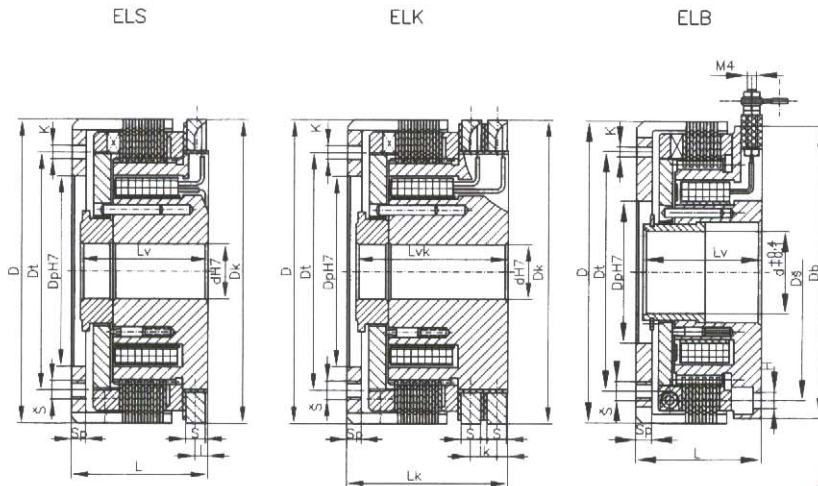




POHONY • DRIVES • ANTRIEBE



ELECTRICALLY ACTUATED DISC CLUTCHES AND BRAKES ELS, ELK, ELB

REPRESENT IDEAL DRIVING ELEMENTS FOR MACHINES CONTROLLED BY PUSH BUTTONS, FOR MACHINES CONTROLLED FROM SEVERAL POINTS AND FOR AUTOMATICALLY CONTROLLED MACHINES. THEY FORM A NECESSARY ASSUMPTION FOR MECHANIZATION AND AUTOMATION OF COMPLETE PRODUCTION LINES, MACHINE TOOLS, MACHINES FOR PACKING AND FOOD INDUSTRIES, IN THE BUILDING AND TEXTIL INDUSTRIES. THEY CAN WORK BOTH IN LUBRICATED AND DRY ENVIRONMENT.

MAIN TECHNICAL DATA

Clutch and brake size		0,6	1,2	2,5	4	6,3	10	16	25	40	63
Transmitted torque											
- dynamic (rating)	Nm	6.3	12	25	40	63	100	160	250	400	630
- static (informat.)	Nm	9	18	35.5	56	90	140	224	355	560	900
Field coil											
- voltage	V	24	24	24	24	24	24	24	24	24	24
- current by 20°C	A	0.75	1.05	1.2	1.25	1.4	1.65	1.85	2.5	2.45	2.9
- input by 20°C	W	18	25.2	28.8	30	33.6	39.6	44.4	60	59	69.6
Air gap	mm	0.3	0.3	0.3	0.3	0.3	0.35	0.4	0.4	0.4	0.5
Air gap tolerance	mm	+0.00 -0.10	+0.00 -0.10	+0.00 -0.10	+0.00 -0.10	+0.00 -0.10	+0.00 -0.15	+0.00 -0.15	+0.00 -0.15	+0.00 -0.15	+0.00 -0.15
Maxim. revolutions	min ⁻¹	3000	3000	3000	3000	3000	3000	2500	2200	2000	1750
Moment of inertia „J“ of inner members											
- ELS	kgm ²	0.0009	0.0015	0.0025	0.004	0.007	0.01	0.017	0.031	0.06	0.12
- ELK	kgm ²	0.001	0.0017	0.003	0.004	0.007	0.011	0.018	0.037	0.067	0.135
- ELB		do not rotate-they are still									
outer members											
- ELS. ELK. ELB	kgm ²	0.0004	0.0007	0.0012	0.002	0.0025	0.0045	0.008	0.015	0.022	0.042
Weight *)											
- ELS	kg	1.40	1.80	2.50	3.20	3.95	5.25	6.9	9.7	13.0	20.0
- ELK	kg	1.80	2.40	3.10	4.00	4.9	6.5	8.4	11.7	15.1	22.9
- ELB	kg	1.40	1.80	2.30	3.00	3.70	4.90	6.4	8.7	12.2	19.3

*) The stated weight is valid for minim. bore of magnet body dH7 and of shell D_pH7

The shell including the flange is rigidly connected with the driven machine member. Together with the inner discs it forms the driven member of the clutch. The driven member is formed by magnet body, on whose cogs the inner disks are set. The inner discs are provided with a metal-ceramic material lining, which increases their service life and the friction.

