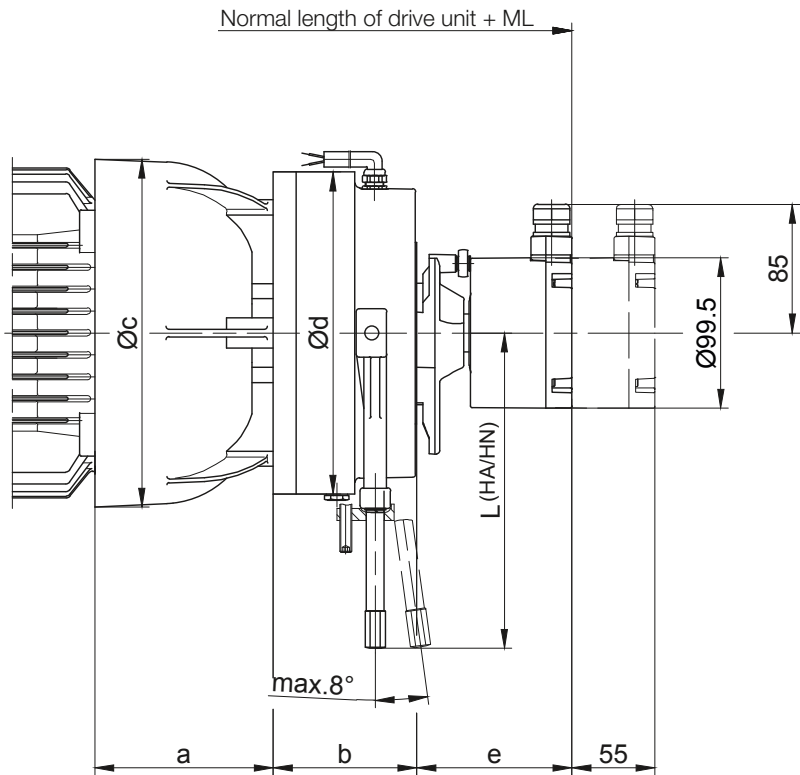
10

Motor		Brake	ML (mm)	Dimensions (mm)				Additional weight	Free space for removing encoder „F“	
			Additional length with brake and encoder	Incremental encoder		Absolute encoder			Incremental encoder	Absolute encoder
ASM	PMSM				a	c	a	b		
D..04..	S..04..	E003	105.5	43.5	95	69.5	109.5	0.7	30	55
D..05..	-		145	102	127	102	127	0.9	63	88
D..06..	S..06..							0.8	49	74
D..07..	-	E003/E004								
D..08..	S..08..	ES(X).. <td>173.5</td> <td></td> <td></td> <td></td> <td></td> <td rowspan="3">0.8</td> <td rowspan="3">49</td> <td rowspan="3">74</td>	173.5					0.8	49	74
D..09..	S..09..	ES(X).. <td>197</td> <td></td> <td></td> <td></td> <td></td>	197							
D..11..	S..11..	ES(X).. <td>200</td> <td></td> <td></td> <td></td> <td></td>	200							

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors with “heavy duty” brake and encoder

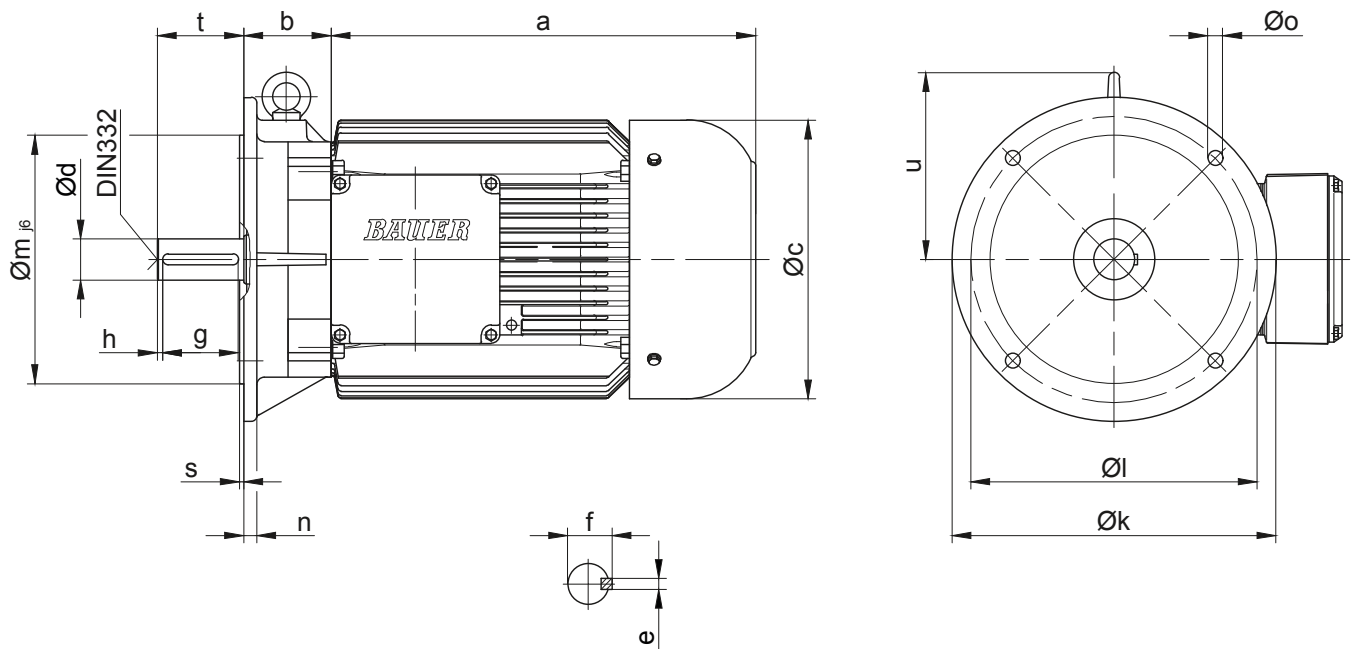


Motor		Brake	ML (mm)	Dimensions (mm)						Additional weight
ASM	PMSM			Additional length with brake and encoder	a	b	c	Ød	e	
D..08..	S..08..	EH(X)027	180.5	83.5	66.5	166	145	102.5	162	7.1
D..09..	S..09..	EH(X)040	191.5	102	73	191	168		172	10
D..11..	S..11..	EH(X)125	216.5	120	95	231	213		208.5	21.4
HA = manual release lockable										
HN = manual release not lockable										

Electric overhead conveyors series BM

Additional Dimension Sheet

Motors in IEC design



Motor		Dimensions (mm)																Centering
ASM	PMSM	a	b	c	d	e	f	g	h	k	l	m	n	o	s	t	u	DIN 332
D..06..A.	S..06..	170	45	123	11 _{j6}	4	12.5	18	2.5	140	115	95	9	10	2.75	23	-	D4
D..07..A.	-	190	45	123	11 _{j6}	4	12.5	18	2.5	140	115	95	9	10	2.75	23	-	D4
D..08..A.	S..08..	200	49	156	19 _{j6}	6	21.5	35	2.5	200	165	130	10	12	3.5	40	-	D4
D..08..B.	-	230	49	156	19j6	6	21,5	35	2,5	200	165	130	10	12	3,5	40	-	D4
D..09..A.	S..09..	251	66	176	24 _{j6}	8	27	40	5	200	165	130	10	12	3.5	50	128.5	D6
D..09..B.	-	309	66	176	24j6	8	27	40	5	200	165	130	10	12	3,5	50	128,5	D6
D..11..A.	S..11..	319	75	218	28 _{j6}	8	31	50	5	250	215	180	11	14.5	4	60	145.5	D10
D..11..B.	-	387	75	218	28j6	8	31	50	5	250	215	180	11	14,5	4	60	145,5	D10

10



Motoren - ASM.....141

General143

ErP Directive 2009/125/EC	143
Regulation (EU) 2019/1781	144
Torques	146
Line voltages	146
Line frequencies	147
Rating plate	147
Terminal box	147
Motor connections	148
Terminal connections for single speed motors without motor protection	149
Terminal connections for single speed motors with motor protection	150
Terminal connections for pole changing motors in Dahlander connection (Δ/YY or Y/YY).....	151
Terminal connections for pole changing motors with two separate windings (Y/Y or Δ/Δ)	152
Plug-and-socket connection	153
Motor protection	154
Thermistors (PTC)	154
Thermostatic protection	155
KTY sensors	156
PT100 sensors	157
Insulation	158
IP – Protection classes	158
Degrees of protection provided by enclosures for electrical equipment.....	158
Speed of output shaft	159

Duty types as defined by EN 60034160

General	160
Continuous running duty (S1)	160
Short-time duty (S2)	160
Intermittent periodic duty (S3)	161
Intermittent periodic duty with starting (S4)	162
Intermittent periodic duty with electric braking (S5)	163
Continuous-operation periodic duty (S6)	164
Continuous-operation periodic duty with electric braking (S7)	164
Continuous-operation periodic duty with relative load/speed changes (S8)	165
Duty with non-periodic load and speed variations (S9)	165
Duty with discreet constant loads and speeds (S10)	166

Operation with frequency converter.....167

Notes on design	167
Increased torque with reduced duty factor	167
Increased torque with external fan	167
Energy-saving function	168
Regeneration	168
Notes on operation with other-make frequency inverters	168

Technical data.....169

Technical data of the 50 Hz motors.....169

4-pole IE1 motors for continuous operation S1, line frequency 50 Hz.....	169
4-pole IE2 motors for continuous operation S1, line frequency 50 Hz.....	170
4-pole IE2 motors for continuous operation S1, mains frequency 50 Hz.....	171
4-pole IE3 motors for continuous operation S1, line frequency 50 Hz.....	172
4-pole IE3 motors for continuous operation S1, mains frequency 50 Hz.....	173
4 pole motors for periodic duty S3/S6-75 %, Mains Frequency 50 Hz.....	174
4 pole motors for periodic duty S3/S6, Mains Frequency 50 Hz	175 ▶

Energy Efficient Geared Motors

Electric overhead conveyors series BM

◀ 4/2-pole Δ/YY motors for continuous running duty (S1) and 50 Hz mains frequency	176
8/4-pole Δ/YY motors for continuous running duty (S1) and 50 Hz mains frequency	177
8/2-pole Y/Y motors for intermittent periodic duty S3 25/75 % and 50 Hz mains frequency	178
12/2-pole Y/Y motors for intermittent periodic duty S3 25/75 % and 50 Hz mains frequency	179
Technical data of the 60 Hz motors.....	180
4-pole IE1 motors for continuous operation S1, mains frequency 60 Hz.....	180
4-pole IE2 motors for continuous operation S1, mains frequency 60 Hz.....	181
4-pole IE2 motors for continuous operation S1, mains frequency 60 Hz.....	182
4-pole IE3 motors for continuous operation S1, line frequency 60 Hz.....	183
4-pole IE3 motors for continuous operation S1, mains frequency 60 Hz.....	184
4-pole motors for intermittent periodic duty (S3/S6 75 %) and 60 Hz mains frequency.....	185
4-pole motors for intermittent periodic duty (S3/S6) and 60 Hz mains frequency.....	186
4/2-pole motors Δ/YY for continuous operation S1, line frequency 60 Hz.....	187
8/4-pole motors Δ/YY for continuous operation S1, line frequency 60 Hz.....	188
8/2-pole Y/Y motors for intermittent periodic duty S3 25/75 % and 60 Hz mains frequency.....	189
12/2-pole motors Y/Y for intermittent periodic duty S3-25/75 %, line frequency 60 Hz.....	190
Operation with frequency converter, 50 Hz	191
IE1 Motor torques for frequency-converter range 5 Hz - 70 Hz, line frequency 50 Hz	191
IE1 Motor torques for frequency-converter range 5 Hz - 100 Hz, line frequency 50 Hz	192
IE2 Motor torques for frequency-converter range 5 Hz - 70 Hz, line frequency 50 Hz	193
IE2 Motor torques for frequency-converter range 5 Hz - 100 Hz, line frequency 50 Hz	194
IE3 Motor torques for frequency-converter range 5 Hz - 70 Hz, line frequency 50 Hz	195
IE3 Motor torques for frequency-converter range 5 Hz - 100 Hz, line frequency 50 Hz	196
Operation with frequency converter, 60 Hz	197
IE1 Motor torques for frequency-converter range 6 Hz - 84 Hz, line frequency 60 Hz	197
IE1 Motor torques for frequency-converter range 6 Hz - 120 Hz, line frequency 60 Hz	198
IE2 Motor torques for frequency-converter range 5 Hz - 80 Hz, line frequency 60 Hz	199
IE2 Motor torques for frequency-converter range 5 Hz - 120 Hz, line frequency 60 Hz	200
IE3 Motor torques for frequency-converter range 5 Hz - 80 Hz, line frequency 60 Hz	201
IE3 Motor torques for frequency-converter range 5 Hz - 120 Hz, line frequency 60 Hz	202

ErP Directive 2009/125/EC

Directive 2009/125/EC of the European Parliament and the Council, issued in 2009, specifies requirements for the environmentally responsible design of energy-related products (ErPs). In November 2009 it superseded Directive 2005/32/EC, which formed the framework for requirements for the environmentally responsible design of energy-using products (EuPs). This change has no effect on already proclaimed implementation measures.

Objectives

The ErP Directive has several objectives:

1. Mitigating the environmental impact of energy-using products

This objective is intended to be achieved by the documentation and labelling of products, by regulations for inspection, and by the formulation of individual requirements in implementation measures. As the entire product life cycle is taken into consideration, action must be taken as early as the design phase.

2. Climate protection

Achievement of the EU climate protection objectives is to be supported. This can be implemented by reducing energy consumption and the emission of global warming gasses in the production, operation and disposal of energy-using products.

3. Harmonised legislation

The directive creates a framework for the European regulation of environmental design requirements. This avoids trade impediments resulting from differences in national regulations. This can be achieved by means of the proclamation of legally binding implementation measures for the entire Community and protection of free trade in goods against further-reaching regulations of the Member States.

Regulation (EU) 2019/1781

To establish eco-design requirements for electric motors and variable speed drives pursuant to Directive 2009/125/EC

Valid from: 01.07.2021

- Frequency converter 0.12 - 1,000 kW: IE2
- 3-phase motors 0.12 < 0.75 kW/2.4, 6 or 8 poles: IE2 (Excluded: Ex eb (DXE))
- 3-phase motors 0.75 - 1,000 kW/2.4, 6 or 8 poles: IE3 (Excluded: Ex eb (DXE))

ATTENTION:

Brake motors are no longer exempt!!

IE2 for inverter operation is no longer permitted!!!

Valid from: 01.07.2023

- 1-phase motors ≥ 0.12 kW: IE2
- Ex eb (DXE) Motors ≥ 0.12 kW: IE2
- 3-phase motors 75 kW – 200 kW 2, 4 or 6 pole: IE4
(Exempt: brake motor and all explosion-proof motors)

Scope

Induction electric motors without brushes, commutators, slip rings or electrical connections to the rotor, rated for operation on a 50 Hz, 60 Hz or 50/60 Hz sinusoidal voltage and having the following characteristics:

- 2-, 4-, 6- and 8-pole motors
- Rated power P_N between 0.12 kW and 1000 kW
- Rated voltage U_N over 50 V up to and including 1,000 V
- are designed for continuous operation (S_1 , $S_3 \geq 80$ % ED, $S_6 \geq 80$ % ED) and are intended for direct mains operation

Which engines are excluded from the scheme?

- Motors designed to be operated completely immersed in a liquid
- Motors fully integrated into a product (e.g. a gearbox, a pump, a fan or a compressor) whose energy efficiency cannot be measured independently of that product
- Motors with integrated frequency converter (compact drives) whose energy efficiency cannot be tested independently of the frequency converter
- Motors specifically designed and specified to operate exclusively
 - at altitudes exceeding 4000 m above sea-level
 - at ambient temperatures above 60 °C
 - at ambient temperatures below -30 °C
- Motors with integrated brake, which is an integral part of the inner motor construction and cannot be removed or supplied from a separate power source when testing the motor efficiency.
- Motors specifically qualified for the safety of nuclear installations, as defined in Article 3 of Council Directive 2009/71/EURATOM
- Motors with mechanical commutators
- Totally enclosed Non-Ventilated motors (TENV)
- Engines from the respective scope of application of the two deadlines 01.07.2021 or 01.07.2023, which were placed on the market before these deadlines, may continue to be placed on the market until 30.06.2029 as 1:1 replacements and may be specifically marketed as such
- Multi-speed motors, i.e. pole-changing motors
- Motors designed specifically for the traction of electric vehicles
- Motors in portable equipment whose weight is supported by hand during operation
- Motors in hand-held mobile equipment which are moved during operation
- Motors in cordless or battery-operated equipment
- Motors for underground mining (mines)

Method for determining the motor efficiency according to IEC 60034-2-1

Individual loss procedure

Additional losses according to residual loss method

Low measurement uncertainty

Bauer geared motors for connection to three-phase supply are supplied with specially designed induction motors. This design ensures maximum operating safety with high breakaway torque and minimum starting current.

The torque/speed characteristic is largely free of torque dips. Torque is optimised to suit requirements and application parameters. See “www.bauergears.com” for more information.

Torques

The torques as stated in the selection tables are fully available at the output shaft. These figures apply for continuous operation (S1-100 %) at a maximum ambient temperature of 40 °C and at site elevations up to 1000 m above sea level. Drives for higher ambient temperatures and site elevations are available on request. Gear efficiencies, which are lower than the usual values for spur gears, are taken into account in the torques listed in the selection tables.

Line voltages

BAUER motors are available as standard for the following three-phase line voltages:

Motor size	Standard voltages:
D..04LA4 - D..09X,4	220 V Δ / 380 V Y 50 Hz
0.06 - 2.2 kW	230 V Δ / 400 V Y 50 Hz*
	240 V Δ / 415 V Y 50 Hz**
	440 V Y / 60 Hz 460 V Y/60 Hz
from D..11SA4	220 V Δ / 380 V Y 50 Hz
from 3.0 kW	230 V Δ / 400 V Y 50 Hz
	240 V Δ / 415 V Y 50 Hz**
	440 V Y / 60 Hz 460 V Y/60 Hz
	380 V Δ / 660 V Y 50 Hz
	400 V Δ / 690 V Y 50 Hz*
	415 V Δ / 50 Hz**
	440 V Δ / 60 Hz
	460 V Δ / 60 Hz

*Voltage recommended world-wide by IEC 38 and in Europe by CENELEC.

**= Insulation Class F is necessary.

Designs for other voltages available on request and at extra cost.

Unless otherwise specified, motors for operation in conjunction with frequency converters with a 50 or 60 Hz frequency have a Y-circuit to optimise operating noise and winding load.

Unless otherwise stated, the tolerance for the rated voltage is +/- 5 %, in accordance with IEC 60034-1.

The D..04.. to D..18.. motors in 4 pole design can be operated within a tolerance of +/- 10 % of the rated voltage (400 V 50 Hz).

Line frequencies

All motors are available with the same power ratings for either 50 or 60 Hz. Increased power models are available on request.

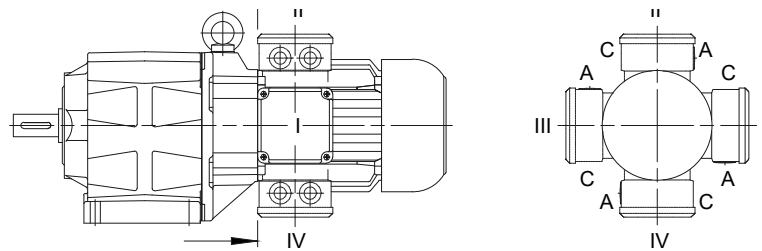
Rating plate

Bauer geared motors are supplied with a corrosion-proof rating plate as standard. The standard rating plate is made of special plastic tried and tested in many years of practical use and approved for hazardous areas by the Physikalisch-Technische-Bundesanstalt (PTB).

BAUER		73734 Esslingen Made in Germany	
3-Mot.-No. E 11873812-1		A/ 188W573	40/2022
Type BM30-61UO/D08MA4-TF-ST-S/E008B6HN/			
TM			
0,55 kW	cosφ	0,75	S1
		IsoCl. F	
50 Hz	Y	400 V	1,6 A
n ₁ 1400	n ₂ 28,5 r/min	i 49,66	143 Nm
20-50-60 Hz		186-400-400 V	0,21-0,47-0,57 kW
B34001123803		FU	100 %
IM H1		IP 65	1,2 L PGLP 460
t _{amb} -20...40 °C		49,4 kg	
180 V DC	0,15 A	6,5 Nm	380...420 V AC 0,11 A
		SCH01	
		EN60034	

Terminal box

The cables of motors with and without brakes can be introduced into the motor terminal box from side A or side C.

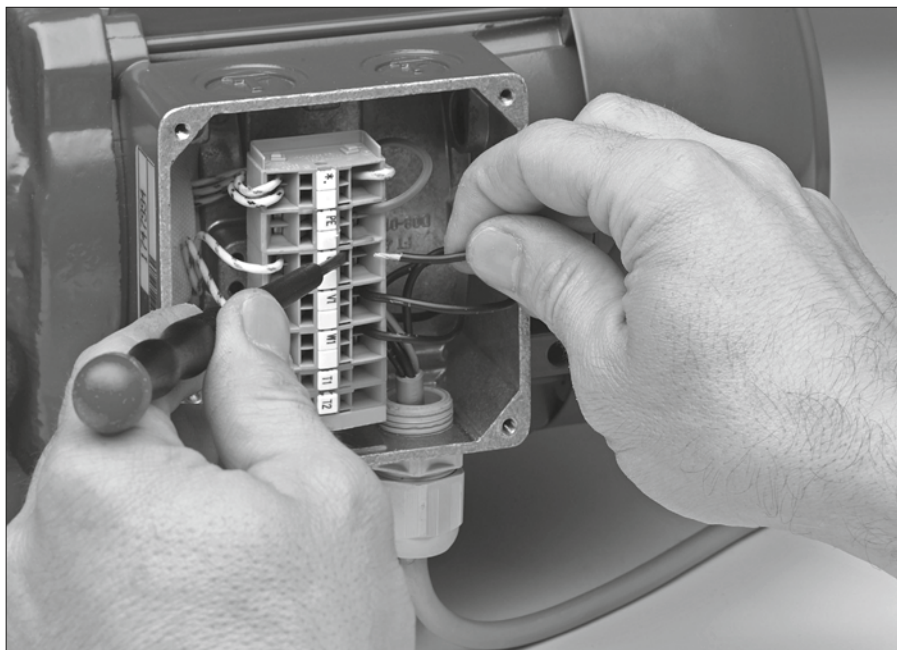


The standard position for the motor terminal box is shown in the dimensional drawings for the geared motors (see chapter 10,11,12 and 13). The terminal box can be installed at any of 3 other positions on request, if on-site space is restricted. The 4 possible positions are 90° off-sets around the axis of the motor (dimensional drawing and designation for standard terminal box, see chapter 16 "Dimensional drawing standard terminal box").

Cast-on terminal boxes (KAG) are supplied with knock out entries with metric nut for cable gland. Screw- on terminal boxes (TBI...4 are supplied with a metric screw thread as standard.

Motor connections

The electrical connection of gear motors is time consuming and creates costs, which cannot be neglected both during initial installation and in service cases. These costs are reduced considerably by the use of BAUER Gear Motors, have CAGE CLAMP® connection technology instead of the conventional terminal block – and that without extra charge.



What are the advantages for you ?

Cost reduction during connection

Public timing test have confirmed, that the electrical connection of a cable by means of CAGE CLAMP® technology saves up to 75 % working time compared with the classic screw connection.

Simple Handling

Cable connection from the top, very easily accessible: The CAGE CLAMP® spring is pressed, and the cable inserted from the front, i.e. in the field of vision of the installation engineer.

Which cable core diameters ?

Suitable for all copper wires from 0,5 mm² to 25 mm².

Cost saving in material and tooling

- multicore cable ends, cable eyes or cable ring eyes are no longer needed
- Tools such as crimping pliers are no longer needed
- Inadvertently over tightening or breaking of the terminal bolts and the procurement of a new terminal block belong in the past.
- Searching and procurement of nuts and washers for the terminal blocks, which have fallen down, also belongs in the past.

Vibration and shock resistant

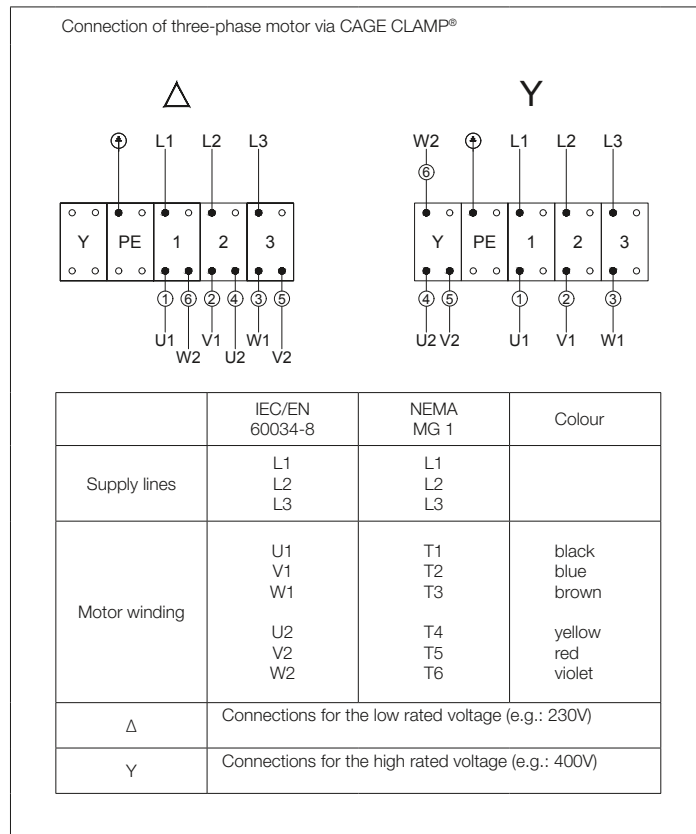
Vibration and shock result neither in conductor damage nor in a measurable contact interruption. The connection is service free.

Type of conductors

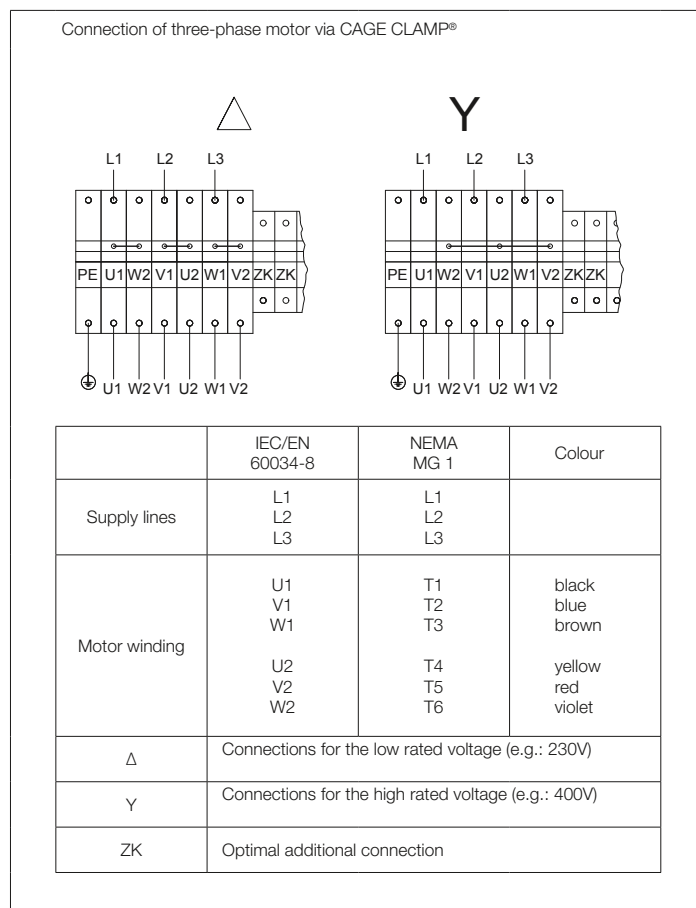
The CAGE CLAMP®-connector can clamp fine stranded, stranded and solid cores wires.

Terminal connections for single speed motors without motor protection

Standard connection of three phase motors without motor protection via CAGE CLAMP®.
D..04.. - D..09..



D..11.. - D..18..



Terminal connections for single speed motors with motor protection

Standard connection of three phase motors with motor protection via CAGE CLAMP®.

D..04.. - D..09..

Connection of three-phase motor and thermal motor protection via CAGE CLAMP®

	IEC/EN 60034-8	NEMA MG 1	Colour
Supply lines	L1 L2 L3	L1 L2 L3	
Motor winding	U1 V1 W1 U2 V2 W2	T1 T2 T3 T4 T5 T6	black blue brown yellow red violet
Δ	Schaltung für niedrige Nennspannung (z. B.: 230V)		
Y	Schaltung für hohe Nennspannung (z. B.: 400V)		
T1 T2	Thermal motor protection		

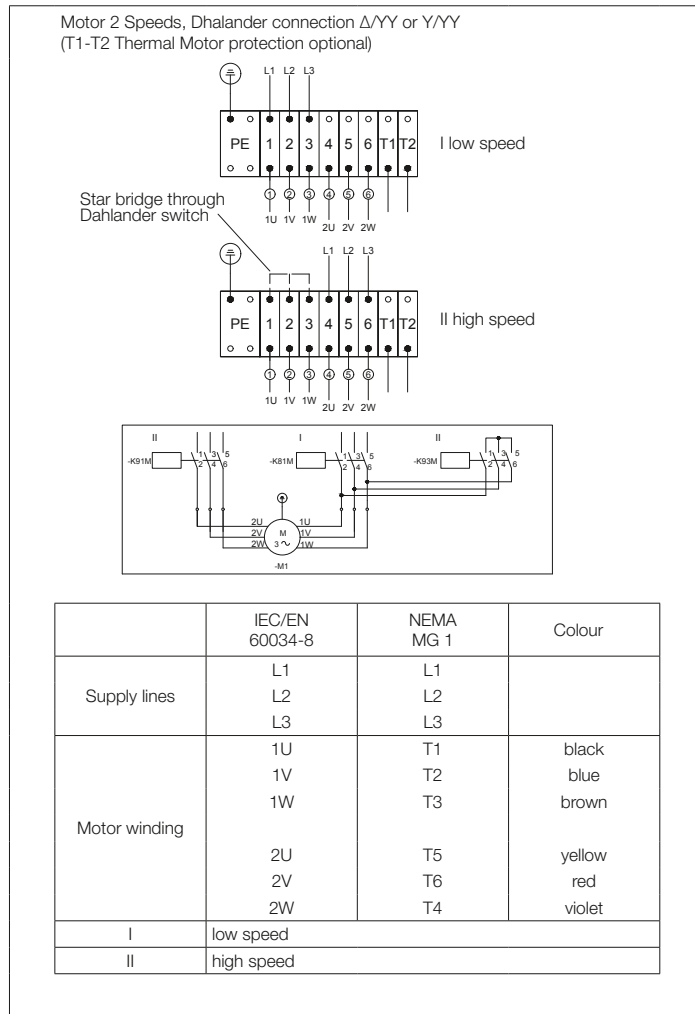
D..11 - D..18

Connection of three-phase motor via CAGE CLAMP®

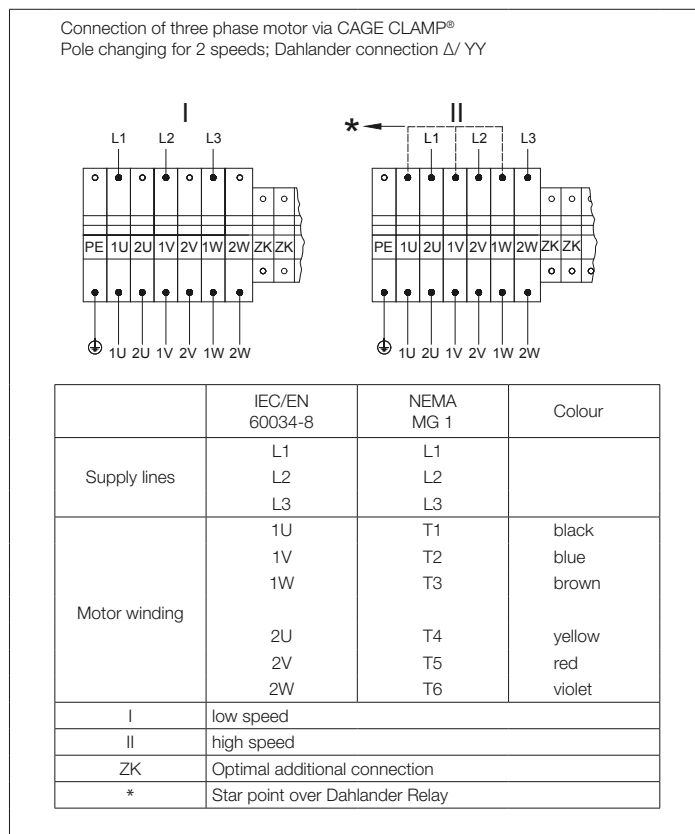
	IEC/EN 60034-8	NEMA MG 1	Colour
Supply lines	L1 L2 L3	L1 L2 L3	
Motor winding	U1 V1 W1 U2 V2 W2	T1 T2 T3 T4 T5 T6	black blue brown yellow red violet
Δ	Connections for the low rated voltage (e.g.: 230V)		
Y	Connections for the high rated voltage (e.g.: 400V)		
ZK	Optimal additional connection		

Terminal connections for pole changing motors in Dahlander connection (Δ/YY or Y/YY)

Standard connection of three phase motors without motor protection via CAGE CLAMP®.
D..04..-D..09.. - S..04..-S..09..



D..11.. - S..11..



Motors - ASM

General

Terminal connections for pole changing motors with two separate windings (Y/Y or Δ/Δ)

Standard connection of three phase motors with motor protection via CAGE CLAMP®.

D..04..- D..09.., S..04..-S09..

Motor pole-changing
2 speeds, 2 windings: Y/Y or Δ/Δ
(T1-T2 thermal motor protection optional)

I: slow speed

II: high speed

	IEC/EN 60034-8	NEMA MG 1	Colour
Supply lines	L1 L2 L3	L1 L2 L3	
Motor winding	1U 1V 1W 2U 2V 2W	T1 T2 T3 T11 T12 T13	black blue brown yellow red violet
I	low speed		
II	high speed		
T1 T2	Thermal motor protection		

D..11.. - S11..

Connection of three phase motor via CAGE CLAMP®
Motor pole-changing 2 speeds, 2 windings; Y/Y or Δ/Δ

I

II

	IEC/EN 60034-8	NEMA MG 1	Colour
Supply lines	L1 L2 L3	L1 L2 L3	
Motor winding	1U 1V 1W 2U 2V 2W	T1 T2 T3 T4 T5 T6	black blue brown yellow red violet
I	low speed		
II	high speed		
ZK	Optimal additional connection		

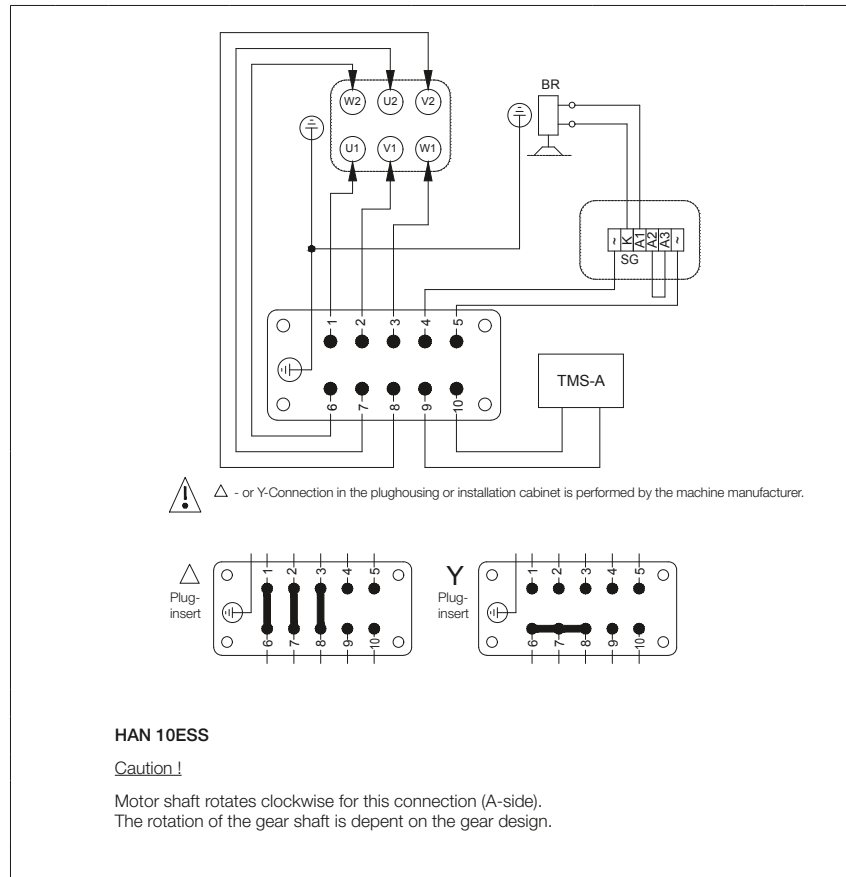
Plug-and-socket connection

D..06.. to D..16.. Bauer motors are available with plug-in motor connection. The socket housing is mounted on the fan-cowl side of the terminal box as standard. This layout minimises the protrusion caused by the plug.

The standard plug-and-socket type connection incorporates the attachment housing, pin insert and cover. Grommet-type housings and jack inserts are available on request at extra cost. Pin assignments on request (dimensional drawing, see chapter 17 "Dimensional drawing, plug-connector terminal box").



A design with single clamp lever according to the DESINA regulation of the „Verbandes Deutscher Werkzeugmaschinenhersteller“ (VDW) is also available.



The motors are also available with a low-cost round plug connector as an alternative. This is fitted at the factory in the standard terminal box and is also suitable for brake connection, thermistors and thermostats. Additional information on request.

Bauer motors from D..08.. with motor-mounted brake are also available with plug-in brake connection. This means that if it requires attention, the brake can be replaced on site with no loss of time.

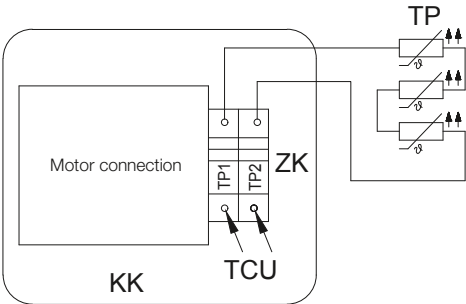
Motor protection

Each geared motor requires a current-dependent motor protection switch or an overcurrent relay with thermal delay in the switchgear to protect the motor windings. The rated motor currents required for settings are stated in the order acknowledgment. Thermal protection for the winding is recommended as an additional safety measure for special operating conditions (short-time or intermittent periodic duty, high switching frequency, severe voltage fluctuations or restricted cooling) and for operation in conjunction with a frequency converter.

Thermistors (PTC)

Thermistors are temperature-dependent resistors which are fitted in each phase winding. In conjunction with a motor protection switch, they ensure optimum protection for the winding in the event of rapid temperature rise. Characteristic to DIN 44081 and “Mark A” to IEC 34-11-2. Thermistors are available for all motors at extra cost. The requisite monitoring device is not included in the scope of supply.

Thermal motor protection with PTC-thermistors



KK	Terminal box
ZK	Additional terminals
TP	PTC-thermistors
TCU	Connection of Thermistor control unit EN 60947 Max. permissible testing voltage 2,5 VDC/thermistor in case of  with auth. certificate: 

The location of the additional terminals in the drawing is not necessarily identical with the actual arrangement.

Thermostatic protection

Bimetal switches are used for slow-acting, independent temperature monitoring and are embedded in each winding section of the motor.

The bimetal disc is sized such that when the temperature rises above a specific, previously set value, the disc suddenly snaps from a convex state to a concave state and the contact moves vertically away from the contact plate. In this state the switch is either open (normally closed switch) or closed (normally open switch). A significant temperature change is necessary to allow the bimetal disc to independently snap back to its initial position. When it does, the switch is again closed (normally closed switch) or open (normally open switch). Thermal protection switches are available for all motors at additional cost. For technical reasons, this option is not recommended for large motors (D..11.. to D..18..).

Thermal motor protection with thermostats
(with normally closed contacts)

KK	Terminal box
ZK	Additional terminals
TB	Thermostats with normally closed contacts max. 250VAC 1,6A

The location of the additional terminals in the drawing is not necessarily identical with the actual arrangement.

Thermal motor protection with thermostats
(with normally opened contacts)

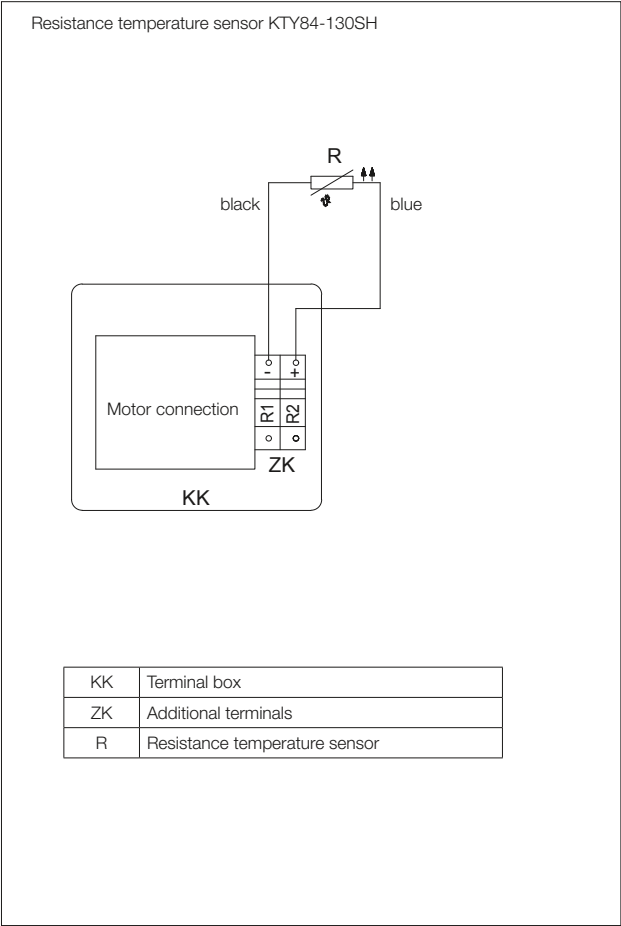
KK	Terminal box
ZK	Additional terminals
TM	Thermostats with normally opened contacts max. 250VAC 1,6A

The location of the additional terminals in the drawing is not necessarily identical with the actual arrangement.

KTY sensors

KTY sensors with heat-shrink insulation can be used to measure and monitor critical surface temperatures and internal temperatures of motors and machines. These sensors are suitable for use in harsh industrial environments in all places where accurate measurements with a single sensor are required. KTY sensors are available for all types of motors at additional cost.

Working principle: KTY sensors are temperature-dependent components. The resistance of the KTY sensor increases when its temperature rises. The characteristic curve is nearly linear in the sensor's measuring range; the reference resistance (at 100 °C) is 970 to 1030 ohms.



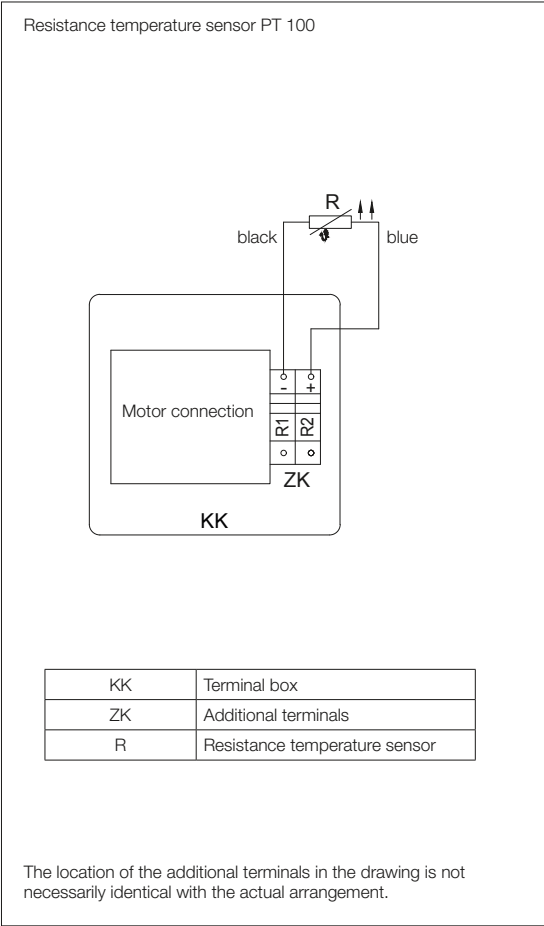
PT100 sensors

Precise monitoring of motor temperatures is necessary in many fields of industry. Pt100 sensors feature high accuracy, short response time and long-term stability, and they are suitable for use over a wide range of temperatures. Pt100 sensors are available for all motor types at additional cost.

