



OPERATION AND MAINTENANCE INSTRUCTIONS

AVK FABRICATED FLANGE ADAPTOR FOR WATER, WASTEWATER & GAS

Series 260

1. INTRODUCTION

AVK fabricated flange adaptor, for all ferrous, GRP, uPVC, AC pipes and stainless steel pipe/welded tube.



OPERATION AND MAINTENANCE INSTRUCTIONS

AVK FABRICATED FLANGE ADAPTOR FOR WATER, WASTEWATER & GAS

Series 260

2. HEALTH AND SAFETY PRECAUTIONS

Make sure all relevant Health and Safety issues and regulations are adhered to prior to and during installation or maintenance work carried out on this product. It is the end user's responsibility to ensure that safe working practices are followed at all times.

Whenever AVK's products are installed, operated or maintained the inherent dangers of pressurised liquids and gasses must be addressed. Before work on a fitting or other piping component is undertaken, that may involve the release of internal pressure, the fitting or line must be fully isolated, depressurised and drained prior to commencing the work. **FAILURE TO COMPLY WITH THIS MAY RESULT IN SEVERE INJURY OR DEATH.**

All workers handling the product must be aware of the weight of the components or assemblies to be handled and manipulated during installation and maintenance.

It is essential that staff undertaking these operations are adequately trained and it is the responsibility of the end user that only trained and competent staff undertake these duties.

This manual has been designed to assist, but it cannot replace quality training in the workplace. However, the AVK technical staff is always available and ready to answer questions relating to specific problems that may not be covered by this manual.

AVK's products are designed to be fit for purpose and to a high reliability standard. This provides a safe, low risk product when used correctly for the purpose for which it was designed. However, this assumes that the equipment is used and maintained in accordance with this manual, and the user is advised to study it and to make it available to all staff that may need to refer to it. AVK cannot be held responsible for incidents arising from incorrect installation, operation or maintenance. The responsibility for this rests wholly with the end user.

3. INSTALLATION

Checks to be made prior to installation:

1. Confirm the actual outside Diameter of pipe ends to which the fitting is to be assembled.
2. Check that the pipe ends are smooth (free from dents, weld seams and score marks etc.)
3. Ensure that the sealing areas on the pipe ends are cleaned by wire brushing removing all scale, rust, protective coating and general debris etc...
4. Confirm that fitting to be assembled is fit for purpose with regard to type, pressure rating, sealing range, flange ratings and medium conveyed etc...
5. Ensure that working area is sufficient to allow comfortable access and installation.
6. Check that all necessary tooling is readily available, including torque wrench, box spanners, WRc approved (Water only) lubricant, mineral oil based lubricant for gas etc...
7. Check that it has not been damaged during transit / storage.

Installation:

1. Dismantle gland ring and seal from flange adaptor assembly, ensuring that all components are kept clean throughout installation.
2. Slide gland ring, seal and flanged body over pipe end, ensuring that all components are facing the correct way for assembly process.
3. Position pipe end to be coupled, checking that it is level and concentric with the bore of mating flange, and that the correct setting gap is maintained:

DN 350 - DN 900 SETTING GAP = 25mm

DN1000 - DN1200 SETTING GAP = 36mm

4. Fit flange gasket.
5. Slide adaptor body up to mating flange and secure joint using standard procedure.
6. Lubricate sealing area on pipe thoroughly with an approved lubricant, then slide sealing ring into position, checking that the thick end is housed in the gland ring. NOTE: the seal is designed to be a loose fit on the pipe. This will be taken up during the tightening of the fitting.
7. Tuck the seal into the body, starting at the 6 o'clock position. Continue and ensure the body is concentric to the outside of the pipe.
8. Slide gland ring into position, ensuring that the elongated holes line up with the studs attached to the flange. Fit nuts and washers and tighten to finger tight.
9. Tighten diametrically opposed studs, one or two turns at a time, to ensure that seal compression is evenly applied within the fitting. Work around the coupling until the recommended bolt torque setting of 40Nm is achieved.
10. On completion of bolt tightening, check that the flange adaptor is still correctly positioned and that the gap between the pipe and inside Dia of the gland ring is even all round.
11. It is advisable to recheck the torque settings overnight of initial assembly, in case of relaxation of the sealing elements.
12. Should the product be used in an aggressive (e.g. Salt laden) environment please ensure that there is sufficient secondary corrosion protection applied before backfilling.



OPERATION AND MAINTENANCE INSTRUCTIONS

AVK FABRICATED FLANGE ADAPTOR FOR WATER, WASTEWATER & GAS

Series 260

Possible reasons and causes of failure

Correct size fitting for pipe	Is pipe diameter, (average), correct for fitting size / tolerance
	Is pipe diameter, (maximum & minimum (i.e. check ovality)), correct for fitting size / tolerance
Pipes aligned to each other	Max allowable angular deflection of the two pipes relative to each other is <DN600 is $\pm 4^\circ$ DN700-800 is $\pm 3^\circ$ DN900-1200 is $\pm 2^\circ$
	Are the two pipe centreline axis in line?
Pipe movement resulting in pipes not being aligned.	Pipes not supported and held in line
	Ground movement under pipe supports when additional weight of water and / or ground cover applied
Fittings not assembled onto pipe correctly	Pipe greased
	Seal greased
	Bolts finger tight with gland rings concentric to pipe, square to pipe and each other
	Tighten bolts diametrically opposite in an even manner to keep gland ring concentric to pipe, square to pipe and each other
	Keep tightening until all fasteners 40Nm. This may involve going round many times until they remain at 40Nm consistent
	Recheck torque after leaving overnight in case of seal relaxation
Pipe surface finish	Pipe not smooth (dents, weld seams, score marks)
	Pipe contaminated with scale, rust, dirt, debris)
External force acting on pipe / fitting	Weight of water or weight of backfill applying external force to pipe / fitting resulting in pipe movement or pipes moving relative to each other causing angular deflection or pipe misalignment or seal compressing more at 6 o'clock position and reducing seal compression at 12 o'clock position
Debris	Seal allowed to get contaminated with dirt / debris during installation

