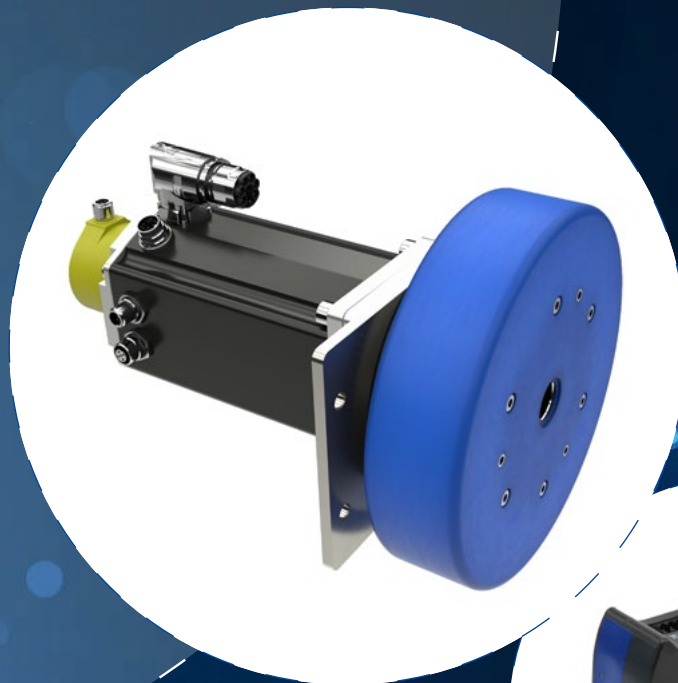


# Products for AGVs and AGCs






# Dunkermotoren | the market leader in complete drives for AGVs and AGCs

## THE MARKET LEADER IN SMART BLDC MOTORS



- Integrated 4Q motion controller with many features like temperature monitoring, recuperation, brake management, condition monitoring, ...
- All common industrial interfaces (PROFINET with Profidrive AK4, EtherCAT with Distributed clocks\*, CANopen) 
- Safe Torque Off (STO) on request\*\*
- Commissioning and parameterisation software DA 5

## EXTERNAL CONTROLLER CONCEPTS

- Alternative external controllers for minimization of overall length
- Versions compatible with SIMATIC MICRO-DRIVE PDC series with comprehensive safety functionality (STO, SS1, SLT, SLS, SSM) and PROFIsafe profiles available



## 1-STOP-SHOP

### APPLICATIONS

- Traction drive
- Linear actuator
- Rotary actuator
- Steering drive

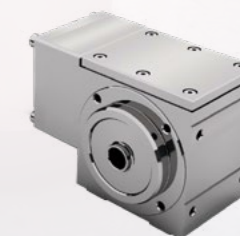
- Smart BLDC Servo motors with integrated Motion Controller
- Hub gears, Planetary and Angular gear units
- Brakes and (safety) Encoders

## MOTORS MADE FOR AGVS

- 12-60 V DC battery voltage with integrated Controller, up to 325 V Variants for external controllers
- High efficiency for long battery life (better than IE5, up to >90%)
- High overload capacity for acceleration and Brakes
- 24 V version up to 4000 W peak output power
- Many years of experience in AGVs and AGCs

## THE WIDEST SELECTION IN GEARBOXES

- Hub gears for short designs and outstanding radial loads (2 sizes, larger sizes planned)
- Bevel gear and planetary gear units in numerous versions
- Customer-specific adaptations possible



\* EtherCAT available, feature Distributed Clocks from the end of 2020

\*\* TÜV-certified Safe Torque Off for BGE6060A already available, for integrated dPro electronics from end 2020





