don whitley scientific

# Anaerobic and Microaerobic Workstations

# 01 Our Credentials

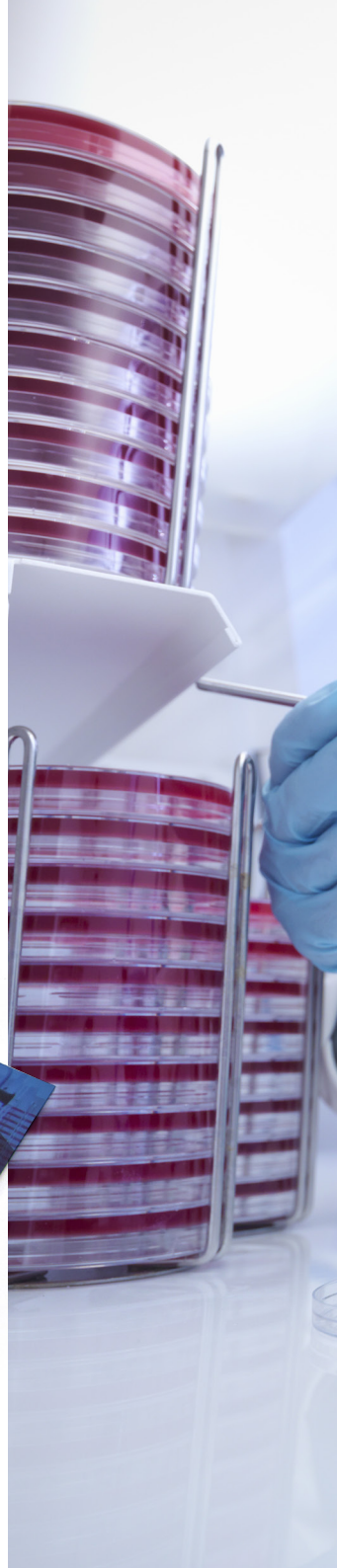
*Because his early career had been as a 'working-at-the-bench' microbiologist, Don Whitley set out to improve the microbiologist's working life by removing as much tedium as he could and by seeking to reduce the risk of tests being compromised by human error.*

Don's laboratory experience helped him to develop novel ideas through the use of labour-saving equipment and automated solutions, leading to the formation of Don Whitley Scientific Limited in 1976. Don's first product was an improved anaerobic jar. His work resulted in a stream of innovations in the early years – and a number of products incorporating his inventions are still in production today.

We have now sold thousands of anaerobic and hypoxic workstations in over 50 countries and have a worldwide network of distributors.

The publication, "*An Introduction to Clinical Anaerobic Bacteriology*", is a guide to enable the reader to isolate and identify 12 commonly occurring clinically important anaerobic bacteria. Considerable expert knowledge was combined to make this the most up-to-date reference guide for the modern clinical laboratory including a significant contribution from Don. Some of the images were kindly supplied by the Anaerobe Reference Unit, Cardiff.

Don Whitley Scientific is accredited to ISO 9001 for Quality Management and ISO 14001 for Environmental Management.



02

*Our greatest assets are our satisfied customers...*

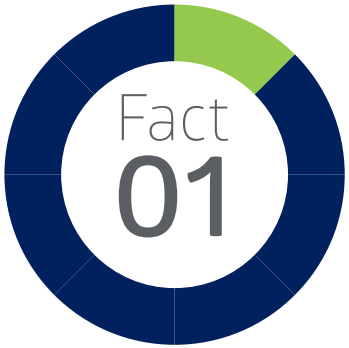
"...there is a tremendous change in our results from when we used jars. Almost every day we are reporting anaerobic organisms now that we are using the A35. This workstation has made a real difference and we are now very confident in reporting anaerobic organisms."

***Sree Ambal***
*KPJ Lablink Central, Kuala Lumpur*

"Both the high standard of the Whitley A35 Workstation and the helpful, easily approached staff at Don Whitley Scientific make recommending the company and their equipment a no-brainer."

