

Servo Drives 930 fluxxtorque



decentralised, intelligent, precise

Servo Drives 930 fluxxtorque

lenze

Lenze

Our commitment to you

If you are looking for effective and easy solutions for the implementation of your machine and drive concepts or want to optimise existing concepts and cut your costs, Lenze is your ideal partner.

We have more than 50 years' experience at the cutting edge of drive and automation technology.



Drive and automation technology set in motion by Lenze – for example in logistics centres, in the textile and printing industry, in the automotive industry or as the driving force behind robots.

Product key | Small drives

Mounting position (A-F) and position of system blocks (1-6)

| SSN | Solid shaft: 3, 5, 8 Hollow shaft: 0 | Flange: 3, 5 | Electrical connection: 2, 3, 4, 5 | | |
|---|---|--------------|-----------------------------------|----------|----------|
| A | B | C | D | E | F |
| | | | | | |
| Shaft/flange position 3 5 3 5 (8) | | | | | |

Helical geared motors GST

| GST | Electrical connection: 2, 3, 4, 5 | | | | |
|----------|-----------------------------------|----------|----------|----------|----------|
| A | B | C | D | E | F |
| | | | | | |

Helical geared motors GKR

| GKR | Solid shaft: 3, 5, 8 Hollow shaft: 0 Hollow shaft with shrink disc: 3, 5 | Flange: 3, 5, 8 Without flange: 0 | Electrical connection: 2, 3, 4, 5 | | |
|----------|--|--------------------------------------|-----------------------------------|----------|----------|
| A | B | C | D | E | F |
| | | | | | |

Electrical connection with controller in mounting position A

| Controller in position 2 | Controller in position 3 | Controller in position 4 | Controller in position 5 |
|--------------------------|--------------------------|--------------------------|--------------------------|
| | | | |

The Company

Introducing Lenze small drives

Innovations in plant and engineering are powered nowadays by mechatronic drive systems. As an experienced partner in drive and automation systems, Lenze can provide you with complete solutions. Motion control systems are now at the forefront, rather than individual drives. Lenze views mechatronics as a key technology for the 21st century and is therefore supporting it with relevant products and the knowledge of our application specialists.

Lenze Small Drives specialises in drive technology in the 12 to 750 W power range. The product programme includes DC permanent-magnet motors and both synchronous and asynchronous motors which can be combined with worm, bevel, helical worm or planetary gearboxes to deliver compact and highly-dynamic power packs. Equally small but perfectly formed are the matching intelligent servo inverters, which as mechatronic units can be connected directly to the motors, installed as decentralised units in the machine or as compact versions in the control cabinet – fieldbus interface included.

The modular structure of Lenze small drives enables standard components to be used to tailor our offering to your requirements – regardless of whether the drives are connected directly to the mains or are battery-operated. We've made our home in many sectors since 1985, and can point to applications in materials handling technology, medical engineering, batching systems, handling/robotics and the printing and packaging industries.

Our objective is clearly defined: we provide you with ready-to-run mechatronic solutions that already contain a wealth of knowledge about the functions performed by your machines. You can rely absolutely on Lenze's drive and automation technology and improve the productivity of your machines and systems at the same time.

Let's have a chat.



Lenze | about us

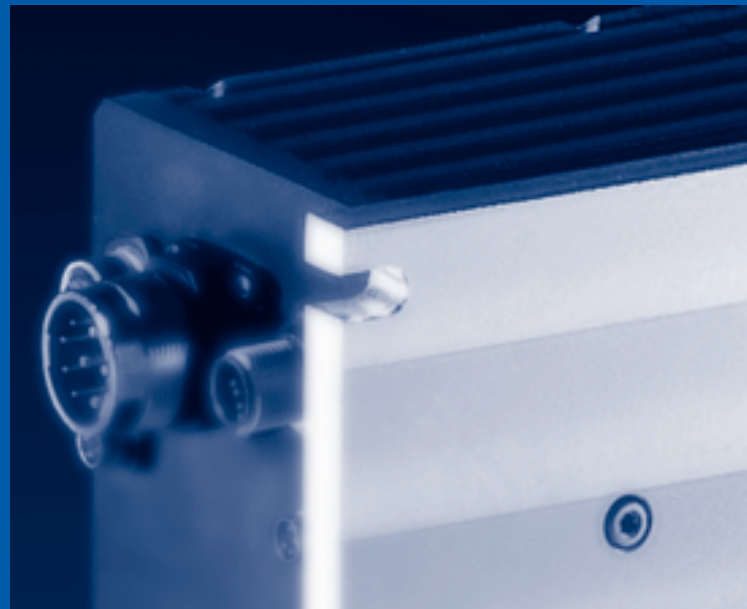
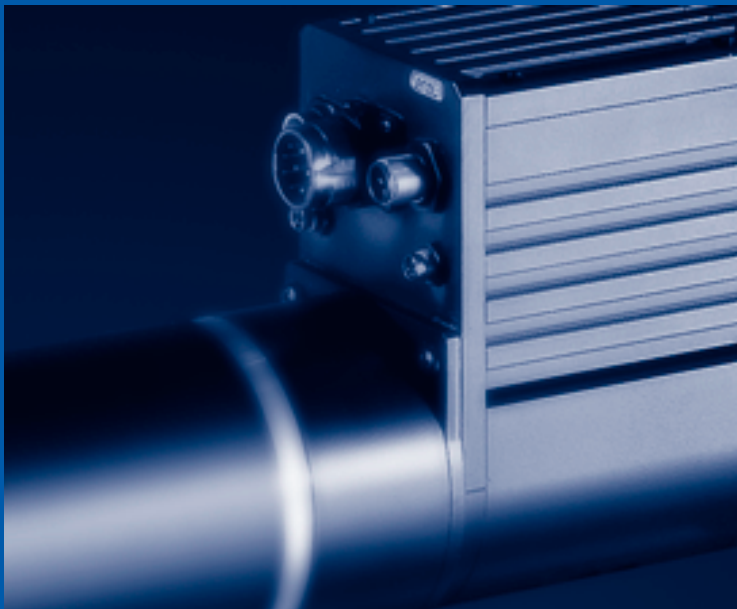
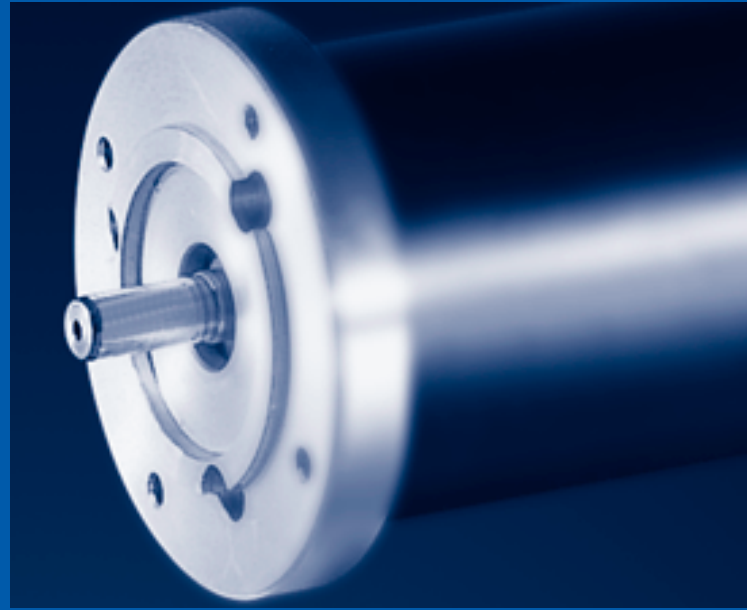
We can offer you automation solutions, including control, visualisation and drive technology, from one source. Our drive systems will improve the performance of your machines. From project planning to commissioning, we have the know-how. Our international sales and service network can provide you with expert help and advice at any time.

Cut your process costs and increase your ability to compete. Let us analyse your drive technology tasks and support you with made-to-measure solutions.

We can take an integrated approach to projects thanks to the scalability of our products and the scope of the overall portfolio. We can get the best from your machines and systems.



At your side all over the world – with thorough and professional support from our motivated team.



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General information

Type code

Servo drives type code

S D S G S S R 0 5 6 - 2 2



Key to 931M servo drives type code; consisting of 931M servo inverter and SDS motor

| | | |
|----------|------------|--|
| A | S | Lenze small drives |
| B | D | Three-phase AC current |
| C | S | Naturally ventilated |
| D | G | Smooth housing |
| E | S | Synchronous motor |
| F | SR | Servo inverter with resolver |
| | SB | Servo inverter with resolver and brake |
| G | 035 | Frame size |
| | 047 | |
| | 056 | |
| H | 2 | Medium |
| I | 2 | 4-pole |



Type code for geared motors

SSN40-2GVAR-047C22

Product group

- G- Gearboxes
- S- Small drives

Product range

- KR- Bevel gearbox
- PL- Planetary gearbox
- SN- Worm gearbox
- ST- Helical gearbox

Size

- Helical gearbox -03, 04, 05
- Bevel gearbox -03, 04
- Worm gearbox 31, 40
- Planetary gearbox -52, 62, 81,

No. of stages

- 1- Single-stage
- 2- Two-stage
- 3- Three-stage

Drive-end version

- G- Synchronous motor SDS series

Output design

Shaft design

- V- Solid shaft
- D- Double shaft
- H- Hollow shaft

Housing design

- A- Foot-mounted with centring
- C- Without foot, with centring

Output flange

- L- Round flange with tapped holes
- R- Without flange
- K- Round flange with through hole

Motor frame size

Axis height according to standard e.g. 056 = IEC56

Design

- C- Compact motor with Lenze mounting flange
- N- Standard motor with IEC mounting flange

Overall length

- 1- S, short
- 2- M, medium
- 3- L, long

Number of pole pairs

- 1- 2-pole
- 2- 4-pole





General information

930 fluxxtorque Servo Drives system overview

930 fluxxtorque Servo Drives system overview

System cables



Voltage supply
Communication



Power supply units

- ▶ 24 V, 10 A, 230 V
- ▶ 24 V, 20 A, 230 V
- ▶ 48 V, 5 A, 230 V
- ▶ 48 V, 10 A, 400 V
- ▶ 48 V, 20 A, 400 V

931W Servo Drive



931M Servo Drive

0.45 Nm, 3000 rpm, 24 or 42 V DC
 0.8 Nm, 2000 rpm, 42 V DC
 99 profiles
 RS232/CAN/PROFIBUS
 Resolver, brake

931M Servo Drive

0.80 Nm, 3000 rpm, 230 V AC
 1.40 Nm, 3000 rpm, 230 V AC
 99 profiles
 RS232/CAN/PROFIBUS
 Resolver, brake

SDSGS servo motors



Planetary gearbox SPL

Bevel gearbox GKR

Helical gearbox GST

Worm gearbox SSN





Abbreviations used in this catalogue:

| | | | | |
|------------------|--|-------------|-----------------|---|
| α | Angle of action of radial force | M_2 | [Nm] | Output torque |
| c | Load capacity of gearboxes/geared motors | M_r | [Nm] | Rated torque |
| d_w | [mm] Effective diameter of transmission element | M_A | [Nm] | Starting torque of motor |
| $\cos \varphi$ | Motor power factor | M_B | [Nm] | Holding torque of brake |
| $\cos \varphi_N$ | Power factor of asynchronous motors | M_{cont} | [Nm] | Continuous torque |
| F_a | [N] Applied axial force | M_{stall} | [Nm] | Stalling torque of motor |
| F_a | [N] Permissible axial force | M_t | | Maximum torque factor |
| $F_{a Tab}$ | [N] Table value of axial force | M_{max} | [Nm] | Maximum torque |
| f_{ch} | [kHz] Chopper frequency | M_{perm} | [Nm] | Permissible torque |
| f_d | [Hz] Field frequency | n_1 | [rpm] | Input speed |
| F_l | Mass acceleration factor | n_2 | [rpm] | Output speed |
| f_{max} | [Hz] Set maximum frequency | n_r | [rpm] | Rated speed |
| f_r | [Hz] Rated frequency | n_{max} | [rpm] | Maximum speed |
| F_r | [N] Applied radial force | P_1 | [kW] | Drive power |
| $F_{r Tab}$ | [N] Table value of radial force | P_2 | [kW] | Output power |
| F_r | [N] Permissible radial force | P_r | [kW] | Rated power |
| f_w | Load position factor of applied radial force | P_v | [kW] | Inverter power loss |
| f_α | Effective direction factor of applied radial force | R | [Ω] | Resistance |
| f_z | Additional radial force factor of transmission element | S_r | [kW] | Inverter output power |
| i | Ratio | TU | [$^{\circ}C$] | Operating ambient temperature |
| φ | Ratio step | UG | [V] | DC-bus voltage |
| η | Mechanical efficiency | U_r | [V] | Rated voltage |
| I_0 | [A] Continuous standstill current | U_{mains} | [V] | Mains voltage |
| I_A | [A] Motor starting current | \hat{U} | [kV] | Voltage peak |
| I_{max} | [A] Maximum output current | IP | | International protection code |
| I_r | [A] Rated current | IEC | | International Electrotechnical Commission |
| I_{mains} | [A] Rated mains current | DIN | | Deutsches Institut für Normung |
| J_{ext} | [kgm ²] Moment of inertia of the machine to be driven reduced to motor shaft | VDE | | Verband deutscher Elektrotechniker |
| J_{load} | [kgm ²] Moment of inertia of the load machine | $USDA$ | | United States Department of Agriculture |
| J_{mot} | [kgm ²] Moment of inertia of the motor | $NEMA$ | | National Electrical Manufacturers Association |
| J_A | [kgm ²] Moment of inertia of the drive reduced to drive shaft | AC | | Alternating current/voltage |
| J_B | [kgm ²] Moment of inertia of the brake | DC | | Direct current/voltage |
| k | Application factor (according to DIN 3990) | EMC | | Electromagnetic compatibility |
| L | [mH] Inductance | EN | | European standard |
| m | [kg] Mass | CE | | Communauté Européenne |
| M_0 | [Nm] Continuous standstill torque | IM | | International Mounting Code |
| M_1 | [Nm] Input torque | | | |



General information

Drive technology

Features

The 931M drive is a synchronous motor with an integrated, bus-compatible servo inverter.

The difference between the 931W and 931M drives is the separation of the motor and servo inverter.

However, there is no difference between the functionality of the M and W types, in either the 230 V AC or 24/42 V DC voltage versions.

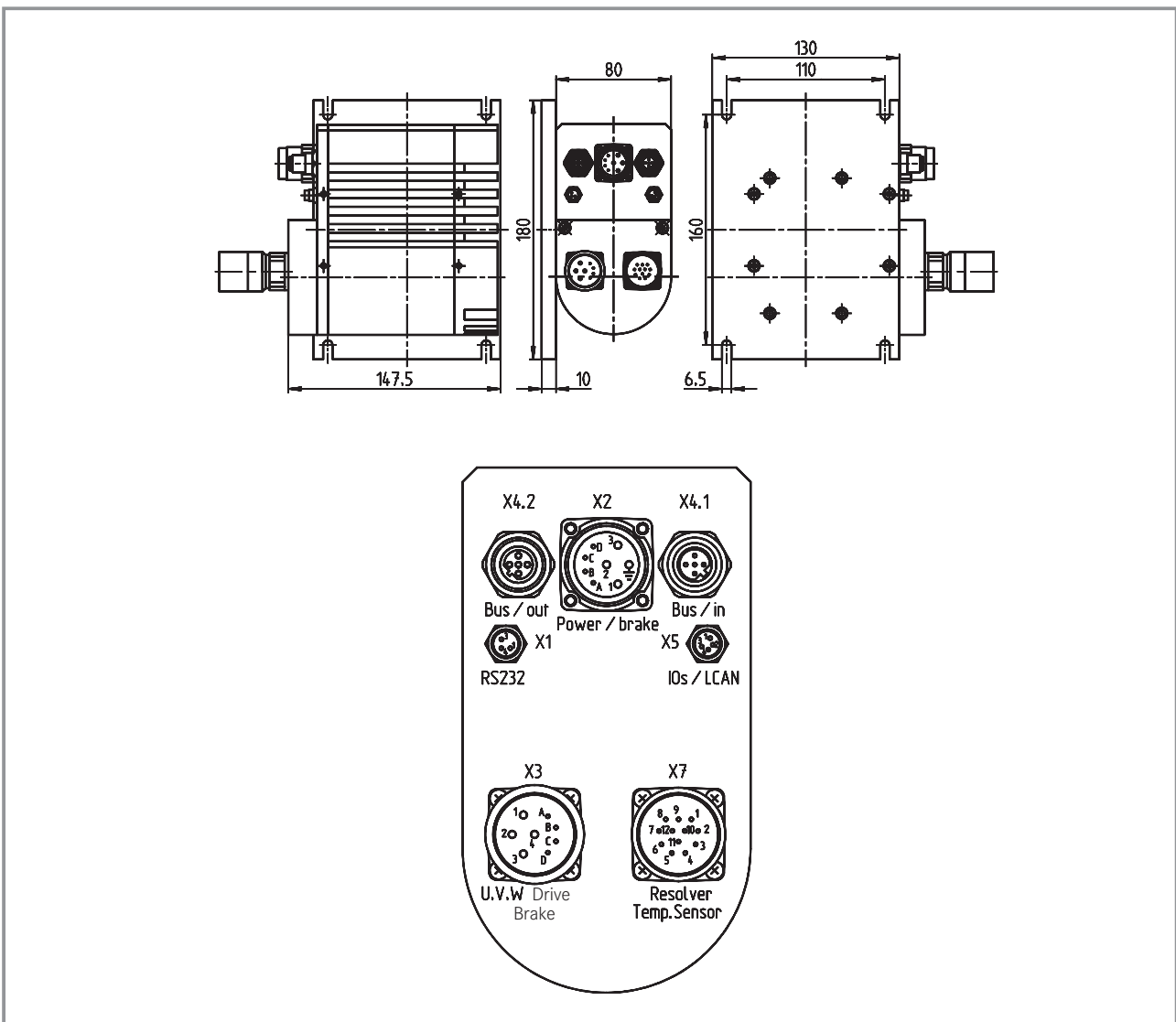
All drives have 100 "driving records" in which different operating modes such as speed operation, torque operation, positioning operation or following error operation can be entered, along with individual settings. The driving records can be combined to form motion sequences.

The drives are equipped with various monitoring functions such as overvoltage and undervoltage monitoring, following error monitoring, temperature monitoring, etc. Both the motor or winding temperature and the temperature of the power electronics in the controller are monitored. Due to the temperature sensitivity of the power electronic components, power derating is required from a temperature of 70°C and upwards. With inverter temperatures of 78°C or more, the servo inverter is switched off.

As far as motors are concerned, only synchronous motors with resolvers are used. The technical data relating to each of the different designs is summarised in the following tables.

1

931M/W servo inverter





Design

A number of different versions of the controller can be ordered. There is also a choice of different voltages, a variety of bus systems and either Local CAN or I/O. With this last option, the user can select either a fixed input and

output or a Local CAN interface for the purpose of connecting various add-on modules.

In the following table, possible combinations are indicated by a dot:

| Type | Supply voltage | | | Bus system/Interface | | | Inputs/Outputs | |
|-----------|----------------|---------|----------|----------------------|---------|-----------|----------------|-------|
| | 24 V DC | 42 V DC | 230 V AC | PROFIBUS | CAN bus | Local Can | IOs | RS232 |
| 931 MPN21 | | | • | • | | • | | • |
| 931 MPN11 | | | • | • | | | • | • |
| 931 MCN21 | | | • | | • | • | | • |
| 931 MCN11 | | | • | | • | | • | • |
| 931 MPN21 | | | | • | | • | | • |
| 931 MPN11 | | | | • | | | • | • |
| 931 MCN21 | | | | | • | • | | • |
| 931 MCN11 | | | | | • | | • | • |
| 931 WPN20 | | | • | • | | • | | • |
| 931 WPN10 | | | • | • | | | • | • |
| 931 WCN20 | | | • | | • | • | | • |
| 931 WCN10 | | | • | | • | | • | • |
| 931 WPN20 | | | | • | | • | | • |
| 931 WPN10 | | | | • | | | • | • |
| 931 WCN20 | | | | | • | • | | • |
| 931 WCN10 | | | | | • | | • | • |
| 931 MPK21 | • | | | • | | • | | • |
| 931 MPK11 | • | | | • | | | • | • |
| 931 MCK21 | • | | | | • | • | | • |
| 931 MCK11 | • | | | | • | | • | • |
| 931 MPK21 | | • | | • | | • | | • |
| 931 MPK11 | | • | | • | | | • | • |
| 931 MCK21 | | • | | | • | • | | • |
| 931 MCK11 | | • | | | • | | • | • |



General data and operating conditions

In general, the following standards and operating conditions apply to the 931M and 931W drives:

| | | |
|-------------------------------------|---|---|
| Conformity | CE Low-Voltage Directive 73/23/EEC | |
| Regulations | Requirements in accordance with IEC/EN 61800-3 (Category C3) | |
| Climatic conditions | Air humidity max. 90% no condensation | |
| Cooling | Passive via housing surface and heatsink | |
| Admissible temperature range | | |
| Transport | -25°C to +70°C | |
| Storage | -25°C to +70°C | |
| Operation | 0°C to +40°C | |
| Internal inverter temperature | T _{el} >70°C: power derating Disconnection at T _{el} >78°C | |
| Permissible site altitude | 0 to 1000 m above msl | Beyond 1000 m above msl, the rated output current is reduced by 5%/1000 m |
| Mounting position | Any mounting position and alignment is permissible (see restriction) | |
| Free space | | |
| Above/below | ≥ 50 mm | |
| To the sides | ≥ 50 mm | |
| Enclosure | IP54 | |
| DC connection system | Possible with restriction | |

| Inputs, outputs and bus systems for the 931M drive type | |
|---|---|
| Digital inputs – standard I/O | 1 input, 1 output All inputs and outputs can be configured as Active High or Active Low as required. |
| Digital inputs - Local CAN, optional | Only when used in conjunction with a function module (in preparation). Further information only available on request from Lenze GmbH & Co KG, Kleinantriebe. |
| Cycle time of digital I/O | Adjustable using scanning time (at least 500 μs). If the Local CAN option is being used, the cycle time is < 5 ms. |
| RS232 | |
| CAN (optional) | CANopen in accordance with DS301 standard as well as DSP402 |
| PROFIBUS (optional) | PROFIBUS (PROFIDRIVE) |



General data and operating conditions

The data relating to open and closed loop control is summarised in the following table. For further information, please consult the Manual (Software).

| Open and closed loop control for the 931M drive type | |
|---|---|
| Closed loop control method | Torque, speed, following error and position control |
| Cycle time (current controller) | $\leq 100 \mu\text{s}$ |
| Cycle time (speed, following error and position controller) | Adjustable using scanning time (at least $500 \mu\text{s}$) |
| Switching frequency (PWM) | 10 kHz |
| Maximum output frequency | 500 Hz |
| Positioning range | $\pm 2^{19}$ revolutions |
| Saveable function data records | 100 |
| Encoder evaluation | resolver (12 bit internal resolution) |
| Monitoring | Overvoltage/undervoltage, temperature of motor and output stage |

Internal brake resistor

The 230 V supply voltage version of the 931M servo inverter is equipped with an integrated brake chopper and brake resistor, which is intended to be used with a permanent power of $40 W_{el}$ or a short-term peak power of $200 W_{el}$.

A brake chopper is not implemented in the extra-low voltage versions. The voltage threshold for activating the internal brake chopper is around 375 V DC.

| Internal brake resistor (230 V version) | |
|---|-----|
| Resistance R [Ω] | 550 |
| Permanent power $P_{br, el.}$ [W] | 40 |
| Peak power $P_{peak, el.}$ [W] | 200 |
| Mech. continuous braking torque * (n=3000 rpm) [Nm] | 0.2 |
| Mech. peak torque * (n=3000 rpm) [Nm] | 0.8 |

* The data relates to the torque stated on the motor shaft. These values take the motor friction torque into account!





fluxxtorque control M/W technical data



1

The fluxxtorque control M/W program allows parameter setting for the 931M/W servo position controllers.

The Lenze fluxxtorque control M/W parameterisation software allows the user to adapt the 931M/W servo position controller to meet the requirements of the application in hand. The parameter setting program has the following performance features:

- ▶ Parameter setting for the 931M/W servo position controller
- ▶ Setting of all parameters via the PC
- ▶ Display of status and operating variables
- ▶ Loading and saving of parameter sets
- ▶ Offline parameterisation
- ▶ Oscilloscope function
- ▶ Supported languages: English, German
- ▶ Software available free of charge from www.Lenze.de



Rated data of the drive systems

| Type | SDSGSSR35 | | SDSGSSR47 | | SDSGSSR56 | |
|---|---|---------|-----------|----------|-----------|---------|
| Input data | | | | | | |
| Power supply | | | | | | |
| Voltage (all data +/-10%) | 24 V DC | 42 V DC | 42 V DC | 230 V AC | 230 V AC | |
| Frequency [Hz] | | | | 50 | 50 | |
| Control supply | | | | | | |
| Voltage (all data +/-10%) | 24 V DC | | | | | |
| Current [A DC] | 0.2 | | | | | |
| Brake supply | | | | | | |
| Voltage (all data +/-10%) | 24 (fault where $U < 20$ V or $U > 28$ V) | | | | | |
| Current [A DC] | Approx. 1 | | | | | |
| Output data | | | | | | |
| Output currents | | | | | | |
| Fundamental rated current I_{out} [A _{rms}] | 8.4 | 4.5 | 4.7 | 1.1 | 1.78 | |
| Max. current I_{max} [A _{rms}] | 13.5 | | | 4.5 | | |
| Rated frequency [Hz] | 100 | | | | | |
| Mech. output data | | | | | | |
| Rated operating mode | S1 | | | | | |
| Rated power [W] | 140 | | 170 | 250 | 440 | |
| Rated torque [Nm] | 0.45 | | 0.8 | | 1.4 | |
| Max. starting torque ³⁾ | 0.78 | 1.1 | 2.4 | 3.5 | 3.6 | |
| Max. torque ⁴⁾ | 0.65 | 0.80 | 1.0 | 1.5 | 1.8 | 2.7 2.8 |
| Rated speed [rpm] | 3000 | 3000 | 2000 | 3000 | | |
| No-load speed [rpm] ²⁾ | 5000 | 4500 | 2700 | 4300 | 4000 | |
| Motor data | | | | | | |
| Winding | | | | | | |
| Speed constant [V/1000 rpm] | 3.7 | 6.54 | 8.7 | 48.1 | 52.3 | |
| Torque constant [Nm/A] | 0.058 | 0.104 | 0.14 | 0.772 | 0.820 | |
| R_{UV} [Ω] | 0.26 | 0.77 | 0.635 | 18.7 | 7.1 | |
| L_{line} [mH] | 0.18 | 0.59 | 0.82 | 25.7 | 6.4 | |
| Insulation material class | F | | | | | |



Rated data of the drive systems

| Type | SDSGSSR35 | SDSGSSR47 | SDSGSSR56 |
|---|-----------|-----------|-----------|
| Motor data | | | |
| Mechanics | | | |
| Moment of inertia [kgcm ²] | 0.293 | 0.444 | 1.466 |
| Flange acc. to IEC | C80 | | C90 |
| Shaft end acc. to IEC 72 | 9 x 20 | | 11 x 23 |
| Locating bearing at the output end | 6000 | | 6301 |
| Non-locating bearing | 6000 | | 6201 |
| Max. radial force end of journal * ¹⁾ [N] | 250 | | 570 |
| Max. radial force centre of journal * ¹⁾ [N] | 260 | | 620 |
| max. axial force ¹⁾ [N] | 200 | | 490 |
| Total weight (inverter and motor) | 2.8 | 3.7-5.0 | 6.0 |

*¹⁾ Forces determined for bearing service life of 20,000 hrs

²⁾ The no-load speed gives the maximum possible speed of the unloaded drive system, depending on the currently relevant supply voltage of the inverter.

³⁾ Maximum torque at a speed of 0 rpm up to 500 rpm

⁴⁾ Maximum torque at rated speed



Rated data for S3 operation/ overload capacity

When dimensioning a drive system which is operated in S3 operation, the r.m.s. motor torque should be calculated. The r.m.s. torque is calculated from the kinematics (travel profile) and the time-dependent load profile, with the gearbox ratio, efficiency, friction losses, etc., also taken into account. It can be easily calculated using the following equation, where T represents the length of a cycle and M_i the motor torque to be achieved in the time t_i . Furthermore, a dynamic factor k_{Dyn} should be taken into account: depending on the dynamic performance of the load profile, this can assume any value between 1 (low dynamic performance) and 1.2 (high dynamic performance/significant compensation). The "Drive Solution Designer" program can be used for calculating the r.m.s. torque or dimensioning the drive systems.

$$M_{rms} = \sqrt{\frac{\sum t_i \cdot M_i^2}{T}} \cdot k_{Dyn} \leq M_r$$

The drives in the 930 fluxxtorque product range are checked in accordance with the load profile shown in Figure 1, with reference to operating mode S3. The load profile that is applied at the rated speed (cycle time: 5 s) consists of a 0.5 s peak load (150% M_r) and a recovery time of 4.5 s (75% M_r).

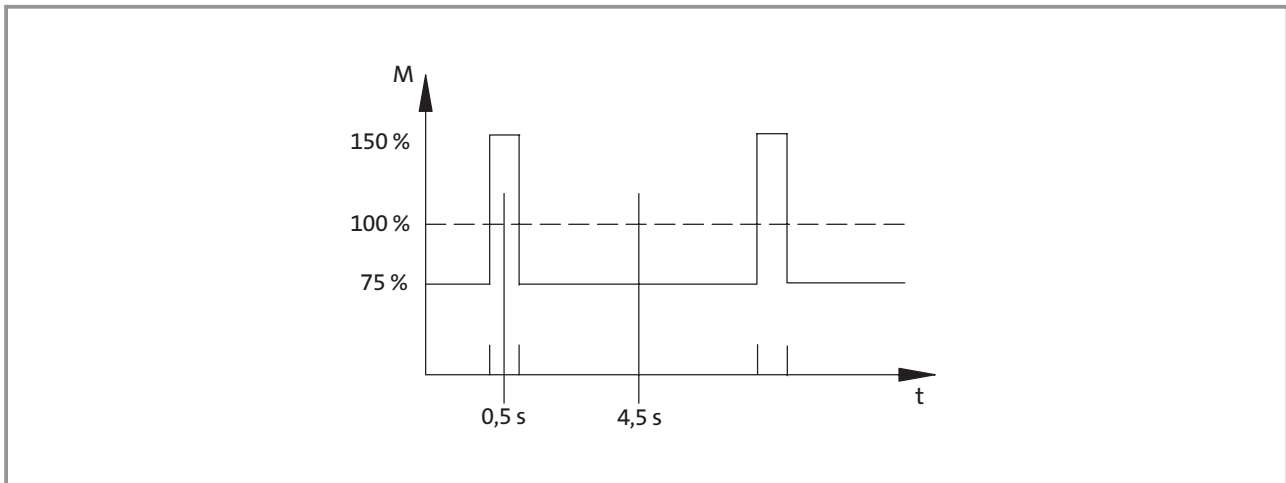


Fig. 1 Drive overload capacity at 40°C

| Type | SDSGSSR35 | | SDSGSSR47 | | | SDSGSSR56 | |
|-----------------------------|-----------|------|-----------|------|------|-----------|------|
| S3 operation | | | | | | | |
| Supply voltage [V] | 24 * | 42 | 42 * | 230 | 320 | 230 | 320 |
| Rated torque [Nm] | 0.45 | 0.45 | 0.80 | 0.80 | 0.80 | 1.40 | 1.40 |
| Max. load torque (15%) [Nm] | 0.68 | 0.68 | 1.20 | 1.20 | 1.20 | 2.10 | 2.10 |
| Recovery torque (75%) [Nm] | 0.34 | 0.34 | 0.60 | 0.60 | 0.60 | 1.05 | 1.05 |

* A reduced speed (1000 rpm) is used as the basis for the data.





General information

Gearbox technology

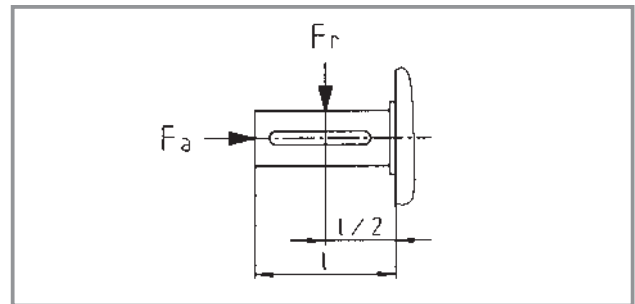
Worm gearbox type SSN31

| Ratio i | Perm. axial load F_a [N] | Perm. radial load F_r [N] | $M_{max.}$ [Nm] | Efficiency | Gearbox | Weight [approx. kg] |
|---------|------------------------------|-----------------------------|-----------------|------------|---------|--|
| 5 | 300(VAR,VAR,DAR) 400(HAR) | 200(VAR,VAR) 2x100(DAR) | 14 | 0.85 | SSN31 | 0.67(VAR) 0.80(VAR) 0.68(DAR) 0.70(HAR) |
| 7 | | | 14 | 0.83 | | |
| 10 | | | 14 | 0.77 | | |
| 15 | | | 16 | 0.74 | | |
| 20 | | | 15 | 0.69 | | |
| 25 | | | 14 | 0.61 | | |
| 30 | | | 15 | 0.59 | | |
| 38 | | | 16 | 0.57 | | |
| 50 | | | 13 | 0.46 | | |
| 55 | | | 15 | 0.52 | | |
| 75 | | | 11 | 0.36 | | |
| 100 | | | 11 | 0.38 | | |

Worm gearbox type SSN40

| Ratio i | Perm. axial load F_a [N] | Perm. radial load F_r [N] | $M_{max.}$ [Nm] | Efficiency | Gearbox | Weight [approx. kg] |
|---------|----------------------------|-----------------------------|-----------------|------------|---------|---------------------------------------|
| 6.75 | 400 | 600(VAR,VAR) 2x300(DAR) | 35 | 0.84 | SSN40 | 1.5(HAR, VAR) 1.6(DAR) 1.8(VAR) |
| 10 | | | 35 | 0.81 | | |
| 15 | | | 33 | 0.74 | | |
| 20 | | | 34 | 0.71 | | |
| 25 | | | 29 | 0.64 | | |
| 30 | | | 36 | 0.62 | | |
| 40 | | | 34 | 0.56 | | |
| 50 | | | 32 | 0.54 | | |
| 60 | | | 23 | 0.38 | | |
| 80 | | | 24 | 0.39 | | |

| Gearbox | Gearbox type | Position of system blocks | |
|---------|--------------|---------------------------|--------|
| | | Shaft | Flange |
| SSN31 | VAL | 3 5 | 3 5 |
| | VAR | 3 5 | - |
| | DAR | 8 | - |
| | HAR | - | - |
| SSN40 | VAL | 3 5 | 3 5 |
| | VAR | 3 5 | - |
| | DAR | 8 | - |
| | HAR | - | - |





Planetary gearbox SPL□□-□NVCR

| Gearbox type | Ratio i | M max. Nm | Axial load max. F _a [N] | Radial load max. F _r [N] |
|--------------|------------|--------------|--|---|
| SPL52-1NVCR | 3.7 | 4 | 60 | 200 |
| | 6.75 | 4 | 60 | 200 |
| SPL52-2NVCR | 13.73 | 12 | 100 | 320 |
| | 25.01 | 12 | 100 | 320 |
| | 45.56 | 12 | 100 | 320 |
| SPL52-3NVCR | 50.89 | 25 | 150 | 450 |
| | 92.7 | 25 | 150 | 450 |
| | 168.84 | 25 | 150 | 450 |

| Gearbox type | Ratio i | M max. Nm | Axial load max. F _a [N] | Radial load max. F _r [N] |
|--------------|------------|--------------|--|---|
| SPL62-1NVCR | 3.7 | 8 | 50 | 240 |
| | 6.75 | 8 | 50 | 240 |
| SPL62-2NVCR | 13.73 | 25 | 70 | 360 |
| | 25.01 | 25 | 70 | 360 |
| | 34.97 | 25 | 70 | 360 |
| | 45.56 | 25 | 70 | 360 |
| SPL62-3NVCR | 50.89 | 50 | 120 | 520 |
| | 71.16 | 50 | 120 | 520 |
| | 99.5 | 50 | 120 | 520 |
| | 123.97 | 50 | 120 | 520 |

| Gearbox type | Ratio i | M max. Nm | Axial load max. N | Radial load max. N |
|--------------|------------|--------------|-------------------------|--------------------------|
| SPL81-1NVCR | 3.7 | 20 | 80 | 400 |
| | 6.75 | 20 | 80 | 400 |
| SPL81-2NVCR | 13.73 | 60 | 120 | 600 |
| | 25.01 | 60 | 120 | 600 |
| | 34.97 | 60 | 120 | 600 |
| | 45.56 | 60 | 120 | 600 |
| SPL81-3NVCR | 50.89 | 120 | 200 | 1000 |
| | 71.16 | 120 | 200 | 1000 |
| | 99.5 | 120 | 200 | 1000 |
| | 123.97 | 120 | 200 | 1000 |

| Efficiency | |
|------------|------|
| 1-stage | 0.8 |
| 2-stage | 0.75 |
| 3-stage | 0.7 |

1





Helical gearbox, permissible radial and axial output forces

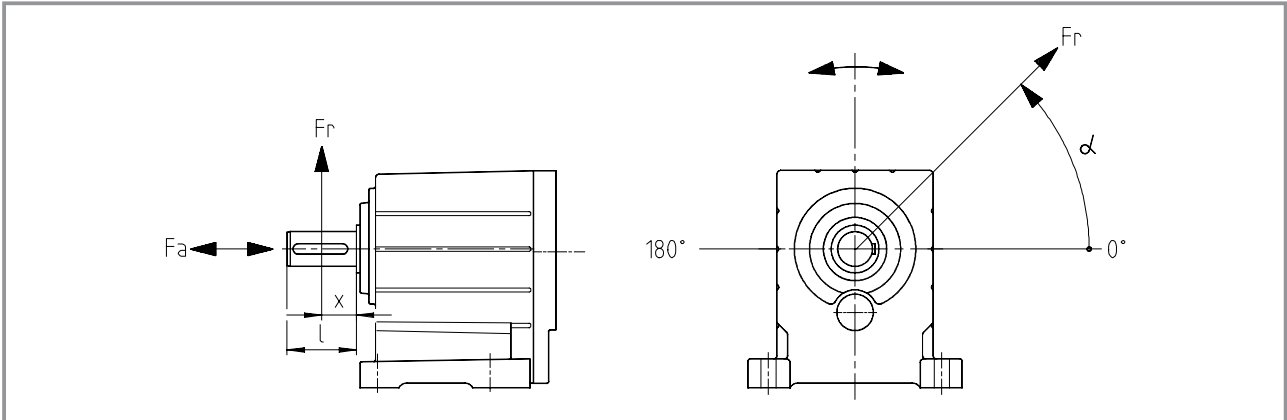
- ▶ Permissible radial force

$$F_{rperm} = f_w \cdot f_\alpha \cdot F_{rTab} \leq f_w \cdot F_{rmax}$$

- ▶ Permissible axial force

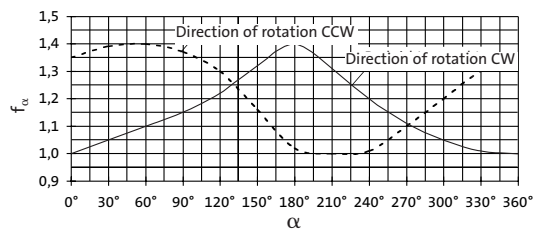
$$F_{aperm} = F_{aTab} \quad \text{where } F_r = 0$$

Contact Lenze if F_r and $F_a \neq 0$

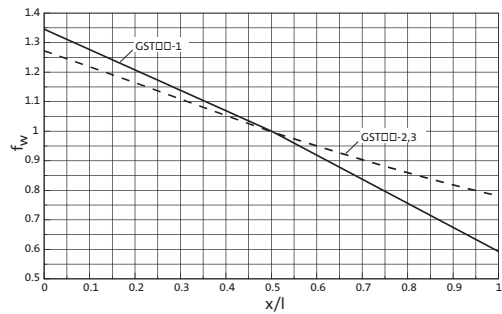


f_α Effective direction factor f^* at driven shaft

2-stage helical gearbox GST 03...09 - 2, 3



f_w Additional load factor f_w at driven shaft





Helical gearbox, permissible radial and axial output forces

GST □□-1

| V □□ | Application of force F_r : centre of shaft journal ($x = l/2$) F_{aTab} only valid for $F_r = 0$ | |
|--------------------|---|-------------------|
| | GST 04 | |
| n_2 [rpm] | F_{rTab} [N] | F_{aTab} [N] |
| 1000 | 440 | 1000 |
| 600 | 600 | 1300 |
| 400 | 850 | 1400 |
| 200 | 1050 | 1400 |
| 125 | 1050 | 1400 |
| 80 | 1050 | 1400 |
| ≤ 50 | 1050 | 1400 |
| $F_r \text{ max.}$ | 1050 | – |

GST □□-2, 3 with standard bearing

| V □□ | Application of force F_r : centre of shaft journal ($x = l/2$) F_{aTab} only valid for $F_r = 0$ | | | |
|--------------------|---|-------------------|-------------------|-------------------|
| | GST 03 | | GST 04 | |
| n_2 [rpm] | F_{rTab} [N] | F_{aTab} [N] | F_{rTab} [N] | F_{aTab} [N] |
| 400 | 630 | 600 | 1250 | 1100 |
| 250 | 710 | 700 | 1450 | 1300 |
| 160 | 800 | 800 | 1700 | 1650 |
| 100 | 920 | 900 | 2100 | 2000 |
| 63 | 1100 | 1000 | 2500 | 2000 |
| 40 | 1400 | 1000 | 2650 | 2000 |
| 25 | 1500 | 1000 | 2650 | 2000 |
| ≤ 16 | 1500 | 1000 | 2650 | 2000 |
| $F_r \text{ max.}$ | 1500 | – | 2650 | – |



Bevel gearbox GKR□□, permissible radial and axial output forces

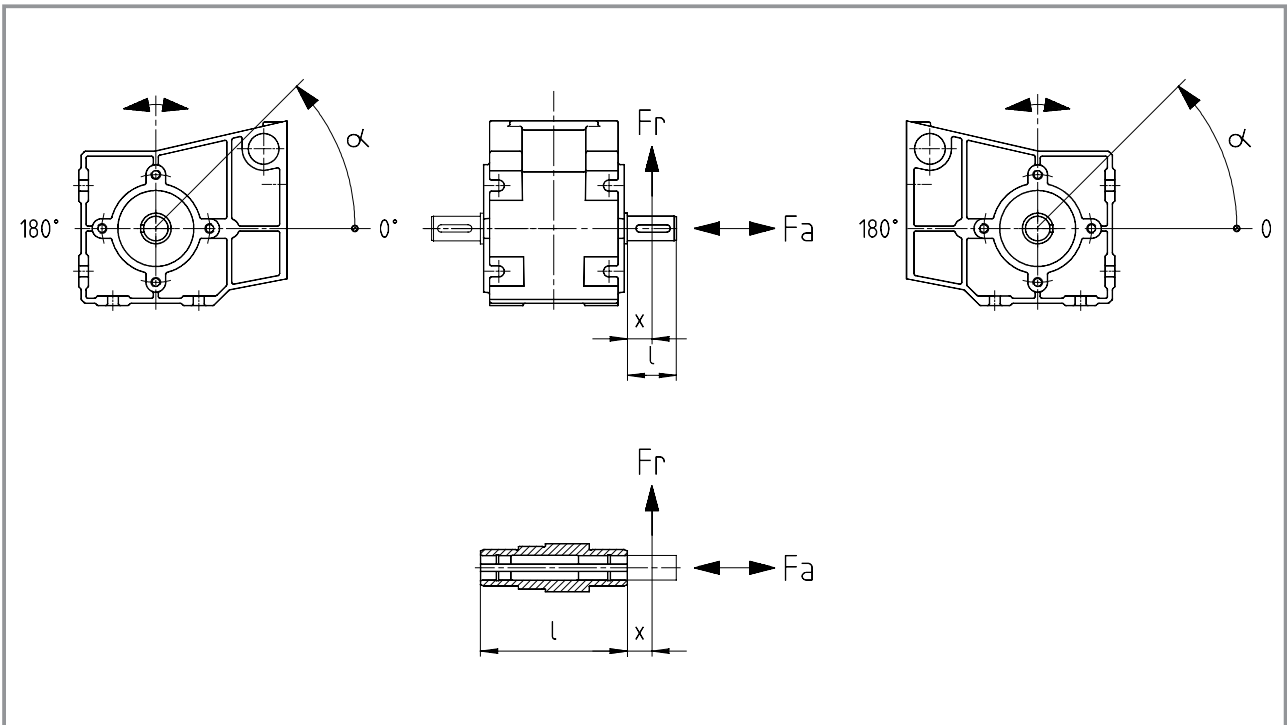
- ▶ Permissible radial force

$$F_{rperm} = f_w \cdot f_\alpha \cdot F_{rTab} \leq f_w \cdot F_{rmax}$$

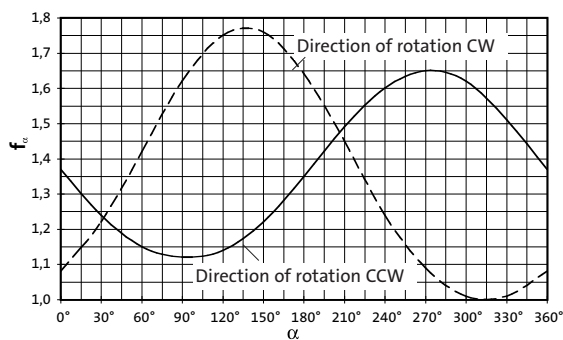
- ▶ Permissible axial force

$$F_{aperm} = F_{aTab} \quad \text{where } F_r = 0$$

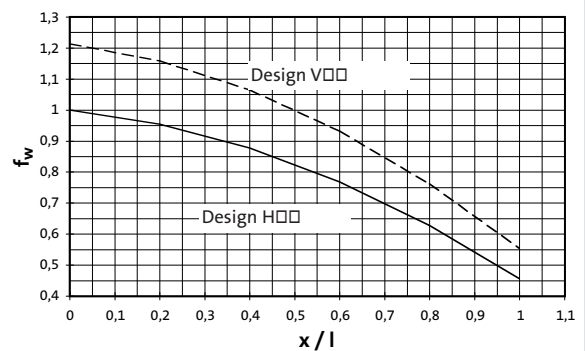
Contact Lenze if F_r and $F_a \neq 0$



f_α Effective direction factor at driven shaft



f_w Additional load factor at output shaft



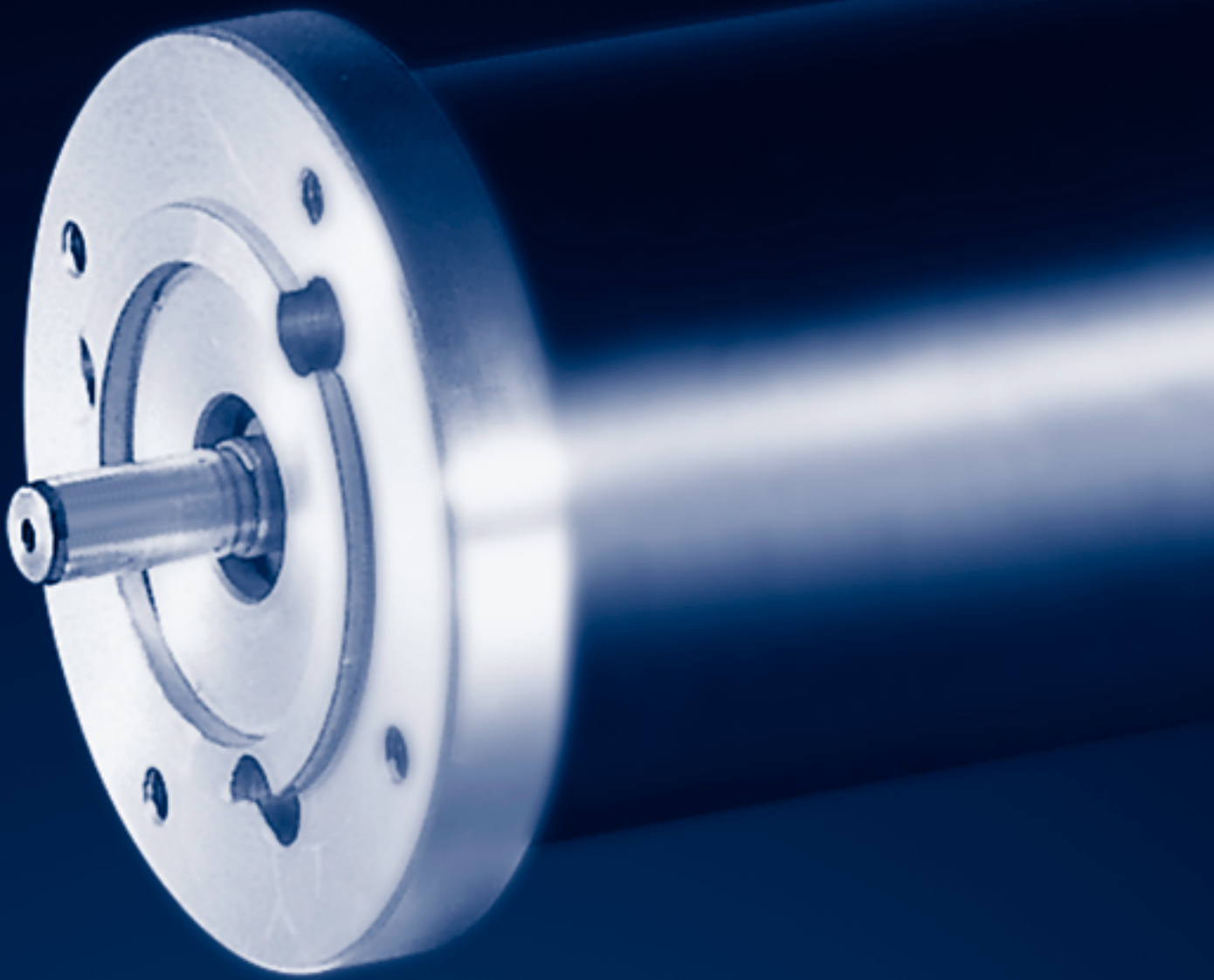


Bevel gearbox, permissible radial and axial output forces

| V00 | Solid shaft without flange Application of force F_{rTab} : on middle of shaft journal ($x = l/2$) F_{aTab} only when $F_r = 0$ | | | |
|----------------|--|-------------------|-------------------|-------------------|
| | GKR 03 | | GKR 04 | |
| n_2 [rpm] | F_{rTab} [N] | F_{aTab} [N] | F_{rTab} [N] | F_{aTab} [N] |
| 400 | 1800 | 1000 | 2100 | 1275 |
| 250 | 2100 | 1100 | 2500 | 1500 |
| 160 | 2400 | 1250 | 2700 | 1650 |
| 100 | 2800 | 1400 | 3000 | 1800 |
| 63 | 3000 | 1400 | 3000 | 1800 |
| 40 | 3000 | 1400 | 3000 | 1800 |
| 25 | 3000 | 1400 | 3000 | 1800 |
| ≤ 16 | 3000 | 1400 | 3000 | 1800 |
| F_{max} | 3000 | – | 3000 | – |

| H00 | Application of force F_{rTab} : at hollow shaft end face ($x = 0$) F_{aTab} only when $F_r = 0$ | | | |
|----------------|--|-------------------|-------------------|-------------------|
| | GKR 03 | | GKR 04 | |
| n_2 [rpm] | F_{rTab} [N] | F_{aTab} [N] | F_{rTab} [N] | F_{aTab} [N] |
| 400 | 2200 | 1000 | 2550 | 1275 |
| 250 | 2500 | 1100 | 3000 | 1500 |
| 160 | 2800 | 1250 | 3300 | 1550 |
| 100 | 3000 | 1400 | 3600 | 1800 |
| 63 | 3000 | 1400 | 3600 | 1800 |
| 40 | 3000 | 1400 | 3600 | 1800 |
| 25 | 3000 | 1400 | 3600 | 1800 |
| ≤ 16 | 3000 | 1400 | 3600 | 1800 |
| F_{max} | 3000 | – | 3600 | – |

