

Care and feeding of NW flanges and seals

Clamping the NW flanges with the seals is not rocket science, but requires a little care.

Back off the tightening nut enough that you can wrap the clamp around the flange and engage the hooked end easily. Assemble the glass - seal - glass connection, wrap the clamp around, engage the hooked end, and tighten the nut.

The best advice is to avoid overtightening the nut. The temptation to crank it down just that last little bit to make sure it is sealed is hard to overcome. Overcome it. The screwthreaded knob and geometry of the knuckle clamp can generate substantial forces on the glass. Even though the clamp is wrapped around the flange, the contact from each knuckle is on a relatively small area. The clamp should be arranged evenly around the glass flange. Once the o-ring is compressed to the thickness of the Teflon, tightening more is not better. You should be able to see the o-ring contacting the glass and compressing, and the two bottles will be held quite tightly.

If you are capturing a membrane it is simplest to trap it between the glass and seal first, then connect to the other glass flange. Holding the set together, wrap the clamp around the flange and tighten as above.

Also, beware of wrinkles in the membrane. The membrane can overlap the o-ring, or you can cut the membrane to just inside the diameter of the o-ring, so the o-ring seal is just glass - o-ring - glass. The membrane should seal against the inner ring of the Teflon part; when the clamp is tightened, the o-ring compresses down to the thickness of the Teflon, which holds and seals the membrane.

The two Teflon rings of the seal have v-grooves which capture the o-ring between them. It can be a bit fiddley to put them back together if the o-ring escapes. I have found the best way is to snuggle the o-ring onto the inner Teflon ring groove, put the outer Teflon ring on the glass flange, then press the two inner parts into place in the outer ring. Once everything is in place the whole structure should have no bumps of o-ring sticking up, and will hold together for handling.

Adams & Chittenden Scientific Glass
2741 Eighth Street • Berkeley CA 94710
Vox 510-843-5277 • Fax 510-843-5290
info@adamschittenden.com • www.adamschittenden.com