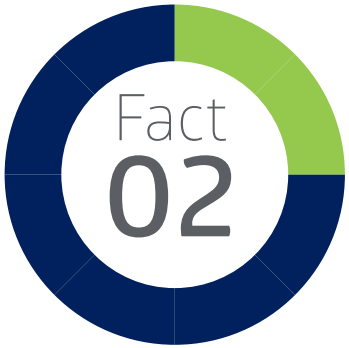
***Samantha Yuille***
*University of the West of Scotland*

# 03 Unique Innovations



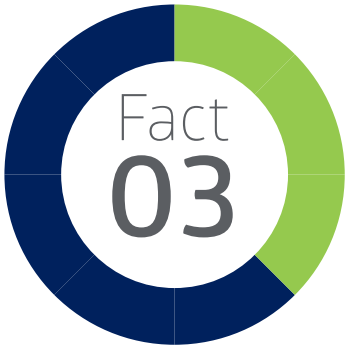

### *Instant Access Ports*

The patented Whitley Instant Access Porthole System is available on many Whitley Workstations. Not only does it provide instant access to your samples, this sleeveless system uses eight times less gas when entering the workstation compared with a conventional porthole system.



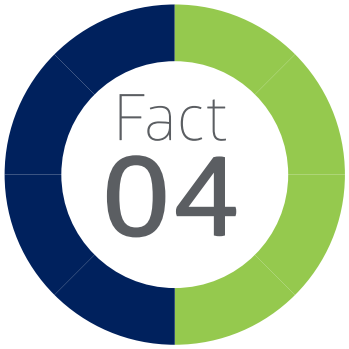

### *Anaerobic Conditions Monitor*

With this option, an animated green icon confirms that suitable anaerobic conditions exist in the workstation. Yellow and red icons provide an early indication if conditions begin to vary. Combining the use of this facility with the Catalyst Monitoring System is the most reliable way of confirming that suitable anaerobic growth conditions exist within a Whitley Workstation.



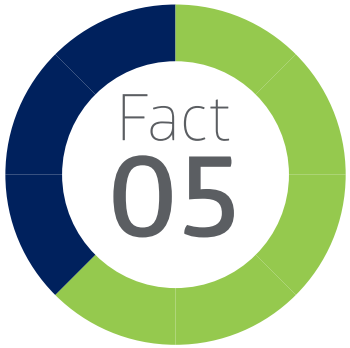

### *Colour Touchscreen*

Operating requirements are configured and maintained by an intelligent, programmable logic controller in conjunction with an intuitive touchscreen interface. The touchscreen interface displays the status conditions of all controlled parameters and also allows the user to change operating parameters to suit specific test conditions. Alarm conditions are clearly displayed and pin code controlled user access levels protect user adjustable parameters.



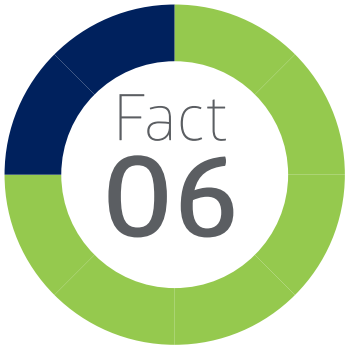

### *Catalyst Monitoring System*

When strict anaerobic conditions are required, the patented Catalyst Monitoring System is an efficient and effective way of alerting users to both the condition of the catalyst and the anaerobic atmosphere in a Whitley Workstation. Automatically testing your catalyst/atmosphere on a daily basis reduces the need for control plates. The test may be operated manually if required.



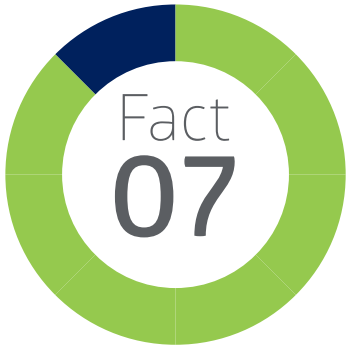

### *Three Gas Operation*

Running your workstation on three gases can be very cost-effective in certain countries. Unique to DWS, some of our anaerobic workstations can operate on separate cylinders of $N_2$, $H_2$ and $CO_2$ to provide the most cost-effective anaerobic conditions (around 30% cheaper than a dual gas version).



