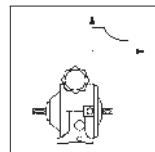


Technical data

DISCO variable speed drive



Rated data

Size	$n_1 = 3000$ [min ⁻¹]		$n_1 = 1500$ [min ⁻¹]		$n_1 = 1000$ [min ⁻¹]		$n_1 = 750$ [min ⁻¹]		
02	$P_1^*)$ n_2 M_2	0.37 1860-310 1.6-3.2		0.25 930-155 2-4		0.18 600-100 2-4		0.12 450-75 2-4	
03	P_1 n_2 M_2	0.55 1920-335 2.2-4.4	0.37 1920-335 1.5-4.4	0.37 950-165 3-6		0.25 630-110 3-6		0.18 460-80 3-6	
04	P_1 n_2 M_2	1.1 1920-335 4.5-9	0.75 1920-335 3-9	0.75 950-165 6-12	0.55 950-165 4.5-12	0.55 630-110 6-12	0.37 630-110 4.5-12	0.37 460-80 6-12	0.25 460-80 4.5-12
05	P_1 n_2 M_2	2.2 1920-335 9-18	1.5 1920-335 6-18	1.5 950-165 12-24	1.1 950-165 9-24	1.1 630-110 12-24	0.75 630-110 9-24	0.75 460-80 12-24	0.55 460-80 9-24
06	P_1 n_2 M_2			3 1000-175 22-44	2.2 1000-175 17.5-44	2.2 660-115 22-44	1.5 660-115 17.5-44	1.5 490-85 22-44	1.1 490-85 17.5-44
07	P_1 n_2 M_2			4 1000-175 32-64		3 660-115 32-64		2.2 490-85 32-64	
08/18*)	P_1 n_2 M_2			7.5 1000-200 58-116	5.5 1000-200 45-90	5.5 660-130 58-116	4 660-130 45-90	4 490-100 58-116	3 490-100 45-90

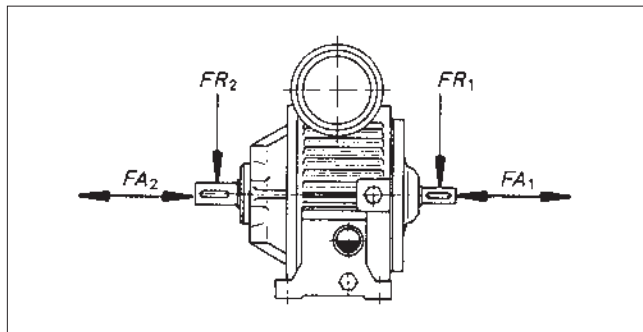
P_1 = Input power in [kW]
 n_1 = Output speed in 1/min
 n_2 = Output speed in 1/min
 M_2 = Maximum input speed Nm

Maximum input speed n_1

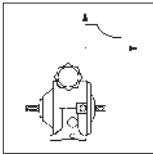
Size	02	03	04	05	06	07	08/18
n_1 max. [min ⁻¹]	3600	3600	3600	1800* 3600	1800	1800	1800

* with free input shaft

Permissible radial and axial forces



Size	Input		Output	
	FA_1 N	FR_1 N	FA_2 N	FR_2 N
02	300	300	400	400
03	450	450	700	700
04	700	700	1200	1200
05	1000	1000	1700	1700
06/07	1500	1500	2300	2300
18/08	1800	1800	3500	3500



Technical data

DISCO variable speed drive

Attachments – Speed adjusters

Designs

Name	Handwheel adjustment (Standard)	Bevel adjustment (Option)	Electrical remote adjustment (Option)
Design	Handwheel – impact strong plastic	Handwheel – impact strong plastic	Actuating motor – three-phase AC asynchr. – technical data, see below
Layout	– parallel-axial to spindle axis	– rectangular to spindle axis	– rectangular to spindle axis

Technical data, actuating motor (for electrical remote adjustment)

Disco Size	P ₁ [kW]	N ₁ [min ⁻¹]	Voltage / frequency [V]	Rated current [I]	Type of protec- tion	Thermal class	Ratio small gearboxes	Time [s]
02	0.012	1350	Δ 220–240 V/50 HZ Y 380–415 V/50 HZ	0.18 0.1	IP 54	F	20 60	10 30
03	0.012	1350	Δ 220–240 V/50 HZ Y 380–415 V/50 HZ	0.18 0.1	IP 54	F	20 60	13 40
04	0.060	1350	Δ 220–240 V/50 HZ Y 380–415 V/50 HZ	0.4 0.23	IP 54	F	20 55	15 40
05	0.060	1350	Δ 220–240 V/50 HZ Y 380–415 V/50 HZ	0.4 0.23	IP 54	F	20 55	17 47
06/07	0.060	1350	Δ 220–240 V/50 HZ Y 380–415 V/50 HZ	0.4 0.23	IP 54	F	20 55	19 47
08	0.18	1350	Δ 220–240 V/50 HZ Y 380–415 V/50 HZ	0.94 0.55	IP 54	F	40 80	50 100

Speed deviations for DISCO size 06 . . . 18/08 with electrical adjustment

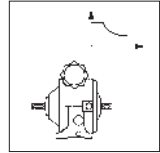
DISCO Size	Input speed n ₁ [min ⁻¹]		
	1500	1000	750
Output speed n ₂ [min ⁻¹]			
06/07	980–190	645–125	480–95
18/08	965–220	635–145	475–110

Position indicator in handwheel: Scaling

DISCO size	02	03	04/05	06/07	18/08
Scaling	12	18	24	24	36

Technical data

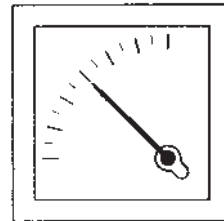
DISCO variable speed drive

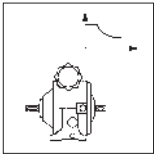


Attachments – Speed measurement instruments

Designs:

Name	Electrical remote adjustment with potentiometer
Design	– Potentiometer in the limit switch box of the electrical remote control
Connection voltage	– (Current supply through mains connection of the electrical remote adjustment)
Signal voltage	> 10 V (DC)
Speed display – Suitable for control cabinet mounting	Analog display – Mounting to the back side of the encoder input – Scaling in [V], adjustable

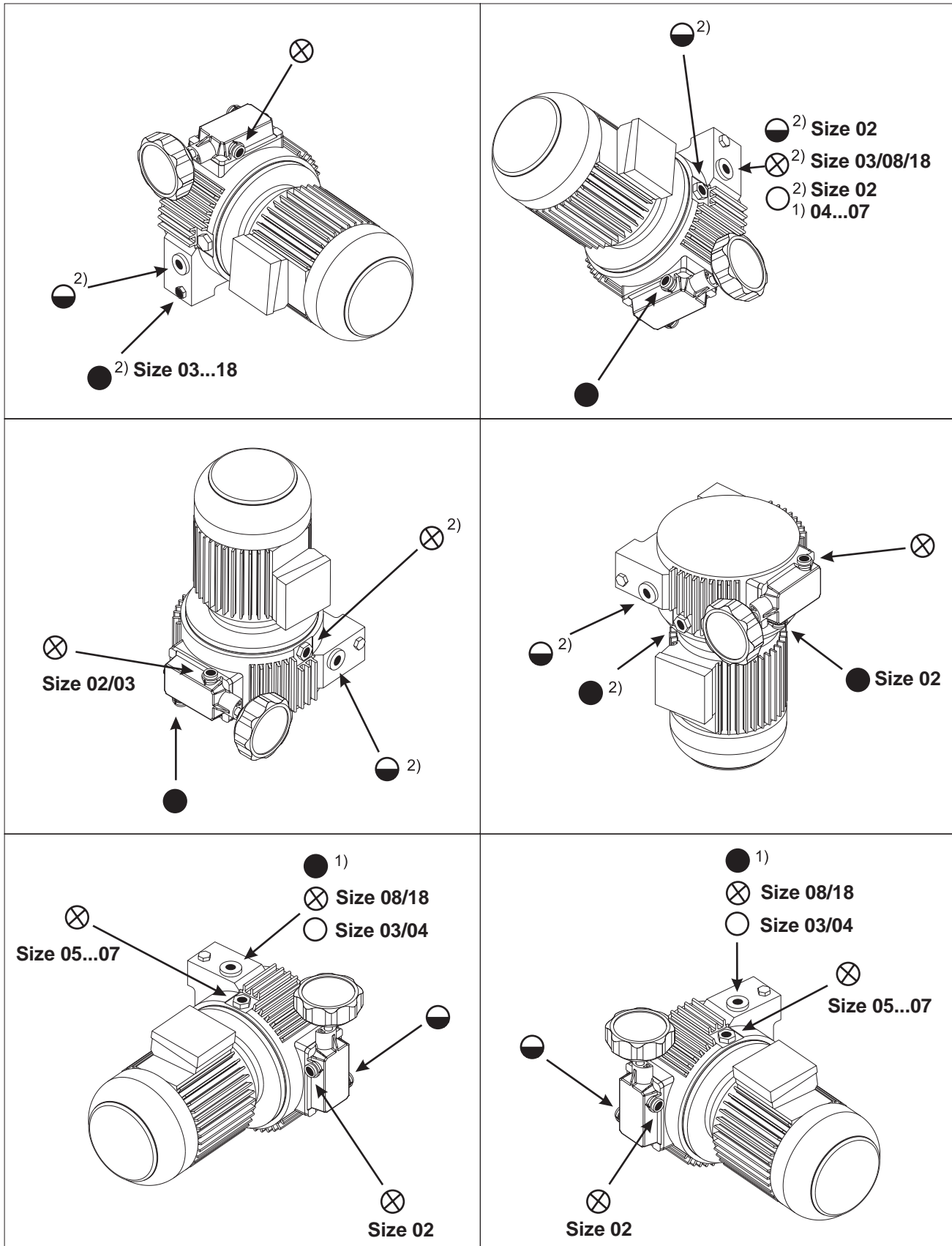




Technical data

Disco variable speed drive

Position of breather, oil filler plug and oil drain plug



○ Oil filling for gearbox without breather

⊗ Breather/oil filler plug

● Oil drain plug

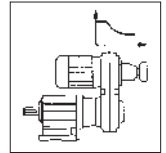
● Oil check

1) Opposite at the housing

2) For other handwheel positions, the positions are opposite at the housing

Technical data

Compact unit



General data

Housing	Design	Oval, separated
	Material	Aluminium die cast or grey cast – depending on size
Hub	Design	Coated, Polygon profile
	Material	St52-3K, Polyamide coated
Variable speed pulleys	Design	Self centering, belt pre-tension by spring and disc springs
	Material	Aluminium die cast
Belt	Design	Variable speed belt in sandwich design
	Material	Compound material, electrically conductive to ISO1813
Mechanical efficiency	at rated point	$0.79 \leq \eta \leq 0.85$
Temperature range		-20 to +40 °C ambient temperature
Noises		Lenze compact units fall below the emission values stated in the VDE directive 2159

Rated data

Variable speed belt drive size	P_{2perm} ($n_2 min \cdot n_2 max$) [kW]	$n_2 min \cdot n_2 max$ ($n_1 = 1400/min$) [1/min]	Setting range	Variable speed belt b x h [mm x mm]	J [$10^{-3} kgm^2$]
10	0.2..0.35	600-3320	5.8	14 x 5	0.5
13/14	0.5..1.3	620-3285	5.5	22 x 6	4.0
16	1.1..2.6	580-3540	6.3	28 x 8	6.5
20/21	1.7..4.7	565-3675	6.7	37 x 10	17
25/26	3.5..9.4	570-3725	6.7	47 x 13	47
31	7.1..18.5	570-3780	6.7	55 x 16	147
40	12..40	485-2740	5.7	72 x 22	350

Observe the thermal limit of the gearbox when using variable speed belt drive sizes

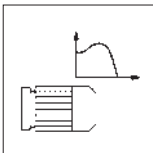
25G

31G

40H

in mounting position C (see page 3-11)

Please contact Lenze.



Technical data

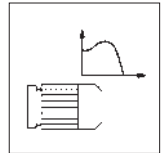
AC motors

Standard motors for DISCO variable speed drives

DISCO size	02	03	04	05	06	07	18 / 08
Motor frame size	71	71	80	90	100	112	132
Self ventilation	●	●	●	●	●	●	●
Motor mounting position	IM B14	IM B14	IM B5	IM B5	IM B5	IM B5	IM B5
Flange diameter	C105	C105	A200	A200	A250	A250	A300
Motor shaft d x l	14 x 30	14 x 30	19 x 40	24 x 50	28 x 60	28 x 60	38 x 80
Oil-proof	●	●	●	●	●	●	●
Connection type Terminal box	●	●	●	●	●	●	●
Attachments Spring-operated brake	●	●	●	●	●	●	●

Standard motors for compact units

Compact unit size	10	13	16	20	25	31	40
Motor frame size	71	80 90	90 100	112	132 160	160 180	180 200 225
Self ventilation	●	●	●	●	●	●	●
Motor mounting position	IM B14	IM B14	IM B14	IM B14	IM B5	IM B5	IM B5
Flange diameter	C105	C160	C160	C160	A300	A350	A350 A400 A450
Motor shaft d x l	14 x 30	19 x 40 24 x 50	24 x 50 28 x 60	28 x 60	38 x 80 42 x 110	42 x 110 48 x 110	48 x 110 55 x 110 60 x 140
Connection type Terminal box	●	●	●	●	●	●	●
Attachments Spring-operated brake	●	●	●	●	●	●	●



Rated data 50 Hz

No. of pole pairs 2 (4-pole)

Motor frame size	P_r [kW]	n_r [min ⁻¹]	$I_r^{1)}$ [A]	I_A / I_r [A]	V^* [V] Y / Δ	f_r [Hz]	$\cos \varphi$	η [%]	M_r [Nm]	M_{stall} [Nm]	M_A [Nm]	J [10 ⁻³ kgm ²]	m [kg]
071-12	0.25	1400	0.82	3.9	400 / 230	50	0.70	65	1.72	4.4	4.6	0.77	5.8
071-32	0.37	1400	1.2	3.9	400 / 230	50	0.71	72	2.54	5.3	5.8	0.94	6.4
080-12	0.55	1400	1.6	4.3	400 / 230	50	0.72	73	3.75	10.2	9.5	1.12	7.3
080-32	0.75	1380	2.0	4.7	400 / 230	50	0.76	77	5.14	13.2	13.3	1.50	8.3
090-12	1.1	1410	2.6	5.1	400 / 230	50	0.80	80	7.45	18.5	16.7	2.5	13
090-32	1.5	1420	3.5	6.0	400 / 230	50	0.80	83	10.1	31.0	29.1	3.5	16
100-12	2.2	1400	5.6	6.2	400 / 230	50	0.78	83	15.0	54.0	46.5	4.75	20
100-32	3	1400	7.3	6.2	400 / 230	50	0.81	83	20.2	64.6	62.6	5.88	24
112-22	4	1430	8.5	7.4	400 / 230	50	0.85	86	26.5	84.8	71.6	20.1	35
112-32 132-12 ²⁾	5.5	1440	12.5	8.0	- / 400	50	0.78	89	36.5	138.7	105.9	22.8	41
132-22	7.5	1460	16.8	7.7	- / 400	50	0.77	87	50.0	170.0	135	52.9	63
132-32	9.2	1450	19.5	6.7	- / 400	50	0.85	90	63.7	232.5	146.5	52.9	63
160-22	11	1460	23.0	6.9	- / 400	50	0.85	88	72.0	194.4	172.8	62.0	86
160-32	15	1460	30.0	6.6	- / 400	50	0.86	89	96.0	259.2	249.6	83.0	104
180-22	18.5	1440	36.4	5.5	- / 400	50	0.87	92	133.0	412.3	332.5	127.0	160
180-32	22	1465	44.1	5.5	- / 400	50	0.85	91	143.0	443.3	343.2	153.0	187
200-32	30	1455	60.0	6.3	- / 400	50	0.85	93	197.0	591.0	492.5	249.0	245
225-12	37	1460	72.0	6.4	- / 400	50	0.86	92	242.0	701.8	653.4	392.0	290
225-22	45	1475	85.5	6.9	- / 400	50	0.84	93	291.0	843.9	814.8	474.0	360

No. of pole pairs 1 (2-pole)

Motor frame size	P_r [kW]	n_r [min ⁻¹]	$I_r^{1)}$ [A]	I_A / I_r [A]	V^* [V] Y / Δ	f_r [Hz]	$\cos \varphi$	η [%]	M_r [Nm]	M_{stall} [Nm]	M_A [Nm]	J [10 ⁻³ kgm ²]	m [kg]
071-11 ²⁾	0.37	2840	1.2	5.6	400 / 230	50	0.78	72	1.25	3.7	3.6	0.47	6.2
071-31 ²⁾	0.55	2840	1.5	6.1	400 / 230	50	0.82	82	1.86	5.0	5.1	0.59	6.5
080-11 ²⁾	0.75	2850	1.9	6.1	400 / 230	50	0.80	80	2.52	7.8	8.8	0.68	9.2
080-31 ²⁾	1.1	2810	2.8	6.9	400 / 230	50	0.82	79	3.70	13.1	12.2	1.01	9.6
090-11 ²⁾	1.5	2840	3.2	5.9	400 / 230	50	0.85	82	5.10	13.6	11.9	1.72	14
090-31 ²⁾	2.2	2840	4.8	6.9	400 / 230	50	0.86	82	7.40	21.5	20.9	2.54	17

¹⁾ at 400 V mains voltage

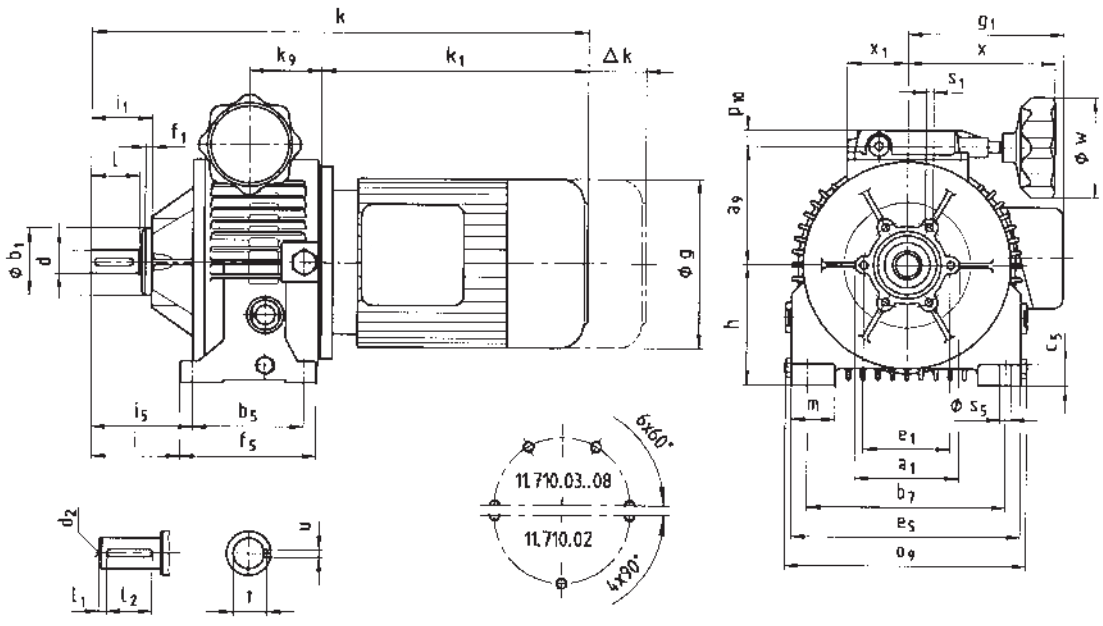
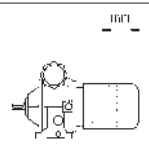
²⁾ only for DISCO variable speed drive

Values are guide values

*Motors can be driven at rated torque within a voltage range to the table "Voltages / Frequencies" on page 3-27.