Specifications

Nominal resistance: 100 Ω at 0 °C

The resistance characteristics are specified in EN 60751.



Insulation

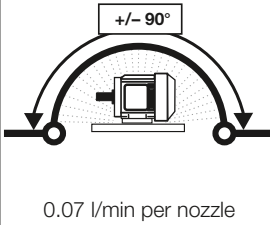
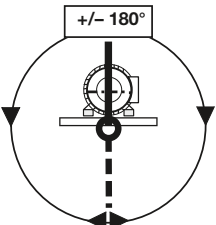
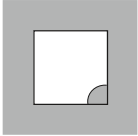
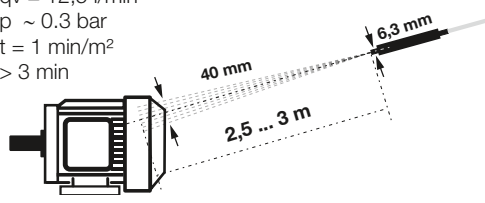
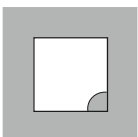
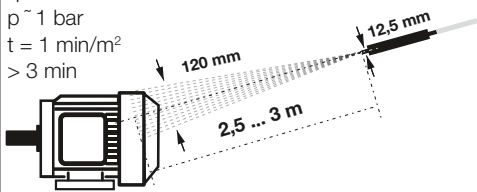
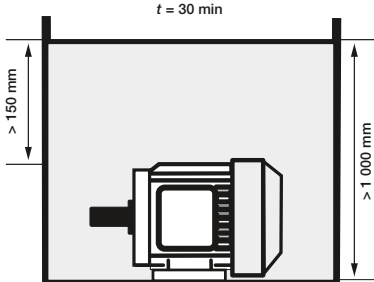
The gearmotors described in the selection tables of this catalogue with the motor sizes D..04., D..05., D..06., D..08., D..09S and D..09L are executed in insulation class B. Temperature class F is available on request at extra cost.

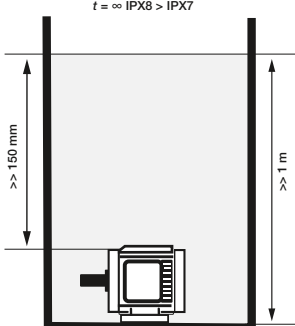
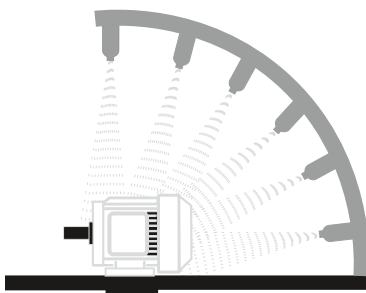
4-pole motors D..07.. and D..09XA4 (2.2 kW) to D..18XA4 (30 kW) and all multi-speed motors are rated in Temperature Class F as standard.
Insulation Class F bestows the winding a multiple protection against high humidity, acidic gases and heavy tropical influences while making the same shock resistant and more resistant to heat. Protection against insects (termites) is guaranteed through the complete enclosure (IP65) as long as the mains cables are encased in metal.

IP – Protection classes

Bauer motors from motor size D..06.. are manufactured to IP65 degree of protection as standard. Motor sizes D04 and D05 have a smooth motor housing of IP54. Higher IP protection classes on request.

Degrees of protection provided by enclosures for electrical equipment

First IP - code number after DIN EN 60529				Second IP - code number after DIN EN 60529			
Protection against penetration of solid foreign bodies		Protection of persons against access to hazardous parts with		Protection against penetration of moisture or water			
4	diameter >= 1.0 mm			4	Splash water	 0.07 l/min per nozzle	
5	Dustproof		Wire	5	Jet water	 qv = 12,5 l/min p ~ 0.3 bar t = 1 min/m² > 3 min	
6	Dust tight			6	Strong Jet water	 qv = 100 l/min p ~ 1 bar t = 1 min/m² > 3 min	
				7	Temporary Submerge	 t = 30 min > 150 mm > 1 000 mm	

First IP - code number after DIN EN 60529		Second IP - code number after DIN EN 60529	
Protection against penetration of solid foreign bodies	Protection of persons against access to hazardous parts with	Protection against penetration of moisture or water	
		8	Permanent Submerge  $t = \infty$ IPX8 > IPX7 >> 150 mm x = 5 m (Standard) or by agreement
		6 (9K = DIN 40050-9)	High pressure and high jet water temperature  Housing ≥ 250 mm $t = 1 \text{ min /m}^2$ $> 3 \text{ min}$ Water temperature $(80 \pm 5) ^\circ\text{C}$ 15 l/min, 100 bar Distance $(175 \pm 25) \text{ mm}$

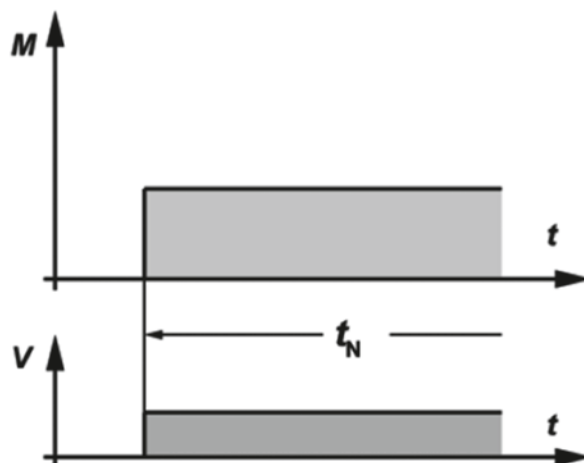
Speed of output shaft

The rated speeds in the selection tables are guidelines for load at rated power. Speed can vary depending on degree of load and temperature (particularly in the case of relatively small motors). Combination gear units for lower speeds are available on request.

General

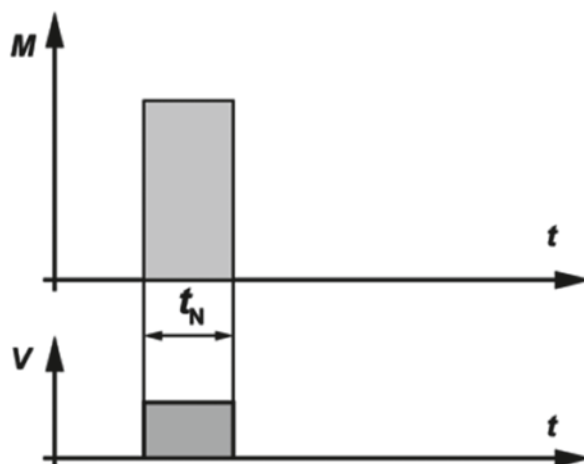
Aside from special drives (such as lifting equipment), standard motors are always designed for continuous running duty. If the drive is operated with frequent on/off cycles, it may be necessary to select a larger motor with a special design. On the other hand, with pronounced short-time duty it is often possible to select a smaller model. **For this reason, it is technically necessary or economically advantageous to inform the motor manufacturer of any duty type that differs from continuous running.**

Continuous running duty (S1)



Operation under rated load for sufficient time to allow temperature equilibrium to be attained, such that the temperature does not increase any more with continued operation. The equipment can operate continuously under the rated load without exceeding the allowable temperature.

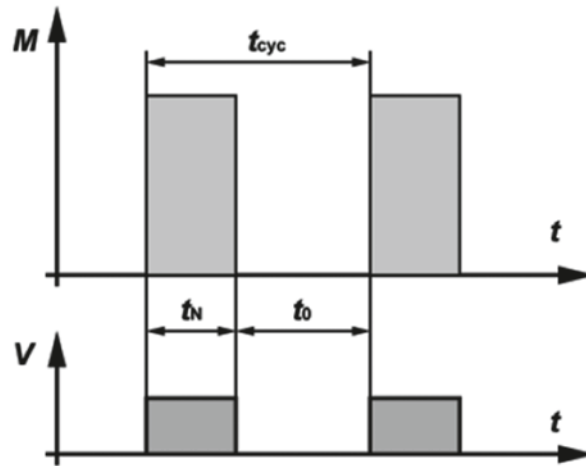
Short-time duty (S2)



The operating time under rated load is short compared with the subsequent rest period. The standard operating times are 10, 30, 60 and 90 minutes. The equipment can operate for this period under the rated load without exceeding the allowable temperature.

Example: S2 – 60 min

Intermittent periodic duty (S3)



S3 duty consists of a sequence of identical cycles, each composed of an operating time with constant load and a rest time with the windings de-energised. The cycle is such that the starting current does not significantly affect the temperature rise. The operating time under rated load and the subsequent pause are both short. The equipment can operate under load only during the period indicated by the duty cycle as a percentage of the total cycle time (cycle duration).

The standardised duty cycles are 15, 25, 40 and 60 %. The cycle duration is 10 minutes unless otherwise specified.

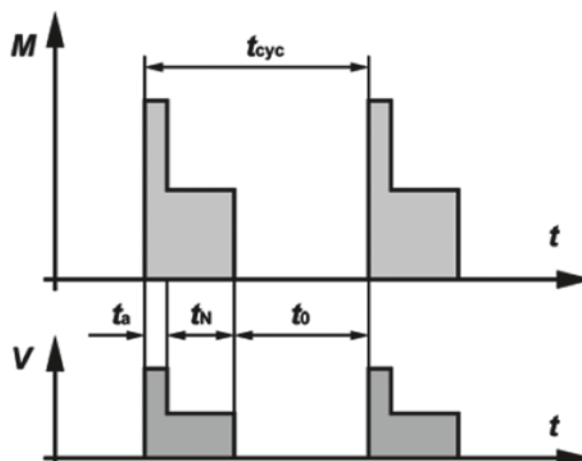
Intermittent periodic duty means that a state of thermal equilibrium is not reached during the load interval.

The duty cycle can be determined as follows:

$$ED = \frac{t_N}{t_{cyc}} \times 100\% = \frac{t_N}{t_N + t_0} \times 100\%$$

Example: S3 – 25%

Intermittent periodic duty with starting (S4)



S4 duty consists of a sequence of identical cycles, each of which is composed of a distinct starting time, a time of operation under constant load, and a rest period with the windings de-energised.

The operating time under rated load and the subsequent pause are both short. The equipment can operate under load only during the period indicated by the duty cycle as a percentage of the total cycle time (cycle duration).

The standardised duty cycles are 15, 20, 40 and 60 %. The cycle duration is 10 minutes unless otherwise specified.

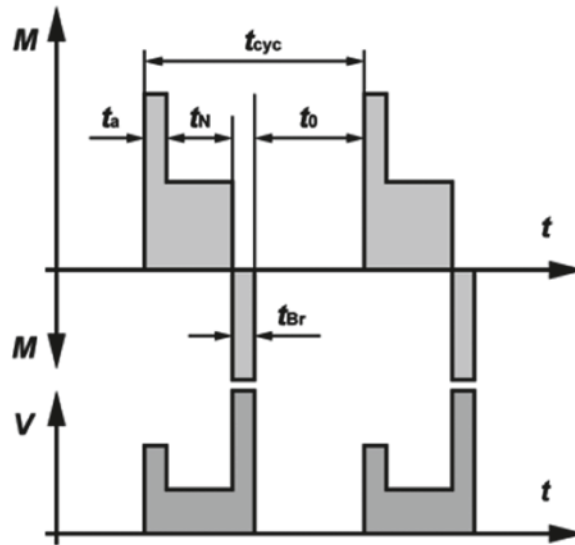
The load cycle corresponds to mode S3, but with additional heating during the starting time that must be taken into account.

The duty cycle can be determined as follows:

$$ED = \frac{(t_a + t_N)}{t_{cyc}} \times 100\% = \frac{t_a + t_N}{t_a + t_N + t_0} \times 100\%$$

Example: S4 – 25 %, J_M = 0.15 kgm²

Intermittent periodic duty with electric braking (S5)



S5 duty consists of a sequence of identical cycles, each of which is composed of a starting time, a time of operation under constant load, a time of fast electric braking, and a rest period with the windings de-energised.

The operating time under rated load and the subsequent pause are both short. The equipment can operate under load only during the period indicated by the duty cycle as a percentage of the total cycle time (cycle duration).

The standardised duty cycles are 15, 20, 40 and 60 %. The cycle duration is 10 minutes unless otherwise specified.

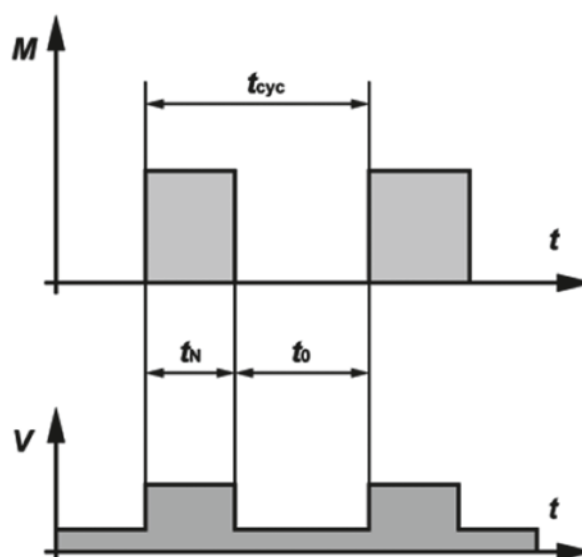
The load cycle corresponds to S3 duty, but with additional warming during the starting time t_a and the braking time t_{Br} taken into account.

The duty cycle can be determined as follows:

$$ED = \frac{(t_a + t_N + t_{Br})}{t_{cyc}} \times 100\% = \frac{t_a + t_N + t_{Br}}{t_a + t_N + t_{Br} + t_0} \times 100\%$$

Example: S5 – 25%; $J_M = 0.15 \text{ kgm}^2$, $J_{ext} = 0.7 \text{ kgm}^2$
 (J_M Moment of inertia of the motor / J_{ext} Moment of inertia of the load)

Continuous-operation periodic duty (S6)



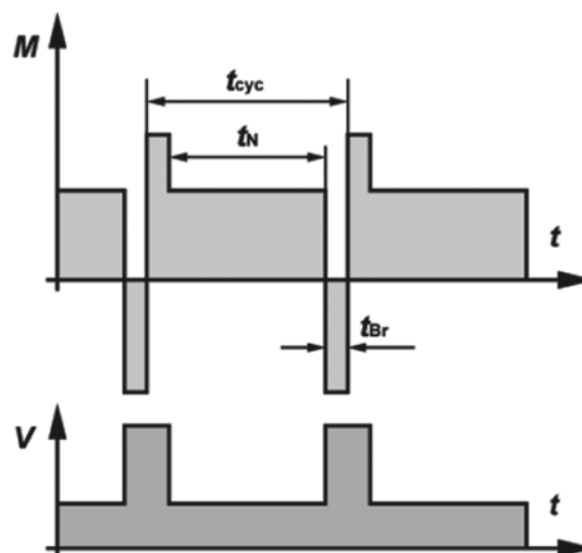
This type of duty corresponds to S3, with the exception that the equipment remains energised during the rest periods. In other words, it operates with no load during these periods. The duty cycle and cycle duration are specified the same way as for S3 duty.

The duty cycle can be determined as follows:

$$ED = \frac{t_N}{t_{cyc}} \times 100\% = \frac{t_N}{t_N + t_0} \times 100\%$$

Example: S6 – 40 %

Continuous-operation periodic duty with electric braking (S7)



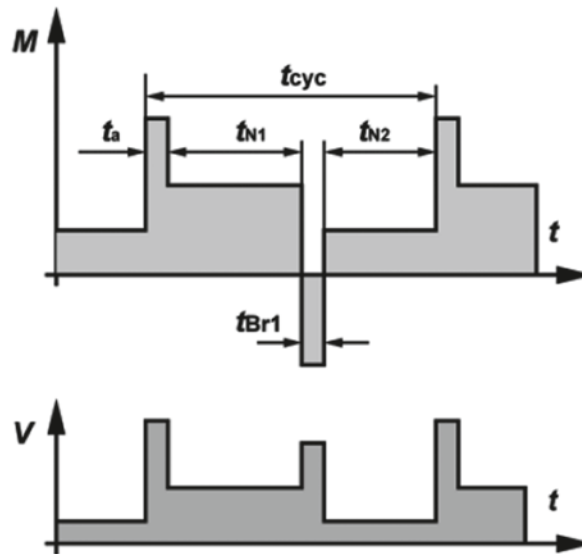
The machine starts up, operates under load, and then is braked electrically, for example by feeding it from a DC power source. Following this, it starts up again immediately. The machine can operate continuously in this manner if the specified moments of inertia of the motor J_M and of the load J_{Ext} as well as the specified duty cycle are not exceeded. If the cycle duration is not specified, it is assumed to be 10 minutes.

The duty cycle can be determined as follows: $DC = 1$

Example: S7 – $J_M = 0.4 \text{ kgm}^2$, $J_{Ext} = 7.5 \text{ kgm}^2$

(J_M Moment of inertia of the motor / J_{Ext} Moment of inertia of the load)

Continuous-operation periodic duty with relative load/speed changes (S8)



The machine runs continuously under variable load with frequent speed variations. The machine can operate continuously in this manner if at each speed the specified values are not exceeded (moments of inertia J_M and J_{Ext} cycle duration (if other than 10 minutes), rated output and duty cycle. With a moment of inertia of 1 kg m², the acceleration characteristics are the same as with a mass of 1 kg at a distance of 1 m from the axis of rotation).

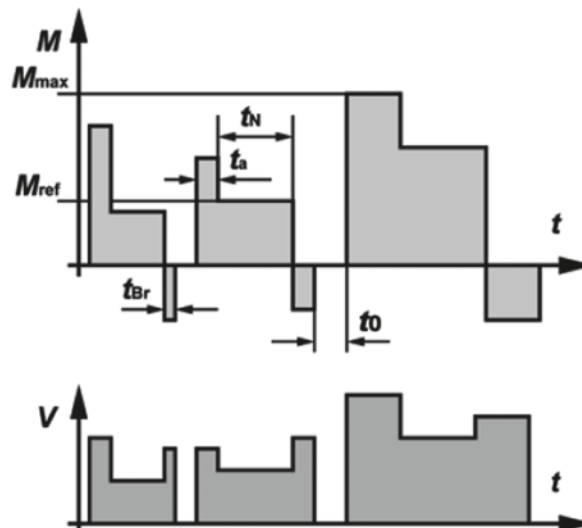
The duty cycle can be determined as follows:

$$ED = \frac{t_a + t_{N1}}{t_{cyc}} \times 100\% = \frac{t_{Br} + t_{N2}}{t_{cyc}} \times 100\%$$

Example: S8 – $J_M = 0.5 \text{ kgm}^2$, $J_{Ext} = 6 \text{ kgm}^2$

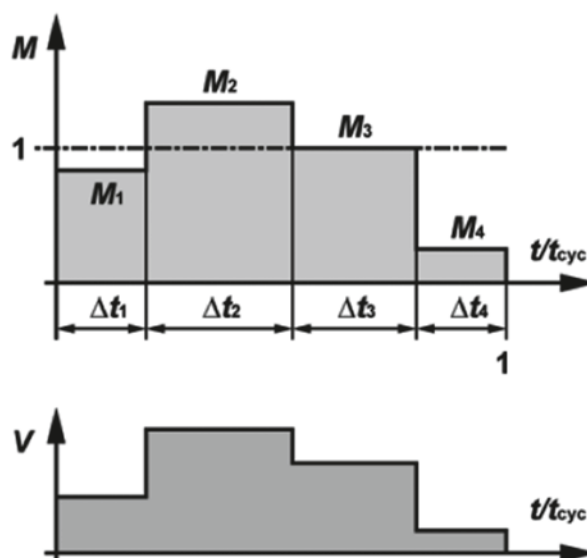
(J_M Moment of inertia of the motor / J_{Ext} Moment of inertia of the load)

Duty with non-periodic load and speed variations (S9)



In S9 duty the load and the speed vary non-periodically within the permissible operating range. This includes frequently applied overloads, which must never exceed the reference load. For this duty type, a constant load appropriately selected and based on duty type S1 shall be taken as the reference value M_{ref} for the overload.

Duty with discrete constant loads and speeds (S10)



S10 duty comprises operation with at most four different load levels, each of which is maintained long enough to allow the machine to reach thermal equilibrium.

The minimum load within a duty cycle may have a value of zero (no-load operation or at rest with the windings de-energised).

The appropriate abbreviation is S10 followed by the per unit quantities $p/\Delta t$ for the respective load and its duration and the per unit quantity TL for the relative thermal life expectancy of the insulation system. The reference value for the thermal life expectancy is the thermal life expectancy at rating for continuous running duty and permissible limits of temperature rise based on duty type S1. For a time de-energized and at rest, the load shall be indicated by the letter r .

Example: S10 $p/\Delta t = 1.1/0.4, 1/0.3, 0.9/0.2, r/0.1$; $TL = 0.6$

The figures given in the table below are for Bauer motors operating in conjunction with the frequency inverter. The torques referred to in tables can be entered for the respective frequencies in continuous operation (S1 = duty factor 100 %).

Notes on design

Use the torque required at the lowest operating speed to select motors for applications which require constant torque over the entire speed range, as is the case, for example, with lifting gear and conveyors. Bear in mind, too, the possibility of torque being lower in the field-weakening range.

Use only the torque required at the highest operating speed to select motors for applications which require square-law torque over the speed range, as is the case, for example, with pumps and fans. Field weakening is not permissible.

The motor's power is frequency-dependent. It can be approximated in kW from torque M in Nm, the 50 Hz or 60 Hz speed n and the frequency f in Hz by means of the equation

$$P = M \times n / 9550 \times f / 50$$

or

$$P = M \times n / 9550 \times f / 60$$

If a frequency inverter is used in conjunction with a pulse generator, the full 50 Hz or 60 Hz rated torque is available as holding torque at motor standstill (independent fan required for prolonged periods at standstill). In many instances, however, a mechanical brake is necessary for holding a position exactly or for safety reasons.

The use of thermistors for the thermal protection of the motor winding for frequency inverter duty are strictly recommended (available at extra cost for all motor sizes).

Increased torque with reduced duty factor

A reduction in duty factor increases the torque available at the low end of the frequency range (up to the transition frequency for field weakening) in accordance with the factors in the table below:

Duty factor	Motor torque with reduced duty factor	Increase in current requirement approximate
100 %	-	-
60 %	1.15 x S1 torque	1.15 x S1 current
40 %	1.30 x S1 torque	1.30 x S1 current
25 %	1.45 x S1 torque	1.45 x S1 current
15 %	1.60 x S1 torque	1.60 x S1 current

This, in turn, means that short-term overload by a factor of 1.6 is permissible for starting from a low speed, for example. An increase in torque in the field-weakening range due to a reduction in duty factor is possible only under certain conditions; the 1.6x S1 torque generally cannot be achieved

Increased torque with external fan

If an independent fan is used, the S1-torque in the lower frequency range (below 30 Hz) need not be reduced, i.e., when it has an independent fan the motor can provide the 50 Hz or 60 Hz rated torque throughout the entire frequency range to the cut-off frequency of the field weakening.

With a high quality frequency inverter of 160 %, when independent ventilation is combined with a reduced duty factor the 50 Hz or 60 Hz torque is available from rest through to the transition frequency of the field weakening range.

External ventilation is available for motor types D..08.. and larger (see chapter 16 "Motor-independent fan (FV). In many instances, a more economical alternative is to select a larger motor without external ventilation.

Motors - ASM

Operation with frequency converter

Energy-saving function	High quality frequency inverters reduce voltage in part-load operation to lower the motor current and thus improve efficiency. This converter function emulates the method of operation of commercially available "energy-saving devices".
Regeneration	Regenerative torques (braking torques) are required for motors used in lifting gear, for example. In conjunction with high quality frequency inverters, the motor torques listed in the table can also be applied as regenerative torques. As with motor torque, an increase in regenerative torque with reduced duty factor is permissible.
Notes on operation with other-make frequency inverters	The precondition is that the motor current generated by the frequency converter is largely free of harmonics. The harmonics generated in the motor by some old-style frequency inverters result in additional losses and cut available torque by some 10 % across the entire frequency range. There is also a risk of oscillation causing damage to the gear unit. At frequencies below approximately 5 Hz, operation without pulse generators is possible only using a frequency inverter with state-of-the-art control. If frequency inverters are used that do not feature load-dependent frequency and current adjustment, the increase in the motor's current consumption means that, particularly in the case of small motors (D..04..-D..09..), torque has to be reduced at frequencies below approximately 10 Hz even if an external fan is used or the duty factor is reduced. Regenerative operation is possible only under certain circumstances.

Technical data of the 50 Hz motors

50 Hz

4-pole IE1 motors for continuous operation S1, line frequency 50 Hz

P _N kW	Type	n _N 1/min	M _N Nm	I _N (400V) A	Connection	cosφ	η (100%- load) %	η (75%- load) %	η (50%- load) %	I _A /I _N	M _A /M _N	M _S /M _N	M _K /M _N	J _{rot} kgm ²	Brake
0.03	D04LA4	1350	0.21	0.20	Y	0.60	-	-	-	2.2	2.6	2.6	3.0	0.000175	E003
0.04	D04LA4	1350	0.28	0.20	Y	0.60	-	-	-	2.2	2.0	2.0	2.3	0.000175	
0.06	D04LA4	1350	0.42	0.30	Y	0.60	-	-	-	2.3	2.1	2.1	2.4	0.000175	
0.09	D04LA4	1350	0.63	0.45	Y	0.69	-	-	-	2.5	2.2	2.2	2.6	0.000175	
0.11	D04LA4	1350	0.78	0.45	Y	0.68	-	-	-	2.2	1.9	1.9	2	0.000175	
0.06	D05LA4	1350	0.42	0.35	Y	0.72	-	-	-	3.7	3.7	3.5	3.7	0.000295	E003
0.09	D05LA4	1350	0.63	0.38	Y	0.70	-	-	-	3.9	3.0	2.8	3.0	0.000295	
0.06	D06LA4	1350	0.42	0.35	Y	0.72	-	-	-	3.7	3.7	3.5	3.7	0.000295	E003
0.09	D06LA4	1350	0.63	0.38	Y	0.70	-	-	-	3.9	3.0	2.8	3.0	0.000295	
0.12	DSE04LA4	1350	0.87	0.45	Y	0.72	53.4	51.4	43.2	2.3	1.7	1.4	1.8	0.000175	
0.18	DSE05LA4	1350	1.28	0.63	Y	0.66	63	61.7	54.9	3.4	2.2	2.2	2.4	0.000295	
0.2	DSE05LA4	1350	1.42	0.66	Y	0.71	61.6	61.7	54.9	3.3	2	2	2.2	0.000295	
0.25	DSE05LA4	1350	1.75	0.87	Y	0.68	61.5	58.8	54	2.6	2	2	2.1	0.000295	
0.18	DSE06LA4	1350	1.28	0.63	Y	0.65	63.5	61.7	53.1	3.1	2.4	2.3	2.5	0.000295	
0.2	DSE06LA4	1350	1.42	0.65	Y	0.7	62.5	61.7	53.1	3.3	2	2	2.2	0.000295	
0.25	DSE06LA4	1350	1.75	0.87	Y	0.68	61.5	58.8	51.4	2.6	2	2	2.1	0.000295	
0.37	DSE07LA4	1350	2.6	1.15	Y	0.71	66	65.2	59.7	3	2.2	2.1	2.2	0.000385	E003 E004
0.55	DSE08MA4	1400	3.75	1.45	Y	0.72	75.4	75.2	72.0	4.2	2.1	2.0	2.4	0.00115	ES(X)010 EH(X)010 EH(X)027
0.75	DSE08LA4	1400	5.1	1.95	Y	0.76	75.6	76.2	72.7	4.6	2.0	2.0	2.4	0.00150	
1.1	DSE08XA4	1400	7.5	2.8	Y	0.75	75.5	76.8	73.5	3.7	2.0	1.8	2.2	0.00170	
1.1	DSE09SA4	1420	7.5	2.6	Y	0.76	80.0	80	77.5	4.9	2.5	2.2	2.8	0.00245	ES(X)010 ES(X)027 EH(X)027 EH(X)040
1.5	DSE09LA4	1420	10.1	3.5	Y	0.76	80.7	80.9	79.5	5.0	2.5	2.3	2.9	0.00320	
2.2	DSE09XA4	1420	15	4.9	Y	0.81	80.5	81.1	80.4	4.5	2.3	2.2	2.6	0.00380	
3	DSE11SA4	1420	20	6.4	D	0.80	84.4	85.0	83.8	5.9	2.7	2.5	3.2	0.00810	ES(X)027 ES(X)040 ES(X)070 EH(X)070 EH(X)125
4	DSE11MA4	1420	27	8.4	D	0.83	84.0	84.9	84.2	5.5	2.8	2.4	3.0	0.01050	
5.5	DSE11LA4	1420	37	11.3	D	0.83	85.8	86.2	85.4	6.3	2.8	2.6	3.2	0.014	

P _N	Rated power
n _N	Guideline value for rated speed at the rotor shaft
M _N	Rated torque at the rotor shaft
I _N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
cosφ	Power factor
η	Efficiency at different loads
I _A /I _N	Relative starting current
M _A /M _N	Relative starting torque
M _S /M _N	Relative pull-up torque
M _K /M _N	Relative breakdown torque
J _{rot}	Mass moment of inertia of the rotor
Brake	Brake dimensioning see chapter "Motor Mounted Components-Dimensions"

Winding configuration for standard motors for 400 V / 50 Hz.

See "www.bauergears.com" for more information.

Motors - ASM

Technical data

Continuous operation S1, 50 Hz

50 Hz

4-pole IE2 motors for continuous operation S1, line frequency 50 Hz

4-pole IE2 motors for continuous operation S1, line frequency 50 Hz													
η (100 %-Load)	η (75 %-Load)	η (50 %-Load)	IE Class	Manufacturer data	Type	Number of poles	P kW	Frequency Hz	Voltage V	n _N 1/min	Type of motor	Operating conditions	Power losses in % at operating points (Speed/Torque)
													25/25
													25/100
													50/25
													50/50
													50/100
													90/50
													90/100
66.1	64.6	58.3	IE2	1)	DHE05LA4	4	0.12	50	400	1390	2)	3)	24.7
65.9	64.1	57.7	IE2	1)	DHE06LA4	4	0.12	50	400	1385	2)	3)	25.0
68.3	67.3	61.9	IE2	1)	DHE05LA4	4	0.18	50	400	1375	2)	3)	16.9
68	67	61.4	IE2	1)	DHE06LA4	4	0.18	50	400	1370	2)	3)	17.2
69.4	68.7	63.6	IE2	1)	DHE07LA4	4	0.25	50	400	1375	2)	3)	15.1
70.8	70.5	66	IE2	1)	DHE07LA4	4	0.3	50	400	1360	2)	3)	19.1
75.9	74.6	69.6	IE2	1)	DHE08MA4	4	0.37	50	400	1430	2)	3)	11.3
78.1	78.9	76.2	IE2	1)	DHE08LA4	4	0.55	50	400	1415	2)	3)	7.6
1) Manufacturer:				Bauer Gear Motor GmbH				2) Type of motor:		three-phase motor		3) Installation altitude above sea level (m): 1000	
Commercial register number:				HRB 736269								Ambient temperature: -20 °C to +40 °C	
Address:				Eberhard-Bauer-Str. 37, 73734 Esslingen/Germany									

Technical data of the 50 Hz motors

50 Hz

4-pole IE2 motors for continuous operation S1, mains frequency 50 Hz

P _N kW	Type	n _N 1/min	M _N Nm	I _N (400V) A	Connection	cosφ	η (100%- Last) %	η (75%- Last) %	η (50%- Last) %	I _A /I _N	M _A /M _N	M _S /M _N	M _K /M _N	J _{rot} kgm ²	Brake
0.12	DHE05LA4	1390	0.82	0.39	Y	0.67	66.1	64.6	58.3	3.3	2.3	2.3	2.5	0.000295	E003
0.12	DHE06LA4	1385	0.83	0.39	Y	0.67	65.9	64.1	57.7	3.3	2.3	2.3	2.5	0.000295	
0.18	DHE05LA4	1375	1.25	0.57	Y	0.67	68.3	67.3	61.9	3.4	2.6	2.5	2.6	0.000295	
0.18	DHE06LA4	1370	1.25	0.58	Y	0.67	68	67	61.4	3.3	2.5	2.5	2.6	0.000295	
0.25	DHE07LA4	1375	1.74	0.76	Y	0.68	69.4	68.7	63.6	3.5	2.7	2.6	2.7	0.000385	E003 E004
0.3	DHE07LA4	1360	2.1	0.9	Y	0.67	70.8	70.5	66	3.5	2.8	2.7	2.7	0.000385	
0.37	DHE08MA4	1430	2.4	1.1	Y	0.65	75.9	74.6	69.6	4.5	2.5	2.4	3	0.00115	ES(X)010 EH(X)010 EH(X)027
0.55	DHE08LA4	1415	3.7	1.38	Y	0.74	78.1	78.9	76.2	4.5	2.3	2.1	2.6	0.0015	
0.75	DHE08XA4	1420	5.0	1.88	Y	0.72	79.7	80.0	77.4	4.7	2.3	2.2	2.7	0.00170	
0.75	DHE09SA4	1440	5.0	1.8	Y	0.73	81.6	81.0	77.4	5.9	3.1	2.7	3.5	0.00245	ES(X)010 ES(X)027 EH(X)027 EH(X)040
1.1	DHE09LA4	1440	7.3	2.5	Y	0.75	82.7	82.3	79.8	5.9	2.9	2.7	3.4	0.0032	
1.5	DHE09XA4	1440	10.0	3.3	Y	0.78	83.2	82.8	79.5	5.6	3.0	2.9	3.3	0.0038	
2.2	DHE09XB4	1420	14.8	4.7	Y	0.79	84.5	85.2	83.9	6.0	3.1	2.5	3.3	0.0049	
2.2	DHE11SA4	1440	14.5	4.6	Y	0.80	86.2	86.0	84.7	7.0	3.1	2.8	3.6	0.0081	ES(X)027 ES(X)040 ES(X)070 EH(X)070 EH(X)125
3	DHE11MA4	1440	20	6.3	D	0.8	86.5	86.5	84.7	6.7	3.4	2.8	3.7	0.0105	
4	DHE11LA4	1440	26.5	8.4	D	0.79	87.5	87	85.3	7.6	3.6	3.3	4.2	0.014	
5.5	DHE11LB4	1450	36	11	D	0.82	88.1	88.5	87.4	7.9	3.3	2.9	3.8	0.017	

P _N	Rated power
n _N	Guideline value for rated speed at the rotor shaft
M _N	Rated torque at the rotor shaft
I _N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
cosφ	Power factor
η	Efficiency at different loads
I _A /I _N	Relative starting current
M _A /M _N	Relative starting torque
M _S /M _N	Relative pull-up torque
M _K /M _N	Relative breakdown torque
J _{rot}	Mass moment of inertia of the rotor
Brake	Brake dimensioning see chapter "Motor Mounted Components-Dimensions"

Winding configuration for standard motors for 400 V / 50 Hz.

All motors are suitable for the voltage range 380...420 V or 400 V +/- 10 % if executed in insulation class F.

Important: Current, power factor and torque change as voltage deviates from 400 V.

See "www.bauergears.com" for more information.

Technical data of the 50 Hz motors

50 Hz

4-pole IE3 motors for continuous operation S1, mains frequency 50 Hz

P _N	Type	n _N	M _N	I _N	Connection	cosφ	η (100%-Load)	η (75%-Load)	η (50%Load)	I _A /I _N	M _A /M _N	M _S /M _N	M _K /M _N	J _{rot}	Brake
kW		1/min	Nm	A (400V)			%	%	%					kgm²	
0.12	DPE05LA4	1405	0.82	0.4	Y	0.62	69.3	67.1	60.5	3.8	3	3	3.1	0.000295	E003
0.12	DPE06LA4	1400	0.82	0.41	Y	0.63	68.8	66.4	59.9	3.7	3	3	3.1	0.000295	E003
0.18	DPE07LA4	1400	1.23	0.56	Y	0.65	70.8	69.3	63.9	3.9	3.1	3	3.1	0.000385	E003. E004
0.25	DPE08MA4	1440	1.66	0.71	Y	0.66	77.7	76.4	71.8	4.9	2.6	2.5	3.1	0.00115	ES(X)010 EH(X)010/027
0.37	DPE08LA4	1445	2.45	1.03	Y	0.64	79.9	78.8	74.3	5.5	3.2	3	3.6	0.0015	
0.55	DPE08XA4	1430	3.65	1.4	Y	0.7	81.2	81	77.9	5.3	2.9	2.7	3.2	0.0017	
0.75	DPE08XB4	1425	5	1.86	Y	0.71	82.5	83.1	81.3	5.3	3.1	2.8	3.3	0.002	
0.75	DPE09LA4	1440	5	1.67	Y	0.79	82.7	82.5	79.1	6.6	3.4	3	3.6	0.0032	ES(X)010/027 EH(X)027/040
1.1	DPE09XA4	1440	7.3	2.4	Y	0.78	84.4	84.3	81.9	6.7	3.4	3.1	3.7	0.0038	
1.5	DPE09XB4	1435	10	3.25	Y	0.79	85.5	86.1	84.5	6.5	3.2	3	3.6	0.0049	
2.2	DPE09XB4C	1450	14.5	4.7	Y	0.77	86.8	87.4	85.9	6.7	2.6	2.4	3.6	0.0069	
2.2	DPE11MA4	1450	14.5	4.6	Y	0.8	87.1	87.2	85.2	7.3	3.2	2.7	3.9	0.0105	ES(X)027/040/070 EH(X)070/125
3	DPE11LA4	1455	19.7	6.2	D	0.8	87.7	87.6	85.5	8.3	3.7	3	4.4	0.014	
4	DPE11LB4	1450	26.5	7.8	D	0.83	89.4	90.3	89.5	7.8	3.3	2.6	4	0.017	
5.5	DPE11LB4C	1465	36	11	D	0.8	90	89.4	88	8.2	2.7	2.4	4	0.022	

P _N	Rated power
n _N	Guideline value for rated speed at the rotor shaft
M _N	Rated torque at the rotor shaft
I _N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
cosφ	Power factor
η	Efficiency at different loads
I _A /I _N	Relative starting current
M _A /M _N	Relative starting torque
M _S /M _N	Relative pull-up torque
M _K /M _N	Relative breakdown torque
J _{rot}	Mass moment of inertia of the rotor
Brake	Brake dimensioning see chapter "Motor Mounted Components-Dimensions"

Winding configuration for standard motors for 400 V / 50 Hz.

All motors are suitable for the voltage range 380...420 V or 400 V +/- 10 % if executed in insulation class F.

Important: Current, power factor and torque change as voltage deviates from 400 V.

See "www.bauergears.com" for more information.

Technical data of the 50 Hz motors

50 Hz

4 pole motors for periodic duty S3/S6-75 %, Mains Frequency 50 Hz

P _N kW	Type	n _N 1/min	M _N Nm	I _N (400V) A	Connection	cosφ	I _A /I _N	M _A /M _N	M _S /M _N	M _K /M _N	J _{rot} kgm ²	Brake
0.75	DSE08MA4	1320	5.4	2	Y	0.81	2.9	1.5	1.4	1.7	0.00115	ES(X)010
0.9	DSE08LA4	1350	6.3	2.3	Y	0.79	3.4	1.6	1.6	2	0.0015	
1.25	DSE08XA4	1350	8.8	3.1	Y	0.8	3.3	1.6	1.6	1.9	0.0017	
1.65	DSE09SA4	1370	11.5	3.7	Y	0.86	3.5	1.6	1.5	1.8	0.00245	ES(X)010 ES(X)027
2.2	DSE09LA4	1370	15.5	5	Y	0.86	3.6	1.7	1.6	2	0.0032	
2.5	DSE09XA4	1370	17.3	5.5	Y	0.84	4	2	1.9	2.3	0.0038	
3.7	DSE11SA4	1400	25	7.8	D	0.85	4.1	2.2	2	2.6	0.0081	ES(X)027 ES(X)040 ES(X)070
5	DSE11MA4	1380	34	10.3	D	0.86	4.4	2.2	1.9	2.4	0.0105	
6.6	DSE11LA4	1400	44	13.5	D	0.86	4.8	2.4	2.1	2.7	0.014	

P _N	Rated power
n _N	Guideline value for rated speed at the rotor shaft
M _N	Rated torque at the rotor shaft
I _N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
cosφ	Power factor
η	Efficiency at different loads
I _A /I _N	Relative starting current
M _A /M _N	Relative starting torque
M _S /M _N	Relative pull-up torque
M _K /M _N	Relative breakdown torque
J _{rot}	Mass moment of inertia of the rotor
Brake	Brake dimensioning see chapter "Motor Mounted Components-Dimensions"

The standard motor winding configuration is for 400 V / 50 Hz.

See "www.bauergears.com" for more information.

Technical data of the 50 Hz motors

50 Hz

4 pole motors for periodic duty S3/S6, Mains Frequency 50 Hz

P_N kW	ED	Type	n_N 1/min	M_N Nm	I_N (400V) A	Con- nec- tion	$\cos\phi$	I_A/I_N	M_A/M_N	M_S/M_N	M_K/M_N	J_{rot} kgm ²
0.15	15%	D04LA4	1350	1.05	0.6	Y	0.77	2	1.6	1.5	1.6	0.000175
0.3	15%	D05LA4	1350	2.1	0.98	Y	0.75	2.6	1.9	1.8	1.9	0.000295
0.3	60%	D06LA4	1350	2.1	0.98	Y	0.75	2.6	1.9	1.8	1.9	0.000295
0.55	60%	D07LA4	1350	3.9	1.95	Y	0.86	3.4	1.6	1.5	1.6	0.000385
0.75	60%	D08MA4	1400	5.1	2	Y	0.81	3.4	1.6	1.4	1.7	0.00115
1.1	60%	D08LA4	1400	7.5	2.8	Y	0.82	3.3	1.5	1.4	1.7	0.0015
1.5	60%	D09SA4	1400	10.2	3.6	Y	0.84	3.9	1.7	1.5	2	0.00245
2.2	60%	D09LA4	1400	15	5	Y	0.86	3.9	1.6	1.5	1.9	0.0032
3	60%	D09XA4	1400	20	6.8	Y	0.86	3.4	1.7	1.6	1.9	0.0038
4	60%	D11SA4	1420	26.5	8.9	Δ	0.85	4	1.6	1.4	2	0.0081
5.5	60%	D11MA4	1420	37	11.7	Δ	0.87	4.3	1.5	1.5	2	0.0105
7.5	60%	D11LA4	1420	50	16	Δ	0.87	4.3	1.8	1.7	2.1	0.014

P_N	Rated power
ED	Duty cycle
n_N	Guideline value for rated speed at the rotor shaft
M_N	Rated torque at the rotor shaft
I_N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
$\cos\phi$	Power factor
I_A/I_N	Relative starting current
M_A/M_N	Relative starting torque
M_S/M_N	Relative pull-up torque
M_K/M_N	Relative breakdown torque
J_{rot}	Mass moment of inertia of the rotor

The standard motor winding configuration is for 400 V / 50 Hz.

See "www.bauergears.com" for more information.

