

# Servomotors

## Geared servomotors for SINAMICS S120

### 1FK7 geared servomotors

#### Order No. supplements – Order codes

When ordering a geared servomotor with options, **-Z** should be added to the order number. The order code should also be specified for each additional required option. The description of the option must not be repeated in plain text in the order.

##### 1st Order code: Gearbox type

- Bevel gearbox K102 to K813
- Offset-shaft gearbox F202 to F602
- Helical gearbox C002 to C812
- Worm gearbox S002 to S402

B..  
C..  
D..  
E..

[Complete order code for gearbox type, refer to selection and ordering data](#)

##### 2nd order code, 1st and 2nd positions: Type

- Foot-mounted
- Tapped hole group
- Flange (round)
- Foot-mounted and flange (round)
- Foot-mounted and tapped hole group

G 1 ■  
G 2 ■  
G 3 ■  
G 5 ■  
G 6 ■

##### 2. order code, 3rd position: Gear shaft extension

###### Helical gearbox:

- Solid shaft with fitted key

###### Offset-shaft gearbox:

- Solid shaft with fitted key, gearbox side 5
- Hollow shaft with keyway, insertion side 5
- Hollow shaft with clamping element, shrink disk side 6, insertion side 5

###### Bevel and worm gearboxes:

- Solid shaft with fitted key, gearbox side 4
- Hollow shaft with keyway, insertion side 4
- Hollow shaft with clamping element, shrink disk side 4, insertion side 3
- Solid shaft with fitted key, gearbox side 3
- Hollow shaft with keyway, insertion side 3
- Hollow shaft with clamping element, shrink disk side 3, insertion side 4

1  
3  
4  
5  
7  
8

##### 3rd order code, 1st and 2nd positions: Type of construction/mounting position

###### Type of construction for helical gearboxes:

- IM B3 / IM B5 / IM B14 / IM B34 / IM B35
- IM B7
- IM B8
- IM B6
- IM V1
- IM V3 / IM V6 / IM V19
- IM V5
- IM V18

###### Mounting position for offset-shaft, bevel and worm gearboxes:

- EL 1
- EL 2
- EL 3
- EL 4
- EL 5
- EL 6
- 
- 

H 1 ■  
H 2 ■  
H 3 ■  
H 4 ■  
H 5 ■  
H 6 ■  
H 7 ■  
H 8 ■

##### 3rd order code, 3rd position: Connector mounting position

- Connector position on gearbox side 2, top
- Connector position on gearbox side 4, right
- Connector position on gearbox side 1, below
- Connector position on gearbox side 3, left

1  
2  
3  
4

For a diagram of the connector mounting position, see page 4/88.