DISCO variable speed drives

Dimensions with motor

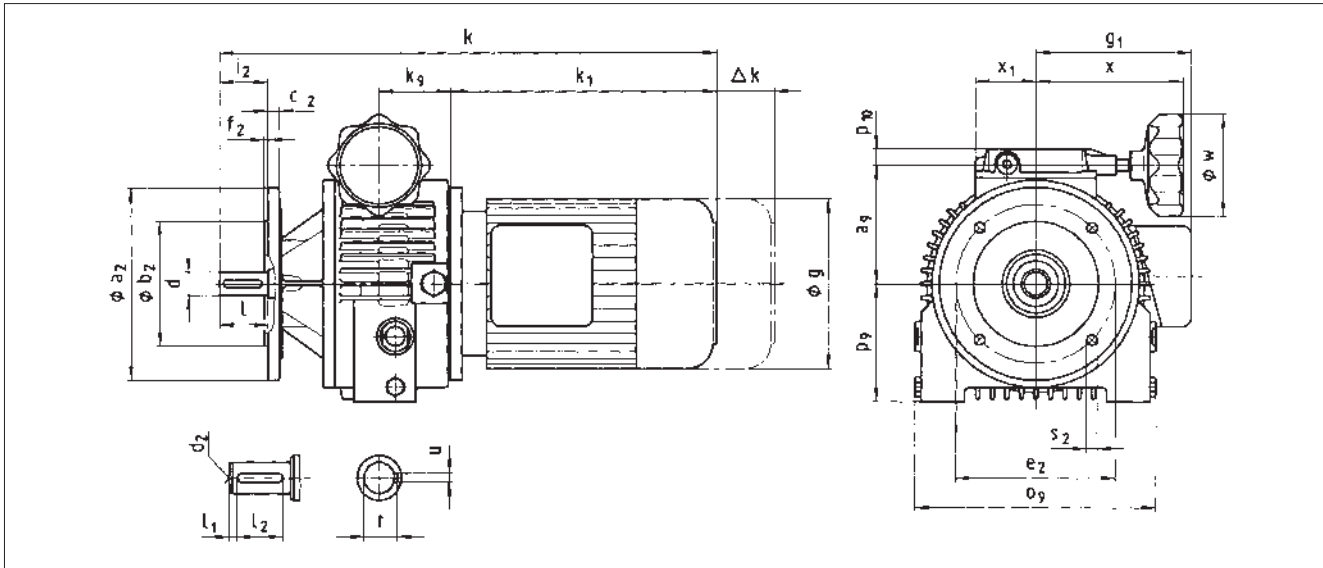
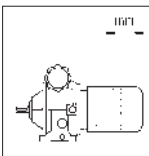


DISCO variable speed drives			Motor frame size							
11.710. □□.00 Foot design			071-1□ 071-3□	080-1□ 080-3□	090-1□ 090-3□	100-1□ 100-32	112-22	132-12	132-22	
Motor	g		143	160	180	206	222	274	274	
	g ₁		128	137	147	140	174	196	196	
	Brake motor		131	142	154	151	174	212	212	
	k ₁		237	267	350	316	379	450	450	
Δk Brake		54	36	48	111	80	63	63		
Gearbox size	Gearboxes								Total length	
	a ₉	h	k ₉	o ₉	p ₁₀	w	x	x ₁	k	
11.710.02	83	67*	42	150	14	70	105	43	368	
11.710.03	86	80	50	175	14	70	105	43	395	
11.710.04	103	102	58	215	17	105	152	63		465
11.710.05	123	125	74	253	17	105	152	63		589
11.710.06	149	150	82	305	17	105	152	63		596
11.710.07	149	150	82	305	17	105	152	63		659
11.710.18	190	180	104	379	26	160	195 ¹⁾	111		774
11.710.08	190	180	104	379	26	160	195 ¹⁾	111		774

Gearbox size	Solid shaft							Pitch circle						Foot									
	d k6	l	l ₁	l ₂	d ₂	u	t	a ₁	b ₁ h ₇	e ₁	f ₁	i ₁	s ₁	b ₅	b ₇	c ₅	e ₅	f ₅	i	i ₅	m	s ₅	
11.710.02	11	23	3	16	M4	4	12.5	86	58	74	5	35	M6x14	90	110	3.5	140	110	33	43	25	10	
11.710.03	14	30	4	20	M5	5	16	90	58	74	5	42	M6x10	90	120	14	160	125	44	62	32	10	
11.710.04	19	40	5	28	M6	6	21.5	108	70	90	5	54	M8x16	100	150	17	200	134	71	89	40	11	
11.710.05	24	50	4	40	M8	8	27	108	70	90	5	64	M8x16	115	205	22	238	140	95	107	45	11	
11.710.06	28	60	6	40	M10	8	31	140	100	120	7	77	M10x20	220	255	26	290	252	76	92	55	13.5	
11.710.07	28	60	6	40	M10	8	31	140	100	120	7	77	M10x20	220	255	26	290	252	76	92	55	13.5	
11.710.18	38	80	10	56	M12	10	41	165	120	145	11	100	M12x24	255	320	30	364	305	86	110	60	17.5	
11.710.08	38	80	10	56	M12	10	41	165	120	145	11	100	M12x24	255	320	30	364	305	86	110	60	17.5	

Dimensions in [mm] * g/2 > h

1) Plus 80 mm for handle

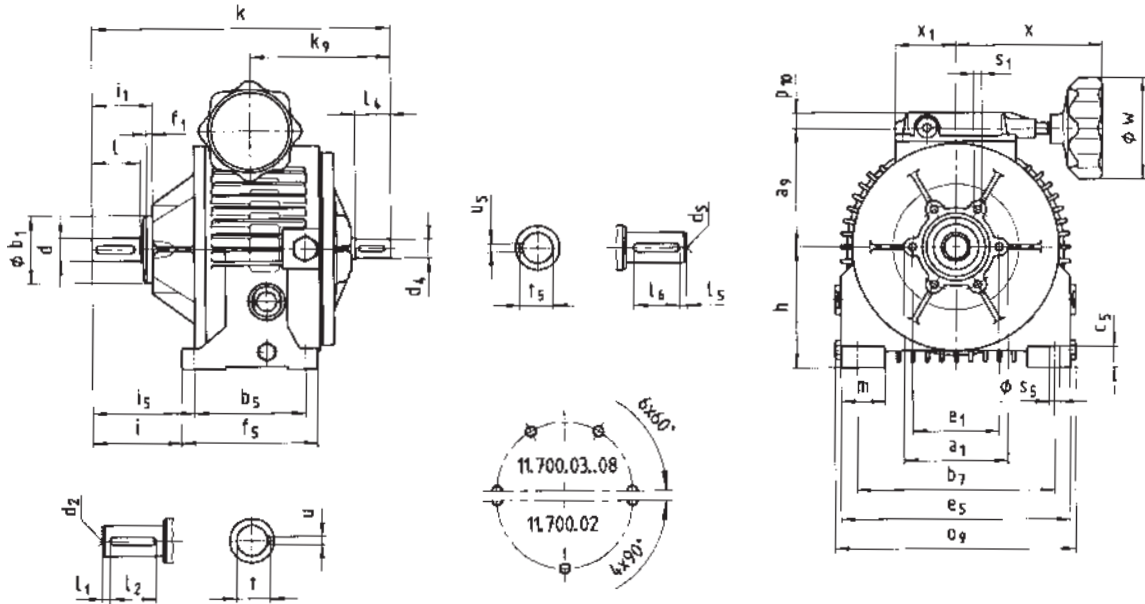
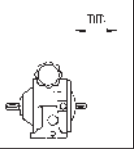


DISCO variable speed drives		Motor frame size								
11.710. □ □ .00 Flange design		071-1□ 071-3□	080-1□ 080-3□	090-1□ 090-3□	100-1□ 100-3□	112-22	132-12	132-22		
Motor	g	143	160	180	206	222	274	274		
	g₁	128	137	147	140	174	196	196		
	Brake motor	131	142	154	151	174	212	212		
	k₁	237	267	350	316	379	450	450		
	Δk Brake	54	36	48	111	80	63	63		
Gearbox size	Gearboxes							Total length		
	a ₉	k ₉	o ₉	p ₉ *	p ₁₀	w	x	x ₁	k	
11.710.02	83	42	150	65	14	70	105	43	368	
11.710.03	86	50	175	83	14	70	105	43	395	
11.710.04	103	58	215	98	17	105	152	63	465	
11.710.05	123	74	253	122	17	105	152	63	589	
11.710.06	149	82	305	145	17	105	152	63	596	
11.710.07	149	82	305	145	17	105	152	63	659	
11.710.18	190	104	379	176	26	160	195 ¹⁾	111	774	
11.710.08	190	104	379	176	26	160	195 ¹⁾	111	774	

Gearbox size	Solid shaft							Output flange						
	d k6	l	l ₁	l ₂	d ₂	u	t	a ₂	b ₂ j7	c ₂	e ₂	f ₂	l ₂	s ₂
11.710.02	11	23	3	16	M4	4	12,5	120	80	12	100	3	23	7
								140	95	10	115	3		9
								160	110	10	130	3,5		9
11.710.03	14	30	4	20	M5	5	16	140	95	10	115	3	30	9
								160	110	10	130	3,5		9
								200	130	12	165	3,5		11
11.710.04	19	40	5	28	M6	6	21,5	160	110	12	130	3,5	40	9
								200	130	12	165	3,5		11
								250	180	14	215	4		14
11.710.05	24	50	4	40	M8	8	27	160	110	12	130	3,5	50	9
								200	130	12	165	3,5		11
								250	180	14	215	4		14
11.710.06	28	60	6	40	M10	8	31	200	130	14	165	3,5	60	11
								250	180	15	215	4		14
								300	230	17	265	4		14
11.710.07	28	60	6	40	M10	8	31	200	130	14	165	3,5	60	11
								250	180	15	215	4		14
								300	230	17	265	4		14
11.710.18	38	80	10	56	M12	10	41	250	180	16	215	4	80	14
								300	230	18	265	4		14
								350	250	20	300	5		18
11.710.08	38	80	10	56	M12	10	41	250	180	16	215	4	80	14
								300	230	18	265	4		14
								350	250	20	300	5		18

DISCO variable speed drives

Dimensions with free input shaft



DISCO variable speed drives

11.700. □ □ .00 Foot design

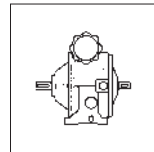
Gearbox size	Gearboxes								Input shaft							Total length k
	a ₉	h	k ₉	o ₉	p ₁₀	w	x	x ₁	d ₄ k ₆	l ₄	l ₅	l ₆	d ₅	u ₅	t ₅ +0.2	
11.700.02	83	67	94	150	14	70	105	43	11	23	3	16	M4	4	12.5	183
11.700.03	86	80	112	175	14	70	105	43	14	30	4	20	M5	5	16	219
11.700.04	103	102	112	215	17	105	152	63	15	30	5	20	M5	5	17	251
11.700.05	123	125	147	253	17	105	152	63	20	40	6	28	M6	6	22.5	312
11.700.06	149	150	186	305	17	105	152	63	25	50	5	40	M10	8	28	383
11.700.07	149	150	186	305	17	105	152	63	25	50	5	40	M10	8	28	383
11.700.18	190	180	256	379	26	160	195 ¹⁾	111	30	60	3	50	M10	8	33	476
11.700.08	190	180	256	379	26	160	195 ¹⁾	111	30	60	3	50	M10	8	33	476

Gearbox size	Solid shaft							Pitch circle						Foot								
	d k6	l	l ₁	l ₂	d ₂	u	t +0.2	a ₁	b ₁ h ₇	e ₁	f ₁	i ₁	s ₁	b ₅	b ₇	c ₅	e ₅	f ₅	i	i ₅	m	s ₅
11.700.02	11	23	3	16	M4	4	12.5	86	58	74	5	35	M6x14	90	110	3.5	140	110	33	43	25	10
11.700.03	14	30	4	20	M5	5	16	90	58	74	5	42	M6x10	90	120	14	160	125	44	62	32	10
11.700.04	19	40	5	28	M6	6	21.5	108	70	90	5	54	M8x16	100	150	17	200	134	71	89	40	11
11.700.05	24	50	4	40	M8	8	27	108	70	90	5	64	M8x16	115	205	22	238	140	95	107	45	11
11.700.06	28	60	6	40	M10	8	31	140	100	120	7	77	M10x20	220	255	26	290	252	76	92	55	13.5
11.700.07	28	60	6	40	M10	8	31	140	100	120	7	77	M10x20	220	255	26	290	252	76	92	55	13.5
11.700.18	38	80	10	56	M12	10	41	165	120	145	11	100	M12x24	255	320	30	364	305	86	110	60	17.5
11.700.08	38	80	10	56	M12	10	41	165	120	145	11	100	M12x24	255	320	30	364	305	86	110	60	17.5

Dimensions in [mm] 1) Plus 80 mm for handle

Disco variable speed drives

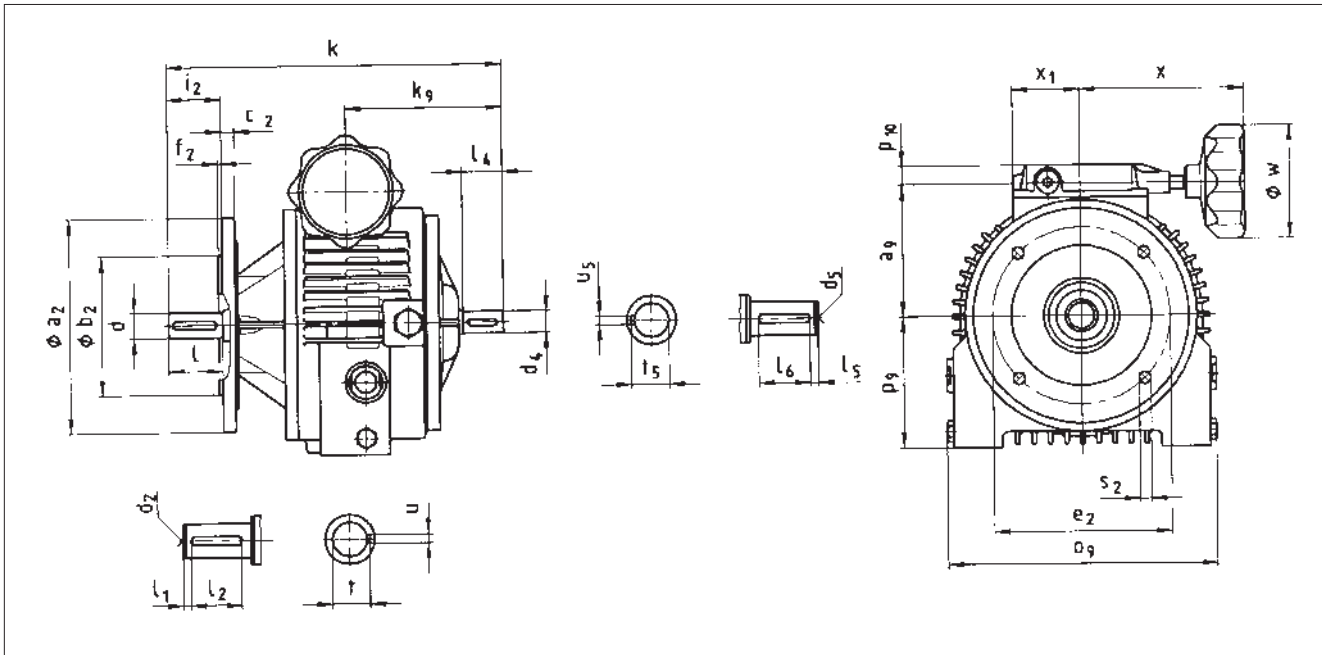
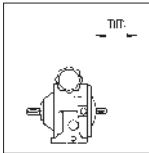
Selection tables with free input shaft



DISCO Dim. page 4-74	P _{1 perm} [kW] M _{2 perm} [Nm] n ₂ [min ⁻¹]	n1			
		3000 min ⁻¹	1500 min ⁻¹	1000 min ⁻¹	750 min ⁻¹
11.700.02.00	P ₁ M ₂ n ₂	0.37 1.6-3.2 1860-310	0.25 2-4 930-155	0.18 2-4 600-100	0.12 2-4 450-75
11.700.03.00	P ₁ M ₂ n ₂	0.55 2.2-4.4 1920-335	0.37 3-6 950-165	0.25 3-6 630-110	0.18 3-6 460-80
11.700.04.00	P ₁ M ₂ n ₂	1.1 4.5-9 1920-335	0.75 6-12 950-165	0.55 6-12 630-110	0.37 6-12 460-80
11.700.05.00	P ₁ M ₂ n ₂	2.2 9-18 1920-335	1.5 12-24 950-165	1.1 12-24 630-110	0.75 12-24 460-80
11.700.06.00	P ₁ M ₂ n ₂		3 22-44 1000-175	2.2 22-44 660-115	1.5 22-44 490-85
11.700.07.00	P ₁ M ₂ n ₂		4 32-64 1000-175	3 32-64 660-115	2.2 32-64 490-85
11.700.18.00	P ₁ M ₂ n ₂		5.5 45-90 1000-200	4 45-90 660-130	3 45-90 490-100
11.700.08.00	P ₁ M ₂ n ₂		7.5 58-116 1000-200	5.5 58-116 660-130	4 58-116 490-100

DISCO variable speed drives

Dimensions with free input shaft



DISCO variable speed drives

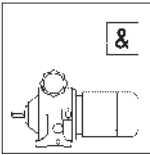
11.700. □ □ .00 Flange design

Gearbox size	Gearboxes								Input shaft						Total length k	
	a ₉	k ₉	o ₉	p ₉ *	p ₁₀	w	x	x ₁	d ₄ k ₆	l ₄	l ₅	l ₆	d ₅	u ₅		t ₅ +0.2
11.700.02	83	94	150	65	14	70	105	43	11	23	3	16	M4	4	12.5	183
11.700.03	86	112	175	83	14	70	105	43	14	30	4	20	M5	5	16	219
11.700.04	103	112	215	98	17	105	152	63	15	30	5	20	M5	5	17	251
11.700.05	123	147	253	122	17	105	152	63	20	40	6	28	M6	6	22.5	312
11.700.06	149	186	305	145	17	105	152	63	25	50	5	40	M10	8	28	383
11.700.07	149	186	305	145	17	105	152	63	25	50	5	40	M10	8	28	383
11.700.18	190	256	379	176	26	160	195 ¹⁾	111	30	60	3	50	M10	8	33	476
11.700.08	190	256	379	176	26	160	195 ¹⁾	111	30	60	3	50	M10	8	33	476

Gearbox size	Solid shaft							Flange							
	d k6	l	l ₁	l ₂	d ₂	u	t +0.2	a ₂	b ₂ j7	c ₂	e ₂	f ₂	i ₂	s ₂	
11.700.02	11	23	3	16	M4	4	12.5	120	80	12	100	3	23	7	
								140	95	10	115	3			9
								160	110	10	130	3.5			9
11.700.03	14	30	4	20	M5	5	16	140	95	10	115	3	30	9	
								160	110	10	130	3.5			9
								200	130	12	165	3.5			11
11.700.04	19	40	5	28	M6	6	21.5	160	110	12	130	3.5	40	9	
								200	130	12	165	3.5			11
								250	180	14	215	4			14
11.700.05	24	50	4	40	M8	8	27	160	110	12	130	3.5	50	9	
								200	130	12	165	3.5			11
								250	180	14	215	4			14
11.700.06	28	60	6	40	M10	8	31	200	130	14	165	3.5	60	11	
								250	180	15	215	4			14
								300	230	17	265	4			14
11.700.07	28	60	6	40	M10	8	31	200	130	14	165	3.5	60	11	
								250	180	15	215	4			14
								300	230	17	265	4			14
11.700.18	38	80	10	56	M12	10	41	250	180	16	215	4	80	14	
								300	230	18	265	4			14
								350	250	20	300	5			18
11.700.08	38	80	10	56	M12	10	41	250	180	16	215	4	80	14	
								300	230	18	265	4			14
								350	250	20	300	5			18

Dimensions in [mm] 1) Plus 80 mm for handle

11.700.02: Mounting to machine wall: Provide stud bolts



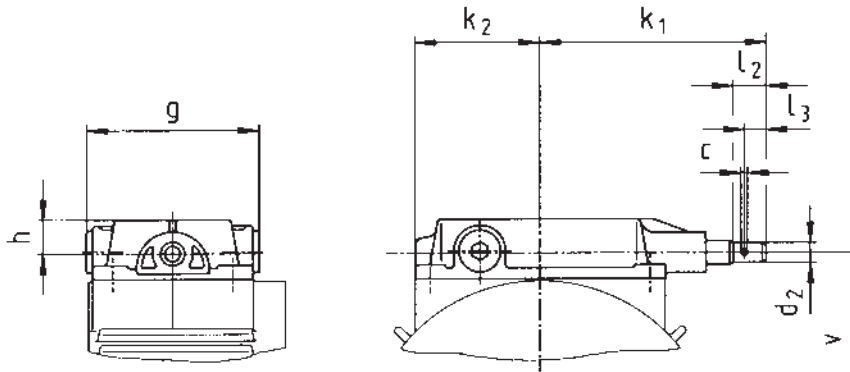
DISCO variable speed drives

Additional dimensions – attachments

Speed adjustment units

Spindle box

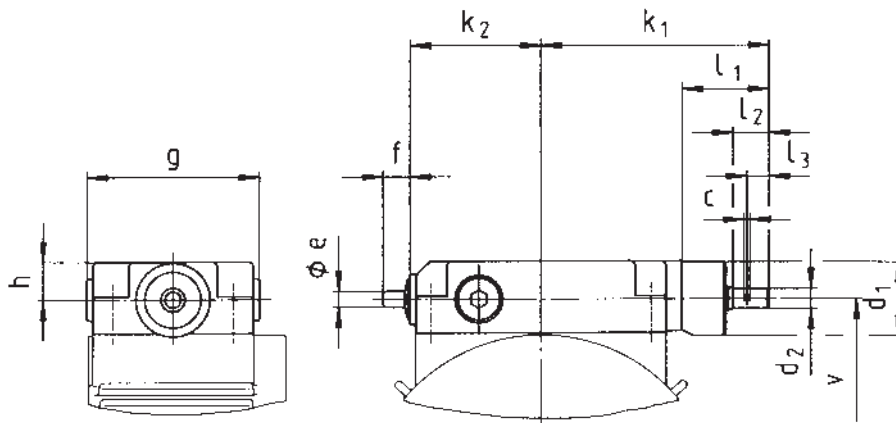
Standard design for handwheel adjustment



