

Assembly rules for EL couplings

1.1. Coupling assembly

It is important to follow the instructions listed below to obtain a correct assembly of the coupling. The coupling is made up of the items shown in Figure 1.

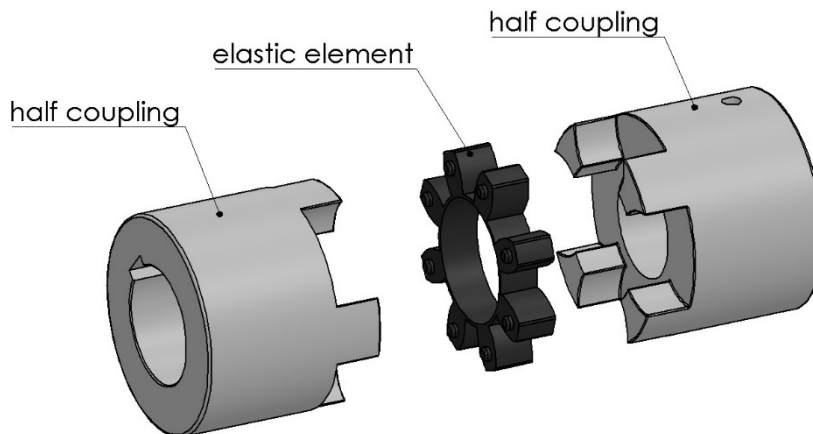


Fig.1

1. The half-couplings must be fully keyed onto the shafts so that the head of the shafts is flush with the respective reference surfaces, as shown in Fig. 2.

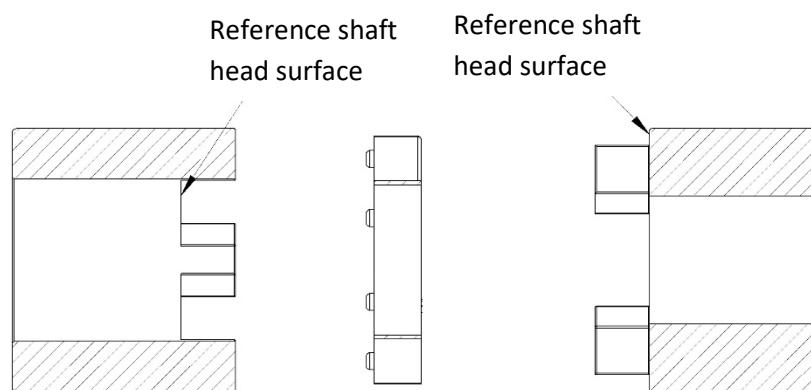


Fig.2

2. Insert the rubber shim on the toothed hub so that the support pins are in contact with the reference surface (Fig. 3, 4).

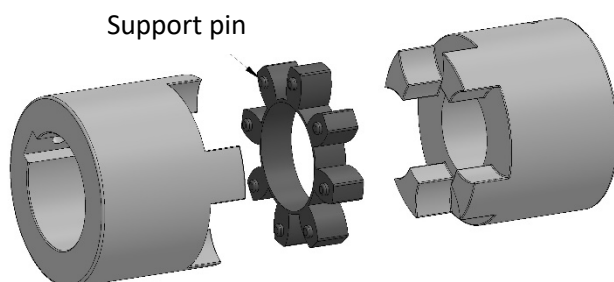


Fig.3

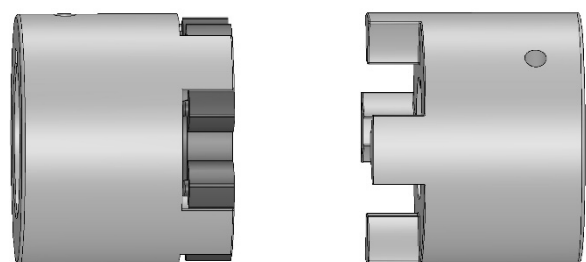


Fig.4

3. Then approach the two half-couplings by positioning the second hub in such a way that the dimension S respects the values in Table 1, which vary depending on the size of the coupling (Fig. 5)

