Assembly instructions

Areas of application
R+W couplings are designed and manufactured to guarantee high precision. They provide backlash free transmission of angular motion and torque which are particular useful in closed loop control applications.

The coupling hubs are bored and assembled concentrically eliminating any residual restoring forces. This manufacturing and assembly technique also guarantees the quietest and truest transmission of angular motion critical for optical encoders and pulse generators.

Tightening torque for the mounting screws (Nm)

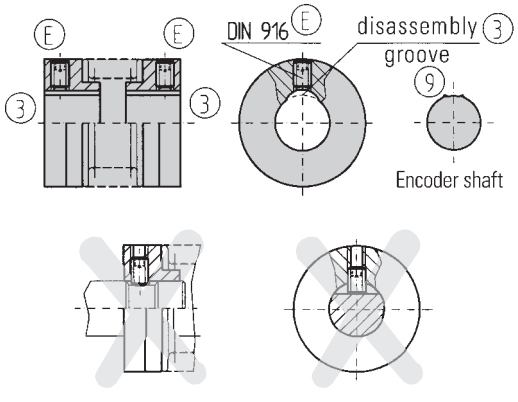
Model / Series	Coupling hub						Expanding shaft
	MK1	MK2	MK3	MK4	MK5	MK6	MK3 / MK6
0.5	0.35						
1	0.75						
5	1.3	0.43	0.43	1.3	0.43	0.43	1.5
10	1.3	0.43	0.43				1.5
15	1.3	0.85	0.85	1.3	0.85	0.85	3
20	2.5	2	2.3	2.5	2.3	2.3	4
45	4	3.5	3.5	4	3.5	3.5	6.5
100	6	4.5	4.5	6	4.5	4.5	11

Assembly preparation

During assembly and disassembly the bellow can only be stretched or deformed by 1.5 times the stated catalog values. The shafts and couplings bores must be clean and free of burrs, nicks, and deformations. Double check the shaft and bore dimensions and tolerances to ensure a proper fit. R+W couplings are bored to an ISO H7 tolerance. The clearance between the expanding shaft of the MK3 und MK6 and the bore should be no more than 0.01 to 0.05 mm to ensure a proper fit and clamping strength. A slight film of oil on the expanding shaft will aid in the assembly and disassembly of the coupling without compromising the strength of the coupling.

Important! "Oil and grease with molybdenum disulfide or ohter high pressure additives, as well as slide grease, must not be used."

Set Screw mounting instructions for models MK1 and MK4



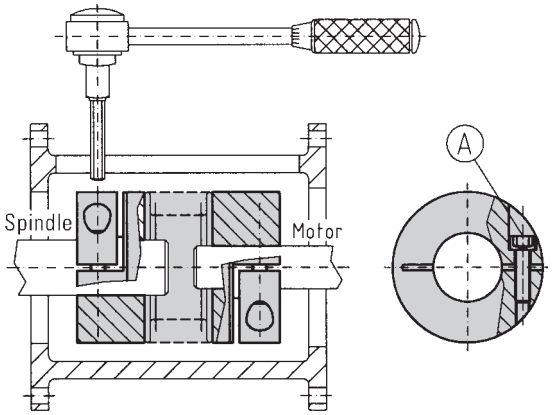
A set screw groove or flat are not necessary

Assembly:
Slide the coupling onto the shaft of the drive element and position it in place. Tighten the set screw (E) using a torque wrench to the proper torque value listed in the table above. Slide the shaft of the driven element (an encoder for example) into the coupling bore to its proper position. Tighten the second set screw (E) using a torque wrench to the proper torque value.
Series 1 - 10: 1 set screw per hub
Series 15 - 100: 2 set screws per hub set 120 degree apart

Disassembly:
Disassembly is very easy with R+W coupling. Simply loosen the set screw (E) and slide the coupling off the shaft. R+W has incorporated a disassembly groove (3) into the coupling design so that clearance is provided fot the set screw "burr" (9).