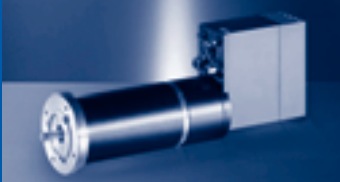




Drive selection | 930 fluxxtorque Servo Drives

Integrated mounting 930M servo inverter for a 24 V or 42 V DC supply voltage

| | |
|-----------------------------------|------|
| SDSGS servo motors | 2-2 |
| Servo worm geared motors SSN | 2-4 |
| Servo planetary geared motors SPL | 2-12 |
| Servo helical geared motors GST | 2-18 |
| Servo bevel geared motors GKR | 2-22 |



Drive selection SDSGS servo motors

Selection table, type SDSGS□□□□□-22

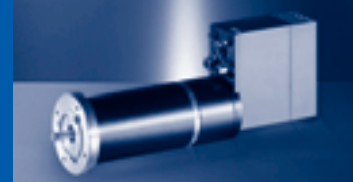
| P _r W | Rated data | | | Version A-side | Motor type | Selection Please tick |
|---------------------|-----------------------|----------------------|------------------------|-------------------|----------------|--------------------------|
| | n ₁ rpm | M ₁ Nm | U _v V DC | | | |
| 140 | 3000 | 0.45 | 24 | IEC56 B14 C80 | SDSGS□□□035-22 | |
| 140 | 3000 | 0.45 | 42 | IEC56 B14 C80 | SDSGS□□□035-22 | |
| 170 | 2000 | 0.80 | 42 | IEC56 B14 C80 | SDSGS□□□047-22 | |
| 170 | 2000 | 0.80 | 42 | IEC63 B14 C90 | SDSGS□□□047-22 | |

Additional order information

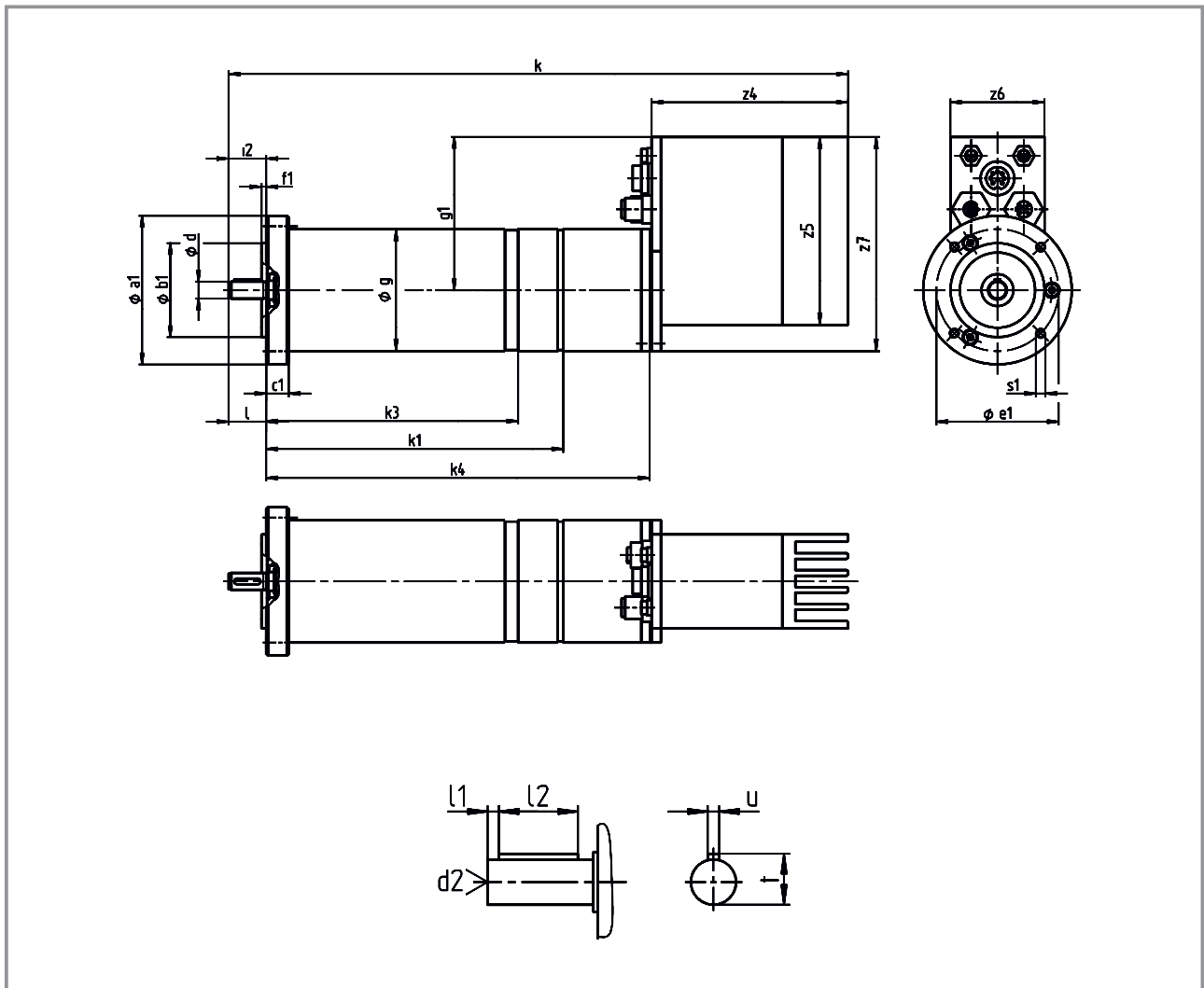
| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |

Servo Drives accessories

| | | |
|-------------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03KBO (Voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| Power supply unit | 931MKF03USO (Y distributor system cable, 3 m) | |
| | 24 V/10 A, 230 V/50 Hz | |
| | 24 V/20 A, 230 V/50 Hz | |
| | 48 V/10 A, 400 V/50 Hz | |
| | 48 V/20 A, 400 V/50 Hz | |



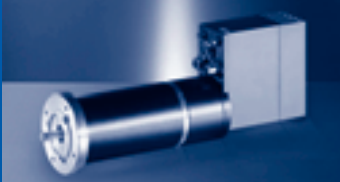
Dimensions, type SDSGS□□□□-22



| Motor type | Frame size | a1 | b1 j7 | c1 | d k6 | d2 | e1 | f1 | g | g1 | i2 | k SB | k1 SR | k3 XX | k4 SB | l |
|---------------|------------|----|----------|----|---------|----|----|-----|----|------|----|---------|----------|----------|----------|----|
| SDSGSS□035-22 | IEC56C80 | 79 | 50 | 12 | 9 | M3 | 65 | 2.5 | 65 | 81.5 | 20 | 329.5 | 180 | 138 | 204 | 20 |
| SDSGSS□047-22 | IEC56C80 | 79 | 50 | 12 | 9 | M3 | 65 | 2.5 | 75 | 86.5 | 20 | 358 | 200 | 156 | 232.5 | 20 |
| SDSGSS□047-22 | IEC63C90 | 89 | 60 | 12 | 11 | M4 | 75 | 2.5 | 75 | 86.5 | 23 | 361 | 200 | 156 | 232.5 | 23 |

| Motor type | Frame size | l1 | l2 | s1 | t | u | z4 | z5 | z6 | z7 | Weight [kg] |
|---------------|------------|----|----|----|------|---|-------|-----|----|-----|----------------|
| SDSGSS□035-22 | IEC56C80 | 3 | 14 | M5 | 10.2 | 3 | 105.5 | 100 | 50 | 114 | 2.8-3.3 |
| SDSGSS□047-22 | IEC56C80 | 3 | 14 | M5 | 10.2 | 3 | 105.5 | 100 | 50 | 124 | 3.7-4.3 |
| SDSGSS□047-22 | IEC63C90 | 3 | 18 | M5 | 12.5 | 4 | 105.5 | 100 | 50 | 124 | 3.7-4.3 |

Dimensions in mm



Drive selection

Servo worm geared motors SSN

Selection table, type SSN31-1G□□□-035C22

| P _r W | Supply voltage Servo Drive 24 V or 42 V DC | | | i | Motor type | Selection Please tick |
|---------------------|--|----------------------|------|-----|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 140 | 600 | 1.91 | 7.32 | 5 | SDSGS□□035-22 | |
| | 429 | 2.61 | 5.35 | 7 | | |
| | 300 | 3.47 | 4.04 | 10 | | |
| | 200 | 5.00 | 3.2 | 15 | | |
| | 150 | 6.21 | 2.42 | 20 | | |
| | 120 | 6.86 | 2.04 | 25 | | |
| | 100 | 7.97 | 1.88 | 30 | | |
| | 79 | 9.75 | 1.64 | 38 | | |
| | 60 | 10.35 | 1.26 | 50 | | |
| | 55 | 12.87 | 1.17 | 55 | | |
| | 40 | 11.00 | 0.91 | 75 | | |
| | 30 | 11.00 | 0.64 | 100 | | |

Additional order information

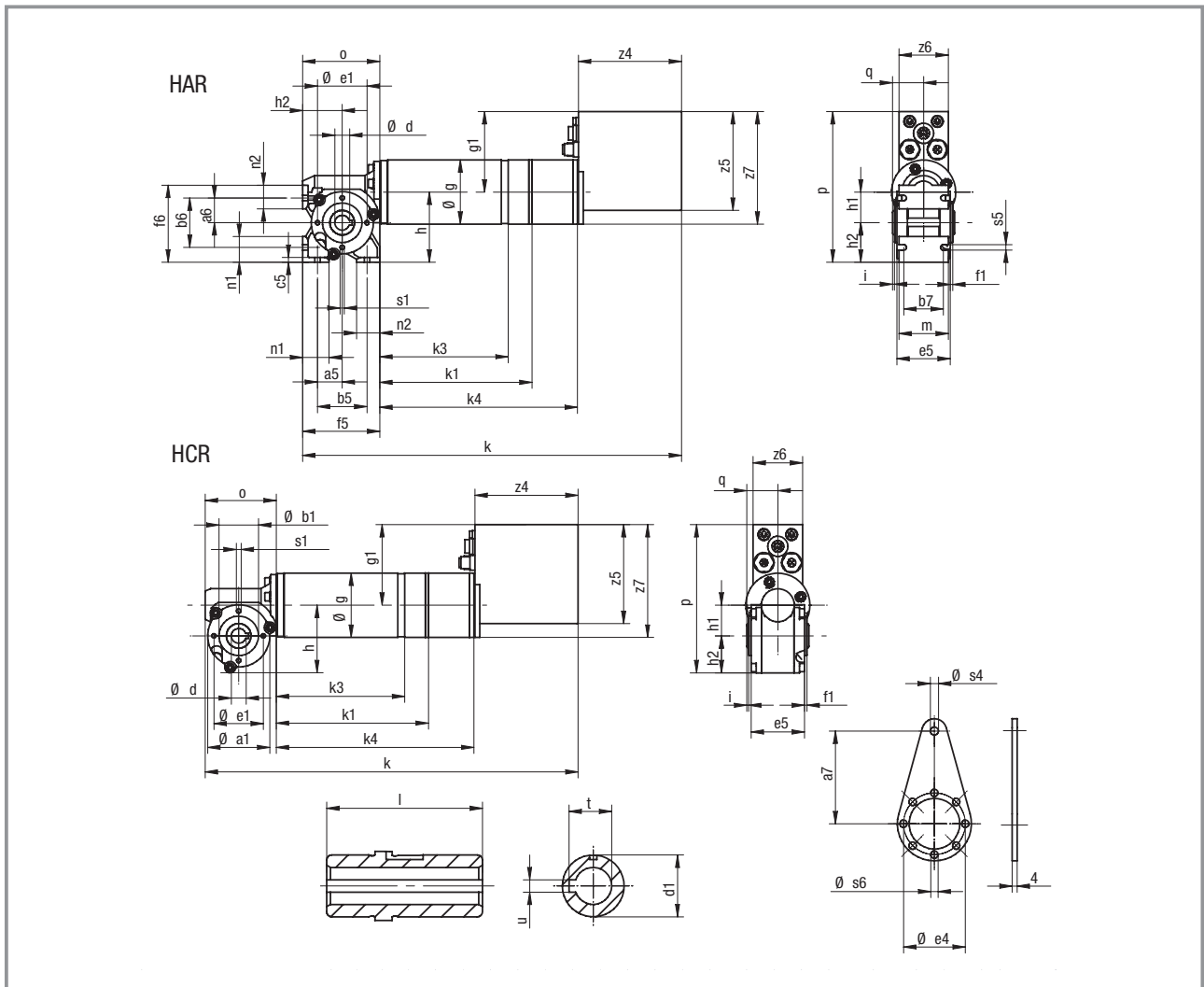
| | | |
|--|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VAR | |
| | DAR | |
| | VAL | |
| | HAR | |
| | VCR | |
| | DCR | |
| | VCL | |
| | HCR | |
| Shaft position on version VAR/VCR | | 3 5 8 |
| Flange/shaft position on version VAL/VCL | | 3 5 8 |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|-------------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03KBO (Voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |
| Power supply unit | 24 V/10 A, 230 V/50 Hz | |
| | 24 V/20 A, 230 V/50 Hz | |
| | 48 V/10 A, 400 V/50 Hz | |
| | 48 V/20 A, 400 V/50 Hz | |



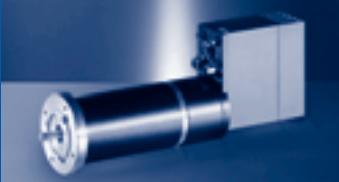
Dimensions, type SSN31-1G□□□-035C22



| Geared motor | a1 | a5 | a6 | a7 | b1 h8 | b5 | b6 | b7 | c5 | d | d1 | e1 | e4 | e5 | f1 | f5 | f6 | g | g1 | h | h1 | h2 | i | k | SB |
|--------------------|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|-----|----|----|----|------|------|----|------|---|-------|----|
| SSN31-1GHAR-035C22 | 63 | 25 | 25 | 75 | 40 | 50 | 50 | 40 | 5 | 15 | 25 | 50 | 50 | 54 | 2.5 | 78 | 78 | 65 | 81.5 | 71 | 31 | 40 | 2 | 383.5 | |
| SSN31-1GHCR-035C22 | 63 | - | - | 75 | 40 | - | - | - | - | 15 | 25 | 50 | 50 | 54 | 2.5 | - | - | 65 | 81.5 | 68.5 | 31 | 37.5 | 2 | 377.5 | |

| Geared motor | k1 | k3 | k4 | l | m | n1 | n2 | o | p | q | s1 | s4 | s5 | s6 | t | u | z4 | z5 | z6 | z7 | Weight [kg] |
|--------------------|-----|-----|-----|----|----|----|----|----|-------|----|----|-----|-----|----|------|---|-------|-----|----|-----|----------------|
| | SR | XX | SB | | | | | | | | | | | | | | | | | | |
| SSN31-1GHAR-035C22 | 176 | 134 | 200 | 63 | 50 | 26 | 24 | 78 | 155.5 | 27 | M5 | 6.5 | 5.5 | 6 | 17.3 | 5 | 105.5 | 100 | 50 | 114 | 3.1-4.2 |
| SSN31-1GHCR-035C22 | 176 | 134 | 200 | 63 | 50 | - | - | 72 | 153 | 27 | M5 | 6.5 | - | 6 | 17.3 | 5 | 105.5 | 100 | 50 | 114 | |

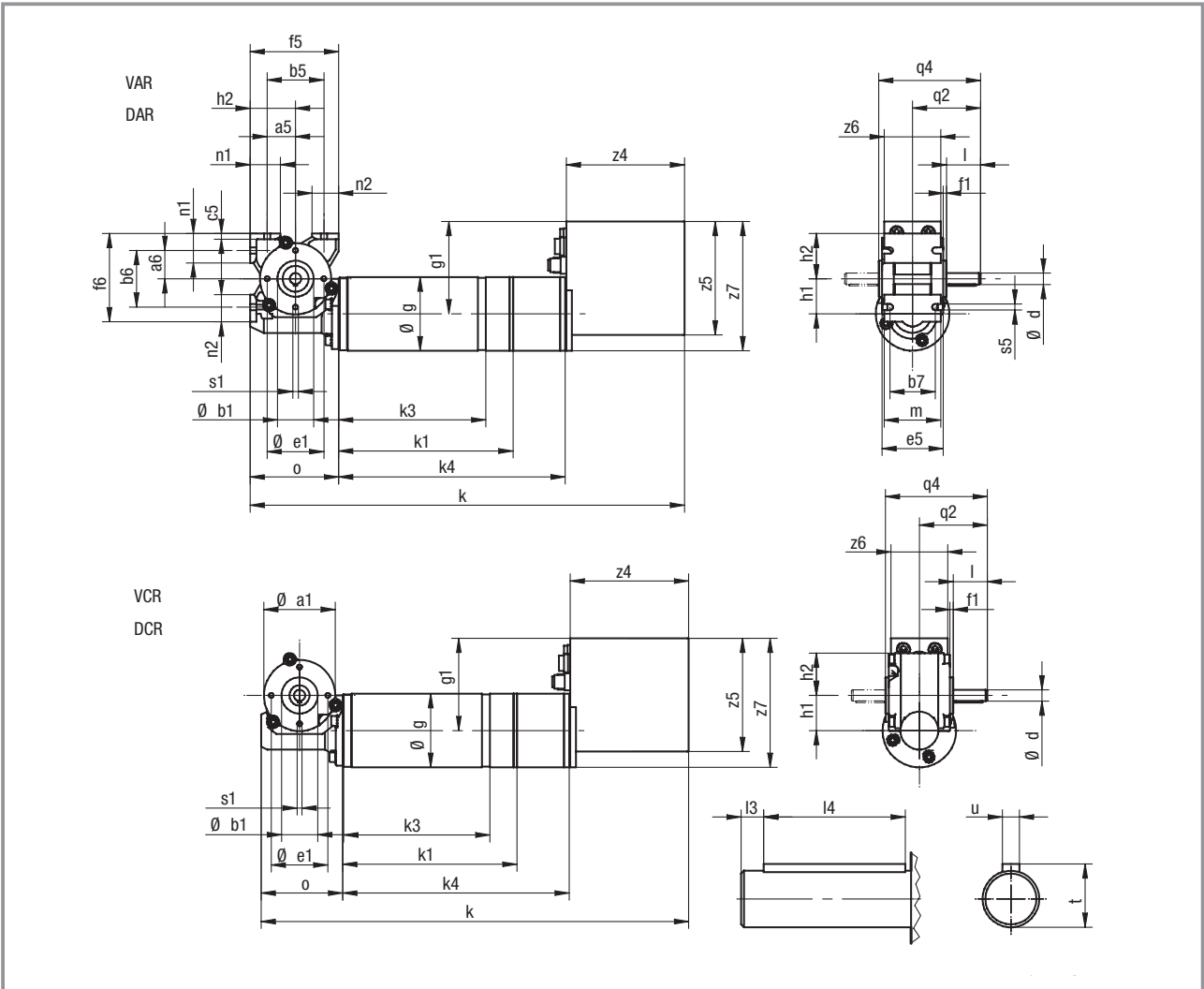
Dimensions in mm



Drive selection

Servo worm geared motors SSN

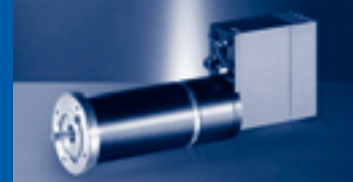
Dimensions Type SSN31-1G□□□-035C22



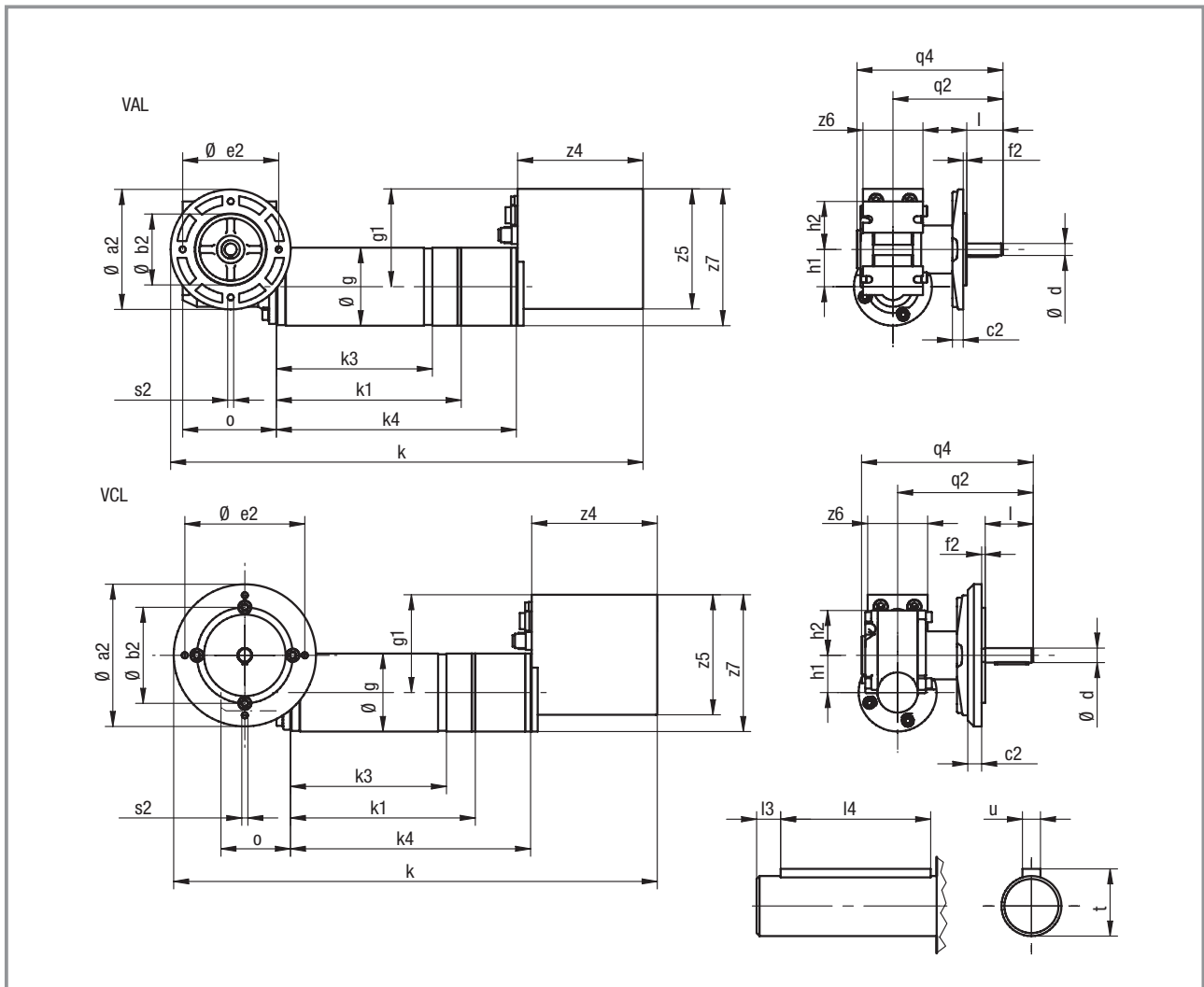
| Geared motor | a1 | a5 | a6 | b1 h8 | b5 | b6 | b7 | c5 | d h6 | e1 | e5 | f1 | f5 | f6 | g | g1 | h1 | h2 | k SB | k1 SR |
|--------------------|----|----|----|----------|----|----|----|----|---------|----|----|-----|----|----|----|------|----|------|---------|----------|
| SSN31-1GVAR-035C22 | 63 | 25 | 25 | 32 | 50 | 50 | 40 | 5 | 10 | 50 | 54 | 2.5 | 78 | 78 | 65 | 81.5 | 31 | 40 | 383.5 | 176 |
| SSN31-1GVAR-035C22 | 63 | 25 | 25 | 32 | 50 | 50 | 40 | 5 | 12 | 50 | 54 | 2.5 | 78 | 78 | 65 | 81.5 | 31 | 40 | 383.5 | 176 |
| SSN31-1GVCR-035C22 | 63 | - | - | 32 | - | - | - | - | 10 | 50 | 54 | 2.5 | - | - | 65 | 81.5 | 31 | 37.5 | 377.5 | 176 |
| SSN31-1GVCR-035C22 | 63 | - | - | 32 | - | - | - | - | 12 | 50 | 54 | 2.5 | - | - | 65 | 81.5 | 31 | 37.5 | 377.5 | 176 |

| Geared motor | k3 XX | k4 SB | l | l3 | l4 | m | n1 | n2 | o | q2 | q4 | s1 | s5 | t | u | z4 | z5 | z6 | z7 | Weight [kg] |
|--------------------|----------|----------|----|----|----|----|----|----|----|----|-----|----|-----|------|---|-------|-----|----|-----|----------------|
| SSN31-1GVAR-035C22 | 134 | 200 | 30 | 4 | 25 | 50 | 26 | 24 | 78 | 60 | 90 | M5 | 5.5 | 11.2 | 3 | 105.5 | 100 | 50 | 114 | 3.1-4.2 |
| SSN31-1GVAR-035C22 | 134 | 200 | 40 | 4 | 28 | 50 | 26 | 24 | 78 | 70 | 100 | M5 | 5.5 | 13.5 | 4 | 105.5 | 100 | 50 | 114 | 3.1-4.2 |
| SSN31-1GVCR-035C22 | 134 | 200 | 30 | 4 | 25 | - | - | - | 72 | 60 | 90 | M5 | - | 11.2 | 3 | 105.5 | 100 | 50 | 114 | 3.1-4.2 |
| SSN31-1GVCR-035C22 | 134 | 200 | 40 | 4 | 28 | - | - | - | 72 | 70 | 100 | M5 | - | 13.5 | 4 | 105.5 | 100 | 50 | 114 | 3.1-4.2 |

Dimensions in mm



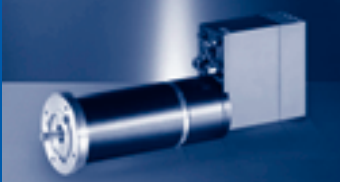
Dimensions Type SSN31-1G□□□-035C22



| Geared motor | a2 | b2 j7 | c2 | d h6 | e2 | f2 | g | g1 | h1 | h2 | k SB | k1 SR | k3 XX |
|--------------------|-------|----------|------|---------|-----|----|----|------|----|------|---------|----------|----------|
| SSN31-1GVAL-035C22 | 100 | 60 | 9 | 10 | 80 | 3 | 65 | 81.5 | 31 | 40 | 393.5 | 176 | 134 |
| SSN31-1GVAL-035C22 | 120 | 80 | 9 | 12 | 100 | 3 | 65 | 81.5 | 31 | 40 | 403.5 | 176 | 134 |
| SSN31-1GVCL-035C22 | 100 | 60 | 9 | 10 | 80 | 3 | 65 | 81.5 | 31 | 37.5 | 393.5 | 176 | 134 |
| SSN31-1GVCL-035C22 | 118.5 | 80 | 11.5 | 12 | 100 | 3 | 65 | 81.5 | 31 | 37.5 | 403.5 | 176 | 134 |

| Geared motor | k4 SB | l | l3 | l4 | o | q2 | q4 | s2 | t | u | z4 | z5 | z6 | z7 | Weight [kg] |
|--------------------|----------|----|----|----|----|-------|-------|----|------|---|-------|-----|----|-----|----------------|
| SSN31-1GVAL-035C22 | 200 | 30 | 4 | 25 | 78 | 91.5 | 121.5 | M6 | 11.2 | 3 | 105.5 | 100 | 50 | 114 | 3.1-4.2 |
| SSN31-1GVAL-035C22 | 200 | 40 | 4 | 28 | 78 | 101.5 | 131.5 | M6 | 13.5 | 4 | 105.5 | 100 | 50 | 114 | 3.1-4.2 |
| SSN31-1GVCL-035C22 | 200 | 30 | 4 | 25 | 72 | 91.5 | 121.5 | M6 | 11.2 | 3 | 105.5 | 100 | 50 | 114 | 3.1-4.2 |
| SSN31-1GVCL-035C22 | 200 | 40 | 4 | 28 | 72 | 113 | 143 | M6 | 13.5 | 4 | 105.5 | 100 | 50 | 114 | 3.1-4.2 |

Dimensions in mm



Drive selection

Servo worm geared motors SSN

Selection table, type SSN40-1G□□□-047C22

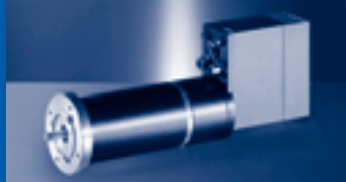
| P _r W | Supply voltage Servo Drive 42 V DC | | | i | Motor type | Selection Please tick |
|---------------------|------------------------------------|----------------------|------|------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 170 | 246 | 4.57 | 7.66 | 6.75 | SDSGS□□047-22 | |
| | 200 | 6.48 | 5.40 | 10 | | |
| | 133 | 8.88 | 3.72 | 15 | | |
| | 100 | 11.36 | 2.99 | 20 | | |
| | 80 | 12.80 | 2.27 | 25 | | |
| | 67 | 14.88 | 2.42 | 30 | | |
| | 50 | 17.92 | 1.90 | 40 | | |
| | 40 | 21.60 | 1.48 | 50 | | |
| | 33 | 18.24 | 1.75 | 60 | | |
| 25 | 24.00 | 0.96 | 80 | | | |

Additional order information

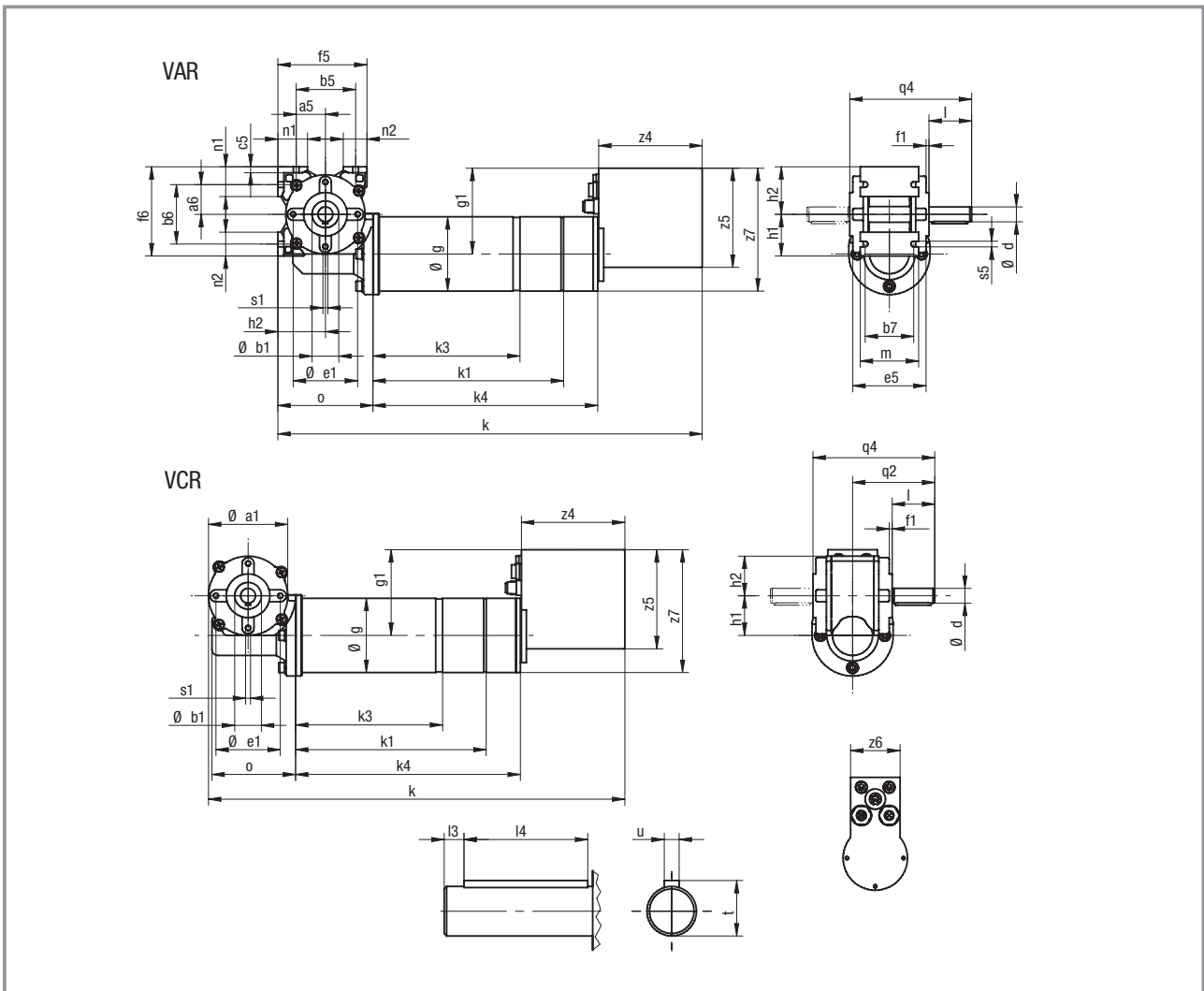
| | | |
|--|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VAR | |
| | DAR | |
| | VAL | |
| | HAR | |
| | VCR | |
| | DCR | |
| | VCL | |
| | HCR | |
| Shaft position on version VAR/VCR | | 3 5 8 |
| Flange/shaft position on version VAL/VCL | | 3 5 8 |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|-------------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03KBO (Voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |
| Power supply unit | 48 V/10 A, 400 V/50 Hz | |
| | 48 V/20 A, 400 V/50 Hz | |



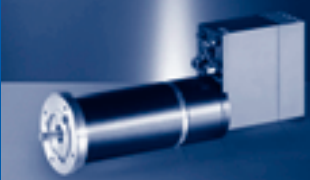
Dimensions, type SSN40-1G□□□-047C22



| Geared motor | a1 | a5 | a6 | b1 h10 | b5 | b6 | b7 | c5 | d h6 | e1 | e5 | f1 | f5 | f6 | g | g1 | h1 | h2 | k | k1 SB | k1 SR |
|--------------------|----|----|----|-----------|----|----|----|----|---------|----|----|----|----|----|----|------|----|----|-------|----------|----------|
| SSN40-1GVAR-047C22 | 77 | 30 | 30 | 44 | 60 | 60 | 50 | 6 | 15 | 65 | 80 | 2 | 90 | 90 | 75 | 86.5 | 40 | 48 | 428.5 | 194.5 | |
| SSN40-1GVCR-047C22 | 77 | - | - | 44 | - | - | - | - | 15 | 65 | 80 | 2 | - | - | 75 | 86.5 | 40 | 40 | 420.5 | 194.5 | |

| k3 | k4 | l | l3 | l4 | m | n1 | n2 | o | q2 | q4 | s1 | s5 | t | u | z4 | z5 | z6 | z7 | Weight [kg] |
|-------|-----|----|----|----|----|----|----|----|----|-----|----|-----|----|---|-------|-----|----|-----|----------------|
| 150.5 | 227 | 43 | 4 | 36 | 59 | 30 | 24 | 96 | 83 | 123 | M6 | 5.5 | 17 | 5 | 105.5 | 100 | 50 | 124 | 5.0-6.3 |
| 150.5 | 227 | 43 | 4 | 36 | - | - | - | 88 | 83 | 123 | M6 | - | 17 | 5 | 105.5 | 100 | 50 | 124 | 5.0-6.3 |

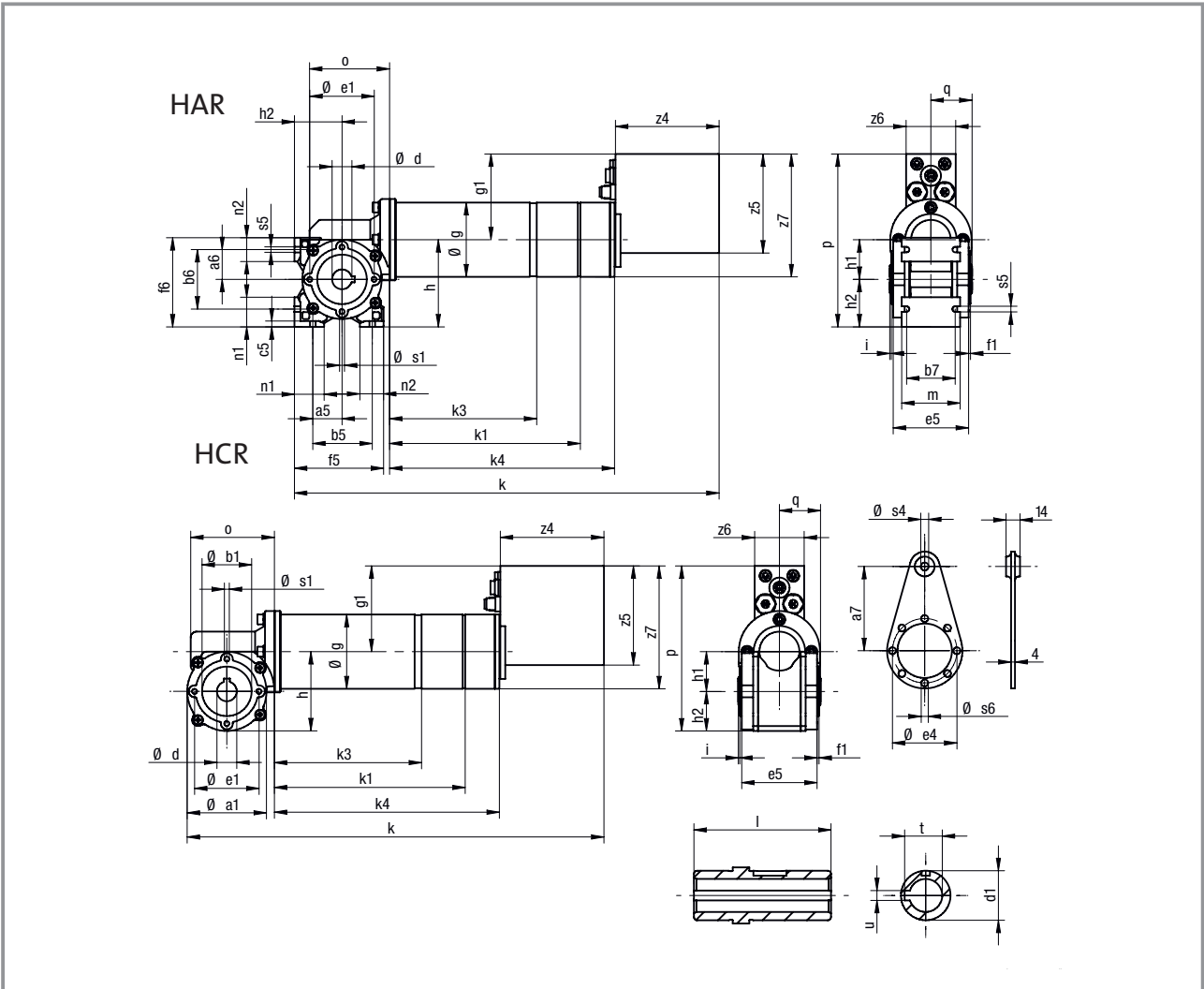
Dimensions in mm



Drive selection

Servo worm geared motors SSN

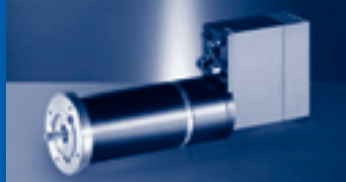
Selection table, type SSN40-1G□□□-047C22



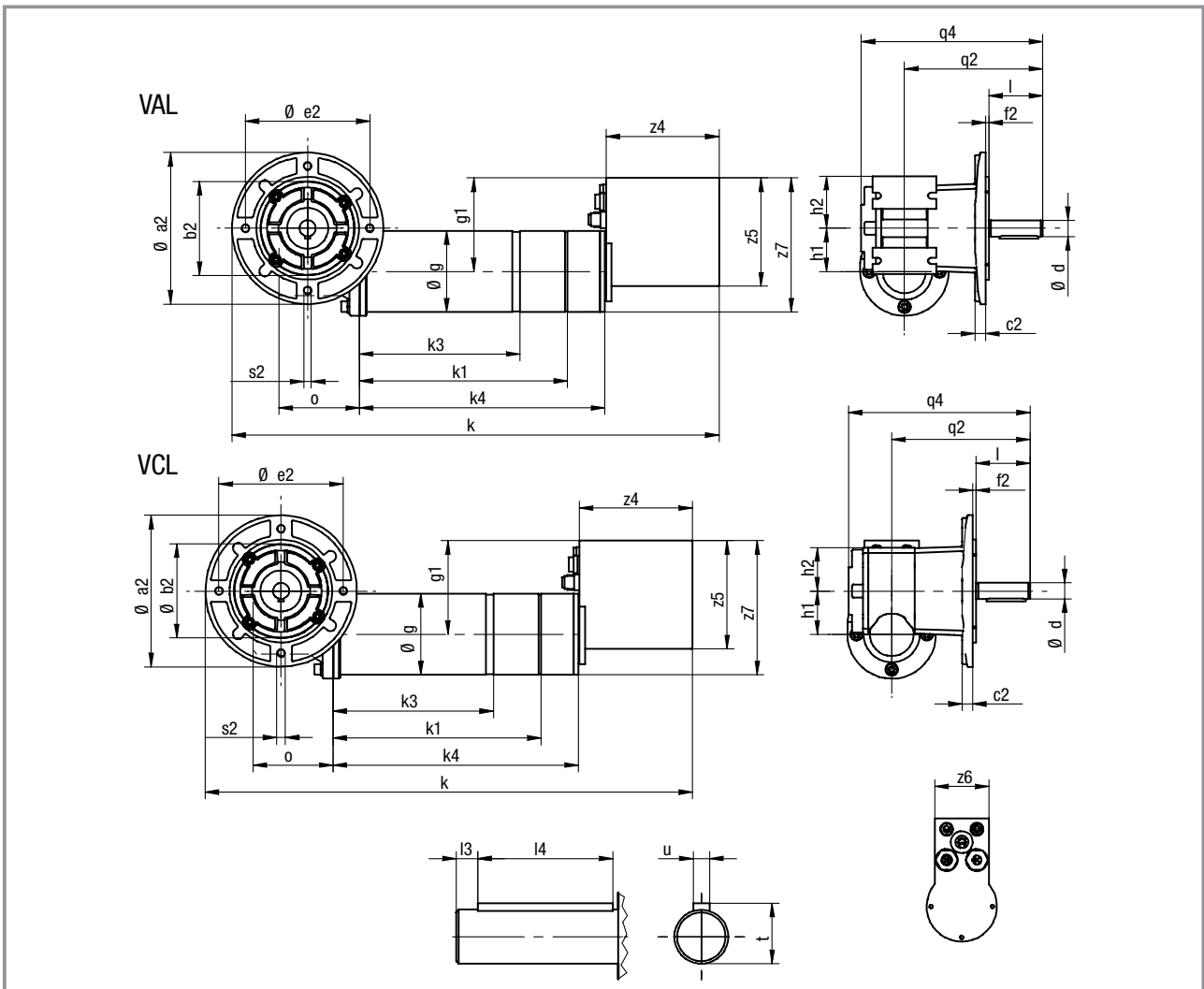
| Geared motor | a1 | a5 | a6 | a7 | b1 h8 | b5 | b6 | b7 | c5 | d | d1 | e1 | e4 | e5 | f1 | f5 | f6 | g | g1 | h | h1 | h2 | i |
|--------------------|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|------|----|----|----|-----|
| SSN40-1GHAR-047C22 | 77 | 30 | 30 | 85 | 50 | 60 | 60 | 50 | 6 | 20 | 30 | 65 | 65 | 80 | 2 | 90 | 90 | 75 | 86.5 | 88 | 40 | 48 | 1.5 |
| SSN40-1GHCR-047C22 | 77 | - | - | 85 | 50 | - | - | - | - | 20 | 30 | 65 | 65 | 80 | 2 | - | - | 75 | 86.5 | 80 | 48 | 40 | 1.5 |

| k | k1 | k3 | k4 | l | m | n1 | n2 | o | p | q | s1 | s4 | s5 | s6 | t | u | z4 | z5 | z6 | z7 | Weight [kg] | |
|-------|-------|-------|-----|----|----|----|----|----|-----|------|----|----|-----|----|------|---|-------|-----|----|-----|----------------|--|
| SB | SR | XX | SB | | | | | | | | | | | | | | | | | | | |
| 428.5 | 194.5 | 150.5 | 227 | 83 | 59 | 30 | 24 | 96 | 194 | 41.5 | M6 | 8 | 5.5 | 7 | 22.8 | 6 | 105.5 | 100 | 50 | 124 | 5.0-6.3 | |
| 420.5 | 194.5 | 150.5 | 227 | 83 | - | - | - | 88 | 186 | 41.5 | M6 | 8 | - | 7 | 22.8 | 6 | 105.5 | 100 | 50 | 124 | 5.0-6.3 | |

