TECHNICAL SHEET N° 1104

ELECTROMAGNETIC CLUTCH

SINGULAR PLANE SINGLE-DISC

Type SEE

Description

The electromagnetic clutch EIDE type SEE is basically composed of the inductor core with its corresponding coil, of the rotor with the built-in friction material, mounted on the shaft with key, and of the inductor unit, made up of the inductor disc itself with a membrane-spring and of the inductor support.

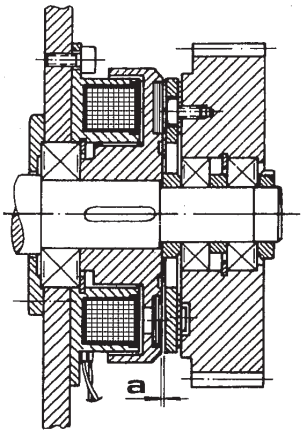
The inductor core is centered in relation to the shaft and is adjusted to the machine bedframe. Dimension “a”, given in the table, will have to be taken into account for the assembly. When applying a voltage (standard at 24 V.d.c.) to the coil, a magnetic field is generated which draws the inductor disc against the rotor, causing thus a deformation in the membrane-spring, which is compensated by the gap “a”, whereas the “clutching” action takes place with the complete torque transmission. When cutting the current, part 6 returns to its original position, separating the inductor core from the rotor, stopping the clutching action and without residual torque. Care must be taken so that both friction surfaces are free from grease or oils, as their presence reduces the clutching torque. These units require a certain number of operations before the torque reaches its nominal value.

In construction 1.1, parts 5-6 have to be mounted centered only by means of the screws themselves. The centering procedure can not be carried out by restraint. The pulley, pinion or bushing to which it is coupled has to be provided with some bores which must be approx. 30% bigger that the rivet heads 7 (their dimensions are shown in the table) to hide them.

SIZE			0,15	0,25	0,75	1,5	3	6	12	20	45	70
Max. transmissible torque		**da Nm.**	0,15	0,25	0,75	1,5	3	6	12	20	45	70
Max. revolutions per minute		**n**	10.000	8.750	7.000	5.500	4.400	3.500	2.750	2.200	1.750	1.400
Coil consumption		**Watts**	8	10	13	20	26	36	50	68	78	105
Mass	const. 1.1	**kg**	0,178	0,31	0,48	0,82	1,59	2,78	5,15	9,80	18,5	32,5
	const. 1.2		–	–	0,74	1,30	2,35	4,25	8,20	15,3	29	52
	const. 1.3		0,198	0,34	0,58	1,02	1,90	3,5	6,70	12,8	24	44
J	const. 1.1	**kg cm²**	0,183	0,406	1.105	3,34	10,55	33,10	103,8	311	799	2487
	const. 1.2		–	–	1.655	5,06	16	47,20	149,8	451	1166	3627
	const. 1.3		0,201	0,452	1.315	3,87	12,47	38,10	119	364	921	2900

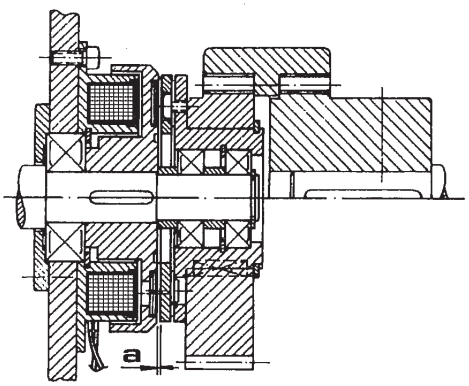
ASSEMBLY EXAMPLES

In const. 1.1: To be mounted directly onto pulley, chain pinion, etc. (without inductor support).



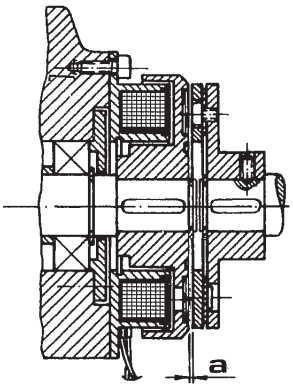
Example of assembly in const. 1.1 (adaptation to pinion).

In const. 1.2: To be mounted on pulley, chain pinion, etc., the inductor support itself holding the bearings.



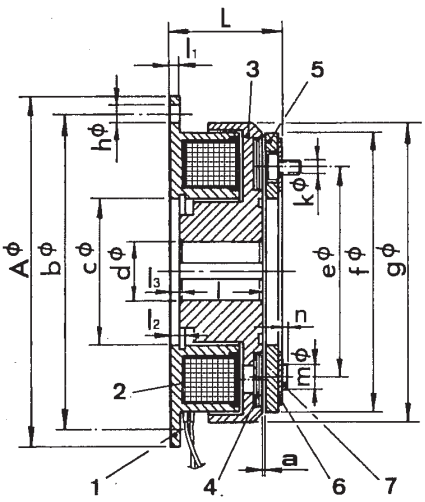
Example of assembly in constr. 1.2
(above) Transmission between two shafts difficult to align by means of an elastic coupling.
(below) Transmission of drive shaft to pinion and vice versa.

