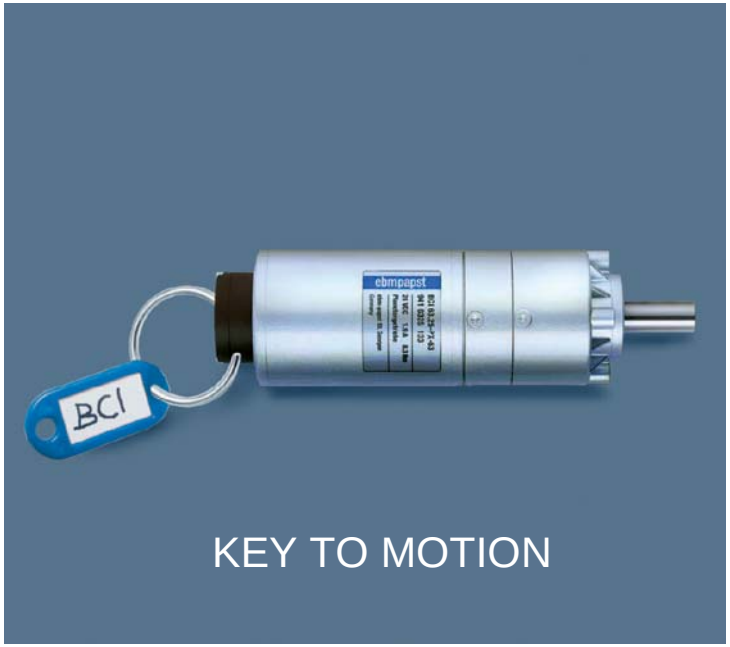
BCI motors



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The BCI motor

BCI = Brush Commutated Internal rotor motors made by ebm-papst

- Modern motor technology
- Excellent quality and reliability
- Outstanding price/performance ratio
- Versatile system components

The motor range

- 3 motor sizes, each in 2 lengths
- Nominal voltage 12, 24, 40 and 60 V DC
- Efficiency 75 – 80 %
- Rated output up to 100 W
- Service life 3,000 h

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The BCI features

Robust

- developed for rough industrial use

Compact

- high specific output from a small motor volume

Versatile

- combinations with system modules

Customized

- can be adapted to customer's application

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Quality

- BCI motors are produced on on an automated production line
- Digital planning and process monitoring of all manufacturing steps
- 100% process monitoring in manufacturing
- Data code for each motor

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Rotor and stator

- Optimized magnet geometry for minimal cogging torque < 2% of the nominal torque
- Wide usable speed range and excellent smooth running quality, even at low speeds
- Dynamically balanced rotor
- Steel motor housing

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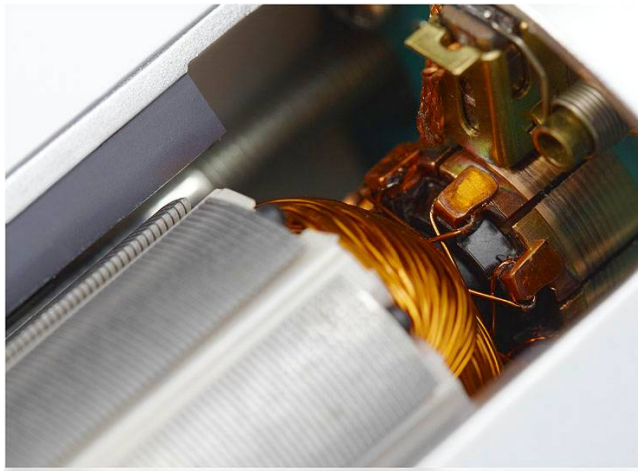
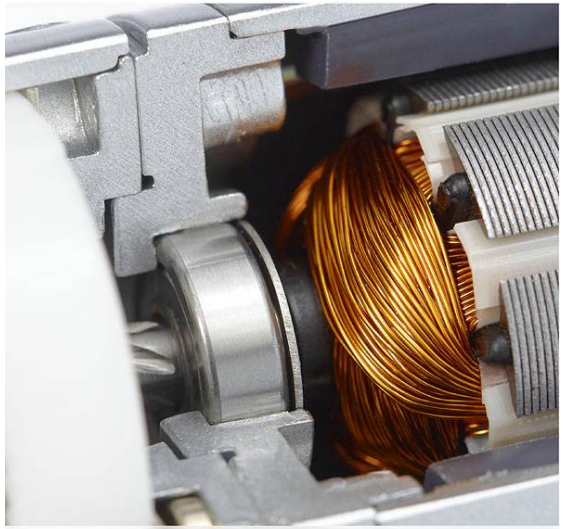
Commutation

