

The product range
Small drives



Compact, powerful, versatile

The product range Small drives



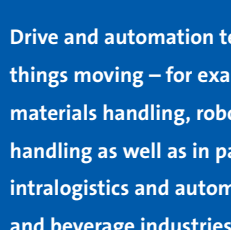
Lenze

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 60 years' experience at the cutting edge of drive and automation technology.



Drive and automation technology from Lenze keep things moving – for example in the areas of materials handling, robotics and component handling as well as in packaging facilities for the intralogistics and automotive sectors and the food and beverage industries.

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.

Small Drives

in a power range of 12 ... 600 W

The product range comprises direct current permanent magnet motors and three-phase asynchronous motors, which can be combined with worm, helical or planetary gearboxes to form geared motors. Modular motor structure and the wide range of variants make it easy to find the most suitable design for any specific application.

Connected directly to the mains, speed controlled or battery-driven – the Small Drives from Lenze are suitable for many application areas, e.g.:

- ▶ Materials handling
- ▶ Medical engineering
- ▶ Batching systems
- ▶ Handling/robotics
- ▶ Printing machinery
- ▶ Packaging machinery

Customer benefit takes pride of place for us during the development of our products. This is what helps to make us such a powerful partner for you, with the ability to solve your drive tasks in a quick and flexible manner. Our experienced team of engineers, technicians and product specialists is at your disposal.

The small drives are part of the Lenze product portfolio for cost-optimised drive solutions. From smallest drives to drive solutions from 400 kW – you can rely on our well thought-out program.



Three-phase AC motors



Worm gearbox



Bevel gearboxes



Planetary gearboxes

An Overview | our products



Controls and industrial PCs



Software, I/O and visualisation



Frequency inverters



Servo inverters



Decentralised drives



Standard three-phase AC motors, synchronous and asynchronous servo motors



Gearboxes and geared motors



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Small drives

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General information | Small drives

General information

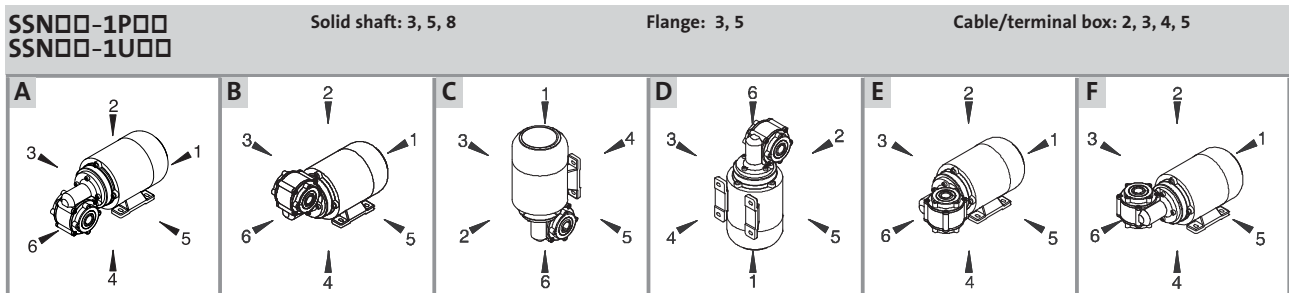
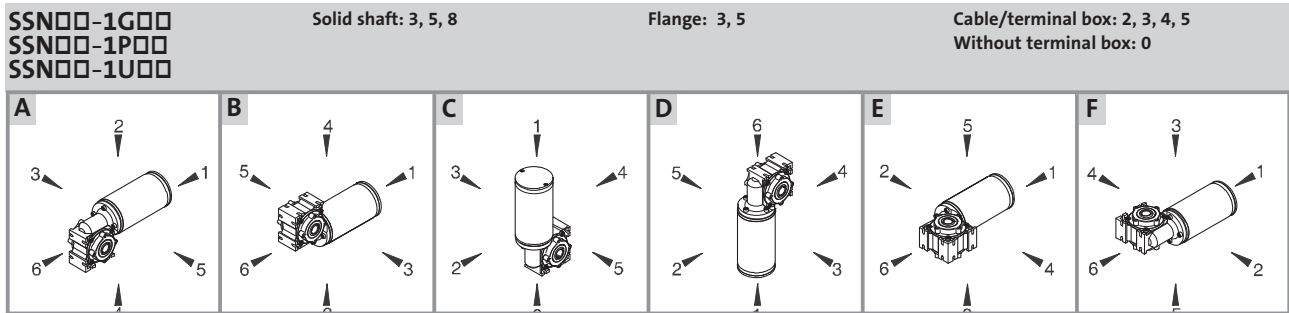
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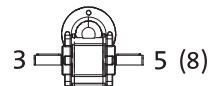
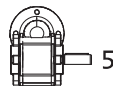
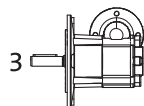
General information

Product key

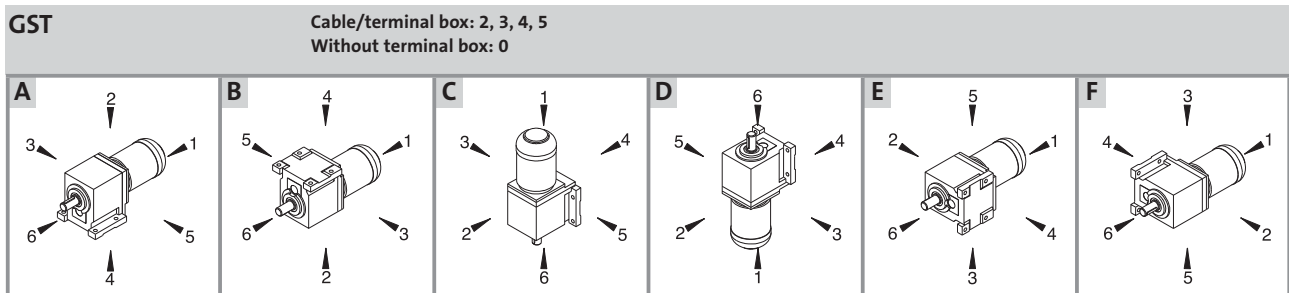
Mounting position (A-F) and position of system blocks (1-6)



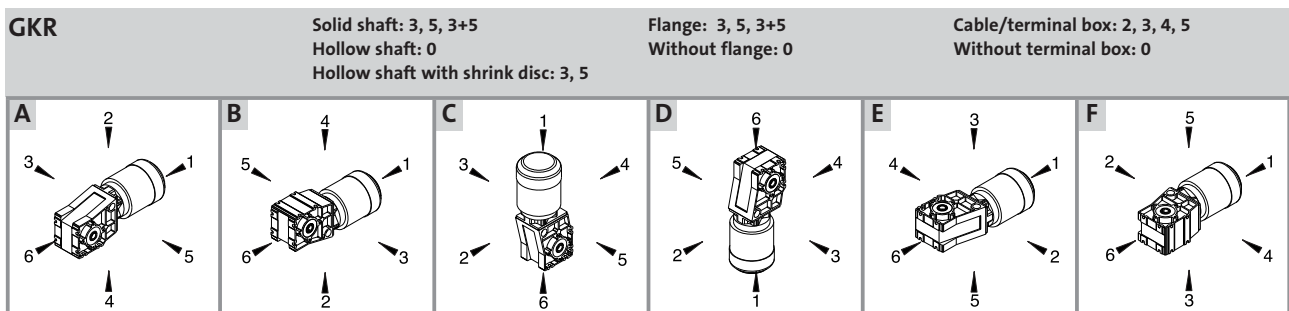
Shaft/flange position



Helical geared motors GST



Helical geared motors GKR





Type codes for geared motors

SSN40-2GVAR-063C22

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
- Worm gearbox -25, 31, 40
- Planetary gearbox -42, -52, 62, 81, 12

No. of stages

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

Drive-end version

- G- Three-phase asynchronous motor SDS series
- U- Three-phase asynchronous motor 13.71 series □/13.75□
- P- DC permanent magnet motors 13.12 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 design

- 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. 071 = IEC71

Input 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

Type code

Type code for series 13.12 motors □, 13.71□, 13.75□

13.121.45.3.5.5

Product group

13- Small drives

Motor type

- 12- DC permanent magnet motor
- 71- Three-phase asynchronous motor, smooth housing
- 75- Three-phase asynchronous motor, ribbed housing

Output design

- 0- Lenze standard, IEC
- 1- For worm gearbox SSN
- 6- For helical gearbox GST and bevel gearbox GKR

Motor frame size

- 1st digit Frame size (encoded)
- 2nd digit Overall length (encoded)

Output design specification

- 0- Lenze standard dimensions
- 1- IEC dimensions
- 2- Worm gearbox SSN25
- 3- Worm gearbox SSN31
- 5- Worm gearbox SSN40

In the case of output design 6

- 3- Gearbox size 03
- 4- Gearbox size 04
- 5- Gearbox size 05

Motor type

- 2- Flange mounting B14
- 3- Foot mounting B3
- 5- Foot-flange mounting B3/B14
- 6- Flange mounting B9 for gearbox GST/GKR

Built-on accessories

- 0- No built-on accessories
- 1- With brake
- 4- With DC tacho
- 5- With AC tacho
- 6- For tacho attachment
- 7- For brake attachment



Type codes motors series SDS

SDSGARS056-22

Product group

S- small drives

Current

D- Three-phase AC current

Ventilation

S- Naturally ventilated

Design

G- Smooth housing

Machine type

A- Asynchronous machine

Built-on accessories

BI- Brake and incremental encoder

BR- Brake

BS- Brake and resolver

BV- Brake, prepared

IG- Pulse encoder

RS- Resolver

XX- None

Motor frame size

Axis height according to standard e.g. 071 = IEC71

Overall length

2- M, medium

3- L, long

Number of pole pairs

2- 4 pole



General information

Type code

Gearbox type code

SSN40-1FVAR

Product group

S- Small drives

Product range

PL- Planetary gearbox

SN- Worm gearbox

Size

Worm gearbox -25, 31, 40

Planetary gearbox -42, -52, 62, 81, 12

No. of stages

1- Single-stage

2- Two-stage

3- Three-stage

Drive-end version

N- Standard motor

F- Open design

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



Abbreviations used in this catalogue:

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



General information

Product information Motors and Gearboxes

1

DC permanent magnet motor in the power range from 55 - 600 W

- ▶ **Protection from external influences**
Enclosure IP54 ensures good protection for motors from dust and water.
- ▶ **High performance**
The high power density of the motors makes compact drive units possible.
- ▶ The modular motor structure and the variations with gearboxes that have been planned into the concept makes it easy to select the right version for the particular application.
- ▶ **Long life**
The insulation design to thermal class F means the windings are durable.
- ▶ **Independent at 24 V**
Battery operation makes it possible to work independently of the mains supply. Please contact Lenze Small Drives.

Three-phase asynchronous motor (smooth housing) in the power range from 12 - 600 W

- ▶ **Quiet**
No fan noise.
- ▶ **Compact**
The optimised design with a smooth housing facilitates a space-saving installation.
- ▶ **Reliable operation**
The smooth surface of the housing prevents a reduction of the cooling by dust and fluff.
- ▶ The modular motor structure and the variations with gearboxes that have been planned into the concept makes it easy to select the right version for the particular application.

Three-phase asynchronous motor (ribbed housing) in the power range from 30 - 250 W

- ▶ **High performance**
High output power thanks to the fan and cooling ribs on the housing.
- ▶ The modular motor structure and the variations with gearboxes that have been planned into the concept makes it easy to select the right version for the particular application.

Bevel and helical gearboxes

- ▶ **Compact**
The modular concept and the high power density achieved using ground gears with optimised teeth profiles make extremely compact designs possible.
- ▶ **Adaptable and compatible**
Numerous input and output designs mean that Lenze gearboxes can be adapted to almost any drive task. Shaft-mounted helical and right-angle gearboxes are compatible at the output within any given gearbox size.
- ▶ **Easy to integrate**
The high functionality of the housing allows easy integration of Lenze gearboxes into their surroundings.
- ▶ **Quiet**
Optimised geometry of the gear teeth reduces generated noise and internally ribbed cast iron housings provide additional noise damping.
- ▶ **Finely stepped output speed**
Large ratio ranges combined with the small ratio step $\varphi = 1.12$ allow a precise selection of the required output speed.
- ▶ **Reduced clearance**
The two-stage basic concept (three-stage helical-bevel gearbox), low backlash connections and the high quality of the toothing provided by precision manufacturing give a high torsional stiffness at the output compared to other gearboxes.

Worm gearbox

- ▶ **Durable**
The choice of material and machining of the gearbox ensure a long service life.
- ▶ **Low maintenance**
No maintenance required

Planetary gearbox

- ▶ **Compact**
The optimised design with a smooth housing facilitates a space-saving installation.
- ▶ **Low maintenance**
No maintenance required



Operating modes

The ratings are obtained when the following conditions are fulfilled:

- ▶ Ambient temperature up to 40 °C
- ▶ Installation at a height up to 1000 m a.m.s.l.
- ▶ Unobstructed airflow
- ▶ No recycling of the warm exhaust air via the intake

The operating mode is important when choosing a motor. A motor heats up much less, for example, when loaded only intermittently than when constantly under load, thus allowing the selection of a smaller motor. In accordance with VDE 0530, there are eight different modes of operation; S1 to S8.

For **Continuous operation S1** the operating time at the rated power is so long that the steady-state temperature of the machine is reached. Such motors are suitable for continuous duty, i.e. they can be permanently loaded with the rated load.

For **Short-time operation S2** the operating time is so short in comparison to the resting time which follows it that the

steady-state temperature of the machine is never achieved. In the resting time following the operating time the motor cools down to the initial temperature.

With **Intermittent operation S3, S4, S5** the operation consists of a repeating set of short-term duties. The running time is normally 10 minutes. The resting periods between the operating periods are sufficiently long for the machine to cool down.

S3 operation occurs, when the heating effect of the starting current is negligible, S4 when the effect of the starting current cannot be disregarded, S5 when the braking current causes additional heating of the machine.

With **continuous duty with intermittent loading S6** the motor can cool down in the idle phases.

With **continuous operation with start-up and braking S7** there are practically no pauses. The machine is permanently under voltage.

Increased power in operating modes S2, S3 and S6

Duty cycle S2		Operating mode S3		Operating mode S6	
Operating time [min]	$\frac{P_{perm}}{P_r}$	Operating time [%]	$\frac{P_{perm}}{P_r}$	Operating time [%]	$\frac{P_{perm}}{P_r}$
10	1.4 ... 1.5	15	1.4 ... 1.5	15	1.5 ... 1.6
30	1.15 ... 1.2	25	1.3 ... 1.4	25	1.4 ... 1.5
60	1.07 ... 1.1	40	1.15 ... 1.2	40	1.3 ... 1.4
90	1.0 ... 1.05	60	1.05 ... 1.1	60	1.15 ... 1.2

Varying ambient conditions

Variations in the ambient conditions require a power reduction according to the factors given in Tables 2 and 3. The permissible continuous power is given by:

$$P_{red} = \frac{P_{\vartheta}}{P_N} \cdot P_N$$

Effect of the ambient operating temperature

How the ambient operating temperature T_{amb} affects rated power					
T_{amb} [°C]	≤ 40	45	50	55	60
$\frac{P_{\vartheta}}{P_N}$	1	0.95	0.90	0.83	0.7



General information

Dimensioning of geared motors and gearboxes

1. Calculate the required load capacity

Work out the output torque M_2 and speed n_2 required

Calculate the required motor power $P_1 = \frac{M_2 \cdot n_2}{9550 \cdot \eta}$

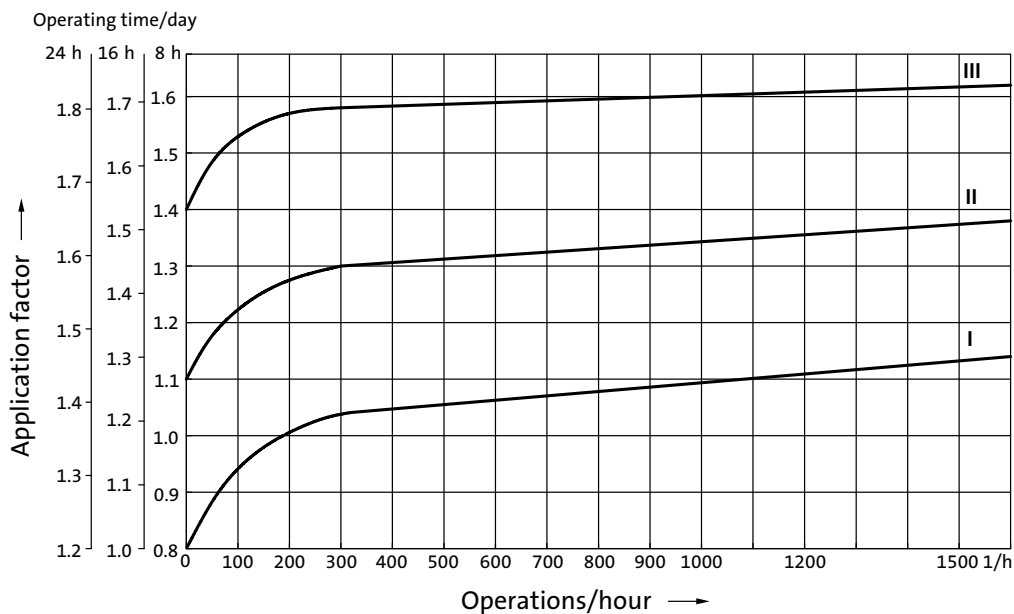
Calculate the duty class:

Duty class	Type of load	Intensity	
I	Smooth operation, minor or negligible shocks	$F_I \leq 1.25$	$F_I (\text{geared motor}) = \frac{J_{\text{ext}} + J_{\text{mot}}}{J_{\text{mot}}}$
II	Irregular operation, average shocks	$1.25 < F_I \leq 4$	
III	Irregular operation, major shocks and/or alternating loads	$F_I > 4$	$F_I (\text{gearbox}) = \frac{J_{\text{ext}} + J_A}{J_A}$

Calculate the temporal factors:

- Operating time/day
- Switching operations/hour

Use the diagram to determine the application factor k of the machine



Requirement for geared motor: c (selection table) $\geq k$
 Requirement for gearbox: $M_{2 \text{ perm}}$ (selection table) $\geq M_2 \cdot k$



2. Calculate the axial and radial forces applied to the gearbox shaft

Estimate the axial and radial forces applied
Approximate calculation of radial forces:

$$F_r = 2000 \cdot \frac{M_2 \cdot f_z}{d_w [\text{mm}]}$$

f_z	Transmission element
1.12	Gears
1.25 ... 1.4	Sprocket
1.5	Toothed belt pulleys
1.5 ... 2.0	Narrow V-belt pulleys depending on initial stress

Requirement:

- ▶ $F_{rperm} \geq F_r$
(F_{rperm} taken from gearbox-specific data)
- ▶ $F_{aperm} \geq F_a$
(F_{aperm} taken from gearbox-specific data)

Power, torque and speed

The power, torque and speed values specified in this catalogue are rounded values and are valid under the following conditions:

- ▶ Operating time/day = 8h (100% ED)
- ▶ Duty class I at 10 switching operations/h
- ▶ Mounting positions and designs in this catalogue
- ▶ Standard lubricant
- ▶ $f_{mains} = 50 \text{ Hz or } 100 \text{ Hz constant}$
- ▶ $T_U = 20 \text{ °C}$
- ▶ Site altitude $< = 1000 \text{ m above mean sea level}$

The rated power specified for motors and geared motors applies to operating mode S1 in accordance with VDE 0530 Part 1 / DIN 57530 Part 1.

If your operating conditions differ, the values that can be obtained may deviate from those specified.

If you are operating under extreme conditions, please contact your nearest Lenze representative.

Load capacity c of gearboxes

Parameter for the load capacity of Lenze gearboxes and geared motors.

- ▶ c is the ratio of the permissible rated torque of the gearbox to the rated torque supplied by the drive component (e.g. the built-in Lenze motor).
- ▶ The value of c must always be greater than the value of the application factor k calculated for the application.

Operating factor k (corresponding to DIN 3990)

Takes into account the influence of temporally variable loads which are actually present during the anticipated runtime of gearboxes and geared motors.

k is determined by

- ▶ the type of load
- ▶ the load intensity
- ▶ temporal factors



Motors and geared motors

AC asynchronous motors / geared motors

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DC permanent magnet motors/geared motors

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General data

Motor type	13.71□.35.□.2.0	13.71□.□□.□.□.□	13.75□.□□.□.□.□
Enclosure	IP54 or IP 55		
Thermal class (VDE530)	F		
Motor protection	-	Thermal contact (normally-closed contact)	
Cooling	Naturally ventilated		Integral fan
Temperature range	-20 to +40 °C		
Site altitude	Up to 1000 m a.m.s.l.		
Electrical connection	Terminal box		
Bearing	Deep-groove ball bearing		
Operating mode (VDE530)	S1		

Description

The multi-range windings make three-phase asynchronous motors suitable for operation in a wide range of operating

voltages – 3-phase 220-240/380-415 V. The lower voltage applies to delta connections and the higher to star connections.



Three-phase asynchronous motor type: 13.710 (smooth housing)



Three-phase asynchronous motor type: 13.750 (ribbed housing)

Operation with frequency inverters for AC motors

The sticker in the terminal box indicates the voltage limit values for your motor.

Permissible voltage
 $\hat{u} \leq 0.75 \text{ kV}$
 $dU/dt \leq 5 \text{ kV } \mu\text{s}$

Sticker for product range 13.7□□

Protecting the motor from excessive voltage spikes

- ▶ When operating the motor with a frequency inverter or for mains switching operation, voltage spikes can occur which can damage the motor insulation.
- ▶ To prevent malfunctions, the limit values given in the tables must not be exceeded:

Operating the motor with	Limit values for voltage spikes	
	Max. amplitude $\hat{u}$ (kV)	Max. rate of rise dU/dt (kV / μs)
Frequency inverter single-phase	0.75	5
Frequency inverter three-phase	1.5	
Mains switching operation	0.75	

TIP!

For mains switching operation, the voltage spikes can be limited by the use of a suppressor circuit with RC components or varistors (not part of scope of supply). The suppressor circuit must be of a suitable dimension for the application in question!

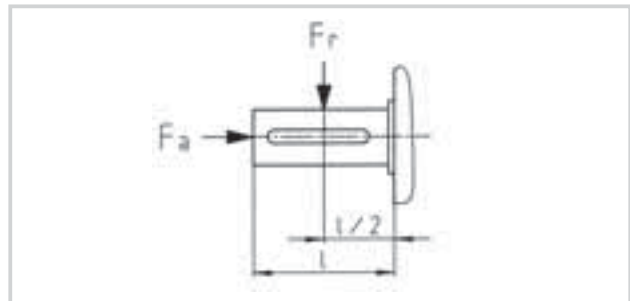


Rated data

Motor type (smooth housing)	13.710.35	13.710.35	13.710.47	13.710.47	13.710.55	13.710.55
Rated power (W)	12	25	40	75	60	90
Rated torque (Nm)	0.085	0.088	0.28	0.27	0.42	0.32
Rated current (A)	0.18 / 0.1	0.35 / 0.2	0.38 / 0.22	0.40 / 0.23	0.37 / 0.21	0.44 / 0.25
Rated voltage (V)	230/400	230/400	230/400	230/400	230/400	230/400
Rated frequency (Hz)	50	50	50	50	50	50
Rated speed (rpm)	1350	2700	1350	2700	1350	2700
Power factor	0.7	0.53	0.61	0.76	0.72	0.86
Moment of inertia (kgcm ²)	0.22	0.22	0.41	0.41	1.4	0.85
Max. radial force (N) F_r	240	190	350	280	340	270
Max. axial force (N) F_a	230	170	320	240	320	240
M_A/M_N	2.6	2.6	2.2	2.4	1.9	2.1
M_K/M_N	2.0	2.0	2.5	2.0	1.8	2.1

Motor type (ribbed housing)	13.750.45	13.750.45	13.750.55	13.750.55	13.750.65	13.750.65
Rated power (W)	30	60	90	150	180	250
Rated torque (Nm)	0.21	0.21	0.64	0.53	1.27	0.86
Rated current (A)	0.42 / 0.24	0.48 / 0.28	0.70 / 0.40	0.73 / 0.42	1.20 / 0.70	1.27 / 0.73
Rated voltage (V)	230/400	230/400	230/400	230/400	230/400	230/400
Rated frequency (Hz)	50	50	50	50	50	50
Rated speed (rpm)	1350	2700	1350	2700	1350	2750
Power factor	0.56	0.62	0.65	0.86	0.79	0.83
Moment of inertia (kgcm ²)	0.31	0.31	1.3	0.79	2.1	1.4
Max. radial force (N) F_r	240	190	400	320	570	450
Max. axial force (N) F_a	120	90	380	280	520	390
M_A/M_N	2.8	3.3	2.1	2.3	1.7	2.7
M_K/M_N	2.0	2.9	1.9	2.6	2.0	2.0

The motors are dimensioned for a rated frequency of 50 Hz. The rated frequency of 60 Hz is permissible. If the same rated voltage is maintained with 60 Hz operation the utilisation of the motor and thus the motor temperature reduce. If the rated voltage is increased by the factor 1.2 (ratio 60 Hz/50 Hz) in 60 Hz operation, the motor utilisation remains constant and the temperatures are the same as in 50 Hz operation.



Frequency	Voltage	Power	Speed	Torque	Starting torque
Hz	U/U _N in %	P/P _N in %	n/n _N in %	M/M _N in %	M _A /M _{AN} in %
50	100	100	100	100	100
60	100	100	120	83	70
60	120	120	120	100	100



Drive selection

AC asynchronous motors (smooth housing)

Selection table Type 13.710.□□.□.2.□

Motor type	P _N W rpm	50 Hz		Design A-side	Selection (tick as required)
		n ₂ Nm	M ₂		
13.710.35.0.2.0	12	1350	0.09	B14	
13.710.35.0.2.0	25	2700	0.09	B14	
13.710.47.0.2.□	40	1350	0.28	B14	
13.710.47.0.2.□	75	2700	0.27	B14	
13.710.55.1.2.□	60	1350	0.42	IEC56 B14 C80	
13.710.55.1.2.□	90	2700	0.32	IEC56 B14 C80	

Additional order information

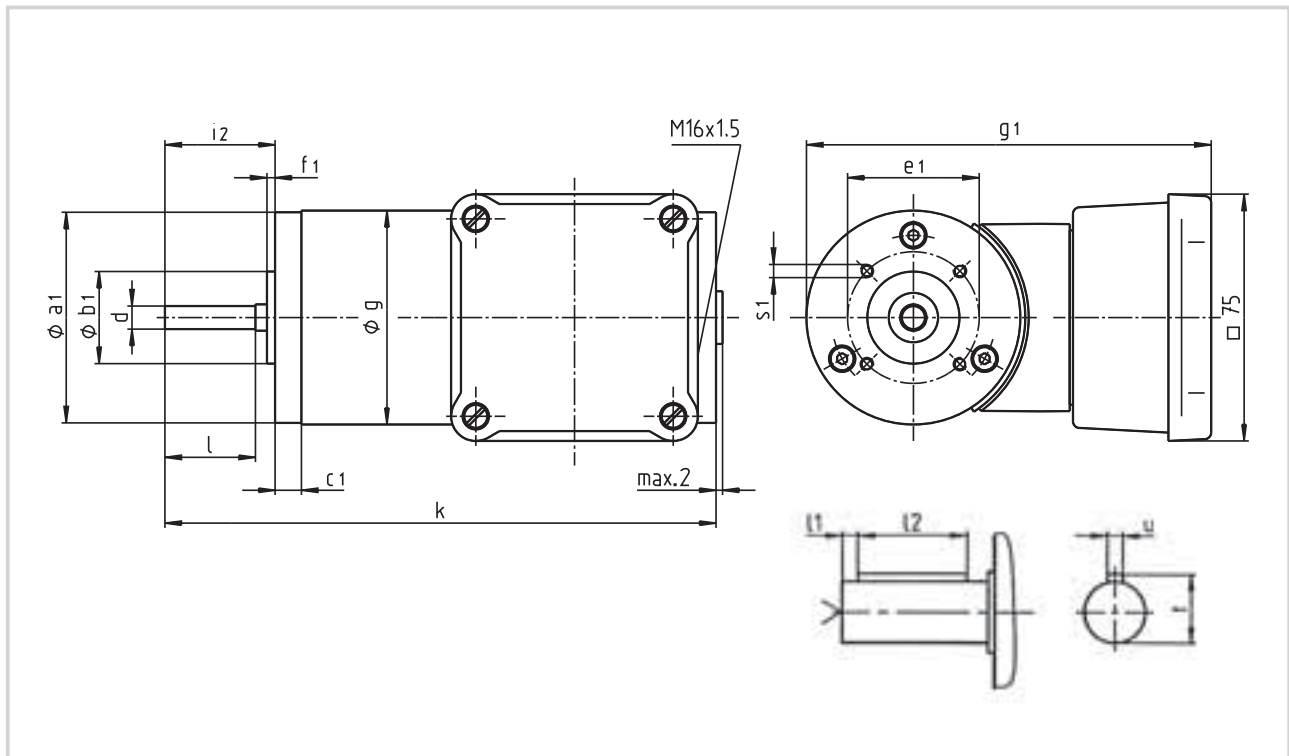
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Enclosure	IP54	
	IP55	
Brake supply voltage	24 V DC with motor frame size 47 and 55 only	
	230 V AC with bridge rectifier with motor frame size 47 and 55 only	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type 13.710.□□.□.2.□



Motor type	Frame size	a_1	b_1 j7	c_1	d	e_1	f_1	g	g_1	i_2	k	l	l_1	l_2	s_1	t	u	Weight approx. kg
13.710.35.0.2.0		64	28	10	7 h6	40	2.5	65	123	33.5	167.5	31	—	—	M4	—	—	1.8
13.710.47.0.2.□		74	28	10	8 h6	45	2.5	75	133	32.5	186.5	29	—	—	M4	—	—	2.9
13.710.55.1.2.□	IEC 56	85	50	14	9 k6	65	2.5	85	144	20	183	20	3	14	M5	10.2	3	3.6

Dimensions in mm



Drive selection

AC asynchronous motors (ribbed housing)

Selection table Type 13.750.□□.□.□.□

Motor type	P _N W rpm	50 Hz		Design A-side	Selection (tick as required)
		n ₂ Nm	M ₂		
13.750.45.0.3.□	30	1350	0.21	B3	
13.750.45.0.2.□				B14	
13.750.45.0.3.□	60	2700	0.21	B3	
13.750.45.0.2.□				B14	
13.750.55.1.3.□	90	1350	0.64	IEC56 B3	
13.750.55.1.2.□				IEC56 B14 C80	
13.750.55.1.3.□	150	2700	0.53	IEC56 B3	
13.750.55.1.2.□				IEC56 B14 C80	
13.750.65.1.3.□	180	1350	1.27	IEC63 B3	
13.750.65.1.2.□				IEC63 B14 C90	
13.750.65.1.3.□	250	2750	0.86	IEC63 B3	
13.750.65.1.2.□				IEC63 B14 C90	

Additional order information

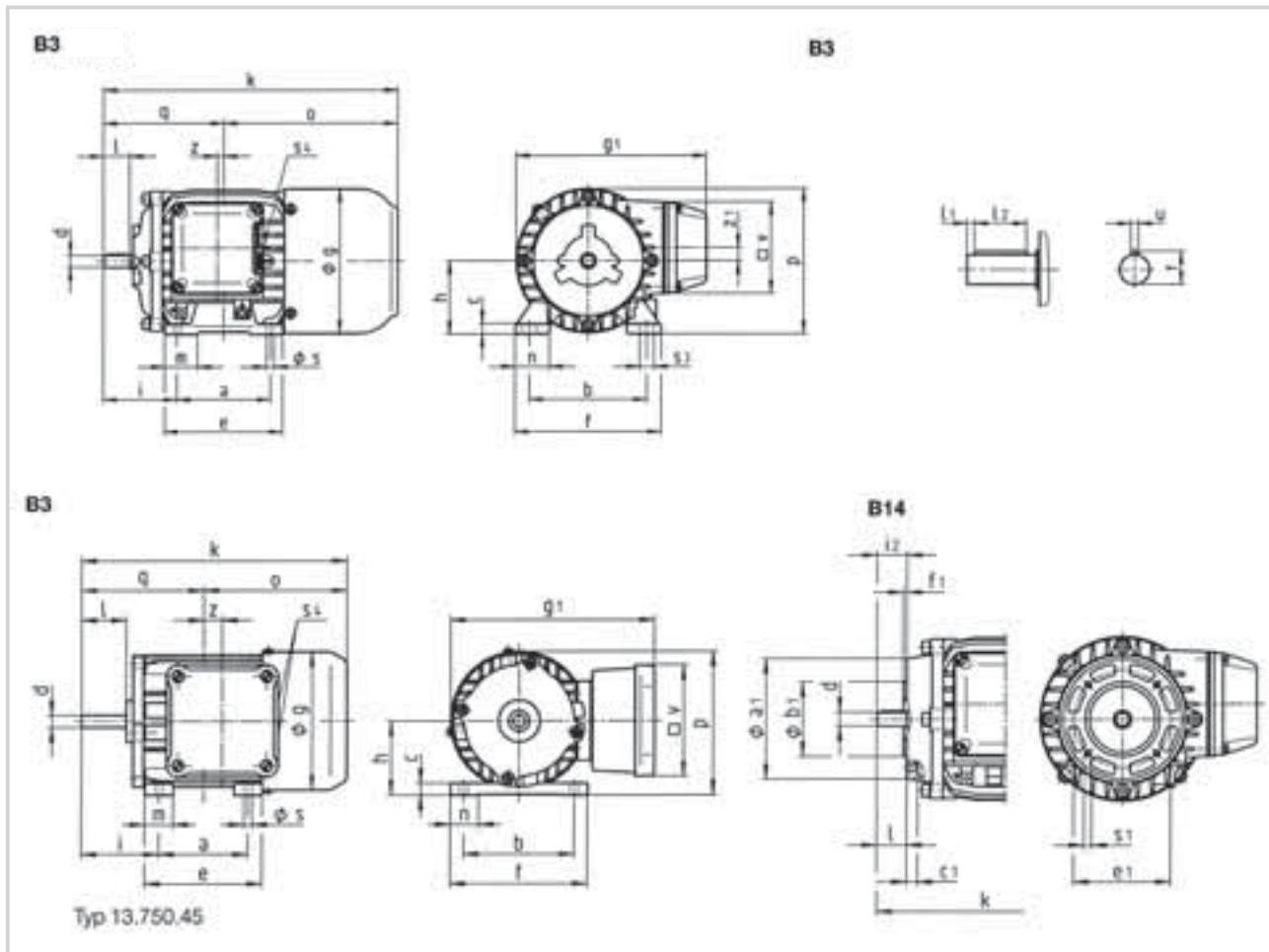
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Enclosure	IP54	
	IP55	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Position of electrical connection on type B3		2 3 5
Position of electrical connection on type B14		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type 13.750.□□.□.□.□



Motor type	Frame size	a B3	a ₁ B14	b B3	b ₁ B14 j7	c B3	c ₁ B14	d	e B3	e ₁ B14	f B3	f ₁ B14	g	g ₁	h B3	i B3	i ₂ B14
13.750.45.0.□.□	—	60	74.5	75	28	8	7	8 h6	79	45	93	4.5	93	137.5	50	52	32.5 34.5
13.750.55.1.□.□	IEC 56	71	80	90	50	8	7.5	9 k6	90	65	112	2.5	110.5	146	56	56	20
13.750.65.1.□.□	IEC 63	80	90	100	60	9.5	8	11 k6	105	75	125	2.5 3	123	158	63	63	23

Motor type	k	l *)	l ₁	l ₂	m B3	n B3	o	p B3	p ₁ B3	q	s B3	s ₁ B14	s ₃ B3	s ₄	t	u	v	z	z ₁	Weight approx. kg
13.750.45.0.□.□	178.5	30			19	19	96.5	96.5	141	82	5.5	M5	—	M16x1.5	—	—	75	13.5	—	2.3
13.750.55.1.□.□	187	20	2.5	15	25	26	95.5	111.5	146.5	91.5	6	M5	11	M16x1.5	10.2	3	70	5	10	3.7
13.750.65.1.□.□	215.5	23	3	18	27.5	30	112.5	124.5	165.5	103	7	M5	12	M16x1.5	12.5	4	70	8.5	16	5

*) Motors, if non-IEC motors, do not have a shaft collar

Dimensions in mm



Drive selection

AC asynchronous motors (smooth housing)

Selection table Type 13.71□.□□.□.2.□

Motor type	P _N W	50 Hz		Design A-side for gearbox attachment	Selection (tick as required)
		n ₂ rpm	M ₂ Nm		
13.710.35.9.2.0	12	1350	0.085	B14 for SPL42	
13.710.35.9.2.0	25	2700	0.088	B14 for SPL42	
13.711.35.2.2.0	12	1350	0.085	B14 for SSN25	
13.711.35.2.2.0	25	2700	0.088	B14 for SSN25	
13.711.47.0.2.0	40	1350	0.280	B14 for SSN25	
13.711.47.0.2.0	75	2700	0.270	B14 for SSN25	
13.711.55.3.2.0	60	1350	0.420	B14 for SSN31	
13.711.55.3.2.0	90	2700	0.320	B14 for SSN31	

Additional order information

B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Enclosure	IP54	
	IP55	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Position of electrical connection		2

Dimensional drawing available on request

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Selection table Type 13.751.□□.□.□.□

Motor type	P _N W	50 Hz		Design A-side for gearbox attachment	Selection (tick as required)
		n ₂ rpm	M ₂ Nm		
13.751.45.2.5.□	30	1350	0.21	B3/B14 for SSN25	
13.751.45.2.2.□				B14 for SSN25	
13.751.45.2.5.□	60	2700	0.21	B3B14 for SSN25	
13.751.45.2.2.□				B14 for SSN25	
13.751.55.3.5.□	90	1350	0.64	B3/B14 for SSN31	
13.750.55.1.2.□				B14 for SSN31	
13.751.55.3.5.□	150	2700	0.53	B3/B14 for SSN31	
13.751.55.3.2.□				B14 for SSN31	
13.751.65.5.5.□	180	1350	1.27	B3/B14 for SSN40	
13.751.65.5.2.□				B14 for SSN40	
13.751.65.5.5.□	250	2750	0.86	B3/B14 for SSN40	
13.751.65.5.2.□				B14 for SSN40	

Additional order information

B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Enclosure	IP54	
	IP55	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Position of electrical connection on type B3/B14		2 3 5
Position of electrical connection on type B14		2

Dimensional drawing available on request

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Drive selection

AC worm geared motors (smooth housing)

Selection table Type SSN25-1UVCL-035C□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.711.35.2.2.0	12	270	0.30	20.33	5	
		169	0.50	14.51	8	
		135	0.60	13.07	10	
		90	0.80	9.19	15	
		68	1.00	8.11	20	
		45	1.20	6.13	30	
		34	1.50	4.79	40	
		27	1.50	3.92	50	
		23	1.70	3.33	60	
13.711.35.2.2.0	25	540	0.40	19.64	5	
		338	0.50	14.02	8	
		270	0.60	12.63	10	
		180	0.80	8.88	15	
		135	1.00	7.84	20	
		90	1.30	5.92	30	
		68	1.50	4.62	40	
		54	1.60	3.79	50	
		45	1.80	3.21	60	

Additional order information

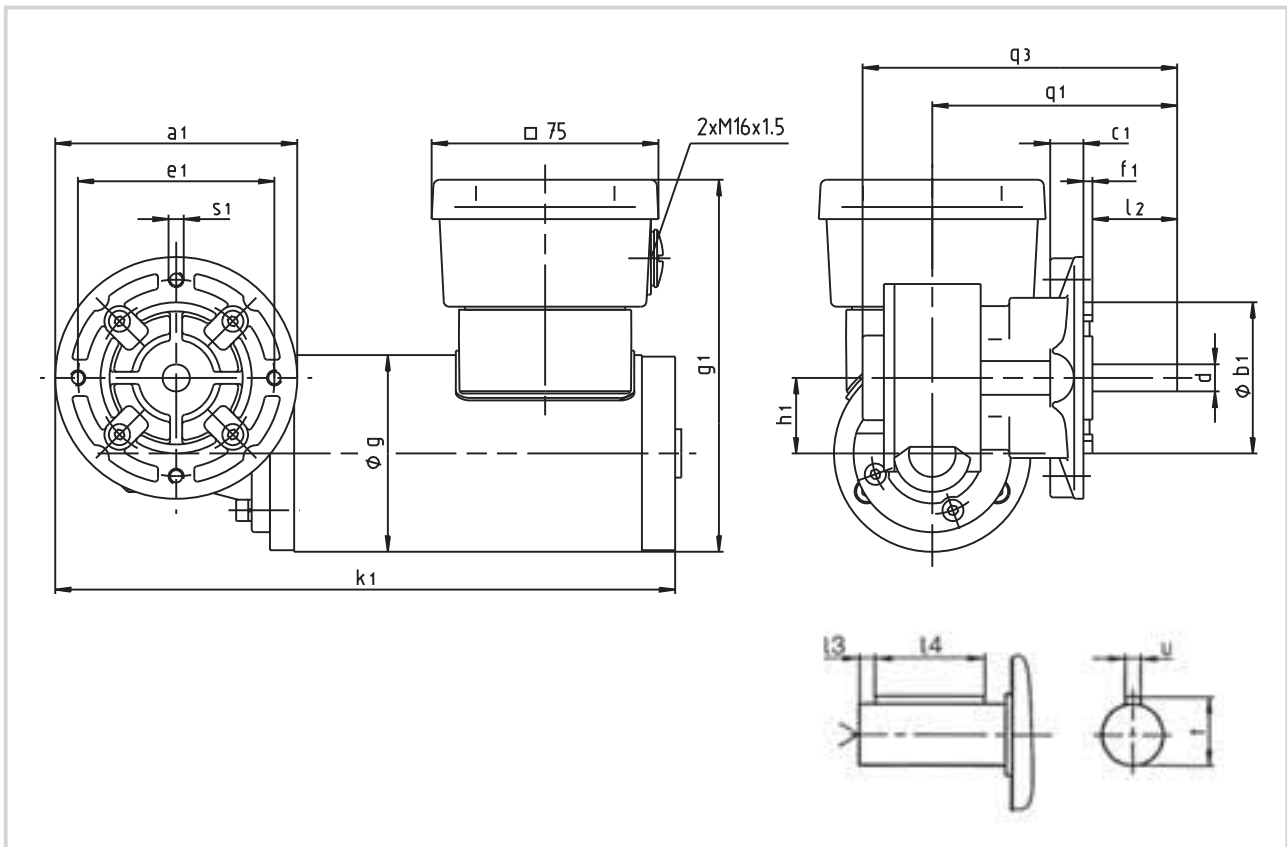
Enclosure	IP54	
	IP55	
Gearbox type	VCL	
Flange/shaft position		3 5
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN25-1UVCL-035C2□



Geared motor	a_1 ϕ	b_1 j7	c_1	d h6	e_1	f_1	g	g_1	h_1	k_1	l_2	l_3	l_4	q_1	q_3	s_1	t	u	Weight approx. kg
SSN25-1UVCL-035C2□	80	50	8	9	65	3	65	123	25	205	28	3	20	81	104	M5	10.2	3	2.35

Dimensions in mm

Drive selection

AC worm geared motors (smooth housing)

Selection table Type SSN25-1UVCL-047C2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.711.47.2.2.□	40	270	1.10	6.17	5	
		169	1.70	4.41	8	
		135	2.00	3.97	10	
		90	2.70	2.79	15	
		68	3.30	2.46	20	
		45	4.10	1.86	30	
		34	4.90	1.45	40	
		27	5.10	1.19	50	
		23	5.60	1.00	60	
13.711.47.2.2.□	75	540	1.10	6.40	5	
		338	1.60	4.57	8	
		270	1.90	4.12	10	
		180	2.50	2.89	15	
		135	3.10	2.55	20	
		90	3.80	1.93	30	
		68	4.60	1.51	40	
		54	4.80	1.23	50	
		45	5.30	1.05	60	

Additional order information

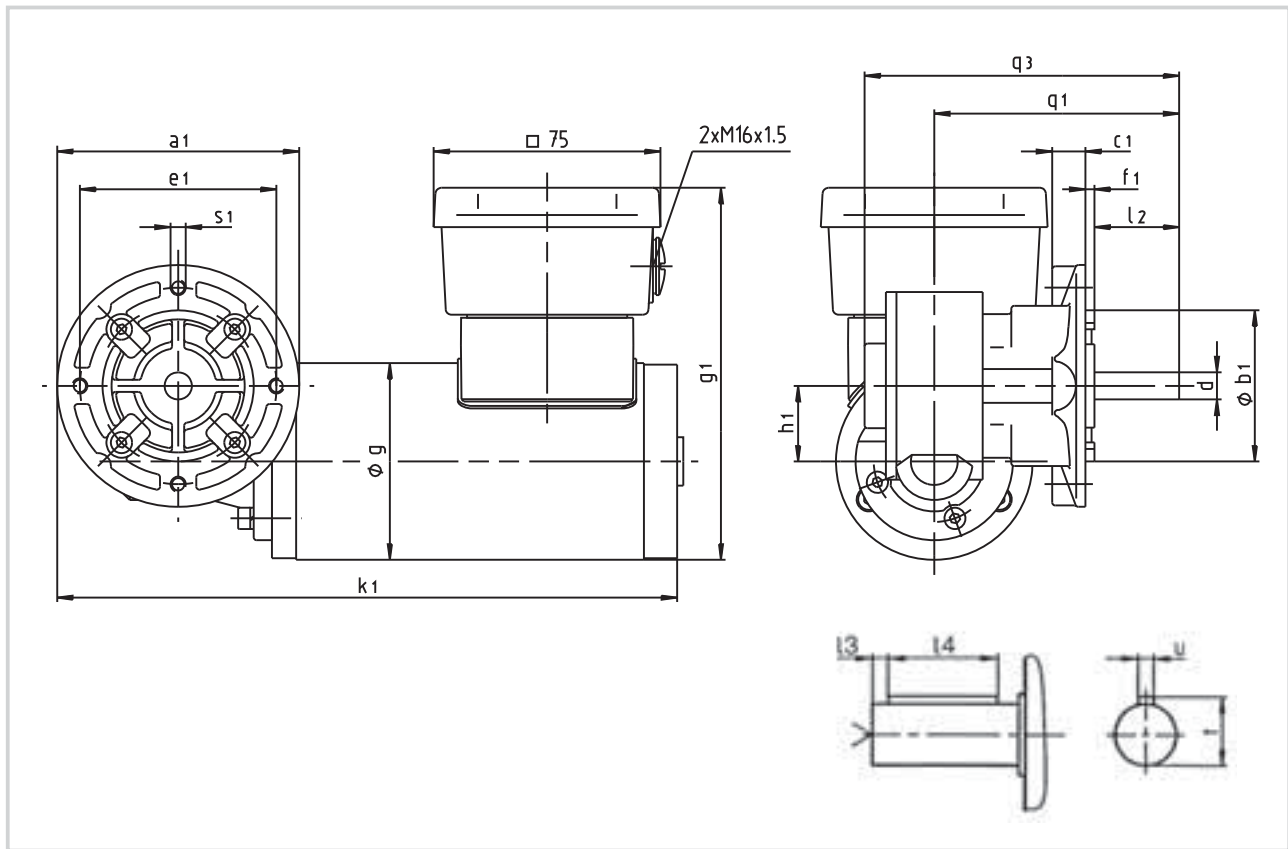
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Enclosure	IP54	
	IP55	
Gearbox type	VCL	
Flange/shaft position		3 5
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN25-1UVCL-047C2□



Gear motor	a_1 ϕ	b_1 $j7$	c_1	d $h6$	e_1	f_1	g	g_1	h_1	k_1	l_2	l_3	l_4	q_1	q_3	s_1	t	u	Weight approx. kg
SSN25-1UVCL-047C2□	80	50	8	9	65	3	75	133	25	225	28	3	20	81	104	M5	10.2	3	3.45

Dimensions in mm

Drive selection

AC worm geared motors (smooth housing)

Selection table Type SSN31-1U□□□-056C2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.711.55.3.2.□	60	270	1.79	7.84	5	
		192	2.44	5.74	7	
		135	3.23	4.33	10	
		90	4.66	3.43	15	
		68	5.80	2.59	20	
		54	6.41	2.19	25	
		45	7.43	2.02	30	
		35	9.10	1.76	38	
		27	9.66	1.35	50	
		24	12.01	1.25	55	
		18	11.00	0.97	75	
		14	11.00	0.69	100	
13.711.55.3.2.□	90	540	1.36	10.29	5	
		385	1.86	7.53	7	
		270	2.46	5.68	10	
		180	3.55	4.50	15	
		135	4.42	3.40	20	
		108	4.88	2.87	25	
		90	5.66	2.65	30	
		71	6.93	2.31	38	
		54	7.36	1.77	50	
		49	9.15	1.64	55	
		36	8.64	1.27	75	
		27	11.00	0.90	100	

Additional order information

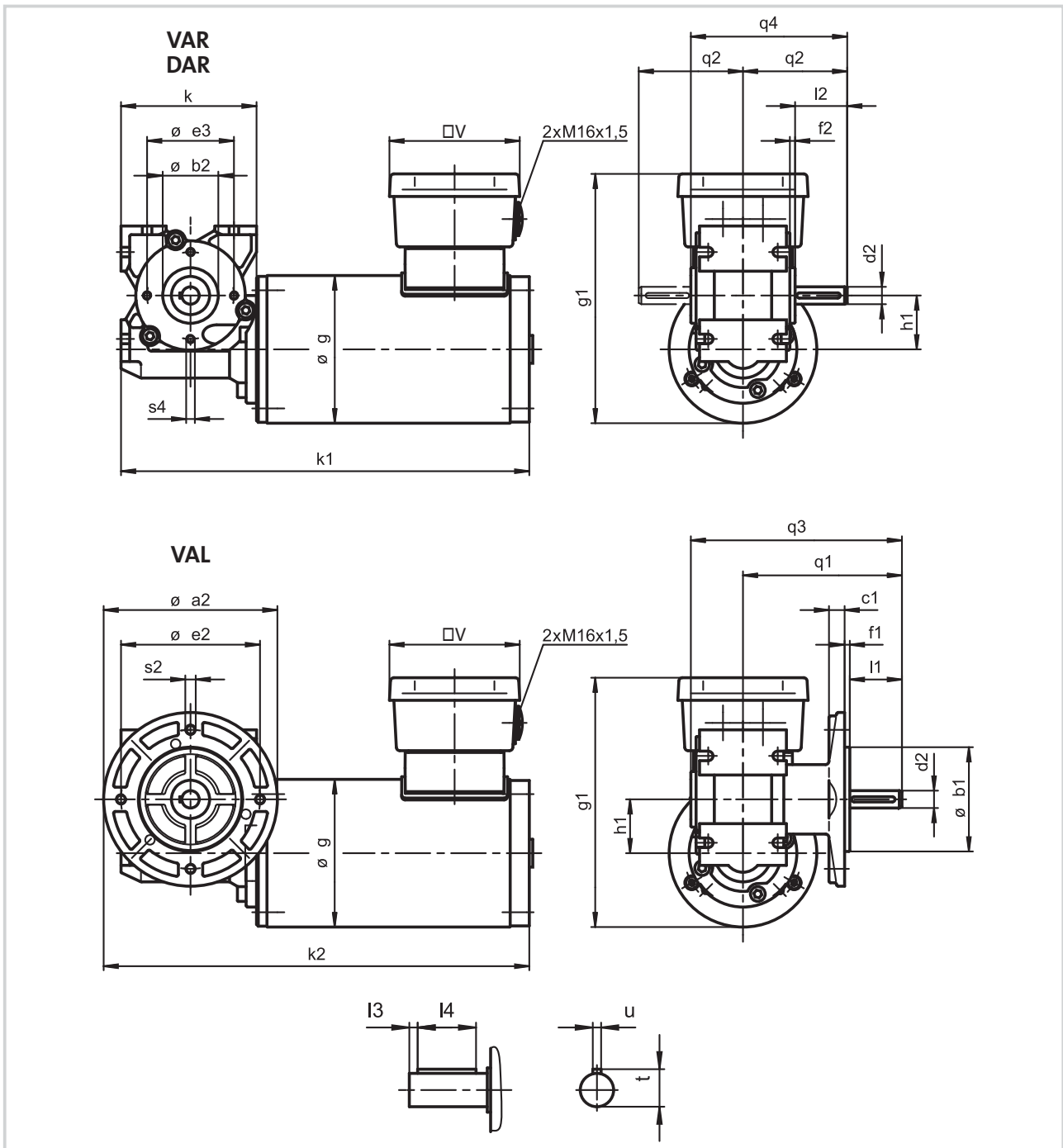
B-side motor design	0 = no built-on accessories		
	1 = with spring-applied brake		
	7 = for brake attachment		
Enclosure	IP54		
	IP55		
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier		
Gearbox type	VAR	Shaft D10x30mm	
		Shaft D12x40mm	
	VAL	Shaft D10x30mm	Flange D100mm
		Shaft D12x40mm	Flange D120mm
	DAR	Shaft D10x30mm	
		Shaft D12x40mm	
HAR			
Shaft position on type VAR			3 5
Flange/shaft position on type VAL			3 5
Mounting position			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN31-1UVA□-056C2□



Geared motor	a ₂	b ₁ j7	b ₂ h8	c ₁	d ₂ h6	e ₂	e ₃	f ₁	f ₂	g	g ₁	h ₁	k	k ₁	k ₂
SSN31-1UVA□-056C2□	100	60	32	9	10	80	50	3	3	85	144	31	78	235	245
	120	80	32	9	12	100	50	3	3	85	144	31	78	235	255

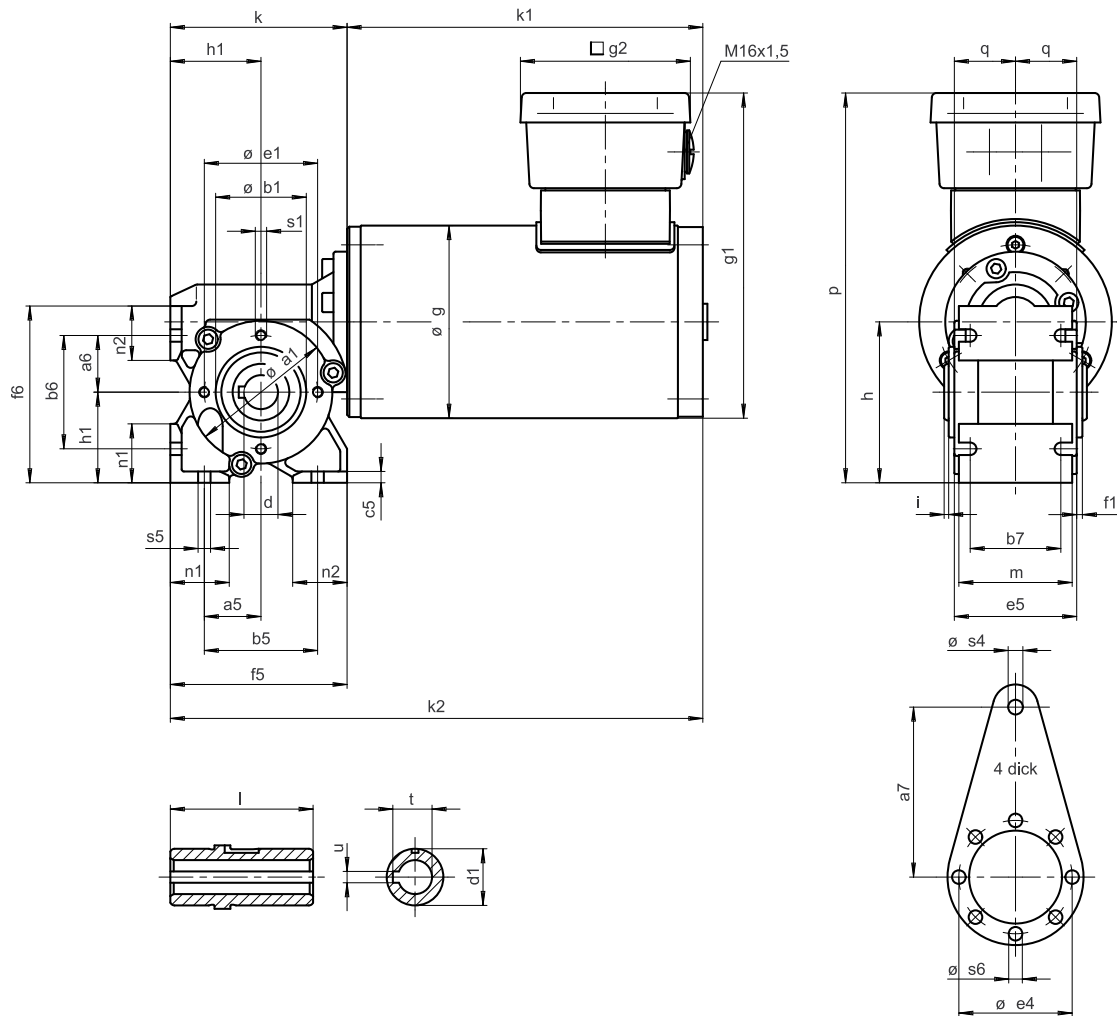
Geared motor	1	l ₂	l ₃	l ₄	q ₁	q ₂	q ₃	q ₄	s ₂	s ₄	t	u	v	Weight approx. kg
SSN31-1UVA□-056C2□	30	30	4	25	91.5	60	121.5	90	M6	M5	11.2	3	75	4.5
	40	40	4	28	101.5	70	131.5	100	M6	M5	13.5	4	75	4.6

Dimensions in mm

Drive selection

AC worm geared motors (smooth housing)

Dimensions Type SSN31-1UHAR-056C2□



Geared motor	a ₁	a ₅	a ₆	a ₇	b ₁ h ₈	b ₅	b ₆	b ₇	c ₅	d H7	d ₁	e ₁	e ₄	e ₅	f ₁	f ₅	f ₆	g	g ₁
SSN31-1UHAR-056C2□	63	25	25	75	40	50	50	40	5	15	25	50	50	54	2.5	78	78	85	144

