

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

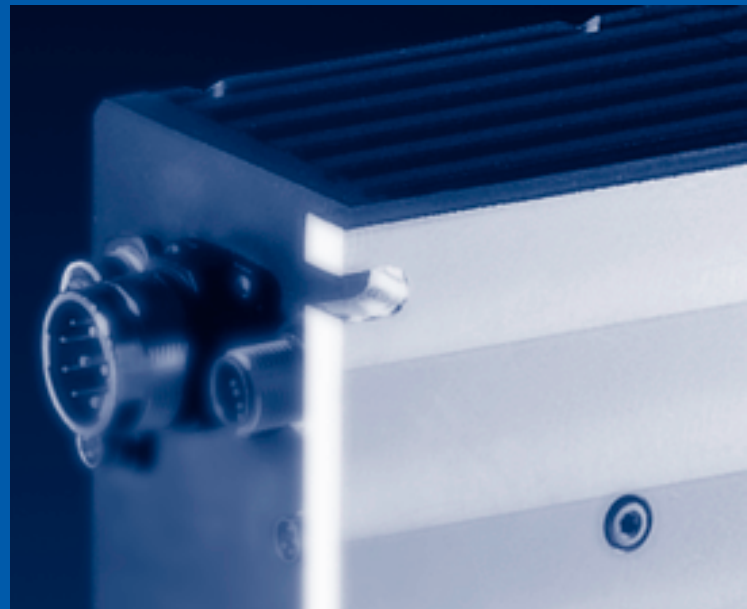
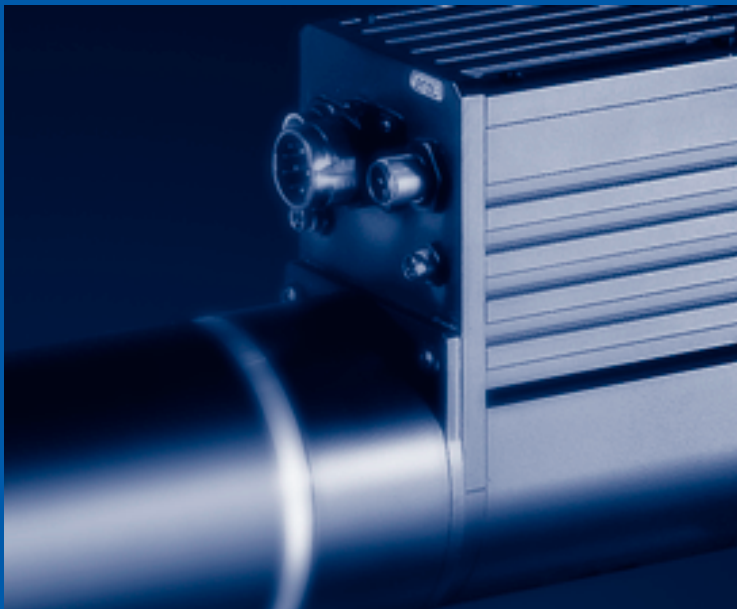
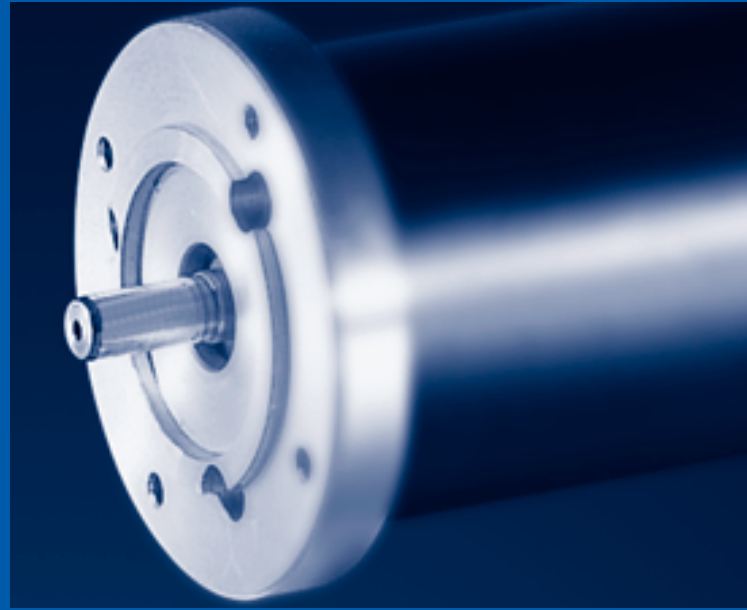
We can offer you automation solutions, including control, visualisation and drive technology, from one source. Our drive systems will improve the performance of your machines. From project planning to commissioning, we have the know-how. Our international sales and service network can provide you with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

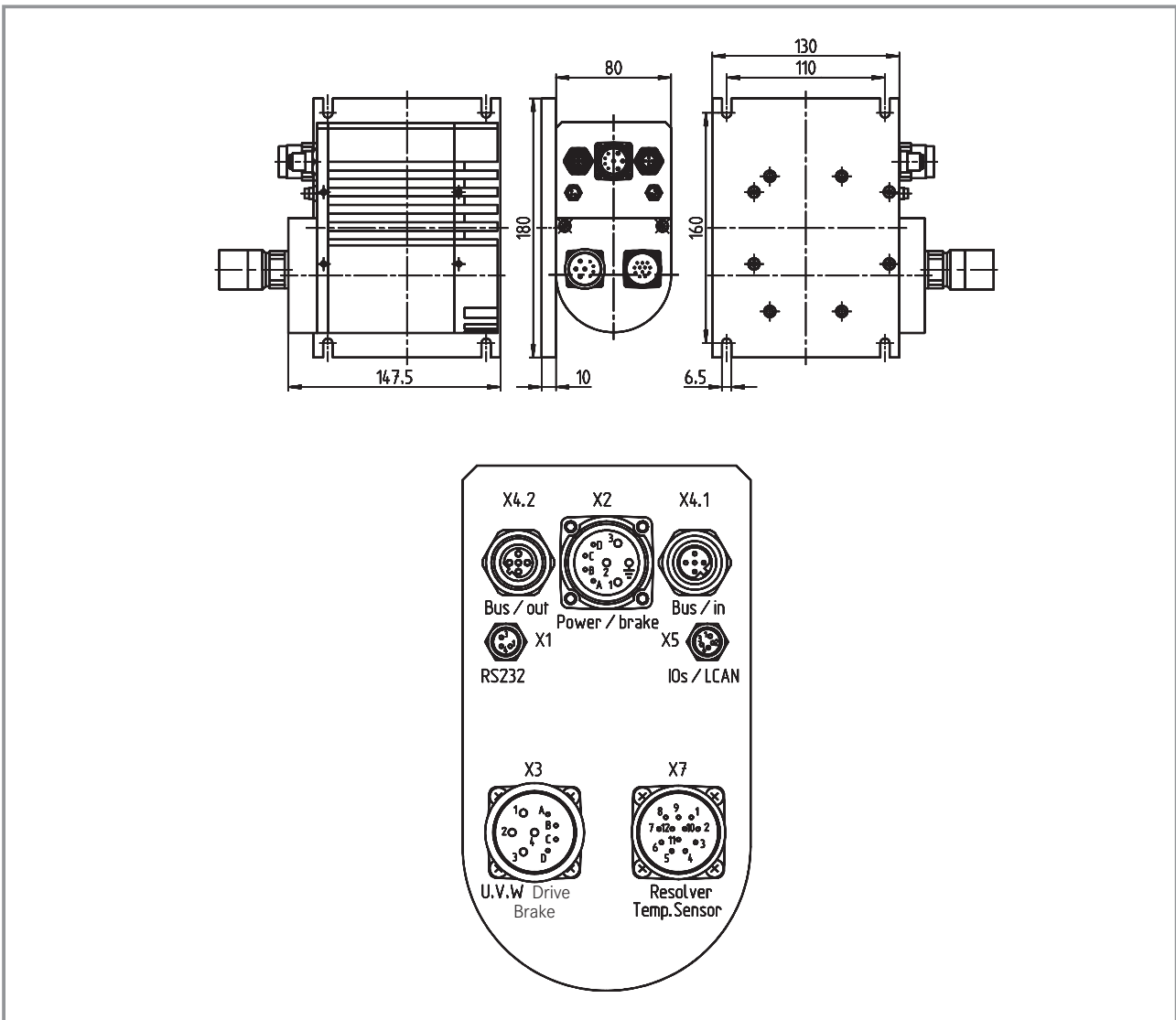
All drives have 100 "driving records" in which different operating modes such as speed operation, torque operation, positioning operation or following error operation can be entered, along with individual settings. The driving records can be combined to form motion sequences.

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



General information

Motor technology

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 τ_3	0.78	1.1	2.4	3.5	3.6		
Max. torque τ_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).

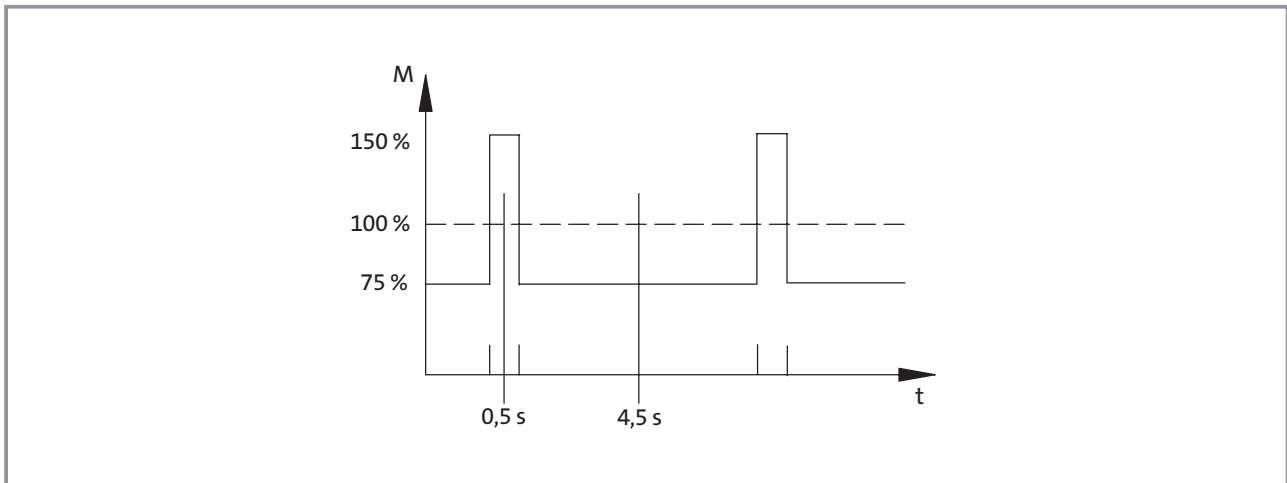


Fig. 1 Drive overload capacity at 40°C

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

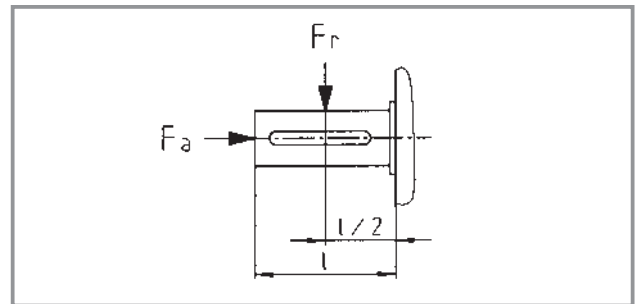
Worm gearbox type SSN31

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

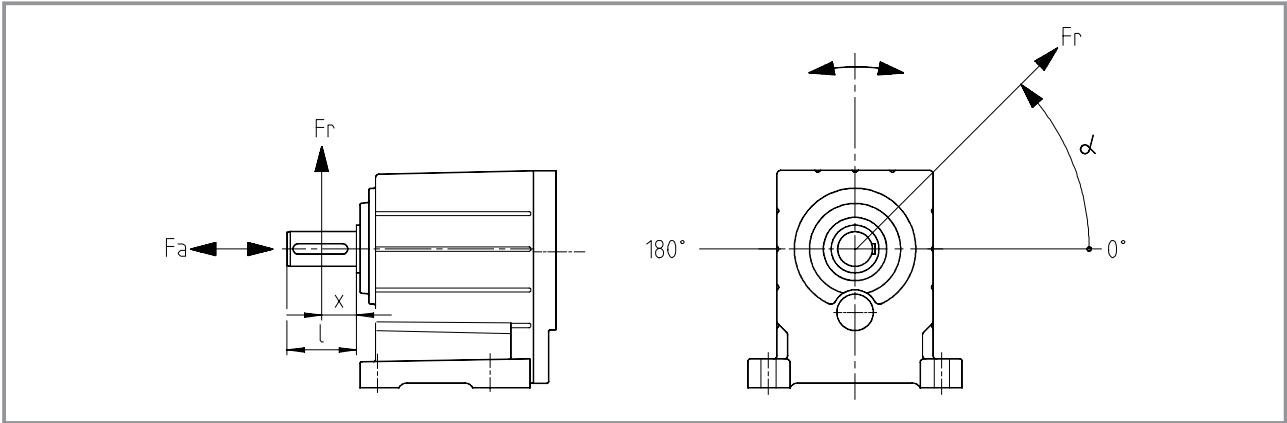
- ▶ Permissible radial force

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

- ▶ Permissible axial force

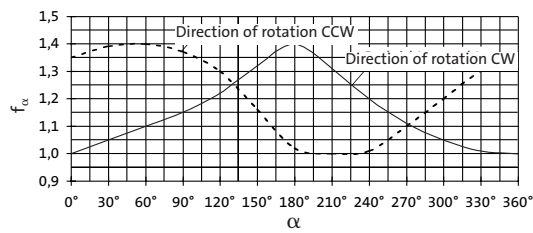
$$F_{aperm} = F_{aTab} \quad \text{where } F_r = 0$$

Contact Lenze if F_r and $F_a \neq 0$

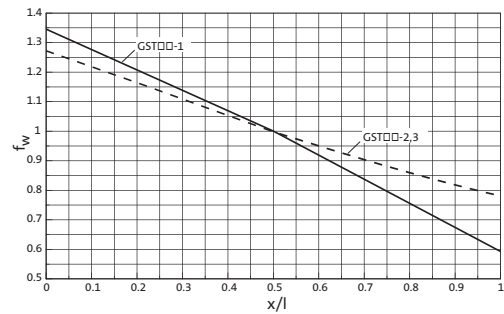


f_α Effective direction factor f^* at driven shaft

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

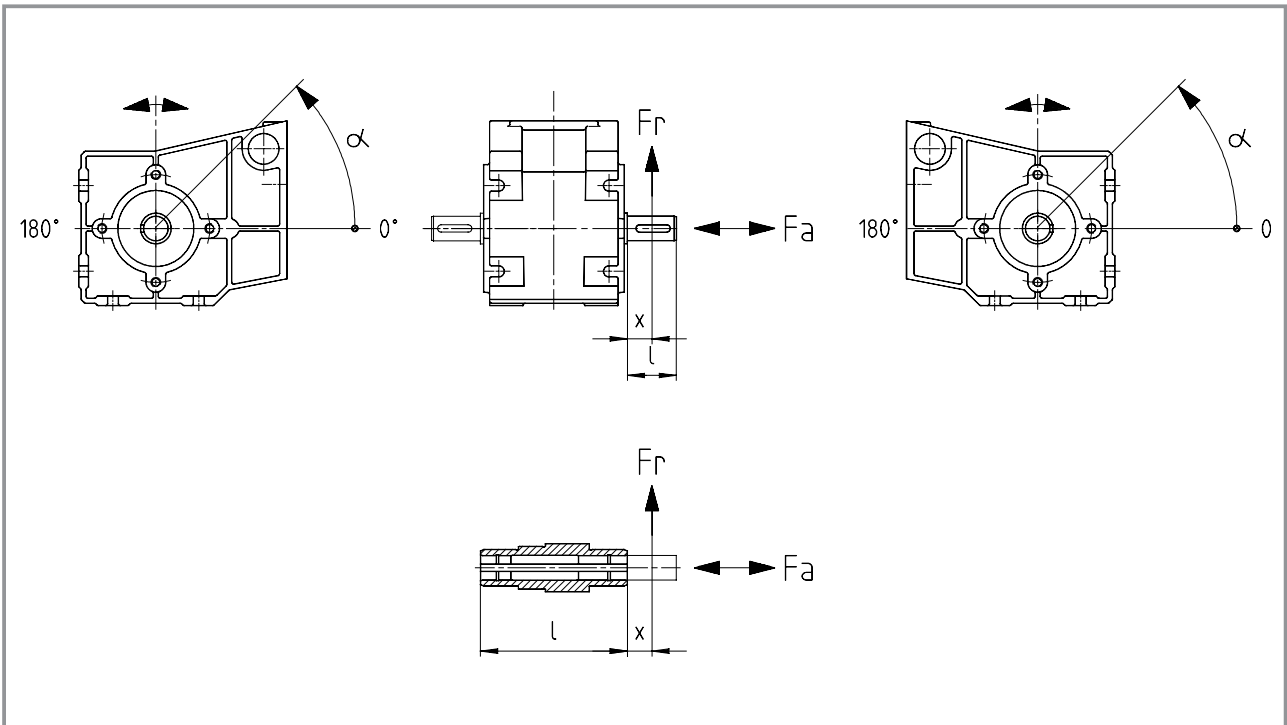
- ▶ Permissible radial force

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

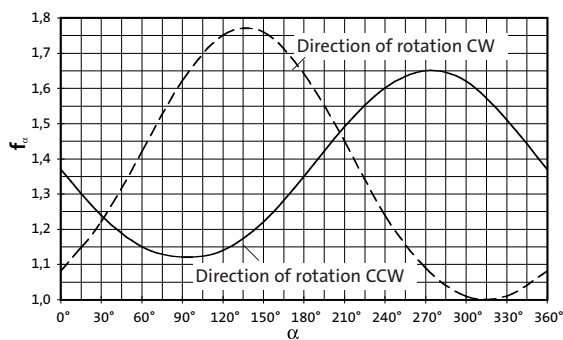
- ▶ Permissible axial force

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

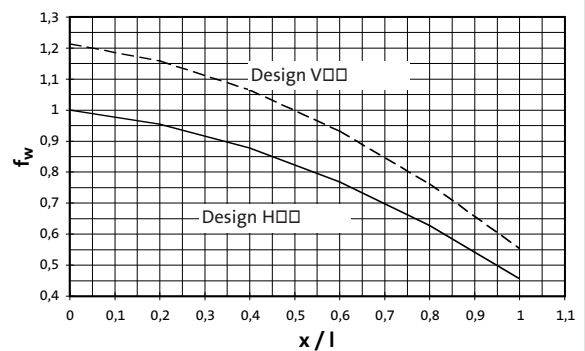
Contact Lenze if F_r and $F_a \neq 0$



f_α Effective direction factor at driven shaft



f_w Additional load factor at output shaft



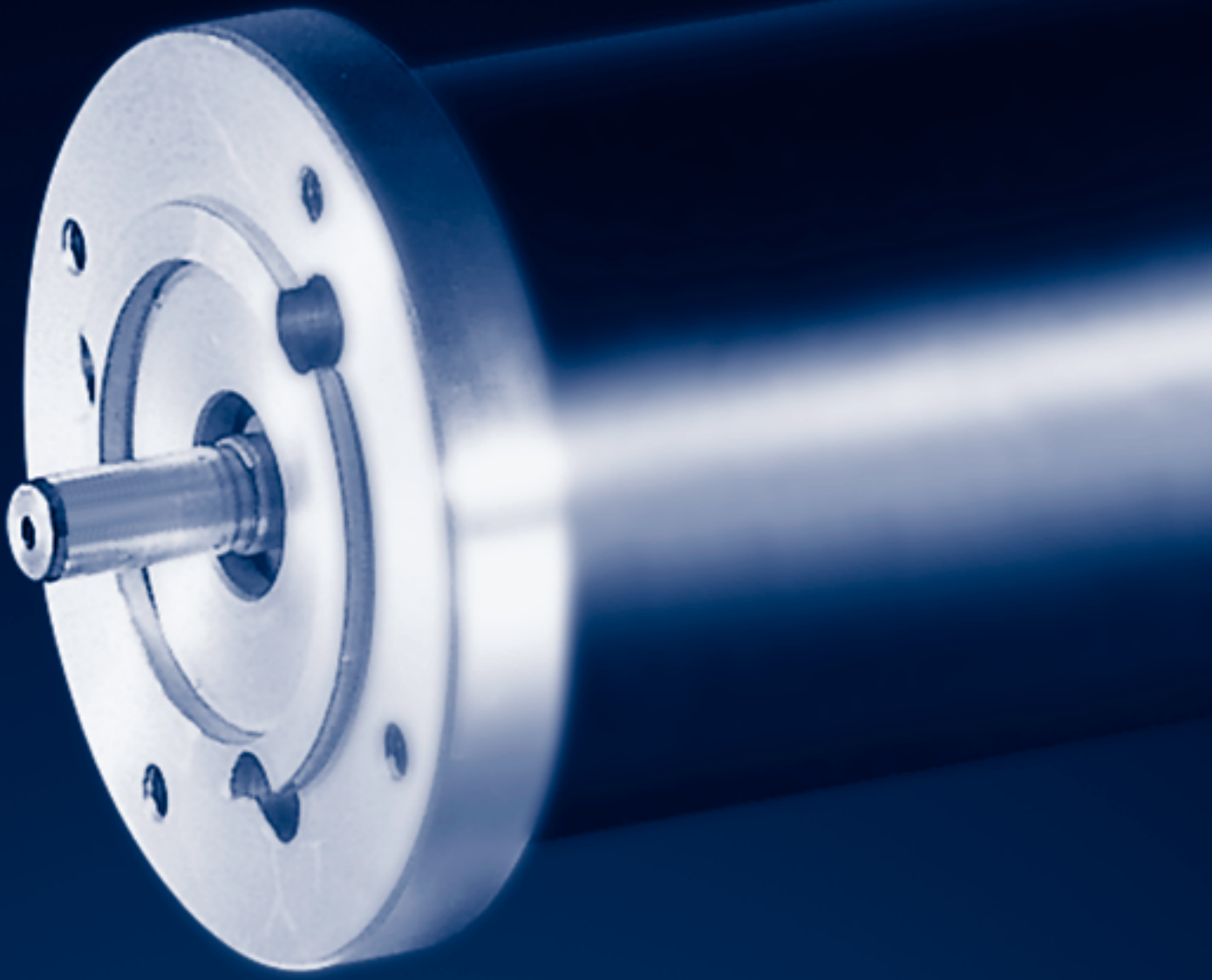


Bevel gearbox, permissible radial and axial output forces

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	–

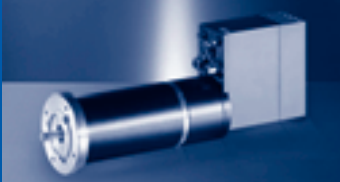




Drive selection | 930 fluxxtorque Servo Drives

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

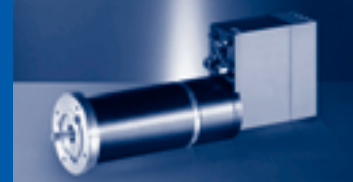
P _r W	Rated data			Version A-side	Motor type	Selection Please tick
	n ₁ rpm	M ₁ Nm	U _v V DC			
140	3000	0.45	24	IEC56 B14 C80	SDSGS□□□035-22	
140	3000	0.45	42	IEC56 B14 C80	SDSGS□□□035-22	
170	2000	0.80	42	IEC56 B14 C80	SDSGS□□□047-22	
170	2000	0.80	42	IEC63 B14 C90	SDSGS□□□047-22	

Additional order information

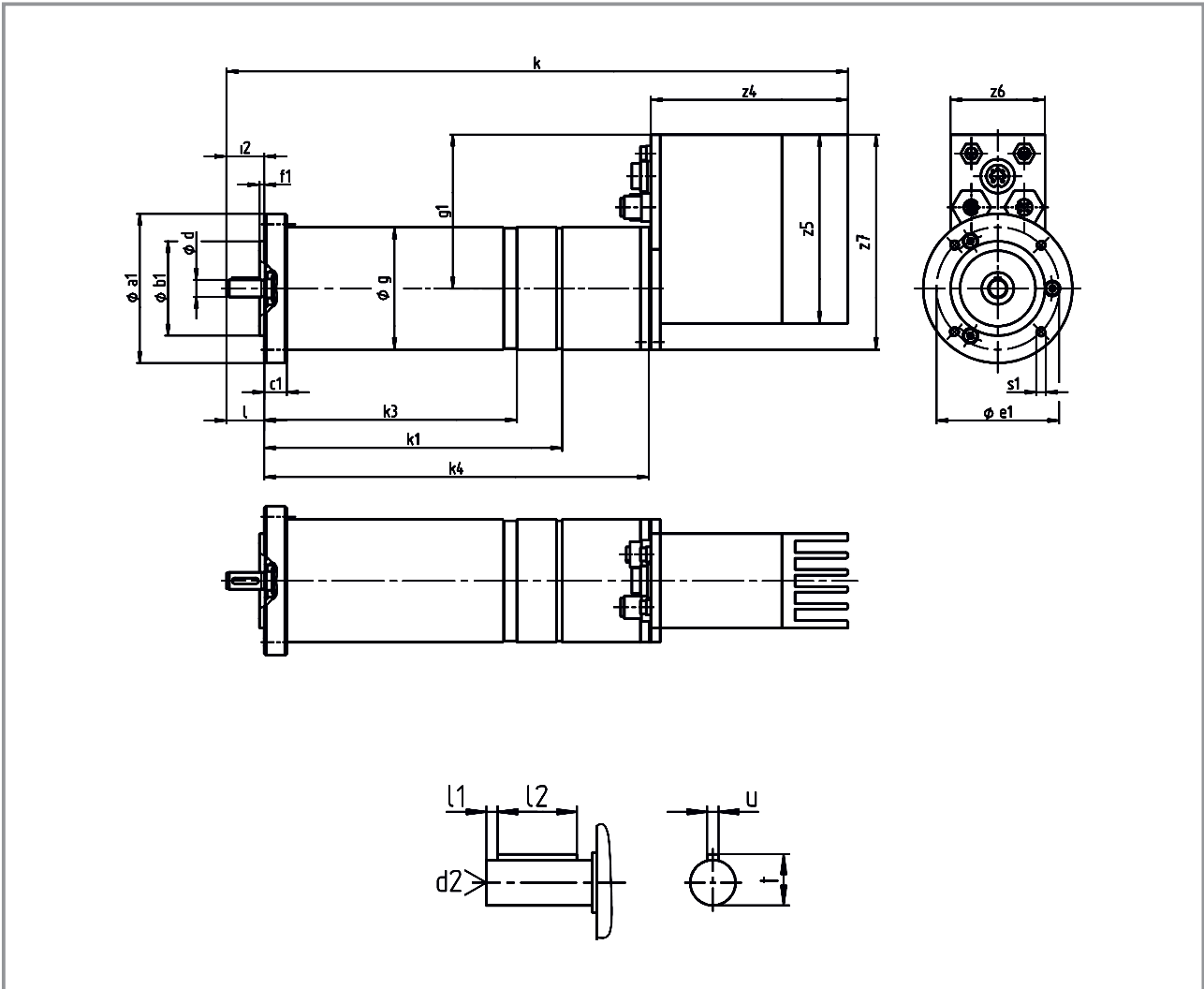
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Position of electrical connection		1

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	



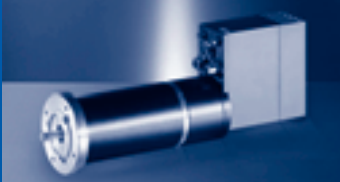
Dimensions, type SDSGS□□□□-22



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
SDSGS□035-22	IEC56C80	79	50	12	9	M3	65	2.5	65	81.5	20	329.5	180	138	204	20
SDSGS□047-22	IEC56C80	79	50	12	9	M3	65	2.5	75	86.5	20	358	200	156	232.5	20
SDSGS□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]
SDSGS□035-22	IEC56C80	3	14	M5	10.2	3	105.5	100	50	114	2.8-3.3
SDSGS□047-22	IEC56C80	3	14	M5	10.2	3	105.5	100	50	124	3.7-4.3
SDSGS□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

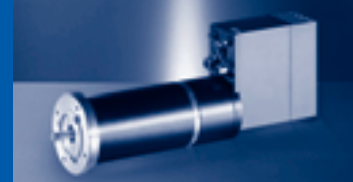
P _r W	Supply voltage Servo Drive 24 V or 42 V DC			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
140	600	1.91	7.32	5	SDSGS□□035-22	
	429	2.61	5.35	7		
	300	3.47	4.04	10		
	200	5.00	3.2	15		
	150	6.21	2.42	20		
	120	6.86	2.04	25		
	100	7.97	1.88	30		
	79	9.75	1.64	38		
	60	10.35	1.26	50		
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

