This is the Original Document in English Language

The designation **ATEX** (**A**tmosphere **Ex**plosibles) has established itself for the new guidelines. **ATEX** controls all regulations for the condition of explosion-proof equipment.

Model No. _____ Category _____ Reference _____
Mfg Year_____ Max Temperature _____

1. General Information

1.1. Viva 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 Viva 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. Proper lockout-tag out procedures must be followed to safeguard against unintentional starting of the equipment.

2.3. Because of the possible danger to person(s) and/or property, from accidents which may result from improper use or installation of these products, it is extremely important to follow the proper selection, installation, maintenance and operational procedures.

2.4. All personnel involved in the installation, service, operation, maintenance, and repair of this coupling and the connected equipment must read, understand and comply with these Installation and Maintenance instructions.

2.5. All rotating power transmission products are potentially dangerous and can cause serious injury. They must be properly guarded in compliance with OSHA, ANSI, ATEX, European machine safety standards and other local standards. It is the responsibility of the user to provide proper guarding.

PRECAUTION! For this coupling to meet the ATEX requirements, you must precisely follow these installation and maintenance instructions, and the supplement form 0005-08-49-01. This supplement outlines the ATEX requirements. If the operator does not follow these instructions, the coupling will immediately be considered non-conforming to ATEX.

2.6. For ATEX requirements the guard must have a minimum of 12.7 mm (1/2 inch) radial clearance to the coupling outside diameter (coupling sizes shown in Table 1 are equivalent to the coupling outside diameter in millimeters) and allow for proper ventilation.

2.7. Make sure to disengage the electrical power and any other sources of potential energy before performing work on the coupling.

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

2.9. All work on the coupling must be performed when the coupling is at rest under no load.

3. Rexnord Viva Coupling Design and Part Numbers

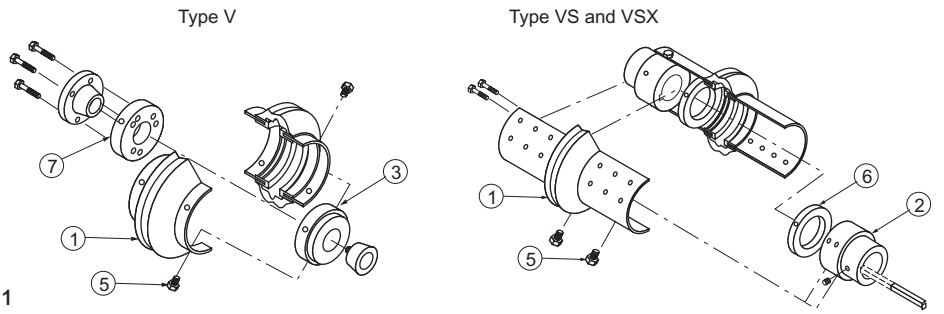


Figure 1

Table 1 – Viva Part Numbers

Coupling Size	Elastomer Element			Hubs				Element Capscrews (5)	High Speed Rings (6)
	Type V (1)	Type VS (1)	Type VSX (1)	Rough Bore Steel (2)	Taper Bushed Hubs – Inch* (3)	British Standard Whitworth Threads (BSW)	QD Hubs* (7)		
110	7392646	7392702	7392702X	7392746	7392768	7392770	7392766	7393097	7393046
125	7392650	7392706	7392706X	7392774	7392797	7392799	7392795	7393097	7393049
130	7392654	7392710	7392710X	7392803	7392827	7392829	7392825	7393097	7393052
150=	7392656	7392712	7392712X	7392833	7392856	7392858	7392854	7393101	7393055
170=	7392658	7392714	7392714X	7392833	7392856	7392858	7392854	7393101	7393055
190	7392662	7392718	7392718X	7392862	7392884	7392886	7392882	7393101	7393058
215	7392666	7392722	7392722X	7392890	7392912	7392914	7392910	7393105	7393061
245	7392670	7392726	7392726X	7392918	7392933	7392935	7392931	7393105	7393064
290	7392674	7392730	7392730X	7392939	7392954	7392956	7392952	7393109	7393067
365	7392678	7392734	7392734X	7392960	7392966	7392969	7392964	7393120	7393070
425	7392682	7392738	7392738X	7392972	7392978	7392981	7392976	7393120	7393073
460	7392686	7392742	7392742X	7392984	7392990	7392993	7392988	7393120	7393076

Note: Hubs are interchangeable with standard or spacer flex elements.