### Order No. supplements – Order codes

#### Permissible combinations for option Q.. with G2.

##### 4th Order code: Torque bracket for bevel and worm gearboxes

<u>Torque bracket position</u>	<u>Gearbox type and size</u>			
Side 1, eye side 4	K102/S102	<b>Q12</b>	and	<b>G23</b> or <b>G28</b>
Side 1, eye side 3	K102/S102	<b>Q13</b>		<b>G27</b> or <b>G24</b>
Side 5, eye side 4	K102/S102	<b>Q14</b>		<b>G23</b> or <b>G28</b>
Side 5, eye side 3	K102/S102	<b>Q15</b>		<b>G27</b> or <b>G24</b>
Side 2, eye side 4	K102	<b>Q16</b>		<b>G23</b> or <b>G28</b>
Side 2, eye side 3	K102	<b>Q17</b>		<b>G27</b> or <b>G24</b>
Side 1, eye side 4	K202/S202	<b>Q22</b>		<b>G23</b> or <b>G28</b>
Side 1, eye side 3	K202/S202	<b>Q23</b>		<b>G27</b> or <b>G24</b>
Side 5, eye side 4	K202/S202	<b>Q24</b>		<b>G23</b> or <b>G28</b>
Side 5, eye side 3	K202/S202	<b>Q25</b>		<b>G27</b> or <b>G24</b>
Side 1, eye side 4	K302/S302	<b>Q32</b>		<b>G23</b> or <b>G28</b>
Side 1, eye side 3	K302/S302	<b>Q33</b>		<b>G27</b> or <b>G24</b>
Side 5, eye side 4	K302/S302	<b>Q34</b>		<b>G23</b> or <b>G28</b>
Side 5, eye side 3	K302/S302	<b>Q35</b>		<b>G27</b> or <b>G24</b>
Side 1, eye side 4	K402/S402	<b>Q42</b>		<b>G23</b> or <b>G28</b>
Side 1, eye side 3	K402/S402	<b>Q43</b>		<b>G27</b> or <b>G24</b>
Side 5, eye side 4	K402/S402	<b>Q44</b>		<b>G23</b> or <b>G28</b>
Side 5, eye side 3	K402/S402	<b>Q45</b>		<b>G27</b> or <b>G24</b>
Side 1, eye side 4	K513	<b>Q52</b>		<b>G23</b> or <b>G28</b>
Side 1, eye side 3	K513	<b>Q53</b>		<b>G27</b> or <b>G24</b>
Side 5, eye side 4	K513	<b>Q54</b>		<b>G23</b> or <b>G28</b>
Side 5, eye side 3	K513	<b>Q55</b>		<b>G27</b> or <b>G24</b>
Side 1, eye side 4	K613	<b>Q62</b>		<b>G23</b> or <b>G28</b>
Side 1, eye side 3	K613	<b>Q63</b>		<b>G27</b> or <b>G24</b>
Side 5, eye side 4	K613	<b>Q64</b>		<b>G23</b> or <b>G28</b>
Side 5, eye side 3	K613	<b>Q65</b>		<b>G27</b> or <b>G24</b>
Side 1, eye side 4	K713	<b>Q72</b>		<b>G23</b> or <b>G28</b>
Side 1, eye side 3	K713	<b>Q73</b>		<b>G27</b> or <b>G24</b>
Side 5, eye side 4	K713	<b>Q74</b>		<b>G23</b> or <b>G28</b>
Side 5, eye side 3	K713	<b>Q75</b>		<b>G27</b> or <b>G24</b>
Side 1, eye side 4	K813	<b>Q82</b>		<b>G23</b> or <b>G28</b>
Side 1, eye side 3	K813	<b>Q83</b>		<b>G27</b> or <b>G24</b>
Side 5, eye side 4	K813	<b>Q84</b>		<b>G23</b> or <b>G28</b>
Side 5, eye side 3	K813	<b>Q85</b>		<b>G27</b> or <b>G24</b>

For a diagram with position of the torque bracket and position of the fixing eye, see page 4/88.

# Servomotors

## Geared servomotors for SINAMICS S120

### 1FK7 geared servomotors

#### Order No. supplements – Order codes

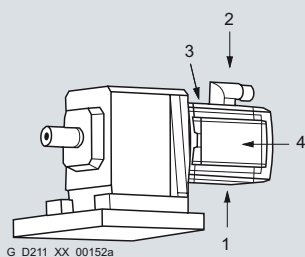
##### 5th order code, other options

Paint finish: Jet black, matt RAL9005  
 Paint finish: Cream white RAL 9001  
 Paint finish: Reseda green RAL 6011  
 Paint finish: Pebble gray RAL 7032  
 Paint finish: Sky blue RAL 5015  
 Paint finish: Light ivory RAL 1015  
 Paint finish: Ash gray RAL 7000  
 Paint finish: White aluminum RAL 9006  
 Paint finish: Gentian blue RAL 5010  
 Paint finish: Pure orange RAL 2004  
 Food-grade gear oil

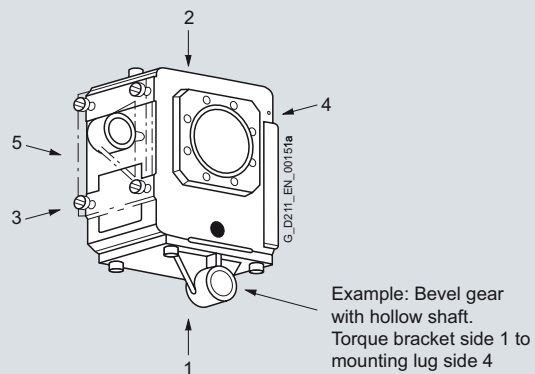
X01  
 X02  
 X03  
 X04  
 X05  
 X06  
 X07  
 X08  
 X12  
 X19  
 Q90

For option Q90, the Order No. for the geared servomotor must also be changed in the 16th position from 5 to 7: 1FK7...-5A.71-1..7-Z

4



Connector mounting position



Gearbox sides shown with position of the torque bracket and position of the fixing eye

