

LV-20

STANDARDS ADDITION MODULE FOR 4551A AUTOSAMPLER

The LV-20 Standards Addition Module is an option for the 4551A Autosampler that adds internal standards or surrogate/matrix spike standards to improve the accuracy and precision of GC/GC-MS analyses. The LV-20 employs high speed injection valves to minimize standard usage and decrease laboratory operating costs for expensive standards. The LV-20 is designed to mount directly on top of a 4551A Autosampler.

Operating Principle

Two amber-glass vial reservoirs are filled with internal standard or surrogate standard solutions. Once mounted on the LV-20, the vials are pressurized to 6 - 10 psi and the siphon tubing to the injection valve manifold is primed. All LV-20 functions are programmed using the touchscreen and Windows™ CE software on the Eclipse 4660 Purge-and-Trap. The high-speed injection valves automatically inject the programmed volume of standard during sample transfer from the autosampler to the sparge vessel of the purge-and-trap.

LV-20 Capabilities

- Automatically adds internal standard or surrogate/ matrix spike standards at operator-defined intervals
- Injects programmed volume of standard with no excess or waste
- Significantly reduces the volume of standards used in GC-MS analysis
- Amber glass reservoirs protect standards from UV light
- Dry erase panel for simple record keeping regarding standards in use on the instrument



Principal Applications

- GC/GC-MS analysis of volatile organic compounds (VOCs)
- Drinking Water
- Wastewater
- Groundwater
- Storm water
- Volatile Petroleum Hydrocarbons (VPH)
- Oxygenates
- USEPA 502.1, 502.2, 503.1, 524.2, 601, 602, 603, 604, 624, 1666, 5030, 8010, 8015, 8020, 8021, 8030, 8260
- ASTM and Standard Methods
- VPH and GRO Methods

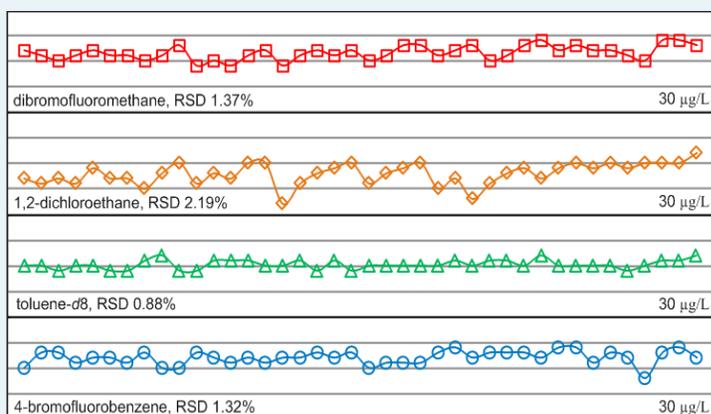
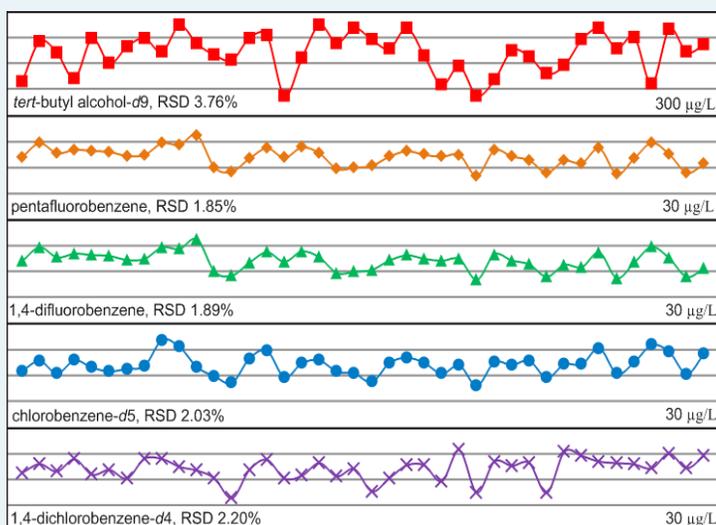
LV-20 SPECIFICATIONS

Specifications

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|---------------------------------|---|
| Instrument Compatibility | Mounts on 4551A Autosampler and communicates with OI Analytical 4660 Purge-and-Trap Sample Concentrator |
| Reservoir Capacity | Two 3-mL amber glass reservoirs |
| Standard Injection | Programmable from touchscreen of 4660 Purge-and-Trap or PC interface |
| Injection Volume | 0, 1, 2, 5, 10, or 20 μ L from either reservoir or both |
| Precision | < 3% RSD |
| Power | Supplied by 4551A Autosampler |
| Communications | RJ12 cable (supplied) |

| | |
|----------------------------------|---|
| Gas Requirements | He or N ₂ (high purity) |
| Gas Pressure | 6 - 10 psi |
| Maximum Pressure | 125 psi |
| Operating Temperature | 10 - 40 ° C |
| Materials of Construction | |
| Manifold | PEEK |
| Reservoirs | Borosilicate glass |
| Transfer Tubing | Fluoropolymer |
| LV-20 Dimensions | 7.4" H x 5.0" W x 9.0" D 18.9 cm H x 12.8 cm W x 23.0 cm D |
| Weight | 2.04 kg (4.5 lbs) |

LV-20 Standard Addition Module Performance



40 replicate injections of 1 μ L per sample of internal standards (left plots) and surrogate standards (right plots) using an Eclipse 4660 and 4551A Rotary Autosampler interfaced with an Agilent 6890 GC / 5970 MSD. Data for each compound are displayed with a vertical range encompassing 88% to 108% of average response.



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