

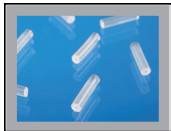
# Instructions for Use: Dual Channel Microdialysis Swivel

375/D/22QE


## Intended Use

To prevent tangling of two independent fluid channels during awake-animal microdialysis. The center channel is quartz-lined for low dead volume and to minimize reactivity with neurotransmitters. The larger volume side channel does have stainless steel in the fluid path. The torque required to rotate this swivel is appropriate for rats, but not mice. To be used in combination with a [spring tether](#).

## Warnings

- Pull water then air through swivel after every use. Clogs in the quartz-lined center channel are not repairable.
- Do not force fluid through swivel manually with a syringe.
- To connect to FEP tubing, use silicone tubing connectors (part no. [MC015/10](#)) instead of traditional “blue widgets” to avoid damage to swivel when removing lines. 
- Support swivel directly opposite when installing tubing on side channels to avoid loads that can damage seals.



- Sterilize by heat (autoclave), EtO or cold sterilant.
- If bearings get wet, disassemble and oil.
- If using in a CMA120 balance arm, using a [GIMBAL/CMA](#) adapter is recommended to add an additional axis of movement and prevent damage to the swivel. 

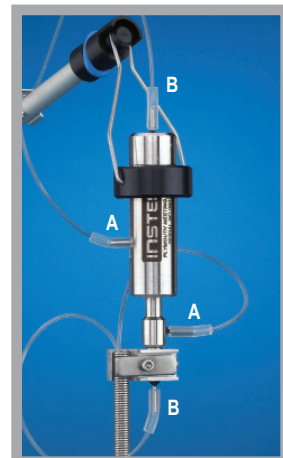
These warnings apply to the 375/D/22QE model. If you are using the low-torque 375/D/22QM microdialysis swivel, see specific instructions for use for that model as additional warnings apply.

## Use

1. Sterilize fluid path prior to use.
2. Hold swivel above the cage in a counter-balanced arm. [MCLA](#) recommended for rat microdialysis. Tighten mount to swivel body, not cap.
3. Attach spring tether to V-block of universal clamp using included 0.050” allen wrench.
4. Attach IV lines, noting connection of side channels (A) and

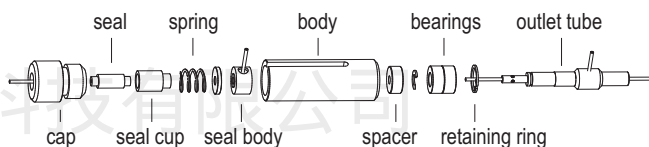
center channels (B). For microdialysis, artificial CSF is typically infused on the side channel and the sample is removed through the center channel.

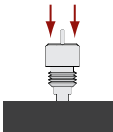
5. Clean after every use to prevent built up of salt crystals or particulate that can clog swivel. Use a syringe to suck water or sterilizing solution back through the swivel. Alcohol will not dissolve salts. Never force fluids through a swivel with a syringe or pump as the pressures this generates can damage the seals. Next, dry the insides by using the syringe to pull air through the swivel.



## Troubleshooting and Repair

In general, you should not attempt to repair a dual channel swivel yourself unless you have ordered special tools and repair parts from InsteCh.



**Center channel leaks.** This is the one repair that can be made without special tools. Disassemble swivel. Place the Teflon seal and seal cup combination in the cap and press down on a flat surface to reshape the seal against the interior of the cap. Flip seal over and repeat. Lubricate bearings with a light machine oil such as 3-in-One® and blow dry prior to reassembly. If it continues to leak, return for factory service or order replacement seals. 

**Side channel leaks.** Side channels may leak if the seal becomes damaged due to excessive pulling, pushing or cocking when attaching or removing tubing, or due to excessive pressures (for example, if fluid is forced through it with a syringe). Return for factory repair or order a kit to repair yourself.

**Swivel does not turn freely.** Most frequently due to rusted bearings as a result of a leak or spillage of fluids. Return for factory repair or order a kit to repair yourself.

**Swivel clogged.** A swivel can become plugged if it is not cleaned and dried after use or if it is dropped and cores out flooring. Return for factory repair or order a kit to repair yourself. Some side channel clogs are not repairable.

**Tube bent.** Try to straighten with needle nose pliers. If the tube breaks, return to factory for repair.

*Rust appears in infusate.* Prolonged exposure to saline solutions, particularly in the side channel of a dual channel swivel, will result in small amounts of iron oxide being formed. To remove it, flush the side channel with 3 Normal HCl until the acid runs clear. Rinse with water. Re-passivate by filling the side channel with 5 Normal nitric acid; let stand for about 30 min. Rinse out all traces of acid before next use. To prevent rust in the future, clean after every use as described above and do not store with saline solution in the lines.

For do-it-yourself repair kits, see:

<http://www.instechlabs.com/Infusion/swivels/swivelrepair.php>

For factory repair, request an RA number at:

<http://www.instechlabs.com/Support/returns/>

## Specifications

See <http://www.instechlabs.com/downloads/swivels.pdf>.

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