Dimensions in mm



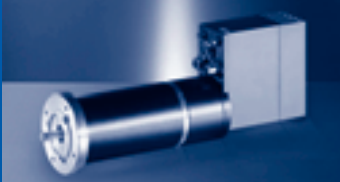
Selection table, type SSN40-1G□□□-047C22



| Geared motor | a2 | b2 j7 | c2 | d h6 | e2 | f2 | g | g1 | h1 | h2 | k SB | k1 SR | k3 XX | k4 SB | l |
|--------------------|-----|----------|----|---------|-----|----|----|------|----|----|---------|----------|----------|----------|----|
| SSN40-1GVAL-047C22 | 140 | 95 | 10 | 15 | 115 | 3 | 75 | 86.5 | 40 | 48 | 450.5 | 194.5 | 150.5 | 227 | 50 |
| SSN40-1GVCL-047C22 | 140 | 95 | 10 | 15 | 115 | 3 | 75 | 86.5 | 40 | 40 | 450.5 | 194.5 | 150.5 | 227 | 50 |

| Geared motor | l3 | l4 | o | q2 | q4 | s2 | t | u | z4 | z5 | z6 | z7 | Weight |
|--------------------|----|----|----|-----|-----|----|----|---|-------|-----|----|-----|---------|
| SSN40-1GVAL-047C22 | 4 | 36 | 96 | 128 | 168 | M8 | 17 | 5 | 105.5 | 100 | 50 | 124 | 5.0-6.3 |
| SSN40-1GVCL-047C22 | 4 | 36 | 88 | 128 | 168 | M8 | 17 | 5 | 105.5 | 100 | 50 | 124 | 5.0-6.3 |

Dimensions in mm



Drive selection

Servo planetary geared motors SPL

Selection table, type SPL52-□GVCR-035N22

| P _r W | Supply voltage Servo Drive 24 V or 42 V DC | | | i | Motor type | Selection Please tick |
|---------------------|--|----------------------|------|-------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 140 | 811 | 1.33 | 3.00 | 3.70 | | |
| | 444 | 2.43 | 1.65 | 6.75 | SDSGS□□035-22 | |
| | 218 | 4.63 | 2.59 | 13.73 | | |
| | 120 | 8.44 | 1.42 | 25.01 | | |
| | 66 | 15.38 | 0.78 | 45.56 | | |
| | 59 | 16.03 | 1.56 | 50.89 | | |
| | 32 | 25.00 | 0.86 | 92.70 | | |

Additional order information

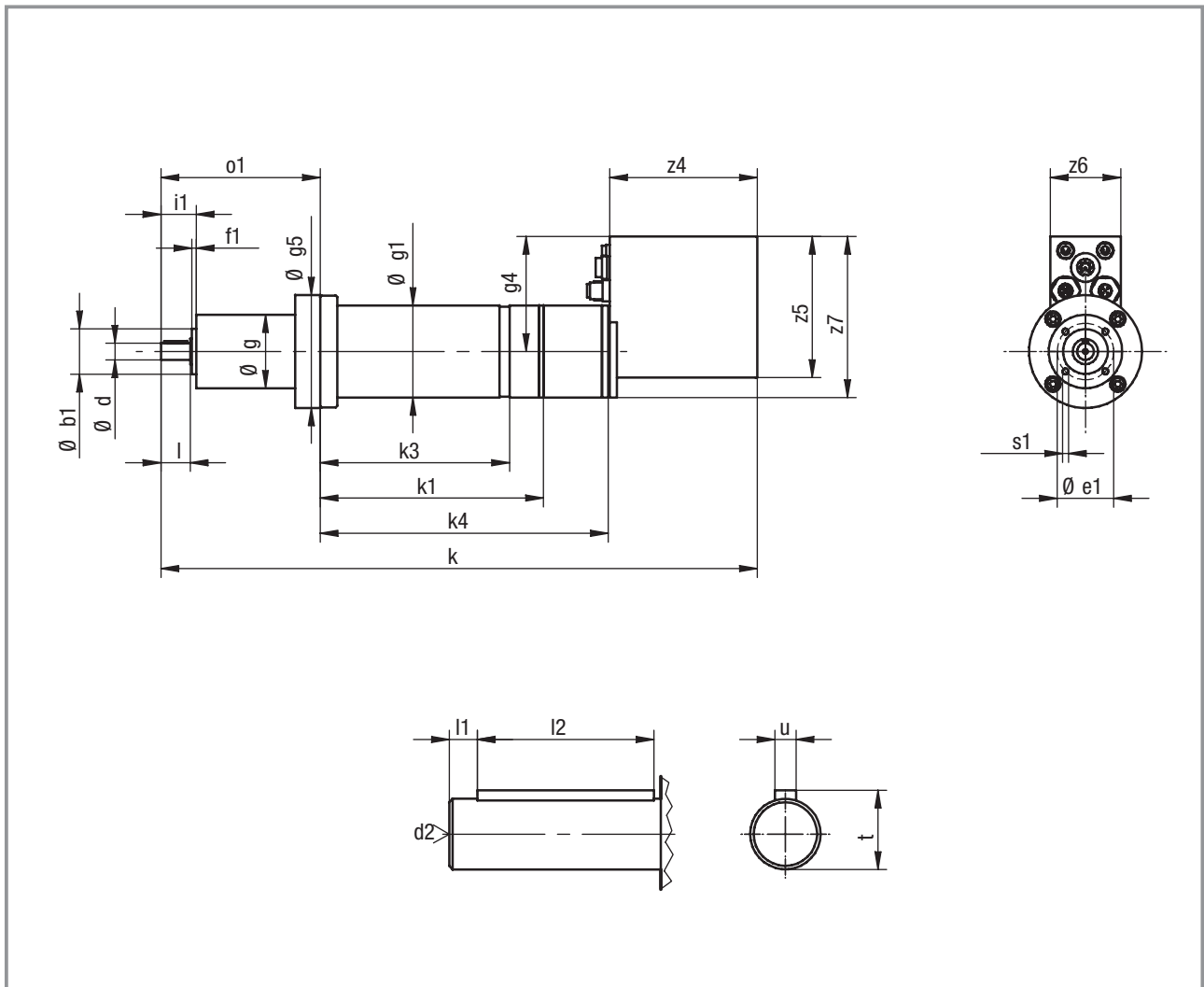
| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |

Servo Drives accessories

| | | |
|-------------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03KBO (Voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |
| Power supply unit | 24 V/10 A, 230 V/50 Hz | |
| | 24 V/20 A, 230 V/50 Hz | |
| | 48 V/10 A, 400 V/50 Hz | |
| | 48 V/20 A, 400 V/50 Hz | |



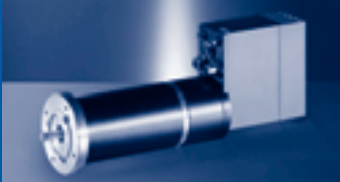
Dimensions, type SPL52-□GVCR-035N22



| Geared motor | Ratio i | b1 h8 | d h7 | d2 | e1 | f1 | g | g1 | g4 | g5 | i1 | k | k1 |
|--------------------|------------|----------|---------|----|----|----|----|----|------|----|----|-------|-----|
| | | | | | | | | | | | | SB | SR |
| SPL52-□GVCR-035N22 | 3.7;6.7 | | | | | | | | | | | 408.5 | |
| | 14...46 | 32 | 12 | M4 | 40 | 3 | 52 | 65 | 81.5 | 80 | 25 | 422.5 | 180 |
| | 51...93 | | | | | | | | | | | 436.5 | |

| k3 | k4 | l | l1 | l2 | o1 | s1 | t | u | z4 | z5 | z6 | z7 | Weight [kg] |
|-----|-----|------|-----|----|-----|-------|------|---|-------|-----|----|-----|----------------|
| XX | SB | | | | | | | | | | | | |
| | | | | | 99 | | | | | | | | 3.1-4.1 |
| 138 | 204 | 20.8 | 2.5 | 16 | 113 | M5x10 | 13.5 | 4 | 105.5 | 100 | 50 | 114 | 3.3-4.3 |
| | | | | | 127 | | | | | | | | 3.5-4.5 |

Dimensions in mm



Drive selection

Servo planetary geared motors SPL

Selection table, type SPL62-□GVCR-047N22

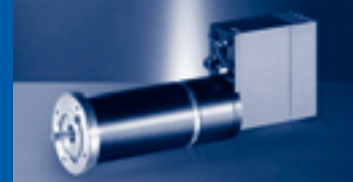
| P _r W | r _{pm} | Supply voltage Servo Drive 42 V DC | | | i | Motor type Please tick | Selection |
|---------------------|-----------------|------------------------------------|----------------|-------|---------------|------------------------|-----------|
| | | n ₂ Nm | M ₂ | c | | | |
| 170 | 541 | 2.37 | 3.38 | 3.70 | | | |
| | 296 | 4.32 | 1.85 | 6.75 | SDSGS□□047-22 | | |
| | 146 | 8.24 | 3.03 | 13.73 | | | |
| | 80 | 15.01 | 1.67 | 25.01 | | | |
| | 57 | 20.98 | 1.19 | 34.97 | | | |
| | 44 | 25.00 | 0.91 | 45.56 | | | |
| | 39 | 28.50 | 1.75 | 50.89 | | | |
| | 28 | 39.85 | 1.25 | 71.16 | | | |

Additional order information

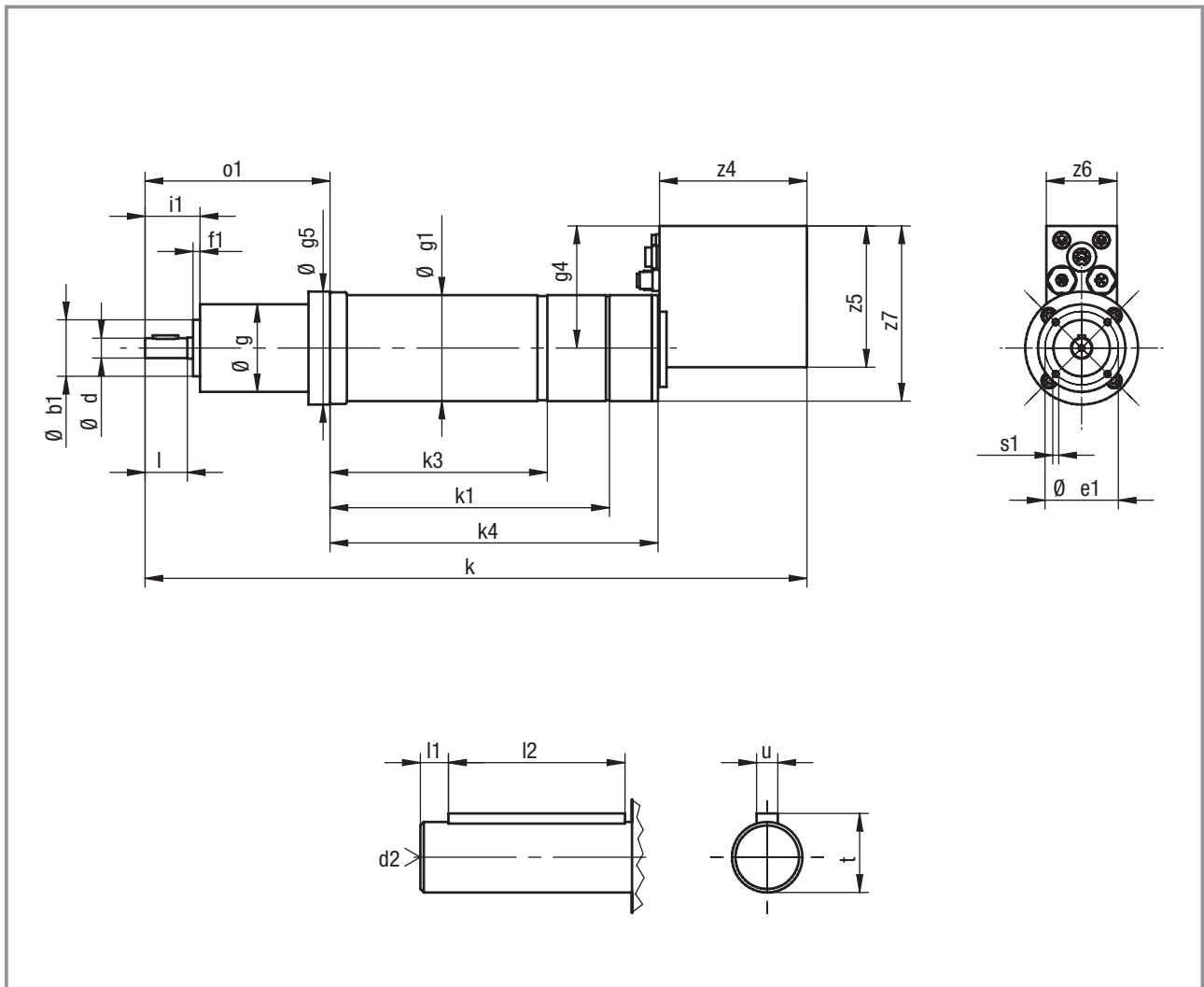
| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |

Servo Drives accessories

| | | |
|-------------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03KBO (Voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |
| Power supply unit | 48 V/10 A, 400 V/50 Hz | |
| | 48 V/20 A, 400 V/50 Hz | |



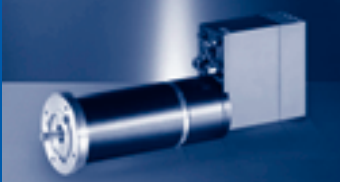
Dimensions, type SPL62-□GVCR-047N22



| Geared motor | Ratio i | b1 j7 | d h7 | d2 | e1 | f1 | g | g1 | g4 | g5 | i1 | k SB | k1 SR |
|--------------------|------------|----------|---------|----|----|----|----|----|------|----|----|---------|----------|
| SPL62-□GVCR-047N22 | 3.7;6.7 | | | | | | | | | | | 453.5 | |
| | 14...46 | 40 | 14 | M5 | 52 | 5 | 62 | 75 | 86.5 | 80 | 39 | 469.5 | 200 |
| | 51...71 | | | | | | | | | | | 485.5 | |

| k3 XX | k4 SB | l | l1 | l2 | o1 | s1 | t | u | z4 | z5 | z6 | z7 | Weight |
|----------|----------|----|-----|----|-----|-------|----|---|-------|-----|----|-----|---------|
| | | | | | 115 | | | | | | | | 4.3-5.3 |
| 156 | 233 | 30 | 5.5 | 18 | 131 | M5x10 | 16 | 5 | 105.5 | 100 | 50 | 124 | 4.7-5.7 |
| | | | | | 147 | | | | | | | | 5.1-6.1 |

Dimensions in mm



Drive selection

Servo planetary geared motors SPL

Selection table, type SPL81-□GVCR-047N22

| P _r W | Supply voltage Servo Drive 42 V DC | | | i | Motor type | Selection Please tick |
|---------------------|------------------------------------|----------------------|--------|-------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 170 | 541 | 2.37 | 8.45 | 3.70 | | |
| | 296 | 4.32 | 4.63 | 6.75 | SDSGS□□047-22 | |
| | 146 | 8.24 | 7.28 | 13.73 | | |
| | 80 | 15.01 | 4.00 | 25.01 | | |
| | 57 | 20.98 | 2.86 | 34.97 | | |
| | 44 | 27.34 | 2.19 | 45.56 | | |
| | 39 | 28.50 | 4.21 | 50.89 | | |
| | 28 | 39.85 | 3.01 | 71.16 | | |
| | 20 | 55.72 | 2.15 | 99.50 | | |
| 16 | 69.42 | 1.73 | 123.97 | | | |

Additional order information

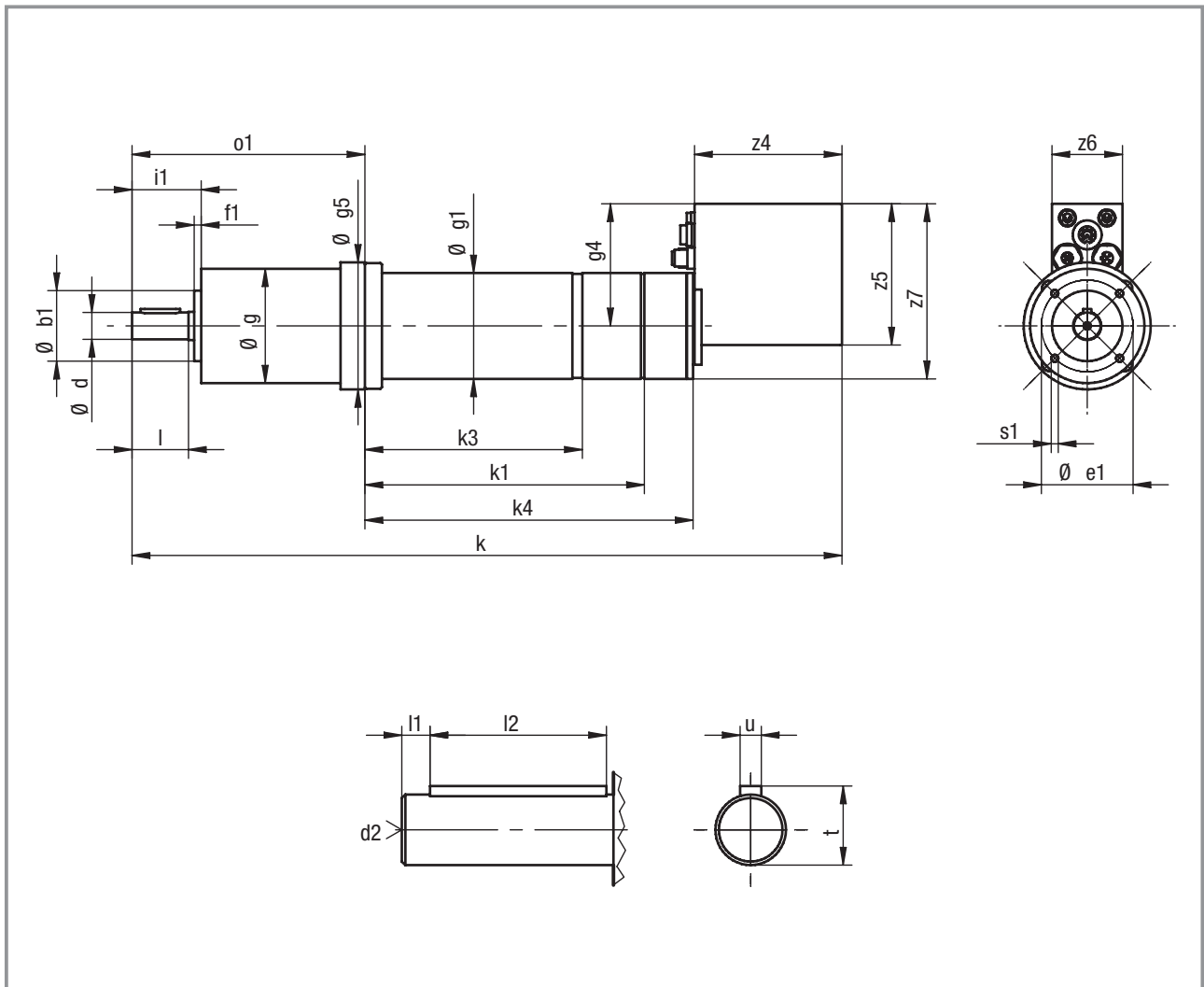
| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |

Servo Drives accessories

| | | |
|-------------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03KBO (Voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| Power supply unit | 931MKF03USO (Y distributor system cable, 3 m) | |
| | 48 V/10 A, 400 V/50 Hz | |
| | 48 V/20 A, 400 V/50 Hz | |



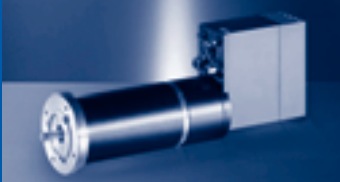
Dimensions, type SPL81-□GVCR-047N22



| Geared motor | Ratio i | b1 j7 | d h7 | d2 | e1 | f1 | g | g1 | g4 | g5 | i1 | k | k1 |
|--------------------|------------|----------|---------|----|----|----|----|----|------|----|----|-------|-----|
| SPL81-□GVCR-047N22 | 3.7;6.7 | | | | | | | | | | | 482.5 | |
| | 14...46 | 50 | 19 | M6 | 65 | 5 | 81 | 75 | 86.5 | 90 | 49 | 503.5 | 200 |
| | 51...124 | | | | | | | | | | | 525.5 | |

| k3 | k4 | l | l1 | l2 | o1 | s1 | t | u | z4 | z5 | z6 | z7 | Weight [kg] |
|-----|-----|----|----|----|-----|-------|------|---|-------|-----|----|-----|----------------|
| | | | | | 144 | | | | | | | | 6.5-8.1 |
| 156 | 233 | 40 | 6 | 28 | 165 | M6x12 | 21.5 | 6 | 105.5 | 100 | 50 | 124 | 7.3-8.8 |
| | | | | | 187 | | | | | | | | 8.0-9.5 |

Dimensions in mm



Drive selection

Servo helical geared motors GST

Selection table, type GST03-2GV□□-035C22

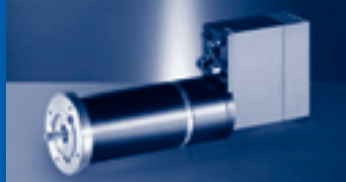
| P _r W | Supply voltage Servo Drive 24 V or 42 V DC | | | i | Motor type | Selection Please tick |
|---------------------|--|----------------------|--------|--------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 140 | 1155.20 | 1.00 | 13.37 | 2.597 | | |
| | 879.00 | 1.00 | 10.85 | 3.413 | SDSGS□□035-22 | |
| | 686.80 | 2.00 | 9.01 | 4.368 | | |
| | 564.80 | 2.00 | 9.59 | 5.312 | | |
| | 502.90 | 3.00 | 8.93 | 5.965 | | |
| | 429.70 | 3.00 | 7.96 | 6.982 | | |
| | 382.70 | 3.00 | 7.68 | 7.840 | | |
| | 335.80 | 4.00 | 6.74 | 8.935 | | |
| | 299.00 | 4.00 | 6.46 | 10.033 | | |
| | 262.50 | 5.00 | 5.87 | 11.429 | | |
| | 233.80 | 6.00 | 5.59 | 12.833 | | |
| | 202.20 | 6.00 | 4.99 | 14.836 | | |
| | 180.10 | 7.00 | 5.28 | 16.660 | | |
| | 157.80 | 8.00 | 4.75 | 19.013 | | |
| | 140.50 | 9.00 | 4.45 | 21.350 | | |
| | 122.00 | 11.00 | 3.95 | 24.595 | | |
| | 108.60 | 12.00 | 3.52 | 27.618 | | |
| | 93.80 | 14.00 | 3.04 | 32.000 | | |
| | 83.50 | 16.00 | 2.71 | 35.933 | | |
| | 72.40 | 18.00 | 2.35 | 41.455 | | |
| 64.40 | 20.00 | 2.24 | 46.550 | | | |
| 56.70 | 23.00 | 1.97 | 52.909 | | | |
| 50.50 | 26.00 | 1.75 | 59.413 | | | |

Additional order information

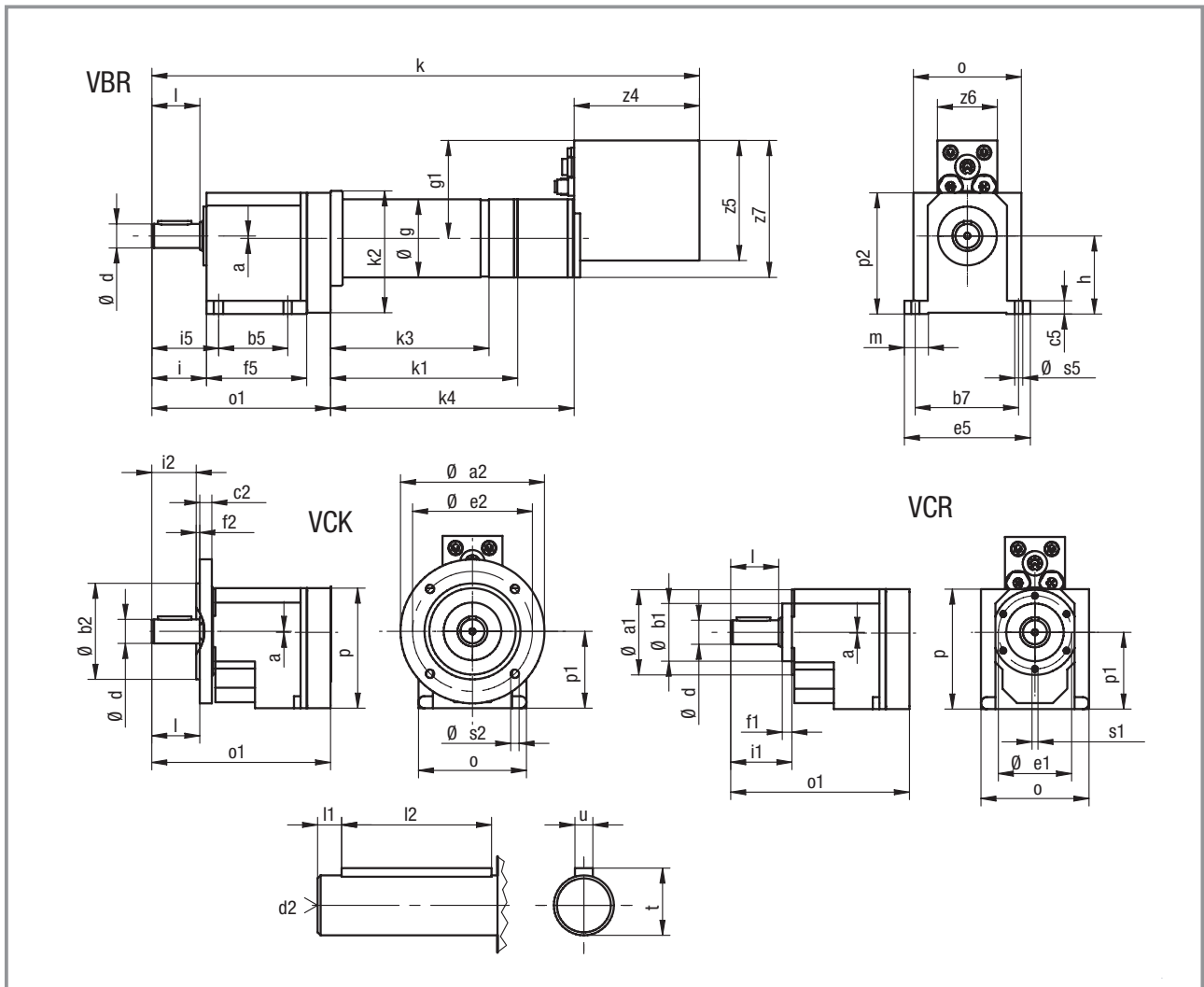
| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VBR | |
| | VCR | |
| | VCK | |
| Output-side flange diameter | D = 120 mm | |
| | D = 140 mm | |
| | D=160 mm | |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|-------------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03KBO (Voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |
| Power supply unit | 24 V/10 A, 230 V/50 Hz | |
| | 24 V/20 A, 230 V/50 Hz | |
| | 48 V/10 A, 400 V/50 Hz | |
| | 48 V/20 A, 400 V/50 Hz | |



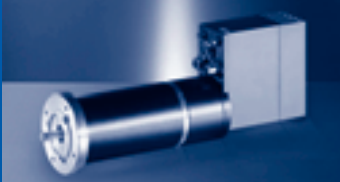
Dimensions, type GST03-2GV□□-035C22



| Geared motor | a | a1 | a2 | b1 h7 | b2 j7 | b5 | b7 | c2 | c5 | d | d2 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | h | i | i1 | i2 | i5 | |
|--------------------|---|----|-----|----------|----------|----|----|----|----|----|----|-----|-----|----|-----|----|----|------|----|----|----|----|----|----|--|
| GST03-2GV□□-035C22 | 2 | 71 | 120 | 80 | | | | | | | | | 100 | | | 3 | | | | | | | | | |
| | | | 140 | 95 | 60 | 91 | 10 | 11 | 20 | M6 | 61 | 115 | 105 | 8 | 3 | 84 | 65 | 81.5 | 65 | 46 | 51 | 40 | 52 | | |
| | | | 160 | 110 | | | | | | | | | | | 130 | | | 3.5 | | | | | | | |

| k | k1 | k2 | k3 | k4 | l | l1 | l2 | m | o | o1 | p | p1 | p2 | s1 | s2 | s5 | t | u | z4 | z5 | z6 | z7 | Weight [kg] |
|-----|-----|-----|-----|-----|----|----|----|----|----|-------|-----|----|-----|----|----|-----|------|---|-------|-----|----|-----|----------------|
| | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 457 | 178 | 100 | 136 | 202 | 40 | 5 | 28 | 20 | 90 | 149.5 | 100 | 64 | 101 | M5 | 9 | 6.6 | 22.5 | 6 | 105.5 | 100 | 50 | 114 | 5.5-7.0 |
| | | | | | | | | | | | | | | | 9 | | | | | | | | |

Dimensions in mm



Drive selection

Servo helical geared motors GST

Selection table, type GST03-2GV□□-047C22

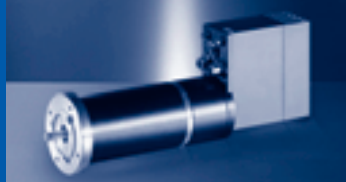
| W | P _r rpm | Supply voltage Servo Drive 24 V or 42 V DC | | | i | Motor type | Selection Please tick |
|------|-----------------------|--|----------------|------|--------|---------------|--------------------------|
| | | n ₂ Nm | M ₂ | c | | | |
| | 170 | 770.1 | 2.00 | 7.52 | 2.597 | | |
| | | 586.0 | 3.00 | 6.10 | 3.413 | SDSGS□□047-22 | |
| | | 457.9 | 3.00 | 5.07 | 4.368 | | |
| | | 376.5 | 4.00 | 5.39 | 5.312 | | |
| | | 335.3 | 5.00 | 5.02 | 5.965 | | |
| | | 286.5 | 5.00 | 4.48 | 6.982 | | |
| | | 255.1 | 6.00 | 4.32 | 7.840 | | |
| | | 223.8 | 7.00 | 3.79 | 8.935 | | |
| | | 199.3 | 8.00 | 3.63 | 10.033 | | |
| | | 175.0 | 9.00 | 3.30 | 11.429 | | |
| | | 155.8 | 10.00 | 3.15 | 12.833 | | |
| | | 134.8 | 12.00 | 2.81 | 14.836 | | |
| | | 120.0 | 13.00 | 2.97 | 16.660 | | |
| | | 109.2 | 15.00 | 2.67 | 19.013 | | |
| | | 93.7 | 17.00 | 2.50 | 21.350 | | |
| | | 81.3 | 19.00 | 2.22 | 24.595 | | |
| | | 72.4 | 22.00 | 1.98 | 27.618 | | |
| | | 62.5 | 25.00 | 1.71 | 32.000 | | |
| | | 55.7 | 28.00 | 1.52 | 35.933 | | |
| | | 48.2 | 33.00 | 1.32 | 41.455 | | |
| 43.0 | 36.00 | 1.26 | 46.550 | | | | |
| 37.8 | 41.00 | 1.11 | 52.909 | | | | |
| 33.7 | 45.00 | 0.99 | 59.413 | | | | |

Additional order information

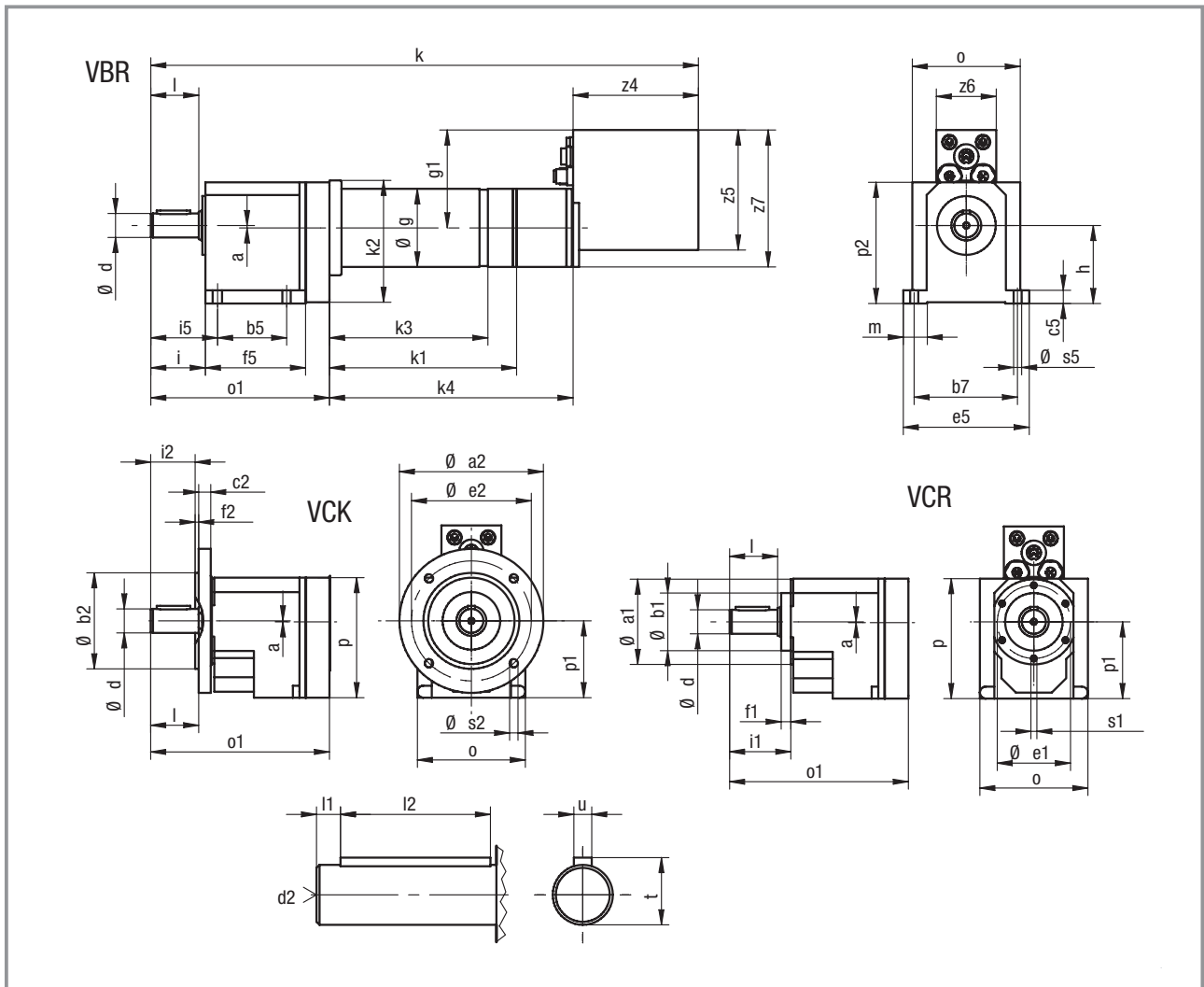
| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VBR | |
| | VCR | |
| | VCK | |
| Output flange diameter | D = 120 mm | |
| | D = 140 mm | |
| | D=160 mm | |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|-------------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03KBO (Voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |
| Power supply unit | 48 V/10 A, 400 V/50 Hz | |
| | 48 V/20 A, 400 V/50 Hz | |



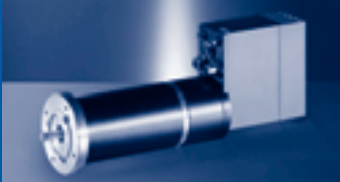
Dimensions, type GST03-2GV□□-047C22



| Geared motor | a | a1 | a2 | b1 h7 | b2 j7 | b5 | b7 | c2 | c5 | d | d2 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | h | i | i1 | i2 | i5 | |
|--------------------|---|----|-----|----------|----------|----|----|----|----|----|----|----|-----|-----|-----|----|----|----|----|------|----|----|----|----|----|
| GST03-2GV□□-047C22 | 2 | 71 | 120 | 48 | 80 | 60 | 91 | 10 | 11 | 20 | M6 | 61 | 100 | 115 | 105 | 8 | 3 | 84 | 75 | 86.5 | 65 | 46 | 51 | 40 | 52 |
| | | | 140 | 95 | 130 | | | | | | | | | | | | | | | | | | | | |
| | | | 160 | 110 | | | | | | | | | | | | | | | | | | | | | |

| k | k1 | k2 | k3 | k4 | l | l1 | l2 | m | o | o1 | p | p1 | p2 | s1 | s2 | s5 | t | u | z4 | z5 | z6 | z7 | Weight [kg] |
|-----|-------|-----|-------|-----|----|----|----|----|----|-------|-----|----|-----|----|----|-----|------|---|-------|-----|----|-----|----------------|
| 490 | 202.5 | 100 | 158.5 | 235 | 40 | 5 | 28 | 20 | 90 | 149.5 | 100 | 64 | 101 | M5 | 9 | 6.6 | 22.5 | 6 | 105.5 | 100 | 50 | 124 | 6.5-8.0 |
| | | | | | | | | | | | | | | | 7 | | | | | | | | |
| | | | | | | | | | | | | | | | 9 | | | | | | | | |

Dimensions in mm



Drive selection

Servo bevel geared motors GKR

Selection table, type GKR03-2GHA□-035C22

| P _r W | Supply voltage Servo Drive 24 V or 42 V DC | | | i | Motor type | Selection Please tick |
|---------------------|--|----------------------|--------|--------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 140 | 554.40 | 2.00 | 13.83 | 5.411 | | |
| | 482.20 | 3.00 | 12.41 | 6.222 | SDSGS□□035-22 | |
| | 421.90 | 3.00 | 11.51 | 7.111 | | |
| | 366.80 | 3.00 | 10.30 | 8.178 | | |
| | 329.60 | 4.00 | 9.51 | 9.101 | | |
| | 286.60 | 4.00 | 8.27 | 10.466 | | |
| | 257.70 | 5.00 | 7.44 | 11.64 | | |
| | 224.10 | 6.00 | 6.47 | 13.386 | | |
| | 198.50 | 6.00 | 5.73 | 15.111 | | |
| | 172.60 | 7.00 | 4.98 | 17.378 | | |
| | 154.90 | 8.00 | 4.47 | 19.365 | | |
| | 134.70 | 10.00 | 3.89 | 22.27 | | |
| | 119.80 | 11.00 | 3.92 | 25.051 | | |
| | 104.10 | 12.00 | 3.41 | 28.808 | | |
| | 92.00 | 14.00 | 3.01 | 32.593 | | |
| | 80.00 | 16.00 | 2.62 | 37.481 | | |
| | 71.10 | 18.00 | 2.49 | 42.222 | | |
| | 61.80 | 21.00 | 2.17 | 48.556 | | |
| 55.70 | 23.00 | 1.95 | 53.889 | | | |
| 48.40 | 26.00 | 1.70 | 61.972 | | | |

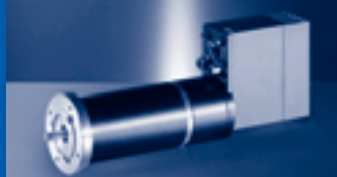
2

Additional order information

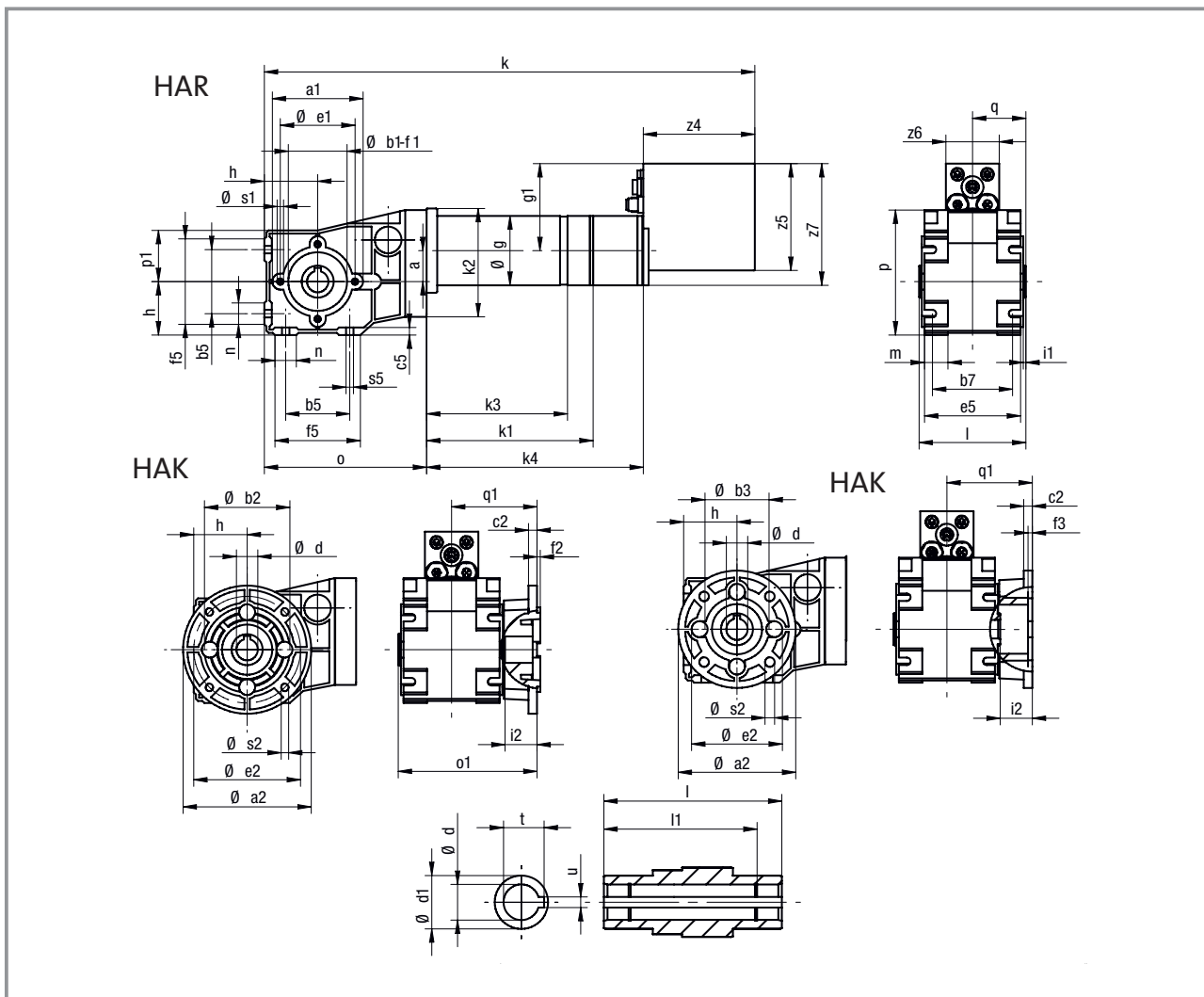
| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VAR | |
| | VAK | |
| | HAR | |
| | HAK | |
| Output flange diameter | 110 mm | |
| | 120 mm | |
| Hollow shaft bore | 18 mm | |
| | 20 mm | |
| Shaft position on type VAR | | 3 5 8 |
| Flange/shaft position on type VAK | | 3 5 |
| Flange position on type HAK | | 3 5 |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|-------------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03KBO (Voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |
| Power supply unit | 24 V/10 A, 230 V/50 Hz | |
| | 24 V/20 A, 230 V/50 Hz | |
| | 48 V/10 A, 400 V/50 Hz | |
| | 48 V/20 A, 400 V/50 Hz | |



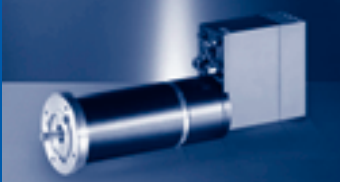
Dimensions, type GKR03-2GHA□-035C22



| Geared motor | a | a1 | a2 | b1 J7 | b2 j7 | b3 H7 | b5 | b7 | c2 | c5 | d H7 | d1 | e1 | e2 | e5 | f1 | f2 | f3 | f5 | g | g1 | h | i1 | i2 |
|--------------------|----|----|-----|----------|----------|----------|----|----|----|----|---------|----|----|-----|----|----|----|----|----|----|------|----|-----|----|
| GKR03-2GHA□-035C22 | 29 | 84 | 120 | 55 | 80 | - | 60 | 75 | 8 | 7 | 18 | 30 | 70 | 100 | 90 | 3 | 3 | - | 80 | 65 | 81.5 | 50 | 2.5 | 30 |
| | | | 110 | - | 60 | | | | | | 20 | 30 | | 87 | | | | 4 | | | | | | |

| k | k1 | k2 | k3 | k4 | l | l1 | m | n | o | o1 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | z4 | z5 | z6 | z7 | Weight |
|-------|-----|-----|-----|-----|-----|----|----|----|-----|-----|-----|----|----|----|----|----|-----|------|---|-------|-----|----|-----|---------|
| SB | SR | | XX | SB | | | | | | | | | | | | | | | | | | | | |
| 460.5 | 178 | 100 | 136 | 202 | 100 | 86 | 22 | 20 | 152 | 130 | 117 | 48 | 50 | 80 | M6 | 7 | 6.6 | 20.8 | 6 | 105.5 | 100 | 50 | 114 | 5.5-7.0 |
| | | | | | | | | | | | | | | | | 9 | | 22.8 | 6 | | | | | |