Geared motor	g ₂	h	h ₁	i	k	k ₁	k ₂	l	m	n ₁	n ₂	p	q	s ₁	s ₄	s ₅	s ₆	t	u	Weight approx. kg
SSN31-1UHAR-056C2□	75	71	40	2	78	157	235	63	50	26	24	172	27	M5	6.5	5.5	6	17.3	5	4.5

Dimensions in mm





Drive selection

AC planetary geared motors (smooth housing)

Selection table Type SPL42-□UVCR-035C2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.710.35.9.2.0	12	365	0.25	11.92	3.7	
		200	0.45	6.54	6.75	
		98	0.86	8.57	13.73	
		54	1.57	4.70	25.01	
		30	2.90	2.58	45.56	
		26	3.00	4.96	50.86	
		15	5.50	2.72	92.7	
		8	10.00	1.50	168.34	
13.710.35.9.2.0	25	730	0.26	11.52	3.7	
		400	0.47	6.31	6.75	
		197	0.90	8.28	13.73	
		108	1.65	4.54	25.01	
		59	3.00	2.49	45.56	
		53	3.13	4.79	50.86	
		29	5.70	2.63	92.7	
		16	10.30	1.45	168.34	

Additional order information

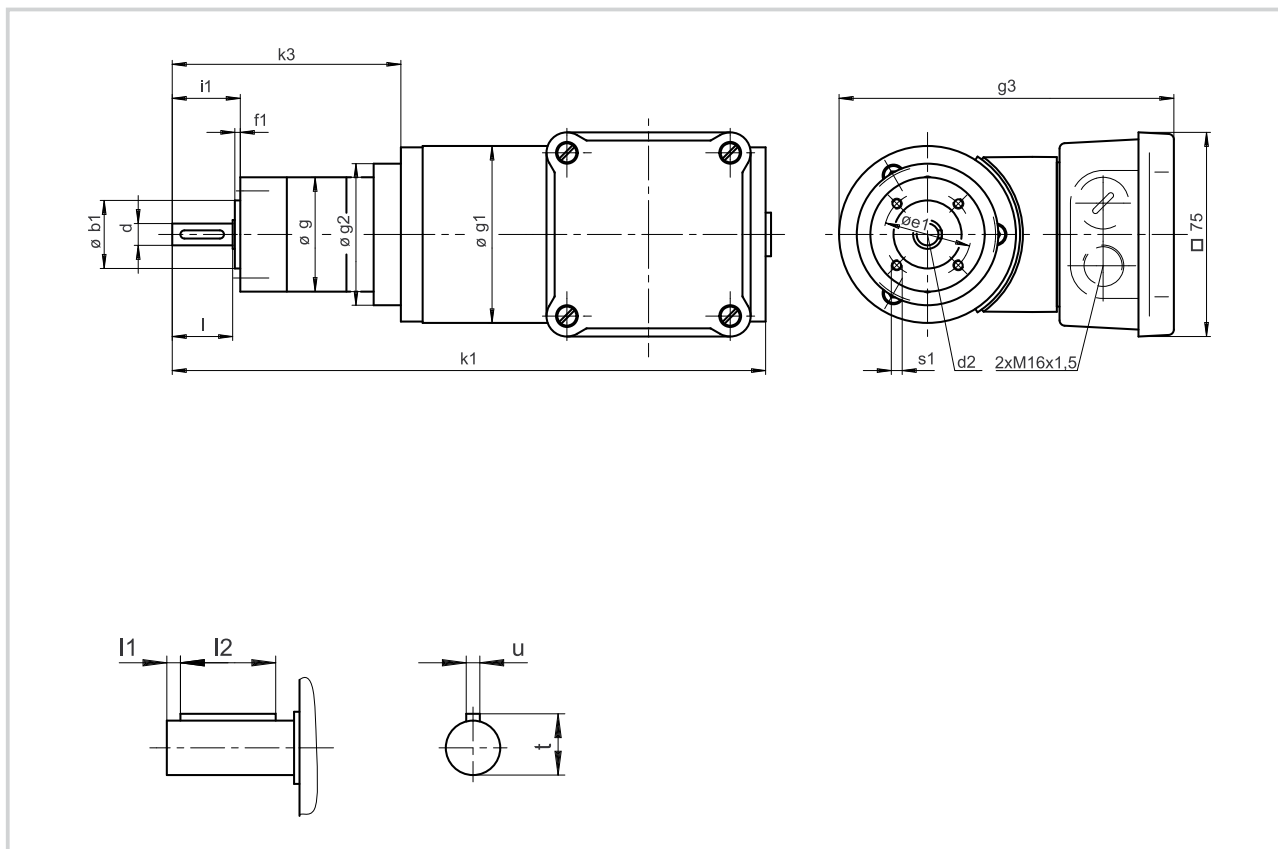
Enclosure	IP54	
	IP55	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL42-□UVCR-035C2□



Geared motor	Ratio i	b_1 h10	d g6	d_2	e_1	f_1	g	g_1	g_2	g_3
SPL42-□UVCR-035C2□	3.7	25	8	M3	32	2	42	65	52	123
	14 ... 46									
	51...169									

Geared motor	i_1	k_1	k_3	l	l_1	l_2	s_1	t	u	Weight approx. kg
SPL42-□UVCR-035C2□	25	218	84	22.2	3	16	M4x10	9.2	3	2.2
		231	97							2.3
		244	110							2.5

Dimensions in mm

Drive selection

AC planetary geared motors (smooth housing)

Selection table Type SPL52-□UVCR-056C2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.710.55.1.2.□	60	365	1.24	3.22	3.70	
		200	2.20	1.76	6.75	
		98	4.32	2.77	13.73	
		54	7.87	1.52	25.01	
		30	12.00	0.84	45.56	
		26	14.95	1.67	50.86	
		15	25.00	0.92	92.70	
		8	25.00	0.51	168.34	
13.710.55.1.2.□	90	730	0.94	4.22	3.70	
		400	1.70	2.31	6.75	
		197	3.29	3.64	13.73	
		108	6.00	2.00	25.01	
		59	10.39	1.10	45.56	
		53	11.39	2.19	50.86	
		29	20.76	1.20	92.70	
		16	25.00	0.66	168.34	

Additional order information

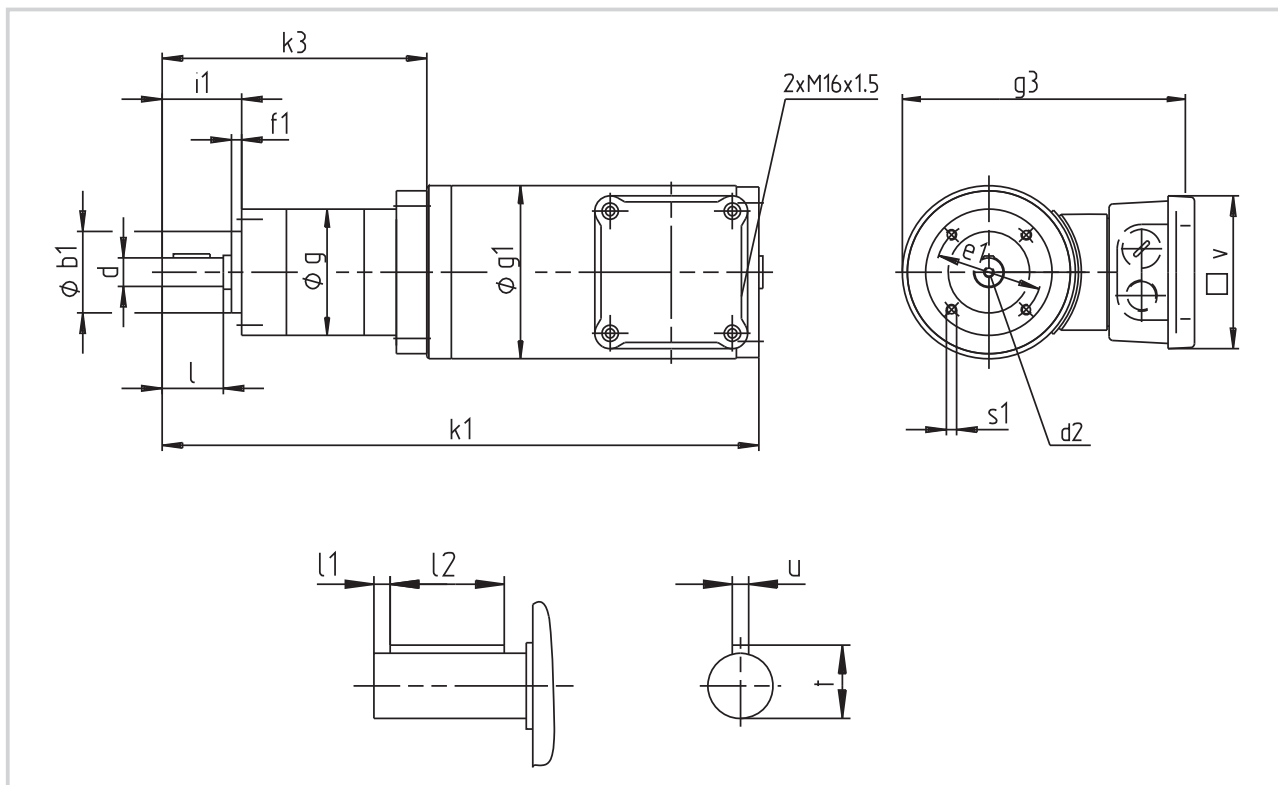
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Enclosure	IP54	
	IP55	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL52-□UVCR-056C2□



Geared motor	Ratio i	b ₁	d h7	d ₂	e ₁	f ₁	g	g ₁	g ₃	i ₁
SPL52-□UVCR-056C2□	3.7	32	12	M4	40	3	52	85	144	25
	14 ... 46									
	51...169									

Geared motor	k_1	k_3	l	l_1	l_2	s_1	t	u	v	Weight approx. kg
SPL52-□UVCR-056C2□	262	99	20.8	2.5	16	M5x10	13.5	4	75	4.6
	276	113								4.8
	290	127								5.0

Dimensions in mm



Drive selection

AC planetary geared motors (smooth housing)

Selection table Type SPL62-□UVCR-056C2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.710.55.1.2.□	60	365	1.24	6.44	3.70	
		200	2.20	3.53	6.75	
		98	4.32	5.78	13.73	
		54	7.87	3.17	25.01	
		30	15.35	1.74	45.56	
		26	14.95	3.34	50.89	
		20	20.92	2.39	71.16	
		14	29.25	1.71	99.50	
		11	36.44	1.37	123.97	
13.710.55.1.2.□	90	730	0.94	8.45	3.70	
		400	1.70	4.63	6.75	
		197	3.29	7.59	13.73	
		108	6.00	4.17	25.01	
		59	10.39	2.29	45.56	
		53	11.39	4.39	50.89	
		38	15.93	3.14	71.16	
		27	22.28	2.24	99.50	
		22	27.76	1.80	123.97	

Additional order information

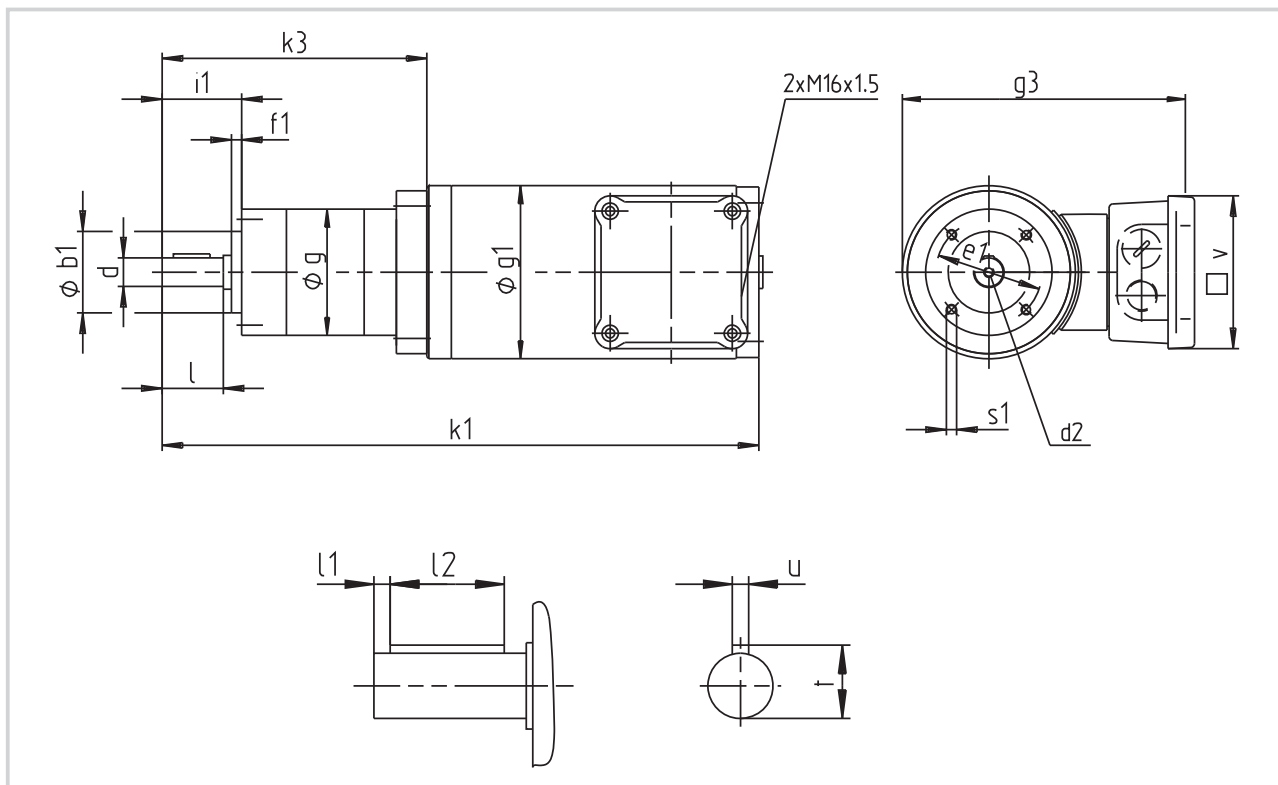
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Enclosure	IP54	
	IP55	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL62-□UVCR-056C2□



Geared motor	Ratio i	b_1	d h7	d_2	e_1	f_1	g	g_1	g_3	i_1
SPL62-□UVCR-056C2□	3.7	40	14	M5	52	5	62	85	144	39
	14 ... 46	j7								
	51...169									

Geared motor	k_1	k_3	l	l_1	l_2	s_1	t	u	v	Weight approx. kg
SPL62-□UVCR-056C2□	278	115	30	5.5	18	M5x10	16	5	75	4.5
	294	131								4.9
	310	147								5.3

Dimensions in mm

Drive selection

AC worm geared motors (ribbed housing)

Selection table Type SSN25-1U□□□-045C2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.751.45.2.□.□	30	270	0.90	8.23	5	
		169	1.30	5.87	8	
		135	1.50	5.29	10	
		90	2.00	3.72	15	
		68	2.50	3.28	20	
		45	3.10	2.48	30	
		34	3.60	1.94	40	
		27	3.80	1.59	50	
		23	4.20	1.35	60	
13.751.45.2.□.□	60	540	0.90	8.23	5	
		388	1.30	5.87	8	
		270	1.50	5.29	10	
		180	2.00	3.72	15	
		135	2.50	3.28	20	
		90	3.10	2.48	30	
		68	3.50	1.94	40	
		54	3.80	1.54	50	
		45	4.20	1.35	60	

Additional order information

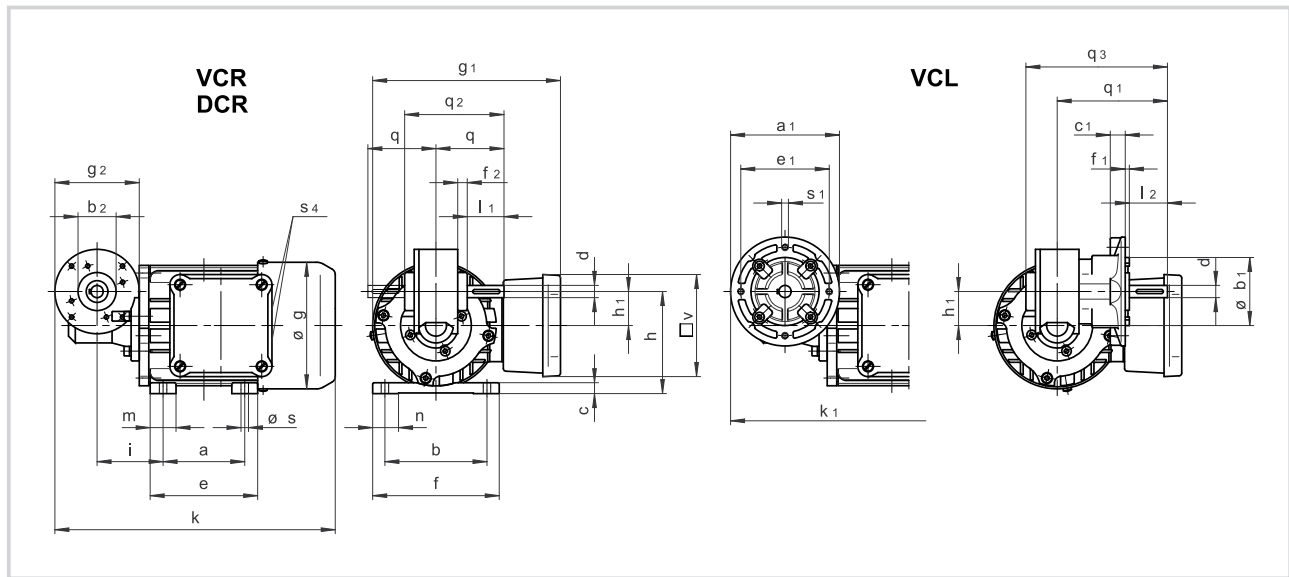
Motor design	2 = B14	
	5 = B3/B14	
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Enclosure	IP54	
	IP55	
Gearbox type	VCR	
	DCR	
	VCL	
Shaft position on type VCR		3 5
Flange/shaft position on type VCL		3 5
Mounting position		A B C D E F
Position of electrical connection on motor type B3/B14		2 3 5
Position of electrical connection on motor type B14		2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN25-1UVCI-045C2



Geared motor	a B3	a ₁ B14 Ø	b B3	b ₁ B14 j7	b ₂ B3 h11	c B3	c ₁ B14	d h6	e B3	e ₁ B14	f B3	f ₁ B14	f ₂ B3	g	g ₁	g ₂ B3 Ø	h B3	h ₁	i B3
SSN25-1UVCI-045C2	60	80	75	50	28	8	8	9	79	65	93	3	7	93	137.5	62	75	25	48.5

Geared motor	k B3	k ₁ B14	l ₁ B3	l ₂ B14	l ₃	l ₄	m B3	n B3	q B3	q ₁ B14	q ₂ B3	q ₃ B14	s B3	s ₁ B14	s ₄	t	u	v	Weight approx. kg
SSN25-1UVCI-045C2	206	215	27	28	3	20	19	19	50	81	73	104	5.5	M5	2xM16x1.5	10.2	3	75	2.85

Dimensions in mm

Drive selection

AC worm geared motors (ribbed housing)

Selection table Type SSN31-1U□□□-056C2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.751.55.3.□. □	90	270	2.72	5.15	5	
		192	3.72	3.77	7	
		135	4.93	2.84	10	
		90	7.10	2.25	15	
		68	8.83	1.70	20	
		54	9.76	1.43	25	
		45	11.33	1.32	30	
		35	13.86	1.15	38	
		27	13.00	0.88	50	
		24	15.00	0.82	55	
		18	11.00	0.64	75	
		14	11.00	0.45	100	
13.751.55.3.□. □	150	540	2.25	6.22	5	
		385	3.08	4.55	7	
		270	4.08	3.43	10	
		180	5.88	2.72	15	
		135	7.31	2.05	20	
		108	8.08	1.73	25	
		90	9.38	1.60	30	
		71	11.48	1.39	38	
		54	12.19	1.07	50	
		49	15.00	0.99	55	
		36	11.00	0.77	75	
		27	11.00	0.55	100	

Additional order information

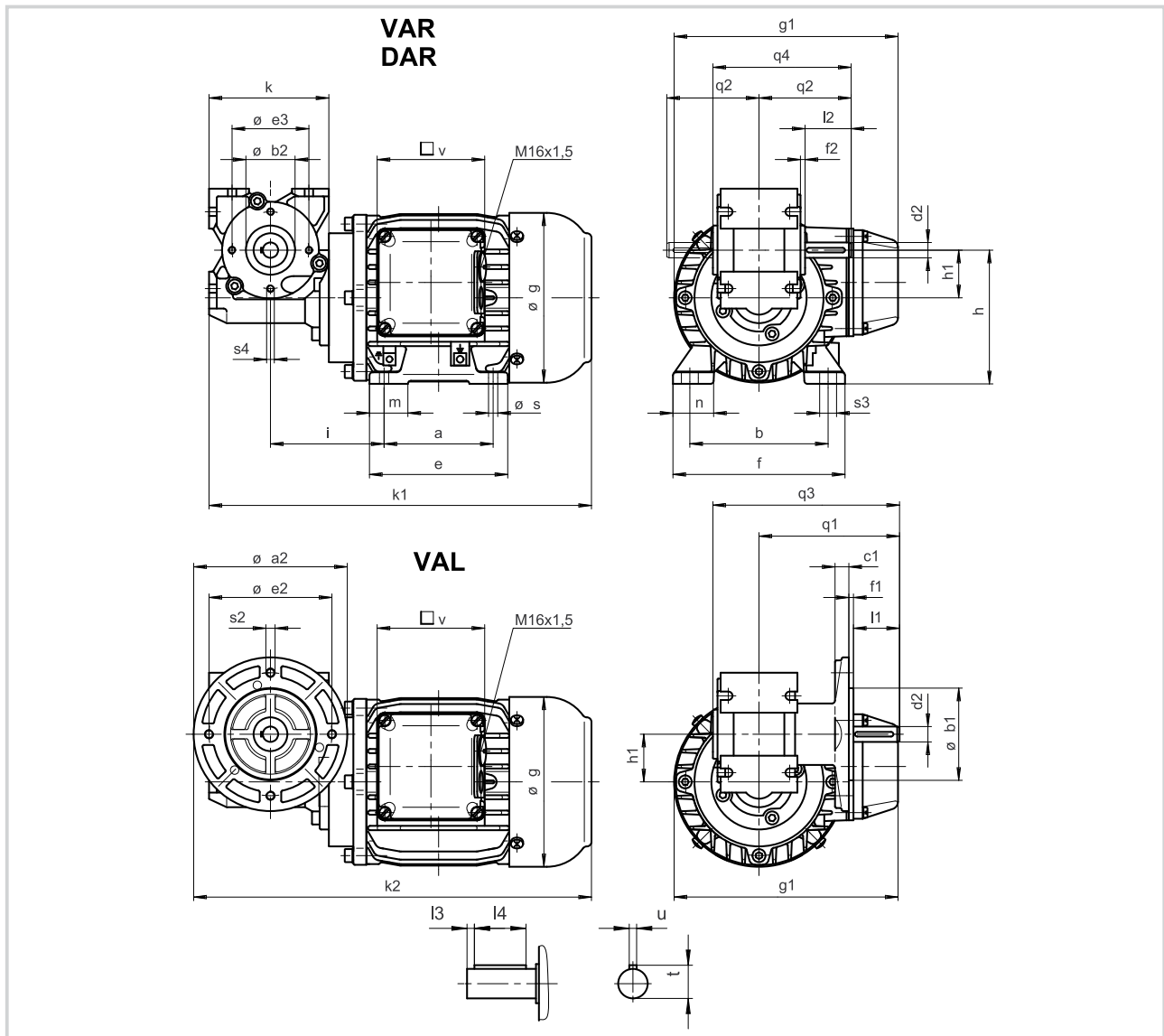
Motor type	2 = B14	
	5 = B3/B14	
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Enclosure	IP54	
	IP55	
Gearbox type	VAR	Shaft D10x30mm
		Shaft D12x40mm
	VAL	Shaft D10x30mm Flange D100mm
		Shaft D12x40mm Flange D120mm
	DAR	Shaft D10x30mm
		Shaft D12x40mm
	HAR	
Shaft position on type VAR		3 5
Flange/shaft position on type VAL		3 5
Mounting position		A B C D E F
Position of electrical connection on motor type B14		2 3 4 5
Position of electrical connection on motor type B3/B14		2 3 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN31-1UVA□-056C2□



Geared motor	a	a ₂	b	b ₁ j7	b ₂ h8	c ₁	d ₂ h6	e	e ₂	e ₃	f	f ₁	f ₂	g	g ₁	h	h ₁	i	k
SSN31-1UVA□-056C2□	71	100	90	60	32	9	10	90	80	50	112	3	3	111	148	87	31	74	78
	71	120	90	80	32	9	12	90	100	50	112	3	3	111	148	87	31	74	78

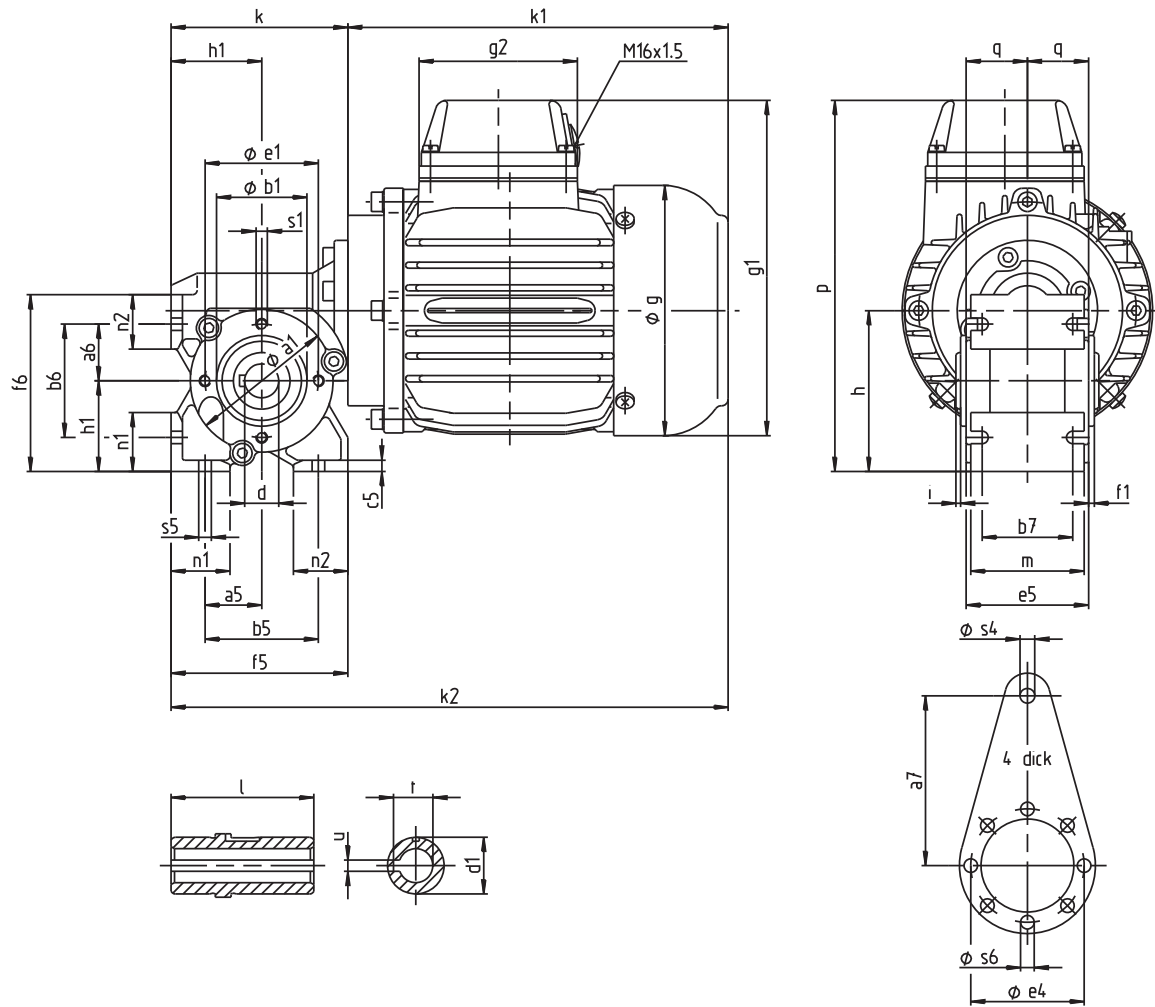
Geared motor	k ₁	k ₂	l ₁	l ₂	l ₃	l ₄	m	n	q ₁	q ₂	q ₃	q ₄	s	s ₂	s ₃	s ₄	t	u	v	Weight approx. kg
SSN31-1UVA□-056C2□	246	255	30	30	4	25	25	26	91.5	60	121.5	90	6	M6	11	M5	11.2	3	70	4.5
	246	265	40	40	4	28	25	26	101.5	70	131.5	100	6	M6	11	M5	13.5	4	70	4.6

Dimensions in mm

Drive selection

AC worm geared motors (ribbed housing)

Dimensions Type SSN31-1UHAR-056C2□



Geared motor	a ₁	a ₅	a ₆	a ₇	b ₁ h ₈	b ₅	b ₆	b ₇	c ₅	d H7	d ₁	e ₁	e ₄	e ₅	f ₁	f ₅	f ₆	g	g ₁
SSN31-1UHAR-056C2□	63	25	25	75	40	50	50	40	5	15	25	50	50	54	2.5	78	78	111	148

Geared motor	g ₂	h	h ₁	i	k	k ₁	k ₂	l	m	n ₁	n ₂	p	q	s ₁	s ₄	s ₅	s ₆	t	u	Weight approx. kg
SSN31-1UHAR-056C2□	70	71	40	2	78	167	245	63	50	26	24	164	27	M5	6.5	5.5	6	17.3	5	4.5

Dimensions in mm



Drive selection

AC worm geared motors (ribbed housing)

Selection table Type SSN40-1U□□□-063C2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.751.65.5.□.□	180	200	8.00	4.86	6.75	
		135	11.40	3.40	10	
		90	15.80	2.34	15	
		68	20.10	1.89	20	
		54	22.70	1.43	25	
		45	26.40	1.52	30	
		34	31.80	1.20	40	
		27	32.00	0.93	50	
		23	23.00	0.79	60	
		17	24.00	0.61	80	
13.751.65.5.□.□	250	407	4.80	7.18	6.75	
		270	6.90	5.02	10	
		180	9.50	3.46	15	
		135	12.20	2.78	20	
		108	13.70	2.11	25	
		90	15.90	2.25	30	
		68	19.20	1.76	40	
		54	23.20	1.38	50	
		45	19.60	1.17	60	
		34	24.00	0.89	80	

Additional order information

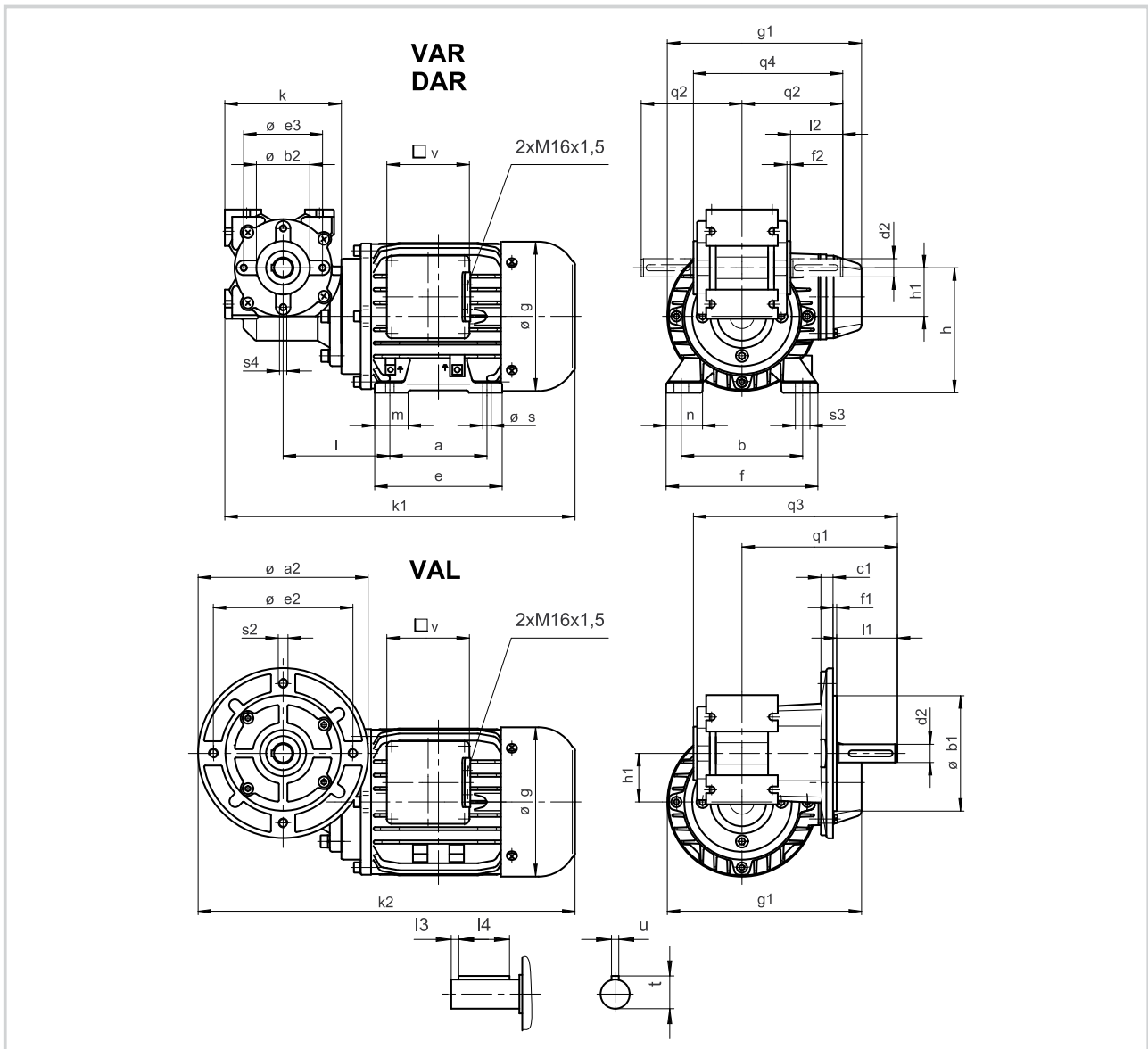
Motor type	2 = B14	
	5 = B3/B14	
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Enclosure	IP54	
	IP55	
Gearbox type	VAR	
	DAR	
	VAL	
	HAR	
Shaft position on type VAR		3 5
Flange/shaft position on type VAL		3 5
Mounting position		A B C D E F
Position of electrical connection on motor type B14		2 3 4 5
Position of electrical connection on motor type B3/B14		2 3 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN40-1UVA□-063C2□



Geared motor	a	a ₂	b	b ₁ j7	b ₂ h10	c ₁	d ₂ h6	e	e ₂	e ₃	f	f ₁	f ₂	g	g ₁	h	h ₁	i	k
SSN40-1UVA□-063C2□	80	140	100	95	44	10	15	105	115	65	125	3	3	123	160	103	40	88	96

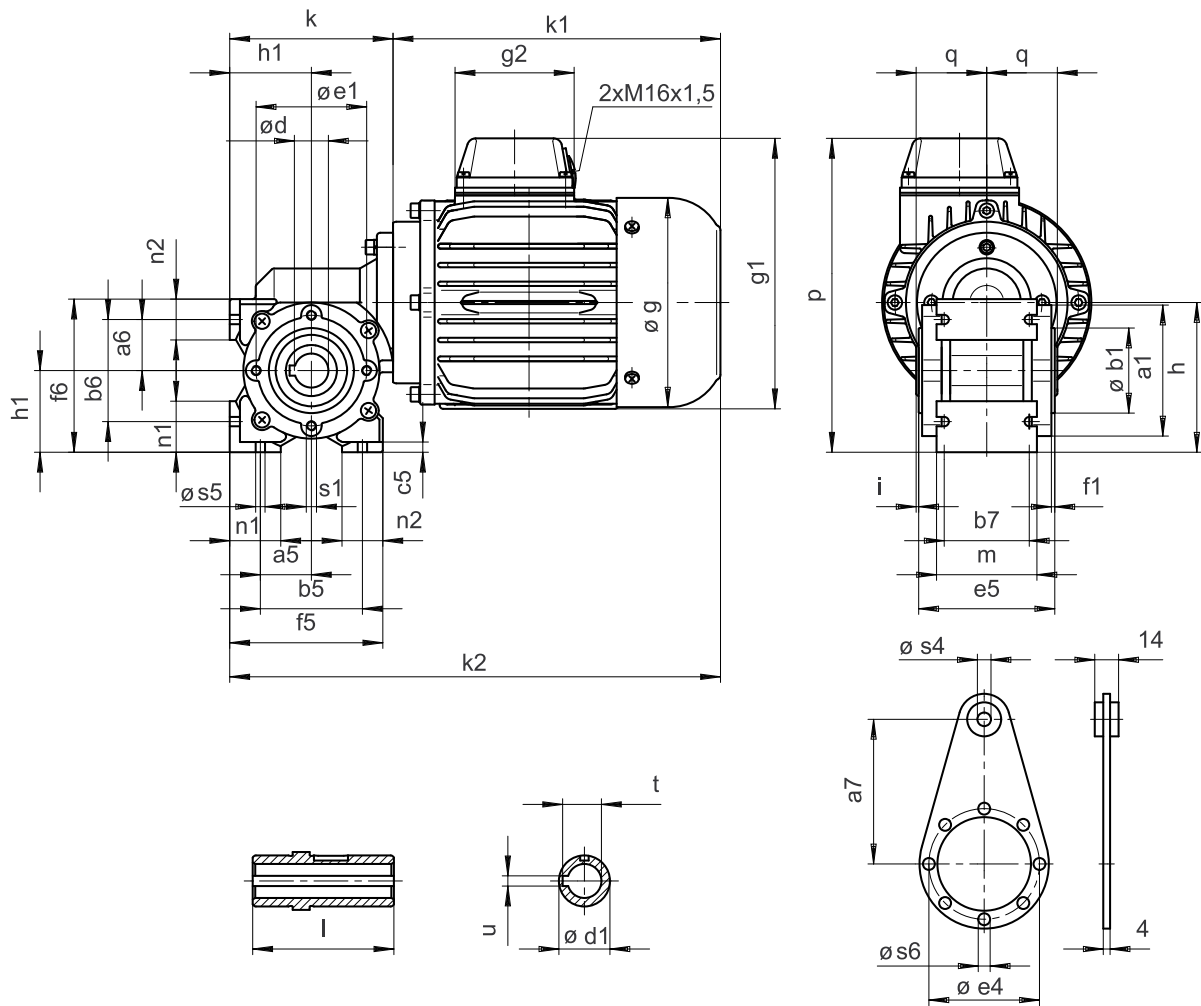
Geared motor	k ₁	k ₂	l ₁	l ₂	l ₃	l ₄	m	n	q ₁	q ₂	q ₃	q ₄	s	s ₂	s ₃	s ₄	t	u	v	Weight approx. kg
SSN40-1UVA□-063C2□	289	311	50	43	4	36	27.5	30	128	83	168	123	7	M8	12	M6	17	5	70	6.5

Dimensions in mm

Drive selection

AC worm geared motors (ribbed housing)

Dimensions Type SSN40-1UHAR-063C2□



Geared motor	a ₁	a ₅	a ₆	a ₇	b ₁ h ₈	b ₅	b ₆	b ₇	c ₅	d H7	d ₁	e ₁	e ₄	e ₅	f ₁	f ₅	f ₆	g	g ₁
SSN40-1UHAR-063C2□	77	30	30	85	50	60	60	50	6	20	30	65	65	80	2	90	90	123	160

Geared motor	g ₂	h	h ₁	i	k	k ₁	k ₂	l	m	n ₁	n ₂	p	q	s ₁	s ₄	s ₅	s ₆	t	u	Weight approx. kg
SSN40-1UHAR-063C2□	70	88	48	1.5	96	193	289	83	59	30	24	185	41.5	M6	8	5.5	7	22.8	6	6.5

Dimensions in mm



Drive selection

AC planetary geared motors (ribbed housing)

Selection table Type SPL52-□UVCR-056N2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.750.55.1.2.□	90	365	1.89	4.22	3.7	
		200	3.30	2.31	6.75	
		98	6.59	3.79	13.73	
		54	12.00	2.08	25.01	
		38	16.78	1.49	34.97	
		30	21.86	1.14	45.56	
		26	22.78	2.19	50.89	
		20	31.87	1.57	71.16	
		14	44.57	1.12	99.5	
		11	50.00	0.90	123.97	
13.750.55.1.2.□	150	730	1.56	5.10	3.7	
		400	2.80	2.80	6.75	
		197	5.45	4.58	13.73	
		108	9.94	2.51	25.01	
		77	16.78	1.80	34.97	
		59	18.11	1.38	45.56	
		53	18.86	2.65	50.89	
		38	26.40	1.89	71.16	
		27	36.91	1.35	99.5	
		22	45.99	1.09	123.97	

Additional order information

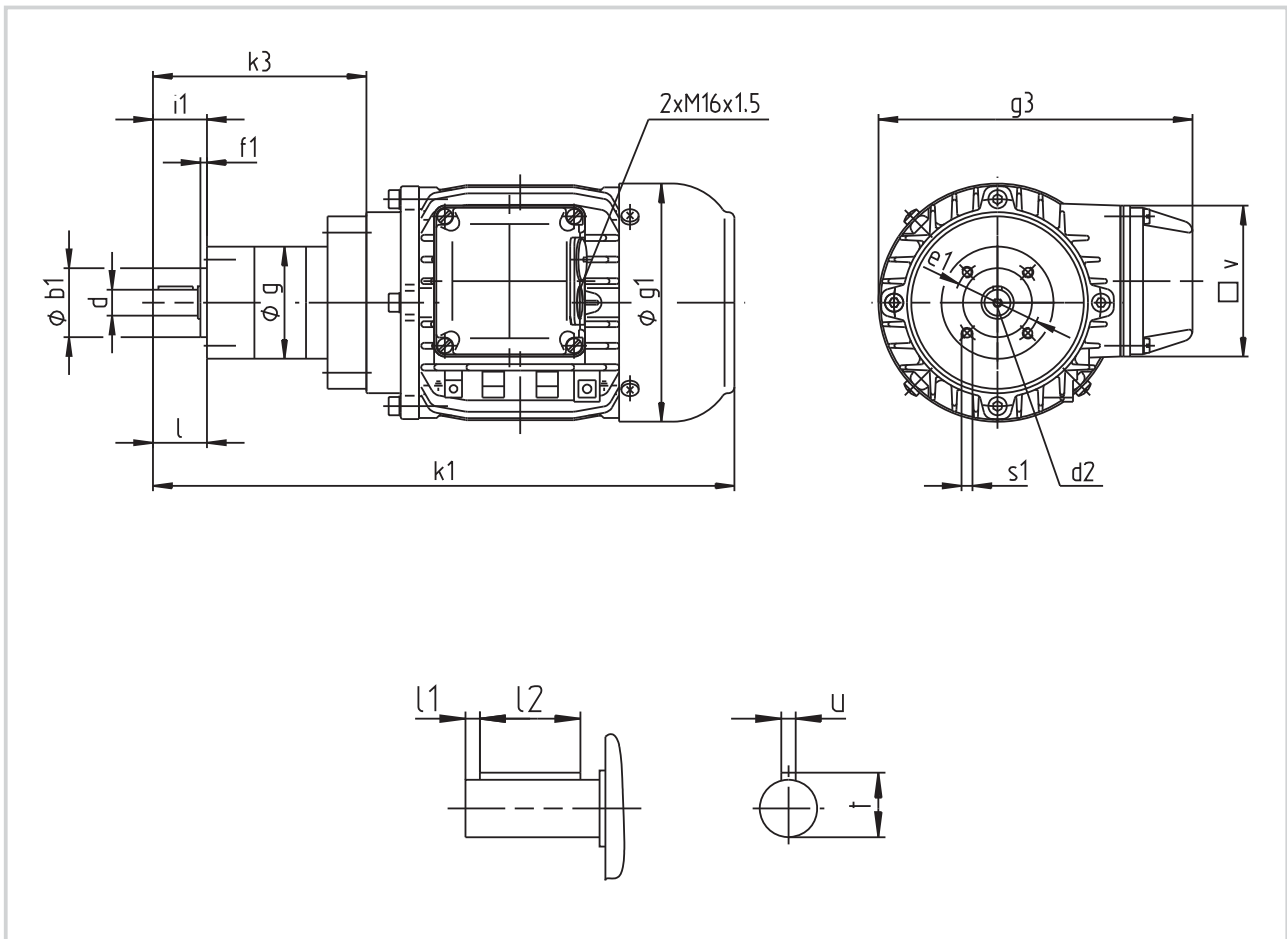
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Enclosure	IP54	
	IP55	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL52-□UVCR-056N2□



Geared motor	Ratio i	b_1	d h7	d_2	e_1	f_1	g	g_1	g_3	i_1
SPL52-□UVCR-056N2□	3.7	32	12	M4	40	3	52	111	146	25
	14 ... 46									
	51 ... 169									

Geared motor	k_1	k_3	l	l_1	l_2	s_1	t	u	v	Weight approx. kg
SPL52-□UVCR-056N2□	265	99	20.8	2.5	16	M5x10	13.5	4	70	4.7
	279	113								4.9
	293	127								5.1

Dimensions in mm



Drive selection

AC planetary geared motors (ribbed housing)

Selection table Type SPL62-□UVCR-056N2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.750.55.1.2.□	90	365	1.89	4.22	3.7	
		200	3.30	2.31	6.75	
		98	6.59	3.79	13.73	
		54	12.00	2.08	25.01	
		38	16.78	1.49	34.97	
		30	21.86	1.14	45.56	
		26	22.78	2.19	50.89	
		20	31.87	1.57	71.16	
		14	44.57	1.12	99.5	
		11	50.00	0.90	123.97	
13.750.55.1.2.□	150	730	1.56	5.10	3.7	
		400	2.80	2.80	6.75	
		197	5.45	4.58	13.73	
		108	9.94	2.51	25.01	
		77	16.78	1.80	34.97	
		59	18.11	1.38	45.56	
		53	18.86	2.65	50.89	
		38	26.40	1.89	71.16	
		27	36.91	1.35	99.5	
		22	45.99	1.09	123.97	

Additional order information

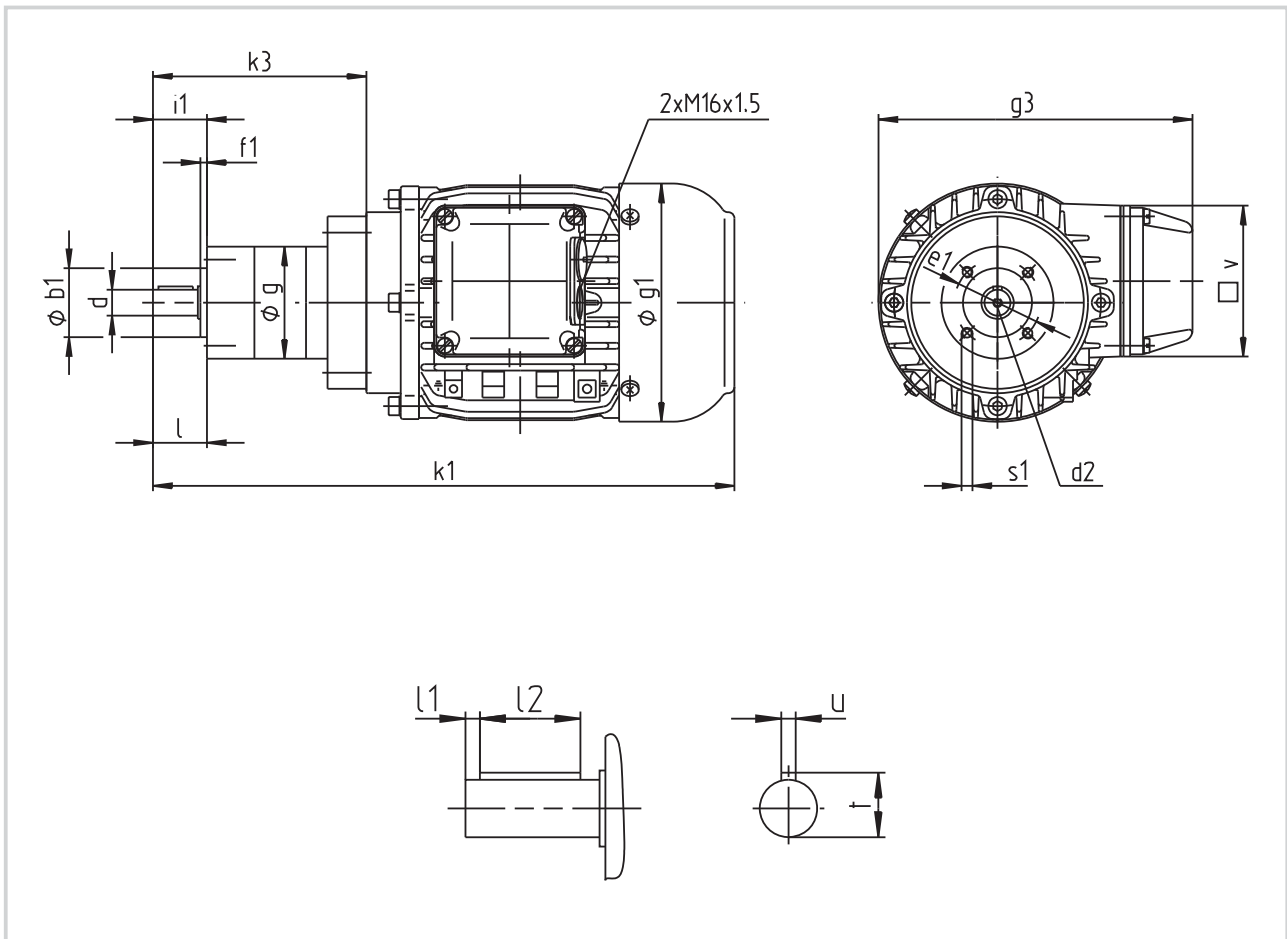
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Enclosure	IP54	
	IP55	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL62-□UVCR-056N2□



Gearbox size	Ratio i	b_1 h8	d h7	d_2	e_1	f_1	g	g_1	g_3	i_1
SPL62-□UVCR-056N2□	3.7	40	14	M5	52	5	62	111	146	39
	14 ... 46									
	51 ... 124									

Gearbox size	k_1	k_3	l	l_1	l_2	s_1	t	u	v	Weight approx. kg
SPL62-□UVCR-056N2□	281	115	30	5.5	18	M5x10	16	5	70	4.6
	297	131								5.0
	313	147								5.4

Dimensions in mm



Drive selection

AC planetary geared motors (ribbed housing)

Selection table Type SPL62-UVCR-063N2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.750.65.1.2.□	180	365	3.75	2.13	3.7	
		200	6.80	1.17	6.75	
		98	13.07	1.91	13.73	
		54	23.92	1.05	25.01	
		38	25.00	0.75	34.97	
		30	25.00	0.58	45.56	
		26	45.21	1.10	50.89	
		20	50.00	0.79	71.16	
		14	50.00	0.57	99.5	
		11	50.00	0.45	123.97	
13.750.65.1.2.□	250	743	2.54	3.14	3.7	
		407	4.60	1.72	6.75	
		200	8.65	2.82	13.73	
		110	16.13	1.55	25.01	
		78	25.00	1.11	34.97	
		60	25.00	0.85	45.56	
		54	30.61	1.63	50.89	
		39	42.83	1.17	71.16	
		28	50.00	0.83	99.5	
		22	50.00	0.67	123.97	

Additional order information

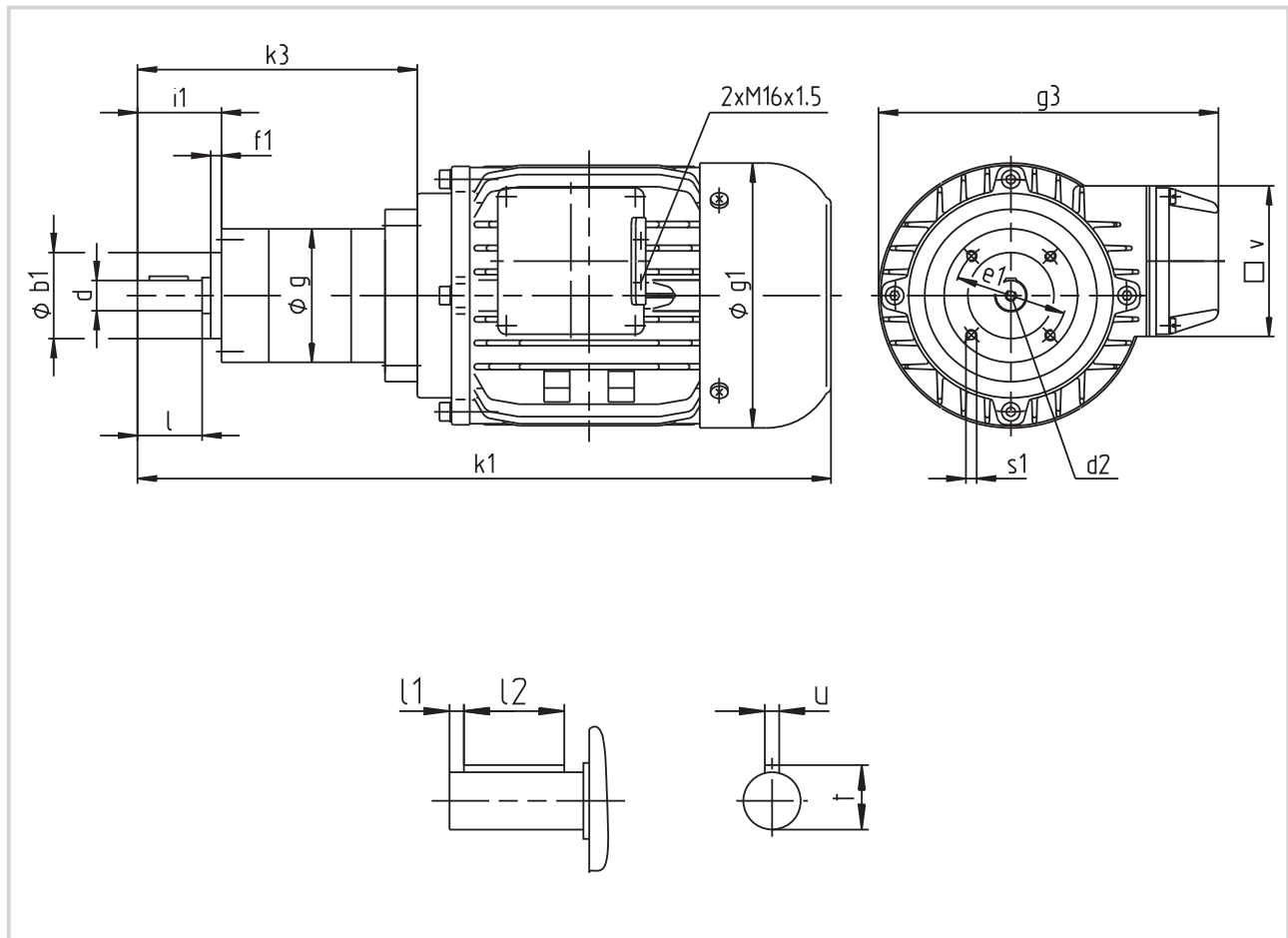
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Enclosure	IP54	
	IP55	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL62-UVCR-063N2□



Gearbox size	Ratio i	b_1 j7	d h7	d_2	e_1	f_1	g	g_1	g_3	i_1
SPL62-UVCR-063N2□	3.7	40	14	M5	52	5	62	111	160	39
	14 ... 46									
	51 ... 124									

Gearbox size	k_1	k_3	l	l_1	l_2	s_1	t	u	v	Weight approx. kg
SPL62-UVCR-063N2□	308	115	30	5.5	18	M5x10	16	5	70	5.9
	324	131								6.3
	340	147								6.7

Dimensions in mm



Drive selection

AC planetary geared motors (ribbed housing)

Selection table Type SPL81-□UVCR-063N2□

Motor type	P _N W	50 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
13.750.65.1.2.□	180	365	3.75	5.32	3.7	
		200	6.80	2.92	6.75	
		98	13.07	4.59	13.73	
		54	23.82	2.52	25.01	
		38	33.31	1.80	34.97	
		30	43.39	1.38	45.56	
		26	45.21	2.65	50.89	
		20	60.00	0.90	71.16	
		14	88.45	1.36	99.5	
		11	110.20	1.09	123.97	
13.750.65.1.2.□	250	743	2.54	7.86	3.7	
		407	4.60	4.31	6.75	
		200	8.65	6.78	13.73	
		110	16.13	3.72	25.01	
		78	22.55	2.66	34.97	
		60	29.38	2.04	45.56	
		54	30.61	3.92	50.89	
		39	42.83	2.80	71.16	
		28	59.89	2.00	99.5	
		22	74.62	1.61	123.97	

Additional order information

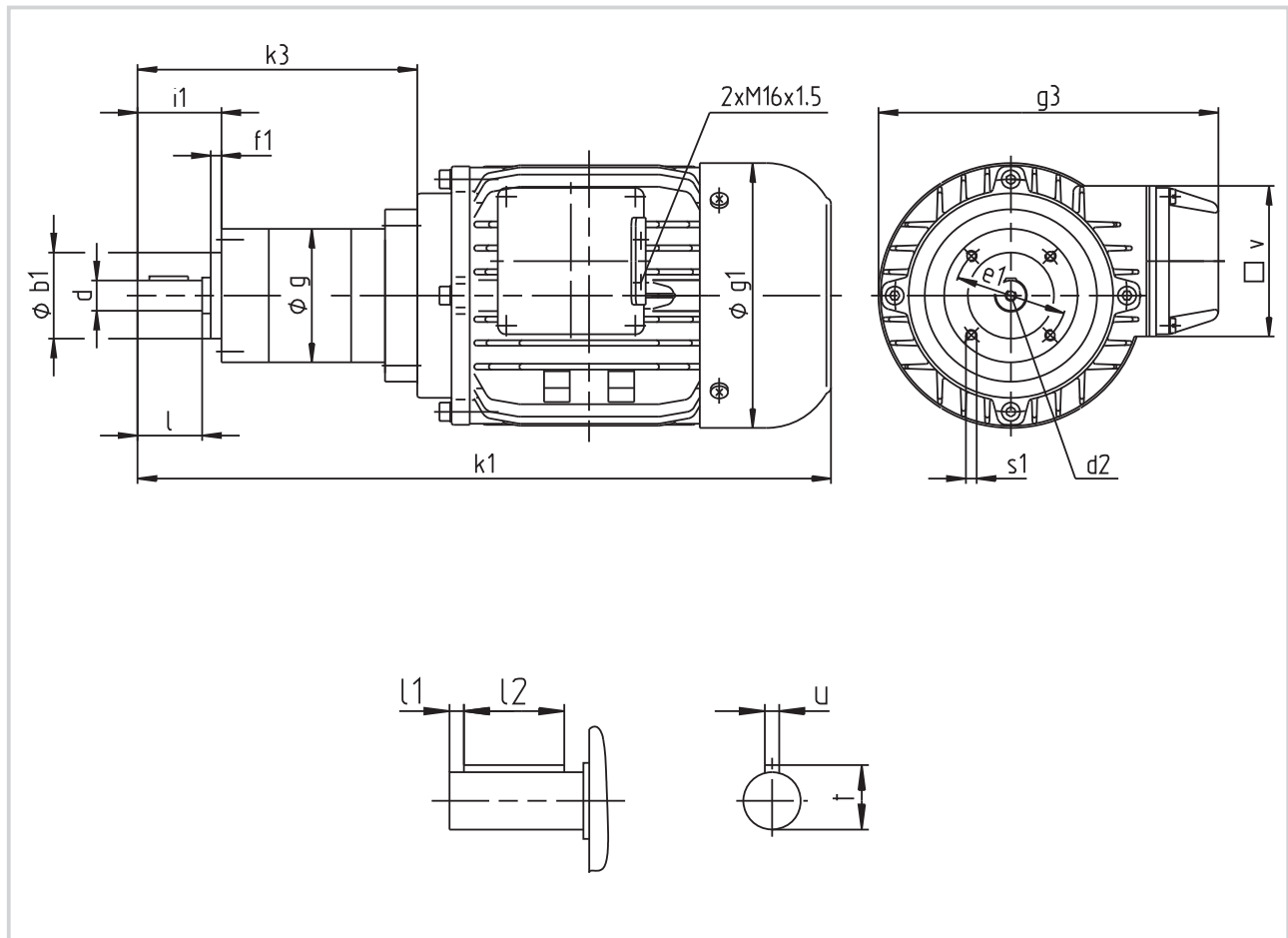
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
	230 V AC with bridge rectifier	
Enclosure	IP54	
	IP55	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL81-□UVCR-063N2□



Gearbox size	Ratio i	b_1 j7	d h7	d_2	e_1	f_1	g	g_1	g_3	i_1
SPL81-□UVCR-063N2□	3.7	50	19	M6	65	5	81	123	160	49
	14 ... 46									
	51 ... 124									

Gearbox size	k_1	k_3	l	l_1	l_2	s_1	t	u	v	Weight approx. kg
SPL81-□UVCR-063N2□	337	144	40	6	28	M6x12	21.5	6	70	7.1
	358	165								7.8
	380	187								8.5

Dimensions in mm

Drive selection

Technical data AC asynchronous motors (inverter-optimised)

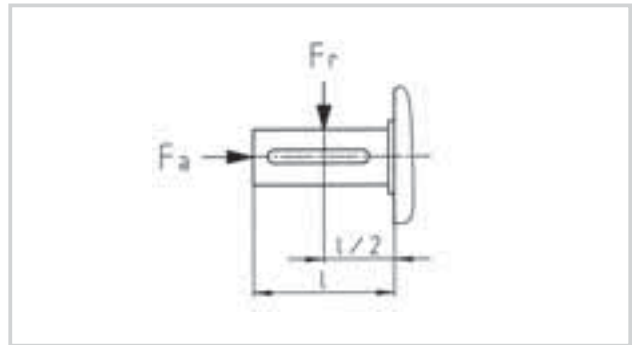
Description

Inverter-optimised motors are characterised by their smooth surface and variable applications. The reinforced insulation system is particularly dimensioned for inverter operation.



