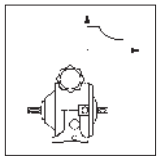


Rated data

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

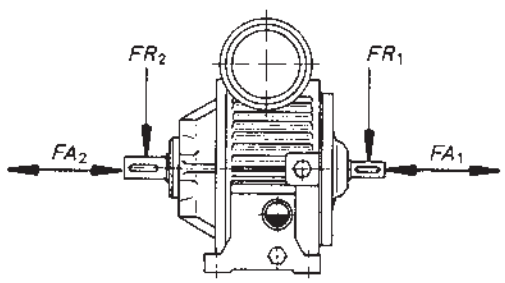
P_1= Input power in [kW]
n_1= Output speed in 1/min
n_2= Output speed in 1/min
M_2= Maximum input speed Nm

Maximum input speed n_1

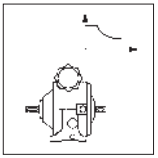
Size	02	03	04	05	06	07	08/18
n_1 max. [min^{-1}]	3600	3600	3600	1800* 3600	1800	1800	1800

* 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)

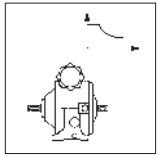
Disco Size	**P_1** [kW]	**N_1** [min^{-1}]	**Voltage / frequency** [V]	**Rated current** [I]	**Type of protection**	**Thermal class**	**Ratio small gearboxes**	**Time** [s]
02	0.012	1350	Δ 220 – 240 V / 50 HZ Y 380 – 415 V / 50 HZ	0.18 0.1	IP 54	F	20 60	10 30
03	0.012	1350	Δ 220 – 240 V / 50 HZ Y 380 – 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 18/08	980 – 190 965 – 220	645 – 125 635 – 145	480 – 95 475 – 110

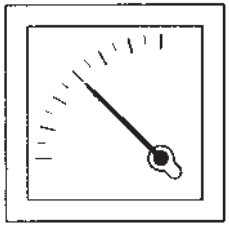
Position indicator in handwheel: Scaling