Dimensions in mm



Drive selection

Servo bevel geared motors GKR

Selection table, type GKR03-2GVA□-047C22

| P _r W | Supply voltage Servo Drive 24 V or 42 V DC | | | i | Motor type | Selection Please tick |
|---------------------|--|----------------------|--------|--------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 170 | 369.9 | 4.00 | 7.78 | 5.411 | | |
| | 321.4 | 5.00 | 6.98 | 6.222 | SDSGS□□047-22 | |
| | 281.3 | 5.00 | 6.48 | 7.111 | | |
| | 244.6 | 6.00 | 5.79 | 8.178 | | |
| | 219.8 | 7.00 | 5.35 | 9.101 | | |
| | 191.1 | 8.00 | 4.65 | 10.466 | | |
| | 171.8 | 9.00 | 4.18 | 11.64 | | |
| | 149.4 | 10.00 | 3.64 | 13.386 | | |
| | 132.4 | 11.00 | 3.22 | 15.111 | | |
| | 115.1 | 13.00 | 2.80 | 17.378 | | |
| | 103.3 | 15.00 | 2.51 | 19.365 | | |
| | 89.8 | 17.00 | 2.19 | 22.27 | | |
| | 79.8 | 19.00 | 2.21 | 25.051 | | |
| | 69.4 | 22.00 | 1.92 | 28.808 | | |
| | 61.4 | 25.00 | 1.70 | 32.593 | | |
| | 53.4 | 28.00 | 1.47 | 37.481 | | |
| | 47.4 | 32.00 | 1.40 | 42.222 | | |
| | 41.2 | 37.00 | 1.22 | 48.556 | | |
| 37.1 | 41.00 | 1.10 | 53.889 | | | |
| 32.3 | 45.00 | 0.96 | 61.972 | | | |

2

Additional order information

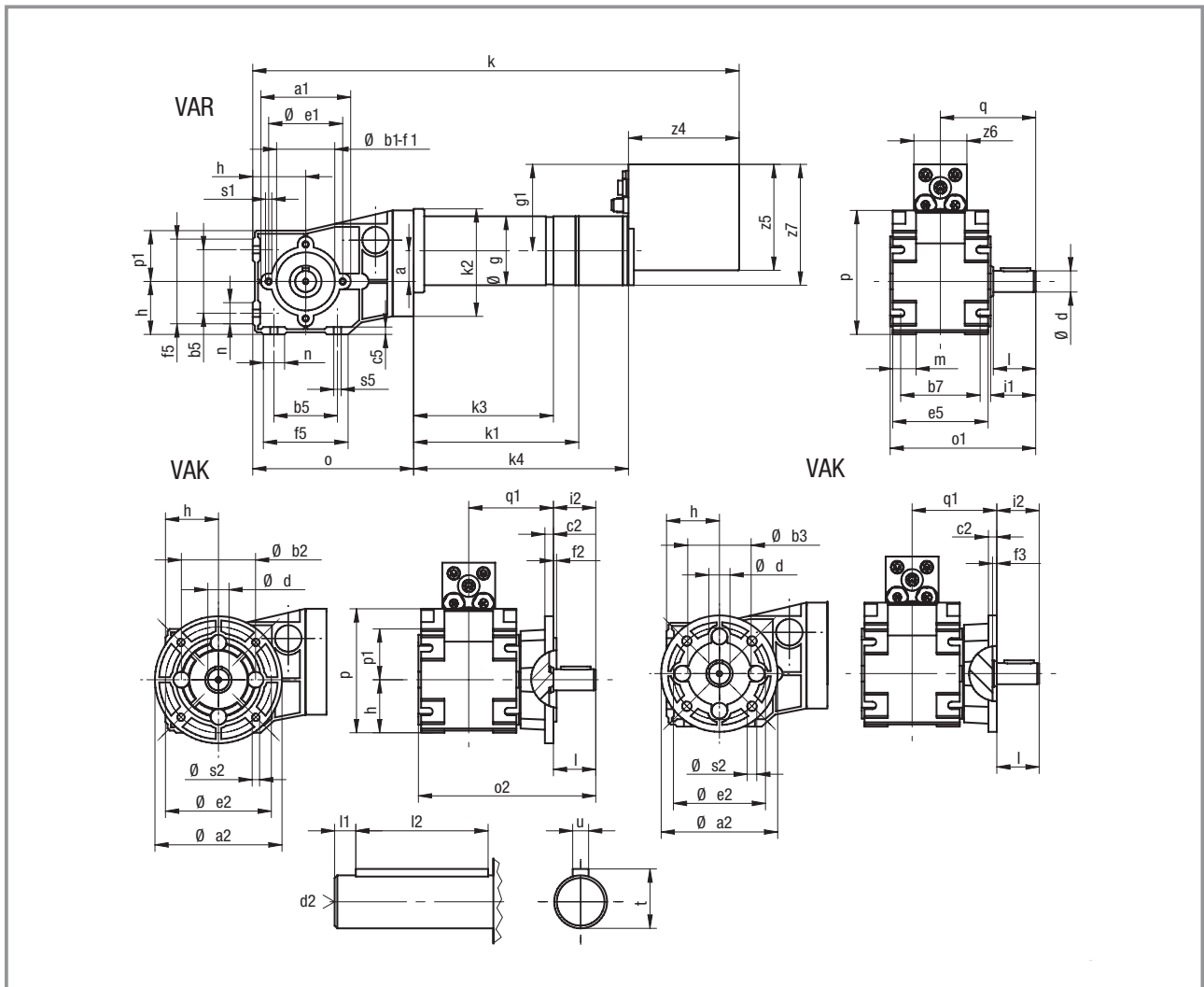
| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VAR | |
| | VAK | |
| | HAR | |
| | HAK | |
| Output flange diameter | 110 mm | |
| | 120 mm | |
| Hollow shaft bore | 18 mm | |
| | 20 mm | |
| Shaft position on type VAR | | 3 5 8 |
| Flange/shaft position on type VAK | | 3 5 |
| Flange position on type HAK | | 3 5 |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|-------------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03KBO (Voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |
| Power supply unit | 48 V/10 A, 400 V/50 Hz | |
| | 48 V/20 A, 400 V/50 Hz | |



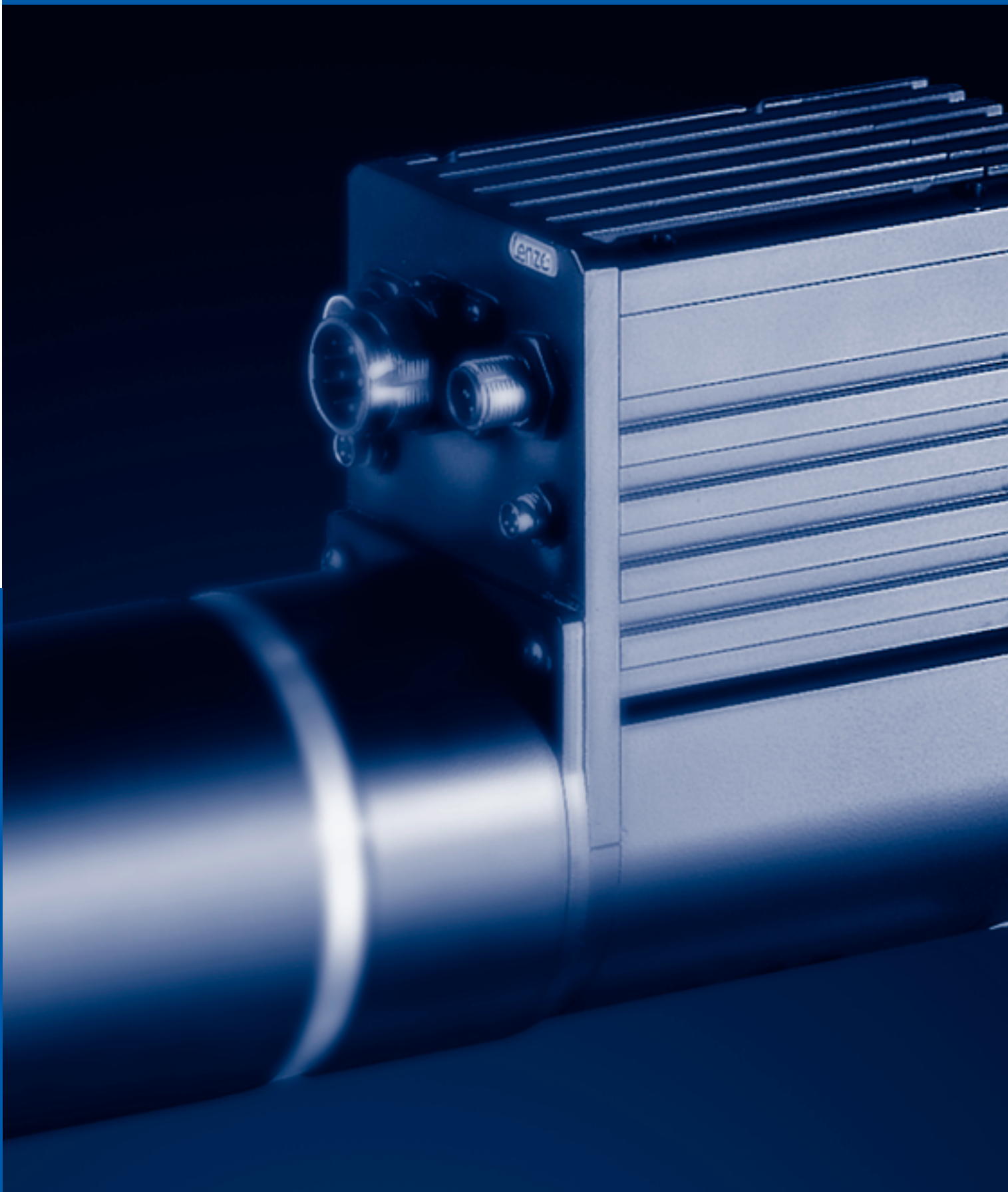
Dimensions, type GKR03-2GVA□-047C22



| Geared motor | a | a1 | a2 | b1 J7 | b2 j7 | b3 H7 | b5 | b7 | c2 | c5 | d k6 | d2 | e1 | e2 | e5 | f1 | f2 | f3 | f5 | g | g1 | h | i1 | i2 |
|--------------------|----|----|-----|----------|----------|----------|----|----|----|----|---------|----|----|-----|----|-----|----|----|----|----|------|----|------|----|
| GKR03-2GVA□-047C22 | 29 | 84 | 120 | 55 | 80 | - | 60 | 75 | 8 | 7 | 20 | M6 | 70 | 100 | 90 | 2.5 | 3 | - | 80 | 65 | 86.5 | 50 | 42.5 | 40 |
| | | | 110 | - | 60 | | | | | | | | | 87 | | | 4 | | | | | | | |

| k | k1 | k2 | k3 | k4 | l | l1 | l2 | m | n | o | o1 | o2 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | z4 | z5 | z6 | z7 | Weight [kg] |
|-------|-------|-----|-----|-----|----|----|----|----|----|-----|-----|-----|-----|----|----|----|----|----|-----|------|---|-------|-----|----|-----|----------------|
| 493.5 | 202.5 | 100 | 158 | 235 | 40 | 5 | 28 | 22 | 20 | 152 | 138 | 168 | 117 | 48 | 90 | 80 | M6 | 7 | 6.6 | 22.5 | 6 | 105.5 | 100 | 50 | 114 | 6.5-8.0 |
| | | | | | | | | | | | | | | | | | | 9 | | | | | | | | |

Dimensions in mm



Drive selection | 930 fluxxtorque Servo Drives

Integrated mounting 930M servo inverter for a 230 V AC supply voltage

| | |
|-----------------------------------|------|
| SDSGS servo motors | 3-2 |
| Servo worm geared motors SSN | 3-4 |
| Servo planetary geared motors SPL | 3-8 |
| Servo helical geared motors GST | 3-14 |
| Servo bevel geared motors GKR | 3-20 |



Drive selection SDSGS servo motors

Selection table, type SDSGS□□□□□-22

| P _r W | Supply voltage Servo Drive 230 V AC | | Version A-side | Motor type | Selection Please tick |
|---------------------|-------------------------------------|----------------------|-------------------|---------------|--------------------------|
| | n ₁ rpm | M ₁ Nm | | | |
| 250 | 3000 | 0.80 | IEC56 B14 C80 | SDSGS□□047-22 | |
| 250 | 3000 | 0.80 | IEC63 B14 C90 | SDSGS□□047-22 | |
| 440 | 3000 | 1.40 | IEC63 B14 C90 | SDSGS□□056-22 | |

Additional order information

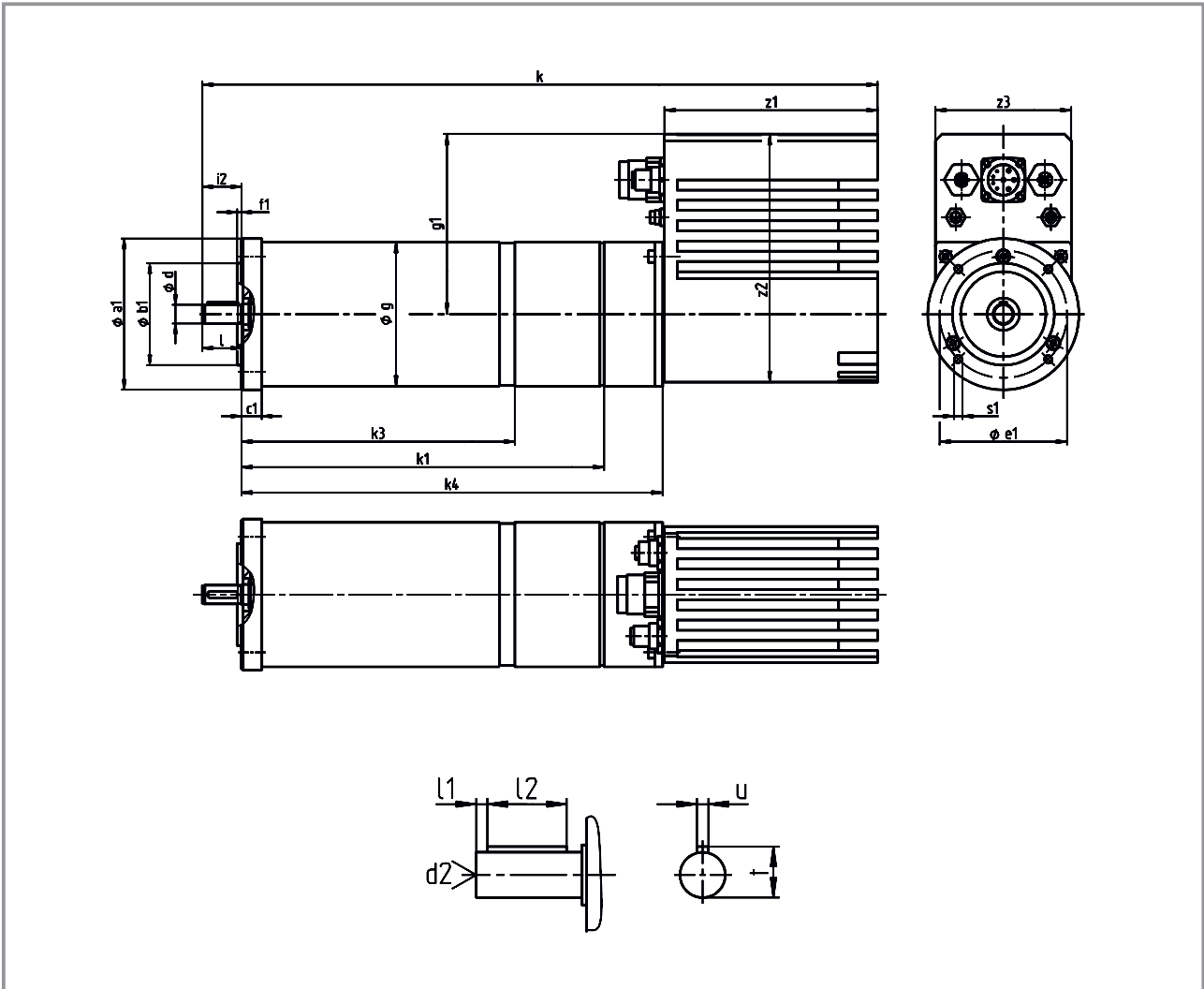
| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |

Servo Drives accessories

| | | |
|--------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03NBO (voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |



Dimensions, type SDSGS□□□□-22



| Motor type | Frame size | a1 | b1 j7 | c1 | d k6 | d2 | e1 | f1 | g | g1 | i2 | k SB | k1 SR | k3 XX | k4 SB | l |
|---------------|------------|----|----------|----|---------|----|----|-----|----|-----|----|---------|----------|----------|----------|----|
| SDSGSS□047-22 | IEC56C80 | 79 | 50 | 12 | 9 | M3 | 65 | 2.5 | 75 | 106 | 20 | 379 | 188.5 | 156 | 232.5 | 20 |
| SDSGSS□047-22 | IEC63C90 | 89 | 60 | 12 | 11 | M4 | 75 | 2.5 | 75 | 106 | 23 | 382 | 188.5 | 156 | 232.5 | 23 |
| SDSGSS□056-22 | IEC63C90 | 89 | 60 | 12 | 11 | M4 | 75 | 2.5 | 85 | 106 | 23 | 397.5 | 195.5 | 163 | 248 | 23 |

| Motor type | Frame size | l1 | l2 | s1 | t | u | z1 | z2 | z3 | Weight [kg] |
|---------------|------------|----|----|----|------|---|-------|-----|----|----------------|
| SDSGSS□047-22 | IEC56C80 | 3 | 14 | M5 | 10.2 | 3 | 125.5 | 146 | 80 | 5.0-6.0 |
| SDSGSS□047-22 | IEC63C90 | 3 | 18 | M5 | 12.5 | 4 | 125.5 | 146 | 80 | 5.0-6.0 |
| SDSGSS□056-22 | IEC63C90 | 3 | 18 | M5 | 12.5 | 4 | 125.5 | 146 | 80 | 6.0-7.0 |

Dimensions in mm



Drive selection

Servo worm geared motors SSN

Selection table, type SSN40-1G□□□-047C22

| P _r W | Supply voltage Servo Drive 230 V AC | | | i | Motor type | Selection Please tick |
|---------------------|-------------------------------------|----------------------|------|------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 250 | 441.0 | 4.57 | 7.66 | 6.75 | | |
| | 300.0 | 6.48 | 5.40 | 10 | SDSGS□□047-22 | |
| | 200.0 | 8.88 | 3.72 | 15 | | |
| | 150.0 | 11.36 | 2.99 | 20 | | |
| | 120.0 | 12.80 | 2.27 | 25 | | |
| | 100.0 | 14.88 | 2.42 | 30 | | |
| | 75.0 | 17.92 | 1.90 | 40 | | |
| | 60.0 | 21.60 | 1.48 | 50 | | |
| | 50.0 | 18.24 | 1.75 | 60 | | |
| | 38.0 | 24.00 | 0.96 | 80 | | |

Additional order information

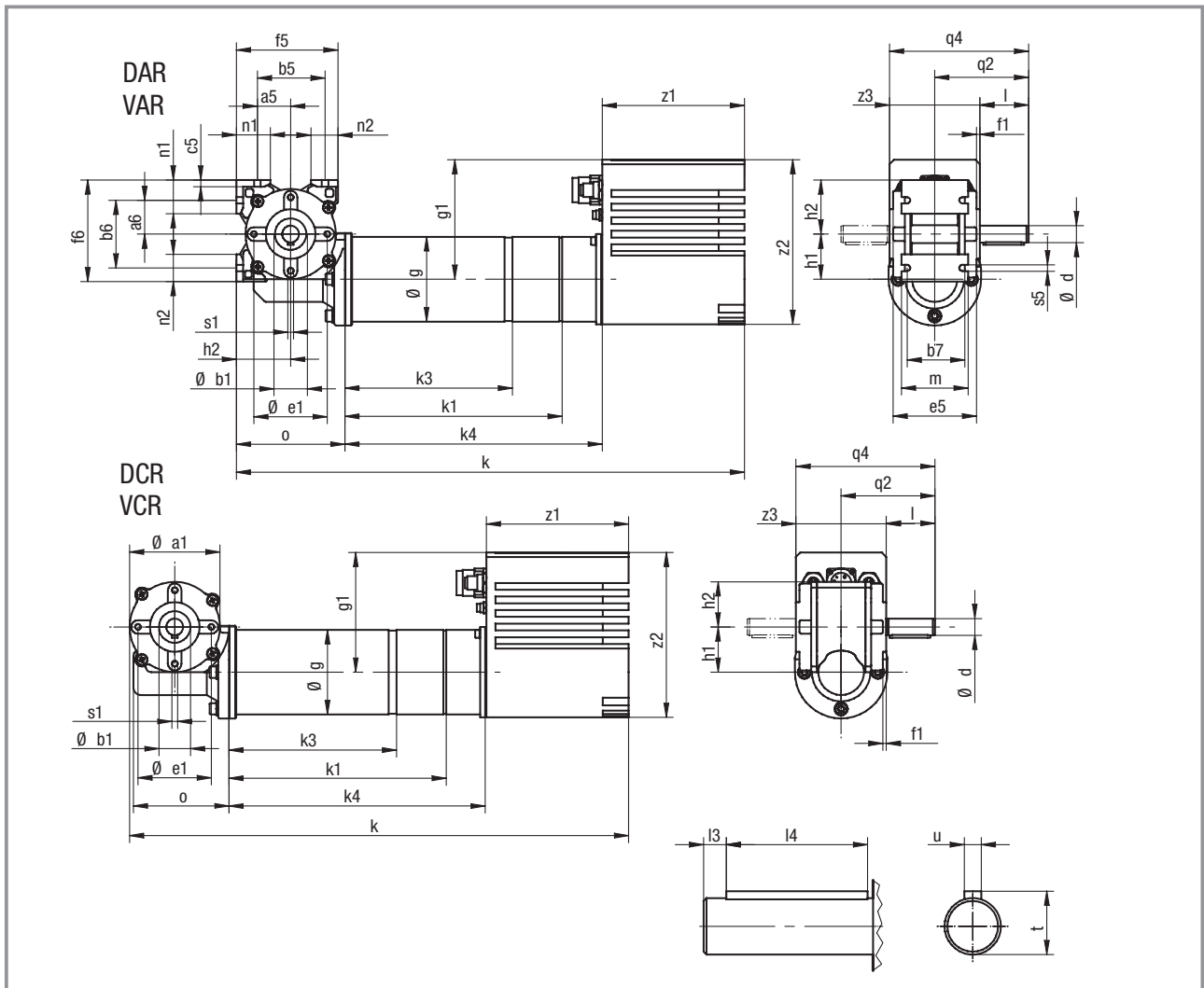
| | | |
|--|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VAR | |
| | DAR | |
| | VAL | |
| | HAR | |
| | VCR | |
| | DCR | |
| | VCL | |
| | HCR | |
| Shaft position on version VAR/VCR | | 3 5 8 |
| Flange/shaft position on version VAL/VCL | | 3 5 8 |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|--------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03NBO (voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |



Dimensions, type SSN40-1G□□□-047C22



| Geared motor | a1 | a5 | a6 | b1 h10 | b5 | b6 | b7 | c5 | d h6 | e1 | e5 | f1 | f5 | f6 | g | g1 | h1 | h2 | k | k1 SB | k1 SR |
|--------------------|----|----|----|-----------|----|----|----|----|---------|----|----|----|----|----|----|-----|----|----|-----|----------|----------|
| SSN40-1GVAR-047C22 | 77 | 30 | 30 | 44 | 60 | 60 | 50 | 6 | 15 | 65 | 80 | 2 | 90 | 90 | 75 | 106 | 40 | 48 | 323 | 183 | |
| SSN40-1GVCR-047C22 | 77 | - | - | 44 | - | - | - | - | 15 | 65 | 80 | 2 | - | - | 75 | 106 | 40 | 40 | 315 | 183 | |

| k3 | k4 | l | l3 | l4 | m | n1 | n2 | o | q2 | q4 | s1 | s5 | t | u | z1 | z2 | z3 | Weight [kg] |
|-------|-----|----|----|----|----|----|----|----|----|-----|----|-----|----|---|-------|-----|----|----------------|
| 150.5 | 227 | 43 | 4 | 36 | 59 | 30 | 24 | 96 | 83 | 123 | M6 | 5.5 | 17 | 5 | 126.5 | 146 | 80 | 6.5-7.8 |
| 150.5 | 227 | 43 | 4 | 36 | - | - | - | 88 | 83 | 123 | M6 | - | 17 | 5 | 126.5 | 146 | 80 | 6.5-7.8 |

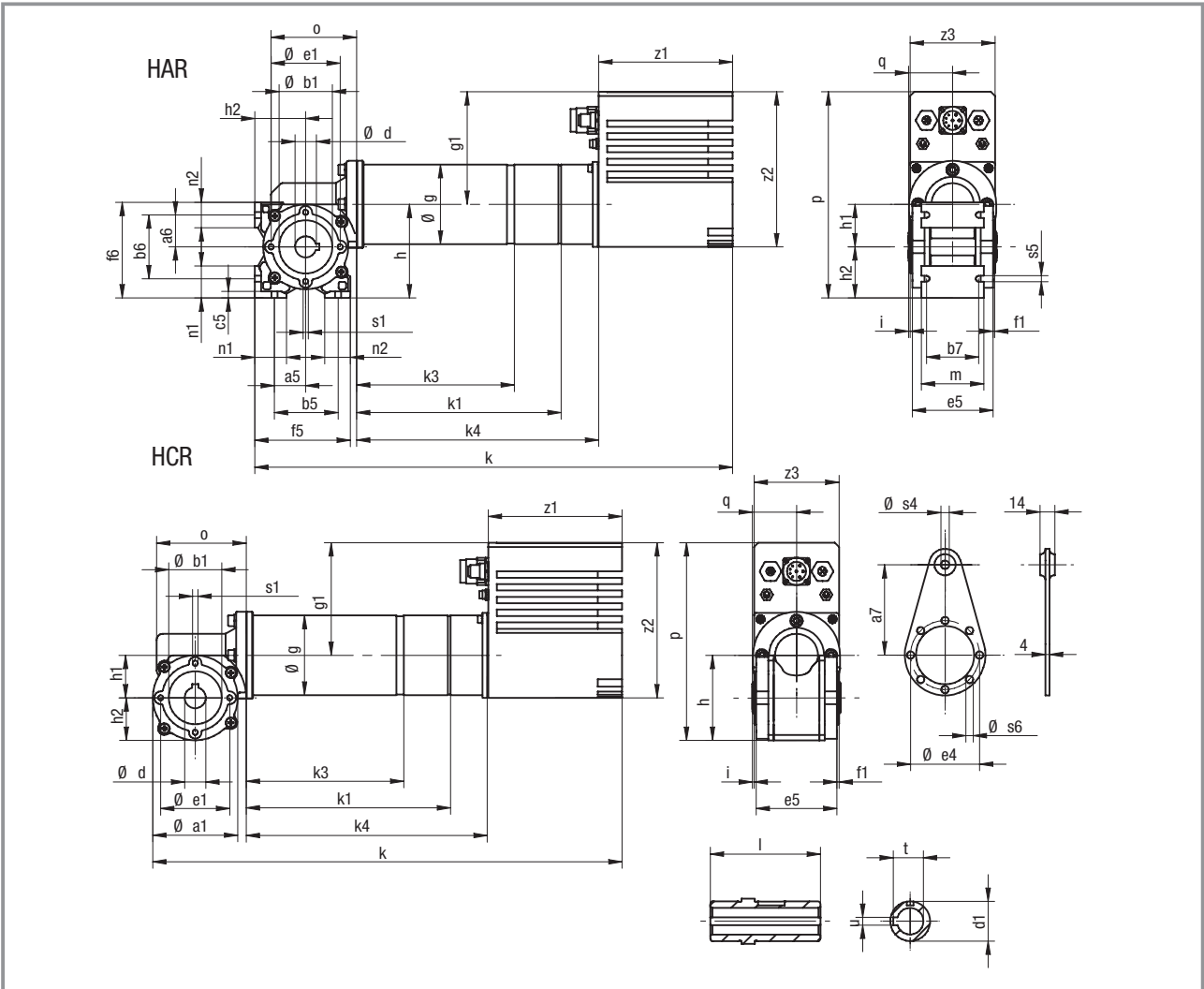
Dimensions in mm



Drive selection

Servo worm geared motors SSN

Dimensions, type SSN40-1G□□□-047C22



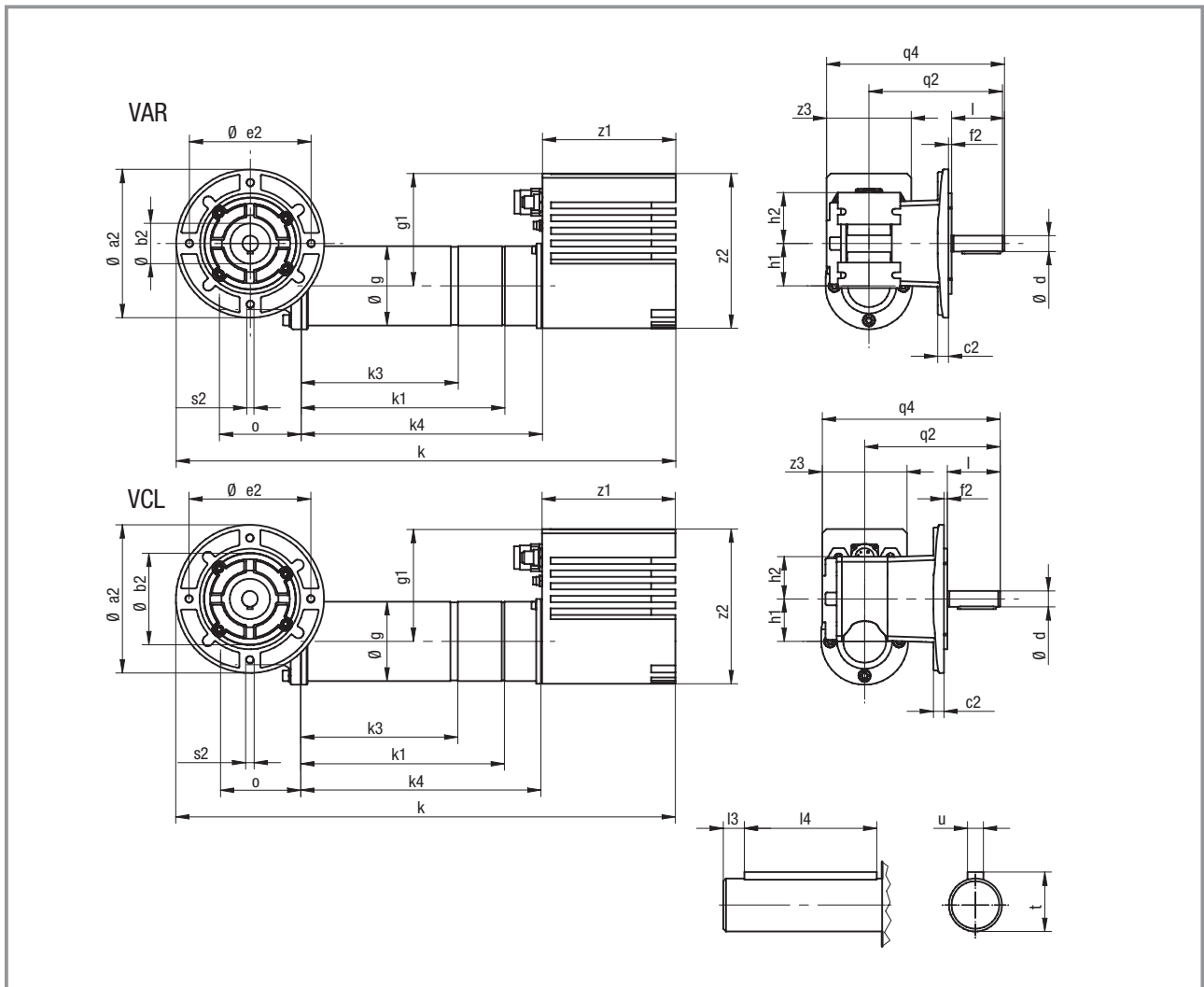
| Geared motor | a1 | a5 | a6 | a7 | b1 h8 | b5 | b6 | b7 | c5 | d H7 | d1 | e1 | e4 | e5 | f1 | f5 | f6 | g | g1 | h | h1 | h2 | i |
|---------------------|----|----|----|----|----------|----|----|----|----|---------|----|----|----|----|----|----|----|----|-----|----|----|----|-----|
| SSN40-1GHAR-047C22 | 77 | 30 | 30 | 85 | 50 | 60 | 60 | 50 | 6 | 20 | 30 | 65 | 65 | 80 | 2 | 90 | 90 | 75 | 106 | 88 | 40 | 48 | 1.5 |
| SSN40-1GHCRC-047C22 | 77 | - | - | 85 | 50 | - | - | - | - | 20 | 30 | 65 | 65 | 80 | 2 | - | - | 75 | 106 | 80 | 40 | 40 | 1.5 |

| k | k1 | k3 | k4 | l | m | n1 | n2 | o | p | q | s1 | s4 | s5 | s6 | t | u | z1 | z2 | z3 | Weight [kg] |
|-------|-----|-------|-----|----|----|----|----|----|-----|------|----|----|-----|----|------|---|-------|-----|----|----------------|
| 449.5 | 183 | 150.5 | 227 | 83 | 59 | 30 | 24 | 96 | 194 | 41.5 | M6 | 8 | 5.5 | 7 | 22.8 | 6 | 126.5 | 146 | 80 | 6.5-7.8 |
| 441.5 | 183 | 150.5 | 227 | 83 | - | - | - | 88 | 186 | 41.5 | M6 | 8 | - | 7 | 22.8 | 6 | 126.5 | 146 | 80 | 6.5-7.8 |

Dimensions in mm



Dimensions, type SSN40-1G□□□-047C22



| Geared motor | a2 | b2 j7 | c2 | d h6 | e2 | f2 | g | g1 | h1 | h2 | k SB | k1 SR | k3 XX |
|--------------------|-----|----------|----|---------|-----|----|----|-----|----|----|---------|----------|----------|
| SSN40-1GVAL-047C22 | 140 | 95 | 10 | 15 | 115 | 3 | 75 | 106 | 40 | 48 | 471.5 | 183 | 150.5 |
| SSN40-1GVCL-047C22 | 140 | 95 | 10 | 15 | 115 | 3 | 75 | 106 | 40 | 40 | 471.5 | 183 | 150.5 |

| Geared motor | k4 SB | l | l3 | l4 | o | q2 | q4 | s2 | t | u | z1 | z2 | z3 | Weight [kg] |
|--------------------|----------|----|----|----|----|-----|-----|----|----|---|-------|-----|----|----------------|
| SSN40-1GVAL-047C22 | 227 | 50 | 4 | 36 | 96 | 128 | 168 | M8 | 17 | 5 | 126.5 | 146 | 80 | 6.5-7.8 |
| SSN40-1GVCL-047C22 | 227 | 50 | 4 | 36 | 88 | 128 | 168 | M8 | 17 | 5 | 126.5 | 146 | 80 | 6.5-7.8 |

Dimensions in mm



Drive selection

Servo planetary geared motors SPL

Selection table, type SPL62-□GVCR-047N22

| P _r W | Supply voltage Servo Drive 230 V AC | | | i | Motor type | Selection Please tick |
|---------------------|-------------------------------------|----------------------|------|-------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 250 | 811.0 | 2.37 | 3.38 | 3.70 | | |
| | 444.0 | 4.32 | 1.85 | 6.75 | SDSGS□□047-22 | |
| | 218.0 | 8.24 | 3.03 | 13.73 | | |
| | 120.0 | 15.01 | 1.67 | 25.01 | | |
| | 86.0 | 20.98 | 1.19 | 34.97 | | |
| | 66.0 | 27.34 | 0.91 | 45.56 | | |
| | 59.0 | 28.50 | 1.75 | 50.89 | | |
| | 42.0 | 39.85 | 1.25 | 71.16 | | |

Additional order information

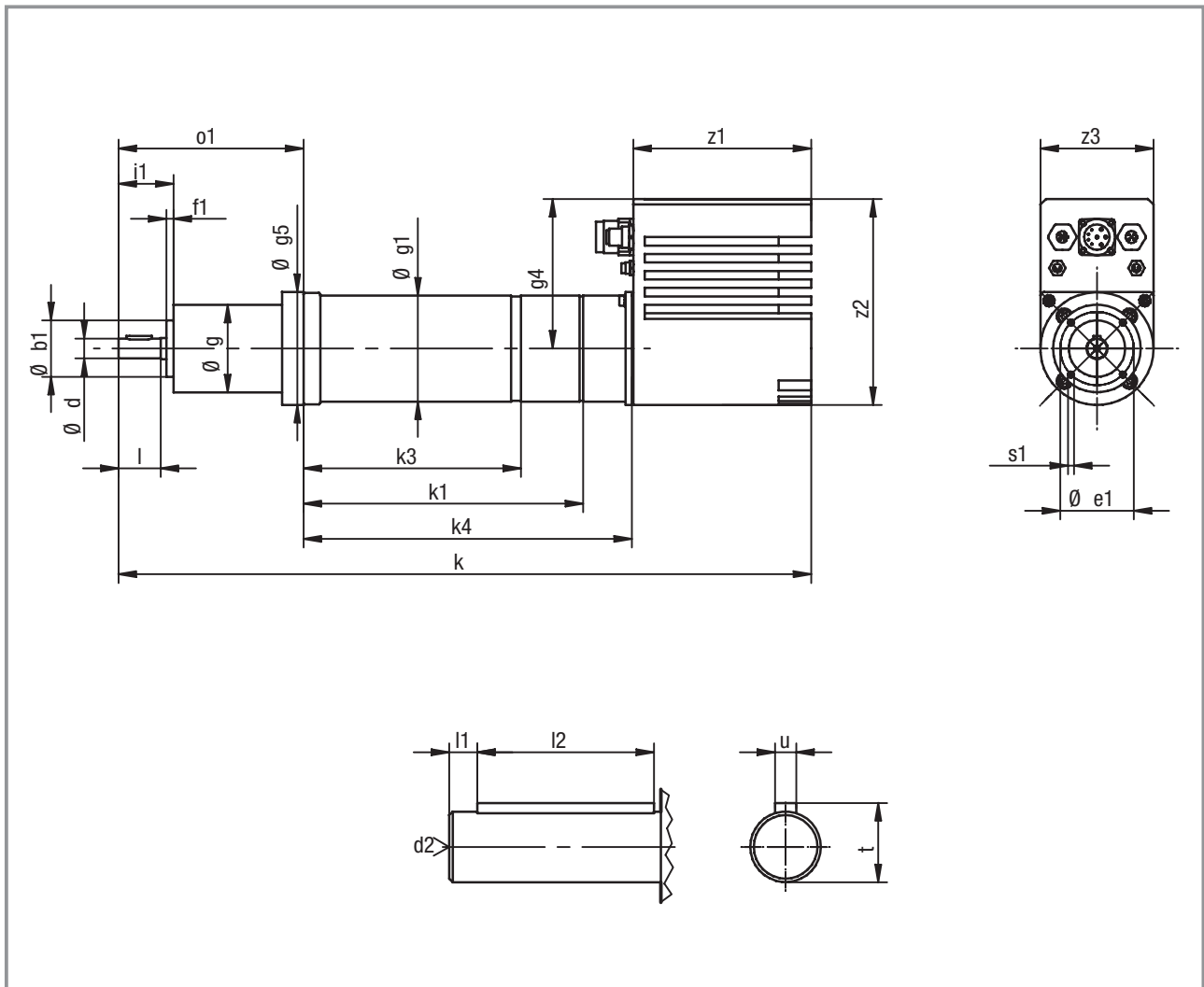
| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |

Servo Drives accessories

| | | |
|--------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03NBO (voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |



Dimensions, type SPL62-□GVCR-047N22



| Geared motor | Ratio i | b1 j7 | d h7 | d2 | e1 | f1 | g | g1 | g4 | g5 | i1 | k SB | k1 SR |
|--------------------|------------|----------|---------|----|----|----|----|----|-----|----|----|---------|----------|
| SPL62-□GVCR-047N22 | 3.7;6.7 | | | | | | | | | | | 474.5 | |
| | 14...46 | 40 | 14 | M5 | 52 | 5 | 62 | 75 | 106 | 80 | 39 | 490.5 | 189 |
| | 51...71 | | | | | | | | | | | 506.5 | |

| k3 XX | k4 SB | l | l1 | l2 | o1 | s1 | t | u | z1 | z2 | z3 | Weight [kg] |
|----------|----------|----|-----|----|-----|-------|----|---|-------|-----|----|----------------|
| | | | | | 115 | | | | | | | 5.8-6.8 |
| 156 | 233 | 30 | 5.5 | 18 | 131 | M5x10 | 16 | 5 | 126.5 | 146 | 80 | 6.2-7.2 |
| | | | | | 147 | | | | | | | 6.6-7.6 |

Dimensions in mm



Drive selection

Servo planetary geared motors SPL

Selection table, type SPL81-□GVCR-047N22

| P _r W | Supply voltage Servo Drive 230 V AC | | | i | Motor type | Selection Please tick |
|---------------------|-------------------------------------|----------------------|------|--------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 250 | 811.0 | 2.37 | 8.45 | 3.70 | | |
| | 444.0 | 4.32 | 4.63 | 6.75 | SDSGS□□047-22 | |
| | 218.0 | 8.24 | 7.28 | 13.73 | | |
| | 120.0 | 15.01 | 4.00 | 25.01 | | |
| | 86.0 | 20.98 | 2.86 | 34.97 | | |
| | 66.0 | 27.34 | 2.19 | 45.56 | | |
| | 59.0 | 28.50 | 4.21 | 50.89 | | |
| | 42.0 | 39.85 | 3.01 | 71.16 | | |
| | 30.0 | 55.72 | 2.15 | 99.50 | | |
| | 24.0 | 69.42 | 1.73 | 123.97 | | |

Additional order information

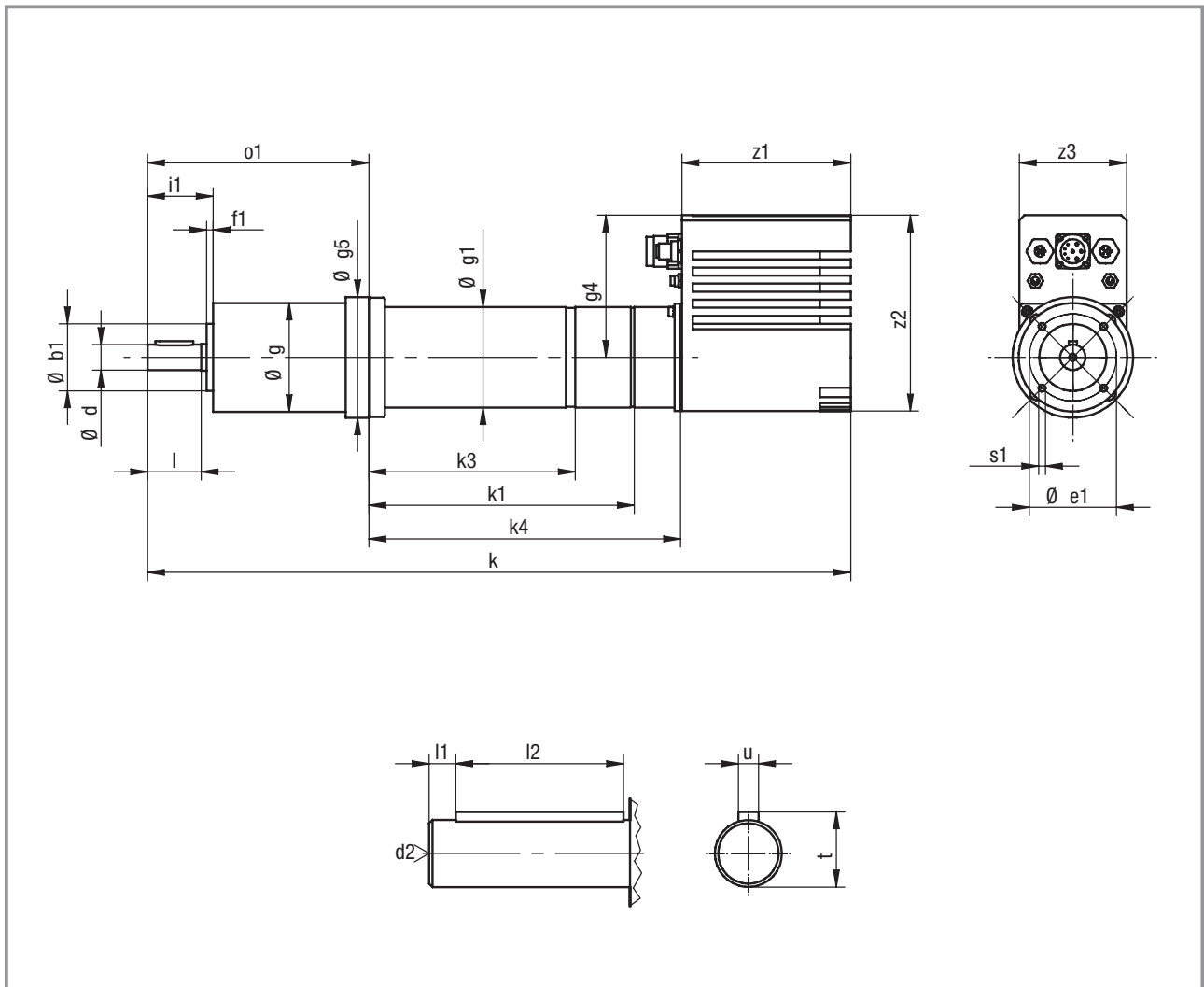
| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |

Servo Drives accessories

| | | |
|--------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03NBO (voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |



Dimensions, type SPL81-□GVCR-047N22



| Geared motor | Ratio i | b1 j7 | d h7 | d2 | e1 | f1 | g | g1 | g4 | g5 | i1 | k | k1 |
|--------------------|------------|----------|---------|----|----|----|----|----|-----|----|----|-------|-----|
| SPL81-□GVCR-047N22 | 3.7;6.7 | | | | | | | | | | | 503.5 | |
| | 14...46 | 50 | 19 | M6 | 65 | 5 | 81 | 75 | 106 | 90 | 49 | 524.5 | 189 |
| | 51...124 | | | | | | | | | | | 546.5 | |

| k3 | k4 | l | l1 | l2 | o1 | s1 | t | u | z1 | z2 | z3 | Weight [kg] |
|-----|-----|----|----|----|-----|-------|------|---|-------|-----|----|----------------|
| | | | | | 144 | | | | | | | 7.1-8.1 |
| 156 | 233 | 40 | 6 | 28 | 165 | M6x12 | 21.5 | 6 | 126.5 | 146 | 80 | 7.8-8.8 |
| | | | | | 187 | | | | | | | 8.5-9.5 |

Dimensions in mm



Drive selection

Servo planetary geared motors SPL

Selection table, type SPL81-□GVCR-056N22

| P _r W | Supply voltage Servo Drive 230 V AC | | | i | Motor type | Selection Please tick |
|---------------------|-------------------------------------|----------------------|---------|--------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 440 | 811 | 4.14 | 4.83 | 3.700 | | |
| | 444 | 7.56 | 2.65 | 6.750 | SDSGS□□056-22 | |
| | 218 | 14.42 | 4.16 | 13.730 | | |
| | 120 | 26.26 | 2.28 | 25.010 | | |
| | 86 | 36.72 | 1.63 | 34.970 | | |
| | 66 | 47.84 | 1.25 | 45.560 | | |
| | 59 | 49.87 | 2.41 | 50.890 | | |
| | 42 | 69.74 | 1.72 | 71.160 | | |
| | 30 | 97.51 | 1.23 | 99.500 | | |
| 24 | 120 | 0.99 | 123.970 | | | |

