

## 1. General Information

- 1.1. Omega Couplings are designed to provide a mechanical connection between the rotating shafts of mechanical equipment, using a torsionally soft flexible element to accommodate inherent misalignment while transmitting the power and torque between the shafts.
- 1.2. These instructions are intended to help you install and maintain your Omega coupling. Please read these instructions prior to installing the coupling, and prior to maintenance of the coupling and connected equipment. Keep these instructions near the coupling installation and available for review by maintenance personnel.
- 1.3. Rexnord Industries, LLC owns the copyright of this material. These Installation and Maintenance instructions may not be reproduced in whole or in part for competitive purposes.
- 1.4. Symbol descriptions:



Danger of injury to persons.



Damages on the machine possible.



Pointing to important items.

## 2. Safety and Advice Hints



**DANGER!**

- 2.1. Safety should be a primary concern in all aspects of coupling installation, operation and maintenance.
- 2.2. All rotating power transmission products are potentially dangerous and can cause serious injury. They must be guarded in compliance with OSHA, ANSI, ATEX and any other local standard for the applications they are used. It is the responsibility of the user to provide proper guarding.
- 2.3. Failure to secure cap screws properly could cause coupling component(s) to dislodge during operation and result in personal injury. See Table 3 for proper tightening torques.
- 2.4. Do not use on turbine drives if the coupling cannot be protected from steam leakage or overspeed situations beyond the coupling's published speed rating.
- 2.5. Before installing this coupling on systems involving sleeve bearings, herringbone gearsets or other axially sensitive devices, consult Rexnord.
- 2.6. Elastomeric couplings can hold a static electric charge that may discharge and ignite in an explosive environment. Both shafts of the connected equipment must have a path to ground.

## 3. Preventative Maintenance



**DANGER!**

**Do not make contact with the coupling when it is rotating and/or in operation.**

- 3.1. Periodic visual inspection is necessary to evaluate the condition of the flex element. Inspection can be done during the operation using a strobe light.
- 3.2. When inspecting the element look for:
  - Fatigue cracks at element splits, discoloration and surface cracking in body of element.



**ATTENTION!** Replace element if necessary.

## 4. Element Replacement



**DANGER!**

**Stop the motor and lock it out to prevent start-up during installation of coupling.**

- 4.1. Always replace both half elements.
- 4.2. Install both half elements from the same box.
- 4.3. Follow installation instructions (see Section 7, Rexnord Omega Coupling Installation).
- 4.4. Tighten element cap screws to proper torque (see Table 3).



The designation ATEX (Atmosphere Explosibles) has established itself for the new guidelines. ATEX 100a controls all regulations for the condition of explosion-proof equipment.

