



OPERATION AND MAINTENANCE INSTRUCTIONS

AVK FABRICATED COUPLINGS

Series 258/30 and 259/30 **WATER & WASTEWATER**

INTRODUCTION

AVK operations and maintenance instructions for the series 258/30 and 259/30.



PRODUCT MARKINGS

- AVK logo
- Item number
- Sealing range / pressure class
- Application / temperature
- Year of production
- Internal production order number
- QR Code (Datasheet)



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.



INSTALLATION

- A. Ensure the selected fitting is suitable for the pipe diameter it is to be fitted, working pressure and temperature by referring to the product label/datasheet.
- B. Clean the area of the pipeline where the fitting is to be assembled with a wire brush, ensuring that all loose particles are removed. No dirt, debris or corrosion materials shall be present.
- C. Position pipe ends to be coupled, checking the level and concentricity to each other, adjust trench bed or pipe supports as required. In the event of a spool piece being assembled it is important that independent permanent support is provided to ensure that no external forces are imposed onto the coupling assemblies.

Note: In the event of backfilling the trench, adequate permanent support must be provided to the spool piece in-line with standard working practices.

- D. To assist centering of coupling over pipe gap, mark pipe an equal distance from each end, approximately half the fitting length plus 25mm.
- E. Dismantle the fitting, ensuring that all the components are kept clean throughout installation.
- F. Slide gland ring over each pipe end, with seal housing facing pipe end.
- G. Lubricate sealing area on each pipe end and the seal thoroughly with an approved lubricant.

Note: Adequate lubrication is extremely important. This ensures that bolt torque is effectively transferred into rubber compression.

- H. Slide the sealing ring over each pipe end, ensuring that the thick end is housed in the gland ring.

Note: Any free play between the seal and pipe will be taken up during the tightening of the fitting.

- I. Position center sleeve over pipe ends, adjusting free pipe to provide correct setting gap as listed below:

DN 350 – DN 900 SETTING GAP = 25mm
DN1000 + SETTING GAP = 36mm

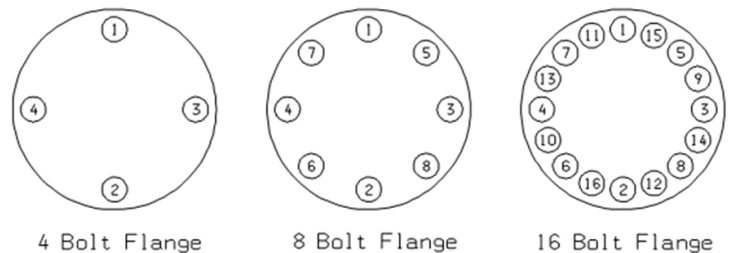
Note: Setting gap is measured between the pipe ends.

- J. 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.

- K. Line up bolt holes in each gland ring, fit all bolts from same end, ensuring that the D-neck of the bolt locates in the elongated holes of gland ring.

- L. Lubricate the bolt threads.

- M. Fit nuts and washers and tighten to finger tight.



- N. Check that assembly is correctly centrally positioned over pipe ends, then tighten diametrically opposed bolts $\frac{1}{2}$ a turn 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. It is advisable to recheck the torque settings overnight of initial assembly, in case of relaxation of the sealing element.

Note:

- AVK couplings using two independent gland rings should have both sides tightened at the same time to prevent lateral movement of the coupler.
- An impact gun should never be used.
- Check that the coupling is still centrally positioned over pipe ends and that the gap between the pipe and inside Dia of gland ring is even all around.
- AVK couplings must be restrained properly before any end loads are applied either longitudinally or laterally. Failure to do so will result in "pipe pull-out".

- O. Pressure Test.

Note: 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.



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 $\pm 8^\circ$ DN700-800 is $\pm 6^\circ$ DN900-1200 is $\pm 4^\circ$
	Are the two pipe centerlines 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

