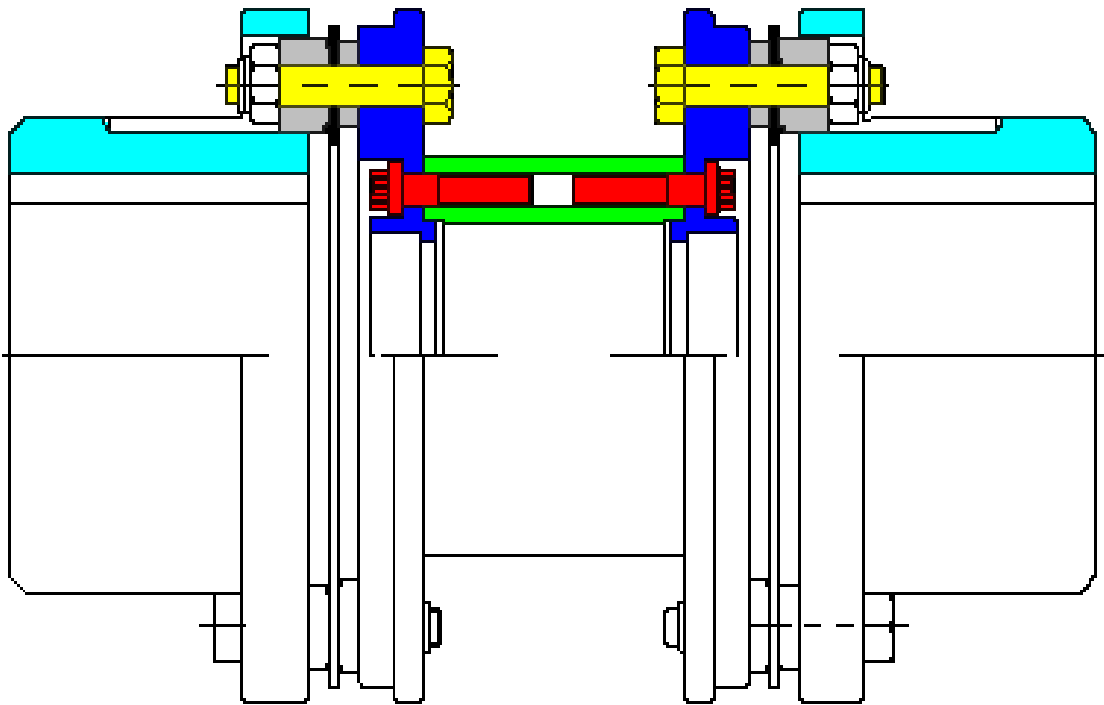


ES-HVII TYPE METAL MEMBRANE COUPLING

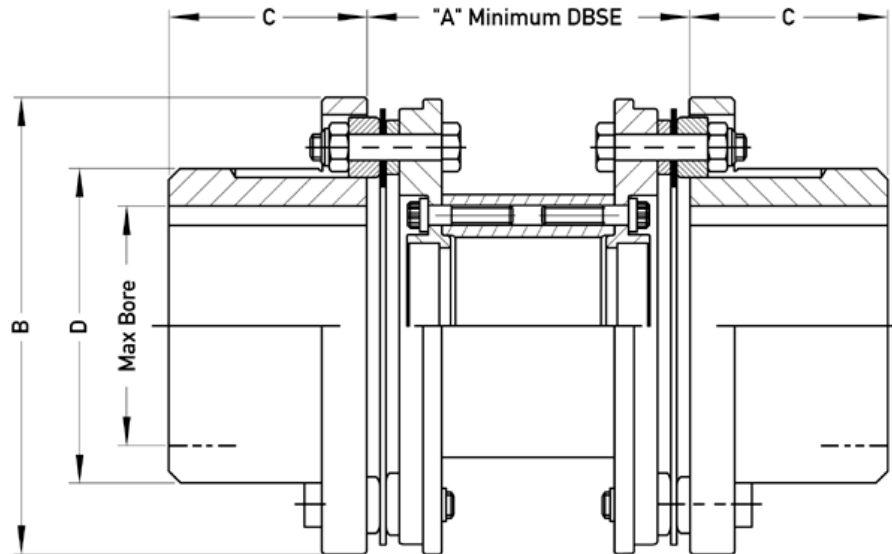
Installation and Assembly Instructions



Version 09/01 - STND

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ES-HVII COUPLING

The following instructions apply to a standard ES-HVII coupling. The actual coupling supplied may vary depending on the customer's requirements and specifications. Where supplied, these instructions should be read in conjunction with the coupling general arrangement drawing.