## Order No. supplements – Order codes

## Permissible combinations for option G.. with H.. and Q..

Order code	Description	Permissible G options for gearbox type			Permissible H-Q options for gearbox type		
		Helical gear	Offset-shaft	Bevel gear/worm	Helical gear	Offset-shaft	Bevel gear/worm
G11	Foot-mounted, solid shaft with fitted key	✓			H1. to H4. H6./H7.		
G13	Footed-mounted, hollow shaft with keyway (insertion gearbox side 4)						
G14	Footed-mounted, hollow shaft with shrink disk (insertion gearbox side 4)						
G15	Foot-mounted, solid shaft with fitted key (gearbox side 3)						
G17	Footed-mounted, hollow shaft with keyway (insertion gearbox side 3)						
G18	Footed-mounted, hollow shaft with shrink disk (gearbox side 3)						
G21	Tapped hole group, solid shaft with keyway (gearbox side 4 for bevel and worm)	✓		✓ 1)	H1./H6./H8.		H1. to H6.
G23	Tapped hole group, hollow shaft with keyway (insertion gearbox side 5 for offset-shaft gearbox, insertion side 4 for bevel and worm)		✓	✓ 1)		H1. to H6.	H1. to H6. Q..
G24	Tapped hole group, hollow shaft with shrink disk (shrink disk on gearbox side 6 and insertion side 5 for offset-shaft gearbox; shrink disk on gearbox side 4 and insertion side 3 for bevel and worm)		✓	✓ 1)			
G25	Tapped hole group, solid shaft with fitted key (gearbox side 3)			✓ 1)			H1. to H6.
G27	Tapped hole group, hollow shaft with fitted key (insertion gearbox side 3)			✓ 1)			H1. to H6. Q..
G28	Tapped hole group, hollow shaft with clamping element (shrink disk on gearbox side 3 and insertion side 4 for bevel and worm)			✓ 1)			
G31	Flange (round), solid shaft with fitted key (gearbox side 5 for offset-shaft gearbox; side 4 for bevel and worm)	✓	✓	✓ 1)	H1./H5./H6.	H1. to H6.	H1. to H6.
G33	Flange (round), hollow shaft with keyway (insertion gearbox side 4)		✓	✓ 1)			
G34	Flange (round), hollow shaft with shrink disk, shrink disk on gearbox side 6 and insertion side 5 for offset-shaft gearbox; shrink disk on gearbox side 4 and insertion side 3 for bevel and worm)		✓	✓ 1)			
G35	Flange (round), solid shaft with fitted key (gearbox side 3)			✓ 1)			
G37	Flange (round), hollow shaft with keyway (insertion gearbox side 3)			✓ 1)			
G38	Flange (round), hollow shaft with clamping element (shrink disk on gearbox side 3 and insertion side 4 for bevel and worm)			✓			

1) Not for worm gear of gearbox size S002 (gearbox type E0.).

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#### Order No. supplements – Order codes