DISCO-size	c + 0.1	d ₂ h9	g	h	k ₁	k ₂	l ₂	l ₃	v
02	3.2	8	64	14	74	43	12.5	7	83
03	3.2	8	64	14	74	43	12.5	7	86
04	3.2	10	86	17	114	63	16.5	11	103
05	3.2	10	86	17	114	63	16.5	11	123
06/07	3.2	10	86	17	114	63	16.5	11	149

Options

Universal design suitable for handwheel adjustment, bevel gear adjustment and electrical remote control

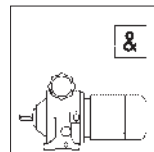


DISCO-size	c + 0.1	d ₁ h9	d ₂ j7	e	f	g	h	k ₁	k ₂	l ₁	l ₂	l ₃	v
02	3.0	30	8	8	13	64	16	84	46	31	14	7	86
03	3.0	30	8	8	13	64	16	84	46	31	14	7	89
04	3.0	37	10	8	13	86	19	114	66	42	18	11	107
05	3.0	37	10	8	13	86	19	114	66	42	18	11	125
06/07	3.0	37	10	8	13	86	19	114	66	42	18	11	153
18/08*	4.0	52	15	8	13	106	26	161	98	55	21	14	190

* With size 18/08 standard design
Dimensions in [mm]

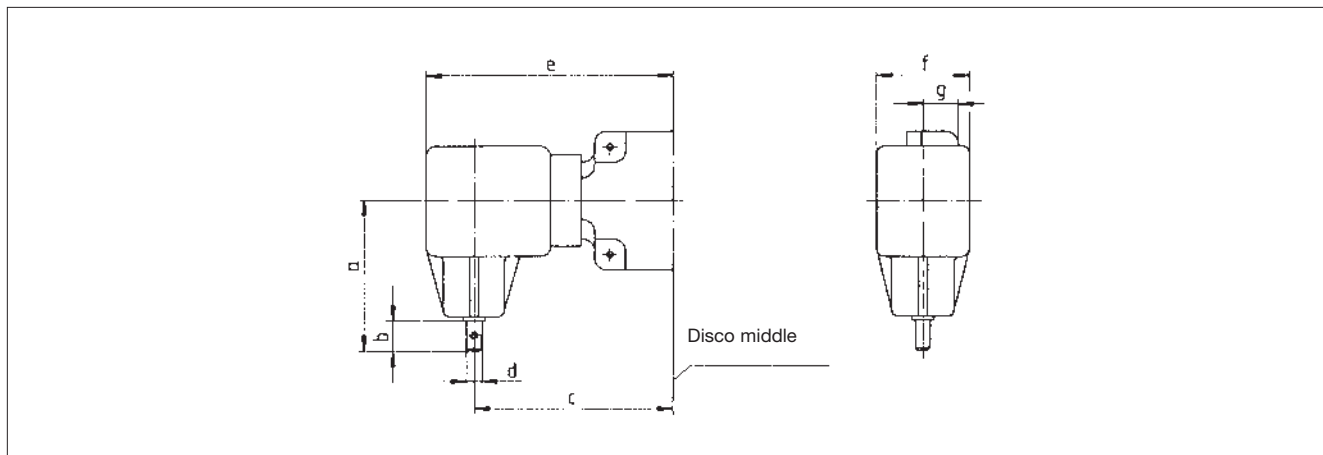
DISCO variable speed drives

Additional dimensions – attachments



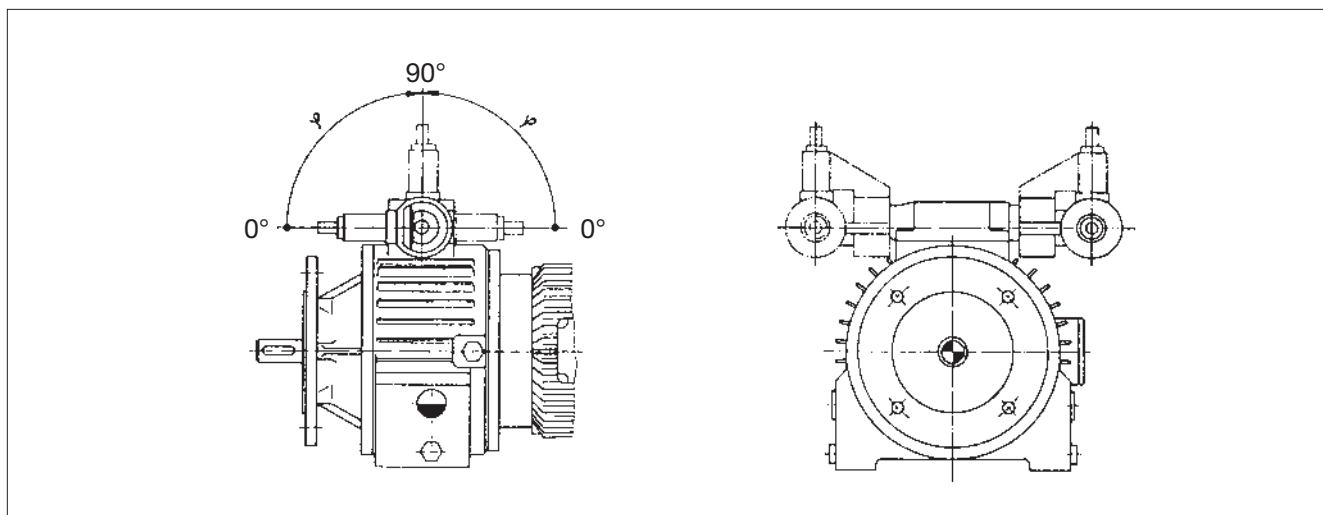
Speed adjustment units

Bevel gear adjustment (optionally)



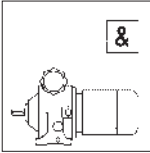
DISCO-size	a	b	c	d h8	e	f	g
02/03	75	22	94	8	116	46	16
04/05/06/07	93	18	127	10	157	56	19
18/08	107	21	173	15	203	73	26

Dimensions in [mm]



DISCO-size	Swivel range φ	
	Handwheel	Handwheel with position indicator $0^\circ \hat{=} \text{horizontal layout}$
02/03/04	90°	$0 - 45^\circ$
05/06/07	90°	$0 - 45^\circ$
18/08	$20 - 90^\circ$	$20 - 45^\circ$

Dimensions in [mm]



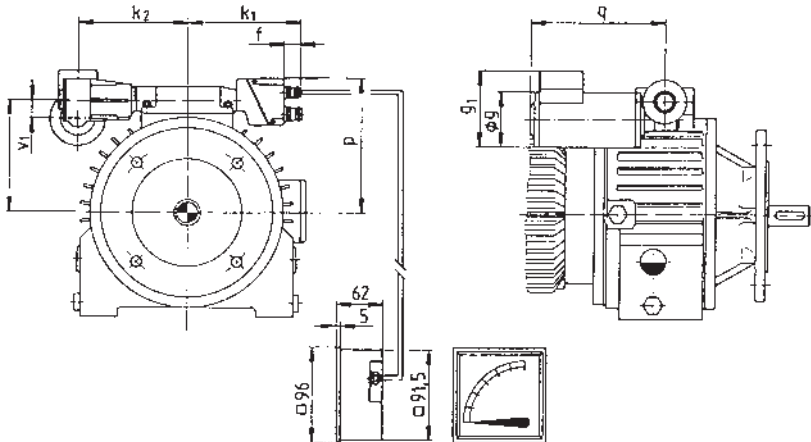
DISCO variable speed drives

Additional dimensions – attachments

Speed adjustment units

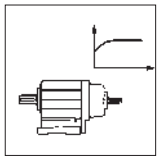
Electrical remote control (optionally)

Position Spindle box	Position adjustment unit			
	2	3	4	5
	Permissible terminal box position for main motor			
2		2-4-5		
3			2-3-4	
4				2-3-4
5	3-4-5			



DISCO-size	f	g	g ₁	k ₁	k ₂	p	q	v	v ₁
02	19	65	123	137	119	118	170	86	25
03						121		89	
04	19	85	144	152	153	139	199	107	31
05						159		127	
06	19	85	144	152	153	185	199	153	31
07									
18/08	19	118	164	190	243 ¹⁾	222	221	190	40

¹⁾ With slip clutch
Dimensions in [mm]



Permissible radial and axial forces – helical gearboxes

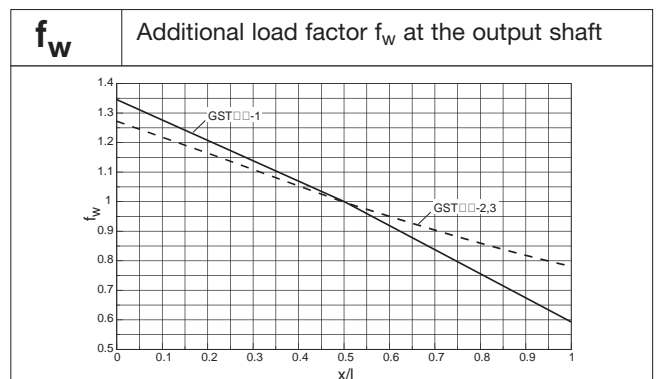
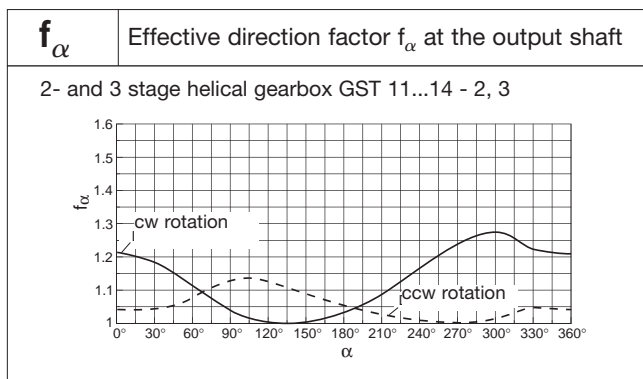
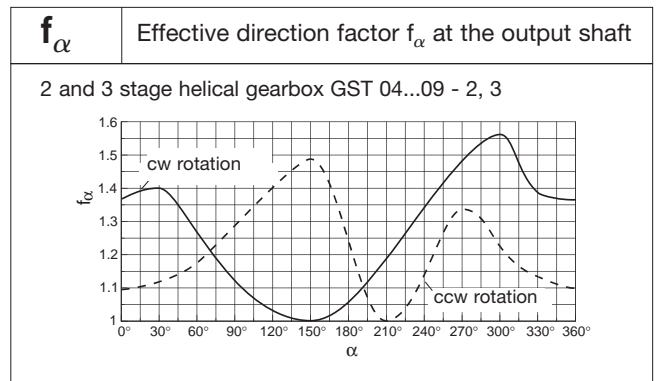
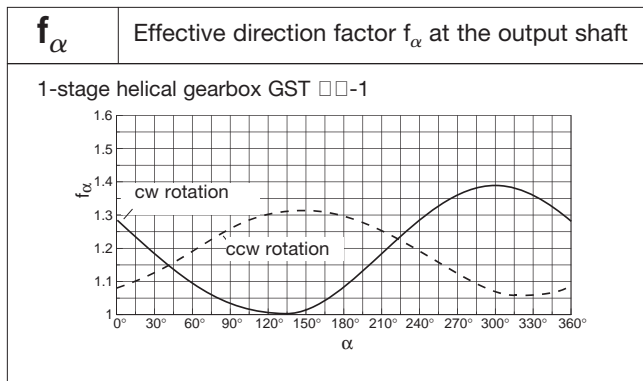
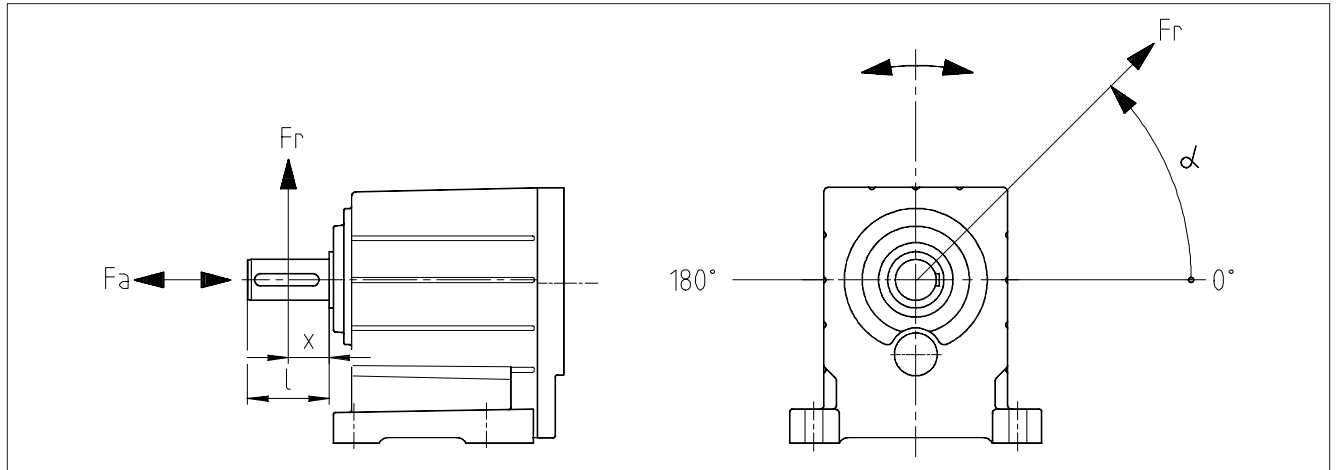
– Permissible radial force

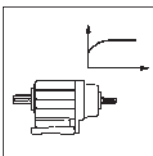
$$F_{r \text{ perm}} = f_w \cdot f_\alpha \cdot F_{r \text{ Tab}} \leq f_w \cdot F_{r \text{ max}}$$

– Permissible axial force

$$F_{a \text{ perm}} = F_{a \text{ Tab}} \quad \text{with } F_r = 0$$

Please contact Lenze if F_r and $F_a > 0$





Technical data

Gearboxes

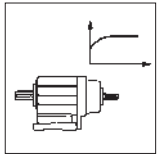
Permissible radial and axial forces – helical gearboxes

GST□□-1D (Feet on DISCO housing)

VCR	F _{r Tab} acts on the middle of the shaft (x = l/2) F _{a Tab} only valid if F _r = 0																	
	GST 04						GST 05						GST 06				GST 07	
	02C		03C		04D		03C		04D		05E		04D		05E		05E	
n ₂ [min ⁻¹]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]
1000	240	240	330	330	490	490	310	310	460	460	780	780	430	430	730	730	680	680
600	240	240	330	330	490	490	310	310	460	460	780	780	430	430	730	730	680	680
400	240	240	330	330	490	490	310	310	460	460	780	780	430	430	730	730	680	680
200	240	240	420	420	610	610	390	390	580	580	970	970	540	540	910	910	850	850
125	240	240	500	500	730	730	470	470	680	680	1170	1170	640	640	1100	1100	1020	1020
80	240	240	500	500	730	730	470	470	680	680	1170	1170	640	640	1100	1100	1020	1020
≤50	240	240	500	500	730	730	470	470	680	680	1170	1170	640	640	1100	1100	1020	1020
F _{r max.}	240	-	500	-	730	-	470	-	680	-	1170	-	640	-	1100	-	1020	-

GST □□-1

V □ □	F _{r Tab} acts on the middle of the shaft (x = l/2) F _{a Tab} only valid if F _r = 0									
	GST 04		GST 05		GST 06		GST 07		GST 09	
	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]
1000	440	1000	550	1400	800	1500	1200	2000	2500	4300
600	600	1300	750	2000	800	2000	1300	2700	2500	5700
400	850	1400	1400	2000	1100	2500	1900	3300	3500	6800
200	1050	1400	2000	2000	2200	2500	3000	3700	6200	7000
125	1050	1400	2300	2000	2900	2500	3900	3700	7900	7000
80	1050	1400	2300	2000	3500	2500	4700	3700	9000	7000
≤50	1050	1400	2300	2000	3500	2500	5300	3700	9500	7000
F _{r max.}	1050	-	2300	-	3500	-	5300	-	9500	-



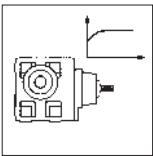
Permissible radial and axial forces – helical gearboxes

GST □□-2, 3 with standard bearing

V □□	F _{r Tab} acts on the middle of the shaft (x = l/2) F _{a Tab} only valid if F _r = 0													
	GST 04		GST 05		GST 06		GST 07		GST 09		GST 11		GST 14	
n ₂ [min ⁻¹]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]
400	1250	1100	1950	2000	2350	850	3400	1900	6800	2300	17000	9500	24000	15000
250	1450	1300	2200	2300	2600	900	3800	2200	7600	2800	19000	10000	27000	16000
160	1700	1650	2600	2650	3100	1250	4500	2900	9400	4000	21000	11000	31000	18000
100	2100	2000	3000	3100	3600	1800	5400	3900	11500	5600	21000	14000	36000	20000
63	2500	2000	3500	3600	4300	2600	6400	5300	11500	8900	21000	16000	39000	20000
40	2650	2000	3800	3600	4350	3600	7600	7000	11500	11000	21000	16000	40000	20000
25	2650	2000	3900	3600	4350	4800	9100	7000	11500	12000	21000	16000	40000	20000
<16	2650	2000	3900	3600	4350	4800	9500	7000	11500	12000	21000	16000	40000	20000
F _{r max.}	2650	–	3900	–	4350	–	9500	–	11500	–	21000	–	40000	–

GST □□-2, 3 with reinforced bearing

V □□	F _{r Tab} acts on the middle of the shaft (x = l/2) F _{a Tab} only valid if F _r = 0										GST 11	GST 14														
	GST 04		GST 05		GST 06		GST 07		GST 09																	
n ₂ [min ⁻¹]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	F _{r Tab} [N]	F _{a Tab} [N]	The standard bearing corresponds to a reinforced bearing															
400	2850	1700	4900	3600	6300	3500	8500	5500	16500	8000			The standard bearing corresponds to a reinforced bearing													
250	3150	1900	5400	3900	7000	3600	9500	6100	17000	9000					The standard bearing corresponds to a reinforced bearing											
160	3550	2200	5400	4300	7700	4200	10500	7100	17000	10500							The standard bearing corresponds to a reinforced bearing									
100	3750	2500	5400	4500	7700	4900	12500	8300	17000	12500									The standard bearing corresponds to a reinforced bearing							
63	3750	2500	5400	4500	7700	5700	13000	9000	17000	14000											The standard bearing corresponds to a reinforced bearing					
40	3750	2500	5400	4500	7700	5700	13000	9000	17000	14000													The standard bearing corresponds to a reinforced bearing			
25	3750	2500	5400	4500	7700	5700	13000	9000	17000	14000															The standard bearing corresponds to a reinforced bearing	
< 16	3750	2500	5400	4500	7700	5700	13000	9000	17000	14000																
F _{r max.}	3750	–	5400	–	7700	–	13000	–	17000	–	The standard bearing corresponds to a reinforced bearing															