Technical data of the 50 Hz motors

50 Hz

4/2-pole Δ/YY motors for continuous running duty (S1) and 50 Hz mains frequency

P_N kW	Type	n_N 1/min	M_N Nm	I_N (400V) A	$\cos\phi$	I_A/I_N	M_A/M_N	M_S/M_N	M_K/M_N	J_{rot} kgm ²
0.03/0.06	D04LA42	1350/2700	0.210/0.210	0.230/0.250	0.56/0.67	2.2/3.1	3.4/3.1	3.4/3.1	3.6/3.3	0.000175
0.04/0.08	D04LA42	1350/2700	0.280/0.280	0.250/0.280	0.60/0.75	2.0/2.8	3.0/2.1	3.0/2.1	3.3/2.2	0.000175
0.06/0.12	D05LA42	1350/2700	0.420/0.420	0.450/0.450	0.50/0.75	2.8/3.3	3.1/2.0	3.0/1.9	3.8/2.6	0.000295
0.08/0.16	D05LA42	1350/2700	0.56/0.56	0.50/0.50	0.55/0.75	2.8/3.3	3.1/1.8	2.7/1.7	3.4/2.3	0.000295
0.06/0.12	D06LA42	1350/2700	0.420/0.420	0.450/0.450	0.50/0.75	2.8/3.3	3.1/2.0	3.0/1.9	3.8/2.6	0.000295
0.08/0.16	D06LA42	1350/2700	0.56/0.56	0.50/0.50	0.55/0.75	2.8/3.3	2.8/1.8	2.7/1.7	3.4/2.3	0.000295
0.11/0.22	D06LA42	1350/2700	0.77/0.77	0.68/0.68	0.55/0.75	2.8/3.3	2.8/1.8	2.7/1.7	3.4/2.3	0.000295
0.16/0.32	D06LA42	1350/2700	1.13/1.13	0.90/0.90	0.57/0.80	2.8/3.3	2.6/1.7	2.5/1.6	3.1/2.1	0.000295
0.2/0.4	D07LA42	1400/2800	1.35/1.37	1.10/1.15	0.58/0.81	2.9/3.6	2.8/1.6	2.7/1.4	3.0/2.0	0.000385
0.28/0.56	D08MA42	1400/2800	1.90/1.90	1.20/1.75	0.61/0.81	3.4/2.9	2.3/1.5	2.3/1.4	3.0/1.9	0.00115
0.4/0.8	D08LA42	1400/2800	2.7/2.7	1.53/1.91	0.62/0.90	4.7/5.1	2.7/1.8	2.4/1.7	3.1/2.1	0.0015
0.5/1.0	D09SA42	1400/2800	3.4/3.4	1.65/2.4	0.71/0.91	5.1/4.5	2.9/1.9	2.9/1.9	3.6/2.4	0.00245
0.7/1.4	D09SA42	1400/2800	4.8/4.8	2.1/3.3	0.71/0.93	4.7/4.1	2.5/1.6	2.5/1.6	3.1/2.0	0.00245
1.0/2.0	D09LA42	1400/2800	6.8/6.8	2.9/4.7	0.72/0.94	4.7/4.1	2.5/1.6	2.5/1.6	3.1/2.0	0.0032
1.2/2.4	D09XA42	1400/2800	8.2/8.1	3.8/5.7	0.65/0.87	6.2/3.0	2.5/1.8	2.5/1.8	3.1/2.3	0.0038
1.4/2.8	D11SA42	1420/2840	9.4/9.4	3.6/6.2	0.74/0.90	6.4/4.5	3.0/1.7	2.6/1.5	4.1/2.8	0.0081
2.0/4.0	D11MA42	1420/2840	13.5/13.4	5.5/9.1	0.70/0.90	6.7/5.4	3.1/2.1	2.7/1.6	3.7/2.5	0.0105
2.5/5.0	D11LA42	1420/2840	16.8/16.8	5.5/10	0.79/0.92	5.6/4.6	2.8/1.8	2.7/1.7	3.7/2.6	0.014

P_N	Rated power
n_N	Guideline value for rated speed at the rotor shaft
M_N	Rated torque at the rotor shaft
I_N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
$\cos\phi$	Power factor
I_A/I_N	Relative starting current
M_A/M_N	Relative starting torque
M_S/M_N	Relative pull-up torque
M_K/M_N	Relative breakdown torque
J_{rot}	Mass moment of inertia of the rotor

The standard motor winding configuration is for 400 V / 50 Hz.

See "www.bauergears.com" for more information.

Technical data of the 50 Hz motors

50 Hz

8/4-pole Δ/YY motors for continuous running duty (S1) and 50 Hz mains frequency

P_N kW	Type	n_N 1/min	M_N Nm	I_N (400V) A	$\cos\phi$	I_A/I_N	M_A/M_N	M_S/M_N	M_K/M_N	J_{rot} kgm ²
0.03/0.06	D05LA84	680/1350	0.410/0.420	0.300/0.280	0.52/0.71	1.6/2.6	2.7/1.9	1.6/1.7	1.6/1.7	0.000295
0.03/0.06	D06LA84	680/1350	0.410/0.420	0.300/0.280	0.52/0.71	1.6/2.6	2.7/1.9	1.6/1.7	1.6/1.7	0.000295
0.04/0.08	D06LA84	680/1350	0.54/0.56	0.480/0.400	0.52/0.66	1.4/2.2	2.6/2.1	1.6/1.7	1.6/1.7	0.000295
0.06/0.12	D07LA84	680/1350	0.84/0.85	0.70/0.60	0.52/0.66	1.7/2.8	3.2/1.7	3.2/1.5	3.3/2.1	0.000385
0.06/0.12	D08LA84	700/1400	0.81/0.81	0.50/0.50	0.61/0.83	2.8/3.7	3.1/2.3	3.1/2.3	3.7/3.1	0.0025
0.08/0.16	D08LA84	700/1400	1.08/1.09	0.62/0.62	0.61/0.83	2.8/3.7	3.0/2.2	3.0/2.2	3.5/3.0	0.0025
0.11/0.22	D08LA84	700/1400	1.49/1.5	0.80/0.80	0.61/0.83	2.8/3.7	2.8/2.1	2.8/2.1	3.3/2.8	0.0025
0.14/0.28	D08LA84	700/1400	1.90/1.91	1.00/1.00	0.61/0.83	2.8/3.7	2.8/2.1	2.8/2.1	3.3/2.8	0.0025
0.2/0.4	D08LA84	700/1400	2.7/2.7	1.10/1.30	0.55/0.77	2.8/3.7	2.3/1.7	2.3/1.7	2.7/2.3	0.0025
0.25/0.5	D09XC84	700/1400	3.3/3.3	1.40/1.40	0.48/0.77	2.9/5.0	2.7/2.0	2.7/2.1	3.1/2.7	0.006
0.28/0.56	D09XC84	700/1400	3.8/3.8	1.40/1.50	0.57/0.80	2.9/4.9	2.4/1.8	2.4/1.9	2.8/2.4	0.006
0.4/0.8	D09XC84	700/1400	5.4/5.4	1.95/2.4	0.55/0.79	2.8/4.2	2.3/1.7	2.3/1.8	2.7/2.3	0.006
0.5/1.0	D09XC84	700/1400	6.8/6.8	2.4/2.6	0.55/0.81	2.6/4.0	2.2/1.6	2.2/1.6	2.5/2.2	0.006
0.8/1.6	D11LC84	710/1420	10.7/10.7	3.0/4.2	0.63/0.88	3.5/4.3	2.2/1.9	2.2/1.7	2.8/2.7	0.0215
1.1/2.2	D11LC84	710/1420	14.7/14.7	4.0/5.0	0.58/0.85	3.9/5.7	2.3/2.1	2.3/1.7	2.7/2.5	0.0215
1.6/3.2	D11LC84	710/1420	21.5/21.5	6.0/7.6	0.59/0.84	3.7/5.1	2.2/1.8	2.1/1.5	2.6/2.3	0.0215

P_N	Rated power
n_N	Guideline value for rated speed at the rotor shaft
M_N	Rated torque at the rotor shaft
I_N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
$\cos\phi$	Power factor
I_A/I_N	Relative starting current
M_A/M_N	Relative starting torque
M_S/M_N	Relative pull-up torque
M_K/M_N	Relative breakdown torque
J_{rot}	Mass moment of inertia of the rotor

The standard motor winding configuration is for 400 V / 50 Hz.

See "www.bauergears.com" for more information.

Technical data of the 50 Hz motors

50 Hz

8/2-pole Y/Y motors for intermittent periodic duty S3 25/75 % and 50 Hz mains frequency

P _N kW	ED	Type	n _N 1/min	M _N Nm	I _N (400V) A	cosφ	I _A /I _N	M _A /M _N	M _S /M _N	M _K /M _N	J _{rot} kgm ²
0.04/0.16	25/75 %	D05LA82	680/2700	0.56/0.56	0.400/0.80	0.63/0.75	1.6/3.2	1.9/2.2	1.9/2.1	2.0/2.3	0.000295
0.05/0.20	25/75 %	D06LA82	680/2700	0.70/0.70	0.51/1.02	0.63/0.75	1.4/2.8	1.7/2.0	1.7/1.9	1.8/2.1	0.000295
0.063/0.25	25/75 %	D07LA82	650/2840	0.87/0.87	0.60/1.20	0.69/0.62	1.4/2.6	1.6/1.4	1.6/1.4	1.8/2.7	0.000385
0.071/0.28	25/75 %	D07LA82	650/2840	0.99/0.98	0.65/1.40	0.69/0.68	1.4/2.6	1.5/1.3	1.5/1.3	1.7/2.6	0.000385
0.063/0.25	25/75 %	D08LA82	700/2800	0.85/0.85	0.55/0.70	0.55/0.87	2.8/4.0	2.4/2.6	2.4/2.5	2.8/3.0	0.0015
0.09/0.36	25/75 %	D08LA82	700/2800	1.22/1.22	0.70/1.05	0.60/0.92	2.9/4.5	2.0/2.6	2.0/2.5	2.4/2.9	0.0015
0.12/0.5	25/75 %	D08LA82	700/2800	1.70/1.70	0.95/1.43	0.60/0.92	2.9/4.5	2.0/2.6	2.0/2.5	2.4/2.9	0.0015
0.16/0.63	25/75 %	D08LA82	700/2800	2.1/2.1	1.20/1.45	0.63/0.90	2.0/4.6	1.8/2.1	1.8/2.0	2.2/2.4	0.0015
0.25/1.0	25/75 %	D09XA82	700/2800	3.4/3.4	1.30/2.3	0.62/0.90	2.2/5.2	1.9/2.3	1.9/2.3	2.0/2.6	0.0038
0.36/1.4	25/75 %	D09XA82	700/2800	4.9/4.8	2.1/3.3	0.57/0.87	2.0/4.5	1.9/2.1	1.9/2.1	2.0/2.4	0.0038
0.45/1.8	25/75 %	D09XA82	700/2800	6.1/6.1	2.4/4.3	0.65/0.89	2.0/4.3	1.7/2.0	1.7/2.0	2.0/2.5	0.0038
0.56/2.2	25/75 %	D11LA82	710/2840	7.5/7.3	2.3/4.7	0.60/0.94	3.2/4.9	1.9/2.9	1.9/2.4	2.2/2.9	0.014
0.71/2.8	25/75 %	D11LA82	710/2840	9.5/9.4	2.8/5.6	0.58/0.94	2.5/4.7	1.9/2.3	1.9/2.0	2.1/2.4	0.014
0.90/3.6	25/75 %	D11LA82	710/2840	12.1/12.1	3.5/7.9	0.58/0.94	2.5/4.5	1.8/2.0	1.8/1.8	2.0/2.1	0.014

P _N	Rated power
ED	Duty cycle
n _N	Guideline value for rated speed at the rotor shaft
M _N	Rated torque at the rotor shaft
I _N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
cosφ	Power factor
I _A /I _N	Relative starting current
M _A /M _N	Relative starting torque
M _S /M _N	Relative pull-up torque
M _K /M _N	Relative breakdown torque
J _{rot}	Mass moment of inertia of the rotor

The standard motor winding configuration is for 400 V / 50 Hz.

See "www.bauergears.com" for more information.

Technical data of the 50 Hz motors

50 Hz

12/2-pole Y/Y motors for intermittent periodic duty S3 25/75 % and 50 Hz mains frequency

P_N	DC	Type	n_N	M_N	I_N (400V)	$\cos\phi$	I_A/I_N	M_A/M_N	M_S/M_N	M_K/M_N	J_{rot}
kW			1/min	Nm	A						kgm ²
0.045/0.28	25/75 %	D08LA122	470/2800	0.92/0.95	0.55/0.86	0.70/0.90	1.4/4.5	1.9/2.4	1.9/2.4	1.9/2.7	0.0015
0.063/0.4	25/75 %	D08LA122	470/2800	1.29/1.36	0.66/1.10	0.70/0.90	1.4/4.5	1.7/2.2	1.7/2.2	1.7/2.4	0.0015
0.09/0.56	25/75 %	D08LA122	470/2800	1.85/1.91	1.00/1.45	0.63/0.89	1.4/4.1	1.7/2.1	1.7/2.3	1.8/2.4	0.0015
0.11/0.71	25/75 %	D09XA122	470/2800	2.3/2.4	1.05/1.60	0.59/0.88	1.5/5.5	1.7/2.7	1.7/2.6	1.8/3.3	0.0038
0.16/1.0	25/75 %	D09XA122	470/2800	3.2/3.4	1.70/2.4	0.62/0.89	1.5/5.5	1.8/2.6	1.8/2.5	1.8/3.3	0.0038
0.20/1.25	25/75 %	D09XA122	470/2800	4.1/4.2	2.0/3.0	0.62/0.89	1.5/5.0	1.7/2.4	1.7/2.3	1.7/3.1	0.0038
0.25/1.6	25/75 %	D11LA122	470/2840	5.1/5.3	2.3/3.4	0.53/0.95	1.6/4.9	1.7/2.6	1.7/2.4	2.0/2.8	0.014
0.32/2.0	25/75 %	D11LA122	470/2840	6.5/6.7	2.9/4.0	0.53/0.94	1.6/4.7	1.7/2.5	1.7/2.2	2.0/2.7	0.014
0.45/2.8	25/75 %	D11LA122	470/2840	9.2/9.4	4.5/5.6	0.52/0.94	1.6/4.7	1.5/2.3	1.5/2.0	1.8/2.4	0.014

P_N	Rated power
ED	Duty cycle
n_N	Guideline value for rated speed at the rotor shaft
M_N	Rated torque at the rotor shaft
I_N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
$\cos\phi$	Power factor
I_A/I_N	Relative starting current
M_A/M_N	Relative starting torque
M_S/M_N	Relative pull-up torque
M_K/M_N	Relative breakdown torque
J_{rot}	Mass moment of inertia of the rotor

The standard motor winding configuration is for 400 V / 50 Hz.

See "www.bauergears.com" for more information.

Technical data of the 60 Hz motors

60 Hz

4-pole IE1 motors for continuous operation S1, mains frequency 60 Hz

P _N kW	Type	n _N 1/min	M _N Nm	I _N (460V) A	Con- nec- tion	cosφ	η (100%-Load) %	η (75%-Load) %	η (50%-Load) %	I _A /I _N	M _A /M _N	M _S /M _N	M _K /M _N	J _{rot} kgm ²	Brake
0.03	D04LA4	1620	0.17	0.18	Y	0.60	-	-	-	2.4	2.9	2.9	3.3	0.000175	E003
0.04	D04LA4	1620	0.23	0.18	Y	0.60	-	-	-	2.4	2.2	2.2	2.5	0.000175	
0.06	D04LA4	1620	0.35	0.28	Y	0.60	-	-	-	2.5	2.3	2.3	2.7	0.000175	
0.09	D04LA4	1620	0.52	0.40	Y	0.69	-	-	-	2.7	2.4	2.4	2.9	0.000175	
0.11	D04LA4	1620	0.64	0.42	Y	0.58	-	-	-	2.7	2.4	2.4	2.7	0.000175	
0.12	D04LA4	1620	0.7	0.42	Y	0.73	-	-	-	2.5	1.9	1.9	2.1	0.000175	
0.06	D05LA4	1620	0.35	0.32	Y	0.72	-	-	-	4.1	4.1	3.8	4.1	0.000295	E003
0.09	D05LA4	1620	0.52	0.35	Y	0.70	-	-	-	4.3	3.3	3.1	3.3	0.000295	
0.12	D05LA4	1620	0.7	0.38	Y	0.73	-	-	-	3.7	2.4	2.3	2.4	0.000295	
0.18	D05LA4	1620	1.06	0.58	Y	0.70	-	-	-	3.7	2.5	2.4	2.6	0.000295	
0.25	D05LA4	1620	1.45	0.80	Y	0.69	-	-	-	3.6	2.5	2.4	2.5	0.000295	
0.06	D06LA4	1620	0.35	0.32	Y	0.72	-	-	-	4.1	4.1	3.8	4.1	0.000295	E003
0.09	D06LA4	1620	0.52	0.35	Y	0.70	-	-	-	4.3	3.3	3.1	3.3	0.000295	
0.12	D06LA4	1620	0.7	0.38	Y	0.73	-	-	-	3.7	2.4	2.3	2.4	0.000295	
0.18	D06LA4	1620	1.06	0.58	Y	0.70	-	-	-	3.7	2.5	2.4	2.6	0.000295	
0.25	D06LA4	1620	1.45	0.80	Y	0.69	-	-	-	3.6	2.5	2.4	2.5	0.000295	
0.3	D07LA4	1620	1.76	1.20	Y	0.60	-	-	-	3.0	3.0	3.0	3.1	0.000385	E003 E004
0.37	D07LA4	1620	2.1	1.26	Y	0.66	-	-	-	2.8	2.4	2.4	2.4	0.000385	
0.55	DSE08MA4	1720	3.1	1.28	Y	0.72	75.4	75.2	73.0	4.6	2.3	2.2	2.7	0.00115	ES(X)010 EH(X)010 EH(X)027
0.75	DSE08LA4	1720	4.15	1.75	Y	0.69	78.2	77.0	72.7	4.8	2.5	2.4	2.9	0.00150	
1.1	DSE08XA4	1720	6.2	2.4	Y	0.71	79.0	77.0	73.0	4.1	2.2	2.0	2.4	0.00170	
1.1	DSE09SA4	1740	6.05	2.3	Y	0.72	83.6	82.6	79.2	6.5	3.6	3.3	4.0	0.00245	ES(X)010 ES(X)027 EH(X)027
1.5	DSE09LA4	1740	8.25	3.1	Y	0.72	84.2	83.5	80.4	6.5	3.4	3.1	4.0	0.00320	
2.2	DSE09XA4	1720	12.2	4.3	Y	0.76	84.9	85.0	83.0	6.2	3.3	3.0	3.6	0.00380	
3	DSE11SA4	1740	16.4	5.5	D	0.78	86.7	86.6	84.4	6.9	3.0	2.7	3.8	0.00810	ES(X)027 ES(X)040 ES(X)070 EH(X)070 EH(X)125
4	DSE11MA4	1740	21.9	7.2	D	0.81	86.2	86.4	84.9	6.9	3.3	2.7	3.7	0.01050	
5.5	DSE11LA4	1740	30.2	9.7	D	0.81	87.7	87.8	86	7.6	3.3	2.9	4	0.014	

P _N	Rated power
n _N	Guideline value for rated speed at the rotor shaft
M _N	Rated torque at the rotor shaft
I _N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
cosφ	Power factor
η	Efficiency at different loads
I _A /I _N	Relative starting current
M _A /M _N	Relative starting torque
M _S /M _N	Relative pull-up torque
M _K /M _N	Relative breakdown torque
J _{rot}	Mass moment of inertia of the rotor
Brake	Brake dimensioning see chapter "Motor Mounted Components-Dimensions"

The standard motor winding configuration is for 460 V / 60 Hz.

See "www.bauergears.com" for more information.

Continuous operation S1, 60 Hz

60 Hz

4-pole IE2 motors for continuous operation S1, mains frequency 60 Hz

4-pole IE2 motors for continuous operation S1, mains frequency 60 Hz																			
η (100 %-Load)	η (75 %-Load)	η (50 %-Load)	IE Class	Manufacturer data	Type	Number of poles	P kW	Frequency Hz	Voltage V	n_N 1/min	Type of motor	Operating conditions	Power losses in % at operating points (Speed/Torque)						
%	%	%											25/25	25/100	50/25	50/50	50/100	90/50	90/100
68.8	65.8	58.9	IE2	1)	DHE05LA4	4	0.12	60	460	1710	2)	3)	23.6	35.4	26.0	28.4	38.1	34.1	44.0
68.4	65.4	58.1	IE2	1)	DHE06LA4	4	0.12	60	460	1710	2)	3)	24.3	35.9	26.8	29.1	38.5	34.9	44.5
71.6	69.3	63.1	IE2	1)	DHE05LA4	4	0.18	60	460	1700	2)	3)	20.4	32.0	22.3	24.6	34.0	29.0	38.7
71.2	68.8	62.4	IE2	1)	DHE06LA4	4	0.18	60	460	1700	2)	3)	20.4	32.0	22.4	24.7	34.1	29.3	39.0
72.6	70.3	64.6	IE2	1)	DHE07LA4	4	0.25	60	460	1700	2)	3)	17.8	29.3	19.8	22.1	31.5	26.9	36.6
74.6	73	67.6	IE2	1)	DHE07LA4	4	0.3	60	460	1690	2)	3)	16.1	27.6	17.7	20.1	29.4	23.9	33.4
77.8	75.7	70.1	IE2	1)	DHE08MA4	4	0.37	60	460	1745	2)	3)	12.1	19.9	14.0	15.6	22.1	20.2	27.1
80.5	79.9	76.3	IE2	1)	DHE08LA4	4	0.55	60	460	1730	2)	3)	8.7	18.3	10.2	12.2	20.0	15.7	24.0
1) Manufacturer: Commercial register number: Address:					Bauer Gear Motor GmbH HRB 736269 Eberhard-Bauer-Str. 37, 73734 Esslingen/Germany			2) Type of motor:		three-phase motor		3) Installation altitude above sea level (m): 1000 Ambient temperature: -20 °C to +40 °C							

Technical data of the 60 Hz motors

60 Hz

4-pole IE2 motors for continuous operation S1, mains frequency 60 Hz

P _N kW	Type	n _N 1/min	M _N Nm	I _N (460 V) A	Connec- tion	cosφ	η (100%-Last) %	η (75%-Last) %	η (50%-Last) %	I _A /I _N	M _A /M _N	M _S /M _N	M _K /M _N	J _{rot} kgm ²	Brake
0.12	DHE05LA4	1710	0.67	0.36	Y	0.61	68.8	65.8	58.9	4	2.8	2.8	3.2	0.000295	E003
0.12	DHE06LA4	1710	0.67	0.36	Y	0.6	68.4	65.4	58.1	3.9	2.8	2.8	3.3	0.000295	
0.18	DHE05LA4	1700	1.01	0.52	Y	0.61	71.6	69.3	63.1	4	3.2	3.1	3.3	0.000295	
0.18	DHE06LA4	1700	1.01	0.53	Y	0.6	71.2	68.8	62.4	3.9	3.2	3.1	3.3	0.000295	
0.25	DHE07LA4	1700	1.4	0.7	Y	0.62	72.6	70.3	64.6	4.2	3.4	3.2	3.5	0.000385	E003 E004
0.3	DHE07LA4	1690	1.7	0.82	Y	0.62	74.6	73	67.6	4.2	3.5	3.3	3.5	0.000385	
0.37	DHE08MA4	1745	2	0.99	Y	0.6	77.8	75.7	70.1	5.9	2.9	2.7	3.6	0.00115	ES(X)010 EH(X)010 EH(X)027
0.55	DHE08LA4	1730	3	1.23	Y	0.69	80.5	79.9	76.3	5.4	2.7	2.4	3.2	0.0015	
0.75	DHE08XA4	1720	4.1	1.60	Y	0.72	82.5	81.0	78.0	5.1	2.5	2.4	3.0	0.0017	
0.75	DHE09SA4	1740	4.1	1.60	Y	0.70	83.7	82.4	78.3	7.3	3.4	3.0	4.0	0.00245	ES(X)010 ES(X)027 EH(X)027 EH(X)040
1.1	DHE09LA4	1740	6.0	2.25	Y	0.73	84.8	83.8	80.4	7.3	3.6	3.3	4.3	0.0032	
1.5	DHE09XA4	1740	8.2	2.95	Y	0.74	85.8	85.2	82.5	7.2	3.7	3.5	4.3	0.0038	
2.2	DHE09XB4	1740	12.1	4.1	Y	0.77	87.5	87.1	85.2	7.5	3.4	3.1	4.0	0.0049	
2.2	DHE11SA4	1760	12	4.0	Y	0.78	87.7	87.2	84.1	8.3	3.5	3.1	4.3	0.0081	ES(X)027 ES(X)040 ES(X)070 EH(X)070 EH(X)125
3	DHE11MA4	1760	16.5	5.5	D	0.78	87.6	87.2	83.9	7.9	3.9	3.1	4.4	0.0105	
4	DHE11LA4	1760	21.5	7.3	D	0.77	88.3	87.5	84.6	9.3	4.1	3.6	4.9	0.014	
5.5	DHE11LB4	1750	30	9.6	D	0.8	89.5	89.2	87.4	9.1	3.6	3.2	4.5	0.017	

P _N	Rated power
n _N	Guideline value for rated speed at the rotor shaft
M _N	Rated torque at the rotor shaft
I _N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
cosφ	Power factor
η	Efficiency at different loads
I _A /I _N	Relative starting current
M _A /M _N	Relative starting torque
M _S /M _N	Relative pull-up torque
M _K /M _N	Relative breakdown torque
J _{rot}	Mass moment of inertia of the rotor
Brake	Brake dimensioning see chapter "Motor Mounted Components-Dimensions"

Winding configuration for standard motors for 460 V / 60 Hz.

All motors are suitable for the voltage range 440...480 V or 460 V +/- 10 % if executed in insulation class F.

Important: Current, power factor and torque change as voltage deviates from 460 V.

See "www.bauergears.com" for more information.

Continuous operation S1, 60 Hz

60 Hz

4-pole IE3 motors for continuous operation S1, line frequency 60 Hz

4-pole IE3 motors for continuous operation S1, line frequency 60 Hz																			
η (100 %-Load)	η (75 %-Load)	η (50 %-Load)	IE Class	Manufacturer data	Type	Number of poles	P kW	Frequency Hz	Voltage V	n _N 1/min	Type of motor	Operating conditions	Power losses in % at operating points (Speed/Torque)						
%	%	%											25/25	25/100	50/25	50/50	50/100	90/50	90/100
71.4	68.2	61	IE3	1)	DPE05LA4	4	0.12	60	460	1715	2)	3)	20.4	30.2	22.9	24.9	32.8	30.7	38.9
70.8	67.4	60.3	IE3	1)	DPE06LA4	4	0.12	60	460	1715	2)	3)	20.6	30.5	23.1	25.2	33.3	31.1	39.6
73.1	70.5	64.2	IE3	1)	DPE07LA4	4	0.18	60	460	1715	2)	3)	16.9	27.1	19.1	21.2	29.5	26.4	35.1
78.2	76.2	70.9	IE3	1)	DPE08MA4	4	0.25	60	460	1745	2)	3)	11.6	19.7	13.8	15.5	22.3	21.0	28.4
81.5	79.4	74.3	IE3	1)	DPE08LA4	4	0.37	60	460	1750	2)	3)	8.7	15.0	10.5	11.8	17.0	16.1	21.6
82.9	81.7	77.9	IE3	1)	DPE08XA4	4	0.55	60	460	1740	2)	3)	7.6	15.0	9.1	10.6	16.7	14.1	20.5
85	84.6	81.7	IE3	1)	DPE08XB4	4	0.75	60	460	1735	2)	3)	6.5	14.1	7.5	9.1	15.3	11.4	18.0
83.9	82.6	78.9	IE3	1)	DPE09LA4	4	0.75	60	460	1750	2)	3)	5.0	11.5	6.9	8.3	13.7	12.8	18.8
87.4	86.4	83.5	IE3	1)	DPE09XB4	4	1.1	60	460	1755	2)	3)	5.3	10.6	6.6	7.7	12.0	10.8	15.3
87.1	86.8	84.4	IE3	1)	DPE09XB4	4	1.5	60	460	1745	2)	3)	5.0	11.6	6.1	7.4	12.9	9.9	15.7
90.3	90	88.3	IE3	1)	DPE11LB4	4	2.2	60	460	1760	2)	3)	3.3	7.9	4.3	5.2	9.0	7.5	11.6
90.7	90.5	88.9	IE3	1)	DPE11LB4	4	3	60	460	1760	2)	3)	2.5	7.5	3.8	4.8	8.8	7.0	11.0
90.5	90.5	89.5	IE3	1)	DPE11LB4	4	4	60	460	1760	2)	3)	3.0	7.8	3.8	4.8	8.7	6.8	11.0
1) Manufacturer:				Bauer Gear Motor GmbH				2) Type of motor:				three-phase motor				3) Installation altitude above sea level (m): 1000 Ambient temperature: -20 °C to +40 °C			
Commercial register number:				HRB 736269															
Address:				Eberhard-Bauer-Str. 37, 73734 Esslingen/Germany															

Technical data of the 60 Hz motors

60 Hz

4-pole IE3 motors for continuous operation S1, mains frequency 60 Hz

PN	Type	n_N	M_N	I_N	Con- nection	$\cos\phi$	η	η	η	I_A/I_N	M_A/M_N	M_S/M_N	M_K/M_N	J_{rot}	Brake
kW		1/min	Nm	A			(100%-Load)	(75%-Load)	(50%-Load)					kgm ²	
0.12	DPE05LA4	1715	0.67	0.37	Y	0.57	71.4	68.2	61	4.4	3.7	3.6	3.9	0.000295	E003
0.12	DPE06LA4	1715	0.67	0.37	Y	0.57	70.8	67.4	60.3	4.4	3.7	3.6	3.9	0.000295	E003
0.18	DPE07LA4	1715	1	0.52	Y	0.6	73.1	70.5	64.2	4.7	3.8	3.6	3.9	0.000385	E003, E004
0.25	DPE08MA4	1745	1.37	0.65	Y	0.63	78.2	76.2	70.9	5.5	3	2.7	3.7	0.00115	ES(X)010 EH(X)010/027
0.37	DPE08LA4	1750	2	0.94	Y	0.6	81.5	79.4	74.3	6.3	3.6	3.3	4.3	0.0015	
0.55	DPE08XA4	1740	3	1.25	Y	0.67	82.9	81.7	77.9	6.2	3.4	3	3.9	0.0017	
0.75	DPE08XB4	1735	4.15	1.67	Y	0.67	85	84.6	81.7	6.4	3.6	3.1	4	0.002	
0.75	DPE09LA4	1750	4.1	1.45	Y	0.76	83.9	82.6	78.9	7.7	3.7	3.4	4.2	0.0032	ES(X)010/027 EH(X)027/040
1.1	DPE09XB4	1755	6	2.2	Y	0.73	87.4	86.4	83.5	8.7	4.2	3.8	5	0.0049	
1.5	DPE09XB4	1745	8.2	2.9	Y	0.76	87.1	86.8	84.4	7.6	3.6	3.4	4.3	0.0049	
2.2	DPE11LB4	1760	11.9	3.7	Y	0.83	90.3	90	88.3	9.5	3.7	3.2	4.5	0.017	ES(X)027/040/070 EH(X)070/125
3	DPE11LB4	1760	16.3	5.2	D	0.81	90.7	90.5	88.9	9	3.8	3.3	4.6	0.017	
4	DPE11LB4	1760	21.7	6.9	D	0.81	90.5	90.5	89.5	9.3	3.7	3	4.7	0.017	

P_N	Rated power
n_N	Guideline value for rated speed at the rotor shaft
M_N	Rated torque at the rotor shaft
I_N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
$\cos\phi$	Power factor
η	Efficiency at different loads
I_A/I_N	Relative starting current
M_A/M_N	Relative starting torque
M_S/M_N	Relative pull-up torque
M_K/M_N	Relative breakdown torque
J_{rot}	Mass moment of inertia of the rotor
Brake	Brake dimensioning see chapter "Motor Mounted Components-Dimensions"

The standard motor winding configuration is for 460 V / 60 Hz.

All motors are suitable for the voltage range 440...480 V or 460 V +/- 10 % if executed in insulation class F.

Important: Current, power factor and torque change as voltage deviates from 460 V.

See "www.bauergears.com" for more information.

Technical data of the 60 Hz motors

60 Hz

4-pole motors for intermittent periodic duty (S3/S6 75 %) and 60 Hz mains frequency

P _N kW	Type	n _N 1/min	M _N Nm	I _N (460 V) A	Connection	cosφ	I _A /I _N	M _A /M _N	M _S /M _N	M _K /M _N	J _{rot} kgm ²	Brake
0.9	DSE08MA4	1620	5.4	2.1	Y	0.81	3.2	1.6	1.5	1.9	0.00115	ES(X)010
1.1	DSE08LA4	1660	6.3	2.4	Y	0.79	3.6	1.6	1.6	1.9	0.0015	
1.5	DSE08XA4	1660	8.4	3.1	Y	0.81	3.6	1.6	1.5	1.8	0.0017	
2	DSE09SA4	1660	11.5	3.8	Y	0.86	4.2	1.8	1.6	2	0.00245	ES(X)010 ES(X)027
2.6	DSE09LA4	1660	15.3	5	Y	0.86	4.3	1.9	1.8	2.2	0.0032	
3	DSE09XA4	1680	17	5.5	Y	0.83	4.8	2.4	2.2	2.6	0.0038	
4.5	DSE11SA4	1700	25	7.8	D	0.85	4.9	2	1.8	2.5	0.0081	ES(X)027 ES(X)040 ES(X)070
6	DSE11MA4	1700	34	10.5	D	0.86	4.7	2.2	1.8	2.4	0.0105	
7.5	DSE11LA4	1720	41.5	12.7	D	0.86	5.8	2.4	2.1	2.9	0.014	

P _N	Rated power
n _N	Guideline value for rated speed at the rotor shaft
M _N	Rated torque at the rotor shaft
I _N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
cosφ	Power factor
I _A /I _N	Relative starting current
M _A /M _N	Relative starting torque
M _S /M _N	Relative pull-up torque
M _K /M _N	Relative breakdown torque
J _{rot}	Mass moment of inertia of the rotor
Brake	Brake dimensioning see chapter "Motor Mounted Components-Dimensions"

The standard motor winding configuration is for 460 V / 60 Hz.

See "www.bauergears.com" for more information.

Technical data of the 60 Hz motors

60 Hz

4-pole motors for intermittent periodic duty (S3/S6) and 60 Hz mains frequency

P _N kW	ED	Type	n _N 1/min	M _N Nm	I _N (460 V) A	Connection	cosφ	I _A /I _N	M _A /M _N	M _S /M _N	M _K /M _N	J _{rot} kgm ²
0.15	15%	D04LA4	1620	0.87	0.56	Y	0.77	2.2	1.8	1.7	1.8	0.000175
0.3	15%	D05LA4	1620	1.75	0.9	Y	0.75	2.8	2.1	2	2.1	0.000295
0.3	60%	D06LA4	1620	1.75	0.9	Y	0.75	2.8	2.1	2	2.1	0.000295
0.55	60%	D07LA4	1620	3.2	1.78	Y	0.86	3.7	1.8	1.6	1.8	0.000385
0.75	60%	D08MA4	1680	4.2	1.84	Y	0.81	3.7	1.8	1.5	1.9	0.00115
1.1	60%	D08LA4	1680	6.2	2.5	Y	0.82	3.6	1.6	1.5	1.9	0.0015
1.5	60%	D09SA4	1680	8.5	3.3	Y	0.84	4.3	1.9	1.6	2.2	0.00245
2.2	60%	D09LA4	1680	12.5	4.5	Y	0.86	4.3	1.8	1.6	2.1	0.0032
3	60%	D09XA4	1680	16.6	6.2	Y	0.86	3.7	1.9	1.8	2.1	0.0038
4	60%	D11SA4	1710	22	8.1	Δ	0.85	4.4	1.8	1.5	2.2	0.0081
5.5	60%	D11MA4	1710	30.5	10.7	Δ	0.87	4.7	1.6	1.6	2.2	0.0105
7.5	60%	D11LA4	1710	41.5	14.6	Δ	0.87	5	2	1.9	2.3	0.014

P _N	Rated power
ED	Duty cycle
n _N	Guideline value for rated speed at the rotor shaft
M _N	Rated torque at the rotor shaft
I _N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
cosφ	Power factor
I _A /I _N	Relative starting current
M _A /M _N	Relative starting torque
M _S /M _N	Relative pull-up torque
M _K /M _N	Relative breakdown torque
J _{rot}	Mass moment of inertia of the rotor

The standard motor winding configuration is for 460 V / 60 Hz.

See "www.bauergears.com" for additional information.

Technical data of the 60 Hz motors

60 Hz

4/2-pole motors Δ/YY for continuous operation S1, line frequency 60 Hz

P _N kW	Type	n _N 1/min	M _N Nm	I _N (460 V) A	cosφ	I _A /I _N	M _A /M _N	M _S /M _N	M _K /M _N	J _{rot} kgm ²
0.03/0.06	D04LA42	1620/3240	0.160/0.170	0.200/0.230	0.56/0.67	2.4/3.4	3.8/3.4	3.8/3.4	4.0/3.7	0.000175
0.04/0.08	D04LA42	1620/3240	0.230/0.230	0.230/0.260	0.60/0.75	2.2/3.1	3.3/2.3	3.3/2.3	3.7/2.4	0.000175
0.06/0.12	D05LA42	1620/3240	0.350/0.350	0.420/0.420	0.50/0.75	3.1/3.6	3.4/2.2	3.3/2.1	4.2/2.9	0.000295
0.08/0.16	D05LA42	1620/3240	0.470/0.470	0.460/0.460	0.55/0.75	3.1/3.6	3.1/2.0	3.0/1.9	3.8/2.5	0.000295
0.06/0.12	D06LA42	1620/3240	0.350/0.350	0.420/0.420	0.50/0.75	3.1/3.6	3.4/2.2	3.3/2.1	4.2/2.9	0.000295
0.08/0.16	D06LA42	1620/3240	0.470/0.470	0.46/0.460	0.55/0.75	3.1/3.6	3.1/2.0	3.0/1.9	3.8/2.5	0.000295
0.11/0.22	D06LA42	1620/3240	0.64/0.64	0.63/0.63	0.55/0.75	3.1/3.6	3.1/2.0	3.0/1.9	3.8/2.5	0.000295
0.16/0.32	D06LA42	1620/3240	0.94/0.94	0.82/0.82	0.57/0.80	3.1/3.6	2.8/1.9	2.7/1.8	3.4/2.3	0.000295
0.2/0.4	D07LA42	1680/3360	1.12/1.14	1.04/1.08	0.58/0.81	3.2/3.9	3.1/1.8	3.0/1.5	3.3/2.2	0.000385
0.28/0.56	D08MA42	1680/3360	1.58/1.58	1.10/1.60	0.61/0.81	3.7/3.2	2.5/1.7	2.5/1.5	3.3/2.1	0.00115
0.4/0.8	D08LA42	1680/3360	2.2/2.2	1.40/1.74	0.6/0.90	5.1/5.6	3.0/2.0	2.6/1.9	3.4/2.3	0.0015
0.5/1.0	D09SA42	1680/3360	2.8/2.8	1.60/2.6	0.71/0.91	5.5/4.6	3.4/2.2	3.4/2.2	4.2/2.6	0.00245
0.7/1.4	D09SA42	1680/3360	3.9/3.9	1.93/3.1	0.71/0.93	5.1/4.5	2.8/1.8	2.8/1.8	3.4/2.2	0.00245
1.0/2.0	D09LA42	1680/3360	5.6/5.6	2.8/4.3	0.72/0.94	5.1/4.5	2.8/1.8	2.8/1.8	3.4/2.2	0.0032
1.2/2.4	D09XA42	1680/3360	6.8/6.7	3.4/5.2	0.65/0.87	6.8/3.3	2.7/2.0	2.7/2.0	3.4/2.5	0.0038
1.4/2.8	D11SA42	1710/3420	7.8/7.8	3.3/5.7	0.74/0.90	7.0/4.9	3.3/1.9	2.8/1.6	4.5/3.1	0.0081
2.0/4.0	D11MA42	1710/3420	11.2/11.1	51./8.4	0.70/0.90	7.3/5.9	3.4/2.3	3.0/1.8	4.1/2.8	0.0105
2.5/5.0	D11LA42	1710/3420	14/14	5.0/9.1	0.79/0.92	6./5.0	3.1/2.0	3.0/1.9	4.1/2.8	0.014

P _N	Rated power
n _N	Guideline value for rated speed at the rotor shaft
M _N	Rated torque at the rotor shaft
I _N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
cosφ	Power factor
I _A /I _N	Relative starting current
M _A /M _N	Relative starting torque
M _S /M _N	Relative pull-up torque
M _K /M _N	Relative breakdown torque
J _{rot}	Mass moment of inertia of the rotor

The standard motor winding configuration is for 460 V / 60 Hz.

See "www.bauergears.com" for additional information.

Technical data of the 60 Hz motors

60 Hz

8/4-pole motors Δ/YY for continuous operation S1, line frequency 60 Hz

P _N kW	Type	n _N 1/min	M _N Nm	I _N (460 V) A	cosφ	I _A /I _N	M _A /M _N	M _S /M _N	M _K /M _N	J _{rot} kgm ²
0.03/0.06	D05LA84	810/1620	0.340/0.350	0.280/0.260	0.52/0.71	1.8/2.8	3.0/2.1	1.8/1.9	1.8/1.9	0.000295
0.03/0.06	D06LA84	810/1620	0.340/0.350	0.280/0.260	0.52/0.71	1.8/2.8	3.0/2.1	1.8/1.9	1.8/1.9	0.000295
0.04/0.08	D06LA84	810/1620	0.450/0.460	0.440/0.370	0.52/0.66	1.5/2.4	2.9/2.3	1.8/1.9	1.8/1.9	0.000295
0.06/0.12	D07LA84	810/1620	0.70/0.70	0.65/0.55	0.52/0.66	1.9/3.1	3.5/1.9	3.5/1.7	3.6/2.3	0.000385
0.06/0.12	D08LA84	840/1680	0.67/0.67	0.460/0.460	0.61/0.83	3.1/4.1	3.4/2.5	3.4/2.5	3.9/3.2	0.0025
0.08/0.16	D08LA84	840/1680	0.90/0.90	0.57/0.57	0.61/0.83	3.1/4.1	3.3/2.4	3.3/2.4	3.9/3.3	0.0025
0.11/0.22	D08LA84	840/1680	1.24/1.25	0.74/0.74	0.61/0.83	3.1/4.1	3.1/2.3	3.1/2.3	3.7/3.1	0.0025
0.14/0.28	D08LA84	840/1680	1.58/1.59	0.92/0.92	0.61/0.83	3.1/4.1	3.1/2.3	3.1/2.3	3.7/3.1	0.0025
0.2/0.4	D08LA84	840/1680	2.2/2.2	1.05/1.20	0.55/0.77	3.1/4.1	2.5/1.9	2.5/1.9	3.0/2.5	0.0025
0.25/0.5	D09XC84	840/1680	2.8/2.8	1.28/1.28	0.48/0.77	3.2/5.5	3.0/2.2	3.0/2.3	3.4/3.0	0.006
0.28/0.56	D09XC84	840/1680	3.1/3.1	1.29/1.38	0.57/0.80	3.2/5.4	2.7/2.0	2.7/2.1	3.1/2.7	0.006
0.4/0.8	D09XC84	840/1680	4.5/4.5	1.80/2.2	0.55/0.79	3.1/4.6	2.5/1.9	2.5/2.0	3.0/2.5	0.006
0.5/1.0	D09XC84	840/1680	5.6/5.6	2.2/2.4	0.55/0.81	2.9/4.4	2.4/1.8	2.4/1.8	2.8/2.4	0.006
0.8/1.6	D11LC84	850/1710	8.9/8.9	2.8/3.8	0.63/0.88	3.8/4.7	2.4/2.1	2.4/1.9	3.1/3.0	0.0215
1.1/2.2	D11LC84	850/1710	12.2/12.2	3.7/4.5	0.58/0.85	4.3/6.2	2.5/2.3	2.5/1.9	3.0/2.7	0.0215
1.6/3.2	D11LC84	850/1710	17.9/17.9	5.5/7.0	0.59/0.84	4.1/5.6	2.4/2.0	2.3/1.6	2.8/2.5	0.0215

P _N	Rated power
n _N	Guideline value for rated speed at the rotor shaft
M _N	Rated torque at the rotor shaft
I _N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
cosφ	Power factor
I _A /I _N	Relative starting current
M _A /M _N	Relative starting torque
M _S /M _N	Relative pull-up torque
M _K /M _N	Relative breakdown torque
J _{rot}	Mass moment of inertia of the rotor

The standard motor winding configuration is for 460 V / 60 Hz.

See "www.bauergears.com" for additional information.

