

ELFC coupling assembly standards

1.1. Coupling assembly

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

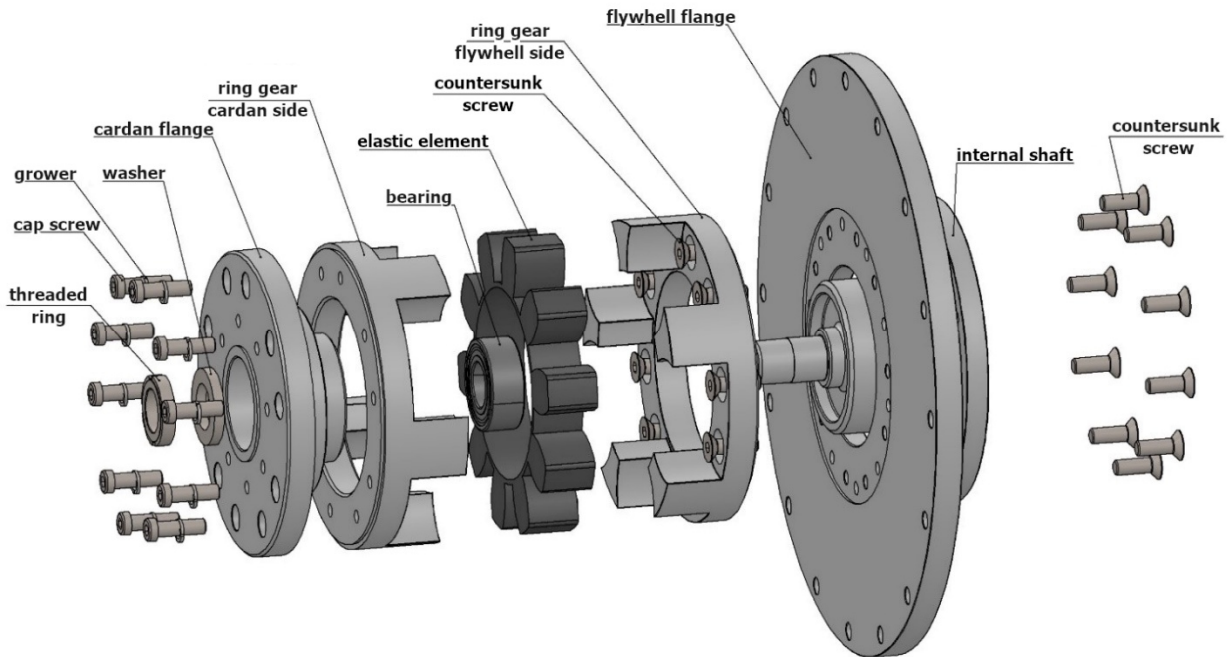


Fig.1

1. The ELFC coupling is delivered pre-assembled and it is, therefore, advisable to keep it in this manner for the first assembly, until it is time to replace the rubber crown, once worn.
2. Then proceed to secure the relevant sides on the cardan flange and on the flywheel flange, using all the holes available.
3. The coupling is equipped with an internal bearing fixed with a ring nut that prevents the coupling from opening and that supports the weight of both the coupling and the cardan shaft secured to it.
4. Once the two flanges have been fixed, it is necessary to check the resulting 'S' dimension that must comply with the table shown below.

S dimension values to be respected for ELASTIC models											
Dimension	80	100	120	150	180	200	220	240	260		
ELFC	2.2	2.2	2.2	3.2	3.2	4.2	4.2	4.2	4.2		
Dimension	45	55	65	85	95	105	125	135	165	195	200
GELFC	2	2	2.5	3	3	3.5	4	4.5	5	5.5	6

5. If necessary, facilitate the opening of the coupling that is designed to position itself, at the end of the stroke, at the value of the relevant 'S' dimension, as per Table 1. This value is shown on the specific drawings and corresponds to the gap that remains between the two crown gears.

1.2. Simultaneous alignment check

(to be carried out during commissioning or after the first start-up)

From the time of assembly to the effective commissioning of the coupling, it is possible that a lapse of time elapses and that contingent elements occur such as settling of the structures, interventions carried out in the adjacent areas that could have compromised the initial alignment. In order to ensure optimal operation of the flexible coupling and to avoid dangers in potentially explosive areas, it is recommended to carry out a further global misalignment check before commissioning: "ANGULAR", "AXIAL", "PARALLEL" misalignments, comparing the data found with the values indicated in Table 2. This check is also advisable after the first start-up of the coupling.

Table 2 – Simultaneous alignment check.

Dimension	Rated torque	Misalignments		
		Max. angular misalignment	Max. parallel misalignment	Max. axial misalignment
	Nm	°	± mm	mm
60	55	1	0.1	-0.2/0
80	140	1	0.1	-0.2/0
100	210	1	0.1	-0.2/0
120	390	0.75	0.2	-0.2/0
150	690	0.75	0.2	-0.2/0
180	1290	0.75	0.2	-0.2/0
200	2150	0.5	0.2	-0.2/0
220	2680	0.5	0.3	-0.2/0
240	3200	0.5	0.3	-0.2/0
260	3980	0.5	0.3	-0.2/0

ATTENTION! In ELFC/GELF couplings, the value of the maximum axial misalignment is predetermined as the two semi-couplings are integral. This, therefore, also limits the relevant angular and parallel misalignment values. This is in line with the intended function of the coupling as the misalignment is effectively taken up by the associated universal coupling rather than by the ELFC flexible coupling. The latter has above all the function of absorbing torsional vibrations and making the transmission elastic.