Additional order information

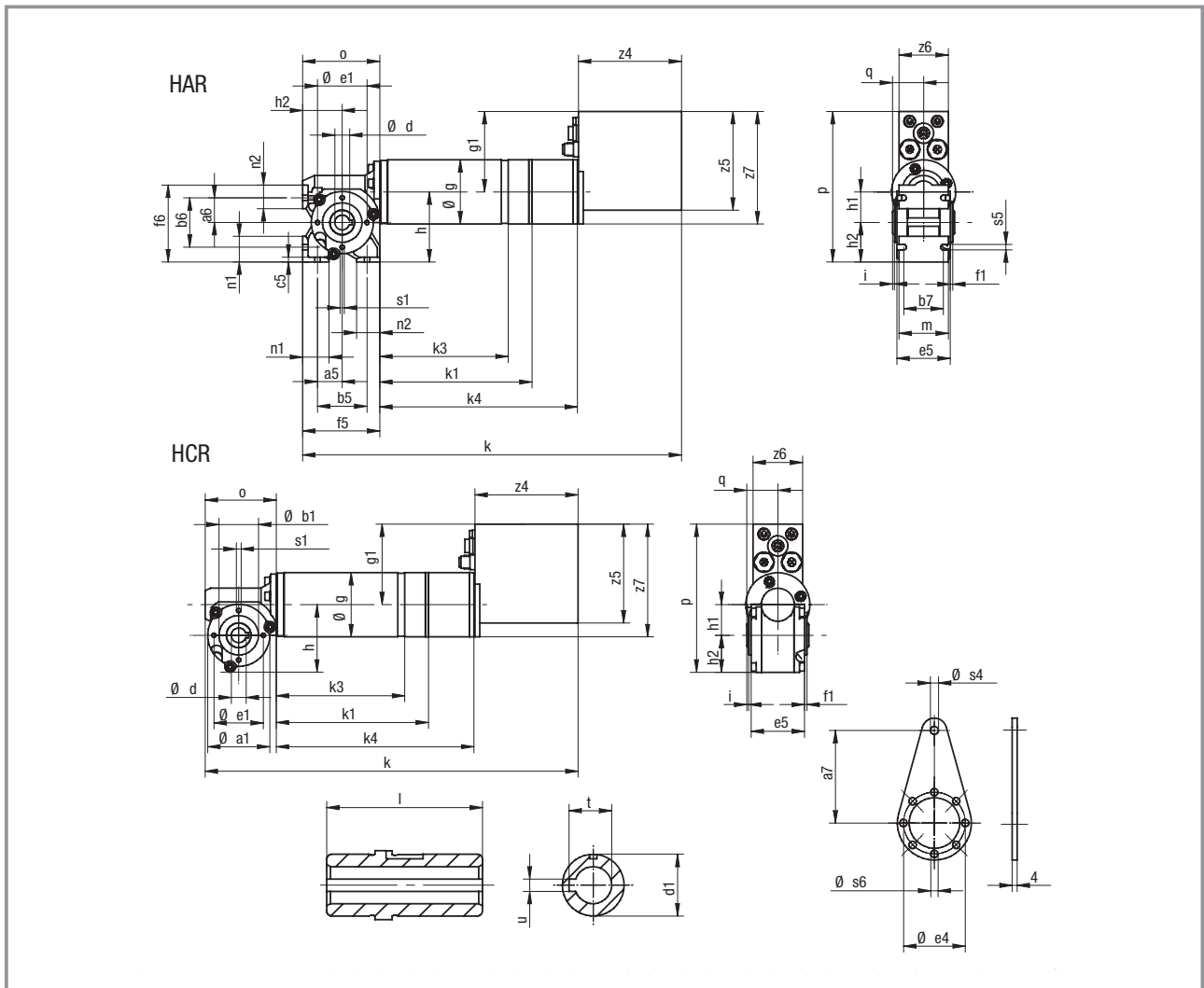
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VAR	
	DAR	
	VAL	
	HAR	
	VCR	
	DCR	
	VCL	
	HCR	
Shaft position on version VAR/VCR		3 5 8
Flange/shaft position on version VAL/VCL		3 5 8
Mounting position		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	



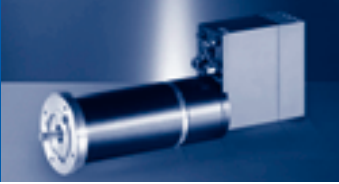
Dimensions, type SSN31-1G□□□-035C22



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	

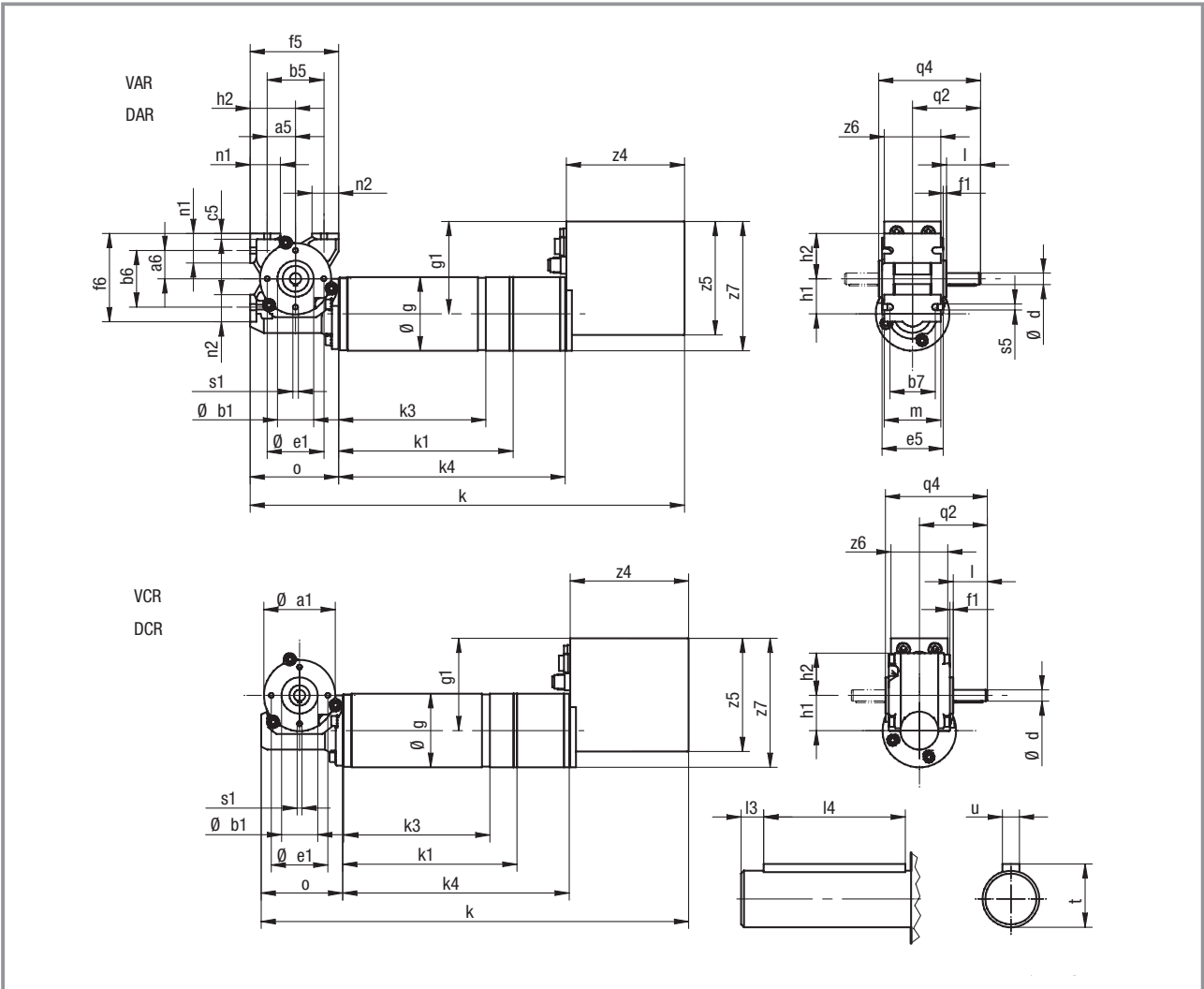
Dimensions in mm



Drive selection

Servo worm geared motors SSN

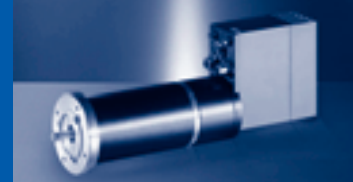
Dimensions Type SSN31-1G□□□-035C22



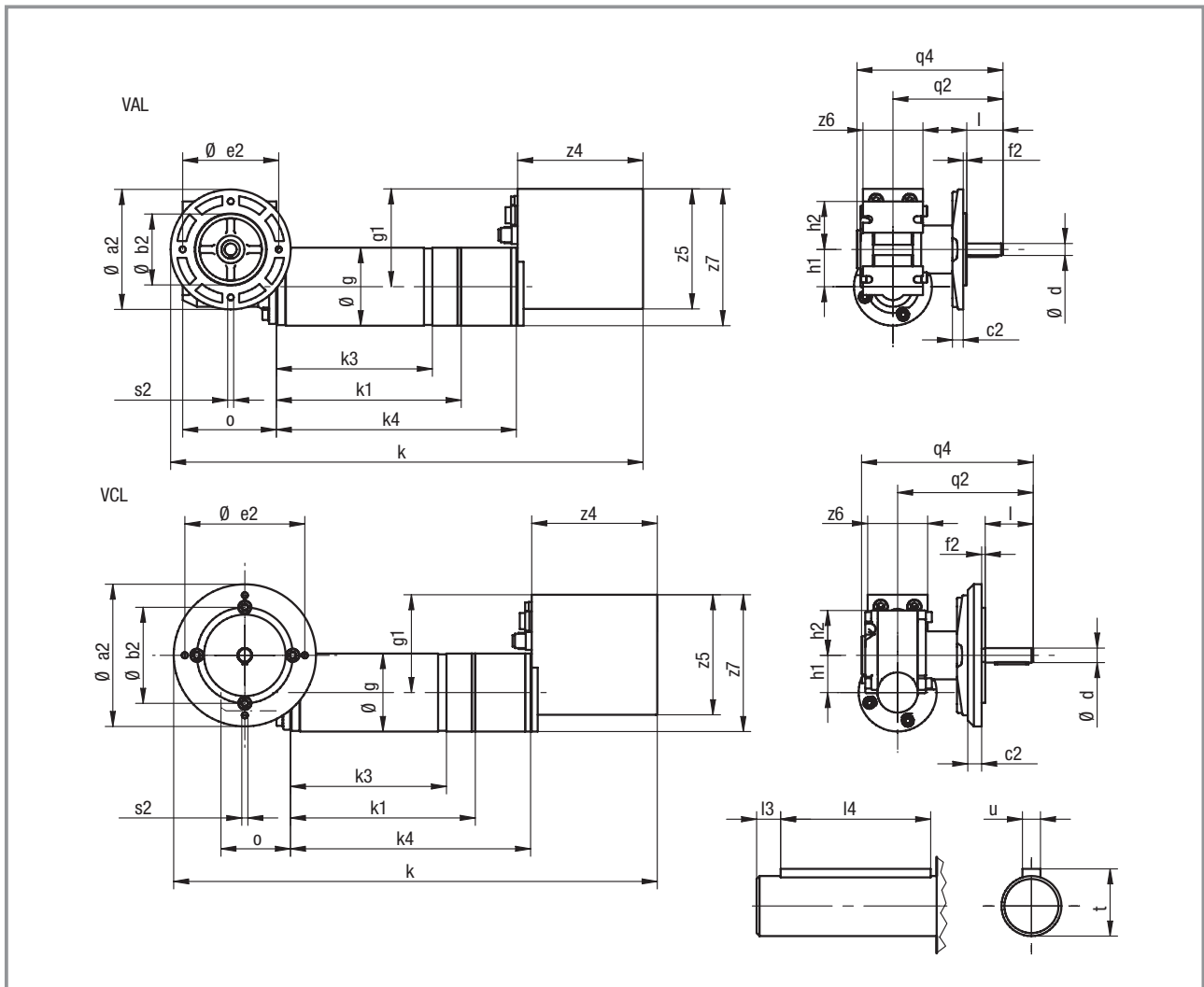
Geared motor	a1	a5	a6	b1 h8	b5	b6	b7	c5	d h6	e1	e5	f1	f5	f6	g	g1	h1	h2	k SB	k1 SR
SSN31-1GVAR-035C22	63	25	25	32	50	50	40	5	10	50	54	2.5	78	78	65	81.5	31	40	383.5	176
SSN31-1GVAR-035C22	63	25	25	32	50	50	40	5	12	50	54	2.5	78	78	65	81.5	31	40	383.5	176
SSN31-1GVCR-035C22	63	-	-	32	-	-	-	-	10	50	54	2.5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



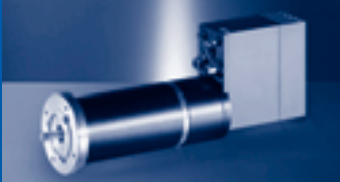
Dimensions Type SSN31-1G□□□-035C22



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

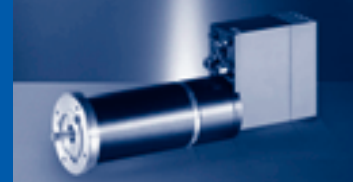
P _r W	Supply voltage Servo Drive 42 V DC			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
170	246	4.57	7.66	6.75	SDSGS□□047-22	
	200	6.48	5.40	10		
	133	8.88	3.72	15		
	100	11.36	2.99	20		
	80	12.80	2.27	25		
	67	14.88	2.42	30		
	50	17.92	1.90	40		
	40	21.60	1.48	50		
	33	18.24	1.75	60		
25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

Additional order information

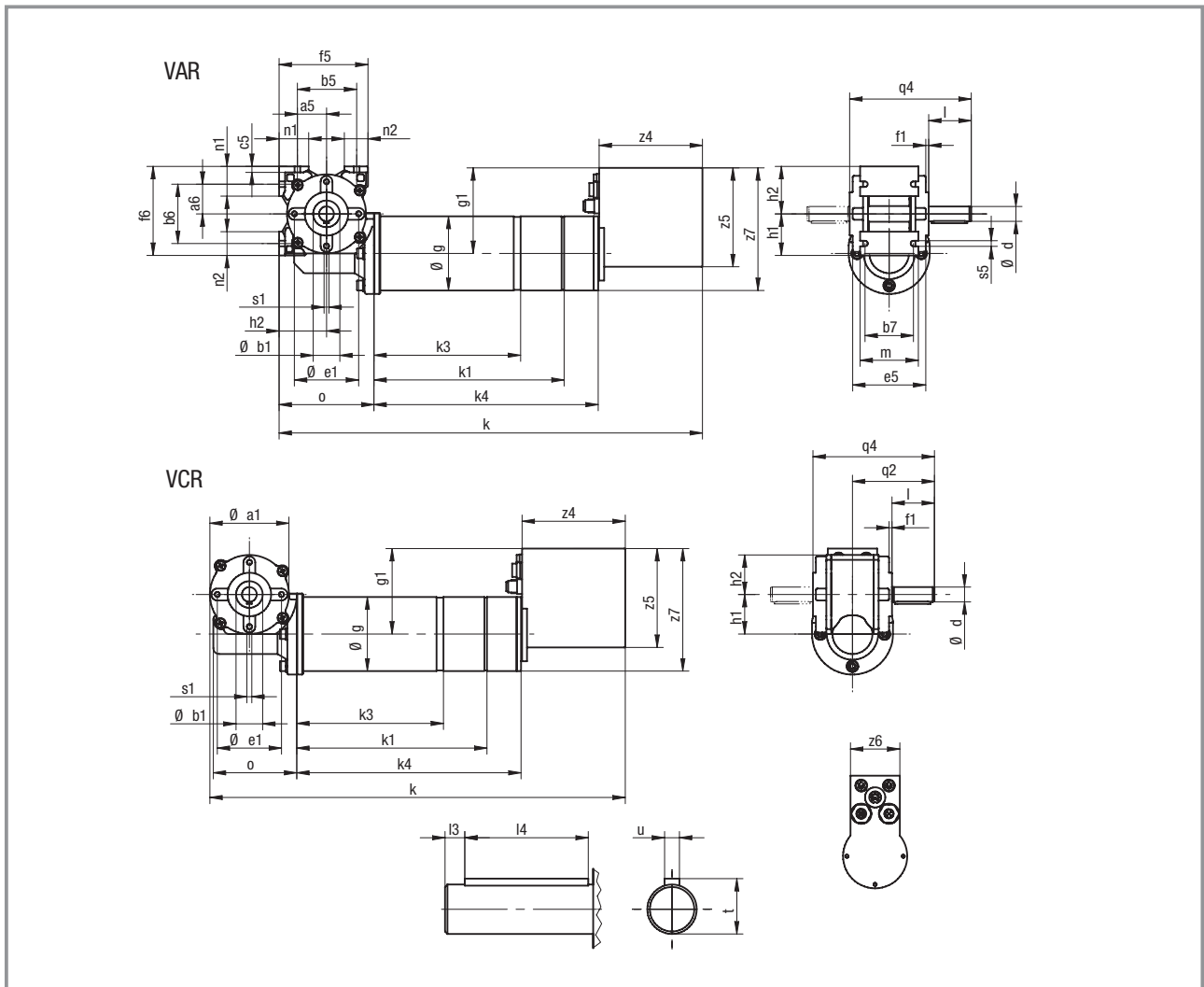
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VAR	
	DAR	
	VAL	
	HAR	
	VCR	
	DCR	
	VCL	
	HCR	
Shaft position on version VAR/VCR		3 5 8
Flange/shaft position on version VAL/VCL		3 5 8
Mounting position		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	



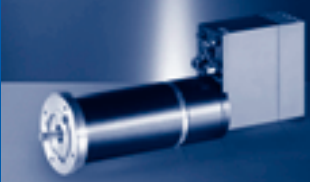
Dimensions, type SSN40-1G□□□-047C22



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]	
XX	SB																			
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	

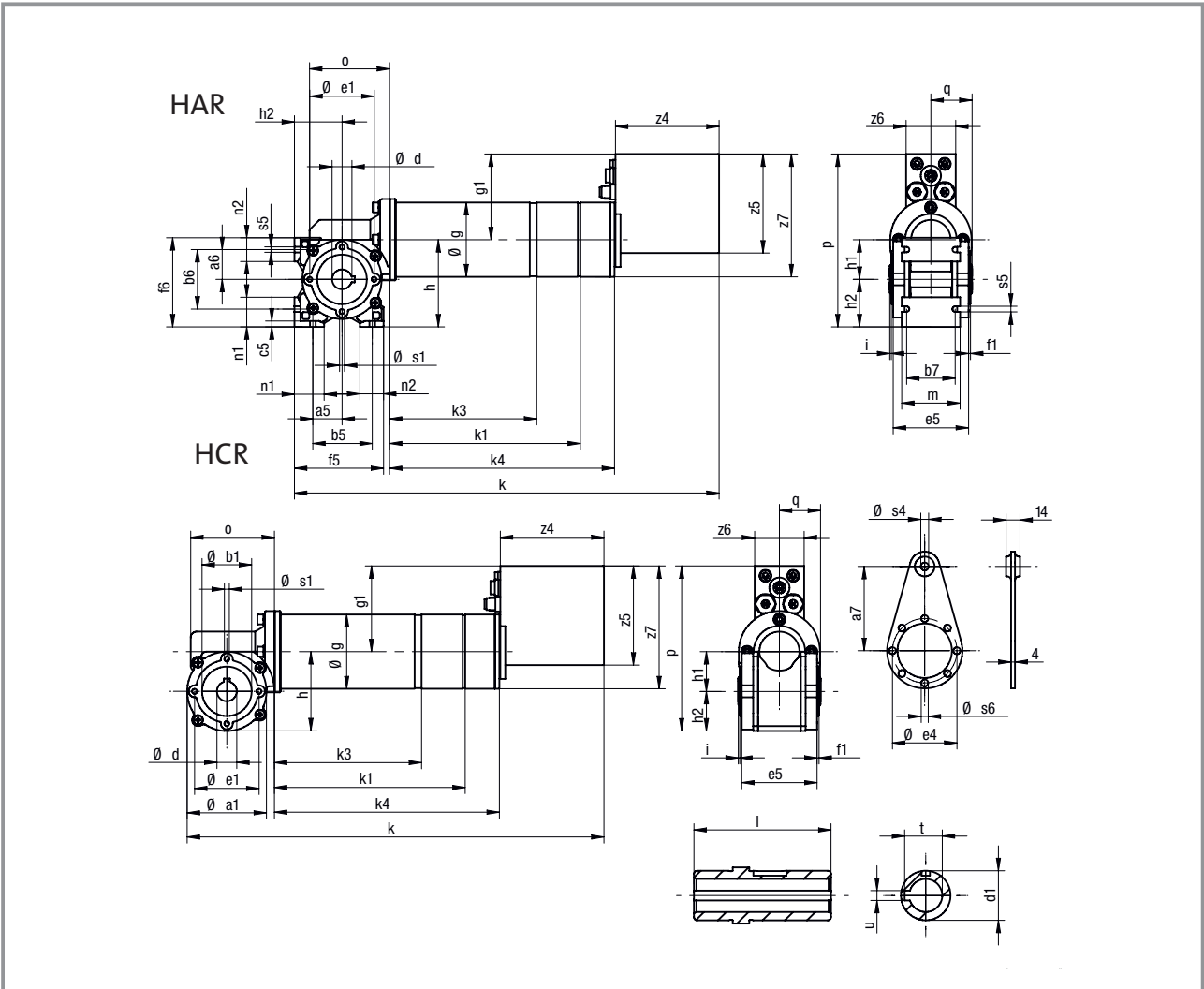
Dimensions in mm



Drive selection

Servo worm geared motors SSN

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

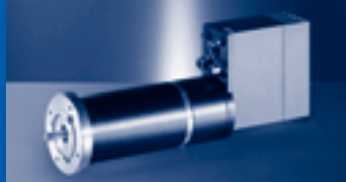


2

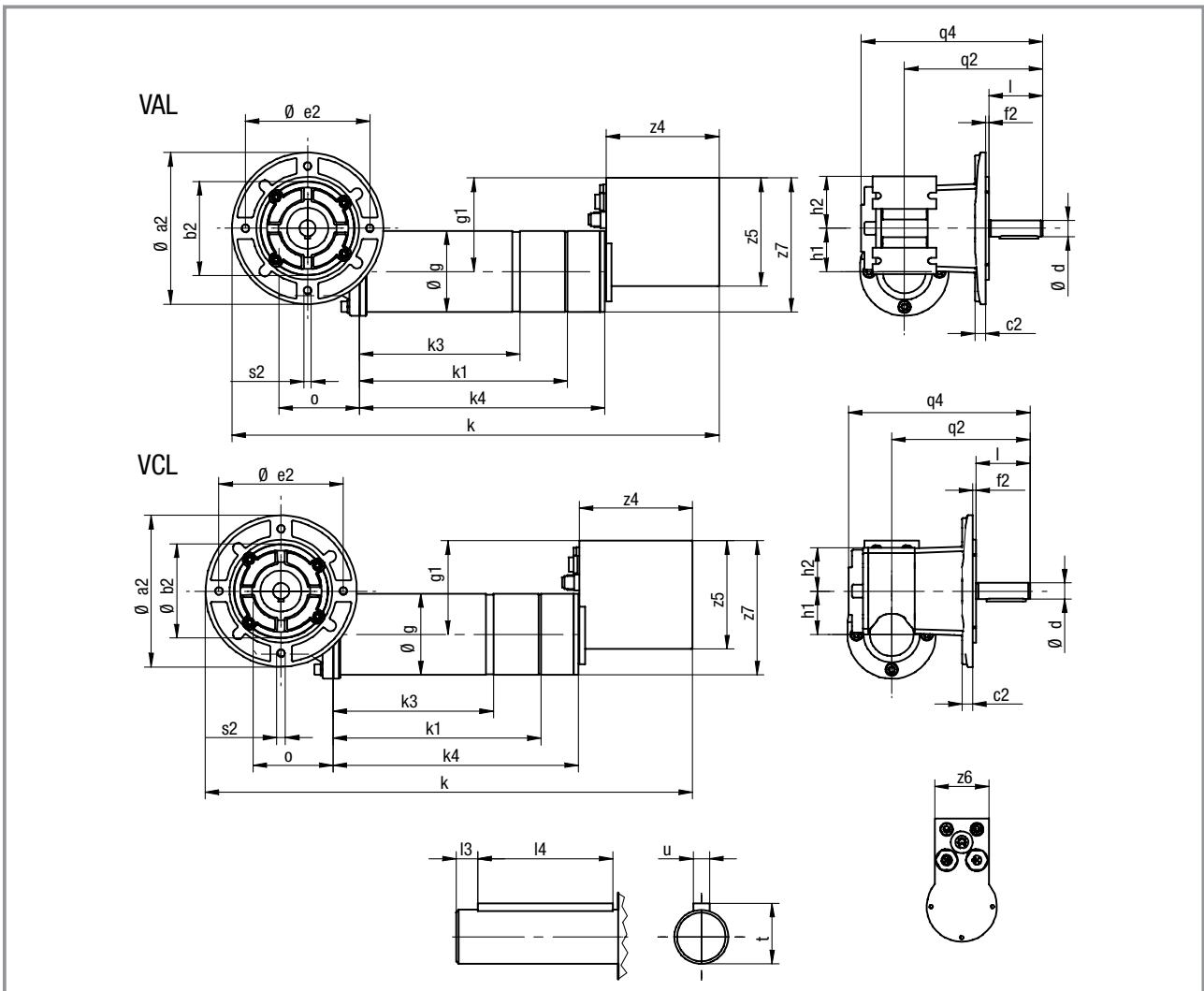
Geared motor	a1	a5	a6	a7	b1 h8	b5	b6	b7	c5	d	d1	e1	e4	e5	f1	f5	f6	g	g1	h	h1	h2	i
SSN40-1GHAR-047C22	77	30	30	85	50	60	60	50	6	20	30	65	65	80	2	90	90	75	86.5	88	40	48	1.5
SSN40-1GHCR-047C22	77	-	-	85	50	-	-	-	-	20	30	65	65	80	2	-	-	75	86.5	80	48	40	1.5

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



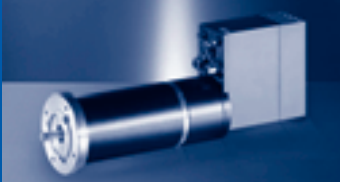
Selection table, type SSN40-1G□□□-047C22



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

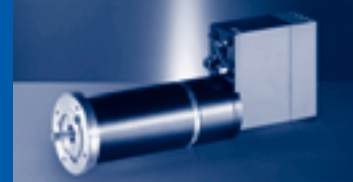
P _r W	Supply voltage Servo Drive 24 V or 42 V DC			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
140	811	1.33	3.00	3.70		
	444	2.43	1.65	6.75	SDSGS□□035-22	
	218	4.63	2.59	13.73		
	120	8.44	1.42	25.01		
	66	15.38	0.78	45.56		
	59	16.03	1.56	50.89		
	32	25.00	0.86	92.70		

Additional order information

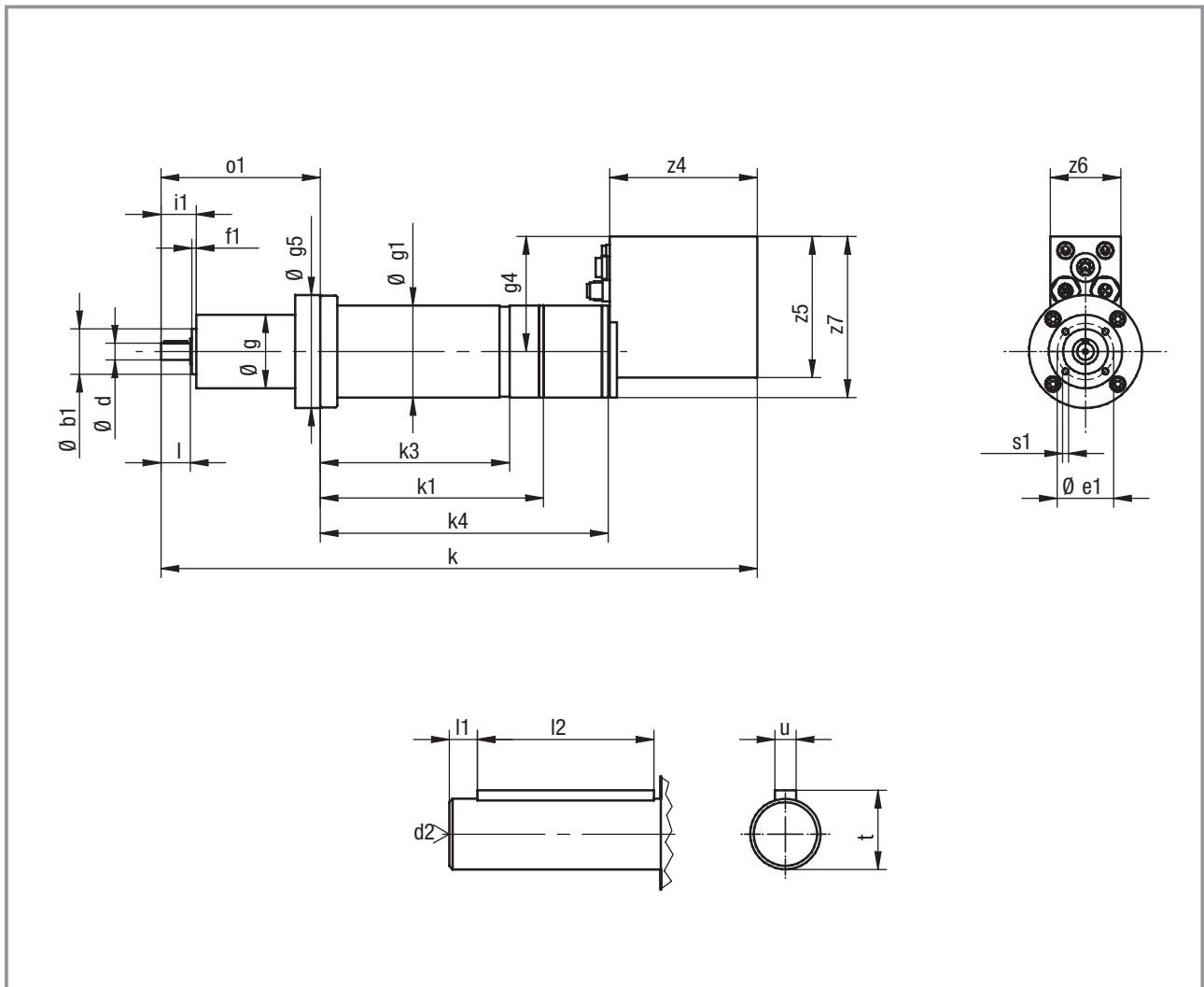
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Position of electrical connection		1