General data

Motor type	SDSGA□□□□□□□□
Enclosure	IP54 or IP 55
Thermal class (VDE530)	F
Motor protection	Thermal contact or KTY Note options in the tables
Cooling	Naturally ventilated
Temperature range	-20 to +40 °C
Site altitude	Up to 1000 m a.m.s.l.
Electrical connection	Connector or terminal box Note options in the tables
Bearing	Deep-groove ball bearing
Operating mode (VDE530)	S1



Rated data

Motor type	SDSGA□□047-22	SDSGA□□056-22	SDSGA□□063-22	SDSGA□□063-32
Rated power (W)	75	240	400	600
Rated torque (Nm)	0.27	0.81	1.35	1.9
Rated current (A)	0.90/0.52	1.49/0.86	2.02/1.23	3.00/1.74
Rated voltage (V)	230/400	230/400	230/400	230/400
Rated frequency (Hz)	100	100	100	100
Rated speed (rpm)	2700	2790	2800	2825
Max. speed (rpm)	6000	6000	6000	6000
Power factor	0.5	0.714	0.7	0.7
Moment of inertia (kgcm ²)	0.41	1.404	2.796	4.21
Max. radial force (N) F _r	350	560	650	650
Max. axial force (N) F _a	750	430	510	510



Connection plan for inverter motor SDSGA□□047-22

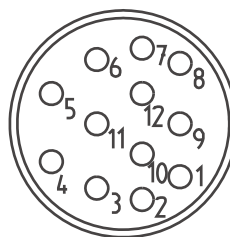
Parameter setting for servo inverter 9321			
Code	Setting		Meaning
	Y	Δ	
C0006	2	22	Servo asynchronous (Y)
C0025	RsX		Resolver
C0070	5		
C0071	150		ms
C0075	0.35		
C0076	1.80		ms
C0081	0.075		Pn (kW)
C0084	72		Rphase (ohm)
C0085	267		Xleakage (mH)
C0086	0		COMMON
C0087	2700		nn (rpm)
C0088	0.52	0.90	In (A)
C0089	100		fn (Hz)
C0090	390	230	Un (V)
C0091	0.5		cos phi

Connector for resolver and thermal contact		
Pin no.	Connection name	Connection to:
1	+Ref	Resolver
2	-Ref	Resolver
3		
4	+cos	Resolver
5	-cos	Resolver
6	+sin	Resolver
7	-sin	Resolver
8		
9		
10		
11	+	KTY/thermal switch
12	-	KTY/thermal switch

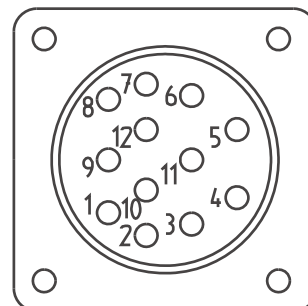
Connector for motor and brake		
Pin no.	Connection name	Connection to:
1	Y1	Brake
2	Y2	Brake
PE	PE	Conductor
4	U	Motor phase
5	V	Motor phase
6	W	Motor phase

Connector for incremental encoder and thermal contact		
Pin no.	Connection name	Connection to:
1	B	Track B
2	-A	Track A inv.
3	A	Track A
4	+UB	+5 V - +24 V
5	+0V	Grnd
6	-N	Track 0 inv.
7	N	Track 0
8		
9	-B	Track B inv.
10		
11	+	KTY/thermal switch
12	-	KTY/thermal switch

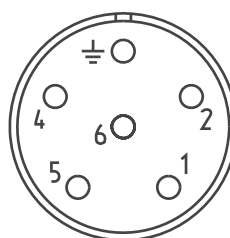
Encoder connector
for resolver/
Incremental encoder



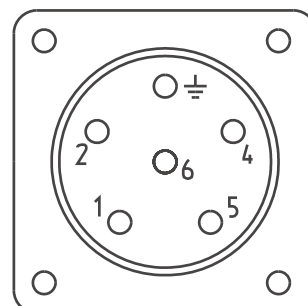
Encoder angular
connection



Power connector



Motor angular
connection



Drive selection

Technical data AC asynchronous motors (inverter-optimised)

Connection plan for inverter motor SDSGA□□056-22

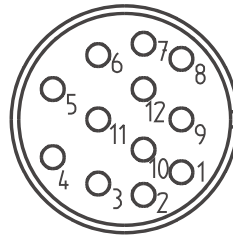
Parameter setting for servo inverter 9321			
Code	Setting		Meaning
	Y	Δ	
C0006	2	22	Servo asynchronous
C0025	RsX		Resolver
C0070	5		
C0071	150		ms
C0075	0.35		
C0076	1.80		ms
C0081	0.24		Pn (kW)
C0084	20.9		Rphase (ohm)
C0085	103		Xleakage (mH)
C0086	0		COMMON
C0087	2790		nn (rpm)
C0088	0.86	1.50	In (A)
C0089	100		fn (Hz)
C0090	390	230	Un (V)
C0091	0.70		cos phi

Connector for resolver and thermal contact		
Pin no.	Connection name	Connection to:
1	+Ref	Resolver
2	-Ref	Resolver
3		
4	+cos	Resolver
5	-cos	Resolver
6	+sin	Resolver
7	-sin	Resolver
8		
9		
10		
11	+	KTY/thermal switch
12	-	KTY/thermal switch

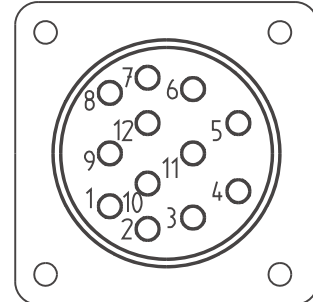
Connector for motor and brake		
Pin no.	Connection name	Connection to:
1	Y1	Brake
2	Y2	Brake
PE	PE	Conductor
4	U	Motor phase
5	V	Motor phase
6	W	Motor phase

Connector for incremental encoder and thermal contact		
Pin no.	Connection name	Connection to:
1	B	Track B
2	-A	Track A inv.
3	A	Track A
4	+UB	+5 V - +24 V
5	+0V	Grnd
6	-N	Track 0 inv.
7	N	Track 0
8		
9	-B	Track B inv.
10		
11	+	KTY/thermal switch
12	-	KTY/thermal switch

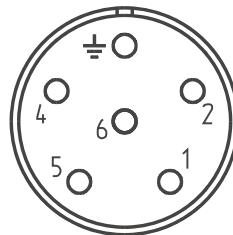
Encoder connector
for resolver/
Incremental encoder



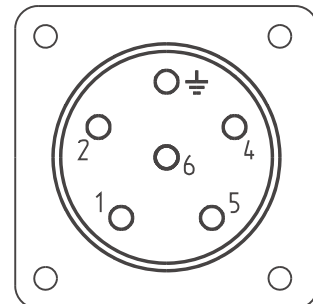
Encoder angular
connection



Power connector



Motor angular
connection





Connection plan for inverter motor SDSGA□□063-22

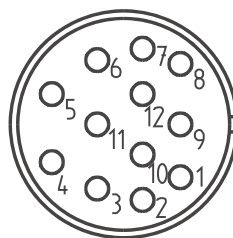
Parameter setting for servo inverter 9321			
Code	Setting		Meaning
	Y	Δ	
C0006	2	22	Servo asynchronous
C0025	RsX		Resolver
C0070	5		
C0071	150		ms
C0075	0.35		
C0076	1.80		ms
C0081	0.40		Pn (kW)
C0084	10		Rphase (ohm)
C0085	50		Xleakage (mH)
C0086	0		COMMON
C0087	2800		nn (rpm)
C0088	1.23	2.12	In (A)
C0089	100		fn (Hz)
C0090	390	230	Un (V)
C0091	0.70		cos phi

Connector for resolver and thermal contact		
Pin no.	Connection name	Connection to:
1	+Ref	Resolver
2	-Ref	Resolver
3		
4	+cos	Resolver
5	-cos	Resolver
6	+sin	Resolver
7	-sin	Resolver
8		
9		
10		
11	+	KTY/thermal switch
12	-	KTY/thermal switch

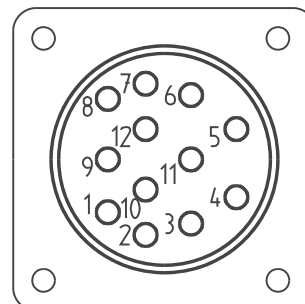
Connector for motor and brake		
Pin no.	Connection name	Connection to:
1	Y1	Brake
2	Y2	Brake
PE	PE	Conductor
4	U	Motor phase
5	V	Motor phase
6	W	Motor phase

Connector for incremental encoder and thermal contact		
Pin no.	Connection name	Connection to:
1	B	Track B
2	-A	Track A inv.
3	A	Track A
4	+UB	+5 V - +24 V
5	+0V	Grnd
6	-N	Track 0 inv.
7	N	Track 0
8		
9	-B	Track B inv.
10		
11	+	KTY/thermal switch
12	-	KTY/thermal switch

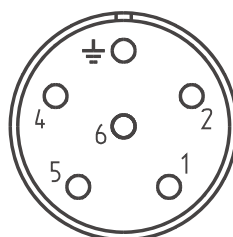
Encoder connector
for resolver/
Incremental encoder



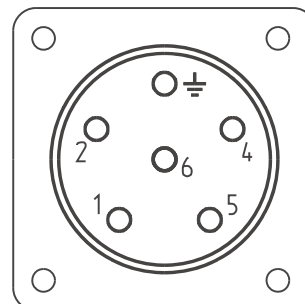
Encoder angular
connection



Power connector



Motor angular
connection



Drive selection

Technical data AC asynchronous motors (inverter-optimised)

Connection plan for inverter motor SDSGA0063-32

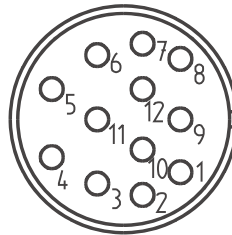
Parameter setting for servo inverter 9321			
Code	Setting		Meaning
	Y	Δ	
C0006	2	22	Servo asynchronous
C0025	RsX		Resolver
C0070	5		
C0071	150		ms
C0075	0.35		
C0076	1.80		ms
C0081	0.60		Pn (kW)
C0084	8.5		Rphase (ohm)
C0085	26		Xleakage (mH)
C0086	0		COMMON
C0087	2825		nn (rpm)
C0088	1.74	3	In (A)
C0089	100		fn (Hz)
C0090	390	230	Un (V)
C0091	0.70		cos phi

Connector for resolver and thermal contact		
Pin no.	Connection name	Connection to:
1	+Ref	Resolver
2	-Ref	Resolver
3		
4	+cos	Resolver
5	-cos	Resolver
6	+sin	Resolver
7	-sin	Resolver
8		
9		
10		
11	+	KTY/thermal switch
12	-	KTY/thermal switch

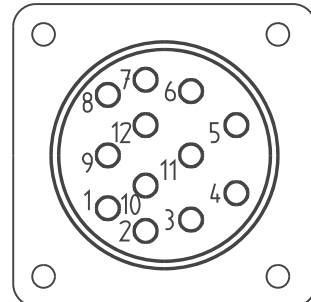
Connector for motor and brake		
Pin no.	Connection name	Connection to:
1	Y1	Brake
2	Y2	Brake
PE	PE	Conductor
4	U	Motor phase
5	V	Motor phase
6	W	Motor phase

Connector for incremental encoder and thermal contact		
Pin no.	Connection name	Connection to:
1	B	Track B
2	-A	Track A inv.
3	A	Track A
4	+UB	+5 V - +24 V
5	+0V	Grnd
6	-N	Track 0 inv.
7	N	Track 0
8		
9	-B	Track B inv.
10		
11	+	KTY/thermal switch
12	-	KTY/thermal switch

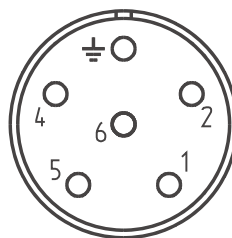
Encoder connector
for resolver/
Incremental encoder



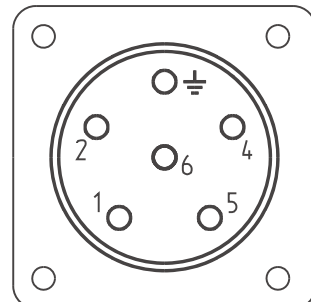
Encoder angular
connection



Power connector



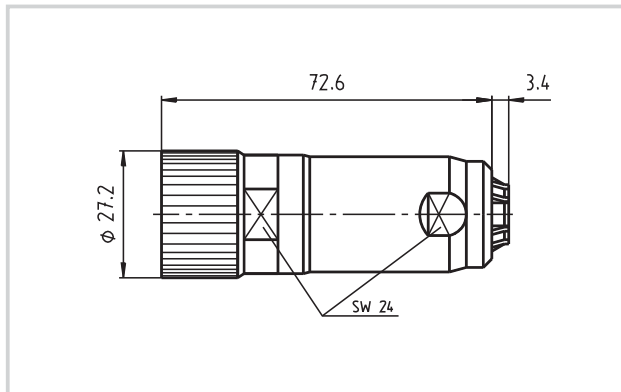
Motor angular
connection



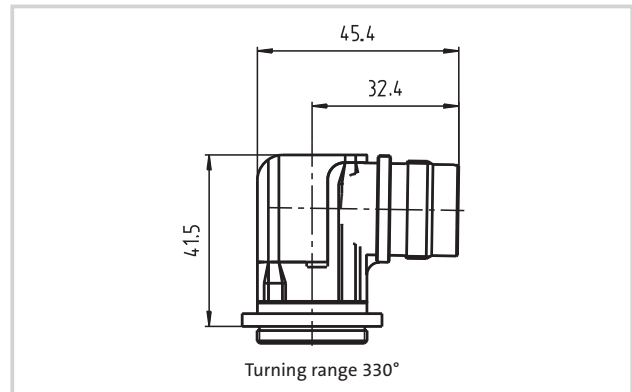


Dimensions of male and female connectors

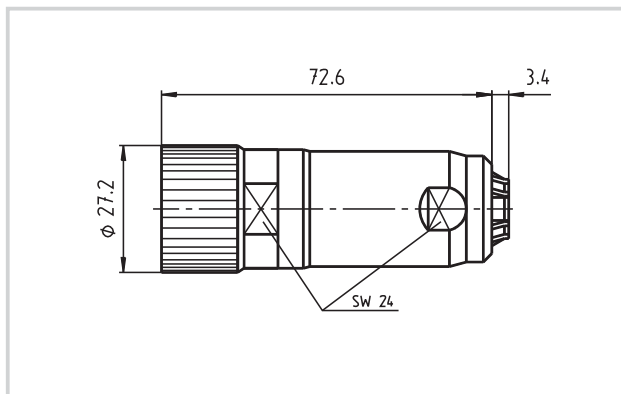
Power connector SDSGA□□047
SDSGA□□056
SDSGA□□063



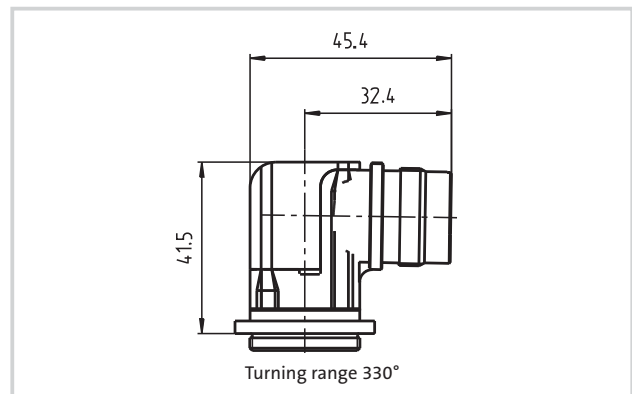
Motor angular connection SDSGA□□047
SDSGA□□063
SDSGA□□056



Encoder connector (resolver/incremental encoder)



Encoder angular connection

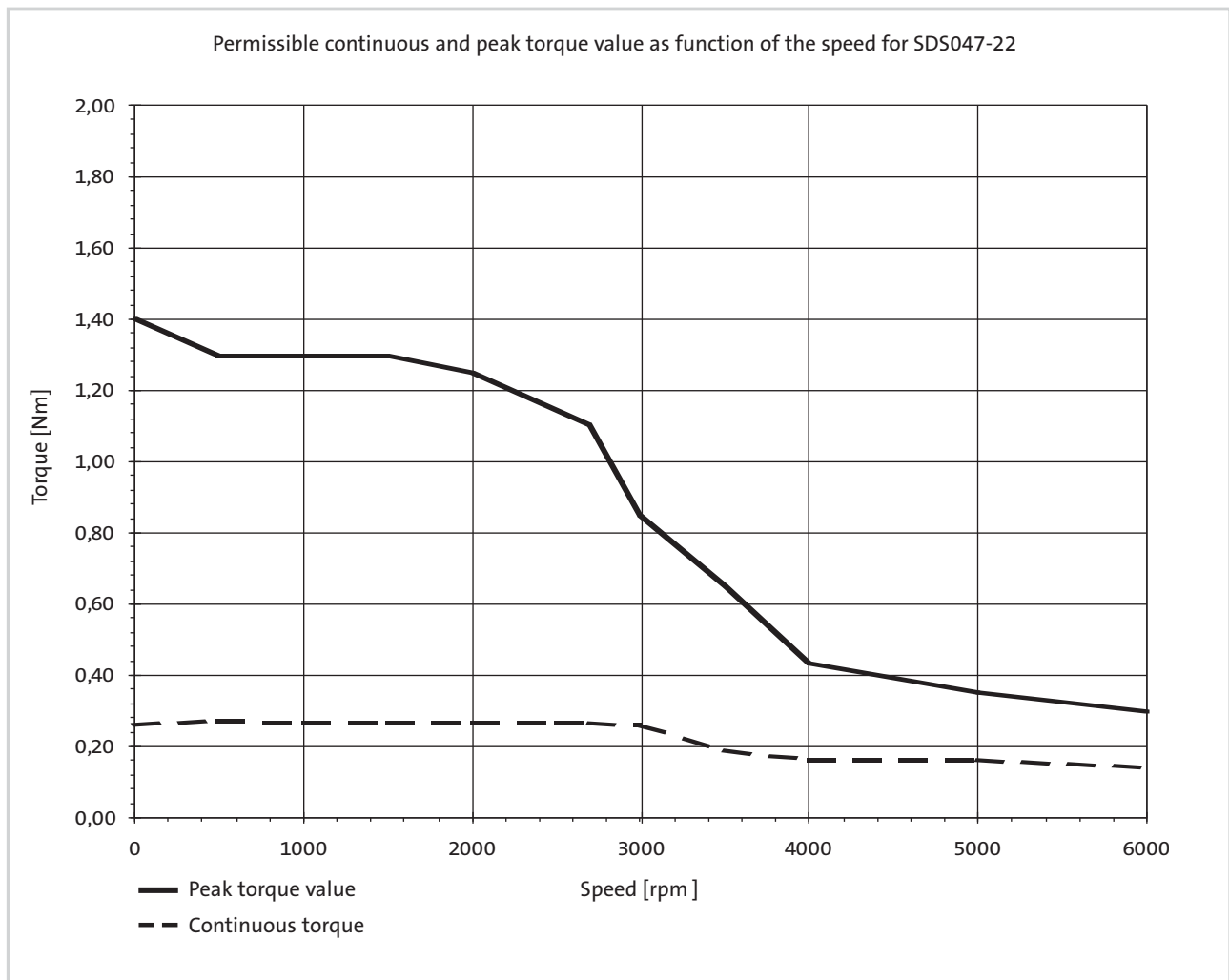




Drive selection

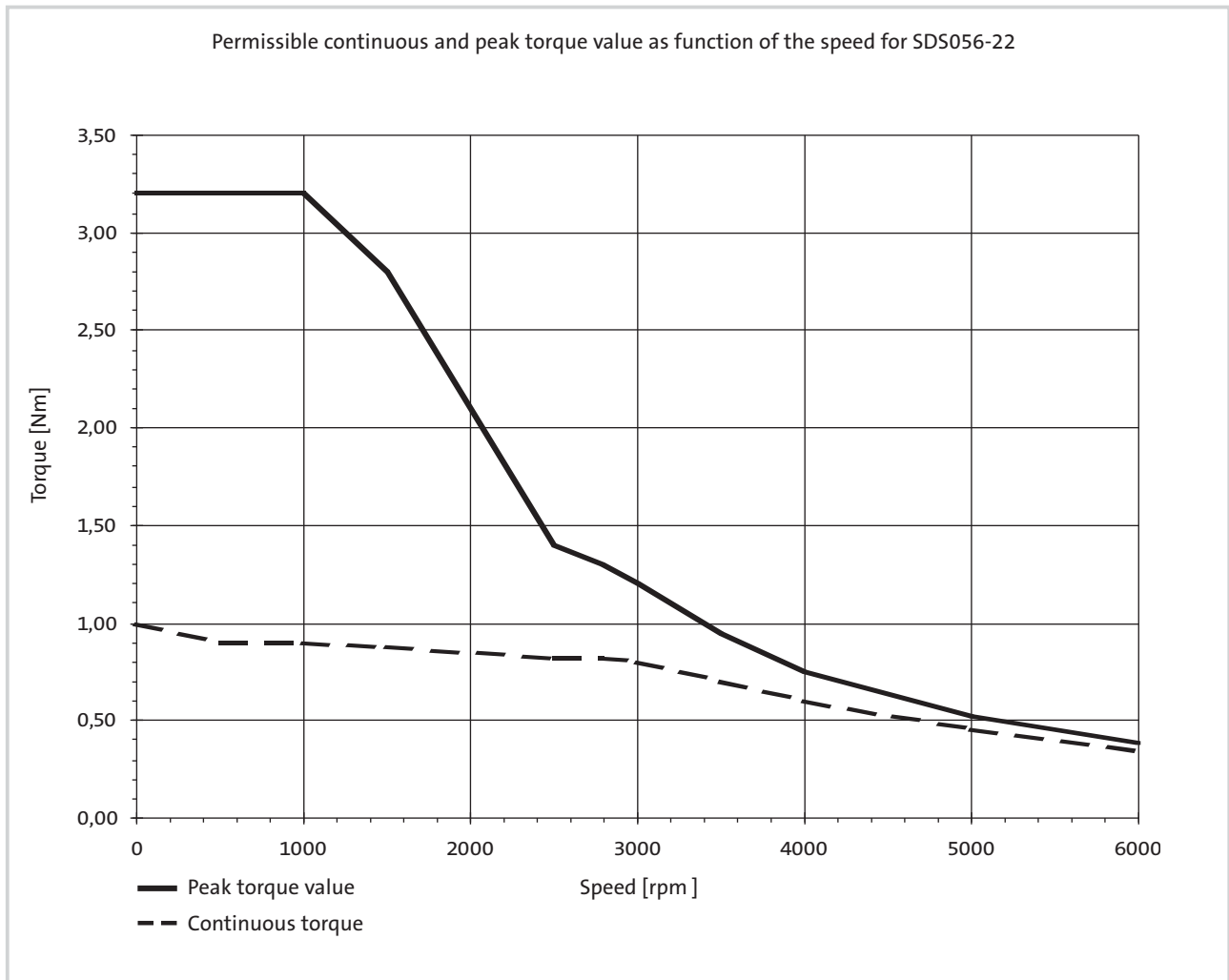
Technical data AC asynchronous motors (inverter-optimised)

Characteristics SDSGA□□047





Characteristics SDSGA□□056-22

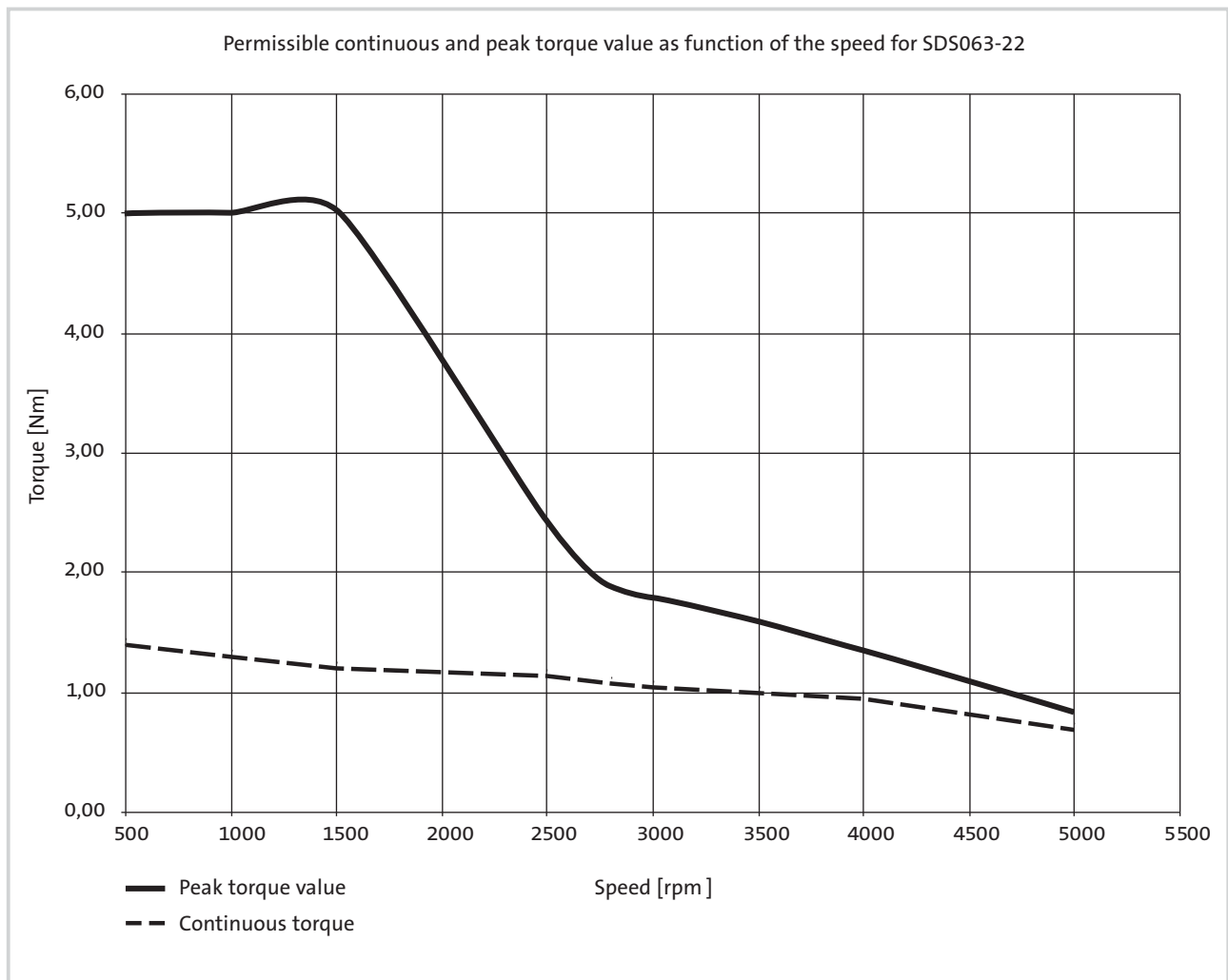




Drive selection

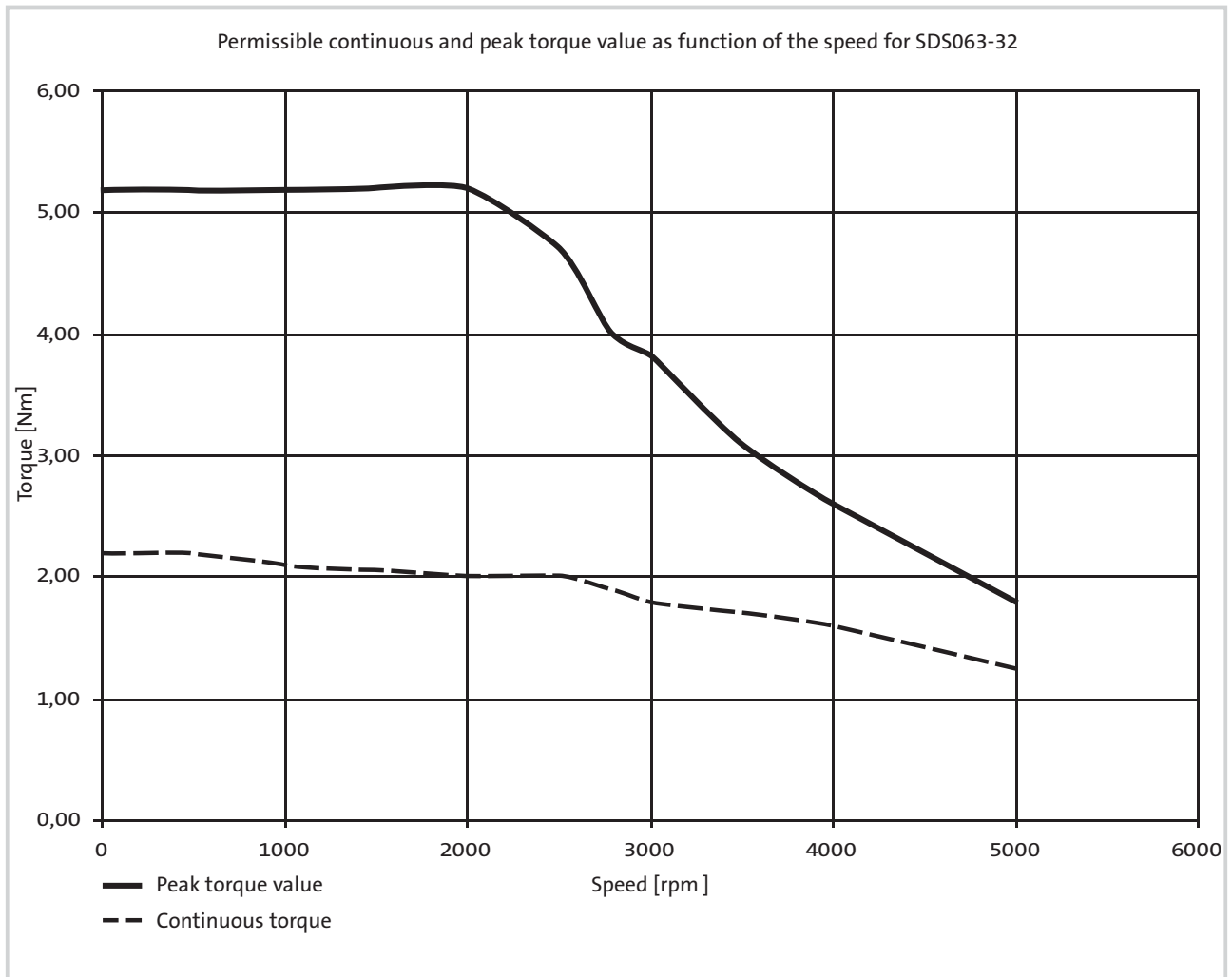
Technical data AC asynchronous motors (inverter-optimised)

Characteristics SDSGA□□063-22





Characteristics SDSGA□□063-32





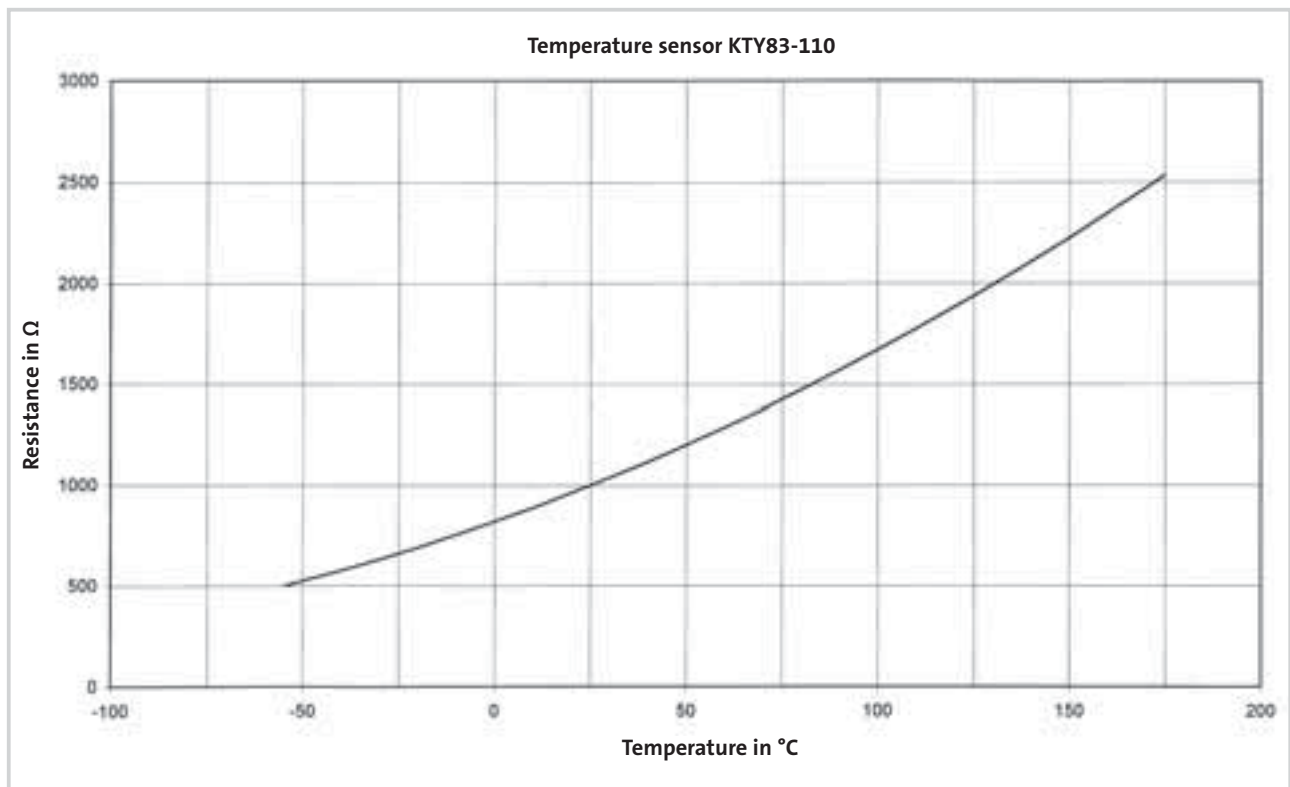
Drive selection

Technical data AC asynchronous motors (inverter-optimised)

Temperature encoder KTY 83-110 (integrated temperature detector)

The motor temperature is monitored continuously using the KTY temperature detector, although this does not offer full protection.

The feedback to the servo inverter 9300 is carried out using the feedback system cable. When the encoder is fed with a measuring current of 1 mA, the relationship between temperature and resistance will be as follows:



Thermostat – NC contact (TKÖ)

As an alternative to the continuous sensor KTY, a temperature contact can also be used to monitor the windings of motor series SDSGA.

Technical data

	AC connection		DC connection		
Operating temperature	150 °C ± 5 °C				
Reset temperature	90...135 °C				
Supply voltage	250 V ≈	60 V	48 V	24 V	
Rated current [A]	2.5 A	1.0 A	1.25 A	1.6 A	



Drive selection

AC asynchronous motor (inverter-optimised)

Selection table Type SDSGA□□0□□-□□

Motor type	P _N W	100 Hz		Design A-side	Selection (tick as required)
		n ₂ rpm	M ₂ Nm		
SDSGA□□047-22	75	2700	0.27	IEC56 B14 C80	
SDSGA□□056-22	240	2790	0.81	IEC63 B14 C90	
SDSGA□□063-22	400	2800	1.35	IEC71 B14 C105	
SDSGA□□063-32	600	2825	1.90	IEC71 B14 C105	

Additional order information

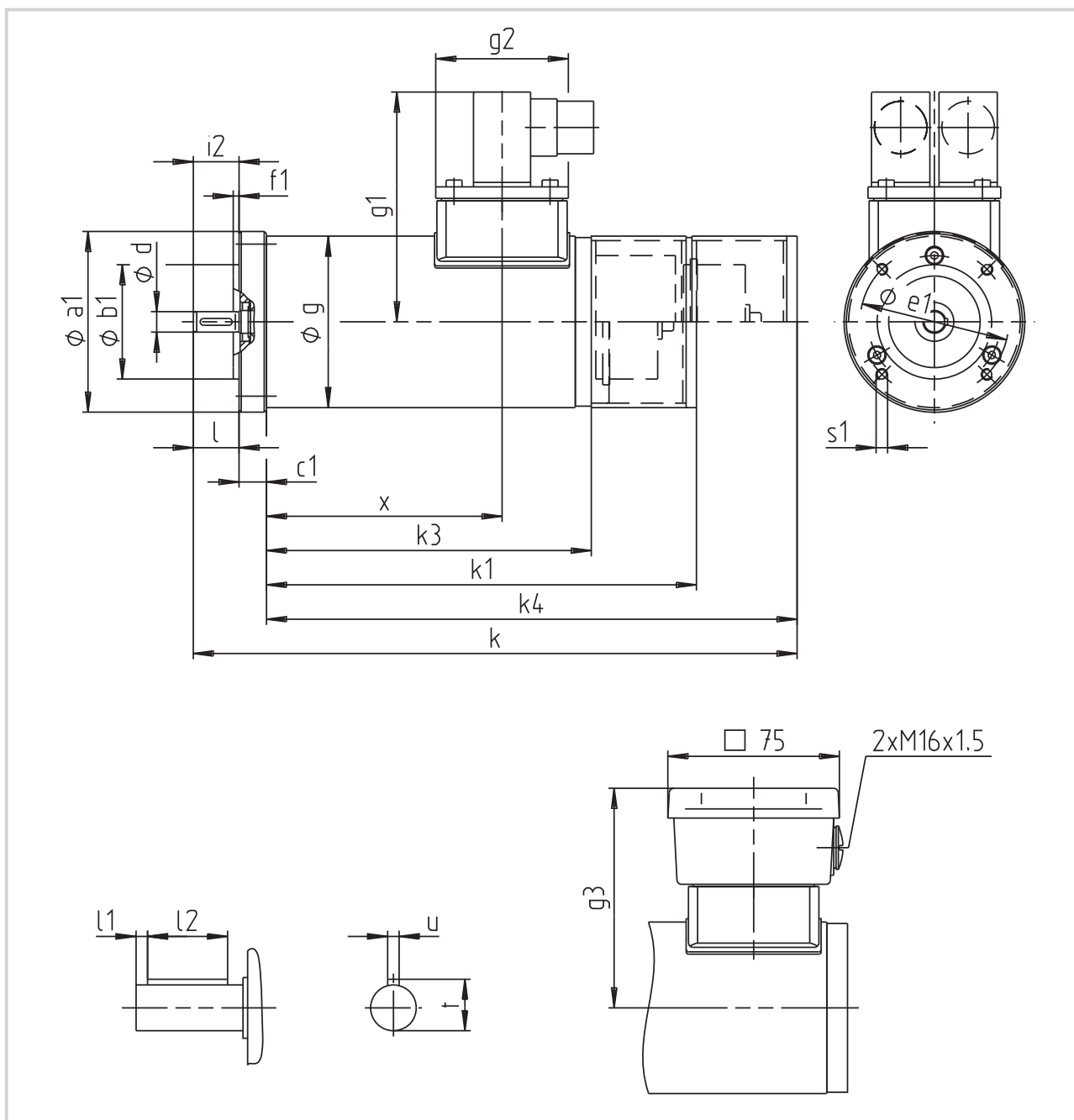
Rated voltage	230 V	connector version and motor frame size 047 only	
	390 V	connector version and motor frame size 056-063 only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Terminal box		
	Connector		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Position of electrical connection			2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SDSGA□□0□□-□2



Motor type	Frame size	a_1	b_1 j_7	c_1	d k_6	e_1	f_1	g	g_1	g_2	g_3	i_2	k	k_1	k_3	k_4	l	l_1	l_2	s_1	t	u	x	Weight approx. kg
SDSGA□□047-22	IEC56C80	79	50	12	9	65	2.5	75	101	58	96	20	264	188	144	232	20	3	14	M5	10.2	3	103	3.0-4.0
SDSGA□□056-22	IEC63C90	89	60	12	11	75	2.5	85	106	58	101	23	274	195	151	239	23	3	18	M5	12.5	4	108	4.0-5.5
SDSGA□□063-22	IEC71C105	104	70	12	14	85	2.5	95	111	58	106	30	293	202	156	251	30	2.5	25	M6	16	5	118	5.3-6.7
SDSGA□□063-32	IEC71C105	104	70	12	14	85	2.5	95	111	58	106	30	333	242	196	291	30	2.5	25	M6	16	5	158	6.8-8.2

Dimensions in mm

Drive selection

AC asynchronous motor (inverter-optimised)

Selection table Type SDSGA□□0□□-□2

Motor type	P _N W	100 Hz		Design A-side for gearbox attachment	Selection (tick as required)
		n ₂ rpm	M ₂ Nm		
SDSGA□□047-22	75	2700	0.27	B14 for SSN31	
				B14 for SPL42	
SDSGA□□056-22	240	2790	0.81	B14 for SSN40	
SDSGA□□063-22	400	2800	1.35	B14 for SSN40	
SDSGA□□063-32	600	2825	1.90	B14 for SSN40	

Additional order information

Rated voltage	230 V	connector version and motor frame size 047 only	
	390 V	connector version and motor frame size 056-063 only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Terminal box		
	Connector		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Position of electrical connection			2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Drive selection

AC worm geared motors (inverter-optimised)

Selection table Type SSN31-1G□□□-047C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□047-22	75	540	1.05	12.20	5	
		386	1.57	8.92	7	
		270	2.08	6.73	10	
		180	3.00	5.34	15	
		135	3.73	4.03	20	
		108	4.02	3.40	25	
		90	4.78	3.04	30	
		71	5.85	2.74	38	
		54	6.21	2.09	50	
		49	7.72	1.94	55	
		36	7.29	1.51	75	
		27	10.26	1.07	100	

Additional order information

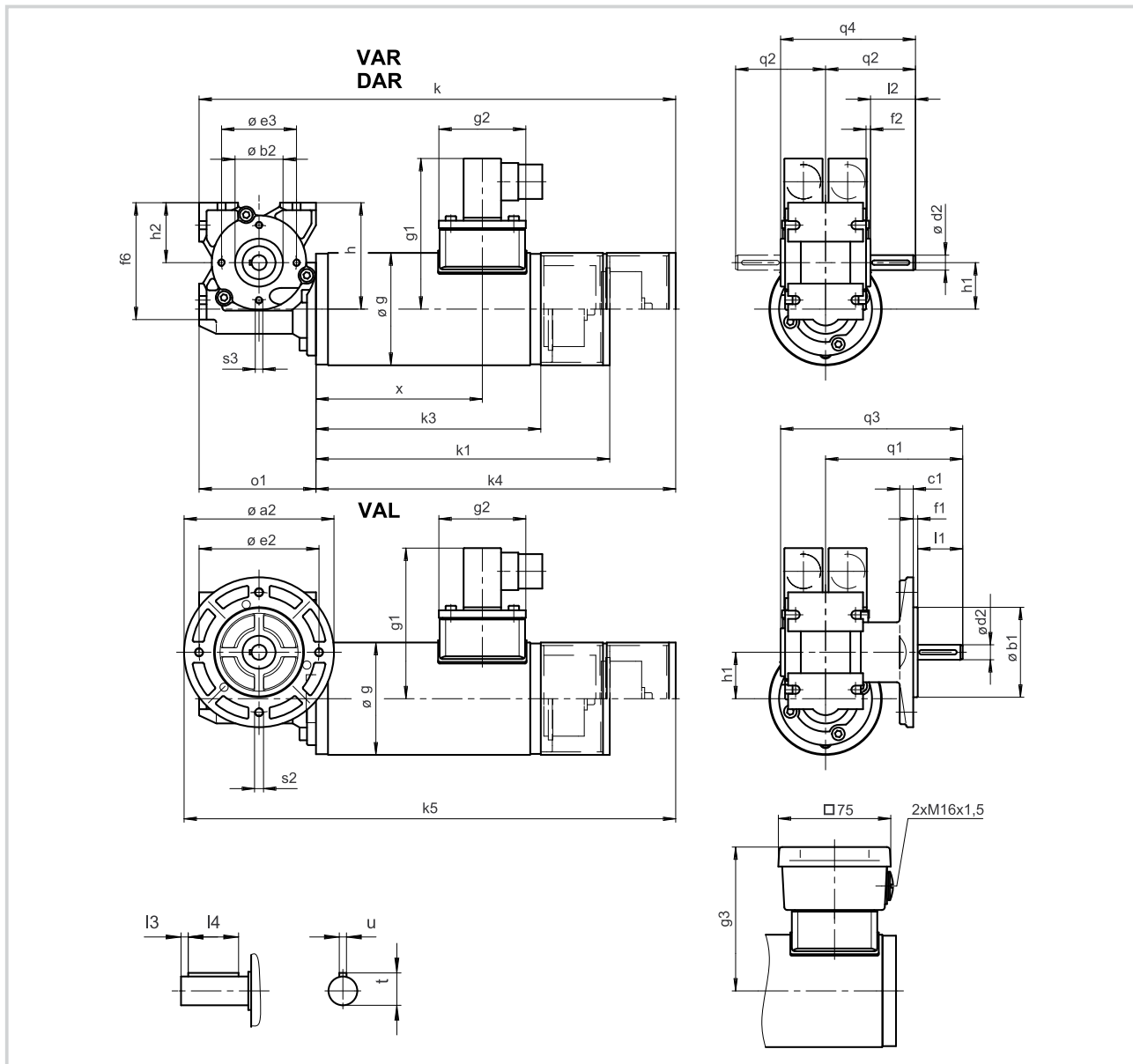
Rated voltage	230 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Temperature monitoring	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	IG = Incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Gearbox type	VAR	Shaft D10x30mm	
		Shaft D12x40mm	
	DAR	Shaft D10x30mm	
		Shaft D12x40mm	
	VAL	Shaft D10x30mm Flange D100mm	
		Shaft D12x40mm Flange D120mm	
	HAR		
Shaft position on type VAR			3 5
Flange/shaft position on type VAL			3 5
Mounting position			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN31-1GVA□-047C22



Geared motor	a ₂	b ₁ j7	b ₂ h8	c ₁	d ₂ h6	e ₂	e ₃	f ₁	f ₂	f ₆	g	g ₁	g ₂	g ₃	h	h ₁	h ₂
SSN31-1GVA□-047C22	100	60	32	9	10	80	50	3	3	78	75	101	58	96	71	31	40
	120	80	32	9	12	100	50	3	3	78	75	101	58	96	71	31	40

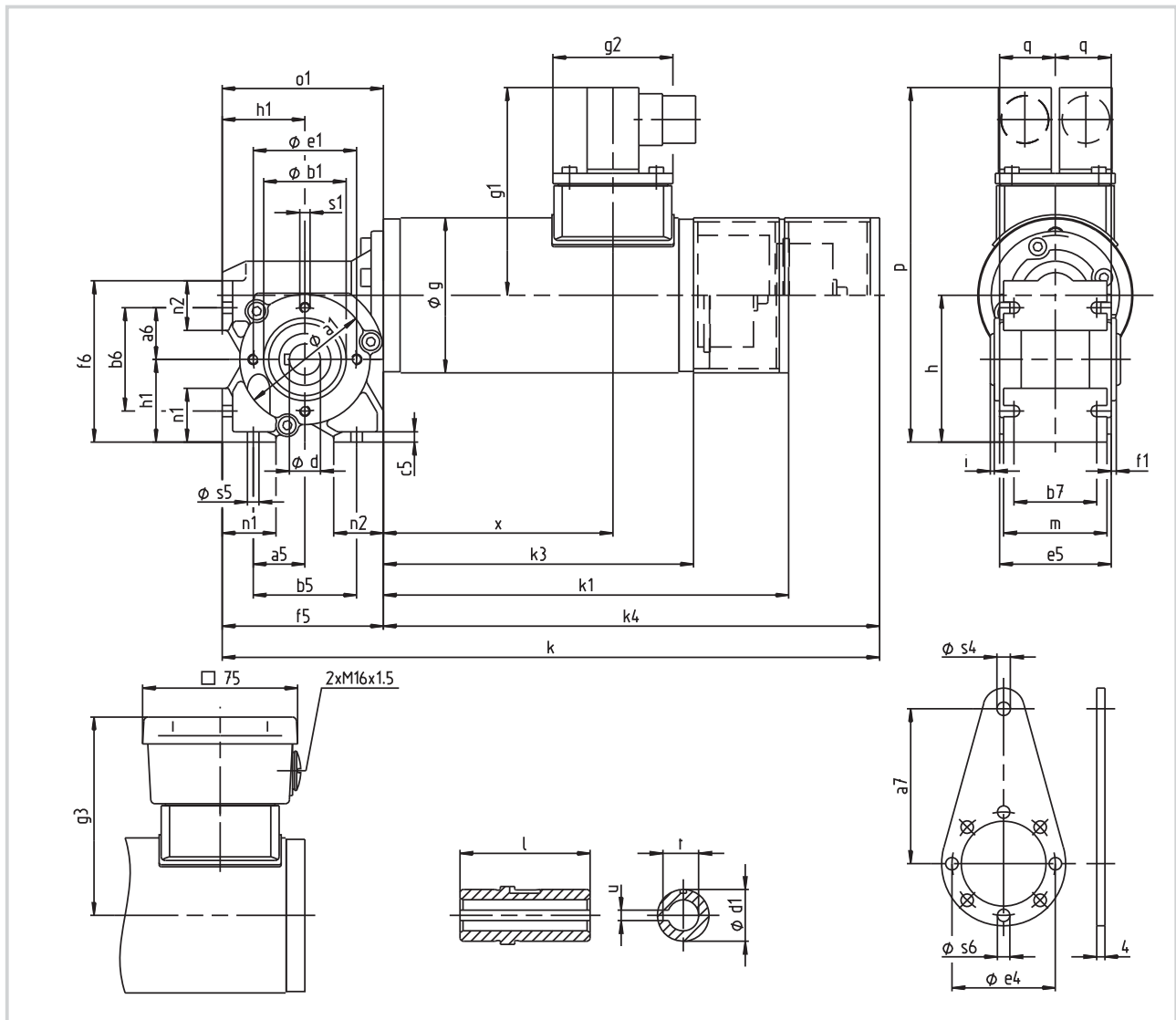
Geared motor	k	k ₁	k ₃	k ₄	k ₅	l ₁	l ₂	l ₃	l ₄	o ₁	q ₁	q ₂	q ₃	q ₄	s ₂	s ₃	t	u	x	Weight approx. kg
SSN31-1GVA□-047C22	318	196	152	240	328	30	30	4	25	78	91.5	60	121.5	90	M6	M5	11.2	3	111	3.7-4.7
	318	196	152	240	338	40	40	4	28	78	101.5	70	131.5	100	M6	M5	13.5	4	111	3.8-4.8

Dimensions in mm

Drive selection

AC worm geared motors (inverter-optimised)

Dimensions Type SSN31-1GHAR-047C22



Geared motor	a ₁	a ₅	a ₆	a ₇	b ₁ h ₈	b ₅	b ₆	b ₇	c ₅	d h ₇	d ₁	e ₁	e ₄	e ₅	f ₁	f ₅	f ₆	g	g ₁	g ₂	g ₃	h	h ₁
SSN31-1GHAR-047C22	63	25	25	75	40	50	50	40	5	15	25	50	50	54	2.5	78	78	75	101	58	96	71	40

Geared motor	i	k	k ₁	k ₃	k ₄	l	m	n ₁	n ₂	o ₁	p	q	s ₁	s ₄	s ₅	s ₆	t	u	x	Weight approx. kg
SSN31-1GHAR-047C22	2	318	196	152	240	63	50	26	24	78	172	27	M5	6.5	5.5	6	17.3	5	111	3.7-4.7

Dimensions in mm



Drive selection

AC worm geared motors (inverter-optimised)

Selection table Type SSN40-1G□□□-056C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□056-22	240	413	4.60	7.62	6.75	
		279	6.50	5.33	10	
		186	8.90	3.67	15	
		139	11.50	2.96	20	
		111	12.90	2.24	25	
		93	15.00	2.39	30	
		69	18.00	1.87	40	
		56	21.80	1.46	50	
		47	18.40	1.25	60	
		35	24.00	0.95	80	

Additional order information

Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact only with terminal box version		
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Gearbox type	VAR		
	DAR		
	VAL		
	HAR		
Shaft position on type VAR			3 5
Flange/shaft position on type VAL			3 5
Mounting position			A B C D E F
Position of electrical connection			2 3 4 5

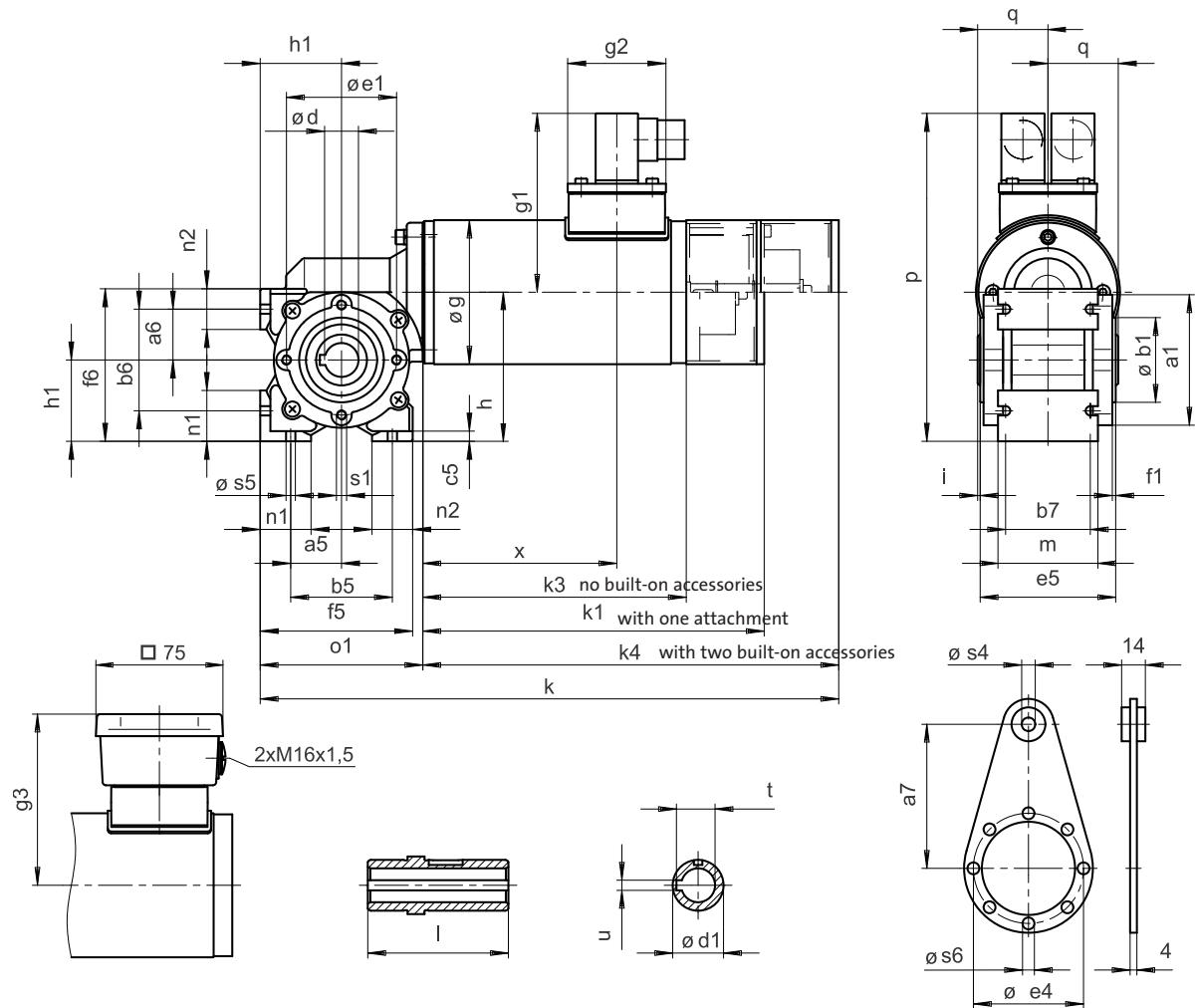
Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.