- Modern armature design with 8- and 12-piece commutator
- Carbon brushes for flawless, continuous operation and long service life
- Carbon brushes positioned on printed circuit board
- Good EMC protection, optionally extensible



Bearing system

- Precision ball bearing with long-term lubrication
- Bearing protected against carbon dust
- Designed for high load with system components
- To protect the armature system and bearing, the shaft design safeguards against excessive axial load



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Motor flanges

- Flanges made of die-cast zinc in industry standard
- Flanges designed for universal, versatile mounting
- Prepared for assembly of system components

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The system components
Spur gear unit

- Flatline and Compact spur gear units
- Space-saving and cost-effective
- Single-stage to 3-stage design
- Suitable for continuous operation
- Reduction ratios from
  8:1 to 1000:1

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The system components
Worm gear unit

- Very smooth running, robust, cost-effective and self-locking (depending on ratio)
- Output shaft orthogonal to motor axis
- Suitable for continuous operation
- Reduction ratios from 2:1 to 75:1.

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The system components
Planetary gear

- Compact, low-backlash, robust
- High torque
- Smooth running and long service life
- Suitable for continuous operation
- Single-stage to 3-stage design
- Reduction ratios from
  3:1 to 200:1

The system components
Motor brake

- Single-disc spring applied brake
- Designed as holding brake
- Brake closes when the supply voltag is switched off
- Adapted versious available for all motor types

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The system components
Speed sensors

- Optoelectronic shaft encoder with 512 pulses per revolution
- Magnetic impulse transmitters with 2, 4 or 12 pulses per revolution

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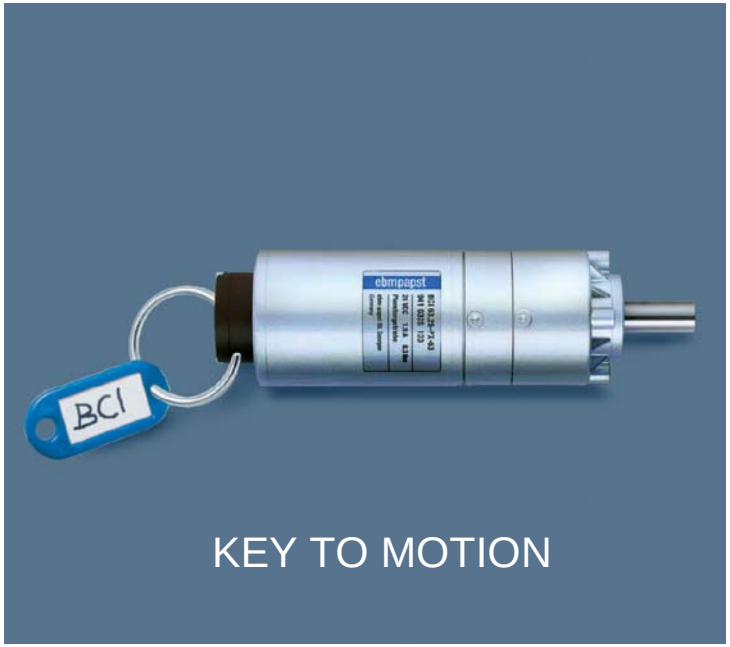
Technical Data



