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Media Preparation Introduction



The flexibility of modern media preparation systems allows small, medium and high volume users to produce their own quality media in a cost-effective manner

You may already use automated test methods and other automated techniques in your laboratory, but still prepare and dispense media by using magnetically stirred hot plates, flasks, autoclaves and peristaltic pumps – one of the most tedious and time-consuming tasks in the modern microbiology laboratory.

Manual processes can also mean that media is prone to contamination, workflow variants, batch inconsistencies and other problems.

Even purchasing prepared plates or going through the process of rehydrating culture media manually may not be cost-effective or flexible enough to cope with varying levels of demand.

Our media preparation systems can be linked directly to a PC – so that sterilisation cycle parameters and other information can be recorded, archived and retrieved to satisfy the requirements of various laboratory accreditation schemes.

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The advantages of automated media preparation

Prepared media can be obtained in a number of ways:

Prepared manually in-house – this is the most difficult, time consuming and potentially hazardous method

Purchased already poured into plates – this method can be expensive and inflexible

Prepared in-house with an automated media preparator – this method ensures high quality and consistent media. This is the safest and most cost-effective method for laboratories complying with various accreditation schemes

Numerous variables are introduced when media is prepared manually. Powder has to be weighed and put into flasks with the required volume of water before autoclaving. After autoclaving and before pouring, a technician must lift the vessel containing the potentially hot media – which could be dropped and cause a hazard.

When media is prepared in flasks there are often complications with the uniform blending of ingredients. Quality-control difficulties can arise. Media preparators eliminate this problem by producing homogeneous media through continuous stirring of the product during production.

A standard autoclave cycle does not always ensure that the media is properly sterilised as most autoclaves measure the temperature of the sterilisation vessel, not the actual media. The temperature difference between the two can be significant as it takes longer for the liquid to reach sterilisation temperature than it does for the headspace in the vessel. This may result in a shorter cycle time than is actually required for effective sterilisation. Media preparators maintain the correct temperatures to ensure sterile media is produced consistently.

One of the obstacles that prevents the purchase of media preparation equipment is the perception that the cost is prohibitive. In many instances, a preparator will pay for itself in as little as six months. With less cleaning – and with no requirement to stir media or manipulate flasks – staff are also available to perform more productive tasks.

Media can be produced in a media preparator in about an hour and, if used in conjunction with a pourer/stacker, up to 750 plates per hour can be prepared with total uniformity and without any loss of quality.

Our automatic media preparation systems have a port in the lid of the vessel so that blood or antibiotics can be added during the sterilisation cycle. An alarm sounds when the cycle is ready for additives.

Some people believe preparing media in-house is too time-consuming so they purchase pre-poured plates. With pre-poured plates the user has to keep sufficient quantities of in-date stocks. Increased needs may not be able to be met during emergencies.

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