##### Permissible combinations for option G.. with H..

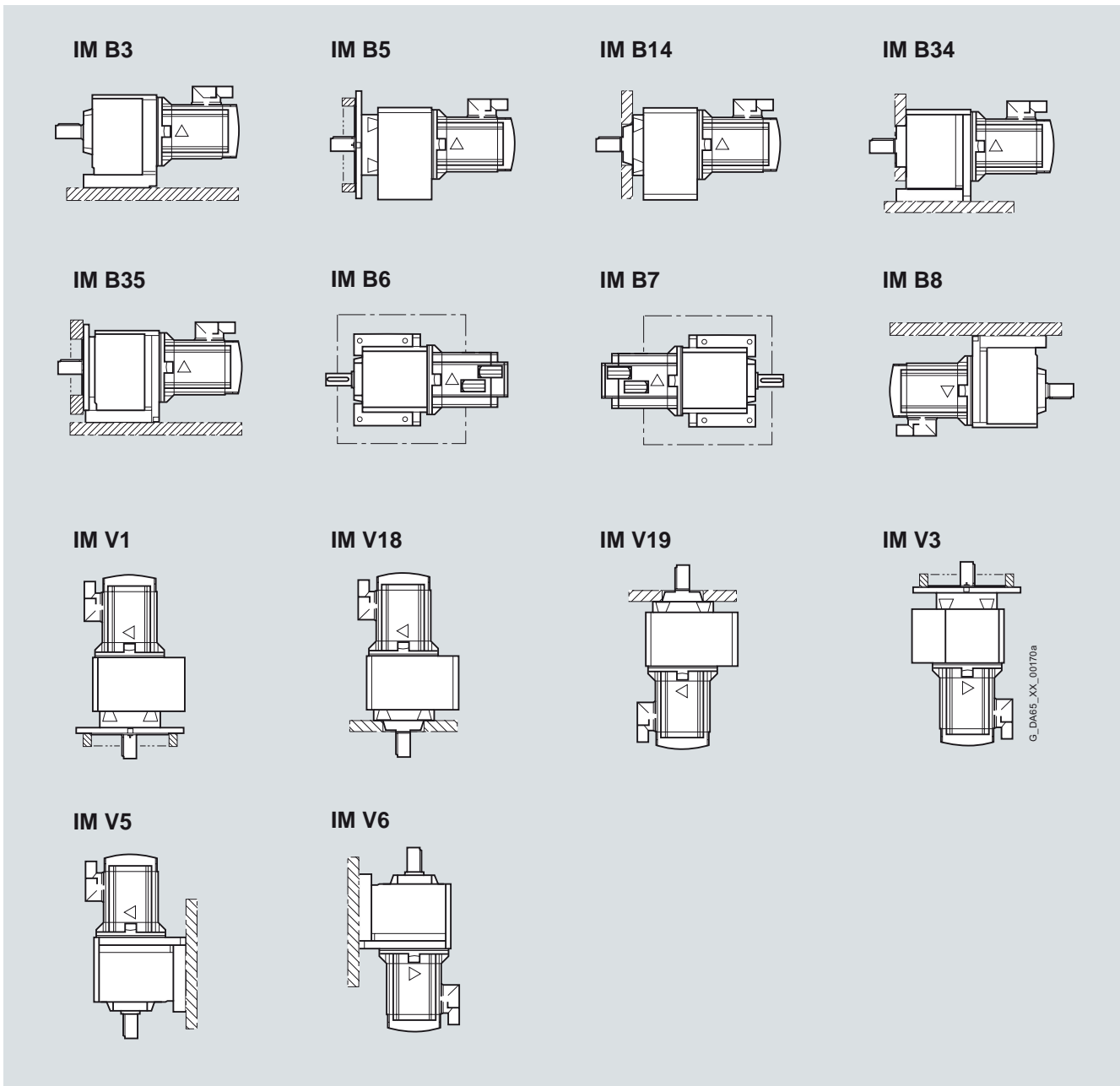
Order code	Description	Permissible G options for gearbox type		Permissible H options for gearbox type	
		Helical gear	Bevel gear/ worm	Helical gear	Bevel gear/ worm
<b>G51</b>	Foot-mounted and flange (round), solid shaft with fitted key (gearbox side 4 for bevel and worm)	✓ 1)	✓ 2)	<b>H1./H2.</b>	<b>H1. to H6.</b>
<b>G53</b>	Foot-mounted and flange (round), hollow shaft with keyway (insertion gearbox side 4)		✓ 2)		
<b>G54</b>	Foot-mounted and flange (round), hollow shaft with clamping element (shrink disk on gearbox side 4 and insertion side 4 for bevel and worm)		✓ 2)		
<b>G55</b>	Foot-mounted and flange (round), solid shaft with fitted key (gearbox side 3)		✓ 2)		
<b>G57</b>	Foot-mounted and flange (round), hollow shaft with keyway (insertion gearbox side 3)		✓ 2)		
<b>G58</b>	Foot-mounted and flange (round), hollow shaft with clamping element (shrink disk on gearbox side 3 and insertion side 4 for bevel and worm)		✓ 2)		
<b>G61</b>	Foot-mounted and tapped hole group, solid shaft with fitted key (gearbox side 4 for bevel and worm)	✓	✓	<b>H1./H2.</b>	<b>H1. to H6.</b>
<b>G63</b>	Foot-mounted and tapped hole group, hollow shaft with keyway (insertion gearbox side 4)		✓		
<b>G64</b>	Foot-mounted and tapped hole group, hollow shaft with clamping element (shrink disk on gearbox side 4 and insertion side 4 for bevel and worm)		✓		
<b>G65</b>	Foot-mounted and tapped hole group, solid shaft with fitted key (gearbox side 3)		✓		
<b>G67</b>	Foot-mounted and tapped hole group, hollow shaft with keyway (insertion gearbox side 3)		✓		
<b>G68</b>	Foot-mounted and tapped hole group, hollow shaft with clamping element (shrink disk on gearbox side 3 and insertion side 4 for bevel and worm)		✓		

1) The flange diameter for helical gearboxes with foot mounting and flange is one diameter grade smaller in each case than the diameter for helical gearboxes with flange only (without foot mounting).

