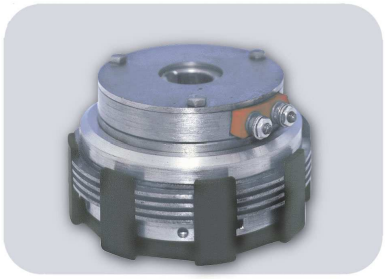
Clutch ELA
(multi-plate)

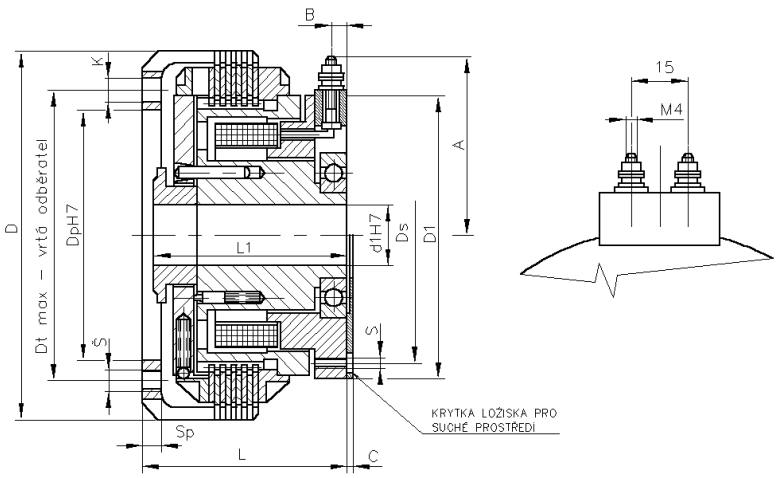


The driving part of the coupling is the shell and the set of the outer steel multi-plates. The driven part is the magnet body with forced off and also driving pins, distance bush and anchor plate with the adjusting nut and the set of the internal multi-plate with the friction lining, according to the kind of the operation (lubricated or dry). The exciting coil is fastened on the carrier, that is seated on the antifriction bearing on the magnet body, it carries also the supply grips of the exciting current and does not rotate. The rotating magnet body is magnetized by the taking in of the exciting current into the coil, it attracted the anchor and on it seated adjusting nut will press the set of the alternated internal and external multi-plates. By the friction the torque is transmitted. After interruption of the exciting current the pins will press out the anchor plate on the flange of the distance bush and the multi-plates set is released step-by-step. The ELA coupling is adjusted by simple method. The aluminium adjusting nut has on its internal surface 24 gaps, into which fits the spring-loaded ball, seated in the anchor plate. Arrestment prevents reliably the non-requested moving round a slight amount of the nut also at fast reversing, because the nut has five times smaller moment of inertia than the steel one. But by the forcing in on the radial ribs of the nut it is possible to get over the arrestment and the nut overtighten in both direction of the slots pitch. It is possible to handle with no screws. The lead is 1.5 mm and the air gap is changed of 0.0625 mm by overtightening of one slot (1/24 of periphery).

The advantages of the ELA ringless couplings

- exciting current supply is executed on the clamps on the coil carrier, the couplings do not need the brushes holders and brushes
- they remove the possible difficulty with the exciting current supply, it does not need
- to check the brushes wear and to exchange them
- they have the adjusting nut and supporting surface of the multi-plates from the aluminium alloy (5x lighter than ELK). So the moment of inertia of the anchor plate with the adjusting nut is considerable decreased and the possible difficulty with the driving pins at reversing will be removed
- both aluminium parts direct considerably the magnetic flow into the functional places and decreased its scattering
- the adjusting nut is quite new construction, arrested by spring-loaded balls only
- the adjustment by the adjusting nut is very easy also in the inaccessible places, it is not possible to handle with the securing screw of the nut
- moment of inertia of the magnet body and with it connected parts is enough decreased, partly by the aluminium parts and also by it, that the exciting coil does not rotate
- internal and external multi-plates and also the spare parts are coincident with the used couplings
- the coupling shell is coincident and all connecting dimensions, shell and magnet body drilling and also building length with the ELK coupling
- also the raw of torque is coincident

It is possible to say that the couplings are without the adaptation exchangeable with the ELK type couplings, but in higher quality regarding function and also the technical execution



PSP Pohony a.s.
Kojetínská 3148/73d
750 53 Přerov
Czech Republic
www.pohony.cz

Clutch ELA

Size	1	2	4	6,3	10	16	25	40	63
Main Technical Data									
Torque – dynamic	10	20	40	63	100	160	250	400	630
Torque - static lubrication area	14	28	56	90	140	225	355	560	900
Torque - static dry area	12,5	25	50	80	125	200	315	500	800
Voltage at 20℃ (V)	24	24	24	24	24	24	24	24	24
Current at 20℃ (A)	1,05	1,2	I.25	1,4	1,65	1,85	2,5	3	3,28
Input at 20℃ (W)	25,2	28,8	30	33,6	39,6	44,4	60	72	78
Air gap - wet running	0,3	0,3	0,3	0,3	0,35	0,4	0,4	0,4	0,45
Air gap - dry running	0,6	0,6	0,6	0,6	0,7	0,8	0,8	0,8	0,9
Tolerance of air gap	-0,1	-0,1	-0,1	-0,1	-0,1	-0,15	-0,15	-0,15	-0,15
Speed	3000	3000	3000	3000	3000	2500	2200	2000	1750
Moment of inertia "J" - inner parts	0,00125	0,00225	0,0039	0,00625	0,0095	0,0155	0,028	0,052	0,1
Moment of inertia "J" - outer parts	0,00051	0,00095	0,0016	0,0027	0,0045	0,0071	0,012	0,0225	0,0425
Weight (kg)	2,1	2,5	3,2	4,1	5	7	10,2	13,6	21
Dimensions (mm)									
D	100	110	120	132	147	162	182	202	235
Dp H7	50 / 60 / 70	50 / 60 / 70	50 / 60 / 70 / 80	60 / 70 / 80 / 90	70 / 80 / 90 / 100	80 / 90 / 100 / 110	90 / 100 / 110 / 120	100 / 110 / 120 / 140	110 / 120 / 140 / 160
Dt max	80	85	95	105	115	130	150	165	190
Sp	5	5	6	7	7	7	8	8	10
Numer of pcs x Š	4xM6	4xM6	6xM6	6xM6	6xM8	6xM8	6xM10	6xM10	6xM12
Numer of pcs x K	2x6	2x6	3x6	3x8	3x8	3x8	3x10	3x10	3x12
L	56	59	63	66	69	73	80	88	98
L1 -0,1	53	56	59	61	64	68	75	82	92
D1	76	90	90	105	115	128	140	150	170
Ds	68	77	82	95	100	112	125	135	155
Numer of pcs x S	3xM4	3xM4	3xM4	3xM4	3xM4	3xM6	3xM6	3xM6	3xM6
A	48	55	55	68	74	82	88	94	103
B	5	5	5	5	5	5	5	5	5
C	2,5	2,5	2,5	2,5	2,5	3	3	3	3
d1H7	15 / 17 / 18 / 20	18 / 20 / 22 / 25	20 / 25 / 28 / 30	25 / 28 / 30 / 35	28 / 30 / 35 / 40	30 / 35 / 40 / 45	40 / 45 / 50 / 55	45 / 50 / 55 / 60	50 / 55 / 60 / 70

PSP Pohony a.s.
Kojetínská 3148/73d
750 53 Přerov
Czech Republic
www.pohony.cz