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:

STOP Danger of injury to persons.

⚠ Damages on the machine possible.

☞ Pointing to important items.

2. Safety and Advice Hints

STOP 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

STOP 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

STOP 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).

Ex

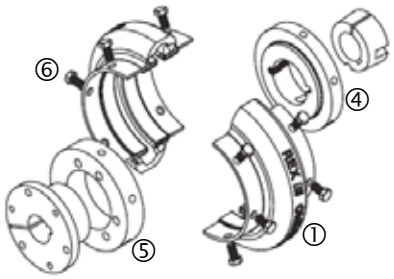
The designation ATEX (Atmosphere Explosibles) has established itself for the new guidelines. ATEX 100a controls all regulations for the condition of explosion-proof equipment.

Model No. _____ Category_____ Reference _____

Mfg Year _____ Max Temperature _____

5. Rexnord Omega Coupling Design and Part Numbers

Type E



Type ES

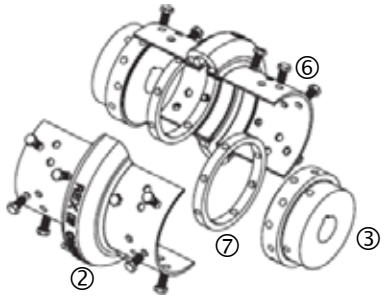


Table 1 Omega (E & ES) Part Numbers

Size	Elastomer Element		Hubs			Element Cap Screws ⑥				High Speed Rings ⑦	Sleeve Extension
	E Standard ①	ES Spacer ②	Rough Bore (Std) ③	Taper-Lock Hub ④	QD Bushed Hub ⑤	Carbon Steel ⑥	Stainless Steel ⑥	Size (in)	Qty		
2	10287330	10287346	10287359	—	—	10287681	10287682	1/4-20 x 3/8"	8 + 8*	—	—
3	10287331	10287347	10287365	10287464	—	10314073	10287684	1/4-20 x 1/2"	8 + 8*	—	10287525
4	10287332	10287348	10287373	10287465	10287478	10314073	10287684	1/4-20 x 1/2"	8 + 8*	—	10287526
5	10287333	10287349	10287386	10287466	10287479	10314073	10287684	1/4-20 x 1/2"	8 + 8*	—	10287527
10	10287334	10287350	10287403	10287467	10287480	10313938	10287686	1/4-20 x 1/2"	12 + 12*	—	10287528
15	10287335	10287351	10287416	10288104	10287481	10314939	10287687	5/16-18 x 1/2"	12	—	10287524
20	10287336	10287352	10287418	10287468	10287482	10316221	10287689	3/8-16 x 5/8"	12	10287498	10287529
30	10287337	10287353	10287427	10287469	10287483	10316221	10287689	3/8-16 x 5/8"	12	10287499	10287530
40	10287338	10287354	10287437	10287470	10287484	10315342	10287691	3/8-16 x 5/8"	16	10287500	10287531
50	10287339	10287355	10287447	10287471	10287485	10315342	10287691	3/8-16 x 5/8"	16	10287501	10287532
60	10287340	10287356	10287454	10287472	10287486	10313041	10287693	1/2-13 x 7/8"	16	10287502	10287533
70	10287341	10287357	10287459	10287473	10287487	10313041	10287693	1/2-13 x 7/8"	16	10287503	10287534
80	10287342	10287358	10287460	10287474	10287488	10313041	10287693	1/2-13 x 7/8"	16	10287504	10287535
100	10287343	—	10287461	10287475	10287490	10315236	10287695	3/4-10 x 1-1/2"	20	—	10287536
120	10287344	—	10287462	10287476	10287489	10312654	10287965	3/4-10 x 1-1/2"	24	—	10287537
140	10287345	—	10287463	10287477	10287491	10315315	10287698	1.0-8 x 1-1/2"	32	—	10287538

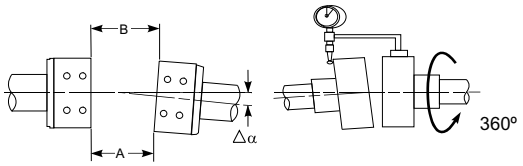
*Extra cap screws provided for spacer couplings with rings.

6. Drive Alignment

STOP DANGER!

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

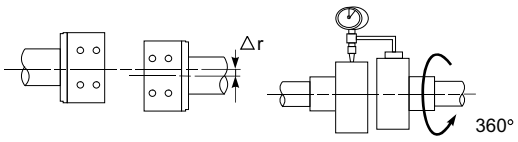
STEP 1



b (max)_____ in
a (min)_____ in

ΔKa = (b-a)
ΔKa = _____

STEP 2



ΔKr _____ in

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

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STEP 3

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

ΔKa — refer to Step 1
ΔKr — refer to Step 2
ΔKa max & ΔKr max — refer to Table 2

Table 2 — Maximum Misalignment (in)

Coupling Size (E & ES)		2	3	4	5	10	15	20	30	40	50	60	70	80	100	120	140
Angular	ΔKa max	0.13	0.16	0.18	0.22	0.25	0.25	0.23	0.28	0.35	0.42	0.31	0.32	0.39	0.37	0.46	0.55
Radial	ΔKr max	0.06	0.06	0.06	0.06	0.06	0.06	0.09	0.09	0.09	0.09	0.13	0.13	0.13	0.16	0.16	0.16

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 set screws.