Drive selection

AC worm geared motors (inverter-optimised)

Dimensions Type SSN40-1GHAR-056C22



Geared motor	a ₁	a ₅	a ₆	a ₇	b ₁ h ₈	b ₅	b ₆	b ₇	c ₅	d H7	d ₁	e ₁	e ₄	e ₅	f ₁	f ₅	f ₆	g	g ₁	g ₂	g ₃	h
SSN40-1GHAR-056C22	77	30	30	85	50	60	60	50	6	20	30	65	65	80	2	90	90	85	106	58	101	88

Geared motor	h ₁	i	k	k ₁	k ₃	k ₄	l	m	n ₁	n ₂	o ₁	p	q	s ₁	s ₄	s ₅	s ₆	t	u	x	Weight approx. kg
SSN40-1GHAR-056C22	48	1.5	342	202	158	246	83	59	30	24	96	194	41.5	M6	8	5.5	7	22.8	6	115	5.5-6.5

Dimensions in mm



Drive selection

AC worm geared motors (inverter-optimised)

Selection table Type SSN40-1G□□□-063C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-22	400	413	7.65	4.57	6.75	
		279	10.93	3.20	10	
		186	14.98	2.20	15	
		139	19.07	1.77	20	
		111	21.60	1.34	25	
		93	25.01	1.43	30	
		69	30.24	1.02	40	
		56	32.00	0.88	50	
		47	23.00	0.75	60	
		35	24.00	0.57	80	

Additional order information

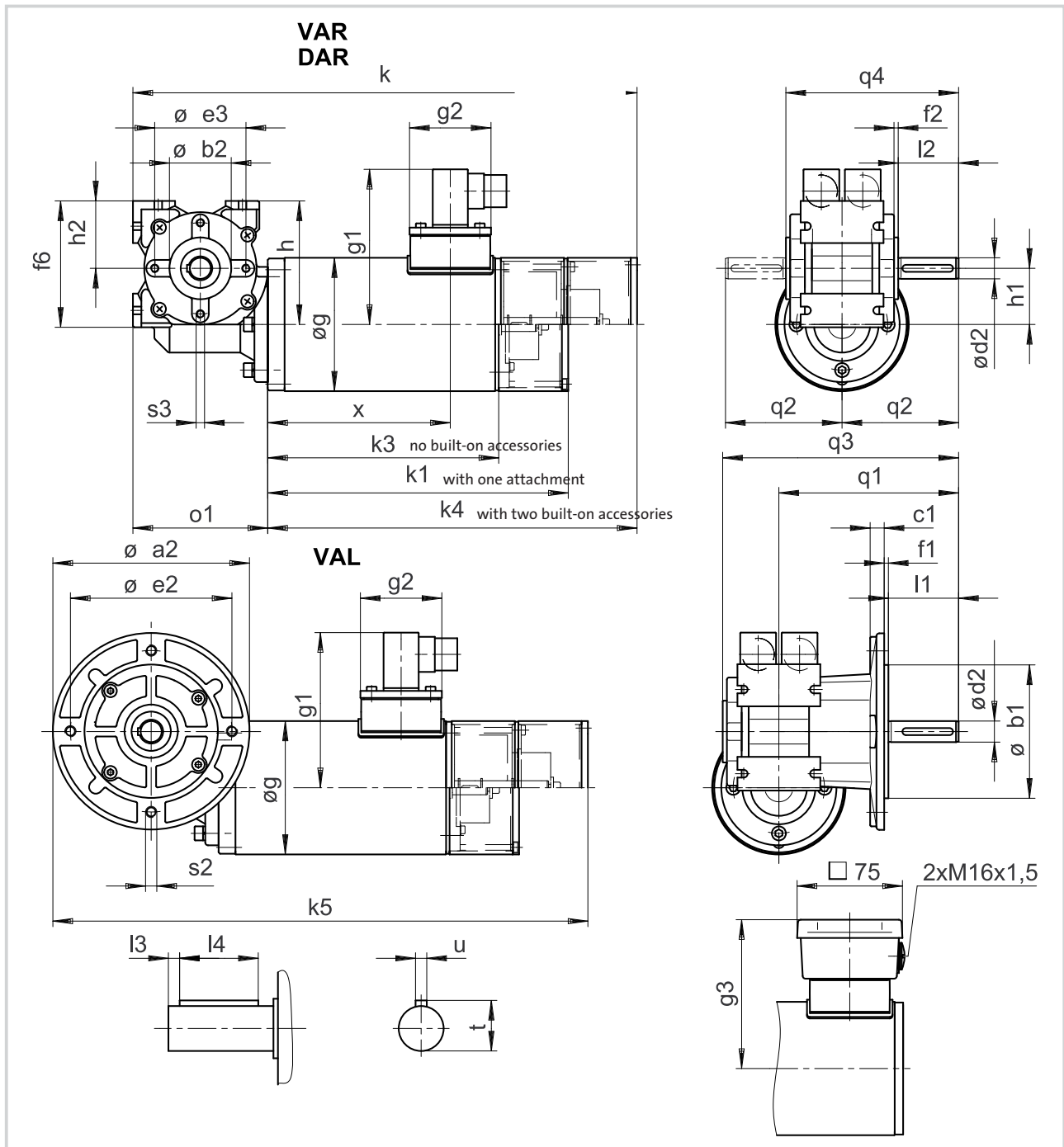
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact only with terminal box version		
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Gearbox type	VAR		
	DAR		
	VAL		
	HAR		
Shaft position on type VAR			3 5
Flange/shaft position on type VAL			3 5
Mounting position			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN40-1GVA□-063C22



Geared motor	a_2	b_1 $j7$	b_2 $h10$	c_1	d_2 $h6$	e_2	e_3	f_1	f_2	f_6	g	g_1	g_2	g_3	h	h_1	h_2
SSN40-1GVA□-063C22	140	95	44	10	15	115	65	3	3	90	95	111	58	106	88	40	48

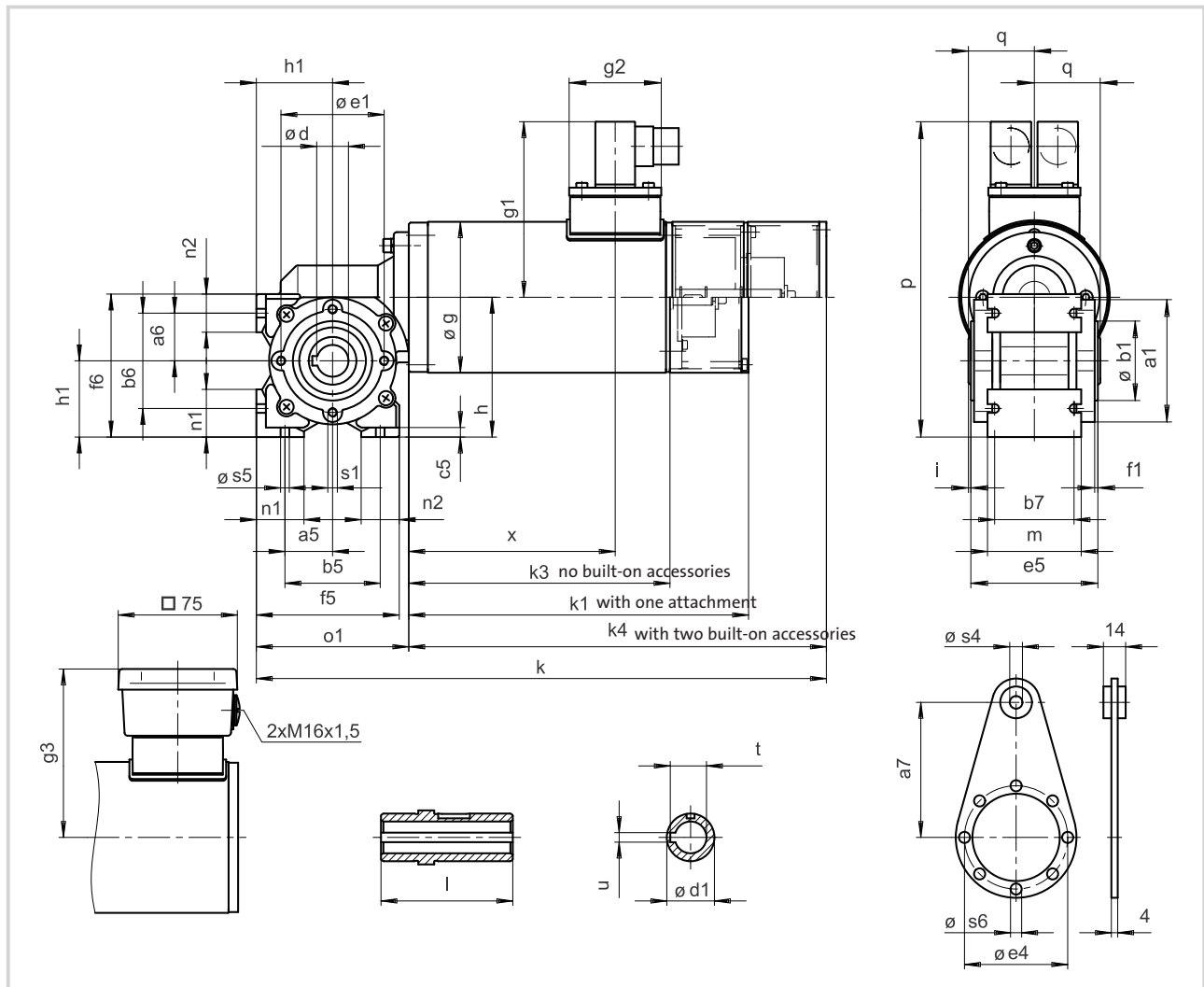
Geared motor	k	k_1	k_3	k_4	k_5	l_1	l_2	l_3	l_4	o_1	q_1	q_2	q_3	q_4	s_2	s_3	t	u	x	Weight approx. kg
SSN40-1GVA□-063C22	359	214	168	263	381	50	43	4	36	96	128	83	168	123	M8	M6	17	5	170	7.0-8.5

Dimensions in mm

Drive selection

AC worm geared motors (inverter-optimised)

Dimensions Type SSN40-1GHAR-063C22



Geared motor	a ₁	a ₅	a ₆	a ₇	b ₁ h ₈	b ₅	b ₆	b ₇	c ₅	d H7	d ₁	e ₁	e ₄	e ₅	f ₁	f ₅	f ₆	g	g ₁	g ₂	g ₃	h
SSN40-1GHAR-063C22	77	30	30	85	50	60	60	50	6	20	30	65	65	80	2	90	90	95	111	58	106	88

Geared motor	h ₁	i	k	k ₁	k ₃	k ₄	l	m	n ₁	n ₂	o ₁	p	q	s ₁	s ₄	s ₅	s ₆	t	u	x	Weight approx. kg
SSN40-1GHAR-063C22	48	1.5	359	214	168	263	83	59	30	24	96	199	41.5	M6	8	5.5	7	22.8	6	130	7.0-8.0

Dimensions in mm



Drive selection

AC worm geared motors (inverter-optimised)

Selection table Type SSN40-1G□□□-063C32

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-32	600	413	10.80	3.25	6.75	
		279	15.40	2.27	10	
		186	21.00	1.56	15	
		139	27.00	1.26	20	
		111	29.00	0.95	25	
		93	35.30	1.02	30	
		69	34.00	0.80	40	
		56	32.00	0.62	50	
		47	23.00	0.53	60	
		35	24.00	0.40	80	

Additional order information

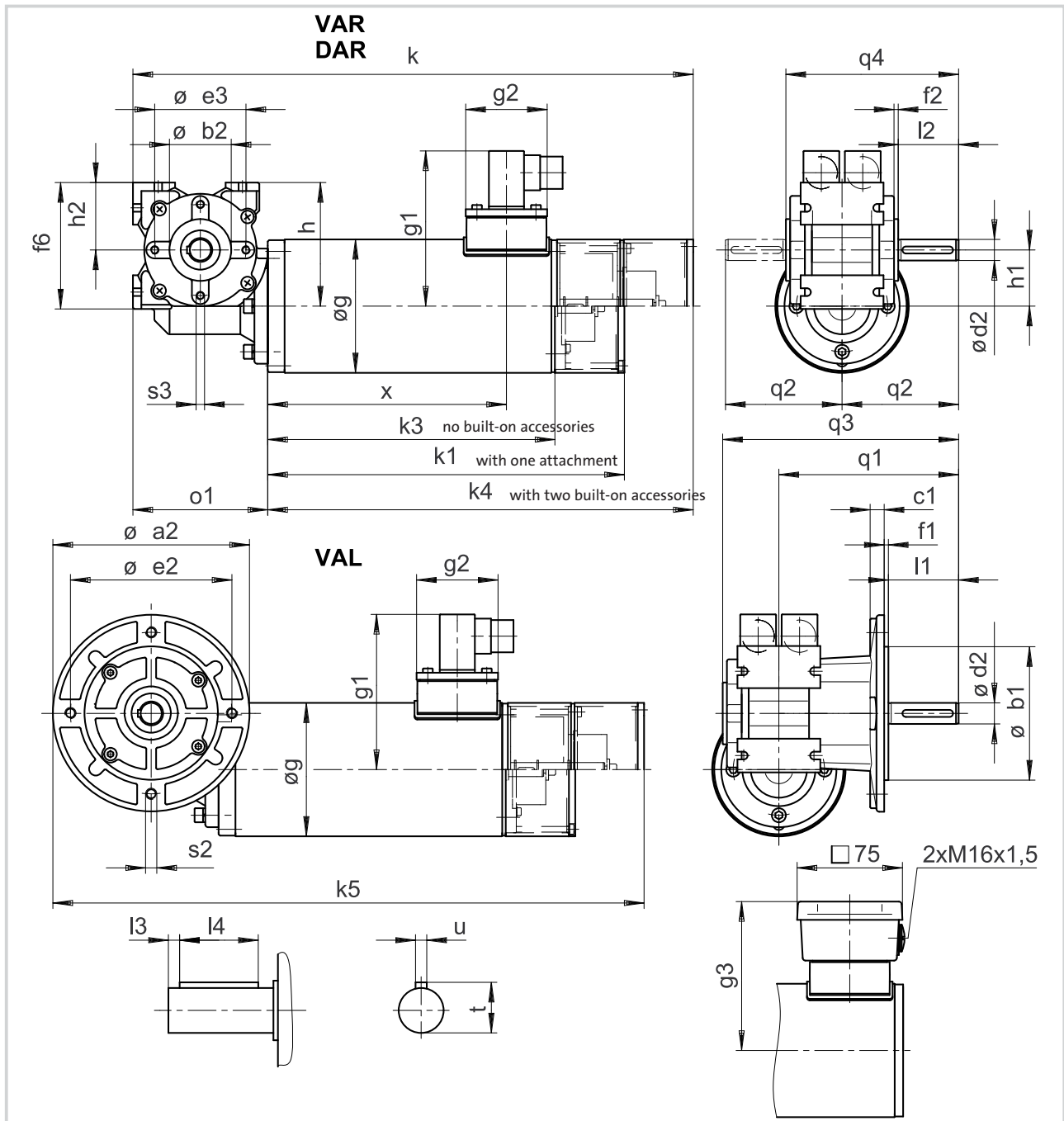
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact only with terminal box version		
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Gearbox type	VAR		
	DAR		
	VAL		
	HAR		
Shaft position on type VAR			3 5
Flange/shaft position on type VAL			3 5
Mounting position			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN40-1GVA□-063C32



Geared motor	a_2	b_1 j_7	b_2 h_{10}	c_1	d_2 h_6	e_2	e_3	f_1	f_2	f_6	g	g_1	g_2	g_3	h	h_1	h_2
SSN40-1GVA□-063C32	140	95	44	10	15	115	65	3	3	90	95	111	58	106	88	40	48

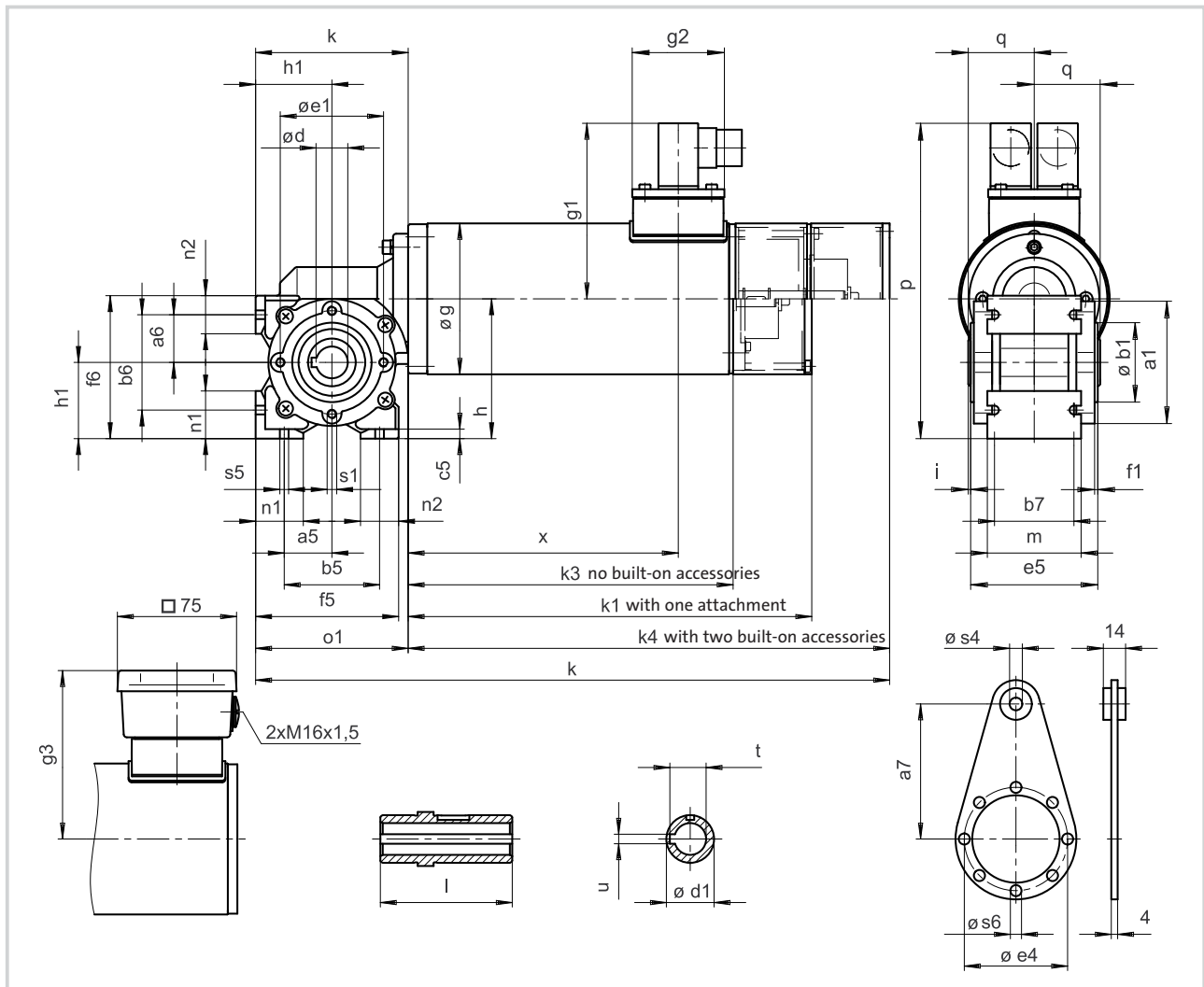
Geared motor	k	k_1	k_3	k_4	k_5	l_1	l_2	l_3	l_4	o_1	q_1	q_2	q_3	q_4	s_2	s_3	t	u	x	Weight approx. kg
SSN40-1GVA□-063C32	399	254	208	303	421	50	43	4	36	96	128	83	168	123	M8	M6	17	5	170	9.0-9.7

Dimensions in mm

Drive selection

AC worm geared motors (inverter-optimised)

Dimensions Type SSN40-1GHAR-063C32



Geared motor	a ₁	a ₅	a ₆	a ₇	b ₁ h ₈	b ₅	b ₆	b ₇	c ₅	d H7	d ₁	e ₁	e ₄	e ₅	f ₁	f ₅	f ₆	g	g ₁	g ₂	g ₃	h
SSN40-1GHAR-063C32	77	30	30	85	50	60	60	50	6	20	30	65	65	80	2	90	90	95	111	58	106	88

Geared motor	h ₁	i	k	k ₁	k ₃	k ₄	l	m	n ₁	n ₂	o ₁	p	q	s ₁	s ₄	s ₅	s ₆	t	u	x	Weight approx. kg
SSN40-1GHAR-063C32	48	1.5	399	254	208	303	83	59	30	24	96	199	41.5	M6	8	5.5	7	22.8	6	170	9.0-9.7

Dimensions in mm



Drive selection

AC planetary geared motors (inverter-optimised)

Selection table Type SPL42-□GVCR-047C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□047-22	75	729	0.80	3.75	3.7	
		400	1.45	2.06	6.75	
		196	2.78	2.69	13.73	
		108	5.06	1.48	25.01	
		59	9.22	0.81	45.56	
		53	9.61	1.56	50.89	
		29	15.00	0.85	92.7	
		16	15.00	0.47	168.84	

Additional order information

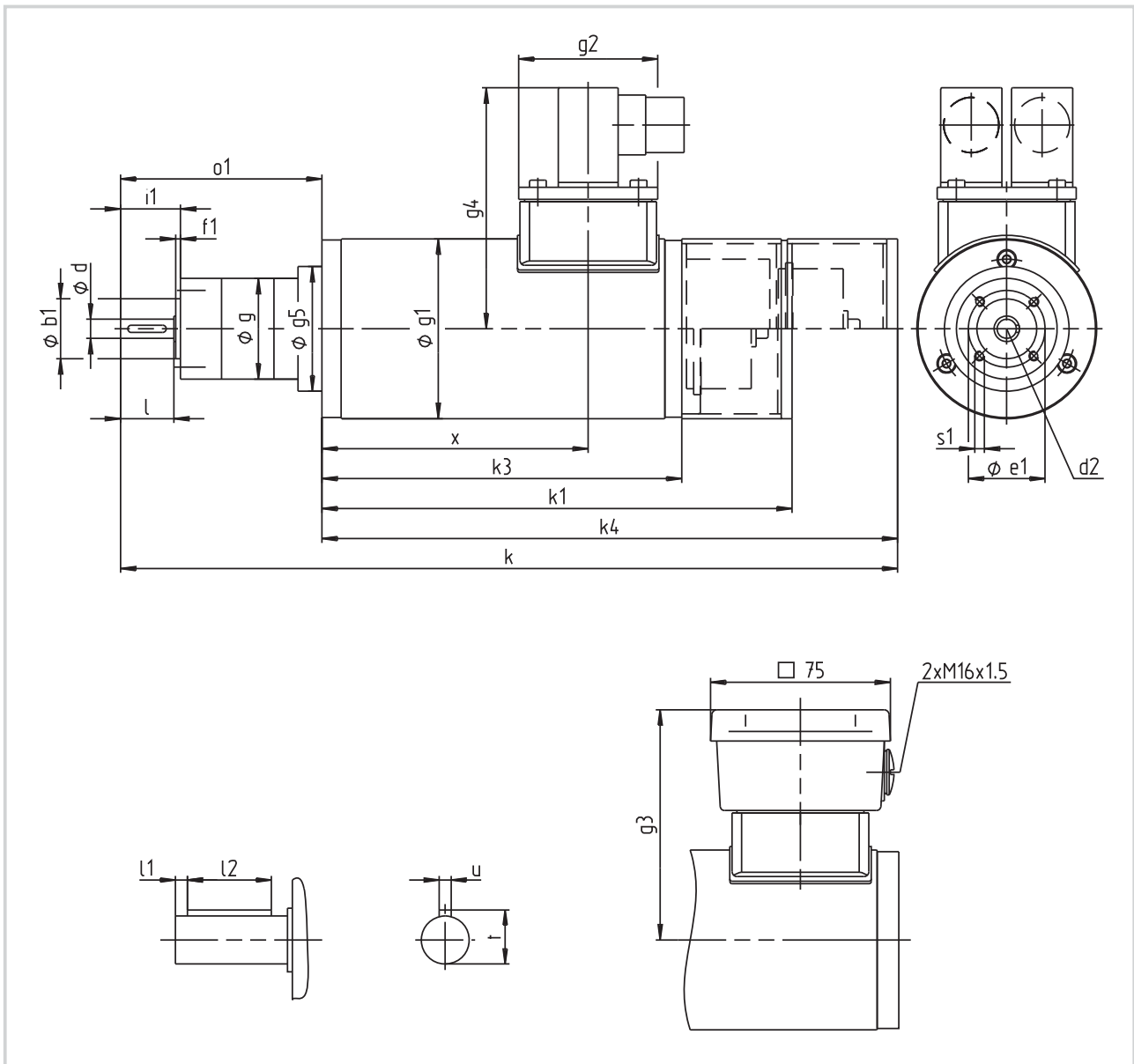
Rated voltage	230 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Position of electrical connection			2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL42-□GVCR-047C22



Geared motor	Ratio i	b_1 h10	d g6	d_2	e_1	f_1	g	g_1	g_2	g_3	g_4	g_5	i_1
SPL42-□GVCR-047C22	3.7; 6.7	25	8	M3	32	2	42	75	58	96	101	52	25
	14 ... 46												
	51...169												

Geared motor	k	k_1	k_3	k_4	l	l_1	l_2	o_1	s_1	t	u	x	Weight approx. kg
SPL42-□GVCR-047C22	324	196	152	240	22.2	3	16	84	M4x10	9.2	3	111	3.4-4.4
	337							97					3.6-4.6
	350							110					3.8-4.8

Dimensions in mm

Drive selection

AC planetary geared motors (inverter-optimised)

Selection table Type SPL52-□GVCR-047N22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□047-22	75	729	0.80	5.00	3.7	
		400	1.45	2.75	6.75	
		196	2.78	4.31	13.73	
		108	5.06	2.37	25.01	
		59	9.22	1.30	45.56	
		53	9.61	2.60	50.89	
		29	17.50	1.42	92.7	
		16	25.00	0.78	168.84	

Additional order information

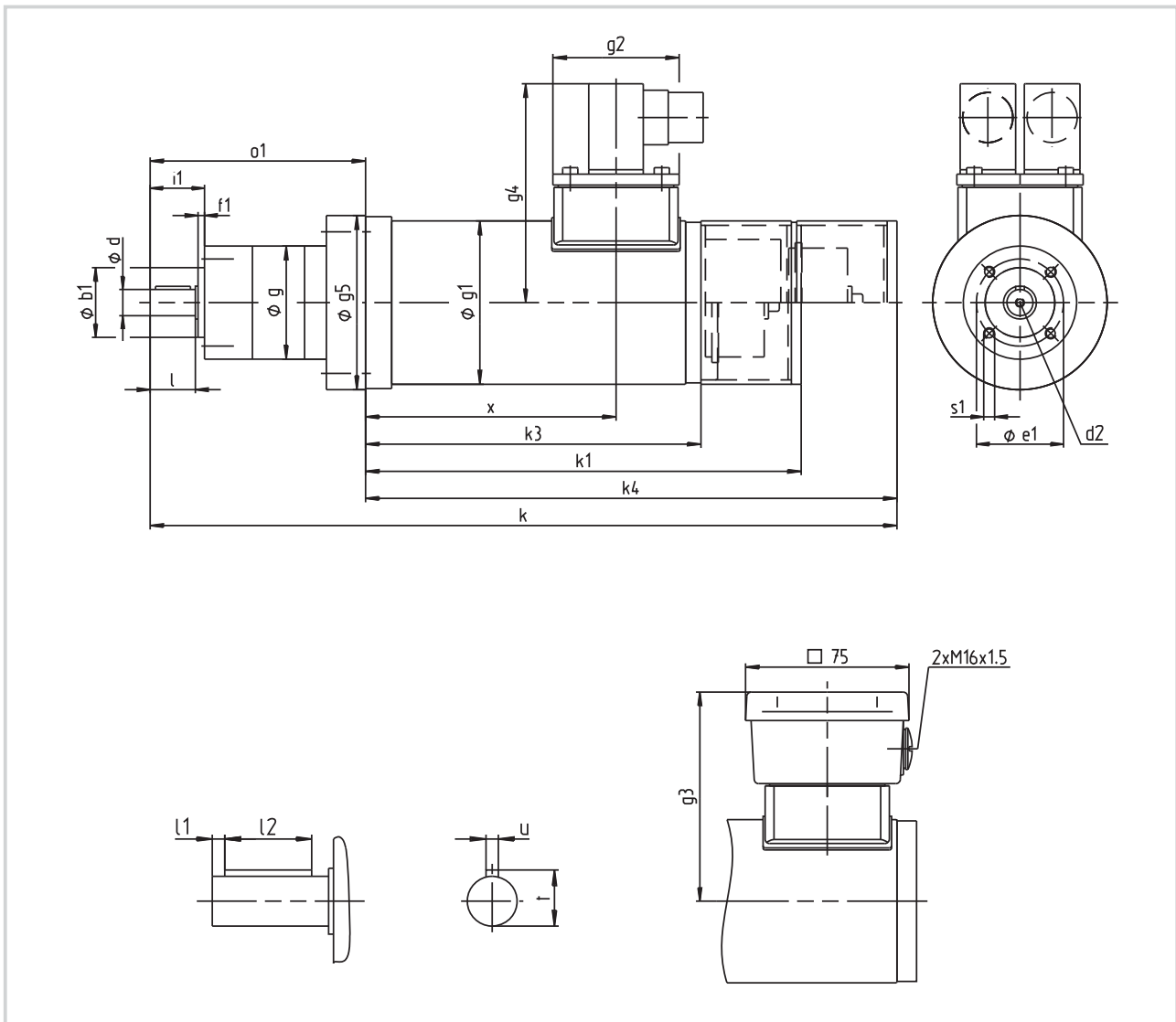
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	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Position of electrical connection			2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL52-□GVCR-047N22



Geared motor	Ratio i	b ₁ h8	d h7	d ₂	e ₁	f ₁	g	g ₁	g ₂	g ₃	g ₄	g ₅	i ₁
SPL52-□GVCR-047N22	3.7; 6.7	32	12	M4	40	3	52	75	58	96	101	80	25
	14 ... 46												
	51...169												

Geared motor	k	k ₁	k ₃	k ₄	l	l ₁	l ₂	o ₁	s ₁	t	u	x	Weight approx. kg
SPL52-□GVCR-047N22	343	200	156	244	20.8	2.5	16	99	M5x10	13.5	4	115	3.7-4.7
	357							113					3.9-4.9
	371							127					4.0-5.0

Dimensions in mm

Drive selection

AC planetary geared motors (inverter-optimised)

Selection table Type SPL62-□GVCR-056N22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□056-22	240	754	2.40	3.34	3.7	
		413	4.30	1.83	6.75	
		203	8.30	3.00	13.73	
		111	15.00	1.65	25.01	
		80	21.20	1.08	34.97	
		61	25.00	0.90	45.56	
		55	28.80	1.73	50.89	
		39	40.30	1.24	71.06	
		28	50.00	0.89	99.5	
		23	50.00	0.71	123.97	

Additional order information

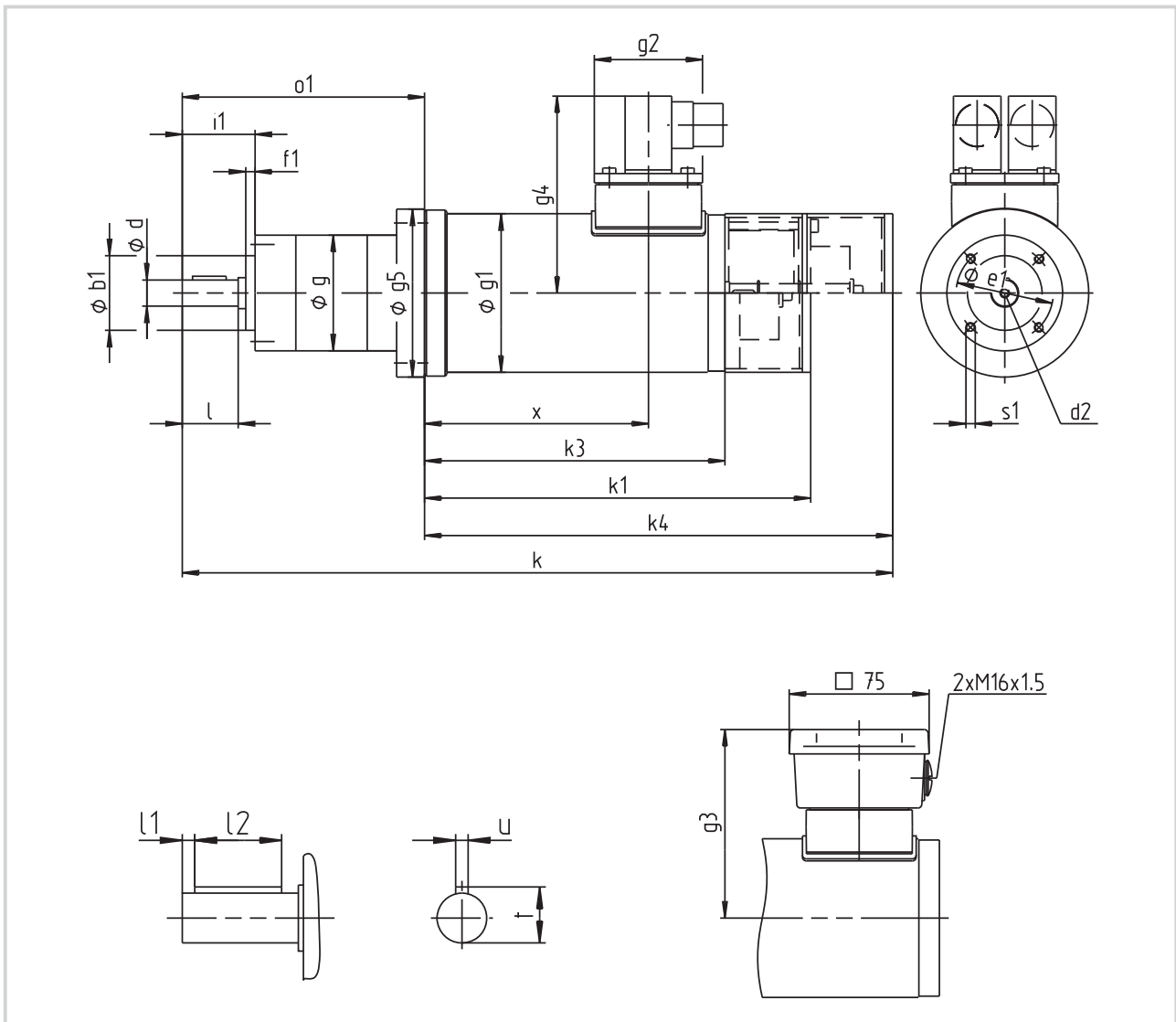
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Position of electrical connection			2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL62-□GVCR-056N22



Geared motor	Ratio i	b ₁ j7	d h7	d ₂	e ₁	f ₁	g	g ₁	g ₂	g ₃	g ₄	g ₅	i ₁
SPL62-□GVCR-056N22	3.7; 6.7	40	14	M5	52	5	62	85	58	101	106	90	39
	14 ... 46												
	51...124												

Geared motor	k	k ₁	k ₃	k ₄	l	l ₁	l ₂	o ₁	s ₁	t	u	x	Weight approx. kg
SPL62-□GVCR-056N22	366	207	163	251	30	5.5	18	115	M5x10	16	5	120	4.8-6.3
	382							131					5.2-6.7
	398							147					5.6-7.0

Dimensions in mm

Drive selection

AC planetary geared motors (inverter-optimised)

Selection table Type SPL81-□GVCR-056N22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□056-22	240	754	2.40	8.34	3.7	
		413	4.30	4.57	6.75	
		203	8.30	7.09	13.73	
		111	15.00	3.95	25.01	
		80	21.20	2.82	34.97	
		61	27.70	2.07	45.56	
		55	27.80	4.06	50.89	
		39	40.30	2.97	71.06	
		28	56.40	2.03	99.5	
		23	70.30	1.71	123.97	

Additional order information

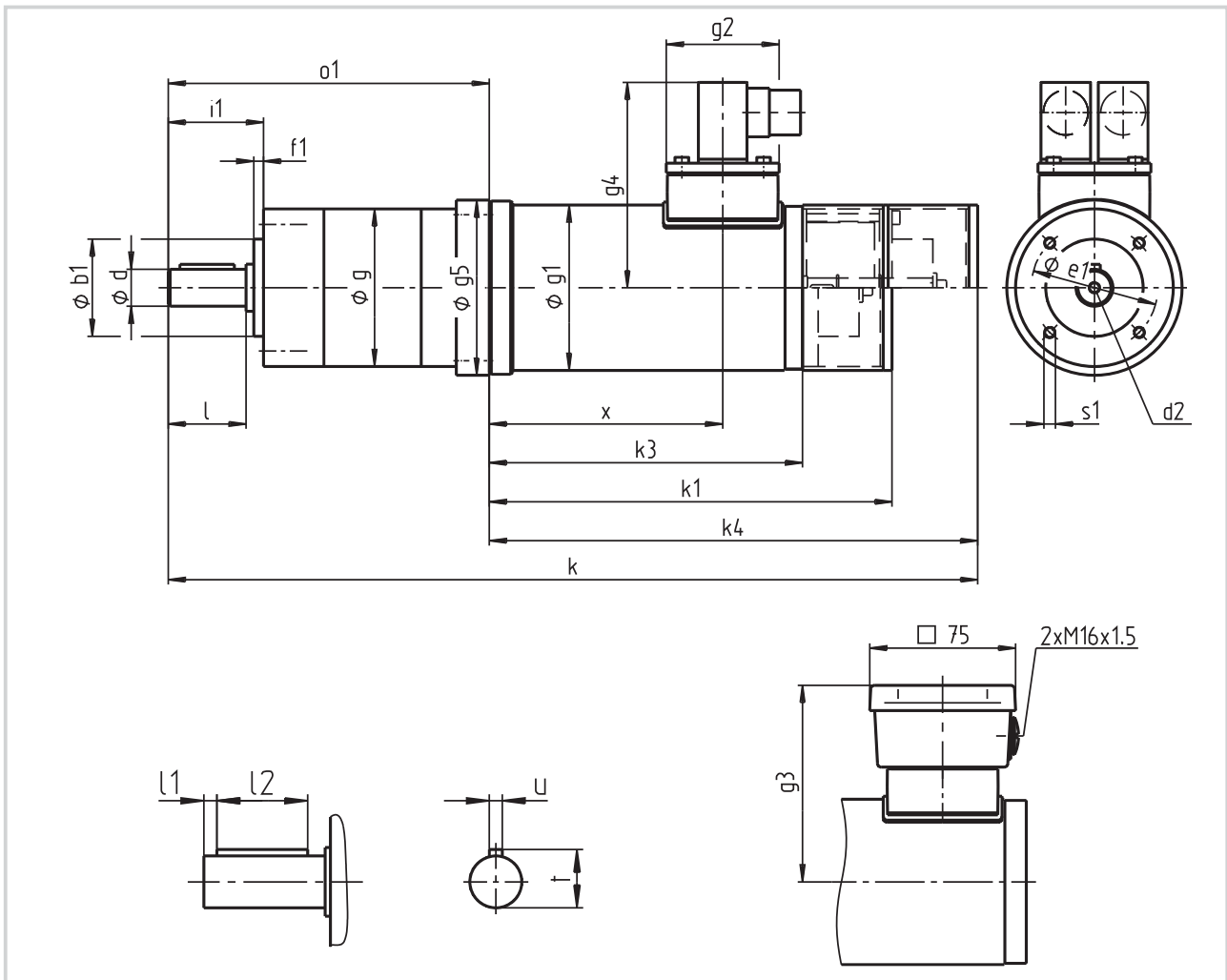
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	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Position of electrical connection			2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL81-□GVCR-056N22



Geared motor	Ratio i	b ₁ j7	d h7	d ₂	e ₁	f ₁	g	g ₁	g ₃	i ₁
SPL81-□GVCR-056N22	3.7	50	19	M6	65	5	81	85	151	49
	14 ... 46									
	51...124									

Geared motor	k ₁	k ₂	k ₃	l	l ₁	l ₂	s ₁	t	u	Weight approx. kg
SPL81-□GVCR-056N22	351	395	144	40	6	28	M6x12	21.5	6	7.6
	372	416	165							8.3
	394	438	187							9.0

Dimensions in mm

Drive selection

AC planetary geared motors (inverter-optimised)

Selection table Type SPL81-□GVCR-063N22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-22	400	757	4.00	5.01	3.7	
		414	7.30	2.74	6.75	
		204	13.90	4.32	13.73	
		112	25.30	2.37	25.01	
		80	35.40	1.69	34.97	
		61	46.00	1.30	45.56	
		55	48.00	2.50	50.89	
		39	67.20	1.78	71.06	
		28	94.00	1.28	99.5	
		23	117.20	1.02	123.97	

Additional order information

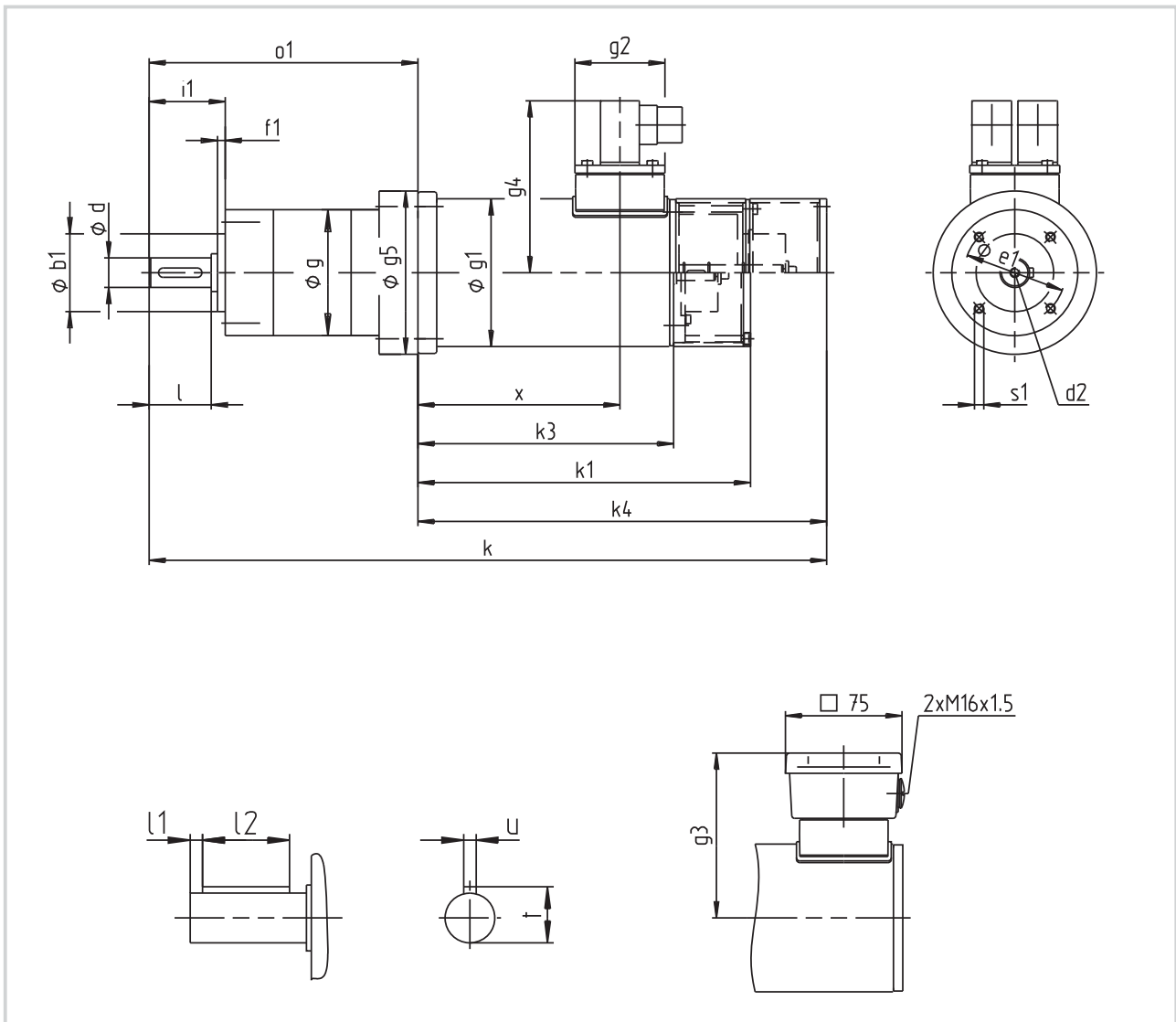
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	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Position of electrical connection			2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL81-□GVCR-063N22



Geared motor	Ratio i	b ₁ j7	d h7	d ₂	e ₁	f ₁	g	g ₁	g ₂	g ₃	g ₄	g ₅	i ₁
SPL81-□GVCR-063N22	3.7; 6.7	50	19	M6	65	5	81	95	58	106	111	105	49
	14 ... 46												
	51...169												

Geared motor	k	k ₁	k ₃	k ₄	l	l ₁	l ₂	o ₁	s ₁	t	u	x	Weight approx. kg
SPL81-□GVCR-063N22	414	214	168	263	40	6	28	151	M6x12	21.5	6	130	7.2-8.4
	436							173					7.9-9.0
	458							195					8.6-9.8

Dimensions in mm

Drive selection

AC planetary geared motors (inverter-optimised)

Selection table Type SPL81-□GVCR-063N32

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-32	600	757	5.62	3.56	3.7	
		414	10.20	1.95	6.75	
		204	19.60	3.07	13.73	
		112	35.60	1.68	25.01	
		80	49.80	1.2	34.97	
		61	60.00	0.92	45.56	
		55	67.70	1.77	50.89	
		39	94.60	1.27	71.06	
		28	120.00	0.91	99.5	
		23	120.00	0.73	123.97	

Additional order information

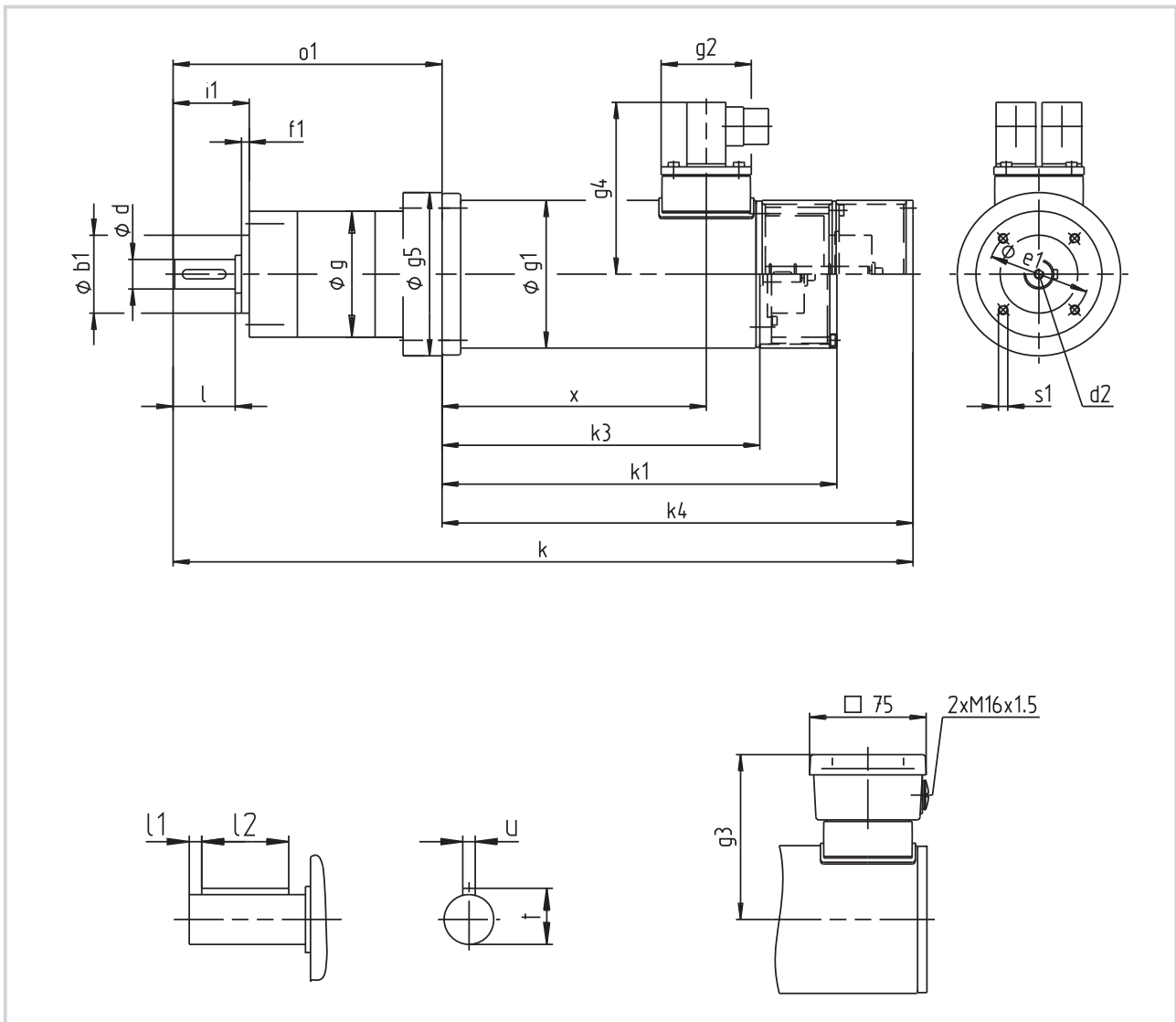
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Position of electrical connection			2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL81-□GVCR-063N32



Geared motor	Ratio i	b ₁ j7	d h7	d ₂	e ₁	f ₁	g	g ₁	g ₂	g ₃	g ₄	g ₅	i ₁
SPL81-□GVCR-063N32	3.7; 6.7	50	19	M6	65	5	81	95	58	106	111	105	49
	14 ... 46												
	51...169												

Geared motor	k	k ₁	k ₃	k ₄	l	l ₁	l ₂	o ₁	s ₁	t	u	x	Weight approx. kg
SPL81-□GVCR-063N32	454	254	208	303	40	6	28	151	M6x12	21.5	6	170	8.6-9.8
	476							173					9.3-10.5
	498							195					10.0-11.2

Dimensions in mm

Drive selection

AC planetary geared motors (inverter-optimised)

Selection table Type SPL12-□GVCR-063N22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-22	400	757	4.00	12.51	3.7	
		415	7.29	6.86	6.75	
		204	13.90	10.79	13.73	
		112	25.32	5.92	25.01	
		61	46.03	3.25	45.56	
		55	51.53	5.82	50.89	
		30	87.60	3.42	92.7	
		17	159.55	1.88	168.84	

Additional order information

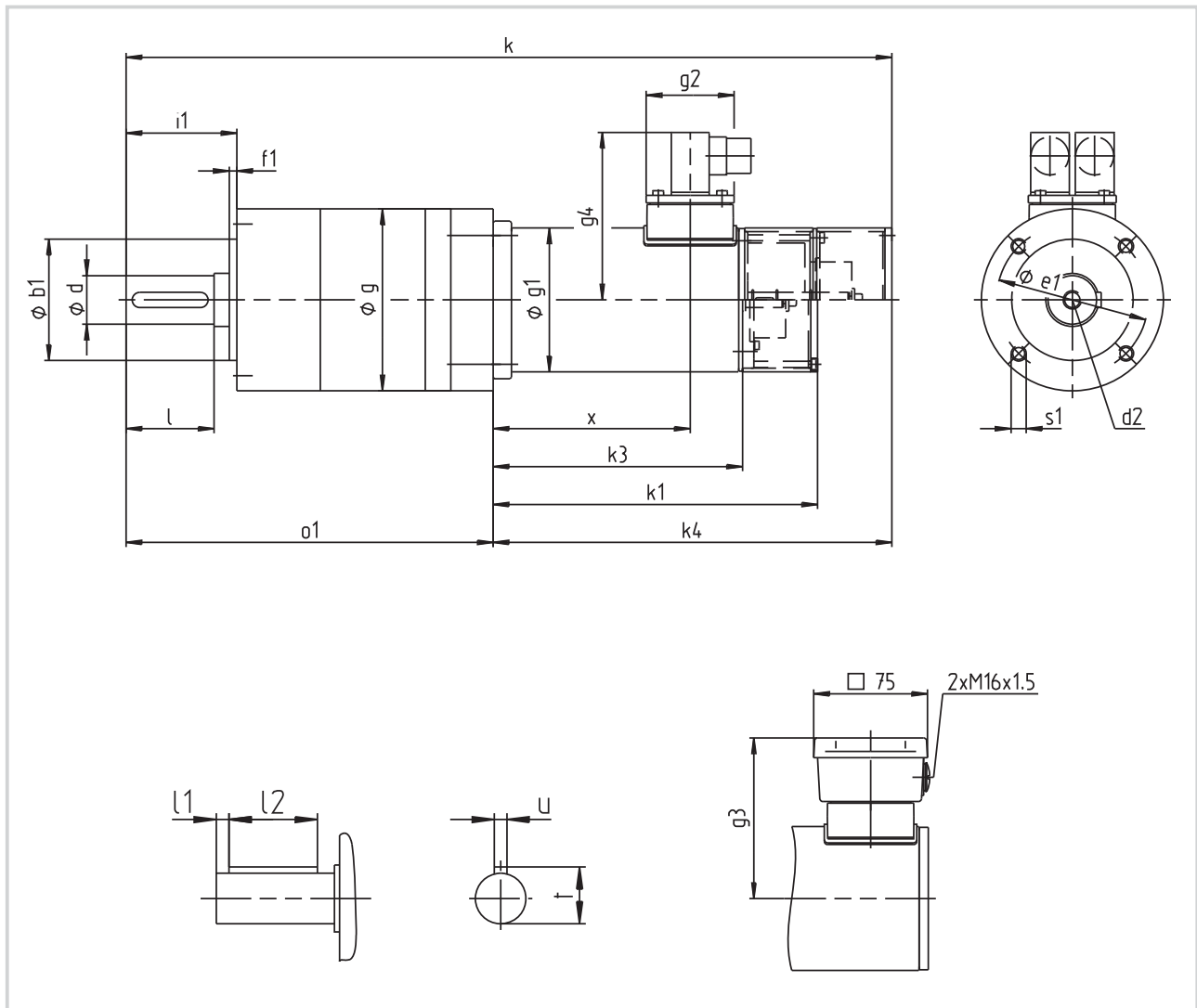
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Position of electrical connection			2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL12-□GVCR-063N22



Geared motor	Ratio i	b ₁ j7	d k6	d ₂	e ₁	f ₁	g	g ₁	g ₂	g ₃	g ₄	i ₁
SPL12-□GVCR-063N22	3.7; 6.7	80	32	M12	100	5	120	95	58	106	111	73
	14 ... 46											
	51...169											

Geared motor	k	k ₁	k ₃	k ₄	o ₁	l	l ₁	l ₂	s ₁	t	u	x	Weight approx. kg
SPL12-□GVCR-063N22	471	214	168	263	208	58	4	50	M10x22	35	10	130	11.0-12.2
	505				242								13.4-14.6
	539				276								15.8-17.0

Dimensions in mm

Drive selection

AC planetary geared motors (inverter-optimised)