2) Only for 1FK706 to 1FK710 with gearbox sizes K513 to K813 (gearbox types B5. to B8.).

#### Selection guides

#### Helical geared motors – Types of construction



# Servomotors

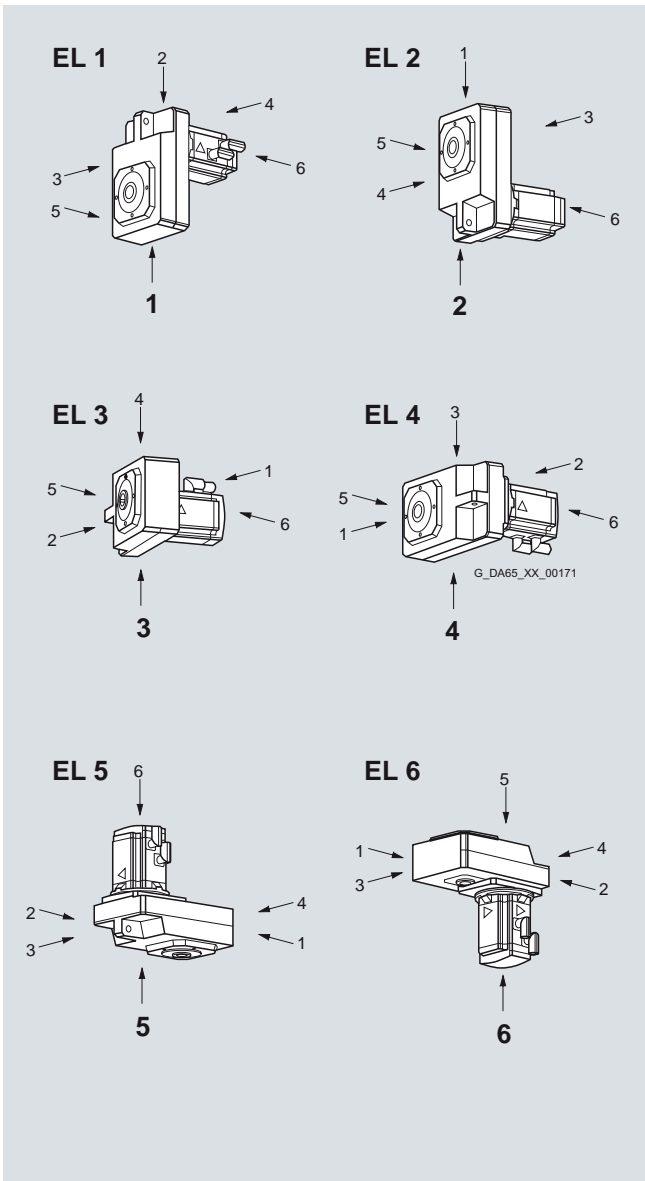
## Geared servomotors for SINAMICS S120

### 1FK7 geared servomotors

#### Selection guides

#### Offset-shaft geared motors – Mounting positions EL 1 to EL 6

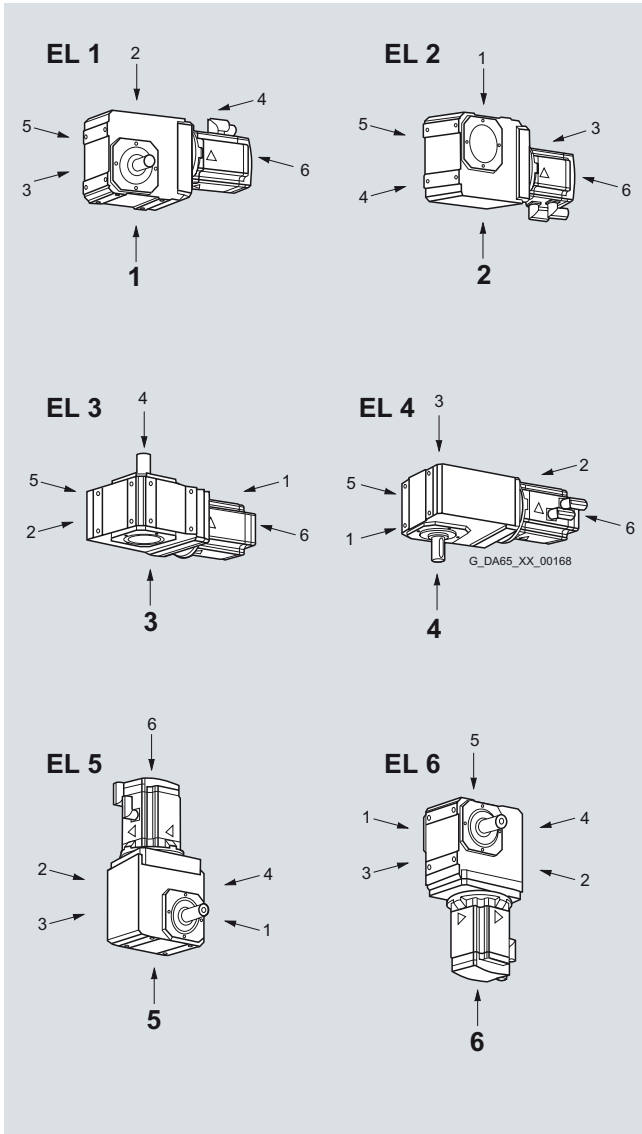