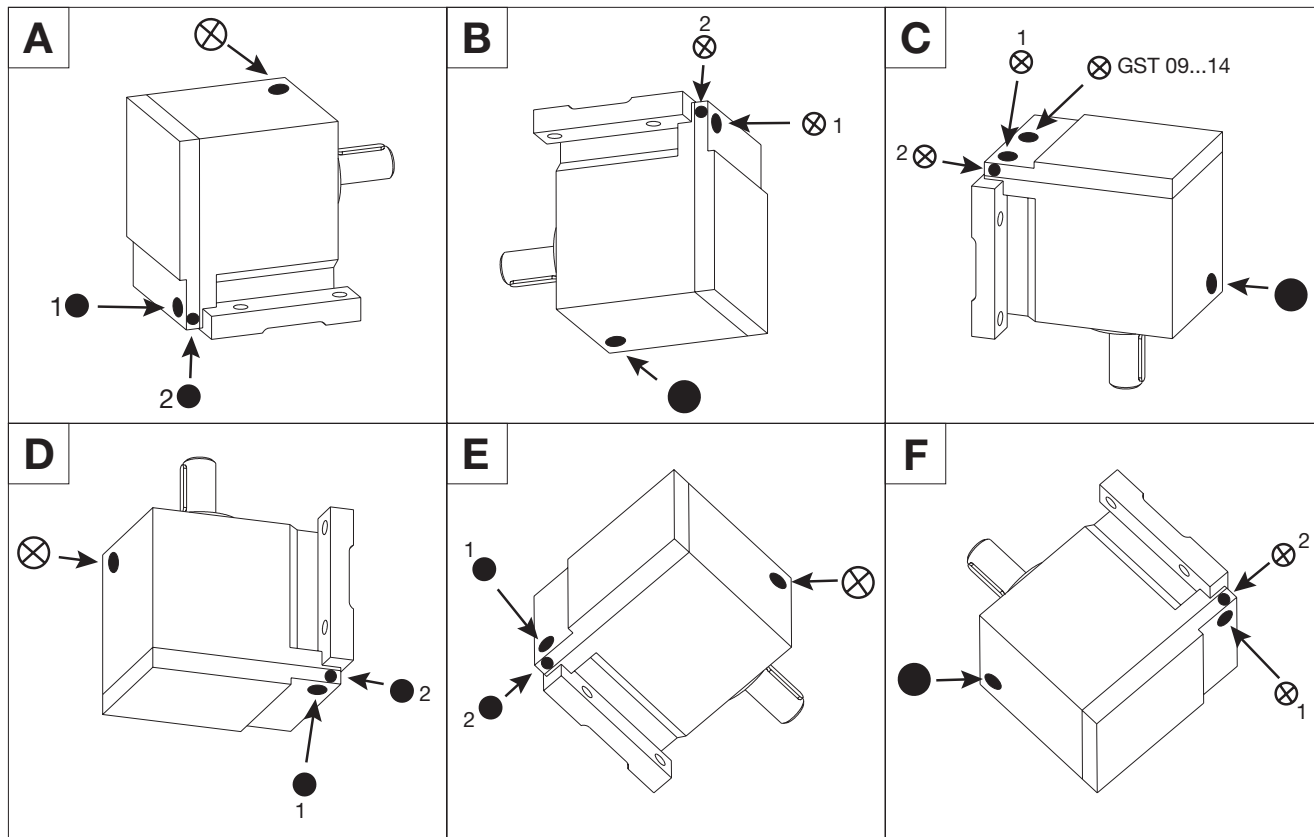


Technical data

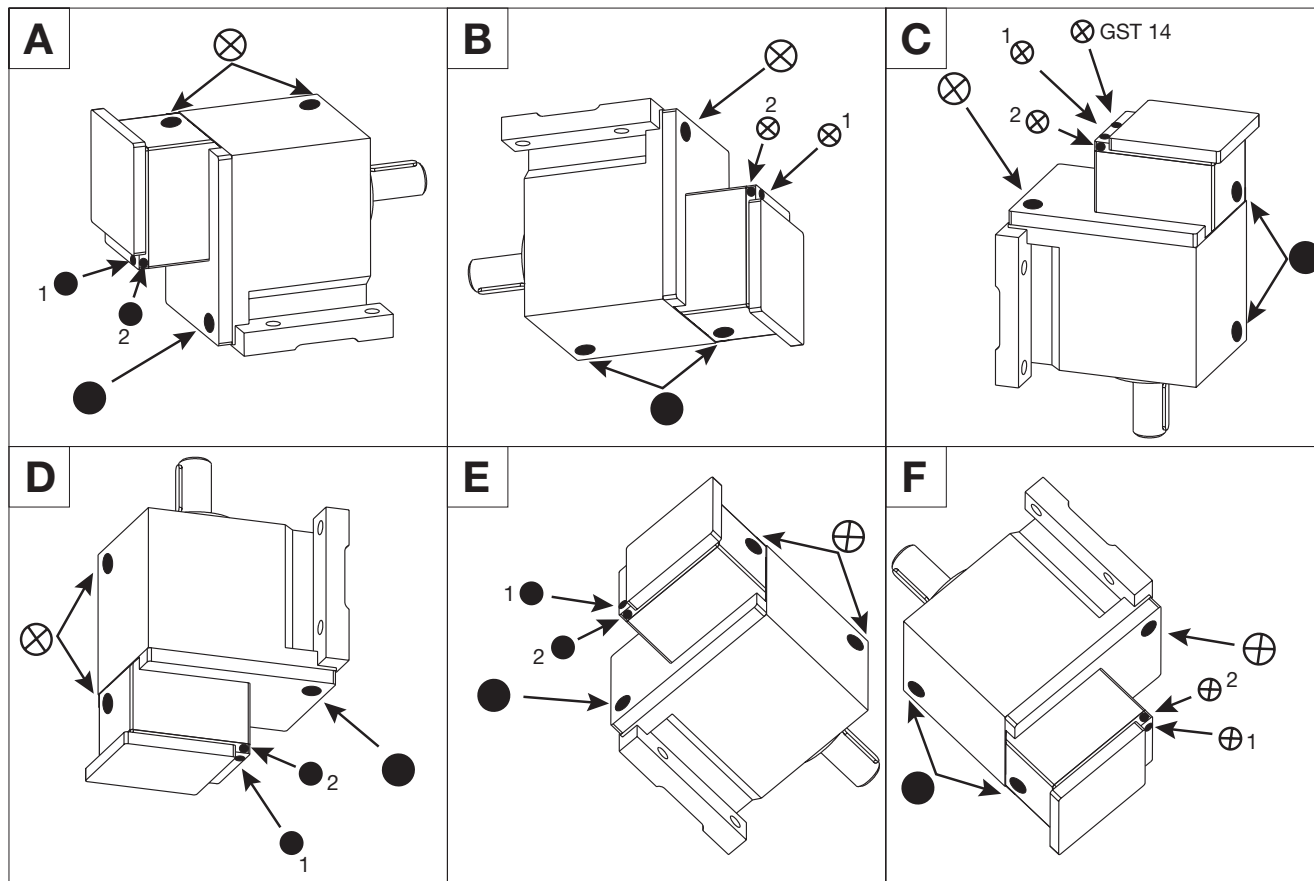
Gearboxes

Position of breather, oil filler plug and oil drain plug

Helical gearboxes GST 05...14 - 2



Helical gearboxes GST 05...14 - 3



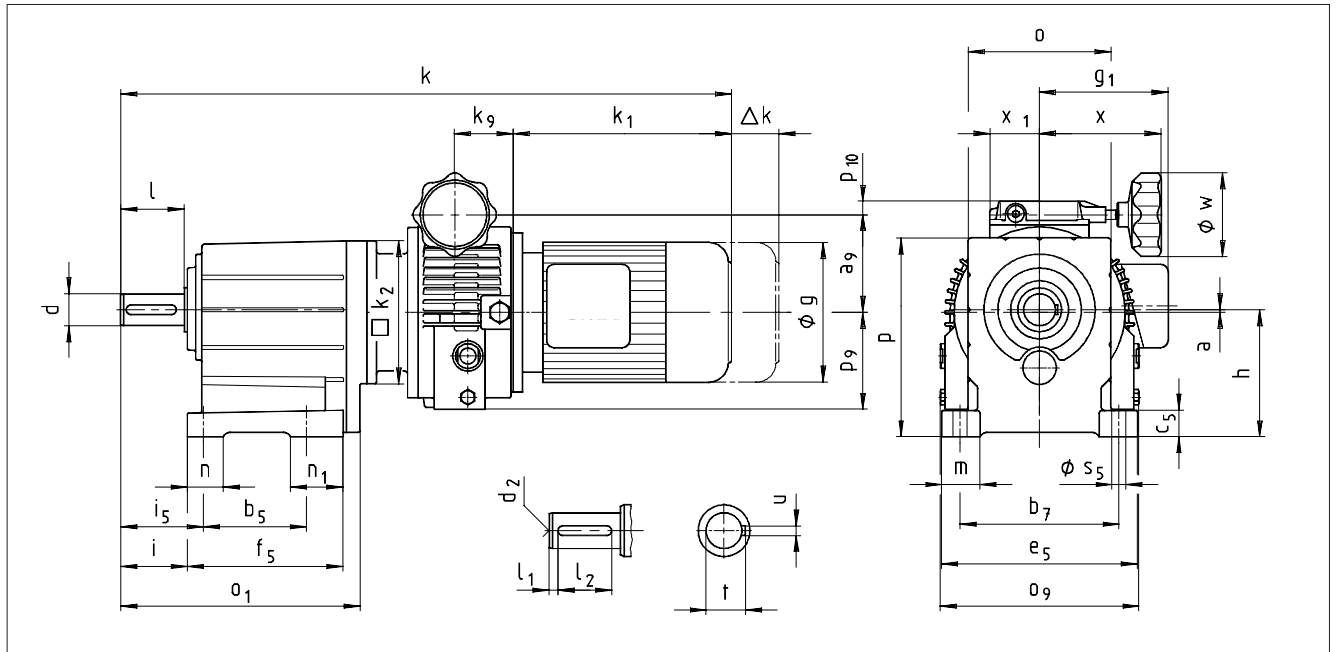
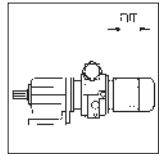
Mounting position (A...F)

⊗ Breather/oil filler plug

● Oil drain plug

DISCO variable speed drives

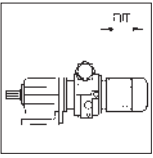
Dimensions with helical gearboxes



DISCO variable speed drives		Drive size																
GST □□ - 2 D VBR		071-1□ 02	071-3□ 03	080-3□ 04	090-3□ 05	100-32 06	112-22 07	132-12 18	132-22 08									
Motor	g	143	143	160	180	206	222	274	274									
	g₁	Without options	128	128	137	147	140	174	196	196								
		Brake motor	131	131	142	154	151	174	212	212								
	k₁	237	237	267	350	316	379	450	450									
	Δk Brake	54	54	36	48	111	80	63	63									
DISCO	a₉	83	86	103	123	149		190										
	k₂	145	145	180	180	265		300										
	k₉	42	50	58	74	82		104										
	o₉	150	175	215	253	305		379										
	p₉	65	83	98	122	145		176										
	p₁₀	14	14	17	17	17		26										
	w	70	70	105	105	105		160										
	x	105	105	152	152	152		195 1)										
	x₁	43	43	63	63	63		111										
Gearbox size	Gearbox					Total length												
	o*	o₁	p*	h**	a	k												
GST 04	100	174	132	80	0	548	561	621										
GST 05	115	214	159	100	1	578	591	651	763									
GST 06	145	243	198	125	2	604	617	677	789									
GST 07	180	302	251	160	3			733	845	842	905	1012	1012					
GST 09	222	370	311	200	4			796	908	905	968	1075	1075					
GST 11	270	433	385	250	4				965	962	1025	1132	1132					
GST 14	328	533	479	315	6					1052	1115	1222	1222					

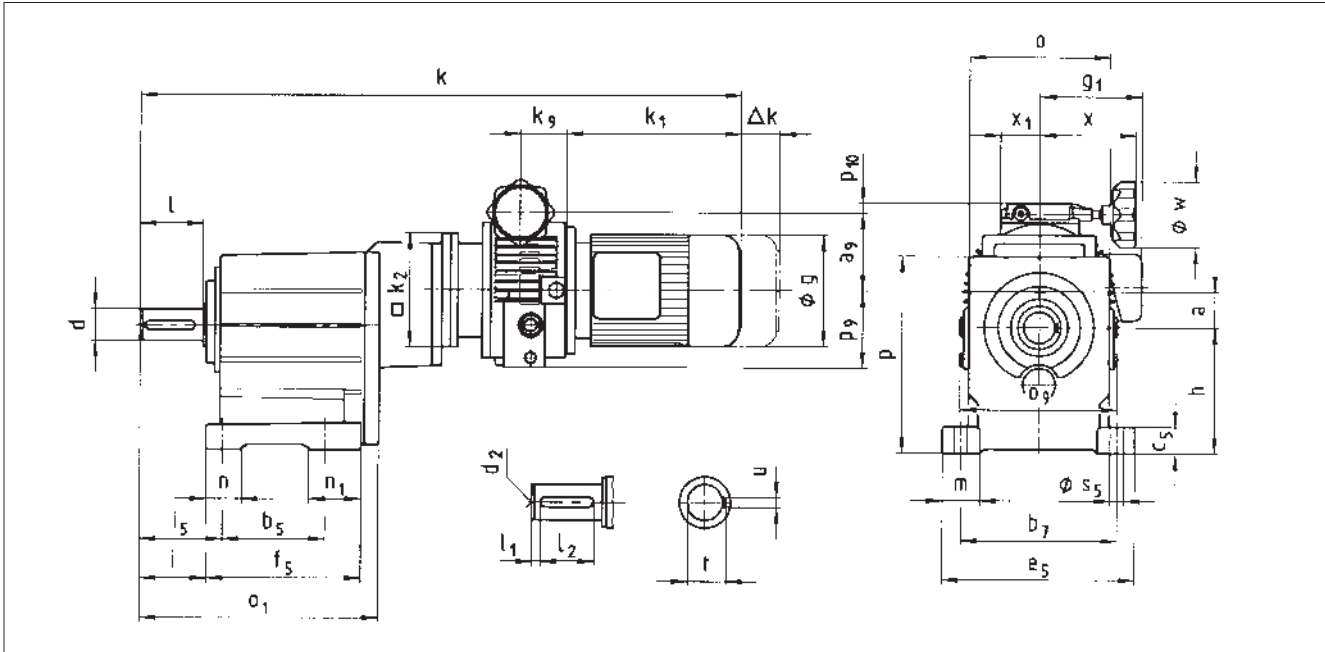
Gearbox size	Solid shaft								Foot									
	d	l	l₁	l₂	d₂	u	t	b₅	b₇	c₅	e₅	f₅	i	i₅	m	n	n₁	s₅
GST 04	20	40	5	28	M6	6	22.5	76	105	18	129	112	43	53	25	20	36	9
GST 05	25	50	4	40	M10	8	28	90	125	23	155	139	53	66	33	26	49	11
GST 06	30	60	6	45	M10	8	33	106	160	28	196	157	64	79	38	35	52	13.5
GST 07	40	80	7	63	M16	12	43	130	200	34	247	196	84	104	49	45	66	18
GST 09	50	100	8	80	M16	14	53.5	165	245	44	298	239	105	127.5	54	48	74	18
GST 11	60	120	8	100	M20	18	64	200	300	54	368	280	125	155	69	65	80	22
GST 14	80	160	15	125	M20	22	85	250	380	65	460	340	165	200	85	85	91	26

Dimensions in [mm] d ≤ 50 mm: k6 * Observe dimension k₂ 1) Plus 80 mm handle
 d > 50 mm: m6 ** Observe dimension p₉



DISCO variable speed drives

Dimensions with helical gearboxes

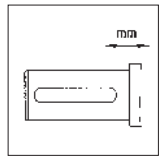


4

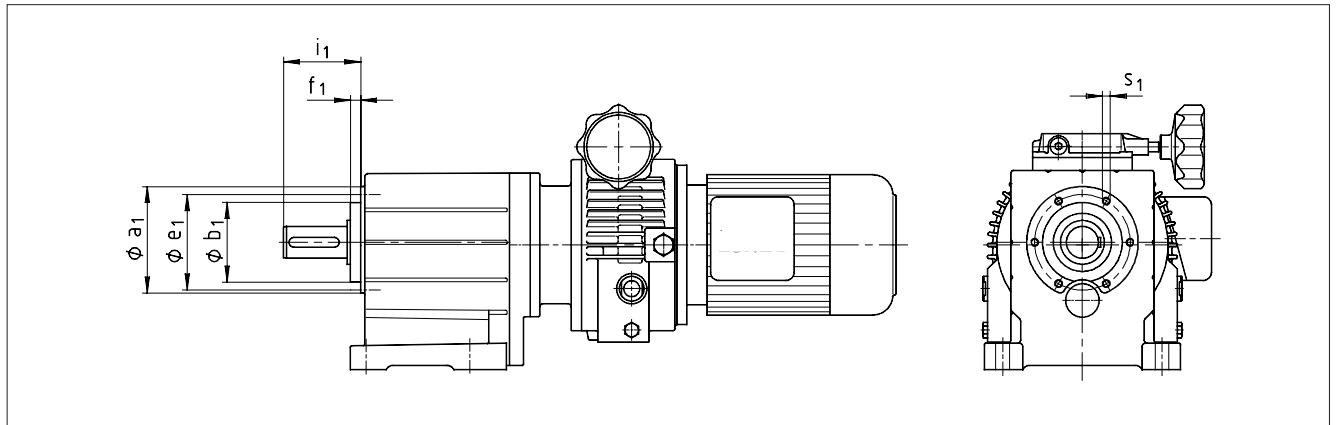
DISCO variable speed drives		Drive size																
GST □ □ - 3 D VBR		071-1□ 02	071-3□ 03	080-3□ 04	090-3□ 05	100-32 06	112-22 07	132-12 18	132-22 08									
Motor	g	143	143	160	180	206	222	274	274									
	g₁ Without options	128	128	137	147	140	174	196	196									
	Brake motor	131	131	142	154	151	174	212	212									
	k₁	237	237	267	350	316	379	450	450									
	Δk Brake	54	54	36	48	111	80	63	63									
DISCO	a₉	83	86	103	123	149		190										
	k₂	145	145	180	180	265		300										
	k₉	42	50	58	74	82		104										
	o₉	150	175	215	253	305		379										
	p₉	65	83	98	122	145		176										
	p₁₀	14	14	17	17	17		26										
	w	70	70	105	105	105		160										
	x	105	105	152	152	152		195 1)										
	x₁	43	43	63	63	63		111										
Gearbox size	Gearbox					Total length												
	o*	o₁	p*	h	a	k												
GST 05	115	208	159	100	35	654	668											
GST 06	145	240	198	125	34	697	711	771										
GST 07	180	302	251	160	42	764	778	838	950									
GST 09	222	370	311	200	52	845	859	919	1031									
GST 11	270	433	385	250	66			995	1107	1104	1167							
GST 14	328	533	479	315	83			1119	1231	1228	1291	1398	1398					

Gearbox size	Solid shaft							Foot										
	d	l	l₁	l₂	d₂	u	t	b₅	b₇	c₅	e₅	f₅	i	i₅	m	n	n₁	s₅
GST 05	25	50	4	40	M10	8	28	90	125	23	155	139	53	66	32.5	26	49	11
GST 06	30	60	6	45	M10	8	33	106	160	28	196	157	64	79	38	35	52	13.5
GST 07	40	80	7	63	M16	12	43	130	200	34	247	196	84	104	48.5	45	66	18
GST 09	50	100	8	80	M16	14	53.5	165	245	44	298	239	105	127.5	54	48	74	18
GST 11	60	120	8	100	M20	18	64	200	300	54	368	280	125	155	69	65	80	22
GST 14	80	160	15	125	M20	22	85	250	380	65	460	340	165	200	85	85	91	26

Dimensions in [mm] $d \leq 50$ mm: k6 * Observe dimension k_2
 $d > 50$ mm: m6 1) Plus 80 mm handle

