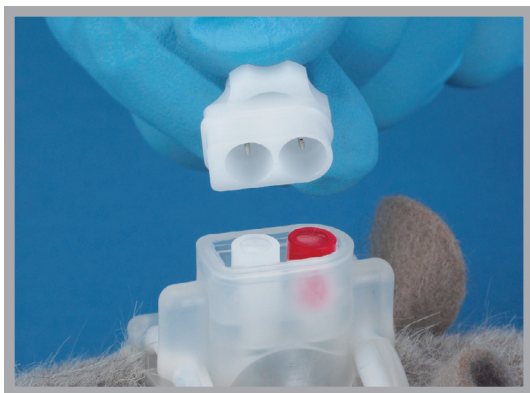


# Instructions for Use: Bile Sampling Using Dual VAH™

VAHD115L  
VAHD115T1  
VAHD115T1/BD150  
VAHD115T/BD150

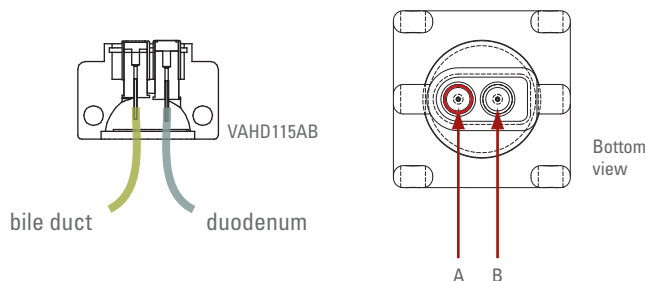


## Intended Use

For manual or automated collection of bile from freely-moving rats. Loop connector allows for bile circulation through tether while bile is not being collected. Septa built into the harness permit quick and sterile attachment of a tether for sampling.

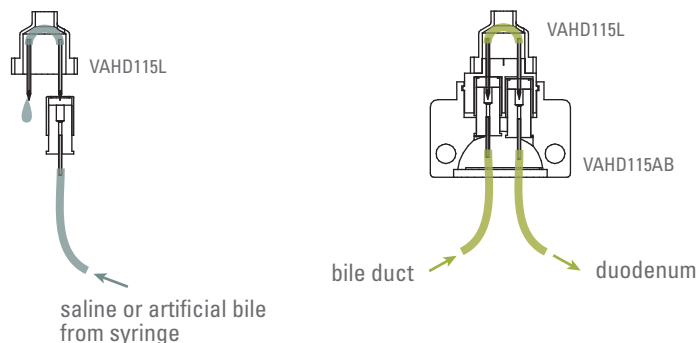
## Animal Preparation

1. Catheterize bile duct and duodenum. At least the external part of catheters should be 3Fr to connect to the harness.
2. Slide on VAHD115AB harness. Note orientation of belly bands: where the bands come together, they should run parallel to the sagittal plane.
3. Attach catheters to the 22ga connectors inside the dome of the VAHD115AB harness. **IMPORTANT:** connect bile duct catheter to channel A which is the red port on the rounded end of the harness. Channel A will connect to the striped tubing in the tether.



4. Tighten belly bands. Leave just enough slack so that you can fit your index finger or a 3cc syringe between the bands and the animal's belly. Trim excess tubing, but leave enough to allow for the animal's growth. Check tension periodically and adjust as needed.

5. Prime VAHD115L loop connector with artificial bile or sterile saline using the included injection port with luer stub.
6. Install loop connector so that bile circulation can resume.



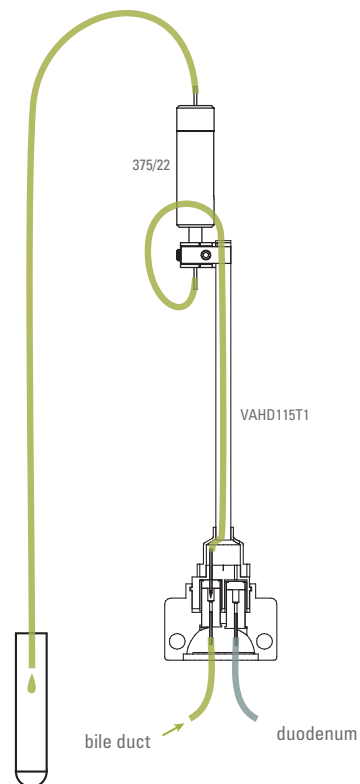
7. House and ship animals individually.

## Sampling

To sample, remove loop connector and attach appropriate tether using aseptic technique.

