

Installation and maintenance instruction for ARCUSAFLEX-VSK Couplings

General

The highly flexible ARCUSAFLEX coupling is suitable for connecting a cardan shaft due to its inner bearing support with thrust and radial bearing. Using appropriate bearing materials the AC-VSK coupling is maintenance-free.

The coupling element is suitable for environmental temperatures of $-40\text{ }^{\circ}\text{C}$ up to $80\text{ }^{\circ}\text{C}$.

All couplings are supplied generally with minimum balancing grade G=16 for $n=1500\text{ rpm}$ acc. to ISO 1940.

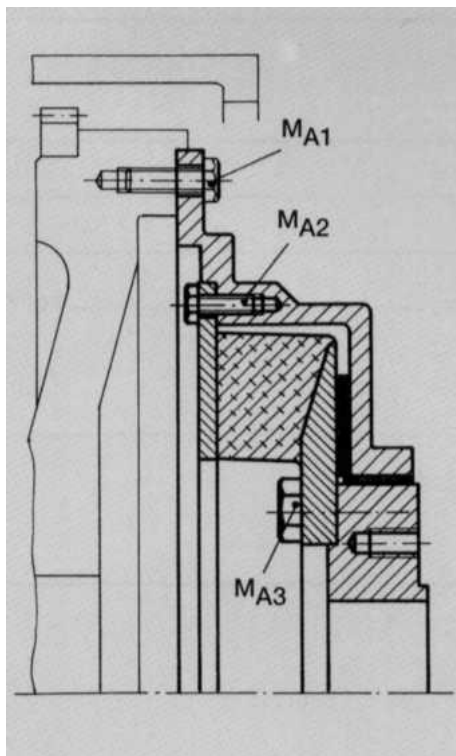
Mounting

All coupling parts shall be cleaned before mounting. All connecting surfaces of the coupling with fit dimensions are coated with Tectyl preservative ex works. These surfaces need to be cleaned with an adequate solvent before mounting the coupling. The solvent must not get in contact with the rubber.

All bolted connections of the coupling shall be tightened using a torque wrench and/or checked for their proper tightening torques. Strict compliance with the specified tightening torques is mandatory. The below mentioned values are valid as standard as long as no other data are given. The installation drawing is decisively.

The complete coupling, when assembled, is bolted to the engine flywheel. The flange of the cardan shaft is then bolted to the cardan shaft flange of the coupling.

The inner bearing support of the coupling is maintenance-free.



Tightening torques for the bolted flange connection to the engine flywheel (bolt grade 8.8, delivery condition¹)

SAE flywheel flange	6 ½	7 ½	8	10	11 ½	14	16	18	21
Metric bolts	M8		M10			M12		M16	
Tightening torque M_{A1} [Nm]	25		50			86		210	
Imperial size bolts	$\frac{5}{16}$ - 18		$\frac{3}{8}$ - 16			$\frac{1}{2}$ - 13		$\frac{5}{8}$ - 11	
Tightening torques M_{A1} [Nm]	24		42			102		203	

Tightening torques for the AC-VSK elements (bolt grade 8.8, delivery condition¹)

AC-VSK size	15	25	35	45	50	55	60	70	85
M_{A2} [Nm]	25	49	25	50	50	86	86	86	210
Bolt size	M8	M10	M8	M10	M10	M12	M12	M12	M16
M_{A3} [Nm]	50	50	86	86	210	210	210	410	580
Bolt size	M10	M10	M12	M12	M16	M16	M16	M20	M20 ²

¹) For lubricated bolts reduce values bei 20%.

²) bolt grade 10.9

Demounting

Disconnect the cardan shaft from the coupling. Afterwards disconnect the coupling from the engine flywheel. The coupling can be taken out. To disassemble the coupling into its single parts the bolt connections of the rubber elements shall be removed.

Safety precautions

It is the customer's and user's responsibility to provide proper guards over rotating machinery and to observe the national and international safety rules and laws.