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

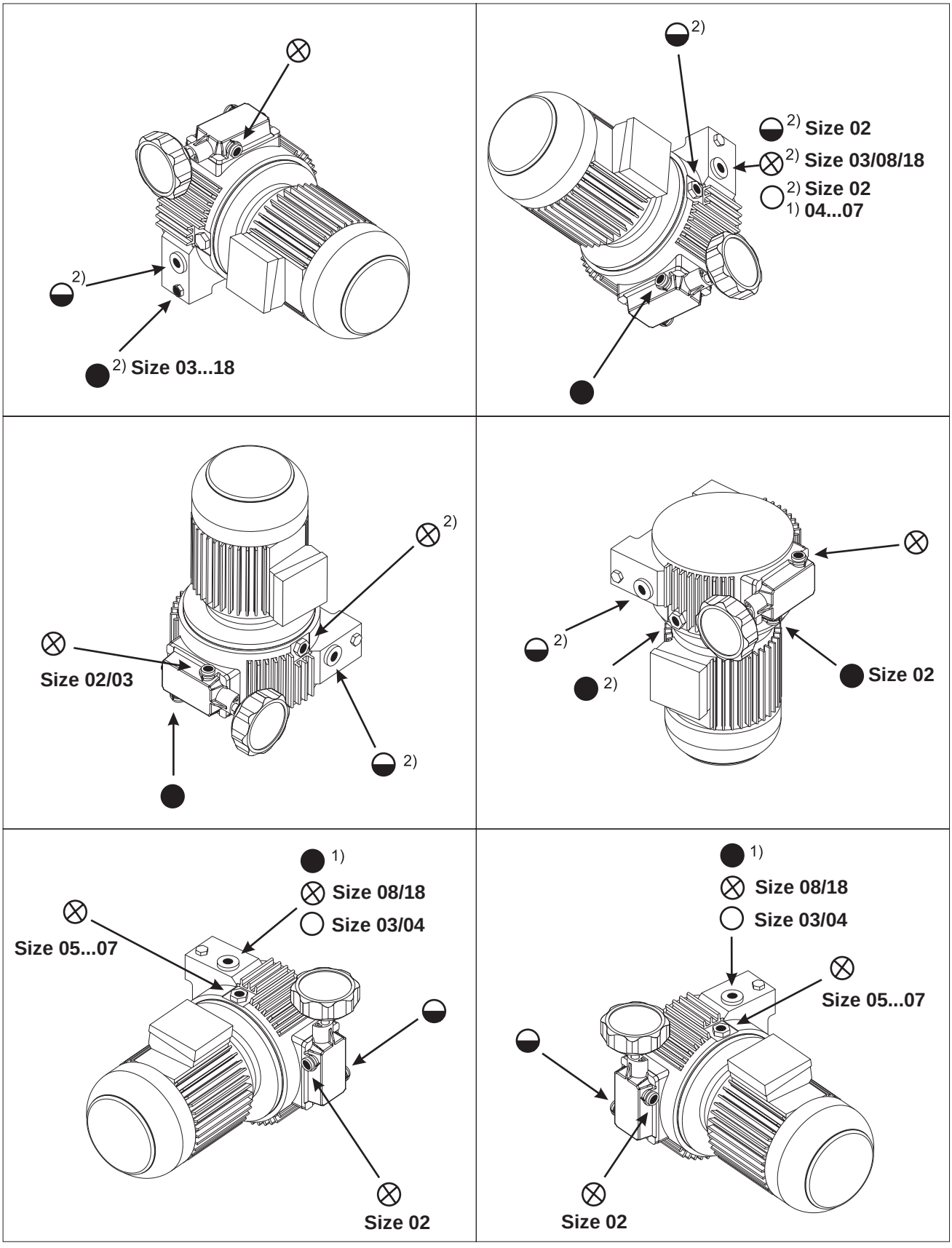


Attachments – Speed measurement instruments

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 

Position of breather, oil filler plug and oil drain plug



◯ Oil filling for gearbox without breather

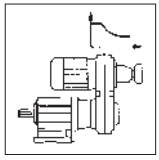
⊗ Breather/oil filler plug

● Oil drain plug

◒ Oil check

1) Opposite at the housing

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



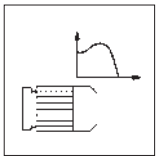
General data

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} ($n_{2\ min}$..$n_{2\ max}$) [kW]	$n_{2\ min}$..$n_{2\ max}$ (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

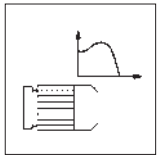
AC motors

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 φ	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)

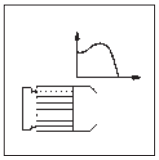
Motor frame size	P_r [kW]	n_r [min^{-1}]	I_r [1)] [A]	I_A / I_r [A]	V* [V] Y / Δ	f_r [Hz]	cos φ	η [%]	M_r [Nm]	M_{stall} [Nm]	M_A [Nm]	J [10^{-3} kgm^2]	m [kg]
071-11 [2)]	0.37	2840	1.2	5.6	400 / 230	50	0.78	72	1.25	3.7	3.6	0.47	6.2
071-31 [2)]	0.55	2840	1.5	6.1	400 / 230	50	0.82	82	1.86	5.0	5.1	0.59	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.



Technical data

AC motors

Spring-operated brakes

Brake motors are equipped with Lenze spring-operated brakes. The rectifier required for mains operation is located in the terminal box and is part of the delivery package. The brake is shown on page 3-31.
The brakes are active after the supply voltage has been switched off (fail-safe brake).

The brake torques indicated apply to quasi-static selection when the brake is operated as low-wear holding brake. The air gap is factory set and can be readjusted in the event of wear.

General data

Design	Single-disc spring-operated brake
Operating principle	Brake torque when no voltage is applied
Type of protection	IP 54
Thermal class	F
Friction lining	asbestos free
Option	Hand release

Rated data

Size	$P_{20°}$ [W]	M_B [Nm]	J_B [10^{-3} kgm^2]	m [kg]	Connection voltage	Assigned brake voltage
06	20	4	0.015	0.9		
08	25	8	0.061	1.5		
10	30	16	0.20	2.6	24 V DC t	24 V DC
12	40	32	0.45	4.2	220...240 V AC t	205 V DC
14	50	60	0.63	5.8	380...420 V AC t	180 V DC
16	55	80	1.5	8.7		
18	85	150	2.9	12.6		
20	100	260	7.3	19.5		
25	110	400	20.0	31.0		

Possible combinations

	Brake								
Size	**06**	**08**	**10**	**12**	**14**	**16**	**18**	**20**	**25**
Motor frame size									
071	●								
080		●							
090		●	●	●					
100			●	●	●				
112				●	●	●			
132					●	●	●		
160						●	●	●	
180							●	●	
200								●	●
225									●