Example 1:

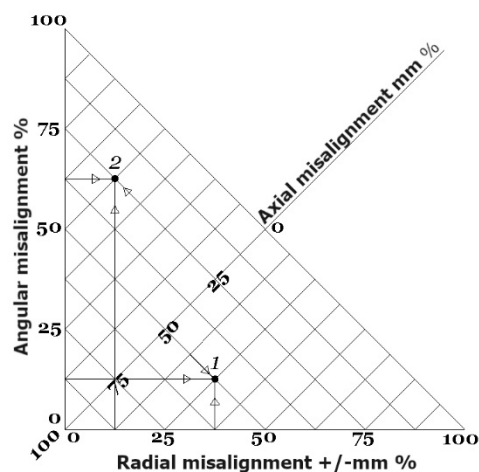
Angular misalignment = 50°
 Parallel misalignment = 37.5°
 Axial misalignment = 12.5°

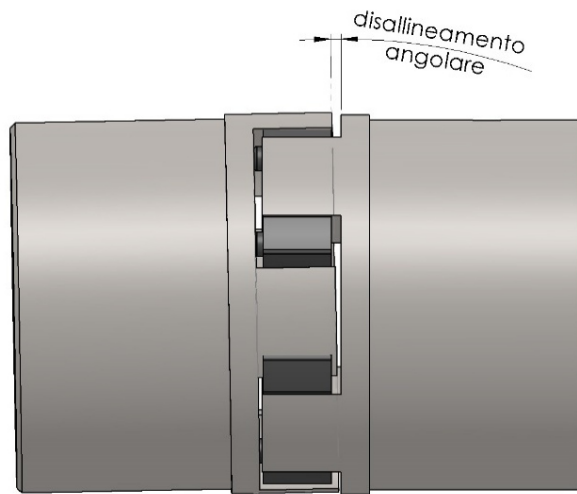
Example 2:

Angular misalignment = 25%
 Parallel misalignment = 12.5%
 Axial misalignment = 62.5%

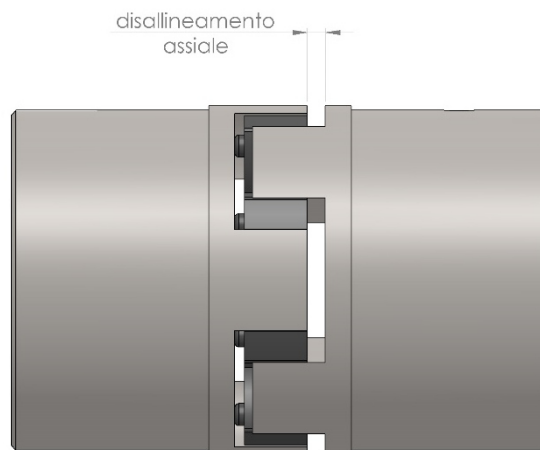
The percentage sum of the three misalignments **cannot exceed 100%**: angular misalignment + parallel misalignment + axial misalignment ≤ 100%

This maximum value is **reduced to 80%** in potentially explosive areas

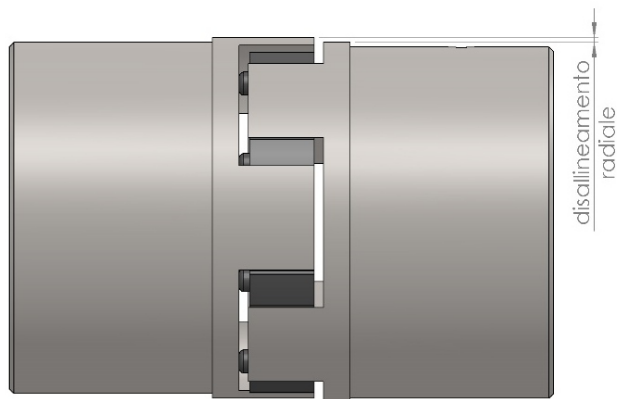




Angular misalignment



Axial misalignment



Radial misalignment

1.3. Check intervals

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

- Visually inspect the coupling 360° and make sure there are no signs of malfunction or oxidation.
- Check the coupling alignment and verify that it is within the parameters of Table .
- If no problems are found, subsequent checks can be scheduled at intervals of 4000 operating hours or at most one year.
- If even the slightest wear of the elastic item is found during the first check, replace it immediately and check the alignments and the transmitted powers.
- Once the coupling has been started up and the regular periodic 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

NB: In any case, it is always advisable to check the condition of the shim at each periodic check, and replace it if signs of wear/burning are evident, as its duration depends on other important factors, in addition to the temperature, such as: alignment precision, vibrations and their frequency, starts per hour, unexpected overloads, high changes in temperatures, corrosive agents.

Normal operation is considered such that 3 starts per hour are not exceeded over 24 hours of continuous operation

1.4. Working temperatures

All the “E” series flexible couplings, including the ELFC models, are designed for ambient temperatures of use from -30 to +120°C, a temperature limited by the properties of the rubber with which the elastic shim is made, while the GELFC series couplings reach up to +140°C.

1.5. Correct positioning of the rubber part (only for ELFC)

When replacing the rubber block, once worn, it is advisable to insert it so that the supporting pins on the teeth of the block rest well on the surface of the crown wheel. Then proceed to close the coupling.

