WORLD
PRECISION
INSTRUMENTS

BASi
Better Data Driving Better Decisions

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For wherever science takes you

TURN AWAY FROM TRADITIONAL TETHERING

BASi's RATURN™ is a movement response caging system that is designed for tether-based applications in awake animals. Used as an alternative to a liquid swivel or commutator, the Raturn interactively responds to animal movement to keep wires, tubing, fluid lines and cables from twisting.

- Reduce stress with less animal handling
- Eliminate swivels and commutators maintaining direct connections to your instruments
- Combine multiple fluid or electrical lines in a single animal

BASi MICROVOLUME FRACTION COLLECTOR

Keep your samples and your animals cool.
Chill with an automated sample collection system.

Sample collection is time consuming and can also be problematic. Human presence can impact the release of stress hormones, neurotransmitters and animal behavior. Moving to automated sample collection saves time and removes the human interference so that you can collect data you trust.

FEATURES

- Collect refrigerated samples anytime
- Easy programming through the front panel display
- Collect from up to two cannulas and deliver into sealed vials
- Collect fluid samples from 5 µL to 300 µL
- Optional refrigeration maintains samples at 4°C
- Collect samples from two probes or two animals
- Needle and carousel options work with a variety of vials and solutions
- Open system makes it easy to retrieve and replace vials
- Program sampling interval, number of samples, cooling on/off and optional delay start

BASi Fraction Collectors incorporate efficient cooling with a reliable needle mechanism so that samples can be collected from up to two cannulas at a time. Collection parameters, including sample volume and time, are programmed using the front panel control buttons. Each collector can be modified with optional carousels and needles that suit your study design.

The Raturn consists of a turntable and drive mechanism connected to a control box. The rat or mouse is placed into a cage (sold separately) and tethered to a counterbalance arm. The animal can move up to 280° before activating the optical sensor, causing the cage to counter rotate to prevent twisting. The optional Raturn Activity Monitoring System easily integrates with the Raturn to observe changes in locomotor activity following treatments. Metabolic floor inserts also available for collection of metabolic waste products.

BASi's Raturn systems are used in academic and pharmaceutical laboratories and CROs in a wide range of applications including:

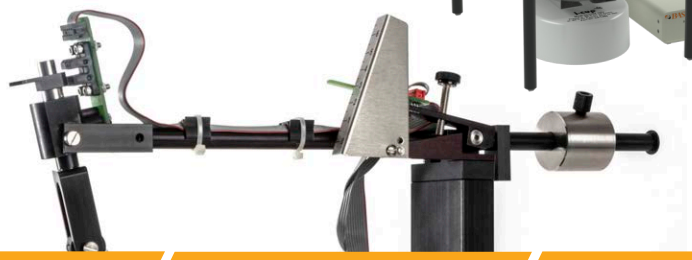
- *In vivo* Microdialysis
- Blood Collection
- Optogenetics
- Infusion & Biosensor Implants
- Pressure Monitoring
- ECG
- Locomotor Activity

STAND-ALONE RATURN

- Compact option to maximize limited bench space
- Economical replacement for swivel based system

CUSTOMIZABLE AMD-R SYSTEM

- Customizable for your research needs
- Keep pumps and collectors close to the animal to minimize dead volumes



PLAN

Work with BASi staff to choose the frame, caging and accessories that suit your protocol.

PERFORM

Combine dosing, sampling and electrical lines in one subject for a complete pharmacology profile.

PUBLISH

The Raturn system boasts more than 250 publications in the last 10 years in a variety of applications.

LOOKING FOR GLASS, PLASTIC VIALS, PLAIN OR SEPTA CAPS?

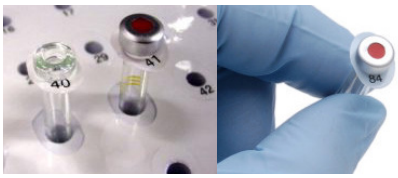
BASi's got you covered! CHADs for a vial labeling system is also available to ensure reliable sample identification.

BASi Fraction Collectors are used for a variety of applications, but are best suited for studies that require collection of small volumes. Automating sample collection makes it easy to remove the confounding effects of humans and help generate better data for studies including:

- Blood Sampling
- Microdialysis
- Open Flow
- Microperfusion
- Ultrafiltration
- Bile Collection

COLLECTING LARGER SAMPLE VOLUMES?

Contact us for more information about BASi's Large Volume Fraction Collector.



