



Installation Instructions

**ELEKTROMAT
ST 16.24-40,00**

Model: 10002992 00024

-en-

Status: 01.03.2026







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Symbols

-  **Warning** - Potential injury or danger to life!
-  **Warning** - Danger to life from electric current!
-  **Note** - Important information!
-  **Requirement** - Required action!

Schematic representations are based on product examples. Deviations from delivered products are possible.



1 General safety information

Specified normal use

The drive unit is intended for horizontally operating sliding doors.

The drive unit must be protected against moisture and aggressive environmental conditions (such as corrosive substances). The drive units are only suitable for indoor use. Appropriate protective measures must be taken for outdoor installation. The drive unit is not intended for hazardous areas. The values specified in the technical data of the drive unit must not be exceeded. The safe operation can only be ensured if used as specified.

Target audience of these installation instructions

These installation instructions are geared towards qualified persons trained in the handling of door systems. Expert knowledge, relevant skills and practical experience are what set apart qualified persons. They are capable of safely carrying out the tasks involving installation, maintenance and modernisation according to the instructions.

Safe operation

The safe operation of the product can only be ensured if it is used as specified. Follow the installation instructions. Observe all specifications, especially warnings, when installing the product in the overall system. GfA is not liable for damage resulting from non-observance of the installation instructions. The resulting overall system must be reassessed for its safety in accordance with applicable standards and directives (e.g. CE marking). These installation instructions refer only to a part of the overall system and are not sufficient as the sole instructions for the overall system. The installer of the system must prepare the instructions for the overall system. We recommend entering the danger area of the system only when the drive unit is at a standstill.



Warning - Failure to follow these installation instructions may result in severe injury or death.

- Please read these instructions before using the product.
- Keep these instructions handy.
- Include these instructions when passing on the product to third parties.



Warning - Danger from improper use of the product!

- Do not let children operate the product unsupervised or use as a toy.



Warning - Danger to life from incorrect installation!

Work carried out improperly may result in death or severe injury from electrical current or falling parts.

- Allow only competent people to carry out the work.
- Disconnect all cables from the power supply.
- Observe valid regulations and standards.
- Use suitable tools.



Warning! Danger to life from falling objects if the drive unit is subjected to impermissible forces.

Inadmissible forces (examples: collision with a forklift, dropping the drive unit, tearing or pulling on the motor) lead to damage to the drive unit. There is a risk of severe injury or death from falling objects.

- Prevent impermissible forces from acting on the drive unit,
- Check the drive unit for damage if impermissible forces have acted on it. Look even for minor damage. Lock the door during the inspection.
- Contact the service department if you have difficulty assessing the damage.

2 Technical data

Designation		Unit
Output speed	24	rpm
Output torque	160 (160) ¹⁾	Nm
Output / hollow shaft	40,00	mm
Series	SG 85R	-
Limit switch range (maximum revolutions of the output / hollow shaft)	20	-
Supply voltage	3N~ 400	V
Operating current	1,80	A
Operating frequency	50	Hz
Power factor cos φ	0,51	-
Safety circuit	24	V
Degree of protection	IP 54	-
Temperature range	-20 / +40 [+60] ²⁾	°C
Operating sound pressure level	< 70	dB(A)
Maximum output speed OPEN / CLOSE for frequency inverter operation	42 / 42	min ⁻¹
Cycles per hour	11 (5,6) ¹⁾	h ⁻¹
Max. load	16000	N
Braking torque	130	Nm
Braking voltage	103	V DC
Rectifier type	B1 230/103	-

1) Specification in () according to EN 60335-2-103. One cycle consists of a complete opening and closing movement of the door. If the limit switch range is not fully used, the number of possible cycles can be increased relative to the reduced number of revolutions of the output shaft. Calculation of the break time according to IEC EN 60335-2-103:

$$\text{Break time [min]} = \frac{60[\text{s}]}{\text{Number of cycles [h}^{-1}\text{]}} - \frac{\text{Limit switch revolutions} + 2}{\text{output speed [min}^{-1}\text{]}}$$

2) When using a temperature range of +40°...+60°C use half of maximum cycles per hour.



Temperature Extension!