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	



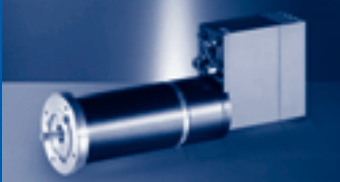
Dimensions, type SPL52-□GVCR-035N22



Geared motor	Ratio i	b1 h8	d h7	d2	e1	f1	g	g1	g4	g5	i1	k SB	k1 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 XX	k4 SB	l	l1	l2	o1	s1	t	u	z4	z5	z6	z7	Weight [kg]
					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

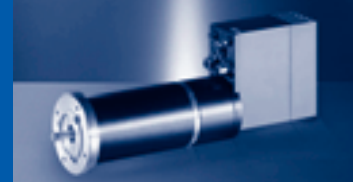
P _r W	r _{pm}	Supply voltage Servo Drive 42 V DC			i	Motor type Please tick	Selection
		n ₂ Nm	M ₂	c			
170	541	2.37	3.38	3.70			
	296	4.32	1.85	6.75	SDSGS□□047-22		
	146	8.24	3.03	13.73			
	80	15.01	1.67	25.01			
	57	20.98	1.19	34.97			
	44	25.00	0.91	45.56			
	39	28.50	1.75	50.89			
	28	39.85	1.25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

Additional order information

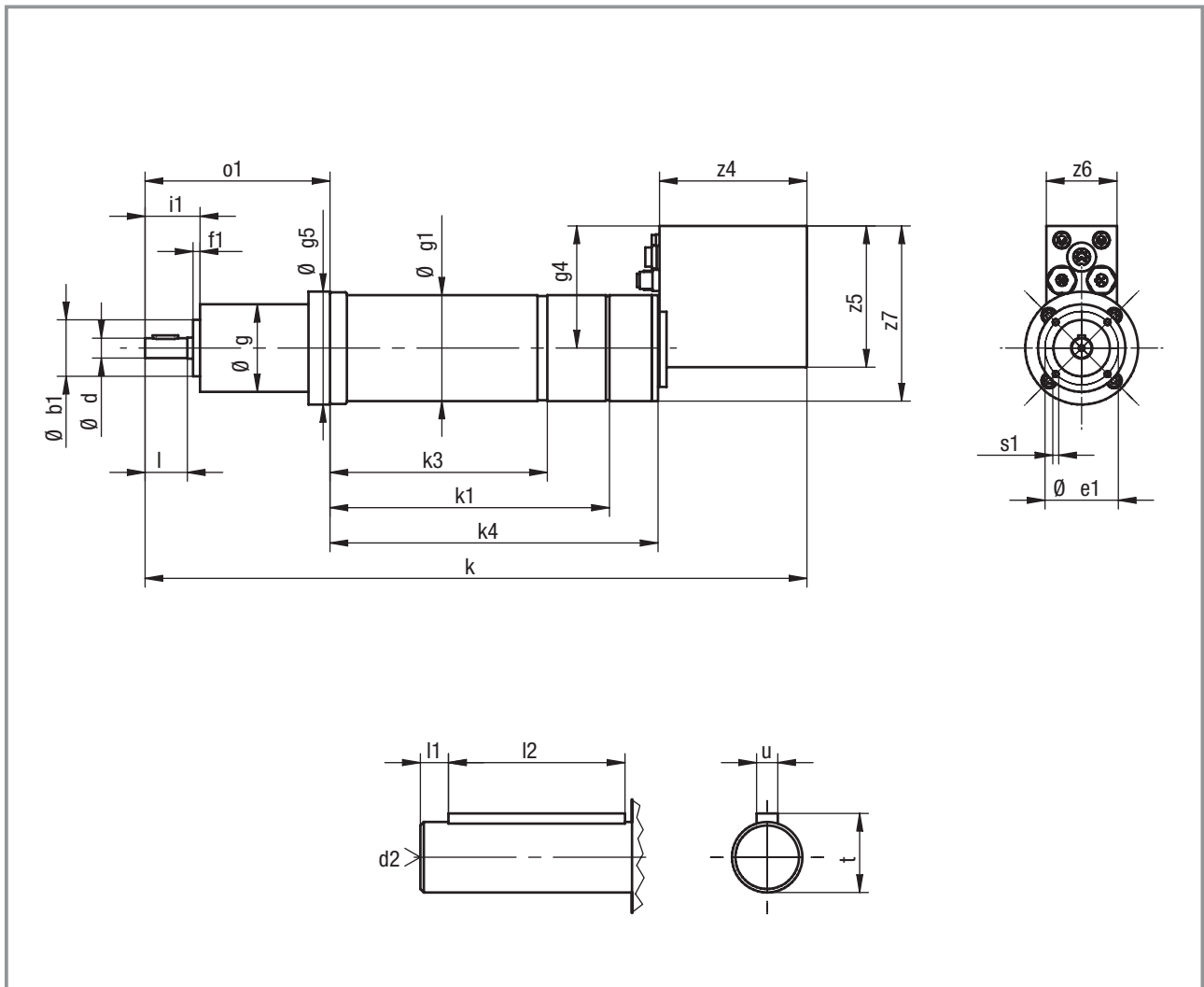
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Position of electrical connection		1

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	



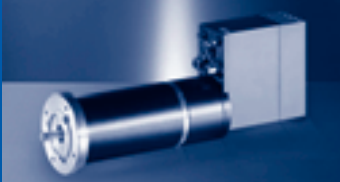
Dimensions, type SPL62-□GVCR-047N22



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

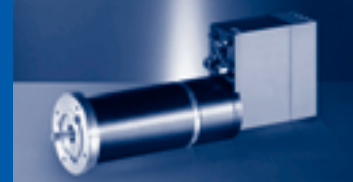
P _r W	Supply voltage Servo Drive 42 V DC			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
170	541	2.37	8.45	3.70		
	296	4.32	4.63	6.75	SDSGS□□047-22	
	146	8.24	7.28	13.73		
	80	15.01	4.00	25.01		
	57	20.98	2.86	34.97		
	44	27.34	2.19	45.56		
	39	28.50	4.21	50.89		
	28	39.85	3.01	71.16		
	20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

Additional order information

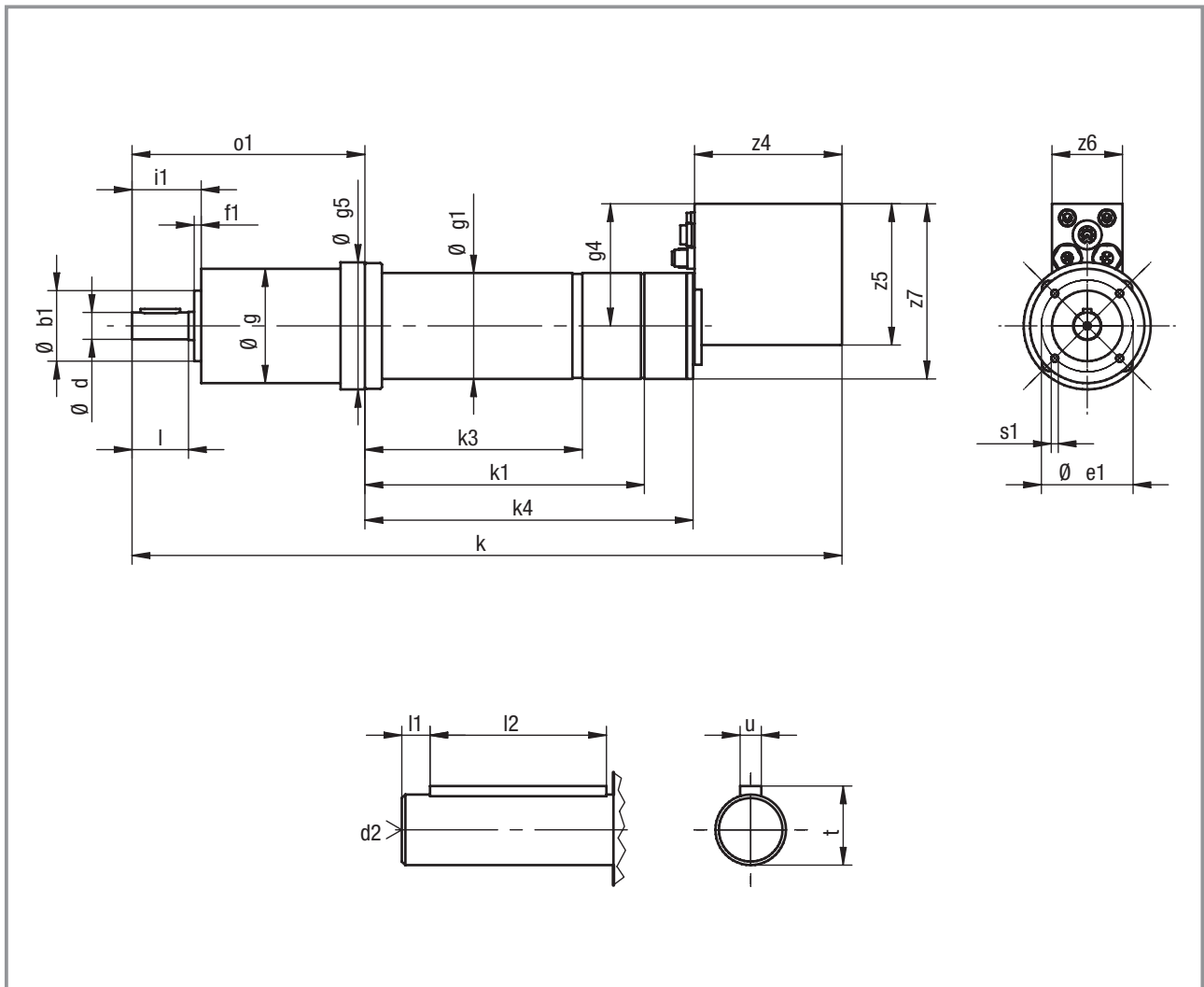
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Position of electrical connection		1

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	



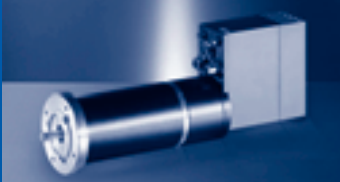
Dimensions, type SPL81-□GVCR-047N22



Geared motor	Ratio i	b1 j7	d h7	d2	e1	f1	g	g1	g4	g5	i1	k SB	k1 SR
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 XX	k4 SB	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

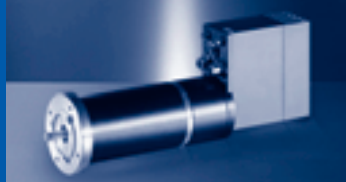
P _r W	Supply voltage Servo Drive 24 V or 42 V DC			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
140	1155.20	1.00	13.37	2.597		
	879.00	1.00	10.85	3.413	SDSGS□□035-22	
	686.80	2.00	9.01	4.368		
	564.80	2.00	9.59	5.312		
	502.90	3.00	8.93	5.965		
	429.70	3.00	7.96	6.982		
	382.70	3.00	7.68	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

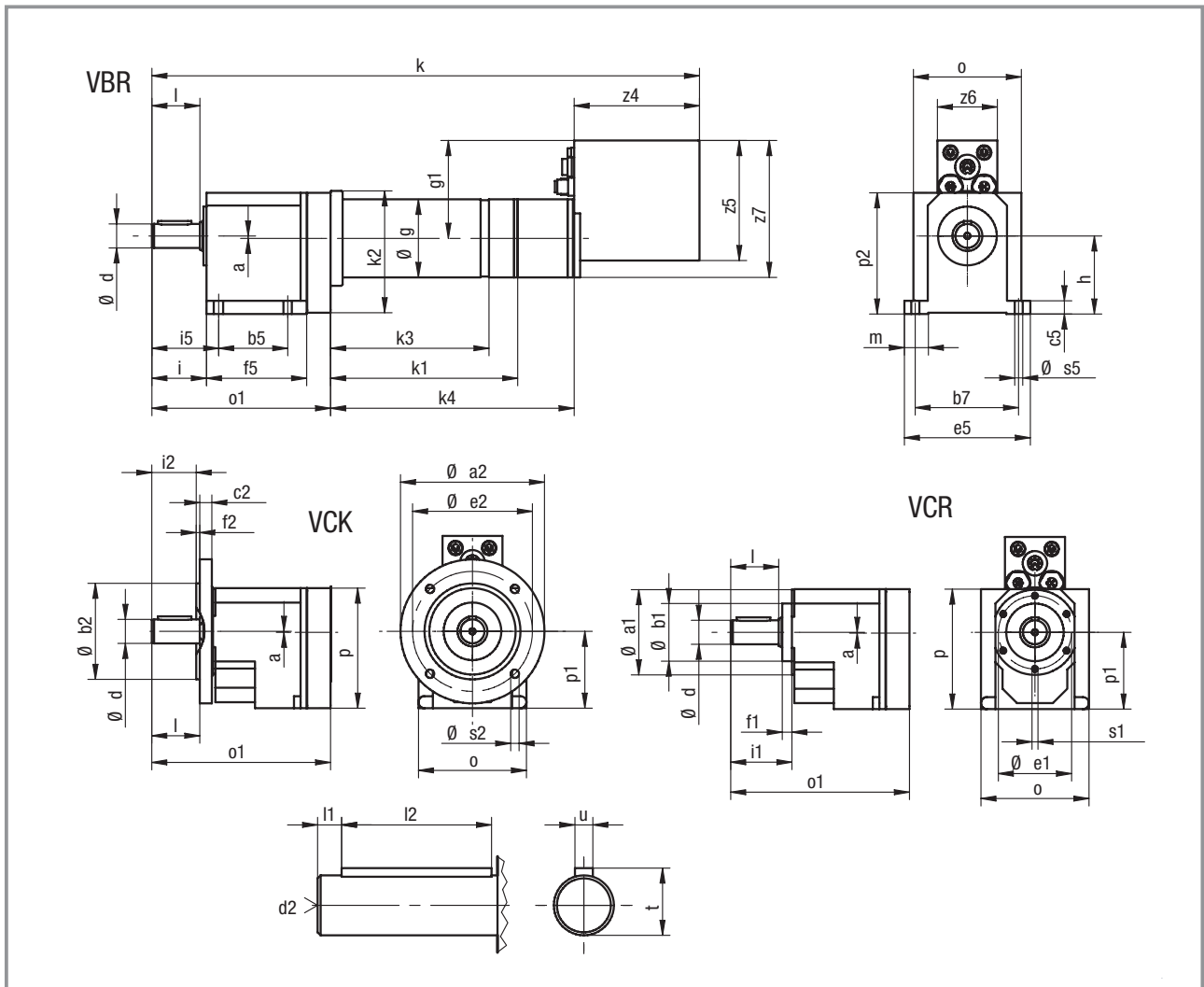
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VBR	
	VCR	
	VCK	
Output-side flange diameter	D = 120 mm	
	D = 140 mm	
	D=160 mm	
Mounting position		A B C D E F
Position of electrical connection		2 3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



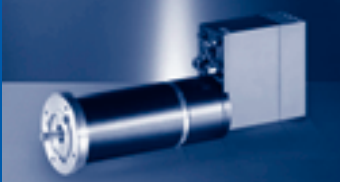
Dimensions, type GST03-2GV□□-035C22



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

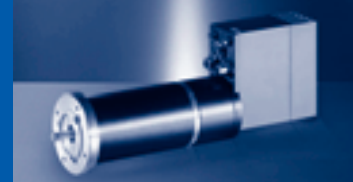
W	P _r rpm	Supply voltage Servo Drive 24 V or 42 V DC			i	Motor type	Selection Please tick
		n ₂ Nm	M ₂	c			
	170	770.1	2.00	7.52	2.597		
		586.0	3.00	6.10	3.413	SDSGS□□047-22	
		457.9	3.00	5.07	4.368		
		376.5	4.00	5.39	5.312		
		335.3	5.00	5.02	5.965		
		286.5	5.00	4.48	6.982		
		255.1	6.00	4.32	7.840		
		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

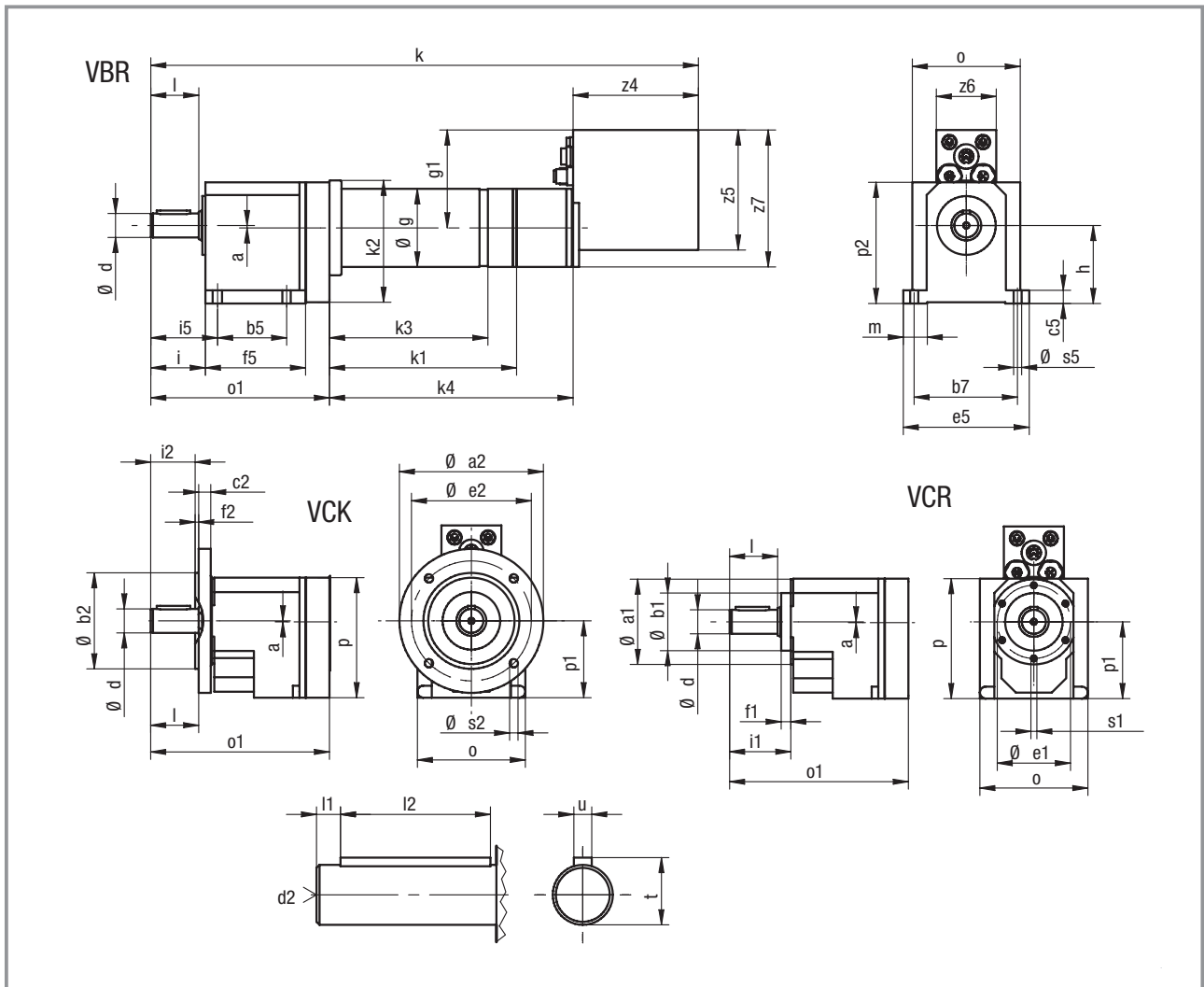
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VBR	
	VCR	
	VCK	
Output flange diameter	D = 120 mm	
	D = 140 mm	
	D=160 mm	
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

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	



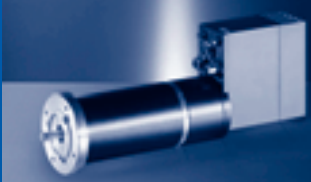
Dimensions, type GST03-2GV□□-047C22



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	80									100			3									
			140	95	60	91	10	11	20	M6	61	115	105	8	3	84	75	86.5	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								
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
															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			

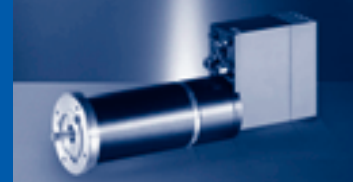
2

Additional order information

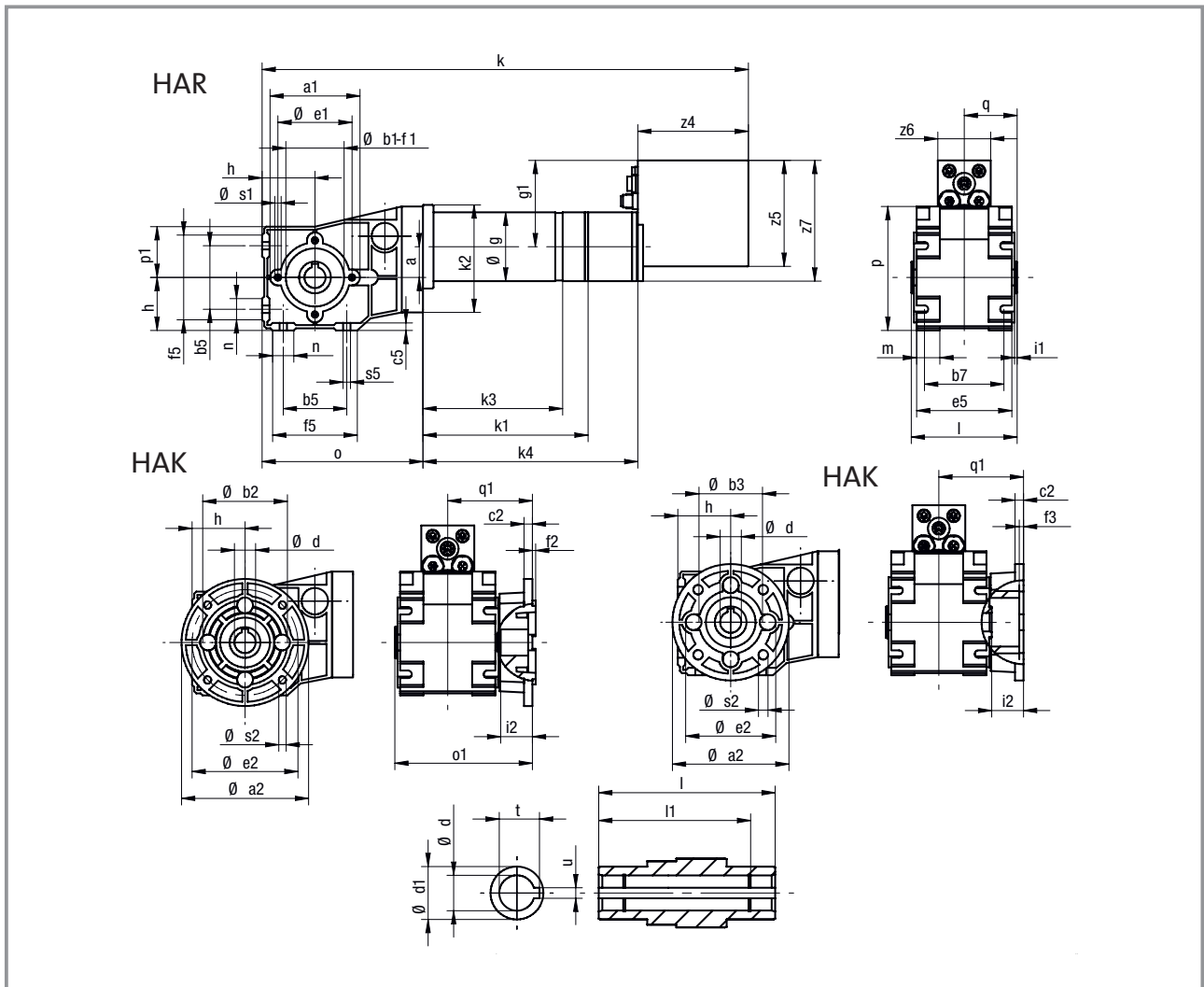
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VAR	
	VAK	
	HAR	
	HAK	
Output flange diameter	110 mm	
	120 mm	
Hollow shaft bore	18 mm	
	20 mm	
Shaft position on type VAR		3 5 8
Flange/shaft position 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	



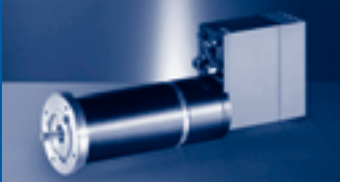
Dimensions, type GKR03-2GHA□-035C22



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

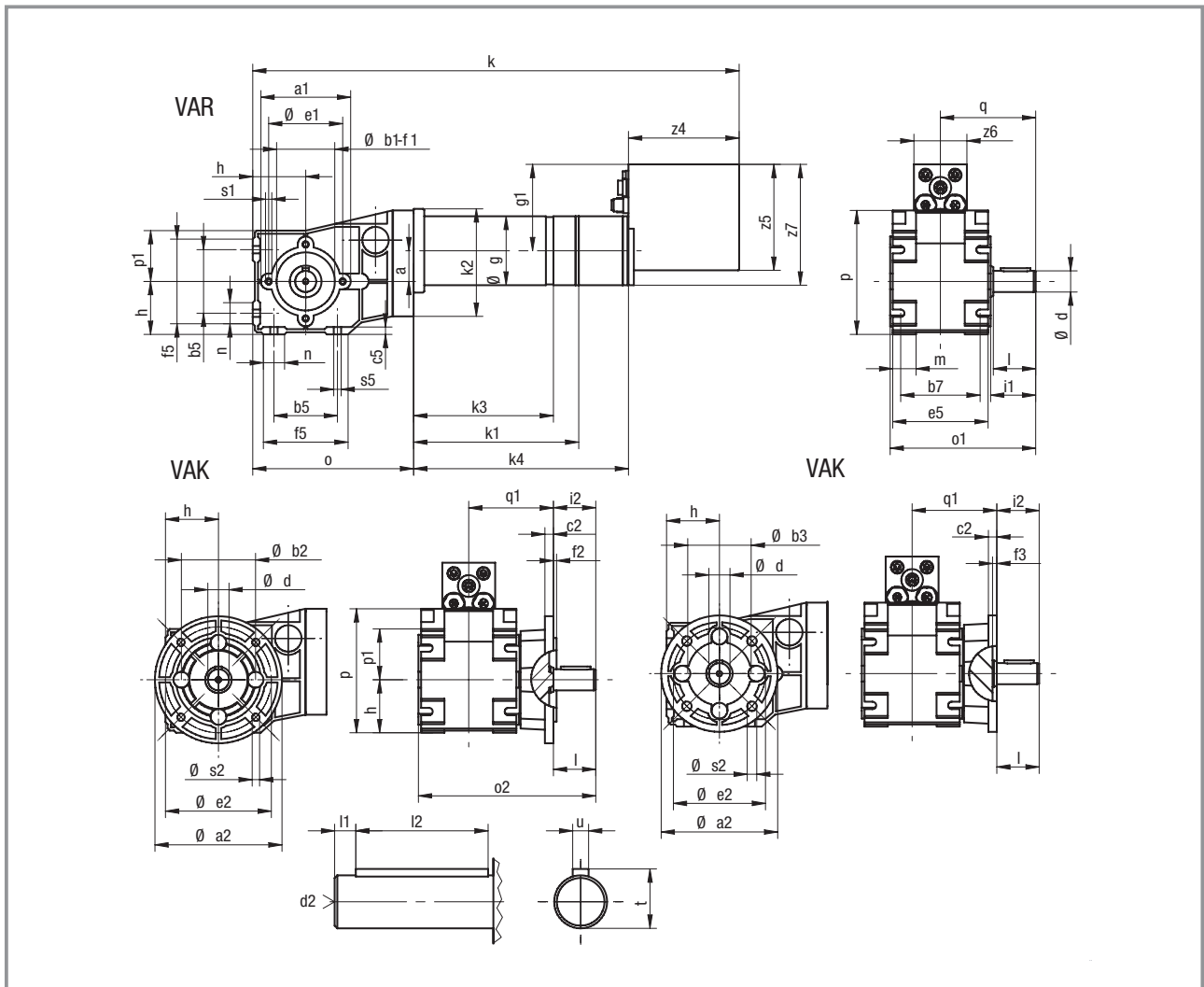
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VAR	
	VAK	
	HAR	
	HAK	
Output flange diameter	110 mm	
	120 mm	
Hollow shaft bore	18 mm	
	20 mm	
Shaft position on type VAR		3 5 8
Flange/shaft position 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	