Model No. \_\_\_\_\_ Category \_\_\_\_\_ Reference \_\_\_\_\_

Mfg Year \_\_\_\_\_ Max Temperature \_\_\_\_\_

### 5. Rexnord Omega Coupling Design and Part Numbers

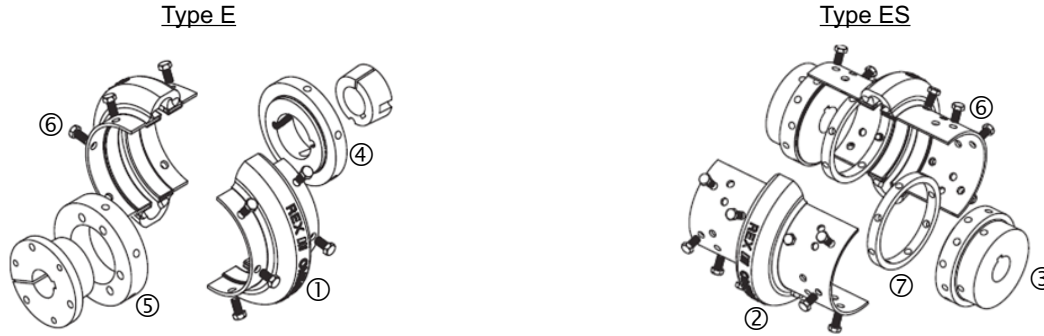


Table 1 - Omega part numbers

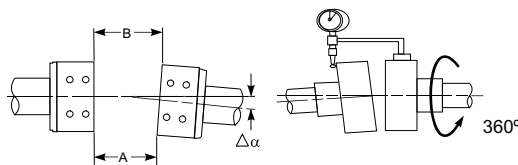
Size	Elastomer Element		Hubs				Element cap screws METRIC ⑥	High speed rings ⑦	Sleeve extension
	E ①	ES ②	Rough bore ③	BSW	UNF	QD hub ⑤			
				Taper Bush hub ④	Taper Bush hub ④				
2M	7300005M	7300075M	7300215M	-	-	-	7301410	-	
3M	7300010M	7300080M	7300240M	7300795M	7300730M	-	7301420	7369574M	
4M	7300015M	7300085M	7300270M	7300800M	7300740M	7300860M	7301420	7369575M	
5M	7300020M	7300090M	7300305M	7300805M	7300745M	7300865M	7301420	7369576M	
10M	7300025M	7300095M	7300340M	7300810M	7300750M	7300870M	7301450	7369577M	
20M	7300030M	7300100M	7300650M	7300815M	7300755M	7300875M	7393101	7301100M 7369578M	
30M	7300035M	7300105M	7300660M	7300820M	7300760M	7300880M	7393101	7301105M 7369579M	
40M	7300040M	7300110M	7300670M	7300825M	7300765M	7300885M	7393105	7301110M 7369580M	
50M	7300045M	7300115M	7300680M	7300830M	7300770M	7300890M	7393105	7301115M 7369581M	
60M	7300050M	7300120M	7300690M	7300835M	7300775M	7300895M	7393109	7301120M 7369582M	
70M	7300055M	7300125M	7300700M	7300840M	7300780M	7300900M	7393109	7301125M 7369583M	
80M	7300060M	7300130M	7300710M	7300845M	7300785M	7300905M	7393109	7301130M 7369584M	
100M	7300065M	-	7300720M	7300850M	7300850M	-	7301530	- 7369834M	
120M	7300070M	-	7300725M	7300855M	7300855M	-	7301540	- 7369835M	
140M	7300071M	-	7300727M	7300858M	7300857M	-	7301545	-	

### 6. Drive Alignment



Stop the motor and lock it out to prevent start-up during installation of coupling.

STEP 1



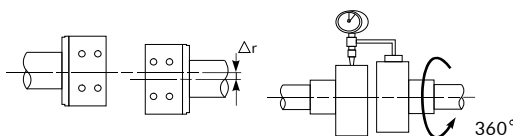
b (max) \_\_\_\_\_ mm

a (min) \_\_\_\_\_ mm

$$\Delta K_a = (b-a)$$

$$\Delta K_a = \underline{\hspace{2cm}}$$

STEP 2



$\Delta K_r$  \_\_\_\_\_ mm

**ATTENTION!** Improper alignment of the equipment or hubs may result in hub contact and sparking.

STEP 3

$$\frac{\Delta Ka}{\Delta Ka \text{ max}} + \frac{\Delta Kr}{\Delta Kr \text{ max}} \leq 1$$

$\Delta Ka$  – refer to Step 1  
 $\Delta Kr$  – refer to Step 2  
 $\Delta Ka \text{ max}$  &  $\Delta Kr \text{ max}$  – refer to Table 2

Table 2 - Maximum Misalignment – mm

Coupling Size		2M	3M	4M	5M	10M	20M	30M	40M	50M	60M	70M	80M	100M	120M	140M
Angular	$\Delta Ka \text{ max}$	3	4	5	6	7	6	7	9	11	8	8	10	9	12	14
Radial	$\Delta Kr \text{ max}$	2	2	2	2	2	2	2	2	2	3	3	3	5	5	5

7. Rexnord Omega Coupling Installation

STEP 1

- 7.1. Clean dirt and burrs from shafts and hub bores.
- 7.2. Be sure the keys fit shafts properly.
- 7.3. Position both hubs on the shaft without tightening the setscrews.
- 7.4. Use a half element to set proper hub spacing.
- 7.5. When the hubs are properly spaced, tighten the setscrews.
- 7.6. When using tapered bushings, follow bushing manufacturer's instructions.

STEP 2

- 7.7. Mount first half element to the hubs using cap screws provided.
- 7.8. Rotate the shaft 180 degrees and secure second half element.
- 7.9. If shaft cannot be rotated, mount half elements at 90 degrees.

STEP 3

- 7.10. Tighten all cap screws to the torques specified in Table 3.
- 7.11. Align equipment.
- 7.12. Install proper guarding prior to equipment start-up.

**ATTENTION!** When installing the element, first seat all the cap screws with a light torque, then tighten all cap screws to proper torque using a torque wrench.

8. Cap Screw Torque

- 8.1. Do not lubricate cap screw threads.
- 8.2. Cap screws must have a thread-locking adhesive applied.
- 8.3. Tighten cap screws by using torque wrench.

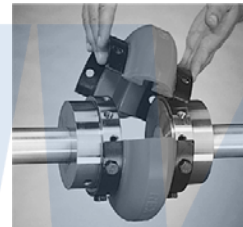
**ATTENTION!** Do not lubricate cap screw threads.