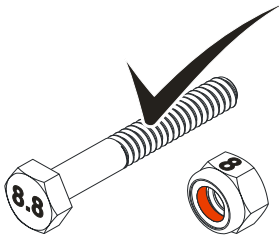
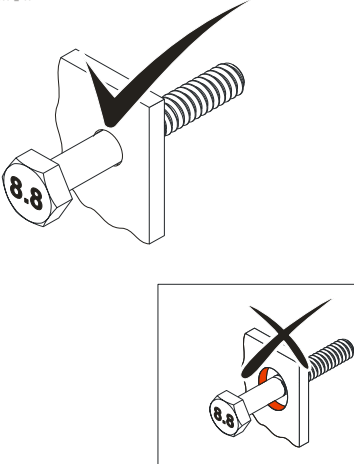
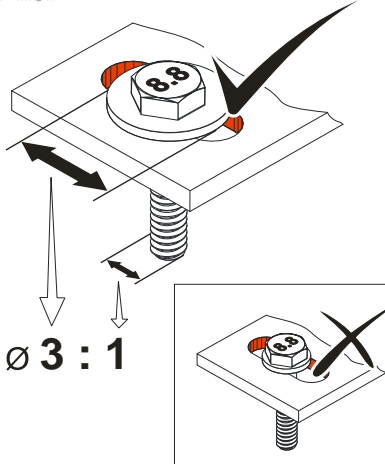
If the magnetic brake will be continuously supplied the drive can be fitted into areas down to a -20° C ambient temperature.

3 Mechanical installation

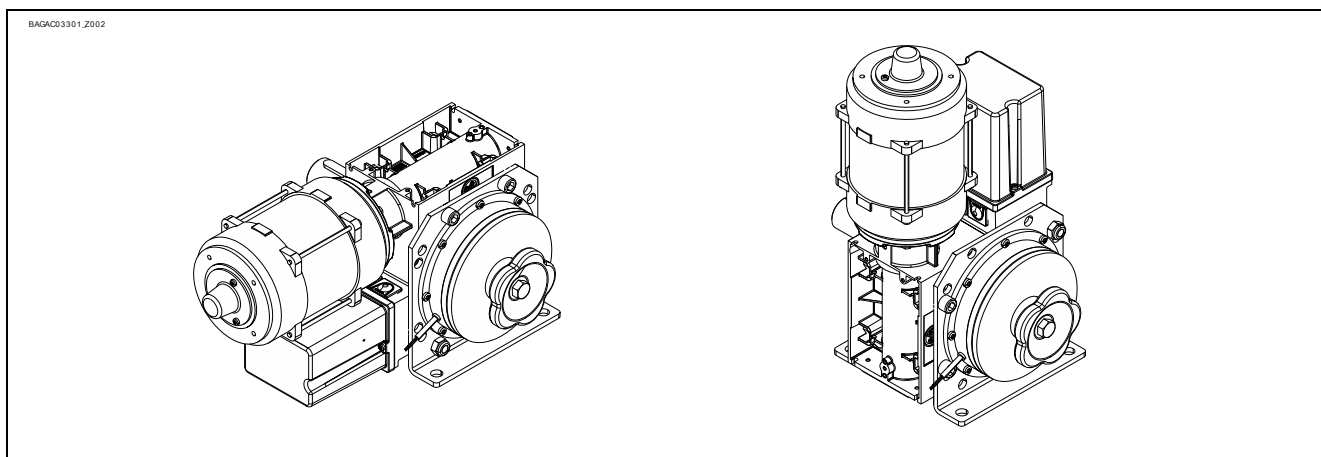
Prerequisites

The permissible loads on walls, fastenings, mountings and transmission elements must not be exceeded, even for maximum holding torques or locking torques (▶ refer to technical data).

