

# Installation and operating instruction for TX1-ECOLIGHT - Elastomer couplings



Please carefully and completely read the following installation, operation and maintenance procedures for the R+W ECOLIGHT elastomer couplings. Failure to comply with these procedures may result in the failure of the coupling. Installation of the couplings should be performed by a qualified technician. Ecolight couplings may only be used in accordance with the technical data supplied in the catalog.

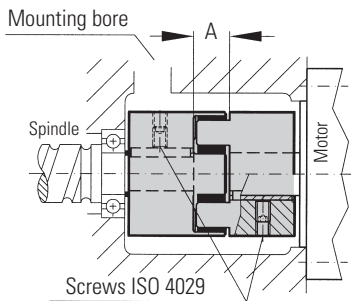
## General function



ECOLIGHT elastomer couplings are flexible shaft couplings. Backlash free torque transmission is achieved through a pre-tensioned elastomer insert. The coupling compensates for lateral, axial, and angular misalignment. It is also possible to vary the stiffness and dampening effect of the coupling by using inserts with different derometers (hardness).

## Mounting possibility 1

with 1 screw per hub ISO 4029

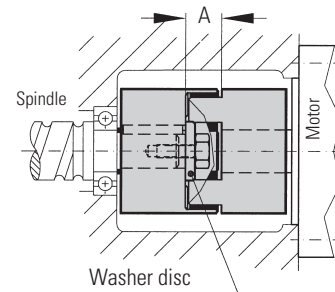


The radial accessibility must be realized.

Pic. 1

## Mounting possibility 2

with washer disc



Retaining the hub axial while using a washer disc with screw.

Pic. 2

Tightening torque see table 3

## Elastomer inserts



The equalizing element of an ECOLIGHT coupling is the convex elastomer insert. It transmits the torque backlash free and dampens vibration. The elastomer insert defines the features of the entire coupling and/or of the entire drive system. The convex insert is available in 3 different shore values.

Type	Color	Shore hardness	Temperature range	Features
A	red	98 Sh A	-30°C - +100°C	high damping
B	green	64 Sh D	-30°C - +120°C	high torsional stiffness
C	yellow	80 Sh A	-30°C - +100°C	very high damping

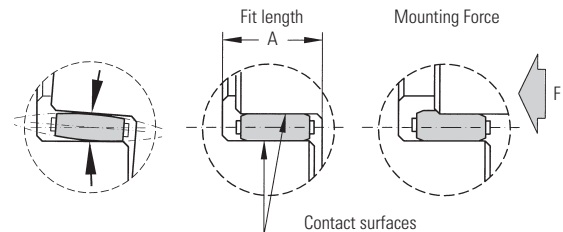


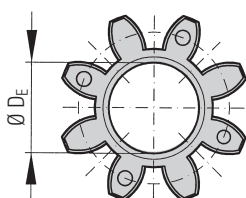
Table 1

Pic. 3

## Max. transmittable torque / misalignments

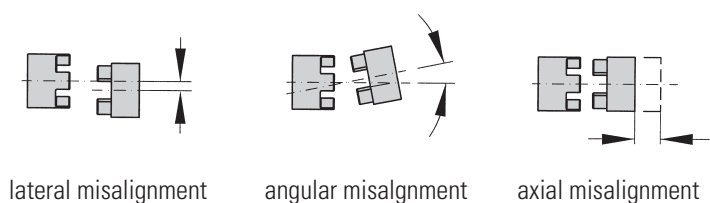
Series	10			20			60			150			300			
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
Design (elastomer insert)	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
Nominal torque	$T_{KN}$	12.5	16	4	17	21	6	60	75	20	160	200	42	325	405	84
Max. torque	$T_{Kmax}$	25	32	6	24	42	12	120	150	35	320	400	85	650	810	170
Fit Length	A	11.5			16			18			20			24		
Diameter (elastomer insert)	$D_e$	14.2			19.2			27.2			30.2			38.2		
lateral angular axial	max values	0.2	0.17	0.2	0.2	0.2	0.2	0.22	0.22	0.25	0.25	0.25	0.25	0.28	0.28	0.3
		1.5	1.5			1.5			1.5			1.5				
		$\pm 1$	$\pm 1.5$			$\pm 1.5$			$\pm 2$			$\pm 2$				