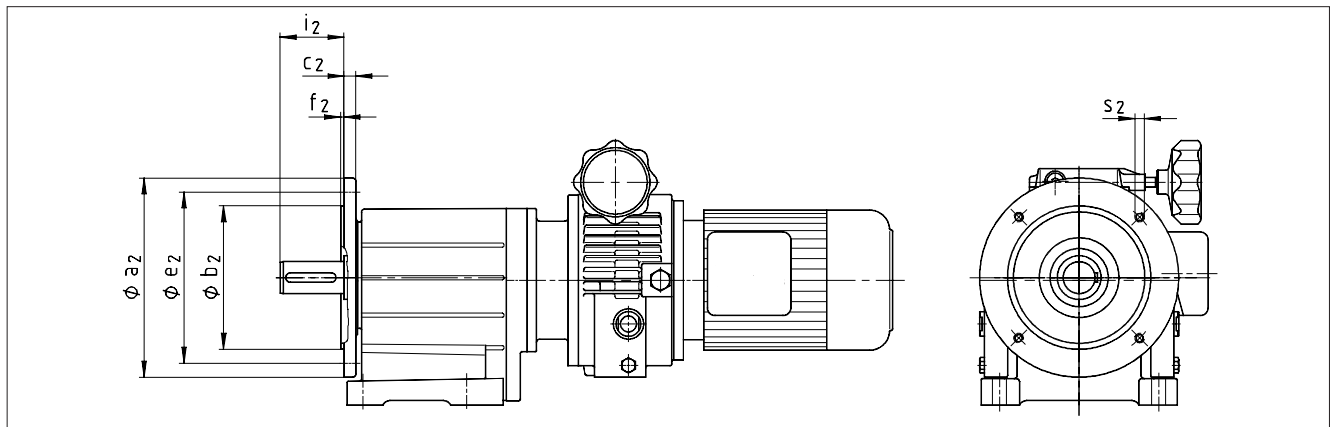


Output design VAR



Gearbox size	a ₁	b ₁ h7	e ₁	f ₁	i ₁	s ₁ 6 x 60°
GST 04	72	48	61	8	51	M5x10
GST 05	88	58	74	9	62	M6x12
GST 06	109	70	90	10	74	M8x14
GST 07	140	100	120	13	97	M10x8
GST 09	174	120	145	15	120	M12x20
GST 11	215	150	185	18	143	M16x26
GST 14	265	195	230	22	187	M20x34

Output design VAL

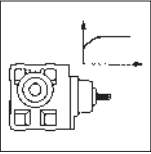


Gearbox size	a ₂	b ₂ j7	c ₂	e ₂	f ₂	i ₂	s ₂ 4 x 90°
GST 04	120	80	10	100	3	40	M6
	140	95		115			M8
GST 05	120	80	10	100	3	50	M6
	140	95		115	3		M8
	160	110		130	3.5		M8
GST 06	160	110	12	130	3.5	60	M8
	200	130		165			M10
GST 07	200	130	14	165	3.5	80	M10
	250	180	15	215	4		M12
GST 09	250	180	16	215	4	100	M12
	300	230	18	265			
GST 11	300	230	18	265	4	120	M12
	350	250	20	300	5		M16
GST 14	350	250	22	300	5	160	M16
	400	300	24	350			

Dimensions in [mm]

Technical data

Gearboxes



Permissible radial and axial forces – helical bevel gearboxes

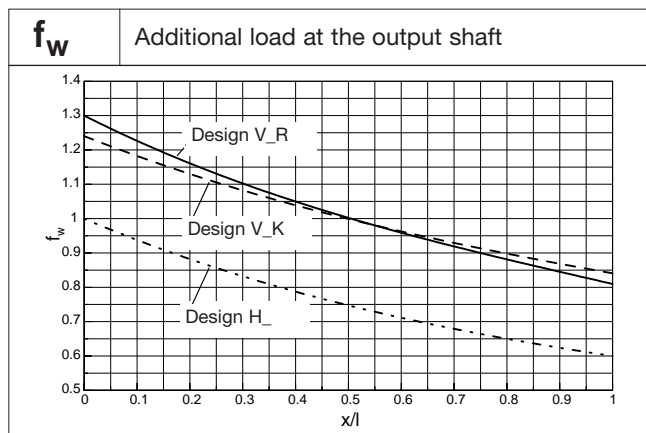
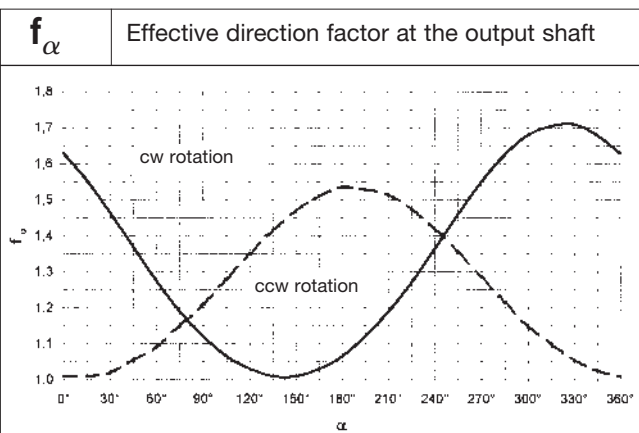
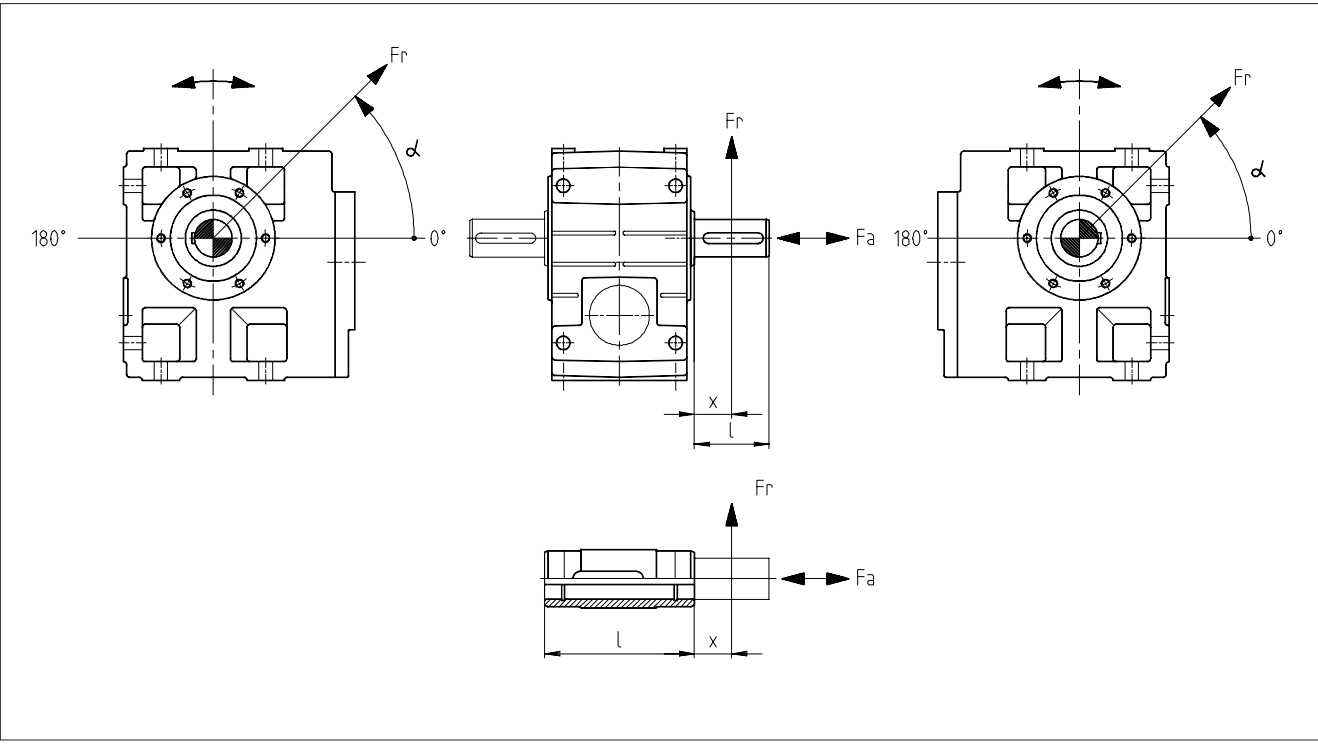
– Permissible radial force

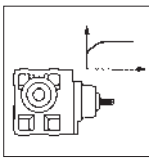
$$F_{r \text{ perm}} = f_w \cdot f_\alpha \cdot F_{r \text{ Tab}} \leq f_w \cdot F_{r \text{ max}}$$

– Permissible axial force

$$F_{a \text{ perm}} = F_{a \text{ Tab}} \quad \text{with } F_r = 0$$

Please contact Lenze if F_r and $F_a < 0$





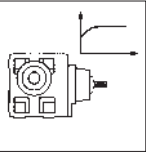
Permissible radial and axial forces – helical-bevel gearboxes

VAK	Solid shaft with flange F_r acts on the middle of the shaft ($x = l/2$) $F_{a Tab}$ only valid for $F_r = 0$													
	GKS 04		GKS 05		GKS 06		GKS 07		GKS 09		GKS 11		GKS 14	
n_2 [min ⁻¹]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]
400	3800	4200	4640	3630	6400	4660	7000	5700	9900	6000	14500	7000	20500	8400
250	4300	4400	5420	4440	7500	5880	8250	7000	10500	6600	16000	7500	23700	10000
160	4600	4400	6280	5420	8800	7320	9630	8500	12000	7600	17600	8500	27200	11500
100	4600	4400	7000	6600	9800	9230	11000	10400	14000	10000	21000	10500	31300	13000
63	4600	4400	7000	6600	10000	10000	13000	11500	15000	12000	24500	13000	35000	15000
40	4600	4400	7000	6600	10000	10000	14000	11500	15000	15000	28000	17500	41000	19000
25	4600	4400	7000	6600	10000	10000	14000	11500	15000	17000	30000	27000	43000	28000
≤ 16	4600	4400	7000	6600	10000	10000	14000	11500	15000	17000	30000	27000	43000	35000
$F_{r max}$	4600	-	7000	-	10000	-	14000	-	15000	-	30000	-	43000	-

V□R	Solid shaft without shaft F_r acts on the middle of the shaft ($x = l/2$) $F_{a Tab}$ only valid for $F_r = 0$													
	GKS 04		GKS 05		GKS 06		GKS 07		GKS 09		GKS 11		GKS 14	
n_2 [min ⁻¹]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]
400	3000	4200	2800	3500	3700	4440	4000	4900	6200	6500	7100	7000	57900	35000
250	3400	5000	3200	4240	4300	5580	4900	6230	6400	7400	7500	8000	61000	35000
160	3600	5500	3600	5090	4900	6930	5800	7820	7100	8000	8200	9200	64100	35000
100	3600	5500	4100	6160	5300	8710	6600	9940	8400	10500	10000	12000	65000	35000
63	3600	5500	4900	6600	6200	10000	8000	12600	9500	13000	11200	14500	65000	35000
40	3600	5500	5800	6600	7900	10000	9600	14000	11800	17000	13000	18500	65000	35000
25	3600	5500	5800	6600	9000	10000	12000	14000	16000	21000	19000	27000	65000	35000
≤ 16	3600	5500	5800	6600	9000	10000	12000	14000	18000	21000	23000	27000	65000	35000
$F_{r max}$	3600	-	5800	-	9000	-	12000	-	18000	-	23000	-	65000	-

H□□	Hollow shaft F_r acts on the middle of the shaft ($x = 0$) $F_{a Tab}$ only valid for $F_r = 0$													
	GKS 04		GKS 05		GKS 06		GKS 07		GKS 09		GKS 11		GKS 14	
n_2 [min ⁻¹]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]
400	3900	4200	3500	3500	4600	4440	5400	4900	7500	6500	9000	7000	15000	6000
250	4500	5000	4200	4240	5600	5580	6300	6230	8200	7400	10000	8000	15500	8000
160	5100	5500	4630	5090	6400	6930	7400	7820	9400	8000	11000	9200	16500	10000
100	5900	5500	5000	6160	7000	8710	8700	9940	10600	10500	14000	12000	17500	13000
63	6800	5500	6200	6600	8200	10000	10500	12600	12200	13000	16000	14500	18500	16000
40	7000	5500	7300	6600	10400	10000	12500	14000	15500	17000	18500	18500	21000	20000
25	7000	5500	7300	6600	12000	10000	15100	14000	21000	21000	25000	27000	28000	28000
≤ 16	7000	5500	7300	6600	12000	10000	16000	14000	24000	21000	30000	27000	40000	35000
$F_{r max}$	7000	-	7300	-	12000	-	16000	-	24000	-	30000	-	45000	-

For hollow shaft with shrink disc (S□□), radial and axial forces are not permissible.



Technical data

Gearboxes

Permissible radial and axial forces – helical worm gearboxes

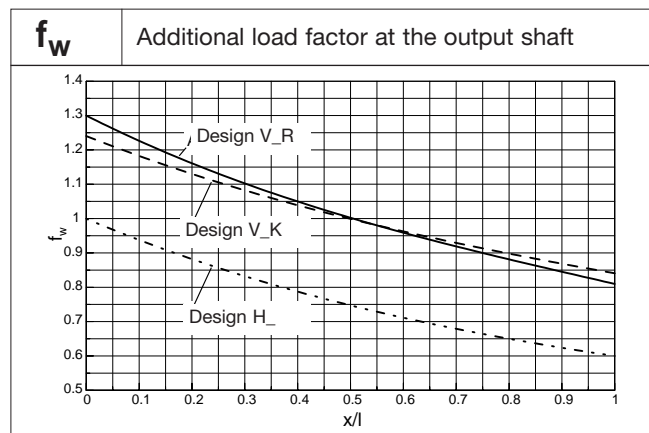
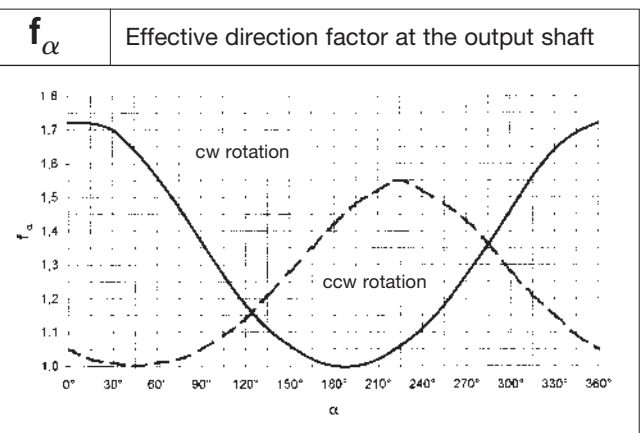
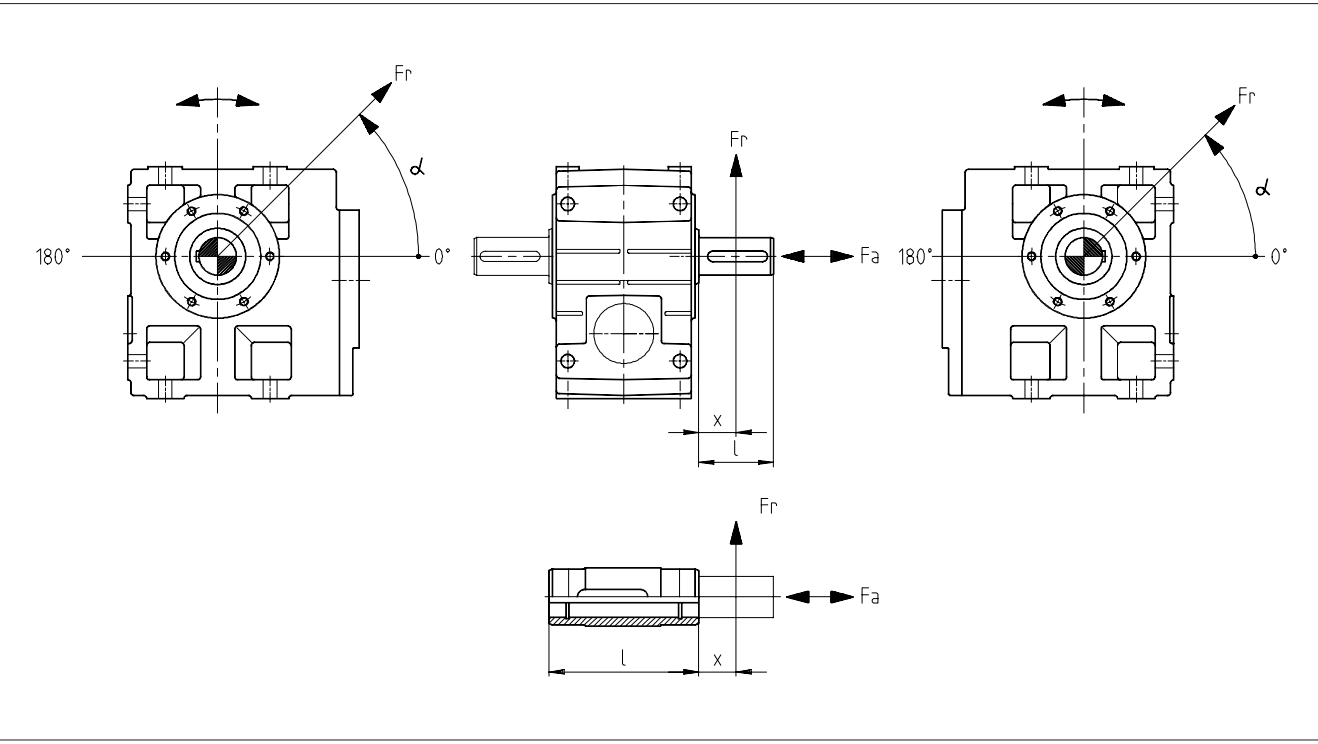
– Permissible radial force

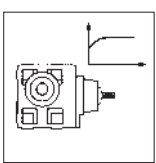
$$F_{r \text{ perm}} = f_w \cdot f_\alpha \cdot F_{r \text{ Tab}} \leq f_w \cdot F_{r \text{ max}}$$

– Permissible axial force

$$F_{a \text{ perm}} = F_{a \text{ Tab}} \quad \text{with } F_r = 0$$

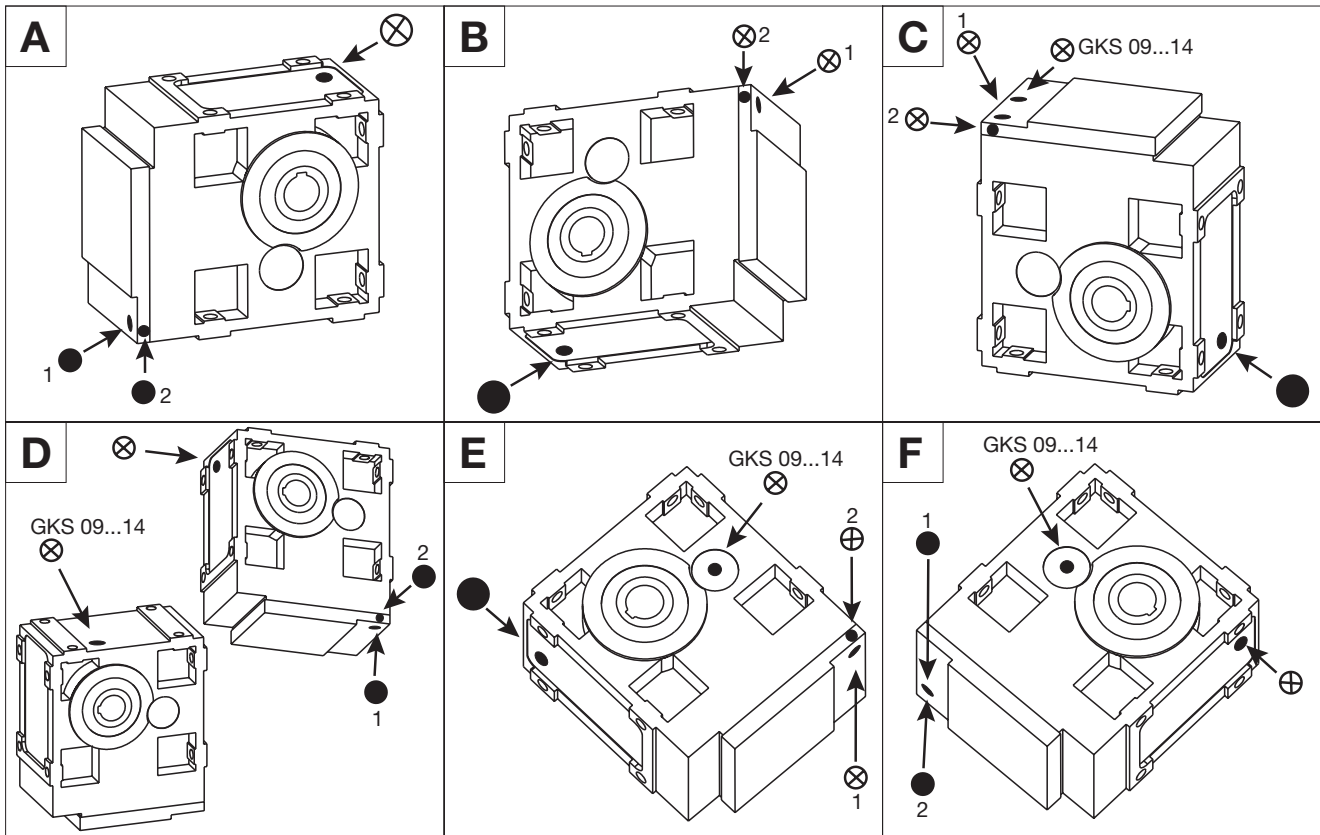
Please contact Lenze if F_r and $F_a < 0$



