

ELECTROMAGNETIC CLUTCH

SINGULAR PLANE SINGLE-DISK

Type SER



Description

The electromagnetic clutch EIDE type SER is basically composed of the inductor core with its corresponding coil with self-centering bearing, 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.

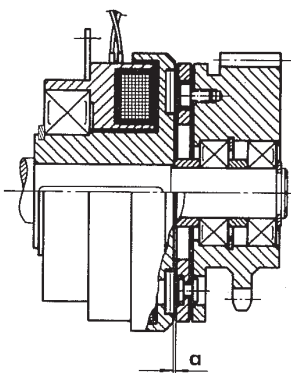
When cutting the current, part 6 returns to its original position, separating the inductor core from the rotor, stopping the clutching action and without residual torque. Care must be taken so that both friction surfaces are free from grease or oils, as their presence reduces the clutching torque. These 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 than the rivet heads 7 (their dimensions are shown in the table) to hide them.

SIZE		0,75	1,5	3	6	12	20	45
Max. transmissible torque	da Nm.	0,75	1,5	3	6	12	20	45
Max. revolutions per minute	n	7.000	5.500	4.400	3.500	2.750	2.200	1.750
Coll consumption	Watts	13	20	26	36	50	68	78
Mass	const. 1.1	0,80	1,20	2,30	3,90	7	13,5	21,5
	const. 1.2	1,06	1,68	3,06	5,37	10,05	19	32
	const. 1.3	0,90	1,40	2,99	4,62	8,55	16,5	27
J	const. 1.1	1,75	4,12	13,38	37,6	117	352	924
	const. 1.2	2,30	5,84	18,83	51,7	163	492	1291
	const. 1.3	1,96	4,65	15,3	42,6	132,2	405	1046
Airgap "dimension a"	mm	0,2	0,2	0,3	0,3	0,3	0,5	0,5

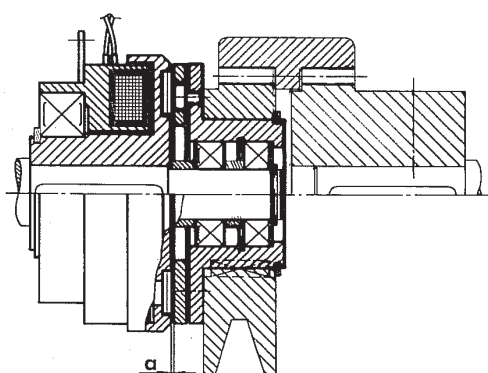
ASSEMBLY EXAMPLES

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



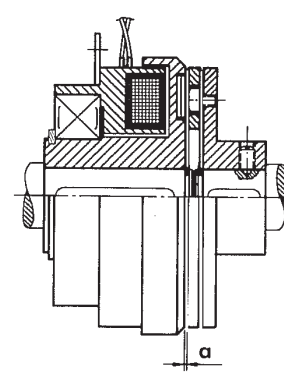
Example of assembly in const. 1.1 (adaptation to pinion).

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



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

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

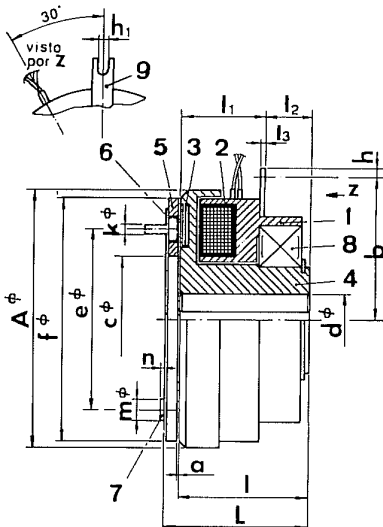


Example of assembly in const. 1.3 Transmission between two independent shafts, well aligned and without axial clearance.

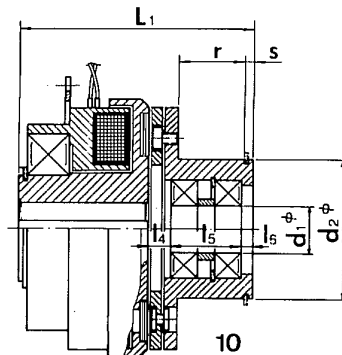
ELECTROMAGNETIC CLUTCH - SINGULAR PLANE SINGLE-DISK Type SER



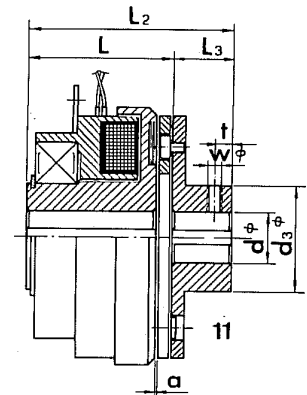
Technical data and dimensions



Construction 1.1



Construction 1.2



Construction 1.3

SIZE	0,75	1,5	3	6	12	20	45
A	68	86	107	135	170	213	267
b	37	46	57	71	93	113	139
c	35	42	52	62	80	100	125
d*	-	10	10	14	19	24	32
d max	15	20	25	30	45	60	75
d ₁	12	15	20	25	30	40	45
d ₂	38	45	55	64	75	90	115
d ₃	27	37	42	52	65	83	105
e	46	60	76	95	120	158	210
f	63	80	100	125	160	200	250
h	4	4	4	5	6	6	6
h ₁	4,1	4,1	4,1	4,1	8,1	8,1	8,1
k	3 x M3	3 x M4	3 x M5	3 x M6	3 x M8	3 x M10	4 x M12
L	44	48,2	55	62	70,5	85,5	94
L ₁	67,5	77,2	90	108	127,5	155,5	175
L ₂	59	68,2	80	92	108,5	133,5	149
L ₃	15	20	25	30	38	48	55
l	40	43,5	49	55	61,5	74	81
l ₁	26	28,5	33	36,5	42	48	55
l ₂	14	15	16	18,5	19,5	26	26
l ₃	1,5	1,5	2,5	2,5	3,5	3,5	3,5
l ₄	4,5	7,2	7,5	8	9	14,5	13
l ₅	20	23,5	30,5	42	54	64	76
l ₆	3	3	3	3	3	3	5
m	3 x 6	3 x 7	3 x 9	3 x 10	3 x 13	3 x 16	4 x 18
n	1,5	17	2,1	2,5	3	6,5	8
r	17	22	26,5	36,5	44,5	53,5	62
s	3	3	3,5	3,5	5,5	7,5	8
t	5	6	6	10	10	15	20
w	M4	M5	M5	M6	M8	M8	M10

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