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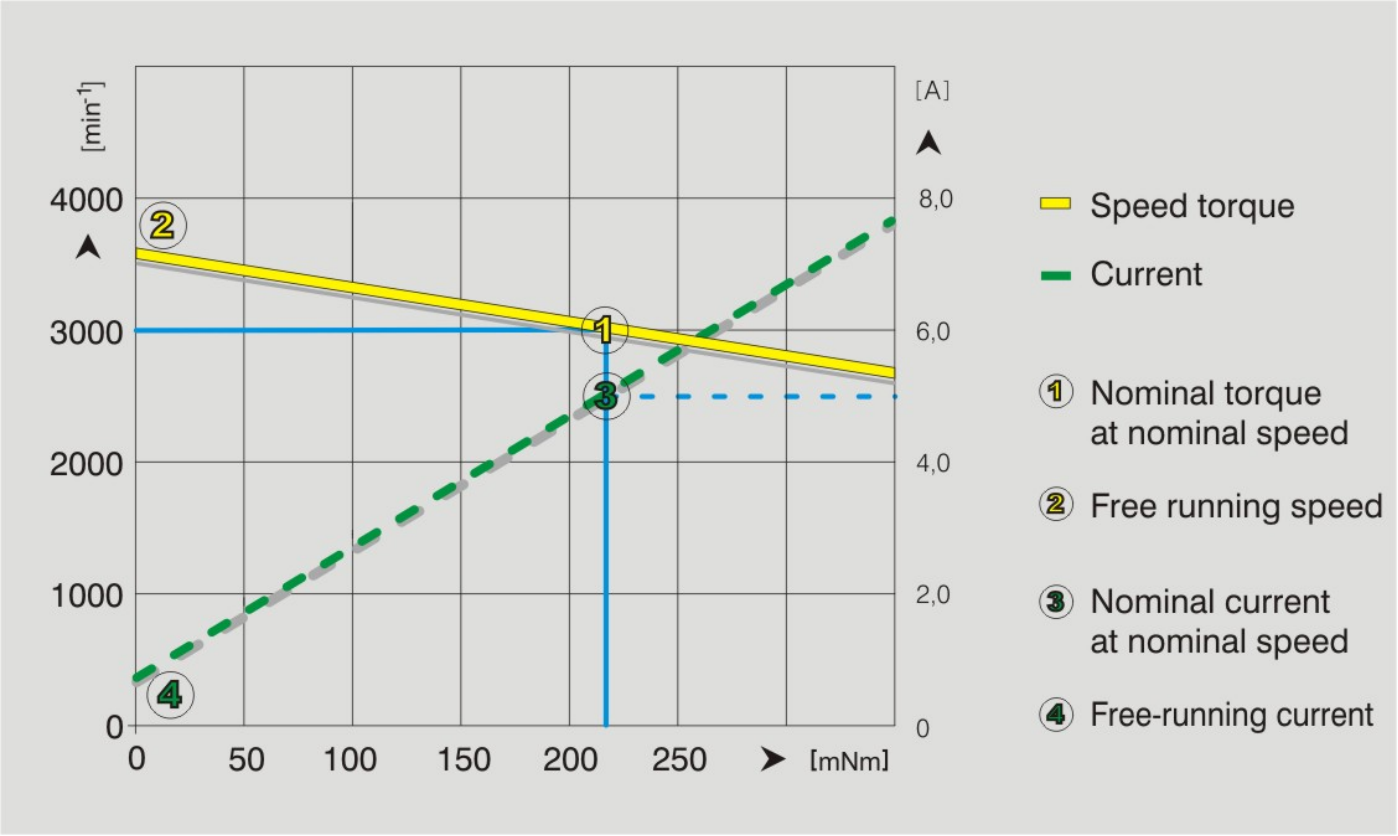
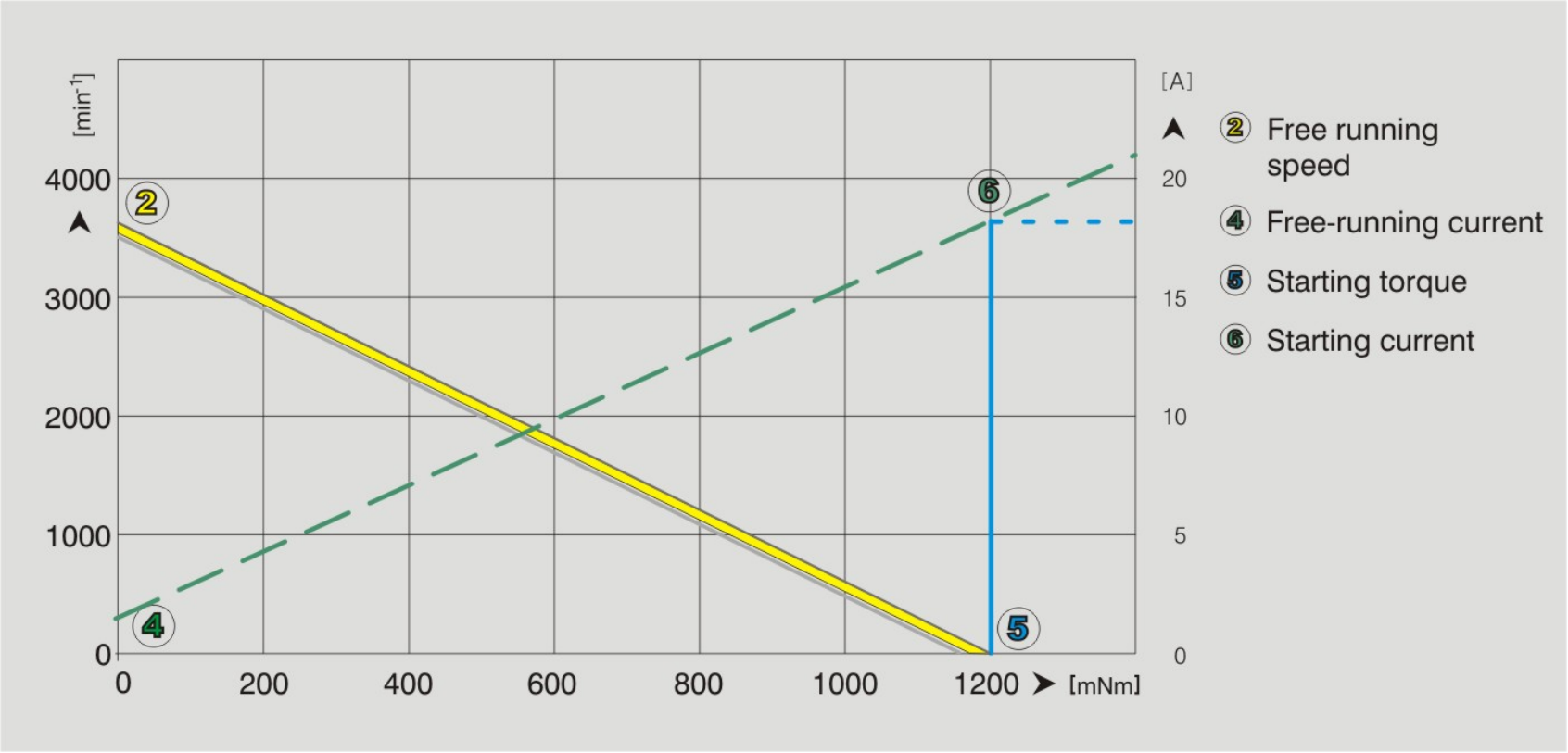
Motor data

BCI ...	42.25	42.40	52.30	52.60	63.25	63.55
Nominal voltage V DC	12 / 24 / 40 / 60		12 / 24 / 40 / 60		12 / 24 / 40 / 60	
Nominal torque mNm	38	57	100	170	140	270
Nominal output power W	13	19	38	55	46	93
Nominal speed min^{-1}	3300	3100	3600	3100	3150	3300
Starting torque mNm	240	390	650	1400	1100	2550
Rotational direction	CW /CCW		CW /CCW		CW /CCW	

Torque characteristic



Torque characteristic, maximum values



Gear data

Motor	Worm gear	Planetary gear	Spur gear
BCI 42.25		6.3 Nm	9 Nm
BCI 42.40	1.3 Nm	9.4 Nm	9 Nm
BCI 52.30	2.3 Nm		
BCI 52.60	3.9 Nm	7.4 Nm	
BCI 63.25	3.5 Nm	16.5 Nm	30 Nm
BCI 63.55	6.8 Nm	11.8 Nm	25 Nm

Maximum achievable nominal torque for the specified motor sizes in combination with the different gear-types

Thank you

for your attention