



empowering biotechnology

BioIntegrated
SOLUTIONS

BIS V FLeX™ LIQUID HANDLING SYSTEM

Conserve Bench Space, Work In the Vertical Dimension
A Compact and Robust Automated Vertical Liquid Handling System



Bio Integrated Solutions Inc
1299 North Arbor Lane, Palatine IL 60067
(847) 712-3085 ; (815) 642-0975 (FAX)
www.biointsol.com



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Modular, Flexible Layout

(4 Probe Independent Movement with Variable Span: 9 – 27 mm, Integrated Grippers and TWO Dual Manifolds)

- Modular Vertical configuration with small footprint facilitates ability to add external modules without requiring more bench space.
- External bulk reagent dispensing (25 ml – 10 ml), saving critical desk space and significantly increasing the throughput supporting organic and inorganic buffers for SPE applications with integrated 8 way valve (upto 6 buffers excluding system fluid).
- Disposable Tips to ensure sample integrity (1000 ml – 20 ml).
- Four probe with independent axis configurations enables cherry picking for use with 96-well plates and test tubes with optional variable span. The flexible format supports 384-well plates, test tubes, other types of vials.
- Gripper Hand Option facilitates transfer of manifold top or tubes or vials for fully unattended operation using the dual vacuum manifold.
- 3 Level vacuum control for columns, and pulsing vacuum for plates that enables low elution volumes (100 ml). PID controlled vacuum provides uniform reproducible vacuum conditions, independent of the number of samples being processed
- Intuitive and Flexible Software Interface for SPE and Drug Discovery Applications ideal for production and methods development.
- Enclosed system designed to handle chemical vapors, hood compatible.

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Edit System Parameters

Edit connected system reagents / buffers - Choose a valve # in the left box - change its connection by choosing a state in the right box

(2) Methanol

| (Valve #) Reagent / Buffer | Available Connection States |
|---------------------------------------|------------------------------|
| (1) D.I. H2O (Fixed Reagent / Buffer) | Unconnected |
| (2) Methanol | 100 mM HCl |
| (3) 100 mM HCl:ACN 60:40 | Phosphate Buffer |
| (4) MeCl2 Elution Buffer | Methanol:MeCl2 40:60 |
| (5) Hexane | EtAc:MeOH:NH4OH 60:20:4 |
| (6) Hexane:EtAc 50:50 | 1M Acetic Acid |
| (7) Unconnected | 100 mM Phosphate Buffer pH 6 |
| (8) Air (Fixed Reagent / Buffer) | Acetonitrile |
| | Acetonitrile:H2O 35:65 |

Edit system reagent / buffer names and pump speeds in microliters/second

| Reagent / Buffer | Pump Speed (microliters/second) |
|------------------------------|---------------------------------|
| D.I. H2O | 80 |
| Air | 30 |
| Methanol | 45 |
| 100 mM HCl | 60 |
| MeCl2 Elution Buffer | 60 |
| Phosphate Buffer | 60 |
| Methanol:MeCl2 40:60 | 60 |
| Hexane:EtAc 50:50 | 40 |
| 100 mM HCl:ACN 60:40 | 70 |
| EtAc:MeOH:NH4OH 60:20:4 | 35 |
| 1M Acetic Acid | 70 |
| 100 mM Phosphate Buffer pH 6 | 60 |
| Hexane | 70 |
| Acetonitrile | 70 |
| Acetonitrile:H2O 35:65 | 60 |

Please specify whether password protection is enabled or disabled
☐ Enabled ☒ Disabled

Please specify the volume needed to prime an empty line with reagent / buffer
Volume (microliters)

Please specify whether the optional vacuum manifold is present or absent
☐ Present ☒ Absent

Please specify whether a "real" instrument is ☐ ☒ Please specify whether a gripper is ☐ ☒

Hardware Command Log Assay Definition Run Log

Condition Sample Transfer Wash Elution

Please click on a wash step to edit it

Wash Sequence

| Volume (microliters) | Vacuum Levels, Vacuum Duration (inches Hg, (seconds)) | | | (Step #) Fluid Reagent (R) / Line Flush (LF) |
|----------------------|---|---------|--------|--|
| | 1 | 2 | 3 | |
| 2000 | 2.0, 20 | 4.0, 30 | 0.0, 0 | (1) D.I. H2O (R) |
| 2000 | 2.0, 20 | 4.0, 20 | 0.0, 0 | (2) 100 mM HCl:ACN 60:40 (R) |
| 1000 | 2.0, 20 | 0.0, 0 | 0.0, 0 | (3) Methanol (R) |