* Bushings are not included.

= V150/V170 utilize same hubs, high speed rings and capscrews

4. Hub mounting

STOP DANGER!

Be sure to disengage the electrical power and any other sources of potential energy before you perform work on the hub and coupling assembly.

4.1. Examine the coupling assembly to insure there is no visible damage.

4.2. Clean the hub bores and shafts using lint free cloth. Remove any nicks or burrs.

4.3. When assembled, the key(s) should have a close side-to-side fit in the keyway in both the hub and shaft, with a slight clearance over the top of the key.

⚠ **CAUTION: When heating hubs is required, use of an oven is preferred. An open flame is not recommended. If flame heating is considered mandatory, it is important to provide uniform heating to avoid distortion and excessive temperature. A thermal stick (crayon marker) applied to the hub surface will help determine the hub temperature.**

STOP DANGER!

Touching hot hubs causes burns. Wear safety gloves to avoid contact with hot surfaces.

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4.4. Rexnord Viva hubs can be installed:

- flush with the shaft end (D)
- extended beyond the end of the shaft (E)
- recessed behind the shaft end (F)

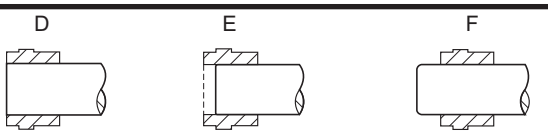


Figure 2

ATTENTION! Shaft engagement length should be >0,8 times shaft diameter, bushed hubs must engage 100%.

5. Straight Bore with Clearance/Slip Fit

5.1. Install the key(s) in the shaft.

5.2. Check to be sure that the set screw(s) in the hub does not protrude into the keyway and/or the bore. If needed, loosen the set screw to provide clearance during assembly.

5.3. Slide the hub up the shaft to the desired axial position.

ATTENTION! Use half element to set proper hub spacing.

5.4. Assemble and tighten the set screw(s), using a calibrated torque wrench, to the values shown in Table 2.

Table 2 - Set Screw Tightening Torque

Set Screw Thread Size	Tightening torque			Internal Hex Size		Set Screw Thread Size	Tightening torque			Internal Hex Size
inch	lb-in	lb-ft	Nm	inch		mm	lb-in	lb-ft	Nm	mm
1/4	66	6	7	1/8		M6	55	5	6	M3
5/16	132	11	15	5/32		M8	110	9	12	M4
3/8	240	20	27	3/16		M10	220	18	25	M5
1/2	600	50	68	1/4		M12	440	37	50	M6

ATTENTION! Never use two set screws with one on top of the other in the same tapped hole.

6. Straight Bore with Interference Fit

6.1. Accurately measure the bore and shaft diameters to assure proper fit.

6.2. Install the key(s) in the shaft.

6.3. Heat the hub in an oven until the bore is sufficiently larger than the shaft.

6.4. 350°F (177°C) is usually sufficient for carbon steel hubs. Do not exceed 500°F (260°C).

6.5. Higher temperatures may be required for higher interference fit levels where alloy steel hubs may be encountered. A general rule to consider is that for every 160°F increase in temperature, steel will expand 0.001 inch for every inch of shaft diameter (or .029 mm/100°C). When calculating temperatures, also consider additional expansion to provide clearance and allow for a loss of heat and subsequent shrinkage during the handling process.