# Example configurations

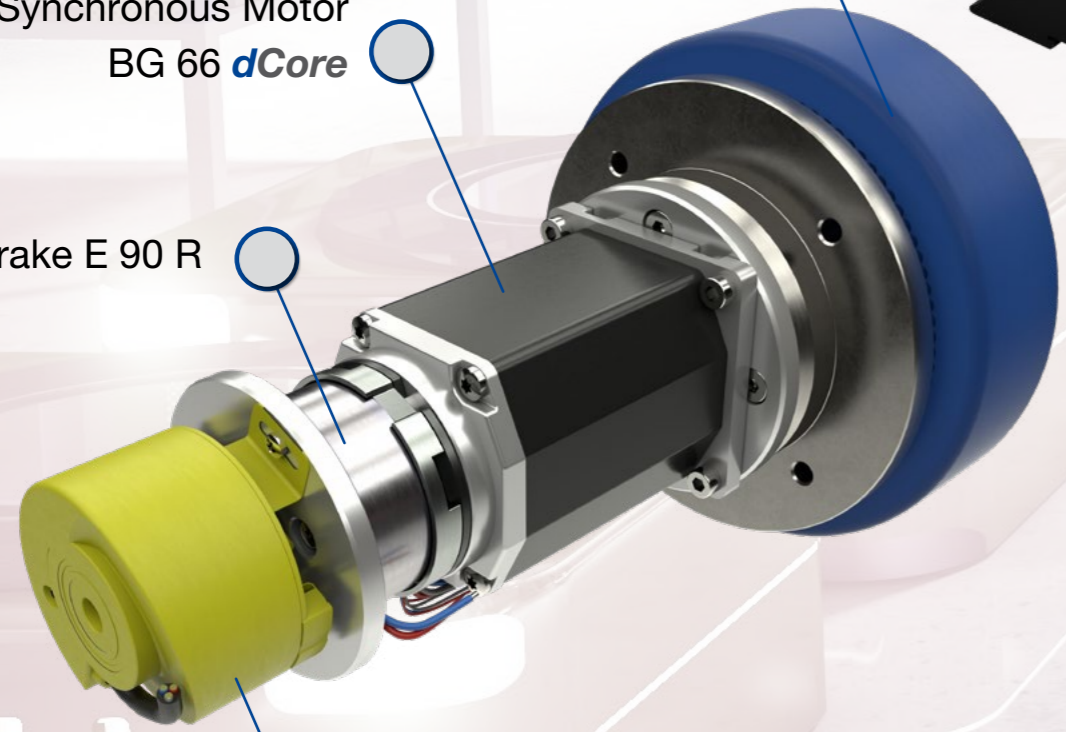
Motion Controller  
BGE 5510 **dPro**



Hub Gearbox NG 250

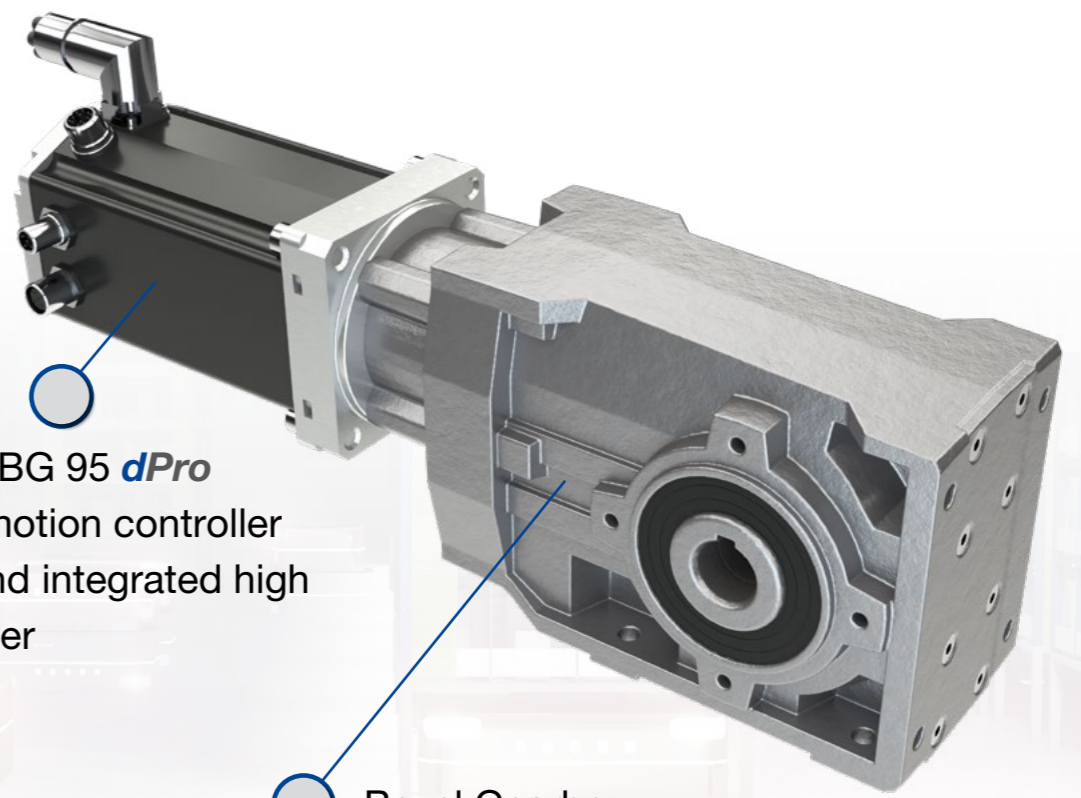
Synchronous Motor  
BG 66 **dCore**

Brake E 90 R



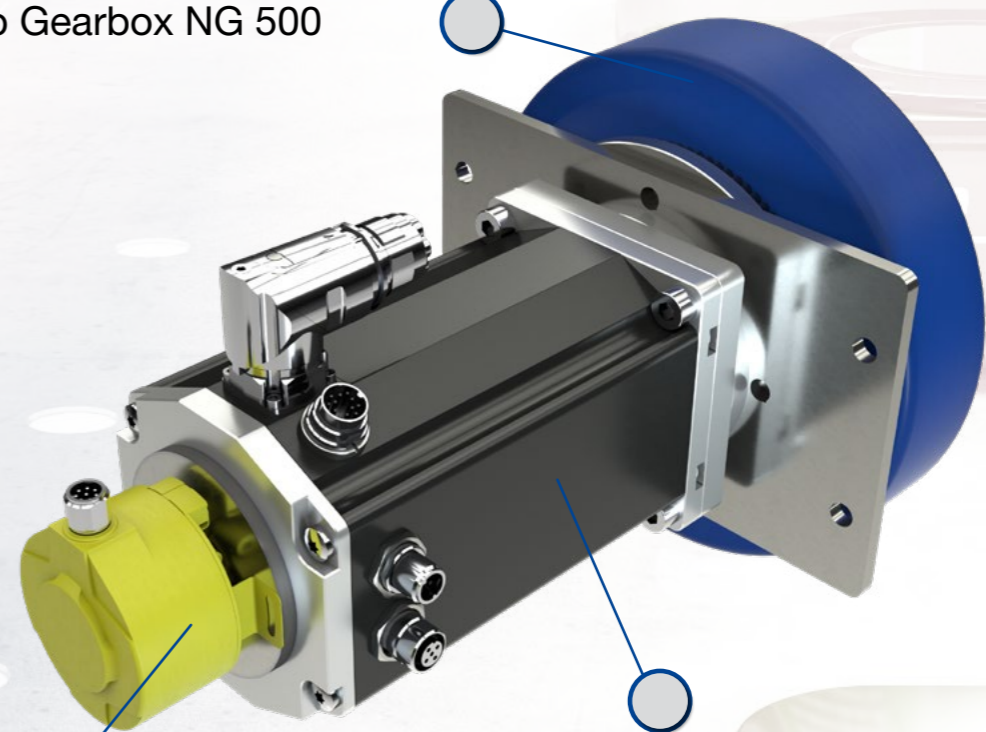
Safety Encoder DFS 60S

Smart DC servo BG 95 **dPro**  
with integrated motion controller  
**CANopen** and integrated high  
resolution encoder



Bevel Gearbox

Hub Gearbox NG 500



Smart DC servo BG 95 **dPro**  
with integrated motion controller  
**EtherCAT** and integrated high  
resolution encoder