Assembly instruction Model MK

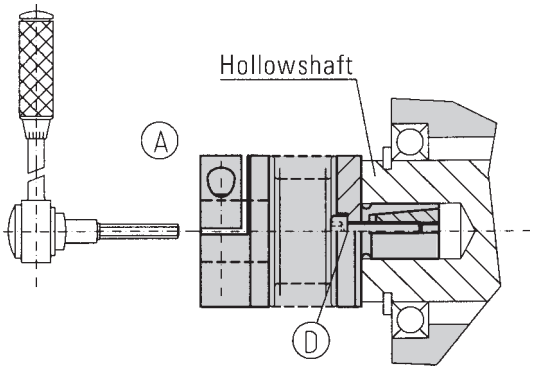
Single screw clamping hub design, Model MK 2 / MK 5 / Ecoflex



Assembly:
Slide the coupling onto the drive element (a motor for example) to the proper axial position. Using a torque wrench tighten the mounting screw (A) to the proper tightening torque listed in the table on the previous page. Slide the driven element (a spindle or encoder for example) into the coupling to it's proper axial position and tighten the mouning screw using the same procedure as before.

Disassembly:
Simply loosen the mounting screws (A) and remove the coupling.

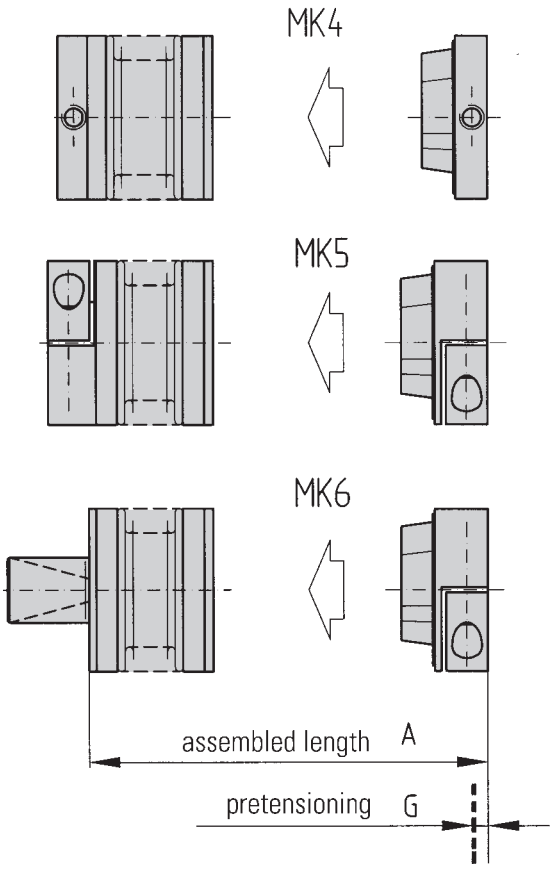
Expanding shaft design, Model MK 3 / MK 6

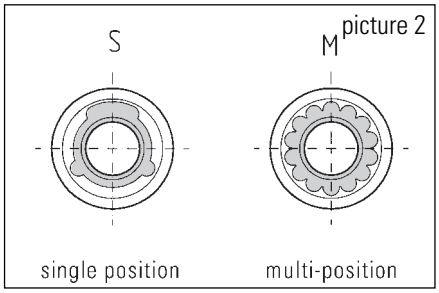


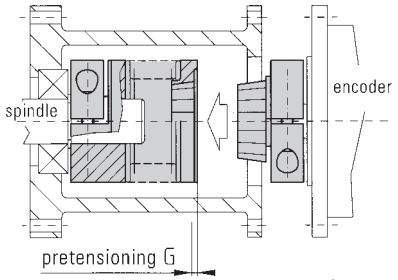
Assembly:
Completely insert the expanding shaft of the coupling into the shaft hollow bore until it seats. Using a torque wrench tighten the mounting screw (D) to the proper torque value listid in the table on the previous page. Insert the shaft into the other end of the coupling to its proper position. Tighten mouning screw (a) to the proper torque value with a torque wrench.

Disassembly:
Simply loosen the mounting screws (a) and (d) and remove the coupling. The expanding shaft connection can be loosened by partially unscrewing mounting screw (D) and applying axial pressure to it.

Pretensioning of the press-fit coupling design, Model MK4 / MK 5 / MK 6







picture 1

Assembly
Important! It is extremely important that the overall length of the assembled coupling be noted and taken into consideration in the assembly process. Models MK 4, MK 5 and MK 6 are blind mate press-fit couplings. They will provide absolute backlash free operation only if they are properly **pretensioned** in the assembly process. Mount the female segment of the coupling onto the driven element. Next loosely mount the male segment onto the drive element so that it slides with friciton on the shaft. Mount the drive element onto the coupling flange (picture 1). Remove the drive element from the flange and note the position of the male coupling segment. Slide the male coupling segment towards the female segment by the distance (G) (Pre-tension distance) and tighten the mounting screws. Proper torque values are given in the table on the previous page. Two versions of the blind mate coupling are available, the single position and the multi position (picture 2).