KENDRION

KENDRION INDUSTRIAL DRIVE SYSTEMS

ELEVATION LINE

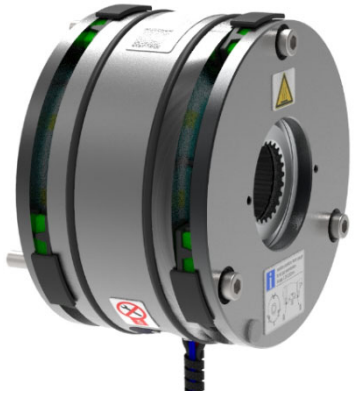
Spring-applied double circuit brake for safety in elevators

PRECISION. SAFETY. MOTION.

Elevation Line

Spring-applied double circuit brake for elevators

Type	78 110..A00
Operating mode	Holding brake with emergency stop function
Application	Lift machines mounted inside buildings (stationary use, weatherproof) in accordance with EN 81-20:2014 bzw. EN 81-50:2014
Issue date	15.10.2019 / technical changes reserved



Technical Data

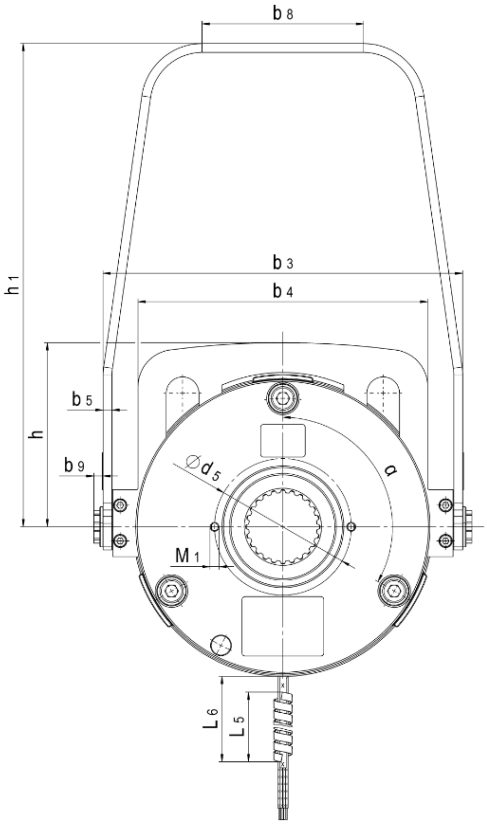
SIZE	19	29	33	40
GENERAL DATA				
Transmittable Torque M_4 [Nm]	2 x 100 2 x 125 2 x 160 2 x 200	2 x 220 2 x 250	2 x 320 2 x 380 2 x 400	2 x 475 2 x 500 2 x 560 2 x 630 2 x 700
Max. Rotation Speed n_{max} [min-1]	1.500	1.300	1.300	1.000
Standard Workload per Emergency Stop W_1 [kJ]	24	25	35	35
Number of Emergency Stops Z_{ges} with W_1	min. 1000	min. 1000	min. 1000	min. 1000
Enhanced Workload per Emergency Stop W_2 [kJ]	50	60	90	100
Number of Emergency Stops Z_{ges} with W_2	min. 300	min. 300	min. 300	min. 300
Nominal air gap (per brake circuit) s_N [mm]	$0,35^{+0,15}$	$0,35^{+0,15}$	$0,35^{+0,15}$	$0,35^{+0,15}$
Ambient Temperature ϑ_{13} [°C]	+5 to +40	+5 to +40	+5 to +40	+5 to +40
Total cycle time t_7 [s]	15	15	15	15
Duty cycle ED [%]	50	50	50	50
Insulation Class	F	F	F	F
Weight m [kg]	19,0	23,0	33,5	58,5
Degree of Protection	IP 21	IP 21	IP 21	IP 21
ELECTRICAL DATA				
Nominal Voltage U_N [VDC] [3]	2 x 102	2 x 102	2 x 102	2 x 102
Nominal Overexitation Voltage $U_{ÜN}$ [VDC]	2 x U_N	2 x U_N	2 x U_N	2 x U_N
Nominal Power P_N [W]	2 x 90	2 x 80	2 x 90	2 x 95
Nominal Overexcitation Power $P_{ÜN}$ [W]	2 x 360	2 x 320	2 x 360	2 x 380
SWITCHING TIME				
Overexcitation time t_{OE} [s]	1	1	1	1
Closing time t_c [ms] [1]	max. 600	max. 600	max. 600	max. 600
Opening time t_o [ms] [2]	max. 600	max. 600	max. 600	max. 600
SPECIAL FEATURES				
Manual release [4]	yes	yes	yes	yes
Noise damping [5]	yes	yes	yes	yes
Soft braking [6]	yes	yes	yes	yes
Status position supervision [7]	yes	yes	yes	yes
Adapter kit for encoder [8]	yes	yes	yes	yes
CERTIFICATION [9]				
Elevator standard 2014/33/EU	in preperation	in preperation	in preperation	in preperation
EN 81-20	in preperation	in preperation	in preperation	in preperation
EN 81-50	in preperation	in preperation	in preperation	in preperation