Additional order information

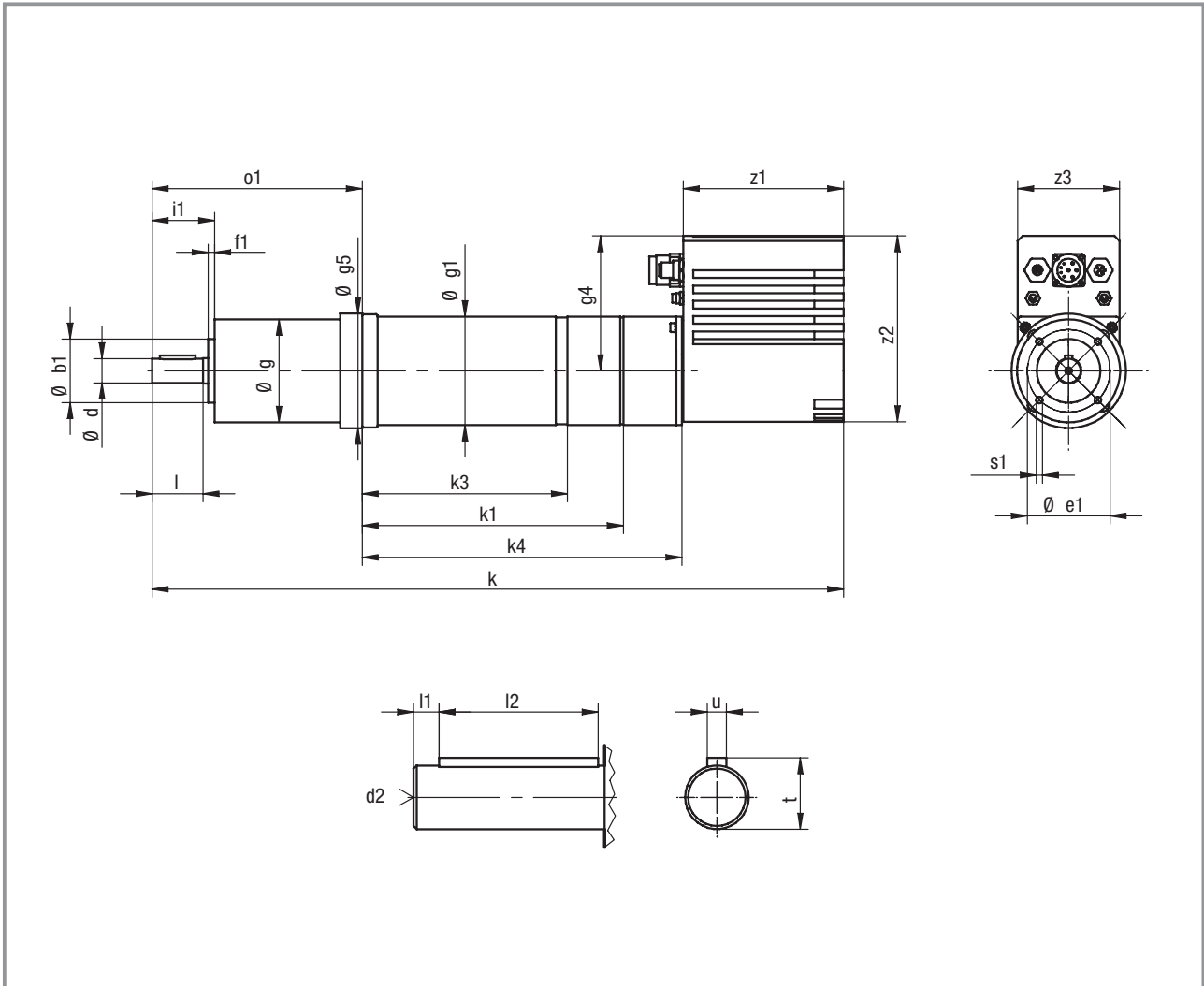
| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |

Servo Drives accessories

| | | |
|--------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03NBO (voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |



Dimensions, type SPL81-□GVCR-056N22



| Geared motor | Ratio i | b1 j7 | d h7 | d2 | e1 | f1 | g | g1 | g4 | g5 | i1 | k | k1 |
|--------------------|------------|----------|---------|----|----|----|----|----|-----|----|----|-------|-----|
| SPL81-□GVCR-056N22 | 3.7;6.7 | | | | | | | | | | | 518.5 | |
| | 14...46 | 50 | 19 | M6 | 65 | 5 | 81 | 85 | 106 | 90 | 49 | 539.5 | 196 |
| | 51...124 | | | | | | | | | | | 561.5 | |

| k3 | k4 | l | l1 | l2 | o1 | s1 | t | u | z1 | z2 | z3 | Weight [kg] |
|-----|-----|----|----|----|-----|-------|------|---|-------|-----|----|----------------|
| | | | | | 144 | | | | | | | 8.1-9.6 |
| 163 | 248 | 40 | 6 | 28 | 165 | M6x12 | 21.5 | 6 | 126.5 | 146 | 80 | 8.8-10.3 |
| | | | | | 187 | | | | | | | 9.5-11.0 |

Dimensions in mm



Drive selection

Servo helical geared motors GST

Selection table, type GST03-□GV□□-047C22

| P _r W | Supply voltage Servo Drive 230 V AC | | | i | Motor type | Selection Please tick |
|---------------------|-------------------------------------|----------------------|--------|--------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 250 | 1155.2 | 2.00 | 7.52 | 2.597 | | |
| | 879.0 | 3.00 | 6.10 | 3.413 | SDSGS□□047-22 | |
| | 686.8 | 3.00 | 5.07 | 4.368 | | |
| | 564.8 | 4.00 | 5.39 | 5.312 | | |
| | 502.9 | 5.00 | 5.02 | 5.965 | | |
| | 429.7 | 5.00 | 4.48 | 6.982 | | |
| | 382.7 | 6.00 | 4.32 | 7.840 | | |
| | 335.8 | 7.00 | 3.79 | 8.935 | | |
| | 299.0 | 8.00 | 3.63 | 10.033 | | |
| | 262.5 | 9.00 | 3.30 | 11.429 | | |
| | 233.8 | 10.00 | 3.15 | 12.833 | | |
| | 202.2 | 11.00 | 2.81 | 14.836 | | |
| | 180.1 | 13.00 | 2.97 | 16.660 | | |
| | 157.8 | 15.00 | 2.67 | 19.013 | | |
| | 140.5 | 16.00 | 2.50 | 21.350 | | |
| | 122.0 | 19.00 | 2.22 | 24.595 | | |
| | 108.6 | 21.00 | 1.98 | 27.618 | | |
| | 93.8 | 25.00 | 1.71 | 32.000 | | |
| | 83.5 | 28.00 | 1.52 | 35.933 | | |
| | 72.4 | 32.00 | 1.32 | 41.455 | | |
| 64.4 | 36.00 | 1.26 | 46.550 | | | |
| 56.7 | 41.00 | 1.11 | 52.909 | | | |
| 50.5 | 45.00 | 0.99 | 59.413 | | | |

Additional order information

| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VBR | |
| | VCR | |
| | VCK | |
| Output flange diameter | 120 mm | |
| | 140 mm | |
| | 160 mm | |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|--------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03NBO (voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |



Drive selection

Servo helical geared motors GST

Selection table, type GST04-1GV□□-056C22

| P _r | Supply voltage Servo Drive 230 V AC | | | i | Motor type | Selection Please tick |
|----------------|-------------------------------------|-----------------------|---------|-------|---------------|--------------------------|
| | n ₂ W | M ₂ rpm | c Nm | | | |
| 440 | 1875.0 | 2 | 4.37 | 1.600 | | |
| | 1464.8 | 3 | 4.27 | 2.048 | SDSGS□□056-22 | |
| | 1339.3 | 3 | 4.43 | 2.240 | | |
| | 1050.1 | 4 | 3.88 | 2.857 | | |
| | 857.1 | 5 | 3.33 | 3.500 | | |
| | 681.8 | 6 | 2.65 | 4.400 | | |
| | 529.4 | 8 | 2.06 | 5.667 | | |
| | 417.7 | 10 | 1.62 | 7.182 | | |
| | 333.3 | 12 | 1.23 | 9.000 | | |

Additional order information

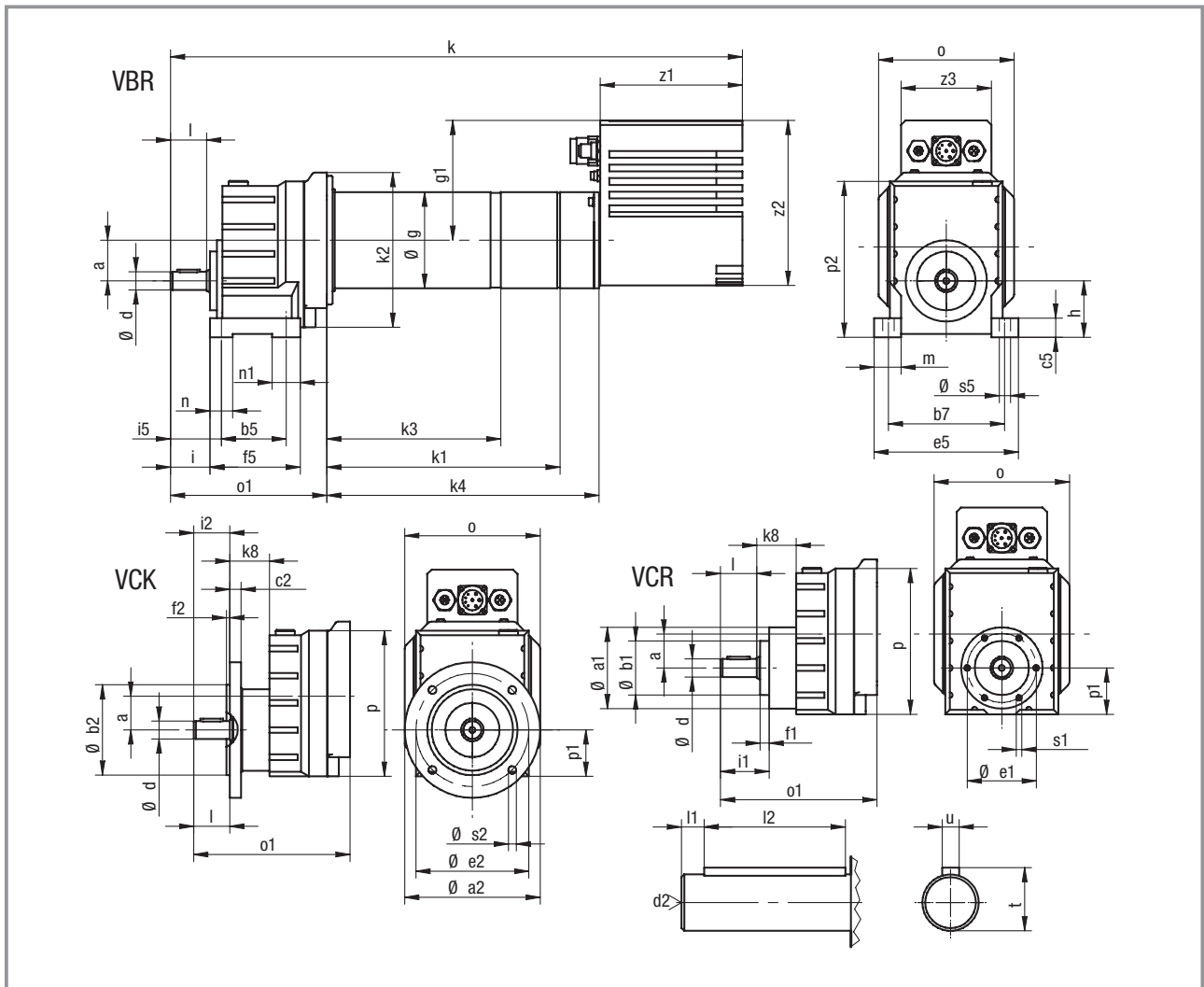
| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VBR | |
| | VCR | |
| | VCK | |
| Output flange diameter | 120 mm | |
| | 140 mm | |
| | 160 mm | |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|--------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03NBO (voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |



Dimensions, type GST04-1GV□□-056C22



| Geared motor | a | a1 | a2 | b1 h7 | b2 j7 | b5 | b7 | c2 | c5 | d k6 | d2 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | h | i | i1 | i2 | i5 |
|--------------------|----|----|-----|----------|----------|----|-----|----|----|---------|----|----|-----|-----|----|----|----|----|-----|----|----|----|----|----|
| GST04-1GV□□-056C22 | 36 | 72 | 120 | 48 | 80 | 55 | 105 | 10 | 17 | 16 | M5 | 61 | 115 | 100 | 8 | 3 | 80 | 85 | 106 | 50 | 35 | 43 | 32 | 45 |
| | | | 140 | 95 | 130 | | | | | | | | | | | | | | | | | | | |
| | | | 160 | 110 | 130 | | | | | | | | | | | | | | | | | | | |

| k | k1 | k2 | k3 | k4 | k8 | l | l1 | l2 | m | n | n1 | o | o1 | p | p1 | p2 | s1 | s2 | s5 | t | u | z1 | z2 | z3 | Weight [kg] |
|-----|-------|-----|-----|-----|----|----|----|----|----|----|----|-----|-------|-----|----|-----|----|----|----|----|---|-------|-----|----|----------------|
| 506 | 188.5 | 129 | 156 | 241 | 35 | 32 | 6 | 20 | 25 | 20 | 25 | 115 | 138.5 | 129 | 41 | 138 | M5 | 9 | 9 | 18 | 5 | 126.5 | 146 | 80 | 9.5-11.0 |
| | | | | | | | | | | | | | | | | | | 7 | 9 | | | | | | |

Dimensions in mm



Drive selection

Servo helical geared motors GST

Selection table, type GST04-2GV□□-056C22

| P _r | Supply voltage Servo Drive 230 V AC | | | i | Motor type | Selection Please tick |
|----------------|-------------------------------------|-----------------------|---------|--------|---------------|--------------------------|
| | n ₂ W | M ₂ rpm | c Nm | | | |
| 440 | 1014.9 | 4 | 4.43 | 2.956 | SDSGS□□056-22 | |
| | 900.1 | 4 | 4.46 | 3.333 | | |
| | 740.2 | 5 | 4.41 | 4.053 | | |
| | 656.3 | 6 | 4.43 | 4.571 | | |
| | 578.4 | 7 | 4.36 | 5.187 | | |
| | 512.8 | 8 | 4.38 | 5.850 | | |
| | 468.8 | 9 | 4.19 | 6.400 | | |
| | 426.1 | 9 | 3.89 | 7.040 | | |
| | 375.0 | 11 | 3.57 | 8.000 | | |
| | 333.0 | 12 | 3.37 | 9.010 | | |
| | 304.4 | 13 | 3.20 | 9.856 | | |
| | 267.9 | 15 | 2.60 | 11.200 | | |
| | 238.6 | 17 | 2.65 | 12.571 | | |
| | 210.0 | 19 | 2.04 | 14.286 | | |
| | 194.8 | 21 | 2.47 | 15.400 | | |
| | 171.4 | 24 | 1.94 | 17.500 | | |
| | 155.0 | 26 | 2.00 | 19.360 | | |
| | 136.4 | 30 | 1.54 | 22.000 | | |
| | 120.3 | 34 | 1.58 | 24.933 | | |
| | 105.9 | 38 | 1.24 | 28.333 | | |
| 94.9 | 42 | 1.26 | 31.600 | | | |
| 83.5 | 47 | 0.98 | 35.909 | | | |
| 75.8 | 53 | 1.01 | 39.600 | | | |
| 66.7 | 52 | 0.86 | 45.000 | | | |

Additional order information

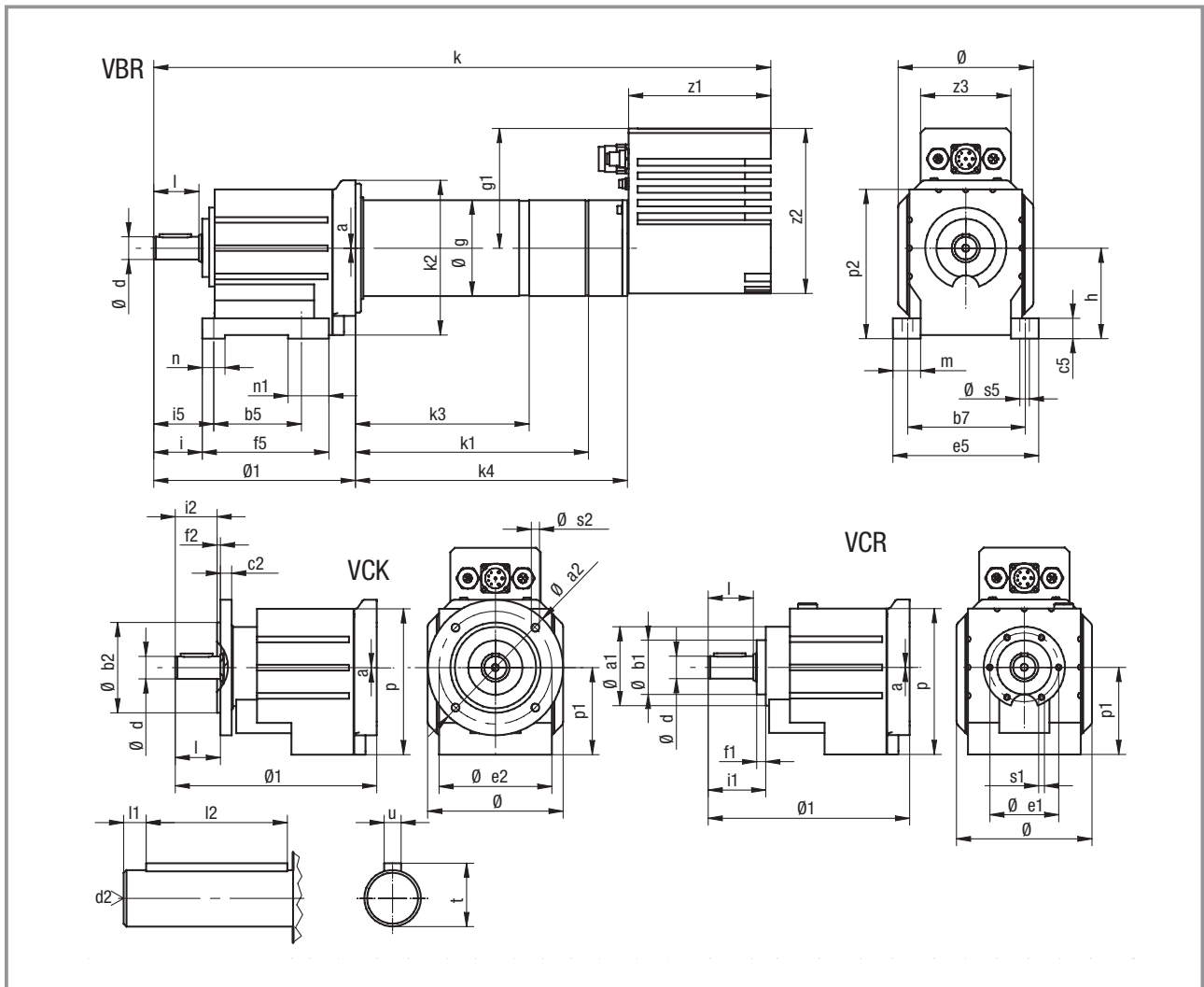
| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VBR | |
| | VCR | |
| | VCK | |
| Output flange diameter | 120 mm | |
| | 140 mm | |
| | 160 mm | |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|--------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03NBO (voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |



Dimensions, type GST04-2GV□□-056C22



| Geared motor | a | a1 | a2 | b1 h7 | b2 j7 | b5 | b7 | c2 | c5 | d k6 | d2 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | h | i | i1 | i2 | i5 |
|--------------------|---|----|-----|----------|----------|-----|-----|----|----|---------|----|-----|-----|-----|----|-----|-----|-----|-----|----|----|----|----|----|
| GST04-2GV□□-056C22 | 0 | 72 | 120 | 48 | 80 | 76 | 105 | 10 | 18 | 20 | M6 | 61 | 115 | 130 | 8 | 3 | 112 | 85 | 106 | 80 | 43 | 51 | 40 | 53 |
| | | | 140 | 95 | 76 | 105 | 10 | 18 | 20 | M6 | 61 | 115 | 130 | 8 | 3 | 112 | 85 | 106 | 80 | 43 | 51 | 40 | 53 | |
| | | | 160 | 110 | 76 | 105 | 10 | 18 | 20 | M6 | 61 | 115 | 130 | 8 | 3 | 112 | 85 | 106 | 80 | 43 | 51 | 40 | 53 | |

| k1 SR | k2 SB | k | k3 XX | k4 SB | l | l1 | l2 | m | n | n1 | o | o1 | p | p1 | p2 | s1 | s2 | s5 | t | u | z1 | z2 | z3 | Weight [kg] |
|----------|----------|-----|----------|----------|----|----|----|----|----|----|-----|-------|-----|----|-----|----|----|----|------|---|-------|-----|----|----------------|
| 188.5 | 129 | 546 | 156 | 241 | 40 | 5 | 28 | 25 | 20 | 36 | 115 | 178.5 | 129 | 77 | 132 | M5 | 9 | 9 | 22.5 | 6 | 126.5 | 146 | 80 | 11.5-13.0 |
| | | | | | | | | | | | | | | | | | 7 | | | | | | | |
| | | | | | | | | | | | | | | | | | 9 | | | | | | | |

Dimensions in mm



Drive selection

Servo bevel geared motors GKR

Selection table, type GKR03-2GVA□-047C22

| P _r W | Supply voltage Servo Drive 230 V A | | | i | Motor type | Selection Please tick |
|---------------------|------------------------------------|----------------------|--------|--------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 250 | 554.4 | 4.00 | 7.78 | 5.411 | | |
| | 482.2 | 5.00 | 6.98 | 6.222 | SDSGS□□047-22 | |
| | 421.9 | 5.00 | 6.48 | 7.111 | | |
| | 366.8 | 6.00 | 5.79 | 8.178 | | |
| | 329.6 | 7.00 | 5.35 | 9.101 | | |
| | 286.6 | 8.00 | 4.65 | 10.466 | | |
| | 257.7 | 9.00 | 4.18 | 11.640 | | |
| | 224.1 | 10.00 | 3.64 | 13.386 | | |
| | 198.5 | 11.00 | 3.22 | 15.111 | | |
| | 172.6 | 13.00 | 2.80 | 17.378 | | |
| | 154.9 | 15.00 | 2.51 | 19.365 | | |
| | 134.7 | 17.00 | 2.19 | 22.270 | | |
| | 119.8 | 19.00 | 2.21 | 25.051 | | |
| | 104.1 | 22.00 | 1.92 | 28.808 | | |
| | 92.0 | 25.00 | 1.70 | 32.593 | | |
| | 80.0 | 28.00 | 1.47 | 37.481 | | |
| | 71.1 | 32.00 | 1.40 | 42.222 | | |
| | 61.8 | 37.00 | 1.22 | 48.556 | | |
| 55.7 | 41.00 | 1.10 | 53.889 | | | |
| 48.4 | 45.00 | 0.96 | 61.972 | | | |

Additional order information

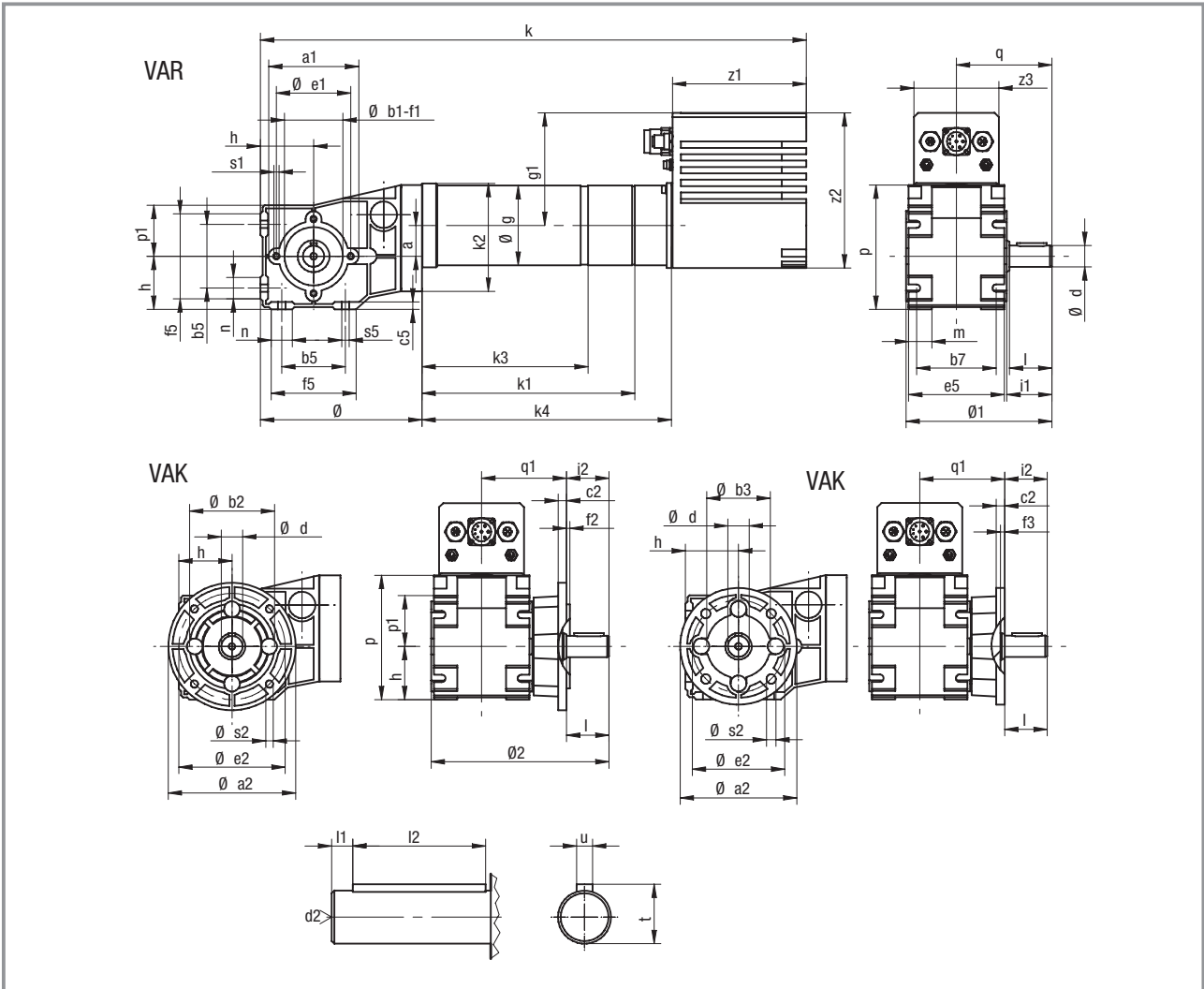
| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VAR | |
| | VAK | |
| | HAR | |
| | HAK | |
| Output flange diameter | 110 mm | |
| | 120 mm | |
| Hollow shaft bore | 18 mm | |
| | 20 mm | |
| Shaft position on type VAR | | 3 5 8 |
| Flange/shaft position on type VAK | | 3 5 |
| Flange position on type HAK | | 3 5 |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|--------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03NBO (voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |



Dimensions, type GKR03-2GVA□-047C22



| Geared motor | a | a1 | a2 | b1 J7 | b2 j7 | b3 H7 | b5 | b7 | c2 | c5 | d k6 | d2 | e1 | e2 | e5 | f1 | f2 | f3 | f5 | g | g1 | h | i1 | i2 |
|--------------------|----|----|-----|----------|----------|----------|----|----|----|----|---------|----|----|-----|----|-----|----|----|----|----|-----|----|------|----|
| GKR03-2GVA□-047C22 | 29 | 84 | 120 | 55 | 80 | - | 60 | 75 | 8 | 7 | 20 | M6 | 70 | 100 | 90 | 2.5 | 3 | - | 80 | 75 | 106 | 50 | 42.5 | 40 |
| | | | 110 | - | 60 | | | | | | 20 | M6 | | 87 | | | | 4 | | | | | | |

| k | k1 | k2 | k3 | k4 | l | l1 | l2 | m | n | o | o1 | o2 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | z1 | z2 | z3 | Weight [kg] |
|-------|-----|-----|-------|-----|----|----|----|----|----|-----|-----|-----|-----|----|----|----|----|----|-----|------|---|-------|-----|----|----------------|
| 514.5 | 191 | 100 | 158.5 | 235 | 40 | 5 | 28 | 22 | 20 | 152 | 138 | 168 | 117 | 48 | 90 | 80 | M6 | 7 | 6.6 | 22.5 | 6 | 126.5 | 146 | 80 | 8.0-9.5 |
| | | | | | | | | | | | | | | | | | | 9 | | | | | | | |

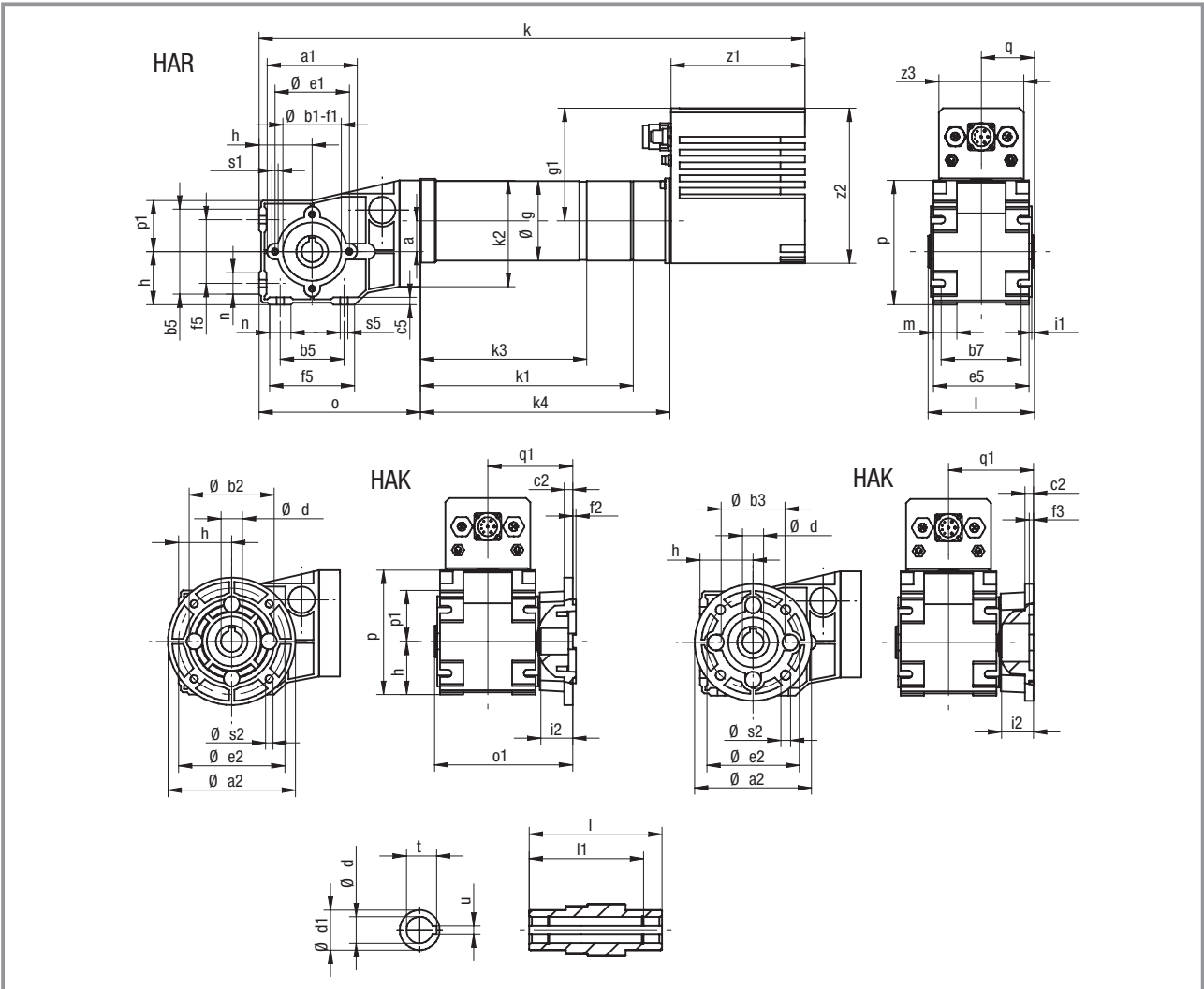
Dimensions in mm



Drive selection

Servo bevel geared motors GKR

Dimensions, type GKR03-2GHA□-047C22



| Geared motor | a | a1 | a2 | b1 J7 | b2 j7 | b3 H7 | b5 | b7 | c2 | c5 | d H7 | d1 | e1 | e2 | e5 | f1 | f2 | f3 | f5 | g | g1 | h | i1 | i2 |
|--------------------|----|----|-----|----------|----------|----------|----|----|----|----|---------|----|----|-----|----|----|----|----|----|----|-----|----|-----|----|
| GKR03-2GHA□-047C22 | 29 | 84 | 120 | 55 | 80 | - | 60 | 75 | 8 | 7 | 18 | 30 | 70 | 100 | 90 | 3 | 3 | - | 80 | 75 | 106 | 50 | 2.5 | 30 |
| | | | 110 | | 60 | | | | | | 20 | 30 | | 87 | | | 4 | | | | | | | |

| k | k1 | k2 | k3 | k4 | l | l1 | m | n | o | o1 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | z1 | z2 | z3 | Weight [kg] |
|-------|-----|-----|-------|-----|-----|----|----|----|-----|-----|-----|----|----|----|----|----|------|------|---|-------|-----|----|----------------|
| 514.5 | 191 | 100 | 158.5 | 235 | 100 | 86 | 22 | 20 | 152 | 130 | 117 | 48 | 50 | 80 | M6 | 7 | 6.6 | 20.8 | 6 | 126.5 | 146 | 80 | 8.0-9.5 |
| | | | | | | | | | | | | | | | | 9 | 22.8 | 6 | | | | | |

Dimensions in mm





Drive selection

Servo bevel geared motors GKR

Selection table, type GKR04-2GVA□-056C22

| P _r W | Supply voltage Servo Drive 230 V A | | | i | Motor type | Selection Please tick |
|---------------------|------------------------------------|----------------------|--------|--------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 440 | 578.6 | 7 | 4.41 | 5.185 | SDSGS□□056-22 | |
| | 503.1 | 8 | 4.34 | 5.963 | | |
| | 421.9 | 9 | 4.31 | 7.111 | | |
| | 366.8 | 11 | 4.34 | 8.178 | | |
| | 329.6 | 12 | 4.36 | 9.101 | | |
| | 286.6 | 14 | 4.14 | 10.466 | | |
| | 262.0 | 15 | 3.84 | 11.449 | | |
| | 236.3 | 17 | 3.46 | 12.698 | | |
| | 205.4 | 19 | 3.01 | 14.603 | | |
| | 192.9 | 21 | 2.82 | 15.556 | | |
| | 167.7 | 24 | 2.45 | 17.889 | | |
| | 153.4 | 26 | 2.25 | 19.556 | | |
| | 133.4 | 30 | 1.95 | 22.489 | | |
| | 119.1 | 33 | 1.98 | 25.185 | | |
| | 103.6 | 39 | 1.72 | 28.963 | | |
| | 94.0 | 42 | 1.56 | 31.919 | | |
| | 81.7 | 49 | 1.36 | 36.707 | | |
| 75.0 | 53 | 1.25 | 40.000 | | | |
| 65.2 | 61 | 1.18 | 46.000 | | | |

Additional order information

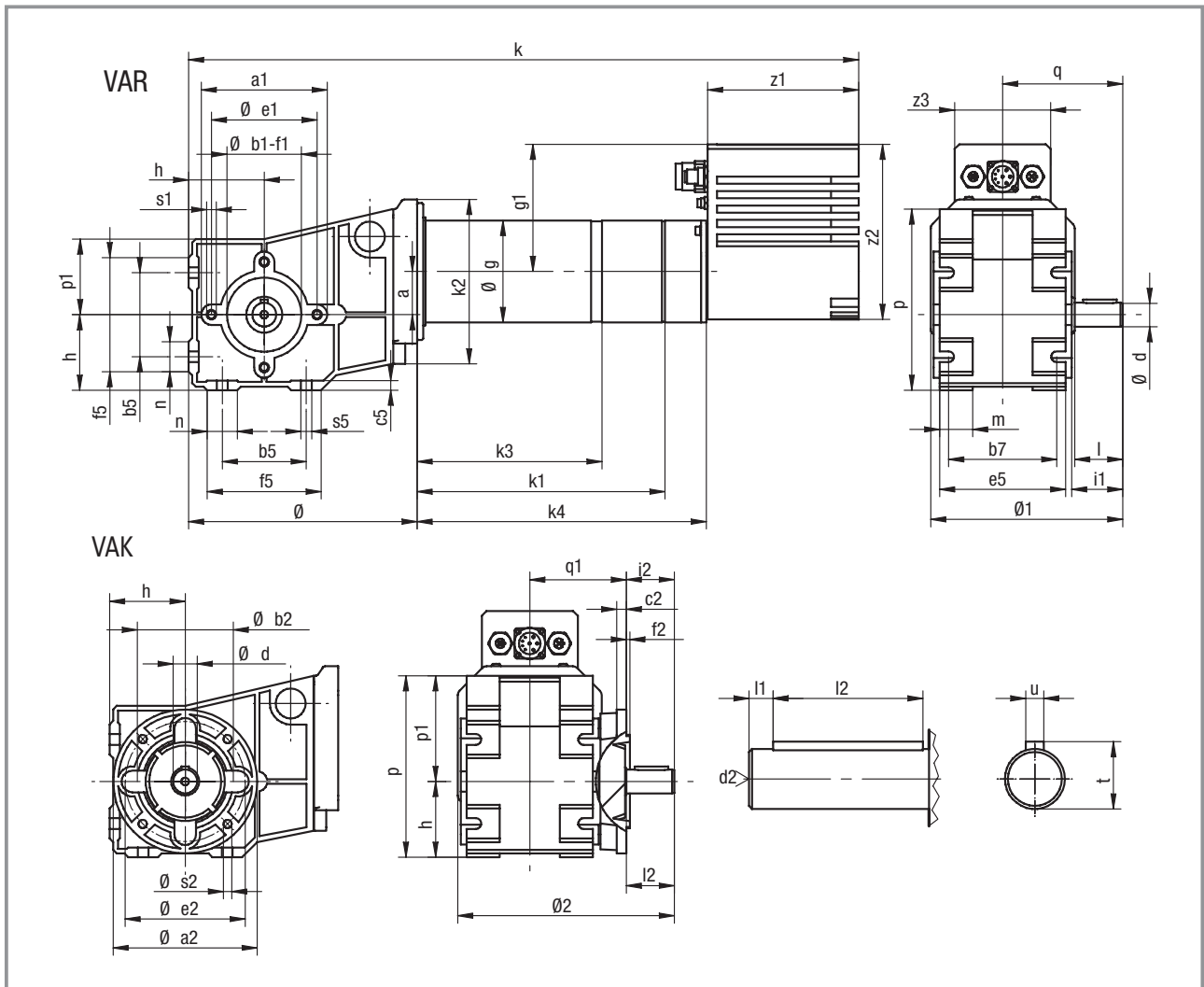
| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VAR | |
| | VAK | |
| | HAR | |
| | HAK | |
| Output flange diameter | 110 mm | |
| | 120 mm | |
| Hollow shaft bore | 20 mm | |
| | 25 mm | |
| Shaft position on type VAR | | 3 5 8 |
| Flange/shaft position on type VAK | | 3 5 |
| Flange position on type HAK | | 3 5 |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |

Servo Drives accessories

| | | |
|--------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931MKL03NBO (voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |



Dimensions, type GKR04-2GVA□-056C22



| Geared motor | a | a1 | a2 | b1 J7 | b2 j7 | b5 | b7 | c2 | c5 | d k6 | d2 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | h | i1 | i2 | k SB |
|--------------------|----|-----|-----|----------|----------|----|----|----|----|---------|----|----|-----|-----|----|-----|----|----|-----|----|------|----|---------|
| GKR04-2GVA□-056C22 | 36 | 104 | 120 | 62 | 80 | 70 | 90 | 8 | 8 | 20 | M6 | 88 | 100 | 105 | 3 | 3 | 95 | 85 | 106 | 63 | 42.5 | 20 | 558 |
| | | | 160 | | 110 | | | | | 25 | | | | | | 3.5 | | | | | | | |

| k1 SR | k2 XX | k3 XX | k4 SB | l | l1 | l2 | m | n | o | o1 | o2 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | z1 | z2 | z3 | Weight [kg] |
|----------|----------|----------|----------|----|----|----|----|----|-------|-----|-----|-----|----|----|----|----|----|----|------|---|-------|-----|----|----------------|
| 188.5 | 105 | 156 | 241 | 40 | 5 | 28 | 28 | 25 | 190.5 | 140 | 168 | 151 | 63 | 60 | 80 | M8 | 7 | 9 | 22.8 | 6 | 126.5 | 146 | 80 | 10.5-13.0 |
| | | | | | | | | | | | | | | | | | 9 | | 27 | 8 | | | | |

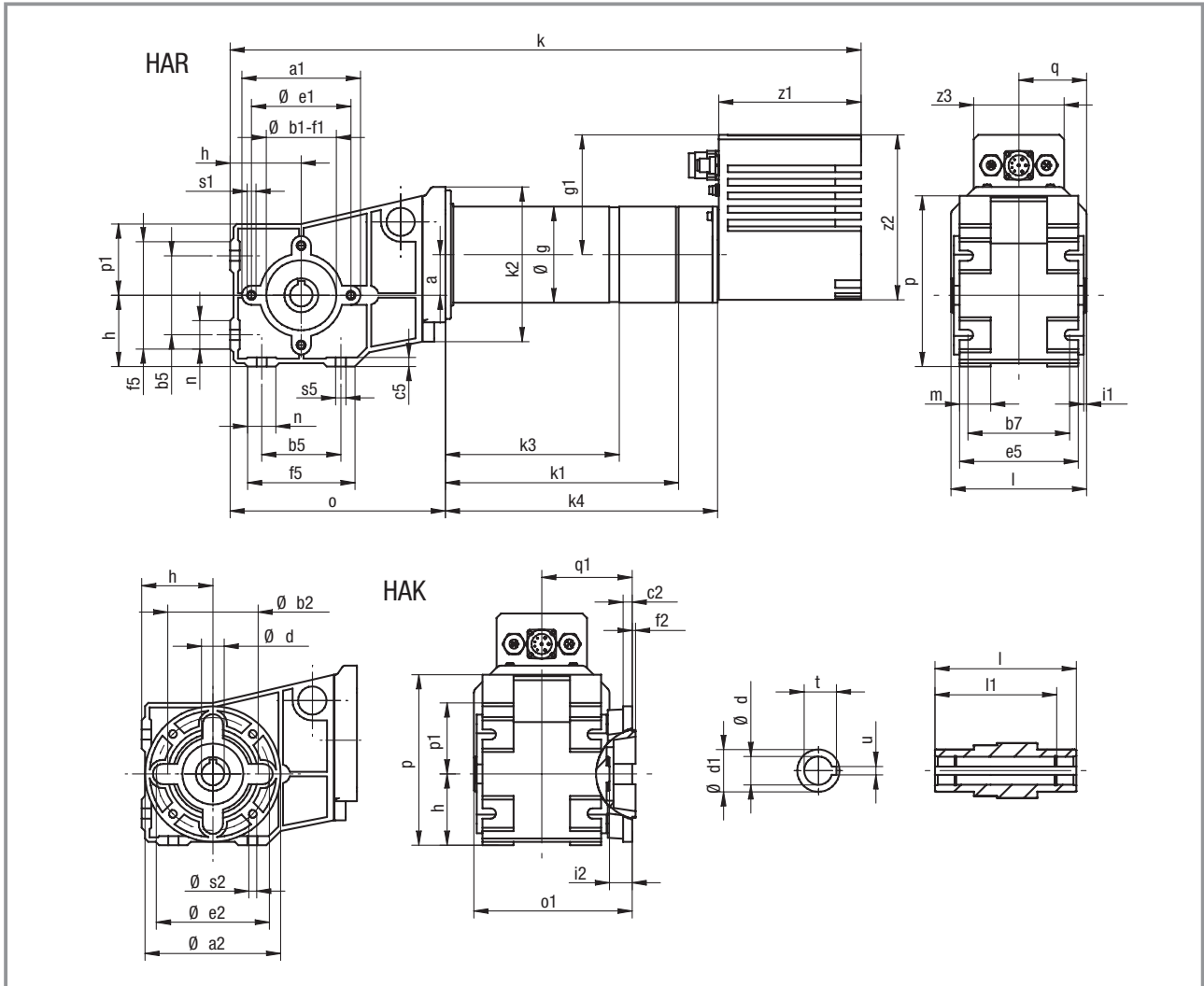
Dimensions in mm



Drive selection

Servo bevel geared motors GKR

Dimensions, type GKR04-2GHA□-056C22

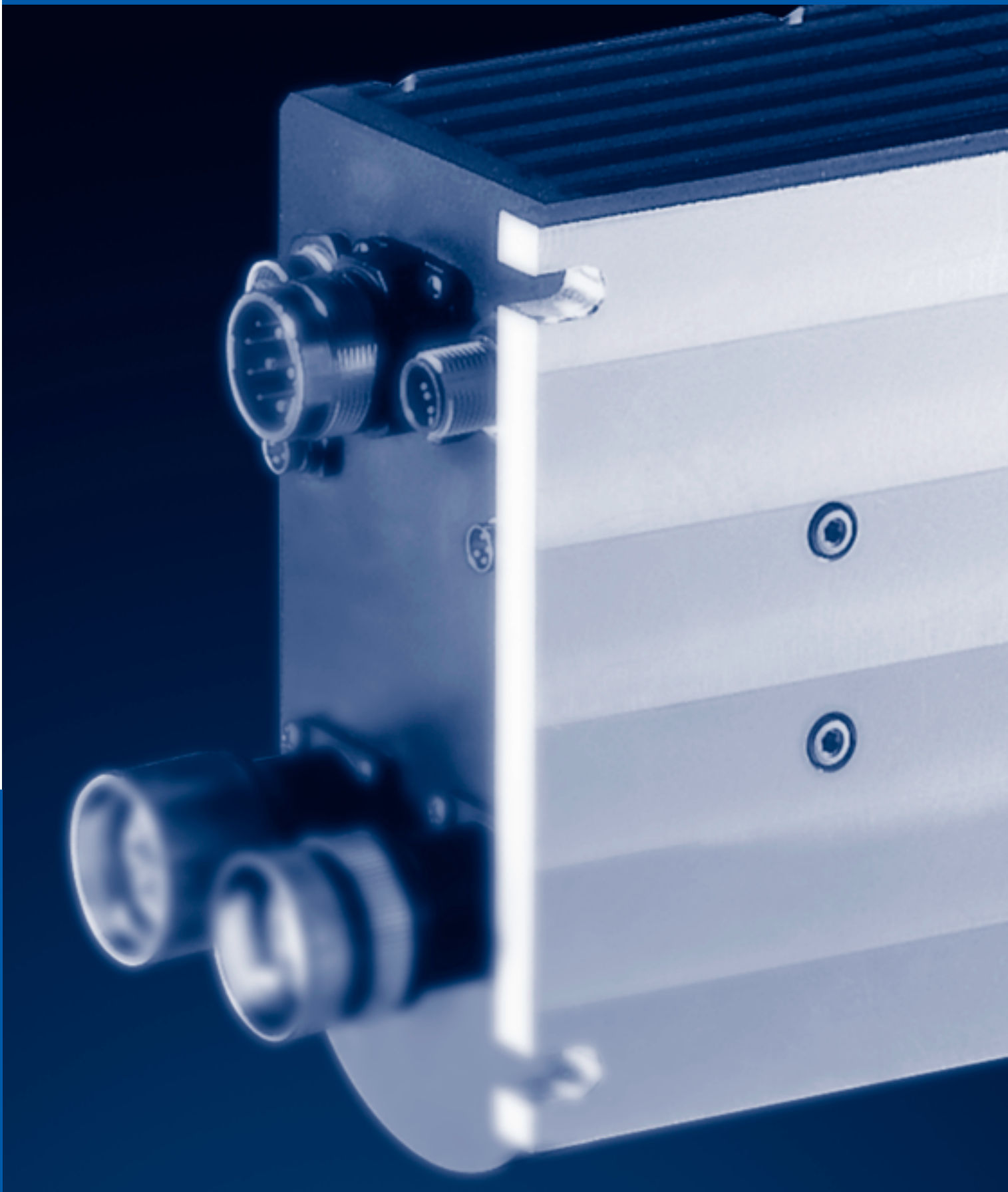


| Geared motor | a | a1 | a2 | b1 | b2 j7 | b5 | b7 | c2 | c5 | d | d1 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | h | i1 | i2 | k | k1 SB | k1 SR |
|--------------------|----|-----|-----|----|----------|----|----|----|----|----|----|----|-----|-----|----|-----|----|----|-----|----|-----|----|-----|----------|----------|
| GKR04-2GHA□-056C22 | 36 | 104 | 120 | 62 | 80 | 70 | 90 | 8 | 8 | 20 | 30 | 88 | 100 | 105 | 3 | 3 | 95 | 85 | 106 | 63 | 2.5 | 20 | 558 | 188.5 | |
| | | | 160 | | 110 | | | | | 25 | 35 | | | 130 | | 3.5 | | | | | | | | | |

| k2 | k3 | k4 | l | l1 | m | n | o | o1 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | z1 | z2 | z3 | Weight [kg] | |
|-----|-----|-----|-----|-----|----|----|-------|-----|-----|----|----|----|----|----|----|------|---|-------|-----|----|----------------|--|
| 105 | 156 | 241 | 120 | 106 | 28 | 25 | 190.5 | 140 | 151 | 63 | 60 | 80 | M8 | 7 | 9 | 22.8 | 6 | 126.5 | 146 | 80 | 10.5-13.0 | |
| | | | | | | | | | | | | | | 9 | | 27 | 8 | | | | | |