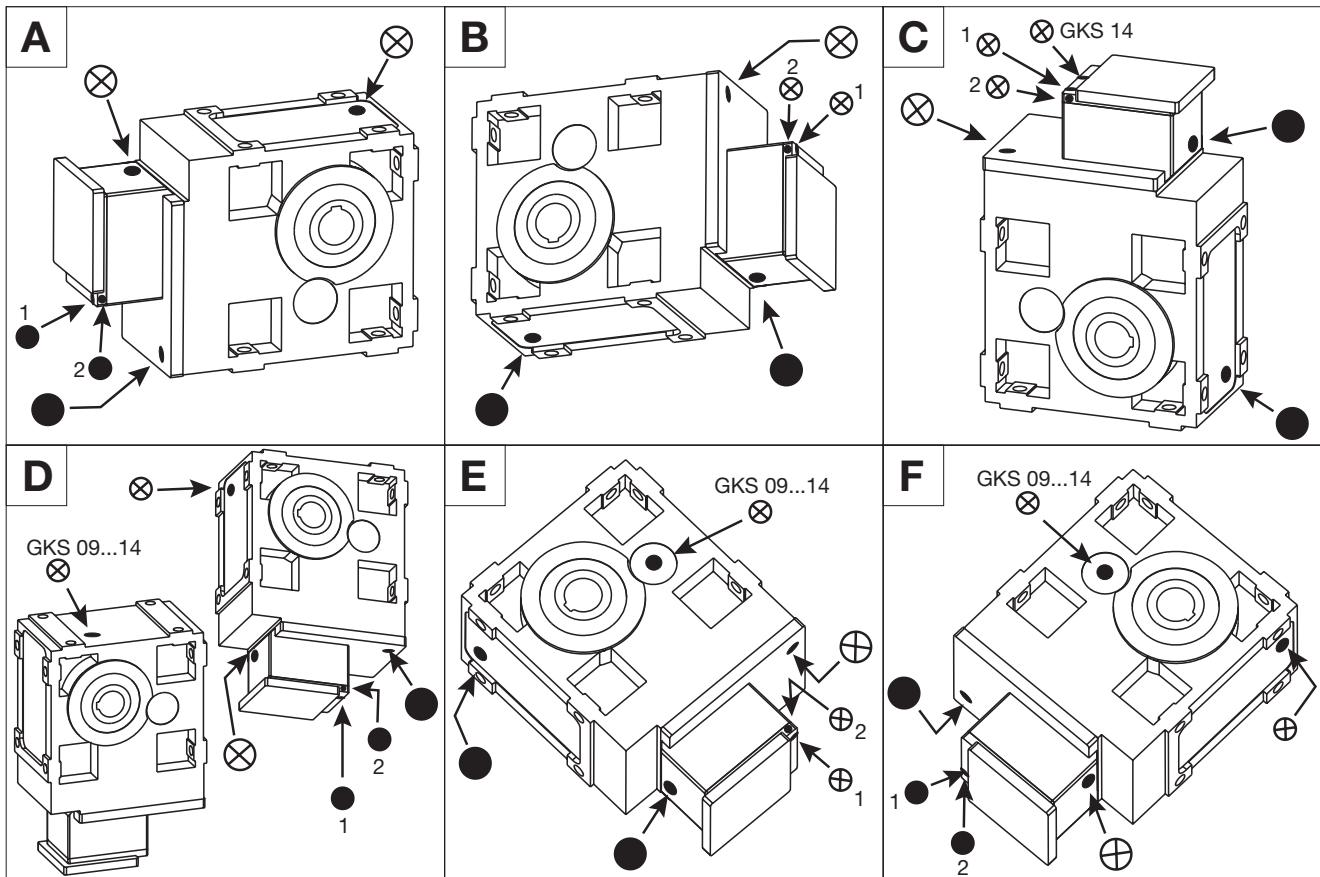


Position of breather, oil filler plug and oil drain plug

Helical-bevel gearboxes GKS 05...14 - 3



Helical-bevel gearboxes GKS 05...14 - 4

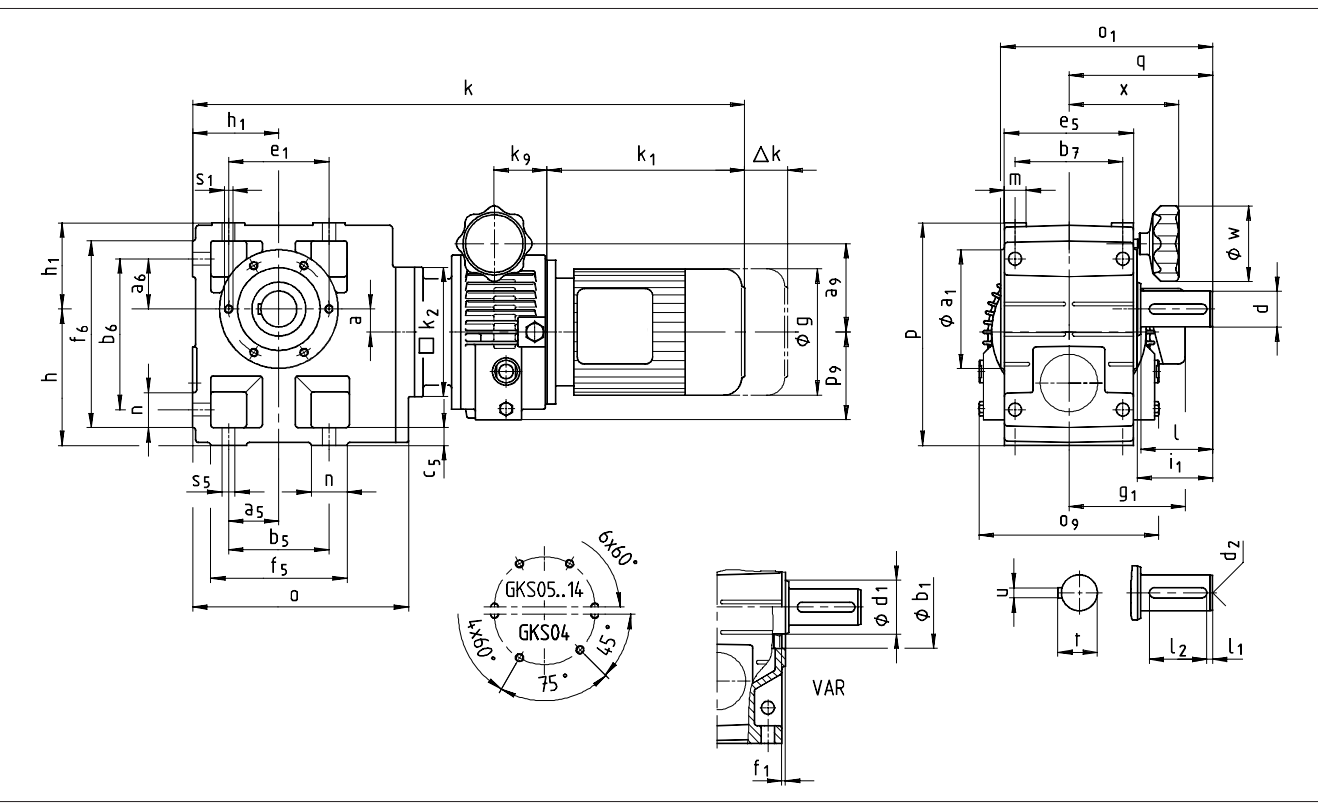
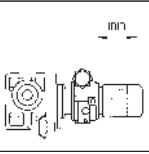


Mounting position (A...F) ⊗ Breather/oil filler plug ● Oil drain plug

Pos. 1 or 2 depending on the type of gearbox used (see table on page 23)

Disco variable speed drives

Dimensions with helical-bevel gearboxes



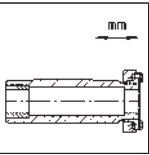
Disco variable speed drives		Drive size																						
GKS □□ - 3 D V □ R		071-1□ 02	071-3□ 03	080-3□ 04	090-3□ 05	100-32 06	112-22 07	132-12 18	132-22 08															
Motor	g	143	143	160	180	206	222	274	274															
	g₁	Without options	128	128	137	147	140	174	196	196														
		Brake motor	131	131	142	154	151	174	212	212														
	k₁	237	237	267	350	316	379	450	450															
	Δk Brake	54	54	36	48	111	80	63	63															
DISCO	a₉	83	86	103	123	149		190																
	k₂	145	145	180	180	265		300																
	k₉	42	50	58	74	82		104																
	o₉	150	175	215	253	305		379																
	p₉	65	83	98	122	145		176																
	w	70	70	105	105	105		160																
	x	105	105	152	152	152		195 1)																
Gearbox size	Gearbox							Total length																
	o	o₁*	p*	h**	h₁	a	q	k																
GKS 04	203	163	171	100	71	20	1075	576	589	649														
GKS 05	232	197	205	125	80	23	130	596	609	669	781													
GKS 06	291	236	250	150	100	28	160	652	665	725	837													
GKS 07	354	296	310	190	120	34	200	708	721	781	893	890	953	1060	1060									
GKS 09	429	356	386	236	150	41	240			852	964	961	1024	1131	1131									
GKS 11	527	445	485	300	185	54	305				1055	1052	1115	1222	1222									
GKS 14	636	544	605	375	230	67	375					1151	1214	1321	1321									

Gearbox size	Solid shaft								Pitch circle						Foot											
	d	l	d₁	l₁	l₂	d₂	u	t	a₁	b₁ H7	e₁	f₁	i₁	s₁	a₅	a₆	b₅	b₆	b₇	c₅	e₅	f₅	f₆	n	m	s₅
GKS 04	25	50	45	4	40	M10	8	28	105	75	90	3	52.5	M6x12	45	45	110	119	85	14	105	132	141	22	21	9
GKS 05	30	60	50	6	45	M10	8	33	118	80	100	4	64	M8x15	47.5	47.5	115	140	105	17	127	144	169	29	21	11
GKS 06	40	80	65	7	63	M16	12	43	140	100	120	4	85	M10x16	60	60	155	170	120	20	145	191	206	36	23	14
GKS 07	50	100	75	8	80	M16	14	53.5	165	115	140	5	105	M12x18	70	70	190	210	150	25	180	235	255	45	28	18
GKS 09	60	120	95	8	100	M20	18	64	205	145	175	6	125	M16x24	90	90	240	266	185	30	222	300	326	60	37	22
GKS 11	80	160	105	15	125	M20	22	85	240	140	205	6	166	M20x32	105	105	290	325	225	40	270	363	398	73	43	26
GKS 14	100	200	135	18	160	M24	28	106	290	170	250	6	207	M24x35	135	135	360	415	275	50	328	442	497	82	52	33

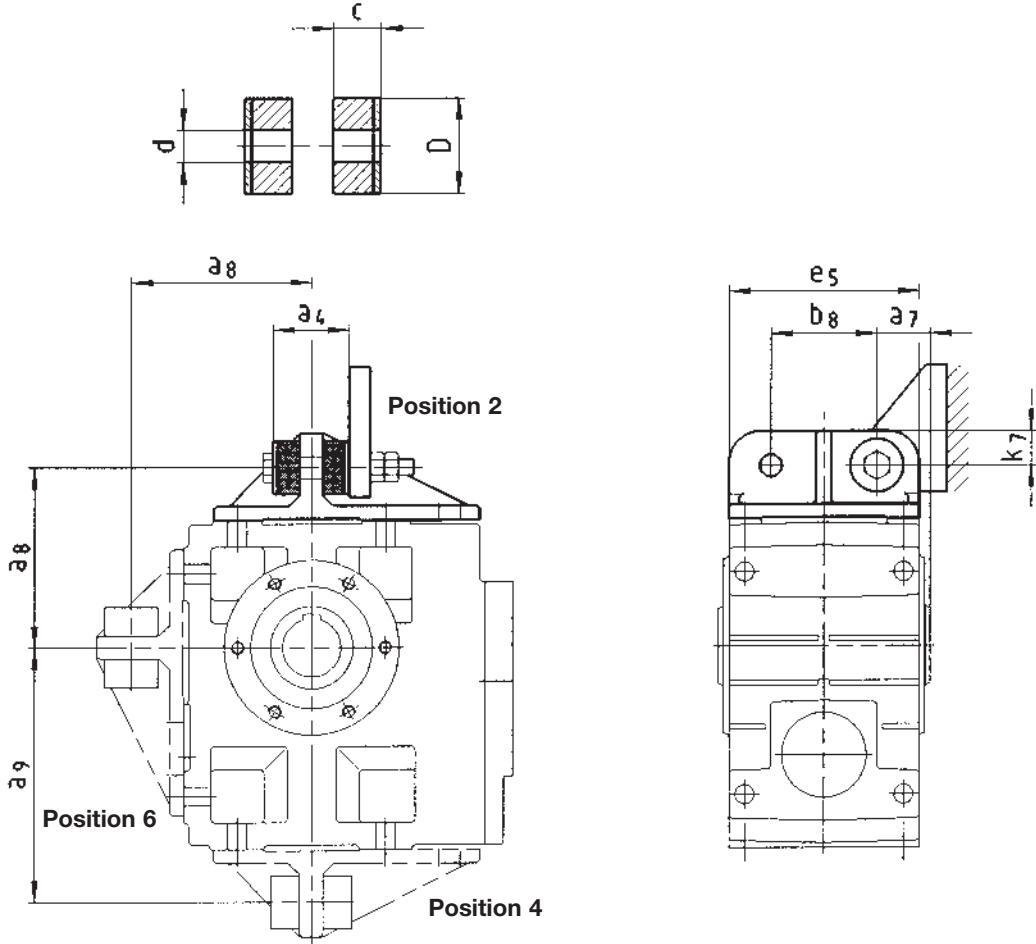
Dimensions in [mm] d ≤ 50 mm: k6 * Observe dimension k₂ 1) Plus 80 mm for handle
 d > 50 mm: m6 ** Observe dimension p₉

Disco variable speed drives

Additional dimensions GKS □ □

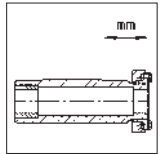


Torque plate at housing foot

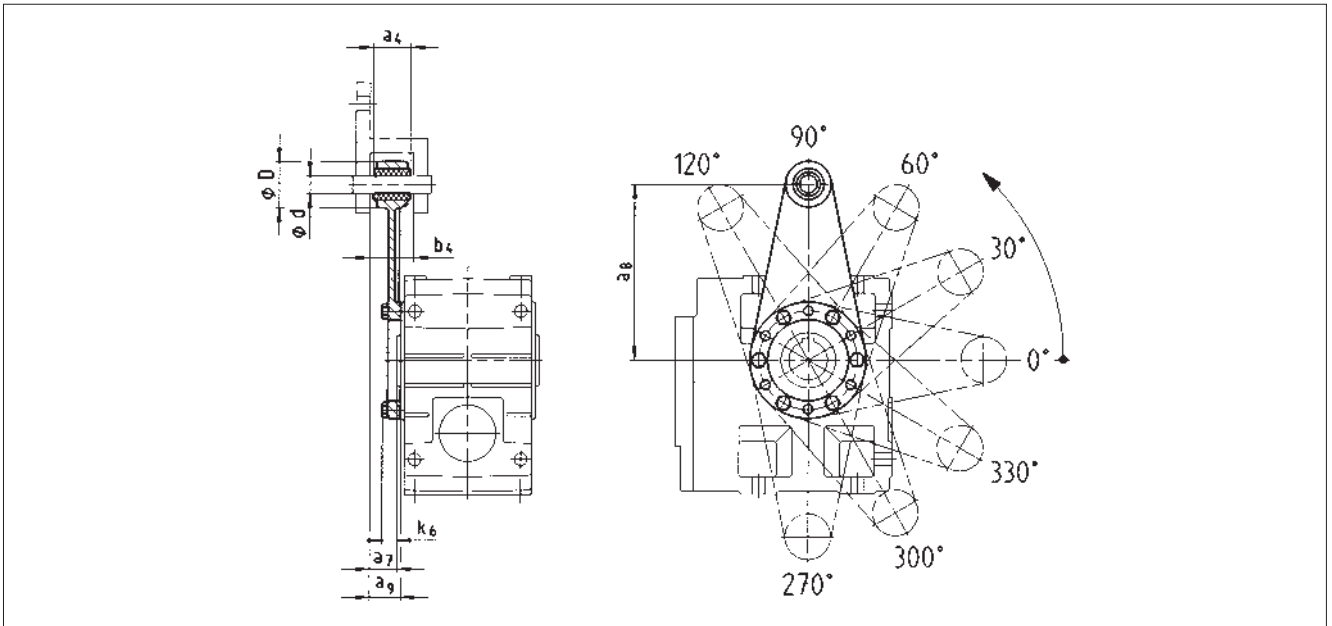


Gearbox size	a_4	a_7	a_8	a_9	b_8	c	d	D	e_5	k_7
GKS 04	41	27.5	106	135	60	14.5	11	30	100	20
GKS 05	45	35	115	160	70	15	13	40	127	25
GKS 06	72	40	145	195	80	27	17	50	145	30
GKS 07	78	50	170	240	100	28	21	60	180	35
GKS 09	86	60	214	300	120	29	26	72	222	46
GKS 11	94	72.5	260	375	145	30	33	92	270	55
GKS 14	100	85	320	465	180	30	39	110	328	70

Dimensions in [mm]

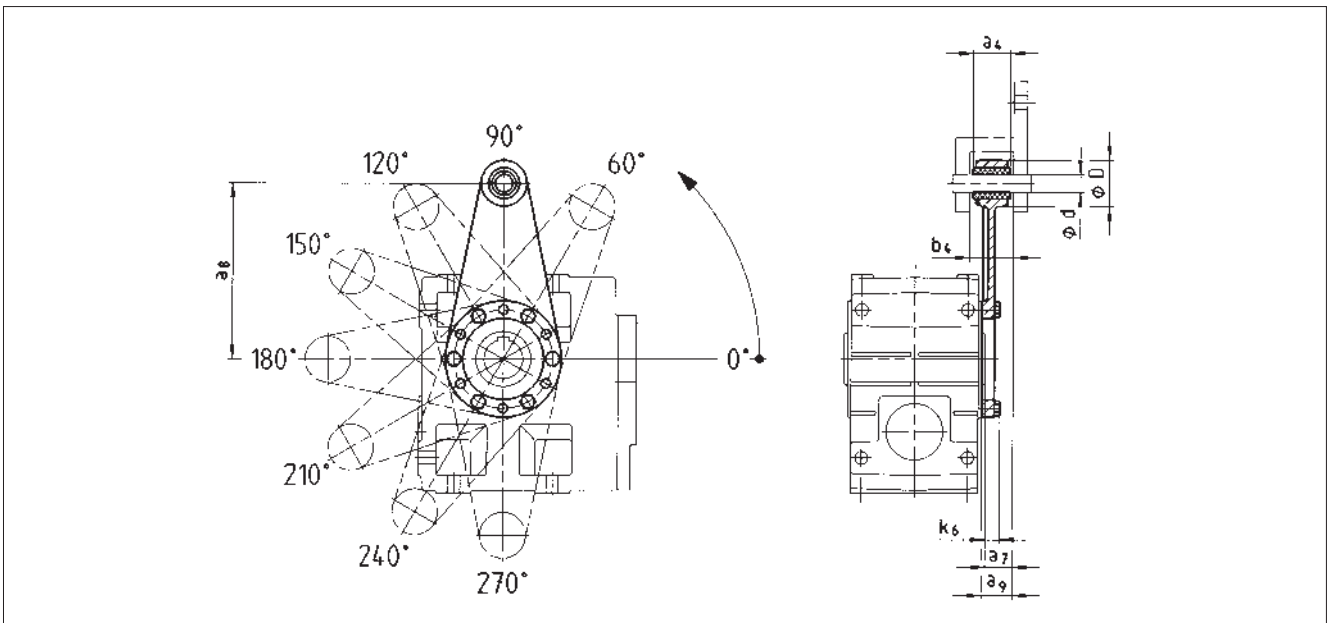


Torque plate at pitch circle in position 3



4

Torque plate at pitch circle in position 5

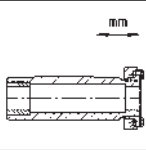


Gearbox size	Mounting space		Torque plate					
	a ₇	b ₄	a ₄	a ₈	a ₉	d	D	k ₆
GKS 04	24	34.5	30	130	26.5	12	35	16
GKS 05	23.5	38.5	34	160	27.5	16	45	15
GKS 06	28	44.5	40	200	33	20	50	18
GKS 07	32.5	50.5	46	250	37.5	25	65	21