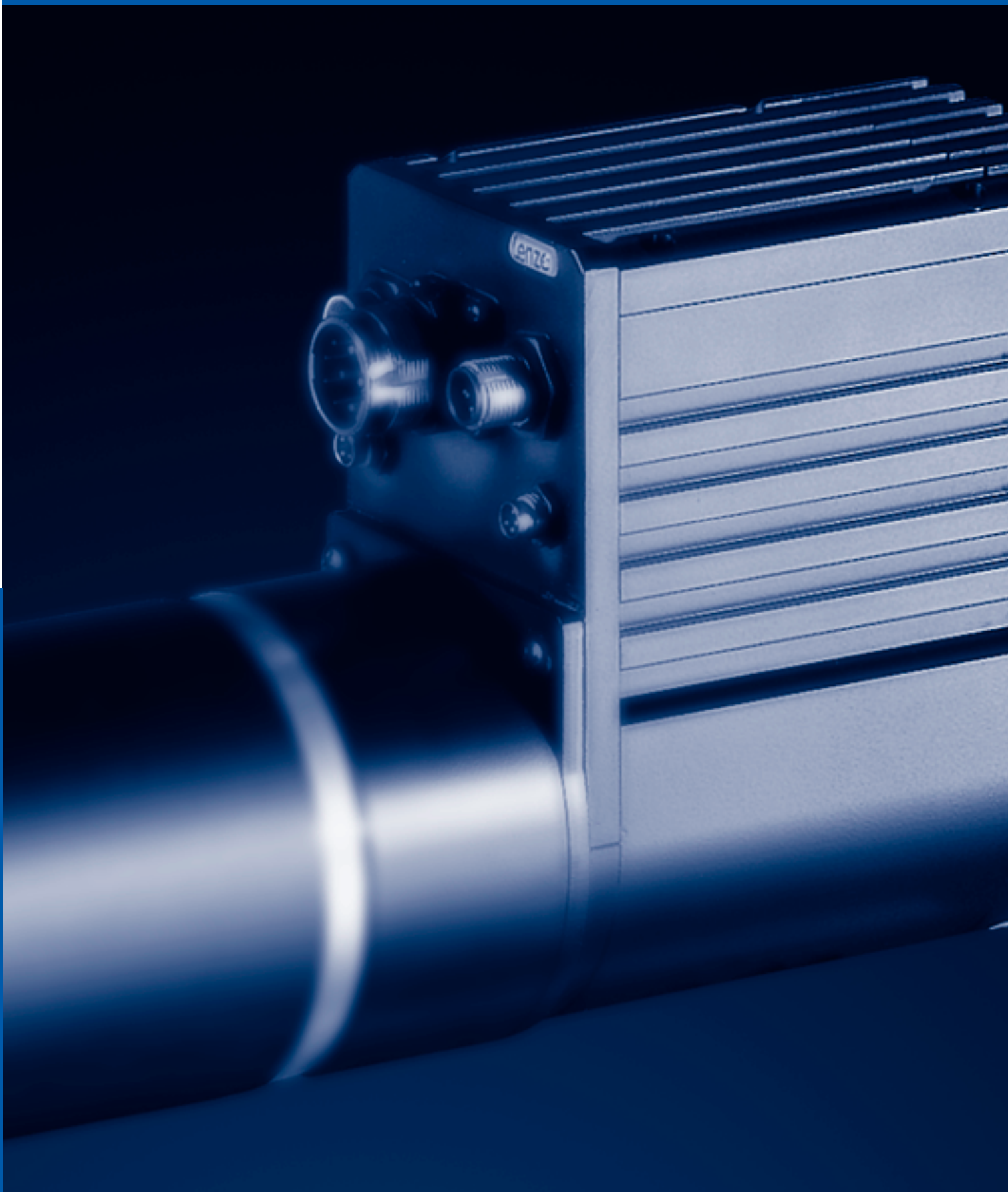
Dimensions, type GKR03-2GVA□-047C22



Geared motor	a	a1	a2	b1	b2	b3	b5	b7	c2	c5	d	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

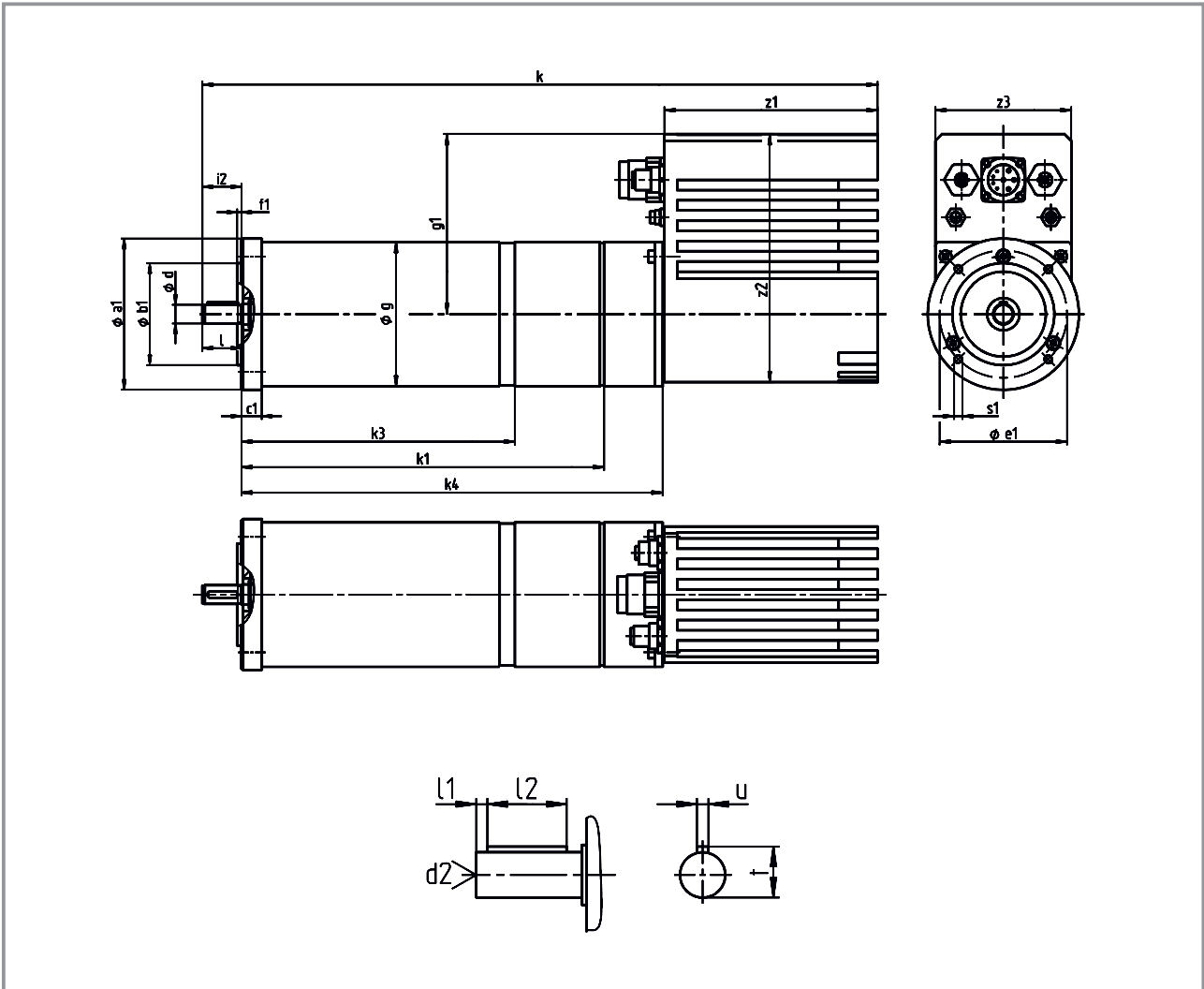
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Position of electrical connection		1

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

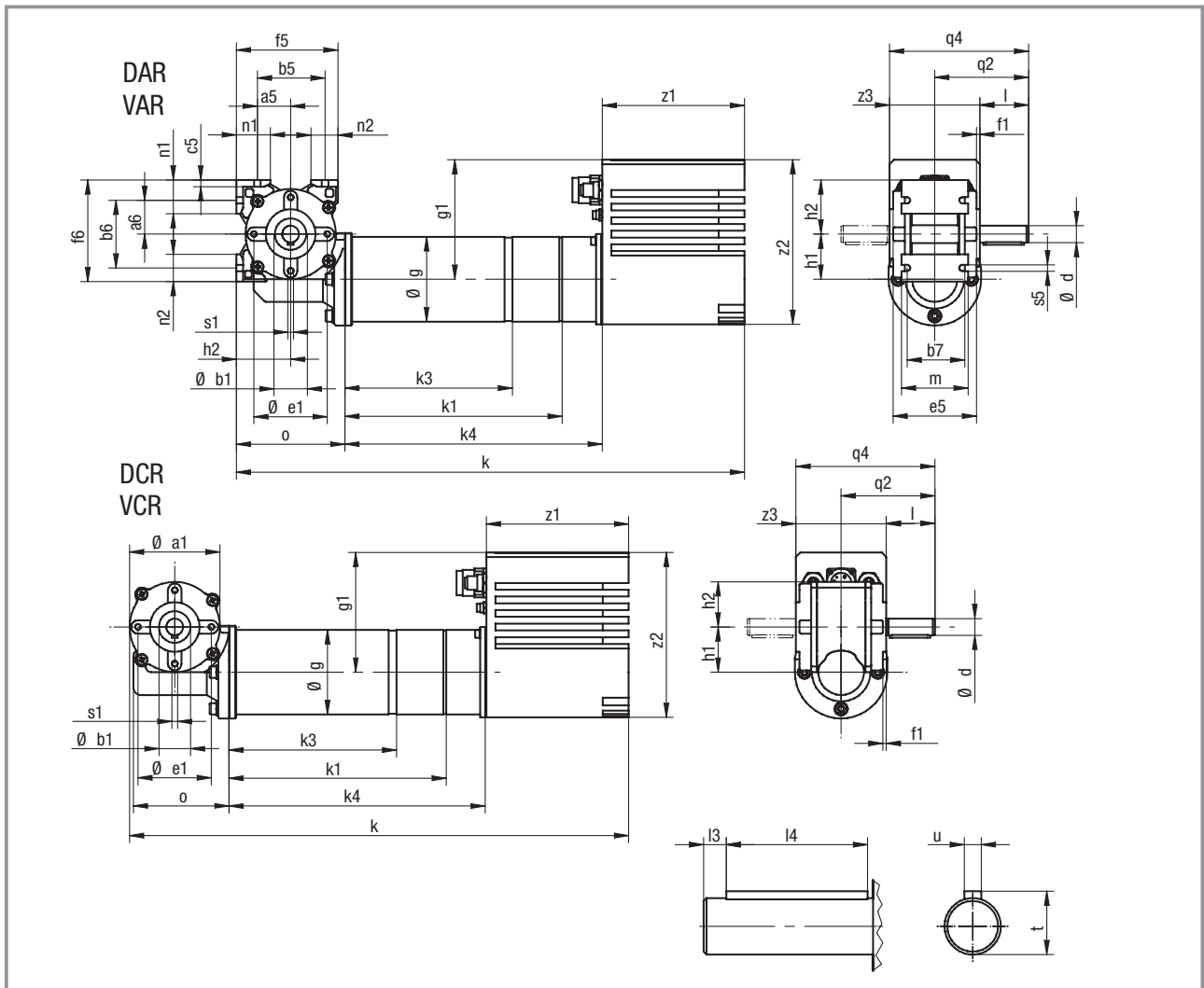
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VAR	
	DAR	
	VAL	
	HAR	
	VCR	
	DCR	
	VCL	
	HCR	
Shaft position on version VAR/VCR		3 5 8
Flange/shaft position on version VAL/VCL		3 5 8
Mounting position		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

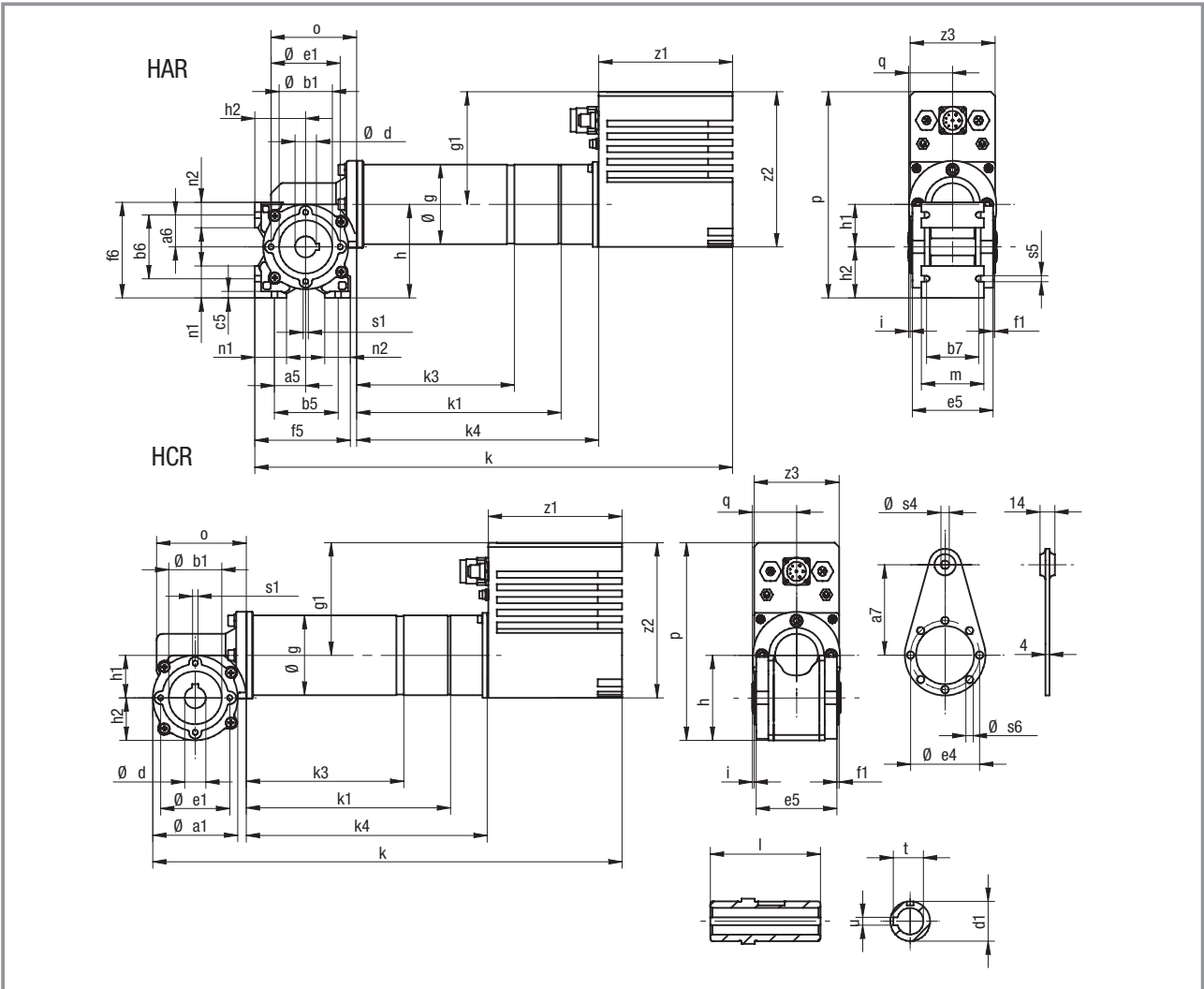
Dimensions in mm



Drive selection

Servo worm geared motors SSN

Dimensions, type SSN40-1G□□□-047C22



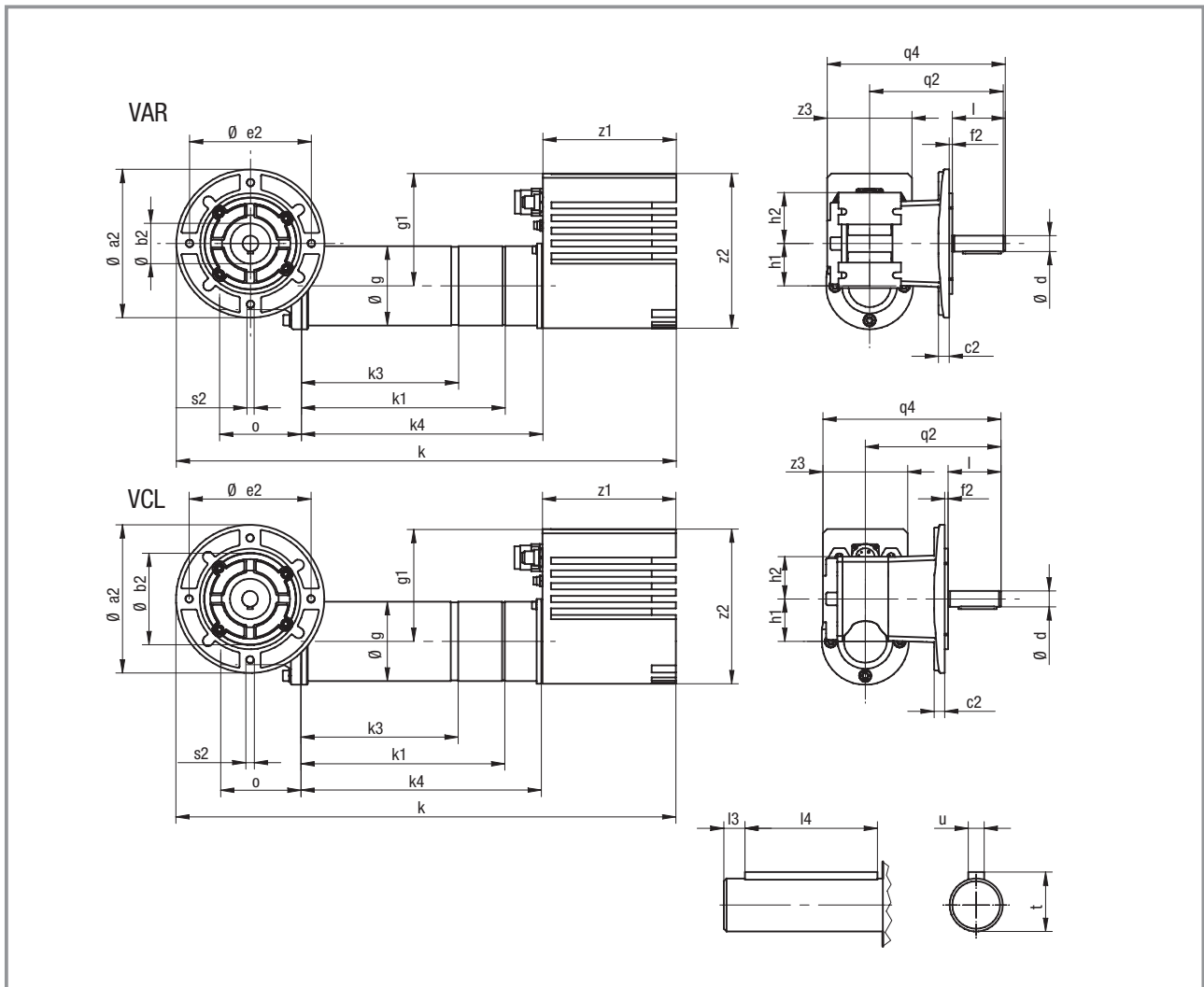
Geared motor	a1	a5	a6	a7	b1 h8	b5	b6	b7	c5	d H7	d1	e1	e4	e5	f1	f5	f6	g	g1	h	h1	h2	i
SSN40-1GHAR-047C22	77	30	30	85	50	60	60	50	6	20	30	65	65	80	2	90	90	75	106	88	40	48	1.5
SSN40-1GHCRC-047C22	77	-	-	85	50	-	-	-	-	20	30	65	65	80	2	-	-	75	106	80	40	40	1.5

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

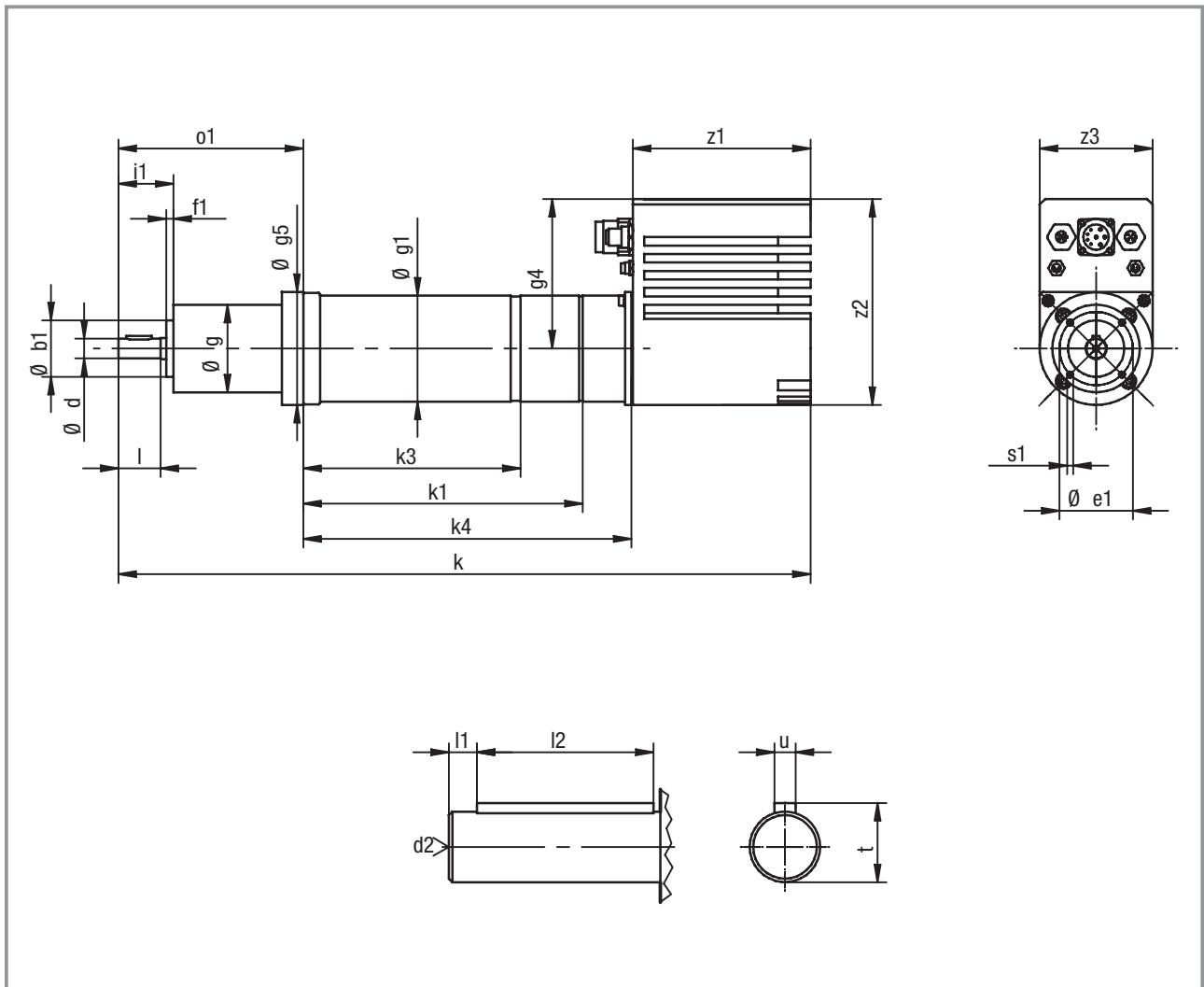
Enclosure	IP54	
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B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Position of electrical connection		1

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

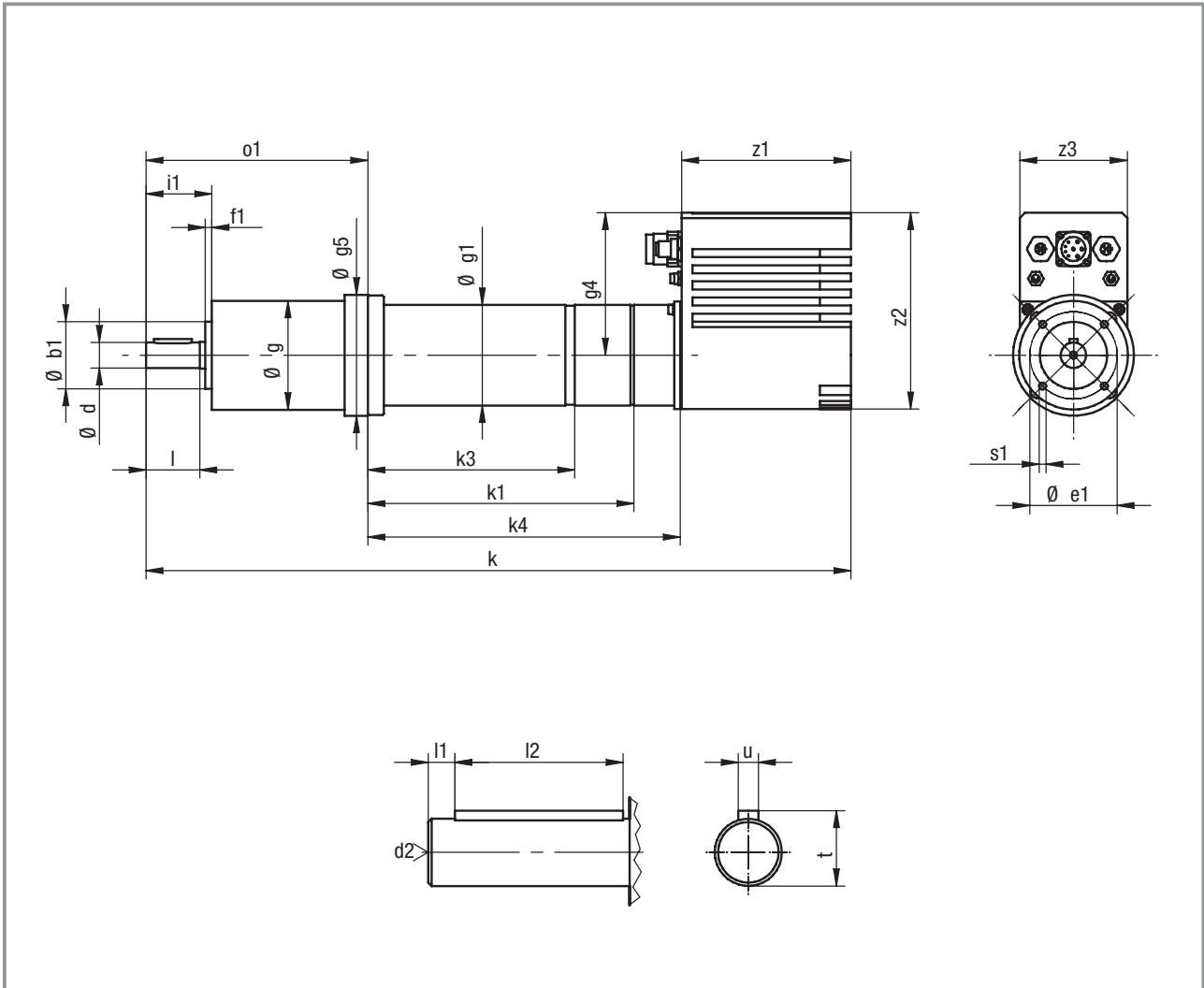
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Position of electrical connection		1