Connection elements

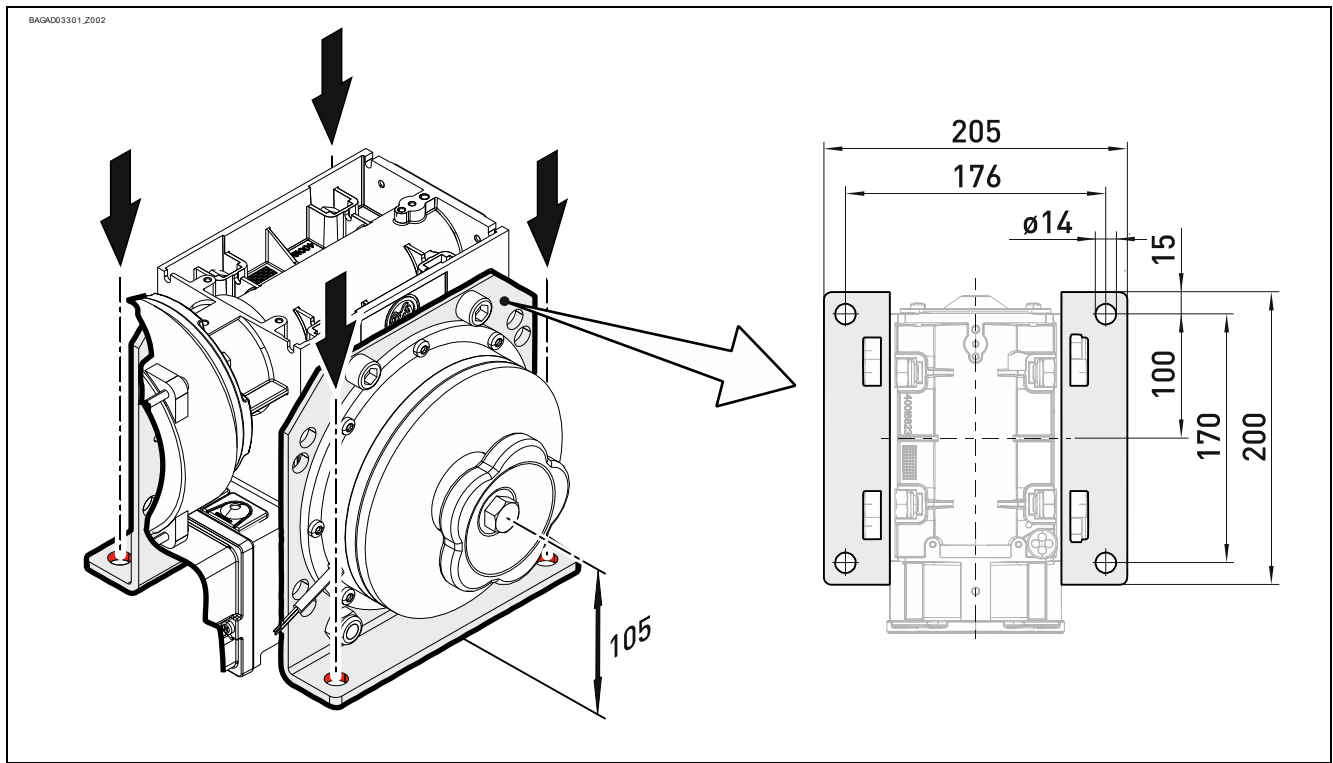
<ul style="list-style-type: none"> Self-locking connection elements with a minimum strength of 800 N/mm² (8.8) must be used. 	<ul style="list-style-type: none"> Utilize the hole diameter to the full. 	<ul style="list-style-type: none"> Use adequately dimensioned washers for elongated holes.
<p>BAGAB00001_Z002</p>  <p>≥ 800 N/mm²</p>	<p>BAGAB00002_Z002</p> 	<p>BAGAB00003_Z002</p>  <p>∅ 3 : 1</p>

Permissible mounting positions



Mounting

Four holes are provided for mounting.



Installation

The descriptions below apply to general door specifications. The specifications of the door manufacturer must also be observed during installation.



Warning - Potential injury or danger to life!

- During installation, be sure to use a lifting device that has a sufficient load-carrying capacity.
- Ensure that there is sufficient space around the handwheel for safe operation of the friction clutch.

