

Compact.
Complete.
b-drives.

For you - From us

What makes b drives different?

Our motivation and our know-how are the strength of **b-drives®**.

We offer you the right drive solutions for you with our specialised knowledge and our mature innovations. In close co-ordination with you we implement your wishes.

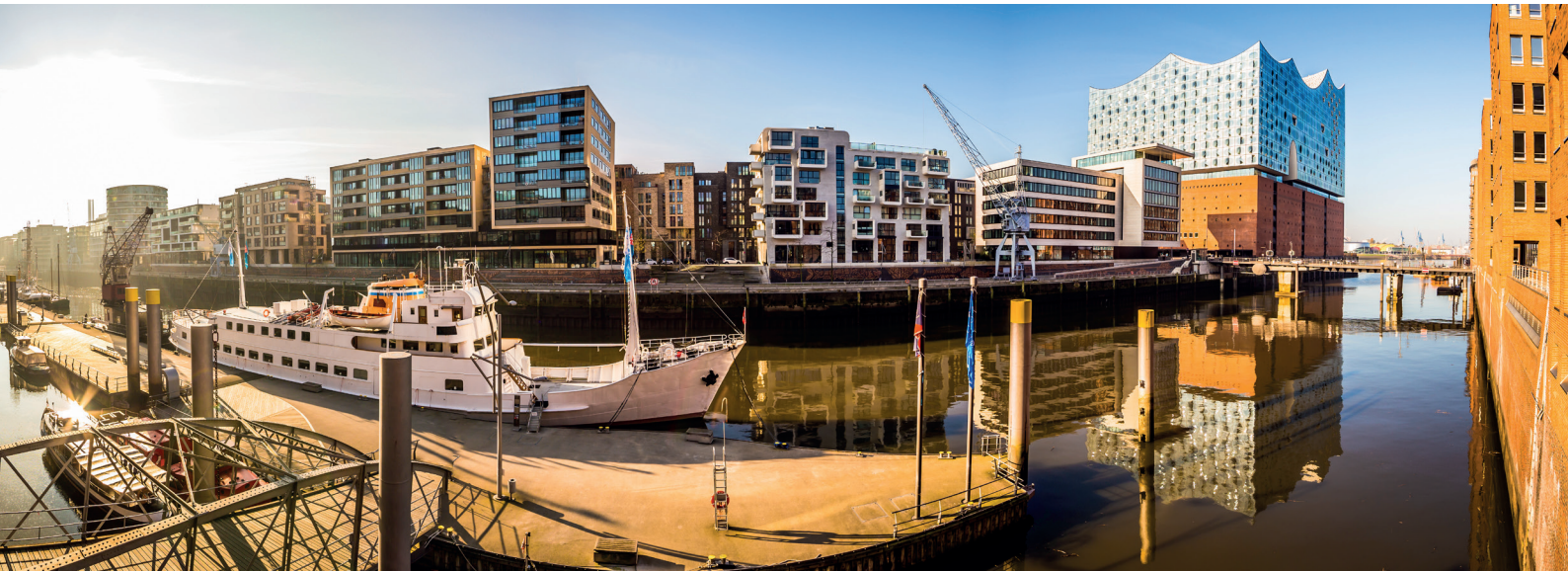
This begins with the precise recording of your technical, logistical and commercial requirements. On the way to realisation, our experience and expertise in the areas of design, control technology, software and our extensive application knowledge bring you tangible added value. From the motor with cable and connector to a completely customised drive solution consisting of gearbox, motor, brake, control system and software, we will realise your project right down to your application.

We will work with you to develop the right drive package for you and look forward to getting to know you and your requirements.

b-drives Keyfacts

b-drives® is a brand of Breuell & Hilgenfeldt GmbH and part of the Breuell und Hilgenfeldt Group

- A total of 120 motivated and qualified colleagues
- In-house development
- Every year we supply more than 40,000 b-drives® drive solutions to the medical technology, robotics, intralogistics, mechanical engineering and pharmaceutical industries



Two strong product lines

Your drive solution from one source

Wheel drive system for AGV

The b-drives® eWheel is a drive system for AGVs. The system includes: Wheel, gearbox, BLDC motor, Hall sensors, encoder and brake. The addition of a safe encoder and a dual axis controller with functional safety functions are available. The eWheel is available with 3 wheel sizes & 3 gear ratios, as well as 4 frame sizes. The eWheel can carry 500 kg per wheel and the overall length varies from 109 mm to 238 mm. By loosening only three screws, the wheel can be changed in a few seconds.