Edit the currently selected wash step

| (Step #) Reagent / Line Flush | Volume (microliters) | Vacuum Level (inches Hg) | Vacuum Duration (seconds) |
|-------------------------------|----------------------|--------------------------|---------------------------|
| (1) D.I. H2O | 2000 | 2.0 | 20 |
| (2) 100 mM HCl:ACN 60:40 | 2000 | 4.0 | 30 |
| (3) Methanol | 1000 | 0.0 | 0 |

Up Down Delete

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- Solid Phase Extraction (SPE) for Chromatographic Analysis, Blood, Drug Abuse Testing, Forensics Applications.
- Sample transfer of Test Tube and/or Vials for Micro plates.
- DNA/RNA Purification, PCR Preparation, Enzyme Reaction Setup.
- Magnetic Bead Separation.
- Re-formatting, Cherry-Picking, Low Volume Dispensing.
- Other Custom Applications.

| Instrument Configuration | V Flex 4x3 FIXED™ | V Flex 4x3™ |
|---|---|---|
| Dimensions W x D x H H is Top of Instrument | 26.00" x 26.00" x 42.00" 65 cm x 65 cm x 105 cm | 26.00" x 26.00" x 42.00" 65 cm x 65 cm x 105 cm |
| Number of Probes | 4 Probes Fixed Spacing (9 / 18 mm) | 4 Probes Variable Spacing (9 – 27 mm) |
| Tip Types Probe Management | Fixed Washable Stainless Steel Probe Compatible with Disposable Tips(10, 20, 200, 1000 µl) Low Volume Probes; Septum Piercing Tips OPTIONAL | Fixed Washable Stainless Steel Probe Compatible with Disposable Tips(10, 20, 200, 1000 µl) Low Volume Probes; Septum Piercing Tips OPTIONAL |
| Bulk Reagent Dispensing | STANDARD | STANDARD |
| Bulk Reagent Aspiration | STANDARD | STANDARD |
| Multi Channel Valve | 8 way valve STANDARD | 8 way valve STANDARD |
| Liquid Level Detection | OPTIONAL | OPTIONAL |
| Variable Span | NA | OPTIONAL |
| Gripper | OPTIONAL | OPTIONAL |
| Barcode | OPTIONAL | OPTIONAL |
| Syringe | Continuous Flow, Solvent Compatible for SPE Applications, LV Tips available 1.0% CV, 2.5% Accuracy @ 20 µl 5.0% CV, 7.0% Accuracy @ 5 µl | Continuous Flow, Solvent Compatible for SPE Applications, LV Tips available 1.0% CV, 2.5% Accuracy @ 20 µl 5.0% CV, 7.0% Accuracy @ 5 µl |
| Carryover | Less than 10 ⁻⁴ using Teflon Coated Stainless Steel Probes | Less than 10 ⁻⁴ using Teflon Coated Stainless Steel Probes |
| Positioning Accuracy | All Axes -0.10 mm (0.004 inch) 0.10 mm (0.004 inch) Auto Aligning | All Axes -0.10 mm (0.004 inch) 0.10 mm (0.004 inch) Auto Aligning |
| Computer Specifications (Included with the system) | PC Pentium II or Better, 512 Mbytes RAM Monitor VGA (800 x 600) RS-232 Serial Ports, USB, Windows 2000 / NT Compatible | PC Pentium II or Better, 512 Mbytes RAM Monitor VGA (800 x 600) RS-232 Serial Ports, USB, Windows 2000 / NT Compatible |
| External Interfaces | TTL Input / Output Pins 24 VDC Power Inputs Relays for External Devices | TTL Input / Output Pins 24 VDC Power Inputs Relays for External Devices |
| Power Supply Requirements | 90 – 260 VAC Auto Selecting, 50 – 60 Hz, 450 / 625 Watts | 90 – 260 VAC Auto Selecting, 50 – 60 Hz, 450 / 625 Watts |
| Regulatory Standards | Designed for Compliance with CE & CSA standards | Designed for Compliance with CE & CSA standards |
| Touch Keypad/Monitor Option | Optional with on board "Flash Chip" | Optional with on board "Flash Chip" |
| Configuration Options | Heating / Cooling Stations Magnetic Bead Labware Shakers, LV & Septum Piercing Tips | Heating / Cooling Stations Magnetic Bead Labware Shakers, LV & Septum Piercing Tips |
| Pricing Information | OEM Packages Available (847) 712-3085; info@biointsol.com | OEM Packages Available (847) 712-3085; info@biointsol.com |