Dimensions in mm

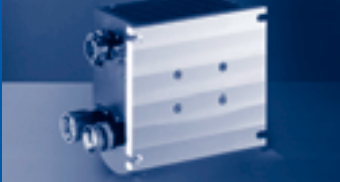




Drive selection | 930 fluxxtorque Servo Drives

Separate mounting 930W servo inverter for a 230 V AC supply voltage

| | |
|-----------------------------------|------|
| 930W servo inverter | 4-2 |
| SDSGS servo motors | 4-4 |
| Servo worm geared motors SSN | 4-6 |
| Servo planetary geared motors SPL | 4-10 |
| Servo helical geared motors GST | 4-16 |
| Servo bevel geared motors GKR | 4-24 |



Drive selection

930W servo inverter

Selection table, type 931W□N□□

| P, W | Description | Version | Controller type | Selection Please tick |
|---------|--|-----------------------|-----------------|--------------------------|
| 500 | 230 V AC Resolver feedback Brake control RS232 PC interface | CAN bus I/O | 931WCN10 | |
| 500 | | CAN bus Local CAN | 931WCN20 | |
| 500 | | PROFIBUS I/O | 931WPN10 | |
| 500 | | PROFIBUS Local CAN | 931WPN20 | |

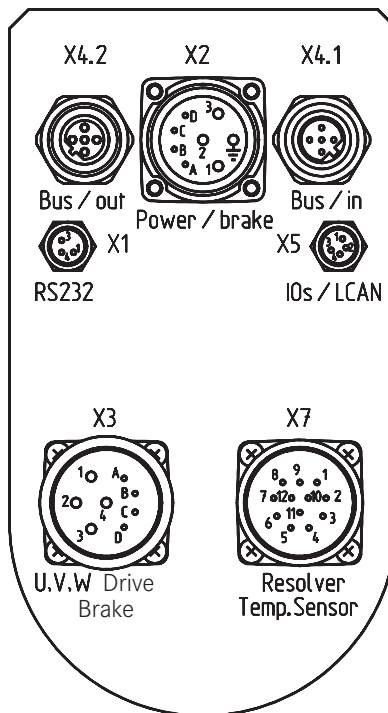
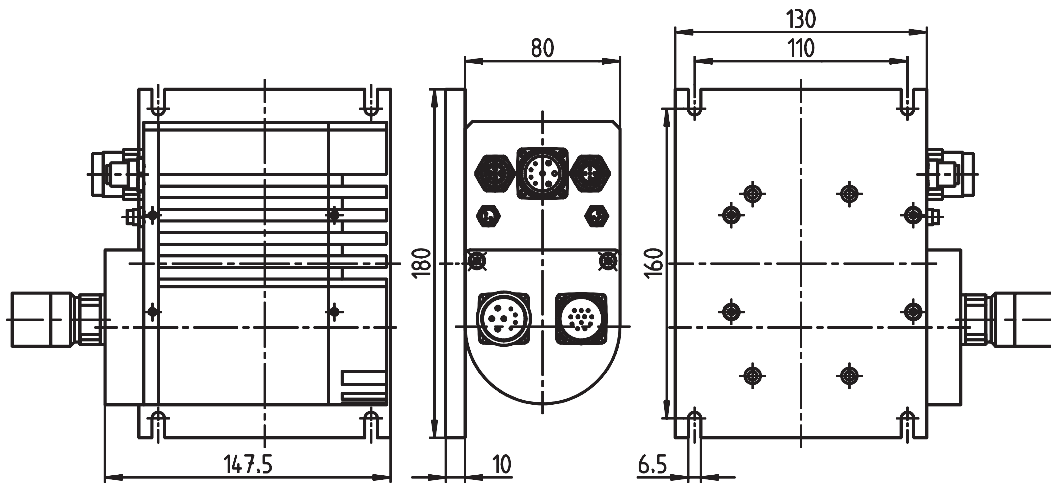
Additional order information

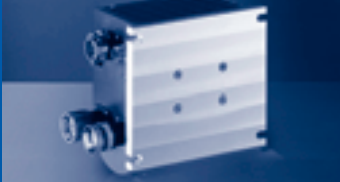
Servo Drives accessories

| | | |
|--------------|--|--|
| Accessories | 930FI020000 (Y distributor, 2x dig. IN) | |
| System cable | 931WKL03NBS (motor connection, 2.5 m) | |
| | 931WKR03NBS (resolver connection, 2.5 m) | |
| | 931MKL03NBO (voltage supply, 3 m) | |
| | 931MKC03UBS (CAN bus system cable plug/socket, 3 m) | |
| | 931MKC03UOB (CAN bus system cable open/socket, 3 m) | |
| | 931MKP03UBS (PROFIBUS system cable plug/socket, 3 m) | |
| | 931MKP03UOB (PROFIBUS system cable open/socket, 3 m) | |
| | 931MKS03UBS (RS232 PC port) | |
| | 931MKI03UBS (Local CAN system cable) | |
| | 931MKF03USO (Y distributor system cable, 3 m) | |



Dimensions, type 931W□N□□





Drive selection

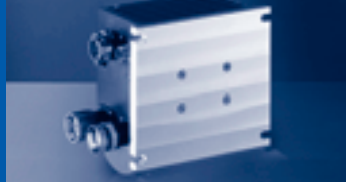
SDSGS servo motors

Selection table, type SDSGS□□□□□-22

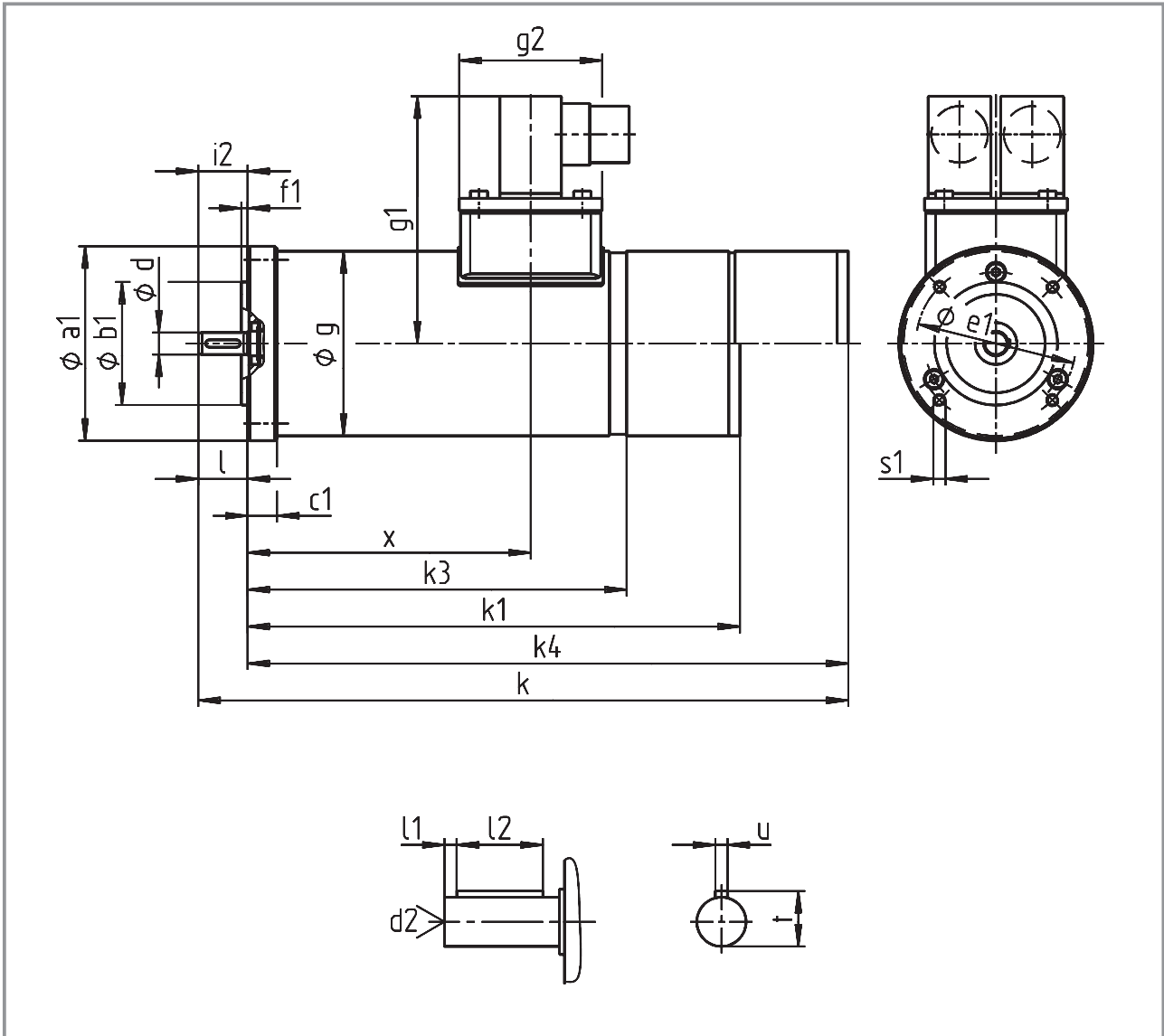
| P _r | Supply voltage Servo Drive 230 V AC | | Version A-side | Motor type | Selection Please tick |
|----------------|-------------------------------------|----------------------|-------------------|---------------|--------------------------|
| | n ₁ rpm | M ₁ Nm | | | |
| 250 | 3000 | 0.80 | IEC56 B14 C80 | SDSGS□□047-22 | |
| 250 | 3000 | 0.80 | IEC63 B14 C90 | SDSGS□□047-22 | |
| 500 | 3000 | 1.60 | IEC63 B14 C90 | SDSGS□□056-22 | |

Additional order information

| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |



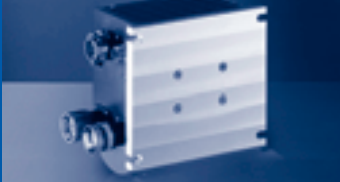
Dimensions Type SDSGS□□□□□-22



| Motor type | Frame size | a ₁ | b ₁ j ₇ | c ₁ | d k ₆ | d ₂ | e ₁ | f ₁ | g | g ₁ | g ₂ | i ₂ | k BS | RS | k ₁ AG |
|---------------|------------|----------------|----------------------------------|----------------|---------------------|----------------|----------------|----------------|----|----------------|----------------|----------------|---------|-----|----------------------|
| SDSGS□□047-22 | IEC56C80 | 79 | 50 | 12 | 9 | M3 | 65 | 2.5 | 75 | 101 | 58 | 20 | 253 | 189 | 200 |
| SDSGS□□047-22 | IEC63C90 | 89 | 60 | 12 | 11 | M4 | 75 | 2.5 | 75 | 101 | 58 | 23 | 256 | 189 | 200 |
| SDSGS□□056-22 | IEC63C90 | 89 | 60 | 12 | 11 | M4 | 75 | 2.5 | 85 | 106 | 58 | 23 | 271 | 196 | 207 |

| Motor type | Frame size | k ₃ XX | BS | k ₄ BA | l | l ₁ | l ₂ | s ₁ | r | u | x | Weight [kg] |
|---------------|------------|----------------------|-----|----------------------|----|----------------|----------------|----------------|------|---|-----|----------------|
| SDSGS□□047-22 | IEC56C80 | 156 | 233 | 244 | 20 | 3 | 14 | M5 | 10.2 | 3 | 115 | 3.0-4.0 |
| SDSGS□□047-22 | IEC63C90 | 156 | 233 | 244 | 23 | 3 | 18 | M5 | 12.5 | 4 | 115 | 3.0-4.0 |
| SDSGS□□056-22 | IEC63C90 | 163 | 248 | 260 | 23 | 3 | 18 | M5 | 12.5 | 4 | 120 | 4.0-5.5 |

Dimensions in mm



Drive selection

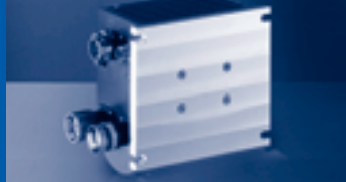
Servo worm geared motors SSN

Selection table, type SSN40-1G□□□-047C22

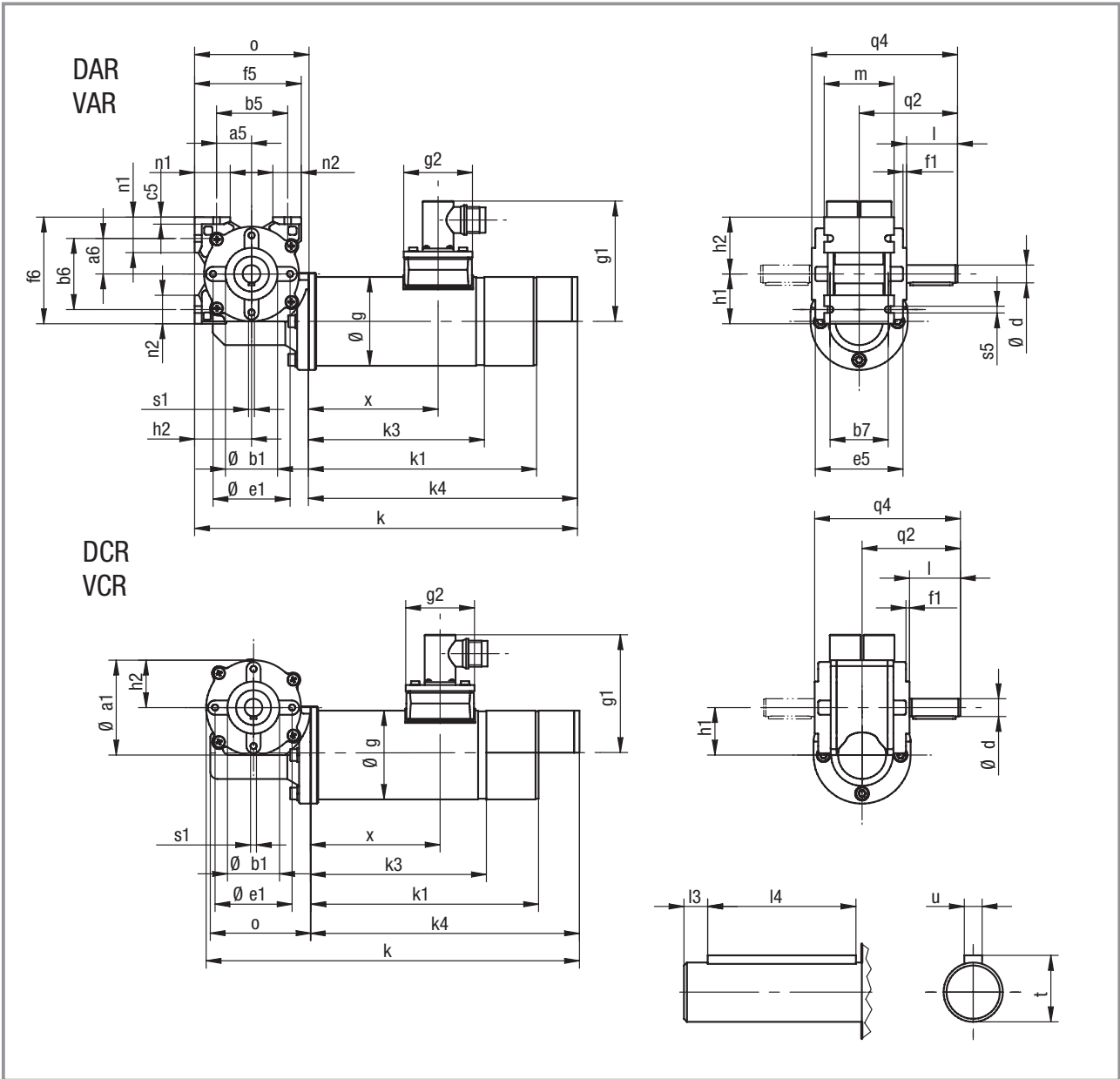
| P _r W | Rated data | | | i | Motor type | Selection Please tick |
|---------------------|-----------------------|----------------------|------|------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 250 | 441 | 4.57 | 7.66 | 6.75 | | |
| | 300 | 6.48 | 5.40 | 10 | SDSGS□□047-22 | |
| | 200 | 8.88 | 3.72 | 15 | | |
| | 150 | 11.36 | 2.99 | 20 | | |
| | 120 | 12.80 | 2.27 | 25 | | |
| | 100 | 14.88 | 2.42 | 30 | | |
| | 75 | 17.92 | 1.90 | 40 | | |
| | 60 | 21.60 | 1.48 | 50 | | |
| | 50 | 18.24 | 1.75 | 60 | | |
| | 38 | 24.00 | 0.96 | 80 | | |

Additional order information

| | | |
|--|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VAR | |
| | DAR | |
| | VAL | |
| | HAR | |
| | VCR | |
| | DCR | |
| | VCL | |
| | HCR | |
| Shaft position on version VAR/VCR | | 3 5 8 |
| Flange/shaft position on version VAL/VCL | | 3 5 |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |



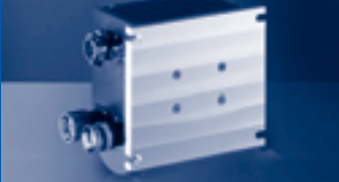
Dimensions, type SSN40-1G□□□-047C22



| Geared motor | a ₁ | a ₅ | a ₆ | b ₁ h ₁₀ | b ₅ | b ₆ | b ₇ | c ₅ | d h ₆ | e ₁ | e ₅ | f ₁ | f ₅ | f ₆ | g | g ₁ | g ₂ | h ₁ | h ₂ | k BS |
|--------------------|----------------|----------------|----------------|-----------------------------------|----------------|----------------|----------------|----------------|---------------------|----------------|----------------|----------------|----------------|----------------|----|----------------|----------------|----------------|----------------|---------|
| SSN40-1GVAR-047C22 | 77 | 30 | 30 | 44 | 60 | 60 | 50 | 6 | 15 | 65 | 80 | 2 | 90 | 90 | 75 | 101 | 58 | 40 | 48 | 323 |
| SSN40-1GVCR-047C22 | 77 | - | - | 44 | - | - | - | - | 15 | 65 | 80 | 2 | - | - | 75 | 101 | 58 | 40 | 40 | 315 |

| Geared motor | k ₁ RS | k ₁ AG | k ₃ XX | k ₄ BS | k ₄ BA | l | l ₃ | l ₄ | m | n ₁ | n ₂ | o | q ₂ | q ₄ | s ₁ | s ₅ | t | u | x | Weight [kg] |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----|----------------|----------------|----|----------------|----------------|----|----------------|----------------|----------------|----------------|----|---|-------|----------------|
| SSN40-1GVAR-047C22 | 183 | 194.5 | 150.5 | 227 | 238.5 | 43 | 4 | 36 | 59 | 30 | 24 | 96 | 83 | 123 | M6 | 5.5 | 17 | 5 | 109.5 | 4.5-5.8 |
| SSN40-1GVCR-047C22 | 183 | 194.5 | 150.5 | 227 | 238.5 | 43 | 4 | 36 | - | - | - | 88 | 83 | 123 | M6 | - | 17 | 5 | 109.5 | 4.5-5.8 |

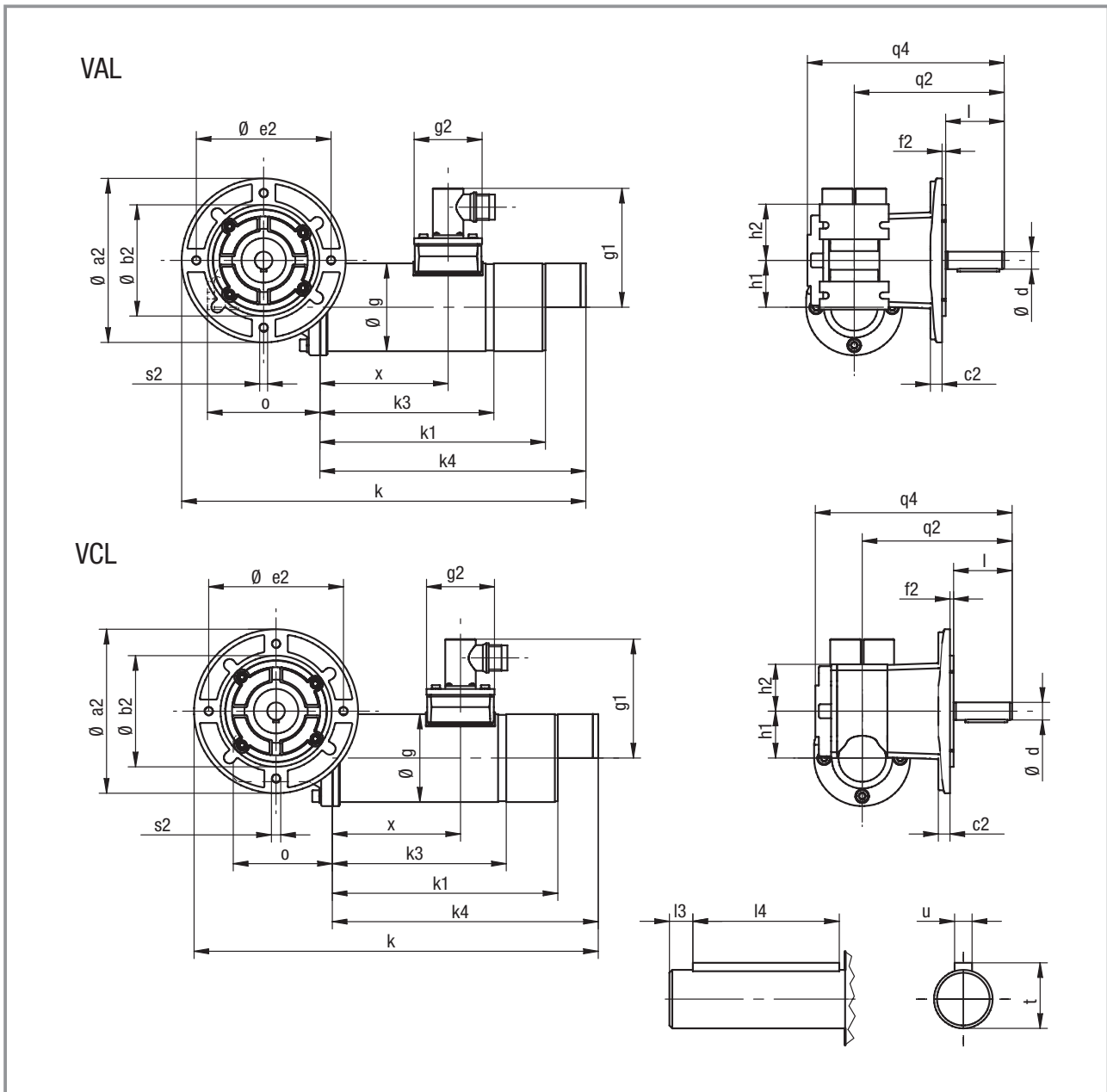
Dimensions in mm



Drive selection

Servo worm geared motors SSN

Dimensions, type SSN40-1G□□□-047C22

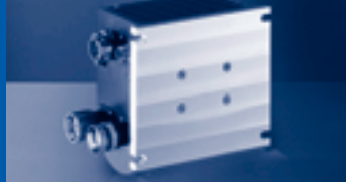


4

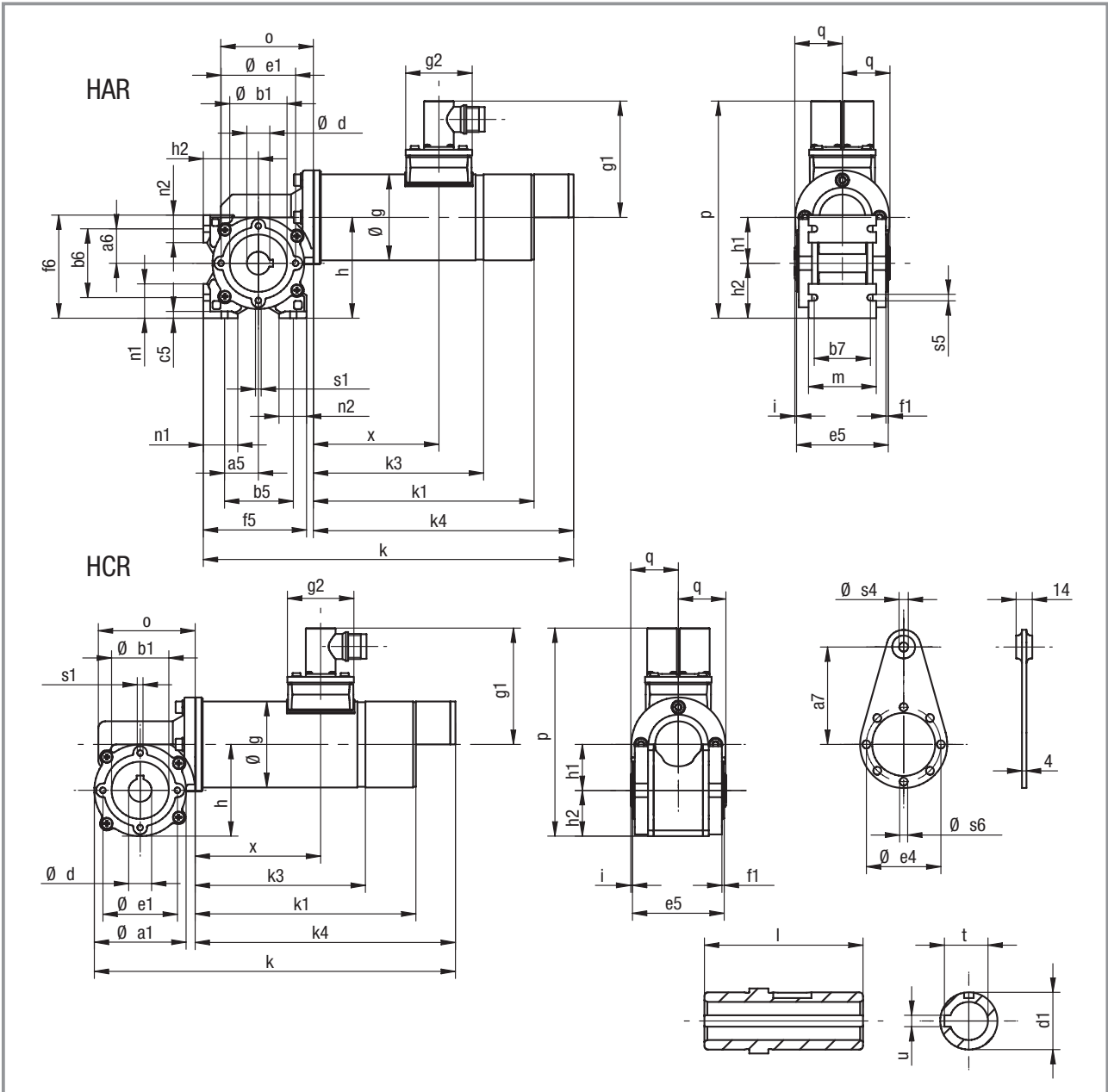
| Geared motor | a_2 | b_2 j_7 | c_2 | d h_6 | e_2 | f_2 | g | g_1 | g_2 | h_1 | h_2 | k BS | k_1 RS |
|--------------------|-------|----------------|-------|--------------|-------|-------|-----|-------|-------|-------|-------|-------------|---------------|
| SSN40-1GVAL-047C22 | 140 | 95 | 10 | 15 | 115 | 3 | 75 | 101 | 58 | 40 | 48 | 345 | 183 |
| SSN40-1GVCL-047C22 | 140 | 95 | 10 | 15 | 115 | 3 | 75 | 101 | 58 | 40 | 40 | 345 | 183 |

| Geared motor | k_1 AG | k_3 XX | k_4 BS | k_4 BA | l | l_3 | l_4 | o | q_2 | q_4 | s_2 | t | u | x | Weight [kg] |
|--------------------|---------------|---------------|---------------|---------------|-----|-------|-------|-----|-------|-------|-------|-----|-----|-------|----------------|
| SSN40-1GVAL-047C22 | 194.5 | 150.5 | 227 | 238.5 | 50 | 4 | 36 | 96 | 128 | 168 | M8 | 17 | 5 | 109.5 | 4.5-5.8 |
| SSN40-1GVCL-047C22 | 194.5 | 150.5 | 227 | 238.5 | 50 | 4 | 36 | 88 | 128 | 168 | M8 | 17 | 5 | 109.5 | 4.5-5.8 |

Dimensions in mm



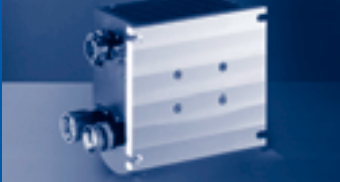
Dimensions, type SSN40-1G□□□-047C22



| Geared motor | a ₁ | a ₅ | a ₆ | a ₇ h8 | b ₁ | b ₅ | b ₆ | b ₇ | c ₅ H7 | d | d ₁ | e ₁ | e ₄ | e ₅ | f ₁ | f ₅ | f ₆ | g | g ₁ | g ₂ | h | h ₁ | h ₂ |
|--------------------|----------------|----------------|----------------|----------------------|----------------|----------------|----------------|----------------|----------------------|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|----------------|----------------|----|----------------|----------------|
| SSN40-1GHAR-047C22 | 77 | 30 | 30 | 85 | 50 | 60 | 60 | 50 | 6 | 20 | 30 | 65 | 65 | 80 | 2 | 90 | 90 | 75 | 101 | 58 | 88 | 40 | 48 |
| SSN40-1GHCR-047C22 | 77 | - | - | 85 | 50 | - | - | - | - | 20 | 30 | 65 | 65 | 80 | 2 | - | - | 75 | 101 | 58 | 80 | 40 | 40 |

| Geared motor | i | k | k ₁ BS | k ₁ RS | k ₁ AG | k ₃ XX | k ₄ BS | k ₄ BA | l | m | n ₁ | n ₂ | o | p | q | s ₁ | s ₄ | s ₅ | s ₆ | t | u | x | Weight [kg] |
|--------------------|-----|-----|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----|----|----------------|----------------|-----|------|----|----------------|----------------|----------------|----------------|---|-------|---------|----------------|
| SSN40-1GHAR-047C22 | 1.5 | 323 | 183 | 194.5 | 150.5 | 227 | 238.5 | 83 | 59 | 30 | 24 | 96 | 189 | 41.5 | M6 | 8 | 5.5 | 7 | 22.8 | 6 | 109.5 | 4.5-5.8 | |
| SSN40-1GHCR-047C22 | 1.5 | 315 | 183 | 194.5 | 150.5 | 227 | 238.5 | 83 | - | - | - | 88 | 181 | 41.5 | M6 | 8 | - | 7 | 22.8 | 6 | 109.5 | 4.5-5.8 | |

Dimensions in mm



Drive selection

Servo planetary geared motors SPL

Selection table, type SPL62-□GVCR-047N22

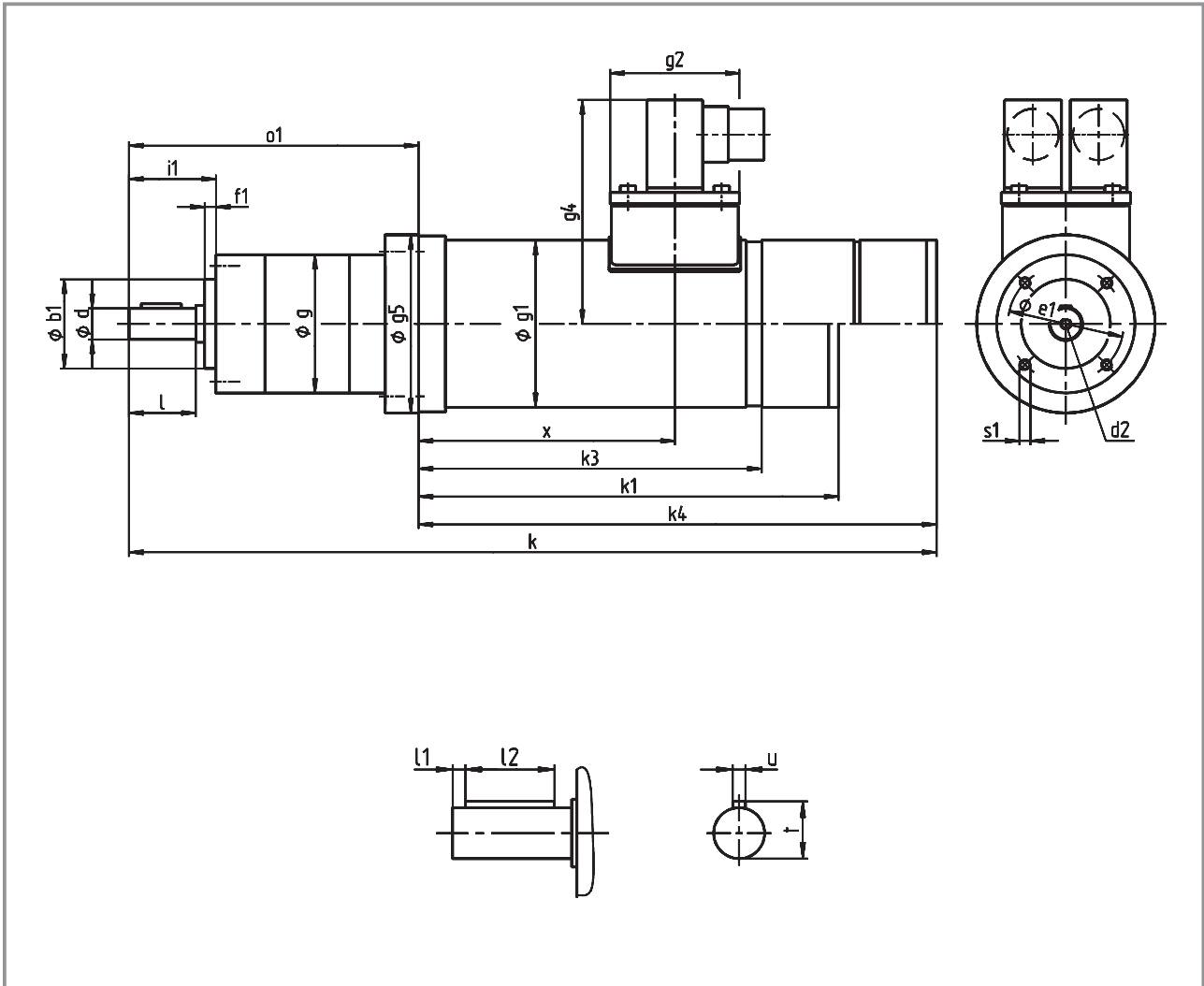
| P _r W | Rated data | | | i | Motor type | Selection Please tick |
|---------------------|-----------------------|----------------------|------|-------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 250 | 811 | 2.37 | 3.38 | 3.70 | | |
| | 444 | 4.32 | 1.85 | 6.75 | SDSGS□□047-22 | |
| | 218 | 8.24 | 3.03 | 13.73 | | |
| | 120 | 15.01 | 1.67 | 25.01 | | |
| | 86 | 20.98 | 1.19 | 34.97 | | |
| | 66 | 27.34 | 0.91 | 45.56 | | |
| | 59 | 28.50 | 1.75 | 50.89 | | |
| | 42 | 39.85 | 1.25 | 71.16 | | |

Additional order information

| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |



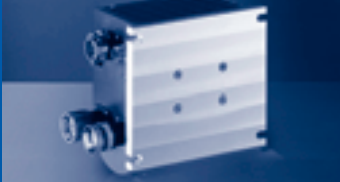
Dimensions, type SPL62-□GVCR-047N22



| Geared motor | Ratio i | b1 j7 | d h7 | d2 | e1 | f1 | g | g1 | g2 | g4 | g5 | i1 | k BS |
|--------------------|------------|----------|---------|----|----|----|----|----|----|-----|----|----|---------|
| SPL62-□GVCR-047N22 | 3.7;6.7 | | | | | | | | | | | | 348 |
| | 14...46 | 40 | 14 | M5 | 52 | 5 | 62 | 75 | 58 | 101 | 80 | 39 | 364 |
| | 51...71 | | | | | | | | | | | | 380 |

| k1 RS | k1 AG | k3 XX | k4 BS | k4 BA | l | l1 | l2 | o1 | s1 | t | u | x | Weight [kg] |
|----------|----------|----------|----------|----------|----|-----|----|-----|-------|----|---|-----|----------------|
| | | | | | | | | 115 | | | | | 3.8-4.8 |
| 189 | 200 | 156 | 233 | 244 | 30 | 5.5 | 18 | 131 | M5x10 | 16 | 5 | 115 | 4.2-5.2 |
| | | | | | | | | 147 | | | | | 4.6-5.6 |

Dimensions in mm



Drive selection

Servo planetary geared motors SPL

Selection table, type SPL81-□GVCR-047N22

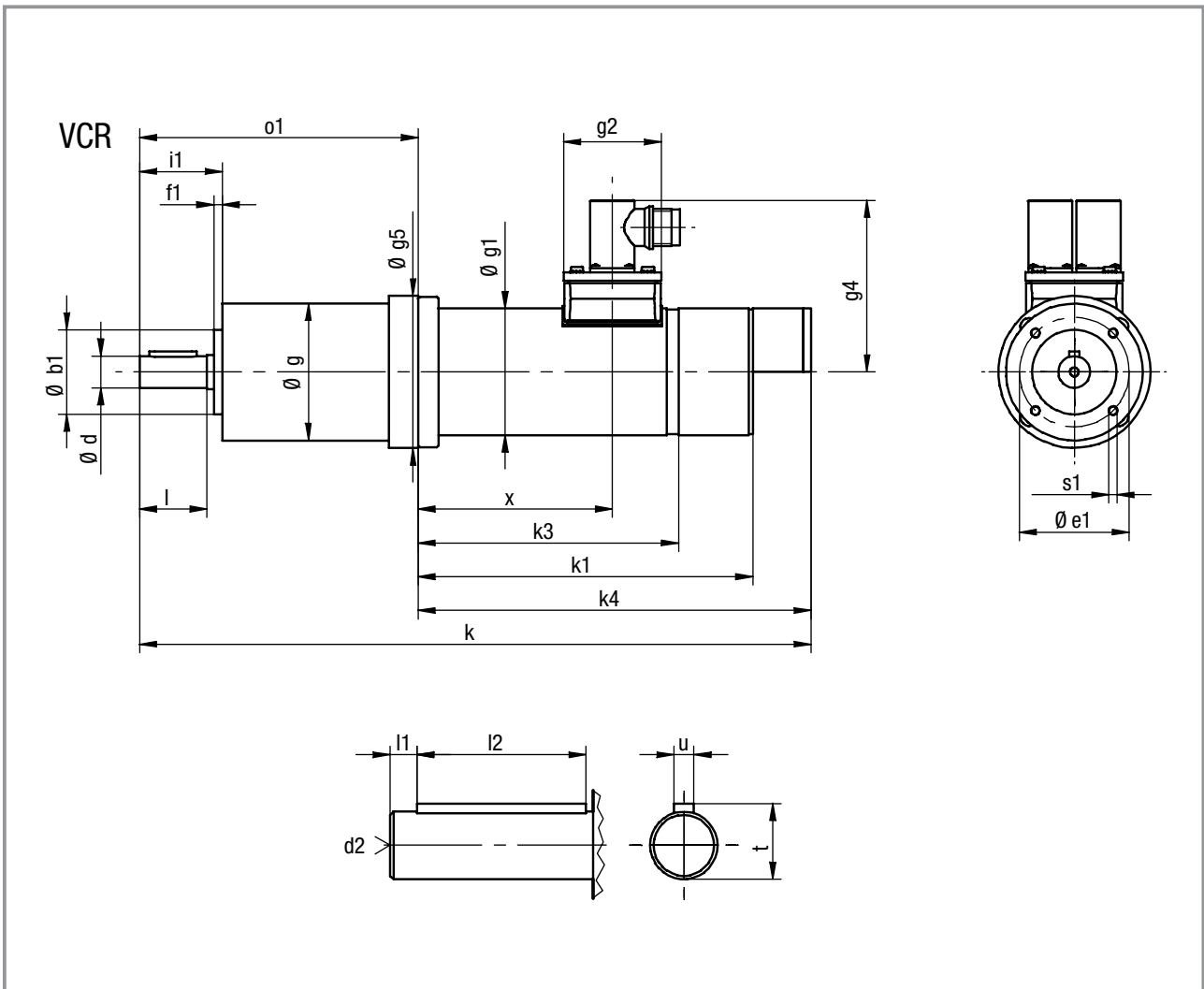
| P _r W | Rated data | | | i | Motor type | Selection Please tick |
|---------------------|-----------------------|----------------------|--------|-------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 250 | 811 | 2.37 | 8.45 | 3.70 | | |
| | 444 | 4.32 | 4.63 | 6.75 | SDSGS□□047-22 | |
| | 218 | 8.24 | 7.28 | 13.73 | | |
| | 120 | 15.01 | 4.00 | 25.01 | | |
| | 86 | 20.98 | 2.86 | 34.97 | | |
| | 66 | 27.34 | 2.19 | 45.56 | | |
| | 59 | 28.50 | 4.21 | 50.89 | | |
| | 42 | 39.85 | 3.01 | 71.16 | | |
| | 30 | 55.72 | 2.15 | 99.50 | | |
| 24 | 69.42 | 1.73 | 123.97 | | | |

Additional order information

| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |



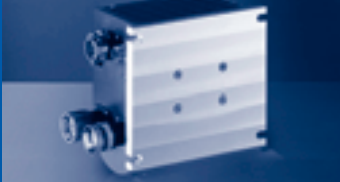
Dimensions, type SPL81-□GVCR-047N22



| Geared motor | Ratio i | b1 j7 | d h7 | d2 | e1 | f1 | g | g1 | g2 | g4 | g5 | i1 | k B5 |
|--------------------|------------|----------|---------|----|----|----|----|----|----|-----|----|----|---------|
| SPL81-□GVCR-047N22 | 3.7;6.7 | | | | | | | | | | | | 388 |
| | 14...46 | 50 | 19 | M6 | 65 | 5 | 81 | 75 | 58 | 101 | 90 | 49 | 409 |
| | 51...124 | | | | | | | | | | | | 431 |

| k1 RS | k1 AG | k3 XX | k4 B5 | k4 BA | l | l1 | l2 | o1 | s1 | t | u | x | Weight [kg] |
|----------|----------|----------|----------|----------|----|----|----|-----|-------|------|---|-----|----------------|
| | | | | | | | | 144 | | | | | 4.8-5.8 |
| 189 | 200 | 156 | 233 | 244 | 40 | 6 | 28 | 165 | M6x12 | 21.5 | 6 | 115 | 5.5-6.5 |
| | | | | | | | | 187 | | | | | 6.2-7.2 |

Dimensions in mm



Drive selection

Servo planetary geared motors SPL

Selection table, type SPL81-□GVCR-056N22

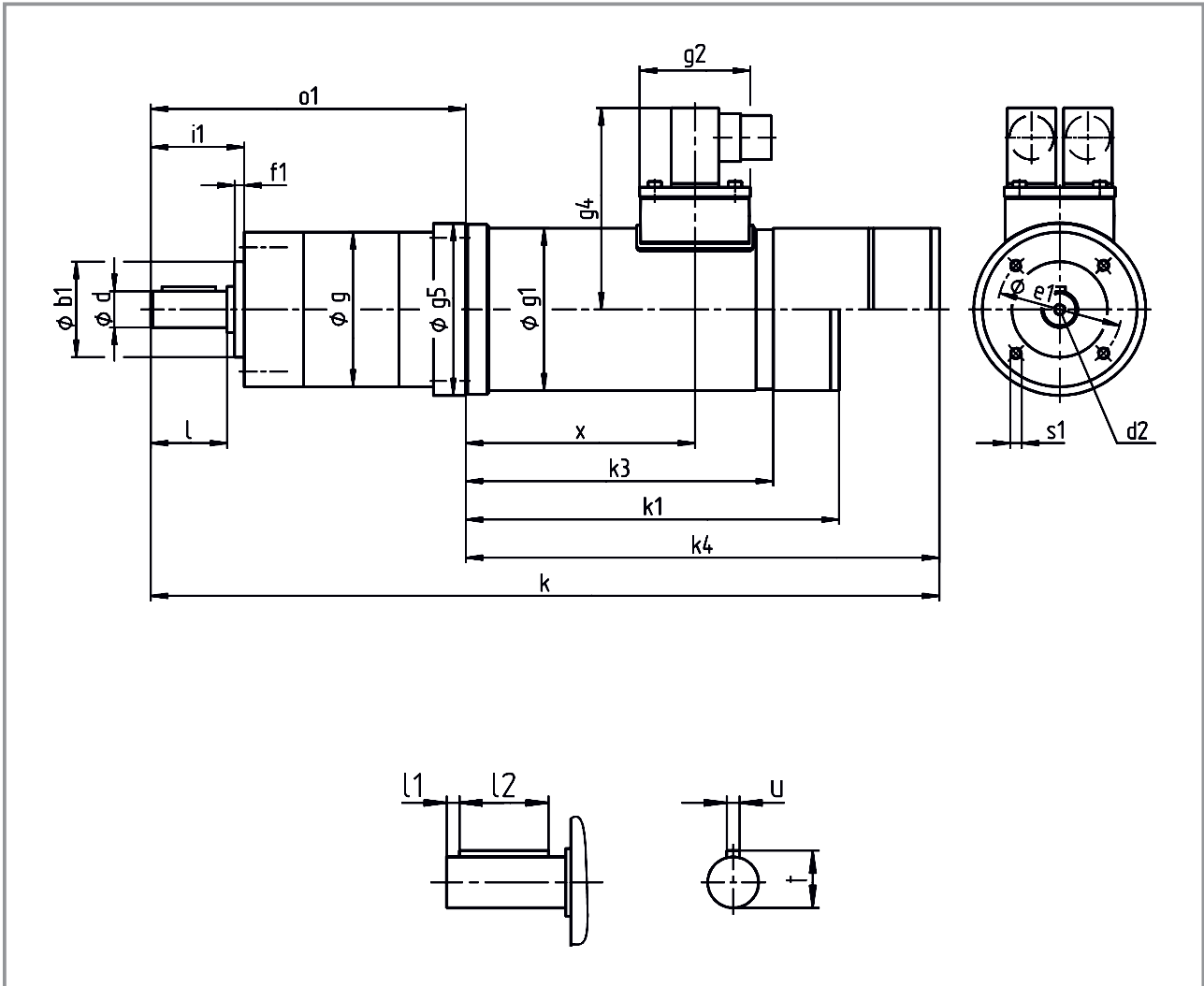
| P _r W | Rated data | | | i | Motor type | Selection Please tick |
|---------------------|-----------------------|----------------------|------|---------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 500 | 811 | 4.74 | 4.22 | 3.700 | | |
| | 444 | 8.64 | 2.31 | 6.750 | SDSGS□□056-22 | |
| | 218 | 16.48 | 3.64 | 13.730 | | |
| | 120 | 30.01 | 2.00 | 25.010 | | |
| | 86 | 41.96 | 1.43 | 34.970 | | |
| | 66 | 54.67 | 1.10 | 45.560 | | |
| | 59 | 57.00 | 2.11 | 50.890 | | |
| | 42 | 79.70 | 1.51 | 71.160 | | |
| | 30 | 111.44 | 1.08 | 99.500 | | |
| | 24 | 120.00 | 0.86 | 123.970 | | |

