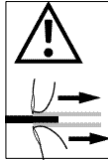


Congratulations on your purchase of this Instech quartz-lined low-torque dual channel swivel for infusion or microdialysis with freely moving animals.

Both the center and side channels are lined with 150 micron ID quartz tubing to minimize dead volume and prevent neurotransmitter oxidation.

Furthermore, by using a new internal design we have reduced the torque required to turn the swivel by more than 90%, making this the first dual channel swivel that can be turned by mice.

1.



**SPECIAL WARNINGS  
FOR 'QM' SWIVELS**

1. Do not autoclave.
2. Do not open or disassemble.
3. To remove tubing from swivel use fingernails as shown; do not **pull** tubing off swivel.

4. Mount upright (tether connection down) in counter-balanced arms only.

NOTE: Damaged 'QM' swivels cannot be repaired.

2.

**USE**

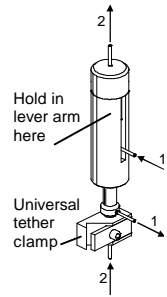
Following these simple operating and maintenance procedures that will help keep your swivel in peak condition through hundreds of uses.

This precision swivel was designed to provide unlimited rotation for animals undergoing awake animal microdialysis or infusion. The swivel should be held over the animal container with a counter-balanced lever arm. This allows the swivel and tether system to respond to the animal's movements in three axes, minimizing forces on the animal and/or sensitive probes. Avoid fixed mounts with 'QM' swivels.

3.

The universal clamp provided with the swivel is compatible with spring tethers from 0.08" to 0.2" OD. Use the 0.050" Allen wrench to attach the clamp to the bottom of the swivel and to tighten the V-block mount around the tether. For microdialysis, dialysate is typically infused on one channel, removed through the other channel, then collected in a

4.



fraction collector.

For more general purpose infusions, withdrawals or pressure monitoring, be aware that the inner diameter of both swivel channels is very small – equivalent to that of 30 gauge tubing.

**CLEANING AFTER EVERY USE**

This swivel must be cleaned immediately after each use. Unlike some of our other swivel models, a 375/D/22QM swivel with a plugged center or side channel cannot be repaired.

To clean, pull back on a syringe to suck alcohol back through both channels of the swivel. *Never force*

5.

*fluids through a dual channel swivel with a syringe or pump, as the pressure this generates can damage the seals.*

Next, dry the insides by using the syringe to pull air through the swivel.

Do not autoclave model 375/D/22QM swivels.

**TROUBLESHOOTING**

Do not unscrew the cap on this swivel under any circumstances. Unlike other Instech swivels, this model cannot be repaired. Simply opening the swivel will usually cause irreparable damage.

6.

If the swivel is blocked or leaking, return it directly to Instech for repair or, more likely, replacement.

**FOR MORE INFORMATION**

If you have any questions or comments on this swivel please don't hesitate to contact us. You can also visit [www.instechlabs.com](http://www.instechlabs.com) for specifications and pricing on all our products, as well as answers to frequently-asked technical questions.

8/15/02 375QMMAN.DOC

7.

**INSTECH**

INSTRUCTION MANUAL

Model 375/D/22QM

Low-Torque Quartz-Lined Dual-Channel Swivel

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