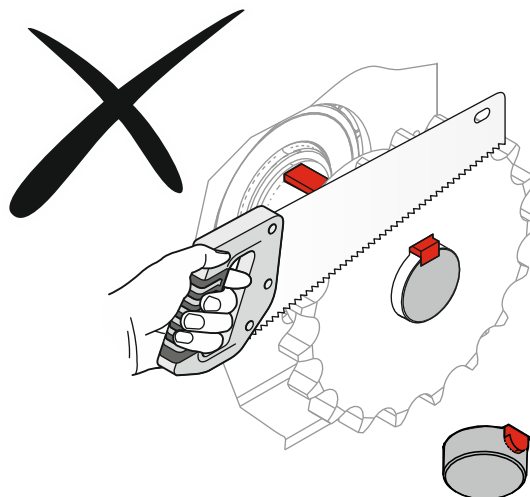
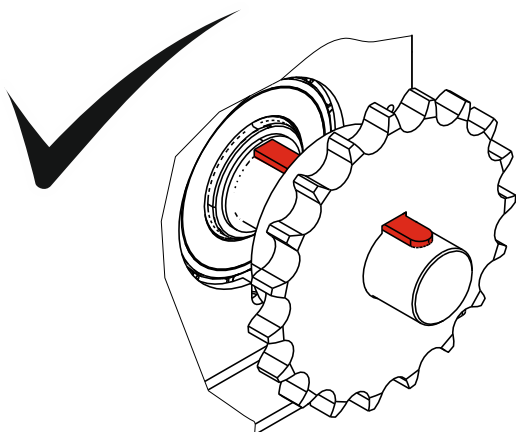


Notice! Gearbox damage from shortening the output shaft

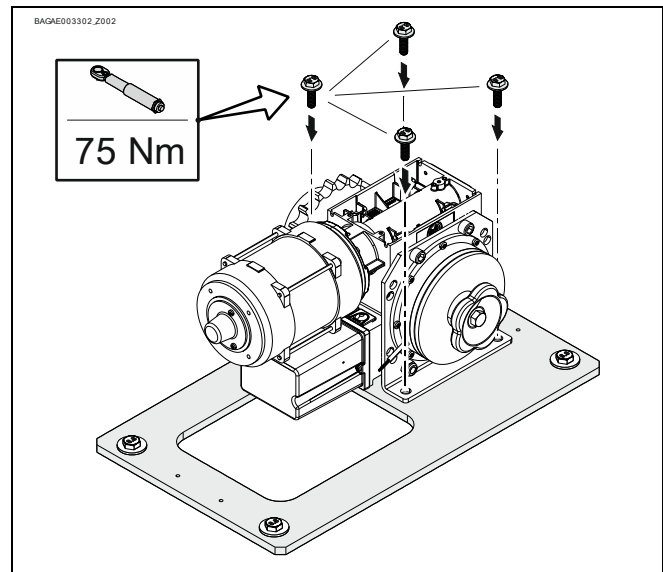
If you cut off the output shaft, the built-in slipping clutch cannot be adjusted. The gearbox cannot generate any torque. The gearbox will be damaged.

Do not shorten the output shaft.

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- Tighten all connection elements (M12) to 75 Nm. Install all other connection elements according to the specifications of the door manufacturer.

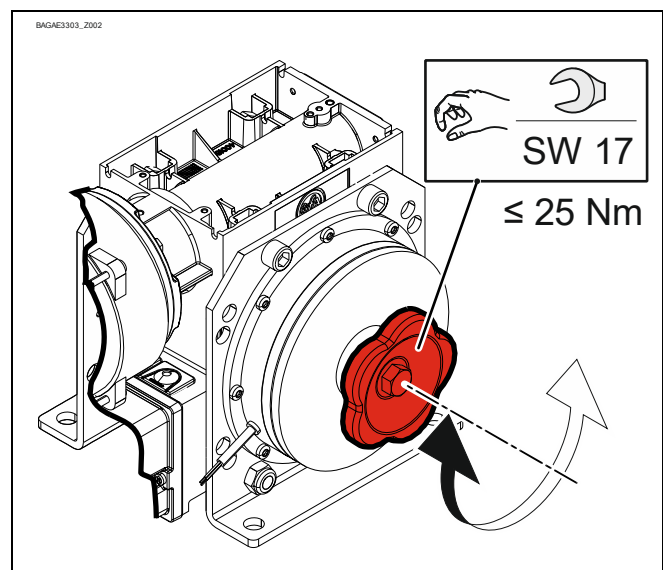


Warning - Potential injury or danger to life!