Additional order information

| | | |
|-----------------------------------|--|---|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Position of electrical connection | | 1 |



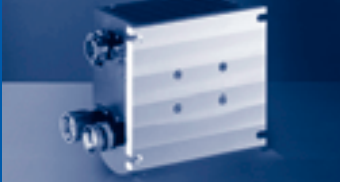
Dimensions, type SPL81-□GVCR-056N22



| Geared motor | Ratio i | b1 j7 | d h7 | d2 | e1 | f1 | g | g1 | g2 | g4 | g5 | i1 | k B5 |
|--------------------|------------|----------|---------|----|----|----|----|----|----|-----|----|----|---------|
| SPL81-□GVCR-056N22 | 3.7;6.7 | | | | | | | | | | | | 392 |
| | 14...46 | 50 | 19 | M6 | 65 | 5 | 81 | 85 | 58 | 106 | 90 | 49 | 413 |
| | 51...124 | | | | | | | | | | | | 435 |

| k1 RS | k1 AG | k3 XX | k4 B5 | k4 BA | l | l1 | l2 | o1 | s1 | t | u | x | Weight [kg] |
|----------|----------|----------|----------|----------|----|----|----|-----|-------|------|---|-----|----------------|
| | | | | | | | | 144 | | | | | 6.1-7.6 |
| 196 | 207 | 163 | 248 | 260 | 40 | 6 | 28 | 165 | M6x12 | 21.5 | 6 | 120 | 6.8-8.3 |
| | | | | | | | | 187 | | | | | 7.5-9.0 |

Dimensions in mm



Drive selection

Servo helical geared motors GST

Selection table, type GST03-2GV□□-035C22

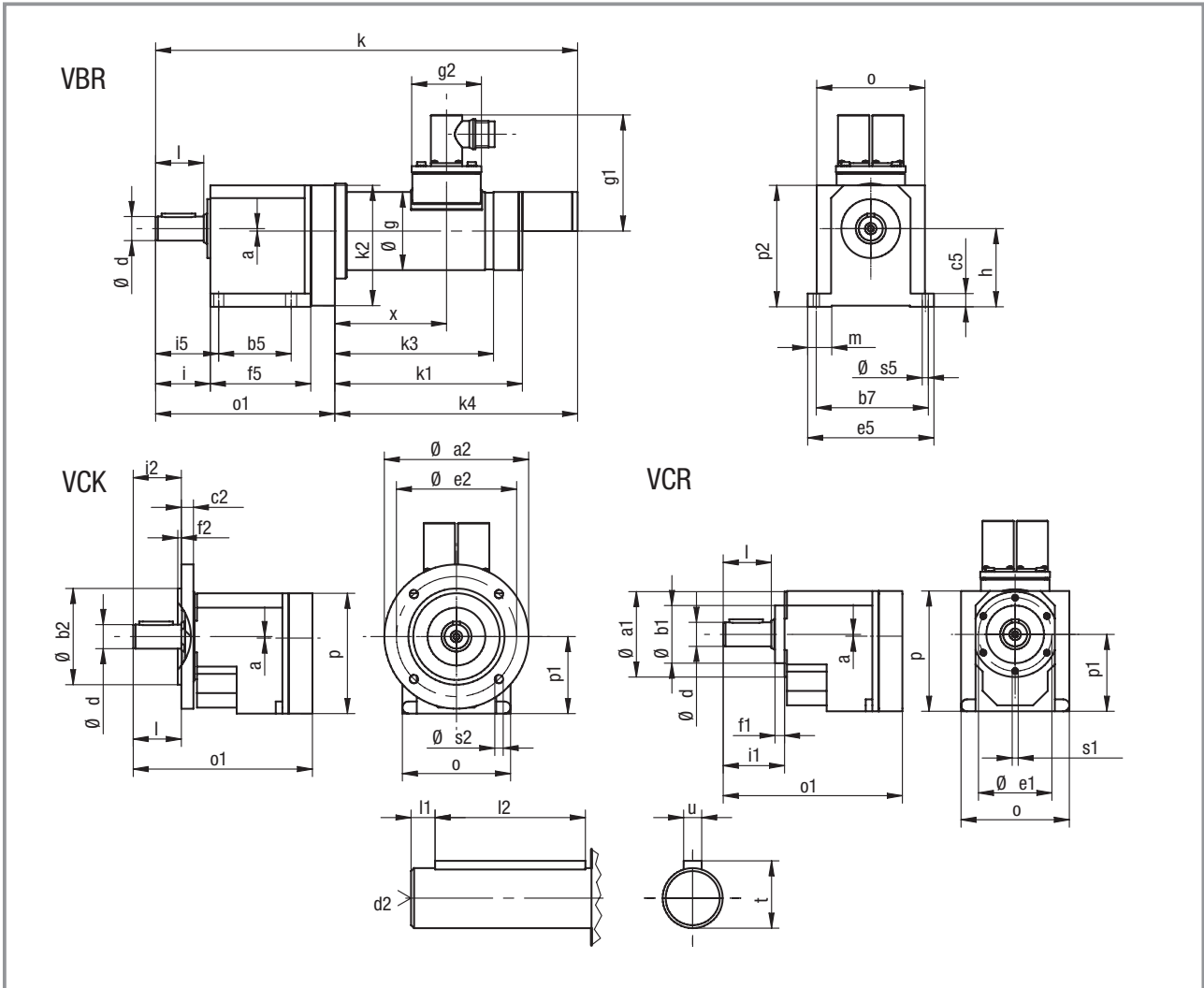
| P _r W | Rated data | | | i | Motor type | Selection Please tick |
|---------------------|-----------------------|----------------------|-------|-------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 140 | 1155.20 | 1.00 | 13.37 | 2.60 | | |
| | 879.00 | 1.00 | 10.85 | 3.41 | SDSGS□□035-22 | |
| | 686.80 | 2.00 | 9.01 | 4.37 | | |
| | 564.80 | 2.00 | 9.59 | 5.31 | | |
| | 502.90 | 3.00 | 8.93 | 5.97 | | |
| | 429.70 | 3.00 | 7.96 | 6.98 | | |
| | 382.70 | 3.00 | 7.68 | 7.84 | | |
| | 335.80 | 4.00 | 6.74 | 8.94 | | |
| | 299.00 | 4.00 | 6.46 | 10.03 | | |
| | 262.50 | 5.00 | 5.87 | 11.43 | | |
| | 233.80 | 6.00 | 5.59 | 12.83 | | |
| | 202.20 | 6.00 | 4.99 | 14.84 | | |
| | 180.10 | 7.00 | 5.28 | 16.66 | | |
| | 157.80 | 8.00 | 4.75 | 19.01 | | |
| | 140.50 | 9.00 | 4.45 | 21.35 | | |
| | 122.00 | 11.00 | 3.95 | 24.60 | | |
| | 108.60 | 12.00 | 3.52 | 27.62 | | |
| | 93.80 | 14.00 | 3.04 | 32.00 | | |
| | 83.50 | 16.00 | 2.71 | 35.93 | | |
| | 72.40 | 18.00 | 2.35 | 41.46 | | |
| 64.40 | 20.00 | 2.24 | 46.55 | | | |
| 56.70 | 23.00 | 1.97 | 52.91 | | | |
| 50.50 | 26.00 | 1.75 | 59.41 | | | |

Additional order information

| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VBR | |
| | VCR | |
| | VCK | |
| Output flange diameter | 120 mm | |
| | 140 mm | |
| | 160 mm | |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |



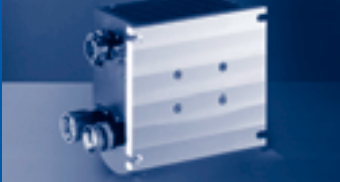
Dimensions, type GST03-2GV□□-035C22



| Geared motor | a | a1 | a2 | b1 h7 | b2 j7 | b5 | b7 | c2 | c5 | d | d2 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | g2 | h | i | i1 | i2 |
|--------------------|---|----|-----|----------|----------|----|----|----|----|----|----|----|-----|-----|----|----|----|----|----|----|----|----|----|----|
| GST03-2GV□□-035C22 | 2 | 71 | 120 | 48 | 80 | 60 | 91 | 10 | 11 | 20 | M6 | 61 | 115 | 105 | 8 | 3 | 84 | 65 | 95 | 58 | 65 | 46 | 51 | 40 |
| | | | 140 | 95 | 100 | | | | | | | | | | | | | | | | | | | |
| | | | 160 | 110 | 130 | | | | | | | | | | | | | | | | | | | |

| i5 | k | k1 | k1 | k2 | k3 | k4 | k4 | l | l1 | l2 | m | o | o1 | p | p1 | p2 | s1 | s2 | s5 | t | u | x | Weight [kg] |
|----|-------|-------|-----|-----|-----|-----|-------|----|----|----|----|----|-------|-----|----|-----|----|----|-----|------|---|----|----------------|
| 52 | 351.5 | 166.5 | 178 | 100 | 136 | 202 | 222.5 | 40 | 5 | 28 | 20 | 90 | 149.5 | 100 | 64 | 101 | M5 | 9 | 6.6 | 22.5 | 6 | 93 | 5.0-6.5 |
| | | | | | | | | | | | | | | | | | | 7 | | | | | |
| | | | | | | | | | | | | | | | | | | 9 | | | | | |

Dimensions in mm



Drive selection

Servo helical geared motors GST

Selection table, type GST03-2GV□□-047C22

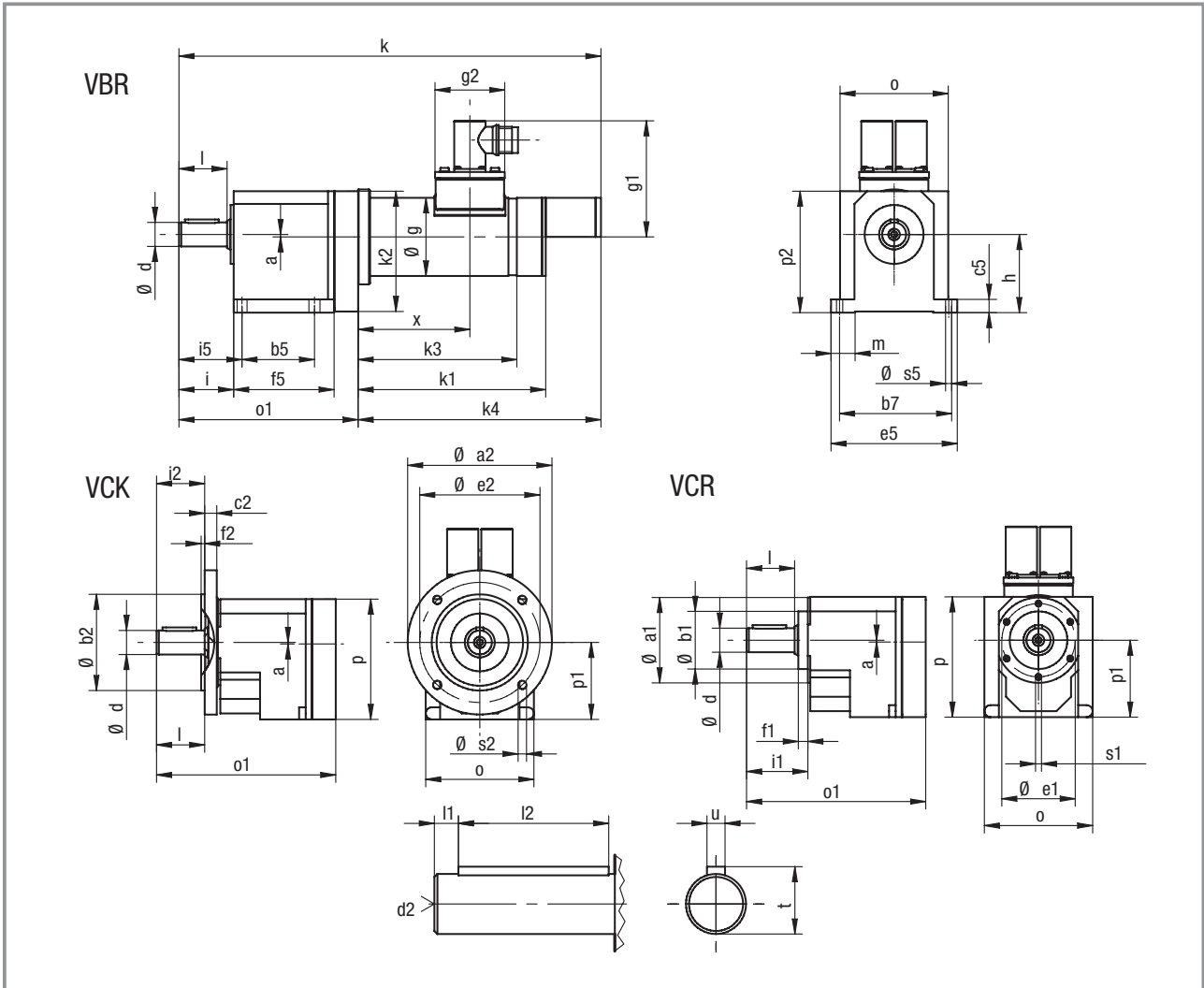
| P _r W | Rated data | | | i | Motor type | Selection Please tick |
|---------------------|-----------------------|----------------------|--------|--------|----------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 250 | 1155.2 | 2.00 | 7.52 | 2.597 | | |
| | 879.0 | 3.00 | 6.10 | 3.413 | SDSGS□□-047-22 | |
| | 686.8 | 3.00 | 5.07 | 4.368 | | |
| | 564.8 | 4.00 | 5.39 | 5.312 | | |
| | 502.9 | 5.00 | 5.02 | 5.965 | | |
| | 429.7 | 5.00 | 4.48 | 6.982 | | |
| | 382.7 | 6.00 | 4.32 | 7.840 | | |
| | 335.8 | 7.00 | 3.79 | 8.935 | | |
| | 299.0 | 8.00 | 3.63 | 10.033 | | |
| | 262.5 | 9.00 | 3.30 | 11.429 | | |
| | 233.8 | 10.00 | 3.15 | 12.833 | | |
| | 202.2 | 11.00 | 2.81 | 14.836 | | |
| | 180.1 | 13.00 | 2.97 | 16.660 | | |
| | 157.8 | 15.00 | 2.67 | 19.013 | | |
| | 140.5 | 17.00 | 2.50 | 21.350 | | |
| | 122.0 | 19.00 | 2.22 | 24.595 | | |
| | 108.6 | 21.00 | 1.98 | 27.618 | | |
| | 93.8 | 25.00 | 1.71 | 32.000 | | |
| | 83.5 | 28.00 | 1.52 | 35.933 | | |
| | 72.4 | 32.00 | 1.32 | 41.455 | | |
| 64.4 | 36.00 | 1.26 | 46.550 | | | |
| 56.7 | 41.00 | 1.11 | 52.909 | | | |
| 50.5 | 45.00 | 0.99 | 59.413 | | | |

Additional order information

| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VBR | |
| | VCR | |
| | VCK | |
| Output flange diameter | 120 mm | |
| | 140 mm | |
| | 160 mm | |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |



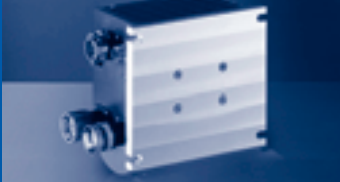
Dimensions, type GST03-2GV□□-047C22



| Geared motor | a | a1 | a2 | b1 h7 | b2 j7 | b5 | b7 | c2 | c5 | d | d2 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | g2 | h | i | i1 | i2 |
|--------------------|---|----|-----|----------|----------|----|----|----|----|----|----|----|-----|-----|----|----|----|----|-----|----|----|----|----|----|
| GST03-2GV□□-047C22 | 2 | 71 | 120 | 48 | 80 | 60 | 91 | 10 | 11 | 20 | M6 | 61 | 115 | 105 | 8 | 3 | 84 | 75 | 101 | 58 | 65 | 46 | 51 | 40 |
| | | | 140 | 95 | 110 | | | | | | | | | | | | | | | | | | | |
| | | | 160 | 110 | 130 | | | | | | | | | | | | | | | | | | | |

| i5 | k | k1 BS | k1 RS | k1 AG | k2 | k3 XX | k4 BS | k4 BA | l | l1 | l2 | m | o | o1 | p | p1 | p2 | s1 | s2 | s5 | t | u | x | Weight [kg] |
|----|-------|----------|----------|----------|-------|----------|----------|----------|---|----|----|----|-------|-----|----|-----|----|----|-----|------|---|-------|---|----------------|
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 52 | 384.5 | 191 | 202.5 | 100 | 158.5 | 235 | 246.5 | 40 | 5 | 28 | 20 | 90 | 149.5 | 100 | 64 | 101 | M5 | 9 | 6.6 | 22.5 | 6 | 117.5 | | 6.0-7.5 |
| | | | | | | | | | | | | | | | | | | | 7 | | | | | |
| | | | | | | | | | | | | | | | | | | | 9 | | | | | |

Dimensions in mm



Drive selection

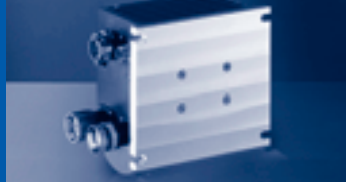
Servo helical geared motors GST

Selection table, type GST04-1GV□□-056C22

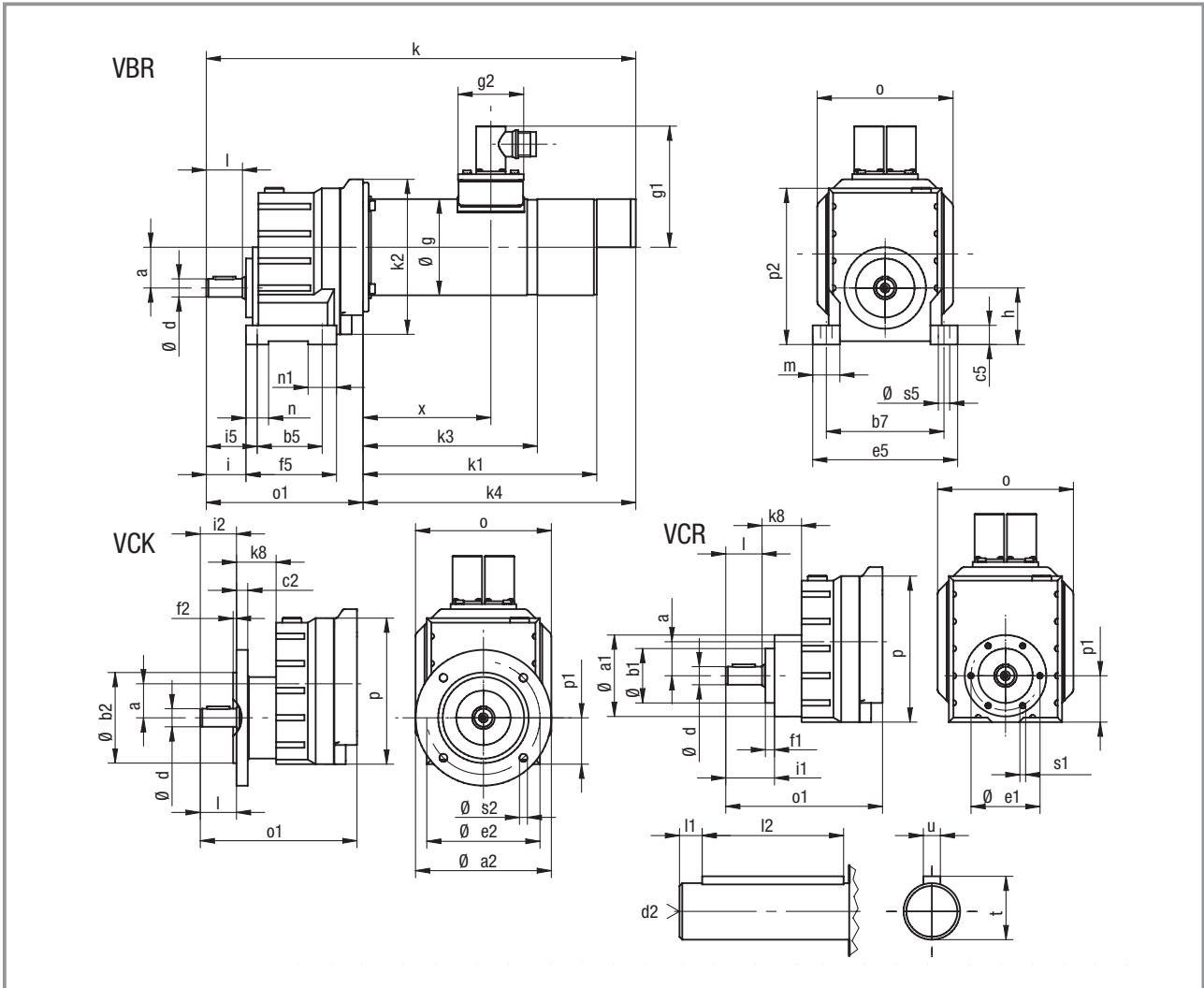
| P _r W | Rated data | | | i | Motor type | Selection Please tick |
|---------------------|-----------------------|----------------------|------|-------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 500 | 1875.0 | 3.00 | 3.83 | 1.600 | | |
| | 1464.8 | 3.00 | 3.74 | 2.048 | SDSGS□□056-22 | |
| | 1339.3 | 4.00 | 3.87 | 2.240 | | |
| | 1050.1 | 4.00 | 3.39 | 2.857 | | |
| | 857.1 | 5.00 | 2.92 | 3.500 | | |
| | 681.8 | 7.00 | 2.32 | 4.400 | | |
| | 529.4 | 9.00 | 1.80 | 5.667 | | |
| | 417.7 | 11.00 | 1.42 | 7.182 | | |
| | 333.3 | 14.00 | 1.08 | 9.000 | | |

Additional order information

| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VBR | |
| | VCR | |
| | VCK | |
| Output flange diameter | 120 mm | |
| | 140 mm | |
| | 160 mm | |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |



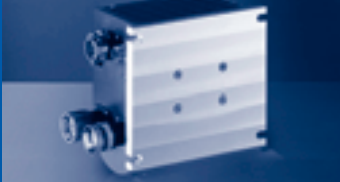
Dimensions, type GST04-1GV□□-056C22



| Geared motor | a | a1 | a2 | b1 h7 | b2 j7 | b5 | b7 | c2 | c5 | d | d2 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | g2 | h | i | i1 | i2 | |
|--------------------|----|----|-----|----------|----------|----|-----|----|----|----|----|----|-----|-----|----|-----|----|----|-----|----|----|----|----|----|--|
| GST04-1GV□□-056C22 | 36 | 72 | 120 | 48 | 80 | 55 | 105 | 10 | 17 | 16 | M5 | 61 | 100 | 130 | 8 | 3 | 80 | 85 | 106 | 58 | 50 | 35 | 43 | 32 | |
| | | | 140 | 95 | | | | | | | | | 115 | | 3 | | | | | | | | | | |
| | | | 160 | 110 | | | | | | | | | | 130 | | 3.5 | | | | | | | | | |

| i5 | k | k1 | k1 | k2 | k3 | k4 | k4 | k8 | l | l1 | l2 | m | n | n1 | o | o1 | p | p1 | p2 | s1 | s2 | s5 | t | u | x | Weight [kg] | |
|----|-------|-------|-----|-----|-----|-----|-------|----|----|----|----|----|----|----|-----|-------|-----|----|-----|----|----|----|----|---|-----|----------------|--|
| | BS | RS | AG | | XX | BS | BA | | | | | | | | | | | | | | | | | | | | |
| 45 | 379.5 | 188.5 | 200 | 129 | 156 | 241 | 252.5 | 35 | 32 | 6 | 20 | 25 | 20 | 25 | 115 | 138.5 | 129 | 41 | 138 | M5 | 7 | 9 | 18 | 5 | 113 | 7.5-9.0 | |
| | | | | | | | | | | | | | | | | | | | | | 9 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | 9 | | | | | | |

Dimensions in mm



Drive selection

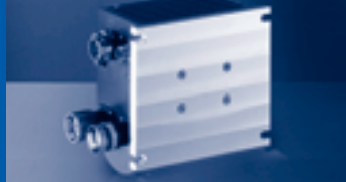
Servo helical geared motors GST

Selection table, type GST04-2GV□□-056C22

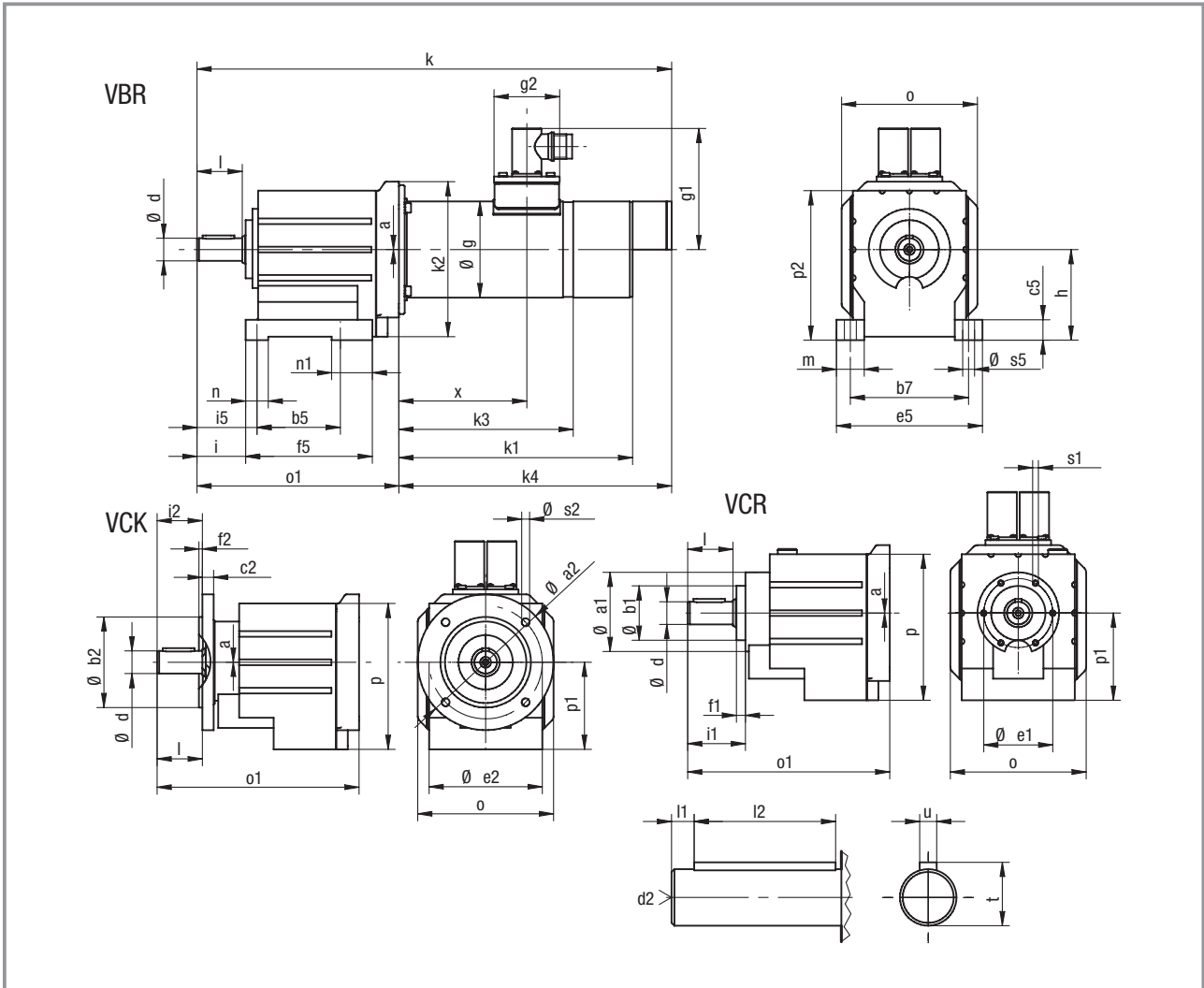
| P _r W | Rated data | | | i | Motor type | Selection Please tick |
|---------------------|-----------------------|----------------------|--------|--------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 500 | 1014.9 | 5.00 | 3.88 | 2.956 | SDSGS□□056-22 | |
| | 900.1 | 5.00 | 3.91 | 3.333 | | |
| | 740.2 | 6.00 | 3.86 | 4.053 | | |
| | 656.3 | 7.00 | 3.87 | 4.571 | | |
| | 578.4 | 8.00 | 3.82 | 5.187 | | |
| | 512.8 | 9.00 | 3.83 | 5.850 | | |
| | 468.8 | 10.00 | 3.66 | 6.400 | | |
| | 426.1 | 11.00 | 3.40 | 7.040 | | |
| | 375.0 | 12.00 | 3.13 | 8.000 | | |
| | 333.0 | 14.00 | 2.95 | 9.010 | | |
| | 304.4 | 15.00 | 2.80 | 9.856 | | |
| | 267.9 | 17.00 | 2.28 | 11.200 | | |
| | 238.6 | 19.00 | 2.32 | 12.571 | | |
| | 210.0 | 22.00 | 1.79 | 14.286 | | |
| | 194.8 | 24.00 | 2.16 | 15.400 | | |
| | 171.4 | 27.00 | 1.70 | 17.500 | | |
| | 155.0 | 30.00 | 1.75 | 19.360 | | |
| | 136.4 | 34.00 | 1.35 | 22.000 | | |
| | 120.3 | 38.00 | 1.38 | 24.933 | | |
| | 105.9 | 44.00 | 1.08 | 28.333 | | |
| 94.9 | 49.00 | 1.10 | 31.600 | | | |
| 83.5 | 47.00 | 0.86 | 35.909 | | | |
| 75.8 | 54.00 | 0.88 | 39.600 | | | |
| 66.7 | 52.00 | 0.75 | 45.000 | | | |

Additional order information

| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VBR | |
| | VCR | |
| | VCK | |
| Output flange diameter | 120 mm | |
| | 140 mm | |
| | 160 mm | |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |



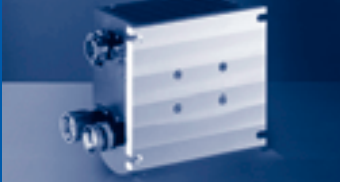
Dimensions, type GST04-2GV□□-056C22



| Geared motor | a | a1 | a2 | b1 h7 | b2 j7 | b5 | b7 | c2 | c5 | d | d2 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | g2 | h | i | i1 | i2 | | |
|--------------------|---|----|-----|----------|----------|----|-----|----|----|----|----|----|-----|-----|-----|----|-----|----|-----|----|----|----|----|----|--|--|
| GST04-2GV□□-056C22 | 0 | 72 | 120 | 48 | 80 | 76 | 105 | 10 | 18 | 20 | M6 | 61 | 100 | 130 | 8 | 3 | 112 | 85 | 106 | 58 | 80 | 43 | 51 | 40 | | |
| | | | 140 | 95 | | | | | | | | | | 115 | | 3 | | | | | | | | | | |
| | | | 160 | 110 | | | | | | | | | | | 130 | | 3.5 | | | | | | | | | |

| i5 | k | k1 | k1 | k2 | k3 | k4 | k4 | l | l1 | l2 | m | n | n1 | o | o1 | p | p1 | p2 | s1 | s2 | s5 | t | u | x | Weight [kg] |
|----|-------|-------|-----|-----|-----|-----|-------|----|----|----|----|----|----|-----|-------|-----|----|-----|----|----|----|------|---|-----|----------------|
| 53 | 419.5 | 188.5 | 200 | 129 | 156 | 241 | 252.5 | 40 | 5 | 28 | 25 | 20 | 36 | 115 | 178.5 | 129 | 77 | 132 | M5 | 7 | 9 | 22.5 | 6 | 113 | 9.5-11.0 |
| | | | | | | | | | | | | | | | | | | | | 9 | | | | | |
| | | | | | | | | | | | | | | | | | | | | 9 | | | | | |

Dimensions in mm



Drive selection

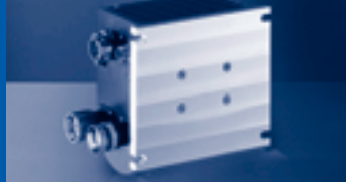
Servo bevel geared motors GKR

Selection table, type GKR03-2G□A□-035C22

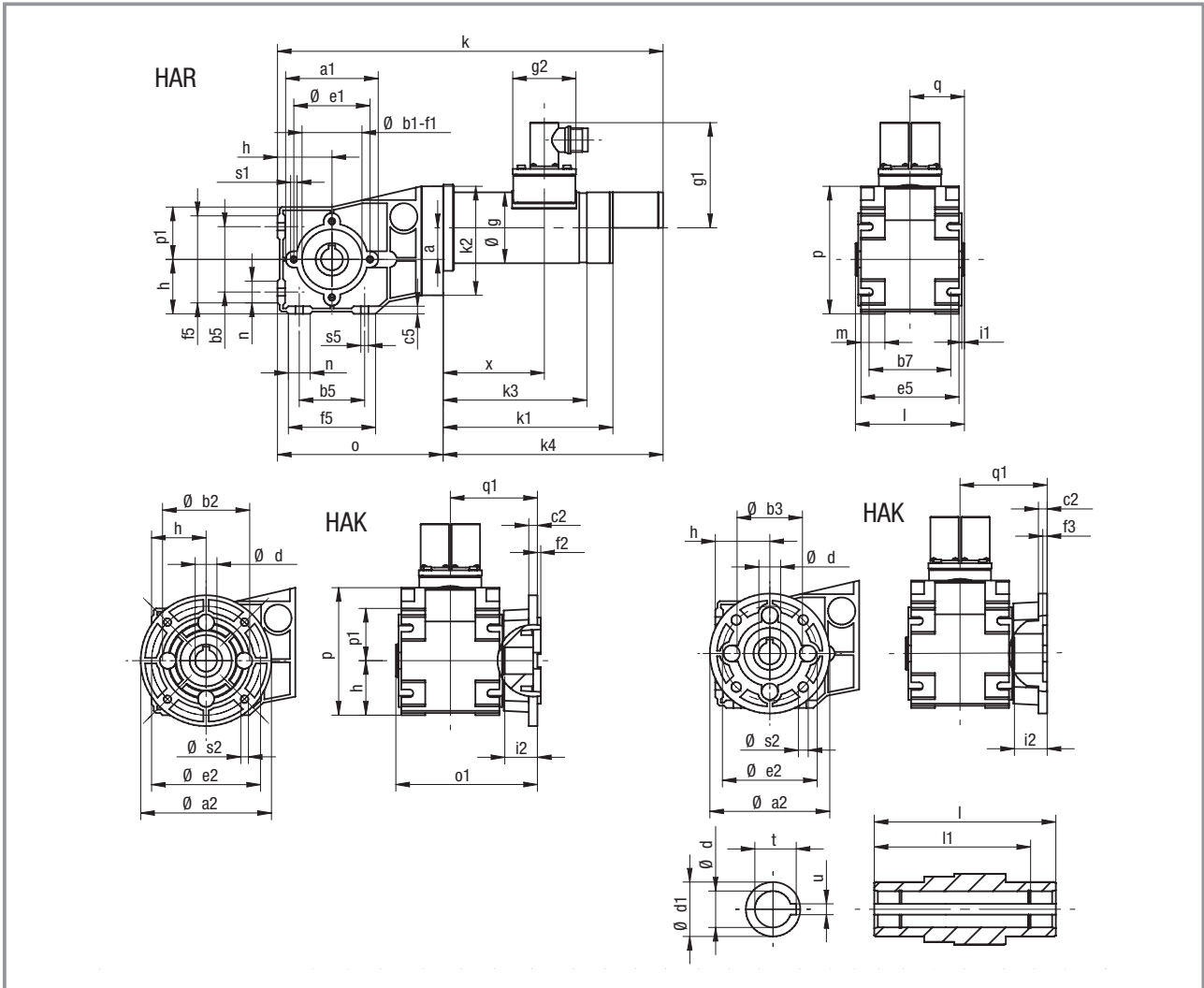
| P _r W | Rated data | | | i | Motor type | Selection Please tick |
|---------------------|-----------------------|----------------------|--------|--------|----------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 140 | 554.40 | 2.00 | 13.83 | 5.411 | | |
| | 482.20 | 3.00 | 12.41 | 6.222 | SDSGS□□-035-22 | |
| | 421.90 | 3.00 | 11.51 | 7.111 | | |
| | 366.80 | 3.00 | 10.30 | 8.178 | | |
| | 329.60 | 4.00 | 9.51 | 9.101 | | |
| | 286.60 | 4.00 | 8.27 | 10.466 | | |
| | 257.70 | 5.00 | 7.44 | 11.64 | | |
| | 224.10 | 6.00 | 6.47 | 13.386 | | |
| | 198.50 | 6.00 | 5.73 | 15.111 | | |
| | 172.60 | 7.00 | 4.98 | 17.378 | | |
| | 154.90 | 8.00 | 4.47 | 19.365 | | |
| | 134.70 | 10.00 | 3.89 | 22.27 | | |
| | 119.80 | 11.00 | 3.92 | 25.051 | | |
| | 104.10 | 12.00 | 3.41 | 28.808 | | |
| | 92.00 | 14.00 | 3.01 | 32.593 | | |
| | 80.00 | 16.00 | 2.62 | 37.481 | | |
| | 71.10 | 18.00 | 2.49 | 42.222 | | |
| | 61.80 | 21.00 | 2.17 | 48.556 | | |
| 55.70 | 23.00 | 1.95 | 53.889 | | | |
| 48.40 | 26.00 | 1.70 | 61.972 | | | |

Additional order information

| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VAR | |
| | VAK | |
| | HAR | |
| | HAK | |
| Output flange diameter | 110 mm | |
| | 120 mm | |
| Hollow shaft bore | 18 mm | |
| | 20 mm | |
| Shaft position on type VAR | | 3 5 8 |
| Flange/shaft position on type VAK | | 3 5 |
| Flange position on type HAK | | 3 5 |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |



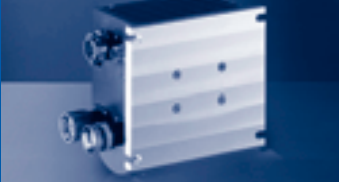
Dimensions, type GKR03-2G□A□-035C22



| Geared motor | a | a1 | a2 | b1 J7 | b2 j7 | b3 H7 | b5 | b7 | c2 | c5 | d H7 | d1 | e1 | e2 | e5 | f1 | f2 | f3 | f5 | g | g1 | g2 | h | i1 |
|--------------------|----|----|-----|----------|----------|----------|----|----|----|----|---------|----|----|-----|----|----|----|----|----|----|----|----|----|-----|
| GKR03-2GHA□-035C22 | 29 | 84 | 120 | 55 | 80 | - | 60 | 75 | 8 | 7 | 18 | 30 | 70 | 100 | 90 | 3 | 3 | - | 80 | 65 | 95 | 58 | 50 | 2.5 |
| | | | 110 | | - | 60 | | | | | 20 | 30 | | 87 | | | 4 | | | | | | | |

| i2 | k BS | k1 RS | k1 AG | k2 XX | k3 BS | k4 BA | k4 BA | l | l1 | m | n | o | o1 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | x | Weight [kg] |
|----|---------|----------|----------|----------|----------|----------|----------|-----|----|----|----|-----|-----|-----|----|----|----|----|----|-----|------|---|----|----------------|
| 30 | 354 | 166.5 | 178 | 100 | 136 | 202 | 222.5 | 100 | 86 | 22 | 20 | 152 | 130 | 117 | 48 | 50 | 80 | M6 | 7 | 6.6 | 20.8 | 6 | 93 | 5.0-6.5 |
| | | | | | | | | | | | | | | | | | | | 9 | | 22.8 | 6 | | |

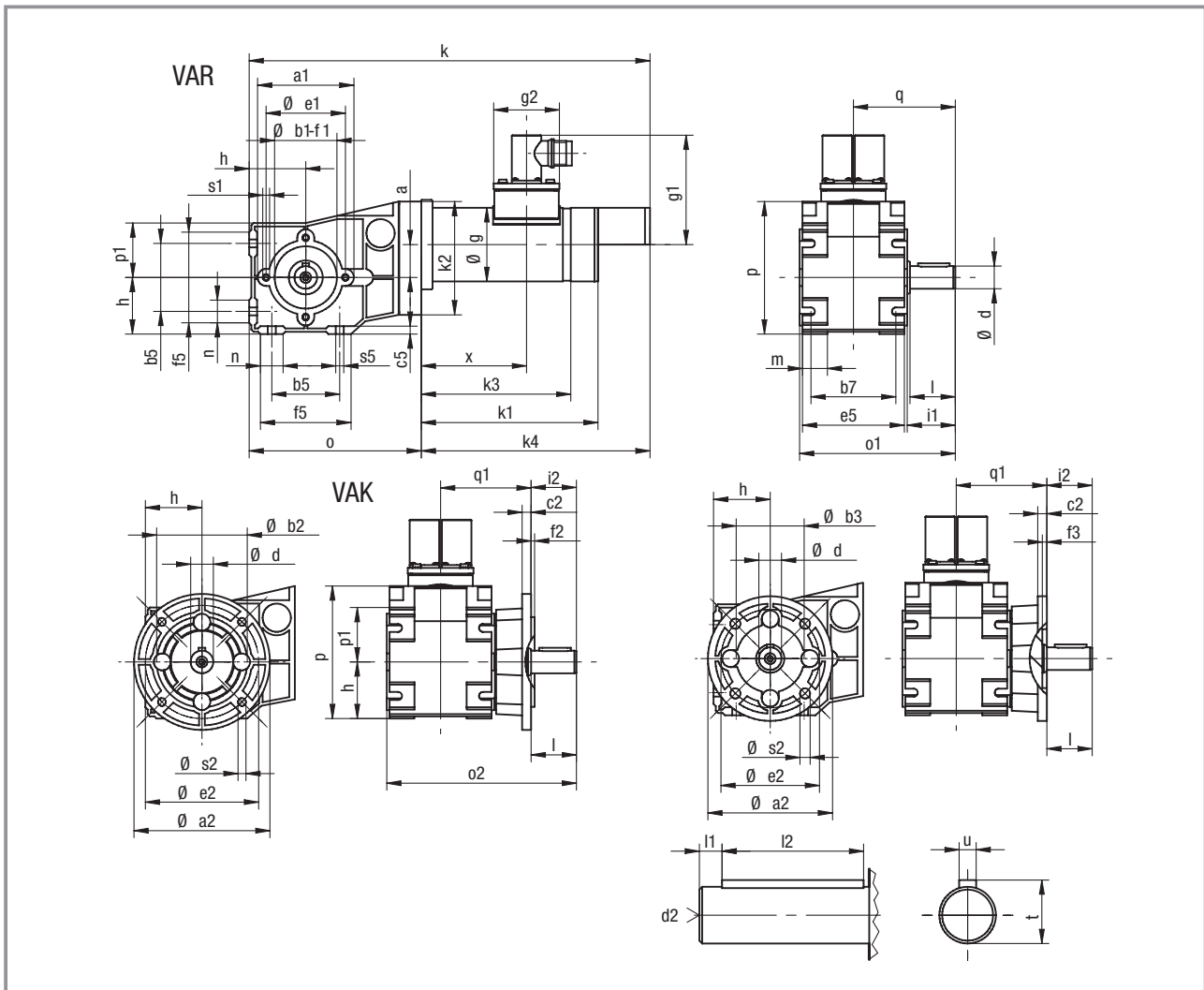
Dimensions in mm



Drive selection

Servo bevel geared motors GKR

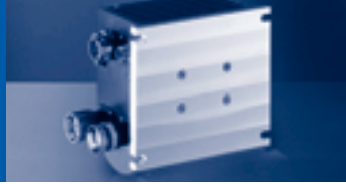
Dimensions, type GKR03-2GVA□-035C22

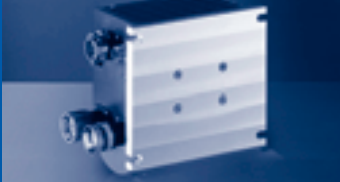


| Geared motor | a | a1 | a2 | b1 J7 | b2 j7 | b3 H7 | b5 | b7 | c2 | c5 | d | d2 | e1 | e2 | e5 | f1 | f2 | f3 | f5 | g | g1 | g2 | h | i1 |
|--------------------|----|----|-----|----------|----------|----------|----|----|----|----|----|----|----|-----|----|-----|----|----|----|----|----|----|----|------|
| GKR03-2GVA□-035C22 | 29 | 84 | 120 | 55 | 80 | - | 60 | 75 | 8 | 7 | 20 | M6 | 70 | 100 | 90 | 2.5 | 3 | - | 80 | 65 | 95 | 58 | 50 | 42.5 |
| | | | 110 | | - | 60 | | | | | | | | 87 | | | | 4 | | | | | | |

| i2 | k | k1 | k1 | k2 | k3 | k4 | k4 | l | l1 | l2 | m | n | o | o1 | o2 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | x | Weight [kg] |
|----|-----|-------|-----|-----|-----|-----|-------|----|----|----|----|----|-----|-----|-----|-----|----|----|----|----|----|-----|------|---|----|----------------|
| | BS | RS | AG | | XX | BS | BA | | | | | | | | | | | | | | | | | | | |
| 40 | 354 | 166.5 | 178 | 100 | 136 | 202 | 222.5 | 40 | 5 | 28 | 22 | 20 | 152 | 138 | 168 | 117 | 48 | 90 | 80 | M6 | 7 | 6.6 | 22.5 | 6 | 93 | 5.0-6.5 |
| | | | | | | | | | | | | | | | | | | | | | 9 | | | 6 | | |