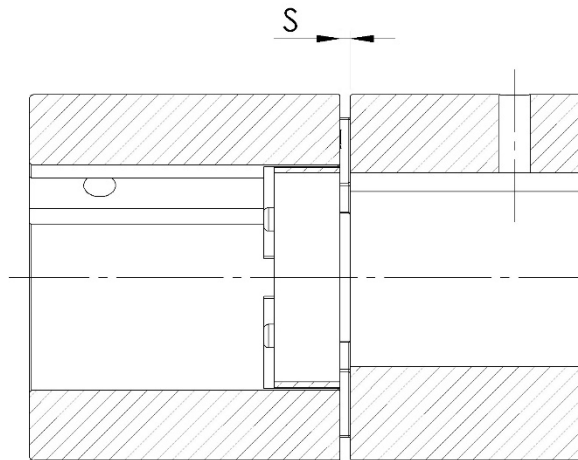


Fig. 5

Table 1. Values of the dimension S to be respected for EL models

Size	60	80	100	120	150	180	200	220	240	260
S	2.2	2.2	2.2	3.2	3.2	3.2	4.2	4.2	4.2	5.2

1.2. Alignment check.

(To be carried out at commissioning or after the first start-up)

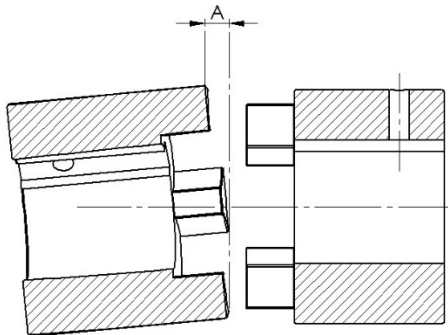
From the moment of assembly to the actual commissioning of the coupling a lapse of time may elapse and contingent elements such as settling of the structures, interventions carried out in the adjacent areas that may have compromised the initial alignment may occur. In order to ensure an excellent operation of the flexible coupling, it is recommended to carry out a further global check of misalignments before commissioning: “ANGULAR”, “AXIAL”, “PARALLEL”, comparing the data found with the values shown in the two tables relating to the alignment tolerances.

NB: This check is also advisable after the first start-up of the coupling.

Recommended RADIAL/PARALLEL alignment tolerances

rpm	750	1500	1800	3000	3600	6000
Acceptable	0.19	0.09	0.09	0.06	0.06	0.03
Excellent	0.09	0.06	0.06	0.03	0.03	0.02

Recommended ANGULAR OPENING alignment tolerances(A)						
rpm	750	1500	1800	3000	3600	6000
Acceptable	0.13	0.07	0.07	0.04	0.04	0.03
Excellent	0.09	0.05	0.05	0.03	0.03	0.02

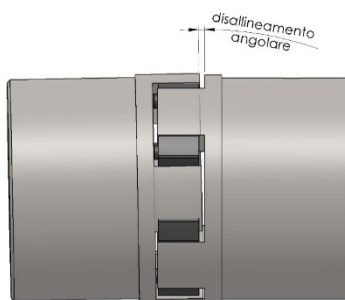


The angular opening values shown are valid for a coupling with an external diameter of 100mm. In the case of a coupling with a different diameter, simply divide the value in tables by 100 and multiply it by the effective diameter of the coupling, expressed in mm, in order to find the new reference value.