The outer discs entrain with their projections the clutch shell.

The armature plate is connected with magnet body by entraining pins. When direct current is introduced into the field coil the armature plate is attracted to the magnet body. When the clutch is disengaged, the plate is pushed off by means of spring-loaded pins to the flange of the spacer bush.

The adjusting nut is screwed into the armature plate so that the set of discs is clamped when the clutch is engaged. The width of air gap between the magnet and the armature plate can be adjusted by means of turning the nut. The width of air gap influences the value of transmitted torque. To its accurate adjustment the set of feeler gauges is used, which engage into the nut hollow.

The collecting rings are destined for supply of current from bronze brushes.

The spacer bush - eliminates the extreme position of the armature.

The backing plate, which is on brakes with size 6.3 and larger, fills the recess behind the magnet body cogs and prevents the disc to drop in it.

The field coil is held in magnet body with a filler composition. With one-ring clutch one coil lead is soldered to the collector ring and the other one to the magnet body. Two-ring clutches have both coil leads soldered to the collector rings.

MAIN DIMENSIONS (mm)

Size	ELS, ELK, ELB						ELS					ELK					ELB					
	D	S _p	D _p H7	D _t	*xŠ	*xøK	dH7	D _t	l	L _{r0.1}	L	dH7	D _t	l	l _t	L _{r0.1}	L _t	D _b	d _{d1} ^{0.4}	L _r	D _t	L
0.6	90	5	60	70	4xM6	2x6	17	90	5	41	43	17	90	5	10	51	53	90	18	41	76	43
			50				-					15										
1.2	100	5	70	80	4xM6	2x6	20	100	5	42	45	20	100	5	10	53	56	100	22	43	85	45
			60				18					18										
2.5	110	5	70	85	4xM6	2x6	25	110	5	45	48	25	110	5	10	56	59	110	28	46	95	48
			60				22					22										
4	120	6	80	95	6xM6	3x6	30	120	5	48	52	30	120	5	10	59	63	120	32	50	102	52
			70				28					25										
6.3	132	7	90	105	6xM8	3x8	35	132	5	50	55	35	132	6	10	61	66	130	36	52	112	55
			80				30					28										
10	147	7	100	115	6xM8	3x8	40	145	5	53	58	40	145	6	10	64	69	145	42	55	125	58
			90				35					30										
16	162	7	110	130	6xM8	3x8	45	160	5	57	62	45	160	5	10	68	73	160	46	59	142	62
			100				40					35										
25	182	8	120	150	6xM10	3x10	55	180	5.5	63	68	55	180	5.5	11	75	80	180	56	64	160	68
			110				50					45										
40	202	9	140	165	6xM10	3x10	60	200	5.5	70	76	60	200	5.5	11	82	88	200	63	71	180	76
			120				55					50										
63	235	10	160	190	6xM12	3x12	70	230	5.5	80	86	70	230	5.5	11	92	98	235	73	80	210	86
			140				60					55										

*) Number of pieces

Elektrically actuated disc clutches and brakes transmit the rated torque by the friction of discs, which are clamped and released by effecting the electromagnet. The clutches connect the driving member of the machine with the driven one, the brakes stop the rotating machine members.

The electrically actuated disc clutches and brakes have - with regard to the volume of transmitted rated and turning torque - very small dimensions. They are characterized by rapid increase of torque to ratio value and a low residual torque on releasing. The electrically actuated disc clutches and brakes therefore react very quickly on impulse and thus they increase the accuracy and output of machines - without any gears. They reduce the dimensions and weight of driving units.