MICROVOLUME FRACTION COLLECTOR PRODUCT SPECIFICATIONS

Sampling Carousel	Options include 6x32 mm, 6x35 mm and 6.5x20.5 mm vials
Carousel Capacity	48 position (47 sample/1 waste)
Standard Vial Type	6x32 mm, Round Bottom, Borosilicate Glass, Cap Optional
Optional Vial Type 1	6x35 mm, Plastic Sample Vial (requires separate carousel), Cap Optional
Optional Vial Type 2	6.5x20.5 mm, Low Bind Plastic (requires separate carousel), Uncapped
Refrigeration Temp.	4°C- Can be turned on and off
Sampling Cannula	316 Stainless Steel Needle with Air Bleed Cannula. Internal volume 7.1 µL. Connection to tubing connectors via 23 ga. cannula. Optional PEEK adapter.
Cannula Option 1	Adjustable PEEK needle assembly for uncapped vials
Cannula Option 2	Short needle for use with 6.5x20.5 mm vials
Refrigeration Method	Thermoelectric
Method Setup	Front Panel LCD Display
Sample Time	Time needle remains in each vial: 0.1 to 99.9 minutes
Delay Time	Time needle remains in waste position: 0 to 9.9 hours
Rear Panel	4 inputs, 4 outputs and 4 grounds for connection to external devices
Compatibility	Culex
Accessories	Standard carousel, 1 sampling needle, waste tube, power cord
Cabinet	EM Shielding
Dimensions Weight	20 (w) x 30 (l) x 20 (h) cm, 6.3 kg
Power	120 V/60 Hz or 220 V/50 Hz

PUMPS AND ACCESSORIES

CONTROL 1, 2, 3 OR 4 PERFUSION EXPERIMENTS WITH BASi BEE PUMPS!

BASi infusion pumps provide smooth, reliable delivery of low fluid volume required for infusions, dosing and microdialysis studies. Unlike traditional infusion pumps which bundle the drive and controller together, the 'unbundled' design of the BASi Bee Syringe Pumps offers a flexible, cost-effective solution for managing single or multiple infusion lines.

BASi Baby Bee Syringe Drives are compact (3x23 cm) and reliably deliver low volumes required for low volume sampling. When paired with a Bee Pump Controller, Baby Bee Syringe Pumps can achieve flow rates ranging from 0.001 to 500 µL/min depending on syringe size. Up to three syringes can be affixed to a single syringe drive using the optional syringe bracket to increase throughput!

The Bee Stinger line of syringes includes a choice of 500 µL, 1.0 mL and 2.5 mL gas tight syringes. Featuring a triple Teflon seal on the plunger, BASi syringes are leak-free and designed for longevity.

Manage up to four independent syringe drives with one BASi Bee Hive! Flow rates range from 0.1µL/min to 100 µL/min (based on 1 mL syringe).

Baby Bee Syringe Drives pair with BASi Pump Controllers to create the most cost-effective application for a specific fluid delivery system.

The BASi Worker Bee Controller is the simplest option for controlling a single infusion. Flow rates range from 0.1 µL/min to 100 µL/min (based on 1 mL syringe).

MICRODIALYSIS PROBES FOR SMALL MOLECULE SAMPLING

BRAIN "BR" PROBES

"BR" microdialysis probes are used to collect small molecules from brain tissue. BASi BR probes are designed to minimize tissue damage and maximize recovery rates. BR probes are commonly used for sampling in rats, hamsters and guinea pigs. Custom probe sizes available upon request.

- Concentric-style
- Polyacrylonitrile (PAN) membrane, OD 320 µm
- MWCO 30 KDa
- Standard membrane lengths of 2 mm and 4 mm
- Use with "BR" guide cannula or mount directly with dental cement

INFUSION BRAIN "IBR" PROBES

"IBR" probes combine infusion capabilities with microdialysis sampling. Unlike treating systemically or via retrodialysis, the IBR probe allows for direct delivery to a specific anatomical target. IBR probes are commonly used in rats, hamsters and guinea pigs. Custom probe sizes available upon request.

- Concentric-style
- Polyacrylonitrile (PAN) membrane, OD 320 µm
- MWCO 30 KDa
- Standard membrane lengths of 2 mm and 4 mm
- Use with guide cannula or mount directly with dental cement

BRAIN "BR" INTRACEREBRAL GUIDE CANNULA

0-Ring

Omega Ring

"BR" intracerebral guide cannulae provide pre-experiment surgical targeting when sampling from awake animals. BR intracerebral guide cannula permits insertion of probes following surgical recovery.

Two versions of guide cannulae available:

1. O-ring: a flexible, non-metallic rubber ring snaps into the notch in the probe or stylet head when inserted. The o-ring is optimal for NMR imaging.

2. Omega ring: a steel ring that can be adjusted to expose the ring opening which allows for insertion of the probe or stylet. After placement, the ring can be further adjusted to close the ring opening. The omega ring provides a stronger lock compared to the o-ring and is preferable when frequent replacement of the probe is required, or when housing implanted animal for long time periods.

BRAIN "MBR" PROBES

"MBR" microdialysis probes are designed for sampling from mouse brain tissue. MBR probes can also be used for ventral implants in rats or when targeting multiple, adjacent implant sites. Custom probe sizes available upon request.

- Concentric-style
- Cellulosic membrane, OD 220 µm
- MWCO 35 KDa
- Standard membrane lengths of 1 mm, 2 mm and 4 mm
- Use with "MBR" guide cannula (below) or mount directly using dental cement.

BRAIN "MBR" INTRACEREBRAL GUIDE CANNULA

"MBR" guide cannulae are used with BASi's "MBR" probes and allow for anatomical targeting and tissue healing prior to sampling. Standard guide cannulae lengths are 5 mm and 10 mm. Custom lengths available upon request.

LINEAR "LM", VASCULAR "IV", LOOP "DL", SHUNT "SM" PROBES ALSO AVAILABLE