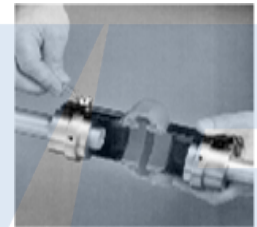
Type E



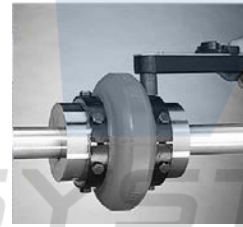
Type ES



Type E



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Type E



Type ES

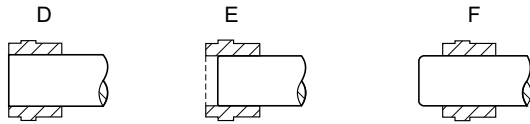
Table 3 - Cap Screw Torque

Coupling size	Quantity	Torque - DRY		Metric			
		In. Lbs	Nm	Part number Steel	Part number Stainless steel	Thread size	Wrench size
2M	8+8	204	23	7301410	7301410SSM	M6	10
3M	8+8			7301420	7301427		
4M	8+8			7301420	7301427		
5M	8+8			7301420	7301427		
10M	12+12			7301450	7301457		
20M	12	468	53	7393101	7393102	M10	13
30M	12			7393101	7393102		
40M	16			7393105	7393106		
50M	16			7393105	7393106		
60M	16			7393109	7393110		
70M	16	816	92	7393109	7393110	M12	15
80M	16			7393109	7393110		
100M	20			3240	370		
120M	24	7301540	7301547				
140M	32	7080	800			7301545	7301557

## 9. Rexnord Omega Hub Mounting Options

- 9.1. Hubs can be installed:
- flush with the shaft end (D)
  - extended beyond the end of the shaft (E)
  - recessed behind the shaft end (F)

**ATTENTION!** Shaft engagement length should be >0.8 times shaft diameter, bushed hubs must engage 100%.



## 10. Rexnord Omega “Type E” Mounting Options

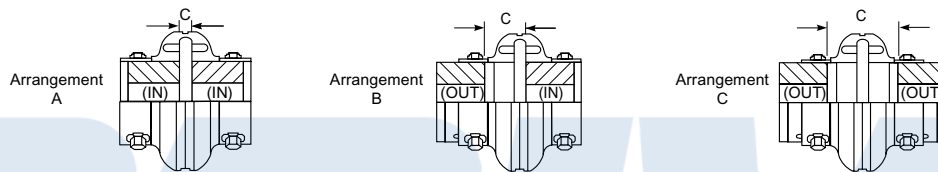


Table 4 - Type E Mounting Options

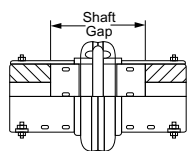
	2M	3M	4M	5M	10M	20M	30M	40M	50M	60M	70M	80M	100M	120M	140M
A	36	8	8	8	8	13	12	8	11	8	18	17	44	57	76
B	41	27	27	34	34	39	41	42	51	53	64	83	70	91	102
C	46	46	46	59	59	65	69	75	91	97	109	149	95	124	127

## 11. Rexnord Omega “Type ES” Mounting Options

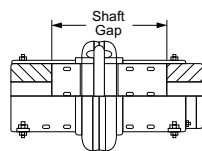
Table 5 - Spacer coupling (ES) Hub mounting options for industry shaft gaps

Coupling size	ISO (mm)				ANSI (in)							
	100	140	180	250	3	3.5	4	5	7	8	9.5	10
ES 2-RM	A-A						A*-A*					
ES 3-RM	C-C	A-A			B*-B*			A-B				
ES 4-RM	C-C	A-A			B*-B*	B*-B*		A-B				
ES 5-RM	C-C	A-A				A*-A*	A*-A*	A-B				
ES 10-RM	C-C	B-B					A*-A*	A-B				
ES 20M	A*-B*	B-B	A-A				A*-C*	C-C	A-A			
ES 30M	B-C*	B-B	A-A		A*-B*			C-C	A-A			
ES 40M	B-B*	B-B	A-A					C-C	A-A			
ES 50M	A-C*	B-B	A-A					C-C	A-A			
ES 60M		A-A*	B-B	A-A				B-B*		B-B		A-A
ES 70M			B-B	A-A					B-B			A-A
ES 80M			B-B	A-A					B-B			A-A

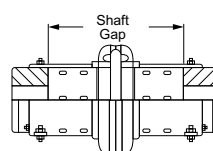
\* Hub mounted inboard



Both hubs mounted inboard



One hub mounted outboard  
One hub mounted inboard



Both hubs mounted outboard