Technical data of the 60 Hz motors

60 Hz

8/2-pole Y/Y motors for intermittent periodic duty S3 25/75 % and 60 Hz mains frequency

P_N	ED	Type	n_N	M_N	I_N	$\cos\phi$	I_A/I_N	M_A/M_N	M_S/M_N	M_K/M_N	J_{rot}
kW			1/min	Nm	(460 V) A						kgm ²
0.04/0.16	25/75 %	D05LA82	680/2700	0.56/0.56	0.400/0.80	0.63/0.75	1.6/3.2	1.9/2.2	1.9/2.1	2.0/2.3	0.000295
0.05/0.20	25/75 %	D06LA82	680/2700	0.70/0.70	0.51/1.02	0.63/0.75	1.4/2.8	1.7/2.0	1.7/1.9	1.8/2.1	0.000295
0.063/0.25	25/75 %	D07LA82	650/2840	0.87/0.87	0.60/1.20	0.69/0.62	1.4/2.6	1.6/1.4	1.6/1.4	1.8/2.7	0.000385
0.071/0.28	25/75 %	D07LA82	650/2840	0.99/0.98	0.65/1.40	0.69/0.68	1.4/2.6	1.5/1.3	1.5/1.3	1.7/2.6	0.000385
0.063/0.25	25/75 %	D08LA82	700/2800	0.85/0.85	0.55/0.70	0.55/0.87	2.8/4.0	2.4/2.6	2.4/2.5	2.8/3.0	0.0015
0.09/0.36	25/75 %	D08LA82	700/2800	1.22/1.22	0.70/1.05	0.60/0.92	2.9/4.5	2.0/2.6	2.0/2.5	2.4/2.9	0.0015
0.12/0.5	25/75 %	D08LA82	700/2800	1.70/1.70	0.95/1.43	0.60/0.92	2.9/4.5	2.0/2.6	2.0/2.5	2.4/2.9	0.0015
0.16/0.63	25/75 %	D08LA82	700/2800	2.1/2.1	1.20/1.45	0.63/0.90	2.0/4.6	1.8/2.1	1.8/2.0	2.2/2.4	0.0015
0.25/1.0	25/75 %	D09XA82	700/2800	3.4/3.4	1.30/2.3	0.62/0.90	2.2/5.2	1.9/2.3	1.9/2.3	2.0/2.6	0.0038
0.3/1.4	25/75 %	D09XA82	700/2800	4.9/4.8	2.1/3.3	0.57/0.87	2.0/4.5	1.9/2.1	1.9/2.1	2.0/2.4	0.0038
0.45/1.8	25/75 %	D09XA82	700/2800	6.1/6.1	2.4/4.3	0.65/0.89	2.0/4.3	1.7/2.0	1.7/2.0	2.0/2.5	0.0038
0.56/2.2	25/75 %	D11LA82	710/2840	7.5/7.3	2.3/4.7	0.60/0.94	3.2/4.9	1.9/2.9	1.9/2.4	2.2/2.9	0.014
0.71/2.8	25/75 %	D11LA82	710/2840	9.5/9.4	2.8/5.6	0.58/0.94	2.5/4.7	1.9/2.3	1.9/2.0	2.1/2.4	0.014
0.90/3.6	25/75 %	D11LA82	710/2840	12.1/12.1	3.5/7.9	0.58/0.94	2.5/4.5	1.8/2.0	1.8/1.8	2.0/2.1	0.014

P_N	Rated power
ED	Duty cycle
n_N	Guideline value for rated speed at the rotor shaft
M_N	Rated torque at the rotor shaft
I_N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
$\cos\phi$	Power factor
I_A/I_N	Relative starting current
M_A/M_N	Relative starting torque
M_S/M_N	Relative pull-up torque
M_K/M_N	Relative breakdown torque
J_{rot}	Mass moment of inertia of the rotor

The standard motor winding configuration is for 460 V / 60 Hz.

See "www.bauergears.com" for additional information.

Technical data of the 60 Hz motors

60 Hz

12/2-pole motors Y/Y for intermittent periodic duty S3-25/75 %, line frequency 60 Hz

P_N	ED	Type	n_N	M_N	I_N	$\cos\varphi$	I_A/I_N	M_A/M_N	M_S/M_N	M_K/M_N	J_{rot}
kW			1/min	Nm	(460 V) A						kgm ²
0.045/0.28	25/75 %	D08LA122	560/3360	0.76/0.79	0.51/0.79	0.70/0.90	1.5/4.9	2.1/2.7	2.1/2.7	2.1/3.0	0.0015
0.063/0.40	25/75 %	D08LA122	560/3360	1.07/1.13	0.61/1.02	0.70/0.90	1.5/4.9	1.9/2.4	1.9/2.4	1.9/2.7	0.0015
0.09/0.56	25/75 %	D08LA122	560/3360	1.54/1.59	0.95/1.35	0.63/0.89	1.5/4.5	1.9/2.3	1.9/2.5	2.0/2.6	0.0015
0.11/0.71	25/75 %	D09XA122	560/3360	1.88/2.0	1.00/1.50	0.59/0.88	1.6/6.0	1.9/3.0	1.9/2.9	2.0/3.6	0.0038
0.16/1.0	25/75 %	D09XA122	560/3360	2.7/2.8	1.56/2.2	0.62/0.89	1.6/6.0	2.0/2.9	2.0/2.7	2.0/3.6	0.0038
0.2/1.25	25/75 %	D09XA122	560/3360	3.4/3.5	1.85/2.8	0.62/0.89	1.6/5.5	1.9/2.6	1.9/2.5	1.9/3.4	0.0038
0.25/1.6	25/75 %	D11LA122	560/3420	4.2/4.4	2.1/3.1	0.53/0.95	1.8/5.4	1.9/2.8	1.9/2.6	2.2/3.1	0.014
0.32/2.0	25/75 %	D11LA122	560/3420	5.4/5.5	2.7/3.6	0.53/0.94	1.8/5.1	1.9/2.7	1.9/2.4	2.2/3.0	0.014
0.45/2.8	25/75 %	D11LA122	560/3420	7.6/7.8	3.8/5.1	0.52/0.94	1.8/5.1	1.6/2.5	1.6/2.2	2.0/2.6	0.014

P_N	Rated power
ED	Duty cycle
n_N	Guideline value for rated speed at the rotor shaft
M_N	Rated torque at the rotor shaft
I_N	Rated current (the current can be converted in inverse ratio to the voltages for the desired special voltage)
$\cos\varphi$	Power factor
I_A/I_N	Relative starting current
M_A/M_N	Relative starting torque
M_S/M_N	Relative pull-up torque
M_K/M_N	Relative breakdown torque
J_{rot}	Mass moment of inertia of the rotor

The standard motor winding configuration is for 460 V / 60 Hz.

See "www.bauergears.com" for additional information.

Operation with frequency converter, 50 Hz

50 Hz

IE1 Motor torques for frequency-converter range 5 Hz - 70 Hz, line frequency 50 Hz

P _N kW	Type	Con- nec- tion	5 Hz M Nm	10 Hz M Nm	20 Hz M Nm	30 Hz M Nm	50 Hz M Nm	60 Hz M Nm	70 Hz M Nm	5 Hz I A	10 Hz I A	20 Hz I A	30 Hz I A	50 Hz I A	60 Hz I A	70 Hz I A
0.03	D04LA4	Y	0.125	0.155	0.185	0.205	0.21	0.21	0.18	0.19	0.193	0.198	0.2	0.2	0.23	0.23
0.04	D04LA4	Y	0.165	0.21	0.25	0.275	0.28	0.275	0.205	0.19	0.193	0.198	0.2	0.2	0.23	0.2
0.06	D04LA4	Y	0.25	0.315	0.375	0.41	0.42	0.42	0.32	0.29	0.295	0.3	0.3	0.3	0.34	0.305
0.09	D04LA4	Y	0.375	0.47	0.56	0.62	0.63	0.63	0.52	0.435	0.44	0.45	0.45	0.45	0.51	0.495
0.11	D04LA4	Y	0.465	0.58	0.7	0.77	0.78	0.67	0.495	0.41	0.425	0.44	0.45	0.45	0.45	0.435
0.06	D05LA4	Y	0.25	0.315	0.375	0.41	0.42	0.42	0.36	0.3	0.315	0.34	0.35	0.35	0.395	0.4
0.09	D05LA4	Y	0.375	0.47	0.56	0.62	0.63	0.63	0.54	0.355	0.365	0.375	0.38	0.38	0.43	0.43
0.06	D06LA4	Y	0.25	0.315	0.375	0.41	0.42	0.42	0.36	0.3	0.315	0.34	0.35	0.35	0.395	0.4
0.09	D06LA4	Y	0.375	0.47	0.56	0.62	0.63	0.63	0.54	0.355	0.365	0.375	0.38	0.38	0.43	0.43
0.12	DSE04LA4	Y	0.52	0.65	0.78	0.85	0.87	0.67	0.495	0.45	0.45	0.45	0.45	0.45	0.45	0.45
0.18	DSE05LA4	Y	0.76	0.96	1.15	1.26	1.28	1.28	0.97	0.6	0.61	0.63	0.63	0.63	0.72	0.64
0.2	DSE05LA4	Y	0.85	1.06	1.27	1.4	1.42	1.35	0.99	0.62	0.63	0.65	0.66	0.66	0.72	0.66
0.25	DSE05LA4	Y	1.05	1.31	1.57	1.72	1.75	1.59	1.17	0.86	0.87	0.87	0.87	0.87	0.9	0.87
0.18	DSE06LA4	Y	0.76	0.96	1.15	1.26	1.28	1.28	1.02	0.6	0.61	0.63	0.63	0.63	0.72	0.67
0.2	DSE06LA4	Y	0.85	1.06	1.27	1.4	1.42	1.35	0.99	0.61	0.63	0.64	0.65	0.65	0.71	0.65
0.25	DSE06LA4	Y	1.05	1.31	1.57	1.72	1.75	1.59	1.17	0.86	0.87	0.87	0.87	0.87	0.9	0.87
0.37	DSE07LA4	Y	1.59	1.98	2.3	2.6	2.6	2.5	1.85	1.13	1.14	1.15	1.15	1.15	1.24	1.15
0.55	DSE08MA4	Y	2.2	2.8	3.3	3.7	3.8	3.8	2.8	1.29	1.35	1.41	1.45	1.45	1.64	1.47
0.75	DSE08LA4	Y	3	3.8	4.5	5	5.1	5.1	3.9	1.7	1.79	1.89	1.95	1.95	2.2	1.97
1.1	DSE08XA4	Y	4.5	5.6	6.7	7.4	7.5	7.1	5.2	2.5	2.6	2.8	2.8	2.8	3.1	2.8
1.1	DSE09SA4	Y	4.5	5.6	6.7	7.4	7.5	7.5	6.4	2.2	2.4	2.5	2.6	2.6	3	3
1.5	DSE09LA4	Y	6	7.5	9	9.9	10.1	10.1	8.6	3	3.2	3.4	3.5	3.5	4	4
2.2	DSE09XA4	Y	9	11.2	13.5	14.8	15	15	12.4	3.9	4.2	4.7	4.9	4.9	5.6	5.4
3	DSE11SA4	Y	12	15	18	19.7	20	20	17.1	5.1	5.5	6.1	6.4	6.4	7.3	7.3
4	DSE11MA4	Y	16.2	20	24	26.5	27	27	23	6.4	7.1	7.9	8.4	8.4	9.5	9.5
5.5	DSE11LA4	Y	22	27.5	33	36.5	37	37	31.5	8.2	9.3	10.5	11.2	11.3	12.8	12.8

P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

I Load current for operation with frequency inverter

Field weakening for frequencies above 50 Hz, winding for standard voltage **400 V Y / 50 Hz**, Temperature Class F with frequency inverter

Motors with standard windings can be switched from Y- to Δ- circuit for operation with a converter having a single-phase mains connection. This has no effect on the torques and frequencies as listed in the table above. As regards the choice of converter, however, note that currents are higher than those of the Y-circuit by a factor of 1.73.

The load currents in the table are guideline values for selecting the size of frequency inverter. Load current is lower if the load torque is below the values permitted for 30-70 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Operation with frequency converter, 50 Hz

50 Hz

IE1 Motor torques for frequency-converter range 5 Hz - 100 Hz, line frequency 50 Hz

P _N	Type	Connection	5 Hz	8.7 Hz	10 Hz	20 Hz	87 Hz	100 Hz	5 Hz	8.7 Hz	10 Hz	20 Hz	87 Hz	100 Hz
kW			M Nm	M Nm	M Nm	M Nm	M Nm	M Nm	I A	I A	I A	I A	I A	I A
0.03	D04LA4	D	0.125	0.15	0.155	0.185	0.21	0.21	0.33	0.335	0.335	0.345	0.35	0.38
0.04	D04LA4	D	0.165	0.2	0.21	0.25	0.28	0.28	0.33	0.335	0.335	0.345	0.35	0.38
0.06	D04LA4	D	0.25	0.3	0.315	0.375	0.42	0.42	0.51	0.51	0.51	0.52	0.52	0.57
0.09	D04LA4	D	0.375	0.45	0.47	0.56	0.63	0.63	0.76	0.76	0.77	0.78	0.78	0.86
0.11	D04LA4	D	0.465	0.56	0.58	0.7	0.78	0.73	0.71	0.73	0.73	0.76	0.78	0.81
0.06	D05LA4	D	0.25	0.3	0.315	0.375	0.42	0.42	0.52	0.54	0.55	0.59	0.61	0.67
0.09	D05LA4	D	0.375	0.45	0.47	0.56	0.63	0.63	0.62	0.63	0.63	0.65	0.66	0.73
0.09	D05LA4	D	0.375	0.45	0.47	0.56	0.63	0.63	0.62	0.63	0.63	0.65	0.66	0.73
0.06	D06LA4	D	0.25	0.3	0.315	0.375	0.42	0.42	0.52	0.54	0.55	0.59	0.61	0.67
0.09	D06LA4	D	0.375	0.45	0.47	0.56	0.63	0.63	0.62	0.63	0.63	0.65	0.66	0.73
0.12	DSE04LA4	D	0.52	0.62	0.65	0.78	0.87	0.74	0.78	0.78	0.78	0.78	0.78	0.78
0.18	DSE05LA4	D	0.76	0.92	0.96	1.15	1.28	1.28	1.04	1.06	1.06	1.08	1.1	1.2
0.2	DSE05LA4	D	0.85	1.02	1.06	1.27	1.42	1.42	1.06	1.09	1.09	1.13	1.15	1.26
0.25	DSE05LA4	D	1.05	1.25	1.31	1.57	1.75	1.73	1.49	1.5	1.5	1.51	1.51	1.65
0.18	DSE06LA4	D	0.76	0.92	0.96	1.15	1.28	1.28	1.04	1.06	1.06	1.08	1.1	1.2
0.2	DSE06LA4	D	0.85	1.02	1.06	1.27	1.42	1.42	1.06	1.08	1.08	1.11	1.13	1.24
0.25	DSE06LA4	D	1.05	1.25	1.31	1.57	1.75	1.73	1.49	1.5	1.5	1.51	1.51	1.65
0.37	DSE07LA4	D	1.59	1.9	1.98	2.3	2.6	2.6	1.95	1.96	1.97	1.98	2	2.2
0.55	DSE08MA4	D	2.2	2.7	2.8	3.3	3.8	3.8	2.2	2.4	2.4	2.5	2.6	2.8
0.75	DSE08LA4	D	3	3.6	3.8	4.5	5.1	5.1	3	3.1	3.1	3.3	3.4	3.8
1.1	DSE08XA4	D	4.5	5.4	5.6	6.7	7.5	7.5	4.3	4.5	4.5	4.7	4.9	5.4
1.1	DSE09SA4	D	4.5	5.4	5.6	6.7	7.5	7.5	3.8	4	4.1	4.4	4.5	5
1.5	DSE09LA4	D	6	7.2	7.5	9	10.1	10.1	5.1	5.4	5.4	5.8	6.1	6.7
2.2	DSE09XA4	D	9	10.7	11.2	13.5	15	15	6.8	7.3	7.4	8.1	8.5	9.4
3	DSE11SA4	D	12	14.3	15	18	20	20	8.7	9.4	9.6	10.5	11.1	12.2
4	DSE11MA4	D	16.2	19.4	20	24	27	27	11	12	12.2	13.6	14.6	16
5.5	DSE11LA4	D	22	26.5	27.5	33	37	37	14.2	15.7	16.1	18.2	19.6	21.5

P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

I Load current for operation with frequency inverter

Field weakening for frequencies above 87 Hz, winding for
230 V Δ/ 50 Hz (U_{max} = 400 V Δ/87 Hz), Temperature Class F.

The load currents in the table are guideline values for selecting the size of frequency inverter. Load current is lower if the load torque is below the values permitted for 30-100 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Operation with frequency converter, 50 Hz

50 Hz

IE2 Motor torques for frequency-converter range 5 Hz - 70 Hz, line frequency 50 Hz

P _N kW	Type	Con- nec- tion	5 Hz M Nm	10 Hz M Nm	20 Hz M Nm	30 Hz M Nm	50 Hz M Nm	60 Hz M Nm	70 Hz M Nm	5 Hz I A	10 Hz I A	20 Hz I A	30 Hz I A	50 Hz I A	60 Hz I A	70 Hz I A
0.12	DHE05LA4	Y	0.49	0.61	0.73	0.81	0.82	0.82	0.65	0.36	0.37	0.385	0.39	0.39	0.44	0.415
0.18	DHE05LA4	Y	0.75	0.93	1.12	1.23	1.25	1.25	1.03	0.53	0.54	0.56	0.57	0.57	0.65	0.63
0.12	DHE06LA4	Y	0.495	0.62	0.74	0.81	0.83	0.83	0.66	0.36	0.37	0.385	0.39	0.39	0.44	0.415
0.18	DHE06LA4	Y	0.75	0.93	1.12	1.23	1.25	1.25	1.03	0.54	0.55	0.57	0.58	0.58	0.66	0.64
0.25	DHE07LA4	Y	1.04	1.3	1.56	1.71	1.74	1.74	1.49	0.7	0.72	0.75	0.76	0.76	0.86	0.86
0.3	DHE07LA4	Y	1.26	1.57	1.89	2	2.1	2.1	1.8	0.82	0.85	0.88	0.9	0.9	1.02	1.02
0.37	DHE08MA4	Y	1.47	1.83	2.2	2.4	2.4	2.4	2.1	0.99	1.03	1.07	1.1	1.1	1.25	1.25
0.55	DHE08LA4	Y	2.2	2.8	3.3	3.6	3.7	3.7	3	1.15	1.23	1.32	1.38	1.38	1.56	1.51
0.75	DHE08XA4	Y	3	3.8	4.5	4.9	5	5	4.2	1.6	1.7	1.81	1.88	1.88	2.2	2.2
0.75	DHE09SA4	Y	3	3.8	4.5	4.9	5	5	4.2	1.54	1.63	1.73	1.8	1.8	2.1	2.1
1.1	DHE09LA4	Y	4.3	5.4	6.5	7.2	7.3	7.3	6.2	2.1	2.2	2.5	2.6	2.6	2.9	2.9
1.5	DHE09XA4	Y	5.9	7.4	8.9	9.8	9.9	9.9	8.5	2.7	2.9	3.2	3.4	3.4	3.8	3.8
2.2	DHE09XA4C	Y	8.7	10.8	13	14.3	14.5	14.5	12.4	3.8	4.2	4.5	4.8	4.8	5.4	5.4
2.2	DHE09XB4	Y	8.8	11.1	13.3	14.6	14.8	14.8	12.6	3.7	4	4.5	4.7	4.7	5.4	5.4
2.2	DHE11SA4	Y	8.7	10.8	13	14.3	14.5	14.5	12.4	3.6	3.9	4.4	4.6	4.6	5.2	5.3
3	DHE11MA4	Y	12	15	18	19.7	20	20	17.1	4.9	5.4	5.9	6.3	6.3	7.2	7.2
4	DHE11LA4	Y	15.9	19.8	23.5	26	26.5	26.5	22.5	6.9	7.4	8	8.4	8.4	9.5	9.5
5.5	DHE11LA4C	Y	21.5	27	32	35.5	36	36	30.5	8.2	9.2	10.3	11	11	12.5	12.5
5.5	DHE11LB4	Y	21.5	27	32	35.5	36	36	30.5	8.3	9.2	10.3	11	11	12.5	12.5

P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

I Load current for operation with frequency inverter

Field weakening for frequencies above 50 Hz, winding for standard voltage **400 V Y / 50 Hz**, Temperature Class F.

Motors with standard windings can be switched from Y- to Δ- circuit for operation with a converter having a single-phase mains connection. This has no effect on the torques and frequencies as listed in the table above. As regards the choice of converter, however, note that currents are higher than those of the Y-circuit by a factor of 1.73.

The load currents in the table are guideline values for selecting the size of frequency converter. Load current is lower if the load torque is below the values permitted for 30-70 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Operation with frequency converter, 50 Hz

50 Hz

IE2 Motor torques for frequency-converter range 5 Hz - 100 Hz, line frequency 50 Hz

P _N kW	Type	Con- nec- tion	5 Hz M Nm	8.7 Hz M Nm	10 Hz M Nm	20 Hz M Nm	87 Hz M Nm	100 Hz M Nm	5 Hz I A	8.7 Hz I A	10 Hz I A	20 Hz I A	87 Hz I A	100 Hz I A
0.12	DHE05LA4	D	0.49	0.59	0.61	0.73	0.82	0.82	0.62	0.64	0.64	0.67	0.68	0.75
0.18	DHE05LA4	D	0.75	0.89	0.93	1.12	1.25	1.25	0.91	0.93	0.94	0.97	0.99	1.09
0.12	DHE06LA4	D	0.495	0.59	0.62	0.74	0.83	0.83	0.62	0.64	0.64	0.67	0.68	0.75
0.18	DHE06LA4	D	0.75	0.89	0.93	1.12	1.25	1.25	0.93	0.95	0.95	0.99	1.01	1.11
0.25	DHE07LA4	D	1.04	1.25	1.3	1.56	1.74	1.74	1.2	1.23	1.24	1.29	1.32	1.45
0.3	DHE07LA4	D	1.26	1.51	1.57	1.89	2.1	2.1	1.42	1.46	1.47	1.52	1.56	1.71
0.37	DHE08MA4	D	1.47	1.76	1.83	2.2	2.4	2.4	1.72	1.77	1.78	1.86	1.91	2.1
0.55	DHE08LA4	D	2.2	2.6	2.8	3.3	3.7	3.7	1.99	2.1	2.2	2.3	2.4	2.7
0.75	DHE08XA4	D	3	3.6	3.8	4.5	5	5	2.8	2.9	3	3.2	3.3	3.6
0.75	DHE09SA4	D	3	3.6	3.8	4.5	5	5	2.7	2.8	2.8	3	3.2	3.5
1.1	DHE09LA4	D	4.3	5.2	5.4	6.5	7.3	7.3	3.6	3.8	3.9	4.2	4.5	4.9
1.5	DHE09XA4	D	5.9	7.1	7.4	8.9	9.9	9.9	4.6	5	5.1	5.5	5.9	6.4
2.2	DHE09XA4C	D	8.7	10.4	10.8	13	14.5	14.5	6.7	7.1	7.2	7.8	8.3	9.1
2.2	DHE09XB4	D	8.8	10.6	11.1	13.3	14.8	14.8	6.4	6.9	7	7.7	8.2	9
2.2	DHE11SA4	D	8.7	10.4	10.8	13	14.5	14.5	6.2	6.7	6.8	7.5	8	8.8
3	DHE11MA4	D	12	14.3	15	18	20	20	8.4	9.1	9.3	10.3	11	12
4	DHE11LA4	D	15.9	19	19.8	23.5	26.5	26.5	11.9	12.6	12.8	13.9	14.6	16
5.5	DHE11LA4C	D	21.5	25.5	27	32	36	36	14.2	15.6	15.9	17.8	19.1	21
5.5	DHE11LB4	D	21.5	25.5	27	32	36	36	14.3	15.6	15.9	17.8	19.1	21

P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

I Load current for operation with frequency inverter

Field weakening for frequencies above 87 Hz, winding for
230 V Δ/ 50 Hz (U_{max} = 400 V Δ/87 Hz), Temperature Class F.

The load currents in the table are guideline values for selecting the size of frequency inverter. Load current is lower if the load torque is below the values permitted for 30-100 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Operation with frequency converter, 50 Hz

50 Hz

IE3 Motor torques for frequency-converter range 5 Hz - 70 Hz. line frequency 50 Hz

P kW	Type	Con- nec- tion	5 Hz M Nm	10 Hz M Nm	20 Hz M Nm	30 Hz M Nm	50 Hz M Nm	60 Hz M Nm	70 Hz M Nm	5 Hz I A	10 Hz I A	20 Hz I A	30 Hz I A	50 Hz I A	60 Hz I A	70 Hz I A
0.12	DPE05LA4	Y	0.49	0.61	0.73	0.81	0.82	0.82	0.7	0.37	0.38	0.395	0.4	0.4	0.455	0.455
0.12	DPE06LA4	Y	0.49	0.61	0.73	0.81	0.82	0.82	0.7	0.38	0.39	0.405	0.41	0.41	0.465	0.465
0.18	DPE07LA4	Y	0.73	0.92	1.1	1.21	1.23	1.23	1.05	0.52	0.53	0.55	0.56	0.56	0.64	0.64
0.25	DPE08MA4	Y	0.99	1.24	1.49	1.63	1.66	1.66	1.42	0.62	0.65	0.69	0.71	0.71	0.81	0.81
0.37	DPE08LA4	Y	1.47	1.83	2.2	2.4	2.4	2.4	2.1	0.92	0.96	1	1.03	1.03	1.17	1.17
0.55	DPE08XA4	Y	2.1	2.7	3.2	3.6	3.6	3.6	3.1	1.19	1.26	1.35	1.4	1.4	1.58	1.59
0.75	DPE08XB4	Y	3	3.8	4.5	4.9	5	5	4.2	1.57	1.67	1.78	1.85	1.86	2.1	2.2
0.75	DPE09LA4	Y	3	3.8	4.5	4.9	5	5	4.2	1.3	1.43	1.57	1.66	1.67	1.89	1.89
1.1	DPE09XA4	Y	4.3	5.4	6.5	7.2	7.3	7.3	6.2	1.9	2.1	2.3	2.4	2.4	2.8	2.8
1.5	DPE09XB4	Y	6	7.5	9	9.8	10	10	8.5	2.6	2.8	3.1	3.2	3.2	3.7	3.7
2.2	DPE09XB4C	Y	8.7	10.8	13	14.3	14.5	14.5	12.4	3.8	4.1	4.5	4.7	4.7	5.4	5.4
2.2	DPE11MA4	Y	8.7	10.8	13	14.3	14.5	14.5	12.4	3.5	3.9	4.3	4.6	4.6	5.2	5.3
3	DPE11LA4	Y	11.8	14.7	17.7	19.4	19.7	19.7	16.8	4.8	5.3	5.9	6.2	6.2	7	7.1
4	DPE11LB4	Y	15.9	19.8	23.5	26	26.5	26.5	22.5	5.7	6.4	7.3	7.8	7.8	8.8	8.9
5.5	DPE11LB4C	Y	21.5	27	32	35.5	36	36	30.5	8.3	9.2	10.3	11	11	12.5	12.5

P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

I Load current for operation with frequency inverter

Field weakening for frequencies above 50 Hz, winding for standard voltage **400 V Y / 50 Hz**, Temperature Class F.

Motors with standard windings can be switched from Y- to Δ - circuit for operation with a converter having a single-phase mains connection. This has no effect on the torques and frequencies as listed in the table above. As regards the choice of converter, however, note that currents are higher than those of the Y-circuit by a factor of 1.73.

The load currents in the table are guideline values for selecting the size of frequency converter. Load current is lower if the load torque is below the values permitted for 30-70 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Operation with frequency converter, 50 Hz

50 Hz

IE3 Motor torques for frequency-converter range 5 Hz - 100 Hz, line frequency 50 Hz

P kW	Type	Connection	5 Hz M Nm	8.7 Hz M Nm	10 Hz M Nm	20 Hz M Nm	87 Hz M Nm	100 Hz M Nm	5 Hz I A	8.7 Hz I A	10 Hz I A	20 Hz I A	87 Hz I A	100 Hz I A
0.12	DPE05LA4	D	0.49	0.59	0.61	0.73	0.82	0.82	0.64	0.66	0.66	0.68	0.7	0.76
0.12	DPE06LA4	D	0.49	0.59	0.61	0.73	0.82	0.82	0.66	0.67	0.68	0.7	0.72	0.78
0.18	DPE07LA4	D	0.73	0.88	0.92	1.1	1.23	1.23	0.89	0.91	0.92	0.95	0.97	1.07
0.25	DPE08MA4	D	0.99	1.19	1.24	1.49	1.66	1.66	1.07	1.11	1.13	1.19	1.23	1.35
0.37	DPE08LA4	D	1.47	1.76	1.83	2.2	2.4	2.4	1.59	1.64	1.66	1.73	1.79	1.96
0.55	DPE08XA4	D	2.1	2.6	2.7	3.2	3.6	3.6	2.1	2.2	2.2	2.4	2.5	2.7
0.75	DPE08XB4	D	3	3.6	3.8	4.5	5	5	2.8	2.8	2.9	3.1	3.2	3.6
0.75	DPE09LA4	D	3	3.6	3.8	4.5	5	5	2.2	2.5	2.5	2.8	2.9	3.2
1.1	DPE09XA4	D	4.3	5.2	5.4	6.5	7.3	7.3	3.3	3.6	3.6	4	4.2	4.6
1.5	DPE09XB4	D	6	7.1	7.5	9	10	10	4.4	4.8	4.9	5.3	5.7	6.2
2.2	DPE09XB4C	D	8.7	10.4	10.8	13	14.5	14.5	6.5	7	7.1	7.7	8.2	9
2.2	DPE11MA4	D	8.7	10.4	10.8	13	14.5	14.5	6.1	6.6	6.7	7.5	8	8.8
3	DPE11LA4	D	11.8	14.1	14.7	17.7	19.7	19.7	8.3	9	9.1	10.1	10.8	11.8
4	DPE11LB4	D	15.9	19	19.8	23.5	26.5	26.5	9.9	10.9	11.1	12.5	13.6	14.9
5.5	DPE11LB4C	D	21.5	25.5	27	32	36	36	14.3	15.6	15.9	17.8	19.1	21

P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

I Load current for operation with frequency inverter

Field weakening for frequencies above 87 Hz, winding for
230 V Δ / 50 Hz (U_{max} = 400 V Δ / 87 Hz), Temperature Class F.

The load currents in the table are guideline values for selecting the size of frequency inverter. Load current is lower if the load torque is below the values permitted for 30-100 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Operation with frequency converter, 60 Hz

60 Hz

IE1 Motor torques for frequency-converter range 6 Hz - 84 Hz, line frequency 60 Hz

P _N kW	Type	Connec- tion	6 Hz M Nm	12 Hz M Nm	24 Hz M Nm	36 Hz M Nm	60 Hz M Nm	72 Hz M Nm	84 Hz M Nm	6 Hz I A	12 Hz I A	24 Hz I A	36 Hz I A	60 Hz I A	72 Hz I A	84 Hz I A
0.03	D04LA4	Y	0.115	0.14	0.165	0.18	0.18	0.18	0.15	0.176	0.178	0.18	0.185	0.18	0.205	0.205
0.04	D04LA4	Y	0.145	0.18	0.215	0.235	0.23	0.23	0.18	0.176	0.178	0.18	0.185	0.18	0.205	0.19
0.06	D04LA4	Y	0.22	0.275	0.325	0.355	0.35	0.35	0.3	0.275	0.275	0.28	0.29	0.28	0.32	0.32
0.09	D04LA4	Y	0.33	0.41	0.485	0.53	0.52	0.52	0.445	0.4	0.4	0.4	0.415	0.4	0.455	0.455
0.11	D04LA4	Y	0.38	0.48	0.57	0.63	0.64	0.64	0.57	0.42	0.42	0.42	0.42	0.42	0.465	0.475
0.12	D04LA4	Y	0.445	0.55	0.65	0.71	0.7	0.63	0.465	0.41	0.415	0.42	0.435	0.42	0.435	0.415
0.06	D05LA4	Y	0.22	0.275	0.325	0.355	0.35	0.35	0.3	0.28	0.295	0.315	0.33	0.32	0.365	0.365
0.09	D05LA4	Y	0.33	0.41	0.485	0.53	0.52	0.52	0.445	0.335	0.34	0.35	0.36	0.35	0.395	0.4
0.12	D05LA4	Y	0.445	0.55	0.65	0.71	0.7	0.7	0.53	0.345	0.36	0.375	0.395	0.38	0.43	0.385
0.18	D05LA4	Y	0.67	0.83	0.99	1.08	1.06	1.06	0.87	0.54	0.56	0.58	0.6	0.58	0.66	0.64
0.25	D05LA4	Y	0.92	1.14	1.36	1.48	1.45	1.45	1.15	0.78	0.79	0.8	0.83	0.8	0.91	0.85
0.06	D06LA4	Y	0.22	0.275	0.325	0.355	0.35	0.35	0.3	0.28	0.295	0.315	0.33	0.32	0.365	0.365
0.09	D06LA4	Y	0.33	0.41	0.485	0.53	0.52	0.52	0.445	0.335	0.34	0.35	0.36	0.35	0.395	0.4
0.12	D06LA4	Y	0.445	0.55	0.65	0.71	0.7	0.7	0.53	0.345	0.36	0.375	0.395	0.38	0.43	0.385
0.18	D06LA4	Y	0.67	0.83	0.99	1.08	1.06	1.06	0.87	0.54	0.56	0.58	0.6	0.58	0.66	0.64
0.25	D06LA4	Y	0.92	1.14	1.36	1.48	1.45	1.45	1.15	0.78	0.79	0.8	0.83	0.8	0.91	0.85
0.3	D07LA4	Y	1.12	1.38	1.65	1.8	1.76	1.76	1.5	1.18	1.19	1.2	1.24	1.2	1.36	1.36
0.37	D07LA4	Y	1.37	1.69	2	2.2	2.1	2.1	1.64	1.24	1.25	1.26	1.3	1.26	1.43	1.28
0.37	D08MA4	Y	1.31	1.61	1.92	2.1	2	2	1.75	0.93	0.97	1.01	1.05	1.02	1.16	1.16
0.55	DSE08MA4	Y	1.86	2.3	2.8	3	3.1	3.1	2.8	1.14	1.19	1.25	1.28	1.28	1.42	1.45
0.75	DSE08LA4	Y	2.5	3.1	3.8	4.1	4.2	4.2	3.8	1.51	1.59	1.69	1.75	1.75	1.94	1.98
1.1	DSE08XA4	Y	3.7	4.6	5.5	6.1	6.2	6.2	5.2	2.2	2.3	2.4	2.5	2.5	2.8	2.6
1.1	DSE09SA4	Y	3.6	4.5	5.4	5.9	6	6	5.4	1.96	2.1	2.2	2.3	2.3	2.6	2.6
1.5	DSE09LA4	Y	5	6.1	7.4	8.1	8.2	8.2	7.4	2.6	2.8	3	3.1	3.1	3.5	3.6
2.2	DSE09XA4	Y	7.3	9.1	10.9	12	12.2	12.2	10.9	3.5	3.8	4.1	4.3	4.3	4.8	4.9
3	DSE11SA4	Y	9.8	12.3	14.7	16.2	16.4	16.4	14.7	4.3	4.7	5.2	5.5	5.5	6.1	6.3
4	DSE11MA4	Y	13.1	16.4	19.7	21.5	21.5	21.5	19.7	5.4	6.1	6.8	7.2	7.2	8	8.2
5.5	DSE11LA4	Y	18.1	22.5	27	29.5	30	30	27	7.3	8.1	9.1	9.7	9.7	10.8	11

P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

I Load current for operation with frequency inverter

Field weakening for frequencies above 60 Hz, winding for standard voltage **460 V Y / 60 Hz**, Temperature Class F.

Motors with standard windings can be switched from Y- to Δ- circuit for operation with a converter having a single-phase mains connection. This has no effect on the torques and frequencies as listed in the table above. As regards the choice of converter, however, note that currents are higher than those of the Y-circuit by a factor of 1.73.

The load currents in the table are guideline values for selecting the size of frequency converter. Load current is lower if the load torque is below the values permitted for 36-84 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Operation with frequency converter, 60 Hz

60 Hz

IE1 Motor torques for frequency-converter range 6 Hz - 120 Hz. line frequency 60 Hz

P _N kW	Type	Con- nec- tion	6 Hz M Nm	12 Hz M Nm	24 Hz M Nm	36 Hz M Nm	104 Hz M Nm	120 Hz M Nm	6 Hz I A	12 Hz I A	24 Hz I A	36 Hz I A	104 Hz I A	120 Hz I A
0.03	D04LA4	D	0.115	0.14	0.165	0.18	0.18	0.18	0.305	0.31	0.315	0.325	0.315	0.345
0.04	D04LA4	D	0.145	0.18	0.215	0.235	0.23	0.23	0.305	0.31	0.315	0.325	0.315	0.345
0.06	D04LA4	D	0.22	0.275	0.325	0.355	0.35	0.35	0.47	0.475	0.485	0.5	0.485	0.54
0.09	D04LA4	D	0.33	0.41	0.485	0.53	0.52	0.52	0.69	0.69	0.7	0.72	0.7	0.77
0.11	D04LA4	D	0.38	0.48	0.57	0.63	0.64	0.64	0.73	0.73	0.73	0.73	0.73	0.8
0.12	D04LA4	D	0.445	0.55	0.65	0.71	0.7	0.69	0.71	0.72	0.73	0.75	0.73	0.79
0.06	D05LA4	D	0.22	0.275	0.325	0.355	0.35	0.35	0.48	0.51	0.55	0.57	0.56	0.61
0.09	D05LA4	D	0.33	0.41	0.485	0.53	0.52	0.52	0.58	0.59	0.61	0.63	0.61	0.67
0.12	D05LA4	D	0.445	0.55	0.65	0.71	0.7	0.7	0.6	0.62	0.65	0.68	0.66	0.73
0.18	D05LA4	D	0.67	0.83	0.99	1.08	1.06	1.06	0.93	0.96	1	1.04	1.01	1.11
0.25	D05LA4	D	0.92	1.14	1.36	1.48	1.45	1.45	1.34	1.36	1.38	1.43	1.39	1.53
0.06	D06LA4	D	0.22	0.275	0.325	0.355	0.35	0.35	0.48	0.51	0.55	0.57	0.56	0.61
0.09	D06LA4	D	0.33	0.41	0.485	0.53	0.52	0.52	0.58	0.59	0.61	0.63	0.61	0.67
0.12	D06LA4	D	0.445	0.55	0.65	0.71	0.7	0.7	0.6	0.62	0.65	0.68	0.66	0.73
0.18	D06LA4	D	0.67	0.83	0.99	1.08	1.06	1.06	0.93	0.96	1	1.04	1.01	1.11
0.25	D06LA4	D	0.92	1.14	1.36	1.48	1.45	1.45	1.34	1.36	1.38	1.43	1.39	1.53
0.3	D07LA4	D	1.12	1.38	1.65	1.8	1.76	1.76	2.1	2.1	2.1	2.2	2.1	2.3
0.37	D07LA4	D	1.37	1.69	2	2.2	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.4
0.37	D08MA4	D	1.31	1.61	1.92	2.1	2	2	1.6	1.67	1.74	1.82	1.77	1.95
0.55	DSE08MA4	D	1.86	2.3	2.8	3	3.1	3.1	1.97	2.1	2.2	2.2	2.2	2.5
0.75	DSE08LA4	D	2.5	3.1	3.8	4.1	4.2	4.2	2.7	2.8	3	3.1	3.1	3.4
1.1	DSE08XA4	D	3.7	4.6	5.5	6.1	6.2	6.2	3.8	4	4.2	4.2	4.2	4.7
1.1	DSE09SA4	D	3.6	4.5	5.4	5.9	6	6	3.4	3.6	3.8	4	4	4.4
1.5	DSE09LA4	D	5	6.1	7.4	8.1	8.2	8.2	4.5	4.8	5.2	5.4	5.4	6
2.2	DSE09XA4	D	7.3	9.1	10.9	12	12.2	12.2	6	6.5	7.1	7.4	7.5	8.2
3	DSE11SA4	D	9.8	12.3	14.7	16.2	16.4	16.4	7.4	8.2	9	9.5	9.6	10.5
4	DSE11MA4	D	13.1	16.4	19.7	21.5	21.5	21.5	9.4	10.5	11.7	12.4	12.5	13.8
5.5	DSE11LA4	D	18.1	22.5	27	29.5	30	30	12.6	14.1	15.7	16.7	16.9	18.5

P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

I Load current for operation with frequency inverter

Field weakening for frequencies above 87 Hz, winding for standard voltage 265 V Δ / 60 Hz (U_{max} = 460 V Δ / 104 Hz), Temperature Class F.

The load currents in the table are guideline values for selecting the size of frequency converter. Load current is lower if the load torque is below the values permitted for 36-120 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Operation with frequency converter, 60 Hz

60 Hz

IE2 Motor torques for frequency-converter range 5 Hz - 80 Hz, line frequency 60 Hz

P kW	Type	Con- nec- tion	5 Hz M Nm	10 Hz M Nm	20 Hz M Nm	30 Hz M Nm	60 Hz M Nm	70 Hz M Nm	80 Hz M Nm	5 Hz I A	10 Hz I A	20 Hz I A	30 Hz I A	60 Hz I A	70 Hz I A	80 Hz I A
0.12	DHE05LA4	Y	0.4	0.5	0.6	0.66	0.67	0.67	0.6	0.335	0.345	0.355	0.36	0.36	0.4	0.41
0.18	DHE05LA4	Y	0.6	0.75	0.9	0.99	1.01	1.01	0.9	0.485	0.5	0.51	0.52	0.52	0.58	0.59
0.12	DHE06LA4	Y	0.4	0.5	0.6	0.66	0.67	0.67	0.6	0.34	0.35	0.355	0.36	0.36	0.4	0.41
0.18	DHE06LA4	Y	0.6	0.75	0.9	0.99	1.01	1.01	0.9	0.495	0.51	0.52	0.53	0.53	0.59	0.6
0.25	DHE07LA4	Y	0.84	1.05	1.26	1.38	1.4	1.4	1.26	0.65	0.67	0.69	0.7	0.7	0.78	0.8
0.3	DHE07LA4	Y	1.02	1.27	1.53	1.67	1.7	1.7	1.53	0.76	0.78	0.81	0.82	0.82	0.91	0.93
0.37	DHE08MA4	Y	1.2	1.5	1.8	1.97	2	2	1.8	0.9	0.94	0.97	0.99	0.99	1.1	1.12
0.55	DHE08LA4	Y	1.83	2.2	2.7	3	3	3	2.7	1.05	1.11	1.18	1.23	1.23	1.37	1.39
0.75	DHE08XA4	Y	2.4	3.1	3.7	4.1	4.1	4.1	3.7	1.45	1.5	1.56	1.6	1.6	1.78	1.81
0.75	DHE09SA4	Y	2.4	3.1	3.7	4.1	4.1	4.1	3.7	1.34	1.43	1.53	1.6	1.6	1.78	1.81
1.1	DHE09LA4	Y	3.6	4.5	5.4	5.9	6	6	5.4	1.85	1.99	2.2	2.2	2.2	2.5	2.6
1.5	DHE09XA4	Y	4.9	6.1	7.3	8.1	8.2	8.2	7.3	2.4	2.6	2.8	3	3	3.3	3.4
2.2	DHE09XA4C	Y	7.2	9	10.8	11.8	12	12	10.8	3.3	3.6	3.8	4	4	4.5	4.5
2.2	DHE09XB4	Y	7.2	9	10.8	11.9	12.1	12.1	10.8	3.2	3.6	3.9	4.1	4.1	4.5	4.7
2.2	DHE11SA4	Y	7.2	9	10.8	11.8	12	12	10.8	3.1	3.5	3.8	4	4	4.5	4.5
3	DHE11MA4	Y	9.9	12.3	14.8	16.2	16.5	16.5	14.8	4.2	4.7	5.2	5.5	5.5	6.1	6.3
4	DHE11LA4	Y	13	16.2	19.5	21	21.5	21.5	19.5	6.2	6.6	7	7.3	7.3	8.1	8.3
5.5	DHE11LA4C	Y	18	22.5	27	29.5	30	30	27	7.2	8	8.9	9.5	9.5	10.6	10.8
5.5	DHE11LB4	Y	18	22.5	27	29.5	30	30	27	7.5	8.2	9.1	9.6	9.6	10.7	10.9

P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

I Load current for operation with frequency inverter

Field weakening for frequencies above 60 Hz, winding for standard voltage **460 V Y / 60 Hz**, Temperature Class F.