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

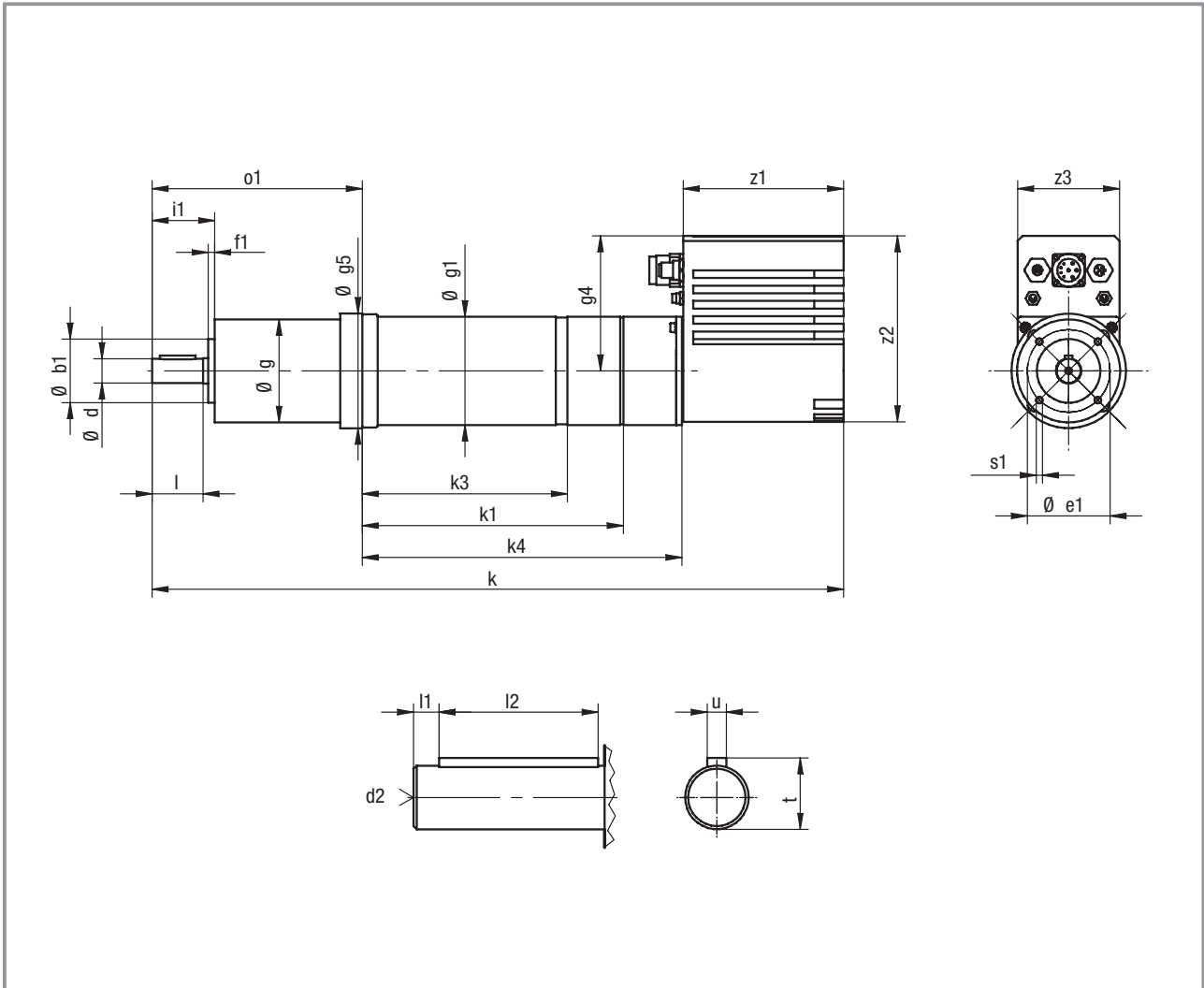
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Position of electrical connection		1

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

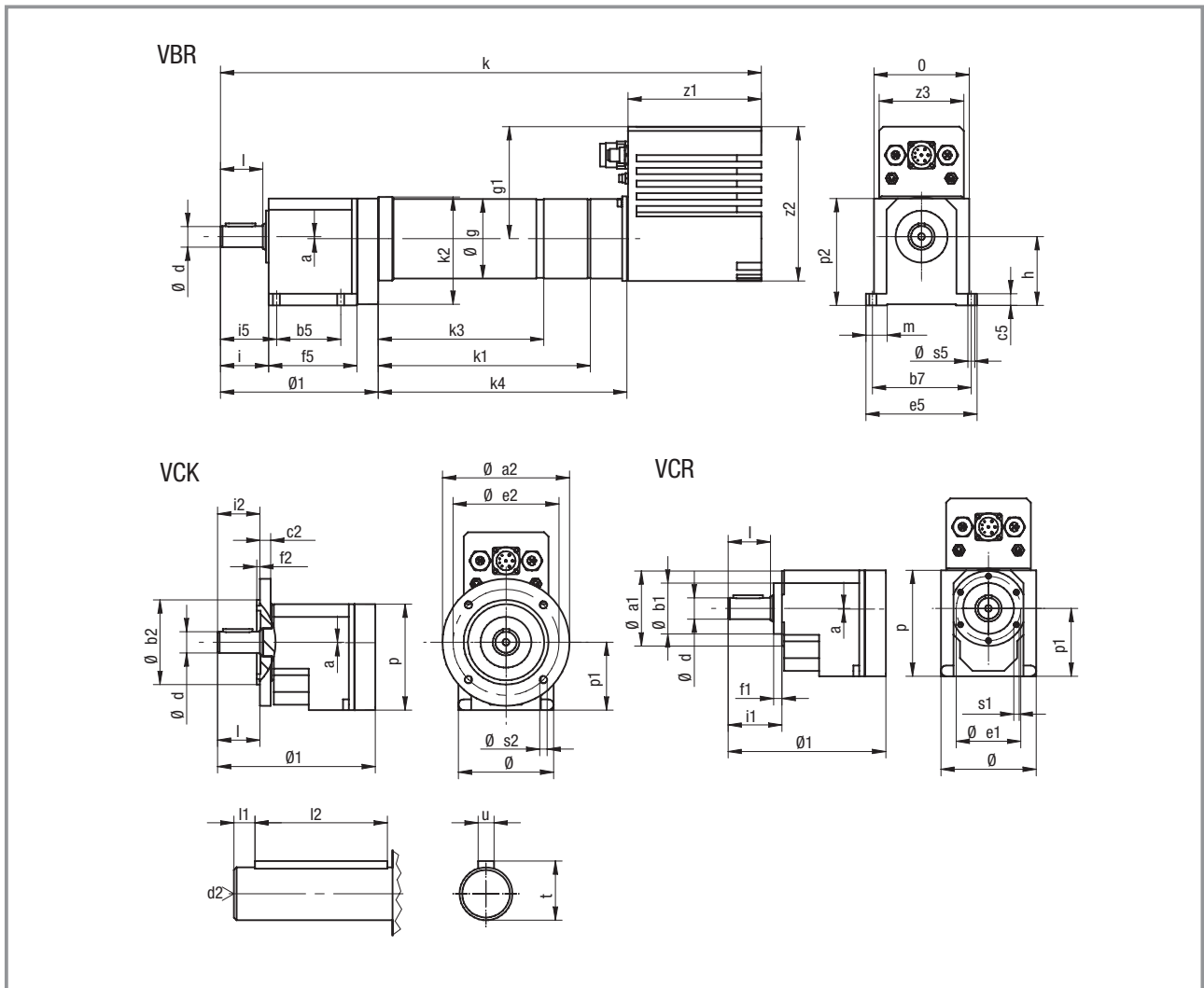
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VBR	
	VCR	
	VCK	
Output flange diameter	120 mm	
	140 mm	
	160 mm	
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

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)	



Dimensions, type GST03-□GV□□-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-□GV□□-047C22	2	71	120	48	80	60	91	10	11	20	M6	61	100	115	105	8	3	84	75	106	65	46	51	40	52
			140	95	110								130												
			160	110	130								130												

k	k1	k2	k3	k4	l	l1	l2	m	o	o1	p	p1	p2	s1	s2	s5	t	u	z1	z2	z3	Weight [kg]
															7							8.0-9.5
511	191	100	158.5	235	40	5	28	20	90	149.5	100	64	101	M5	9	6.6	22.5	6	126.5	146	80	
															9							

Dimensions in mm



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

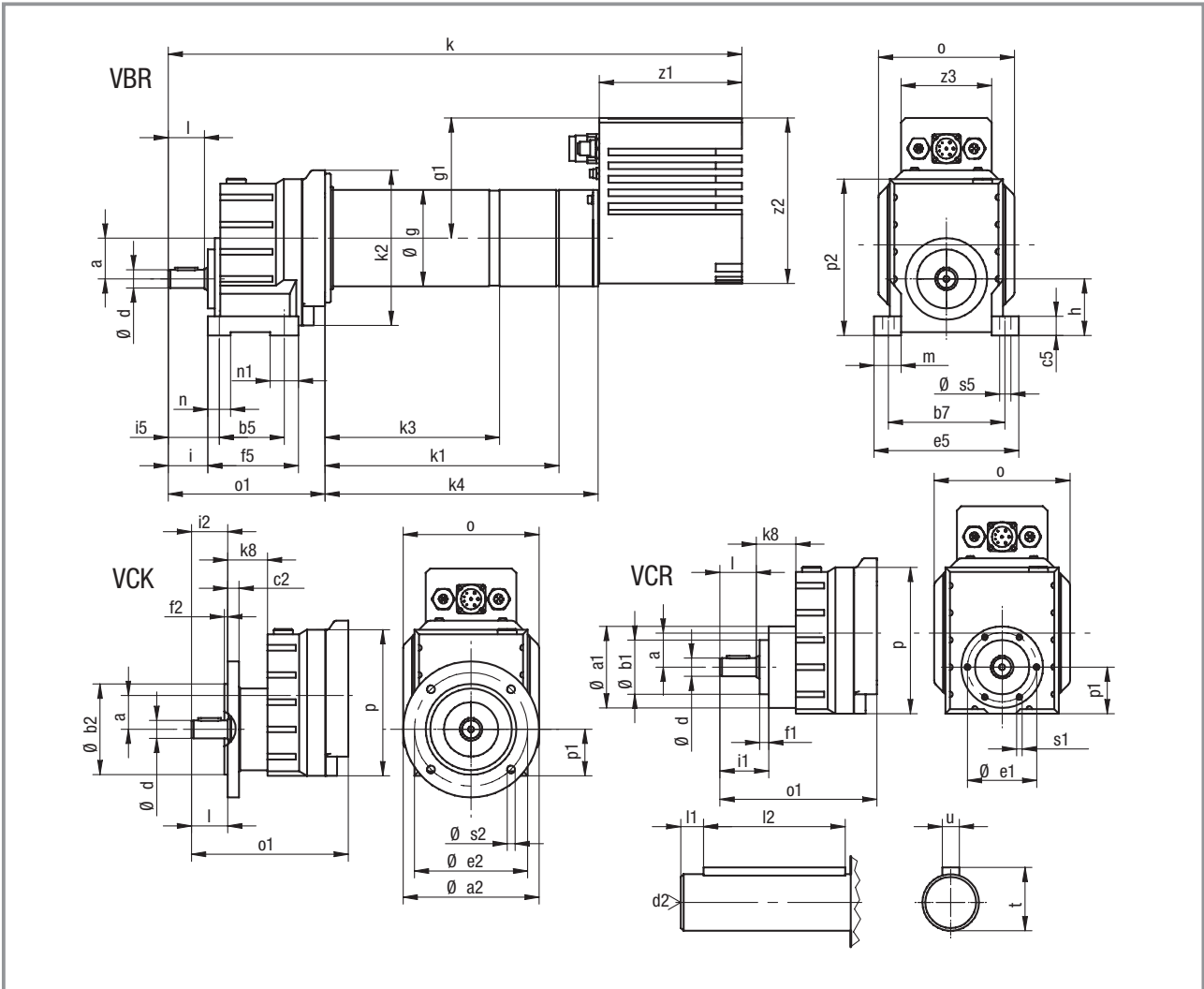
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VBR	
	VCR	
	VCK	
Output flange diameter	120 mm	
	140 mm	
	160 mm	
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

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									130										
			160	110	130									3.5										

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

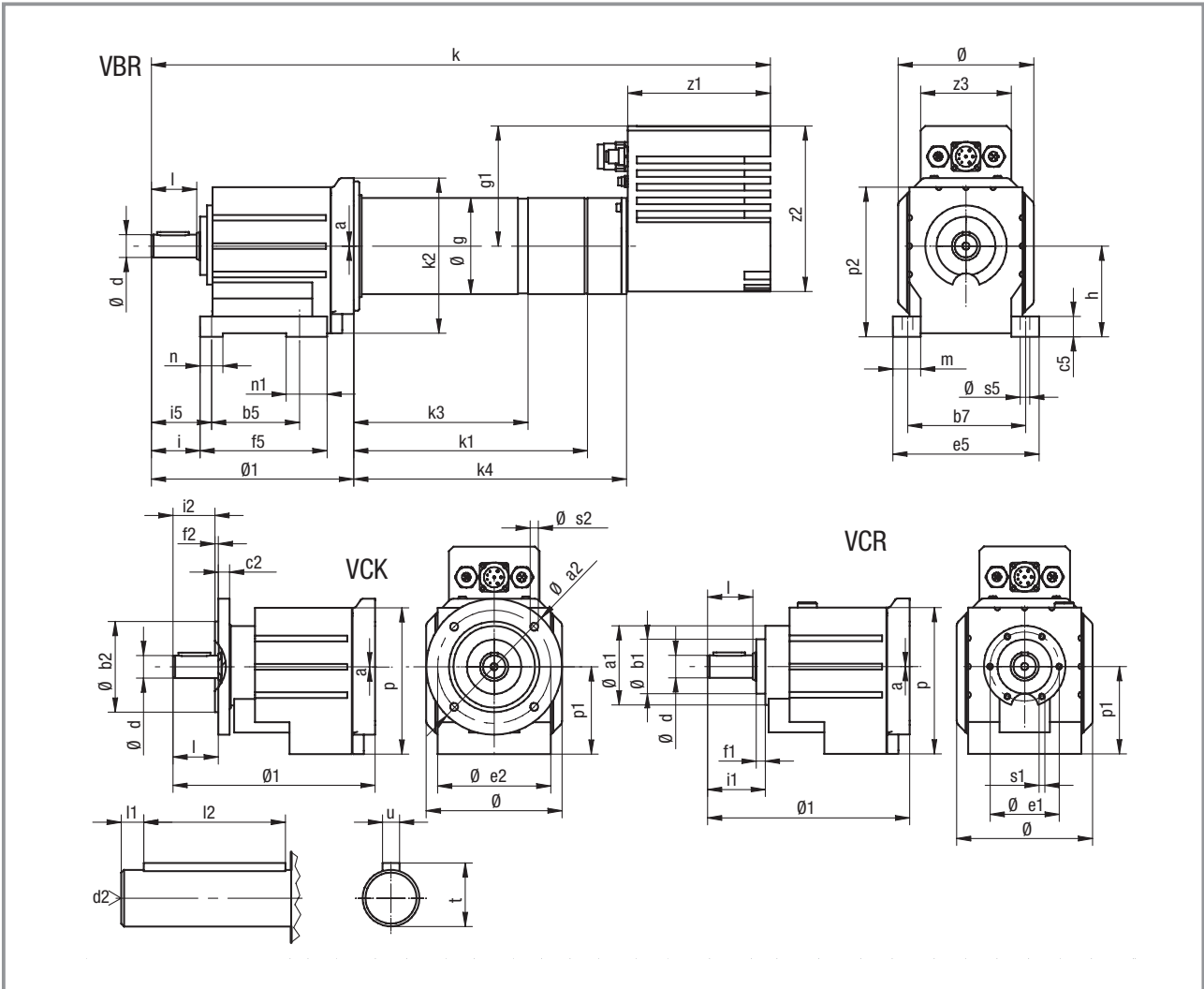
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VBR	
	VCR	
	VCK	
Output flange diameter	120 mm	
	140 mm	
	160 mm	
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

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	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	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110

k1	k2	k	k3	k4	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

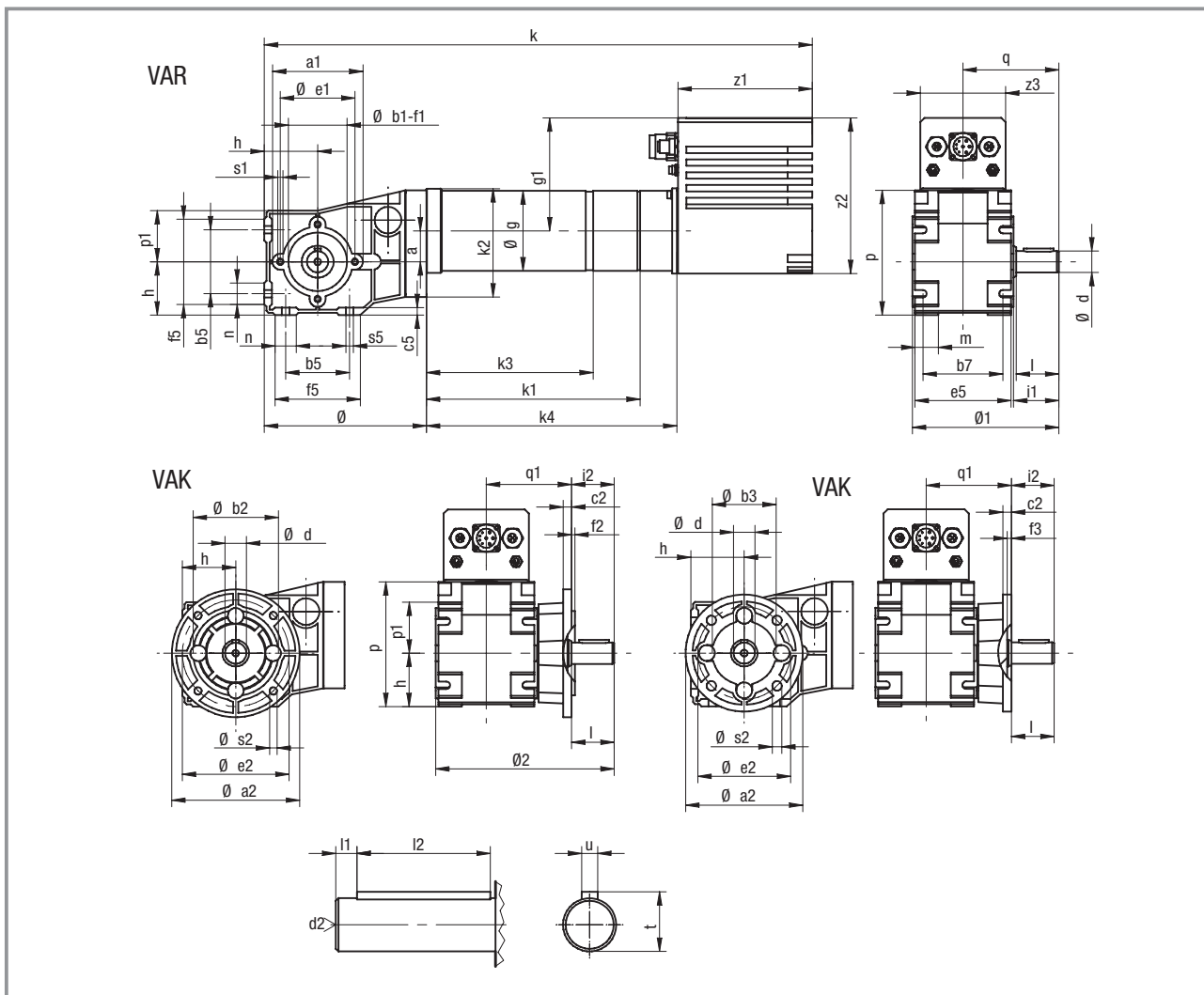
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VAR	
	VAK	
	HAR	
	HAK	
Output flange diameter	110 mm	
	120 mm	
Hollow shaft bore	18 mm	
	20 mm	
Shaft position on type VAR		3 5 8
Flange/shaft position 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							

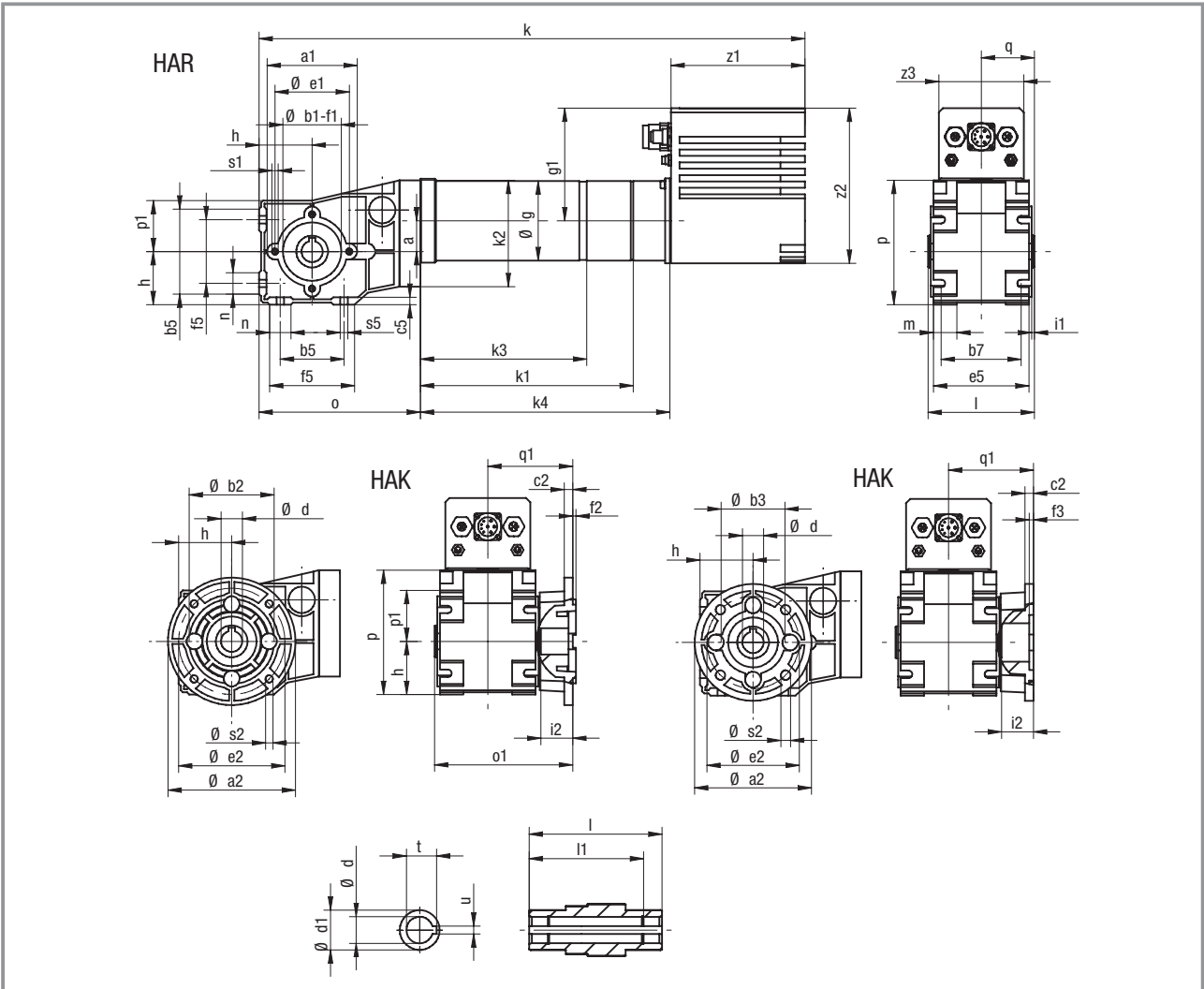
Dimensions in mm



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

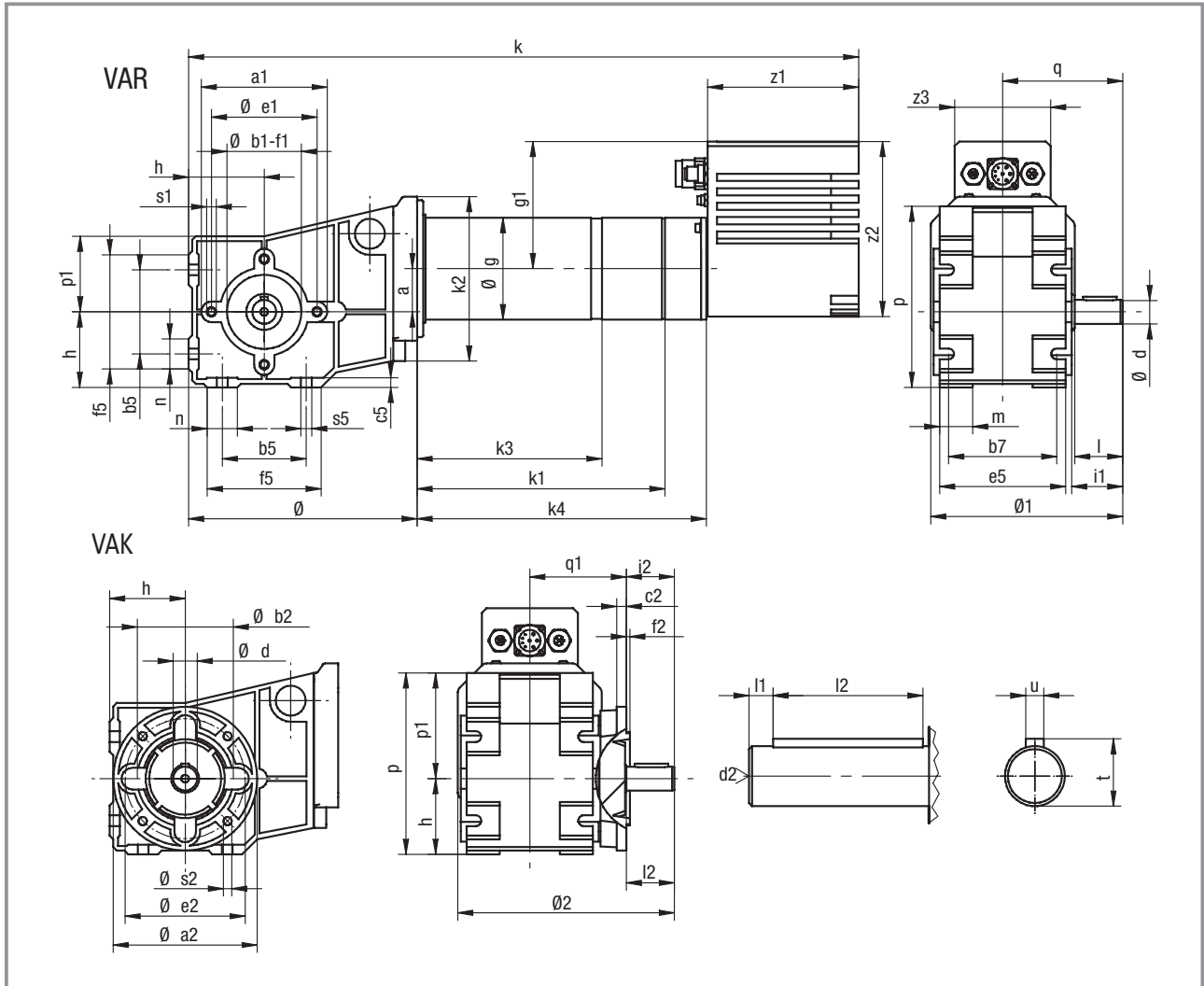
Enclosure	IP54	
	IP55	
B-side version	with resolver	
	with spring-applied brake and resolver	
	with permanent magnet brake and resolver	
Gearbox type	VAR	
	VAK	
	HAR	
	HAK	
Output flange diameter	110 mm	
	120 mm	
Hollow shaft bore	20 mm	
	25 mm	
Shaft position on type VAR		3 5 8
Flange/shaft position 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
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				130		3.5							

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]
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				