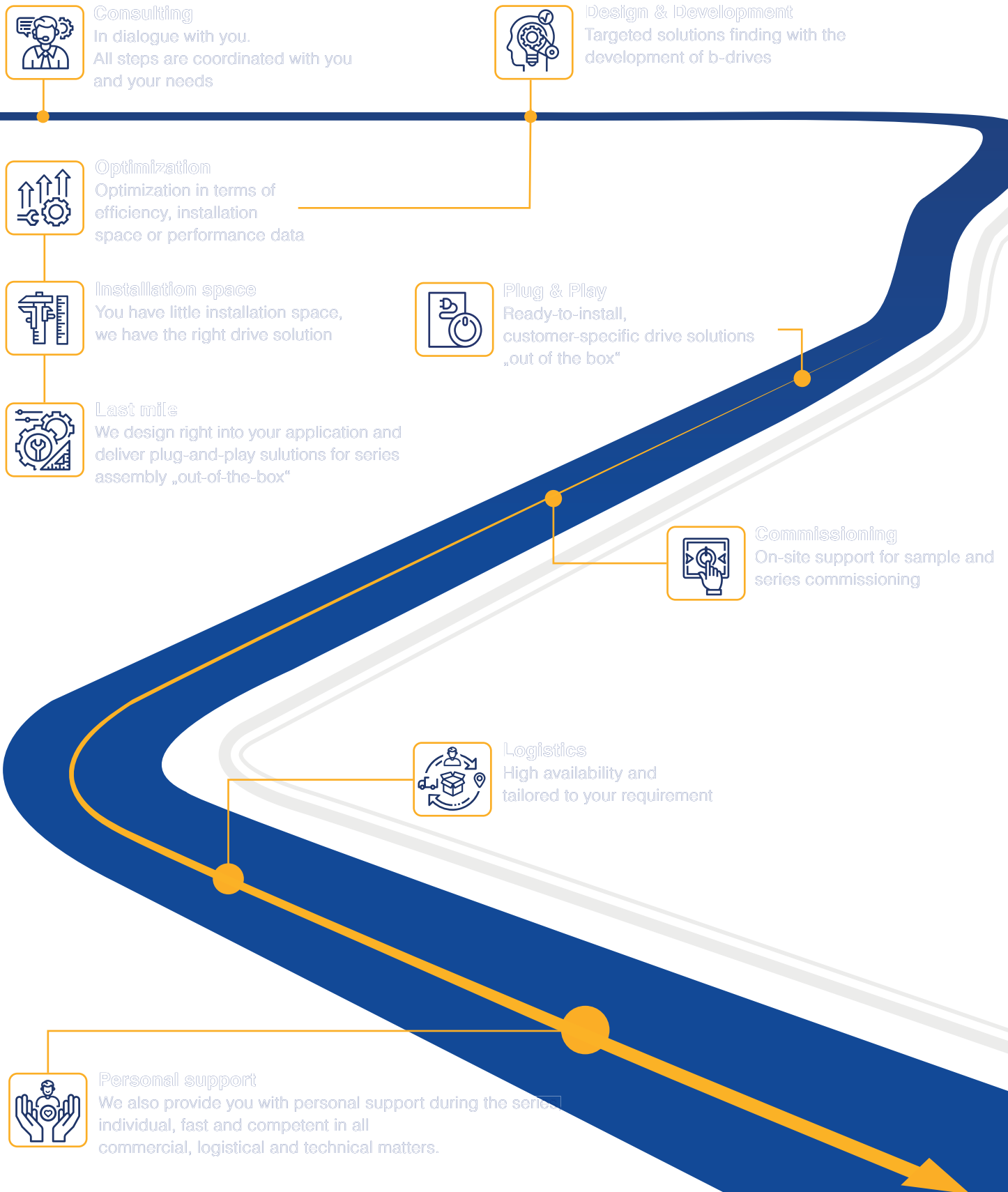
Customised drive solutions

After a detailed assessment of your requirements, we will develop a drive solution for you, including a commercial and logistical concept.

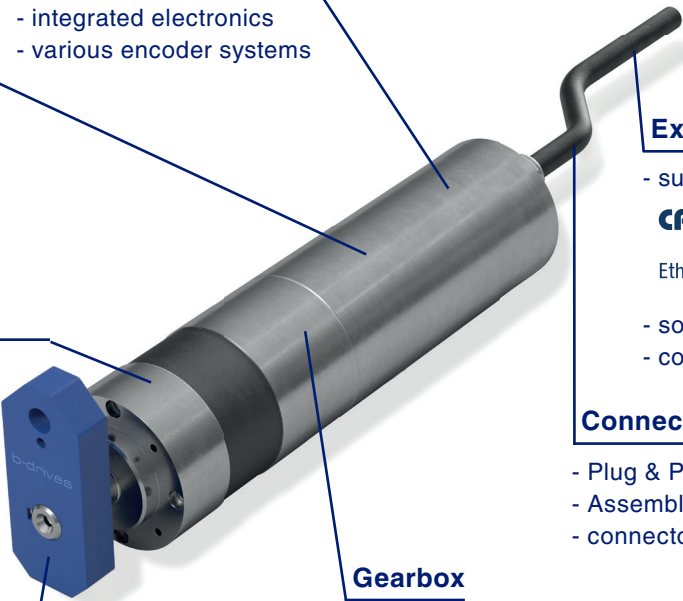
With our know-how, our production and our suppliers, we generate solutions from the software to your application. We concentrate on our strength: the drive train including control.

b-drives process:

Together from the idea to series



Drive Solutions: The complete solution for your application



Motor options

- integrated brake
- integrated electronics
- various encoder systems

Motor

- high efficiency
- compact design
- low noise
- motor types: BLDC, DC and AC servo
- high overload capacity

External electronics

- suitable controller with **CANopen**, **PROFINET**, **EtherCAT** Technology Group
- software customization
- commissioning

Customization

- noise optimization
- torque optimization
- increased axial and radial loads
- shafts / flanges made to measure
- transmission ratio
- stainless steel

Integration

Individual components for transfer the movement into your application - pre-assembled by us for the final assembly of the drive „out of the box“

Gearbox

- Planetary gear
- Angular planetary gear
- Worm gear
- Spur gear
- Design also possible as double gear unit or combination

Connection technology

- Plug & Play solution
- Assembled cables
- connector solutions

Feature	DC Servo / BLDC		AC Servo	
	24/48 DC	60 DC	230 AC	400 AC
Voltage	24/48 DC	60 DC	230 AC	400 AC
Power up to	0,75 kW	0,75 kW	3,1 kW	108 kW
Rated motor torque up to	1,8 Nm	2,45 Nm	9,96 Nm	345 Nm
int Electronics I/O	✓	-	-	-
int Electronics CAN	✓	-	-	-
iQ Encoder for SIEMENS Microdrive	✓	-	-	-
external electronics CAN / ProfiNet / EtherCAT			✓	
STO			✓	
Brake integrated / external			✓	
Hall sensors			✓	
Incremental encoder			✓	
Resolver	-	✓	✓	✓
absolute encoder multiturn			✓	
sin-cos incremental encoder	-	✓	✓	✓
Protection class	IP 40/54	IP 65		
Planetary gear up to nominal torque	950 Nm			
Worm gear units up to nominal torque	20 Nm			
Double worm gear unit up to nominal torque	120 Nm			

eWheel: Your wheel drive system for Automated Guided Vehicles

With the **eWheel** from b-drives, your transport systems bring even large payloads safely to their destination in the tightest of spaces. The eWheel is the most compact system on the market for this purpose and can be easily adapted to your design ideas thanks to its flexible modular system. But that's not all: Despite its small size, the eWheel impresses with a very high power density and high efficiency. This results in high vehicle availability. The **b-drives** mounting concept ensures optimum wheel change. By loosening just three

screws, the wheel can be changed in just a few seconds. Behind the transmission-wheel unit, a modern BLDC motor with a redundant encoder system ensures safe drive.

The overload capability makes itself positively felt during vehicle acceleration and when negotiating inclines. Best of all, our innovative wheel drive is the cost benchmark for AGV drive systems.

Control electronics

Double-axis controller
Dielectric strength up to 60 V
Peak current up to 60 A

Bus Interfaces



Functional Safety

Up to SIL3 / PL e

BLDC-Motor

Sizes S / M / L / XL
Holding brake with emergency brake function

Redundant encoder system

High-resolution incremental encoder
Hall sensors

Rad

Planetary gear with $i = 11$ / $i = 20$ / $i = 30$
Three different wheel diameters
Application-specific wheel materials possible

Shortest overall length

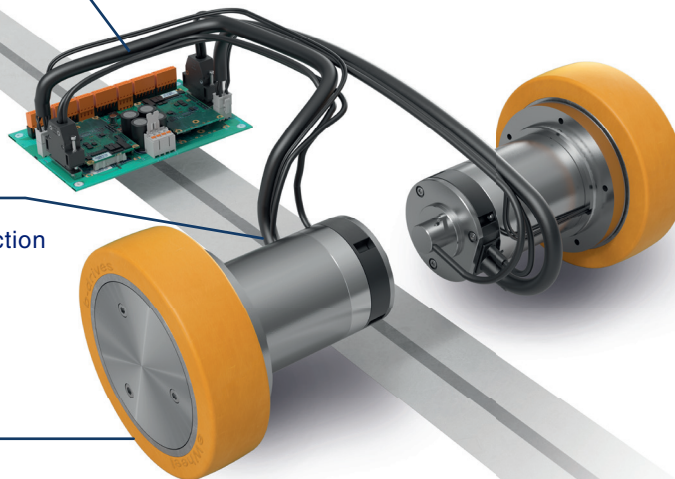
High overload

High power density

Low dead weight

High efficiency

500 kg load per wheel



More info



Your requirements are not included? Feel free to contact us!

We will check your wishes for feasibility!

→ [Contact](#)

In normal operation, the BLDC motor of the eWheel brakes generatively and thus feeds energy back into the battery or to other consumers. For safety-oriented emergency braking, the eWheel has a mechanical holding brake with emergency stop function.

The gearbox amplifies the braking torque accordingly, so that the vehicle comes to a safe standstill even in unfavourable operating situations. We can adapt the nominal braking torque to your application.

For functional safety on the electronic side, the eWheel offers the following options:

- Solution with STO
- Solution with SLS & SDI through safe encoder
- Redundant encoder system for SLS & SDI
- Solution with SLS & SDI with Siemens MicroDrive-PDC



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