Motors with standard windings can be switched from Y- to Δ - circuit for operation with a converter having a single-phase mains connection. This has no effect on the torques and frequencies as listed in the table above. As regards the choice of converter, however, note that currents are higher than those of the Y-circuit by a factor of 1.73.

The load currents in the table are guideline values for selecting the size of frequency converter. Load current is lower if the load torque is below the values permitted for 36-84 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Operation with frequency converter, 60 Hz

60 Hz

IE2 Motor torques for frequency-converter range 5 Hz - 120 Hz. line frequency 60 Hz

P kW	Typ	Connection	5 Hz M Nm	10 Hz M Nm	20 Hz M Nm	30 Hz M Nm	104 Hz M Nm	120 Hz M Nm	5 Hz I A	10 Hz I A	20 Hz I A	30 Hz I A	104 Hz I A	120 Hz I A
0.12	DHE05LA4	D	0.4	0.5	0.6	0.66	0.67	0.67	0.58	0.6	0.62	0.63	0.63	0.69
0.18	DHE05LA4	D	0.6	0.75	0.9	0.99	1.01	1.01	0.84	0.86	0.89	0.9	0.91	0.99
0.12	DHE06LA4	D	0.4	0.5	0.6	0.66	0.67	0.67	0.59	0.6	0.62	0.63	0.63	0.69
0.18	DHE06LA4	D	0.6	0.75	0.9	0.99	1.01	1.01	0.86	0.88	0.91	0.92	0.92	1.01
0.25	DHE07LA4	D	0.84	1.05	1.26	1.38	1.4	1.4	1.12	1.15	1.19	1.21	1.22	1.34
0.3	DHE07LA4	D	1.02	1.27	1.53	1.67	1.7	1.7	1.3	1.35	1.39	1.42	1.43	1.57
0.37	DHE08MA4	D	1.2	1.5	1.8	1.97	2	2	1.56	1.62	1.68	1.71	1.72	1.89
0.55	DHE08LA4	D	1.83	2.2	2.7	3	3	3	1.81	1.92	2.1	2.2	2.2	2.4
0.75	DHE08XA4	D	2.4	3.1	3.7	4.1	4.1	4.1	2.6	2.6	2.7	2.8	2.8	3.1
0.75	DHE09SA4	D	2.4	3.1	3.7	4.1	4.1	4.1	2.4	2.5	2.7	2.8	2.8	3.1
1.1	DHE09LA4	D	3.6	4.5	5.4	5.9	6	6	3.2	3.5	3.8	3.9	3.9	4.3
1.5	DHE09XA4	D	4.9	6.1	7.3	8.1	8.2	8.2	4.2	4.5	4.9	5.1	5.2	5.7
2.2	DHE09XA4C	D	7.2	9	10.8	11.8	12	12	5.7	6.1	6.6	6.9	7	7.7
2.2	DHE09XB4	D	7.2	9	10.8	11.9	12.1	12.1	5.7	6.2	6.7	7.1	7.2	7.9
2.2	DHE11SA4	D	7.2	9	10.8	11.8	12	12	5.4	5.9	6.5	6.9	7	7.7
3	DHE11MA4	D	9.9	12.3	14.8	16.2	16.5	16.5	7.4	8.1	9	9.5	9.6	10.5
4	DHE11LA4	D	13	16.2	19.5	21	21.5	21.5	10.7	11.4	12.2	12.6	12.7	13.9
5.5	DHE11LA4C	D	18	22.5	27	29.5	30	30	12.4	13.8	15.4	16.4	16.5	18.1
5.5	DHE11LB4	D	18	22.5	27	29.5	30	30	12.9	14.2	15.6	16.5	16.7	18.3

 P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

I Load current for operation with frequency inverter

Field weakening for frequencies above 87 Hz, winding for standard voltage 265 V Δ / 60 Hz ($U_{max} = 460$ V Δ / 104 Hz), Temperature Class F.

The load currents in the table are guideline values for selecting the size of frequency converter. Load current is lower if the load torque is below the values permitted for 36-120 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Operation with frequency converter, 60 Hz

60 Hz

IE3 Motor torques for frequency-converter range 5 Hz - 80 Hz, line frequency 60 Hz

P kW	Type	Connec- tion	5 Hz M Nm	10 Hz M Nm	20 Hz M Nm	30 Hz M Nm	60 Hz M Nm	70 Hz M Nm	80 Hz M Nm	5 Hz I A	10 Hz I A	20 Hz I A	30 Hz I A	60 Hz I A	70 Hz I A	80 Hz I A
0.12	DPE05LA4	Y	0.4	0.5	0.6	0.66	0.67	0.67	0.6	0.345	0.355	0.365	0.37	0.37	0.41	0.42
0.12	DPE06LA4	Y	0.4	0.5	0.6	0.66	0.67	0.67	0.6	0.35	0.36	0.365	0.37	0.37	0.41	0.42
0.18	DPE07LA4	Y	0.6	0.75	0.9	0.98	1	1	0.9	0.48	0.495	0.51	0.52	0.52	0.58	0.59
0.25	DPE08MA4	Y	0.82	1.02	1.23	1.35	1.37	1.37	1.23	0.57	0.6	0.63	0.65	0.65	0.72	0.74
0.37	DPE08LA4	Y	1.2	1.5	1.8	1.97	2	2	1.8	0.85	0.88	0.92	0.94	0.94	1.05	1.07
0.55	DPE08XA4	Y	1.8	2.2	2.7	2.9	3	3	2.7	1.08	1.14	1.21	1.25	1.25	1.39	1.42
0.75	DPE08XB4	Y	2.4	3.1	3.7	4.1	4.1	4.1	3.7	1.43	1.51	1.61	1.67	1.67	1.85	1.89
0.75	DPE09LA4	Y	2.4	3	3.6	4	4.1	4.1	3.6	1.16	1.26	1.37	1.44	1.45	1.61	1.64
1.1	DPE09XB4	Y	3.6	4.5	5.4	5.9	6	6	5.4	1.8	1.94	2.1	2.2	2.2	2.5	2.5
1.5	DPE09XB4	Y	4.9	6.1	7.3	8.1	8.2	8.2	7.3	2.4	2.6	2.8	2.9	2.9	3.2	3.3
2.2	DPE11LB4	Y	7.1	8.9	10.7	11.7	11.9	11.9	10.7	2.8	3.1	3.5	3.7	3.7	4.1	4.2
3	DPE11LB4	Y	9.7	12.2	14.6	16.1	16.3	16.3	14.6	3.9	4.4	4.9	5.2	5.2	5.8	5.9
4	DPE11LB4	Y	13	16.2	19.5	21	21.5	21.5	19.5	5.2	5.8	6.5	6.9	6.9	7.7	7.8

P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

I Load current for operation with frequency inverter

Field weakening for frequencies above 60 Hz, winding for standard voltage **460 V Y / 60 Hz**, Temperature Class F.

Motors with standard windings can be switched from Y- to Δ - circuit for operation with a converter having a single-phase mains connection. This has no effect on the torques and frequencies as listed in the table above. As regards the choice of converter, however, note that currents are higher than those of the Y-circuit by a factor of 1.73.

The load currents in the table are guideline values for selecting the size of frequency converter. Load current is lower if the load torque is below the values permitted for 36-84 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Operation with frequency converter, 60 Hz

60 Hz

IE3 Motor torques for frequency-converter range 5 Hz - 120 Hz, line frequency 60 Hz

P kW	Type	Connection	5 Hz M Nm	10 Hz M Nm	20 Hz M Nm	30 Hz M Nm	104 Hz M Nm	120 Hz M Nm	5 Hz I A	10 Hz I A	20 Hz I A	30 Hz I A	104 Hz I A	120 Hz I A
0.12	DPE05LA4	D	0.4	0.5	0.6	0.66	0.67	0.67	0.6	0.62	0.63	0.64	0.65	0.71
0.12	DPE06LA4	D	0.4	0.5	0.6	0.66	0.67	0.67	0.61	0.62	0.64	0.64	0.65	0.71
0.18	DPE07LA4	D	0.6	0.75	0.9	0.98	1	1	0.83	0.86	0.89	0.9	0.91	0.99
0.25	DPE08MA4	D	0.82	1.02	1.23	1.35	1.37	1.37	0.99	1.04	1.09	1.13	1.13	1.24
0.37	DPE08LA4	D	1.2	1.5	1.8	1.97	2	2	1.47	1.52	1.59	1.63	1.63	1.79
0.55	DPE08XA4	D	1.8	2.2	2.7	2.9	3	3	1.87	1.98	2.1	2.2	2.2	2.4
0.75	DPE08XB4	D	2.4	3.1	3.7	4.1	4.1	4.1	2.5	2.7	2.8	2.9	2.9	3.2
0.75	DPE09LA4	D	2.4	3	3.6	4	4.1	4.1	2.1	2.2	2.4	2.5	2.6	2.8
1.1	DPE09XB4	D	3.6	4.5	5.4	5.9	6	6	3.2	3.4	3.7	3.8	3.8	4.2
1.5	DPE09XB4	D	4.9	6.1	7.3	8.1	8.2	8.2	4	4.4	4.8	5	5.1	5.6
2.2	DPE11LB4	D	7.1	8.9	10.7	11.7	11.9	11.9	4.7	5.3	6	6.4	6.5	7.1
3	DPE11LB4	D	9.7	12.2	14.6	16.1	16.3	16.3	6.7	7.5	8.4	9	9.1	9.9
4	DPE11LB4	D	13	16.2	19.5	21	21.5	21.5	8.9	10	11.2	11.9	12	13.2

P_N Rated power

M Permissible load torque (S1-100 %) at the rotor shaft by operation with a frequency inverter

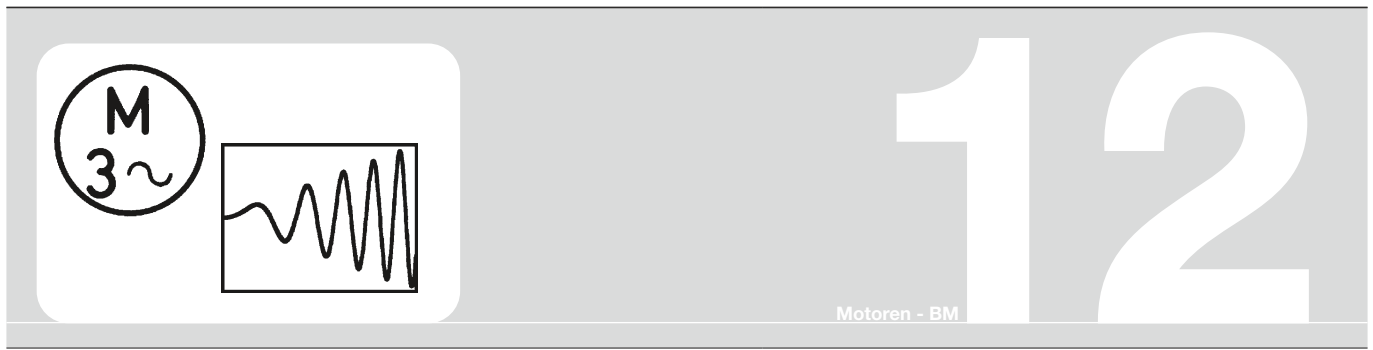
I Load current for operation with frequency inverter

Field weakening for frequencies above 87 Hz, winding for standard voltage 265 V Δ / 60 Hz ($U_{max} = 460$ V Δ / 104 Hz), Temperature Class F.

The load currents in the table are guideline values for selecting the size of frequency converter. Load current is lower if the load torque is below the values permitted for 36-120 Hz and the frequency inverter used is of the high-grade type. This means that a smaller inverter can sometimes be used, particularly in conjunction with large motors.

Energy Efficient Geared Motors

Electric overhead conveyors series BM

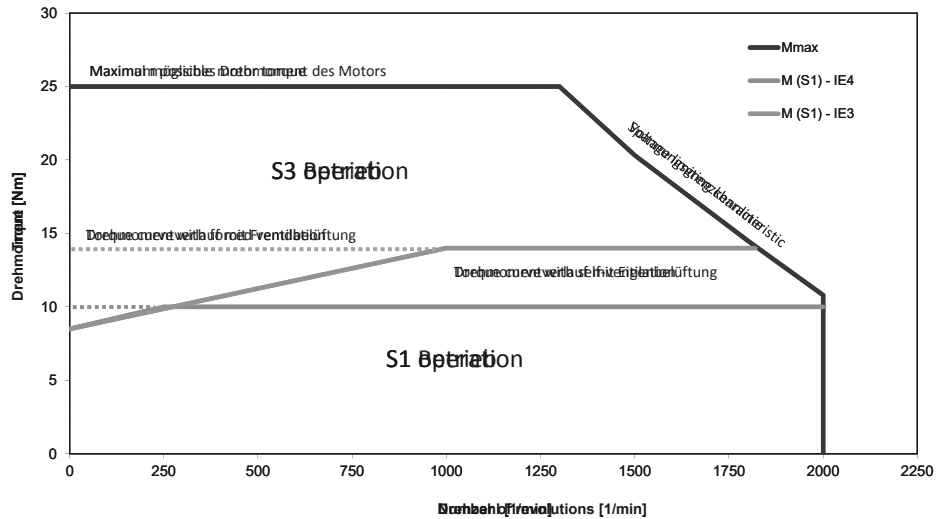


Motoren - BM	203
Motor configuration	205
Torque-speed characteristic	205
Motor configuration	206
Technical data	209
Standard Motors	209
Motors with rated speed 1500 1/min	209
Rated speed 1500 1/min	210
Motor-Drehmomente bei Stellbereich 150 1/min - 1800 1/min, Betriebsart S1	211
Motors with rated speed 2250 1/min	215
Rated speed 2250 1/min	216
Motor-Drehmomente bei Stellbereich 150 1/min - 2600 1/min, Betriebsart S1	217
Motors with rated speed 3000 1/min	219
Rated speed 3000 1/min	220
Motor torques in the adjusting range 150 1/min - 3600 1/min, duty type S1	222

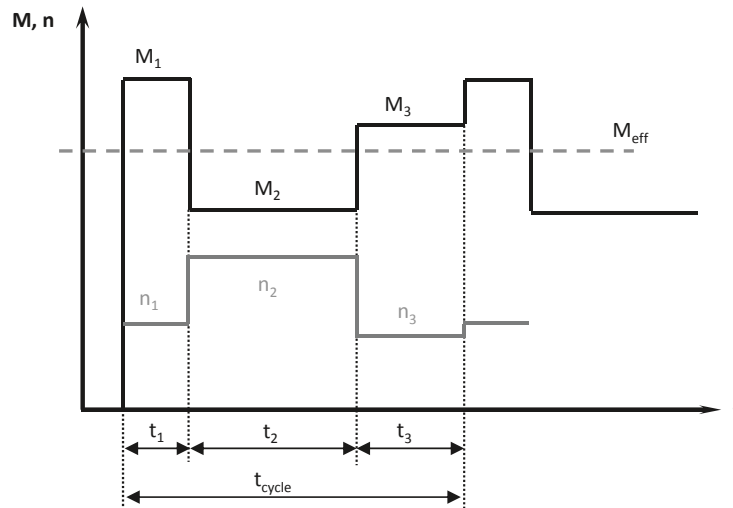
Torque-speed characteristic

The torque versus speed curve shows the operating characteristics of the PMSM. The reference points shown schematically on the torque versus speed curve are significant criteria for motor selection.

Torque vs. Speed Curve



The motor is determined by the effective motor torque and the average motor speed. Both values M_{eff} and n_{eff} must be below the S1 limit characteristic curve of the motor to be selected.



Effective torque

$$M_{\text{eff}} = \sqrt{\frac{M_1^2 \cdot t_1 + M_2^2 \cdot t_2 + M_3^2 \cdot t_3 + \dots + M_n^2 \cdot t_n}{t_1 + t_2 + t_3 + \dots + t_n}}$$

Effective rpm

$$n_{\text{eff}} = \frac{n_1 \cdot t_1 + n_2 \cdot t_2 + n_3 \cdot t_3 + \dots + n_n \cdot t_n}{t_1 + t_2 + t_3 + \dots + t_n}$$

Acceleration

Dynamic power

The dynamic power is the power that accelerates the entire system (load, transmission components, gears and motor)

$$P_{\text{dyn}} = \frac{m \times a \times v}{\eta}$$

P_{dyn}	Dynamic power [W]
m	Mass [kg]
a	Acceleration [m/s ²]
v	Speed [m/s]
η	Level of efficiency

Dynamic load torque

$$M_{\text{dyn}_1} = m \cdot a \cdot \frac{1}{\eta} \cdot \frac{D}{2} \cdot \frac{1}{i}$$

D	Impeller diameter
i	Gear reduction ratio

Constant speed

Static performance

The static power takes into account all forces that occur in the unaccelerated state. These include: rolling friction, frictional forces, lifting capacity on slopes and wind force.

$$P_s = \frac{F_F \times v}{\eta}$$

P_s	Static power [W]
F_F	Driving resistance [N]

Static load torque (simplified)

$$M_{\text{statt}} = m \cdot g \cdot \frac{1}{\eta} \cdot \frac{D}{2} \cdot \frac{1}{i}$$

g	Acceleration due to gravity
-----	-----------------------------

Deceleration

Deceleration torque

$$M_{dyn2} = m \cdot (-a) \cdot \eta_L \cdot \frac{D}{2} \cdot \frac{1}{i}$$

$$M_{VER} = M_{stat} + M_{dyn2}$$

M_{Verz} Deceleration torque

Load torques in the driving cycle

Acceleration phase

$$M_{Motor} = M_{stat} + M_{dyn1}$$

Constant speed

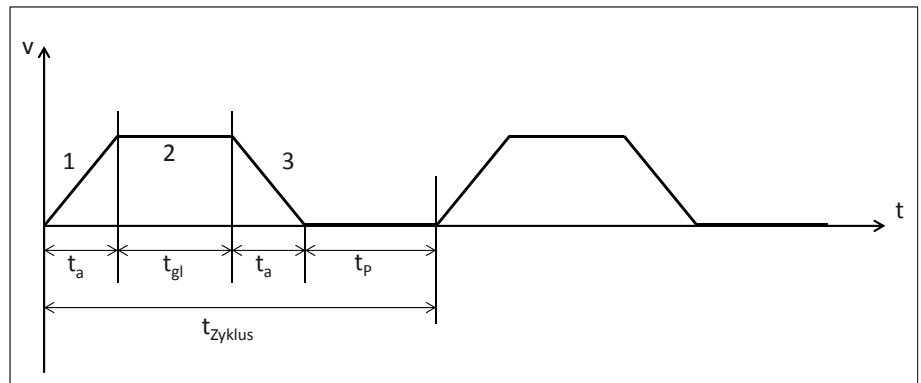
$$M_{Motor} = M_{stat}$$

Braking phase

$$M_{Motor} = M_{stat} + M_{dyn2}$$

Motor selection

Example:



Required dynamic torque on the motor (acceleration):

$$M1 = 20 \text{ Nm}$$

Required static torque on the motor:

$$M2 = 8,0 \text{ Nm}$$

Deceleration torque:

$$M3 = 10 \text{ Nm}$$

Acceleration time/deceleration time

$$t_a = 0,5 \text{ s}$$

Duration constant travel

$$t_{gl} = 5 \text{ s}$$

Cycle time

$$t_{Zykl} = 10 \text{ s}$$

Motor speed for constant travel

$$n = 1450 \text{ 1/min}$$

Effective motor torque and moderate motor speed

$$M_{eff} = \sqrt{\frac{M_1^2 \cdot t_a + M_2^2 \cdot t_{gl} + M_3^2 \cdot t_a}{t_{Zykl}}} = 7,55 \text{ Nm}$$

$$n_{eff} = \frac{n \cdot t_a + n \cdot t_{gl} + n \cdot t_a}{t_{Zykl}} = \frac{n \cdot (2 \cdot t_a + t_{gl})}{t_{Zykl}} = 870 \text{ min}^{-1}$$

Motors - BM

Motor configuration

The following motor is selected:

Type: SSE08LA4

Rated power $P_n = 1,55 \text{ kW}$

Rated torque $M_n = 10 \text{ Nm}$

Rated speed $n_n = 1500 \text{ min}^{-1}$

With proper utilisation of the gears by doubling the reduction and increasing the revs of the motor to 3000 min^{-1} , the torque requirement for the motor can be halved, and this makes it possible to decrease the size of the motor.

Instead of the S08LA4, the following motor could be selected in this case:

Type: S5E08MA4

Rated power $P_n = 1,55 \text{ kW}$

Rated torque $M_n = 5 \text{ Nm}$

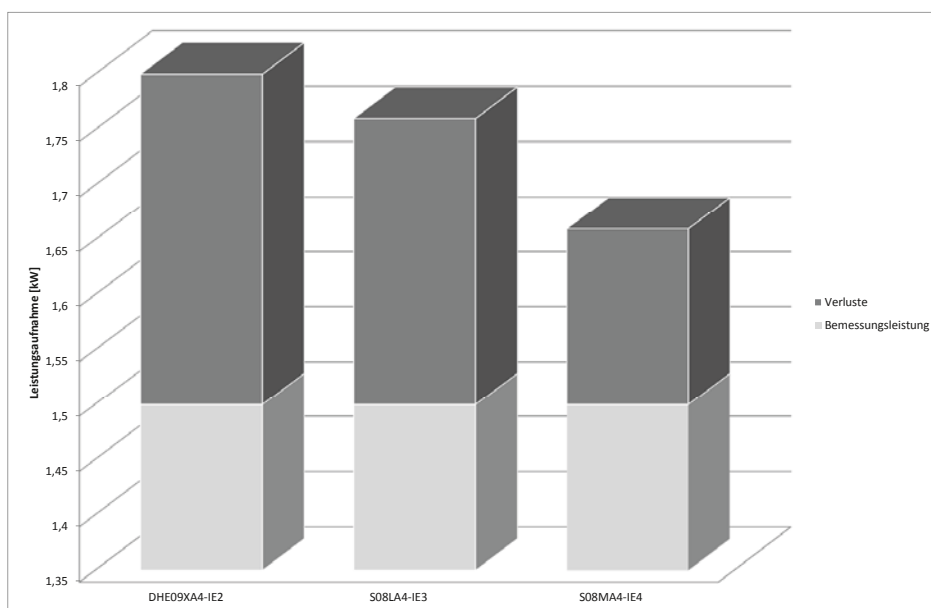
Rated speed $n_n = 3000 \text{ min}^{-1}$

This increases the efficiency of the motor on the one hand, while also reducing the package length. The result is a cheaper drive with increased energy savings.

The diagram below shows the potential energy savings of using the different IE efficiency motors.

With the utilisation of the gears and the **use** of the **S08MA4 IE4** motor, **compared** with the **IE3 S08LA4** the **power loss can be reduced by 36.24%** and **by 45.58%** compared with the **IE2 DHE09XA4**.

With 8 hours of operation, 5 days a week and 50 weeks of the year, this results in an **energy saving of 187.37 kW/h** compared with the **IE3 S08LA4** and **276.14 kW/h** compared with the **IE2 DHE09XA4**.



Standard Motors

Motors with rated speed 1500 1/min

M _n Nm	IE Class	Type	P _n kW	I _n A	2p	n _n 1/min	f Hz	η %	Conne- tion	R ₂₀ Ω	R _{s20} Ω	L _d mH	L _q mH	ke V/1000 1/min	kt Nm/A	M _{max} (60s) Nm	I _{max} (60s) A	J kgm ²
0.76	4	S4E04SA4-1	0.12	0.41	4	1500	50	IE4-67.4	Y	154	77.2	268	412	120	1.85	1.6	0.86	0.00014
0.76	3	SPEU04SA4-1	0.12	0.42	4	1500	50	IE3-66	Y	154	77.2	268	412	120	1.8	1.2	0.67	0.00014
1	2	SHE04SA4-1	0.167	0.54	4	1500	50	IE2-61.4	Y	154	77.2	268	412	120	1.85	1.6	0.86	0.00014
1.15	5	S5EU06MA4	0.18	0.49	4	1500	50	IE5-80.8	Y	79	39.5	171	271	152	2.35	2.6	1.1	0.0002
1.3	5	S5E06MA4	0.2	0.55	4	1500	50	IE5-79.6	Y	79	39.5	171	271	152	2.4	3.8	1.6	0.0002
1.3	5	S5EU06MA4	0.2	0.55	4	1500	50	IE5-79.1	Y	79	39.5	171	271	152	2.35	2.6	1.1	0.0002
1.6	4	S4E06MA4	0.25	0.67	4	1500	50	IE4-76.6	Y	79	39.5	171	271	152	2.4	3.8	1.6	0.0002
1.6	4	S4EU06MA4	0.25	0.68	4	1500	50	IE4-75.5	Y	79	39.5	171	271	152	2.35	2.6	1.1	0.0002
1.6	5	S5EU06LA4	0.25	0.7	4	1500	50	IE5-85.5	Y	37.2	18.6	99.5	133	148	2.3	3.8	1.7	0.000295
2.4	1	SSE06MA4	0.37	1	4	1500	50	IE1-66.1	Y	79	39.5	171	271	152	2.4	3.8	1.6	0.0002
2.4	4	S4EU06LA4	0.37	1.05	4	1500	50	IE4-80	Y	37.2	18.6	99.5	133	148	2.3	3.8	1.7	0.000295
2.6	4	S4E06LA4	0.4	1.12	4	1500	50	IE4-79.8	Y	37.2	18.6	99.5	133	148	2.3	5.6	2.4	0.000295
3.5	1	SSE06LA4	0.55	1.5	4	1500	50	IE1-74.1	Y	37.2	18.6	99.5	133	148	2.3	5.6	2.4	0.000295
3.5	5	S5EU08MA4	0.55	1.28	4	1500	50	IE5-87.2	Y	18.7	9.35	97	170	180	2.7	10	3.7	0.00115
5	4	S4E08MA4	0.78	1.8	4	1500	50	IE4-85.7	Y	18.7	9.35	97	170	180	2.8	10	3.7	0.00115
5	5	S5EU08LA4	0.78	1.9	4	1500	50	IE5-86.9	Y	11	5.5	70	117	171	2.6	15	5.6	0.0015
7	3	SPE08LA4	1.1	2.6	4	1500	50	IE3-85.4	Y	11	5.5	70	117	171	2.75	15	5.6	0.0015
7	5	S5EU09SA4	1.1	2.2	4	1500	50	IE5-90.8	Y	9.9	4.95	64.1	110	208	3.2	20	6.4	0.00245
10	1	SSE08LA4	1.55	3.6	4	1500	50	IE1-80.5	Y	11	5.5	70	117	171	2.8	15	5.6	0.0015
10	4	S4E09SA4	1.55	3	4	1500	50	IE4-88.2	Y	9.9	4.95	64.1	110	208	3.3	20	6.4	0.00245
10	5	S5EU09XA4	1.55	3.1	4	1500	50	IE5-89.9	Y	5.25	2.63	41.2	70.1	209	3.2	30	10	0.0038
14	2	SHE09SA4	2.2	4.3	4	1500	50	IE2-83.9	Y	9.9	4.95	64.1	110	208	3.3	20	6.4	0.00245
14	5	S5E09XA4	2.2	4.2	4	1500	50	IE5-90.3	Y	5.25	2.63	41.2	70.1	209	3.35	31	10	0.0038
14	5	S5EU11SA6	2.2	4.4	6	1500	75	IE5-91.3	Y	3.52	1.76	20	30	210	3.1	40	13	0.012
20	3	SPE09XA4	3.1	5.9	4	1500	50	IE3-88	Y	5.25	2.63	41.2	70.1	209	3.35	31	10	0.0038
19	4	S4E11SA6	3	5.9	6	1500	75	IE4-90.1	Y	3.52	1.76	20	30	210	3.2	35	11	0.012
20	5	S5EU11MA6	3.1	6.4	6	1500	75	IE5-93.3	Y	1.78	0.892	12	18.4	206	3.1	55	17	0.0175
25.5	3	SPE11SA6	4	8	6	1500	75	IE3-87.7	Y	3.52	1.76	20	30	210	3.2	35	11	0.012
25.5	5	S5EU11LA6	4	8.1	6	1500	75	IE5-93.2	Y	1.21	0.605	9.3	13.9	210	3.1	75	23	0.0215
26.5	5	S5E11MA6	4.2	8.3	6	1500	75	IE5-92.5	Y	1.78	0.892	12	18.4	206	3.15	55	17	0.0175
35	5	S5E11LA6	5.5	10.8	6	1500	75	IE5-93.2	Y	1.21	0.605	9.3	13.9	210	3.25	75	23	0.0215
35	4	S4E11MA6	5.5	11	6	1500	75	IE4-90.8	Y	1.78	0.892	12	18.4	206	3.15	55	17	0.0175
48	3	SPE11LA6	7.5	14.7	6	1500	75	IE3-91.4	Y	1.21	0.605	9.3	13.9	210	3.25	75	23	0.0215

M _n	Rated torque
P _n	Rated power
I _n	Rated current
2p	No. of Motor Poles
n _n	Rated speed
f	Nominal Frequency
η	Motor efficiency
R ₂₀	Phase Resistance U-V
R _{s20}	Winding Resistance
L _d	Inductance D-Axis
L _q	Inductance Q-Axis
ke	Voltage constant
kt	Torque constant
M _{max} (60s)	Peak Torque
I _{max} (60s)	Peak Current
J	Moment of inertia

All motors: converter supply voltage 380 to 500 V

The figures given in the table below are for Bauer motors operating in conjunction with the frequency inverter. The torques referred to in tables can be entered for the respective frequencies in continuous operation (S1 = duty factor 100 %).

Motor-Drehmomente bei Stellbereich 150 1/min - 1800 1/min, Betriebsart S1

M _n Nm	P _n kW	Typ	Drehzahl 1/min	Drehmoment Nm	Leistung kW	Strom A	Frequenz Hz	Schaltung
0.76	0.12	S4E04SA4-1	150	0.76	0.012	0.41	5	Y
			500	0.76	0.04	0.41	16.67	Y
			1000	0.76	0.08	0.41	33.33	Y
			1500	0.76	0.12	0.41	50	Y
			1800	0.76	0.143	0.41	60	Y
0.76	0.12	SPEU04SA4-1	150	0.76	0.012	0.42	5	Y
			500	0.76	0.04	0.42	16.67	Y
			1000	0.76	0.08	0.42	33.33	Y
			1500	0.76	0.12	0.42	50	Y
			1800	0.76	0.143	0.42	60	Y
1	0.157	SHE04SA4-1	150	0.76	0.012	0.41	5	Y
			500	0.85	0.045	0.46	16.67	Y
			1000	1	0.105	0.54	33.33	Y
			1500	1	0.157	0.54	50	Y
			1800	1	0.188	0.54	60	Y
1.15	0.18	S5EU06MA4	150	1.15	0.018	0.49	5	Y
			500	1.15	0.06	0.49	16.67	Y
			1000	1.15	0.12	0.49	33.33	Y
			1500	1.15	0.18	0.49	50	Y
			1800	1.15	0.217	0.49	60	Y
1.3	0.2	S5E06MA4	150	1.3	0.02	0.55	5	Y
			500	1.3	0.068	0.55	16.67	Y
			1000	1.3	0.136	0.55	33.33	Y
			1500	1.3	0.2	0.55	50	Y
			1800	1.3	0.245	0.55	60	Y
1.3	0.2	S5EU06MA4	150	1.3	0.02	0.55	5	Y
			500	1.3	0.068	0.55	16.67	Y
			1000	1.3	0.136	0.55	33.33	Y
			1500	1.3	0.2	0.55	50	Y
			1800	1.3	0.245	0.55	60	Y
1.6	0.25	S4E06MA4	150	1.6	0.025	0.67	5	Y
			500	1.6	0.092	0.67	16.67	Y
			1000	1.6	0.168	0.67	33.33	Y
			1500	1.6	0.25	0.67	50	Y
			1800	1.6	0.3	0.67	60	Y
1.6	0.25	S4EU06MA4	150	1.6	0.025	0.68	5	Y
			500	1.6	0.084	0.68	16.67	Y
			1000	1.6	0.168	0.68	33.33	Y
			1500	1.6	0.25	0.68	50	Y
			1800	1.6	0.3	0.7	60	Y
1.6	0.25	S5EU06LA4	150	1.6	0.025	0.7	5	Y
			500	1.6	0.084	0.7	16.67	Y
			1000	1.6	0.168	0.7	33.33	Y
			1500	1.6	0.25	0.7	50	Y
			1800	1.6	0.3	0.7	60	Y
2.4	0.37	SSE06MA4	150	1.8	0.028	0.75	5	Y
			500	2	0.105	0.84	16.67	Y
			1000	2.2	0.23	0.93	33.33	Y
			1500	2.4	0.37	1	50	Y
			1800	2.4	0.45	1	60	Y

Motors - BM

Technical data

M _n Nm	P _n kW	Type	Speed 1/min	Torque Nm	Power kW	Current A	Frequency Hz	Connection
2.4	0.37	S4EU06LA4	150	2.4	0.038	1.05	5	Y
			500	2.4	0.126	1.05	16.67	Y
			1000	2.4	0.25	1.05	33.33	Y
			1500	2.4	0.37	1.05	50	Y
			1800	2.4	0.45	1.05	60	Y
2.6	0.37	S4E06LA4	150	2.5	0.04	1.07	5	Y
			500	2.6	0.136	1.12	16.67	Y
			1000	2.6	0.27	1.12	33.33	Y
			1500	2.6	0.4	1.12	50	Y
			1800	2.6	0.5	1.12	60	Y
3.5	0.55	SSE06LA4	150	2.5	0.04	1.07	5	Y
			500	2.9	0.15	1.25	16.67	Y
			1000	3.5	0.37	1.5	33.33	Y
			1500	3.5	0.55	1.5	50	Y
			1800	3.5	0.66	1.5	60	Y
3.5	0.55	S5EU08MA4	150	3.5	0.06	1.28	5	Y
			500	-	-	-	16.67	Y
			1000	-	-	-	33.33	Y
			1500	3.5	0.55	1.28	50	Y
			1800	3.5	0.66	1.28	60	Y
5	0.78	S4E08MA4	150	5	0.08	1.8	5	Y
			500	5	0.26	1.8	16.67	Y
			1000	5	0.52	1.8	33.33	Y
			1500	5	0.78	1.8	50	Y
			1800	5	0.9	1.8	60	Y
5	0.78	S5EU08LA4	150	5	0.08	1.9	5	Y
			500	-	-	-	16.67	Y
			1000	-	-	-	33.33	Y
			1500	5	0.78	1.9	50	Y
			1800	5	0.9	1.9	60	Y
7	1.1	SPE08LA4	150	6.5	0.1	2.4	5	Y
			500	7	0.37	2.6	16.67	Y
			1000	7	0.73	2.6	33.33	Y
			1500	7	1.1	2.6	50	Y
			1800	7	1.3	2.6	60	Y
7	1.1	S5EU09SA4	150	7	0.11	2.2	5	Y
			500	-	-	-	16.67	Y
			1000	-	-	-	33.33	Y
			1500	7	1.1	2.2	50	Y
			1800	7	1.3	2.2	60	Y
10	1.55	SSE08LA4	150	6.5	0.1	2.4	5	Y
			500	8	0.42	2.9	16.67	Y
			1000	10	1.05	3.6	33.33	Y
			1500	10	1.55	3.6	50	Y
			1800	10	1.9	3.6	60	Y
10	1.55	S4E09SA4	150	8.5	0.13	2.6	5	Y
			500	10	0.52	3	16.67	Y
			1000	10	1.05	3	33.33	Y
			1500	10	1.55	3	50	Y
			1800	10	1.9	3	60	Y
10	1.55	S5EU09XA4	150	10	0.16	3.1	5	Y
			500	-	-	-	16.67	Y
			1000	-	-	-	33.33	Y
			1500	10	1.55	3.1	50	Y
			1800	10	1.9	3.2	60	Y

M _n Nm	P _n kW	Type	Speed 1/min	Torque Nm	Power kW	Current A	Frequency Hz	Connection
14	2.2	SHE09SA4	150	8.5	0.13	2.6	5	Y
			500	10	0.52	3.1	16.67	Y
			1000	14	1.47	4.3	33.33	Y
			1500	14	2.2	4.3	50	Y
			1800	14	2.6	4.5	60	Y
14	2.2	S5E09XA4	150	13	0.2	3.9	5	Y
			500	14	0.73	4.2	16.67	Y
			1000	14	1.47	4.2	33.33	Y
			1500	14	2.2	4.2	50	Y
			1800	14	2.6	4.5	60	Y
14	2.2	S5EU11SA6	150	14	0.22	4.4	7.5	Y
			500	-	-	-	-	Y
			1000	-	-	-	-	Y
			1500	14	2.2	4.4	75	Y
			1800	14	2.6	4.4	90	Y
19	3	S4E11SA6	150	19	0.3	5.9	7.5	Y
			500	19	1	5.9	25	Y
			1000	19	2	5.9	50	Y
			1500	19	3	5.9	75	Y
			1800	19	3.6	5.9	90	Y
20	3.1	SPE09XA4	150	13	0.2	3.9	5	Y
			500	16	0.84	4.8	16.67	Y
			1000	20	2.1	5.9	33.33	Y
			1500	20	3.1	5.9	50	Y
			1800	20	3.8	6.7	60	Y
20	3.1	S5EU11MA6	150	20	0.31	6.4	7.5	Y
			500	-	-	-	-	Y
			1000	-	-	-	-	Y
			1500	20	3.1	6.4	75	Y
			1800	20	3.8	6.4	90	Y
25.5	4	SPE11SA6	150	19	0.3	5.9	7.5	Y
			500	22	1.2	6.9	25	Y
			1000	25.5	2.7	8	50	Y
			1500	25.5	4	8	75	Y
			1800	25.5	4.8	8	90	Y
25.5	4	S5EU11LA6	150	25.5	0.4	8.1	7.5	Y
			500	-	-	-	-	Y
			1000	-	-	-	-	Y
			1500	25.5	4	8.1	75	Y
			1800	25.5	4.8	8.1	90	Y
26.5	4.2	S5E11MA6	150	26.5	0.42	8.3	7.5	Y
			500	26.5	1.4	8.3	25	Y
			1000	26.5	2.8	8.3	50	Y
			1500	26.5	4.2	8.3	75	Y
			1800	26.5	5	8.3	90	Y
35	5.5	S5E11LA6	150	35	0.55	10.8	7.5	Y
			500	35	1.8	10.8	25	Y
			1000	35	3.7	10.8	50	Y
			1500	35	5.5	10.8	75	Y
			1800	35	6.6	10.8	90	Y
35	5.5	S4E11MA6	150	26.5	0.42	8.3	7.5	Y
			500	30	1.6	9.5	25	Y
			1000	35	3.7	11	50	Y
			1500	35	5.5	11	75	Y
			1800	35	6.6	11	90	Y

Motors - BM

Technical data

M _n Nm	P _n kW	Type	Speed 1/min	Torque Nm	Power kW	Current A	Frequency Hz	Connection
48	7.5	SPE11LA6	150	35	0.55	10.8	7.5	Y
			500	40	2.1	12.3	25	Y
			1000	48	5	14.7	50	Y
			1500	48	7.5	14.7	75	Y
			1800	48	9	14.7	90	Y

Converter Settings:

Minimum clock frequency:3 kHz
Short-term current limit:160 % * I_{1500/min}
Maximum overload time:60 s
Minimum frequency:5 Hz
Maximum frequency:60 Hz
Permissible operating time below f_{min}:60 s (in open loop mode)

All other settings must be selected according the requirements of the drive.
The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes.

Non-standard operating conditions on request.

All motors: converter supply voltage 380 to 500 V

Motors with rated speed 2250 1/min

M _n Nm	IE Classe	Type	P _n kW	I _n A	2p	n _n 1/min	f Hz	η %	Connection	R ₂₀ Ω	R _{s20} Ω	L _d mH	L _q mH	ke V/1000 1/min	kt Nm/A	M _{max (60s)} Nm	I _{max (60s)} A	J kgm ²
3.5	5	S5EU08MA4	0.82	2.25	4	2250	75	IE5-88.4	D	6.23	9.35	34	57	103	1.4	10	6.4	0.00115
5	5	S5E08MA4	1.18	3.1	4	2250	75	IE5-87.9	D	6.23	9.35	34	57	103	1.6	10	6.4	0.00115
5	5	S5EU08LA4	1.18	3.6	4	2250	75	IE5-86.5	D	3.67	5.5	24	39	99	1.4	14	9.5	0.0015
7	4	S4E08LA4	1.65	4.7	4	2250	75	IE4-85.9	D	3.67	5.5	24	39	99	1.5	14	9.5	0.0015
7	3	SPE08MA4	1.65	4.3	4	2250	75	IE3-83.8	D	6.23	9.35	34	57	103	1.6	10	6.4	0.00115
7	5	S5EU09SA4	1.65	3.75	4	2250	75	IE5-91.3	D	3.3	4.95	21.4	36.6	120	1.85	20	11	0.00245
10	1	SSE08LA4	2.35	6.6	4	2250	75	IE1-81.4	D	3.67	5.5	24	39	99	1.5	14	9.5	0.0015
10	5	S5E09SA4	2.35	5.3	4	2250	75	IE5-89.3	D	3.3	4.95	21.4	36.6	120	1.9	20	11	0.00245
10	5	S5EU09XA4	2.35	5.5	4	2250	75	IE5-90.6	D	1.75	2.63	13.8	24.4	120	1.8	30	16	0.0038
13	3	SPE09SA4	3	6.9	4	2250	75	IE3-86.8	D	3.3	4.95	21.4	36.6	120	1.9	20	11	0.00245
17.5	4	S4E09XA4	4.1	9.2	4	2250	75	IE4-89.4	D	1.75	2.63	13.8	24.4	120	1.9	29	16	0.0038

M _n	Rated torque
P _n	Rated power
I _n	Rated current
2p	No. of Motor Poles
n _n	Rated speed
f	Nominal Frequency
η	Motor efficiency
R ₂₀	Phase Resistance U-V
R _{s20}	Winding Resistance
L _d	Inductance D-Axis
L _q	Inductance Q-Axis
ke	Voltage constant
kt	Torque constant
M _{max (60s)}	Peak Torque
I _{max (60s)}	Peak Current
J	Moment of inertia

All motors: converter supply voltage 380 to 500 V

Motors - BM

Technical data

Rated speed 2250 1/min

Rated speed 2250 1/min										Power losses in % at operating points (Speed/Torque)										
η (100 % -Load)	η (75 %-Load)	η (50 %-Load)	IE Class	Manufacturer data	Type	Number of poles	M _n	P	Frequency	Voltage	nN	Type of motor	Operating conditions	25/25	25/100	50/25	50/50	50/100	90/50	90/100
%	%	%					Nm	kW	Hz	V	1/min									
88.4	n.A	n.A	5	1)	S5EU08MA4	4	3.5	0.82	75	380	2250	2)	3)	1.6	8.5	2.6	4.1	9.8	6.0	12.0
87.9	n.A	n.A	5	1)	S5E08MA4	4	5	1.18	75	380	2250	2)	3)	1.1	9.9	1.7	3.5	10.8	4.9	12.3
86.5	n.A	n.A	5	1)	S5EU08LA4	4	5	1.18	75	380	2250	2)	3)	2.5	10.1	3.8	5.4	11.5	7.7	14.0
85.9	n.A	n.A	4	1)	S4E08LA4	4	7	1.65	75	380	2250	2)	3)	2.2	11.0	3.3	5.2	12.3	7.4	14.8
83.8	n.A	n.A	3	1)	SPE08MA4	4	7	1.65	75	380	2250	2)	3)	1.3	15.2	1.7	4.6	16.1	5.7	17.4
91.3	n.A	n.A	5	1)	S5EU09SA4	4	7	1.65	75	380	2250	2)	3)	1.2	6.4	2.1	3.3	7.3	3.6	8.5
81.4	n.A	n.A	1	1)	SSE08LA4	4	10	2.35	75	380	2250	2)	3)	2.2	17.6	3.0	6.2	18.6	8.1	20.5
89.3	n.A	n.A	5	1)	S5E09SA4	4	10	2.35	75	380	2250	2)	3)	1.4	8.0	1.7	3.3	9.1	4.7	10.8
90.6	n.A	n.A	5	1)	S5EU09XA4	4	10	2.35	75	380	2250	2)	3)	1.3	6.0	2.4	3.4	7.3	5.3	9.4
86.8	n.A	n.A	3	1)	SPE09SA4	4	13	3	75	380	2250	2)	3)	1.2	11.4	1.8	3.9	12.5	5.2	14.0
89.4	n.A	n.A	4	1)	S4E09XA4	4	17.5	4.1	75	380	2250	2)	3)	1.1	8.1	1.8	3.3	9.1	4.8	10.7

*Dimensioned according to IEC TS 60034-30-2

1) Manufacturer: Commercial register number: Address:	Bauer Gear Motor GmbH HRB 736269 Eberhard-Bauer-Str. 37, 73734 Esslingen / Germany	2) Type of motor: Three-phase permanent magnet excited synchronous motor	3) Installation altitude above sea level (m): Ambient temperature:
			1000 -20 °C to +40 °C

The figures given in the table below are for Bauer motors operating in conjunction with the frequency inverter. The torques referred to in tables can be entered for the respective frequencies in continuous operation (S1 = duty factor 100 %).