- Disconnect the electric supply to set the friction clutch.

The friction clutch provides overload protection. It is tightened finger-tight at the factory. Turning to the right (handwheel or screw) increases the transferable torque. Turning to the left decouples the drive unit from the door (does not apply to version with floor release).

- Tighten the handwheel or the screw with a maximum of 25 Nm.



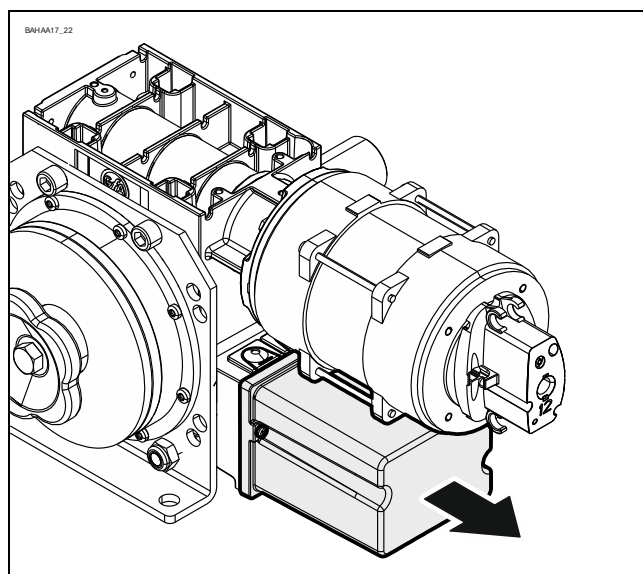
4 Electrical installation



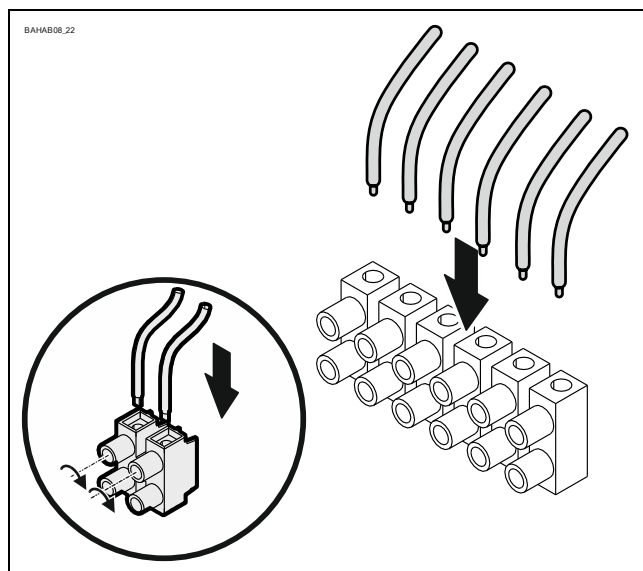
Warning - Danger to life from electric current!

- Switch the mains OFF and check that the cables are de-energised
- Observe the applicable regulations and standards
- Make the electrical connection according to standard
- Use suitable tools

- Remove the cover.



- Connect the motor and brake cables.