Selection table Type SPL12-□GVCR-063N32

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-32	600	757	5.62	8.89	3.7	
		415	10.26	4.87	6.75	
		204	19.57	7.67	13.73	
		112	35.64	4.21	25.01	
		61	64.92	2.31	45.56	
		55	72.52	4.04	50.89	
		30	123.29	2.43	92.7	
		17	224.56	1.34	168.84	

Additional order information

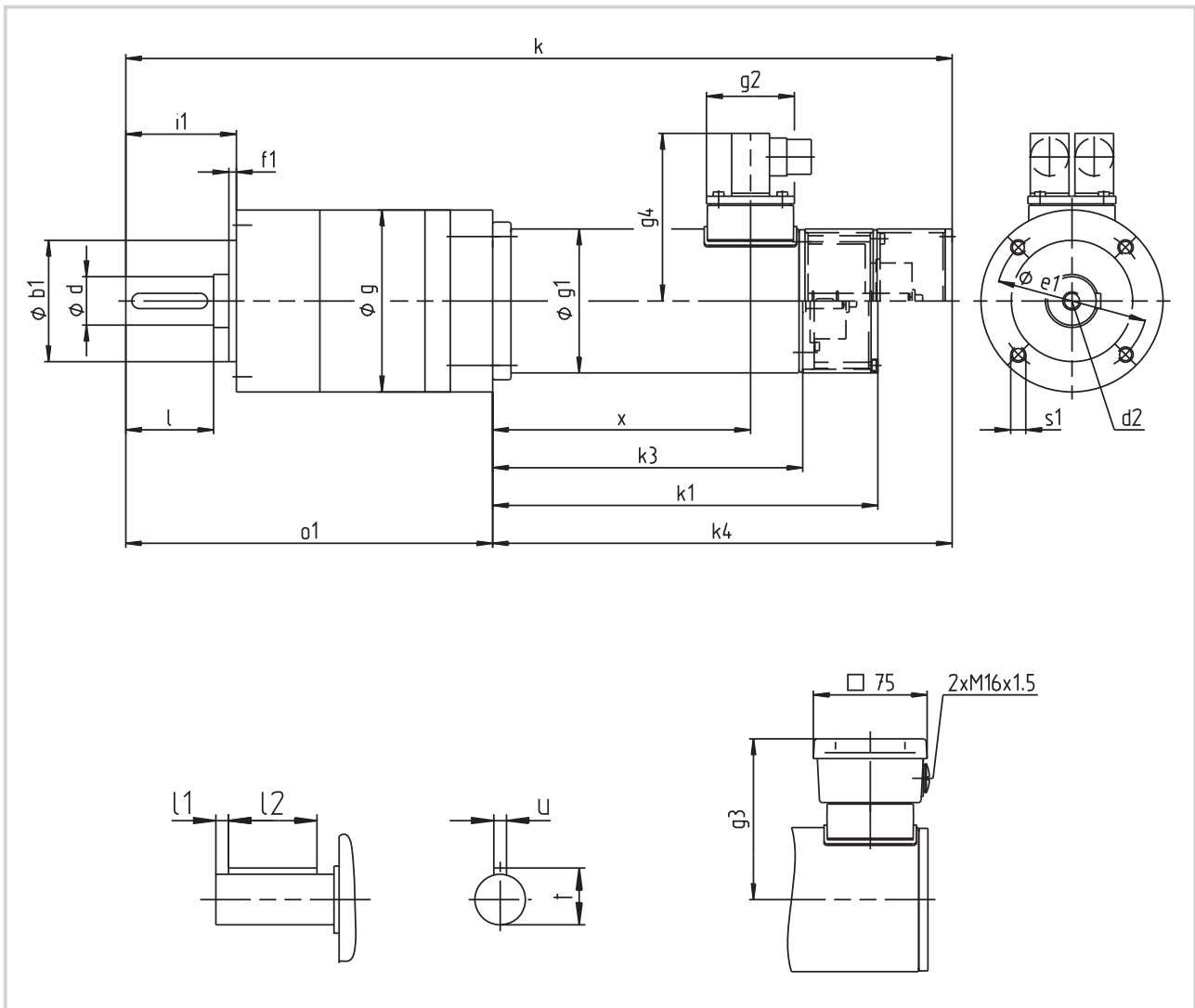
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Position of electrical connection			2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL12-□GVCR-063N32



Geared motor	Ratio i	b ₁ j7	d k6	d ₂	e ₁	f ₁	g	g ₁	g ₂	g ₃	g ₄	i ₁
SPL12-□GVCR-063N32	3.7; 6.7	80	32	M12	100	5	120	95	58	106	111	73
	14 ... 46											
	51...169											

Geared motor	k	k ₁	k ₃	k ₄	o ₁	l	l ₁	l ₂	s ₁	t	u	x	Weight approx. kg
SPL12-□GVCR-063N32	511	254	208	303	208	58	4	50	M10x22	35	10	170	12.4-13.6
	545				242								14.8-16.0
	579				276								17.2-18.4

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST03-2GV□□-056C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□056-22	240	817	2.68	5.45	3.413	
		639	3.43	4.97	4.368	
		400	5.49	4.44	6.982	
		356	6.06	4.22	7.840	
		312	7.02	3.82	8.935	
		278	7.88	3.61	10.033	
		244	8.98	3.06	11.429	
		217	10.08	3.06	12.833	
		188	11.66	2.72	14.836	
		167	13.09	2.90	16.660	
		147	14.94	2.60	19.013	
		131	16.77	2.43	21.350	
		113	19.32	2.05	24.595	
		101	21.70	1.92	27.618	
		87	25.04	1.66	32.000	
		78	28.23	1.47	35.933	
		67	32.57	1.38	41.455	
		60	36.57	1.23	46.550	
		53	41.57	1.08	52.909	
		47	45.00	0.96	59.413	

Additional order information

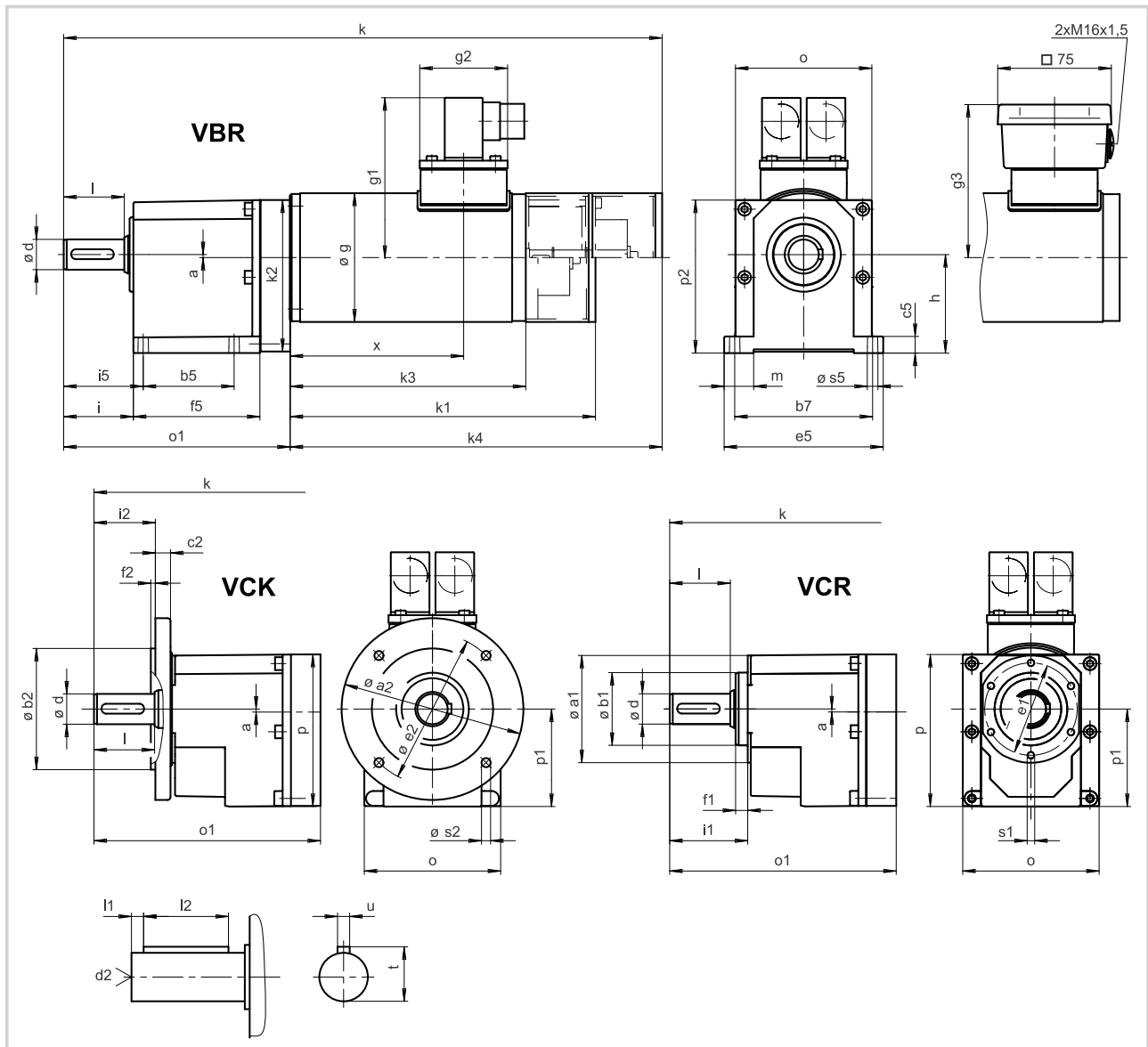
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
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

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST03-2GV□□-056C22



Geared motor	a	a ₁	a ₂	b ₁ h7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST03-2GV□□-056C22	2	71	120	48	80	60	91	10	11	20	M6	61	100	105	8	3	84	85	106	58	101	65	46	51	40	52
			140		95								115													
			160		110								130													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	l	l ₁	l ₂	m	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST03-2GV□□-056C22	395	201.5	100	157.5	245.5	40	5	28	20	90	149.5	100	64	101	M5	7	6.6	22.5	6	114.5	7.5-9.0
																9					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST04-1GV□□-056C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□056-22	240	634	2.67	5.70	4.400	
		492	3.44	4.42	5.667	
		388	4.37	3.49	7.082	
		310	5.47	2.59	9.000	

Additional order information

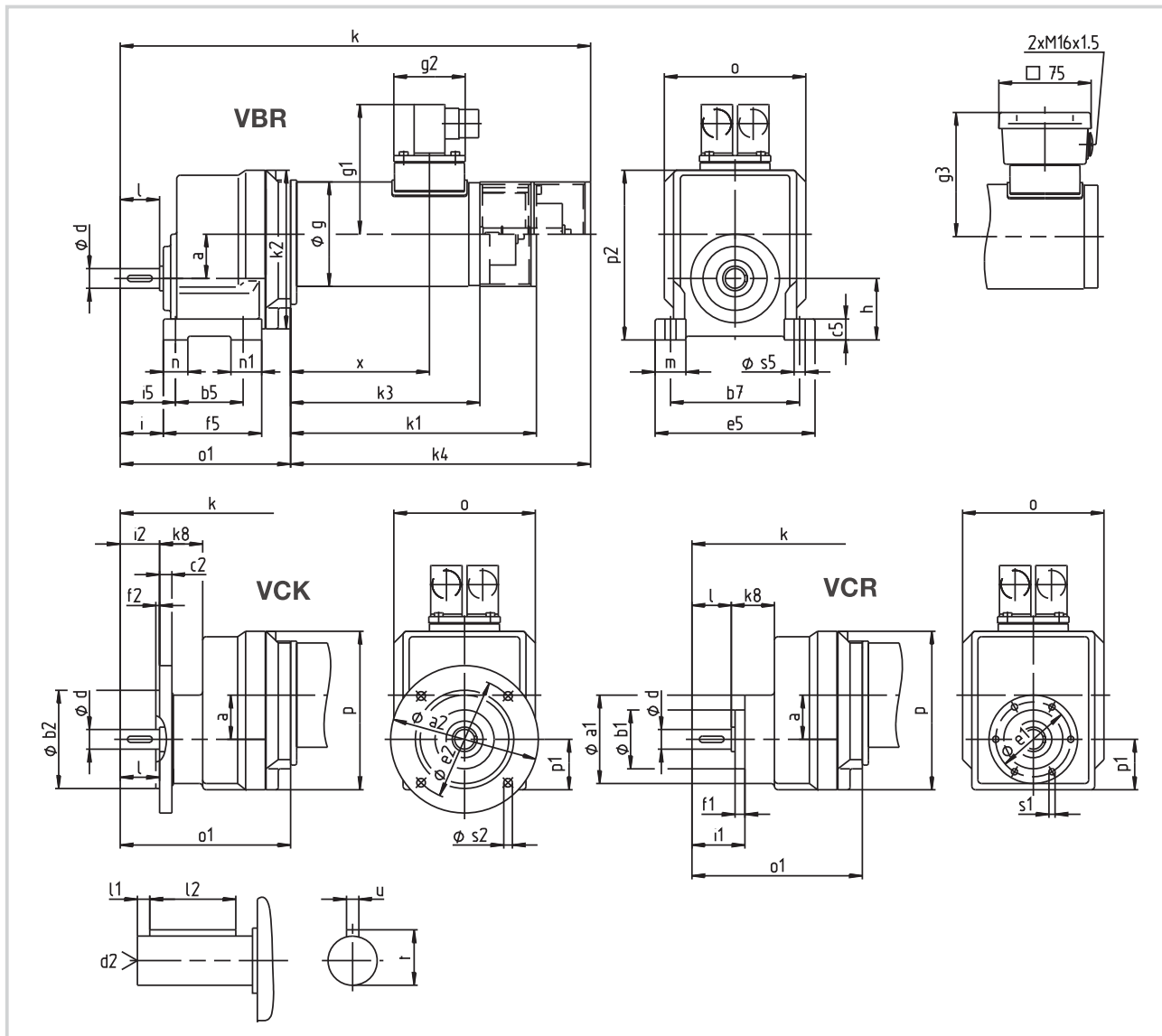
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
Brake supply voltage	BV=for brake attachment	terminal box version only	
	24 V DC		
Gearbox type	230 V AC with bridge rectifier	terminal box version only	
	VBR		
	VCR		
Output-side flange diameter	VCK		
	D = 120 mm		
	D = 140 mm		
Mounting position	D = 160 mm		
			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST04-1GV□□-056C22



Geared motor	a	a ₁	a ₂	b ₁ h ₇	b ₂ j ₇	b ₅	b ₇	c ₂	c ₅	d	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST04-1GV□□-056C22	36	72	120	48	80	55	105	10	17	16	M5	61	100	130	8	3	80	85	106	58	101	50	35	43	32	45
			140		95								115			3.5										
			160		110								130													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	k ₈	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST04-1GV□□-056C22	382.5	200	129	156	244	35	32	6	20	25	20	25	115	138.5	129	41	138	M5	7	9	18	5	113	7.5-9.0
																			9					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST04-2GV□□-056C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□056-22	240	144	13.69	3.70	19.360	
		127	15.56	2.88	22.000	
		112	17.63	2.90	24.933	
		98	20.04	2.28	28.333	
		88	22.35	2.33	31.600	
		78	25.39	1.82	35.909	
		70	28.00	1.88	39.600	
		62	35.36	1.48	45.000	

Additional order information

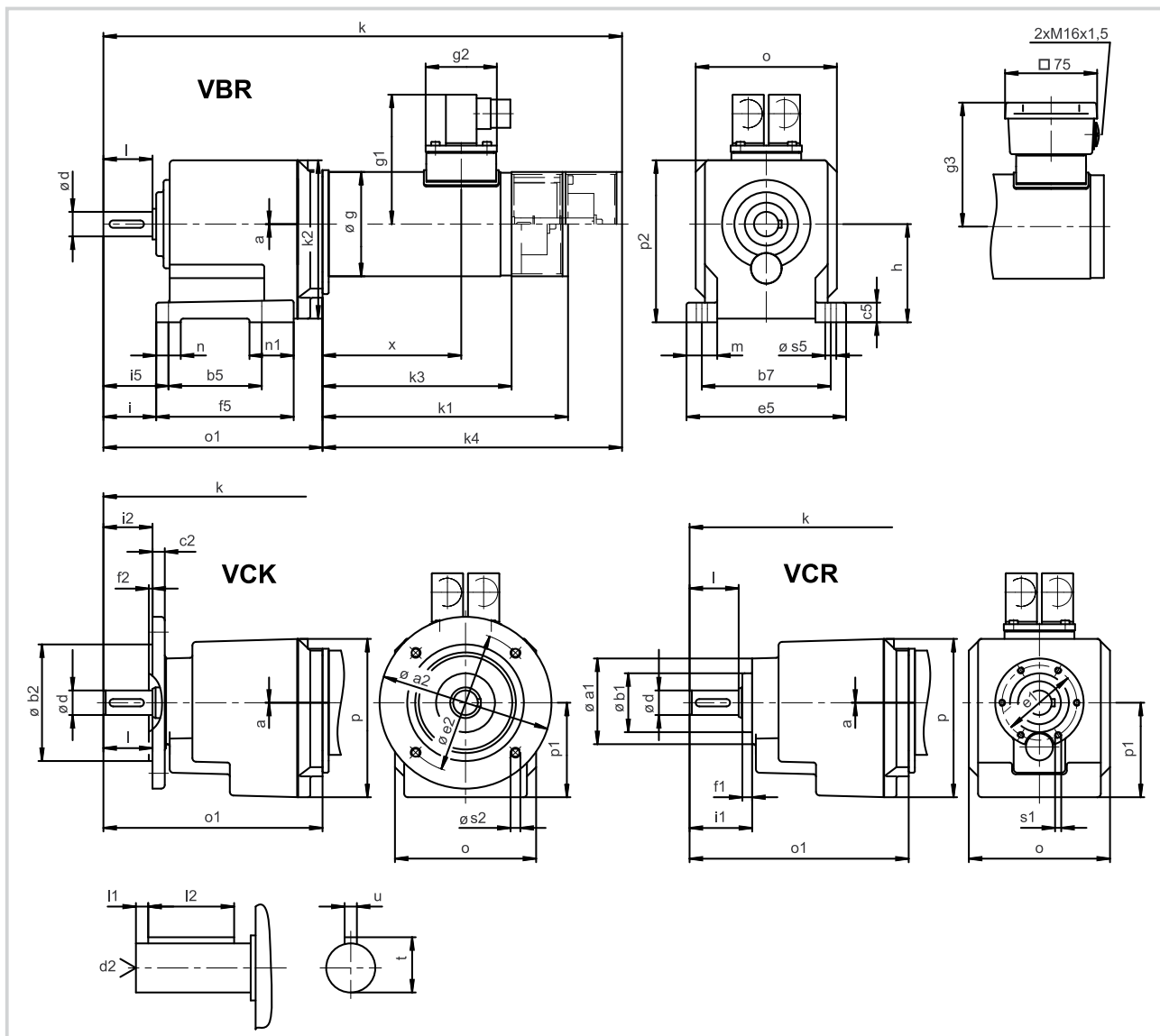
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
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

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST04-2GV□□-056C22



Geared motor	a	a ₁	a ₂	b ₁ h7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d k6	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST04-2GV□□-056C22	0	72	120	48	80	76	105	10	16	20	M6	61	100	130	8	3	112	85	106	58	101	80	43	51	40	53
			140		95								115													
			160		110								130													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST04-2GV□□-056C22	422.5	200	129	156	244	40	5	28	25	20	36	115	178.5	129	77	132	M5	7	9	22.5	6	113	7.5-9.0
																		9					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST05-1GV□□-056C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□056-22	240	492	3.44	7.85	5.667	
		380	4.46	6.39	7.333	
		313	5.41	4.74	8.900	
		245	6.91	2.71	11.375	

Additional order information

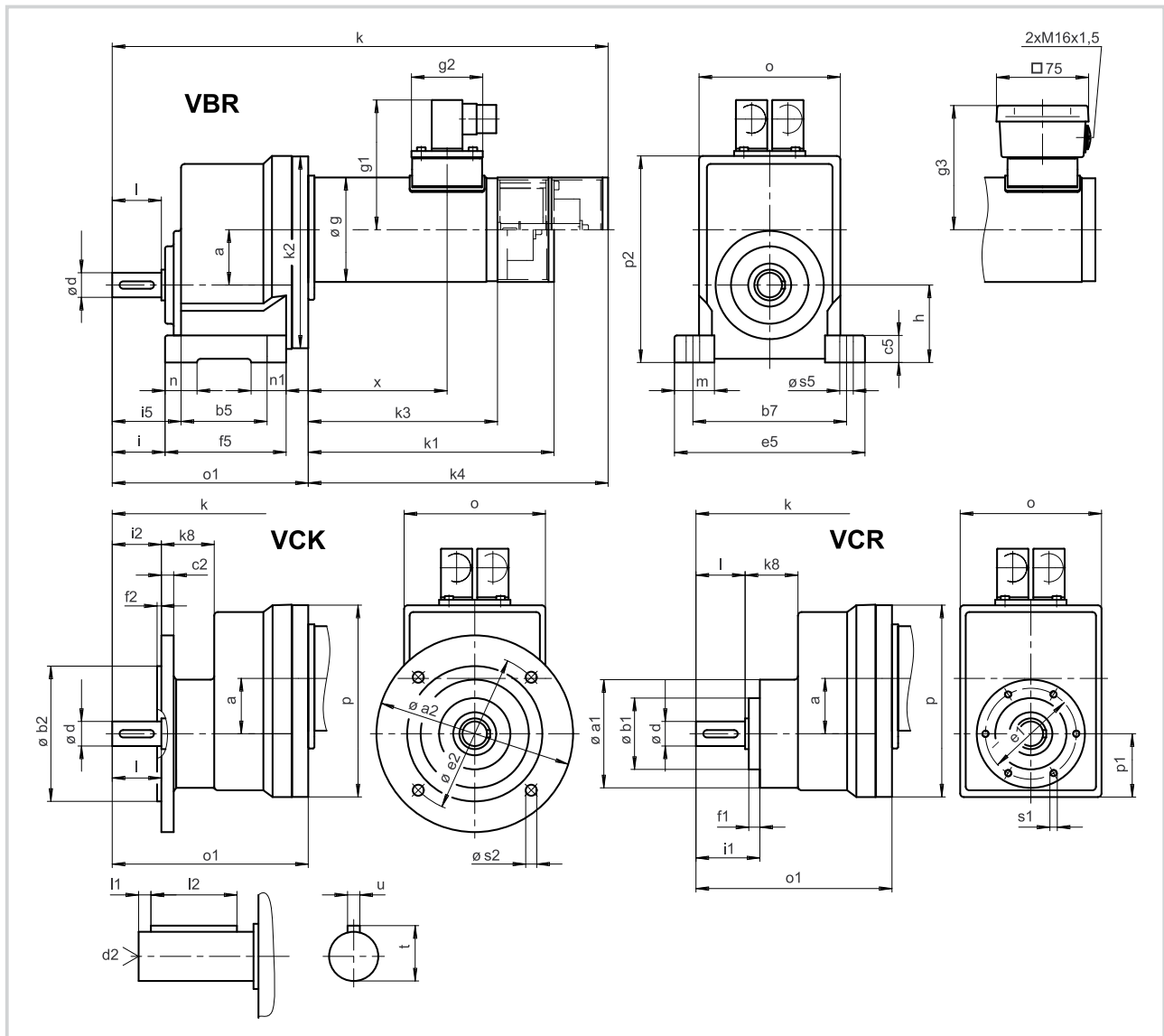
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Gearbox type	VBR		
	VCR		
	VCK		
Output-side flange diameter	D = 120 mm		
	D = 140 mm		
	D = 160 mm		
	D = 200 mm		
Mounting position			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST05-1GV□□-056C22



Geared motor	a	a ₁	a ₂	b ₁ h7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST05-1GV□□-056C22	45	88	120	58	80	70	125	10	22	20	M6	74	100	155	9	3	99	85	106	58	101	63	43	52	40	56
			140		95								115													
			160		110								130													
			200		130			12					165													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	k ₈	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST05-1GV□□-056C22	403.5	200	156	156	244	43	40	6	28	33	26	29	115	159.5	156	51.5	168	M6	7	11	22.5	6	113	10-12
																			9					
																			11					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST05-2GV□□-056C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm Nm	M ₂	c		
SDSGA□□056-22	240	194	8.91	7.85	14.356	
		172	11.45	7.85	16.091	
		112	17.63	6.61	24.933	
		98	20.04	5.28	28.333	
		86	22.82	5.07	32.267	
		76	25.93	4.01	36.667	
		71	27.69	4.29	39.060	
		63	34.96	3.41	44.500	
		56	39.32	2.76	50.050	
		49	44.69	2.68	56.875	

Additional order information

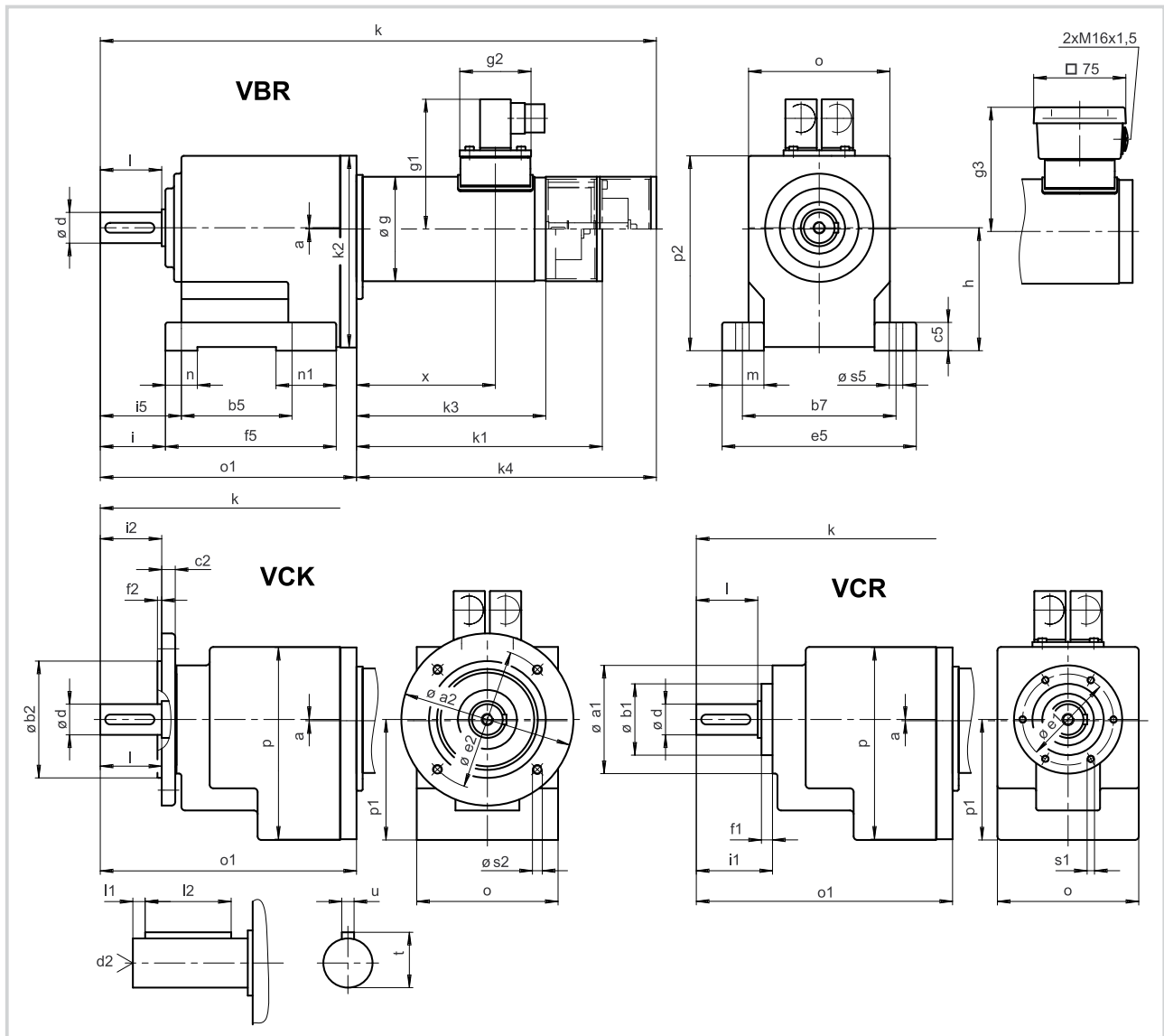
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Gearbox type	VBR		
	VCR		
	VCK		
Output-side flange diameter	D = 120 mm		
	D = 140 mm		
	D = 160 mm		
	D = 200 mm		
Mounting position			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST05-2GV□□-056C22



Geared motor	a	a ₁	a ₂	b ₁ h7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST05-2GV□□-056C22	1	88	120	58	80	90	125	10	23	25	M10	74	100	158	9	3	139	85	106	58	101	100	53	62	50	66
			140		95			11					115													
			160		110			10					130													
			200		130			12					165													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST05-2GV□□-056C22	452.5	200	156	156	244	50	4	40	30	26	49	115	208.5	156	98	158.5	M6	7	11	28	8	113	14-16
																		9					
																		11					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST04-1GV□□-063C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-22	400	636	4.46	3.42	4.400	
		494	5.74	2.65	5.667	
		390	7.28	2.09	7.082	
		311	9.02	1.55	9.000	

Additional order information

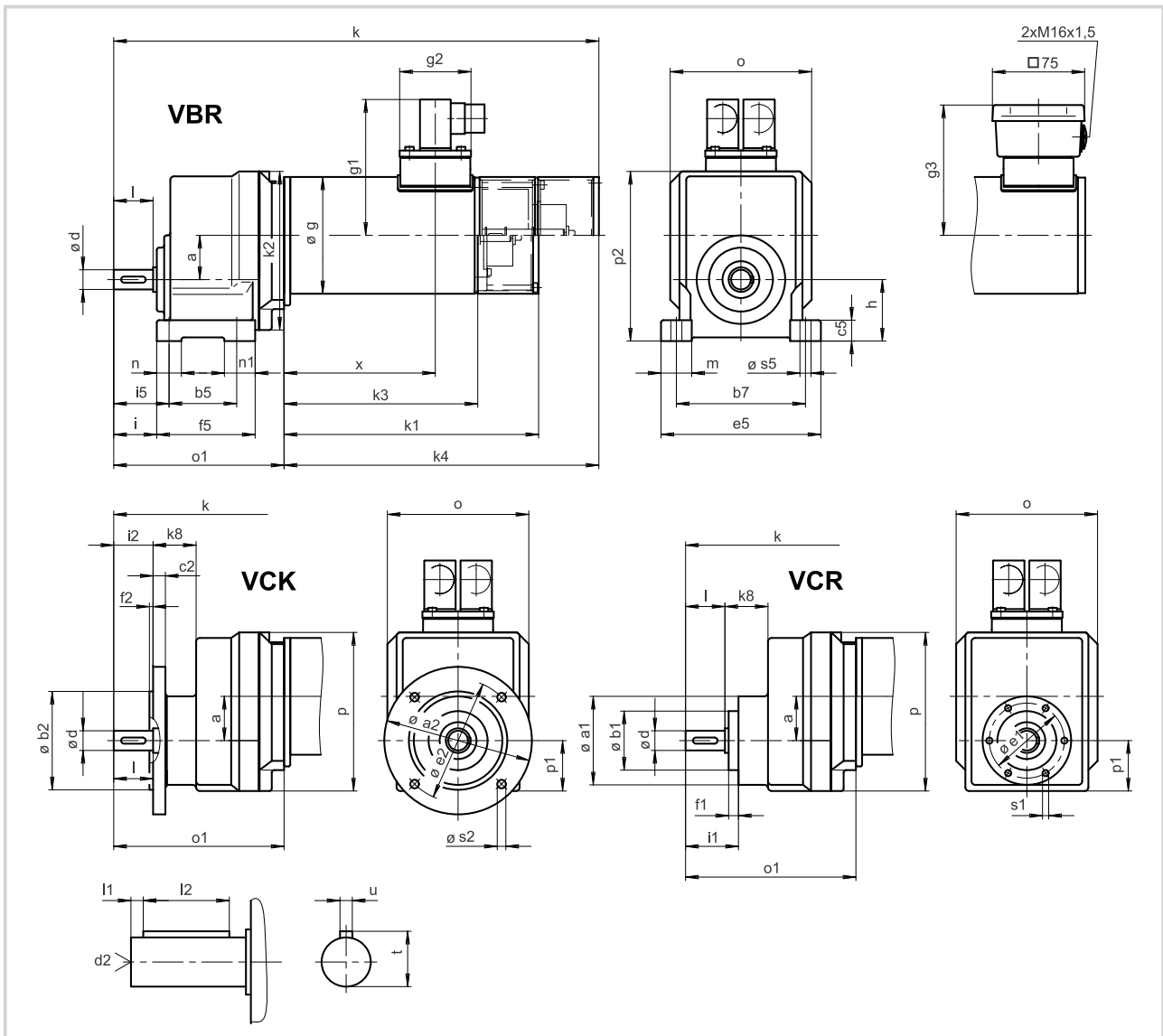
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
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

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST04-1GV□□-063C22



Geared motor	a	a ₁	a ₂	b ₁ h7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d k6	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST04-1GV□□-063C22	36	72	120	48	80	55	105	10	17	16	M5	61	100	130	8	3	80	95	111	58	106	50	35	43	32	45
			140		95								115			3.5										
			160		110								130													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	k ₈	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST04-1GV□□-063C22	394.5	207	129	161	256	35	32	6	20	25	20	25	115	138.5	129	41	138	M5	7	9	18	5	123	9.5-11.0
																			9					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST04-2GV□□-063C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-22	400	145	22.82	2.22	19.360	
		127	25.93	1.73	22.000	
		112	29.39	1.74	24.933	
		99	33.39	1.37	28.333	
		89	37.24	1.40	31.600	
		78	42.32	1.09	35.909	
		71	46.67	1.03	39.600	
		62	52.00	0.89	45.000	

Additional order information

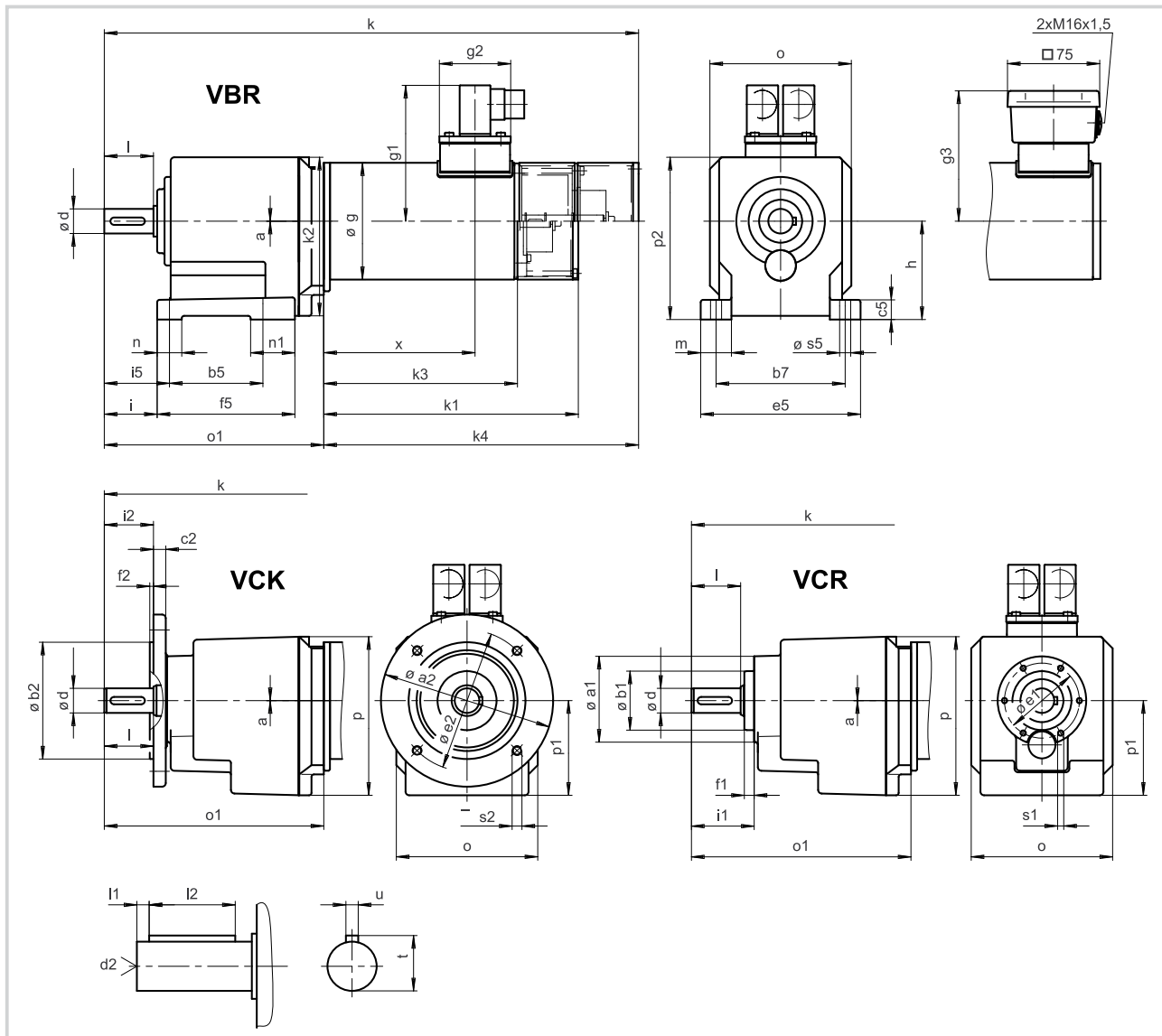
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
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

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST04-2GV□□-063C22



Geared motor	a	a ₁	a ₂	b ₁ h7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST04-2GV□□-063C22	0	72	120	48	80	76	105	10	16	20	M6	61	100	130	8	3	112	95	111	58	106	80	43	51	40	53
			140		95								115													
			160		110								130													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST04-2GV□□-063C22	434.5	207	129	161	256	40	5	28	25	20	36	115	178.5	129	77	132	M5	7	9	22.5	6	123	11.5-12.5
																		9					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST04-1GV□□-063C32

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-32	600	636	6.27	2.43	4.400	
		494	8.08	1.89	5.667	
		390	10.24	1.49	7.082	
		311	12.83	1.00	9.000	

Additional order information

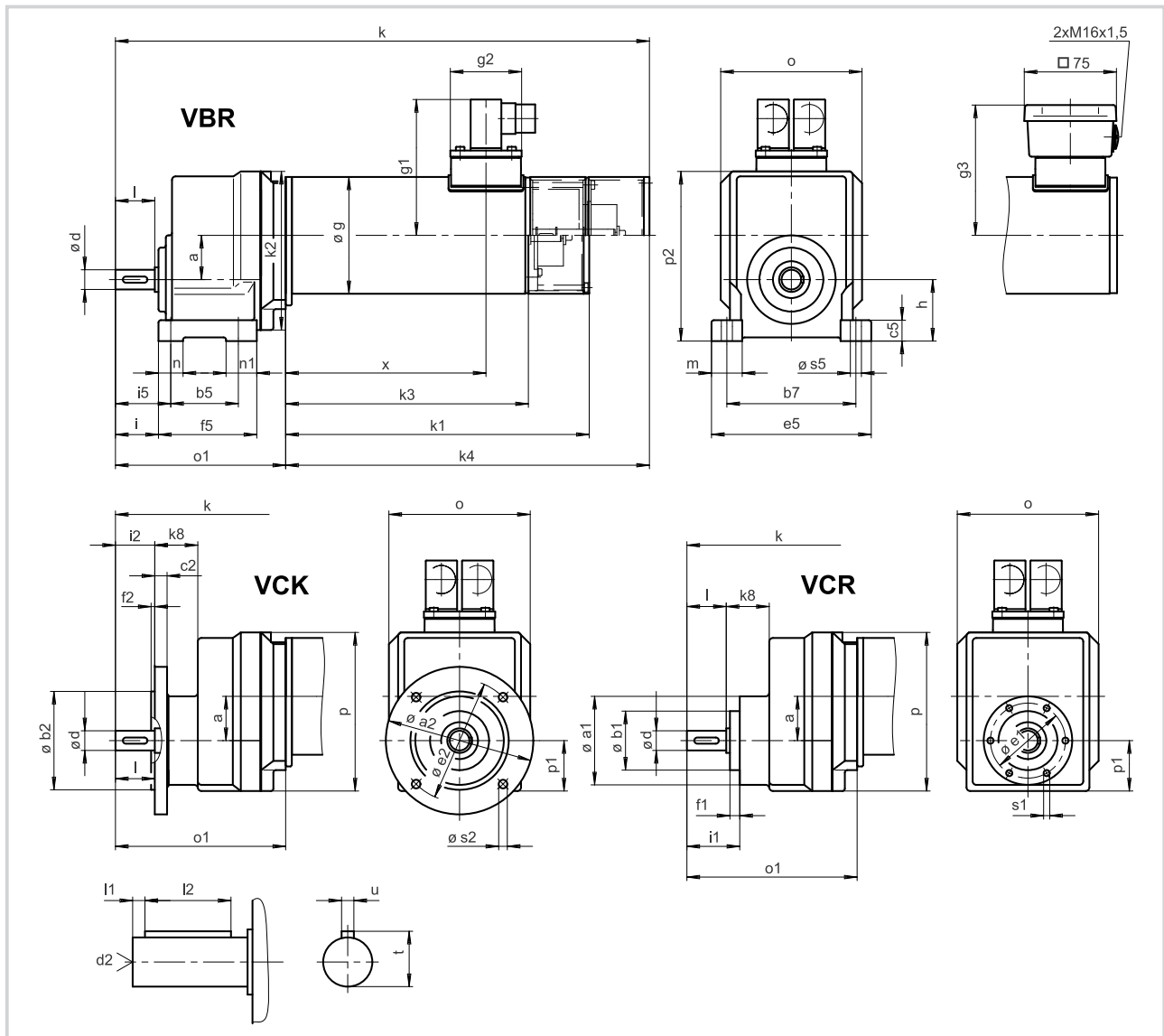
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
Brake supply voltage	BV=for brake attachment	terminal box version only	
	24 V DC		
Gearbox type	230 V AC with bridge rectifier	terminal box version only	
	VBR		
	VCR		
Output-side flange diameter	VCK		
	D = 120 mm		
	D = 140 mm		
Mounting position	D = 160 mm		
			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST04-1GV□□-063C32



Geared motor	a	a ₁	a ₂	b ₁ h7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d k6	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST04-1GV□□-063C32	36	72	120	48	80	55	105	10	17	16	M5	61	100	130	8	3	80	95	111	58	106	50	35	43	32	45
			140		95								115													
			160		110								130													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	k ₈	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST04-1GV□□-063C32	434.5	247	129	201	296	35	32	6	20	25	20	25	115	138.5	129	41	138	M5	7	9	18	5	163	11.0-12.5
																			9					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST04-2GV□□-063C32

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-32	600	145	32.01	1.58	19.360	
		127	36.49	1.23	22.000	
		112	41.36	1.24	24.933	
		99	42.00	0.97	28.333	
		89	52.00	0.99	31.600	
		78	46.00	0.77	35.909	
		71	52.00	0.80	39.600	
		62	52.00	0.63	45.000	

Additional order information

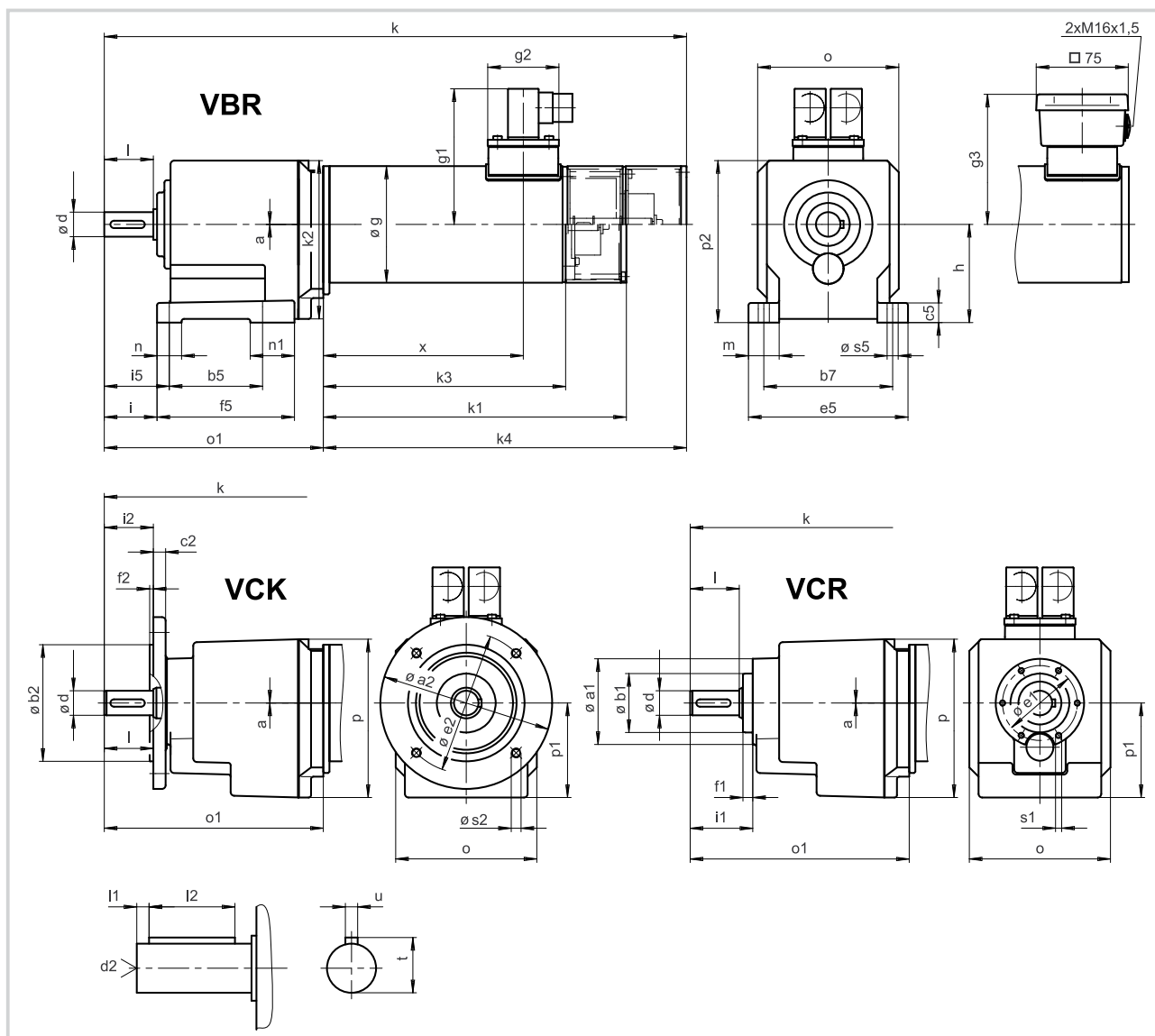
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
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

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST04-2GV□□-063C32



Geared motor	a	a ₁	a ₂	b ₁ h7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST04-2GV□□-063C32	0	72	120	48	80	76	105	10	16	20	M6	61	100	130	8	3	112	95	111	58	106	80	43	51	40	53
			140		95								115													
			160		110								130													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST04-2GV□□-063C32	474.5	247	129	201	296	40	5	28	25	20	36	115	178.5	129	77	132	M5	7	9	22.5	6	163	13-14
																		9					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST05-1GV□□-063C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-22	400	494	5.74	4.71	5.667	
		382	7.43	3.83	7.333	
		315	9.02	2.85	8.900	
		246	11.52	1.63	11.375	

Additional order information

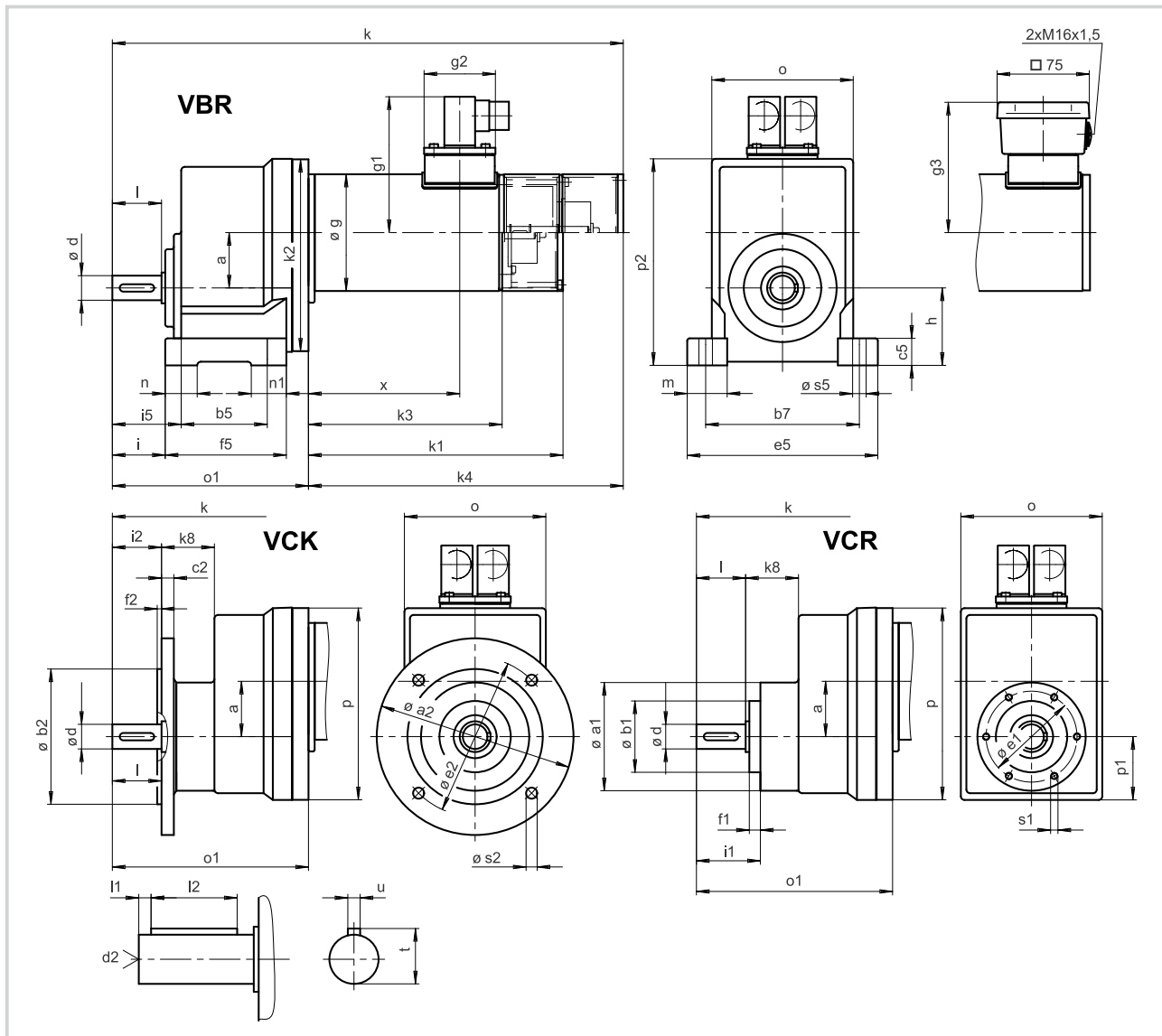
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
Brake supply voltage	BV=for brake attachment	terminal box version only	
	24 V DC		
Gearbox type	230 V AC with bridge rectifier	terminal box version only	
	VBR		
	VCR		
Output-side flange diameter	VCK		
	D = 120 mm		
	D = 140 mm		
	D = 160 mm		
Mounting position	D = 200 mm		
			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST05-1GV□□-063C22



Geared motor	a	a ₁	a ₂	b ₁ h7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST05-1GV□□-063C22	45	88	120	58	80	70	125	10	22	20	M6	74	100	155	9	3	99	95	111	58	106	63	43	52	40	56
			140		95								115													
			160		110								130													
			200		130								165													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	k ₈	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST05-1GV□□-063C22	415.5	207	156	161	256	43	40	6	28	33	26	29	115	159.5	156	51.5	168	M6	7	11	22.5	6	123	11.5-13.5
																			9					
																			11					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST05-2GV□□-063C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-22	400	195	14.85	4.71	14.356	
		173	19.08	4.71	16.091	
		112	29.39	3.97	24.933	
		99	33.39	3.07	28.333	
		87	38.03	3.00	32.267	
		76	43.21	2.47	36.667	
		72	46.05	2.57	39.060	
		63	58.27	2.05	44.500	
		56	65.54	1.65	50.050	
		49	74.48	1.61	56.875	

Additional order information

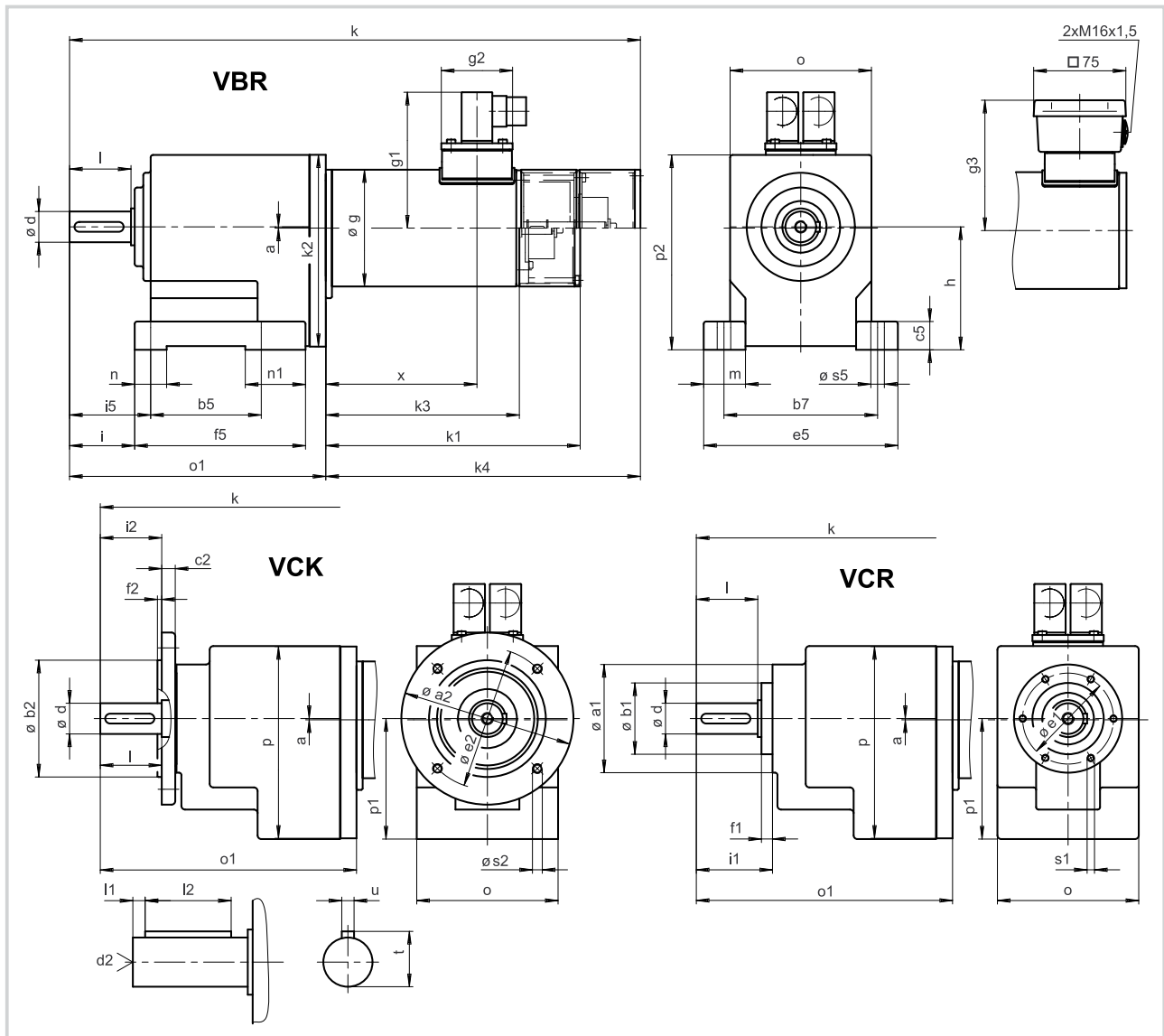
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Gearbox type	VBR		
	VCR		
	VCK		
Output-side flange diameter	D = 140 mm		
	D = 160 mm		
	D = 200 mm		
Mounting position			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST05-2GV□□-063C22



Geared motor	a	a ₁	a ₂	b ₁ h7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST05-2GV□□-063C22	1	88	120	58	80	90	125	10	23	25	M10	74	100	158	9	3	139	95	111	58	106	100	53	62	50	66
			140		95			11					115													
			160		110			10					130													
			200		130			12					165													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST05-2GV□□-063C22	464.5	207	156	161	256	50	4	40	30	26	49	115	208.5	156	98	158.5	M6	7	11	28	8	123	15.5-17.5
																		9					
																		11					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST05-1GV□□-063C32

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-32	600	494	8.08	3.35	5.667	
		382	10.46	2.72	7.333	
		315	12.69	2.02	8.900	
		246	16.22	1.06	11.375	