Motor-Drehmomente bei Stellbereich 150 1/min - 2600 1/min, Betriebsart S1

M _n Nm	P _n kW	Typ	Drehzahl 1/min	Drehmoment Nm	Leistung kW	Strom A	Frequenz Hz	Schaltung
3.5	0.82	S5EU08MA4	150	3.5	0.06	2.25	5	D
			500	-	-	-	16.66	D
			1000	-	-	-	33.33	D
			2250	3.5	0.82	2.25	75	D
			2600	3.5	1	2.25	87	D
5	1.18	S5E08MA4	150	5	0.08	3.1	5	D
			500	5	0.26	3.1	16.66	D
			1000	5	0.52	3.1	33.33	D
			2250	5	1.18	3.1	75	D
			2600	5	1.4	3.1	87	D
5	1.18	S5EU08LA4	150	5	0.08	3.6	5	D
			500	-	-	-	16.66	D
			1000	-	-	-	33.33	D
			2250	5	1.18	3.6	75	D
			2600	5	1.4	3.6	87	D
7	1.65	S4E08LA4	150	6.5	0.1	4.4	5	D
			500	7	0.37	4.7	16.66	D
			1000	7	0.73	4.7	33.33	D
			2250	7	1.65	4.7	75	D
			2600	7	1.9	4.7	87	D
7	1.65	SPE08MA4	150	5	0.08	3.1	5	D
			500	5.9	0.31	3.7	16.66	D
			1000	7	0.73	4.3	33.33	D
			2250	7	1.65	4.3	75	D
			2600	7	1.9	4.3	87	D
7	1.65	S5EU09SA4	150	7	0.11	3.75	5	D
			500	-	-	-	16.66	D
			1000	-	-	-	33.33	D
			2250	7	1.6	3.75	75	D
			2600	7	1.9	3.75	87	D
10	2.35	SSE08LA4	150	6.5	0.1	4.3	5	D
			500	8	0.42	5.3	16.66	D
			1000	10	1.05	6.6	33.33	D
			2250	10	2.35	6.6	75	D
			2600	10	2.7	6.6	87	D
10	2.35	S5E09SA4	150	8.5	0.13	4.5	5	D
			500	10	0.52	5.3	16.66	D
			1000	10	1.05	5.3	33.33	D
			2250	10	2.35	5.3	75	D
			2600	10	2.7	5.3	87	D
10	2.35	S5EU09XA4	150	10	0.16	5.5	5	D
			500	-	-	-	16.66	D
			1000	-	-	-	33.33	D
			2250	10	2.35	5.5	75	D
			2600	10	2.7	5.5	87	D
13	3	SPE09SA4	150	8.5	0.13	4.5	5	D
			500	10	0.52	5.3	16.66	D
			1000	13	1.36	6.9	33.33	D
			2250	13	3	6.9	75	D
			2600	13	3.5	6.9	87	D

Motors - BM

Technical data

M _n Nm	P _n kW	Type	Speed 1/min	Torque Nm	Power kW	Current A	Frequency Hz	Connection
17.5	4.1	S4E09XA4	150	13	0.2	6.9	5	D
			500	16	0.84	8.4	16.66	D
			1000	17.5	1.83	9.2	33.33	D
			2250	17.5	4.1	9.2	75	D
			2600	17.5	4.8	9.2	87	D

Converter Settings:

Minimum clock frequency:3 kHz
Short-term current limit:160 % * I_{2250/min}
Maximum overload time:60 s
Minimum frequency:5 Hz
Maximum frequency:120 Hz
Permissible operating time below f_{min}:60 s (in open loop mode)

All other settings must be selected according the requirements of the drive.
The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes.

Non-standard operating conditions on request.

All motors: converter supply voltage 380 to 500 V

Motors with rated speed 3000 1/min

M _n Nm	IE Class	Type	P _n kW	I _n A	2p	n _n 1/min	f Hz	η %	Connection	R ₂₀ Ω	R _{s20} Ω	L _d mH	L _q mH	ke V/1000 1/min	kt Nm/A	M _{max} (60s) Nm	I _{max} (60s) A	J kgm ²
0.38	5	S5EU04SA4-1	0.12	0.33	4	3000	100	IE5-82.2	Y	70.6	35.3	120	185	80	1.2	1	0.85	0.00014
0.58	5	S5EU04SA4-1	0.18	0.49	4	3000	100	IE5-80	Y	70.6	35.3	120	185	80	1.2	1	0.85	0.00014
0.65	5	S5E04SA4-1	0.2	0.52	4	3000	100	IE5-80.3	Y	70.6	35.3	120	185	80	1.25	1.6	1.3	0.00014
0.65	5	S5EU04SA4-1	0.2	0.54	4	3000	100	IE5-79.1	Y	70.6	35.3	120	185	80	1.2	1	0.85	0.00014
0.8	5	S5E04SA4-1	0.25	0.64	4	3000	100	IE5-78.5	Y	70.6	35.3	120	185	80	1.25	1.6	1.3	0.00014
0.8	5	S5EU06MA4	0.25	0.63	4	3000	100	IE5-87.8	Y	24.6	12.3	52.3	83.3	84	1.3	2.8	2.2	0.0002
1	4	S4E04SA4-1	0.315	0.8	4	3000	100	IE4-74.5	Y	70.6	35.3	120	185	80	1.25	1.6	1.3	0.00014
1.2	5	S5EU06MA4	0.37	0.93	4	3000	100	IE5-86.6	Y	24.6	12.3	52.3	83.3	84	1.3	2.8	2.2	0.0002
1.3	5	S5E06MA4	0.4	1	4	3000	100	IE5-86.2	Y	24.6	12.3	52.3	83.3	84	1.3	3.8	3	0.0002
1.3	5	S5EU06MA4	0.4	1	4	3000	100	IE5-86.3	Y	24.6	12.3	52.3	83.3	84	1.3	2.8	2.2	0.0002
1.75	5	S5E06MA4	0.55	1.35	4	3000	100	IE5-84	Y	24.6	12.3	52.3	83.3	84	1.3	3.8	3	0.0002
1.75	5	S5EU06LA4	0.55	1.45	4	3000	100	IE5-87.9	Y	11.5	5.75	29.4	40.1	80.3	1.2	3.8	3.2	0.000295
2.4	3	SPE06MA4	0.75	1.85	4	3000	100	IE3-78.6	Y	24.6	12.3	52.3	83.3	84	1.3	3.8	3	0.0002
2.4	5	S5E06LA4	0.75	1.9	4	3000	100	IE5-88.3	Y	11.5	5.75	29.4	40.1	80.3	1.25	5.6	4.5	0.000295
3.5	4	S4E06LA4	1.1	2.8	4	3000	100	IE4-84	Y	11.5	5.75	29.4	40.1	80.3	1.25	5.6	4.5	0.000295
3.5	5	S5EU08MA4	1.1	2.55	4	3000	100	IE5-90.8	Y	4.73	2.36	24.7	43.5	90	1.4	10	7.5	0.00115
5	5	S5E08MA4	1.55	3.5	4	3000	100	IE5-91.2	Y	4.73	2.36	24.7	43.5	90	1.45	10	7.5	0.00115
5	5	S5EU08LA4	1.55	3.9	4	3000	100	IE5-88.9	Y	2.82	1.41	16.8	29.6	87	1.3	15	11.2	0.0015
7	5	S5E08LA4	2.2	5.2	4	3000	100	IE5-89.2	Y	2.82	1.41	16.8	29.6	87	1.35	15	11.2	0.0015
7	4	S4E08MA4	2.2	4.8	4	3000	100	IE4-88.8	Y	4.73	2.36	24.7	43.5	90	1.45	10	7.5	0.00115
7	5	S5EU09SA4	2.2	4.45	4	3000	100	IE5-91.9	Y	2.42	1.21	15.5	27.6	103	1.6	20	12.5	0.00245
10	3	SPE08LA4	3.1	7.4	4	3000	100	IE3-86.9	Y	2.82	1.41	16.8	29.6	87	1.35	15	11.2	0.0015
10	5	S5EU09XA4	3.1	6.3	4	3000	100	IE5-92.8	Y	1.31	0.66	12.7	17.9	102	1.6	30	20	0.0038
10	5	S5EU11SA6	3.1	6.6	6	3000	150	IE5-91.5	Y	0.89	0.447	5	7.7	106	1.52	40	25	0.012
13	4	S4E09SA4	4	8	4	3000	100	IE4-89.7	Y	2.42	1.21	15.5	27.6	103	1.63	20	12.5	0.00245
12.75	5	S5EU11SA6	4	8.4	6	3000	150	IE5-91.9	Y	0.89	0.447	5	7.7	106	1.52	40	25	0.012
13	5	S5EU11MA6	4	8.6	6	3000	150	IE5-92.5	Y	0.43	0.217	3	4.6	104	1.52	55	35	0.0175
17.5	5	S5E09XA4	5.5	10.5	4	3000	100	IE5-92.5	Y	1.31	0.66	12.7	17.9	102	1.67	30	20	0.0038
17.5	4	S4E11SA6	5.5	11	6	3000	150	IE4-91.2	Y	0.89	0.447	5	7.7	106	1.55	40	25	0.012
17.5	5	S5EU11LA6	5.5	11.5	6	3000	150	IE5-91.9	Y	0.3	0.15	2.4	3.5	105	1.52	75	48	0.0215
17.5	5	S5EU11MA6	5.5	11.5	6	3000	150	IE5-93.3	Y	0.43	0.217	3	4.6	104	1.52	55	35	0.0175
20	5	S5E09XA4	6.3	12	4	3000	100	IE5-92	Y	1.31	0.66	12.7	17.9	102	1.67	30	20	0.0038
24	5	S5E11MA6	7.5	15.4	6	3000	150	IE5-93.2	Y	0.43	0.217	3	4.6	104	1.55	55	35	0.0175
24	4	S4E11SA6	7.5	15.2	6	3000	150	IE4-90.8	Y	0.89	0.447	5	7.7	106	1.55	40	25	0.012
23.9	5	S5EU11LA6	7.5	15.7	6	3000	150	IE5-93.3	Y	0.3	0.15	2.4	3.5	105	1.52	75	48	0.0215
30	5	S5E11LA6	9.5	18.5	6	3000	150	IE5-93.8	Y	0.3	0.15	2.4	3.5	105	1.6	75	48	0.0215
30	5	S5E11MA6	9.5	19.3	6	3000	150	IE5-93.2	Y	0.43	0.217	3	4.6	104	1.55	55	35	0.0175
35	5	S5E11LA6	11	21.5	6	3000	150	IE5-94.1	Y	0.3	0.15	2.4	3.5	105	1.6	75	48	0.0215
35	4	S4E11MA6	11	22.5	6	3000	150	IE4-93.1	Y	0.43	0.217	3	4.6	104	1.55	55	35	0.0175
48	5	S5E11LA6	15	30	6	3000	150	IE5-93.8	Y	0.3	0.15	2.4	3.5	105	1.6	75	48	0.0215

M _n	Rated torque
P _n	Rated power
I _n	Rated current
2p	No. of Motor Poles
n _n	Rated speed
f	Nominal Frequency
η	Motor efficiency
R ₂₀	Phase Resistance U-V
R _{s20}	Winding Resistance
L _d	Inductance D-Axis
L _q	Inductance Q-Axis
ke	Voltage constant
kt	Torque constant
M _{max} (60s)	Peak Torque
I _{max} (60s)	Peak Current
J	Moment of inertia

All motors: converter supply voltage 380 to 500 V

Motors - BM

Technical data

Rated speed 3000 1/min

Rated speed 3000 1/min																					
η (100 % -Load)	η (75 %-Load)	η (50 %-Load)	IE Class	Manufacturer data	Type	Number of poles	M _n	P	Frequency	Voltage	n _N	Type of motor	Operating conditions	Power losses in % at operating points (Speed/Torque)							
%	%	%					Nm	kW	Hz	V	1/min			25/25	25/100	50/25	50/50	50/100	90/50	90/100	
82.2	n.A	n.A	5	1)	S5EU04SA4-1	4	0.38	0.12	100	380	3000	2)	3)	3.5	12.5	6.0	7.9	15.1	12.1	19.5	
80	n.A	n.A	5	1)	S5EU04SA4-1	4	0.58	0.18	100	380	3000	2)	3)	3.0	18.0	4.5	7.8	19.8	10.9	22.8	
80.3	n.A	n.A	5	1)	S5E04SA4-1	4	0.65	0.2	100	380	3000	2)	3)	2.9	17.7	4.5	7.7	19.5	11.0	22.6	
79.1	n.A	n.A	5	1)	S5EU04SA4-1	4	0.65	0.2	100	380	3000	2)	3)	2.8	20.1	4.1	7.8	21.8	10.3	24.3	
78.5	n.A	n.A	5	1)	S5E04SA4-1	4	0.8	0.25	100	380	3000	2)	3)	2.6	20.7	3.9	7.6	22.3	10.5	24.8	
87.8	n.A	n.A	5	1)	S5EU06MA4	4	0.8	0.25	100	380	3000	2)	3)	2.1	7.8	3.8	5.0	9.5	8.2	12.6	
74.5	n.A	n.A	4	1)	S4E04SA4-1	4	1	0.315	100	380	3000	2)	3)	2.8	27.2	3.8	8.9	28.5	11.7	30.9	
86.6	n.A	n.A	5	1)	S5EU06MA4	4	1.2	0.37	100	380	3000	2)	3)	1.8	11.0	3.0	4.8	12.1	7.1	14.2	
86.2	n.A	n.A	5	1)	S5E06MA4	4	1.3	0.4	100	380	3000	2)	3)	1.7	10.5	3.0	4.9	11.8	7.9	14.7	
86.3	n.A	n.A	5	1)	S5EU06MA4	4	1.3	0.4	100	380	3000	2)	3)	1.7	11.6	2.7	4.7	12.7	6.6	14.6	
84	n.A	n.A	5	1)	S5E06MA4	4	1.75	0.55	100	380	3000	2)	3)	1.6	14.0	2.5	5.0	15.0	7.3	17.2	
87.9	n.A	n.A	5	1)	S5EU06LA4	4	1.75	0.55	100	380	3000	2)	3)	1.8	8.8	3.0	4.5	10.2	6.7	12.5	
78.6	n.A	n.A	3	1)	SPE06MA4	4	2.4	0.75	100	380	3000	2)	3)	1.8	22.3	2.6	6.5	22.9	8.3	24.7	
88.3	n.A	n.A	5	1)	S5E06LA4	4	2.4	0.75	100	380	3000	2)	3)	1.2	9.6	1.8	3.4	10.2	5.1	11.9	
84	n.A	n.A	4	1)	S4E06LA4	4	3.5	1.1	100	380	3000	2)	3)	1.3	15.3	1.9	4.4	16.0	5.7	17.2	
90.8	n.A	n.A	5	1)	S5EU08MA4	4	3.5	1.1	100	380	3000	2)	3)	1.5	6.2	2.4	3.4	7.2	5.3	9.1	
91.2	n.A	n.A	5	1)	S5E08MA4	4	5	1.55	100	380	3000	2)	3)	0.9	6.7	1.4	2.6	7.3	4.1	8.8	
88.9	n.A	n.A	5	1)	S5EU08LA4	4	5	1.55	100	380	3000	2)	3)	1.9	7.0	3.3	4.5	8.7	7.1	11.5	
89.2	n.A	n.A	5	1)	S5E08LA4	4	7	2.2	100	380	3000	2)	3)	1.4	7.2	2.5	3.8	8.5	6.0	10.9	
88.8	n.A	n.A	4	1)	S4E08MA4	4	7	2.2	100	380	3000	2)	3)	0.9	9.7	1.3	3.1	10.2	4.1	11.3	
91.9	n.A	n.A	5	1)	S5EU09SA4	4	7	2.2	100	380	3000	2)	3)	1.1	5.2	2.1	3.0	6.2	4.6	7.9	
86.9	n.A	n.A	3	1)	SPE08LA4	4	10	3.1	100	380	3000	2)	3)	1.5	10.7	2.4	4.4	11.8	6.3	13.8	
92.8	n.A	n.A	5	1)	S5EU09XA4	4	10	3.1	100	380	3000	2)	3)	1.3	4.2	2.2	2.8	5.3	4.7	7.1	
91.5	n.A	n.A	5	1)	S5EU11SA6	6	10	3.1	150	380	3000	2)	3)	1.4	3.7	3.0	3.5	5.4	6.6	8.5	
89.7	n.A	n.A	4	1)	S4E09SA4	4	13	4	100	380	3000	2)	3)	1.1	8.0	1.8	3.2	8.9	4.8	10.6	
91.9	n.A	n.A	5	1)	S5EU11SA6	6	12.75	4	150	380	3000	2)	3)	1.2	4.2	2.4	3.1	5.6	5.5	8.0	
92.5	n.A	n.A	5	1)	S5EU11MA6	6	13	4	150	380	3000	2)	3)	1.5	2.8	3.2	3.3	4.5	6.3	7.5	
92.5	n.A	n.A	5	1)	S5E09XA4	4	17.5	5.5	100	380	3000	2)	3)	0.8	5.1	1.5	2.4	5.9	4.0	7.3	
91.2	n.A	n.A	4	1)	S4E11SA6	6	17.5	5.5	150	380	3000	2)	3)	1.0	4.4	2.2	3.0	5.7	5.9	8.7	
91.9	n.A	n.A	5	1)	S5EU11LA6	6	17.5	5.5	150	380	3000	2)	3)	1.3	2.3	3.0	3.1	4.0	7.1	7.9	
93.3	n.A	n.A	5	1)	S5EU11MA6	6	17.5	5.5	150	380	3000	2)	3)	1.1	3.0	2.3	2.6	4.2	4.7	6.5	
92	n.A	n.A	5	1)	S5E09XA4	4	20	6.3	100	380	3000	2)	3)	0.8	5.9	1.4	2.4	6.5	3.7	7.8	
93.2	n.A	n.A	5	1)	S5E11MA6	6	24	7.5	150	380	3000	2)	3)	0.9	2.9	1.9	2.4	4.1	4.8	6.6	
90.8	n.A	n.A	4	1)	S4E11SA6	6	24	7.5	150	380	3000	2)	3)	0.9	5.9	1.8	2.8	7.0	5.0	9.2	
93.3	n.A	n.A	5	1)	S5EU11LA6	6	23.9	7.5	150	380	3000	2)	3)	1.0	2.3	2.2	2.5	3.6	5.3	6.5	
93.8	n.A	n.A	5	1)	S5E11LA6	6	30	9.5	150	380	3000	2)	3)	0.8	2.5	1.7	2.2	3.5	4.4	5.9	
93.2	n.A	n.A	5	1)	S5E11MA6	6	30	9.5	150	380	3000	2)	3)	0.8	3.4	1.6	2.2	4.4	4.2	6.6	



Rated speed 3000 1/min

Rated speed 3000 1/min		Power losses in % at operating points (Speed/Torque)									
		25/25	25/100	50/25	50/50	50/100	90/50	90/100	90/50	90/100	
η (100 %-Load)	%	94.1	n.A	n.A	n.A	n.A	n.A	n.A	n.A	n.A	
η (75 %-Load)	%	n.A	n.A	n.A	n.A	n.A	n.A	n.A	n.A	n.A	
η (50 %-Load)	%	n.A	n.A	n.A	n.A	n.A	n.A	n.A	n.A	n.A	
IE Class		5	4	5	5	5	5	5	5	5	
Manufacturer data		1)	1)	1)	1)	1)	1)	1)	1)	1)	
Type		S5E11LA6	S4E11MA6	S5E11LA6	S5E11LA6	S5E11LA6	S5E11LA6	S5E11LA6	S5E11LA6	S5E11LA6	
Number of poles		6	6	6	6	6	6	6	6	6	
M_n	Nm	35	35	48	48	48	48	48	48	48	
P	kW	11	11	15	15	15	15	15	15	15	
Frequency	Hz	150	150	150	150	150	150	150	150	150	
Voltage	V	380	380	380	380	380	380	380	380	380	
nN	1/min	3000	3000	3000	3000	3000	3000	3000	3000	3000	
Type of motor		2)	2)	2)	2)	2)	2)	2)	2)	2)	
Operating conditions		3)	3)	3)	3)	3)	3)	3)	3)	3)	

*Dimensioned according to IEC TS 60034-30-2

1) Manufacturer:	Bauer Gear Motor GmbH	2) Type of motor:	Three-phase permanent magnet excited synchronous motor	3) Installation altitude above sea level (m):	1000
Commercial register number:	HRB 736269			Ambient temperature:	-20 °C to +40 °C
Address:	Eberhard-Bauer-Str. 37, 73734 Esslingen / Germany				

Motors - BM

Technical data

The figures given in the table below are for Bauer motors operating in conjunction with the frequency inverter. The torques referred to in tables can be entered for the respective frequencies in continuous operation (S1 = duty factor 100 %).

Motor torques in the adjusting range 150 1/min - 3600 1/min, duty type S1

M _n Nm	P _n kW	Type	Speed 1/min	Torque Nm	Power kW	Current A	Frequency Hz	Connection
0.38	0.12	S5EU04SA4-1	150	0.38	0.006	0.33	5	Y
			500	0.38	0.02	0.33	16.67	Y
			1000	0.38	0.04	0.33	33.33	Y
			3000	0.38	0.12	0.33	100	Y
			3600	0.38	0.14	0.33	120	Y
0.58	0.18	S5EU04SA4-1	150	0.58	0.009	0.49	5	Y
			500	0.58	0.03	0.49	16.67	Y
			1000	0.58	0.06	0.49	33.33	Y
			3000	0.58	0.18	0.49	100	Y
			3600	0.58	0.22	0.49	120	Y
0.65	0.2	S5E04SA4-1	150	0.65	0.01	0.52	5	Y
			500	0.65	0.034	0.52	16.67	Y
			1000	0.65	0.068	0.52	33.33	Y
			3000	0.65	0.2	0.52	100	Y
			3600	0.65	0.245	0.52	120	Y
0.65	0.2	S5EU04SA4-1	150	0.65	0.01	0.54	5	Y
			500	0.65	0.034	0.54	16.67	Y
			1000	0.65	0.068	0.54	33.33	Y
			3000	0.65	0.2	0.54	100	Y
			3600	0.65	0.245	0.54	120	Y
0.8	0.25	S5E04SA4-1	150	0.76	0.012	0.61	5	Y
			500	0.8	0.042	0.64	16.67	Y
			1000	0.8	0.084	0.64	33.33	Y
			3000	0.8	0.25	0.64	100	Y
			3600	0.8	0.3	0.64	120	Y
0.8	0.25	S5EU06MA4	150	0.8	0.013	0.63	5	Y
			500	0.8	0.042	0.63	16.67	Y
			1000	0.8	0.084	0.63	33.33	Y
			3000	0.8	0.25	0.63	100	Y
			3600	0.8	0.3	0.63	120	Y
1	0.315	S4E04SA4-1	150	0.76	0.012	0.61	5	Y
			500	0.85	0.045	0.68	16.67	Y
			1000	1	0.105	0.8	33.33	Y
			3000	1	0.315	0.8	100	Y
			3600	1	0.38	0.8	120	Y
1.2	0.37	S5EU06MA4	150	1.2	0.019	0.93	5	Y
			500	1.2	0.063	0.93	16.67	Y
			1000	1.2	0.126	0.93	33.33	Y
			3000	1.2	0.37	0.93	100	Y
			3600	1.2	0.45	0.93	120	Y
1.3	0.4	S5E06MA4	150	1.3	0.02	1	5	Y
			500	1.3	0.068	1	16.67	Y
			1000	1.3	0.136	1	33.33	Y
			3000	1.3	0.4	1	100	Y
			3600	1.3	0.5	1	120	Y
1.3	0.4	S5EU06MA4	150	1.3	0.02	1	5	Y
			500	1.3	0.068	1	16.67	Y
			1000	1.3	0.136	1	33.33	Y
			3000	1.3	0.4	1	100	Y
			3600	1.3	0.5	1	120	Y

M _n Nm	P _n kW	Type	Speed 1/min	Torque Nm	Power kW	Current A	Frequency Hz	Connection
1.75	0.55	S5E06MA4	150	1.75	0.027	1.35	5	Y
			500	1.75	0.092	1.35	16.67	Y
			1000	1.75	0.183	1.35	33.33	Y
			3000	1.75	0.55	1.35	100	Y
			3600	1.75	0.66	1.35	120	Y
1.75	0.55	S5EU06LA4	150	1.75	0.027	1.45	5	Y
			500	1.75	0.092	1.45	16.67	Y
			1000	1.75	0.183	1.45	33.33	Y
			3000	1.75	0.55	1.45	100	Y
			3600	1.75	0.66	1.45	120	Y
2.4	0.75	SPE06MA4	150	1.8	0.028	1.38	5	Y
			500	2	0.105	1.51	16.67	Y
			1000	2.2	0.23	1.68	33.33	Y
			3000	2.4	0.75	1.85	100	Y
			3600	2.4	0.9	1.85	120	Y
2.4	0.75	S5E06LA4	150	2.4	0.038	1.9	5	Y
			500	2.4	0.126	1.9	16.67	Y
			1000	2.4	0.25	1.9	33.33	Y
			3000	2.4	0.75	1.9	100	Y
			3600	2.4	0.9	1.9	120	Y
3.5	1.1	S4E06LA4	150	2.5	0.04	2	5	Y
			500	2.9	0.15	2.3	16.67	Y
			1000	3.5	0.37	2.8	33.33	Y
			3000	3.5	1.1	2.8	100	Y
			3600	3.5	1.3	2.8	120	Y
3.5	1.1	S5EU08MA4	150	3.5	0.06	2.55	5	Y
			500	-	-	-	16.67	Y
			1000	-	-	-	33.33	Y
			3000	3.5	1.1	2.55	100	Y
			3600	3.5	1.3	2.55	120	Y
5	1.55	S5E08MA4	150	5	0.08	3.5	5	Y
			500	5	0.26	3.5	16.67	Y
			1000	5	0.52	3.5	33.33	Y
			3000	5	1.55	3.5	100	Y
			3600	5	1.9	3.5	120	Y
5	1.55	S5EU08LA4	150	5	0.08	3.9	5	Y
			500	-	-	-	16.67	Y
			1000	-	-	-	33.33	Y
			3000	5	1.55	3.9	100	Y
			3600	5	1.9	3.9	120	Y
7	2.2	S5E08LA4	150	6.5	0.1	4.8	5	Y
			500	7	0.37	5.2	16.67	Y
			1000	7	0.73	5.2	33.33	Y
			3000	7	2.2	5.2	100	Y
			3600	7	2.6	5.2	120	Y
7	2.2	S4E08MA4	150	5	0.08	3.5	5	Y
			500	5.9	0.31	4.1	16.67	Y
			1000	7	0.73	4.8	33.33	Y
			3000	7	2.2	4.8	100	Y
			3600	7	2.6	4.8	120	Y
7	2.2	S5EU09SA4	150	7	0.11	4.45	5	Y
			500	-	-	-	16.67	Y
			1000	-	-	-	33.33	Y
			3000	7	2.2	4.45	100	Y
			3600	7	2.6	4.45	120	Y

Motors - BM

Technical data

M _n Nm	P _n kW	Type	Speed 1/min	Torque Nm	Power kW	Current A	Frequency Hz	Connection
10	3.1	SPE08LA4	150	6.5	0.1	4.8	5	Y
			500	8	0.42	5.9	16.67	Y
			1000	10	1.05	7.4	33.33	Y
			3000	10	3.1	7.4	100	Y
			3600	10	3.8	7.4	120	Y
10	3.1	S5EU09XA4	150	10	0.16	6.3	5	Y
			500	-	-	-	16.67	Y
			1000	-	-	-	33.33	Y
			3000	10	3.1	6.3	100	Y
			3600	10	3.8	6.3	120	Y
10	3.1	S5EU11SA6	150	10	0.16	6.6	7.5	Y
			500	-	-	-	25	Y
			1000	-	-	-	50	Y
			3000	10	3.1	6.6	150	Y
			3600	10	3.8	6.6	180	Y
13	4	S4E09SA4	150	8.5	0.13	5.3	5	Y
			500	10	0.52	6.2	16.67	Y
			1000	13	1.36	8	33.33	Y
			3000	13	4	8	100	Y
			3600	13	4.9	8.7	120	Y
12.75	4	S5EU11SA6	150	12.75	0.2	8.4	7.5	Y
			500	-	-	-	25	Y
			1000	-	-	-	50	Y
			3000	12.75	4	8.4	150	Y
			3600	12.75	4.8	8.4	180	Y
13	4	S5EU11MA6	150	13	0.2	8.6	7.5	Y
			500	-	-	-	25	Y
			1000	-	-	-	50	Y
			3000	13	4	8.6	150	Y
			3600	13	4.9	8.6	180	Y
17.5	5.5	S5E09XA4	150	13	0.2	7.8	5	Y
			500	16	0.84	9.6	16.67	Y
			1000	17.5	1.83	10.5	33.33	Y
			3000	17.5	5.5	10.5	100	Y
			3600	17.5	6.6	11.1	120	Y
17.5	5.5	S4E11SA6	150	17.5	0.27	11	7.5	Y
			500	17.5	0.9	11	25	Y
			1000	17.5	1.8	11	50	Y
			3000	17.5	5.5	11	150	Y
			3600	17.5	6.6	11	180	Y
17.5	5.5	S5EU11MA6	150	17.5	0.27	11.5	7.5	Y
			500	-	-	-	25	Y
			1000	-	-	-	50	Y
			3000	17.5	5.5	11.5	150	Y
			3600	17.5	6.6	11.5	180	Y
17.5	5.5	S5EU11LA6	150	17.5	0.27	11.5	7.5	Y
			500	-	-	-	25	Y
			1000	-	-	-	50	Y
			3000	17.5	5.5	11.5	150	Y
			3600	17.5	6.6	11.5	180	Y
20	6.3	S5E09XA4	150	13	0.2	7.8	5	Y
			500	16	0.84	9.6	16.67	Y
			1000	20	2.1	12	33.33	Y
			3000	20	6.3	12	100	Y
			3600	17.5	6.6	11.1	120	Y

M _n Nm	P _n kW	Type	Speed 1/min	Torque Nm	Power kW	Current A	Frequency Hz	Connection
24	7.5	S4E11SA6	150	19	0.3	12	7.5	Y
			500	21.5	1.1	13.6	25	Y
			1000	24	2.5	15.2	50	Y
			3000	24	7.5	15.2	150	Y
			3600	24	9	15.2	180	Y
24	7.5	S5E11MA6	150	24	0.38	15.4	7.5	Y
			500	24	1.3	15.4	25	Y
			1000	24	2.5	15.4	50	Y
			3000	24	7.5	15.4	150	Y
			3600	24	9	15.4	180	Y
23.9	7.5	S5EU11LA6	150	23.9	0.38	15.7	7.5	Y
			500	-	-	-	25	Y
			1000	-	-	-	50	Y
			3000	23.9	7.5	15.7	150	Y
			3600	23.9	9	15.7	180	Y
30	9.5	S5E11MA6	150	26.5	0.42	17	7.5	Y
			500	30	1.6	19.3	25	Y
			1000	30	3.1	19.3	50	Y
			3000	30	9.5	19.3	150	Y
			3600	30	11	19.3	180	Y
30	9.5	S5E11LA6	150	30	0.47	18.5	7.5	Y
			500	30	1.6	18.5	25	Y
			1000	30	3.1	18.5	50	Y
			3000	30	9.5	18.5	150	Y
			3600	30	11	18.5	180	Y
35	11	S4E11MA6	150	26.5	0.42	17	7.5	Y
			500	30	1.6	19.3	25	Y
			1000	35	3.7	22.5	50	Y
			3000	35	11	22.5	150	Y
			3600	35	13	22.5	180	Y
35	11	S5E11LA6	150	35	0.55	21.5	7.5	Y
			500	35	1.8	21.5	25	Y
			1000	35	3.7	21.5	50	Y
			3000	35	11	21.5	150	Y
			3600	35	13	21.5	180	Y
48	15	S5E11LA6	150	35	0.55	21.5	7.5	Y
			500	40	2.1	25	25	Y
			1000	48	5	30	50	Y
			3000	48	15	30	150	Y
			3600	40	15	25.8	180	Y

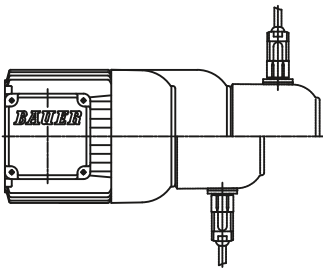
Converter Settings:

Minimum clock frequency:	3 kHz
Short-term current limit:	160 % * I _{3000/min}
Maximum overload time:	60 s
Minimum frequency:	5 Hz
Maximum frequency:	120 Hz
Permissible operating time below f _{min} :	60 s (in open loop mode)

All other settings must be selected according the requirements of the drive.
The maximum overload time and the permissible operating time below f_{min} are based on an interval of 10 minutes.

Non-standard operating conditions on request.

All motors: converter supply voltage 380 to 500 V



Motor Mounted Components

13

Motor Mounted Components	227
Brake	229
Functional description	229
Product description of type ES(X) spring-actuated brakes	229
Product description of type ZS(X) spring-actuated brakes	230
Brake selection and sizing	231
Electrical connection	234
Specifications of holding brakes with emergency stop capability	237
Specifications of working brakes	238
Connection	240
DC connection via terminals (K)	240
Standard rectifier (S)	241
Rectifier for electronic rapid shutdown (E)	242
Rectifier for overexcitation and rapid shutdown (M)	243
Brake connection, operation with frequency converter	245
Brake connection, pole-changing motors	245
Manual release (HA, HN)	245
Explosion protection	245
Back stop (RR, RL)	245
Second motor shaft extension (ZW, ZV)	246
Protective fan cowl (D)	246
Motor-independent fan (FV)	246
Technical Data Motor-independent fan	246
Encoder System	247
Shaft encoder (G)	247
Incremental rotary encoder	248
Functional description	248
Electrical specifications	248
Plug end view with male pin insert	248
Signal assignments	248
Functional description	249
Profibus DP interface	249
Absolute rotary encoders	250
SSI interface	250

Functional description

The compression springs act on the anchor disc, which is free to move in the axial direction and presses the brake disc, which is keyed to the rotor shaft, against the friction plate or the motor bearing plate. This produces the braking torque.

When a DC voltage is applied to the coil in the electromagnet housing, it generates a magnetic force that opposes the spring force and causes the anchor disc to be pulled toward the electromagnet enclosure.

This releases the brake disc and disengages the brake.

Brakes are classified into two types according to how they are used: holding brakes and working brakes.

Holding brake ES.. / ZS..

brake that in normal operation does not convert kinetic energy into frictional energy but is only used to hold a mechanism in a particular position, but which can also be used for motion braking in an emergency.

Service brake ESX.. / ZSX..

A brake that converts kinetic energy into frictional energy in normal operation, which means that it brakes mechanical motion.

When a working brake is used as a holding brake, the braking torque tolerance of up to -30 % (in new condition) must be taken into account.

Product description of type ES(X) spring-actuated brakes

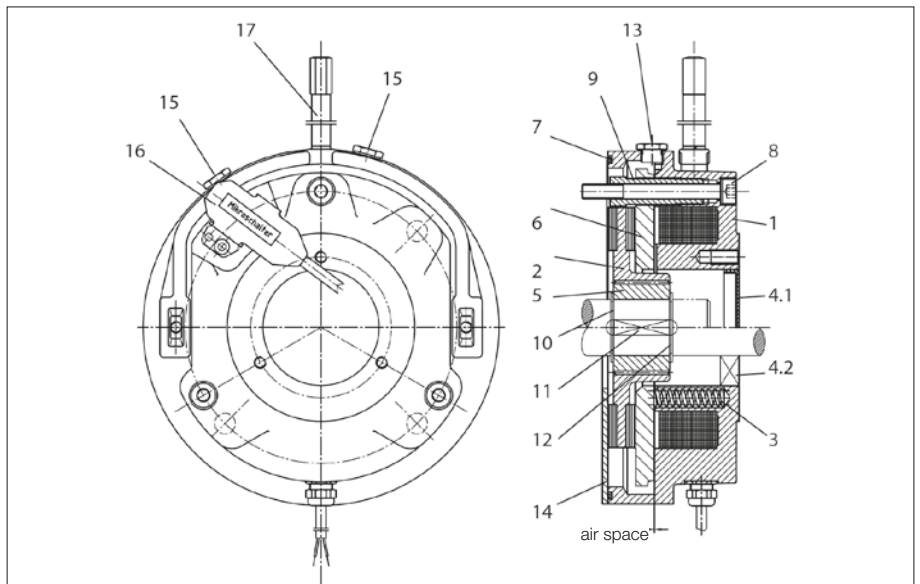


Figure 1: Construction of ES(X) brake

Construction of ES(X) brake

1	Electromagnet housing	9	Hollow screw
2	Brake disc	10	Retaining ring
3	Compression spring	11	Key
4.1	Cover plate with closed brake	12	Retaining ring
4.2	Shaft seal with through shaft	13	Screw plug for checking air gap
5	Drive bush	14	Friction plate (only with motor size Dxx08 or Dxx09)
6	Anchor disc	15	Screw plug for checking microswitch setting
7	O-ring	16	Microswitch (optional)
8	Fitting screw with copper washer	17	Manual release (optional)

Brake mounting

ES and ESX: Brake mounting is under the fan cover

EH and EHX: Brake mounting is on the fan cover

Options

- Manual release, non-locking or locking
- Microswitch for monitoring operation or wear

Motor Mounted Components

Brake

Product description of type ZS(X)
spring-actuated brakes

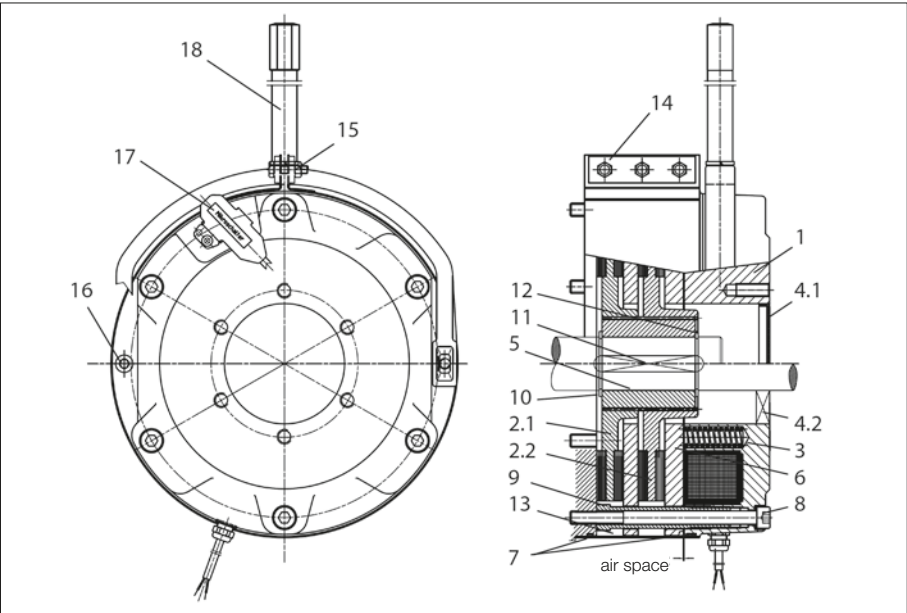


Figure 2: Construction of ZS(X) brake

Construction of ZS(X) brake

1	Electromagnet housing	9	Hollow screw
2.1	Brake disc	10	Retaining ring
2.2	Brake disc	11	Key
3	Compression spring	12	Retaining ring
4.1	Cover plate	13	Cover
4.2	Shaft seal with through shaft	14	Fitting screws
5	Drive bush	15	Bracket
6	Anchor disc	16	Assembly screw/assembly aid
7	O-ring	17	Microswitch (optional)
8	Fitting screw with copper washer	18	Manual release (optional)

Options

- Manual release, non-locking or locking
- Microswitch for monitoring operation or wear

Brake selection and sizing

If the working brake is undersized, it will have increased wear and a shorter lifetime. If it is oversized, the resulting mechanical forces may overload the drive.

If specific application data is not available, in the case of horizontally driven equipment we recommend selecting a braking torque with a safety factor (K) of 1 to 1.5 times the rated torque of the motor.

For braking to standstill, the selected braking torque should be at least 80 % of the rated torque of the drive.

Rated torque:

$$M_{\text{Berf}} = \frac{P \times 9550}{n_2} \times K$$

M_{Berf}	Braking torque	[Nm]
P	Motor power	[kW]
n	Rated speed at rotor shaft	[rpm]

For lifting operation, a braking torque equal to twice the rated motor torque should always be chosen for safety reasons.

If the moment of inertia, speed and allowable deceleration time of the machine are known, the braking torque can be calculated as described below.

External moments of inertia

If the masses to be decelerated by the brake do not run at the same speed as the rotor shaft, the moment of inertia (J_{ext}) must be reduced to the value at the rotor shaft

$$J_{\text{ext}'} = \frac{J_{\text{ext}1} \times n_1^2 + J_{\text{ext}2} \times n_2^2 + \dots + J_{\text{ext}n} \times n_n^2}{i^2}$$

or the external moment of inertia reduced by the gear ratio of the gear unit to the value at the rotor shaft.

$$J_{\text{ext}'} = \frac{J_{\text{ext}}}{i^2}$$

J_{ext}	Total external moment of inertia [kgm ²]
$J_{\text{ext}'}$	Total external moment of inertia referenced to the rotor shaft [kgm ²]
$J_{\text{ext}1,2,\dots}$	Individual external moments of inertia [kgm ²]
i	Gear reduction ratio
n	Rotor shaft speed
$n_1, 2, \dots$	Speeds of the individual moments of inertia [rpm]

Load torque under static load

$$M_L = F \times r$$

M_L	Load torque [Nm]
F	Force [N]
r	radius [m]

Braking torque with dynamic load

A purely dynamic load is present when flywheels, rolls, etc. must be decelerated and the static load torque is negligible.

$$M_a = \frac{J_{ges} \times n_a}{9,55 \times (t_a - t_A)} = \frac{(J_{ext} + J_{rot} + J_{Br}) \times n_a}{9,55 \times (t_a - t_A)}$$

J_{br}	Moment of inertia of the brake [kgm ²]
J_{rot}	Moment of inertia of the rotor shaft and rotor [kgm ²]
M_a	Deceleration torque [Nm]
n_a	Initial speed at start of deceleration [rpm]
t_a	Total deceleration time (from switch-off until drive is stationary) [s]
t_A	The response time of the brake for braking corresponds to t_{AC} or t_{DC} in the specification tables [s]

Dynamic and static loads

In most application situations, both static and dynamic loads are present.

$$M_{Berf} = (M_a \pm M_L) \times K \quad \text{where} \quad M_{Berf} \leq M_{Br} \quad \text{must hold true.}$$

M_L braking (positive) or driving (negative) load torque [Nm]

Heat generated by each brake cycle

Friction converts the kinetic energy of the moving masses into heat.

This amounts to

$$W = \frac{J_{ges} \times n^2}{182,5} = \frac{(J_{ext} + J_{rot} + J_{Br}) \times n_a^2}{182,5} \quad \text{where} \quad W \leq W_{max} \quad \text{must hold true.}$$

W	Braking energy for each brake cycle [J]
M_{max}	Maximum permissible frictional energy per brake cycle (see brake tables)

Thermally allowable braking energy of working brakes

With a uniform sequence of brake cycles, which means a certain average number of brake cycles per hour, the temperature rises until an equilibrium between heat input and heat dissipation is reached. The temperature rise must be sized to avoid overheating the coil and the friction layer, taking the ambient temperature into account.