SELECTION VERIFICATION

The user is responsible to ensure that the coupling ordered will in fact meet the duty requirements and the duty has not changed from the time that the coupling was originally selected. Autogard can supply the duty under which the coupling was originally selected.



INSTALLATION

Preparation

The coupling should be unpacked and examined for any signs of damage, which may have occurred during transit. Verify that all the parts have been properly supplied as per the order.

Before installing the coupling, ensure that the rotating equipment is isolated so that the installation can be carried out in a safe manner.

Check that the coupling bores and shaft separation are per the original order. Care should be taken to ensure that the bores are free from burrs. Special care should be paid to the bolt threads, the flange holes and the spacer bolts to ensure that they have not been damaged in transit.

The Autoflex ES-HVII is typically fitted with a straight parallel bore and keyway for a light interference fit. Refer to the order for specifics related to the actual bore and keyway specified.

Standard Interference, the coupling hubs should be heated to 150 degrees C (300 degrees F) in an oil bath or an oven. Do not use spot heat or exceed 300 degrees C (600 degrees F) as this may cause flange distortion. Fit the hubs onto the shafts with the hub face flush with the shaft end or as specified in the General Arrangement Drawing. When clearance fit hubs are supplied, slide the hub onto the shaft and tighten the setscrews.

NOTE: Care must be taken to ensure that the coupling hubs are properly supported during installation to ensure that they do not slip.



Align Shafts

To align the shafts place the equipment into its approximate location. Measure and set the DBSE (Distance Between Shaft Ends) of the equipment as per the original specification. This should correspond to the DBSE supplied on the General Arrangement Drawing where supplied.

Note: The DBSE is usually measured from the inner face of the hub, which usually relates to the overall length of the transmission unit.

Align the centre line of the driving and driven shafts using the best available methods. Autogard recommends the use of Laser Alignment where available. The better the alignment the lower the resultant loads will be transmitted onto the bearings of the driving and driven equipment. Autogard recommends that the misalignment be set at no more than 10% of the catalogue ratings. This will allow for misalignment, which occurs due to foundation settling, thermal growth etc.

The coupling alignment should be checked periodically to ensure that alignment deterioration is properly compensated.

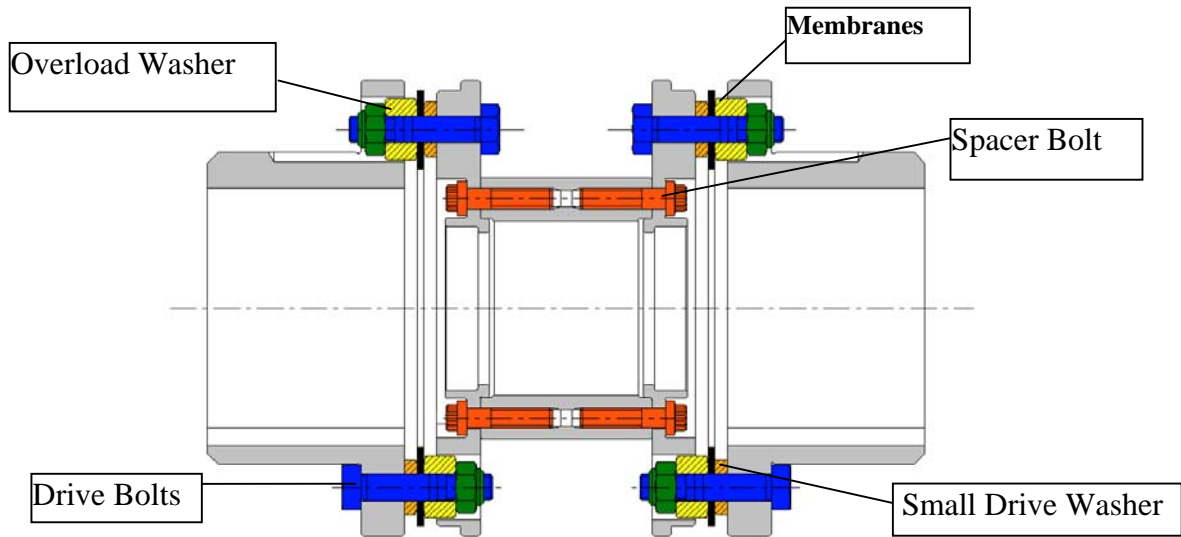
Assembly

Check the spigot on the spacer flange and the spacer tube to ensure that they are free from dirt and burrs. Using spacer bolts provided assembly the spacer flanges to the spacer tube. Tighten the transmission bolts to the torque shown in table 1.