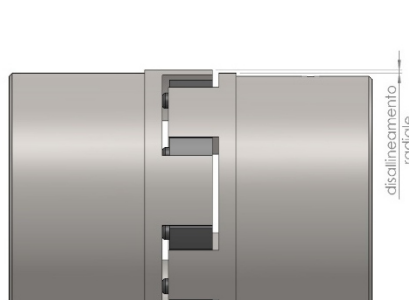
For the axial values, it is instead possible to refer to Table 2, relating to the maximum performance of the coupling during operation:

Table 2

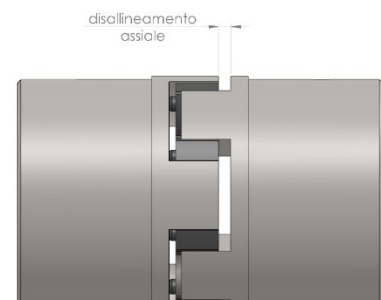
Size	Nominal Torque	Max misalignment during operation
		Axial max
	Nm	mm
80	70	±0,3
100	135	±0,5
120	260	±0,5
150	490	±0,6
180	890	±0,6
200	1350	±0,6
220	1900	±0,8
240	2300	±0,8



Angular misalignment



Radial misalignment



Axial misalignment

1.3. Check intervals

A first check must be carried out after the first 1000 working hours or at the latest two months after commissioning:

- Visually check the 360° coupling and make sure there are no signs of malfunction or oxidation.
- Check the alignment of the coupling and verify that it is within the parameters in Table 2 (simultaneous)
- If no problems are found, subsequent checks can be scheduled at intervals of 4000 hours of operation or at most one year.
- If, during the first check, there is even minimal wear of the elastic element, immediately replace it and check the alignments and the transmitted power.
- Once the coupling has been started and the periodic regular checks have been carried out, it is recommended to replace it after a certain period as per the Table below, based on the average working temperature:

Working temperature °C	-30/-11	-10/+0	+1/+30	+31/+45	+46/+60	+61/+70	+71/+80	+81/100
Indicative years of use	4	4	6	5	4	2	1	1

N.B.: In any case, it is always advisable to check the state of the insert at each periodic check, and replace it if there are signs of wear/burning, as its duration depends on other important factors, in addition to the temperature, such as: alignment accuracy, vibrations and their frequency, starts per hour, unexpected overloads, high temperature variations, corrosive agents.

Normal operation is considered such that no more than 3 starts per hour are exceeded within 24 hours of continuous operation.

1.4. Working temperatures

All "EL" series elastic couplings are designed for ambient temperatures of use from -30°C to + 120°C.

1.5. Materials

The elastic couplings of the "EL" series are made of the following materials:

Half-couplings: C45 carbon steel

Elastic element: NBR 90Sh-A rubber (second series).

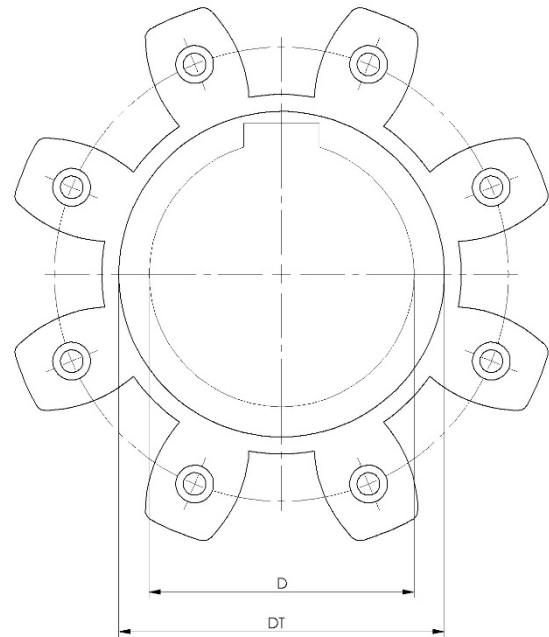
On request, the hubs can also be made of AISI304 or AISI316 stainless steel.