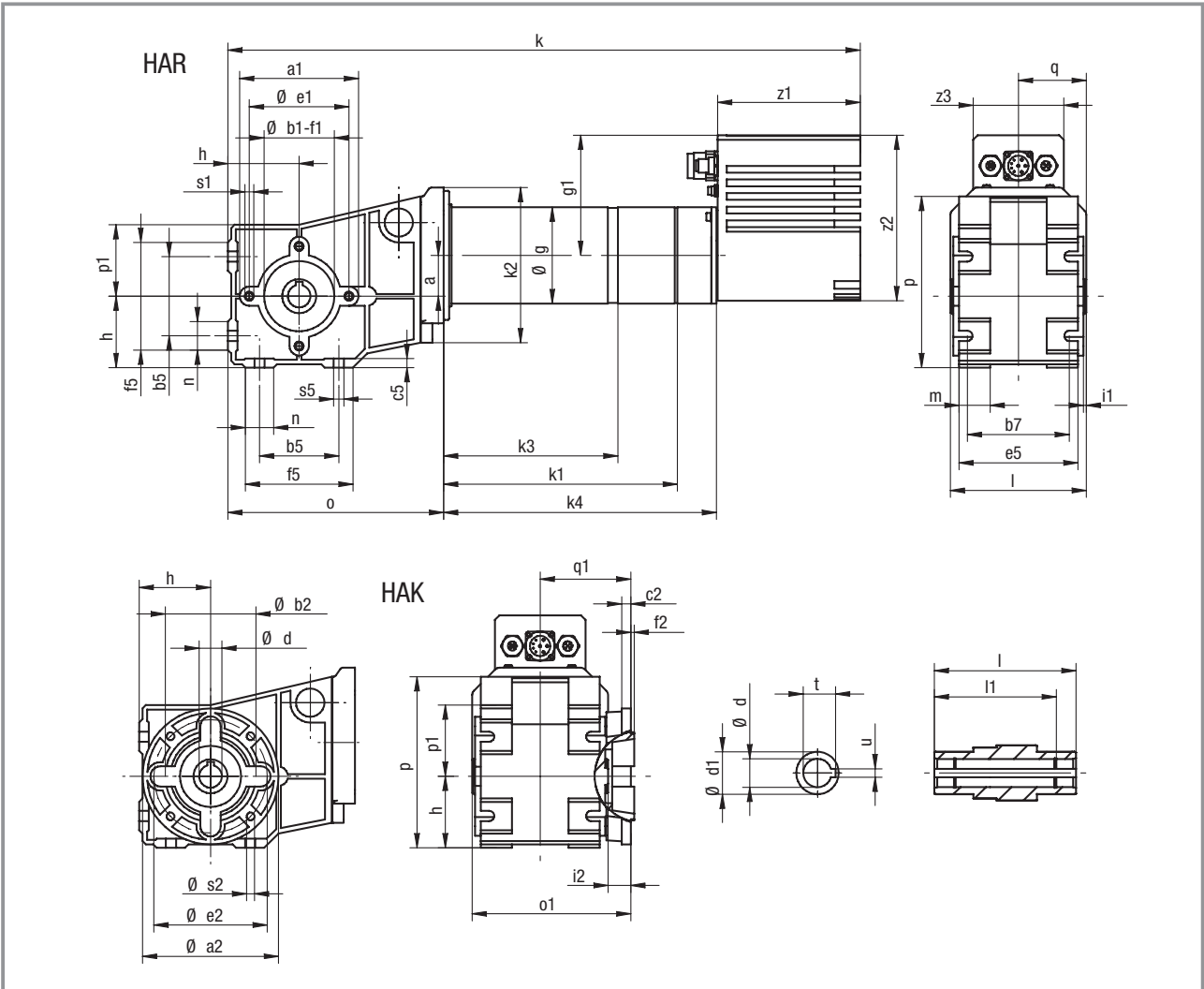
Dimensions in mm



Drive selection

Servo bevel geared motors GKR

Dimensions, type GKR04-2GHA□-056C22

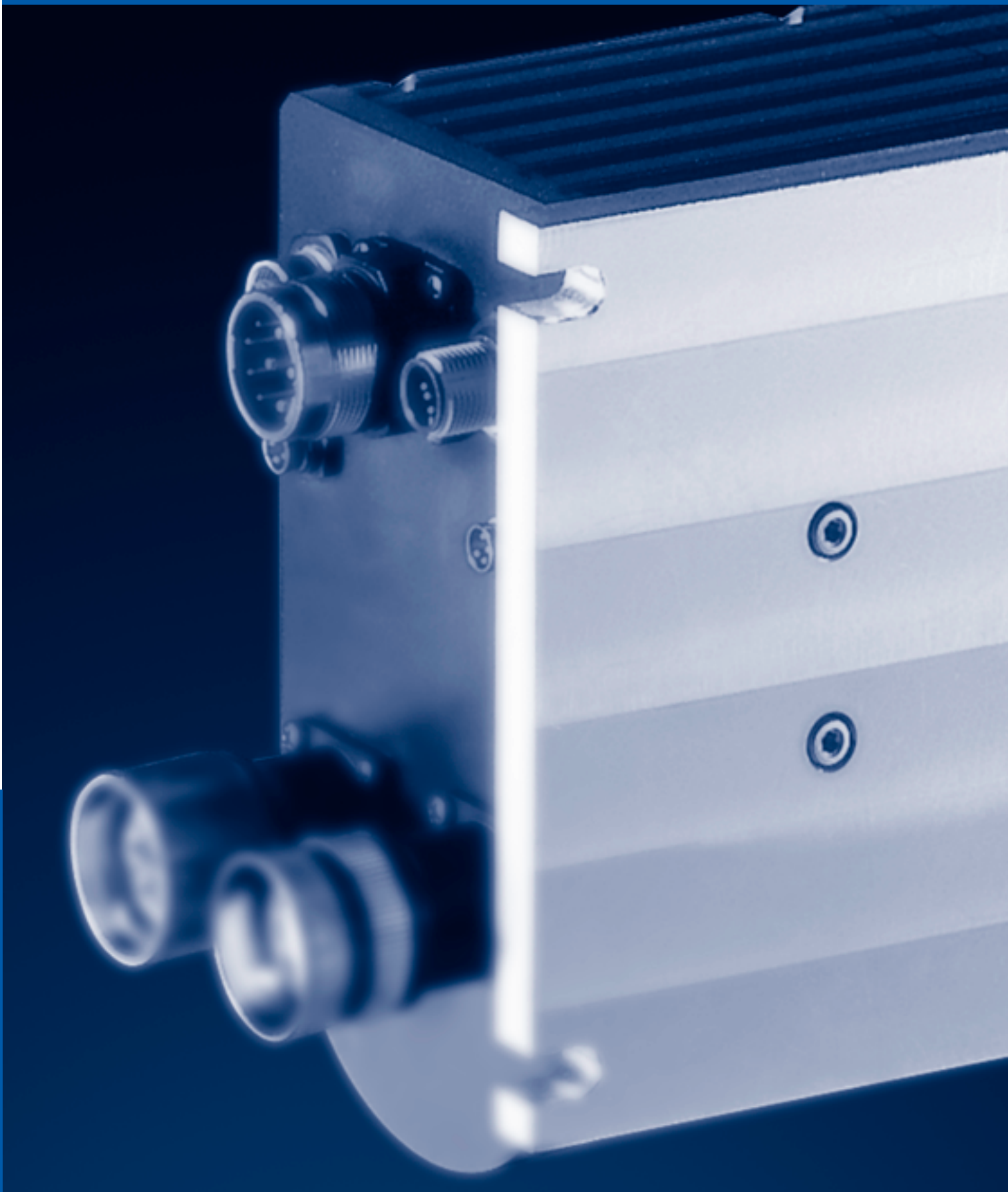


Geared motor	a	a1	a2	b1	b2	b5	b7	c2	c5	d	d1	e1	e2	e5	f1	f2	f5	g	g1	h	i1	i2	k	k1
					j7					H7													SB	SR
GKR04-2GHA□-056C22	36	104	120	62	80	70	90	8	8	20	30	88	100	105	3	3	95	85	106	63	2.5	20	558	188.5
			160		110					25	35				3.5									

k2	k3	k4	l	l1	m	n	o	o1	p	p1	q	q1	s1	s2	s5	t	u	z1	z2	z3	Weight [kg]		
XX	SB																						
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

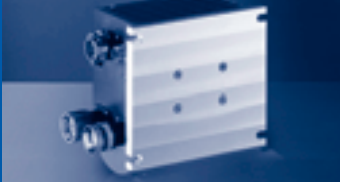




Drive selection | 930 fluxxtorque Servo Drives

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	

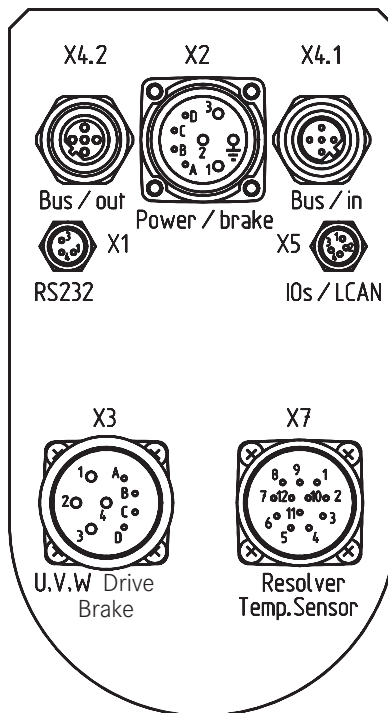
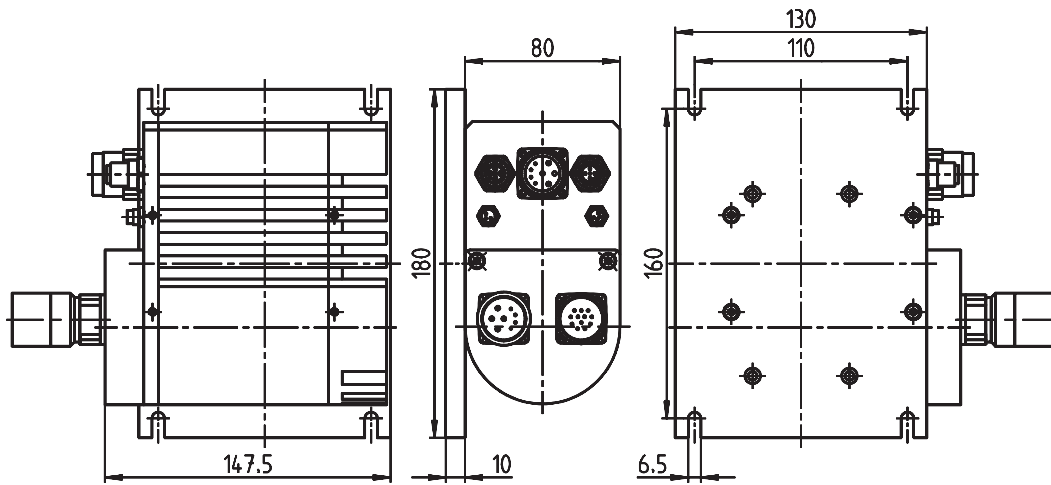
Additional order information

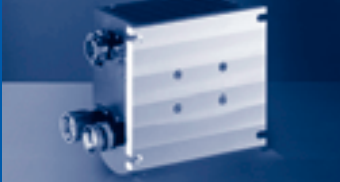
Servo Drives accessories

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

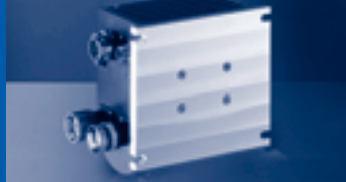
SDSGS servo motors

Selection table, type SDSGS□□□□□-22

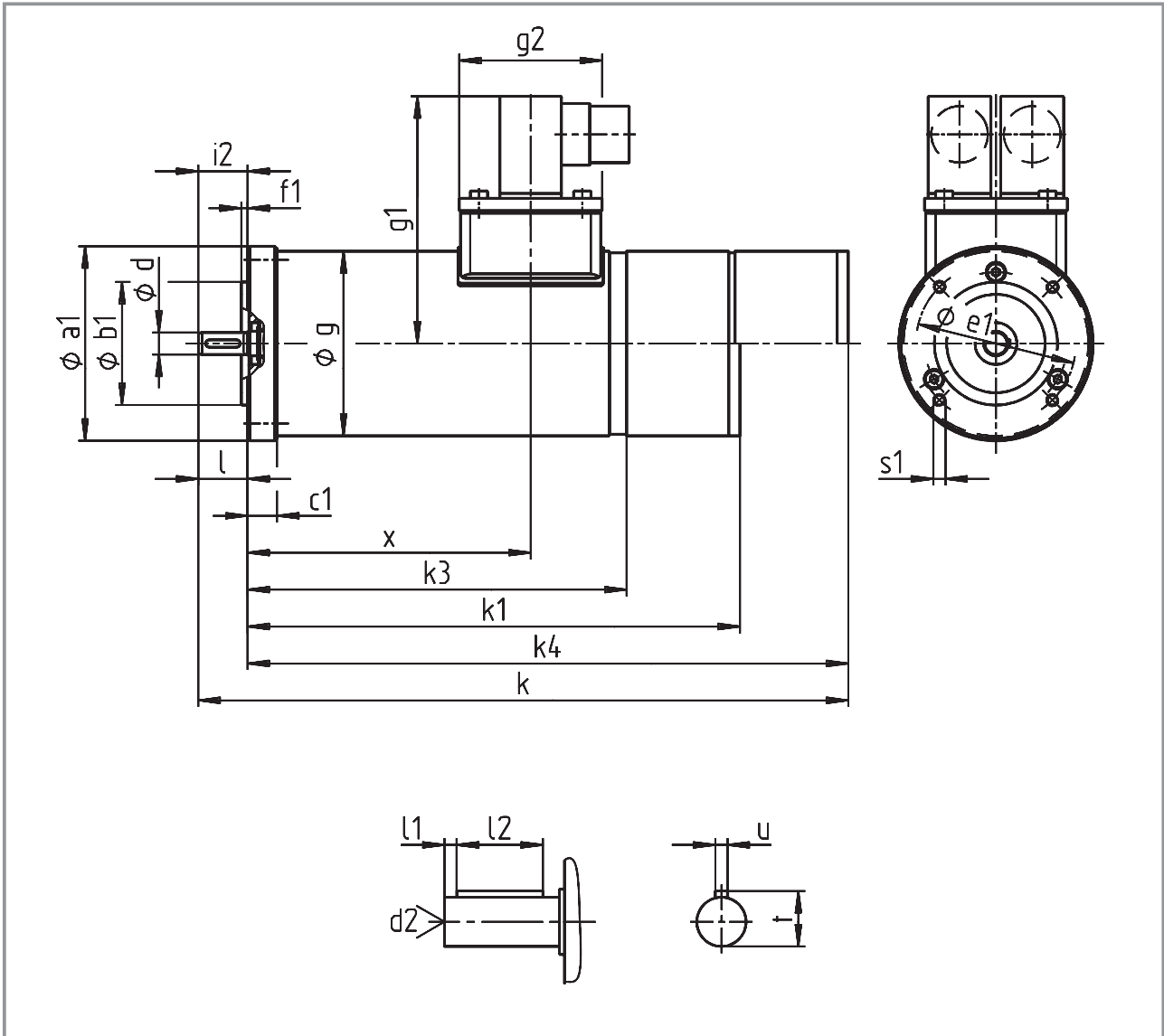
P _r W	Supply voltage Servo Drive 230 V AC		Version A-side	Motor type	Selection Please tick
	n ₁ rpm	M ₁ Nm			
250	3000	0.80	IEC56 B14 C80	SDSGS□□□047-22	
250	3000	0.80	IEC63 B14 C90	SDSGS□□□047-22	
500	3000	1.60	IEC63 B14 C90	SDSGS□□□056-22	

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



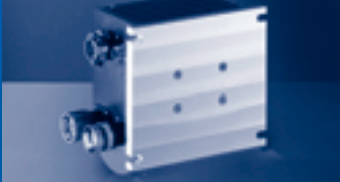
Dimensions Type SDSGS□□□□□-22



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

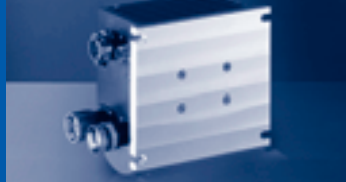
Servo worm geared motors SSN

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

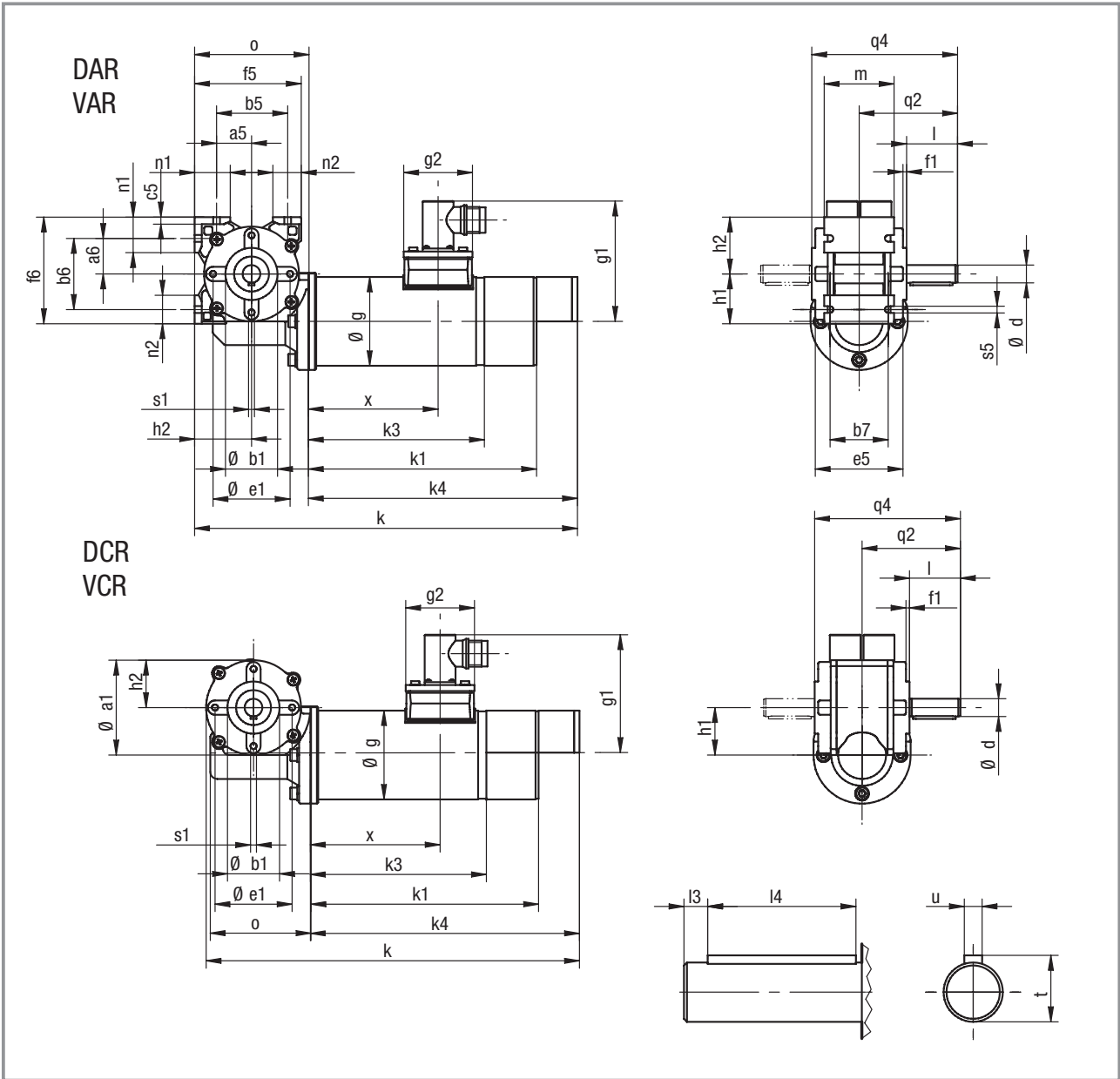
P _r W	Rated data			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
250	441	4.57	7.66	6.75		
	300	6.48	5.40	10	SDSGS□□047-22	
	200	8.88	3.72	15		
	150	11.36	2.99	20		
	120	12.80	2.27	25		
	100	14.88	2.42	30		
	75	17.92	1.90	40		
	60	21.60	1.48	50		
	50	18.24	1.75	60		
	38	24.00	0.96	80		

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



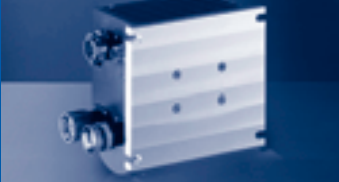
Dimensions, type SSN40-1G□□□-047C22



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

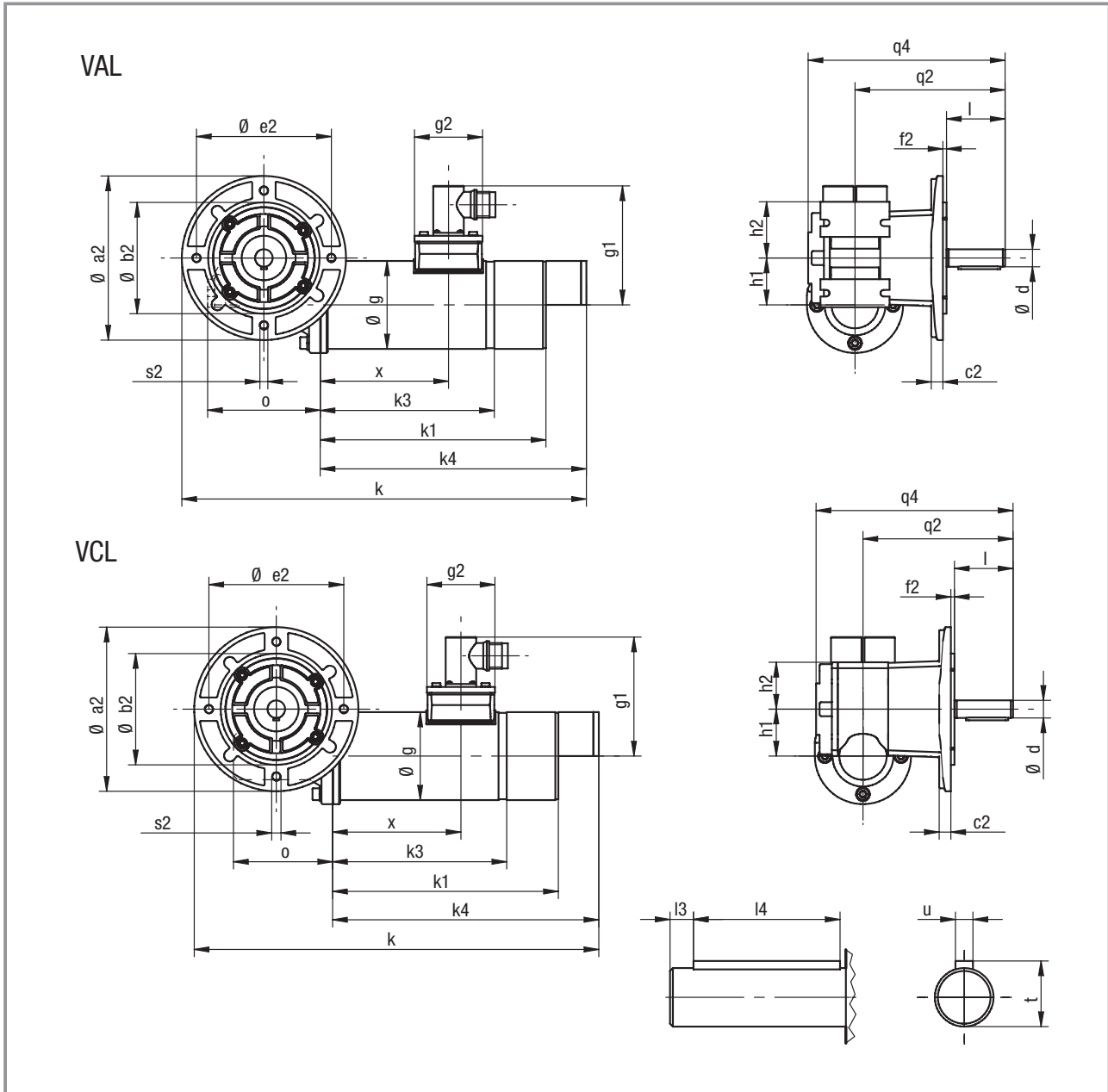
Dimensions in mm



Drive selection

Servo worm geared motors SSN

Dimensions, type SSN40-1G□□□-047C22

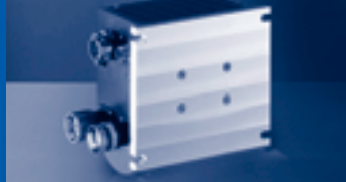


4

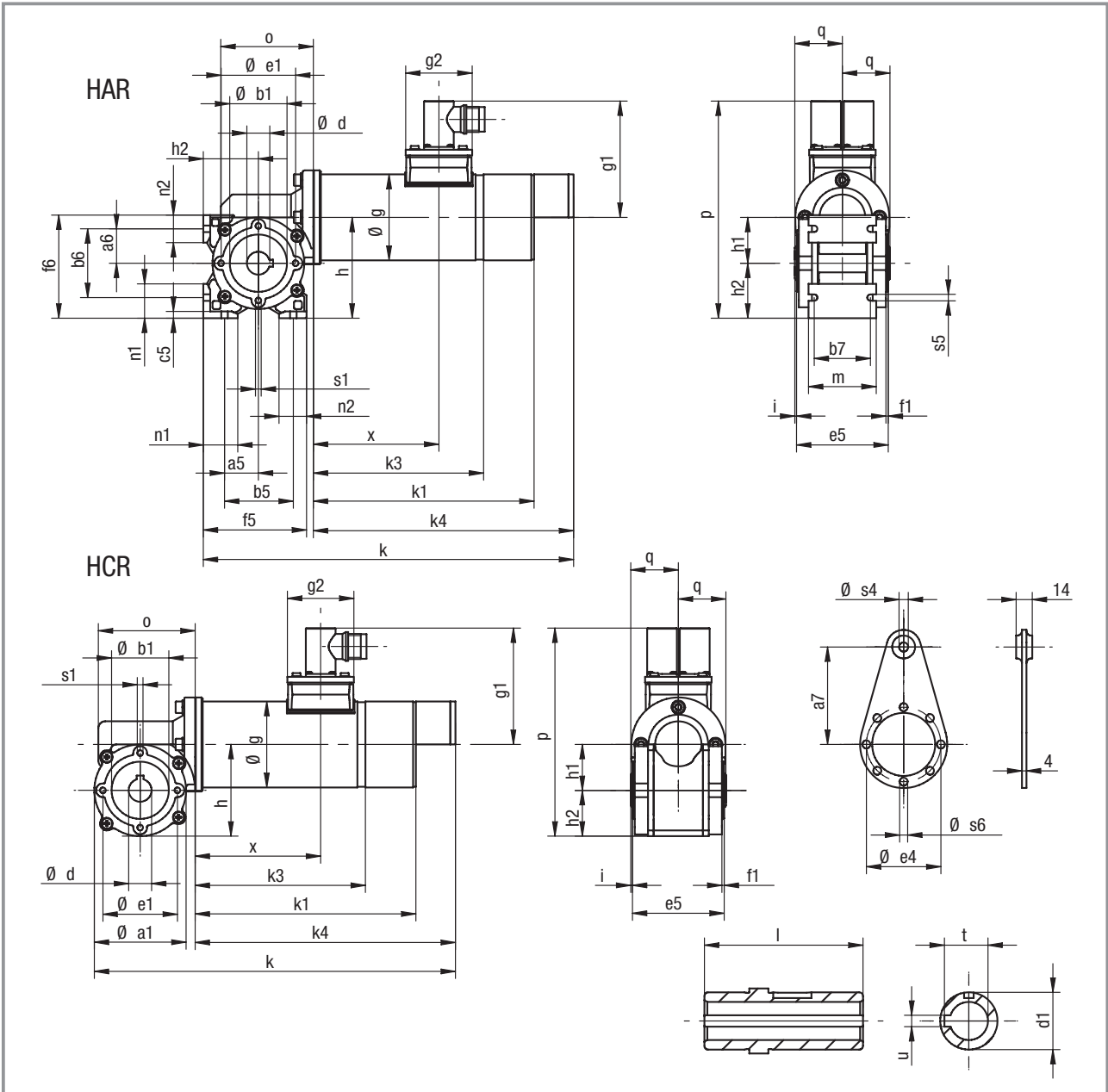
Geared motor	a_2	b_2 j7	c_2	d h6	e_2	f_2	g	g_1	g_2	h_1	h_2	k BS	k_1 RS
SSN40-1GVAL-047C22	140	95	10	15	115	3	75	101	58	40	48	345	183
SSN40-1GVCL-047C22	140	95	10	15	115	3	75	101	58	40	40	345	183