Dimensions in mm





Drive selection

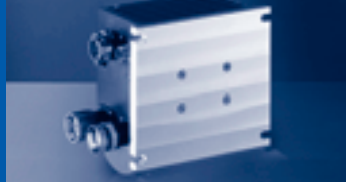
Servo bevel geared motors GKR

Selection table, type GKR03-2G□A□-047C22

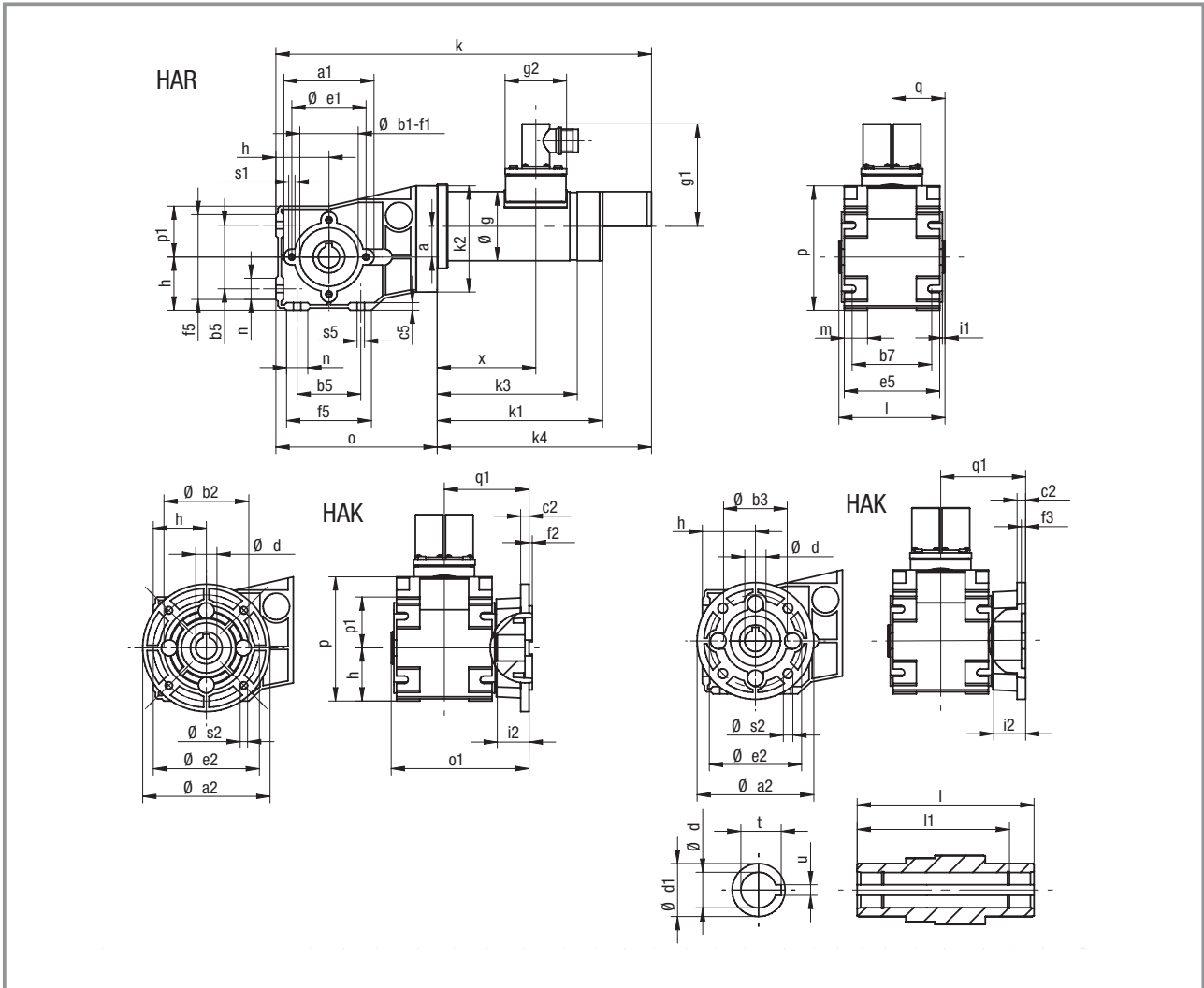
| P _r W | Rated data | | | i | Motor type | Selection Please tick |
|---------------------|-----------------------|----------------------|--------|--------|---------------|--------------------------|
| | n ₂ rpm | M ₂ Nm | c | | | |
| 250 | 554.4 | 4.00 | 7.78 | 5.411 | | |
| | 482.2 | 5.00 | 6.98 | 6.222 | SDSGS□□047-22 | |
| | 421.9 | 5.00 | 6.48 | 7.111 | | |
| | 366.8 | 6.00 | 5.79 | 8.178 | | |
| | 329.6 | 7.00 | 5.35 | 9.101 | | |
| | 286.6 | 8.00 | 4.65 | 10.466 | | |
| | 257.7 | 9.00 | 4.18 | 11.640 | | |
| | 224.1 | 10.00 | 3.64 | 13.386 | | |
| | 198.5 | 11.00 | 3.22 | 15.111 | | |
| | 172.6 | 13.00 | 2.80 | 17.378 | | |
| | 154.9 | 15.00 | 2.51 | 19.365 | | |
| | 134.7 | 17.00 | 2.19 | 22.270 | | |
| | 119.8 | 19.00 | 2.21 | 25.051 | | |
| | 104.1 | 22.00 | 1.92 | 28.808 | | |
| | 92.0 | 25.00 | 1.70 | 32.593 | | |
| | 80.0 | 28.00 | 1.47 | 37.481 | | |
| | 71.1 | 32.00 | 1.40 | 42.222 | | |
| | 61.8 | 37.00 | 1.22 | 48.556 | | |
| 55.7 | 41.00 | 1.10 | 53.889 | | | |
| 48.4 | 45.00 | 0.96 | 61.972 | | | |

Additional order information

| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VAR | |
| | VAK | |
| | HAR | |
| | HAK | |
| Output flange diameter | 110 mm | |
| | 120 mm | |
| Hollow shaft bore | 18 mm | |
| | 20 mm | |
| Shaft position on type VAR | | 3 5 8 |
| Flange/shaft position on type VAK | | 3 5 |
| Flange position on type HAK | | 3 5 |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |



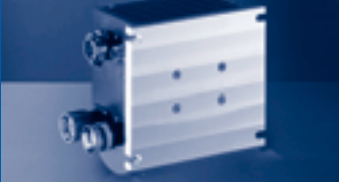
Dimensions, type GKR03-2GHA□-047C22



| Geared motor | a | a1 | a2 | b1 J7 | b2 j7 | b3 H7 | b5 | b7 | c2 | c5 | d H7 | d1 | e1 | e2 | e5 | f1 | f2 | f3 | f5 | g | g1 | g2 | h | i1 |
|--------------------|----|----|-----|----------|----------|----------|----|----|----|----|---------|----|----|-----|----|----|----|----|----|----|-----|----|----|-----|
| GKR03-2GHA□-047C22 | 29 | 84 | 120 | 55 | 80 | - | 60 | 75 | 8 | 7 | 18 | 30 | 70 | 100 | 90 | 3 | 3 | - | 80 | 75 | 101 | 58 | 50 | 2.5 |
| | | | 110 | | - | 60 | | | | | 20 | 30 | | 87 | | | 4 | | | | | | | |

| i2 | k BS | k1 RS | k1 AG | k2 XX | k3 BS | k4 BA | l | l1 | m | n | o | o1 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | x | Weight [kg] | |
|----|---------|----------|----------|----------|----------|----------|-------|-----|----|----|----|-----|-----|-----|----|----|----|----|----|------|------|---|----------------|---------|
| 30 | 387 | 191 | 202.5 | 100 | 158.5 | 235 | 246.5 | 100 | 86 | 22 | 20 | 152 | 130 | 117 | 48 | 50 | 80 | M6 | 7 | 6.6 | 20.8 | 6 | 117.5 | 6.0-7.5 |
| | | | | | | | | | | | | | | | | | | | 9 | 22.8 | 6 | | | |

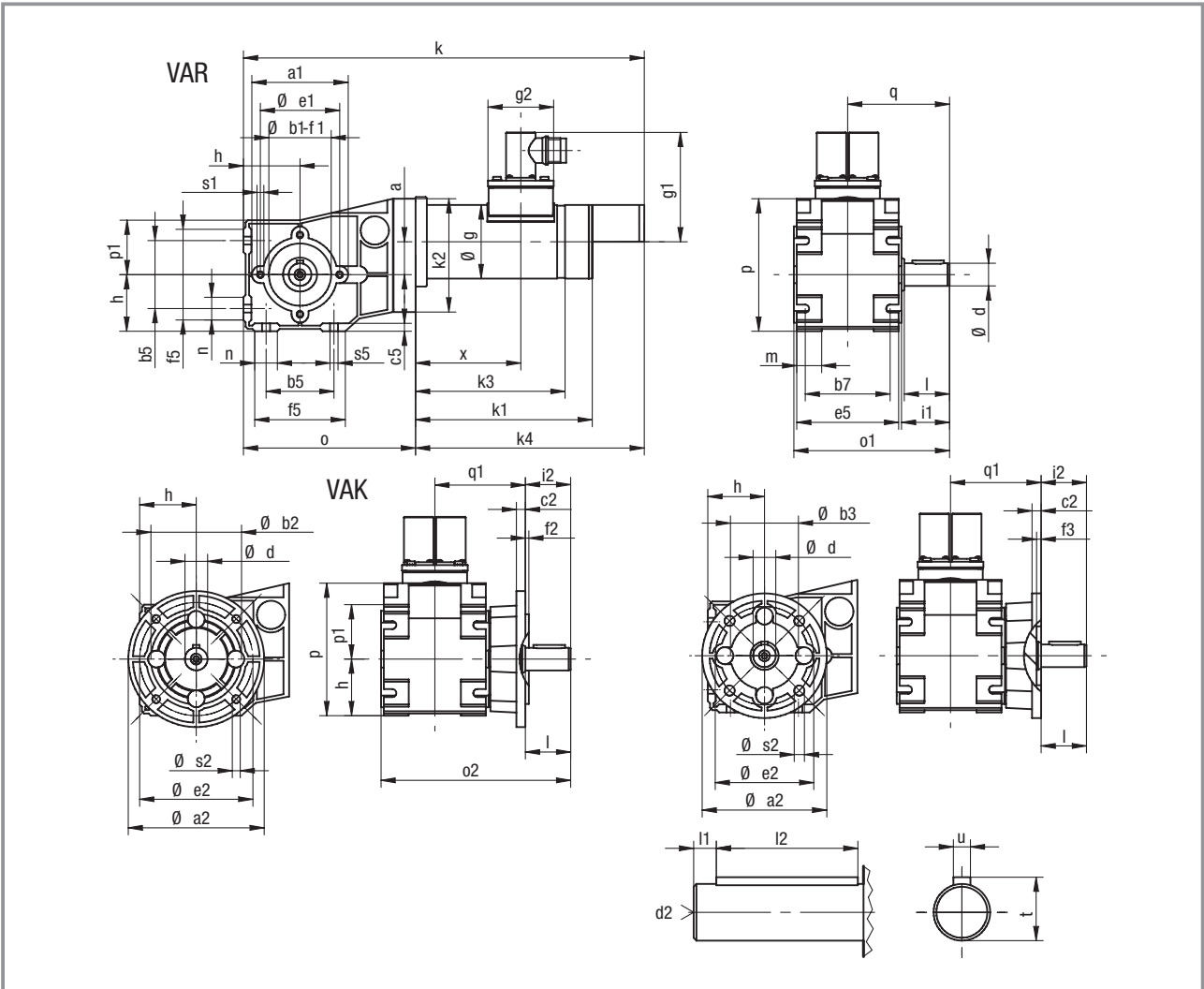
Dimensions in mm



Drive selection

Servo bevel geared motors GKR

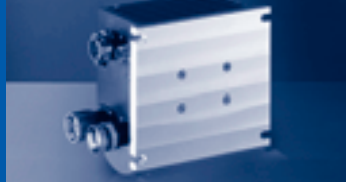
Dimensions, type GKR03-2GVA□-047C22

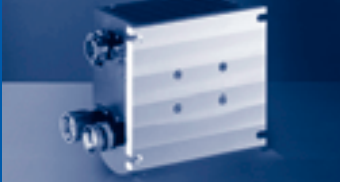


| Geared motor | a | a1 | a2 | b1 J7 | b2 j7 | b3 H7 | b5 | b7 | c2 | c5 | d k6 | d2 | e1 | e2 | e5 | f1 | f2 | f3 | f5 | g | g1 | g2 | h | i1 |
|--------------------|----|----|-----|----------|----------|----------|----|----|----|----|---------|----|----|-----|----|-----|----|----|----|----|-----|----|----|------|
| GKR03-2GVA□-047C22 | 29 | 84 | 120 | 55 | 80 | - | 60 | 75 | 8 | 7 | 20 | M6 | 70 | 100 | 90 | 2.5 | 3 | - | 80 | 75 | 101 | 58 | 50 | 42.5 |
| | | | 110 | | - | 60 | | | | | | | | 87 | | | | 4 | | | | | | |

| i2 | k | k1 | k1 | k2 | k3 | k4 | k4 | l | l1 | l2 | m | n | o | o1 | o2 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | x | Weight [kg] |
|----|-----|-----|-------|-----|-------|-----|-------|----|----|----|----|----|-----|-----|-----|-----|----|----|----|----|----|-----|------|---|-------|----------------|
| | BS | RS | AG | XX | BS | BA | | | | | | | | | | | | | | | | | | | | |
| 40 | 387 | 191 | 202.5 | 100 | 158.5 | 235 | 246.5 | 40 | 5 | 28 | 22 | 20 | 152 | 138 | 168 | 117 | 48 | 90 | 80 | M6 | 7 | 6.6 | 22.5 | 6 | 117.5 | 6.0-7.5 |
| | | | | | | | | | | | | | | | | | | | | | 9 | | | 6 | | |

Dimensions in mm





Drive selection

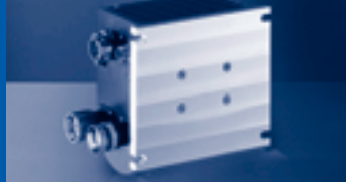
Servo bevel geared motors GKR

Selection table, type GKR04-2G□A□-056C22

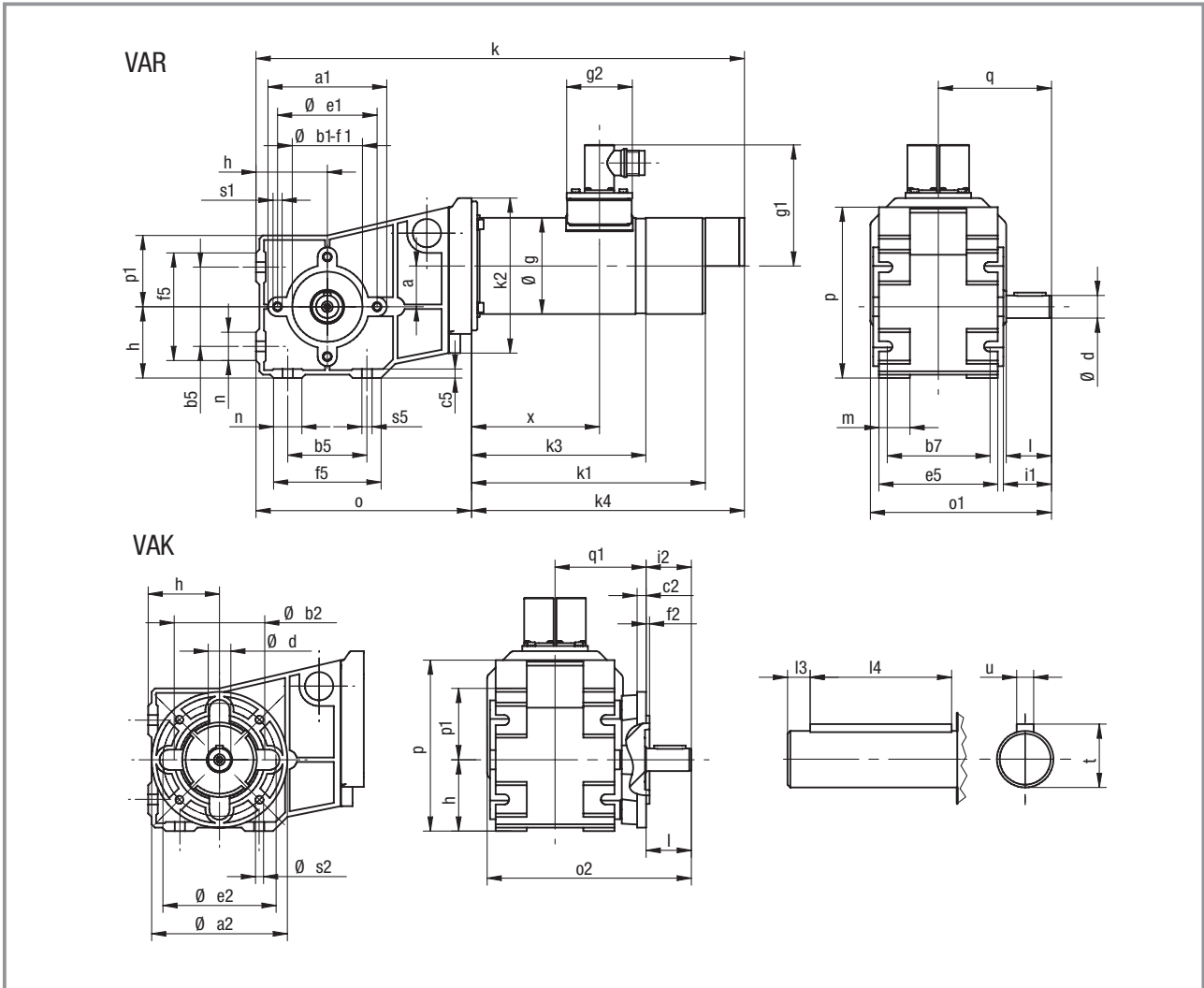
| P _r W | Rated data | | | i | Motor type | Selection Please tick |
|---------------------|--------------------------|----------------|--------|--------|---------------|--------------------------|
| | n ₂ rpm Nm | M ₂ | c | | | |
| 440 | 578.6 | 8.00 | 3.86 | 5.185 | | |
| | 503.1 | 9.00 | 3.80 | 5.963 | SDSGS□□056-22 | |
| | 421.9 | 11.00 | 3.77 | 7.111 | | |
| | 366.8 | 12.00 | 3.80 | 8.178 | | |
| | 329.6 | 14.00 | 3.82 | 9.101 | | |
| | 286.6 | 16.00 | 3.62 | 10.466 | | |
| | 262.0 | 17.00 | 3.36 | 11.449 | | |
| | 236.3 | 19.00 | 3.03 | 12.698 | | |
| | 205.4 | 22.00 | 2.63 | 14.603 | | |
| | 192.9 | 24.00 | 2.47 | 15.556 | | |
| | 167.7 | 27.00 | 2.15 | 17.889 | | |
| | 153.4 | 30.00 | 1.96 | 19.556 | | |
| | 133.4 | 34.00 | 1.71 | 22.489 | | |
| | 119.1 | 38.00 | 1.73 | 25.185 | | |
| | 103.6 | 44.00 | 1.51 | 28.963 | | |
| | 94.0 | 49.00 | 1.37 | 31.919 | | |
| | 81.7 | 56.00 | 1.19 | 36.707 | | |
| 75.0 | 61.00 | 1.09 | 40.000 | | | |
| 65.2 | 70.00 | 1.03 | 46.000 | | | |

Additional order information

| | | |
|-----------------------------------|--|-------------|
| Enclosure | IP54 | |
| | IP55 | |
| B-side version | with resolver | |
| | with spring-applied brake and resolver | |
| | with permanent magnet brake and resolver | |
| Gearbox type | VAR | |
| | VAK | |
| | HAR | |
| | HAK | |
| Output flange diameter | 110 mm | |
| | 120 mm | |
| Hollow shaft bore | 18 mm | |
| | 20 mm | |
| Shaft position on type VAR | | 3 5 8 |
| Flange/shaft position on type VAK | | 3 5 |
| Flange position on type HAK | | 3 5 |
| Mounting position | | A B C D E F |
| Position of electrical connection | | 2 3 4 5 |



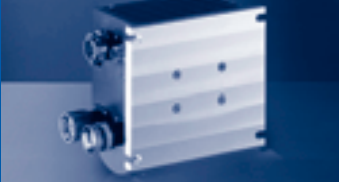
Dimensions, type GKR04-2GVA□-056C22



| Geared motor | a | a1 | a2 | b1 J7 | b2 j7 | b5 | b7 | c2 | c5 | d k6 | d2 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | g2 | h | i1 | i2 | k BS |
|--------------------|----|-----|-----|----------|----------|----|----|----|----|---------|----|----|-----|-----|----|----|----|----|-----|----|----|------|----|---------|
| GKR04-2GVA□-056C22 | 36 | 104 | 120 | 62 | 80 | 70 | 90 | 8 | 8 | 20 | M6 | 88 | 100 | 105 | 3 | 3 | 95 | 85 | 106 | 58 | 63 | 42.5 | 20 | 431.5 |
| | | 160 | | 110 | | | | | 25 | | | | 130 | 3.5 | | | | | | | | | | |

| k1 RS | k1 AG | k2 | k3 XX | k4 BS | k4 BA | l | l1 | l2 | m | n | o | o1 | o2 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | x | Weight [kg] |
|----------|----------|-----|----------|----------|----------|----|----|----|----|----|-------|-----|-----|-----|----|----|----|----|----|----|------|---|-----|----------------|
| 188.5 | 200 | 129 | 156 | 241 | 252.5 | 40 | 5 | 28 | 28 | 25 | 190.5 | 140 | 168 | 151 | 63 | 60 | 80 | M8 | 7 | 9 | 22.8 | 6 | 113 | 8.5-11 |
| | | | | | | | | | | | | | | | | | | | 9 | | 27 | 8 | | |

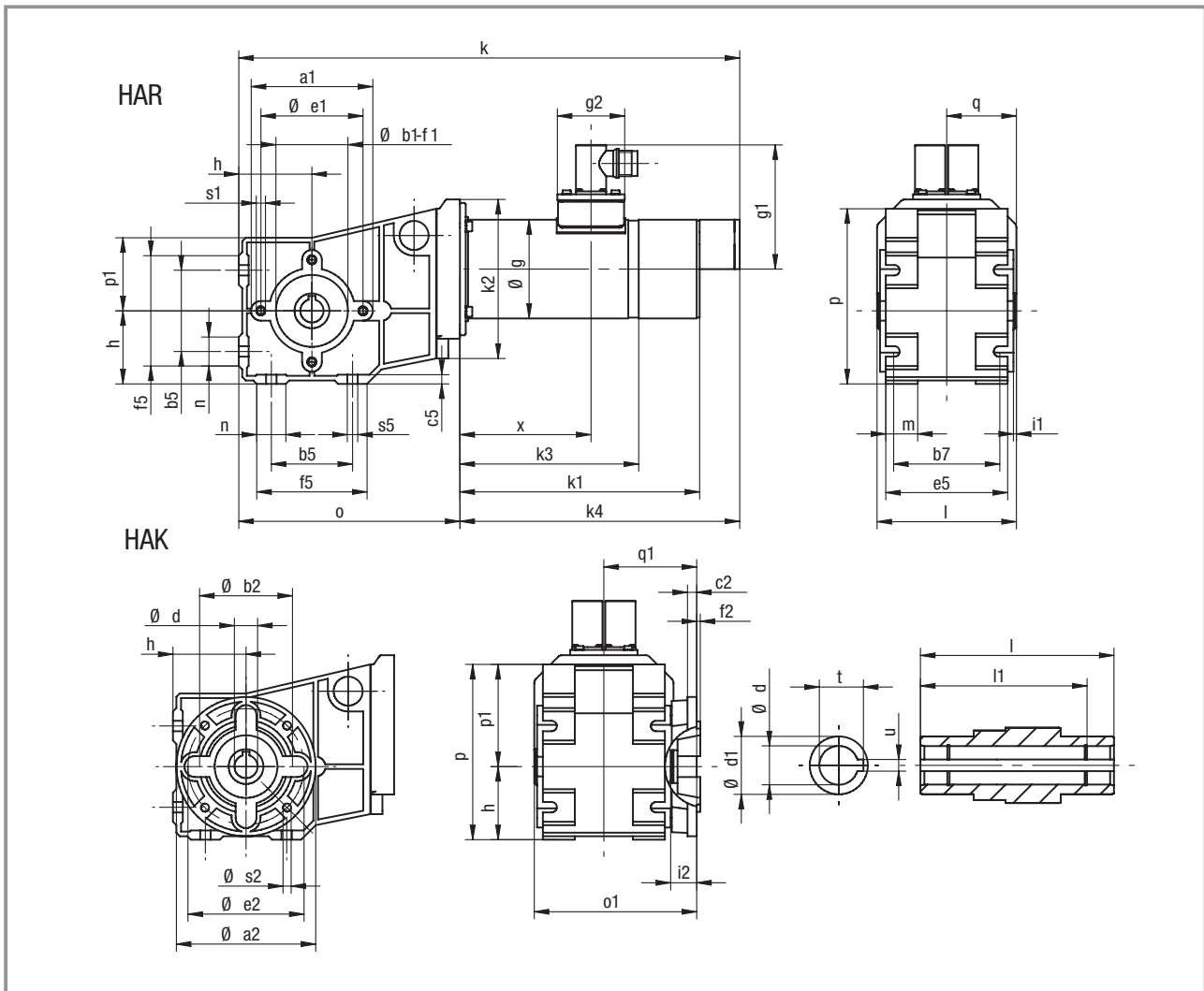
Dimensions in mm



Drive selection

Servo bevel geared motors GKR

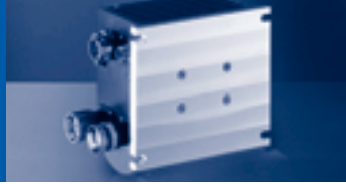
Dimensions, type GKR04-2GHA□-056C22



| Geared motor | a | a1 | a2 | b1 J7 | b2 j7 | b5 | b7 | c2 | c5 | d H7 | d1 | e1 | e2 | e5 | f1 | f2 | f5 | g | g1 | g2 | h | i1 | i2 | k BS |
|--------------------|----|-----|-----|----------|----------|----|----|----|----|---------|----|----|-----|-----|----|-----|----|----|-----|----|----|-----|----|---------|
| GKR04-2GHA□-056C22 | 36 | 104 | 120 | 62 | 80 | 70 | 90 | 8 | 8 | 20 | 30 | 88 | 100 | 105 | 3 | 3 | 95 | 85 | 106 | 58 | 63 | 2.5 | 20 | 431.5 |
| | | | 160 | | 110 | | | | | 25 | 35 | | | | | 3.5 | | | | | | | | |

| k1 RS | k1 AG | k2 | k3 XX | k4 BS | k4 BA | l | l1 | m | n | o | o1 | p | p1 | q | q1 | s1 | s2 | s5 | t | u | x | Weight [kg] |
|----------|----------|-----|----------|----------|----------|-----|-----|----|----|-------|-----|-----|----|----|----|----|----|----|------|---|-----|----------------|
| 188.5 | 200 | 129 | 156 | 241 | 252.5 | 120 | 106 | 28 | 25 | 190.5 | 140 | 151 | 63 | 60 | 80 | M8 | 7 | 9 | 22.8 | 6 | 113 | 8.5-11 |
| | | | | | | | | | | | | | | | | | 9 | | 27 | 8 | | |

Dimensions in mm





Lenze worldwide

Lenze AG

Postfach 10 13 52
D-31763 Hameln
Telefon +49 (0)51 54/82-0
Telefax +49 (0)51 54/82-28 00
E-Mail: Lenze@Lenze.de
Internet: www.Lenze.com

Lenze Drive Systems GmbH

Postfach 10 13 52, D-31763 Hameln
Telefon +49 (0)51 54 / 82-0
Telefax +49 (0)51 54 / 82-28 00

Lenze GmbH & Co KG Anlagenbau

Buchenweg 1
D-31855 Aerzen
Telefon +49 (0)51 54 / 82-0
Telefax +49 (0)51 54 / 82-21 00

Lenze GmbH & Co KG Kleinantriebe

Hans-Lenze-Straße 1
D-32699 Extertal
Telefon +49 (0)51 54 / 82-0
Telefax +49 (0)51 54 / 82-14 85

Lenze Service GmbH

Breslauer Straße 3
D-32699 Extertal
Mechanical Drives
Telefon +49 (0)51 54 / 82-16 26
Telefax +49 (0)51 54 / 82-13 96
Electronic Drives
Telefon +49 (0)51 54 / 82-11 11
Telefax +49 (0)51 54 / 82-11 12
Service Helpline
+49 (0)180 5 20 24 26

Lenze Verbindungstechnik GmbH

Ipf-Landesstraße 1
A-4481 ASTEN
Telefon +43 (0)72 24 / 210-0
Telefax +43 (0)72 24 / 210-998

Lenze DETO Drive Systems GmbH & Co KG

Gewerbepark Süd 11
A-6330 Kufstein
Telefon +43 (0)53 72 / 6 53 15-200
Telefax +43 (0)53 72 / 6 53 15-299

Lenze Digitec Controls GmbH

Grünstraße 36
D-40667 Meerbusch
Telefon +49 (0)21 32 / 99 04-0
Telefax +49 (0)21 32 / 7 21 90

Schmidhauser AG

Obere Neustrasse 1
CH-8590 Romanshorn
Telefon +41 (0)71 466 11 11
Telefax +41 (0)71 466 11 10

encoway GmbH

Buschhöhe 2
D-28357 Bremen
Telefon +49 (0)4 21 / 2 46 77-0
Telefax +49 (0)4 21 / 2 46 77-10

DEUTSCHLAND/GERMANY

Lenze Vertrieb GmbH

Ludwig-Erhard-Straße 52-56
D-72760 Reutlingen
Telefon +49 (0)71 21 / 9 39 39-0
Telefax +49 (0)71 21 / 9 39 39-29

Region Nord
Dornenpark 1
31840 Hessisch Oldendorf
Telefon (0 51 52) 90 36-0
Telefax (0 51 52) 90 36-33/44/55

Region West
Postfach 10 12 20
47497 Neukirchen-Vluyn
Kelvinstraße 7
47506 Neukirchen-Vluyn
Telefon (0 28 45) 95 93-0
Telefax (0 28 45) 95 93 93

Region Mitte/Ost
Postfach 1463
35724 Herborn
Austraße 81
35745 Herborn
Telefon (0 27 72) 95 94-0
Telefax (0 27 72) 5 30 79

Region Südwest
Postfach 14 33
71304 Waiblingen
Schänzle 8
71332 Waiblingen
Telefon (0 71 51) 9 59 81 - 0
Telefax (0 71 51) 9 59 81 50

Region Süd
Fraunhoferstraße 16
82152 Martinsried
Telefon (0 89) 89 56 14-0
Telefax (0 89) 89 56 14 14

WELTWEIT/WORLDWIDE

ALGERIA

see FRANCE

ARGENTINA *

E.R.H.S.A.
Girardot 1368, 1427 BUENOS AIRES
Phone +54 (0)11 / 45 54 32 32
Telefax +54 (0)11 / 45 52 36 11

AUSTRALIA *

FCR Motion Technology Pty. Ltd.
Unit 6, Automation Place
38-40 Little Boundary Rd.
LAVERTON NORTH, Vic. 3026
Phone +61 (3) 9362 6800
Telefax +61 (3) 9314 3744

AUSTRIA *

Lenze Antriebstechnik GmbH
Ipf-Landesstraße 1
4481 ASTEN
Phone +43 (0)7224 / 210-0
Telefax +43 (0)7224 / 210-999
Office Dornbirn:
Lustenauer Straße 64
6850 DORNBIERN
Phone ++43 (0)7224 / 210-0
Telefax ++43 (0)7224 / 210-7299

Office Wr. Neudorf:
Triester Straße 14/109
2351 WR. NEUDORF
Phone ++43 (0)7224 / 210-0
Telefax ++43 (0)7224 / 210-7099

Office Graz:
Seering 8
8141 UNTERPREMSTÄTTEN
Phone ++43 (0)7224 / 210-0
Telefax ++43 (0)7224 / 210-7199

Lenze Verbindungstechnik GmbH
Ipf-Landesstraße 1
4481 ASTEN
Phone +43 (0)7224 / 210-0
Telefax +43 (0)7224 / 210-998

Lenze Anlagentechnik GmbH
Mühlenstraße 3
4470 ENNS
Phone +43 (0)7224 / 210-0
Telefax +43 (0)7224 / 210-997

BELARUS

see POLAND

BELGIUM *

Lenze bv.ba
Noorderlaan 133
bus 15, 2030 ANTWERPEN
Phone +32 (0)3 / 54 26 20 0
Telefax +32 (0)3 / 54 13 75 4

BOSNIA-HERZEGOVINA

see AUSTRIA

BRAZIL *

AC Control Ltda
Rua Gustavo da Silveira 1199
Vila Sta. Catarina
SÃO PAULO – S.P. 04376-000
Phone +55 (11) 55 64 65 79 ramal: 214
Telefax +55 (11) 56 79 75 10

BULGARIA

Lenze Zadvizhvasta Tehnika EOOD
Bul. Maritza 21, Office 204
4003 PLOVDIV
Phone +359 / 32 / 940 373
Telefax +359 / 32 / 940 349

CANADA *

see USA

CHILE

Sargent S.A.
Tecnica Thomas C. Sargent
S.A.C.e.I., Casilla 166-D
SANTIAGO DE CHILE
Phone +56 (0)2 / 51 03 000
Telefax +56 (0)2 / 69 83 989

CHINA *

Lenze Mechatronic Drives
(Shanghai) Co. Ltd.
50 B, 199 North Ri Ying Road,
Waigaoqiao FTZ
SHANGHAI, 200131
Phone +86-21-5046 0848
Telefax +86-21-5046 2833

Shanghai Office
Rm. 2905, Nanzheng Mansion
No. 580, Nanjingxi Road
SHANGHAI, 200041
Phone +86-21-5228 2233
Telefax +86-21-6267 7975

Beijing Office
Shengfu Mansion, Rm. 1830, No. 37,
Maizidian Road, Chaoyang District,
BEIJING, 100026
Phone +86-10-8527 6898
Telefax +86-10-8527 6899

COLOMBIA

Casa Sueca, S.A.
Calle 52 1N-74
CALI
Phone +57 -2- 682 0444
Telefax +57 -2- 683 1411

CROATIA

Lenze Antriebstechnik GmbH
Predstavništvo Zagreb
Ulica Grada Gospica 3
HR-1000 ZAGREB
Phone +385-1-2 49 80 56
Telefax +385-1-2 49 80 57

CZECH REPUBLIC

Lenze, s.r.o.
Central Trade Park D1
396 01 HUMPOLEC
Phone +420 565 507-111
Telefax +420 565 507-399

Büro Červený Kostelec:
17. listopadu 510
549 41 ČERVENÝ KOSTELEČ
Phone +420 491 467-111
Telefax +420 491 467-166

DENMARK *

Lenze A/S
Vallensbækvej 18A, 2605 BRØNDBY
Phone +45 / 46 96 66 66
Telefax +45 / 46 96 66 60
24 stunde service +45 / 40 93 04 11

Büro Jylland: Lenze A/S
Langhøjvej 1, 8381 TILST
Phone +45 / 46 96 66 66
Telefax +45 / 46 96 66 80

EGYPT

WADI Co. for technologies
and development
P.O.Box 209, new center Ramses
11794 CAIRO, Egypt
11 Syria St., Mohandessin
GIZA, Egypt
Phone +20 (2) 347 6842
Telefax +20 (2) 347 6843

ESTONIA

see FINLAND

FINLAND *

Lenze Drives
Rykmentintie 2 b
20810 TURKU
Phone +358 2 2748 180
Telefax +358 2 2748 189

FRANCE *

Lenze S.A.
Siège
ZI des Mardelles
44 Rue Blaise Pascal
93600 AULNAY-SOUS-BOIS
Services Commerciaux
Phone 0 825 086 036
Telefax 0 825 086 346

Centre de formation
E-Mail : semin.sidonie@lenze.fr

Questions générales / documentation
E-Mail : info@lenze.fr

Service Après-vente / assistance en ligne
Helpline 24/24 : 0 825 826 117
E-Mail : help@lenze.fr

Agences en France
Région France Nord :
ZI des Mardelles
44 Rue Blaise Pascal
93600 AULNAY-SOUS-BOIS
Nantes
44000 NANTES

Strasbourg
67870 GRIESHEIM près MOLSHEIM
Rouen
76000 ELBEUF

Région France Sud :
Parc Technologique
97, allée Alexandre Borodine
Immeuble le Douglas 2
69800 SAINT PRIEST

Toulouse
31400 TOULOUSE

Agen
47270 SAINT-PIERRE de CLAIRAC

GREECE

George P. Alexandris S.A.
12K. Mavromichali Str.
185 45 PIRAEUS
Phone +30 (0)210 / 41 11 84 15
Telefax +30 (0)210 / 4 11 81 71
4 12 70 58

183 Monastiriou Str.
546 27 THESSALONIKI
Phone +30 (0)310 / 5 56 65 04
Telefax +30 (0)310 / 5 11 18 15

HUNGARY *

Lenze Antriebstechnik
Handelsgesellschaft mbH
2040 BUDAÖRS
Gyár utca 2., P.O.Box 322.
Phone +36 (0)23 / 501-320
Telefax +36 (0)23 / 501-339

ICELAND

see DENMARK

INDIA

Lenze Mechatronics Pvt. Ltd.
Lenze Plot No. 46A, Sector-10
PCNTDA Industrial Area
Bhosari
PUNE - 411 026
Phone +91-20-66318100
Telefax +91-20-66318120



Kolkata Sales office
Block No. 81, 8th Floor
Circular Court, 8 A.J.C. Bose Road
KOLKATA - 700017
Phone +91-33-22893161
Telefax +91-33-22893162

New Delhi Sales office
Flat No - 101, Padma Tower - II
22, Rajendra Place
NEW DELHI - 110008
Phone +91-11-45062113/114
Telefax +91-11-45062315

INDONESIA

see MALAYSIA

IRAN

Tavan Rissan Co. Ltd.
P.O.Box. 19395-5177
No. 44, Habibi St., South Dastour St.,
Sadr EXP'Way, TEHRAN 19396
Phone +98 212 / 260 26 55
260 67 66
260 92 99
Telefax +98 212 / 200 28 83

ISRAEL *

Zeev Melcer LTD
P.O.B. 10011, HAIFA BAY 26110
36 Yosef Levi St., Kiriat Bialik
Phone +972 4 8757037
Telefax +972 4 8146109

ITALY *

Lenze Gerit S.r.l.
Viale Monza 338
20128 MILANO
Phone +39 02 / 270 98.1
Telefax +39 02 / 270 98 290

JAPAN *

Miki Pulley Co., Ltd.
1-39-7 Komatsubara, Zama-city
KANAGAWA 228-8577
Phone +81 (0)462 / 58 16 61
Telefax +81 (0)462 / 58 17 04

LATVIA

see LITHUANIA

LEBANON

I. Network Automation s.a.l.
Ground floor - United insurance building
Facing Mercedes Show room
Dora - High Way
BEIRUT-METEN
P.O.Box 835 - Jounieh - Lebanon
Phone +961-1-249562
Telefax +961-1-249563

LITHUANIA

Lenze UAB
Breslaujos g.3, 44403 KAUNAS
Phone +370 37 407174
Telefax +370 37 407175

LUXEMBOURG *

see BELGIUM

MACEDONIA

Lenze Antriebsstechnik GmbH
Pretstavništvo Skopje
ul. Nikola Rusinski 3/A/2, 1000 SKOPJE
Phone +389 2 30 90 090
Telefax +389 2 30 90 091

MALAYSIA

Lenze S.E.A. Sdn Bhd
No. 28 Jalan PIU 3/47
Sunway Damansara, Technology Park
47810 PETALING JAYA
SELANGOR DARUL EHSAN
Phone +60 3 7803 1428
Telefax +60 3 7806 3728

MAURITIUS

Automation & Controls Engineering Ltd
3, Royal Road, Le Hochet, Terre Rouge
MAURITIUS
Phone +230 248 8211
Telefax +230 248 8968

MEXICO

Automatización y Control
de Energía S.A. de C.V.
Av. 2 No. 89 Esq Calle 13
Col. San Pedro de los Pinos
C.P. 03800 MEXICO D.F.
Phone +52 (55) 2636-3540
Telefax +52 (55) 2636-3541

MOROCCO

GUORFET G.T.D.R
Automatisation Industrielle
Bd Chefchaouni Route 110 km, 11.500
No. 353-Ain-Sabaâ
CASABLANCA
Phone +212/22-35 70 78
Telefax +212/22-35 71 04

NETHERLANDS *

Lenze B.V., Postbus 31 01
5203 DC 'S-HERTOGENBOSCH
Ploegweg 15
5232 BR 'S-HERTOGENBOSCH
Phone +31 (0)73 / 64 56 50 0
Telefax +31 (0)73 / 64 56 51 0

NEW ZEALAND *

Tranz Corporation
343 Church Street
P.O. Box 12-320, Penrose
AUCKLAND
Phone +64 (0)9 / 63 45 51 1
Telefax +64 (0)9 / 63 45 51 8

NORWAY *

Dtc- Lenze as
Stallbakken 5, 2005 RAEILINGEN
Phone +47 / 64 80 25 10
Telefax +47 / 64 80 25 11

PHILIPPINES

see MALAYSIA

POLAND

Lenze-Rotiv Sp. z o.o.
ul. Rozdzieńskiego 188b
40-203 KATOWICE
Phone +48 (0)32 / 2 03 97 73
Telefax +48 (0)32 / 7 81 01 80
Lenze Systemy Automatyki Sp. z o.o.
Ul. Rydygiera 47
87-100 TORUŃ
Phone +48 (0)56 / 6 58 28 00
6 45 34 60
6 45 35 70
Telefax +48 (0)56 / 6 45 33 56

PORTUGAL *

Costa Leal el Victor
Electronica-Pneumatica, Lda.
Rua Prof. Augusto Lessa, 269,
Apart. 52053
4202-801 PORTO
Phone +351-22 / 5 50 85 20
Telefax +351-22 / 5 02 40 05

ROMANIA

see AUSTRIA

RUSSIA

Inteldrive
1-ja Buhvostova Street 12/11
Korpus 17-18 Office 213
MOSCOW 107076
Phone +7 495 748 7827
Fax/Tel. +7 495 963 9686

SERBIA-MONTENEGRO

see MACEDONIA

SINGAPORE *

see MALAYSIA

SLOVAC REPUBLIC

ECS Sluzby spol. s.r.o.
Staromlynska 29
82106 BRATISLAVA
Phone +421 2 45 25 96 06
+421 2 45 64 31 47
+421 2 45 64 31 48
Telefax +421 2 45 25 96 06

SLOVENIA

LENZE GmbH, Asten, Avstrija
Podružnica Celje
Kidričeva 24
3000 CELJE
Phone +386 03 426 46 40
Telefax +386 03 426 46 50

SOUTH AFRICA *

S.A. Power Services (Pty) Ltd.
Unit 14, Meadowbrook Business Estates
Jacaranda Ave, Olivedale
Randburg 2158, P.O.Box 1137
RANDBURG 2125
Phone +27(11) 462-8810
Telefax +27(11) 704-5775

SOUTH KOREA *

Hankuk Mechatro Ltd.
Room# 1409
Samhwan officetel 830-295
Beomil-dong, Dong-Gu
PUSAN
Phone +82 (0)51-635-6663
Telefax +82 (0)51-635-6632

SPAIN *

Lenze Transmisiones, S.A. (Headquarter)
Milà i Fontanals, 135-139
08205 SABADELL
Barcelona
Phone +34 937 207 680
Telefax +34 937 120 215

Lenze Delegación Bilbao
Pl. Ibarbarri. Ed. METRO 2º-E
48940 LEJONA
Vizcaya
Phone +34 944 630 510 / 507
Telefax +34 944 314 196

Lenze Delegación Levante
Cullera, 73 - 4ºD
46035 BENIMAMET
Valencia
Phone +34 963 905 220/335
Telefax +34 963 900 647

Lenze Delegación Madrid
Arturo Soria, 187 - Of. 8
28043 MADRID
Phone +34 915 103 341
Telefax +34 915 102 061

SWEDEN *

Lenze Transmissioner AB
P.O.Box 10 74, Attorpsgatan, Tornby Ind.
58110 LINKÖPING
Phone +46 (0)13 / 35 58 00
Telefax +46 (0)13 / 10 36 23

SWITZERLAND *

Lenze Bachofen AG
Ackerstrasse 45
8610 USTER
Phone +41 (0) 43 399 14 14
Telefax +41 (0) 43 399 14 24
Vente Suisse Romande:
Route de Prilly 25
1023 CRISSIER
Phone +41 (0)21 / 63 72 19 0
Telefax +41 (0)21 / 63 72 19 9

SYRIA

Zahabi Co.
8/5 Shouhadaa Street, P.O.Box 8262
ALEPPO-SYRIA
Phone +963 21 21 22 23 5
Telefax +963 21 21 22 23 7

TAIWAN *

Lenze Taiwan Representative Office
4F, No. 5, Lane 83, Sec. 1
Kuang-Fu Road, San-Chung City
TAIPEI Hsien
Taiwan 241, R.O.C.
Phone +886 / (0)2-2995-8529
Telefax +886 / (0)2-2999-3775

ACE Pillar Co., Ltd.
2F, No. 7, Lane 83, Sec. 1
Kuang-Fu Road, San-Chung City
TAIPEI Sheing
Phone +886 / (0)2-2995-8400
Telefax +886 / (0)2-2995-3466

THAILAND

see MALAYSIA

TUNESIA

AMF Industrielle Sarl
Route de Gremda - Km 0,2
Immeuble El Madina,
Centre Bloc B - 5 ème - appt 52
3002 SFAX
Phone +216 74 403 514
Telefax +216 74 402 516

TURKEY

LSE Elektrik
Elektronik Makina
Otomasyon Mühendislik
Sanayi ve Ticaret Ltd. Şti
Atatürk mah. Cumhuriyet cad.
Yurt sok. No: 7
ÜMRANIYE/İSTANBUL
Phone +90 (0)216 / 316 5138 pbx
Telefax +90 (0)216 / 443 4277

UKRAINE

SV Altera, Ltd.
Lepse ave., 4
KIEV, 03067
Phone +38 044 496 18 88
Telefax +38 044 496 18-18

UNITED ARAB EMIRATES

LPT (FZC)
Executive Suite X4-37
P.O. Box: 9304, SAIF ZONE
SHARJAH AIRPORT INTERNATIONAL
FREE ZONE (SAIF ZONE)
Phone +971 6 5573205
Telefax +971 6 5573206

UNITED KINGDOM/EIRE *

Lenze Ltd.
Caxton Road
BEDFORD MK 41 OHT
Phone +44 (0)1234 / 32 13 21
Telefax +44 (0)1234 / 26 18 15

USA *

AC Technology Corp.
630 Douglas Street
UXBRIDGE, MA 01569
Phone +1 508 / 278-9100
Telefax +1 508 / 278-7873

Lenze Corporation
1730 East Logan Avenue
EMPORIA, KS 66 801
Phone +1 620 / 343-8401
+1 888 / 269-2381
Telefax +1 620 / 342-2595
+1 800 / 469-0931

Lenze DETO Drive Systems USA, LLC
5912 Sterling Drive
HOWELL, MI 48843
Phone +1 517 / 586-4057
Telefax +1 517 / 586-4058

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Site: Hans-Lenze-Straße 1 · D-32699 Extertal

Phone +49 (0)51 54 82-0 · Telefax +49 (0)51 54 82-14 85

E-Mail: Kleinantriebe@Lenze.de · Lenze@Lenze.de

www.Lenze.com