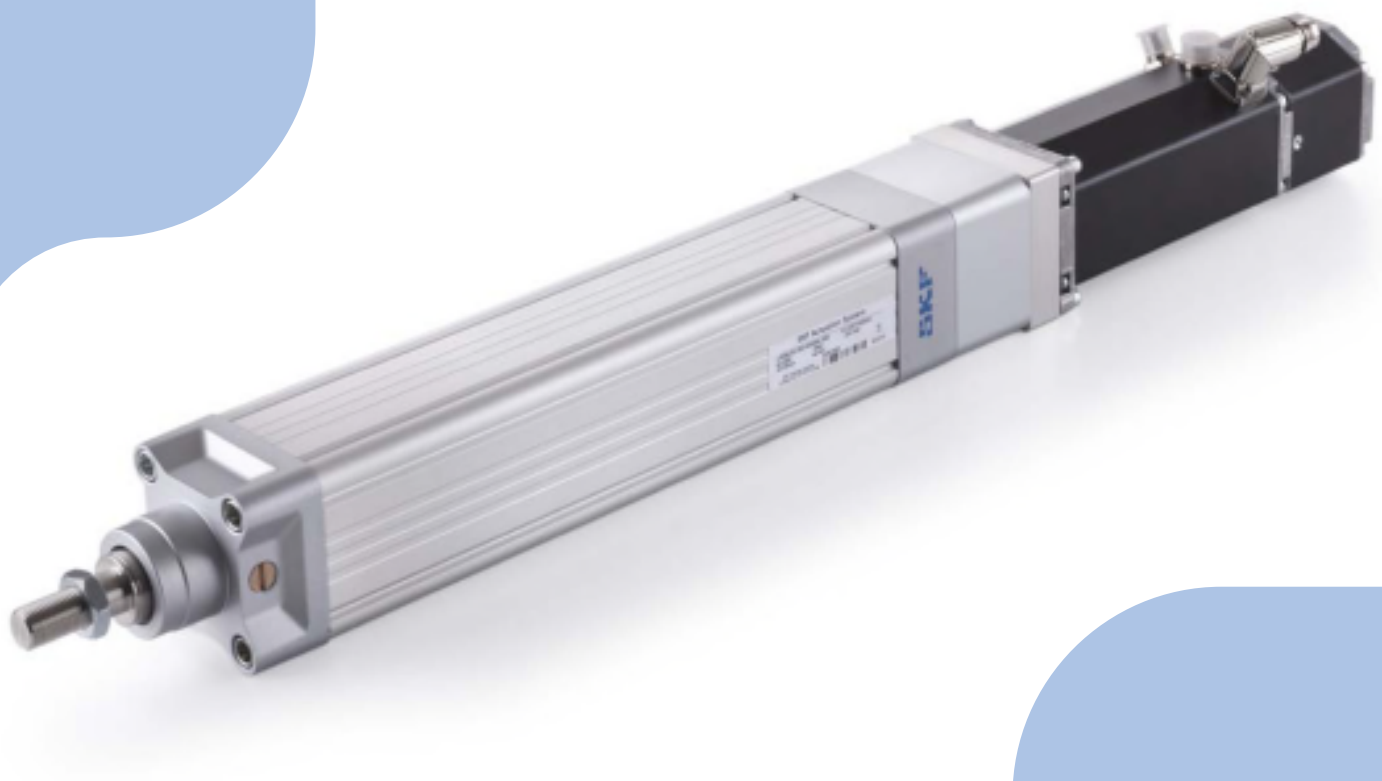
# CASM electric cylinders with brushless DC motors




SKF

# Introduction

CASM electric cylinders powered by brushless DC motors are ideally suited for fast and powerful movements. Replacement of pneumatic cylinders has never been easier. Just parameterize the cylinder by using the SKF Drive Assistant software and benefit from variable speed, high positioning accuracy, high force and long lifetime. The highly efficient electric cylinder will help to increase productivity with less energy consumption and therefore less $CO_2$ emissions. Due to the tremendous energy savings electric cylinders provide, when compared to pneumatic solutions, the investment cost will be paid back in a short time period.

After the parameterization, the DC powered cylinder can be operated independently by PLC or by switches. The motion controller is already built in.