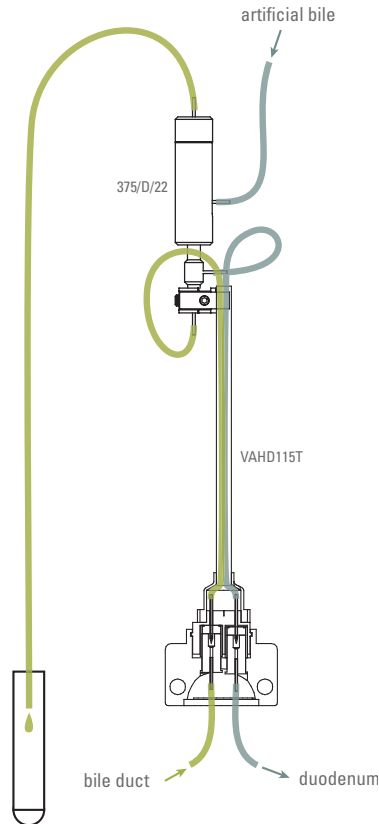
Choose from one of four tether and swivel configurations based on whether you will replace withdrawn bile volumes and whether you prefer a tether-mounted collection vial for a shorter flow path and improved time resolution.

**Option 1.** Use a one channel collection tether, part no VAHD115T1 (line is connected to channel A; channel B does not connect) with a one channel 22ga swivel and no line for volume replacement to the duodenum. Prime the lines with fluid prior to connection. Place the sample vial at animal height outside the cage, typically on ice.

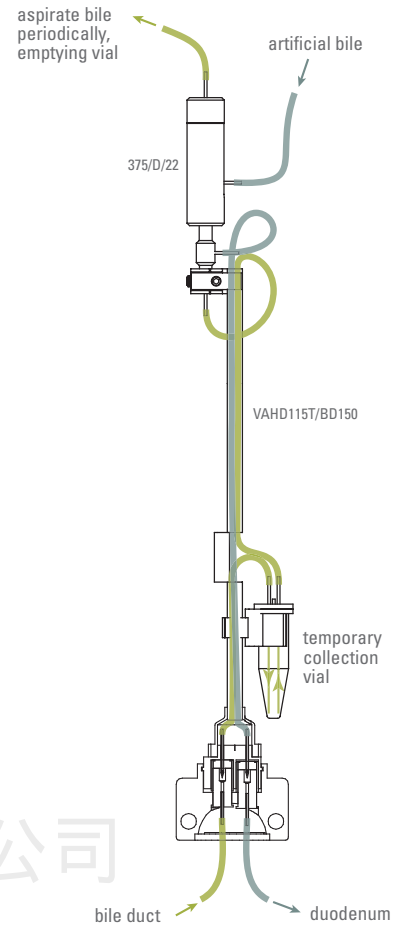


# Instructions for Use: Bile Sampling Using Dual VAH™ (continued)

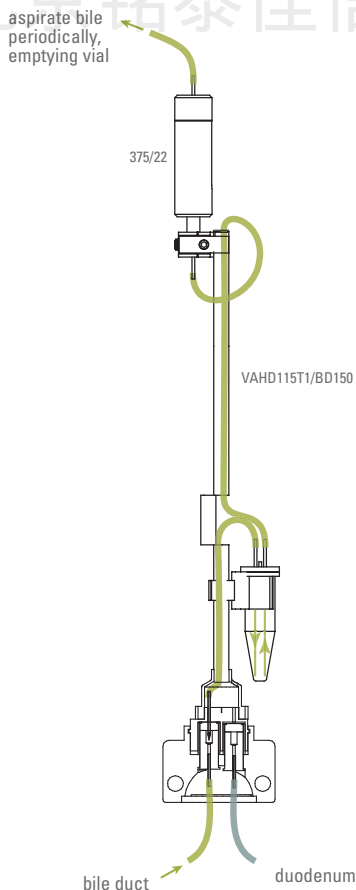
**Option 2.** Use the two channel VAHD115T tether with a 22ga two channel swivel. Use channel A for sample collection; channel B for volume replacement. Prime the lines with fluid prior to connection. Place the sample vial at animal height outside the cage, typically on ice.



**Option 4.** Use the two channel VAHD115T/BD150 tether with a 375/D/22 two channel swivel. Collect via the tether-mounted collection vial, aspirating as needed. Replace withdrawn volumes on channel B.



**Option 3.** Use the one channel VAHD115T1/BD150 tether with tether-mounted collection vial. Bile should flow into the vial without priming at its natural rate. Aspirate bile periodically as rapidly as needed through a one channel swivel. Empty the vial. Air pulled through at the end will clean the tubing for the next sample.



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