Additional order information

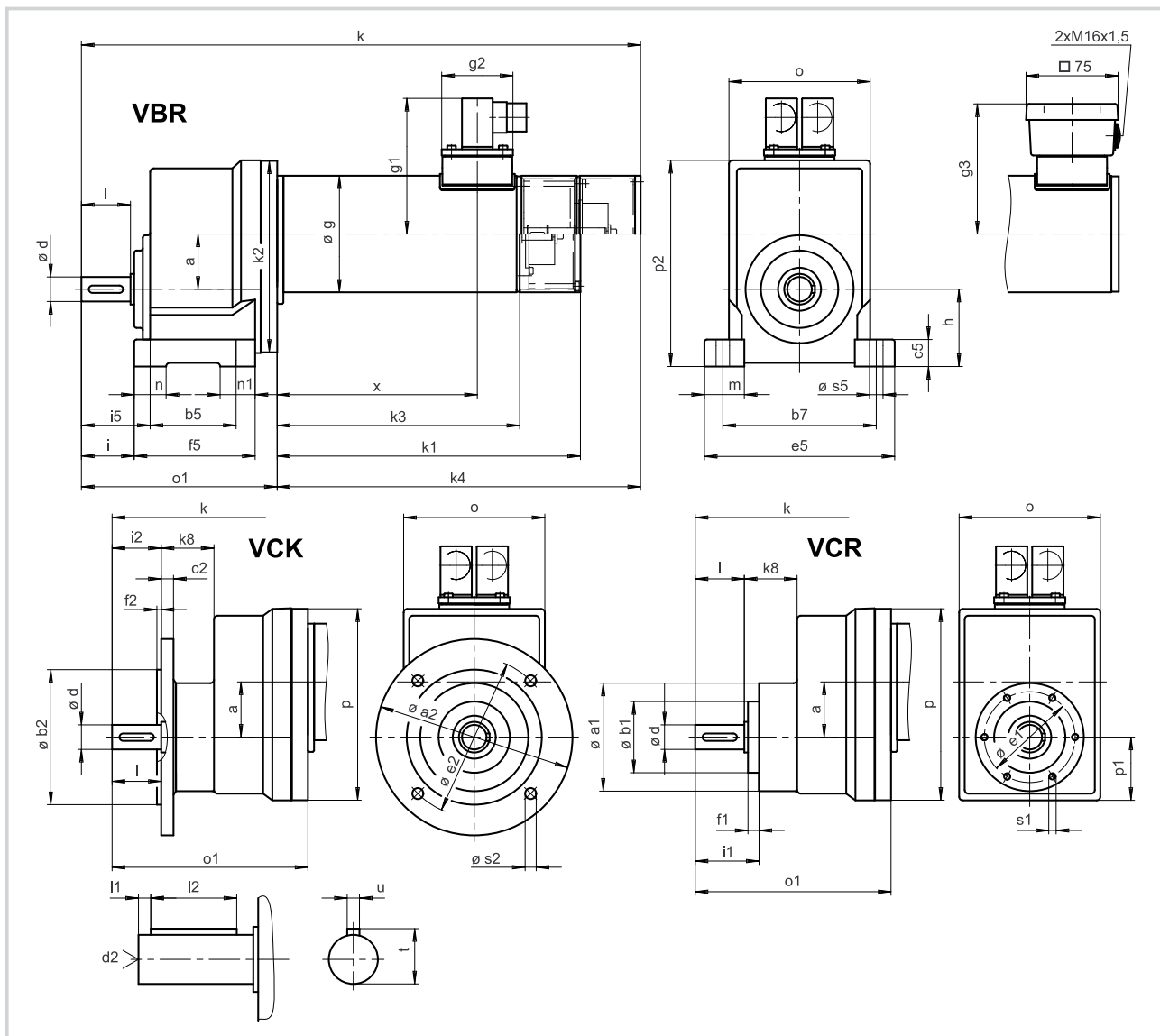
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI = with spring-applied brake and incremental encoder	connector version only	
Brake supply voltage	BV=for brake attachment	terminal box version only	
	24 V DC		
Gearbox type	230 V AC with bridge rectifier	terminal box version only	
	VBR		
	VCR		
Output-side flange diameter	VCK		
	D = 120 mm		
	D = 140 mm		
	D = 160 mm		
Mounting position	D = 200 mm		
			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST05-1GV□□-063C32



Geared motor	a	a ₁	a ₂	b ₁ h ₇	b ₂ j ₇	b ₅	b ₇	c ₂	c ₅	d	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST05-1GV□□-063C32	45	88	120	58	80	70	125	10	22	20	M6	74	100	155	9	3	99	95	111	58	106	63	43	52	40	56
			140		95								115													
			160		110								130													
			200		130								165													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	k ₈	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST05-1GV□□-063C32	455.5	247	156	201	296	43	40	6	28	33	26	29	115	159.5	156	51.5	168	M6	7	11	22.5	6	163	13-15
																			9					
																			11					

Dimensions in mm

Drive selection

AC helical geared motors (inverter-optimised)

Selection table Type GST05-2GV□□-063C32

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□063-32	600	195	20.90	3.35	14.356	
		173	26.86	3.35	16.091	
		112	41.36	2.82	24.933	
		99	47.00	2.25	28.333	
		87	53.52	2.21	32.267	
		76	60.82	1.75	36.667	
		72	64.95	1.83	39.060	
		63	82.01	1.45	44.500	
		56	92.24	1.08	50.050	
		49	104.82	1.04	56.875	

Additional order information

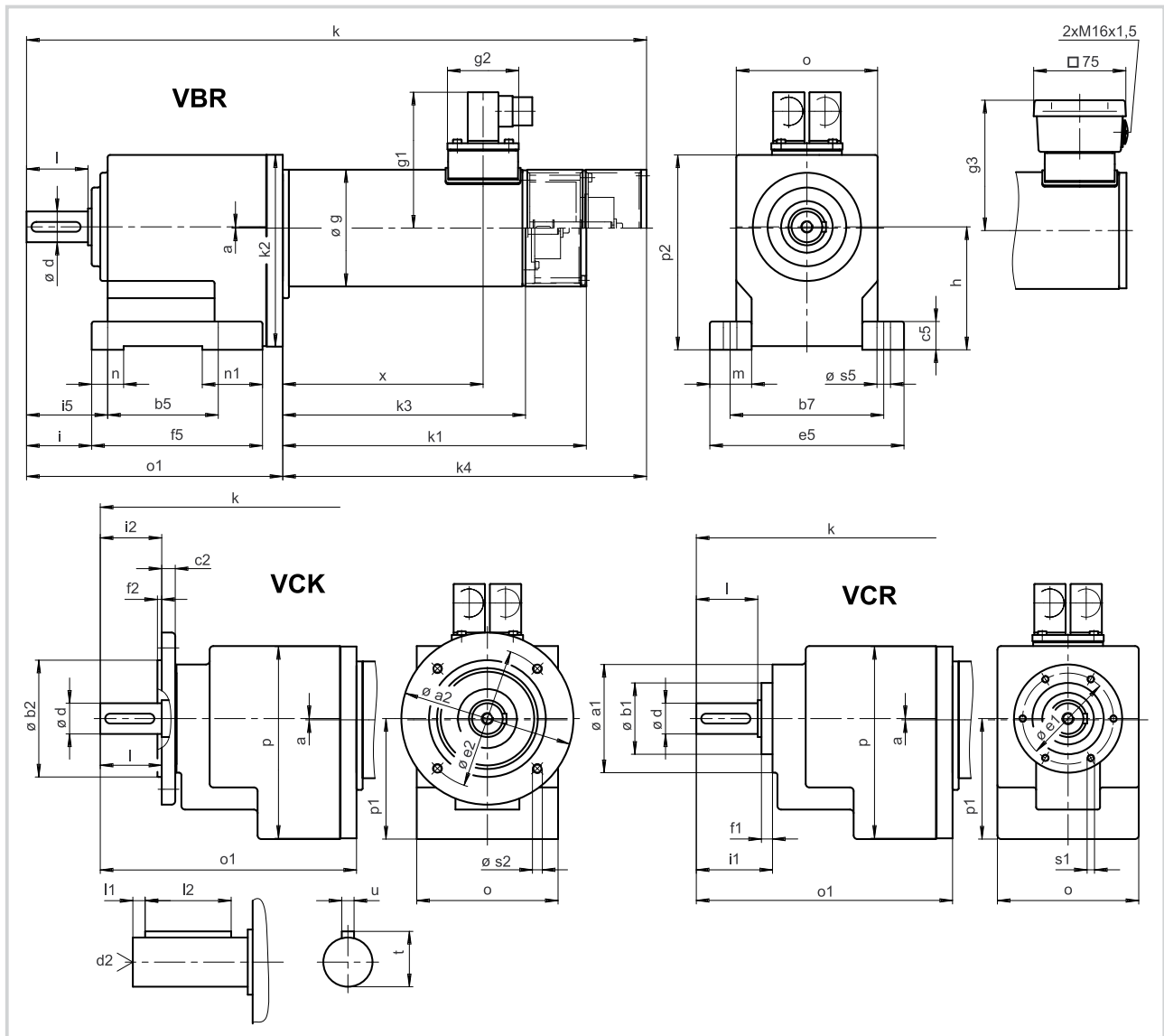
Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI = with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC with bridge rectifier	terminal box version only	
Gearbox type	VBR		
	VCR		
	VCK		
Output-side flange diameter	D = 120 mm		
	D = 140 mm		
	D = 160 mm		
	D = 200 mm		
Mounting position			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST05-2GV□□-063C32



Geared motor	a	a ₁	a ₂	b ₁ h7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	g ₂	g ₃	h	i	i ₁	i ₂	i ₅
GST05-2GV□□-063C32	1	88	120	58	80	90	125	10	23	25	M10	74	100	158	9	3	139	95	111	58	106	100	53	62	50	66
			140		95			11					115													
			160		110			10					130													
			200		130			12					165													

Geared motor	k	k ₁	k ₂	k ₃	k ₄	l	l ₁	l ₂	m	n	n ₁	o	o ₁	p	p ₁	p ₂	s ₁	s ₂	s ₅	t	u	x	Weight approx. kg
GST05-2GV□□-063C32	504.5	247	156	201	296	50	4	40	30	26	49	115	208.5	156	98	158.5	M6	7	11	28	8	163	17-19
																		9					
																		11					

Dimensions in mm

Drive selection

AC bevel geared motors (inverter-optimised)

Selection table Type GKR03-2G□□□-056C22

Motor type	P _N W	100 Hz			i	Selection (tick as required)
		n ₂ rpm	M ₂ Nm	c		
SDSGA□□056-22	240	516	4.06	5.02	5.411	
		448	4.79	4.59	6.222	
		392	5.47	4.26	7.011	
		341	6.29	3.81	8.078	
		307	7.00	3.48	9.001	
		267	8.05	3.03	10.466	
		240	8.96	2.72	11.640	
		208	10.30	2.37	13.386	
		185	11.63	2.08	15.011	
		161	13.37	1.89	17.378	
		144	14.90	1.70	19.365	
		125	17.04	1.48	22.270	
		111	19.28	1.31	25.051	
		97	22.07	1.04	28.808	
		86	25.08	1.01	32.593	
		74	25.00	0.88	37.481	
		66	29.00	0.92	42.222	
		57	29.00	0.80	48.556	
		52	29.00	0.73	53.889	
		45	29.00	0.66	61.972	

Additional order information

Rated voltage	390 V	connector version only	
	230/400 V	terminal box version only	
Enclosure	IP54		
	IP55		
Motor protection	KTY	connector version only	
	Thermal contact 'NC contact'	terminal box version only	
Electrical connection	Connector		
	Terminal box		
B-side design	XX=no built-on accessories	terminal box version only	
	RS=with resolver	connector version only	
	BR=with spring-applied brake	terminal box version only	
	RS=with incremental encoder	connector version only	
	BS=with spring-applied brake and resolver	connector version only	
	BI=with spring-applied brake and incremental encoder	connector version only	
	BV=for brake attachment	terminal box version only	
Brake supply voltage	24 V DC		
	230 V AC 205 V DC with bridge rectifier	terminal box version only	
Gearbox type	VAR		
	VAK		
	HAR		
	HAK		
Output-side flange diameter	D = 110 mm		
	D = 120 mm		
Hollow shaft	D=18 mm		
	D=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

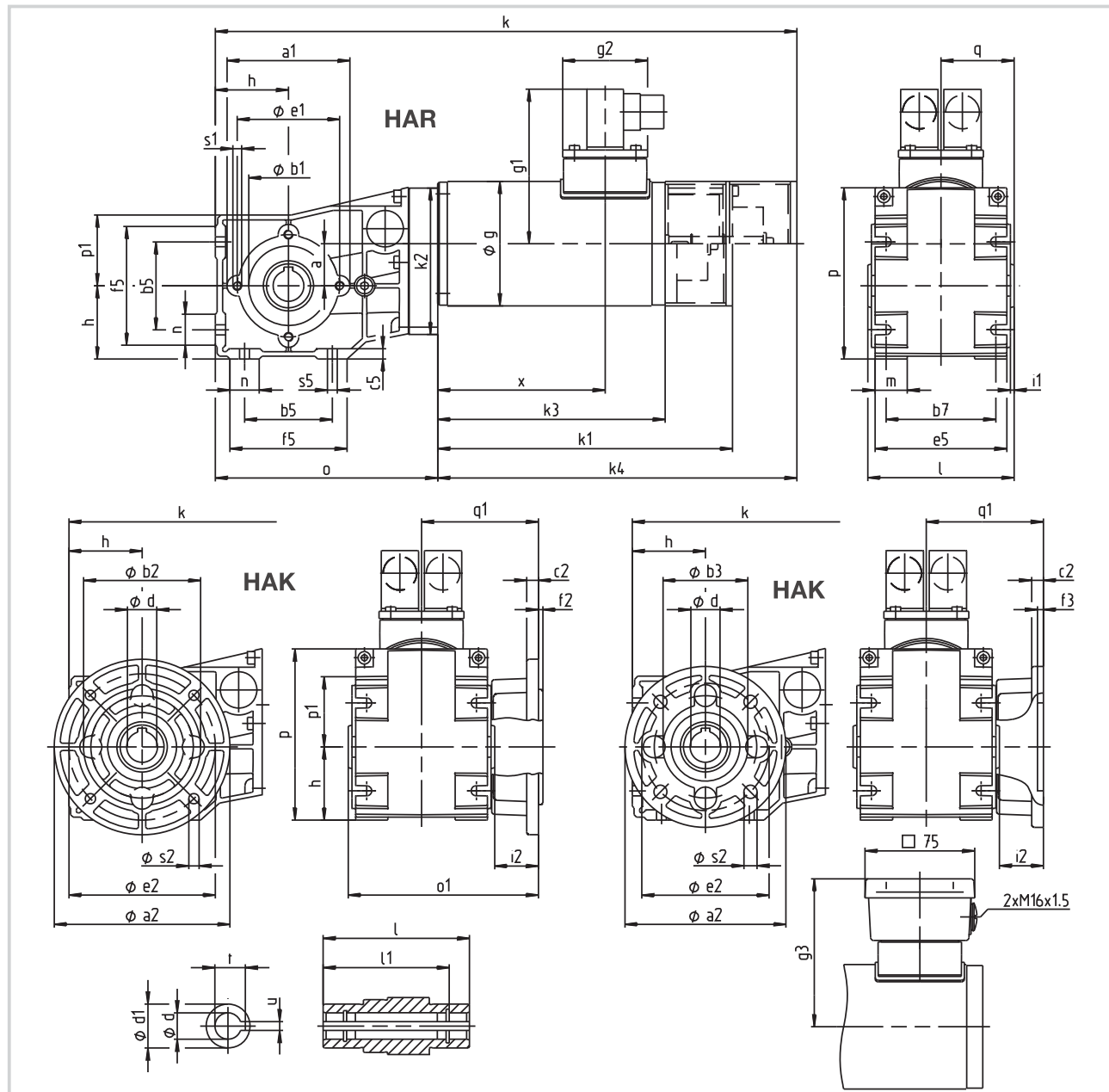
Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.

Drive selection

AC bevel geared motors (inverter-optimised)

Dimensions Type GKR03-2GHA□-056C22



Geared motor	a	a ₁	a ₂	b ₁ J7	b ₂ j7	b ₃ H7	b ₅	b ₇	c ₂	c ₅	d H7	d ₁	e ₁	e ₂	e ₅	f ₂	f ₃	f ₅	g	g ₁	g ₂	g ₃	h	i ₁	i ₂
GKR03-2GHA□-056C22	29	84	120 110	55	80 —	— 60	60	75	8	7	18 20	30	70	100 87	90	3 —	— 4	80	85	106	58	101	50	2.5	30

Geared motor	k	k ₁	k ₂	k ₃	k ₄	l	l ₁	m	n	o	o ₁	p	p ₁	q	q ₁	s ₁	s ₂	s ₅	t	u	x	Weight
GKR03-2GHA□-056C22	397.5	201.5	100	157.5	245.5	100	86	22	20	152	130	117	48	50	80	M6	7 9	6.6	20.8 22.8	6	114.5	7-9

Dimensions in mm



Description

DC permanent magnet motors have a torque-speed characteristic with shunt characteristics. Thanks to a particular dimensioning of the armature winding (copper filling factor) there is only a low speed reduction under load.

The magnetic flux necessary to generate the torque is produced by permanent magnets.

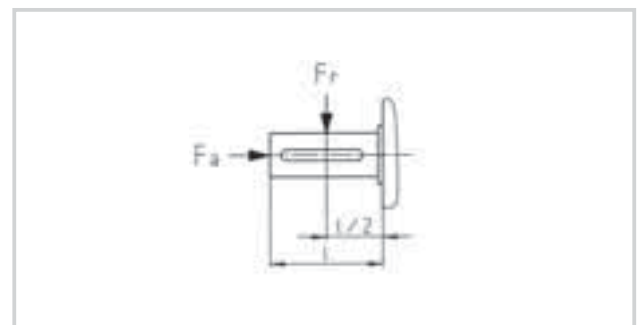
A special field excitation winding and thus an element that would cause additional heat loss is not required. This means that the efficiency of a DC permanent magnet motor is better than the efficiency of a comparable field-wound DC motor. As permanent magnets are smaller than a comparable field winding, a DC permanent magnet motor is approximately one frame size smaller than a field-wound DC motor with the same rated power.



General data

Motor type	13.120.00.0.0.0
Enclosure	IP54
Thermal class (VDE 530)	F
Motor protection	Thermal contact (normally-closed contact)
Cooling	naturally ventilated
Temperature range	0 to +40 °C
Site altitude	Up to 1000 m a.m.s.l.
Electrical connection	Cable / terminal box Note options in the tables
Bearing	Deep-groove ball bearing
Operating mode (VDE 530)	S1

DC permanent magnet motor



Rated data

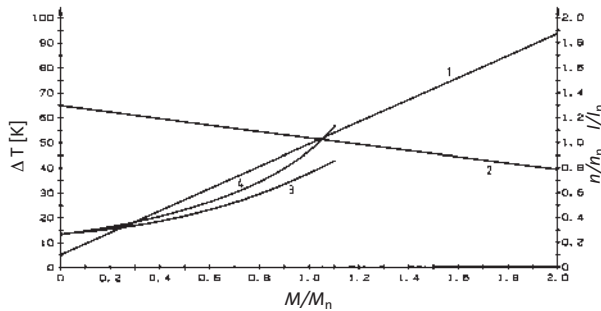
Motor type	13.120.35		13.120.45		13.120.55		13.120.65		13.120.75	
Rated power (W)	55		110		200		370		540	600
Rated torque (Nm)	0.07		0.35		0.64		1.08		1.7	1.9
Rated armature voltage (V)	24	180	24	180	24	180	24	180	24	160
Rated current (A)	3.7	0.46	6.7	0.86	11.8	1.4	18.6	2.5	27	4.5
Max. demagnetisation current (A)	41	5	44	6	71	9	90	11.2	130	20
Armature resistance (Ω)	1.3	71	0.47	27.5	0.09	9.8	0.09	4.6	0.06	1.9
Armature inductance (mH)	1.8	98	1.4	52	0.54	31.5	0.4	25	9	0.26
Rated speed (rpm)	3000		3000		3000		3000		3000	
Moment of inertia (kgcm ²)	0.458		1.03		3.8		10.69		16.8	
Max. radial force (N) F_r	220		320		340		580		570	
Max. axial force (N) F_a	200		280		280		330		460	



Characteristics

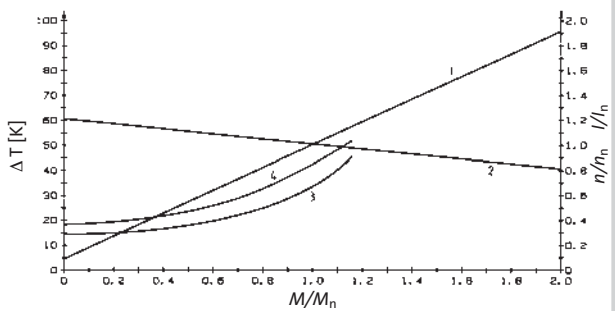
13.120.35

$M_n = 0.175 \text{ Nm}$ $n_n = 3000 \text{ rpm}$



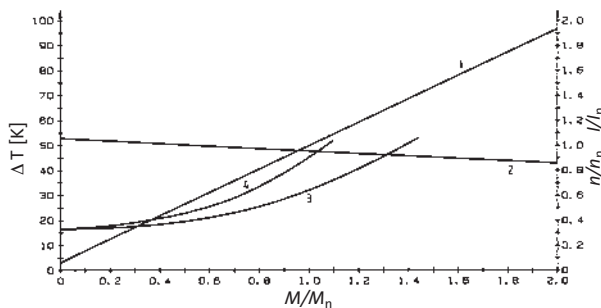
13.120.45

$M_n = 0.35 \text{ Nm}$ $n_n = 3000 \text{ rpm}$



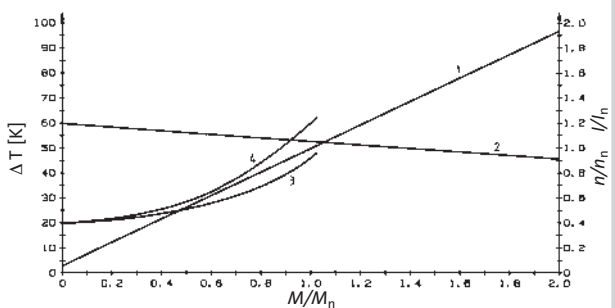
13.120.55

$M_n = 0.636 \text{ Nm}$ $n_n = 3000 \text{ rpm}$



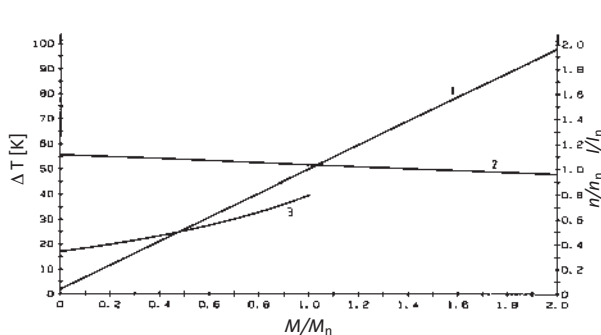
13.120.65

$M_n = 1.18 \text{ Nm}$ $n_n = 3000 \text{ rpm}$



13.120.75

$M_n = 1.91 \text{ Nm}$ $n_n = 3000 \text{ rpm}$



Explanations

- 1: Armature current (mean value) as function of torque
 - 2: Speed as function of torque at rated voltage
 - 3: Housing temperature increase as function of torque at $F_F = 1$ for 160 V and 180 V motors
 - 4: As 3, for 24 V motors
- M/M_n , I/I_n , n/n_n : standardised values referred to the rated value

For a detailed dimensioning of the drives please consult your Lenze sales representative.

Drive selection

DC permanent magnet motors

Selection table Type 13.120.□□.□.□.□

Motor type	P _N W	U V	n ₂ rpm	M ₂ Nm	Design A-side	Selection (tick as required)
13.120.35.0.3.0	55	24 or 180	3000	0.07	B3	
13.120.35.0.2.0					B14	
13.120.45.0.2.□	110	24 or 180	3000	0.35	B14	
13.120.45.1.2.□					IEC56 B14C80	
13.120.45.0.3.□					B3	
13.120.55.1.3.□	200	24 or 180	3000	0.64	IEC56 B3	
13.120.55.1.2.□					IEC56 B14C80	
13.120.55.1.2.□					IEC63 B14C90	
13.120.65.1.3.□	370	24 or 180	3000	1.08	IEC63 B3	
13.120.65.1.2.□					IEC63 B14C90	
13.120.65.1.2.□					IEC63 B14C120	
13.120.65.1.2.□					IEC71 B14C105	
13.120.75.1.3.□	540	24	3000	1.71	IEC71 B3	
13.120.75.1.2.□					IEC71 B14C105	
13.120.75.1.3.□	600	160	3000	1.91	IEC71 B3	
13.120.75.1.2.□					IEC71 B14C105	

Additional order information

B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	frame size 45-75 only
	4 = with DC tacho	frame size 45-75 only
	5 = with AC tacho	frame size 45-75 only
	6 = for tacho attachment	frame size 45-75 only
	7 = for brake attachment	frame size 45-75 only
Rated armature voltage	24 V	
	160 V	frame size 75 only
	180 V	frame size 35-65 only
Brake supply voltage	24 V DC	
	205 V DC only with armature voltage of 160 V or 180 V	
Electrical connection	Cable	
	Terminal box with motor frame size 45-75 only	
Position of electrical connection B3		2 3 4 5
Position of electrical connection B14		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



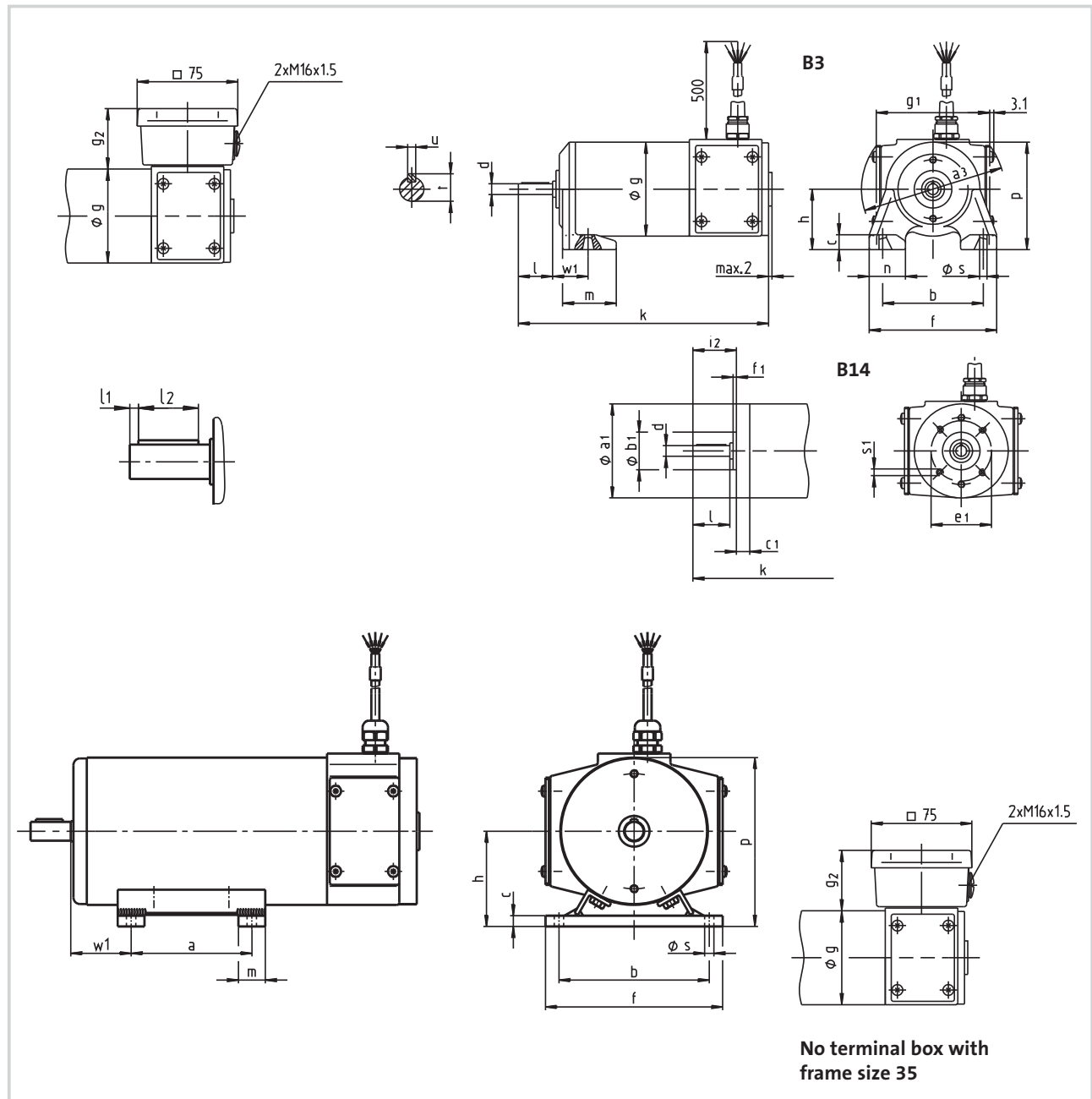
Selection table Type 13.12□.□□.□.□.□

Motor type	P _N W	U V	n ₂ rpm	M ₂ Nm	Design A-side for gearbox attachment	Selection (tick as required)
13.120.35.9.2.0	55	24 or 180	3000	0.07	B14 for SPL42	
13.121.35.2.2.0					B14 for SSN25	
13.121.35.2.5.0					B3/B14 for SSN25	
13.121.45.3.2.□	110	24 or 180	3000	0.35	B14 for SSN31	
13.121.45.3.5.□					B3/B14 for SSN31	
13.121.55.3.2.□	200	24 or 180	3000	0.64	B14 for SSN31	
13.121.55.3.5.□					B3/B14 for SSN31	
13.121.65.5.2.□	370	24 or 180	3000	1.08	B14 for SSN40	
13.121.65.5.5.□					B3/B14 for SSN40	
13.121.75.5.2.□	540	24	3000	1.71	B14 for SSN40	
13.121.75.5.5.□					B3/B14 for SSN40	
13.121.75.5.2.□	600	160	3000	1.91	B14 for SSN40	
13.121.75.5.5.□					B3/B14 for SSN40	

Additional order information

B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	frame size 45-75 only
	4 = with DC tachometer	frame size 45-75 only
	5 = with AC tachometer	frame size 45-75 only
	6 = for tachometer attachment	frame size 45-75 only
	7 = for brake attachment	frame size 45-75 only
Rated armature voltage	24 V	
	160 V	frame size 75 only
	180 V	
Brake supply voltage	24 V DC	
	205 V DC only with armature voltage of 160 V or 180 V	
Electrical connection	Cable	
	Terminal box (not frame size 35)	
Position of electrical connection B3/B14		2 3 4 5
Position of electrical connection B14		2

Dimensions Type 13.120.□□.□.□.□





Dimensions Type 13.120.□□.□.□.□

Motor type	Frame size	a	a ₁	a ₃	b j7	b ₁	c	c ₁	d	e ₁
13.120.35.0.□.□	B3	–	–	79	55	–	8	–	7h6	–
	B14		50.5		–	28	–	8		40
13.120.45.□.□.□	B3	–	–	107	75	–	11	–	8h6	–
	B14		69		–	28	–	12		45
	IEC56 B14C80		80		–	50	–	14		65
13.120.55.□.□.□	IEC56 B3	–	–	115	90	–	13	–	9k6	–
	IEC56 B14C80		80		–	50	–	17		65
	IEC63 B14C90		90		–	60	–	15	11k6	75
	IEC63 B14C120		120			80				100
13.120.65.□.□.□	IEC63 B3	–	–	140	100	–	15	–	11k6	–
	IEC63 B14C90		98		–	60	–	18.5		75
	IEC63 B14C120		120			80		16.5	14k6	100
	IEC71 B14C105		105		–	70	–	16.5		85
13.120.75.□.□.□	IEC71 B3	90	–	154	112	–	8	–	14k6	–
	IEC71 B14C105	–	110		–	70	–	14.5		85

Motor type	f max.	f ₁	g	g ₁	g ₂	h	i ₂	k	l ^{*)}	l ₁	l ₂	m	n	p	s	s ₁	t	u	w ₁	Weight approx. kg
13.120.35.0.□.□	71	–	54	62	–	32	–	172	31			24	20	59	5.5	–	–	–	18	1.4
	–	2.5				–	33.5					–	–	–	–	M4			–	
13.120.45.□.□.□	96	–	70	84.5	45	45	–	186.5	29			40	28	80	5.5	–	–	–	23	2.4
	–	2.5				–	32.5					–	–	–	–	M4			–	
						20	178					–	–	–	–	M5			–	
13.120.55.□.□.□	112	–	80	95	45	56	–	213	20	3.5	14	60	34	96	6.5	–	10.2	3	36	3.7
	–	2.5				–	20					–	–	–	–	M5			–	
	–	2.5				–	23					–	–	–	–	M5			–	
	–	3										–	–	–	–	M6			–	
13.120.65.□.□.□	137	–	98	115	45	63	–	259.5	23	3	16	67	42	112	9	–	12.5	4	40	8
	–	2.5				–	23					–	–	–	–	M5			–	
	–	3										–	–	–	–	M6			–	
13.120.75.□.□.□	132	–	110	132	46	71	–	288	30	4	20	20		126	7	–	16	5	45	10.2
	–	2.5				–	30					–	–	–	–	M6			–	

*) Motors 13.120.35 / 45 do not have a shaft collar.

Dimensions in mm



Drive selection

DC worm geared motors

Selection table Type SSN25-1PVC□-035C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.121.35.2.□.0	55	600	0.70	10.07	5	
		375	1.00	7.26	8	
		300	1.30	6.53	10	
		200	1.70	4.60	15	
		150	2.00	4.06	20	
		100	2.50	3.06	30	
		75	3.00	2.39	40	
		60	3.20	1.96	50	
		50	3.50	1.83	60	

Additional order information

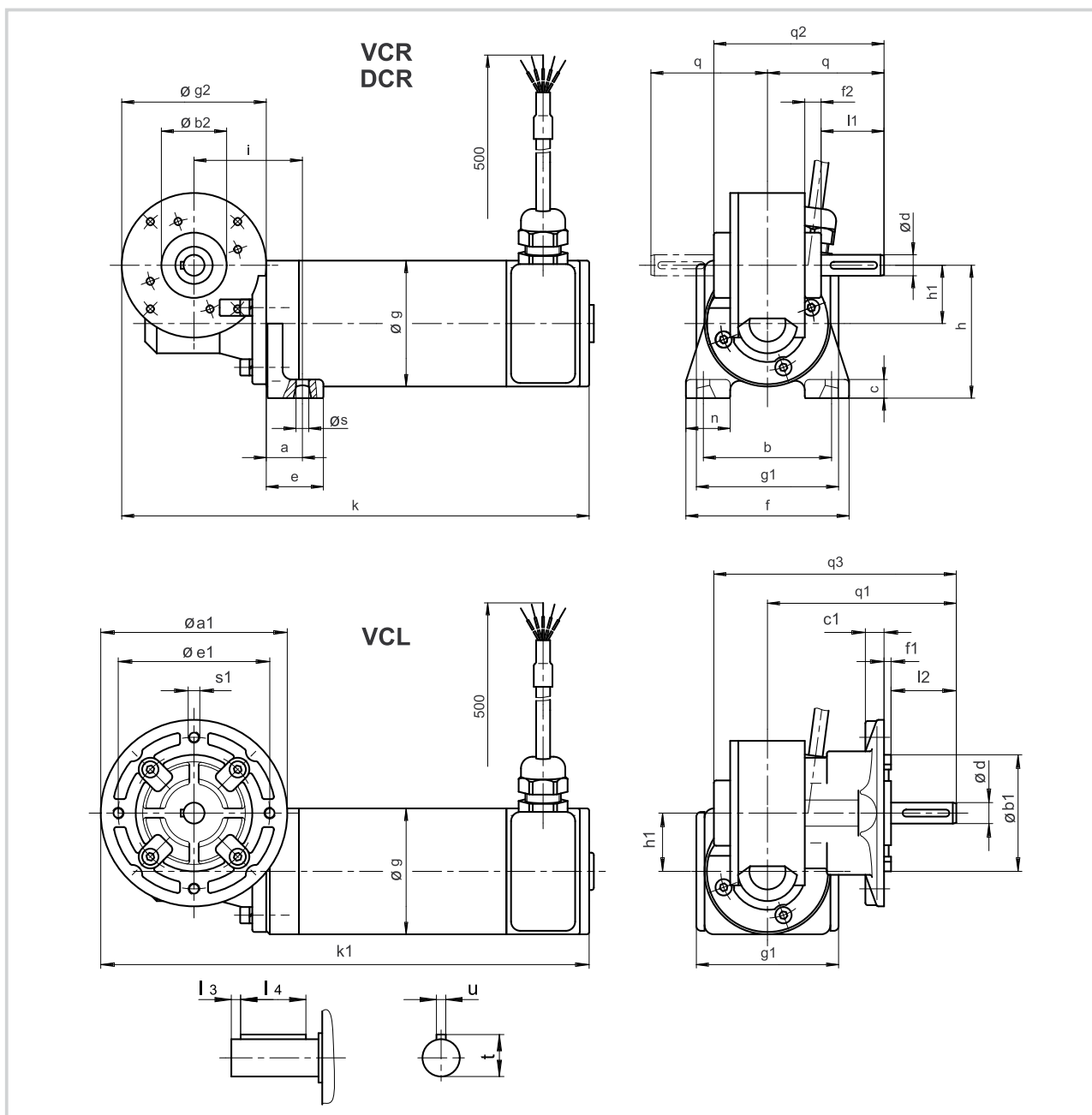
Motor type	2 = B14	
	5 = B3/B14	
Rated armature voltage	24 V	
	180 V	
Electrical connection	Cable	
Gearbox type	VCR	
	VCL	
	DCR	
Shaft position on type VCR		3 5
Flange/shaft position on type VCL		3 5
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN25-1PVCD-035C21



Geared motor	a B3	a ₁ B14 Ø	b B3	b ₁ B14 j7	b ₂ B3 h11	c B3	c ₁ B14	d h6	e B3	e ₁ B14	f B3	f ₁ B14	f ₂ B3	g	g ₁	g ₂ B3	h B3 Ø	h ₁
SSN25-1PVCD-035C21	15.5	80	55	50	28	8	8	9	24.5	65	71	3	7	54	62	62	57	25

Geared motor	i B3	k B3	k ₁ B14	l ₁ B3	l ₂ B14	l ₃	l ₄	n B3	q B3	q ₁ B14	q ₂ B3	q ₃ B14	s B3	s ₁ B14	t	u	Weight approx. kg
SSN25-1PVCD-035C21	46.5	200	209.5	27	28	3	20	20	50	81	73	104	5.5	M5	10.2	3	1.95

Dimensions in mm

Drive selection

DC worm geared motors

Selection table Type SSN31-1P□□□-045C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.121.45.3.□.□	110	600	1.50	9.41	5	
		429	2.00	6.88	7	
		300	2.70	5.09	10	
		200	3.90	4.02	15	
		150	4.80	3.01	20	
		120	5.30	2.62	25	
		100	6.20	2.42	30	
		79	7.60	2.01	38	
		60	8.00	1.61	50	
		55	10.00	1.50	55	
		40	9.50	1.06	75	
		30	11.00	0.83	100	

Additional order information

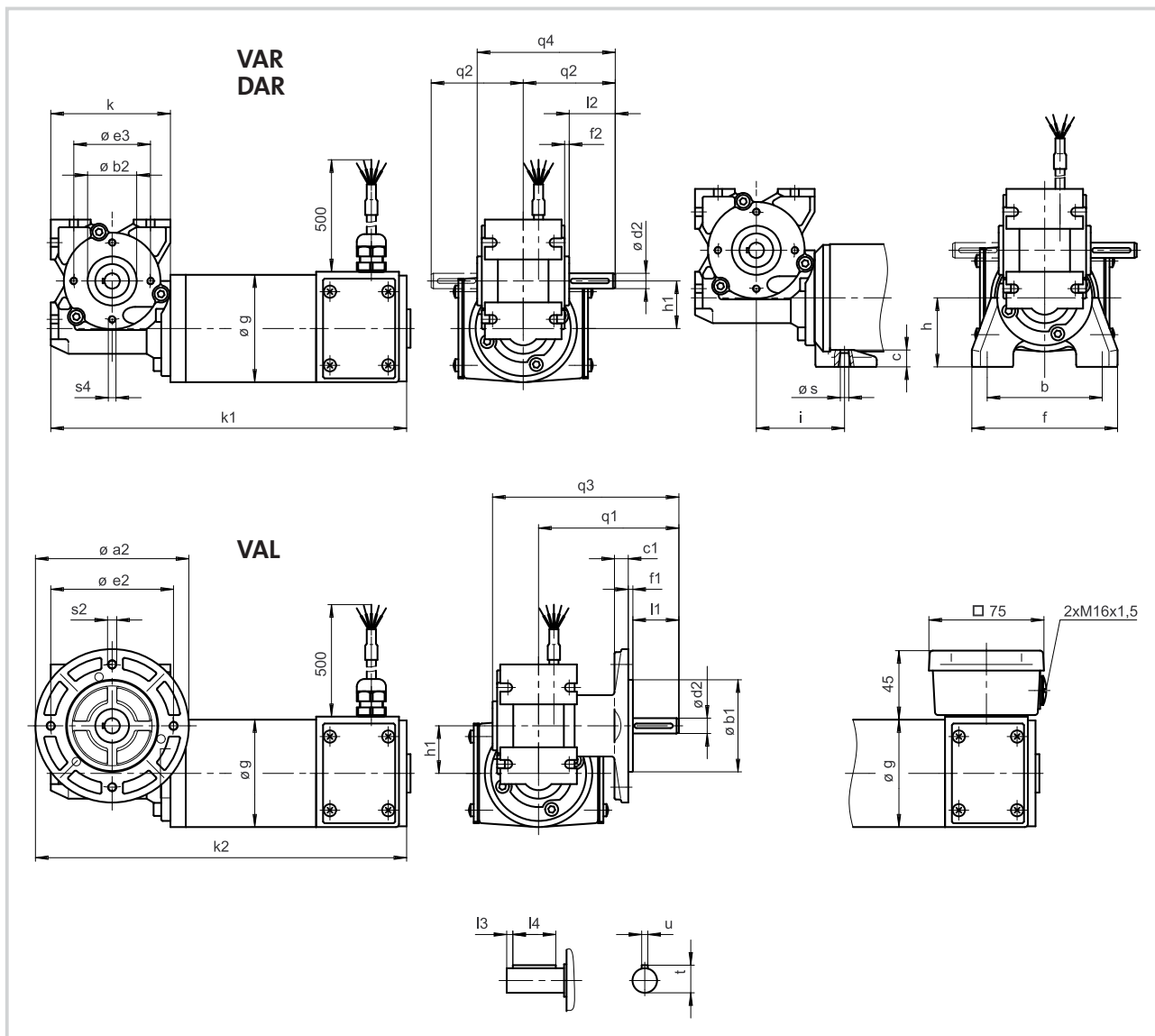
Motor type	2 = B14		
	5 = B3/B14		
B-side design	0 = no built-on accessories		
	1 = with spring-applied brake		
	4 = with DC tachometer		
	5 = with AC tachometer		
	6 = for tachometer attachment		
	7 = for brake attachment		
Rated armature voltage:	24 V		
	180 V		
Brake supply voltage	24 V DC		
	205 V DC only with armature voltage of 180 V		
Electrical connection	Cable		
	Terminal box		
Gearbox type	VAR	Shaft D = 10x30 mm	
		Shaft D = 12x40 mm	
	DAR	Shaft D = 10x30 mm	
		Shaft D = 12x40 mm	
	VAL	Shaft D = 10x30 mm Flange D = 100 mm	
		Shaft D = 12x40 mm Flange D = 120 mm	
HAR			
Shaft position on gearbox type VAR			3 5
Flange/shaft position on gearbox type VAL			3 5
Mounting position			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN31-1PVA□-045C21

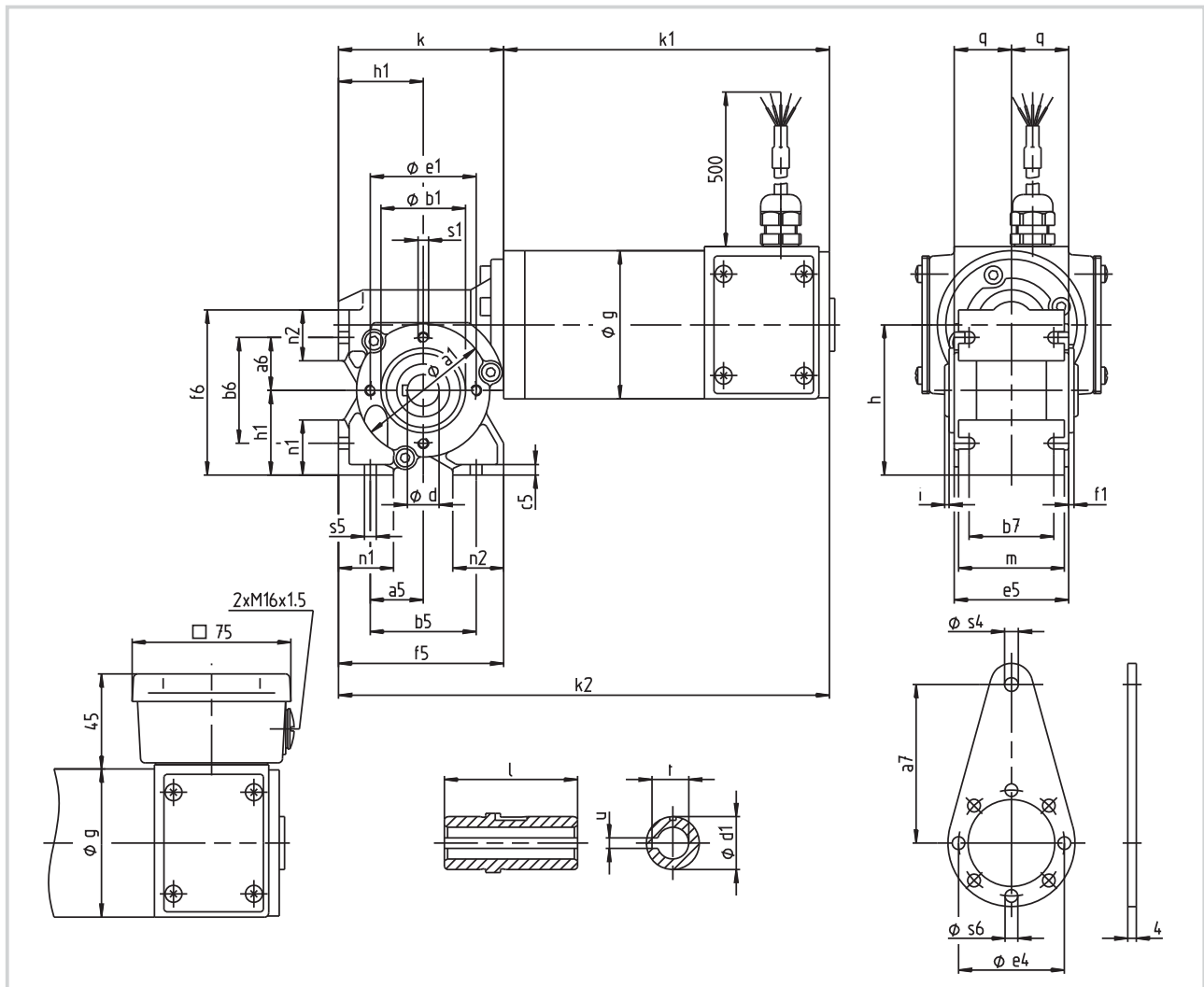


Geared motor	a ₂	b	b ₁ j7	b ₂ h8	c	c ₁	d ₂ h6	e ₂	e ₃	f	f ₁	f ₂	g	h	h ₁	i
SSN31-1PVA□-045C21	100	75	60	32	11	9	10	80	50	95	3	3	70	45	31	57.5
	120	75	80	32	11	9	12	100	50	95	3	3	70	45	31	57.5

Geared motor	k	k ₁	k ₂	l ₁	l ₂	l ₃	l ₄	q ₁	q ₂	q ₃	q ₄	s	s ₂	s ₄	t	u	Weight approx. kg
SSN31-1PVA□-045C21	78	232	242	30	30	4	25	91.5	60	121.5	90	5.5	M6	M5	11.2	3	3.0
	78	232	252	40	40	4	28	101.5	70	131.5	100	5.5	M6	M5	13.5	4	3.2

Dimensions in mm

Dimensions Type SSN31-1PHAR-045C21



Geared motor	a ₁	a ₅	a ₆	a ₇	b ₁ h ₈	b ₅	b ₆	b ₇	c ₅	d H ₇	d ₁	e ₁	e ₄	e ₅	f ₁	f ₅	f ₆	g
SSN31-1PHAR-045C21	63	25	25	75	40	50	50	40	5	15	25	50	50	54	2.5	78	78	70

Geared motor	h	h ₁	i	k	k ₁	k ₂	l	m	n ₁	n ₂	q	s ₁	s ₄	s ₅	s ₆	t	u	Weight approx. kg
SSN31-1PHAR-045C21	71	40	2	78	154	232	63	50	26	24	27	M5	6.5	5.5	6	17.3	5	3.0

Dimensions in mm



Selection table Type SSN31-1P□□□-056C21

KMAT 456906

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.121.55.3.□.□	200	600	2.70	5.05	5	
		430	3.70	3.78	7	
		300	4.90	2.84	10	
		200	7.00	2.25	15	
		150	8.80	1.70	20	
		120	9.80	1.43	25	
		100	11.30	1.32	30	
		80	13.90	1.05	38	
		60	13.00	0.88	50	
		55	15.00	0.82	55	
		40	11.00	0.64	75	
		30	11.00	0.45	100	

Additional order information

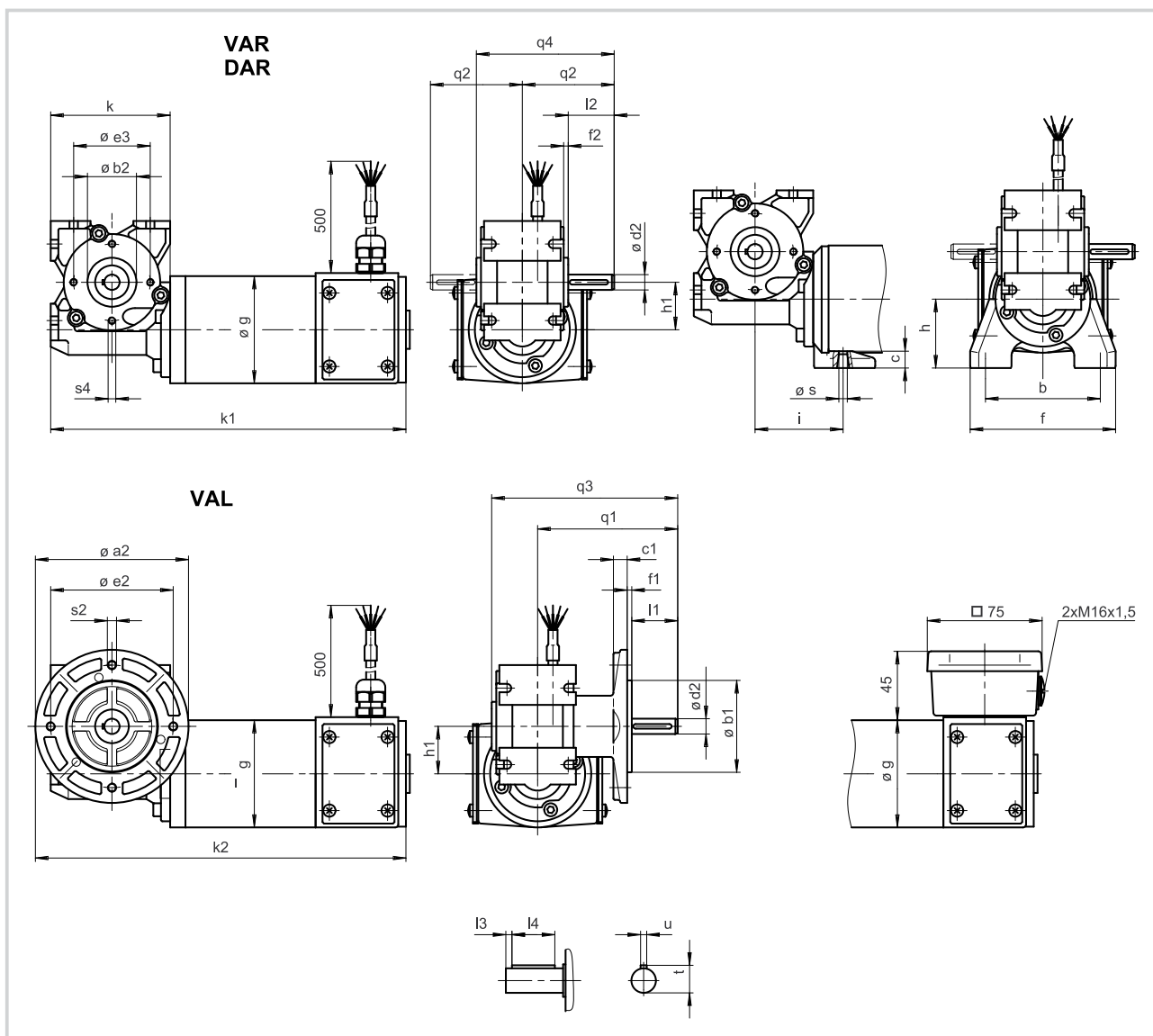
Motor type	2 = B14		
	5 = B3/B14		
B-side design	0 = no built-on accessories		
	1 = with spring-applied brake		
	4 = with DC tachometer		
	5 = with AC tachometer		
	6 = for tachometer attachment		
	7 = for brake attachment		
Rated armature voltage:	24 V		
	180 V		
Brake supply voltage	24 V DC		
	205 V DC only with armature voltage of 180 V		
Electrical connection	Cable		
	Terminal box		
Gearbox type	VAR	Shaft D = 10x30 mm	
		Shaft D = 12x40 mm	
	DAR	Shaft D = 10x30 mm	
		Shaft D = 12x40 mm	
	VAL	Shaft D = 10x30 mm Flange D = 100 mm	
		Shaft D = 12x40 mm Flange D = 120 mm	
HAR			
Shaft position on gearbox type VAR			3 5
Flange/shaft position on gearbox type VAL			3 5
Mounting position			A B C D E F
Position of electrical connection			2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN31-1PVA□-056C21

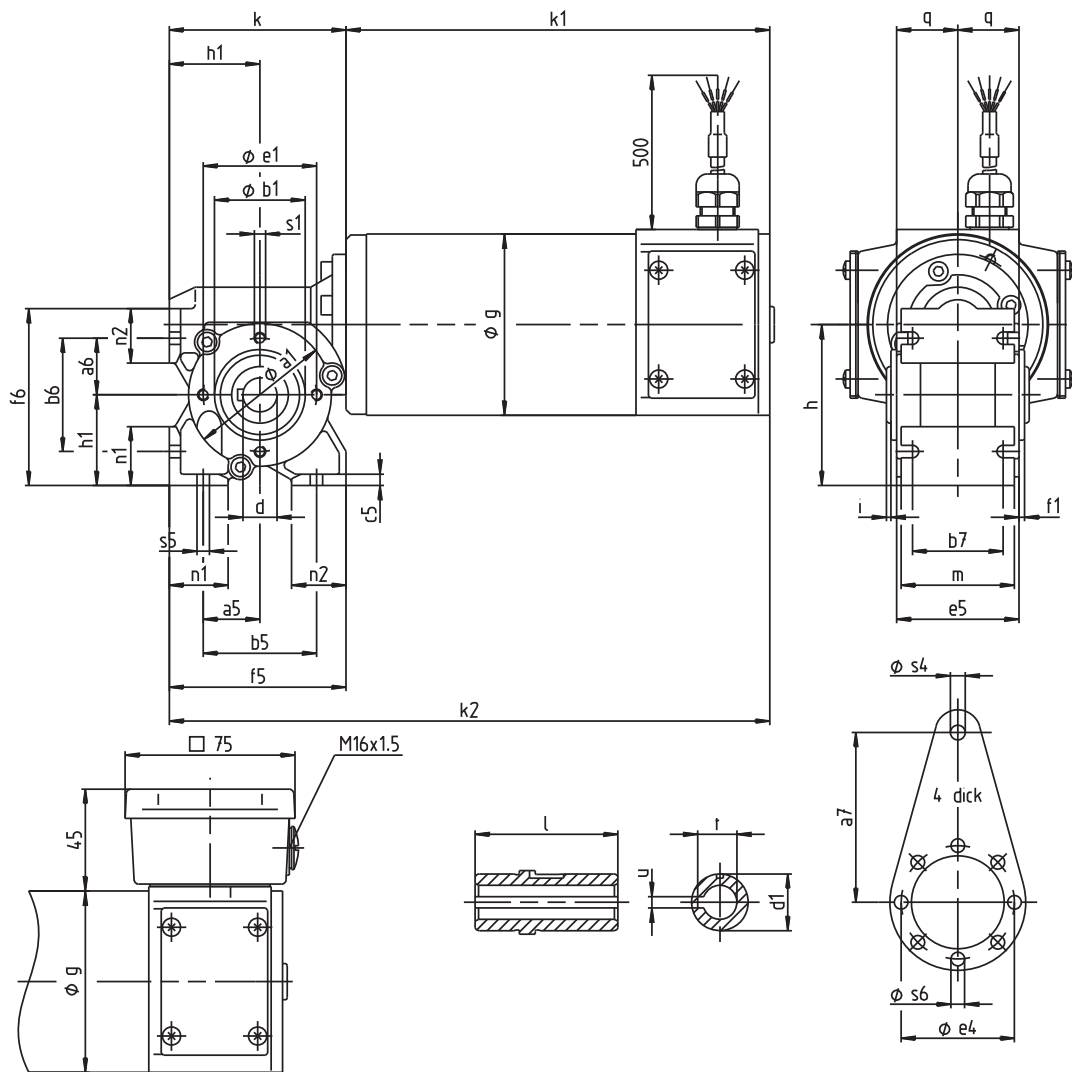


Geared motor	a ₂	b	b ₁ j7	b ₂ h8	c	c ₁	d ₂ h6	e ₂	e ₃	f	f ₁	f ₂	g	h	h ₁	i
SSN31-1PVA□-056C21	100	90	60	32	13	9	10	80	50	110	3	3	80	56	31	68
	120	90	80	32	13	9	12	100	50	110	3	3	80	56	31	68