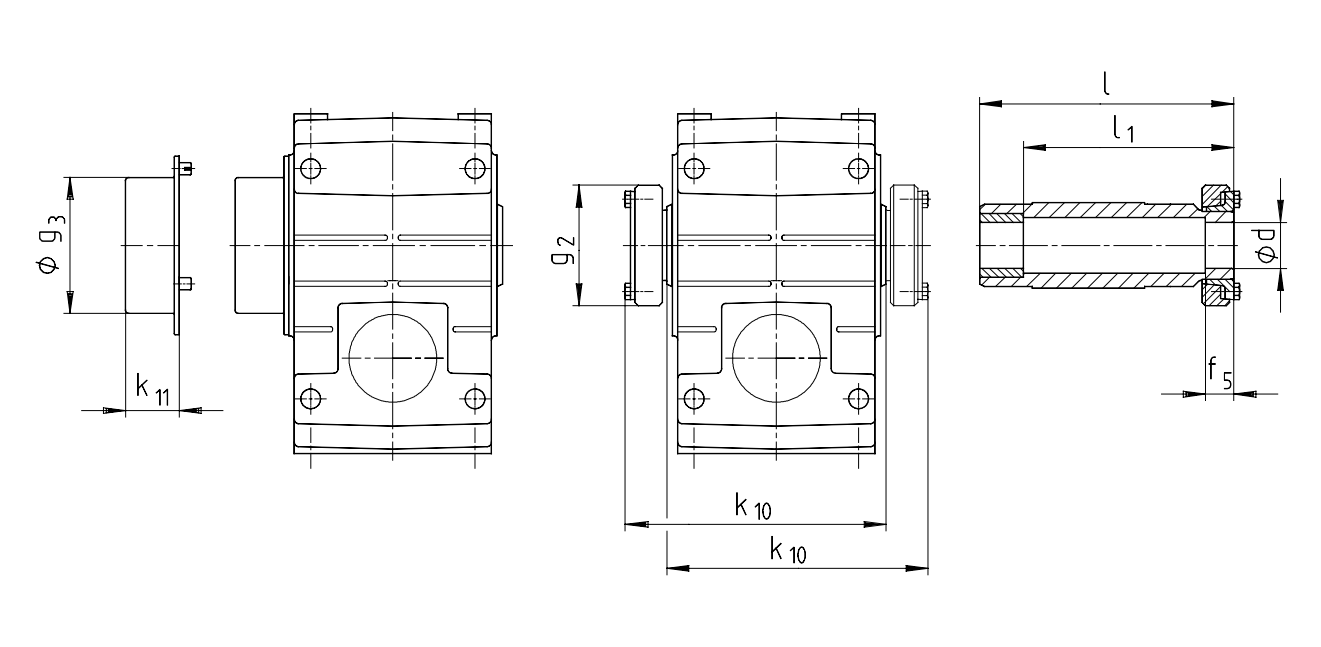
Dimensions in [mm]

Disco variable speed drives

Additional dimensions GKS □ □



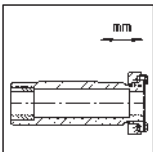
Hollow shaft with shrink disc



Gearbox size	Machine shaft*		Hollow shaft			Gearbox		Cover	
	d	Fit	l	l ₁	f ₅	g ₂	k ₁₀	g ₃	k ₁₁
GKS 04	25 30	h6	142	122	26	72	146	79	41
GKS 05	35	h6	168	148	28	80	171	90	43
GKS 06	40	h6	194	164	30	90	197	100	49
GKS 07	50	h6	232	192	26	110	234	124	49
GKS 09	65	h6	278	228	30	141	281	159	52
GKS 11	80	h6	338	238	42	170	344	191	65
GKS 14	100	h6	407	307	55	215	415	253	78

* Ensure sufficient strength of shaft material for shrink disc designs. When using customary steel (e.g. C45, 42CrMo4), the torques indicated in the selection tables can be transferred without any reservation. When using materials of a lower strength, please contact Lenze.

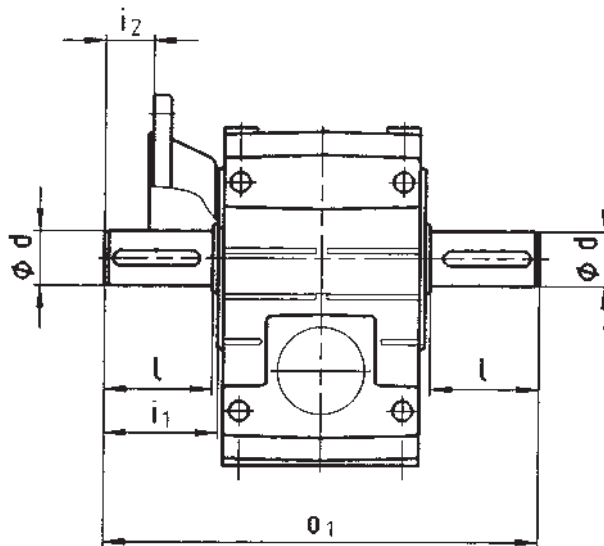
The average peak-to-valley height R_z should not exceed 15 μm. (Turning operation is sufficient).



Disco variable speed drives

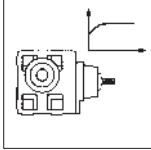
Additional dimensions GKS □ □

Gearboxes with 2nd output shaft end



Gearbox size	d	l	i_1	i_2	\varnothing_1
GKS 04	25	50	52.5	17	215
GKS 05	30	60	64	27	260
GKS 06	40	80	85	39	320
GKS 07	50	100	105	45	400
GKS 09	60	120	125	60	480
GKS 11	80	160	166	100	610
GKS 14	100	200	207	140	750

Dimensions in [mm]



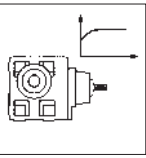
Permissible radial and axial forces – helical-worm gearboxes

VAK	Solid shaft with flange F_r : acts on the middle of the shaft ($x = l/2$) $F_{a Tab}$ only valid for $F_r = 0$							
	GSS 04		GSS 05		GSS 06		GSS 07	
n_2 [min ⁻¹]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]
250	4100	3500	4900	2500	7000	2800	7900	2400
160	4400	4000	4900	3100	8100	3500	9100	3200
100	4700	4200	4900	4000	9400	4500	10600	4300
63	4700	4200	4900	4900	9400	5700	12400	5900
40	4700	4200	4900	5500	9400	7300	14000	8000
25	4700	4200	4900	5500	9400	8800	14000	10000
1 6	4700	4200	4900	5500	9400	8800	14000	10000
$F_{r max}$	4700	–	4900	–	9400	–	14000	–

VOR	Solid shaft without flange F_r acts on the middle of the shaft ($x = l/2$) $F_{a Tab}$ only valid for $F_r = 0$							
	GSS 04		GSS 05		GSS 06		GSS 07	
n_2 [min ⁻¹]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]
250	3000	3700	2900	2800	3600	3200	4200	3100
160	3500	4200	3400	3500	4200	4100	5100	4100
100	4100	4900	4000	4400	5000	5200	6300	5500
63	4200	5500	4300	5500	5900	6500	7700	7200
40	4200	5500	4300	6000	6900	8200	9300	9500
25	4200	5500	4300	6000	8200	9000	11300	12500
1 6	4200	5500	4300	6000	8500	9000	12000	12500
$F_{r max}$	4200	–	4300	–	8500	–	12000	–

H□□	Hollow shaft F_r acts on the middle of the shaft ($x = 0$) $F_{a Tab}$ only valid for $F_r = 0$							
	GSS 04		GSS 05		GSS 06		GSS 07	
n_2 [min ⁻¹]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]	$F_{r Tab}$ [N]	$F_{a Tab}$ [N]
250	3800	3700	3600	2800	4800	3200	5600	3100
160	4500	4200	4300	3500	5600	4100	6700	4100
100	5300	4900	5100	4400	6600	5200	8200	5500
63	6000	5500	6000	5500	7700	6500	10000	7200
40	6000	5500	7000	6000	9100	8200	12100	9500
25	6000	5500	7500	6000	10700	9000	14800	12500
1 6	6000	5500	7500	6000	11500	9000	16000	12500
$F_{r max}$	6000	–	7500	–	11500	–	16000	–

For hollow shaft with shrink disc (S□□), radial and axial forces are not permissible.

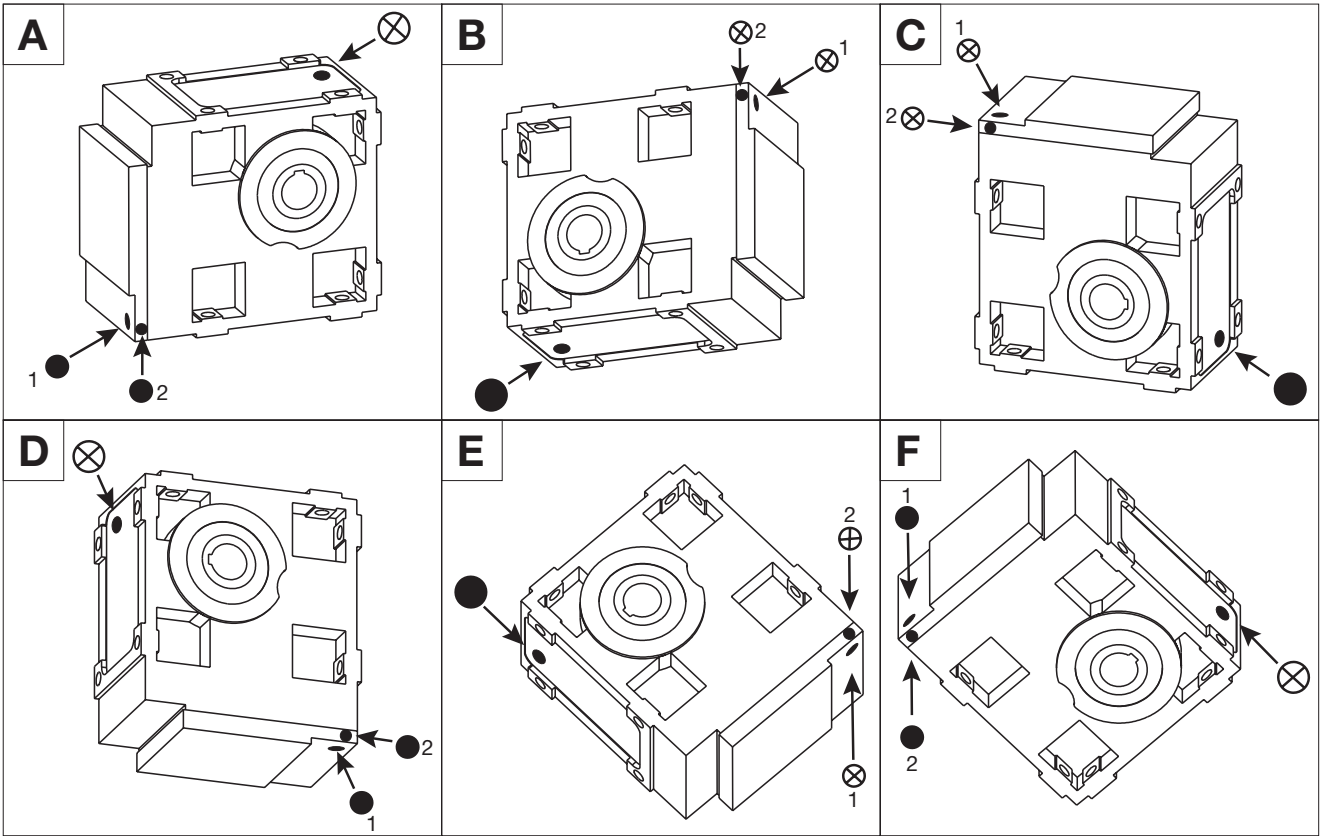


Technical data

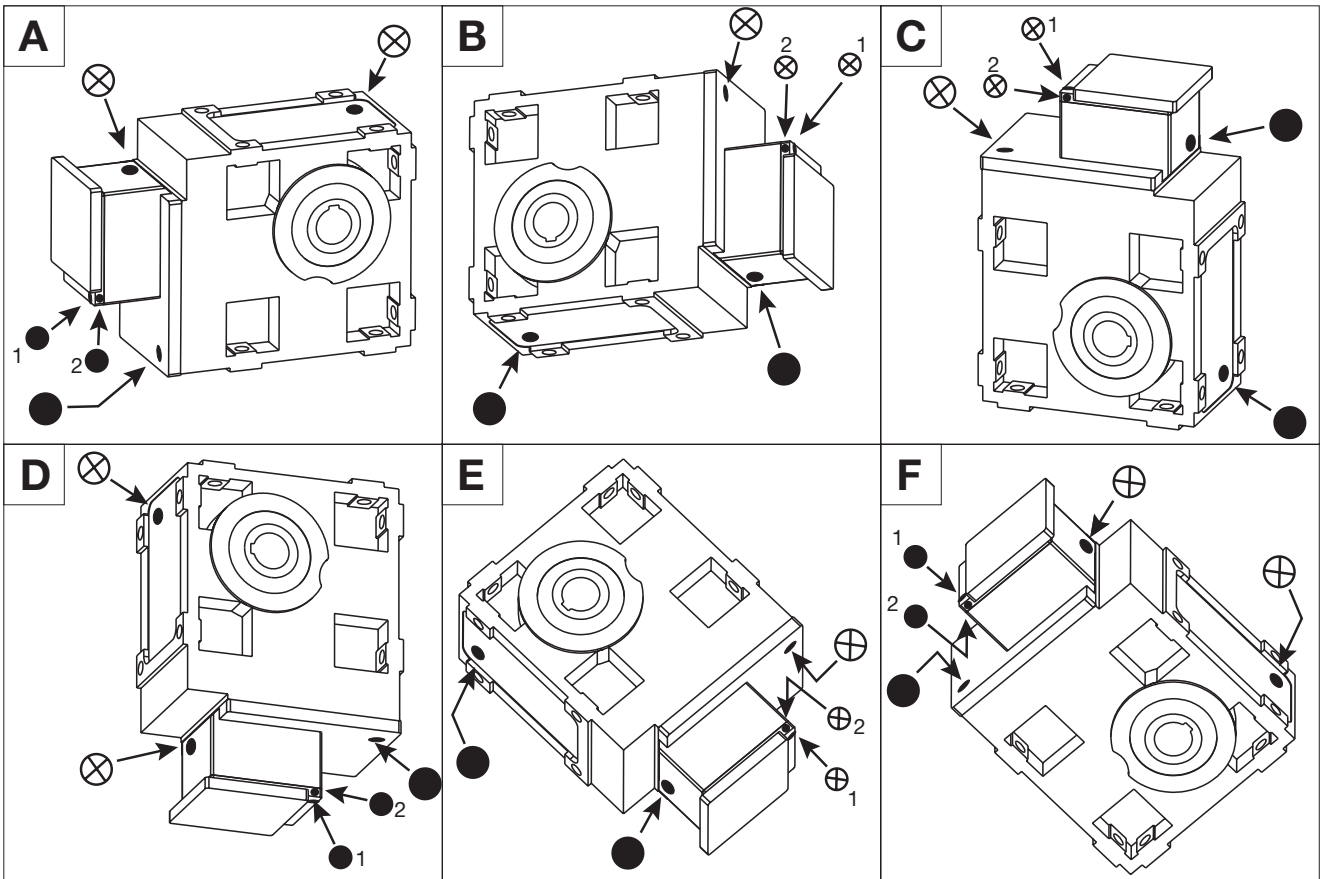
Gearboxes

Position of breather, oil filler plug and oil drain plug

Helical-worm gearboxes GSS 05...07 - 2



Helical-worm gearboxes GSS 05...07 - 3



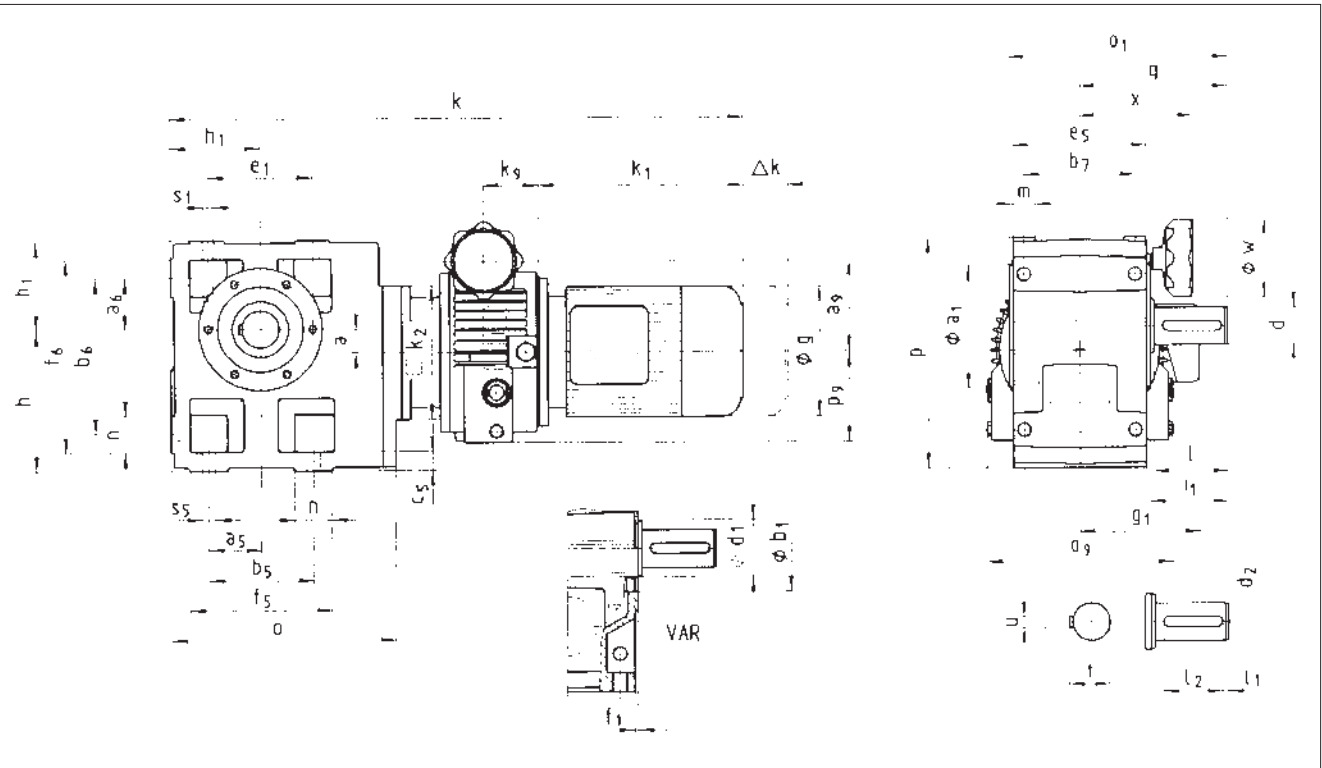
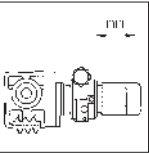
Mounting position (A...F)