For other materials, it is necessary to contact the Technical Department: g.lazzaroni@lpcouplings.it

1.6. Materials

The table below indicates the maximum shaft diameters, with key, which can protrude from the hub and enter the hole of the elastic element, in case of need or if the DBSE is lower than the thickness of the elastic element + the 'S' dimension:

TABLE OF MAXIMUM SHAFT DIAMETER WITH KEY IN THE ELASTIC ELEMENT HOLE		
SIZE	Central hole	Max shaft diam. with key
	DT (mm)	D (mm)
80	39,7	30
100	51	42
120	63	50
150	83,4	66
180	105	85
200	114	95
220	118	98
240	130	110



1.7. Marking ATEX

The EL couplings are ATEX certified according to the following marking:

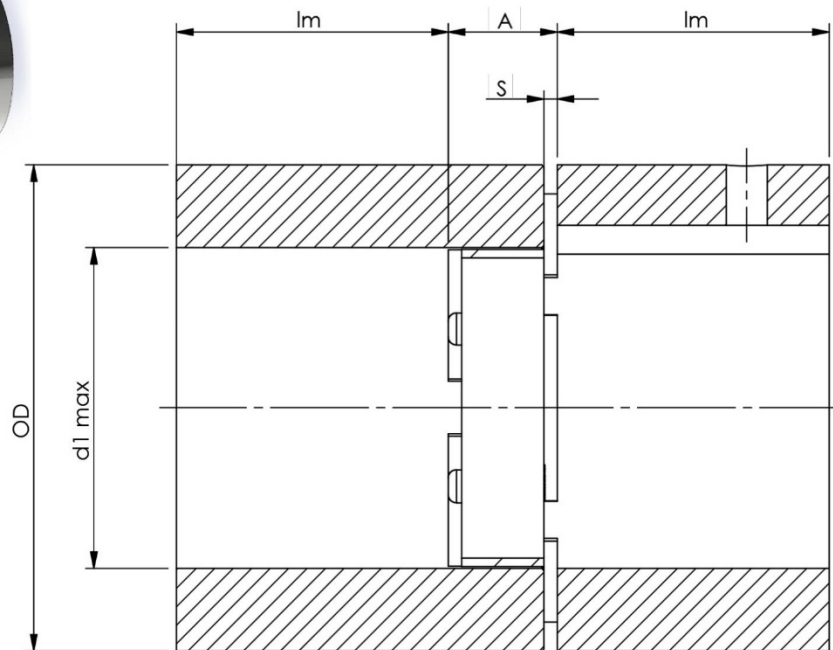
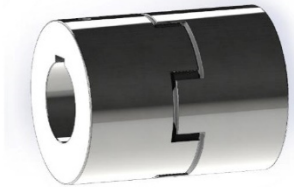
Marking ATEX for EL couplings		
	Industry (group II)	Mine (group I)
Gas	II 2G Ex h IIC T ₅ Gb	I M2 Ex h I Mb
Dusts	II 2D Ex h IIIC -30°C ≤ T ≤ 100 °C Db (EL) II 2D Ex h IIIC -30°C ≤ T ≤ 140°C Db (GEL)	

For further details, refer to the specific ATEX assembly rules.

1.8. Dimensions table

Giunti elastici EL

ATEX, 2 PEZZI, IN ACCIAIO



Taglia	Coppia Nominale	Foro max d1	OD	L	lm	A	S	Peso	Momento d'inerzia
	<i>Nm</i>	<i>mm</i>	<i>mm</i>	<i>mm</i>	<i>mm</i>	<i>mm</i>	<i>mm</i>	<i>kg</i>	<i>kg*m²</i>
EL080	70	48	78	118,2	50	18,2	2,2	3,7	0,0028
EL100	135	62	98	144,4	60	24,4	2,2	8	0,0101
EL120	260	78	118	158,4	66	26,4	3,2	11,9	0,02137
EL150	490	96	148	178,4	72	34,4	3,2	20,3	0,05622
EL180	890	120	178	238,4	100	38,4	3,2	43,6	0,1786
EL200	1350	132	198	270,4	114	42,4	4,2	61,1	0,3101
EL220	1900	150	218	288,4	120	48,4	4,2	74	0,4507
EL240	2300	160	238	308,4	130	48,4	4,2	96	0,71529