In const. 1.3: To be mounted between two independent shafts.

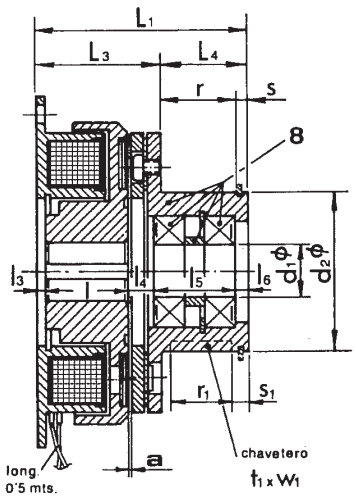


Example of assembly in const. 1.3
Transmission between two independent shafts, well aligned and without axial clearance.

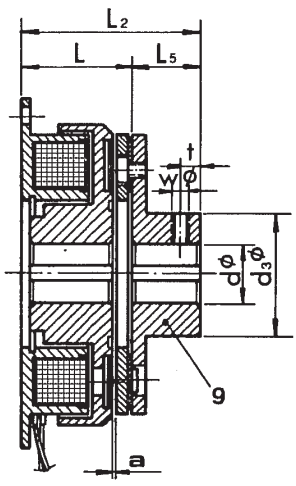
Dimensions



Construction 1.1



Construction 1.2



Construction 1.3

SIZE		0,15	0,25	0,75	1,5	3	6	12	20	45	70
	A	54	65	80	100	125	150	190	230	290	355
	b	47	58	72	90	112	137	175	215	270	335
	c	19	26	35	42	52	62	80	100	125	160
	d*	–	–	–	10	10	14	19	24	32	38
	d max	10	15	15	25	30	40	50	70	80	100
	d_1	–	–	12	15	20	25	30	40	45	55
	d_2	–	–	38	45	55	64	75	90	115	140
	d_3	17	24	27	37	42	52	65	83	105	146
	e	30	38	46	60	76	95	120	158	210	250
	f	40	50	63	80	100	125	160	200	250	315
	g	43	54	68	86	107	135	170	213	267	334
	h	4 x 3,4	4 x 3,4	4 x 4,5	4 x 5,5	4 x 6,5	4 x 6,5	4 x 9	4 x 9	4 x 11	8 x 11
	k	3 x M3	3 x M3	3 x M3	3 x M4	3 x M5	3 x M6	3 x M8	3 x M10	4 x M12	4 x M16
	m	3 x 5	3 x 5	3 x 6	3 x 7	3 x 9	3 x 10	3 x 13	3 x 16	4 x 18	4 x 24
	n	1,5	1,5	1,5	1,7	2,1	2,5	3	6,5	8	10
	L	28,5	31,3	28	31,2	36	40,5	46,5	55,5	64	79
	L_1	–	–	51,5	60,2	71	86,5	103,5	125,5	145	172
	L_2	40,5	43,3	43	51,2	61	70,5	84,5	103,5	119	143
	L_3	31,2	34,3	31,5	35,2	41	46,5	53,5	64,5	75	92
	L_4	–	–	20	25	30	40	50	61	70	80
	L_5	12	12	15	20	25	30	38	48	55	64
	l	23,4	26,1	22	24	27	30	34	40	47	58
	l_1	2	2	2,5	2,5	3	4	5	5	6	8
	l_2	3	3,2	3,5	4,3	5	5,5	6	7	8	9
	l_3	2	2	2	2,5	3	3,5	3,5	4	4	5
	l_4	–	–	4,5	7	7,5	8	9	14,5	13	18
	l_5	–	–	20	23,5	30,5	42	54	64	76	85
	l_6	–	–	3	3	3	3	3	3	5	6
	r	–	–	17	22	26,5	36,5	44,5	53,5	62	70
	r_1	–	–	15	20	25	35	40	50	60	65
	s	–	–	3	3	3,5	3,5	5,5	7,5	8	10
	s_1	–	–	4	4	4	4	8,5	9	9	11,5
	t	5	5	5	6	6	10	10	15	20	25
	w	M4	M4	M4	M5	M5	M6	M8	M8	M10	M12
	t_1	–	–	5	5	5	6	8	10	12	20
	w_1	–	–	2,9	2,9	2,9	3,5	4,1	4,7	4,9	7,4
Airgap “dimension a”	**mn**	0,15	0,2	0,2	0,2	0,3	0,3	0,3	0,5	0,5	0,8

*In all sizes, our brakes will be delivered with dimension “d” which is given in the table and without keynut.