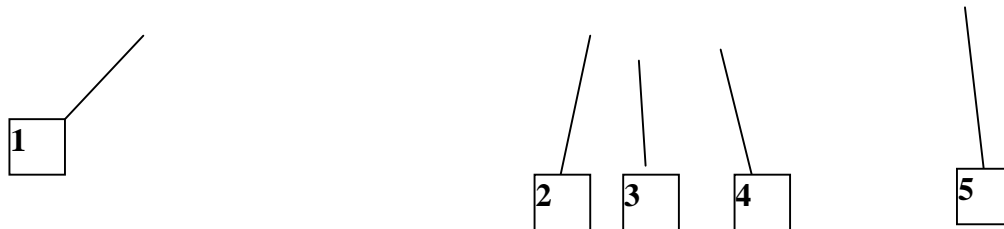
Spacer Bolt Tightening Torque

Coupling Size	Bolt Size (mm)	Bolt Tightening Torque (Dry) (ft-lbs)	Bolt Tightening Torque (Dry) (Nm)
ES 11 HVEII	NA	NA	NA
ES 19 HVEII	NA	NA	NA
ES 15 HVII	M6	11	14
ES 35 HVII	M6	11	14
ES 70 HVII	M6	11	14
ES 130 HVII	M8	26	35
ES 220 HVII	M10	51	69
ES 330 HVII	M10	51	69
ES 480 HVII	M12	89	120
ES 700 HVII	M12	89	120
ES 880 HVII	M16	220	299
ES 1300 HVII	M16	220	299

Table 1



- 1 – Drive Bolt
- 2 – Small Washer
- 3 – Membrane Pack
- 4 – Overload Collar
- 5 – Drive Nut



Prior to assembling the membrane unit, check to make sure all the parts are available and that they have not been damaged in transit or storage. Care should be taken to ensure that the spacer assembly is properly supported during installation to ensure that it can not slip.

Install three of the drive bolts through the small holes in the hub and then through the small washer, membrane pack and overload collar as shown. Hand tighten the drive nuts. Repeat the procedure with the drive bolts coming through the spacer flange side.



At the other end of the coupling, rotate the second hub such that the small hub holes are in line with the large holes in the spacer. Fit the second membrane assembly in exactly the same manner as the first i.e. Insert the drive bolts through the small holes into the smaller washer, membranes and overload collar. Hand tighten the second set of nuts.

Remove the spacer support and tighten all drive nuts to the torques shown in table 2.

It should be noted that larger sizes ES-HVII couplings come with pre-assembled disc packs.

Drive Bolt Tightening Torque

Coupling Size	Drive Bolt Size (mm)	Bolt Tightening Torque (Dry) (ft-lbs)	Bolt Tightening Torque (Dry) (Nm)
ES 11HVEII	M5	4.8	6.5
ES 19 HVEII	M6	8	11
ES 15 HVII	M6	8	11
ES 35 HVII	M8	18	24
ES 70 HVII	M8	18	24
ES 130 HVII	M12	52	71
ES 220 HVII	M14	84	114
ES 330 HVII	M16	131	177
ES 480 HVII	M18	177	240
ES 700 HVII	M20	243	330
ES 880 HVII	M22	304	412
ES 1300 HVII	M24	431	585

Table 2

Once the coupling has been installed as noted above, slowly rotate the machinery to ensure that everything moves freely.

IMPORTANT INSTRUCTIONS BEFORE START-UP:

- Coupling guards must be provided in accordance with local and national regulations.
- Make sure all fasteners have been properly installed and tightened per the supplied tables or the General Arrangement Draws.
- If possible, re-check the coupling alignment after the driver and driven foundation bolts have been tightened.
- Consult Autogard Engineering for clarification of any of the points outlined in this installation guide.
- Only authorised Autogard replacement parts are to be used.