6.6. With the hub expanded, install it quickly on the shaft to the desired axial position. A pre-set axial stop device can be helpful.

7. Tapered bushed hubs

7.1. When using tapered bushings, follow bushing manufacturers instructions.

8. Rexnord Viva "Type V" coupling hub / element mounting options (see table 3)

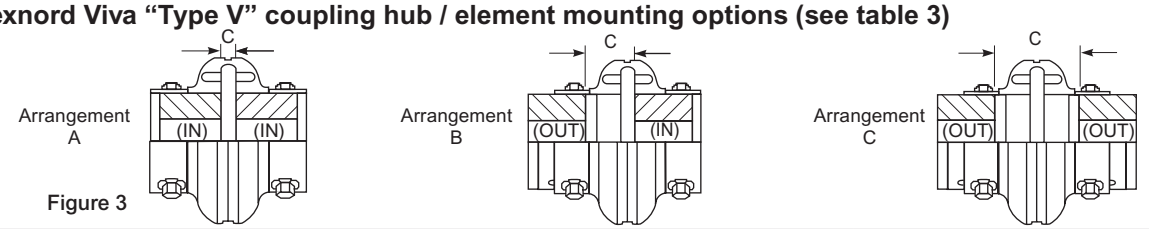
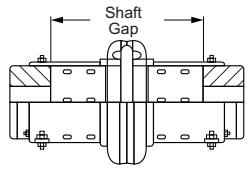


Figure 3

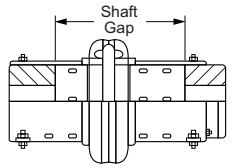
Table 3 – Type V Mounting Options

Hub Arrangement	Coupling Sizes											
	110	125	130	150	170	190	215	245	290	365	425	460
	Dimension C (mm)											
A	9	9	7	9	9	7	11	7	8	20	19	19
B	32	32	31	35	35	34	38	40	54	76	76	76
C	55	55	55	60	60	60	64	73	94	131	133	132

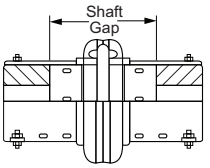
9. Rexnord Viva "Type VS" coupling hub / element mounting Options (See table 4)



Both hubs mounted outward



One hub mounted outward
One hub mounted inward



Both hubs mounted inward

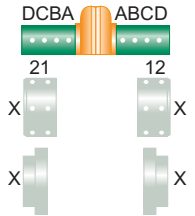


Figure 4

Table 4 - Spacer coupling (VS) Hub mounting options for industry shaft gaps

Rexnord Viva coupling size	ISO (mm)					Ansi (inch)				
	100	140	180	250	300	3,5	5	7	9,5	12
VS 110	C2-B1	C1-C1				B1-B1	C2-C1			
	101	139				3,47	4,98			
VS 125	B1-B1	C1-C2*				B1-B2	C2-C2*			
	101	139				3,42	4,93			
VS 130	C2-C2	C1-C1				B1-B1	C2*-C2*			
	100	140				3,50	5,12			
VS 150	B1-B1	C1-C1	D1-D1			B1*-D1*	D1*-D1*	D1-D2*		
	102	140	179			3,52	5,04	6,87		
VS 170	B1-B1	C1-C1	D1-D1			B1*-D1*	D1*-D1*	D1-D2*		
	102	140	179			3,52	5,04	6,87		
VS 190	B1-B1	C1-C1	D1-D1			C1*-C1*	D1*-D1*	D1-D1		
	102	141	179			3,50	4,94	7,04		
VS 215	B1-B1	C1-C1	D1-D1			C1*-C1*	D1*-D1*	D1-D1		
	103	142	181			3,50	5,06	7,14		
VS 245	B1-B2	D1-C1*	D2-D1			B1*-D1*	B2-C1	D1-C1		
	106	142	185			3,50	4,95	6,89		
VS 290	B2*-B2*	B2*-B1	C1-B2*	C1-C1		B1*-B2*	C2*-B1*	B2-B1	C1-C2	
	100	143	179	257		3,54	4,92	6,94	9,70	
VS 365		C1*-C1*	B1-B1	C1-C1	D1-D1		B1-B1*	B1-B1	C1-C1	D1-D1
		137	180	250	300		4,86	7,09	9,85	11,81
VS 425		C2*-C2*	B1-B1	C1-C1	D1-D1		B1-B2*	B1-B1	C1-C1	D1-1D
		137	180	250	299		4,86	7,08	9,84	11,77
VS 460		C2*-C2*	B1-B1	C1-C1	D1-D1		B1-B2*	B1-B1	C1-C1	D1-D1
		137	180	250	299		4,86	7,08	9,84	11,77

