Believe in Innovation

Alfred 60AST is the first fully automated system able to perform bacterial culture, RAA and susceptibility testing by automating the whole process of sample inoculation, reading and result transmission.

Using the patented technology based on light scattering it is able to detect the presence of bacteria and their drug resistance in a few hours with high sensitivity and specificity.

Alfred 60AST monitors the growth phases of bacteria from the inoculum step into specific culture broths providing real time growth curves and quantitative bacterial count results in CFU/ml.

All the samples are incubated at 37°C and only live bacteria are detected while interference from non replicating substances such as erythrocytes, leucocytes, dead cells and salts present in the sample are eliminated during the initial zero reading.

Broth turbidity level is detected by the McFarland Monitor and as the sample reaches the 0.5 McFarland it is buffered into the refrigerated area and then tested with a customized antibiotic panel.

Via the Host Query application, Alfred 60AST can receive from the LIS, sample test information used to determine for each specimen specific analysis settings such as test profile, cut-offs and incubation times.

Refrigerated area for antibiotics and positive samples at 0.5 McFarland turbidity level.

TESTS AND APPLICATIONS

- Urine culture: 3 hours, cutoff 30,000 CFU/ml
- Residual Antimicrobial Activity (RAA) test: Simultaneously to the culture test
- Human Biological Liquid Bacterial Culture: 6 hours, cutoff <50 CFU/ml
- Bacteria Culture on special sample: 6 hours, cutoff <50 CFU/ml
- MRSA culture screening: 6.5 hours
- MDRO culture screening: 6.5 hours
- Susceptibility testing with customized antibiotic panel for: Urine, Human Biological Liquids, Positive Blood Culture, Isolated Colonies

CUSTOMIZABLE PROTOCOLS WITH DIFFERENT INCUBATION TIMES AND CUT-OFFS

<table>
<thead>
<tr>
<th>INCUBATION TIME (min)</th>
<th>FAST PROTOCOL (URINE ONLY) THRESHOLD (CFU/ml)</th>
<th>STANDARD PROTOCOL (URINE or HBL) THRESHOLD (CFU/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>1,000,000</td>
<td>20,000,000</td>
</tr>
<tr>
<td>80</td>
<td>500,000</td>
<td>12,000,000</td>
</tr>
<tr>
<td>110</td>
<td>100,000</td>
<td>2,000,000</td>
</tr>
<tr>
<td>120</td>
<td>DEFAULT 50,000</td>
<td>1,000,000</td>
</tr>
<tr>
<td>140</td>
<td>15,000</td>
<td>300,000</td>
</tr>
<tr>
<td>145</td>
<td>10,000</td>
<td>200,000</td>
</tr>
<tr>
<td>160</td>
<td>-</td>
<td>100,000</td>
</tr>
<tr>
<td>180</td>
<td>-</td>
<td>DEFAULT for URINE 30,000</td>
</tr>
<tr>
<td>190</td>
<td>-</td>
<td>15,000</td>
</tr>
<tr>
<td>235</td>
<td>-</td>
<td>1000</td>
</tr>
<tr>
<td>275</td>
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<td>100</td>
</tr>
<tr>
<td>290</td>
<td>-</td>
<td>50</td>
</tr>
<tr>
<td>290-360</td>
<td>-</td>
<td>DEFAULT for HBL &lt;50</td>
</tr>
</tbody>
</table>

Windows is a Microsoft trademark

* Manual loading
FEATURES

- Light Scattering Technology
- Quantitative results expressed in CFU/ml
- Automated susceptibility testing with customised antibiotic panels
- Refrigerated area at +4°C for antibiotics and 0.5 McFarland positive sample storage
- Needle with capacitive sensor
- Check of correct vial loading for autobuffering function in the refrigerated area
- Real time detection of bacterial growth curves
- Integrated turbidimeter with McFarland Monitor
- Single sample management with customised analysis profile: incubation time, analytical protocol, cut-off
- Automatic reagent and sample dispensing
- Sampling with continuous loading of primary closed tubes
- Automatic result reading and reporting
- Built-in barcode reader for sample identification
- LIS bidirectional interface and Query Host application
- 37°C incubation
- User friendly software
- Universal rack that accommodate various tube sizes
- Use of closed tubes (in compliance with the law in force)
- Customised reports
- Database for epidemiological studies
- Connection to HB&L for increased capacity

4 CONTROL LEVELS:

1. Flow sensor
2. Sample withdrawn sensor
3. Wash and waste tank sensors
4. Tube and reagent presence sensor

ALFRED 60AST - HB&L CONNECTION

Following sample inoculation into the vials through Alfred 60AST, all vials can be transferred to one or more HB&L along with the growth curve data allowing continuous analysis.

By integrating the 2 systems it is possible to analyze up to 180 samples in 5 hours.

<table>
<thead>
<tr>
<th>Samples</th>
<th>Dispensing Procedure</th>
<th>Dispensing Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>60 Urine cultures</td>
<td>50 minutes</td>
</tr>
<tr>
<td>120</td>
<td>60 Urine cultures + 30 RAA tests</td>
<td>40 minutes</td>
</tr>
<tr>
<td>180</td>
<td>60 Urine cultures + 90 RAA tests</td>
<td>150 minutes</td>
</tr>
<tr>
<td>90</td>
<td>90 Urine cultures + 90 RAA tests</td>
<td>120 minutes</td>
</tr>
</tbody>
</table>

Alfred 60 - Technical Features

- Power supply: 230VAC ± 10% or 115 VAC ± 10 %
- Power consumption: 290 W
- Frequency: 50 or 60 ± 2 Hz
- Room operating temperature: +10÷30 °C
- Size: 1100x820x600
- Weight: 120 Kg

The new Alifax disposable tube for urine collection can be loaded directly on primary tube rack.