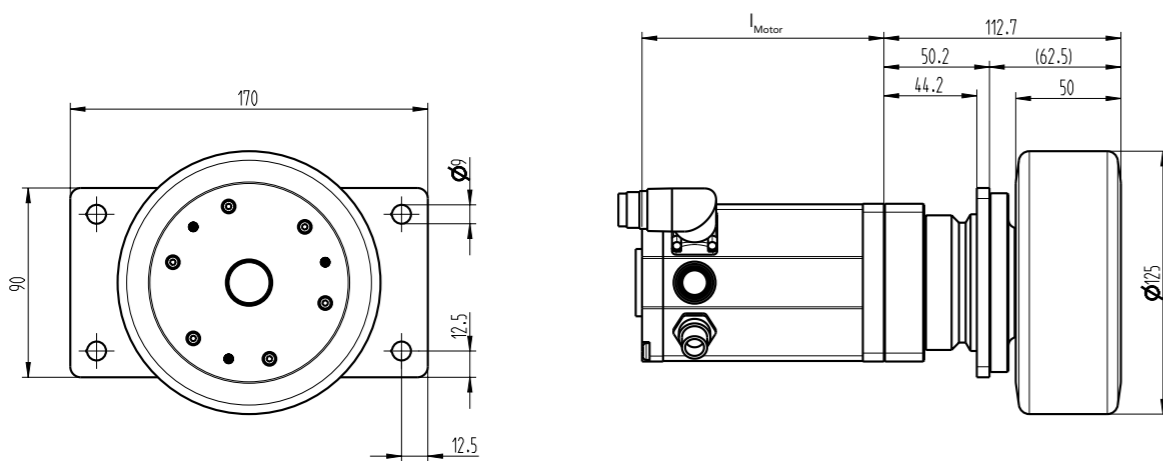
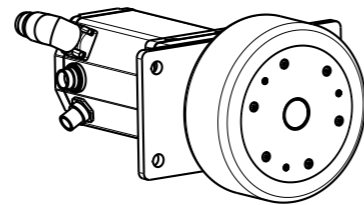
Safety Encoder SKM 36



# Hub Gearbox NG250

## FEATURES

- Max. Load capacity 250 kg
- Standard wheel size 125 mm
- Total gearbox length 62,5 mm



## PERFORMANCE DATA

| Product | Wheel size <sup>1</sup><br>[mm] | Wheel width<br>[mm] | Protection class | Max. Load capacity <sup>2</sup><br>[kg] |
|---------|---------------------------------|---------------------|------------------|---|
| NG250   | 125                             | 50                  | IP54             | 250                                     |

<sup>1</sup> Further wheel sizes > 125 mm available on request

<sup>2</sup> Load capacity data of the wheel manufacturers may vary

<sup>3</sup> Deviating values must be considered and evaluated separately

| Ratio | Stages | Nominal output <sup>1</sup><br>torque [Nm] | Efficiency<br>[%] | Nominal output <sup>1</sup> speed<br>[rpm] - [km/h] | Nominal input <sup>1</sup><br>torque [Ncm] | Nominal input <sup>1</sup><br>speed [rpm] | No load torque<br>[Nm] | Weight<br>[kg] |
|-------|--------|--|-------------------|---|--|---|------------------------|----------------|
| 4     | 1      | 11   | 90                | 230   6,9   | 299  | 1000                                      | <0,45                  | 3,8            |
| 5     |        | 9  | 90                | 184   5,5   | 196  |   |                        |                |
| 8     |        | 9  | 90                | 115   3,5   | 122  |   |                        |                |
| 16    | 2      | 11   | 85                | 159   4,8   | 81   | 3000                                      | <0,15                  | 4,5            |
| 20    |        | 11   | 85                | 128   3,8   | 65   |   |                        |                |
| 32    |        | 11   | 85                | 80   2,4  | 40   |   |                        |                |