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



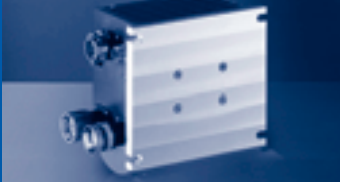
Dimensions, type SSN40-1G□□□-047C22



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

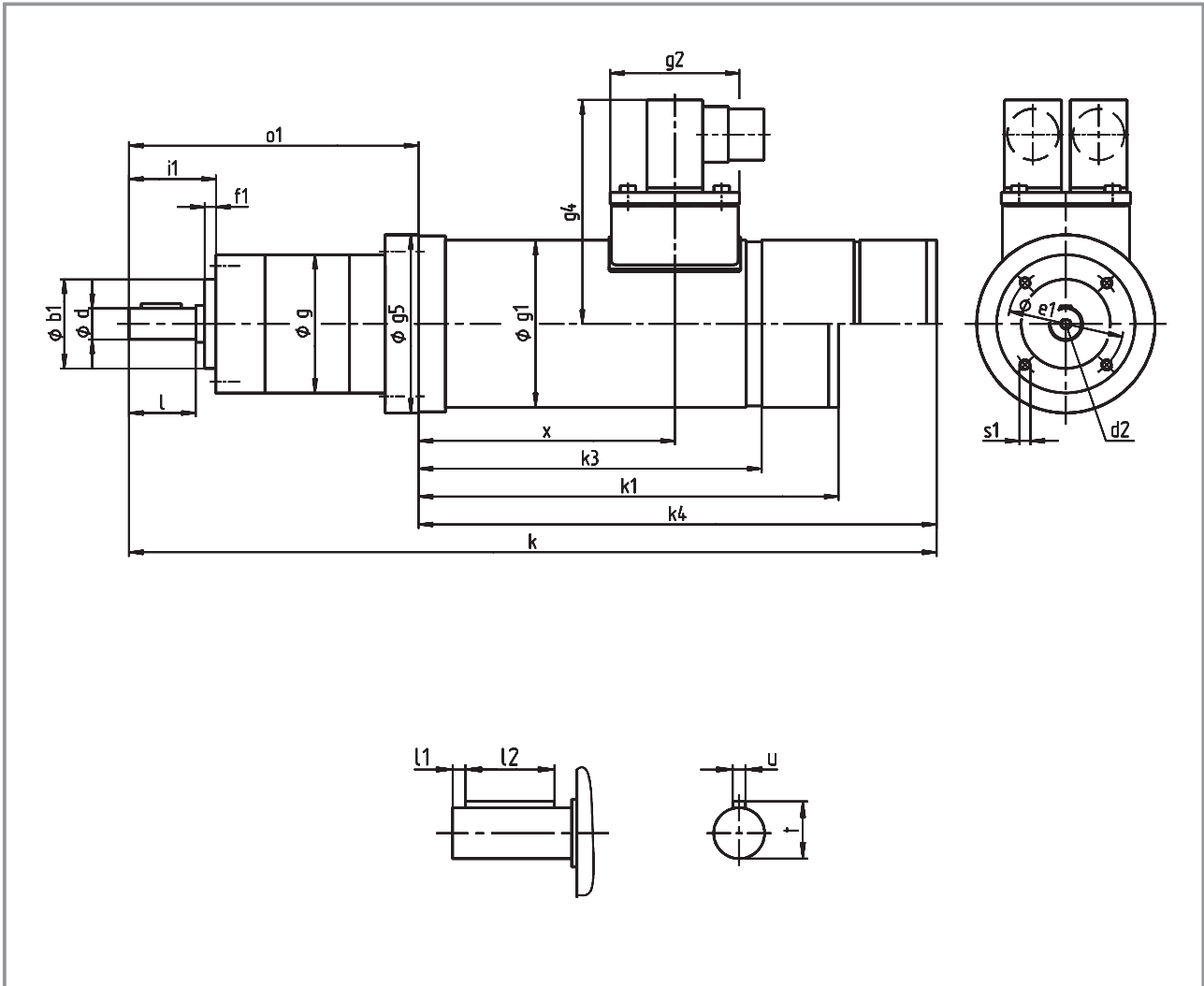
P _r W	Rated data			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
250	811	2.37	3.38	3.70		
	444	4.32	1.85	6.75	SDSGS□□047-22	
	218	8.24	3.03	13.73		
	120	15.01	1.67	25.01		
	86	20.98	1.19	34.97		
	66	27.34	0.91	45.56		
	59	28.50	1.75	50.89		
	42	39.85	1.25	71.16		

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



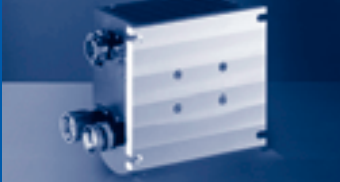
Dimensions, type SPL62-□GVCR-047N22



Geared motor	Ratio i	b1 j7	d h7	d2	e1	f1	g	g1	g2	g4	g5	i1	k B5
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 B5	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

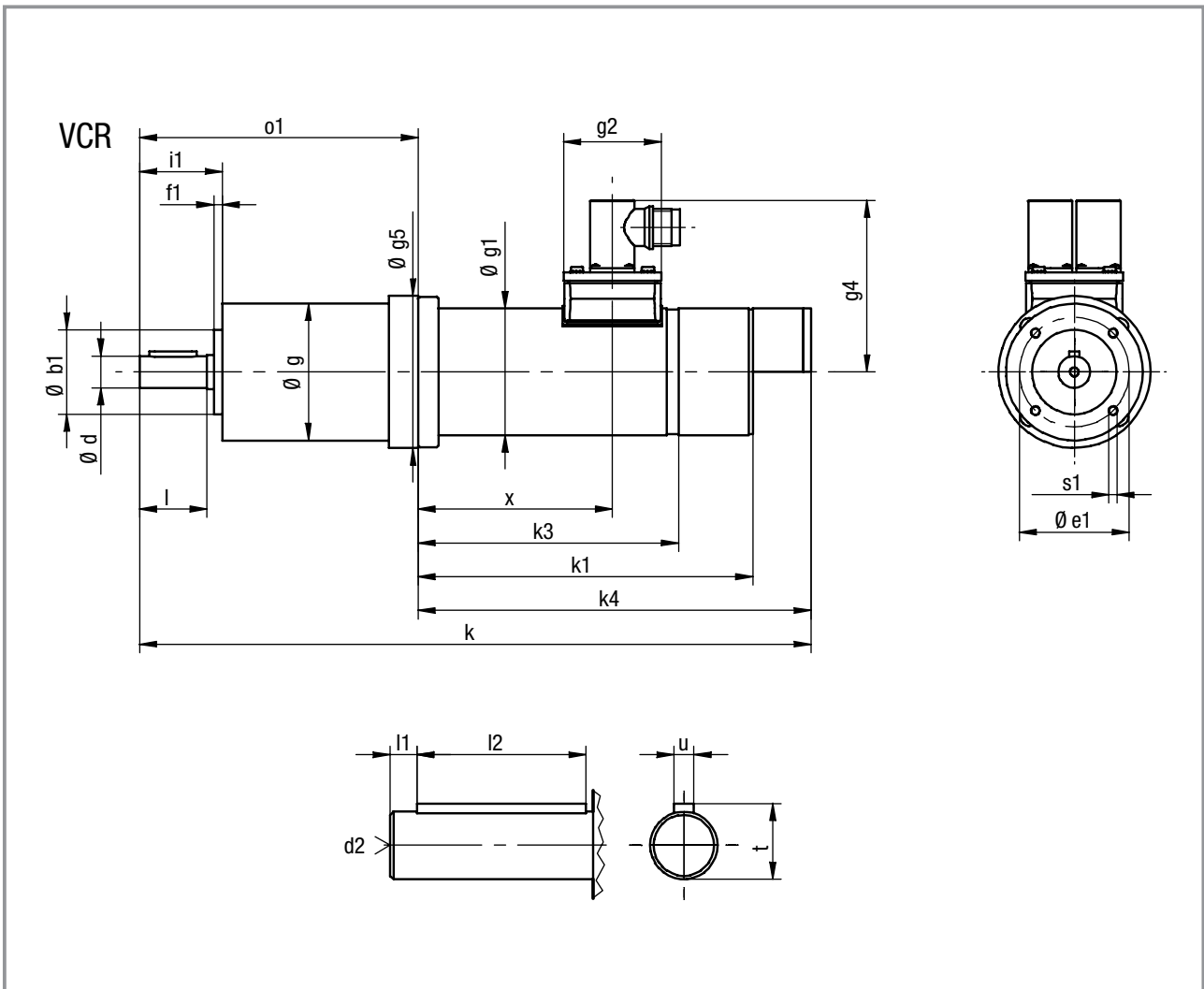
P _r W	Rated data			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
250	811	2.37	8.45	3.70		
	444	4.32	4.63	6.75	SDSGS□□047-22	
	218	8.24	7.28	13.73		
	120	15.01	4.00	25.01		
	86	20.98	2.86	34.97		
	66	27.34	2.19	45.56		
	59	28.50	4.21	50.89		
	42	39.85	3.01	71.16		
	30	55.72	2.15	99.50		
	24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



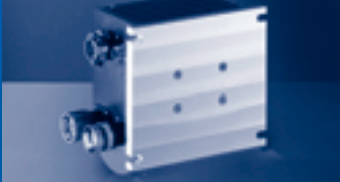
Dimensions, type SPL81-□GVCR-047N22



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

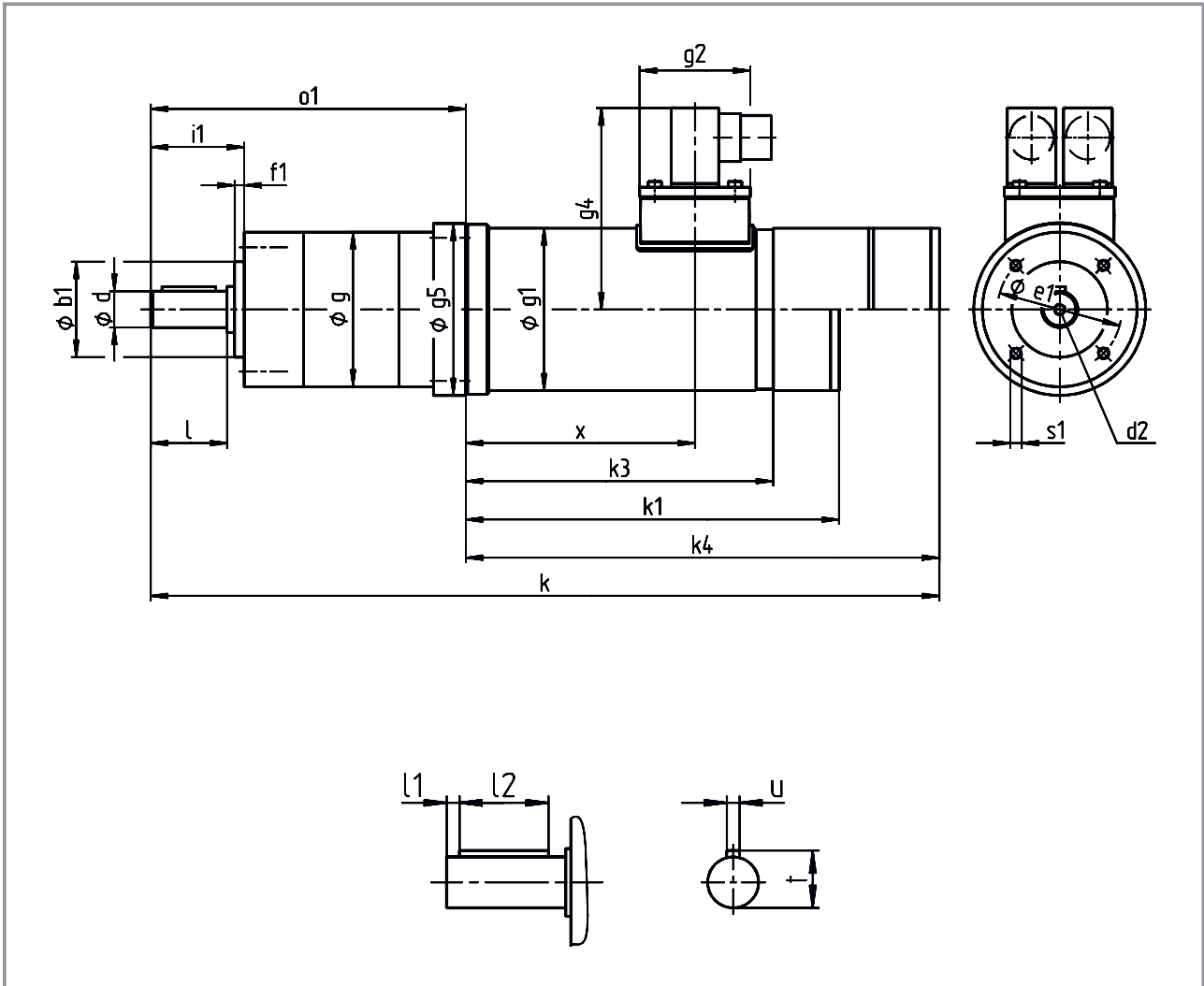
P _r W	Rated data			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
500	811	4.74	4.22	3.700		
	444	8.64	2.31	6.750	SDSGS□□056-22	
	218	16.48	3.64	13.730		
	120	30.01	2.00	25.010		
	86	41.96	1.43	34.970		
	66	54.67	1.10	45.560		
	59	57.00	2.11	50.890		
	42	79.70	1.51	71.160		
	30	111.44	1.08	99.500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



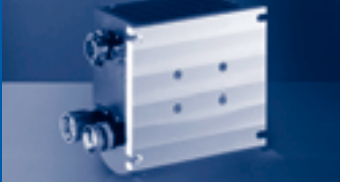
Dimensions, type SPL81-□GVCR-056N22



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

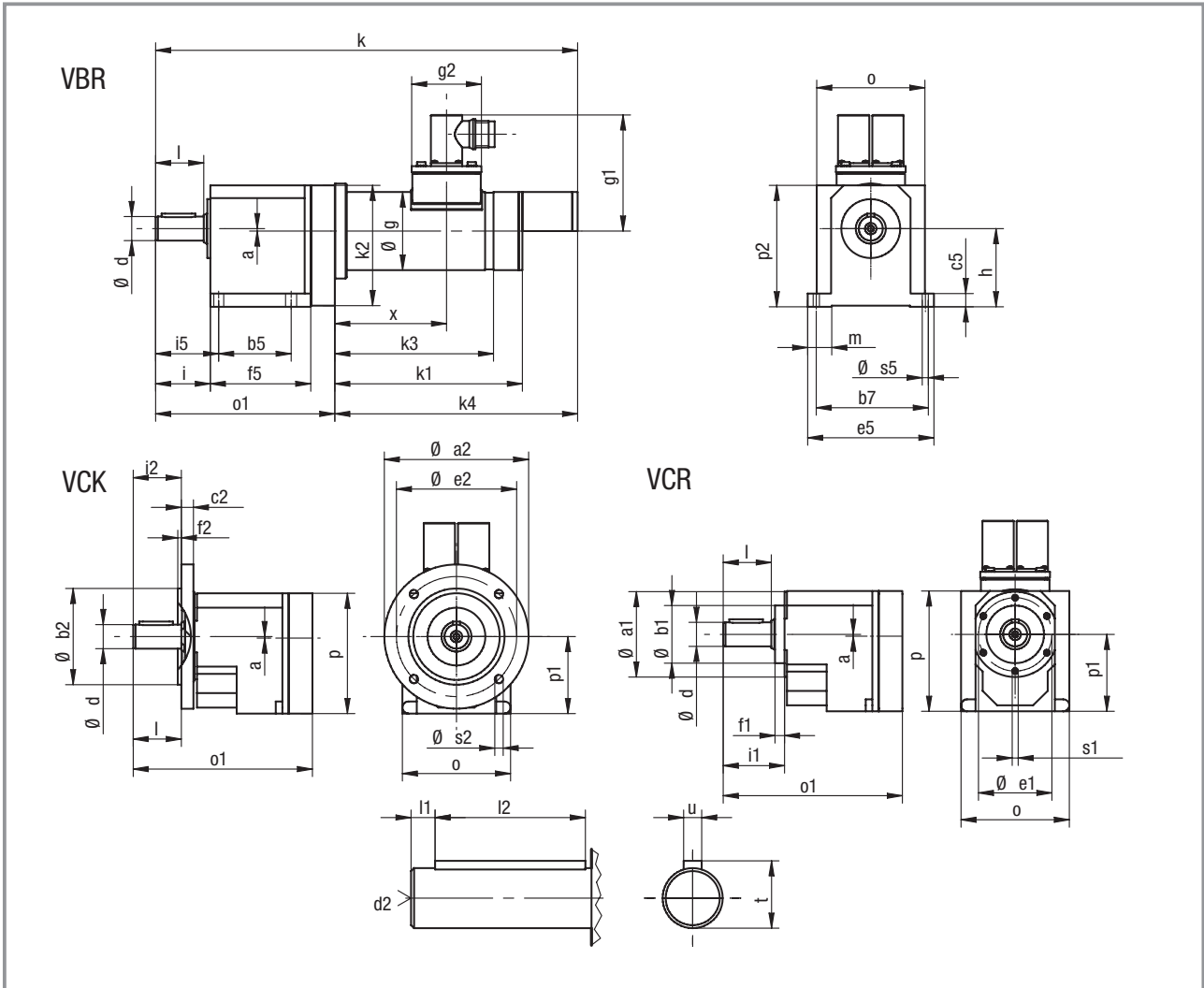
P _r W	Rated data			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
140	1155.20	1.00	13.37	2.60		
	879.00	1.00	10.85	3.41	SDSGS□□035-22	
	686.80	2.00	9.01	4.37		
	564.80	2.00	9.59	5.31		
	502.90	3.00	8.93	5.97		
	429.70	3.00	7.96	6.98		
	382.70	3.00	7.68	7.84		
	335.80	4.00	6.74	8.94		
	299.00	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



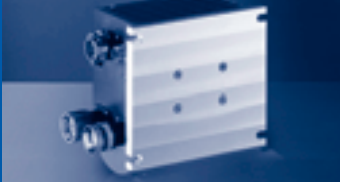
Dimensions, type GST03-2GV□□-035C22



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																				3
			160	110	130																				3.5

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

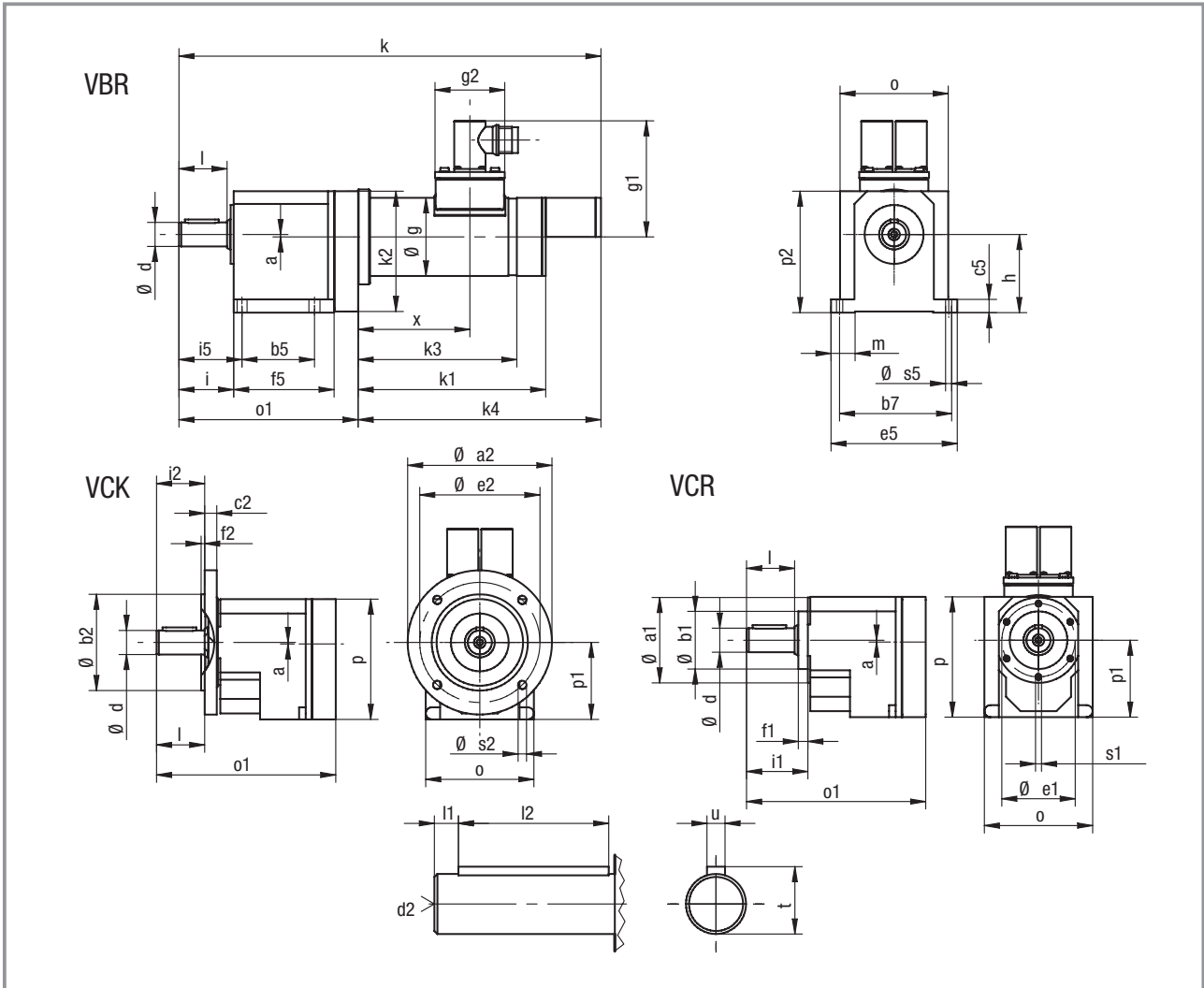
P _r W	Rated data			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
250	1155.2	2.00	7.52	2.597		
	879.0	3.00	6.10	3.413	SDSGS□□-047-22	
	686.8	3.00	5.07	4.368		
	564.8	4.00	5.39	5.312		
	502.9	5.00	5.02	5.965		
	429.7	5.00	4.48	6.982		
	382.7	6.00	4.32	7.840		
	335.8	7.00	3.79	8.935		
	299.0	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



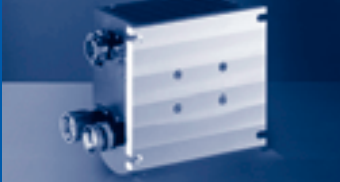
Dimensions, type GST03-2GV□□-047C22



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																					

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]
																								6.0-7.5
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		

Dimensions in mm



Drive selection

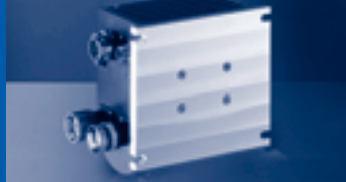
Servo helical geared motors GST

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

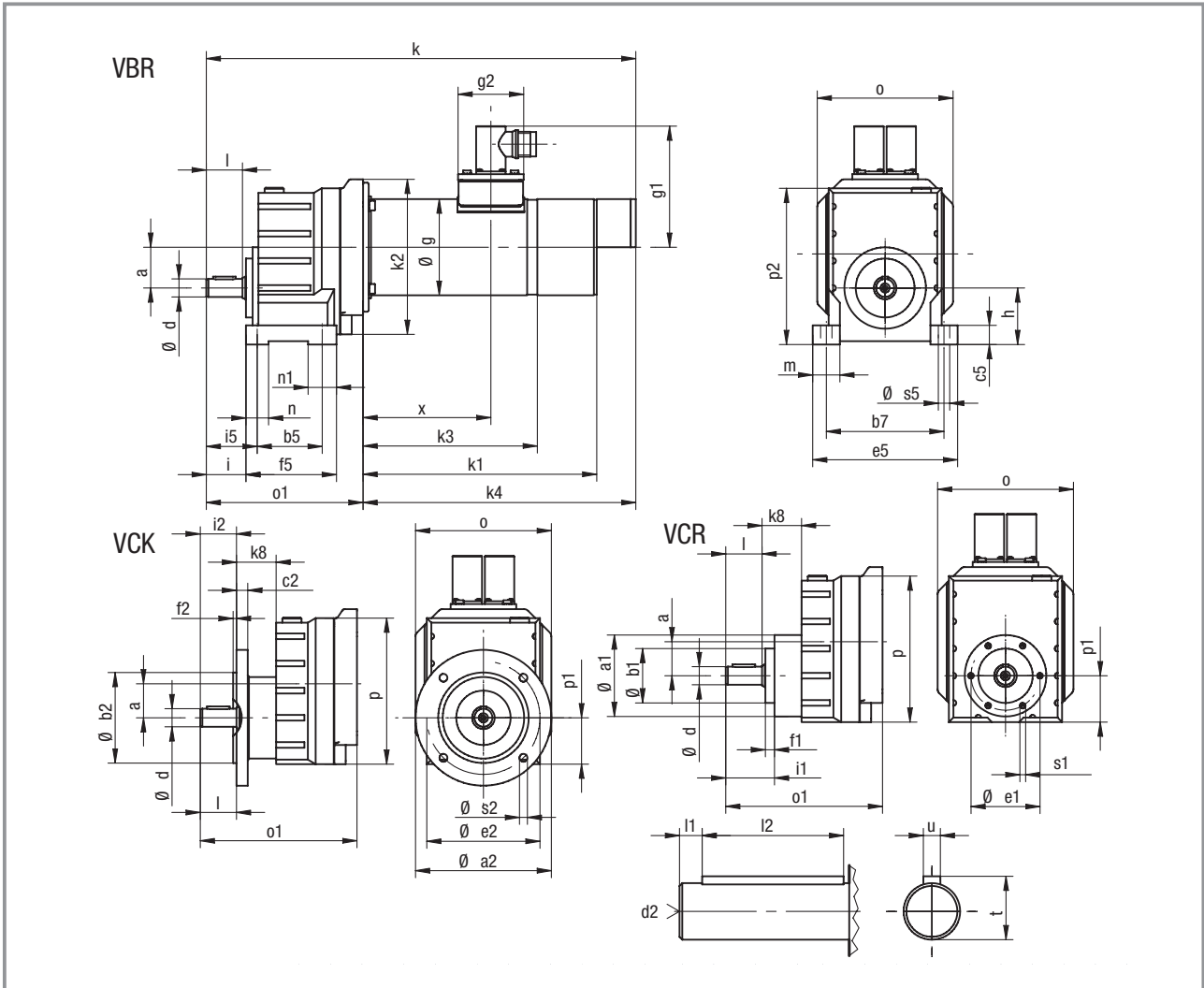
P _r W	Rated data			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
500	1875.0	3.00	3.83	1.600		
	1464.8	3.00	3.74	2.048	SDSGS□□056-22	
	1339.3	4.00	3.87	2.240		
	1050.1	4.00	3.39	2.857		
	857.1	5.00	2.92	3.500		
	681.8	7.00	2.32	4.400		
	529.4	9.00	1.80	5.667		
	417.7	11.00	1.42	7.182		
	333.3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



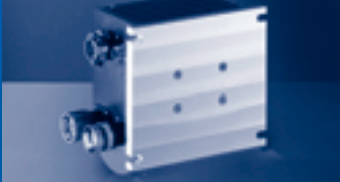
Dimensions, type GST04-1GV□□-056C22



Geared motor	a	a1	a2	b1 h7	b2 j7	b5	b7	c2	c5	d k6	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]
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

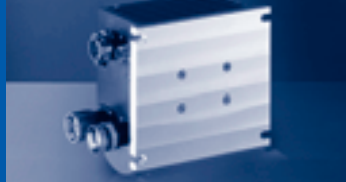
Servo helical geared motors GST

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

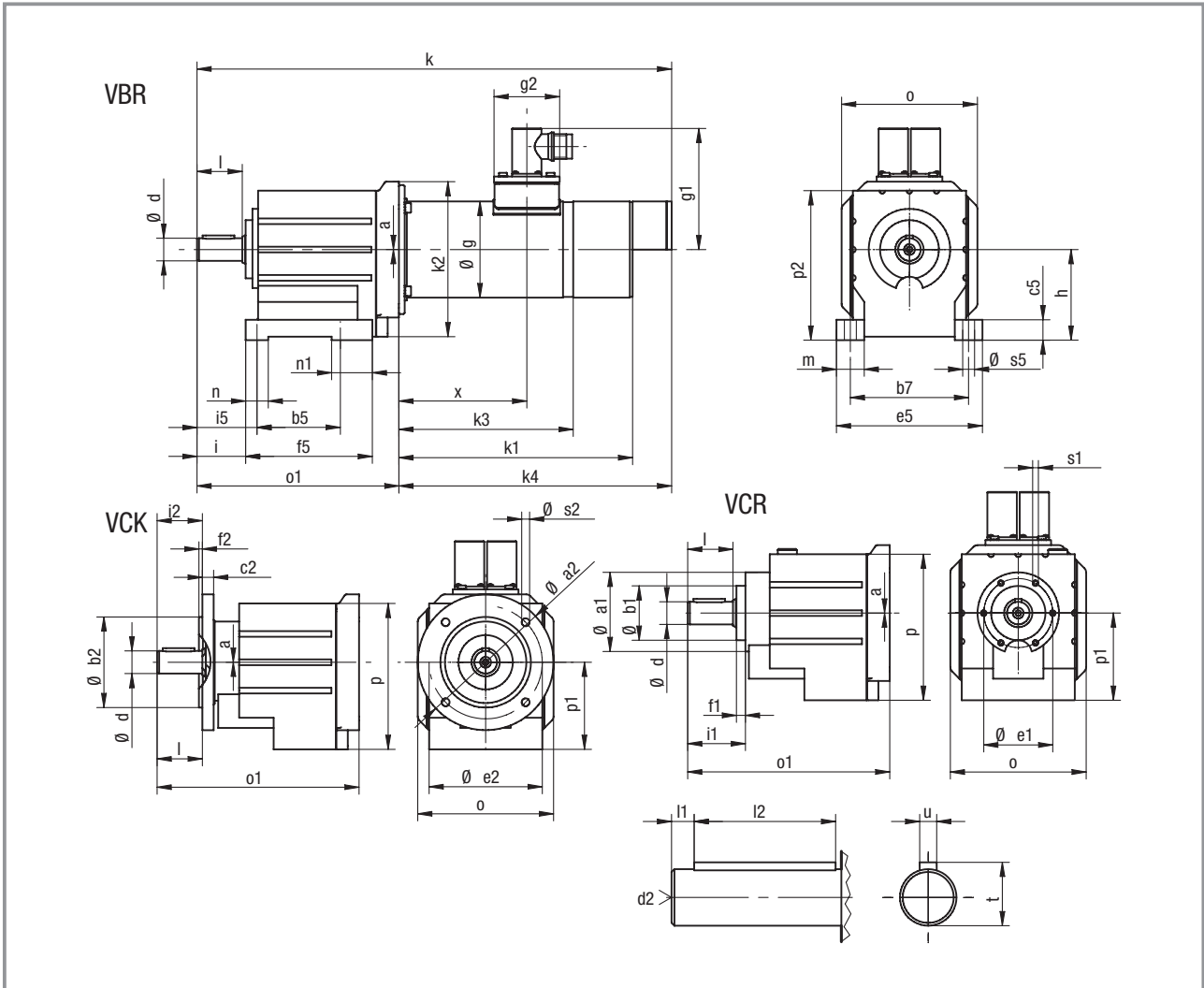
P _r W	Rated data			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
500	1014.9	5.00	3.88	2.956	SDSGS□□056-22	
	900.1	5.00	3.91	3.333		
	740.2	6.00	3.86	4.053		
	656.3	7.00	3.87	4.571		
	578.4	8.00	3.82	5.187		
	512.8	9.00	3.83	5.850		
	468.8	10.00	3.66	6.400		
	426.1	11.00	3.40	7.040		
	375.0	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