Geared motor	k	k ₁	k ₂	l ₁	l ₂	l ₃	l ₄	q ₁	q ₂	q ₃	q ₄	s	s ₂	s ₄	t	u	Weight approx. kg
SSN31-1PVA□-056C21	78	265	275	30	30	4	25	91.5	60	121.5	90	6.5	M6	M5	11.2	3	4.4
	78	265	285	40	40	4	28	101.5	70	131.5	100	6.5	M6	M5	13.5	4	4.5

Dimensions in mm

Dimensions Type SSN31-1PHAR-056C21



Geared motor	a ₁	a ₅	a ₆	a ₇	b ₁ h8	b ₅	b ₆	b ₇	c ₅	d H7	d ₁	e ₁	e ₄	e ₅	f ₁	f ₅	f ₆	g
SSN31-1PHAR-056C21	63	25	25	75	40	50	50	40	5	15	25	50	50	54	2.5	78	78	80

Geared motor	h	h ₁	i	k	k ₁	k ₂	l	m	n ₁	n ₂	q	s ₁	s ₄	s ₅	s ₆	t	u	Weight approx. kg
SSN31-1PHAR-056C21	71	40	2	78	187	265	63	50	26	24	27	M5	6.5	5.5	6	17.3	5	4.4

Dimensions in mm



Drive selection

DC worm geared motors

Selection table Type SSN40-1P□□□-063C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.121.65.5.□.□	370	444	6.70	5.22	6.75	
		300	9.60	3.64	10	
		200	13.00	2.52	15	
		150	16.70	2.03	20	
		120	18.80	1.54	25	
		100	21.90	1.65	30	
		75	26.40	1.29	40	
		60	31.80	1.01	50	
		50	23.00	0.85	60	
		38	24.00	0.65	80	

Additional order information

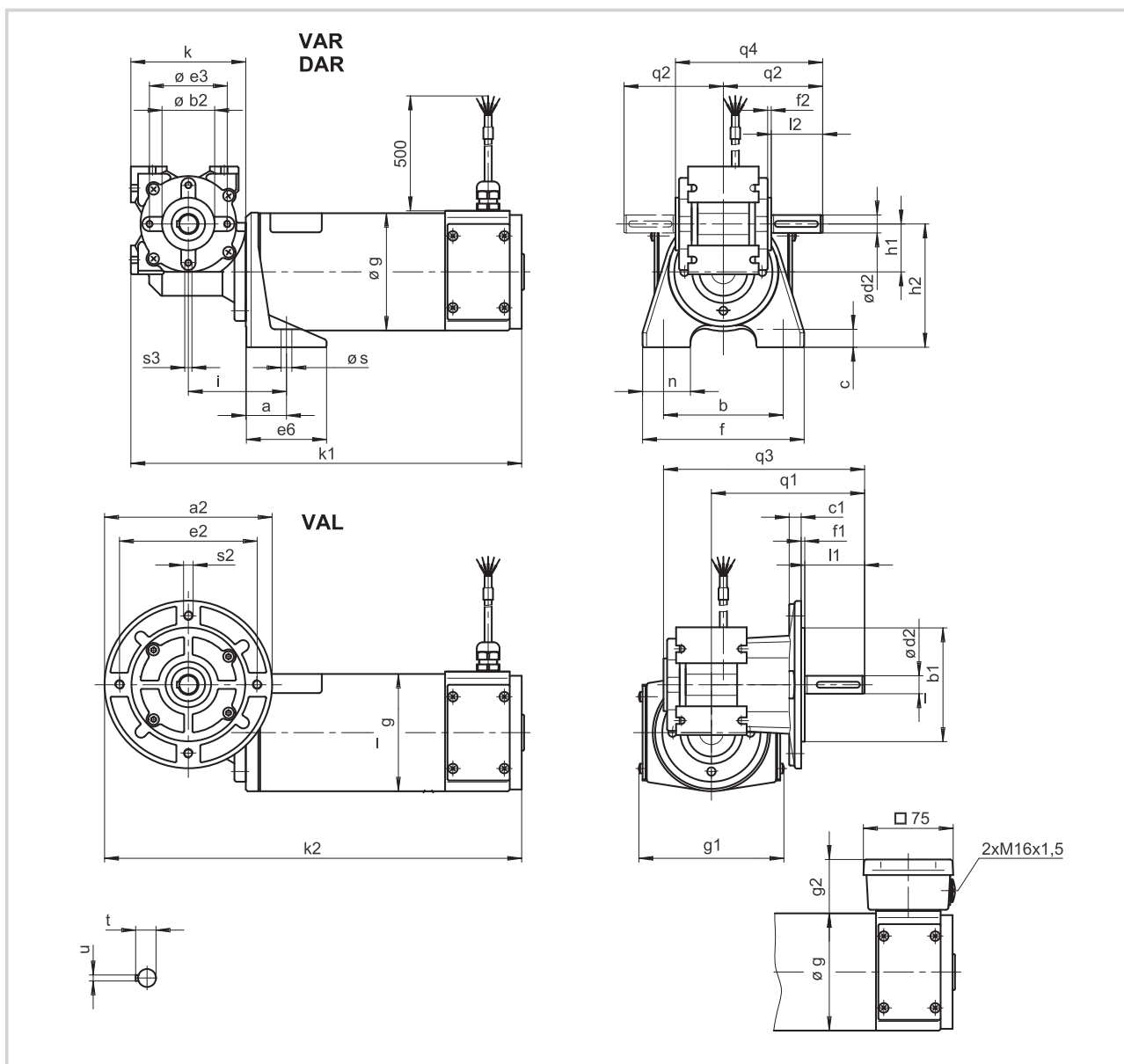
Motor type	2 = B14 5 = B3/B14	
B-side design	0 = no built-on accessories 1 = with spring-applied brake 4 = with DC tachometer 5 = with AC tachometer 6 = for tachometer attachment 7 = for brake attachment	
Rated armature voltage:	24 V 180 V	
Brake supply voltage	24 V DC 205 V DC only with armature voltage of 180 V	
Electrical connection	Cable Terminal box	
Gearbox type	VAR DAR VAL HAR	
Shaft position on gearbox type VAR		3 5
Flange/shaft position on gearbox type VAL		3 5
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN40-1PVA□-063C21

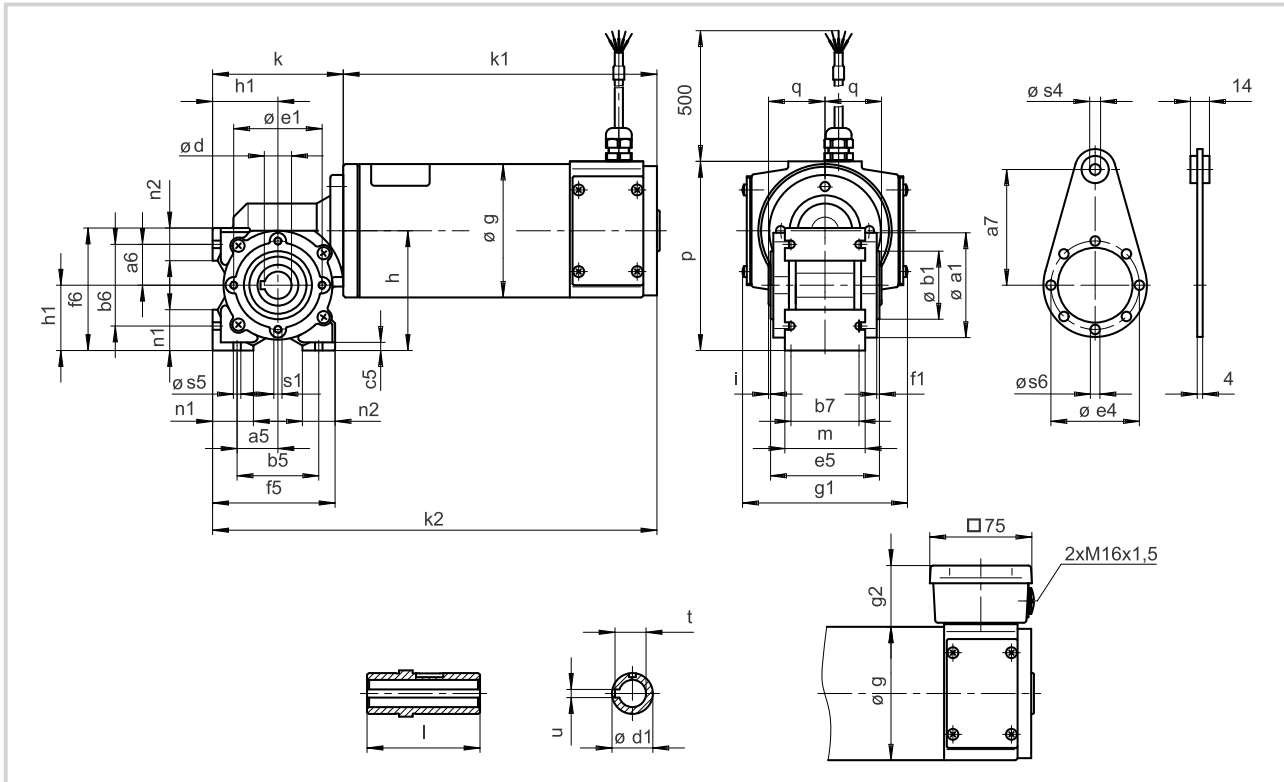


Geared motor	a	a ₂	a ₃	b	b ₁ j7	b ₂ h10	c	c ₁	d ₂ h6	e ₂	e ₃	e ₆	f	f ₁	f ₂	g	g ₁	g ₂	h ₁	h ₂
SSN40-1PVA□-063C21	34	140	—	100	95	44	15	10	15	115	65	67.5	137	3	3	98	121	45	40	103

Geared motor	i	k	k ₁	k ₂	l ₁	l ₂	m ₁	n	q ₁	q ₂	q ₃	q ₄	s	s ₂	s ₃	t	u	Weight approx. kg
SSN40-1PVA□-063C21	82	96	327	349	50	43	—	42	128	83	168	123	9	M8	M6	17	5	9.5

Dimensions in mm

Dimensions Type SSN40-1PHAR-063C21



Geared motor	a ₁	a ₅	a ₆	a ₇	b ₁ h ₈	b ₅	b ₆	b ₇	c ₅	d H7	d ₁	e ₁	e ₄	e ₅	f ₁	f ₅	f ₆	g	g ₁	g ₂
SSN40-1PHAR-063C21	77	30	30	85	50	60	60	50	6	20	30	65	65	80	2	90	90	98	121	45

Geared motor	h	h ₁	i	k	k ₁	k ₂	l	m	n ₁	n ₂	p	q	s ₁	s ₄	s ₅	s ₆	t	u	Weight approx. kg
SSN40-1PHAR-063C21	88	48	1.5	96	231	327	83	59	30	24	139	41.5	M6	8	5.5	7	22.8	6	9.5

Dimensions in mm



Drive selection

DC worm geared motors

Selection table Type SSN40-1P□□□-071C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.121.75.5.□.□	540	444	9.60	3.63	6.75	
		300	13.70	2.54	10	
	24 V	200	18.80	1.75	15	
		150	24.00	1.41	20	
		120	27.20	1.07	25	
		100	31.60	1.04	30	
		75	34.00	0.89	40	
		60	32.00	0.69	50	
		50	23.00	0.59	60	
		38	24.00	0.45	80	
13.121.75.5.□.□	600	444	10.80	3.23	6.75	
		300	15.40	2.26	10	
	160 V	200	21.20	1.56	15	
		150	27.00	1.25	20	
		120	29.00	0.95	25	
		100	35.50	1.01	30	
		75	34.00	0.79	40	
		60	32.00	0.62	50	
		50	23.00	0.53	60	
		38	24.00	0.40	80	

Additional order information

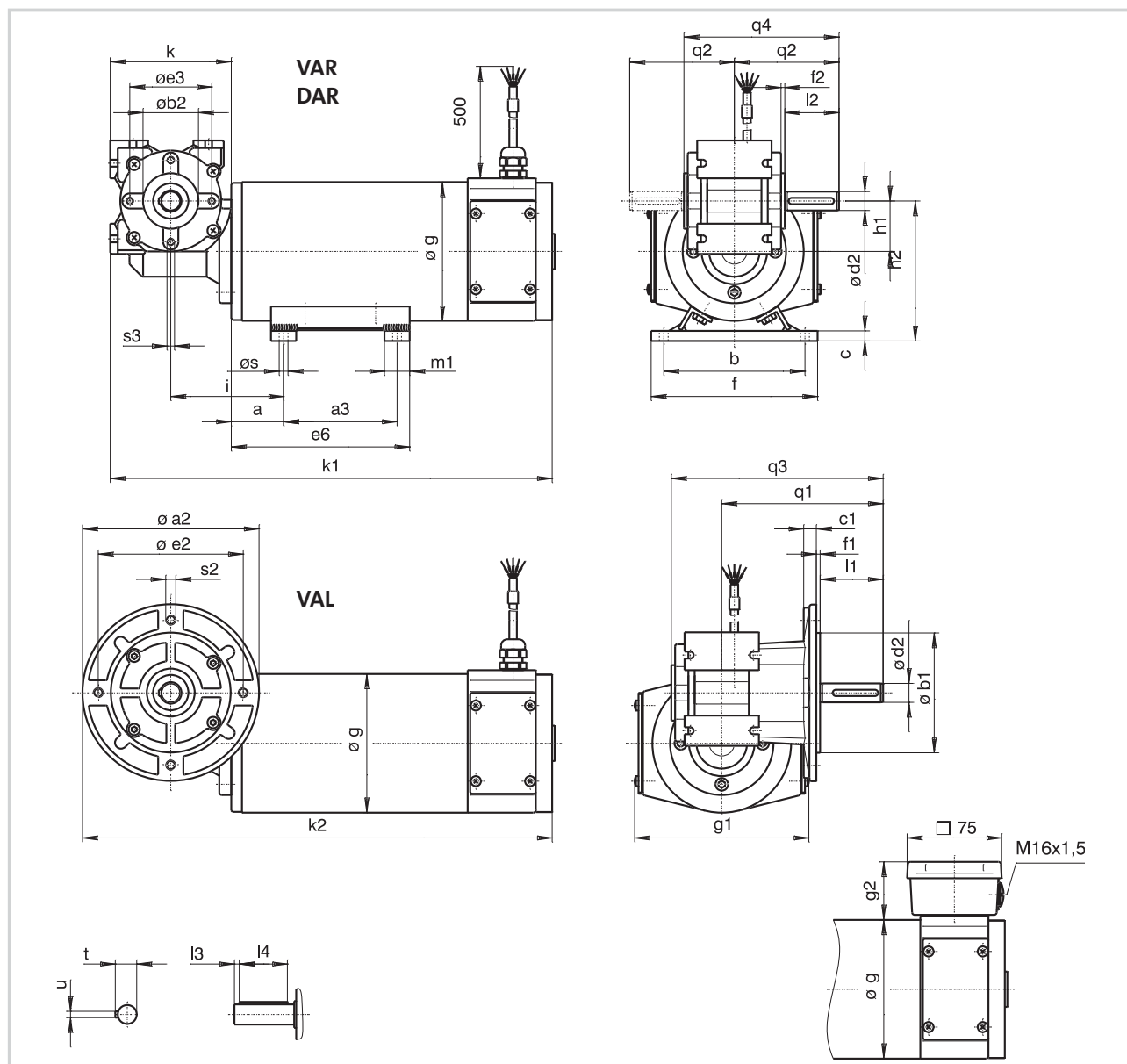
Motor type	2 = B14	
	5 = B3/B14	
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Rated armature voltage:	24 V	
	160 V	
Brake supply voltage	24 V DC	
	205 V DC only with armature voltage of 160 V	
Electrical connection	Cable	
	Terminal box	
Gearbox type	VAR	
	DAR	
	VAL	
	HAR	
Shaft position on gearbox type VAR		3 5
Flange/shaft position on gearbox type VAL		3 5
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SSN40-1PVA□-071C21

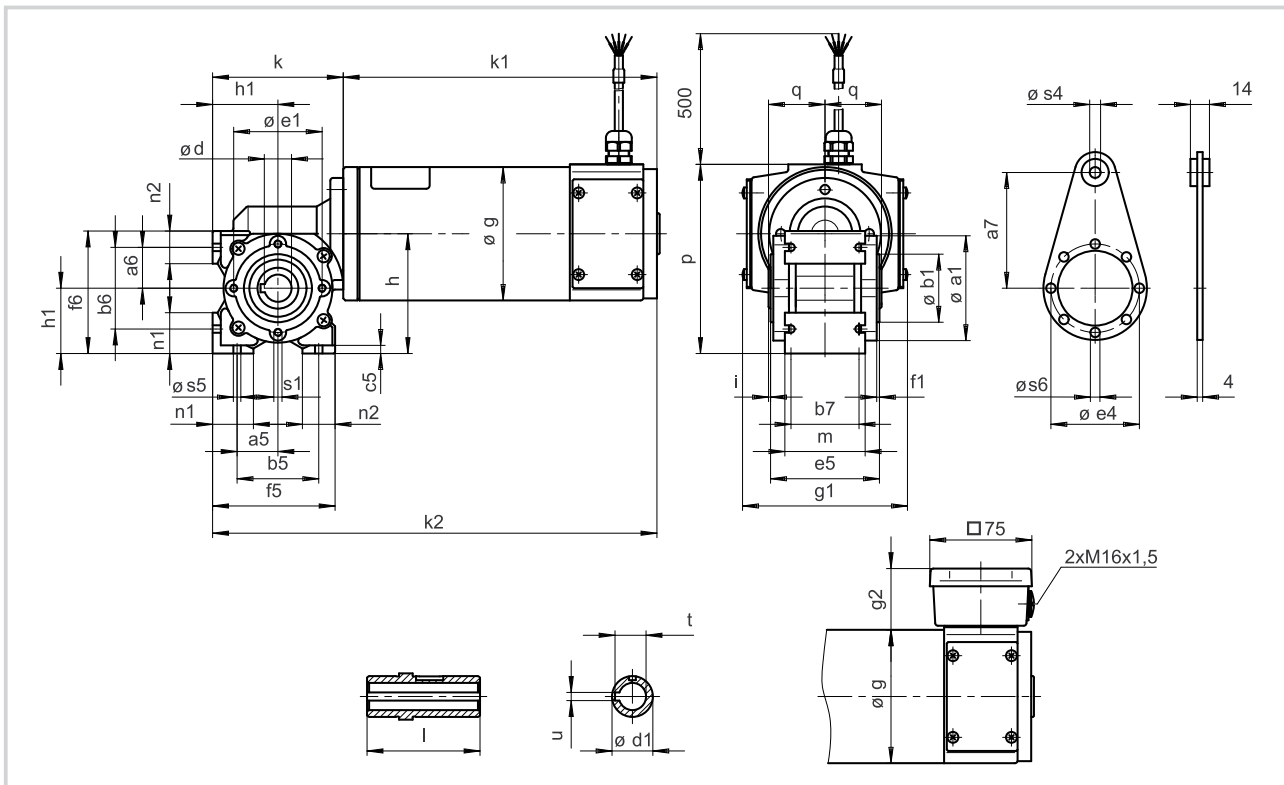


Geared motor	a	a ₂	a ₃	b	b ₁ j7	b ₂ h10	c	c ₁	d ₂ h6	e ₂	e ₃	e ₆	f	f ₁	f ₂	g	g ₁	g ₂	h ₁	h ₂
SSN40-1PVA□-071C21	41.5	140	90	112	95	44	8	10	15	115	65	141.5	132	3	3	110	138	46	40	111

Geared motor	i	k	k ₁	k ₂	l ₁	l ₂	m ₁	n	q ₁	q ₂	q ₃	q ₄	s	s ₂	s ₃	t	u	Weight approx. kg
SSN25-1PVCD-071C21	89.5	96	351	373	50	43	20	—	128	83	168	123	7	M8	M6	17	5	11.7

Dimensions in mm

Dimensions Type SSN40-1PHAR-071C21



Geared motor	a ₁	a ₅	a ₆	a ₇	b ₁ h ₈	b ₅	b ₆	b ₇	c ₅	d H7	d ₁	e ₁	e ₄	e ₅	f ₁	f ₅	f ₆	g	g ₁	g ₂
SSN40-1PHAR-071C21	77	30	30	85	50	60	60	50	6	20	30	65	65	80	2	90	90	110	138	46

Geared motor	h	h ₁	i	k	k ₁	k ₂	l	m	n ₁	n ₂	p	q	s ₁	s ₄	s ₅	s ₆	t	u	Weight approx. kg
SSN40-1PHAR-071C21	88	48	1.5	96	255	351	83	59	30	24	146	41.5	M6	8	5.5	7	22.8	6	11.7

Dimensions in mm





Drive selection

DC planetary geared motors

Selection table Type SPL42-□PVCr-035C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.120.35.9.2.0	55	811	0.50	5.96	3.7	
		444	0.90	3.27	6.75	
		218	1.80	4.28	13.73	
		120	3.30	2.35	25.01	
		66	6.00	1.29	45.56	
		59	6.30	2.48	50.89	
		32	11.40	1.36	92.7	
		18	15.00	0.75	168.84	

Additional order information

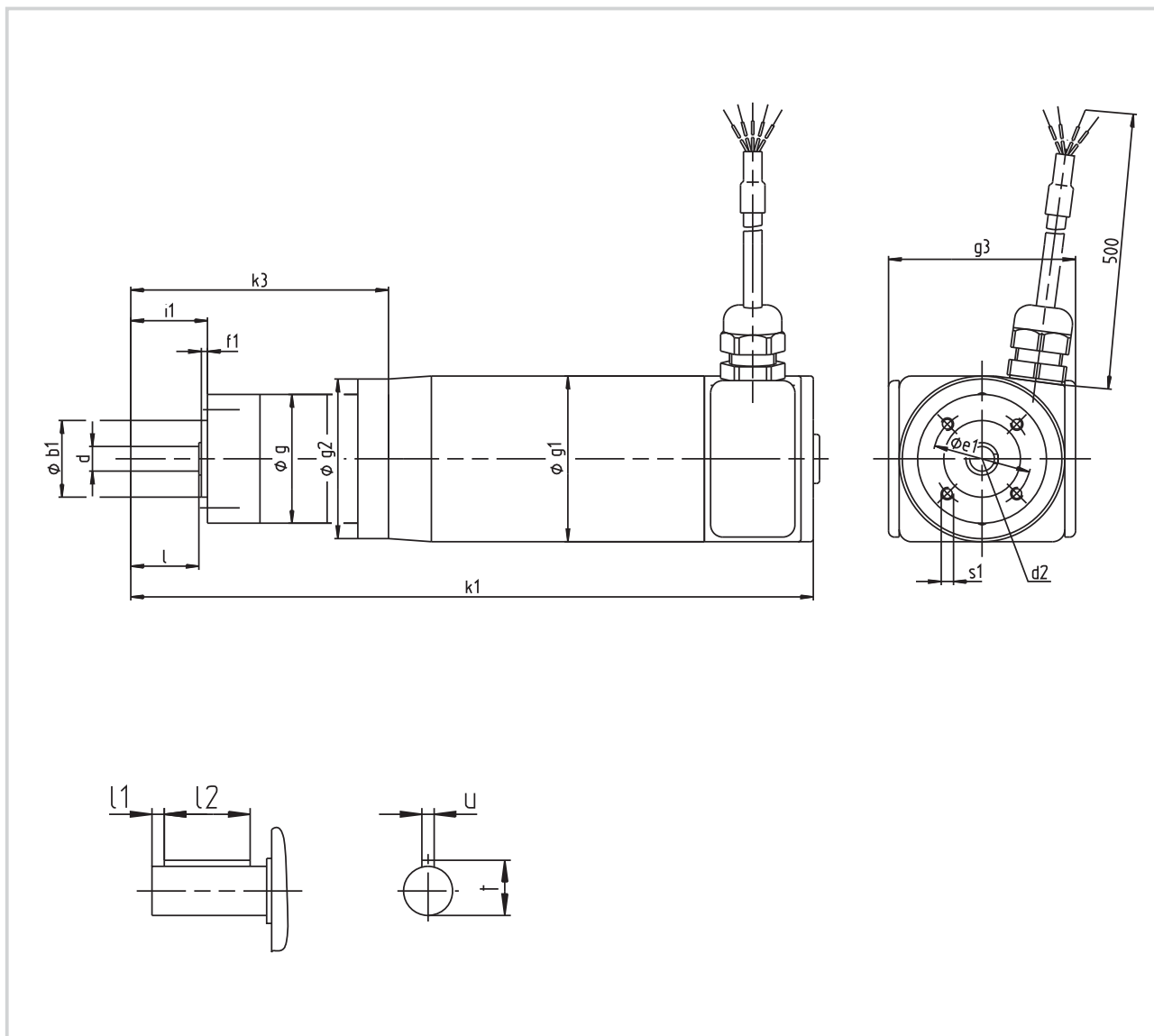
Rated armature voltage:	24 V	
	180 V	
Electrical connection	Cable	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL42-□PVCR-035C21



Geared motor	Ratio i	b ₁ h10	d g6	d ₂	e ₁	f ₁	g	g ₁	g ₂	g ₃	i ₁	k ₁	k ₃	l	l ₁	l ₂	s ₁	t	u	Weight approx. kg
SPL42-□PVCR-035C21	3.7	25	8	M3	32	2	42	54	52	62	25	223	84	22.2	3	16	M4 x10	9.2	3	1.8
	14 ... 46											236	97							1.9
	51 ... 169											249	110							2.0

Dimensions in mm

Drive selection

DC planetary geared motors

Selection table Type SPL52-□PVCR-045C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.120.45.1.2.□	110	811	1.03	3.86	3.7	
		444	1.87	2.02	6.75	
		218	3.60	3.33	13.73	
		120	6.56	1.83	25.01	
		66	11.95	1.01	45.56	
		59	12.46	2.01	50.89	
		32	22.71	1.00	92.7	
		18	25.00	0.60	168.84	

Additional order information

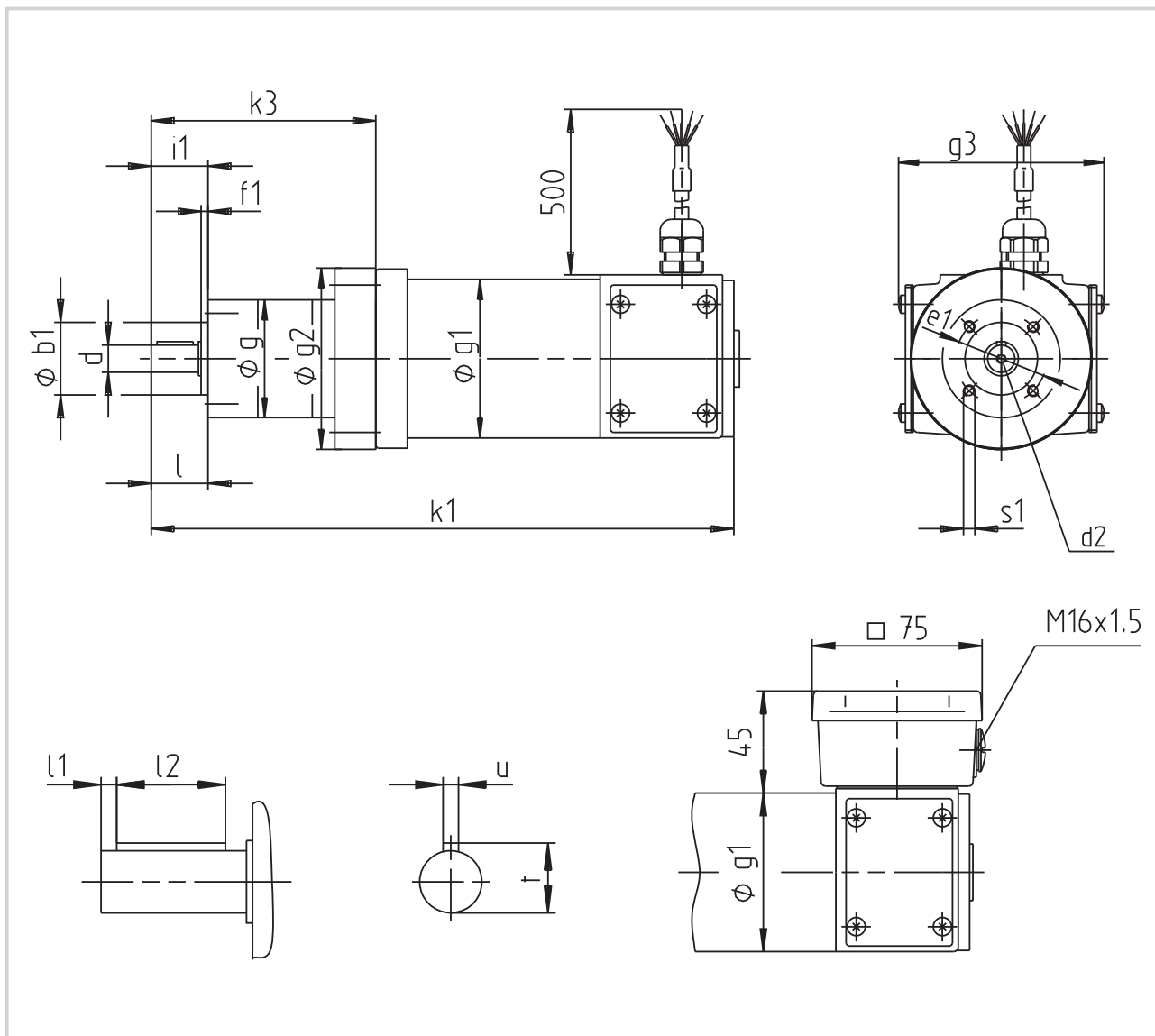
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Rated armature voltage	24 V	
	180 V	
Brake supply voltage	24 V DC	
	205 V DC only with armature voltage of 180 V	
Electrical connection	Cable	
	Terminal box	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL52-□PVCR-045N21



Geared motor	Ratio i	b ₁ h8	d h7	d ₂	e ₁	f ₁	g	g ₁	g ₂	g ₃	i ₁	k ₁	k ₃	l	l ₁	l ₂	s ₁	t	u	Weight approx. kg
SPL52-□PVCR-045N21	3.7	32	12	M4	40	3	52	70	80	91	25	257	99	20.8	2.5	16	M5 x10	13.5	4	3.4
	14 ... 46											271	113							3.6
	51 ... 169											285	127							3.8

Dimensions in mm



Drive selection

DC planetary geared motors

Selection table Type SPL62-□PVCR-056N21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.120.55.1.2.□	200	811	1.90	4.22	3.7	
		444	3.40	2.31	6.75	
		218	6.59	3.79	13.73	
		120	12.00	2.08	25.01	
		86	18.20	1.49	34.97	
		66	20.40	1.04	45.56	
		59	22.80	2.09	50.89	
		42	31.80	1.57	71.06	
		30	44.50	1.02	99.5	
		24	50.00	0.90	123.97	

Selection table Type SPL81-□PVCR-063N21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.120.65.1.2.□	370	811	3.49	5.73	3.7	
		444	6.36	3.04	6.75	
		218	12.05	4.94	13.73	
		120	22.03	2.71	25.01	
		86	30.94	1.94	34.97	
		66	40.32	1.49	45.56	
		59	42.03	2.85	50.89	
		42	58.77	2.04	71.06	
		30	82.08	1.46	99.5	
		24	102.00	1.07	123.97	

Additional order information

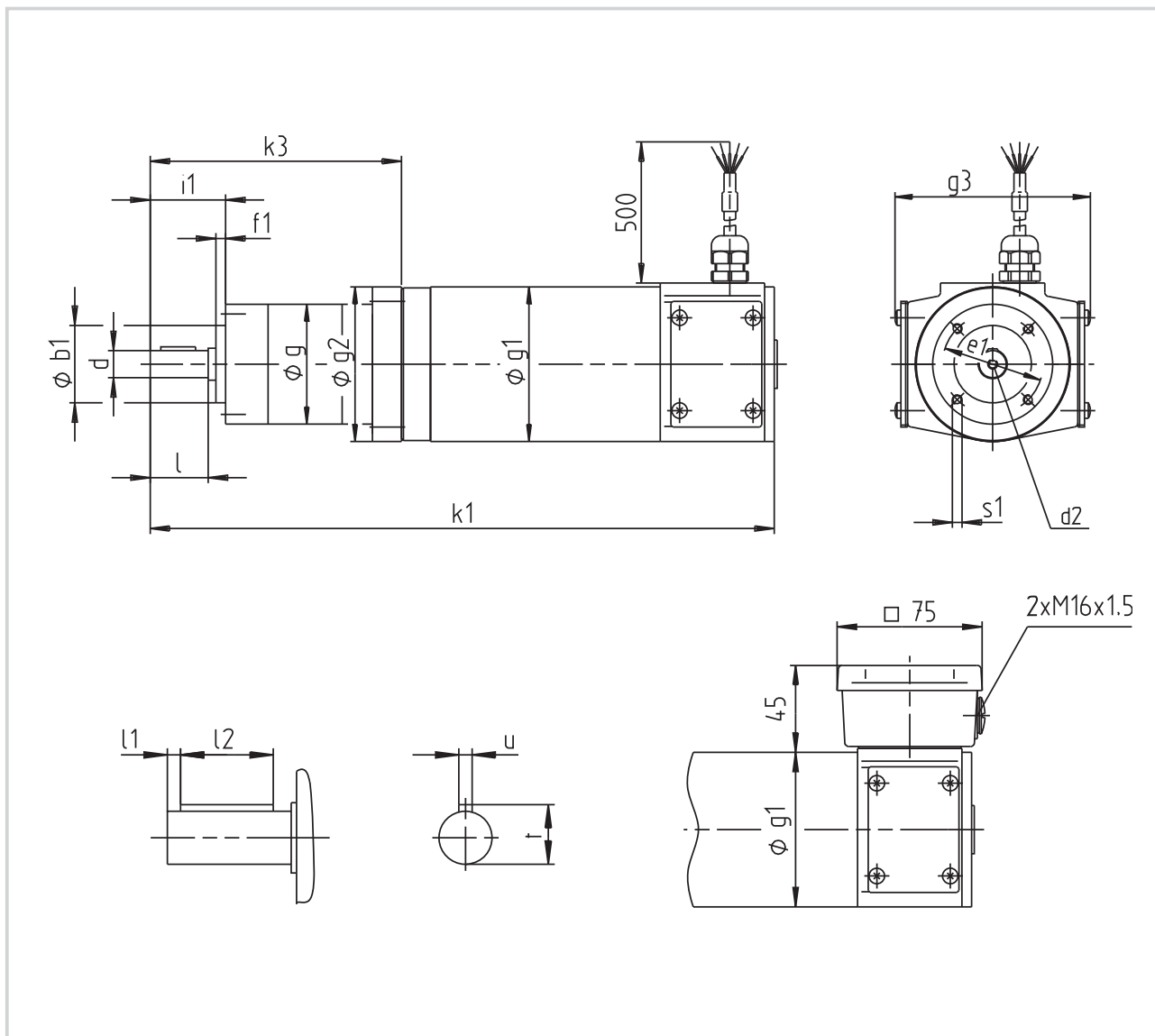
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Rated armature voltage	24 V	
	180 V	
Brake supply voltage	24 V DC	
	205 V DC only with armature voltage of 180 V	
Electrical connection	Cable	
	Terminal box	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL[62...81]-□PVCr-[056...063]N21



Geared motor	Ratio i	b_1 j7	d h7	d_2	e_1	f_1	g	g_1	g_2	g_3	i_1	k_1	k_3	l	l_1	l_2	s_1	t	u	Weight approx. kg
SPL62-□PVCr-056N21	3.7	40	14	M5	52	5	62	80	80	101	39	308	115	30	5.5	18	M5 x10	16	5	4.6
	14 ... 46											324	131							5.0
	51 ... 124											340	147							5.4
SPL81-□PVCr-063N21	3.7	50	19	M6	65	5	81	98	90	121	49	381	144	40	6	28	M6 x12	21.5	6	10.0
	14 ... 46											402	165							10.8
	51 ... 124											424	187							11.5

Dimensions in mm

Drive selection

DC planetary geared motors

Selection table Type SPL81-□PVCR-071N21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.120.75.1.2.□	540	811	5.03	3.97	3.7	
		444	9.00	2.08	6.75	
	24 V	218	17.50	3.43	13.73	
		120	31.88	1.88	25.01	
		86	44.58	1.35	34.97	
		66	58.08	1.03	45.56	
		59	60.55	1.98	50.89	
		42	84.68	1.42	71.06	
		30	118.00	1.01	99.5	
		24	120.00	0.81	123.97	
13.120.75.1.2.□	600	811	5.65	3.54	3.7	
		444	9.00	1.94	6.75	
	160 V	218	19.66	3.05	13.73	
		120	35.82	1.67	25.01	
		86	50.09	1.20	34.97	
		66	60.00	0.92	45.56	
		59	68.03	1.76	50.89	
		42	95.04	1.26	71.06	
		30	120.00	0.90	99.5	
		24	120.00	0.72	123.97	

Additional order information

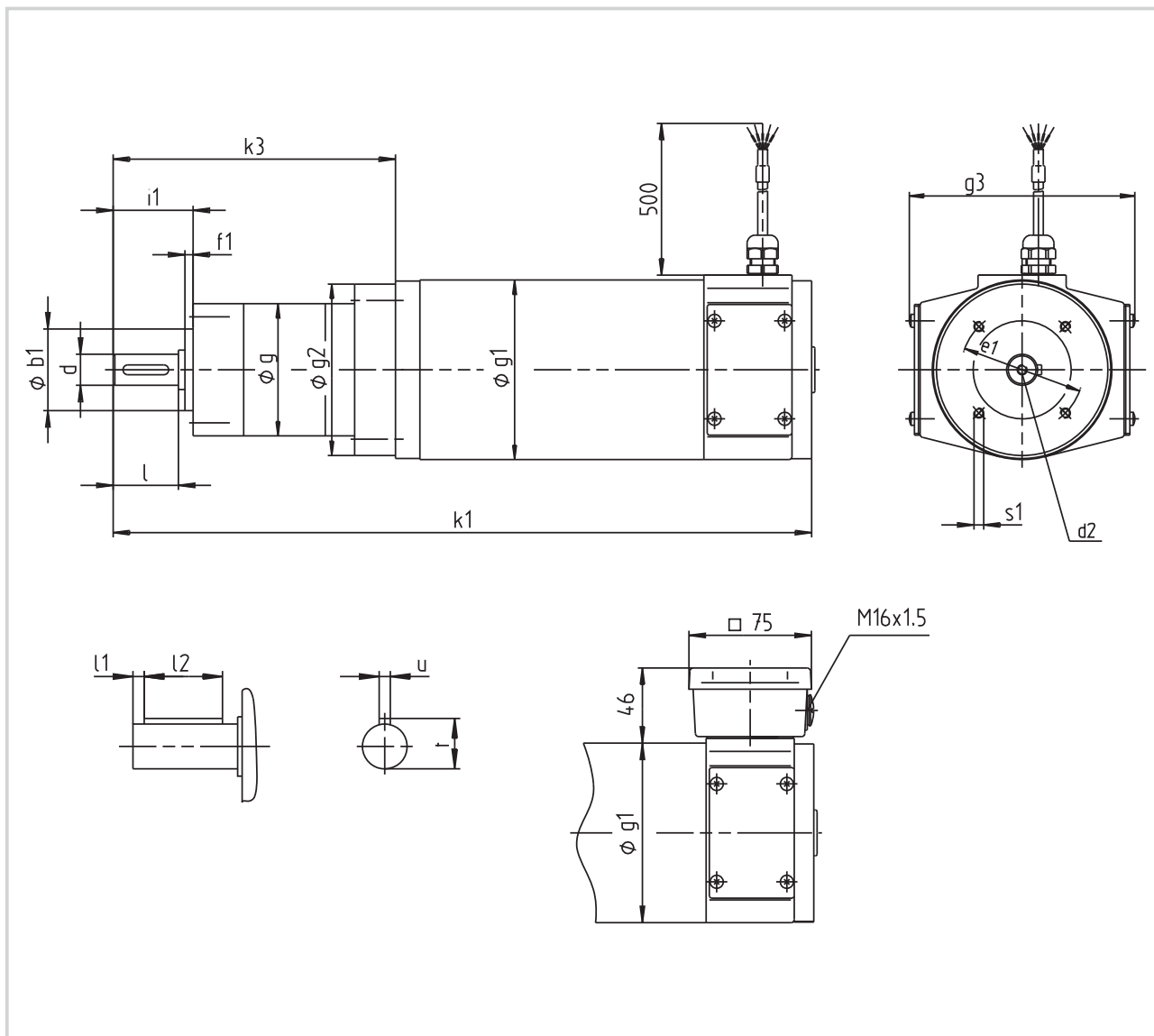
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Rated armature voltage	24 V	
	160 V	
Brake supply voltage	24 V DC	
	205 V DC only with armature voltage of 160 V	
Electrical connection	Cable	
	Terminal box	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL81-□PVCr-071N21



Geared motor	Ratio i	b ₁ h8	d h7	d ₂	e ₁	f ₁	g	g ₁	g ₂	g ₃	i ₁	k ₁	k ₃	l	l ₁	l ₂	s ₁	t	u	Weight approx. kg
SPL81-□PVCr-071N21	3.7	50	19	M6	65	5	81	110	105	138	49	409	151	40	6	28	M6 x12	21.5	6	12.6
	14 ... 46											431	173							13.3
	51 ... 124											452	194							14.0

Dimensions in mm

Drive selection

DC planetary geared motors

Selection table Type SPL12-□PVCR-071N21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.120.75.1.2.□	24 V	540	811	5.03	9.94	3.7
			444	9.08	5.45	6.75
		218	17.51	8.57	13.73	
		120	31.89	4.70	25.01	
		66	58.09	2.58	45.56	
		59	64.88	4.62	50.89	
		32	110.31	2.72	92.7	
		18	200.92	1.49	168.84	
13.120.75.1.2.□	160 V	600	811	5.65	8.84	3.7
			444	10.31	4.85	6.75
		218	19.67	7.63	13.73	
		120	35.83	4.09	25.01	
		66	65.26	2.30	45.56	
		59	72.90	4.02	50.89	
		32	123.94	2.42	92.7	
		18	225.74	1.33	168.84	

Additional order information

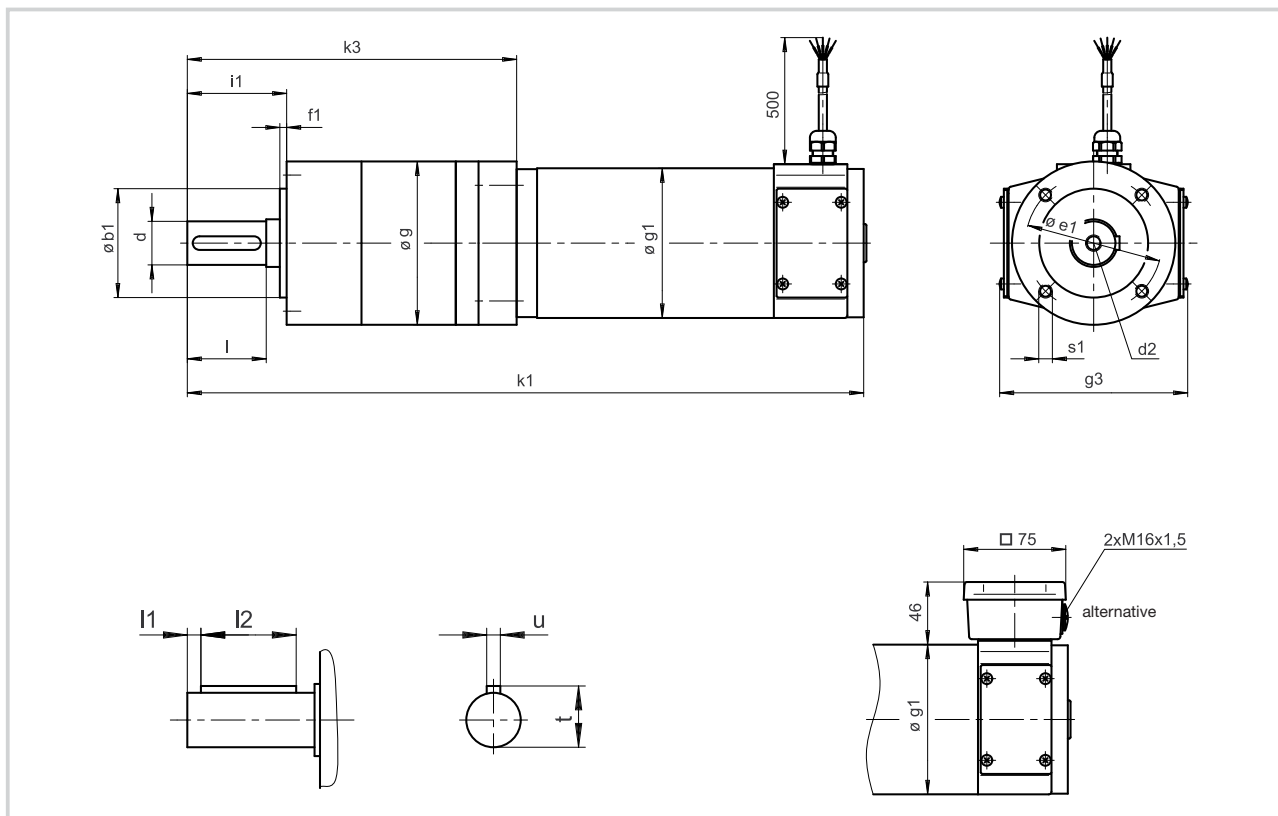
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Rated armature voltage	24 V	
	160 V	
Brake supply voltage	24 V DC	
	205 V DC only with armature voltage of 160 V	
Electrical connection	Cable	
	Terminal box	
Position of electrical connection		2

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type SPL12-□PVCR-071N21



Geared motor	Ratio i	b ₁ j7	d k6	d ₂	e ₁	f ₁	g	g ₁	g ₃	i ₁	k ₁	k ₃	l	l ₁	l ₂	s ₁	t	u	Weight approx. kg
SPL12-□PVCR-071N21	3.7; 6.7	80	32	M12	100	5	120	110	138	73	463	208	58	4	50	M10 x22	35	10	15.8
	14 ... 46										497	242							18.2
	51 ... 169										531	276							20.6

Dimensions in mm

Selection table Type GST04-1PV□□-056C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.126.55.4.6.□	200	1465	1.24	17.66	2.048	
		1339	1.36	17.49	2.240	
		1050	1.74	13.88	2.857	
		857	2.03	11.33	3.500	
		682	2.68	9.01	4.400	
		529	3.45	7.00	5.667	
		418	4.37	5.52	7.082	
		333	5.47	4.00	9.000	

Additional order information

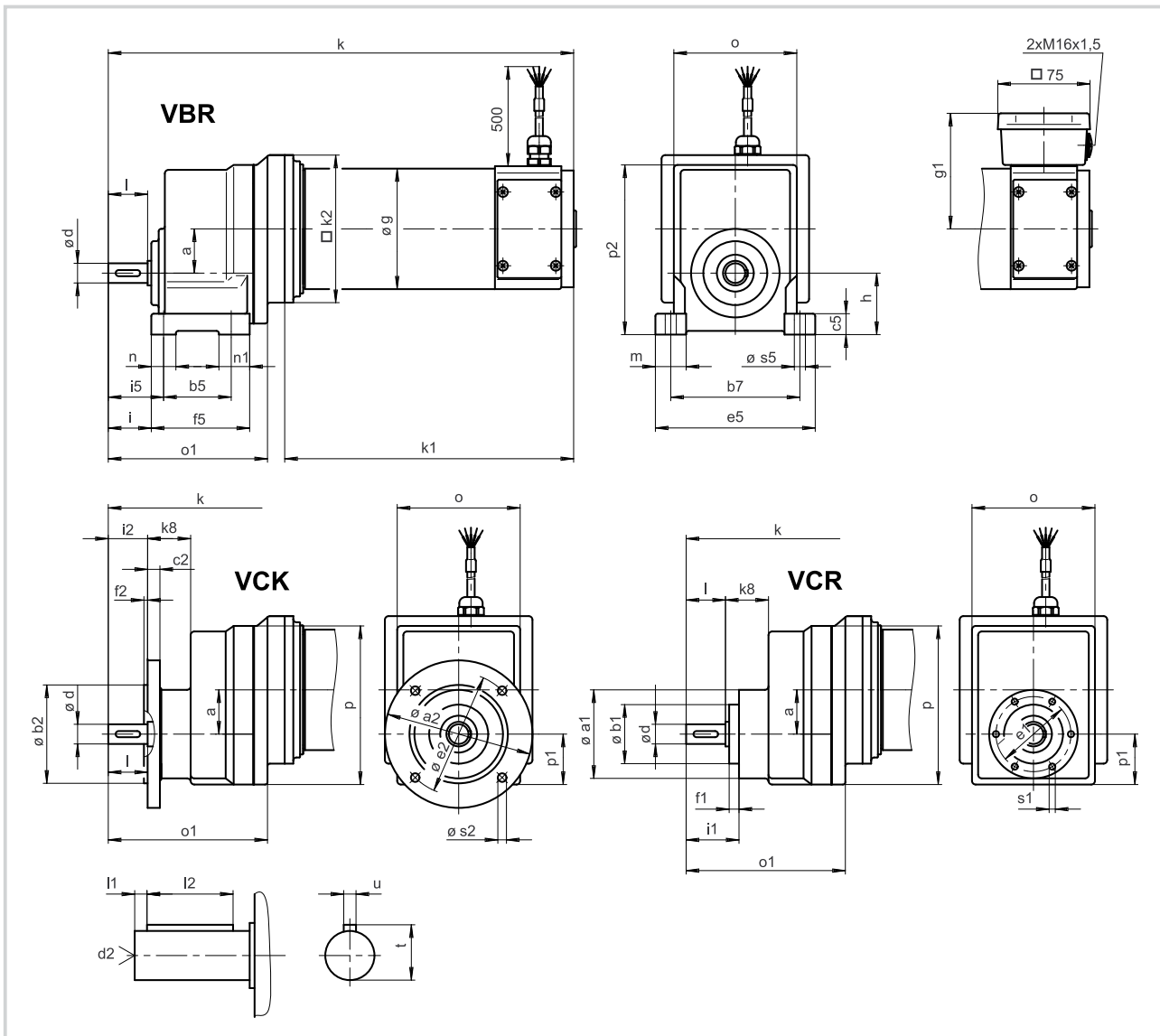
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Rated armature voltage	24 V	
	180 V	
Brake supply voltage	24 V DC	
	205 V DC only with armature voltage of 180 V	
Electrical connection	Cable	
	Terminal box	
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

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST04-1PV□□-056C21



Geared motor	a	a ₁	a ₂	b ₁ j7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d k6	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	h	i	i ₁	i ₂
GST04-1PV□□-056C21	36	72	120	48	80	55	105	10	17	16	M5	61	100	125	8	3	80	80	85	50	35	43	32
			140		95								115										
			160		110								130										

Geared motor	i ₅	k	k ₁	k ₂	k ₈	l	l ₁	l ₂	m	n	n ₁	o*	o ₁	p*	p ₁	p ₂ *	s ₁	s ₂ VCK	s ₅	u	t	Weight approx. kg
GST04-1PV□□-056C21	45	344	200	120	35	32	6	20	25	20	25	100	134	129	41	138	M5 x10	7	9	5	18	8
																		9				
																		9				

* Observe dimension k₂

Dimensions in mm

Selection table Type GST04-2PV□□-056C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.126.55.4.6.□	200	578	3.22	15.53	5.087	
		513	3.63	14.66	5.850	
		469	3.97	13.85	6.400	
		333	5.59	11.20	9.010	
		304	6.02	10.58	9.856	
		268	6.95	8.63	11.200	
		239	7.80	8.85	12.571	
		210	8.87	6.85	14.286	
		195	9.56	7.28	15.400	
		171	10.86	5.68	17.500	
		155	12.02	5.85	19.360	
		136	13.66	4.56	22.000	
		120	15.48	4.60	24.933	
		106	17.59	3.60	28.333	
		95	19.62	3.68	31.600	
		84	22.29	2.87	35.909	
		76	24.58	2.97	39.600	
		67	27.94	2.34	45.000	

Additional order information

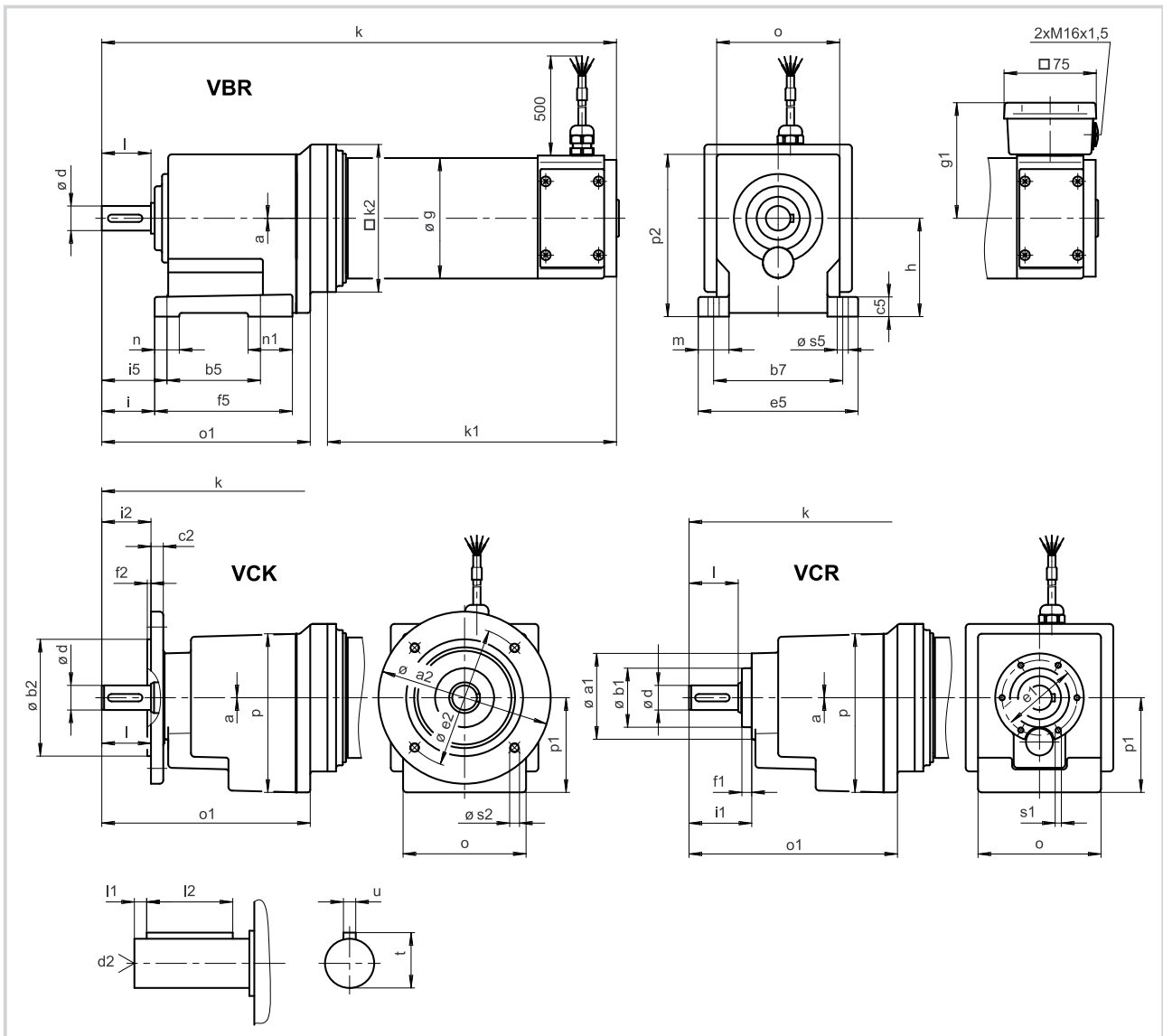
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Rated armature voltage	24 V	
	180 V	
Brake supply voltage	24 V DC	
	205 V DC only with armature voltage of 180 V	
Electrical connection	Cable	
	Terminal box	
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

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST04-2PV□□-056C21



Geared motor	a	a ₁	a ₂	b ₁ j7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d k6	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	h	i	i ₁	i ₂
GST04-2PV□□-056C21	0	72	120	48	80	76	105	10	18	20	M6	61	100	130	8	3	112	80	85	80	43	51	40
			140		95								115										
			160		110								130										

Geared motor	i ₅	k	k ₁	k ₂	k ₈	l	l ₁	l ₂	m	n	n ₁	o*	o ₁	p*	p ₁	p ₂ *	s ₁	s ₂ VCK	s ₅	u	t	Weight approx. kg
GST04-2PV□□-056C21	53	384	200	120		40	5	28	25	20	36	100	174	129	77	132	M5 x10	7	9	6	22.5	10
																		9				
																		9				

* Observe dimension k₂

Dimensions in mm

Selection table Type GST04-1PV□□-063C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.126.65.4.6.□	370	1465	2.30	9.58	2.048	
		1339	2.51	9.49	2.240	
		1050	3.20	7.53	2.857	
		857	3.92	6.05	3.500	
		682	4.93	4.89	4.400	
		529	6.35	3.80	5.667	
		418	8.05	2.99	7.082	
		333	10.09	2.22	9.000	

Additional order information

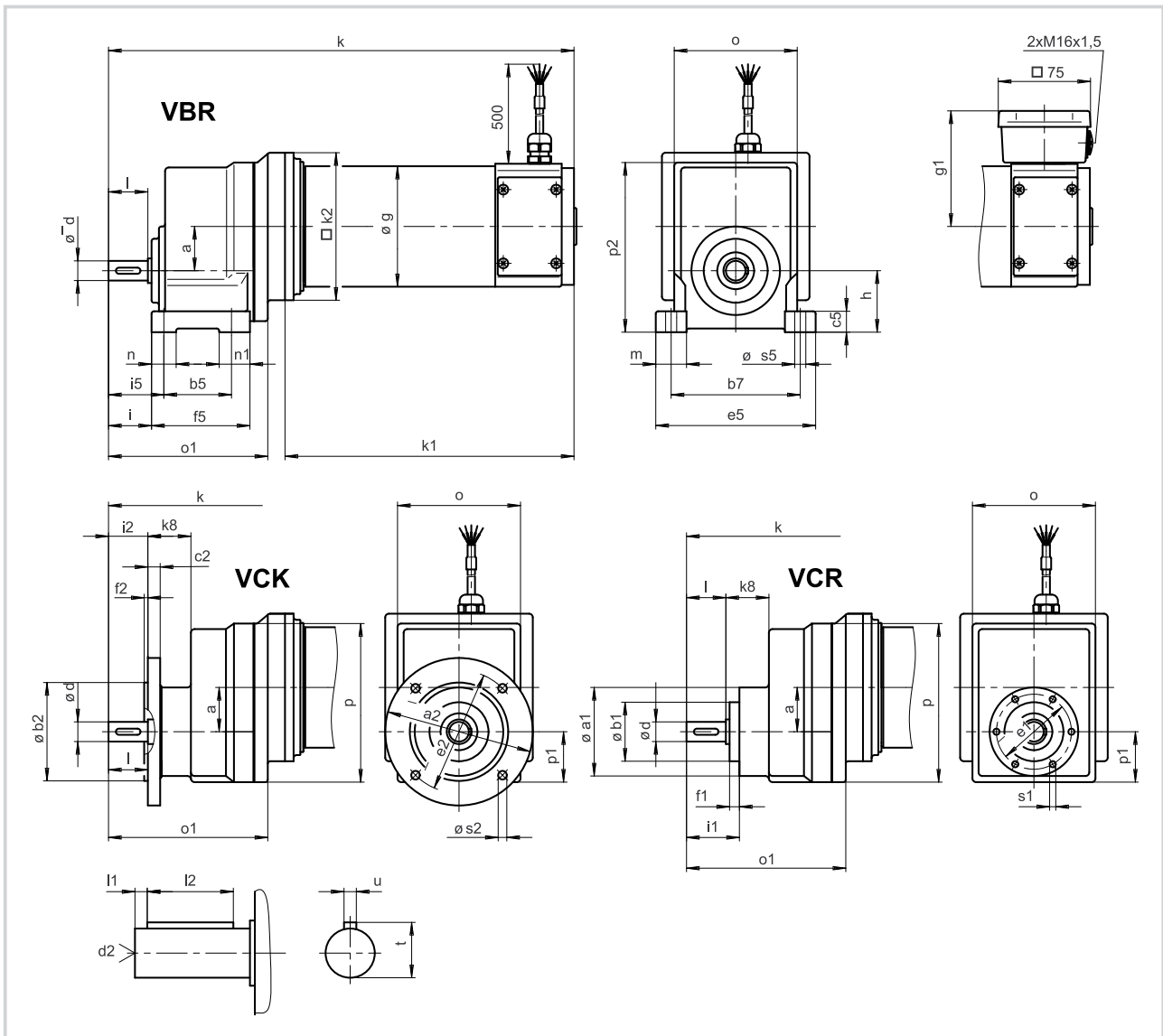
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tacho	
	5 = with AC tacho	
	6 = for tacho attachment	
	7 = for brake attachment	
Rated armature voltage	24 V	
	180 V	
Brake supply voltage	24 V DC	
	205 V DC only with armature voltage of 180 V	
Electrical connection	Cable	
	Terminal box	
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

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST04-1PV□□-063C21



Geared motor	a	a ₁	a ₂	b ₁ j7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d k6	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	h	i	i ₁	i ₂
GST04-1PV□□-063C21	36	72	120	48	80	55	105	10	17	16	M5	61	100	130	8	3	80	98	94	50	35	43	32
			140		95								115										
			160		110								130										

Geared motor	i ₅	k	k ₁	k ₂	k ₈	l	l ₁	l ₂	m	n	n ₁	o*	o ₁	p*	p ₁	p ₂ *	s ₁	s ₂ VCK	s ₅	u	t	Weight approx. kg
GST04-1PV□□-063C21	45	384	240	120	35	32	6	20	25	20	25	100	134	129	41	138	M5 x10	7	9	5	18	12
																		9				
																		9				

* Observe dimension k₂

Dimensions in mm

Selection table Type GST04-2PV□□-063C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.126.65.4.6.□	370	578	5.94	8.42	5.087	
		513	6.70	7.95	5.850	
		469	7.33	7.51	6.400	
		333	10.31	6.07	9.010	
		304	11.28	5.74	9.856	
		268	12.82	4.68	11.200	
		239	14.39	4.80	12.571	
		210	16.35	3.72	14.286	
		195	17.63	3.95	15.400	
		171	20.03	3.08	17.500	
		155	22.06	3.07	19.360	
		136	25.08	2.47	22.000	
		120	28.54	2.49	24.933	
		106	32.43	1.95	28.333	
		95	36.07	2.00	31.600	
		84	41.00	1.56	35.909	
		76	45.33	1.61	39.600	
		67	51.51	1.27	45.000	

Additional order information

B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Rated armature voltage	24 V	
	180 V	
Brake supply voltage	24 V DC	
	205 V DC only with armature voltage of 180 V	
Electrical connection	Cable	
	Terminal box	
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

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.

