
Review of Isomet 5000

Posted by jon - 2009/07/16 11:42

I was very impressed when I first saw the Isomet 5000 at the 2008 CARE conference in Nanaimo, BC. It seemed like the perfect device for sectioning otoliths because it was so automated, so last year we purchased an Isomet 5000 from Buehler with end of the year money. It took some effort to get the saw into production mode for what we needed, but since then we (mostly Charles) have cut about 2000 sections. This has given us enough time to really put the saw through its paces. Here are some rants and raves about the saw so far:

RAVES:

- The saw is very precise. We are able to cut 2.5" x 3" x 3/8" otolith blocks into sections that are 0.35 mm in thickness (+/- .03 mm). This is very handy for difficult long-lived species like shorthead rockfish and shortspine thornyhead.
- It's automated. Four or five successive cuts are automatically performed through the block without operator intervention. This frees up the operator to do something else (like ready otoliths) while the saw is running.
- ergonomics. Obviously an automated system is more ergonomically correct than a manual sectioning saw, but the Isomet also has a manual blade positioning knob that is well designed for manual blade advancement.
- price. We paid under \$14k for the saw, which was \$2k less than Struers' similar saw.

RANTS:

- Required modification. It's setup for cutting one specimen at a time. To get the thin sections we need with the thinnest blades available through a 2.5" x 3" block we had to modify the sample positioning system and the coolant delivery system. For \$60 we bought a Nogacool system and \$10 bought new hose to get the coolant delivery out of the way of the otolith blocks. More about mods next post.
- Slow. The maximum blade advancement speed is 19 mm/min, so it is VERY slow to do each section. The trully annoying thing is that the blade moves forward and backward at the same speed, so it takes 8 minutes to do one pass (go through and back) for each section. This can be sped up by letting the automation to take it forward and manually retreat the blade, but that defeats the purpose of the automation. The other competitors have the exact same sectioning speed, so I think we are stuck with this drawback.
- Can't change number of sections during cutting cycle. If you change this number it resets the entire cutting cycle.
- Memory can store settings, but it forgets the cutting length.

On my next post I'll list some customizations we made to the saw to make it suit our needs.

Has anyone else out there used this saw? http://care.psmfc.org/images/fbfiles/images/V_isomet5000_smaller.jpg

Re:Review of Isomet 5000

Posted by Nikki - 2009/12/11 16:01

Looks like we're going to be setting up our saw for Shortspines in the near future - do you still have that list of parts and adjustments you made to the saw? We're going to need to do the same thing to ours.