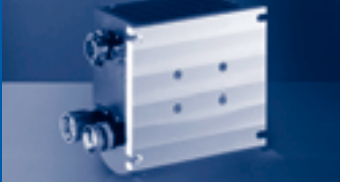
Dimensions, type GST04-2GV□□-056C22



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

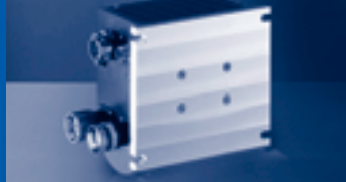
Servo bevel geared motors GKR

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

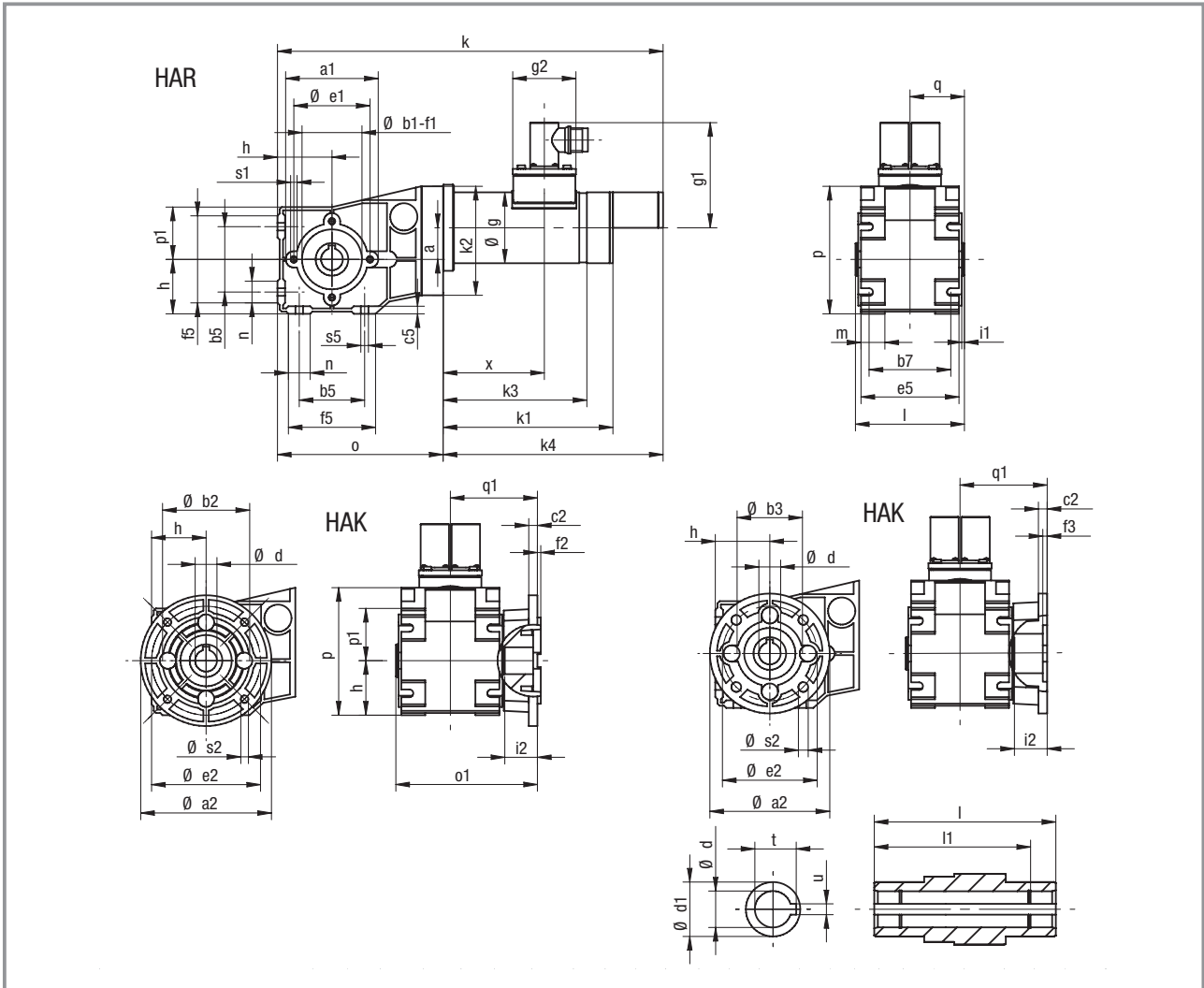
P _r W	Rated data			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
140	554.40	2.00	13.83	5.411		
	482.20	3.00	12.41	6.222	SDSGS□□-035-22	
	421.90	3.00	11.51	7.111		
	366.80	3.00	10.30	8.178		
	329.60	4.00	9.51	9.101		
	286.60	4.00	8.27	10.466		
	257.70	5.00	7.44	11.64		
	224.10	6.00	6.47	13.386		
	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



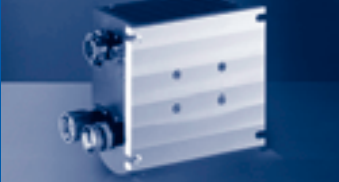
Dimensions, type GKR03-2G□A□-035C22



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	k1 BS	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]
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			

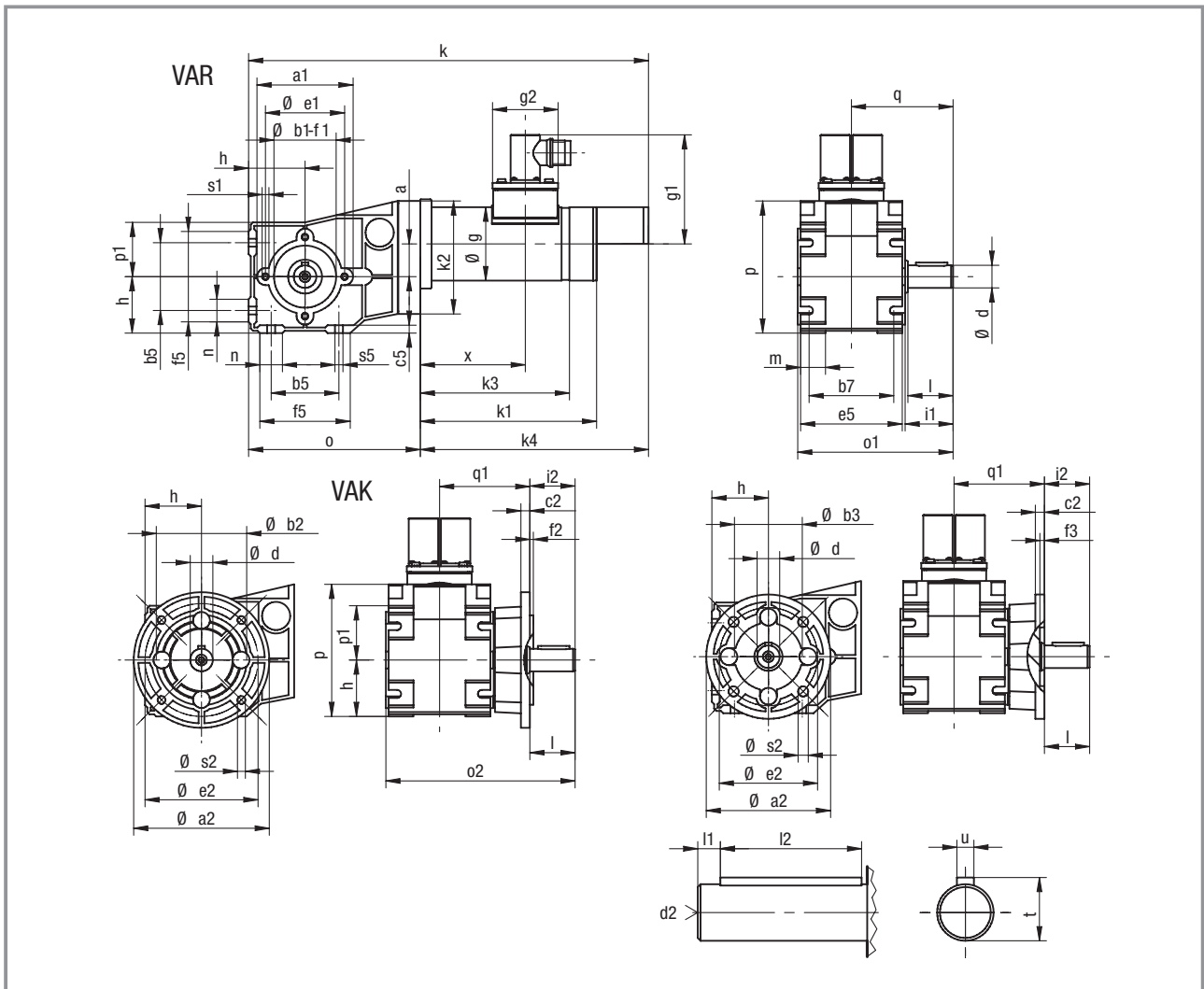
Dimensions in mm



Drive selection

Servo bevel geared motors GKR

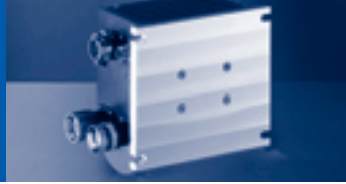
Dimensions, type GKR03-2GVA□-035C22

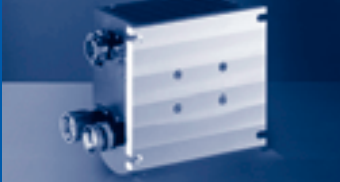


Geared motor	a	a1	a2	b1 J7	b2 j7	b3 H7	b5	b7	c2	c5	d	d2	e1	e2	e5	f1	f2	f3	f5	g	g1	g2	h	i1
GKR03-2GVA□-035C22	29	84	120	55	80	-	60	75	8	7	20	M6	70	100	90	2.5	3	-	80	65	95	58	50	42.5
			110		-	60								87				4						

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

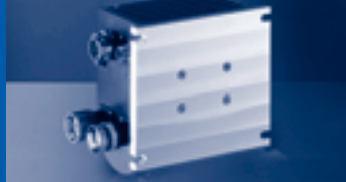
Servo bevel geared motors GKR

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

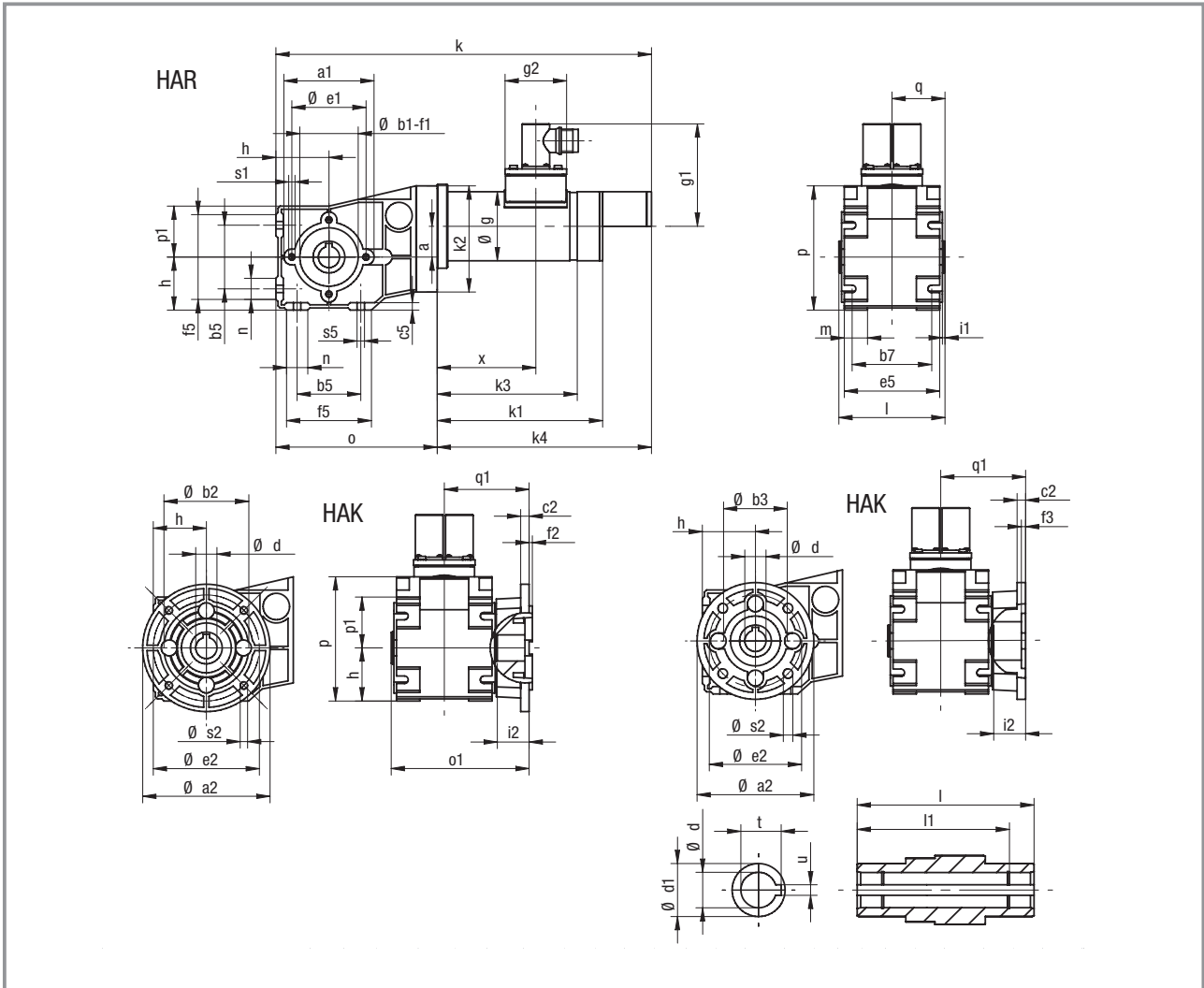
P _r W	Rated data			i	Motor type	Selection Please tick
	n ₂ rpm	M ₂ Nm	c			
250	554.4	4.00	7.78	5.411		
	482.2	5.00	6.98	6.222	SDSGS□□047-22	
	421.9	5.00	6.48	7.111		
	366.8	6.00	5.79	8.178		
	329.6	7.00	5.35	9.101		
	286.6	8.00	4.65	10.466		
	257.7	9.00	4.18	11.640		
	224.1	10.00	3.64	13.386		
	198.5	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



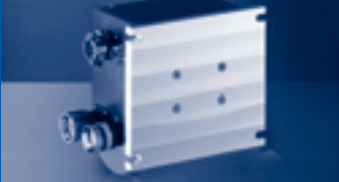
Dimensions, type GKR03-2GHA□-047C22



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				

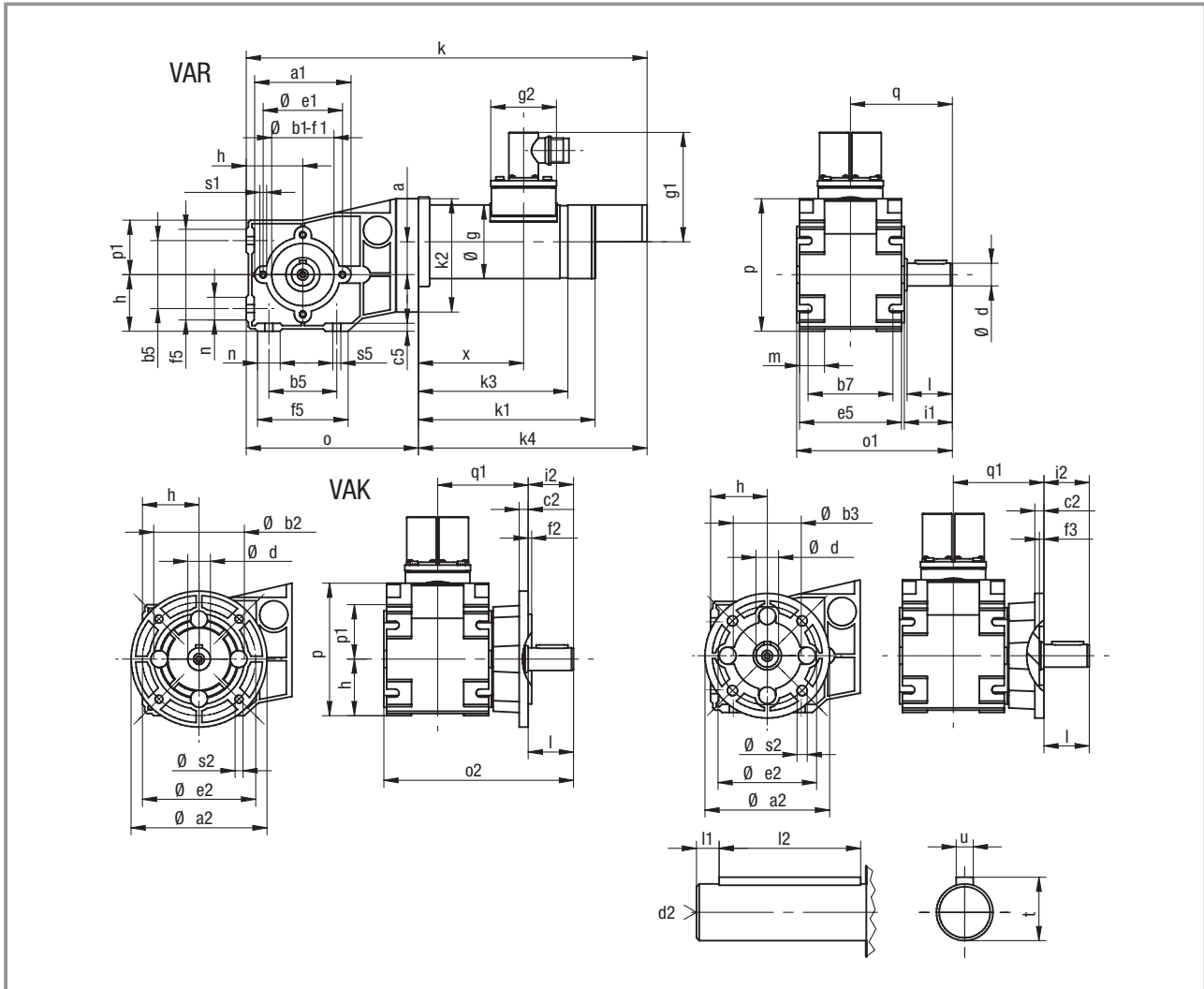
Dimensions in mm



Drive selection

Servo bevel geared motors GKR

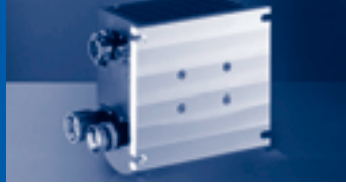
Dimensions, type GKR03-2GVA□-047C22

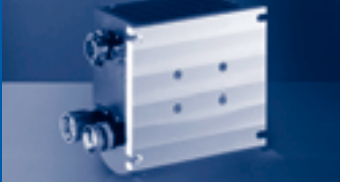


Geared motor	a	a1	a2	b1 J7	b2 j7	b3 H7	b5	b7	c2	c5	d k6	d2	e1	e2	e5	f1	f2	f3	f5	g	g1	g2	h	i1
GKR03-2GVA□-047C22	29	84	120	55	80	-	60	75	8	7	20	M6	70	100	90	2.5	3	-	80	75	101	58	50	42.5
			110		-	60								87				4						

i2	k	k1 BS	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]
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

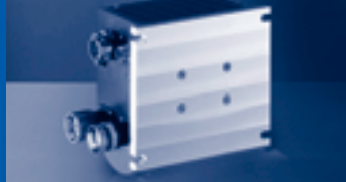
Servo bevel geared motors GKR

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

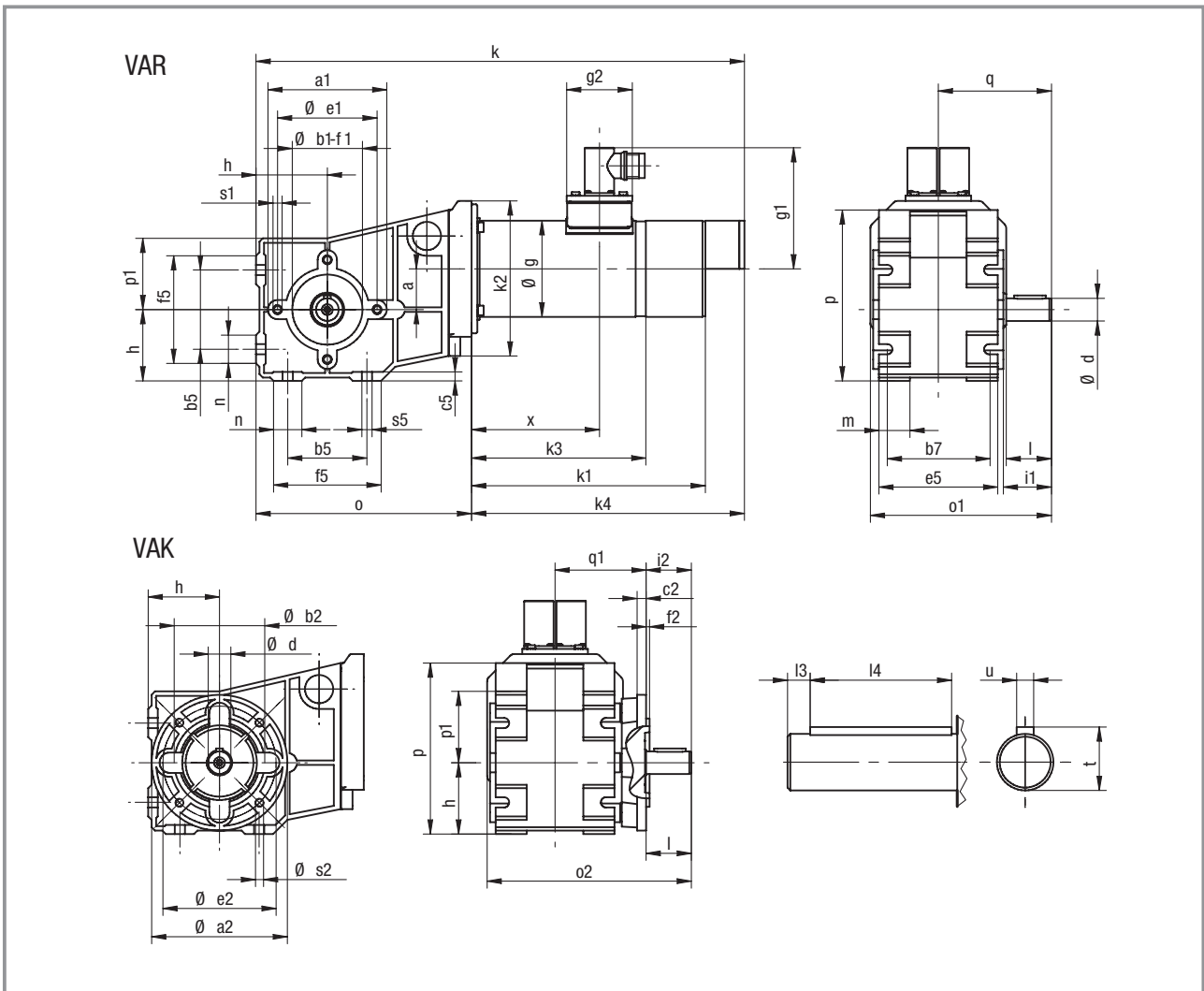
P _r W	Rated data			i	Motor type	Selection Please tick
	n ₂ rpm Nm	M ₂	c			
440	578.6	8.00	3.86	5.185		
	503.1	9.00	3.80	5.963	SDSGS□□056-22	
	421.9	11.00	3.77	7.111		
	366.8	12.00	3.80	8.178		
	329.6	14.00	3.82	9.101		
	286.6	16.00	3.62	10.466		
	262.0	17.00	3.36	11.449		
	236.3	19.00	3.03	12.698		
	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



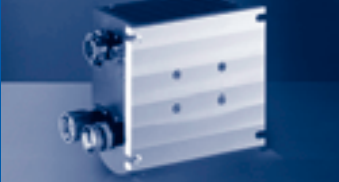
Dimensions, type GKR04-2GVA□-056C22



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		

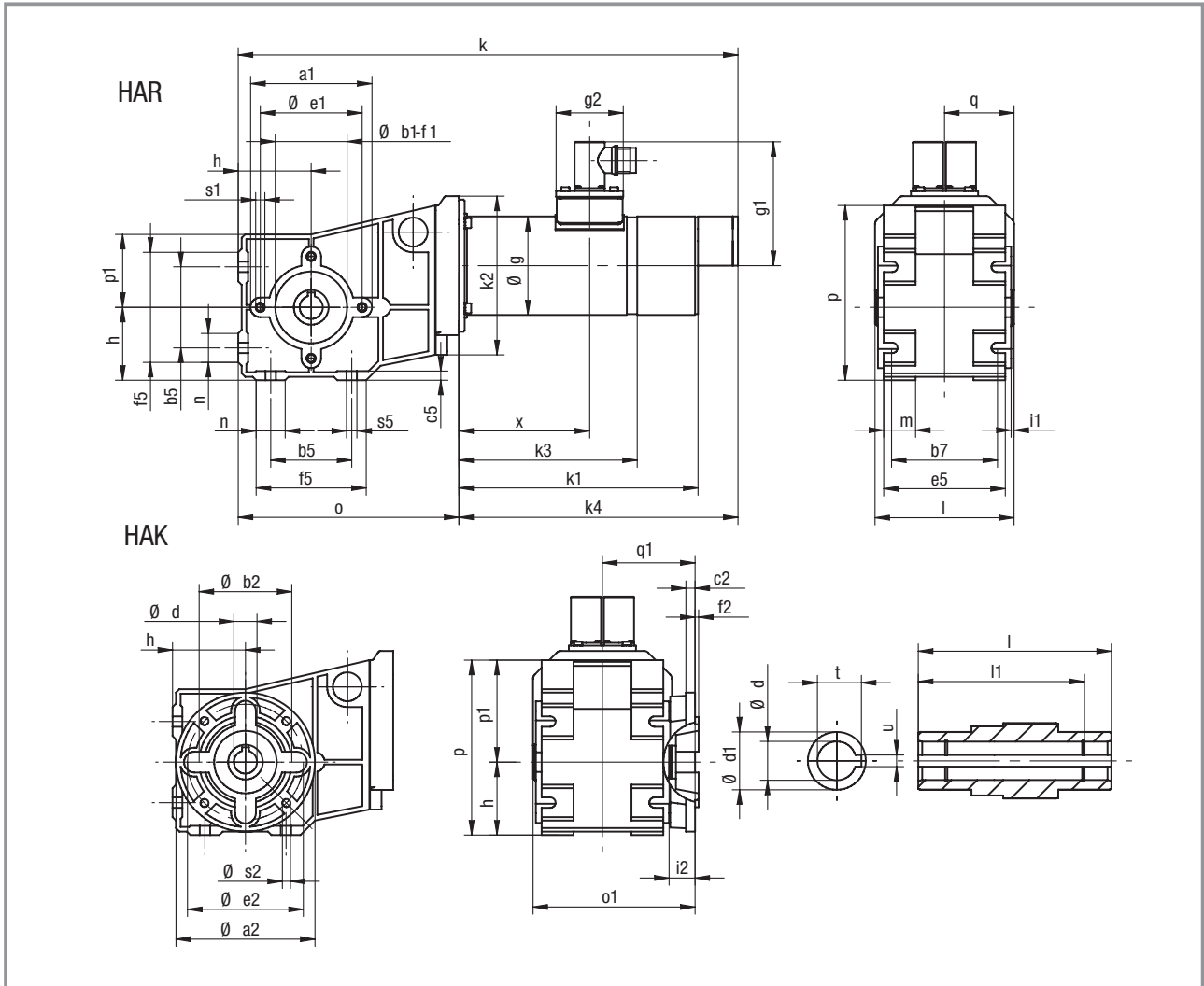
Dimensions in mm



Drive selection

Servo bevel geared motors GKR

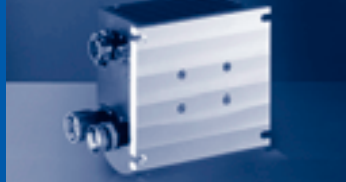
Dimensions, type GKR04-2GHA□-056C22



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		130			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





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