Check all bolted connections for proper fit preferably after the test run.

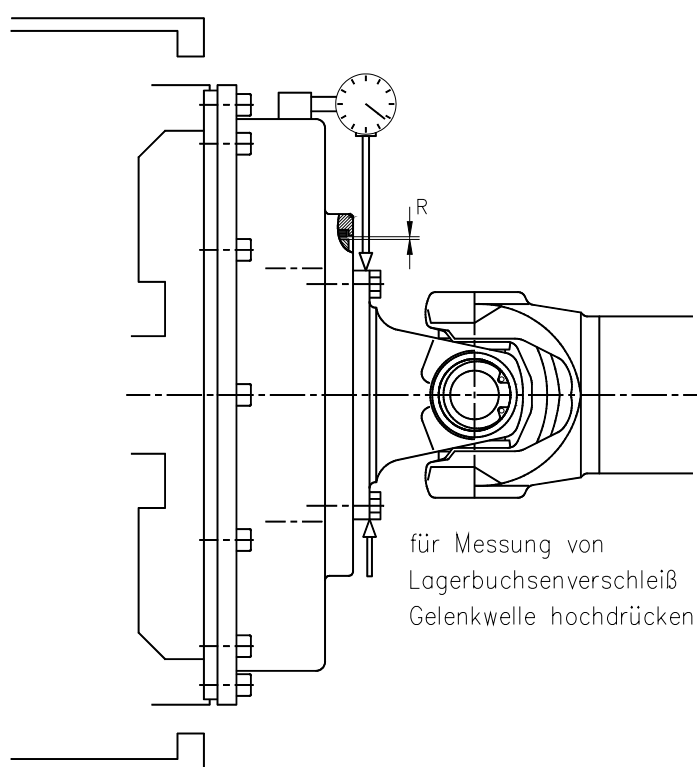
General maintenance and wearing test

In connection with general maintenance and check cycles of the other application components the coupling shall be checked regularly by visual inspection. Usually the inner bearing support of the coupling is maintenance-free. At conspicuousness a more exact inspection has to be effected.

The coupling shall be disassembled acc. to the instruction. The disassembled coupling element shall be checked visually at the outer and inner diameter of the rubber part for incipient cracks or detachments. If there are any damages, the coupling has to be replaced. It is recommended time to replace the bearings at the same, too.

Friction disc (thrust bearing) and bearing bush (radial bearing) shall be replaced, if running irregularities appear or a tilting clearance is ascertainable. If the cardan flange can be moved radially in relation to the coupling housing, the friction disc (thrust bearing) has to be replaced in any case. The bearing bush (radial bearing) has to be changed, if the radial wear R of the coupling is exceeded. There fore the maximum relocatability of the cardan flange with regard to the coupling housing has to be determined (see figure). The below shown table mentions guide values. The sliding surfaces shall not be damaged. Rework of the surfaces is not recommended due to its precise manufacturing. The relevant coupling parts shall be replaced.

The coupling shall be cleaned thoroughly at maintenance.



Limits for wear of the friction disc and the bearing bush

AC-VSK size	15	25	35	45	50	55	60	70	85
Friction disc thickness [mm]	2,5	2,5	2,5	2,5	2,5	2,5	5	6	7,5
Permissible axial wear [mm]*	0,6	0,6	0,6	0,7	0,7	0,7	0,8	0,8	0,8
Bearing bush thickness [mm]	4	4	5	5	5	5	5	5	5
Permissible radial wear R [mm]*	0,3	0,3	0,3	0,3	0,3	0,3	0,8	0,8	0,8

*) The wear of the bearing bush is equivalent to the half value of the measurable radial wear R

The coupling shall run silent and vibration free at all running conditions. Dissonant behaviours are considered as disturbance which has to be repaired.

Usually there is no re-balancing required when replacing only the wear parts. If there is no quiet running of the coupling after maintenance, the coupling shall be re-checked and if necessary re-balanced.

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