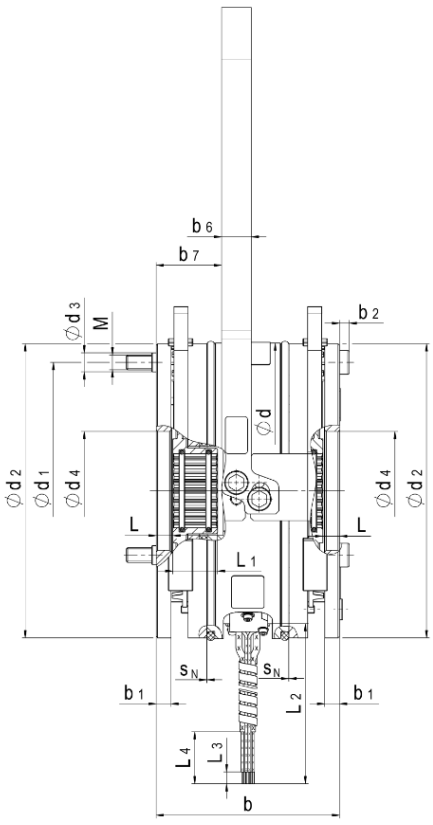
1) Time between power off and the closing of brake circuits (diode mode, detected by microswitch signal).
2) Time between power on and the opening of brake circuits (detected by microswitch signal).
3) Other voltage ranges are available on request.
4) Optional upgradable hand release to manually release both brake circuits.
5) Patented noise reduction system (switching noise reduction, running noise reduction, noise reduced braking).
6) Using a diode and a varistor to activate separately the braking circuits, the so-called soft-switching, with delayed development of brake torque, can be implemented.
7) Integrated and factory-adjusted microswitches supervise the operating state correspondingly the position of both brake circuits.
8) Optional upgradable adapter kit for installation of an encoder directly at the brake (mounting flange in accordance with the encoder type).
9) The spring applied double circuit brake ELEVATION LINE fulfils the safety requirements of the named documents (EC type examination is planned).

Dimensions

SIZE	19	29	33	40
d [mm]	199	235	270	326
d_1 [mm]	173	206	240	293
d_2 [mm]	198	234	270	326
d_3 [mm]	12,8	12,8	16,8	16,8
d_4 [mm]	80^{H8}	80^{H8}	80^{H8}	80^{H8}
d_5 [mm]	92	92	92	92
b [mm]	120,5	119,5	131,0	136
b_1 [mm]	10	11	12	14,5
b_2 [mm]	6,5	4,5	7	6
b_3 [mm]	242	272	315	372
b_4 [mm]	195	233	267	332
b_5 [mm]	6	6	8	8
b_6 [mm]	20	25	25	30
b_7 [mm]	42,5	43	44	44
b_8 [mm]	108,5	114,5	114	167
b_9 [mm]	6	6,5	7,5	7,5
h [mm]	124	150	165	195
h_1 [mm]	325,5	359	407,5	518
L [mm]	11,25	12,25	13,25	15
L_1 [mm]	30	30	40	50
L_2 [mm]	1.600	1.600	1.600	1.900
L_3 [mm]	8	8	8	8
L_4 [mm]	35	35	35	35
L_5 [mm]	1.500	1.500	1.500	1.800
L_6 [mm]	1.520	1.520	1.520	1.820
M [mm]	3 x M10	3 x M10	3 x M12	4 x M12
M_1 [mm]	2 x M6	2 x M6	2 x M6	2 x M6
α [°]	120	120	120	90
Nominal air gap (per brake circuit) s_N [mm]	$0,35^{+0,15}$	$0,35^{+0,15}$	$0,35^{+0,15}$	$0,35^{+0,15}$
Toothing hub (acc. DIN 5480) [1]	N50 x 2 x 24 x 8H	N50 x 2 x 24 x 8H	N65 x 2 x 31 x 8H	N65 x 2 x 31 x 8H

[1] Toothed hub connection (form-fit) of the friction discs with the machine shaft of the elevator machine (definition acc. DIN 5480: nominal diameter x module x number of teeth x toothing quality).





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