Table 1



Elastomer insert optionally Type A / B / C

Pic. 4



Pic. 5

## Screw tightening torque



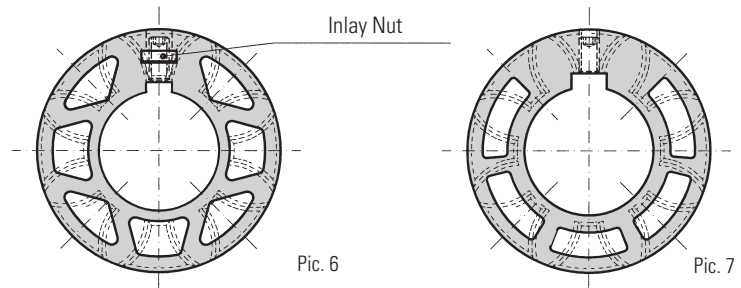
**Caution!** To avoid a mechanical overload of the set screws, it is necessary to maintain all given tightening torque datas at all time.

Generally all TX1 couplings are equipped and delivered with inlay nuts. (Pic.6)

Exceptions are couplings with bore diameters regarding to datasheet TX1 (Structure III) (Pic.7)

Series	Screws ISO 4029	Tightening torque
10	M3	1 Nm
20	M4	1,5 Nm
60	M5	3 Nm
150	M6	6 Nm
300	M6	6 Nm

Table 4



## Fit tolerance

All bores of the TX1 series are generally H8 quality. The hub is designed to have a loose fit shaft/hub connection, with a all over tolerance of 0,1mm.

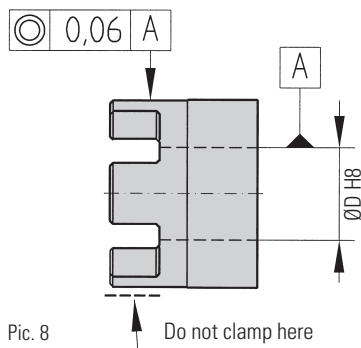
**Caution!** A slight transition fit (hub has to be pressed onto the shaft by hand resisting a slight force) is acceptable. At the keyway to front end side, the bore can show a slight burr.

based on the molding process, a little ovality of the bores is normal.

## Modification of the bores

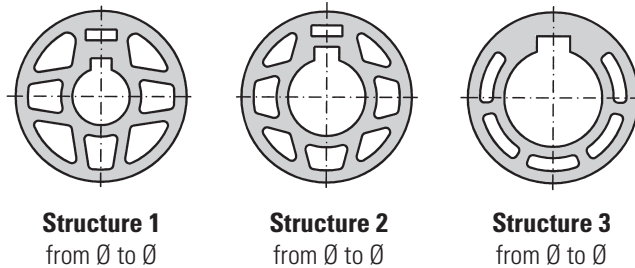
All hubs can be drilled or machined subsequently to a bigger inner diameter. The machining is similar to aluminum. The max. allowed specific bore diameter is shown in the TX1 data sheet.

**Caution!** The R+W warranty expires while exceeding the given max. bore dimensions.



Pic. 8

The max. allowed bore dimensions are obliged by the specific structures of the hubs. (ref. Data sheet TX1)



Pic. 9

## Max. transmittable torque

The max. transmittable torque of the TX1 is based on the shaft diameter with its keyway dimension regarding to DIN 6885 or ANSI. Standard values are valid according to global engineering.

The assumption is that the full keyway length can be used.

For a shorter contact range, all values must be reduced.

## Maintenance



R+W ECOLIGHT couplings are maintenance-free as long as they are properly mounted and the maximum misalignment values are not exceeded. Extreme ambient or installed conditions such as very high or low temperatures, acidic or basic solutions, cutting fluids, etc. may cause wear and tear on the elastomer insert. Regular inspection of the insert is recommended. If replacement is required use only R+W original spare parts.