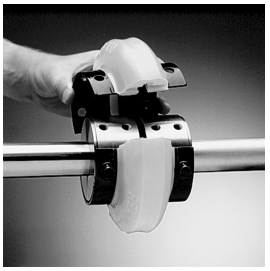
* hub mounted inward

10. Rexnord Viva element mounting

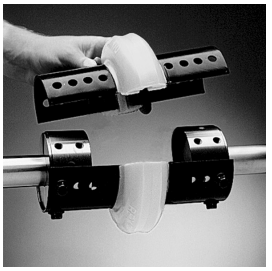
10.1. Mount first half element to the hubs using only original Rexnord Viva fasteners provided (do not substitute with non-approved capscrews).

10.2. Rotate the shaft 180 degrees and secure second half element.

10.3. If shaft cannot be rotated, mount half elements at 90 degrees.



Type V



Type VS and VSX

Figure 5

ATTENTION! Elements are weight balanced and must be used in pairs as packaged.

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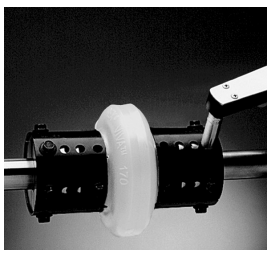
STOP **DANGER!**

Incorrectly tightened capscrews could cause coupling component(s) to dislodge during operation and result in personal injury. TIGHTEN CAPSCREWS BY USING TORQUE WRENCH.

10.4. Ensure that all capscrews are tightened to the torques specified in Table 5.



Type V



Type VS and VSX

Figure 6

Table 5 – Capscrew Torque

Viva Size	Part No.	Bolt Size	Wrench Size mm	Torque Nm	Torque ft lb	Torque in lb	Viva Size	Part No.	Bolt Size	Wrench Size mm	Torque Nm	Torque ft lb	Torque in lb
110	7393097	M8	13	27	20	240	**215**	7393105	M10	13	53	39	468
125	7393097	M8	13	27	20	240	**245**	7393105	M10	13	53	39	468
130	7393097	M8	13	27	20	240	**290**	7393109	M12	15	92	68	816
150	7393101	M10	13	53	39	468	**365**	7393120	M14	19	158	117	1404
170	7393101	M10	13	53	39	468	**425**	7393120	M14	19	158	117	1404
190	7393101	M10	13	53	39	468	**460**	7393120	M14	19	158	117	1404

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

☞ **ATTENTION!** Do not lubricate capscrew threads

☞ **ATTENTION!** Capscrews must have a thread-locking adhesive applied.

☞ **ATTENTION!** Capscrews must be replaced with original Rexnord Viva fastener kit after three installations or when replacing elastomer element.

STOP **DANGER!**

Incorrectly tightened capscrews could cause coupling component(s) to dislodge during operation and result in personal injury.