Braking to standstill:

$$W_z = W \times Z \leq W_{th}$$

W_{th}	Maximum allowable braking energy per hour
W_z	Braking energy with Z brake cycles
Z	Number of brake cycles per hour

Lifting operation

In lowering operation, the drive motor acts as a generator and its braking effect results in a steady downward motion (constant speed). If we ignore transmission losses, under full load the drive must brake the load with the rated motor torque. If a mechanical brake with a braking torque equal to the braking torque of the motor is applied after the drive is switched off, the downward motion will continue at the same speed. This means that additional braking torque is necessary to stop the motion of the load. For example, if the brake is dimensioned for 200 % braking torque, approximately 100 % is used for "static" deceleration and the rest is used for "dynamic" deceleration.

If part of the braking torque is required for braking the load during lowering (downward motion), the brake engagement time is greater, and the thermal load is therefore greater.

In this case

$$W_H = \frac{M_{Br}}{M_{Br} - M_L} \times W_z$$

W_H	Friction energy per hour in lifting operation
M_{Br}	Braking torque of the brake

Brake lifetime

The energy absorbed during braking causes the brake disc to wear, which increases the air gap. If the air gap increases beyond a certain maximum gap size, the magnetic field is so weak that the pulling force of the electromagnet is no longer sufficient to release the brake. A proper air gap must be restored by adjusting the air gap or by replacing the brake disc, depending on the type of brake construction.

The maximum number of brake cycles until service is necessary can be calculated as follows:

$$Z_L = \frac{W_L}{W}$$

Z_L	Number of brake cycles until the air gap limit is reached
W_L	Maximum allowable braking energy until maintenance; i.e. replacing the brake disc or adjusting the air gap. Adjustment of the air gap is possible only with type ZXSxx brakes.

Deceleration time

The pure braking time from the start of mechanical braking to standstill depends on the braking deceleration.

Especially with lifting operation, but also in other types of operation, it is necessary to check whether the load torque reinforces the braking effect or counters the braking effect.

The deceleration time is therefore calculated as follows:

$$t_a = \frac{J_{ges} \times n_a}{9,55 \times (M_{Br} \pm M_L)}$$

Electrical connection

General

There are two basic options for providing the supply voltage for the DC electromagnet:

1. Externally from an existing DC control voltage mains or a rectifier in the cabinet.
2. From a rectifier built into the motor or brake terminal box. In this case, the rectifier can be powered either directly from the motor terminal board or from the mains.

Note that in the following cases the rectifier is not allowed to be connected to the terminal board of the motor:

- Pole-changing motors and motors with wide operating voltage range
- Operation from a frequency converter
- Other configurations in which the motor voltage is not constant, such as operation with soft-start devices, start-up transformers, etc.

Release

When the rated voltage is applied to the electromagnet coil, the current through the coils increases exponentially and with it the generated magnetic field. The current must rise to a certain value (I_{release}) before it overcomes the spring force and starts to release the brake.

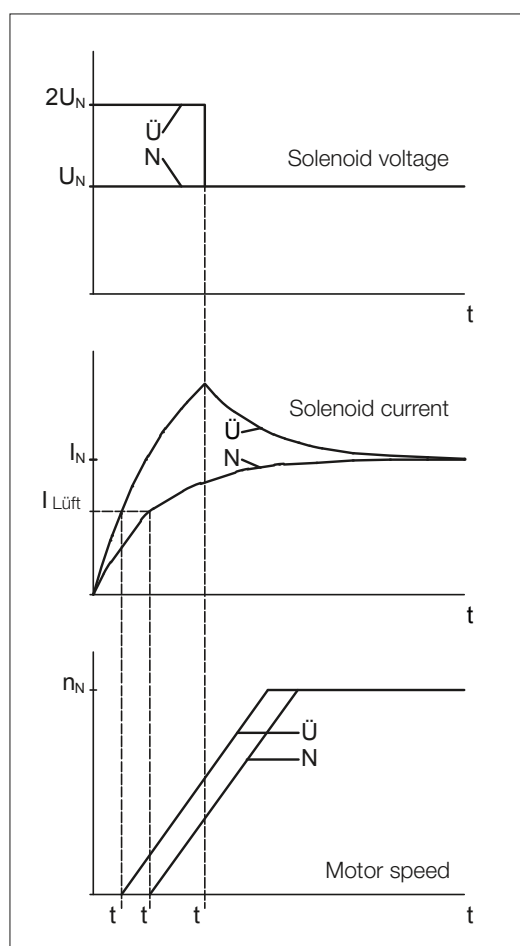


Figure 3: Idealised curves of coil voltage, coil current and motor speed with normal excitation (N) and overexcitation (Ü).
 $t_{\ddot{U}}$: overexcitation time; t_{AN} , t_{AU} : Response time with normal excitation and overexcitation.

Two different situations can arise during the response time t_A , assuming that the voltage is applied to the motor and the brake simultaneously:

- The motor is locked if $M_A < M_L + M_{Br}$
The motor draws its locked-rotor current, which increases the thermal load on the motor. This situation is illustrated in Figure 3.
- The brake slips if $M_A > M_L + M_{Br}$
In this case, the brake is also thermally stressed during start-up and wears faster.

M_A : locked rotor torque of the motor; M_L : load torque; M_{Br} : braking torque

As can be seen, there is an additional load on the motor and brake in both cases. The effect of the response time increases with increasing brake size. Consequently, it is advisable to reduce the response time, especially with medium-sized and large brakes and with a high cycle rate. This can be achieved relatively easily by means of electrical overexcitation. With this approach, the coil is briefly operated at twice its rated voltage after switch-on.

This causes the current to rise faster than with normal excitation, and it reduces the response time by approximately 50 %. This overexcitation function is built into the type MSG special rectifier.

The release current increases with increasing air gap, and with it the response time. When the release current exceeds the rated coil current, the brake will not be released with normal excitation and the brake has reached its wear limit.

Braking

The brake does not start generating braking torque immediately after the coil voltage is switched off. First the magnetic energy must decline to the point that the spring force can overcome the magnetic force. This occurs at the holding current I_{hold} , which is lower than the release current.

The response time depends on how the voltage is switched off.

Switching off the AC supply voltage to a type SG standard rectifier

- a) Rectifier powered from the motor terminal board (Figure 4, curve 1)
Response time t_{A1} : very long

Cause: Due to the residual magnetism of the motor, after the motor voltage is switched off a slowly decaying voltage is induced, and it continues to supply power to the rectifier and thereby to the brake. In addition, the magnetic energy of the brake coil is dissipated relatively slowly in the freewheel circuit of the rectifier.

- b) Rectifier powered separately (Figure 4, curve 2)
Response time t_{A2} : long

Cause: After the rectifier voltage is switched off, the magnetic energy of the brake coil is dissipated relatively slowly in the freewheel circuit of the rectifier.

If the supply voltage is interrupted on the AC side, no significant switch-off voltage occurs on the electromagnet coil.

Interrupting the DC circuit of the electromagnet coil (Figure 4, curve 3)

a) By a mechanical switch

- with separate power supply from a DC control voltage mains or
- at the DC switch contacts (A2 and A3) of the type SG standard rectifier

Response time t_{A3} : very short

Cause: The magnetic energy of the brake coil is dissipated very quickly by arcing across the switch contacts.

b) Electronic

Using a type ESG or MSG special rectifier

Response time t_{A3} : short

Cause: The magnetic energy of the brake coil is dissipated quickly by a varistor integrated in the rectifier.

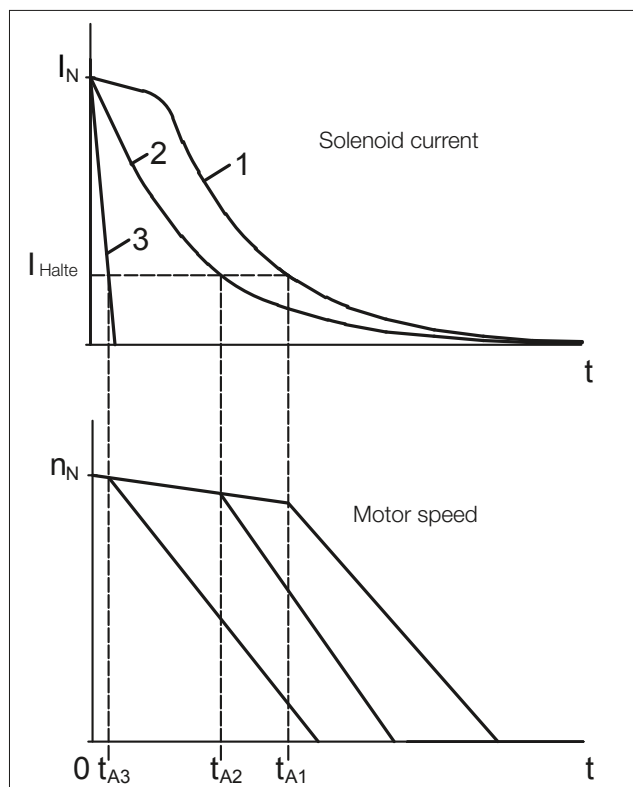


Figure 3: Idealised coil current and motor speed curves after switching off power on the AC side (1 and 2) or DC side (3)

If the circuit is interrupted on the DC side, a high voltage u_q is induced by the electromagnet coil. The magnitude of this voltage depends on the inductance L of the coil and the switch-off speed di/dt according to the formula

$$u_q = L \cdot \frac{di}{dt}$$

Due to the winding design, the inductance L increases with increasing rated coil voltage. Consequently, the voltage spikes induced at switch-off can reach hazardous levels with relatively high coil voltages. For this reason, a varistor is included in the circuit for all brakes with voltages greater than 24 V.

This varistor is solely intended to protect the electromagnet coil; it is not intended to protect adjacent electronic components or devices against electromagnetic interference. On request, brakes with rated voltages of 24 V or less can also be fitted with a varistor.

If the circuit is interrupted on the DC side by a mechanical switch, the resulting arcing over the switch contacts causes strong erosion of the contacts. For this reason, only special DC contactors or adapted AC contactors with contacts rated for use class AC3 as specified in EN 60947-4-1 may be used.

Specifications of holding brakes with emergency stop capability

The maximum allowable friction energy values stated here do not apply to brake motors for use in areas with potentially explosive atmospheres.
Refer to separate data in appropriate documents for explosion-proof drives.

Type	M _{Br} [Nm]	W _{max} [10 ³ J]	W _{th} [10 ³ J]	W _L [10 ⁶ J]	t _A [ms]	t _{AC} [ms]	t _{DC} [ms]	P _{el} [W]	J [10 ⁻³ kgm ²]
E003B9	3	1.5	-	-	35	150	15	20	0.01
E003B7	2.2	1.8	-	-	28	210	20		
E003B4	1.5	2.1	-	-	21	275	30		
E004B9	5	2.5	-	-	37	125	15	30	0.017
E004B8	4	3	-	-	30	160	18		
E004B6	2.8	3.6	-	-	23	230	26		
E004B4	2	4.1	-	-	18	290	37		
E004B2	1.4	4.8	-	-	15	340	47		
ES/EH010AX	15*	3	-	-	110	-	30	35	0.045
ES/EH010A9	10	3	-	-	60	100	15		
ES/EH010A8	8	3	-	-	55	150	20		
ES/EH010A5	5	3	-	-	45	220	20		
ES/EH010A4	4	3	-	-	30	250	20		
ES/EH010A2	2.5	3	-	-	25	350	25	50	0.172
ES027AX	32*	2.5	-	-	80	-	30		
ES/EH027A9	27	2.5	-	-	120	100	15		
ES/EH027A7	20	2.5	-	-	100	130	20		
ES/EH027A6	16	2.5	-	-	80	170	25		
ES/EH040A9	40	3.5	-	-	100	100	20	65	0.45
ES/EH040A8	34	3.5	-	-	80	200	25		
ES/EH040A7	27	3.5	-	-	70	250	30		
ES/EH070AX	90*	3.5	-	-	120	-	40	85	0.86
ES/EH070A9	70	3.5	-	-	120	150	18		
ES/EH070A8	63	3.5	-	-	120	200	20		
ES/EH070A7	50	3.5	-	-	90	220	25		
ES/EH125A9	125	4.5	-	-	170	220	25	105	1.22
ES/EH125A8	105	4.5	-	-	150	320	28		
ES/EH125A7	85	4.5	-	-	135	350	30		
ES/EH125A6	70	4.5	-	-	120	440	35		
ES125A5	57	4.5	-	-	100	600	40		
ES125A3	42	4.5	-	-	90	700	45	105	2.85
ES/EH200A9**	200	8	-	-	400	150	22		
ES/EH200A8**	150	8	-	-	280	250	35		
ES/EH200A7**	140	8	-	-	200	320	35	135	6.65
ES250A9**	250	9	-	-	300	500	45		
ES250A8**	200	9	-	-	200	960	60		
ES250A6**	150	9	-	-	160	1100	60		
ES250A5**	125	9	-	-	150	1500	90		
ES250A4**	105	9	-	-	130	1800	110	75	5.7
ZS300A9**	300	8	-	-	280	220	35		
ZS300A8**	250	8	-	-	210	380	45		
EH400A9**	400	10	-	-	300	600	60	180	19.5
EH400A7**	300	10	-	-	200	850	75		
EH400A5**	200	10	-	-	150	1400	85	100	13.3
ZS500A9**	500	9	-	-	320	320	50		
ZS500A8**	400	9	-	-	260	600	60		

* Requires overexcitation; permissible only with MSG rectifier

** Cannot be combined with PMSM motors of the S series

Braking torque tolerance: -10 / +30 %

W_{th} and W_L are not specified because little or no braking energy is dissipated by holding brakes when they are used as intended.

For versions with braking torque marked with *, which may only be used with an MSG rectifier, the values of t_A and t_{DC} apply to operation with an MSG rectifier; i.e. t_A for overexcitation or t_{DC} for electronic circuit interruption on the DC side.

Due to the effects of operating temperature and manufacturing tolerances, actual response times may differ from the guideline values listed here.

Key to symbols

M_{Br}	Rated braking torque
W_{max}	Maximum allowable friction energy for an emergency stop with a holding brake
W_{max}	Maximum allowable friction energy for each brake cycle with working brakes
W_{th}	Maximum allowable braking energy per hour
W_L	Maximum allowable braking energy until maintenance; i.e. brake disc replacement or air gap adjustment. Air gap adjustment is possible only with type ZSxxx brakes.
HL	Manual release
t_A	Response time for release with normal excitation. Overexcitation with a type MSG special rectifier reduces the response time by approximately 50 %.
t_{AC}	Response time for brakes with AC-side switch-off, i.e. by switching off the supply voltage to a separately powered standard rectifier. If the supply voltage for the rectifier is taken from the motor terminals, considerably longer response times should be expected (depending on the motor size and winding design).
t_{DC}	Response time for braking with DC-side circuit interruption by a mechanical switch. In the case of electronic circuit interruption on the DC side by a type ESG or MSG special rectifier, the response times will be approximately two to three times as long.
P_{el}	Electromagnet coil power consumption at 20 °C. Depending on the rated voltage of the coil, the actual power may differ from the guideline value stated here.
J	Moment of inertia of the drive bush and brake disc(s)

Motor Mounted Components

Brake

Connection

The electrical connections to the brake are made in the motor terminal box using terminals or the rectifier. Standard voltages:

380–420 V 50/60 Hz (brake coil voltage 180 V DC)

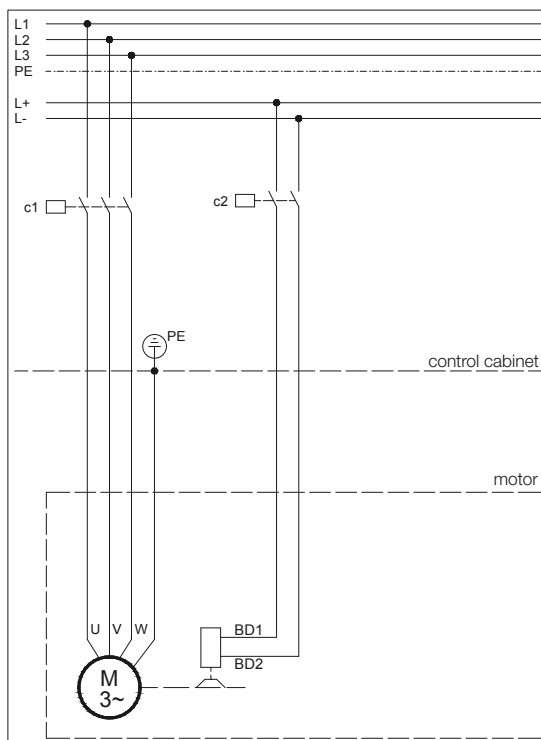
220–230 V 50/60 Hz (brake coil voltage 105 V DC)

24 V DC (brake coil voltage 24 V DC)

Other voltages are available at additional cost.

DC connection via terminals (K)

The brake must be connected via separate terminals in the motor or brake terminal box directly to the DC voltage. The standard voltages are 180 V DC, 105 V DC and 24 V DC. Brakes with other operating voltages are available at additional cost.



Standard rectifier (S)

Working principle

Half-wave rectifier with switch contacts for DC-side circuit interruption

Input voltage U_1

max. 575 VAC +5 %

Output voltage

$0.45 \times U_1$ VDC

Max. output current

2.5 A DC

Ambient temperature

-40 to +40 °C

Connection

Caged Clamp terminals with clamp lever

Clampable conductor cross-section

max. 1.5 mm² without wire end sleeve

max. 1.5 mm² with wire end sleeve

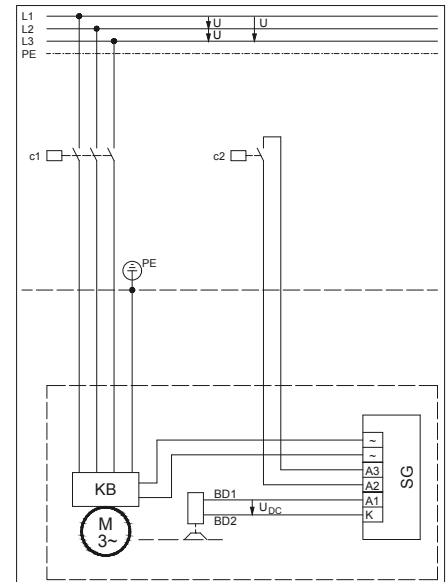
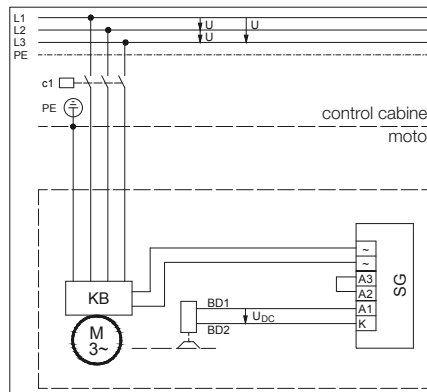
Approvals

c-CSA-us

c-UL-us (only in combination with B2000 geared

motors and brakes in the ES(X) or ZS(X) product series

The brake must be connected to the AC supply via the standard rectifier in the motor terminal box or brake terminal box. The standard voltages are 380 ... 420 V 50/60 Hz or 220 ... 230 V 50/60 Hz. Other voltages up to 575 V are available at extra cost. In a configuration with standard rectifier, the brake circuit can be interrupted by an extra contact on the d.c. side in order to reduce the response time. This significantly reduces the braking time and overtravel distance.



Voltage connection for the rectifier from the motor terminal block or cage clamp (see Rectifier Connection on Motor Terminal Block or Cage Clamp)

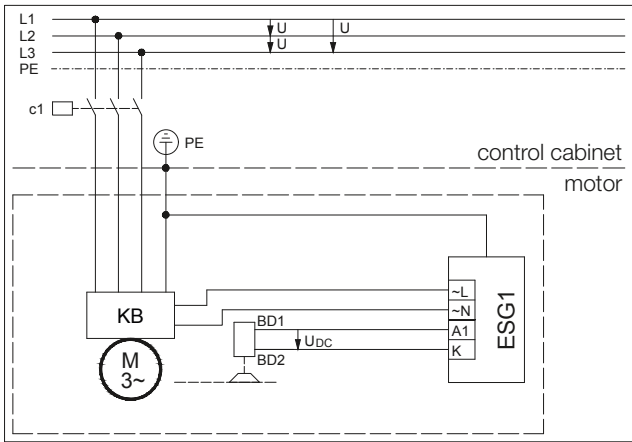
Motor Mounted Components

Brake

Rectifier for electronic rapid shutdown (E)

Working principle	Half-wave rectifier with electronic DC-side circuit interruption
Input voltage U_1	220–460 V AC $\pm 5\%$, 50/60 Hz
Output voltage	$0.45 \times U_1$ V DC
Max. output current	1 A DC
Ambient temperature	-20 °C to +40 °C
Clampable conductor cross-section	max. 1.5 mm ²

This rectifier permits electronic DC-side interruption of the brake circuit. No additional cable to the rectifier is necessary. The rectifier is supplied complete with a protective resistor which prevents a mains short-circuit via the shutdown arc of the high-speed motor contactor. Brake response times are significantly shorter than those achievable by AC-side interruption of the brake circuit. They are, however, longer than those achievable with DC-side interruption by a mechanical switch. The brake must be connected to the alternating current via the rapid shutdown rectifier in the motor terminal box or the brake terminal box. The standard voltages are 380 ... 420 V 50/60 Hz or 220 ... 230 V 50/60 Hz. Other voltages up to 460 V are available at extra cost.

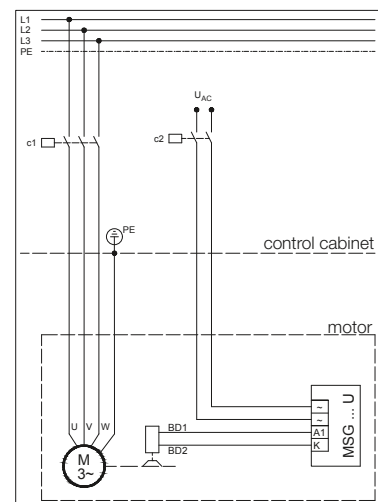
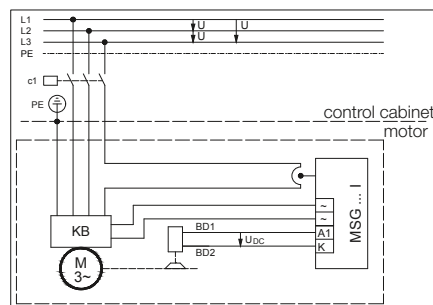


Voltage connection for the rectifier from the motor terminal block or cage clamp (see Rectifier Connection on Motor Terminal Block or Cage Clamp)

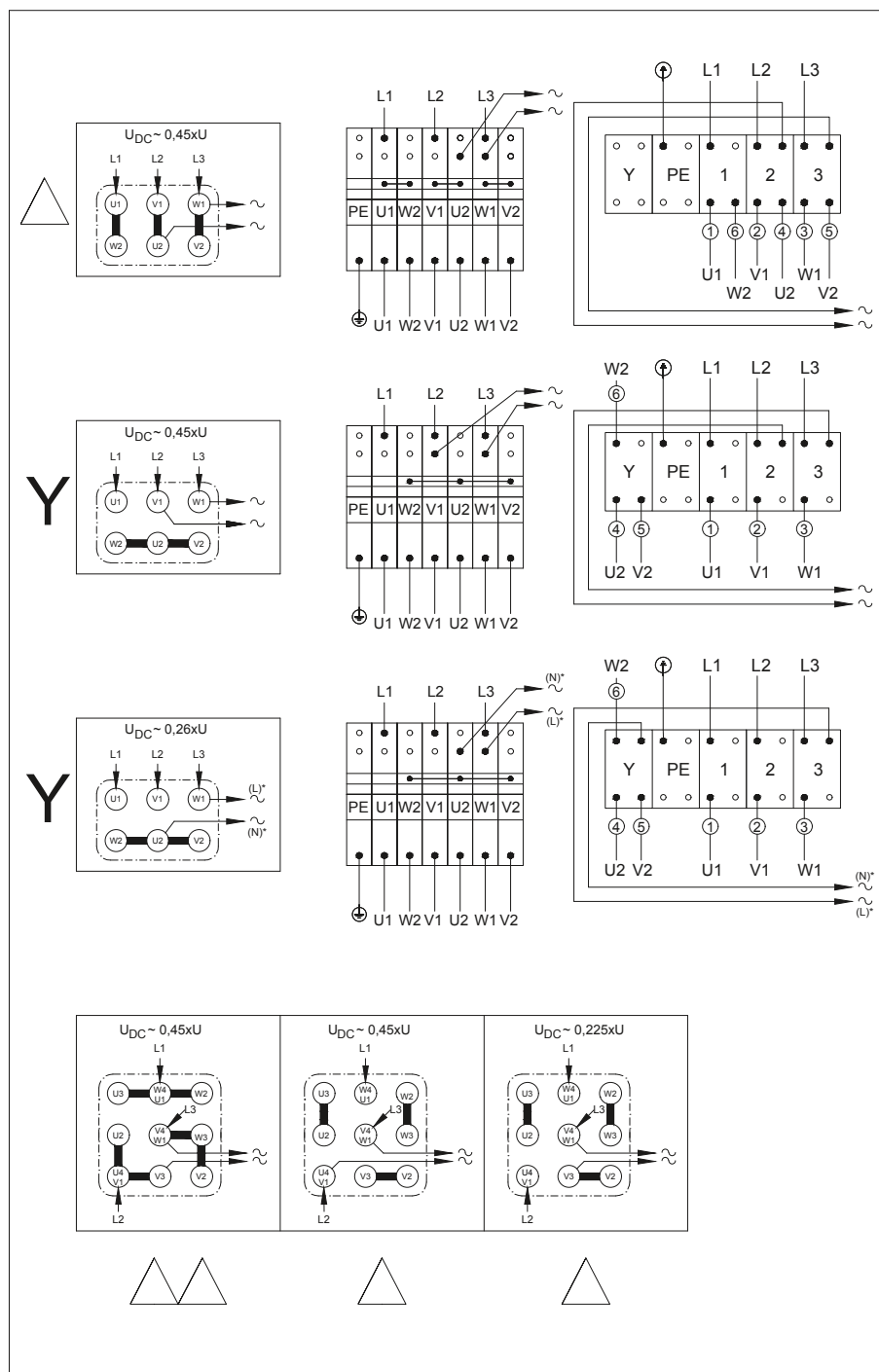
Rectifier for overexcitation and rapid shutdown (M)

Working principle	MSG 1.5.480I Half-wave rectifier with time-limited overexcitation and electronic DC-side circuit interruption Fast shutdown due to no motor current in one phase
Input voltage U_1	220–480 V AC +6 / -10 %, 50/60 Hz
Output voltage	0.9 x U_1 V DC during overexcitation 0.45 x U_1 V DC over overexcitation period
Overexcitation time	0.3 s
Max. output current	1.5 A DC
Ambient temperature	-20 °C to +40 °C
Clampable conductor cross-section	max. 1.5 mm ²
Working principle	MSG 1.5.500U Half-wave rectifier with time-limited overexcitation and electronic DC-side circuit interruption Fast shutdown due to the absence of input voltage
Input voltage U_1	220–500 V AC ±10 %, 50/60 Hz
Output voltage	0.9 x U_1 V DC during overexcitation 0.45 x U_1 V DC over overexcitation period
Overexcitation time	0.3 s
Max. output current	1.5 A DC
Ambient temperature	-20 °C to +40 °C
Clampable conductor cross-section	max. 1.5 mm ²

In cases where there are high motor switching frequencies, the brake can be de-energised more rapidly with this rectifier thereby significantly reducing the thermal stress on the motor. In addition, interrupting the brake's DC circuit by electronic means significantly reduces response times. Depending on the circumstances in which they are to be used, either the MSG 1.5.500 U (rapid shutdown brought about by removed supply voltage) or MSG 1.5.480 I (rapid shutdown brought about by removed motor current in a phase) is used. Power supply 220 to 480 V AC.



Rectifier Connection on Motor Terminal Block or Cage Clamp



Brake connection, operation with frequency converter	The voltage present at the motor terminal block when operating with a frequency converter is frequency-dependent. Brakes require a constant voltage, so they need a seperate electrical connection. This is the reason why the brake is not connected to the motor terminals ex- works.
Brake connection, pole-changing motors	The brakes of pole-changing motors need a seperate electrical connection. As is the case with motors for operation with frequency inverters, the brake is not connected to the motor terminals ex-works.
Manual release (HA, HN)	All brakes are available with mechanical manual release on request. Non-latching manual release is the standard version (HN). A latching manual release (HA) can be supplied if required for all brake sizes.
Explosion protection	Brakes for use in hazardous areas are subject to special regulations. Please consult our support specialists in these special cases.
Back stop (RR, RL)	Motors of size D..08.. to D..11.. are available with backstop. The locking rotational direction clockwise (RR) or anticlockwise (RL) is to given in the order. The reference is the connection side of the gearbox. Should the connection side not be clearly defined, gearbox side "V" (front) will be assumed (see chapter 10 Dimensions drawing "Motor with back stop"). Note that the back-stop functionality on a motor operating with a frequency converter is guaranteed only at rotor speeds above 740/min. It is advisable to consult BAUER for applications in corrosive atmospheres, especially for motor-down installed positions.

Motor Mounted Components

Brake

Second motor shaft extension (ZW, ZV) The motors are also available on request with a second motor shaft extension in design ZW (shaft with key) or ZV (shaft with square end).

Half the central motor's rated power is available at each of the two shafts. Permissible radial loads available on request. Guards are not included in the scope of supply (for dimensional drawing see chapter Motor Mounted Components - Dimensions).

Motors with brakes are available on request with a second shaft stub extended through the brake.

Protective fan cowl (D) A protective hood over the fan cowl is recommended for outdoor installations where the motor is pointing upward and subject to severe or prolonged exposure to water (dimensional drawing, see chapter Motor Mounted Components - Dimensions).

This protective hood is mandatory for upright explosion-proof motors.

A special fan cowl for the textiles industry is available on request at extra cost. This design prevents airborne fibres and fluff clogging the fan cowl.

Motor-independent fan (FV) For special applications, standard motors and brake motors of size D..08.. and larger are available with externally mounted motor-independent fans. The standard line voltage of the motor-independent fan matches the voltage of the geared motor (dimensional drawing for motor-independent fan, see chapter Motor Mounted Components - Dimensions).

The independent fans are supplied as standard with Bayonet-fitting for standard motors size D..11.. .

Technical Data:
Multivolt Conception Running capacitor for single phase duty enclosed as standard.

Technical Data Motor-independent fan

Mode	Frame size	Blower Diameter [mm]	Range of voltage		max. permissible current		max. power input	
			[V]		[A]		[W]	
			50 Hz	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz
1 ~ 1 (Δ)	63	118	230-277	230-277	0.18	0.21	46	54
	71	132	230-277	230-277	0.18	0.21	48	56
	80	150	230-277	230-277	0.19	0.22	48	59
	90	169	220-277	220-277	0.29	0.23	59	61
	100	187	220-277	220-277	0.29	0.28	62	73
	112	210	220-277	220-277	0.27	0.36	64	88
	132	250	230-277	230-277	0.52	0.61	125	163
	160-200	300	230-277	230-277	1.05	1.52	246	390
3 ~ Y	63	118	346-525	380-575	0.09	0.08	28	29
	71	132	346-525	380-575	0.09	0.07	29	28
	80	150	346-525	380-575	0.09	0.07	33	36
	90	169	346-525	380-575	0.22	0.18	78	71
	100	187	346-525	380-575	0.21	0.18	80	80
	112	210	346-525	380-575	0.2	0.17	87	93
	132	250	346-525	380-575	0.37	0.32	160	180
	160-200	300	346-525	380-575	0.74	0.62	314	391
3 ~ Δ	63	118	200-303	220-332	0.15	0.14	28	29
	71	132	200-303	220-332	0.15	0.13	29	28
	80	150	200-303	220-332	0.16	0.13	33	36
	90	169	200-303	220-332	0.39	0.32	78	71
	100	187	200-303	220-332	0.37	0.3	80	80
	112	210	200-303	220-332	0.35	0.29	87	93
	132	250	200-303	220-332	0.64	0.55	160	180
	160-200	300	200-303	220-332	1.28	1.08	314	391

Shaft encoder (G)

Bauer gear motors can be fitted with either an incremental encoder or an absolute encoder for special applications. Both the standard incremental encoder and the absolute encoder are optimised and suitable for use with all modern inverters.

Bauer standard encoders as from motor frame size D..05.. (0,18 kW) are protected against mechanical damage by means of a protective cover (Additional Dimension Sheet see Motor Mounted Components - Dimensions).

Special features: standard incremental encoder:

- Robust mount
- EMC-tested
- Protected against polarity reversal
- Supply voltage 8-30 V DC
- A-, B- and N-lines and inverted signals or output signals as preferred
- HTL output circuit (TTL on request)
- 1024 pulses per revolution

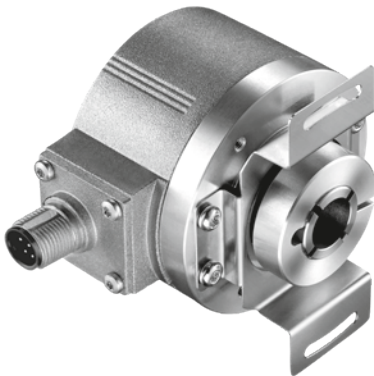
Special features: standard absolute encoder

- Steps per revolution: 8192 (13 Bit)
- Number of turns: 4096 (12 Bit) shaft turns
- Execution of electronic: SSI (Synchronous-Serial Interface)
- Output code: Gray-Code
- Supply voltage: 11-27 V DC
- Loss efficiency (no load): ≤ 3 Watt
- Output driver: RS-422 (2-wire)

Motor Mounted Components

Incremental rotary encoder

Functional description



Incremental encoders are used to determine motor shaft positions. An incremental encoder detects rotary motion and converts it into an electrical output signal. An encoder disc with a specific number of periods per rotation senses angular motion. The optoelectronic scanning unit generates signals and issues pulses after the signals have been processed in trigger stages. The resolution is defined by the number of opaque and clear segments on the encoder disc. For example, an encoder with 1024 lines will generate a sequence of 1024 pulses for one full rotation.

The combination of an incremental encoder and a frequency converter allows optimised solutions to be developed, such as

- speed controllers with a wide adjustment range
- accurate speed control
- constant-speed control
- position control

Supply voltage:	8–30 V DC with HTL 5 V DC with differential TTL
Output signals:	HTL A, B and N tracks; optional TTL
Pulses per revolution:	1024 Optional 1...65536
Enclosure rating:	IP65 (optional IP67)
Temperature range:	-40 °C to +100 °C

Electrical specifications

Output voltage	RS 422 (TTL compatible)	RS 422 (TTL compatible)	Differential	Differential (7272)
Supply voltage	5–30 V DC	5 V ±5%	8–30 V DC	5–30 V DC
No-load current consumption With inversion:	max. 70 mA	max. 70 mA	max. 70 mA	max. 70 mA
Allowable load per channel: Pulse rate:	max. ±20 mA max. 300 kHz	max. ±20 mA max. 300 kHz	max. ±20 mA max. 160 kHz	max. ±20 mA max. 160 kHz
High signal level:	min. 2.5 V	min. 2.5 V	min. UB – 3 V	min. UB – 3 V
Low signal level:	max. 0.5 V	max. 0.5 V	max. 1 V	max. 1 V

Plug end view with male pin insert

Connector type	8-pin M12 plug	12-pin M23 plug	MIL connector 10-pin
Layout			
Order code:	8.5000.XXX3.XXXX 8.5000.XXX4.XXXX	8.5000.XXX7.XXXX 8.5000.XXX8.XXXX	8.5000XXXY.XXXX
Mating 05.CMB-8181-0 connector:		8.0000.5012.0000	8.0000.5062.0000

Signal assignments

Signal:	0 V GND	+U _B	0 V Sens	+U _B Sens	A	A	B	B	Z	Z	Shield
M23 Multifast, 12-pin connector; pin assignments:	10	12	11	2	5	6	8	1	3	4	1)
M12 Eurofast, 8-pin connector; pin assignments:	1	2			3	4	5	6	7	8	1)
Military version; 10-pin connector; pin assignments:	F	D		E	A	G	B	H	C	I	J')
Cable; lead colour:	WH	BN	GY PK	RD BU	GN	YE	GY	PK	BU	RD	Shield

¹ Shield connected to plug housing.

Insulate unused outputs before putting into service.

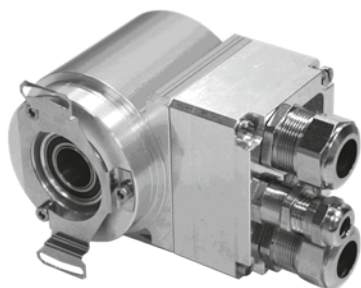
Motor Mounted Components

Incremental rotary encoder

Functional description

Absolute encoders detect both angular and rotational motions and convert them into electrical signals. In contrast to incremental encoders, with absolute encoders the current position is directly available. If an absolute encoder is moved mechanically while it is switched off, after the power is switched on again the current position can be read out immediately and directly. Absolute encoders are available in single-turn and multi-turn versions.

Profibus DP interface



Specifications

Supply voltage	11–27 VDC
No-load current consumption	< 350 mA
Total resolution ¹	≤ 33 bits
Number of steps per revolution, standard/extended ¹	≤ 8,192 / ≤ 32,768
Number of turns, standard/extended ¹	≤ 4,096 / ≤ 256,000
Profibus DP V0	IEC 61158, IEC 61784
PNO encoder profile	Class 1/Class 2
parameters ¹	Counting direction switchover, scaling function, etc.
Output code ¹	Binary, Gray, truncated Gray
Address	3–99, set using a rotary switch
Baud rate	9.6 kbit/s to 12 Mbit/s
TR-specific functions ¹	Gear and speed outputs
Data width on bus for actual position	≤ 25 bits
Permissible mechanical speed	≤ 12,000 rpm
Shaft load	Own mass
Bearing life	≥ 3.9 x 10 ¹⁰ revolutions at
- speed	≤ 6,000 rpm
- operating temperature	≤ 60 °C
Shaft diameter [mm]	10H7
Permissible angular acceleration	≤ 10 ⁴ rad/s ²
Moment of inertia	2.5 x 10 ⁻⁶ kg m ² (typical)
Start-up torque at 20 °C	2 Ncm (typical)
Weight	0.3–0.5 kg

1) Configurable parameter

Ambient conditions

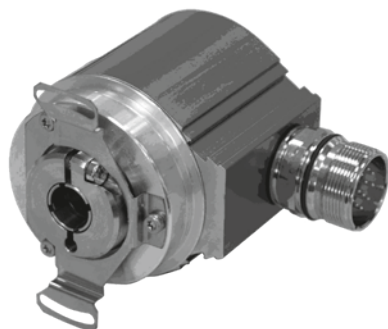
Vibration (EN 60068-2-6:1996)	≤ 100 m/s ² , sinusoidal 50–2,000 Hz
Shock (EN 60068-2-27:1995)	≤ 1000 m/s ² , half-cycle sinusoidal 11 ms
EMC	- Interference emission compliant with EN 61000-6-3:2007 - Interference immunity compliant with EN 61000-6-2:2006
Operating temperature	0 °C to +60 °C; optionally -20 °C to +70 °C
Storage temperature	-30 °C to +80 °C, dry
Relative humidity (EN 60068-3-4:2002)	98 %, non condensing
Enclosure rating (EN 60529:1991) ²	IP65

2 With mating connector fitted and/or cable glands fitted and tightened

Motor Mounted Components

Absolute rotary encoders

SSI interface



Specifications

Supply voltage	11–27 V DC
No-load current consumption	< 350 mA
Total resolution ¹	≤ 25 bits
Number of steps per revolution ¹	≤ 8,192
Number of rotations, standard ¹	≤ 4,096
Number of rotations, extended ¹	≤ 256,000
SSI	Synchronous Serial Interface
Clock input	Optocoupler
Data output	RS-422, 2-wire
Clock frequency	80 kHz – 1 MHz
Monostable time t_m	16 $\mu s \leq t_m \leq 25 \mu s$ (20 μs typical)
Output code ¹	Binary, Gray, BCD
Output format ¹	Standard, Tannenbaum, SSI + CRC, 26-bit cycle, variable number of data bits
Negative values ¹	Sign and magnitude, twos complement
SSI or parallel special bits ¹	Limit switch, overspeed, direction indication, motion indication, error indication, parity
F/R ¹	Counting direction
Preset ¹	Electronic alignment
Logic levels	“0” < +2 VDC; “1” = supply voltage
Permissible mechanical speed	≤ 12,000 rpm
Shaft load	Own mass
Bearing life	≥ 3.9 x 10 ¹⁰ revolutions at
- speed	≤ 6,000 rpm
- operating temperature	≤ 60 °C
Shaft diameter [mm]	10H7
Permissible angular acceleration	≤ 10 ⁴ rad/s ²
Moment of inertia	2.5 x 10 ⁻⁶ kg m ² (typical)
Start-up torque at 20 °C	2 Ncm (typical)
Weight	0.3–0.5 kg
Optional	
- incremental signals, RS422 levels	K1+, K1-, K2+, K2- with 1024 or 2048 pulses

¹⁾ Configurable parameter

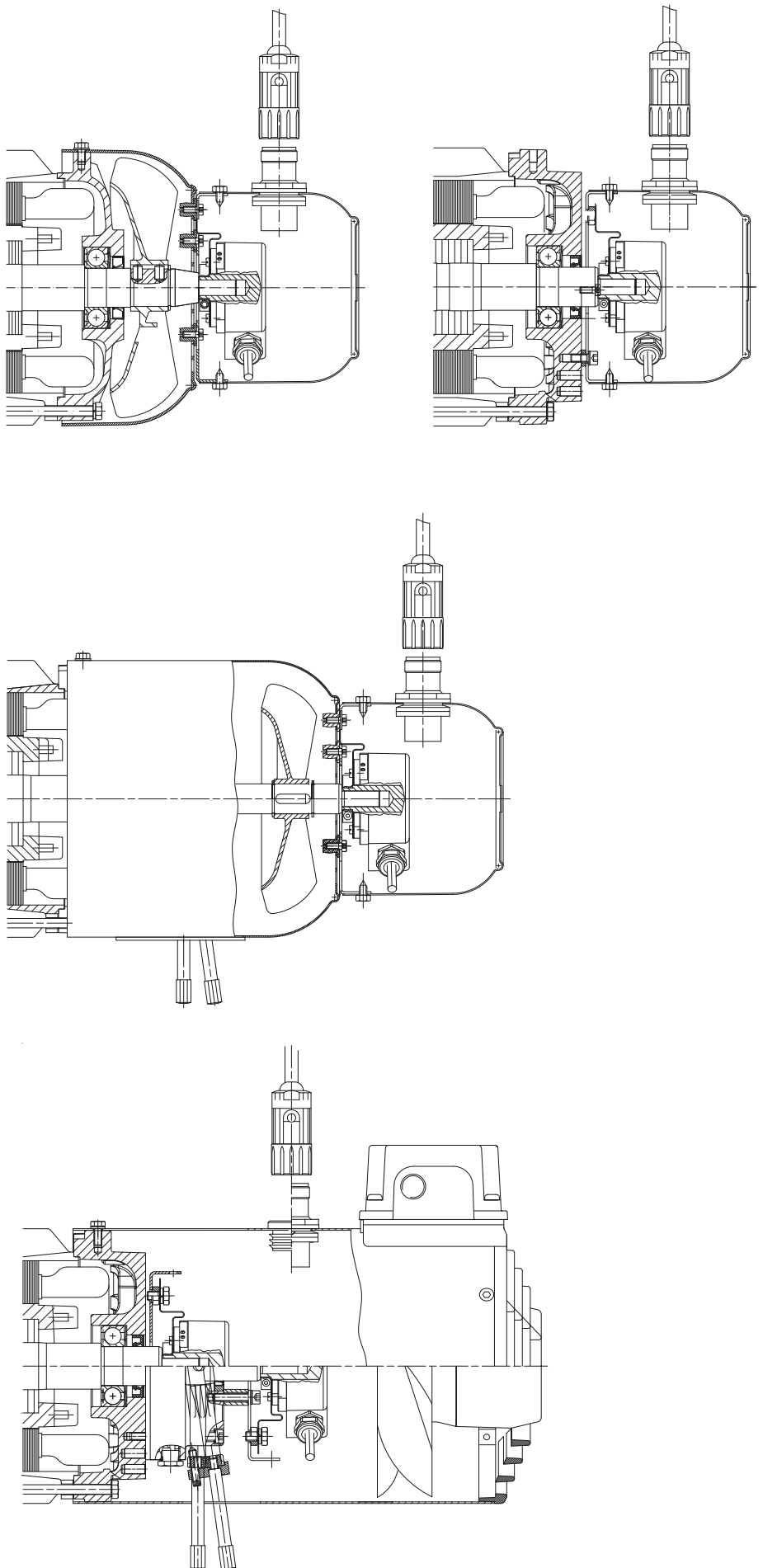
Ambient conditions

Vibration (EN 60068-2-6:1996)	≤ 100 m/s ² , sinusoidal 50–2,000 Hz
Shock (EN 60068-2-27:1995)	≤ 1000 m/s ² , half-cycle sinusoidal 11 ms
EMC	
- Interference emission compliant with EN 61000-6-3:2007	
- Interference immunity compliant with EN 61000-6-2:2006	
Operating temperature	0 °C to +60 °C; optionally -20 °C to +70 °C
Storage temperature	-30 °C to +80 °C, dry
Relative humidity (EN 60068-3-4:2002) 98 %, non condensing	
Enclosure rating (EN 60529:1991) ²⁾	IP65

²⁾ With mating connector fitted and/or cable glands fitted and tightened

In addition to the angular position within a rotation, multiturn encoders detect multiple rotations. An internal reduction gear mechanism connected to the motor shaft is used to detect the number of turns. Consequently, the value measured by a multiturn encoder consists of the current angular position and the number of turns. As with incremental encoders, the reading is calculated and output via various interface modules, depending on the interface.