⊗ Breather/oil filler plug

● Oil drain plug

Disco variable speed drives

Dimensions with helical-worm gearboxes



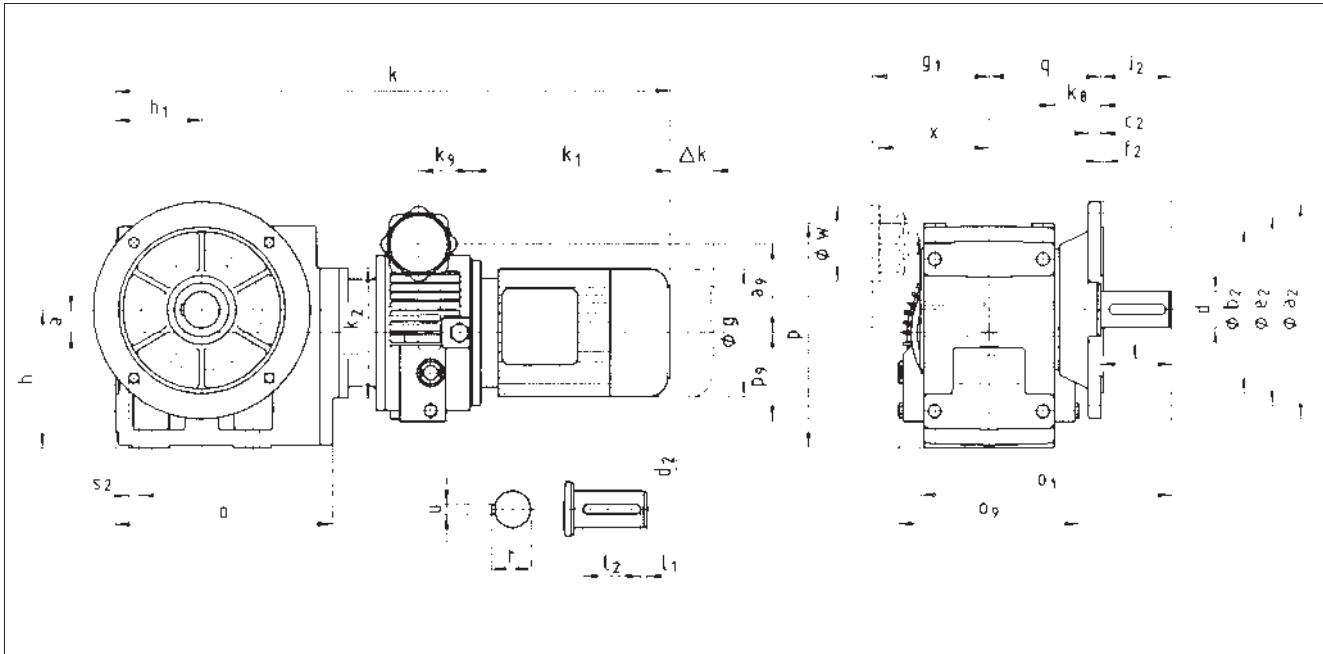
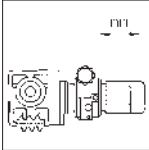
Disco variable speed drives		Drive size										
GSS □□ - 2 D V □ R		071-1□ 02	071-3□ 03	080-3□ 04	090-3□ 05	100-32 06	112-22 07					
Motor	g	143	143	160	180	206	222					
	g₁	Without options	128	128	137	147	140	174				
		Brake motor	131	131	142	154	151	174				
	k₁	237	237	267	350	316	379					
	Δk Brake	54	54	36	48	111	80					
DISCO	a₉	83	86	103	123	149						
	k₂	145	145	180	180	265						
	k₉	42	50	58	74	82						
	o₉	150	175	215	253	305						
	p₉	65	83	98	122	145						
	w	70	70	105	105	105						
	x	105	105	152	152	152						
Gearbox size	Gearbox							Total length				
	o	o₁*	p*	h**	h₁	a	q	k				
GSS 04	181	163	171	100	71	20	1075	554	568	628		
GSS 05	212	197	205	125	80	23	130	576	589	649	761	
GSS 06	255	236	250	150	100	26	160	616	629	689	801	
GSS 07	305	296	310	190	120	33	200			732	844	841 904

Gearbox size	Solid shaft								Pitch circle					Foot												
	d	l	d₁	l₁	l₂	d₂	u	t	a₁	b₁ H7	e₁	f₁	i₁	s₁	a₅	a₆	b₅	b₆	b₇	c₅	e₅	f₅	f₆	n	m	s₅
GSS 04	25	50	45	4	40	M10	8	28	105	75	90	3	52.5	M6x12	45	45	90	119	85	14	105	112	141	22	20	9
GSS 05	30	60	50	6	45	M10	8	33	118	80	100	4	64	M8x15	47.5	47.5	95	140	105	17	127	124	169	29	21	11
GSS 06	40	80	65	7	63	M16	12	43	140	100	120	4	85	M10x16	60	60	120	170	120	20	145	156	206	36	23	14
GSS 07	50	100	75	8	80	M16	14	53.5	165	115	140	5	105	M12x18	70	70	140	210	150	25	180	185	255	45	28	18

Dimensions in [mm] d ≤ 50 mm: k6 * Observe dimension k₂ 1) Plus 80 mm for handle
 d > 50 mm: m6 ** Observe dimension p₉

Disco variable speed drives

Dimensions with helical-worm gearboxes



Disco variable speed drives GSS □□ - 2 D VAK		Drive size												
		071-1□ 02	071-3□ 03	080-3□ 04	090-3□ 05	100-32 06	112-22 07							
Motor	g	143	143	160	180	206	222							
	g₁ Without options	128	128	137	147	140	174							
	Brake motor	131	131	142	154	151	174							
	k₁	237	237	267	350	316	379							
	Δk Brake	54	54	36	48	111	80							
DISCO	a₉	83	86	103	123	149								
	k₂	145	145	180	180	265								
	k₉	42	50	58	74	82								
	o₉	150	175	215	253	305								
	p₉	65	83	98	122	145								
	w	70	70	105	105	105								
x	105	105	152	152	152									
Gearbox size	Gearbox								Total length					
	o	o ₁ *	p*	h**	a	k ₈	q	k						
GSS 04	181	196	171	100	71	20	38	90.5	554	568	628			
GSS 05	212	230	205	125	80	23	40	103	576	589	649	761		
GSS 06	255	277	250	150	100	26	49	121	616	629	689	801		
GSS 07	305	351	310	190	120	33	65	155			732	844	841	904

Gearbox size	Solid shaft								Output flange					
	d	l	l ₁	l ₂	d ₂	u	t	a ₂	b ₂ j7	c ₂	e ₂	f ₂	i ₂	s ₂
GSS 04	25	50	4	40	M10	8	28	160	110	10	130	3.5	50	4 x 9
GSS 05	30	60	6	45	M10	8	33	200	130	12	165	3.5	60	4 x 11
GSS 06	40	80	7	63	M16	12	43	250	180	14.5	215	4	80	4 x 14
GSS 07	50	100	8	80	M16	14	53.5	250 300	180 230	14.5 16.5	215 265	4	100	4 x 14

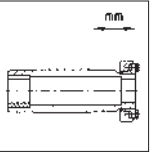
Dimensions in [mm] d ≤ 50 mm: k6
 d > 50 mm: m6

* Observe dimension k₂
 ** Observe dimension p₉

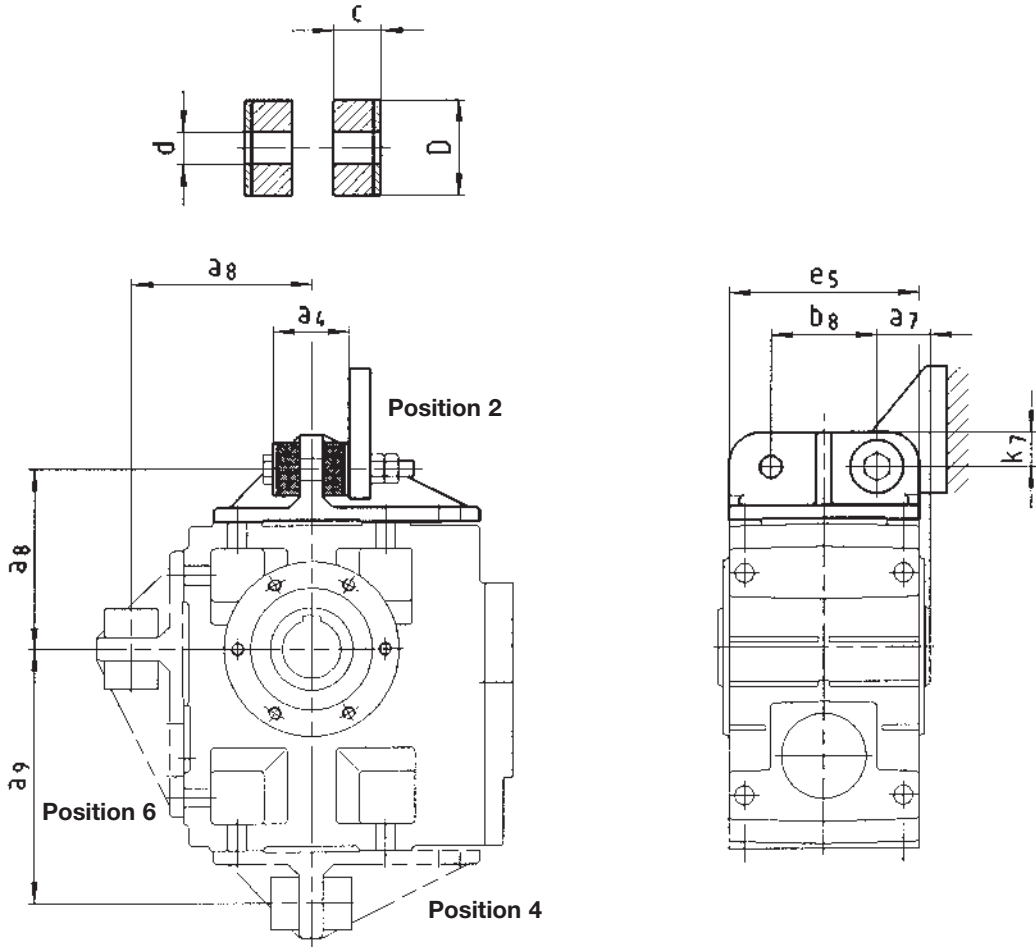
1) Plus 80 mm for handle

Disco variable speed drives

Additional dimensions GSS



Torque plate at housing foot

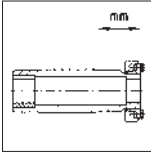


Gearbox size	a_4	a_7	a_8	a_9	b_8	c	d	D	e_5	k_7
GSS 04	41	27.5	106	135	60	14.5	11	30	100	20
GSS 05	45	35	115	160	70	15	13	40	127	25
GSS 06	72	40	145	195	80	27	17	50	145	30
GSS 07	78	50	170	240	100	28	21	60	180	35

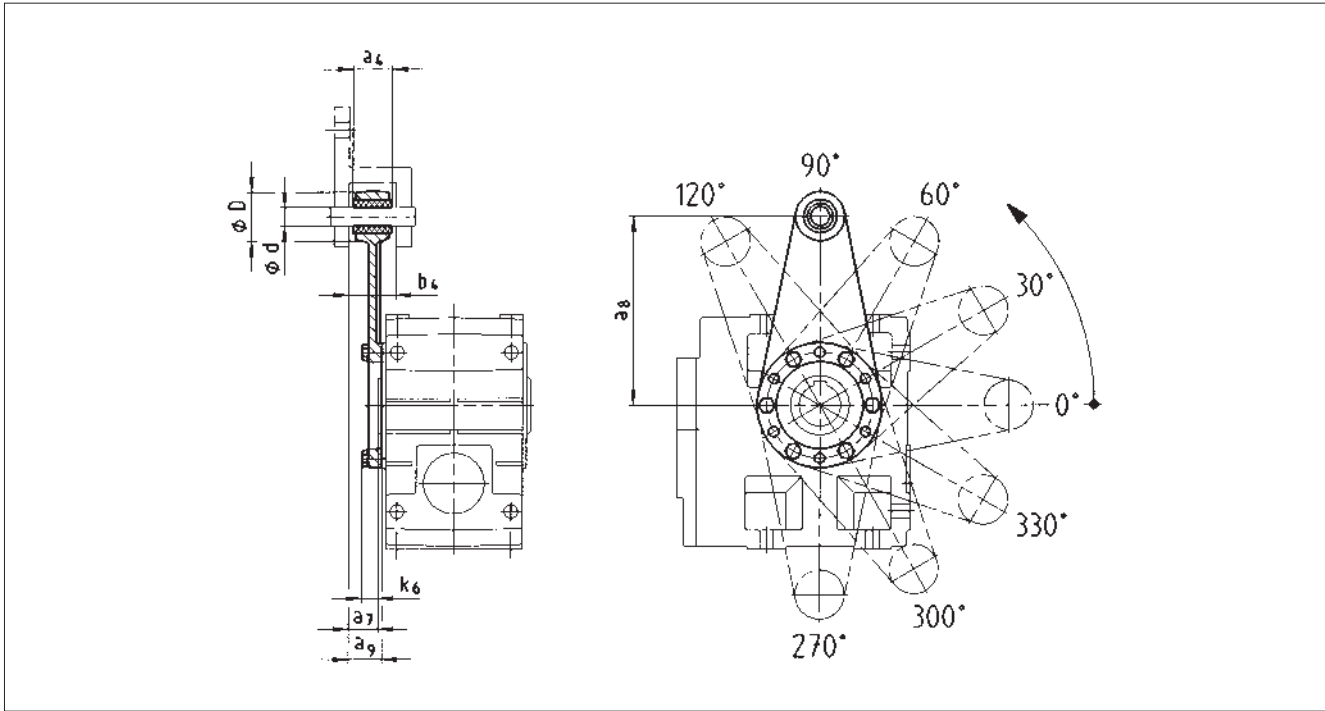
Dimensions in [mm]

Disco variable speed drives

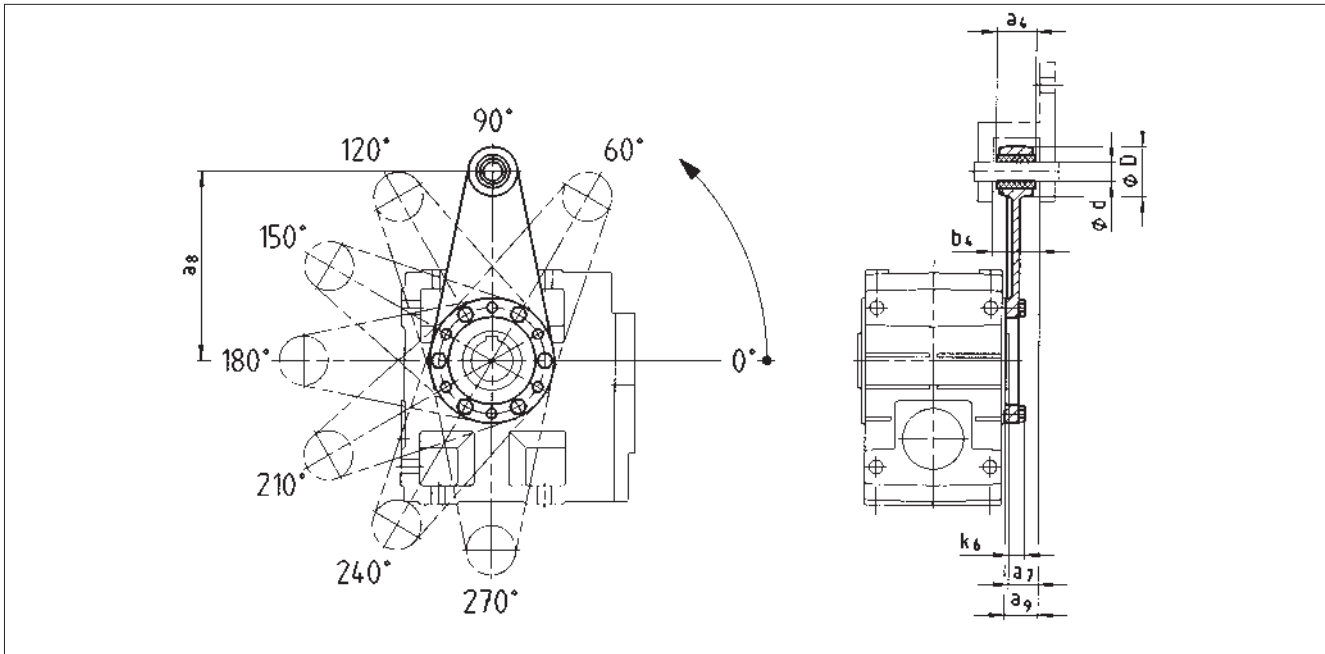
Additional dimensions GSS



Torque plate at pitch circle in position 3



Torque plate at pitch circle in position 5

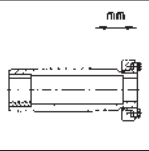


Gearbox size	Assembly space		Torque plate					
	a ₇	b ₄	a ₄	a ₈	a ₉	d	D	k ₆
GSS 04	24	34.5	30	130	26.5	12	35	16
GSS 05	23.5	38.5	34	160	27.5	16	45	15
GSS 06	28	44.5	40	200	33	20	50	18
GSS 07	32.5	50.5	46	250	37.5	25	65	21

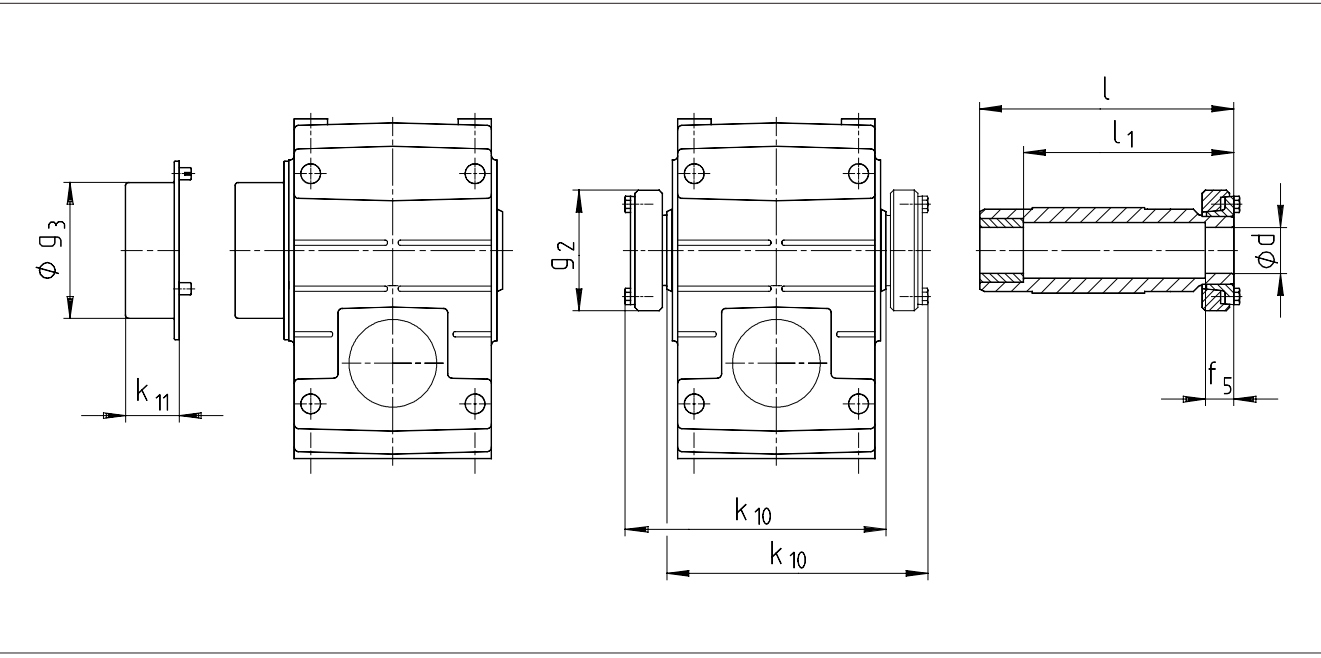
Dimensions in [mm]

Disco variable speed drives

Additional dimensions GSS



Hollow shaft with shrink disc



Gearbox size	Machine shaft		Hollow shaft			Gearbox*		Protection cover	
	d	Fit	l	l ₁	f ₅	g ₂	k ₁₀	g ₃	k ₁₁
GSS 04	25 30	h6	142	122	26	72	146	79	41
GSS 05	30 35	h6	168	148	28	80	171	90	43
GSS 06	40	h6	194	164	30	90	197	100	49
GSS 07	50	h6	232	192	26	110	234	124	49

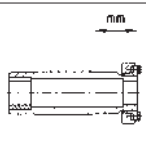
* Ensure sufficient strength of shaft material for shrink disc designs. When using customary steel (e.g. C45, 42CrMo4), the torques indicated in the selection tables can be transferred without any reservation. When using materials of a lower strength, please contact Lenze.

The average peak-to-valley height R_z should not exceed 15 μm. (Turning operation is sufficient).

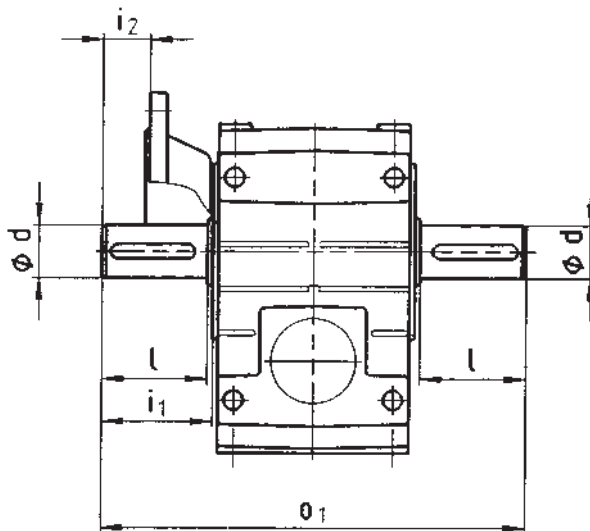
Dimensions in [mm]

Disco variable speed drives

Additional dimensions GSS □ □



Gearboxes with 2nd output shaft end



Gearbox size	d	l	i_1	i_2	o_1
GSS 04	25	50	52.5	17	215
GSS 05	30	60	64	27	260
GSS 06	40	80	85	39	320
GSS 07	50	100	105	45	400

Dimensions in [mm]