11. Shaft Alignment

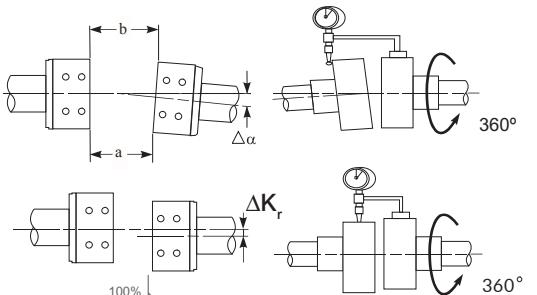
11.1. Move the equipment into place.

☞ **ATTENTION!** Soft Foot – The equipment must rest flat on its base. If one or more feet of the machine are shorter, longer, or angled in some way to prevent uniform contact (a condition commonly known as “soft foot”) it must now be corrected.

11.2. Move the connected equipment to achieve acceptable alignment.

11.3. Table 6 shows recommended installation limits for Parallel and Angular alignment limits.

11.4. These dimensions are suggested for initial installation. Additional capacity is available to compensate for thermal and structural equipment movement.

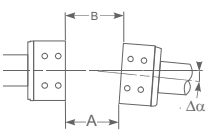


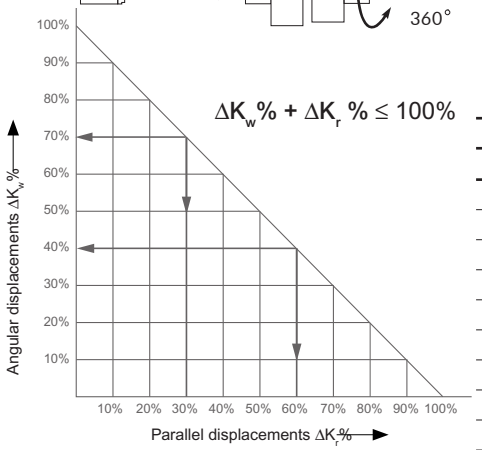
b (max)_____ mm

a (min)_____ mm

$$\Delta K_W\% = \frac{\Delta K_{W\,(actual)}}{\Delta K_{W\,(max\ limit\ table\ 6)}} \times 100$$

$$\Delta K_r\% = \frac{\Delta K_{r\,(actual)}}{\Delta K_{r\,(max\ limit)}} \times 100$$





$\Delta K_w\% + \Delta K_r\% \leq 100\%$

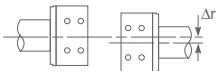


Table 6 - Drive Alignment Limits (max)

	(b-a) mm	Δ Kr mm	(b-a) inch	Δ Kr inch
110	4,2	1,6	0.165	0.063
125	4,9	1,6	0.193	0.063
130	5,5	1,6	0.217	0.063
150=	6,1	1,6	0.240	0.063
170=	6,6	1,6	0.260	0.063
190	6,1	2,4	0.240	0.095
215	7,3	2,4	0.287	0.095
245	8,9	2,4	0.350	0.095
290	11,2	2,4	0.441	0.095
365	8,2	3,2	0.323	0.126
425	9,9	3,2	0.390	0.126
460	9,4	3,2	0.370	0.126

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

12. Preventative Maintenance

STOP **DANGER!**

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

12.1. Periodic visual inspection is necessary to evaluate the condition of the flex element. Inspection can be done during the operation using a strobe light.

12.2. When inspecting the element look for:
- Fatigue cracks at element splits
- Urethane Discoloration
- Surface cracking in body of Urethane element.

ATTENTION! Replace Element if necessary.

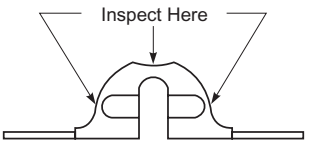


Figure 8

13. Element Replacement

STOP **DANGER!**

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

13.1. Always replace both half elements.

13.2. Install both half elements from the same box.

13.3. Follow installation instructions (see Section 5, Rexnord Viva Element Installation).

STOP **DANGER!**

Tighten element capscrews to proper torque by using a torque wrench (see Table 3).

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