Warning! Mortal danger due to the door dropping

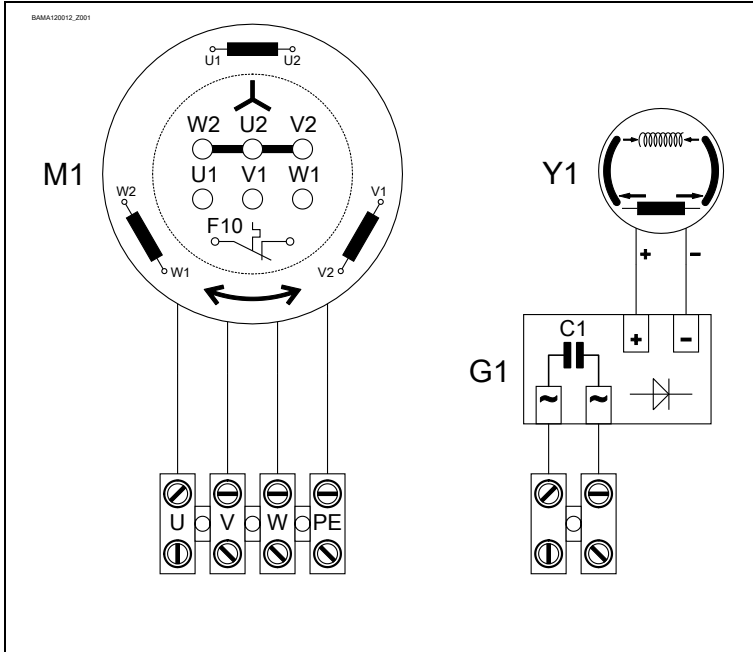
With externally/separately triggered spring applied brakes, there is a risk of incorrect brake control. This can cause the door to drop.

- Make sure that the brake control of the brake meets Performance Level C (PL c).

Completing the electrical installation

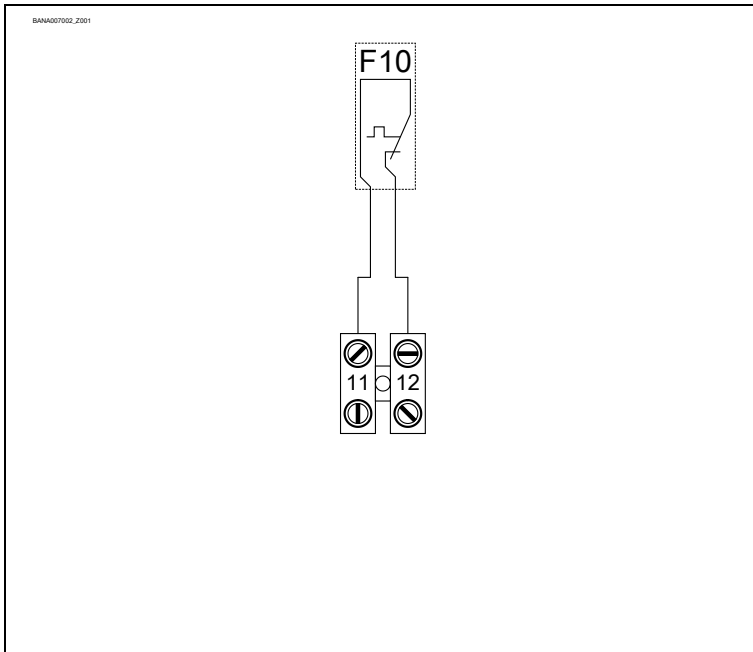
Mount the cable entries and/or cable glands.

5 Motor connection



G1	Half-wave rectifier
M1	Motor
Y1	Magnetic brake

6 Limit switch connection



F10	Thermal contact
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7 Completing commissioning / inspection

Check the following components and then install all covers.

Gearbox

Check the drive unit for loss of oil (a few drops can be neglected). Protect the output-shaft permanently against corrosion.

Mounting

Check that all connection elements (consoles, torque mounts, screws, locking rings, etc.) are secure and in proper condition.

Electrical wiring

Check the connection cables and cabling for damage or crushing. Check that the screw connections and plug connections are fitted properly with a good electric contact.

Brake



Warning - Potential injury or danger to life!

- Carry out a brake test. Overrun depends on the door and its equipment. The specifications of the door manufacturer must be observed.

In an environment that can affect the coefficient of friction of the brake pad (atmosphere with oil, solvents, detergents, etc.), class of protection IP65i must be adopted.



Note!

- Engage a qualified engineer to check the drive unit annually
- Apply shorter inspection intervals for doors that are operated frequently
- Observe the applicable regulations and standards

8 Disposal

Dispose of packaging

Dispose of the packaging material properly according to the local legal regulations or recycle it.

Dispose of old devices

Dispose of old devices properly according to local legal regulations. Return old devices to the return and collection systems available. You can also return GfA products free of charge. Please apply enough postage to the package and mark it as "old devices".



Notice- Environmental damage!

The gearbox contains oil.

- Ensure proper disposal according to local legal regulations.