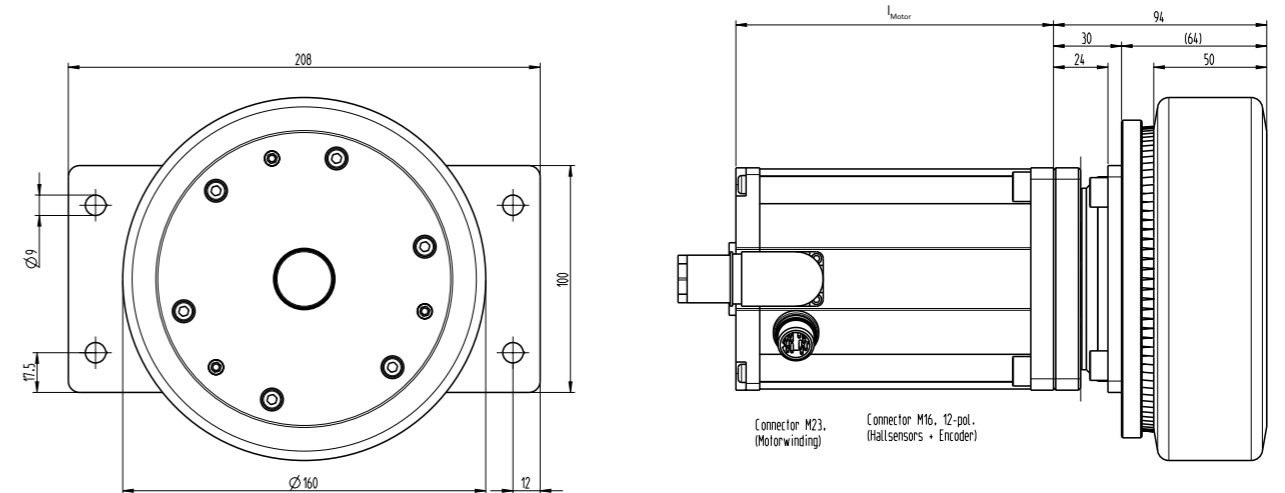
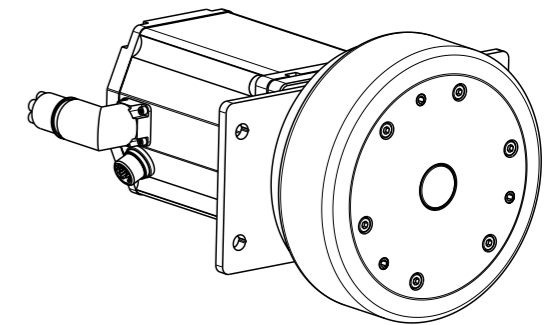
<sup>1</sup> Nominal values refer to 30,000 h service life at constant load; acceleration torques are twice the nominal values

<sup>3</sup> Deviating values must be considered and evaluated separately

# Hub Gearbox NG500

## FEATURES

- Max. Load capacity 500 kg
- Standard wheel size 160 mm
- Total gearbox length 64 mm



## PERFORMANCE DATA

| Product | Wheel size <sup>1</sup><br>[mm] | Wheel width<br>[mm] | Protection class | Max. Load capacity <sup>2</sup><br>[kg] |
|---------|---------------------------------|---------------------|------------------|---|
| NG500   | 160                             | 50                  | IP54             | 500                                     |

<sup>1</sup> Further wheel sizes > 150 mm available on request

<sup>2</sup> Load capacity data of the wheel manufacturers may vary

<sup>3</sup> Deviating values must be considered and evaluated separately

| Ratio | Stages | Nominal output <sup>1</sup><br>torque [Nm] | Efficiency<br>[%] | Nominal output <sup>1</sup> speed<br>[rpm] - [km/h] | Nominal input <sup>1</sup><br>torque [Ncm] | Nominal input <sup>1</sup><br>speed [rpm] | No load torque<br>[Nm] | Weight<br>[kg] |
|-------|--------|--|-------------------|---|--|---|------------------------|----------------|
| 4     | 1      | 21   | 90                | 230   6,9   | 571  | 1000                                      | <0,45                  | 5,9            |
| 5     |        | 16   | 90                | 184   5,5   | 348  |   |                        |                |
| 8     |        | 18   | 90                | 115   3,5   | 245  |   |                        |                |
| 16    | 2      | 21   | 85                | 159   4,8   | 154  | 3000                                      | <0,15                  | 6,9            |
| 20    |        | 21   | 85                | 128   3,8   | 124  |   |                        |                |
| 32    |        | 21   | 85                | 80   2,4  | 77   |   |                        |                |

<sup>1</sup> Nominal values refer to 30,000 h service life at constant load; acceleration torques are twice the nominal values

<sup>3</sup> Deviating values must be considered and evaluated separately

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