On request, a large range of motor frames can be fitted with sensor bearings. The output signal from the sensor allows the direction of rotation to be determined, among other things. The number of possible pulse counts depends on the frame size. Please enquire for more information.



Energy Efficient Geared Motors

Electric overhead conveyors series BM



14

BAUER global

BAUER global	253
North America.....	255
Latin America.....	256
Europe	257
Eastern Europe	261
Middle East & Africa.....	262
APAC.....	264
China	265

		North America				
Canada	Bauer GMC	4020B Sladeview Crescent, Unit 5 L5L 6B1 Mississauga	Phone Fax	+1 (905) 814 5152 +1 (905) 814 5153	www.bauergmc.com	
United States	Bauer Gear Motor LLC.	701 Carrier Drive NC 28216 Charlotte	Phone Fax	+1 (800) 3870130 +1 (732) 4698773	gm.bauerus@regalrexnord.com www.bauergears.com	

 Latin America 					
Belize	Transmisiones S.A.S	Cra. 69 B No. 21 A - 24 77158 Bogota / Colombia	Phone Fax	+57 (601) 9142177	info@transmisiones.de www.transmisiones.de
Bolivia	Transmisiones S.A.S	Cra. 69 B No. 21 A - 24 77158 Bogota / Colombia	Phone Fax	+57 (601) 9142177	info@transmisiones.de www.transmisiones.de
Brazil	MKN Acionamentos LTDA	Rua Marco Gagliano 264 Americanópolis 04412-120 São Paulo-SP	Phone Fax	+55 (11) 56215574 +55 (11) 56211406	mkn.aciona@terra.com.br
Brazil	RPN BRASIL LTDA	Rua Celinda Antonia, Quaino Santa Rosa 200-Salao 10, Jardim Luciane SP-1347-225 Americana	Phone Fax	+55 (19) 3601-4973	comercial@rpnbrasil.com.br
Chile	Ducasse Comercial	Av. Libertador Bdo. O'Higgins 1460 Santiago-Chile	Phone Fax	+56 (2) 23557000	contacto@ducasse.cl www.ducasse.cl
Colombia	Transmisiones S.A.S	Cra. 69 B No. 21 A - 24 77158 Bogota	Phone Fax	+57 (601) 9142177	info@transmisiones.de www.transmisiones.de
Costa Rica	Transmisiones S.A.S	Cra. 69 B No. 21 A - 24 77158 Bogota / Colombia	Phone Fax	+57 (601) 9142177	info@transmisiones.de www.transmisiones.de
Cuba	Transmisiones S.A.S	Cra. 69 B No. 21 A - 24 77158 Bogota / Colombia	Phone Fax	+57 (601) 9142177	info@transmisiones.de www.transmisiones.de
French Guiana	Transmisiones S.A.S	Cra. 69 B No. 21 A - 24 77158 Bogota / Colombia	Phone Fax	+57 (601) 9142177	info@transmisiones.de www.transmisiones.de
Guatemala	Juan Niemann & Cia. Ltda.	Apartado Postal 290 C/Mariscal Cruz, C.A. Guatemala Ciudad, C.A.	Phone Fax	+502 (331) 5454 +502 (334) 7453	jcnemann@jcnemann.com www.jcnemann.com/motorreductores
Guyana	Transmisiones S.A.S	Cra. 69 B No. 21 A - 24 77158 Bogota / Colombia	Phone Fax	+57 (601) 9142177	info@transmisiones.de www.transmisiones.de
Honduras	Transmisiones S.A.S	Cra. 69 B No. 21 A - 24 77158 Bogota / Colombia	Phone Fax	+57 (601) 9142177	info@transmisiones.de www.transmisiones.de
Mexico	Opeasa-Zugastek	2 Poniente 3102A Col. Amor 72140 Puebla	Phone Fax	+52 (222) 4036242	info@zugastek.com www.zugastek.com
Nicaragua	Transmisiones S.A.S	Cra. 69 B No. 21 A - 24 77158 Bogota / Colombia	Phone Fax	+57 (601) 9142177	info@transmisiones.de www.transmisiones.de
Panama	Transmisiones S.A.S	Cra. 69 B No. 21 A - 24 77158 Bogota / Colombia	Phone Fax	+57 (601) 9142177	info@transmisiones.de www.transmisiones.de
Paraguay	Transmisiones S.A.S	Cra. 69 B No. 21 A - 24 77158 Bogota / Colombia	Phone Fax	+57 (601) 9142177	info@transmisiones.de www.transmisiones.de
Peru	Transmisiones & Servicios S.A.C.	Alcanfores 981. of 601. 18 Miraflores - Lima	Phone Fax	+51 (1) 242 0862 +51 (1) 242 086221	info@transmisiones.pe www.transmisiones.pe
Uruguay	Tradinter S.R.L	Pereira de la luz 1327 11300 Montevideo	Phone Fax	+598 (2) 6221130 +598 (2) 6284691	
Venezuela	EMOTEC S.A.	Calle Johann Schafer, Edif. FHT, Piso 1, Oficina 1, Urb. Buena Vista, Caracas-Venezuela Urb. Sabana Grande Caracas	Phone Fax	+58 (212) 2715261 +58 (212) 2711838	ventas@emotecs.com www.emotecs.com

 Europe 					
Andorra	TEM S.L. Bauer Gear Center for Spain and Portugal	Transmisiones Electromecánicas, Pol. Industrial Les Comes Calle Italia 11 Nave 9 08700 Igualada (Barcelona) / Spain	Phone Fax	+34 (93) 8056021 +34 (93) 8056022	info@tem-sl.com www.tem-sl.com
Austria	ESKO Elektromaschinenbau GmbH	Ankerweg 8 8753 Fohnsdorf	Phone Fax	+43 (3573) 27570 +43 (3573) 27570-4	office@esko.at www.esko.at
Austria	Mangold Elektromaschinen GmbH	Holzriedstr. 33 6960 Wolfurt	Phone Fax	+43 (5574) 64072-0 +43 (5574) 64072-9	info@mangoldgmbh.at www.mangoldgmbh.at
Austria	BIS Chemserv GmbH	Bau 28 St. Peter-Str. 25 Postfach 750 4021 Linz	Phone Fax	+43 (732) 69172278 +43 (732) 69173322	+43 (732) 69172278 +43 (732) 69173322
Austria	BIS Chemserv GmbH	Haiminger-Str. 1 84489 Burghausen / Germany	Phone Fax	+49 (867) 7977507 +49 (867) 7977510	www.chemserv.at
Belgium	Regal Beloit Belgium NV c/o Bauer Gear Motor Europe GmbH	Heiveldekens 16 2250 Kontich	Phone Fax	+32 (0) 479221587	customer@regalrexnord.com www.bauergears.com
Belgium	emr NV/SA	Kruisstraat 61 C 9930 Lievegem	Phone Fax	+32 (9) 2515956 +32 (9) 2515891	emr@nvemr.be www.nvemr.be
Bosnia and Herzegovina	Indas Industry Assistance d.o.o.	Heroja Pinkija 95 YU-21000 Novi Sad Serbia and Montenegro	Phone Fax	+381(21) 4804800 +381(21) 4804808	office@indas.rs www.indas.rs
Bulgaria	NASA - D Ltd.	kv. Mladost IV bl.602, vh.1 (In front of Business Park Sofia) 1715 Sofia	Phone Fax	+359 (2) 9755065 +359 (2) 9755067	office@nasa-d.com www.nasa-d.com
Bulgaria	NASA - D Ltd.	12, Bitolya str. 9002 Varna	Phone Fax	+359 (52) 605995 +359 (52) 600498	varna@nasa-d.com www.nasa-d.com
Croatia	TALER ING d.o.o.	Jelovška cesta 43A 4264 Bohinjska Bistrica / Slovenia	Phone Fax	+386 (4) 5747128 +386 (4) 5747129	info@taler-ing.si www.taler-ing.si
Cyprus	Drivetech e.p.e.	Chrysostomou Smyrnis 124 18345 Moschato / Greece	Phone Fax	+30 (210) 7233318 +30 (210) 7233357	info@drivetech.gr www.drivetech.gr
Czech Republic	Jan Komárek-HMF	Sturova 15 415 02 Teplice	Phone Fax	+420 (417) 565616 +420 (417) 564455	tomas.abraham@navijama-hmf.cz www.navijama-hmf.cz
Czech Republic	Huber CS s.r.o.	Cihlarska 19 602 00 Brno	Phone Fax	+420 541215635 +420 541216835	doskocil@hubercs.cz www.hubercs.cz
Czech Republic	IHR Technika s.r.o.	Boleslavsk 902 29306 Kosmonosy	Phone Fax	+420 (326) 722716 +420 (326) 320119	Bauer@ihr-tech.cz www.ihr-tech.cz
Denmark	Elcor Sønderborg N A/S	Grundtvigs Allé 165-169 6400 Sønderborg	Phone Fax	+45 (73) 121212 +45 (73) 121213	info@elcor.dk www.elcor.dk
Estonia	TECHVITAS OÜ	Tartu road 80J, 10112 Tallinn	Phone Fax	+372 (56) 700702	info@techvitas.ee www.techvitas.ee
Finland	Bauer Gear Motor	PL 2 01901 Nurmijärvi	Phone Fax	+358 50 306 2559	customer@regalrexnord.com www.bauergears.com
Finland	Sähkö-Team Oy	Pulttitie 10 00880 Helsinki	Phone Fax	+358 (207) 862330 +358 (207) 862339	korjaamo@sahko-team.fi www.sahko-team.fi
Finland	Tornion Sähköpojat Oy	Raidekatu 29 95420 Tornio	Phone Fax	+358 (400) 222401 +358 (16) 446853	markku.rantapaa@sahkopojat.fi www.sahkopojat.fi
France	Avenel	1, rue Lucien Fromage BP 1 76160 Darnetal (Nord-Quest/Normandie)	Phone Fax	+33 (0) 235085353 +33 (0) 235085608	infos@avenel.fr www.avenel.fr
France	Diceep	17-19 Route Nationale 54 280 Nancy-Laneuvelette (Nord-Est)	Phone Fax	+33 (0) 383290343 +33 (0) 383214613	diceep@diceep.fr www.diceep.fr
France	LM Systèmes SARL	11 Avenue de la Madeleine 33170 Gradignan	Phone Fax	+33 (0) 556754607 +33 (0) 556879150	info@lmsystemes.com www.lmsystemes.com
France	TIMA Transmissions Mécaniques Industrielles des Alpes	33 rue du Béal ZI sud 38400 Saint-Martin-d'Hères	Phone Fax	+33 (0) 476244039 +33 (0) 476629658	b.majoux@tima.fr www.tima.fr
Germany	Bauer Gear Motor GmbH	Eberhard-Bauer-Straße 37 73734 Esslingen	Phone Fax	+49 (711) 3518 0 +49 (711) 3518 381	customer@regalrexnord.com www.bauergears.com

Europe					
					
Germany	Bär - Elektromaschinen	Hafenstraße 53 39340 Haldensleben	Phone Fax	+49 (3904) 65669 +49 (3904) 65669	info@baer-ema.de www.baer-ema.de
Germany	Beck Elektrotechnik	Nürnberger Str. 109 97076 Würzburg	Phone Fax	+49 (931) 20050 +49 (931) 2005200	info@beck-elektrotechnik.de www.beck-elektrotechnik.de
Germany	Boss - Steinlen Elektromaschinen + Pumpentechnik GmbH	Planetenfeldstraße 106 44379 Dortmund	Phone Fax	+49 (231) 9820220 +49 (231) 98202241	elektromaschinen@boss-gruppe.de www.boss-gruppe.de
Germany	Bühler & Sell Elektromotoren KG	Sprendlinger Landstr. 180 63069 Offenbach	Phone Fax	+49 (69) 423076 +49 (69) 423078	info@buehler-sell.de www.buehler-sell.de
Germany	Elektromaschinenbau Dipl.-Ing. Kögel & Ernst & Co. GmbH	Am Markbach 2 76547 Sinzheim	Phone Fax	+49 (7221) 50950 +49 (7221) 509527	info@koegel-ernst.de www.koegel-ernst.de
Germany	Elektrowerk Nordhausen Dipl.-Ing. G. Francke Elektromaschinenbau	An der Helme 14 99734 Nordhausen	Phone Fax	+49 (3631) 47950 +49 (3631) 479520	info@elektrowerk-nordhausen.de www.elektrowerk-nordhausen.de
Germany	EMS Elektromotoren GmbH	Gewerbegebiet Egelsee 15 93354 Siegenburg	Phone Fax	+49 (9444) 9760 +49 (9444) 976177	bauergear@ems-elektromotoren.de www.ems-elektromotoren.de
Germany	Fuchs Elektromaschinen- bau und Vertriebs GmbH	Kaiserstr. 4d 66133 Saarbrücken-Scheidt	Phone Fax	+49 (681) 98821690 +49 (681) 98821699	fuch@fuchs-sb.de www.elektromaschinenbau-fuchs.de
Germany	Greif GmbH Elektrotechnik	Mushardstraße 11 27570 Bremerhaven	Phone Fax	+49 (471) 31997 +49 (471) 303694	info@greif-elektrotechnik.de www.greif-elektrotechnik.de
Germany	Klebs & Hartmann GmbH & Co. KG	August-Heller-Str. 3 67065 Ludwigshafen	Phone Fax	+49 (621) 579000 +49 (621) 5790024	e-technik@klebs-hartmann.de www.klebs-hartmann.de
Germany	Wilhelm Kleeberg GmbH & Co. KG E-Motoren E-Werkzeuge	Graf-Zeppelin-Straße 5 24941 Flensburg	Phone Fax	+49 (461) 43054110 +49 (461) 43054114	info@kleeberg-fl.de www.kleeberg-fl.de
Germany	Mangold Elektro- maschinenbau GmbH	Lindauer Str. 116 88046 Friedrichshafen	Phone Fax	+49 (7541) 500622 +49 (7541) 500630	info@mangold-fn.de www.mangold-fn.de
Germany	Hans Mayer Elektro- technik GmbH	Simonshofer Str. 41 91207 Lauf a. d. Pegnitz	Phone Fax	+49 (912) 32041 +49 (912) 382661	info@hans-mayer-elektrotechnik.de www.hans-mayer-elektrotechnik.de
Germany	MoFra GmbH	Ringstr. 18 01468 Boxdorf	Phone Fax	+49 (351) 207680 +49 (351) 2076829	info@mofra.de www.mofra.de
Germany	Polzin Elektro- maschinenbau	Kunzestr. 20 04249 Leipzig	Phone Fax	+49(341)4250107 +49(341)4250108	info@polzin-elektromaschinenbau.de www.polzin-elektromaschinenbau.de
Germany	Rülke GbR Jens und Uwe Rülke	Austr. 36 08371 Glauchau	Phone Fax	+49 (3763) 5089 0 +49 (3763) 5089 29	info@ruelke-glauchau.de www.ruelke-glauchau.de
Germany	Sroczynski GmbH	Pferdestr. 24 48084 Osnabrück	Phone Fax	+49 (541) 588443 +49 (541) 588609	info@sroczynski.de www.sroczynski.de
Germany	Steinlen Elektro- maschinenbau GmbH	Ehlbeek 21 30938 Burgwedel	Phone Fax	+49 (5139) 80700 +49 (5139) 807060	info@steinlen.de www.steinlen.de
Germany	Steinlen Elektro- maschinenbau GmbH	Am Schiffbekerberg 18 22111 Hamburg	Phone Fax	+49 (40) 7320307 +49 (40) 7322228	info@steinlen.de www.steinlen.de
Germany	UAS Meßtechnik GmbH	Prof.-Hermann-Staudinger-Straße 4 94234 Viechtach	Phone Fax	+49 (9942) 94860 +49 (9942) 948610	info@uas.de www.uas.de
Germany	Velden GmbH	Frechener Str. 12 50226 Frechen-Habbelrath	Phone Fax	+49 (2234) 967670 +49 (2234) 9676729	info@velden-gmbh.de www.velden-gmbh.de
Greece	Drivetech e.p.e.	Chrysostomou Smyrnis 124 18345 Moschato	Phone Fax	+30 (210) 7233318 +30 (210) 7233357	info@drivetech.gr www.drivetech.gr
Greenland	Eegholm A/S	Grundtvigs allé 165-169 (Main office) Jyllandsgade 30, Hal 2 (Stock) 6400 Sønderborg / Denmark	Phone Fax	+45 (73) 121212 +45 (73) 121213	eegholm@eegholm.dk www.eegholm.dk
Hungary	Schorch Hungary Ltd. Industrial Site	Gyari Street 1 P.O. box 85 3580 Tiszaujvaros	Phone Fax	+36 (49) 440877 +36 (49) 440877	info@schorchhungaria.hu www.schorchhungaria.hu
Hungary	BC Ongroelektro. Kft.	Bolyai tér 1. 3702 Kazincbarcika (East Hungary)	Phone Fax	+36 (48) 511186 +36 (48) 712771	oth.tibor@borsodchem.hu
Italy	Bauer Gear Motor Europe GmbH	Viale Veneto 48 35020 Saonara (PD)	Phone Fax	+39 (49) 8792327 +39 (49) 8792327	customercare.eu@regalrexnord.com www.bauergears.com/it/
Italy	Ma.In s.n.c.	Via Pola, 8 I-10135 Torino	Phone Fax	+39 (11) 34733 25 +39 (11) 39133 56	dibello.e@ma-in.com www.ma-in.com

Europe					
					
Latvia	Techvitas SIA	Daugavas street 38-3 2167 Marupe (Riga)	Phone Fax	+371 (22) 325004	info@techvitas.lv www.techvitas.lv
Lithuania	Techvitas UAB	Dubysos str. 66A 94107 Klaipėda	Phone Fax	+370 (46) 355494	info@techvitas.lt www.techvitas.com
Luxembourg	Regal Beloit Belgium NV c/o Bauer Gear Motor Europe GmbH	Heiveldekens 16 2250 Kontich/Belgium	Phone Fax	+32 (0) 479221587	customercare.eu@regalrexnord.com www.bauergears.com
Macedonia	Indas Industry Assistance d.o.o.	Heroja Pinkija 95 21000 Novi Sad / Serbia and Montenegro	Phone Fax	+381 (21) 4804800 +381 (21) 4804808	office@indas.rs www.indas.rs
Netherlands	Regal Beloit Belgium NV c/o Bauer Gear Motor Europe GmbH	Heiveldekens 16 2250 KONTICH/Belgium	Phone Fax	+32 (0) 479221587	customercare.eu@regalrexnord.com www.bauergears.com
Netherlands	Facta Friesland BV	De Alde Mar 11 9035 VP Dronryp	Phone Fax	+31 (0)517 231232	friesland@facta.nl www.facta.nl
Netherlands	De Bruyn B.V.	Van Konijnenburgweg 105 4612 PL Bergen op Zoom	Phone Fax	+31 (164) 234302 +31 (164) 255140	repair@de-bruyn.nl www.de-bruyn.nl
Netherlands	Facta Spijkenisse	Röntgenweg 6 3208 KG Spijkenisse	Phone Fax	+31 (0)88 6000 300	spijkenisse@facta.nl www.facta.nl
Netherlands	Facta Zevenhuizen BV	Nijverheidscentrum 36 2761 JP Zevenhuizen	Phone Fax	31 (88) 7384702	zevenhuizen@facta.nl www.facta.nl
Netherlands	Facta Nederweert BV	Pannenweg 208 6031 RK Nederweert	Phone Fax	+31 (495) 634141	nederweert@facta.nl www.facta.nl
Netherlands	Facta Uitgeest BV	Westerwerf 11 1911 JA Uitgeest	Phone Fax	+31 (88) 6000200	uitgeest@facta.nl www.facta.nl
Netherlands	Facta Staphorst BV	Roelof Brinkstraat 3 7951 DW Staphorst	Phone Fax	+31 (88) 7384700	staphorst@facta.nl www.facta.nl
Netherlands	Facta Appingedam BV	Holepolder 1 9902 SM Appingedam	Phone Fax	+31 (88) 7384700	appingendam@facta.nl www.facta.nl
Norway	BAUER Gearmotorer AS	Postboks 221 2021 Skedsmokorset	Phone Fax	+47 (63) 875950	customercare.eu@regalrexnord.com www.bauergear.no
Poland	Steinlen Polska Sp. z o.o.	ul. W. Grabskiego 4/8 63-500 Ostrzeszów	Phone Fax	+48 (62) 7322352 +48 (62) 7322351	biuro@steinlenpolska.pl www.steinlenpolska.pl
Portugal	TEM S.L. Bauer Gear Center Transmisiones Electromecánicas, S.L	Pol. Industrial Les Comes Calle Italia 11 Nave 9 08700 Igualada (Barcelona) / Spain	Phone Fax	+34 (93) 8056021 +34 (93) 8056022	info@tem-sl.com www.tem-sl.com
Romania	BIBUS SES srl	Calea Lugojului 134/1 307200 Ghirada, Timis	Phone Fax	+40 (256) 200500	office@bibus.ro www.bibus.ro
Serbia and Montenegro	Indas Industry Assistance d.o.o.	Heroja Pinkija 95 21000 Novi Sad	Phone Fax	+381 (21) 4804800 +381 (21) 4804808	office@indas.rs www.indas.rs
Slovakia	Bauer Gear Motor Slovakia	Továrenská 49 953 36 Zlaté Moravce	Phone Fax	+421 (37) 6926158 +421 (37) 6926181	customercare.eu@regalrexnord.com www.bauergears.com
Slovakia	Transmisie Engineering a.s.	P. Mudrona 10 036 01 Martin	Phone Fax	+421 (43) 4133157	dps@transmisie.sk www.transmisie.sk
Slovenia	TALER ING d.o.o.	Jelovška cesta 43A 4264 Bohinjska Bistrica	Phone Fax	+386 (4) 5747128 +386 (4) 5747129	info@taler-ing.si www.taler-ing.si
Spain	TEM S.L. Bauer Gear Center Transmisiones Electromecánicas, S.L	Pol. Industrial Les Comes Calle Italia 11 Nave 9 08700 Igualada (Barcelona) / Spain	Phone Fax	+34 (93) 8056021 +34 (93) 8056022	info@tem-sl.com www.tem-sl.com
Sweden	BAUER Gearmotorer Sverige AB	Årjängsvägen 4 66693 Gustavsfors	Phone Fax	+46 (531) 20050 +46 (531) 20040	postmaster@bauergear.net
Switzerland	Küffer Elektro-Technik AG	Industrie Neuhof 31 3422 Kirchberg	Phone Fax	+41 (34) 4452626	info@ketag.ch www.ketag.ch
Switzerland	Electro-Müller AG	Industriestr. 25 2555 Brügg	Phone Fax	+41 (32) 3441010 +41 (32) 3441019	info@electro-mueller.ch www.electro-mueller.ch
United Kingdom	Bauer Gear Motor Limited	Unit1 Nat Lane Business Park CW7 3BS Winsford	Phone Fax	+44 (1606) 868600 +44 (1606) 868603	customercare.eu@regalrexnord.com www.bauergears.com
Armenia	Bauer Gear Motor GmbH	Eberhard-Bauer-Str. 37 73734 Esslingen / Germany	Phone Fax	+49 (711) 3518 0 +49 (711) 3518 381	customercare.eu@regalrexnord.com www.bauergears.com

 Europe 					
Azerbaijan	Bauer Gear Motor GmbH	Eberhard-Bauer-Str. 37 73734 Esslingen / Germany	Phone Fax	+49 (711) 3518 0 +49 (711) 3518 381	customercare.eu@regalrexnord.com www.bauergears.com
Georgia	Bauer Gear Motor GmbH	Eberhard-Bauer-Str. 37 73734 Esslingen / Germany	Phone Fax	+49 (711) 3518 0 +49 (711) 3518 381	customercare.eu@regalrexnord.com www.bauergears.com
Kazakhstan	Silumin-Vostok	Revolucionnaya st., 10 070010 Ust-Kamenogorsk	Phone Fax	+7 (7232) 558982 +7 (7232) 552058	info@silumin.kz
Ukraine	LLC Industrial Mechanics	Michurina str. 4 Dnepr	Phone Fax	+38 (099) 1194979	director@ind-mech.com www.ind-mech.com

 Eastern Europe 					
Armenia	Bauer Gear Motor GmbH	Eberhard-Bauer-Str. 37 73734 Esslingen / Germany	Phone Fax	+49 (711) 3518 0 +49 (711) 3518 381	customercare.eu@regalrexnord.com www.bauergears.com
Azerbaijan	Bauer Gear Motor GmbH	Eberhard-Bauer-Str. 37 73734 Esslingen / Germany	Phone Fax	+49 (711) 3518 0 +49 (711) 3518 381	customercare.eu@regalrexnord.com www.bauergears.com
Georgia	Bauer Gear Motor GmbH	Eberhard-Bauer-Str. 37 73734 Esslingen / Germany	Phone Fax	+49 (711) 3518 0 +49 (711) 3518 381	customercare.eu@regalrexnord.com www.bauergears.com
Kazakhstan	Silumin-Vostok	Revolucionnaya st., 10 070010 Ust-Kamenogorsk	Phone Fax	+7 (7232) 558982 +7 (7232) 552058	info@silumin.kz
Ukraine	LLC Industrial Mechanics	Michurina str. 4 Dnepr	Phone Fax	+38 (099) 1194979	director@ind-mech.com www.ind-mech.com

Middle East & Africa					
Bahrain	DRIVELINE GENERAL TRADING LLC	SHEIKH ZAYED RD, 602 AL MOOSA TOWER 1 392670 Dubai / United Arab Emirates	Phone Fax	+971 (04) 379 9901 +971 (04) 3799920	sales@drivelinegroup.com www.drivelinegroup.com
Bahrain	KUHNEZUG AG	C-1401, 14th Floor Ontario Tower Business Bay Dubai / United Arab Emirates	Phone Fax	+971 (4) 5722117 +971 (4) 2567 125	info@kuhnezugag.com www.kuhnezugag.ae
Botswana	Bearings International Pty (Ltd)	Lancaster Commercial Park, 12 Merlin Rose & Lancaster Ivy Drives, Parkhaven, Boksburg, 1459, South Africa	Phone Fax	+27 (11) 899 0000	info@bearings.co.za www.bearings.co.za
Ethiopia	DRIVELINE GENERAL TRADING LLC	SHEIKH ZAYED RD, 602 AL MOOSA TOWER 1 392670 Dubai / United Arab Emirates	Phone Fax	+971 (04) 379 9901 +971 (04) 3799920	sales@drivelinegroup.com www.drivelinegroup.com
Ethiopia	KUHNEZUG AG	C-1401, 14th Floor Ontario Tower Business Bay Dubai / United Arab Emirates	Phone Fax	+971 (4) 5722117 +971 (4) 2567 125	info@kuhnezugag.com www.kuhnezugag.ae
India	Bauer Gear Motor GmbH	Eberhard-Bauer-Str. 37 73734 Esslingen / Germany	Phone Fax	+49 (711) 3518 0 +49 (711) 3518 381	customercare.eu@regalrexnord.com www.bauergears.com
India	International Combustion (India) Ltd.	Infinity Benchmark, 11th Floor, Plot – G1, Block – EP & GP, Salt Lake Electronics Complex, 700 091 Kolkata	Phone Fax	+91 (33) 33153000 +91 (33) 23576653	info@internationalcombustion.in
Israel	Greenshpon Engineering Works Ltd.	Bar-Lev Industrial Park 20179 Misgav	Phone Fax	+972 (4)9913181 +972 (4)9913477	info@greenshpon-eng.com www.greenshpon-eng.com
Jordan	DRIVELINE GENERAL TRADING LLC	SHEIKH ZAYED RD, 602 AL MOOSA TOWER 1 392670 Dubai / United Arab Emirates	Phone Fax	+971 (04) 379 9901 +971 (04) 3799920	sales@drivelinegroup.com www.drivelinegroup.com
Jordan	KUHNEZUG AG	C-1401, 14th Floor Ontario Tower Business Bay Dubai / United Arab Emirates	Phone Fax	+971 (4) 5722117 +971 (4) 2567 125	info@kuhnezugag.com www.kuhnezugag.ae
Kuwait	DRIVELINE GENERAL TRADING LLC	SHEIKH ZAYED RD, 602 AL MOOSA TOWER 1 392670 Dubai / United Arab Emirates	Phone Fax	+971 (04) 379 9901 +971 (04) 3799920	sales@drivelinegroup.com www.drivelinegroup.com
Kuwait	KUHNEZUG AG	C-1401, 14th Floor Ontario Tower Business Bay Dubai / United Arab Emirates	Phone Fax	+971 (4) 5722117 +971 (4) 2567 125	info@kuhnezugag.com www.kuhnezugag.ae
Mozambique	Bearings International Pty (Ltd)	Lancaster Commercial Park, 12 Merlin Rose & Lancaster Ivy Drives, Parkhaven, Boksburg, 1459, South Africa	Phone Fax	+27 (11) 899 0000	info@bearings.co.za www.bearings.co.za
Namibia	Bearings International Pty (Ltd)	Lancaster Commercial Park, 12 Merlin Rose & Lancaster Ivy Drives, Parkhaven, Boksburg, 1459, South Africa	Phone Fax	+27 (11) 899 0000	info@bearings.co.za www.bearings.co.za
Oman	DRIVELINE GENERAL TRADING LLC	SHEIKH ZAYED RD, 602 AL MOOSA TOWER 1 392670 Dubai / United Arab Emirates	Phone Fax	+971 (04) 379 9901 +971 (04) 3799920	sales@drivelinegroup.com www.drivelinegroup.com
Oman	KUHNEZUG AG	C-1401, 14th Floor Ontario Tower Business Bay Dubai / United Arab Emirates	Phone Fax	+971 (4) 5722117 +971 (4) 2567 125	info@kuhnezugag.com www.kuhnezugag.ae
Qatar	DRIVELINE GENERAL TRADING LLC	SHEIKH ZAYED RD, 602 AL MOOSA TOWER 1 392670 Dubai / United Arab Emirates	Phone Fax	+971 (04) 379 9901 +971 (04) 3799920	sales@drivelinegroup.com www.drivelinegroup.com
Qatar	KUHNEZUG AG	C-1401, 14th Floor Ontario Tower Business Bay Dubai / United Arab Emirates	Phone Fax	+971 (4) 5722117 +971 (4) 2567 125	info@kuhnezugag.com www.kuhnezugag.ae
Saudi Arabia	DRIVELINE GENERAL TRADING LLC	SHEIKH ZAYED RD, 602 AL MOOSA TOWER 1 392670 Dubai / United Arab Emirates	Phone Fax	+971 (04) 379 9901 +971 (04) 3799920	sales@drivelinegroup.com www.drivelinegroup.com
Saudi Arabia	KUHNEZUG AG	C-1401, 14th Floor Ontario Tower Business Bay Dubai / United Arab Emirates	Phone Fax	+971 (4) 5722117 +971 (4) 2567 125	info@kuhnezugag.com www.kuhnezugag.ae
South Africa	Bearings International Pty (Ltd)	Lancaster Commercial Park, 12 Merlin Rose & Lancaster Ivy Drives, Parkhaven, Boksburg, 1459	Phone Fax	+27 (11) 899 0000	info@bearings.co.za www.bearings.co.za
Swaziland	Bearings International Pty (Ltd)	Lancaster Commercial Park, 12 Merlin Rose & Lancaster Ivy Drives, Parkhaven, Boksburg, 1459, South Africa	Phone Fax	+27 (11) 899 0000	info@bearings.co.za www.bearings.co.za
Syrian	DRIVELINE GENERAL TRADING LLC	SHEIKH ZAYED RD, 602 AL MOOSA TOWER 1 392670 Dubai / United Arab Emirates	Phone Fax	+971 (04) 379 9901 +971 (04) 3799920	sales@drivelinegroup.com www.drivelinegroup.com
Syrian	KUHNEZUG AG	C-1401, 14th Floor Ontario Tower Business Bay Dubai / United Arab Emirates	Phone Fax	+971 (4) 5722117 +971 (4) 2567 125	info@kuhnezugag.com www.kuhnezugag.ae
Turkey	CEFIP - Makina & Endüstriyel Ürünler San. ve Dis Tic. Ltd. Sti.	Perpa Ticaret Merkezi A Blok Kat: 2 No: 9-0033 34384 Okmeydanı - İstanbul	Phone Fax	+90 (212) 2101890 +90 (212) 2101597	cefip@cefip.com.tr www.cefip.com.tr
Turkey	CEFIP- Consulting & Engineering für Industrie-Produkte GmbH	Hamburger Str. 7 45889 Gelsenkirchen / Germany	Phone Fax	+49 (0209) 7308610	contact@cefip.de www.cefip.de

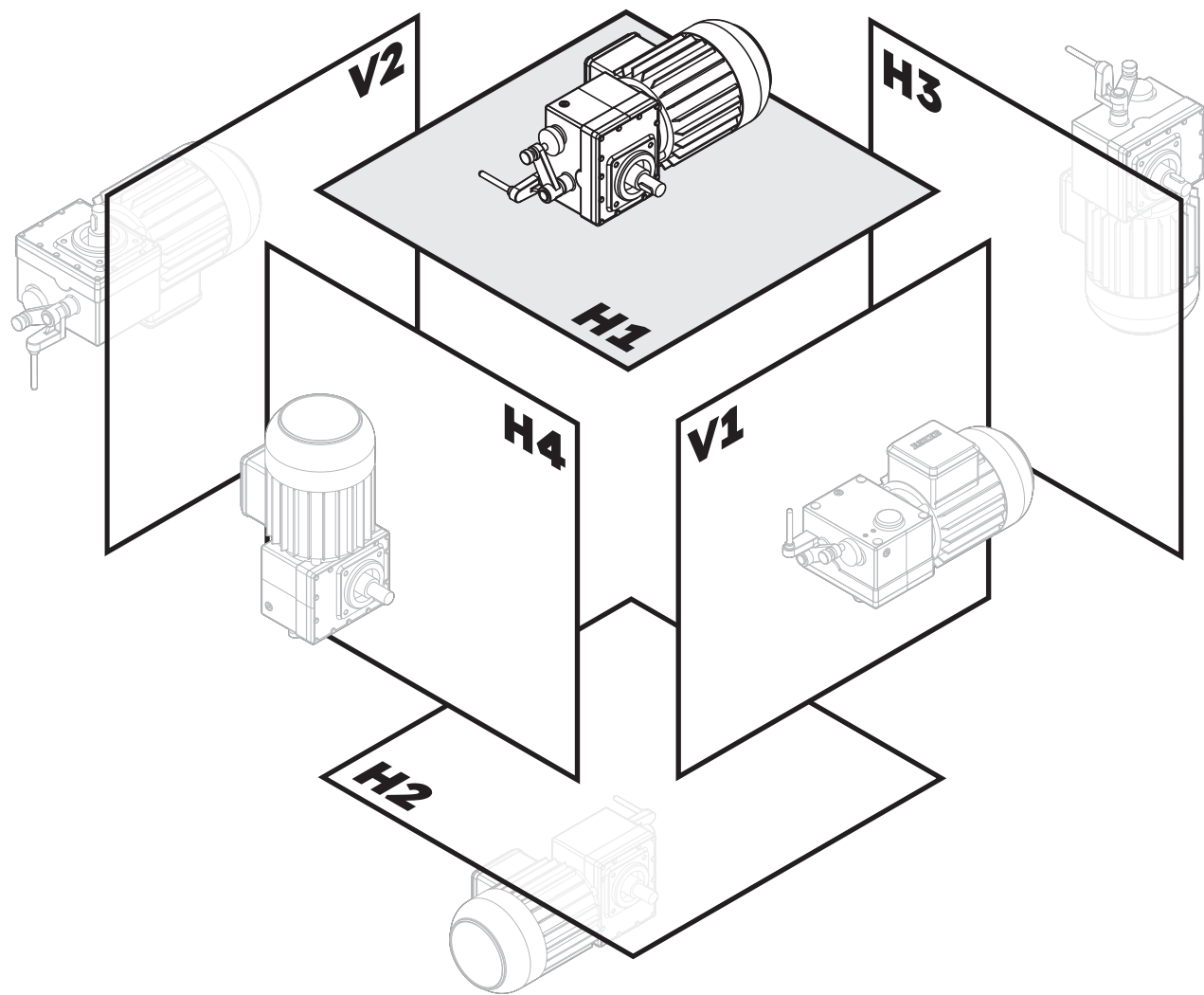
 Middle East & Africa 					
United Arab Emirates	DRIVELINE GENERAL TRADING LLC	SHEIKH ZAYED RD, 602 AL MOOSA TOWER 1 392670 Dubai	Phone Fax	+971 (04) 379 9901 +971 (04) 3799920	sales@drivelinegroup.com www.drivelinegroup.com
United Arab Emirates	KUHNEZUG AG	C-1401, 14th Floor Ontario Tower Business Bay Dubai	Phone Fax	+971 (4) 5722117 +971 (4) 2567 125	info@kuhnezugag.com www.kuhnezugag.ae
Yemen	DRIVELINE GENERAL TRADING LLC	SHEIKH ZAYED RD, 602 AL MOOSA TOWER 1 392670 Dubai / United Arab Emirates	Phone Fax	+971 (04) 379 9901 +971 (04) 3799920	sales@drivelinegroup.com www.drivelinegroup.com
Yemen	KUHNEZUG AG	C-1401, 14th Floor Ontario Tower Business Bay Dubai / United Arab Emirates	Phone Fax	+971 (4) 5722117 +971 (4) 2567 125	info@kuhnezugag.com www.kuhnezugag.ae
Zimbabwe	Bearings International Pty (Ltd)	Lancaster Commercial Park, 12 Merlin Rose & Lancaster Ivy Drives, Parkhaven, Boksburg, 1459, South Africa	Phone Fax	+27 (11) 899 0000	info@bearings.co.za www.bearings.co.za

 APAC 					
Australia	Altra Industrial Motion Pty Ltd	Unit 1, 11 Penny Place Arndell Park 2148 NSW (Sydney)	Phone Fax	+61 (2) 9622 1333 +62 (21)85517550	sales-australia@altramotion.com www.altramotion.com
Indonesia	PT. Indoaustra Utama	Sentrakota Blok F 17-18 17412 Jatibening, Bekasi	Phone Fax	+62 (21)85517550 +81 (3) 32721861 +81 (3) 32814490	info@indoastra-utama.com r-karasu@leybold-kk.com
Japan	Leybold Co., Ltd.	5th Floor, Tokyo Tatemono Bldg 1-9-9, Yaesu 1-Chome, Chuo-Ku 103-0028 Tokyo	Phone Fax	+81 (3) 32721861 +81 (3) 32814490	
Korea, Republic Of	Chemiko Trading Co. Ltd.	43,Teheran-ro 38-gil, Gangnam-gu 06222 Seoul	Phone Fax	+82 (2) 5675336 +82 (2) 5541284	chemiko@chemiko.net www.chemiko.net
Malaysia	Empower Drives and Automation Sdn Bhd	Lot 7792 Kg Baru Subang Seksyen U9 40150 Shah Alam 40150 Kuala Lumpur	Phone Fax	+60 (3) 7846 9196 +60 (0)3 7846 9180	choong@empowercorp.com.my www.empowercorp.com.my
Malaysia	Empower Drives and Automation Sdn Bhd	Lot 7792 Kg Baru Subang Seksyen U9 40150 Shah Alam 40150 Kuala Lumpur	Phone Fax	+60 (3) 7846 9196 +60 (0)3 7846 9180	choong@empowercorp.com.my www.empowercorp.com.my
Pakistan	MATCO Pvt. Ltd.	203 Second Floor, 18-D Mushtaq Mansion A.K.M Fazal-ul-Haq Road, Blue Area Islamabad	Phone Fax	+92 (51)2874941 3 +92 (51) 2874940	munem.jamil@matcopk.com www.matcopk.com
Philippines	Optima Equipment Corporation	G/F OPTIMA Building, 883 J. Aguilar Avenue 1740 Baranggay Pamplona Tres, Las Pinas City	Phone Fax	+63 (2) 86601230 +63 (2) 8695100	vandel@optima-equipment.com
Singapore	AVM Diesel (F.E.) Pte Ltd Gear Centre Southeast Asia	BLK 27 TUAS AVE 13 #01-23 638993 Singapore	Phone Fax	+65 (6) 8636933 +65 (6) 8636900	sales@avmdiesel.com www.avmdiesel.com
Taiwan	Saturn Power Ltd.	28F, No.27-3, Sec.2 Chung Cheng E. Rd. Danshui District 25170 New Taipei City	Phone Fax	+886 (2) 8809 8186 +886 (2) 8809 8187	sales@saturnpowerltd.com www.saturnpowerltd.com
Thailand	Kasetphand Industry Co.,LTD	100 M. 3 SOI Suksawad 76 Suksawad rd. Bangjark, Phrapradaeng 10130 Samutprakarn	Phone Fax	+66 (2) 8176410 +66 (2) 8176437	jaruwat@ksp.co.th www.ksp.co.th
Thailand	SCM Seng Charoen Muang Co. Ltd.	12/349 Moo 15 Bang Kaeo, Bang Phli District 10540 Samut Prakan	Phone Fax	+66-2-3168200-6 +66-2-3168207	hui@sengscm.com www.sengscm.com
Vietnam	GNN CO., LTD.	33 Hoa hong 2, W. 2 Phu Nhuan District	Phone Fax	+84 (8) 35174923 +84 (8) 35174924	contact@gnnvietnam.com www.gnnvietnam.com

China					
China	Altra Industrial Motion (ShenZhen) Co., Ltd.	Suite 301,#5 Lihpao Plaza 88 Shenbin Road Minhang District 201106 Shanghai	Phone Fax	+86 (21) 5169 9255 +86 (21) 6248 5387	aims.sales@regalrexnord.com www.bauergears.com/zh-CN
Hong Kong	A-CALL Company	Flat 8A, 8th Floor Wing Cheong Industrial Building 109 How Ming Street Kwun Tong Kowloon	Phone Fax	+852 (27) 930250 +852 (27) 930620	kent@a-call.com.hk www.a-call.com.hk

Notes

Mounting Positions



Electric overhead conveyors gearedmotors

BAUER GEAR MOTOR™

Regal Rexnord

[regalrexnord.com](https://www.regalrexnord.com) [bauergears.com](https://www.bauergears.com)

Germany

Eberhard-Bauer-Str. 37
73734 Esslingen - GERMANY
+49 711 3518 0

North America

701 Carrier Drive
Charlotte, NC 28216 - USA
+1 800-387-0130

Slovakia

Továrenská 49
53 01 Zlaté Moravce - SLOVAKIA
+421 37 6926100

China

18 Huanzhen Road,
Dabo Industry Zone, Shajing Town - Baoan District,
Shenzhen City, Guangdong Province - CHINA
+86 400 886 0365

The proper selection and application of products and components, including assuring that the product is safe for its intended use, are the responsibility of the customer.

To view our Application Considerations, please visit <https://www.regalrexnord.com/Application-Considerations>.

To view our Standard Terms and Conditions of Sale, please visit <https://www.regalrexnord.com/Terms-and-Conditions-of-Sale>.

"Regal Rexnord" is not indicative of legal entity. Refer to product purchase documentation for the applicable legal entity.

Regal Rexnord and Bauer Gear Motor GmbH are trademarks of Regal Rexnord Corporation or one of its affiliated companies.

© 2025 Regal Rexnord Corporation, All Rights Reserved. MCC-P-7169-BGM-EN-A4 07/25

 **RegalRexnord™**