## CASM with Dunkermotoren connecting diagram


## Size comparison

**Data overview**

| **Motor type** | | | **BG 45x30 PI** | | | **BG 65Sx50 PI** | | | **BG 75x75 PI** | | | **BG 75x75 PI** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Linear unit** | | | CASM-32 | | | CASM-40 | | | CASM-40 | | | CASM-63 | | |
| **Screw type** | | | LS | BS | BN | LS | BS | BN | LS | BS | BN | LS | BN | BF |
| **Peak force** | $F_{peak}$ | **[N]** | 300 | 700 | 462 | 600 | 1 170 | 526 | 600 | 2 375 | 1 484 | 1 000 | 1 885 | 942 |
| **Mean load** | $F_m$ | **[N]** | 300 | 327 | 131 | 465 | 440 | 198 | 600 | 1 020 | 459 | 692 | 583 | 292 |
| **Max. linear speed** | $v_{max}$ | **[mm/s]** | 60 | 150 | 500 | 70 | 300 | 825 | 70 | 300 | 825 | 70 | 530 | 1 060 |
| **Max. acceleration** | $a_{max}$ | **[m/s²]** | 1 | 6 | 6 | 1 | 6 | 6 | 1 | 6 | 6 | 1 | 6 | 6 |

# SKF Drive Assistant

Parameterize CASM with brushless DC motors with just a few clicks, using the SKF Drive Assistant (requires a Windows PC).

### SKF Drive Assistant

- Select your linear unit, gearbox and motor and parameterize up to 14 positions in mm, not in encoder counts
- Choose individual motion profiles (acceleration, speed, deceleration) for each position
- Upload parameters into the motor by using the USB interface cable to get an independent system
- Get real time information about your connected motor

### Operation

- Let your powered system move either with standard switches, with PLC binary outputs or with an autonomous positioning loop.
- Get feedback of the motor in case it is moving, has reached its position but also if it hasn't found the home position or if there is an error.

# Positioning Modules

### Simple

- Move between two positions
- Define one speed, acceleration and deceleration for both positions
- "Move-enable" for safety functions

### Typical Applications

Replacement of pneumatic cylinders
Tilt tray sorters, cutting machines, opening and closing hoods, clamping and fixturing, folding, stopping, labelling, etc ...

### Standard

- Move between six positions
- Define one speed, acceleration and deceleration for each position
- "Move-enable" for safety functions

### Typical Applications

Conveyor sorters (diverters) of packaging machines, positioning functions, valve control systems, adjustable filling and portioning systems

### Advanced

- Move between 14 positions
- Define individual speed, acceleration and deceleration for each position

### Typical Applications

Electric presses, woodworking machines, handling applications, testing equipment, special applications where different speeds or plenty of positions are needed

# Automatic Mode

The automatic mode allows the creation of an autonomous positioning loop without any PLC. As soon as the automatic mode is activated (such as by a switch), the actuator moves from one position to the next one with its defined motion profile.

### Automatic mode

- Autonomous loop, moving from one position to the next one, as long as the automatic mode is active
- Selection of the positions to be taken in the loop by a mouseclick
- Activation of automatic mode such as by a switch

### Typical Applications

Applications with actuators running autonomously, with no need to be coordinated with other actuators, like pumps, cutters, testing equipment etc ...

# Benefits of using these actuators

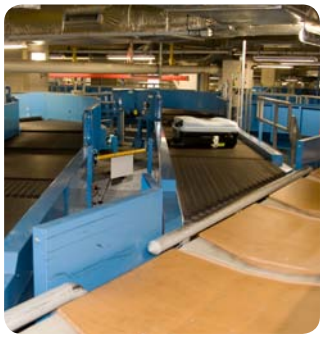
| Features | Benefits |
|---|---|
| Compact size | Saves space in the application and in the switchboard |
| Integrated motion controller | Less wiring needed as the controller is already built-in |
| Programming software | Easy to parameterize motion profiles |
| High efficiency | Cuts energy costs and reduces $CO_2$ emissions |
| Fully tested system | Reliable and long lasting |
| PLC interface | Easy to operate by PLC or switches |
| Integrated brake | No actuator movement in case of a power loss |
| Variable speed | Optimizes cycle times |
| Lubricated for life | Reduces maintenance cost |
| Built-in encoders | High positioning accuracy |
| High quality lead- or ball-screws | High force capacity and long lifetime |

# Applications

***Replacement of pneumatic cylinders***

***Material handling, pick and place***

***Packaging/ folding/ cutting***



***Sorting/ positioning/ stopping***

For more information, please visit
www.skf.com/casm

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