4



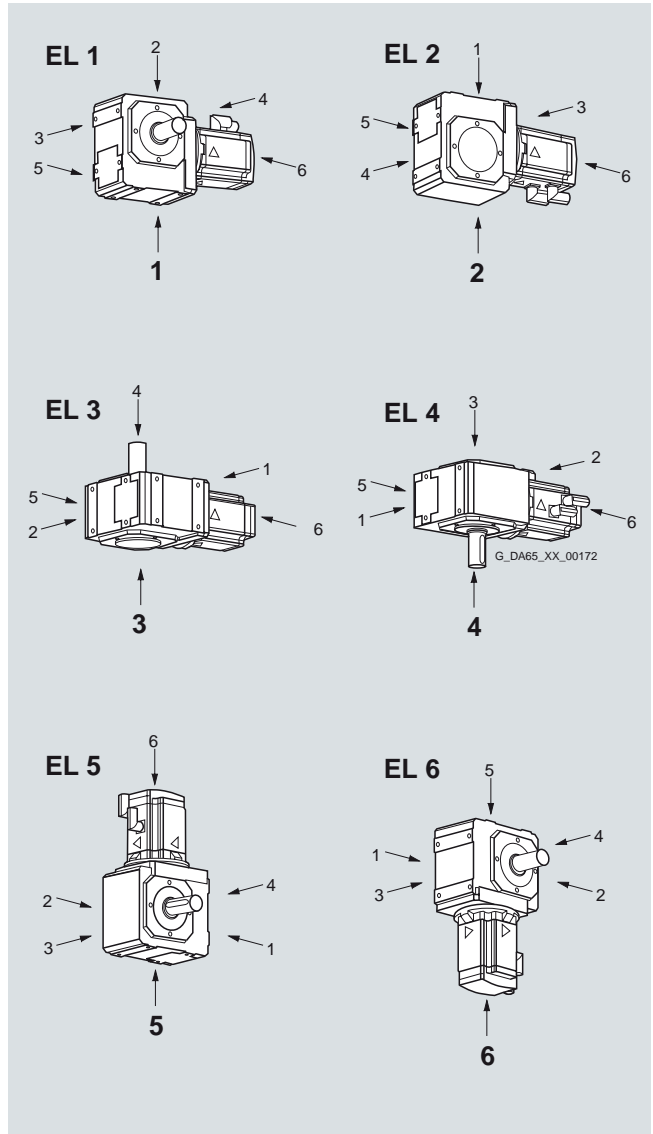
#### Selection guides

#### Bevel geared motors – Mounting positions EL 1 to EL 6

Gearbox sizes K102 to K402



Gearbox sizes K513 to K813





# Servomotors

## Geared servomotors for SINAMICS S120

### 1FK7 geared servomotors

#### Selection guides

#### Worm geared motors – Mounting positions EL 1 to EL 6

Gearbox size S002

Gearbox sizes S102 to S402

4

