The FireFly CL Analyzer is a complete chemiluminescence analytical instrument for developing and performing analyses based on chemiluminescence chemistries. It incorporates a number of new technological advances, including a novel cell design (MixGlo™) that acts both as a reactor and a detector cell. The FireFly can be configured for use with Zone Fluidics, FIA, SIA, and post-column derivatization for LC.

**ADVANTAGES OF FIREFLY CL ANALYZER**

- Extremely high sensitivity provided by the unique MixGlo reactor/flow cell interfaced to a Photon Counter detector.
- Rapid CL reactions can be measured as mixing of sample and reagent zones occurs internally directly in front of the Photon Counter. Mixing occurs very rapidly and the reaction mixture can be trapped in the cell and light collected during stopped-flow.
- Very small (uL) volumes of sample are required.
- Reagent cost is minimized using a microfluidic system with reagent consumption of ~100 uL per test
- Advanced Windows-based software for instrument control, data reduction and results reporting
- Small footprint and light weight to fit into small labs - fixed or mobile on-site
- SmoothFlow™ bi-directional pulseless flow positive displacement pump - no peristaltic pump tubing for sample processing

**PRINCIPAL APPLICATIONS**

<table>
<thead>
<tr>
<th>Clinical Chemistry</th>
<th>Food Chemistry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug Analysis</td>
<td>Quality Control</td>
</tr>
<tr>
<td>Biomedical Research</td>
<td>Residue Determination</td>
</tr>
</tbody>
</table>
FireFly solves automation problems for both sample preparation and chemical analysis. FireFly is based on the technology of Zone Fluidics and can be used in both flow injection analysis (FIA) and sequential injection analysis (SIA) modes. Zone fluidics (ZF) is defined as “the precisely controlled physical, chemical and fluid dynamic manipulation of zones of miscible or immiscible fluids in narrow bore conduits to accomplish sample conditioning and chemical analysis”. ZF involves moving zones of sample and reagents around by fluidics in narrow bore tubing to system devices where unit operations are carried out on the sample to transform it into a measurable species followed by an analytical finish. We often describe ZF as a “fluidics robot”. With the capability of performing complex sample processing operations and analytical measurements.

In a ZF method, defined volumes of reagents and sample are selected and aspirated into a reactor and then moved to selected devices where mixing, chemical reaction, extraction, digestion, distillation or evaporation is carried out followed by analytical measurements. ZF methods provide simplicity and environmentally-friendly solutions for complicated chemical analysis.

FireFly can be custom designed and tailored to customer requirements including method development. The unique MixGlo cell is also sold separately for customers who would like to incorporate it into their existing system. The MixGlo cell is very versatile since a wide variety of different flow path configurations, such as spiral, serpentine, and merging streams, can easily be exchanged.

The MixGlo cell can incorporate one of two standard fluid path inserts which are positioned in the eye of the detector.

The Single Port Inlet is for use with Zone Fluidics (ZF) or SIA, while the Dual Port Inlet is for use with flow injection analysis merging zones or post-column derivatization. Custom flow path configurations are also available based on a customer-supplied drawing.

**XYZ AutoSampler**

For automated sample processing, the FireFly system can equipped with an XYZ Autosampler which accommodates both standard and deep well plates and vials.
Part No. 15100
FireFly CL Analyzer to include SmoothFlow bi-directional pulseless pump, stream selector valve, SuperSerpentine reactor, MixGlo chemiluminescence detector with flow cell and ET photon counter, power cord, interface cable, accessories kit and netbook PC with software

Part No. 15200
MixGlo chemiluminescence detector with flow cell

Part No. 10110
XYZ Autosampler to include sample probe, wash port, sample plates (1 set), fluidic connectors, tubing, power cord and interface cable

Part No. 10110-005
Well plate, standard (~400 uL)

Part No. 10110-010
Well plate, deep (2 mL)

Part No. 10110-015
Vial tray, 35 positions

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**PHYSICAL DATA**

<table>
<thead>
<tr>
<th></th>
<th><strong>FireFly™</strong></th>
<th><strong>AutoSampler</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HEIGHT</strong></td>
<td>16” (30cm)</td>
<td>10” (25cm)</td>
</tr>
<tr>
<td><strong>WIDTH</strong></td>
<td>9” (15cm)</td>
<td>12” (30cm)</td>
</tr>
<tr>
<td><strong>DEPTH</strong></td>
<td>15” (15cm)</td>
<td>12” (30cm)</td>
</tr>
<tr>
<td><strong>WEIGHT</strong></td>
<td>15lb (7kg)</td>
<td>10lb (5kg)</td>
</tr>
<tr>
<td><strong>POWER</strong></td>
<td>120/240 VAC 50/60Hz</td>
<td>120/240 VAC 50/60Hz</td>
</tr>
</tbody>
</table>