7.4. Use a half element to set proper hub spacing.

7.5. When the hubs are properly spaced, tighten the set screws.

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 snug all the cap screws with a light torque, then tighten all cap screws to proper torque using a torque wrench.


Type E


Type ES


Type E


Type ES


Type E


Type ES

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.

Table 3 — Cap Screw Torque*

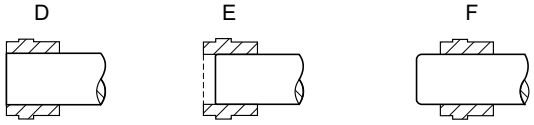
Size	Qty	Tightening Torque — Dry			Size (in)	Wrench Size
		(lb-in)	(lb-ft)	N-m		
2	8 + 8**	204	17	23	1/4-20 x 3/8"	7/16"
3	8 + 8**	204	17	23	1/4-20 x 1/2"	
4	8 + 8**	204	17	23	1/4-20 x 1/2"	
5	8 + 8**	204	17	23	1/4-20 x 1/2"	
10	12 + 12**	204	17	23	1/4-20 x 1/2"	
15	12	288	24	33	5/16-18 x 1/2"	1/2"
20	12	360	30	40	3/8-16 x 5/8"	9/16"
30	12	360	30	40	3/8-16 x 5/8"	
40	16	360	30	40	3/8-16 x 5/8"	
50	16	360	30	40	3/8-16 x 5/8"	
60	16	900	75	100	1/2-13 x 7/8"	3/4"
70	16	900	75	100	1/2-13 x 7/8"	
80	16	900	75	100	1/2-13 x 7/8"	
100	20	3,240	270	370	3/4-10 x 1-1/2"	1-1/8"
120	24	3,240	270	370	3/4-10 x 1-1/2"	
140	32	7,080	590	800	1.0-8 x 1-1/2"	1-1/2"

*Cap screws have self-locking patches which should not be lubricated or reused more than twice.

**Extra cap screws provided for spacer couplings with rings.

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

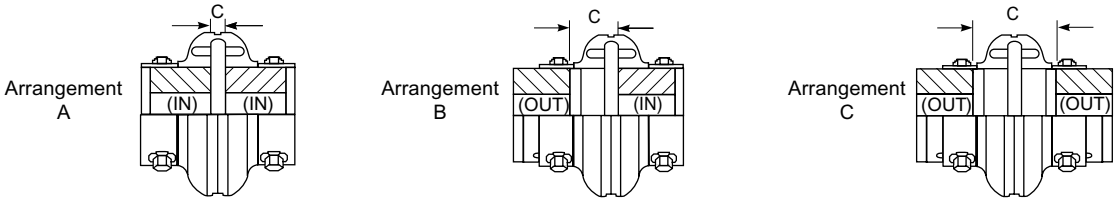


Table 4 — Type E* Mounting Options (in)

Arrangement	2	3	4	5	10	15	20	30	40	50	60	70	80	100	120	140
A	1.34	0.81	0.44	0.81	0.56	0.56	0.50	0.56	0.56	0.63	0.69	0.75	0.75	1.75	2.25	3.0
B	1.62	1.06	0.88	1.31	1.19	1.19	1.44	1.50	1.62	2.01	2.07	2.25	2.88	2.75	3.57	4.0
C	1.90	1.31	1.31	1.81	1.81	1.81	2.38	2.44	2.68	3.38	3.44	3.75	5.00	3.75	4.88	5.0

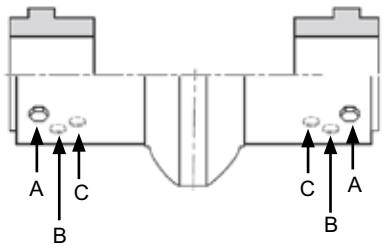
*E (inch) hubs are different than EM (metric) hubs.

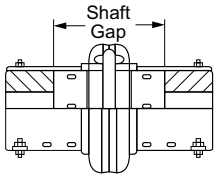
11. Rexnord Omega "Type ES" Mounting Options

Table 5 — Spacer Coupling Type ES (Metric) Hub Mounting Options

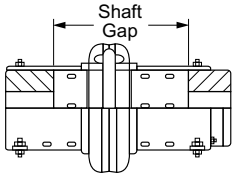
DBSE	ISO (mm) — ESM hubs				ANSI (in) — ES hubs						
	100	140	180	250	3	3.5	4	5	7	8	10
ES 2-R	A-A						A*-A*				
ES 3-R	C-C	A-A			B*-B*			A-B			
ES 4-R	C-C	A-A			B*-B*	B*-B*		A-B			
ES 5-R	C-C	A-A				A*-A*	A*-A*	A-B			
ES 10-R	C-C	B-B					A*-A*	A-B			
ES 20	A*-B*	B-B	A-A				A*-C*	C-C	A-A		
ES 30	B-C*	B-B	A-A		A*-B*			C-C	A-A		
ES 40	B-B*	B-B	A-A					C-C	A-A		
ES 50	A-C*	B-B	A-A					C-C	A-A		
ES 60		A-A*	B-B	A-A				B-B*		B-B	A-A
ES 70			B-B	A-A					B-B		A-A
ES 80			B-B	A-A					B-B		A-A

*Hub mounted inboard.

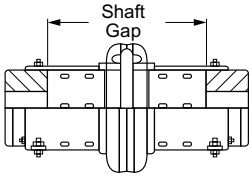




Both hubs mounted inboard.



One hub mounted outboard.
One hub mounted inboard.



Both hubs mounted outboard.

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