Declaration of incorporation

within the meaning of Machinery Directive 2006/42/EC
for partly completed machinery, Appendix II Part B



Declaration of conformity

within the meaning of EMC Directive 2014/30/EU
within the meaning of RoHS Directive 2011/65/EU

GfA ELEKTROMATEN GmbH & Co. KG
Wiesenstraße 81 · 40549 Düsseldorf
Germany

We,
GfA ELEKTROMATEN GmbH & Co. KG
declare under our sole responsibility that the
following product complies with the above directives
and is only intended for installation in a door system.

Drive unit
ST 16.24-40,00
Part no.: 10002992 00024

We undertake to transmit in response to a reasoned
request by the appropriate regulatory authorities the
special documents on the partly completed
machinery.

This product must only be put into operation when it
has been determined that the complete
machine/system in which it has been installed
complies with the provisions of the above-mentioned
directives.

Authorised representative to compile the technical
documents is the undersigned.

Düsseldorf, 10.08.2018

Stephan Kleine
CEO


Signature

The following requirements from Appendix I of the
Machinery Directive 2006/42/EC are met:
1.1.2, 1.1.3, 1.1.5, 1.2.2, 1.2.3, 1.2.6, 1.3.2, 1.3.3,
1.3.9, 1.5.1, 1.5.2, 1.5.4, 1.5.6, 1.5.7, 1.5.8, 1.5.9,
1.5.10, 1.5.11, 1.5.13, 1.6.1, 1.6.2, 1.6.4, 1.7.2, 1.7.3,
1.7.4.3.

Standards applied:

EN 12453:2017+A1:2021

Industrial, commercial and garage doors and gates -
Safety in use of power operated doors -
Requirements

EN 12604:2017

Industrial, commercial and garage doors and gates -
Mechanical aspects - Requirements

EN 60335-1:2012

Household and similar electrical appliances - Safety -
Part 1: General requirements

EN 61000-6-2:2005

Electromagnetic compatibility (EMC) Part 6-2 Generic
standards – Immunity standard for industrial
environments

EN 61000-6-3:2007

Electromagnetic compatibility (EMC) Part 6-3 Generic
standards – Emission standard for residential,
commercial and light-industrial environments

Declaration of incorporation

within the meaning of Supply of Machinery (Safety) Regulations 2008
for partly completed machinery, Appendix II Part B

Declaration of conformity

within the meaning of Electromagnetic Compatibility Regulations 2016
within the meaning of Restriction of the Use of Certain Hazardous Substances in Electrical
and Electronic Equipment Regulations 2012



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machine/system in which it has been installed
complies with the provisions of the above-mentioned
directives.

Authorised representative:
Andrew Collett
GfA ELEKTROMATEN UK Ltd
Tournament Fields Business Park,
Agincourt Rd,
Warwick CV34 6XZ

Düsseldorf, 01.11.2022

Stephan Kleine
CEO

A handwritten signature in black ink, appearing to read 'S. Kleine', followed by a horizontal line.

Signature

The following requirements from Appendix I of the
Supply Machinery (Safety) Regulations 2008 are
met:
1.1.2, 1.1.3, 1.1.5, 1.2.2, 1.2.3, 1.2.6, 1.3.2, 1.3.3,
1.3.9, 1.5.1, 1.5.2, 1.5.4, 1.5.6, 1.5.7, 1.5.8, 1.5.9,
1.5.10, 1.5.11, 1.5.13, 1.6.1, 1.6.2, 1.6.4, 1.7.2, 1.7.3,
1.7.4.3.

Applied Standards:
BS EN 12453:2017+A1:2021
Industrial, commercial and garage doors and gates -
Safety in use of power operated doors -
Requirements

BS EN 60335-2-103:2015
Household and similar electrical appliances -
Safety - Part 2-103: Particular requirements for
drives for gates, doors and windows

BS EN 61000-6-2:2005
Electromagnetic compatibility (EMC) Part 6-2
Generic standards – Immunity standard for
industrial environments

BS EN 61000-6-3:2007
Electromagnetic compatibility (EMC) Part 6-3
Generic standards – Emission standard for
residential, commercial and light-industrial
environments