2

22

2

2

Selection table Type GST05-1PV□□-071C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.126.75.5.6.□	540	1465	3.31	12.36	2.048	
		1339	3.62	12.43	2.240	
	24 V	1050	4.61	11.08	2.857	
		857	5.65	9.21	3.500	
		682	7.36	7.08	4.556	
		529	9.05	5.69	5.667	
		418	11.84	3.80	7.330	
		333	14.37	2.82	8.900	

Additional order information

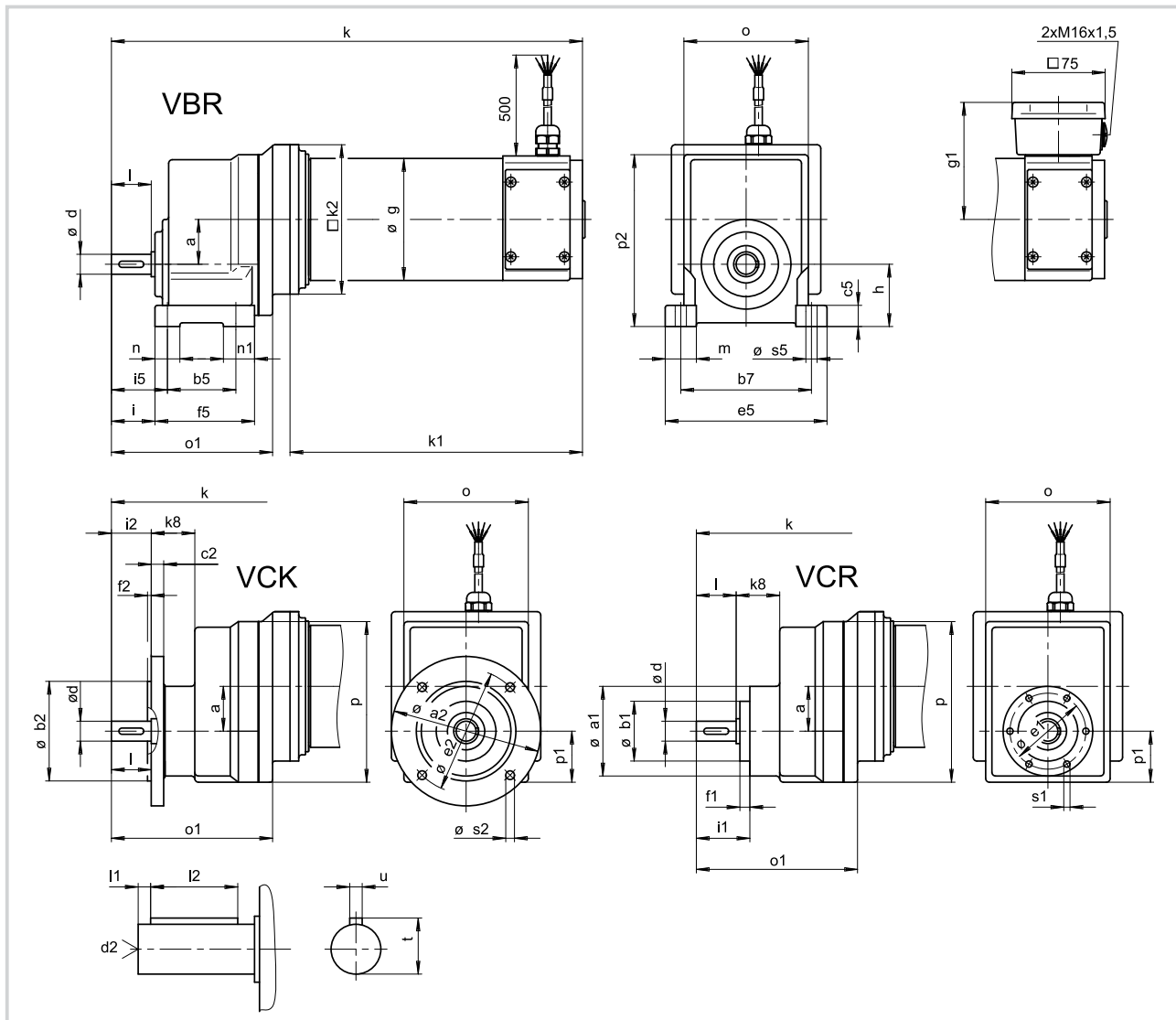
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
Electrical connection	Cable	
	Terminal box	
Gearbox type	VBR	
	VCR	
	VCK	
Output-side flange diameter	D = 120 mm	
	D = 140 mm	
	D = 160 mm	
	D = 200 mm	
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST05-1PV□□-071C21



Geared motor	a	a ₁	a ₂	b ₁ j7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d k6	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	h	i	i ₁	i ₂
GST05-1PV□□-071C21	45	88	120	58	80	70	125	10	22	20	M6	74	100	154	9	3	99	110	101	63	43	52	40
			140		95								115										
			160		110								130										
			200		130			12					165			3.5							

Geared motor	i ₅	k	k ₁	k ₂	k ₈	l	l ₁	l ₂	m	n	n ₁	o*	o ₁	p*	p ₁	p ₂ *	s ₁	s ₂ VCK	s ₅	u	t	Weight approx. kg
GST05-1PV□□-071C21	56	429	259	145	43	40	6	28	32	26	29	115	165	156	51	168	M6 x12	7	11	6	22.5	17
																		9				
																		9				
																		11				

* Observe dimension k₂

Dimensions in mm

Selection table Type GST05-2PV□□-071C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.126.75.5.6.□	540	578	8.55	10.51	5.087	
		513	9.65	10.50	5.850	
	24 V	469	10.55	9.92	6.400	
		414	11.94	9.07	7.238	
		368	13.46	8.55	8.063	
		333	14.86	7.99	9.010	
		300	16.49	7.53	10.000	
		268	18.47	6.90	11.200	
		230	21.46	6.39	13.016	
		209	23.67	5.90	14.356	
		185	26.70	5.56	16.090	
		171	28.86	4.92	17.500	
		150	33.05	4.82	20.044	
		132	37.56	3.83	22.778	
		120	41.02	3.94	24.933	
		106	46.72	3.05	28.333	
		93	53.21	3.08	32.267	
		82	60.46	2.45	36.667	
		77	64.57	2.55	39.060	
		67	73.38	2.03	44.500	

Additional order information

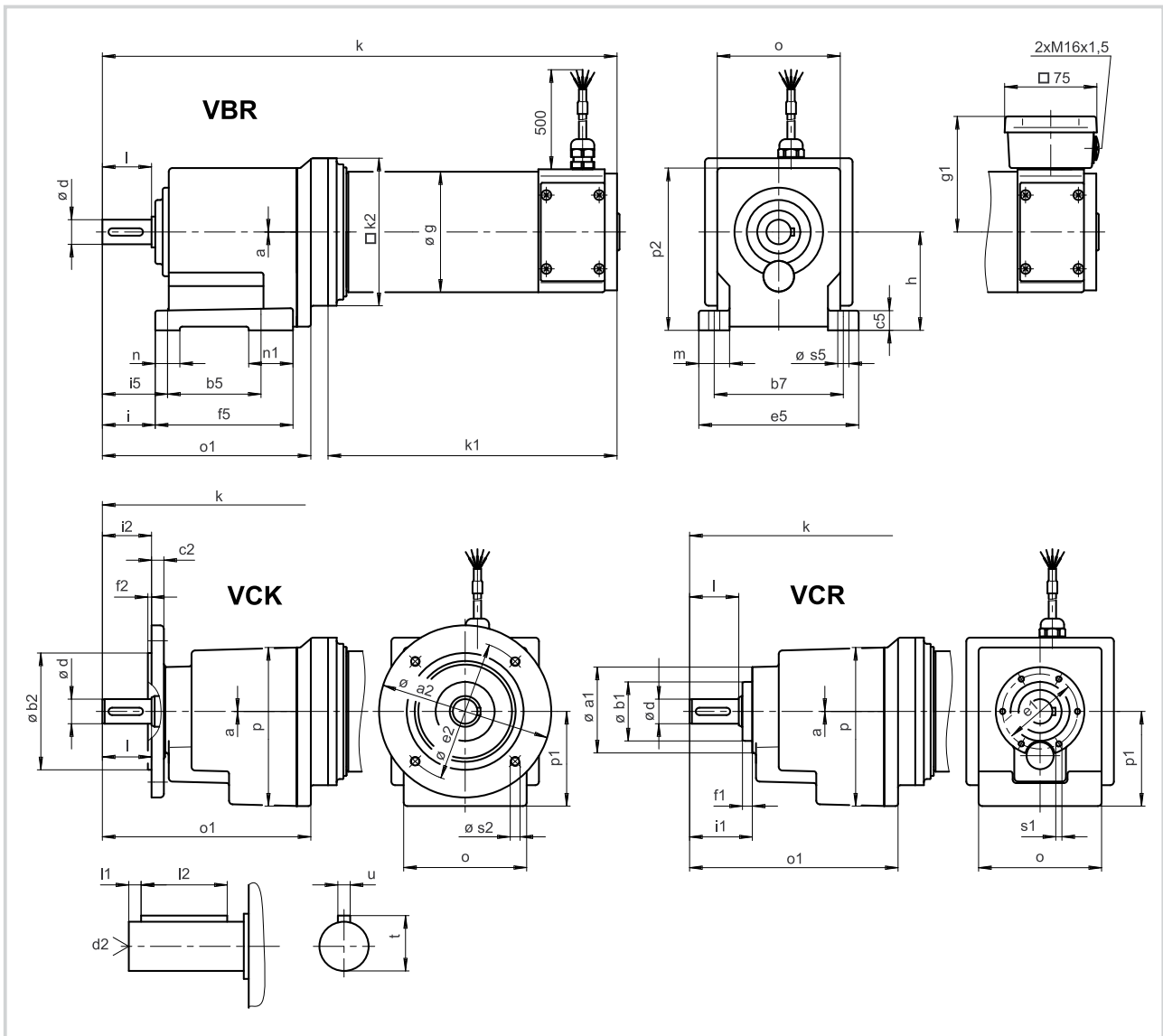
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Brake supply voltage	24 V DC	
Electrical connection	Cable	
	Terminal box	
Gearbox type	VBR	
	VCR	
	VCK	
Output-side flange diameter	D = 120 mm	
	D = 140 mm	
	D = 160 mm	
	D = 200 mm	
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST05-2PV□□-071C21



Geared motor	a	a ₁	a ₂	b ₁ j7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d k6	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	h	i	i ₁	i ₂
GST05-2PV□□-071C21	1	88	120	58	80	90	125	10	23	25	M10	74	100	155	9	3	139	110	101	100	53	62	50
			140		95								115										
			160		110								130										
			200		130								165										

Geared motor	i ₅	k	k ₁	k ₂	k ₈	l	l ₁	l ₂	m	n	n ₁	o*	o ₁	p*	p ₁	p ₂ *	s ₁	s ₂ VCK	s ₅	u	t	Weight approx. kg
GST05-2PV□□-071C21	64	478	259	145		50	4	40	32.5	26	49	115	214	156	98	156	M6 x12	7	11	8	28	19
																		9				
																		9				
																		11				

* Observe dimension k₂

Dimensions in mm

Selection table Type GST05-1PV□□-071C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.126.75.5.6.□	600	1465	3.72	11.00	2.048	
		1339	4.06	11.07	2.240	
	160 V	1050	5.08	9.86	2.857	
		857	6.35	8.20	3.500	
		682	8.27	6.30	4.556	
		529	10.28	5.07	5.667	
		418	13.31	3.38	7.333	
		333	16.05	2.51	8.900	

Additional order information

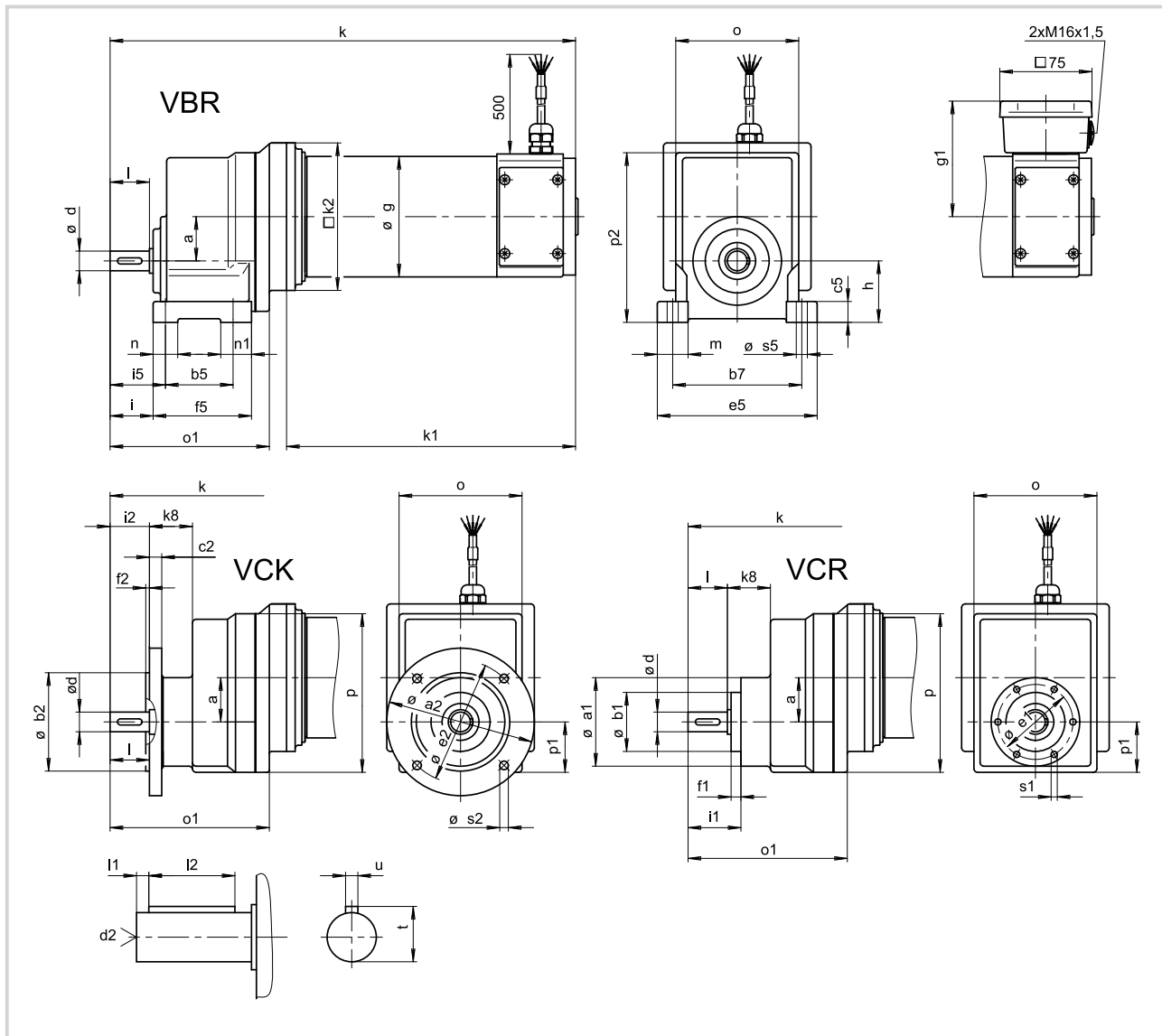
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Brake supply voltage	205 V DC	
Electrical connection	Cable	
	Terminal box	
Gearbox type	VBR	
	VCR	
	VCK	
Output-side flange diameter	D = 120 mm	
	D = 140 mm	
	D = 160 mm	
	D = 200 mm	
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST05-1PV□□-071C21



Geared motor	a	a ₁	a ₂	b ₁ j7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d k6	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	h	i	i ₁	i ₂
GST05-1PV□□-071C21	45	88	120	58	80	70	125	10	22	20	M6	74	100	154	9	3	99	110	101	63	43	52	40
			140		95								115										
			160		110								130										
			200		130			12					165			3.5							

Geared motor	i ₅	k	k ₁	k ₂	k ₈	l	l ₁	l ₂	m	n	n ₁	o*	o ₁	p*	p ₁	p ₂ *	s ₁	s ₂ VCK	s ₅	u	t	Weight approx. kg
GST05-1PV□□-071C21	56	429	259	145	43	40	6	28	32	26	29	115	165	156	51	168	M6 x12	7	11	6	22.5	17
																		9				
																		9				
																		11				

* Observe dimension k₂

Dimensions in mm

Selection table Type GST05-2PV□□-071C21

Motor type	P _N W	n ₂ rpm	M ₂ Nm	c	i	Selection (tick as required)
13.126.75.2.6.□	600	578	9.61	9.35	5.087	
		513	10.84	9.35	5.850	
	160 V	469	11.86	8.83	6.400	
		414	13.41	8.07	7.238	
		368	15.02	7.61	8.063	
		333	16.69	7.02	9.010	
		300	18.53	6.71	10.000	
		268	20.75	6.05	11.200	
		230	24.01	5.69	13.016	
		209	26.60	5.25	14.356	
		185	30.00	4.95	16.090	
		171	32.42	4.38	17.500	
		150	37.04	4.29	20.044	
		132	42.20	3.41	22.778	
		120	46.09	3.51	24.933	
		106	52.49	2.80	28.333	
		93	59.78	2.74	32.267	
		82	67.93	2.08	36.667	
		77	72.55	2.27	39.060	
		67	82.45	1.81	44.500	

Additional order information

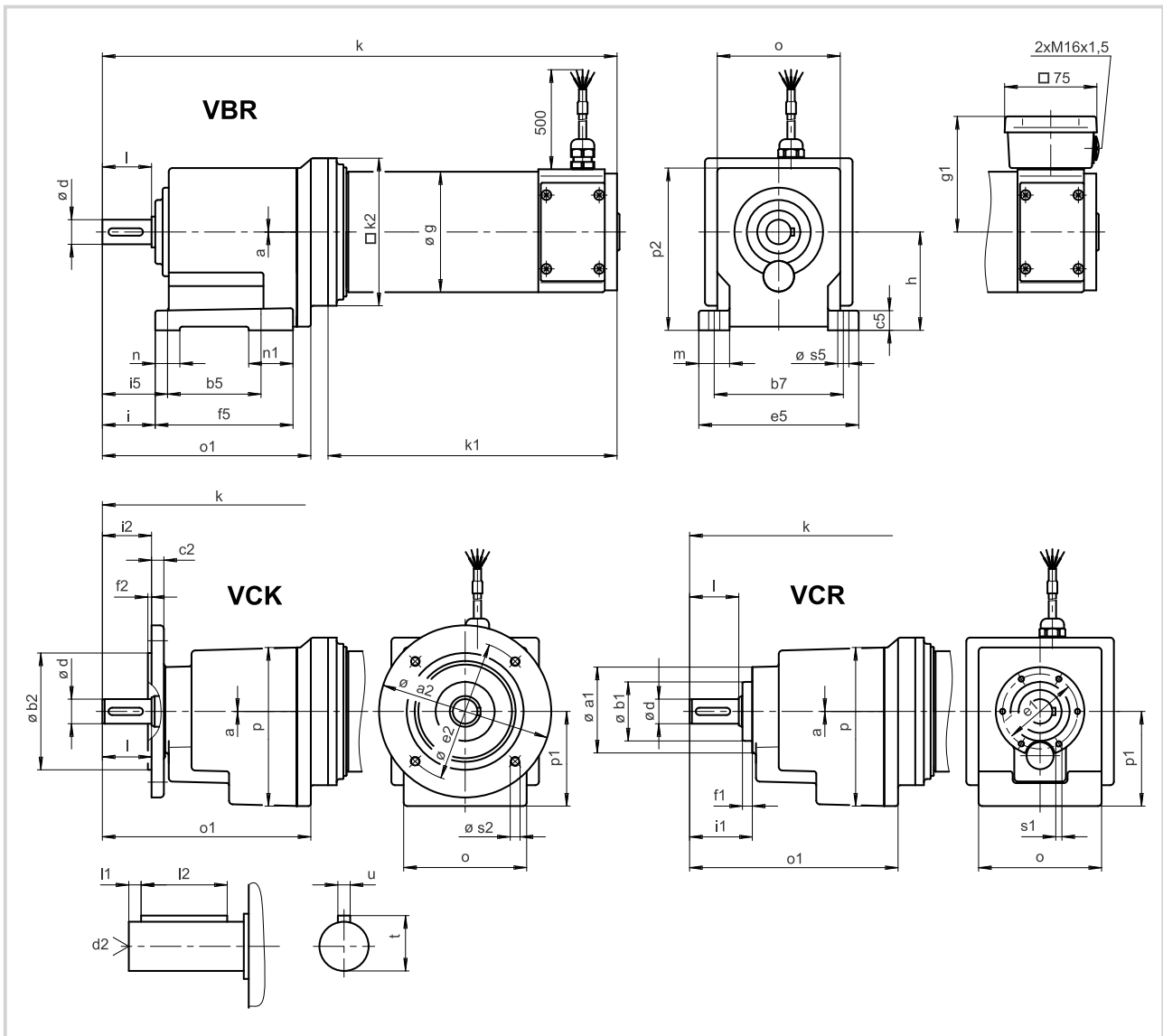
B-side design	0 = no built-on accessories	
	1 = with spring-applied brake	
	4 = with DC tachometer	
	5 = with AC tachometer	
	6 = for tachometer attachment	
	7 = for brake attachment	
Brake supply voltage	205 V DC	
Electrical connection	Cable	
	Terminal box	
Gearbox type	VBR	
	VCR	
	VCK	
Output-side flange diameter	D = 120 mm	
	D = 140 mm	
	D = 160 mm	
	D = 200 mm	
Mounting position		A B C D E F
Position of electrical connection		2 3 4 5

Type code see pages 1-3 to 1-6.

Mounting position see cover fold-out.



Dimensions Type GST05-2PV□□-071C21



Geared motor	a	a ₁	a ₂	b ₁ j7	b ₂ j7	b ₅	b ₇	c ₂	c ₅	d k6	d ₂	e ₁	e ₂	e ₅	f ₁	f ₂	f ₅	g	g ₁	h	i	i ₁	i ₂
GST05-2PV□□-071C21	1	88	120	58	80	90	125	10	23	25	M10	74	100	155	9	3	139	110	101	100	53	62	50
			140		95								115										
			160		110								130										
			200		130								165										

Geared motor	i ₅	k	k ₁	k ₂	k ₈	l	l ₁	l ₂	m	n	n ₁	o*	o ₁	p*	p ₁	p ₂ *	s ₁	s ₂ VCK	s ₅	u	t	Weight approx. kg
GST05-2PV□□-071C21	66	478	259	145		50	4	40	32.5	26	49	115	214	156	98	156	M6 x12	7	11	8	28	19
																		9				
																		9				
																		11				

* Observe dimension k₂

Dimensions in mm

Selection table Type SSN25

Ratio i	Perm. axial load F_a [N]	Perm. radial load F_r [N]	$M_{max.}$ [Nm]	Efficiency	Gearbox	Weight [approx. kg]
5	50	63(DCR,VCR) 80(VCL)	7	0.81	SSN25	0.4
8			7.5	0.76		
10			8	0.72		
15			7.5	0.64		
20			8	0.58		
30			7.5	0.48		
40			7	0.43		
50			6	0.36		
60			5.6	0.33		

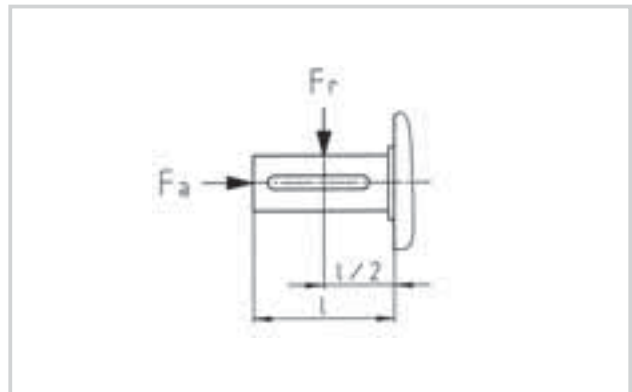
Selection table Type SSN31

Ratio i	Perm. axial load F_a [N]	Perm. radial load F_r [N]	$M_{max.}$ [Nm]	Efficiency	Gearbox	Weight [approx. kg]
5	300(VAL,VAR,DAR) 400(HAR)	200(VAL,VAR) 2x100(DAR)	14	0.85	SSN31	0.67(VAR) 0.80(VAL) 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		

Selection table 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(VAL,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 elements	
		Shaft	Flange
SSN25	VCL	3 5	3 5
	VCR	3 5	—
	DCR	8	—
SSN31	VAL	3 5	3 5
	VAR	3 5	—
	DAR	8	—
	HAR	—	—
SSN40	VAL	3 5	3 5
	VAR	3 5	—
	DAR	8	—
	HAR	—	—



Drive selection planetary gearbox SPL□□-□NVCR

Gearbox type	Ratio i	M max. Nm	Axial load max. N	Radial load max. N	Selection (tick as required)
SPL42-1NVCR	3.7	3	50	160	
	6.75	3	50	160	
SPL42-2NVCR	13.73	7.5	80	230	
	25.01	7.5	80	230	
	45.56	7.5	80	230	
SPL42-3NVCR	50.89	15	110	300	
	92.7	15	110	300	
	168.84	15	110	300	

Gearbox type	Ratio i	M max. Nm	Axial load max. N	Radial load max. N	Selection (tick as required)
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. N	Radial load max. N	Selection (tick as required)
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	
	71.06	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	Selection (tick as required)
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	
	71.06	120	200	1000	
	99.5	120	200	1000	
	123.97	120	200	1000	

Gearbox type	Ratio i	M max. Nm	Axial load max. N	Radial load max. N	Selection (tick as required)
SPL12-1NVCR	3.7	50	120	600	
	6.75	50	120	600	
SPL12-2NVCR	13.73	150	180	900	
	25.01	150	180	900	
	45.56	150	180	900	
SPL12-3NVCR	50.89	300	300	1500	
	92.7	300	300	1500	
	168.84	300	300	1500	

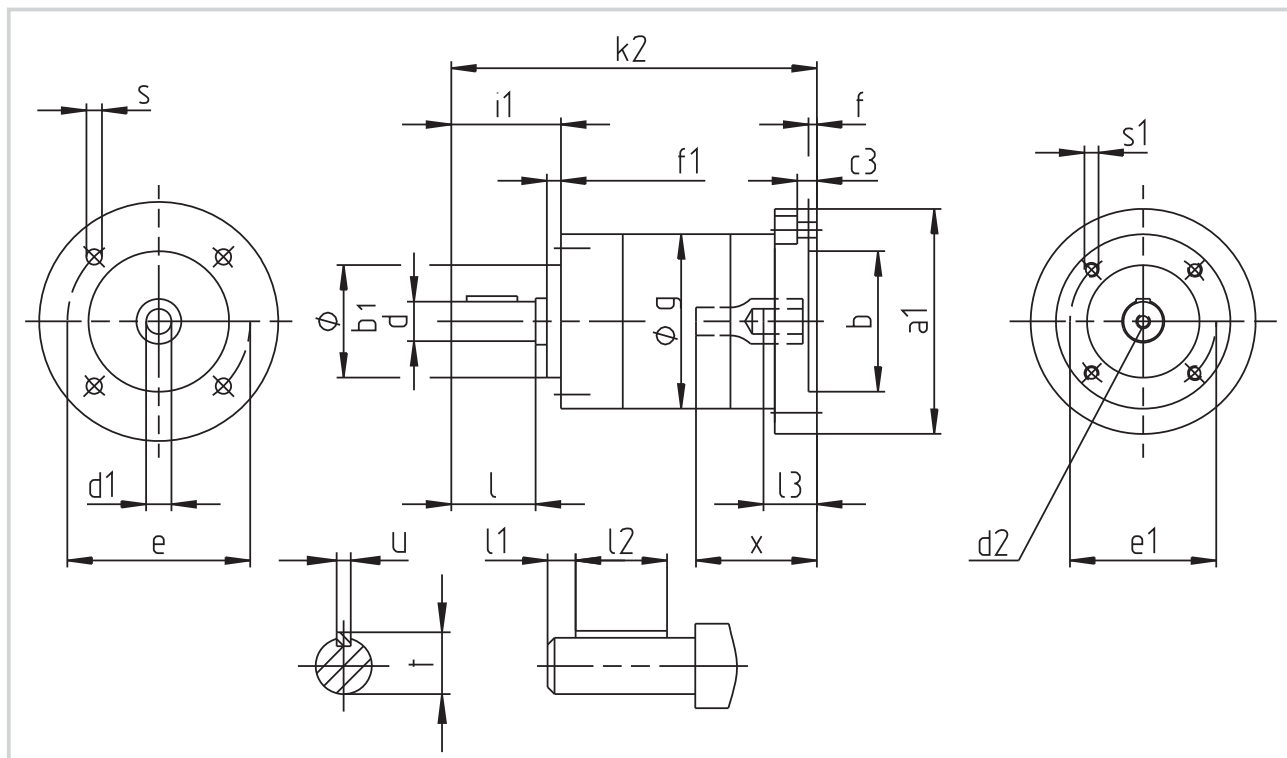
At the drive end motor attachment		
Gearbox type	Design	Selection
SPL42	B14-SPL42	
SPL52	IEC56B14C80	
SPL62	IEC56B14C80	
SPL62	IEC63B14C90	
SPL81	IEC63B14C90	
SPL81	IEC71B14C105	
SPL12	IEC71B14C105	

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





Dimensions Type SPL



Gearbox	Stage	a_1	b H8 H7	b_1 h10	c_3	d g6	d_1 H7	d_2	e	e_1	f	f_1	g	i_1	k_2	l	l_1	l_2	l_3 min.	s	s_1	t	u	x max.	Wt. appr. kg
SPL42-INVCR	1														84										0.4
	2	52	28	25	5	8	6	M3	40	32	3	2	42	25	97	22.2	3	16	14	4.5	M4 x10	9.2	3	31	0.5
	3					h7									110										0.7
SPL52-INVCR-IEC56B14C80	1														99										1.0
	2	80	50	32	10	12	9	M4	65	40	3	3	52	25	113	20.8	2.5	16	20	5.5	M5 x10	13.5	4	38.6	1.2
	3			h8		h7									127										1.4
SPL62-INVCR-IEC56B14C80	1														115										0.9
	2	80	50	40	7	14	9	M5	65	52	3	5	62	39	131	30	5.5	18	20	5.5	M4 x10	16	5	43	1.3
	3			j7		h7									147										1.7
SPL62-INVCR-IEC63B14C90	1														115										0.9
	2	90	60	40	7	14	11	M5	75	52	3	5	62	39	131	30	5.5	18	23	5.5	M5 x10	16	5	43	1.3
	3			j7		h7									147										1.7
SPL81-INVCR-IEC63B14C90	1														144										2.0
	2	90	60	50	9	19	11	M6	75	65	3	5	81	49	165	40	6	28	23	5.3	M6 x12	21.5	6	51.6	2.8
	3			j7		h7									187										3.5
SPL81-INVCR-IEC71B14C105	1														151										2.0
	2	105	70	50	9	19	14	M6	85	65	3	5	81	49	173	40	6	28	30	6.3	M6 x12	21.5	6	58.6	2.8
	3			j7		h7									195										3.5
SPL12-INVCR-IEC71B14C105	1														108										5.6
	2	120	70	80	15	32	14	M12	85	100	3	5	120	73	242	58	4	50	30	6.4	M10 x22	35	10	73.7	8.0
	3			j7		k6									276										10.4

Dimensions in mm





Helical gearbox, permissible radial and axial output forces

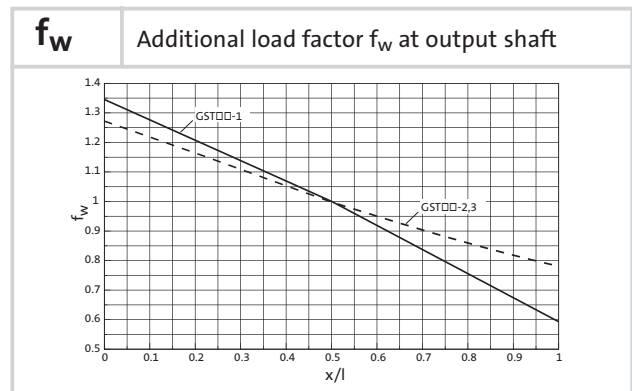
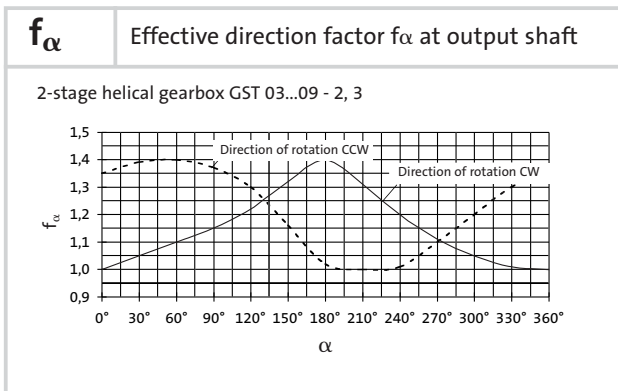
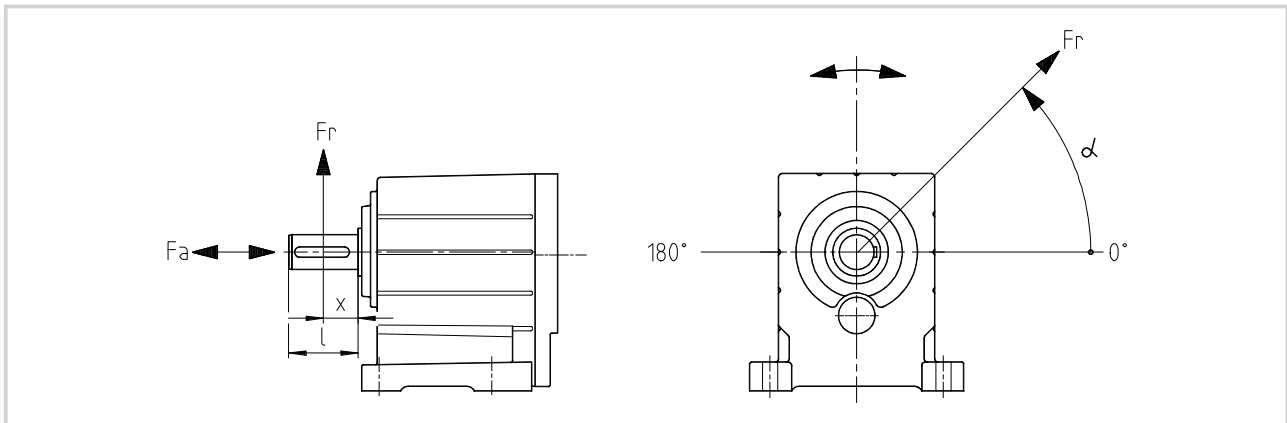
► Permissible radial force

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

► Permissible axial force

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

Contact Lenze if F_r and $F_a \neq 0$



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

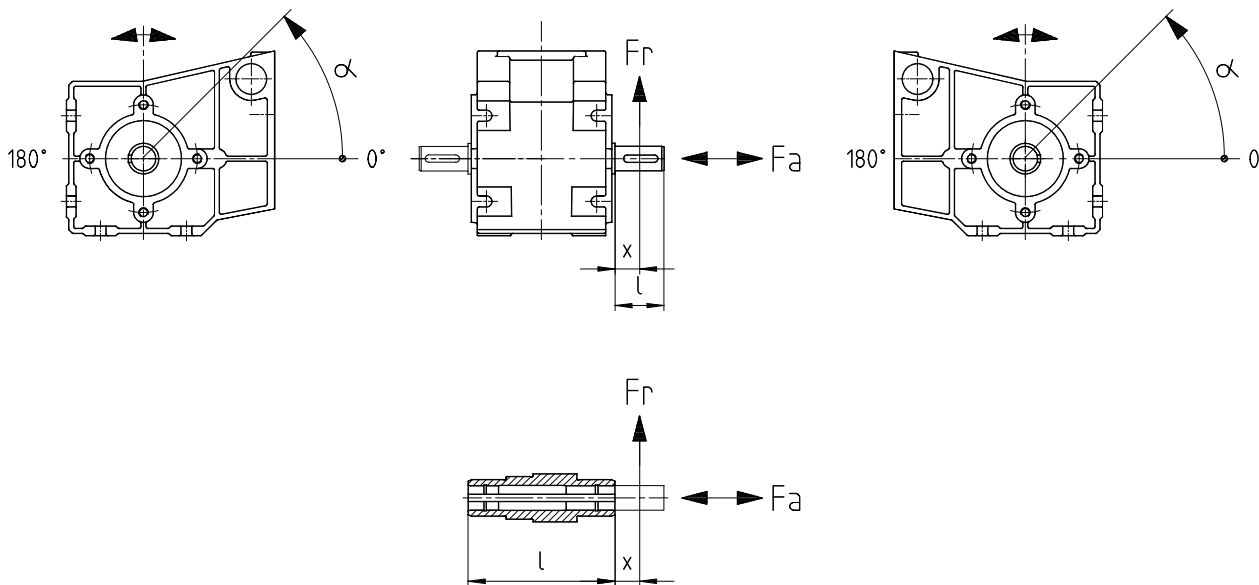
► Permissible radial force

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

► Permissible axial force

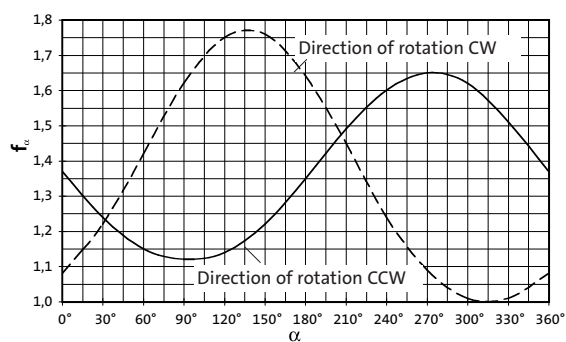
$$F_{aperm} = F_{aTab} \quad \text{when } F_r = 0$$

Contact Lenze if F_r and $F_a \neq 0$



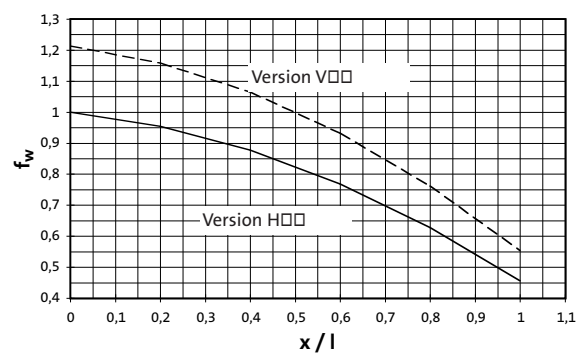
f_α

Effective direction factor at output 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 $F_r = 0$	
n_2 [rpm]	GKR 03	
	F_{rTab} [N]	F_{aTab} [N]
400	1800	1000
250	2100	1100
160	2400	1250
100	2800	1400
63	3000	1400
40	3000	1400
25	3000	1400
≤ 16	3000	1400
F_{max}	3000	—

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



Brakes

Description

Spring-applied brakes work on the closed-circuit principle, i.e., the braking torque is generated by the spring force when the supply is off. The brake is released electro-magnetically by applying a DC voltage.

Spring-applied brakes should be fitted if

- ▶ a holding torque is required during motor standstill,
- ▶ the coasting time after motor disconnection must be very short,
- ▶ short operating cycles (on/off cycles) are required.

Three-phase asynchronous motors are equipped with a rectifier in the terminal box.

Technical data

Brake Type	Braking torque [Nm]	Brake voltage [DV]	Coil power [W]	Rotor bore [mm]	Weight [kg]
BFK 457-03	0.5	24 or 205	9	10	0.25
BFK 457-04	1	24 or 205	12.5	7 or 10	0.3
BFK 457-05	2	24 or 205	16	10	0.4
BFK 458-06	4	24 or 205	20	10	0.8

Tacho generators

DC tachogenerator

An armature with winding and commutator rotates in a permanent magnetic field. The induced voltage is tapped at the commutator by carbon brushes.

Features

- ▶ Detection of the direction of rotation when the polarity of the tacho voltage changes
- ▶ Very low residual ripple of the tacho signal thanks to suitable dimensioning of the windings
- ▶ Very good linearity of the tacho signal even at very low speeds

AC tachogenerator

A rotating permanent magnet induces a single- or multi-phase AC voltage in the stator winding. An integrated rectifier rectifies the AC voltage so that the output signal is a DC voltage.

Features

- ▶ Simple structure (price)
- ▶ Simple assembly
- ▶ No wearing parts, therefore maintenance-free
- ▶ Direction of rotation not detected from polarity of the tacho voltage, therefore not suitable for 4-Q drives
- ▶ Tacho voltage and speed are only proportional from a minimum speed $n_{\min} > 0$ because of the threshold voltage of the integrated rectifier.

Technical data

Design Type	Detection of direction of rotation for 4-Q drives	Voltage per 1000 rpm [V]	Ripple	Reversing error	Linearity error	Minimum limit of control range [rpm]	Max speed [rpm]	Thermal limit current [mA]	Enclosure	Weight [approx. kg]
DC current tacho Type GT7.08	yes	20 (-10%)	< 0.3%	+/- 0.0%	< 0.05%	0	9000	24	IP54	0.5
Three-phase AC current tacho Type TD3	no	30 (+/- 3%)	4%	—	< 1%	60	10000	20	IP54	0.5



Resolver (built-in encoder)

Stator-fed resolver with 2 stator windings offset by 90° and one rotor winding with transformer winding.

Design	Brushless hollow-shaft resolver in pancake construction
Max. speed (continuous)	8000 rpm
Max. speed (short-time)	10000 rpm
Input voltage	10 V amplitude
Input frequency	4 kHz
Stator/rotor ratio	0.3 ± 5%
Rotor impedance Z _{ro}	51 Ω + j90 Ω
Stator impedance Z _{s0}	102 Ω + j150 Ω
Impedance Z _{rs}	44 Ω + j76 Ω
Insulation resistance	> 10 MΩ at 500 V DC
Number of pole pairs	1
Maximum phase-angle error	± 10 angular minutes

Incremental encoder (built-in encoder)

Encoder with 2 TTL rectangular signals offset by 90° with 2048 pulses/revolution and additional zero track.

Design	Brushless hollow shaft incremental encoder
Maximum speed	8000 rpm
Number of pulses	2048 pulses/revolution
Output signals	2 rectangular signals offset by 90°, zero pulse, complementary TTL signals, U _{low} ≤ 0.5 V, U _{high} ≥ 2.5 V
Supply	5 V ± 5 %, protected against polarity reversal
Current consumption	≤ 150 mA
Limit frequency	300 kHz

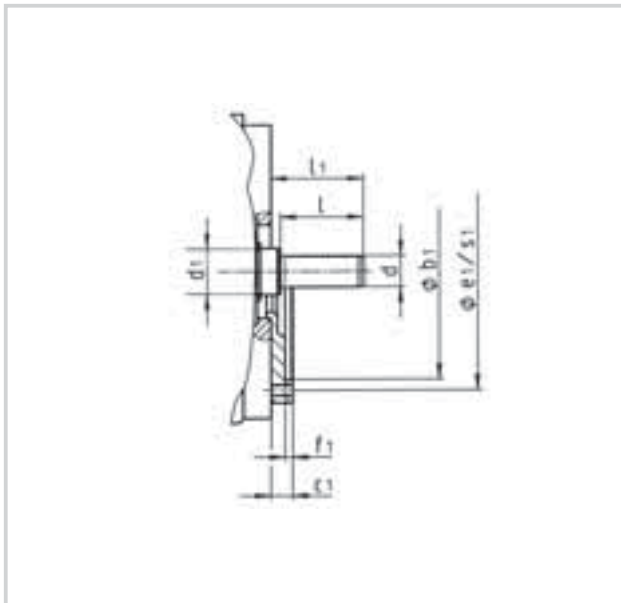


Drive selection

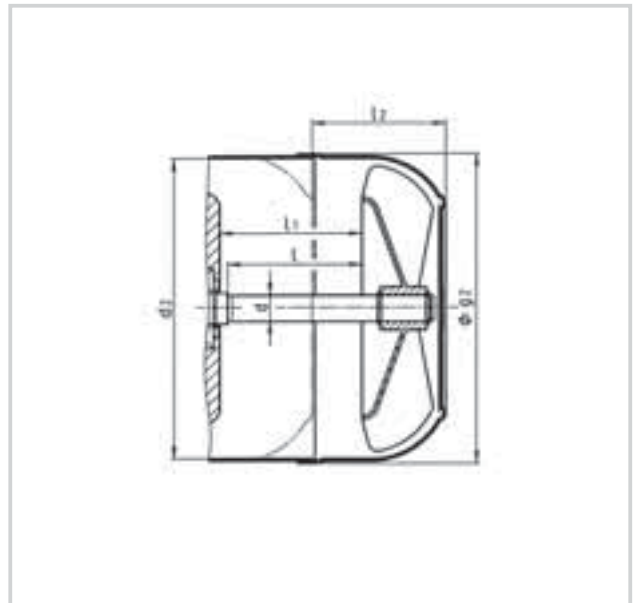
B-side built-on accessories

Motors prepared for an attachment

Motor type: 13.120/13.710



Motor type: 13.750





Available designs

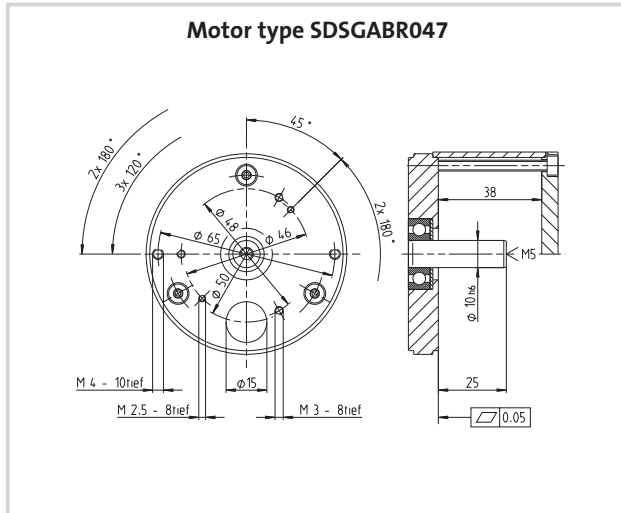
Motor design Motor type	Motor pre- pared for an attachment	Spring-applied brake		Feedback	
		Type BFK457-04	Type BFK458-06	DC Type GT7.08	AC Type TD3
DC permanent magnet motor 13.120.35 13.120.45 13.120.55 13.120.65 13.120.75	• • • • •	•	• • •	• • • • •	• • • • •
AC asynchronous motor (smooth housing) 13.710.35 13.710.47 13.710.55	• • •	• • •			
AC asynchronous motor (ribbed housing) 13.750.45 13.750.55 13.750.65	• • •	• • •	•		

Motor type Motor type	Motor pre- pared for an attachment	Spring-applied brake			Feedback	
		Type BFK457-03	Type BFK457-04	Type BFK457-05	Resolver	Incremental encoder
AC asynchronous motor (inverter-optimised) SDSGA 047-22 SDSGA 056-22 SDSGA 063-22 SDSGA 063-32	• • • •	•	•	• •	• • • •	• • • •

Dimensions

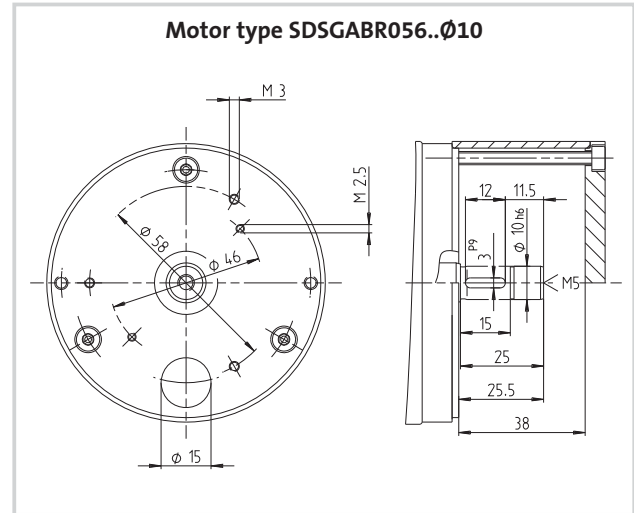
Motor type Motor type	b ₁	c ₁	d	d ₁	d ₂	e ₁	g ₂	f ₁	l	l ₁	l ₂	s ₁
DC permanent magnet motor 13.120.35 13.120.45 13.120.55 13.120.65 13.120.75												
	70	7	10			77		2.5	30	30		4xM4
	70	7	10			77		2.5	30	30		4xM4
	70	7	10	15		77		2.5	27	30		4xM4
	70	7	10	15		77		2.5	27	30		4xM4
AC asynchronous motor (smooth housing) 13.710.35 13.710.47 13.710.55												
			7	7.9					18.5	21		
			10	10						30		
AC asynchronous motor (ribbed housing) 13.750.45 13.750.55 13.750.65												
			7	7	90		93		38.5	39.5	35	
	70	10	10	10	108.5	77	110.5	3	42	48	51.5	4xM4
	70	10	10	10	121	77	123	3	45	51	49	4xM4
AC asynchronous motor (inverter-optimised) SDSGA 047-22 SDSGA 056-22 SDSGA 063-22 SDSGA 063-32												
			10		71	48	75		25	25	44	3xM3
			10	12	81	58	85		25	25.5	44	3xM3
			10	15	91	66	95		23.5	25	46	3xM4
			10	15	91	66	95		23.5	25	46	3xM4

B-side shaft end



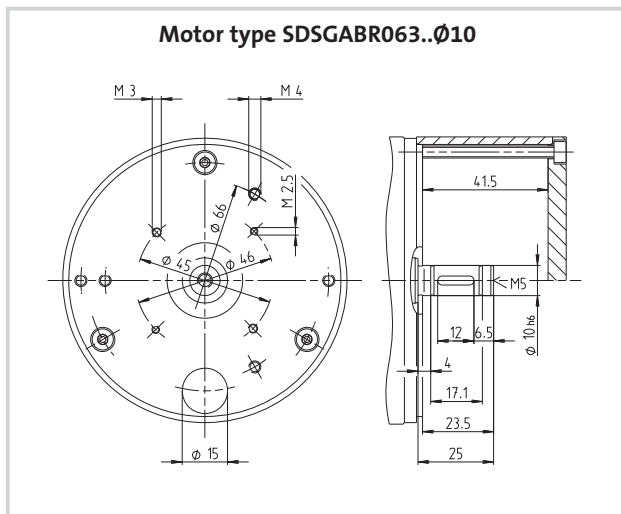
Dimensions in mm
Subject to amendment

B-side shaft end



Keyway to DIN 6885/1
Circlip slot to DIN 471
Dimensions in mm
Subject to amendment

B-side shaft end

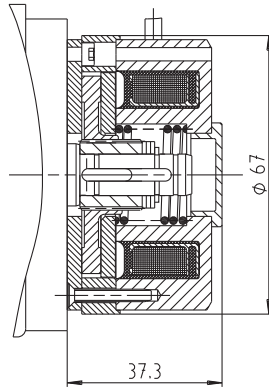


Keyway to DIN 6885/1
Circlip slot to DIN 471
Dimensions in mm
Subject to amendment



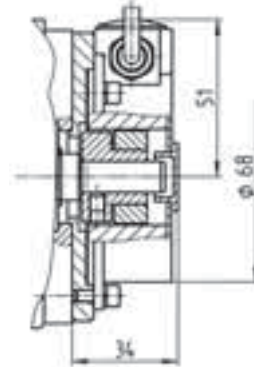
Spring-applied brake BFK457-04

Motor type 13.120/13.710

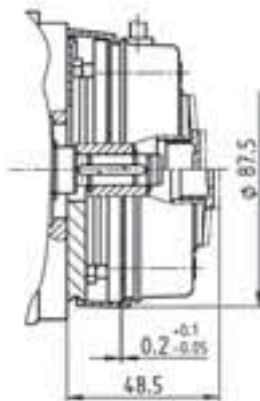


Tachogenerator

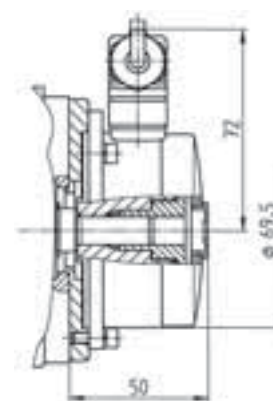
**Motor type 13.120
Tacho type TD3**



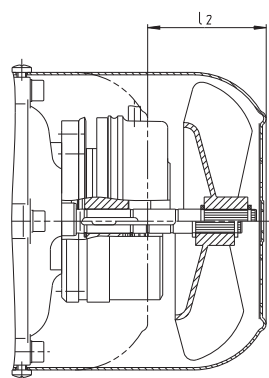
**Motor type 13.120
Brake type BFK458-06**



**Motor type 13.120
Tacho type GT7.08**



**Motor type 13.750
Brake type BFK458-06**



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