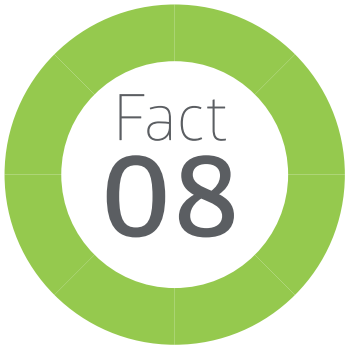

### *HEPA Filtration*

To quickly create and maintain a particle-free environment, some workstations are available with the unique Whitley Internal HEPA Filtration System. All the atmosphere in the chamber passes through the filter hundreds of times an hour. The HEPA system exceeds the requirements stipulated by ISO 14644 Class 3. Proof of atmospheric cleanliness can be provided.




### *Data Download/Traceability*

There is an option to purchase data logging software for some Whitley Workstations. This feature allows the recording of workstation temperature, humidity, chamber pressure and other parameters for traceability or reference. The information is displayed on the touch screen in graphical format. The recorded data can be downloaded via the USB interface to a memory stick and imported into a spreadsheet for further analysis and archiving.




### *Remote Access*

Whitley Workstations can be Ethernet-enabled for remote access to the touchscreen panel. This allows you to log into your workstation when you are away from the lab and check current operating parameters, making changes if desirable. This feature also allows DWS engineers to log into your workstation remotely to assess the situation should a fault occur. Whitley Workstations also offer an email alert option that allows emails to be sent to designated recipients alerting users to workstation alarm conditions.

*Don Whitley Scientific products are subject to continuous development and improvements.*

# 05 Whitley Jar Gassing System

For those laboratories still using jars, the Whitley Jar Gassing System reduces the cost of creating microaerobic conditions by 98% and anaerobic conditions by 89% compared to using gas packs. Jars can be useful for transporting samples and when a low number of cultures does not warrant the cost of a workstation. The optional printer enables you to create a hard copy audit trail for accreditation purposes. Ideal for use with the Whitley Incubation Box.

## FEATURES

- Creates perfect conditions for growing anaerobes in less than 2 minutes and for microaerophiles in just 15 seconds. This compares to 30–180 minutes to achieve suitable conditions using gas generation sachets or kits.
- A full colour touch screen control panel allows you to monitor, in real time, that the criteria necessary for the creation of either anaerobic or microaerobic conditions have been met.
- Easy to use, so no complicated operator training is required.
- Incorporates PIN code protected user access levels for additional security.
- If you already have anaerobic jars that you wish to use you can order the adaptor kit, which will enable you to connect the Whitley Jar Gassing System to your existing jars.

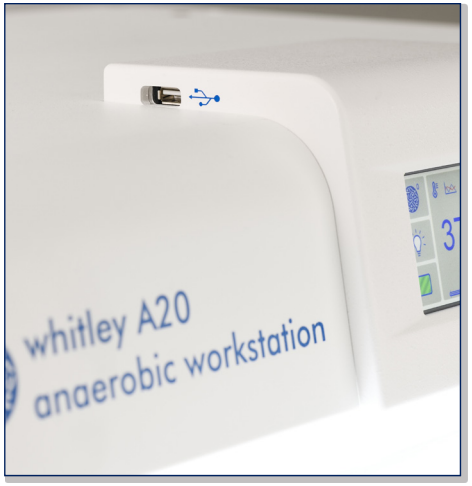
"We grow both anaerobic and microaerobic bacteria and the Whitley Jar Gassing System has become a real asset. It has really improved our recovery of strict anaerobic organisms such as *Clostridium tetani*. We have been thoroughly satisfied with our recent results". ***Dr Joy Oloya / Dick White Referrals***

*Optional printer*

*Whitley Incubation Box*

# Whitley **A20** Workstation 06

*Multi-Functional Ports*




*USB port for the download of data*

The A20 Workstation is one of the smallest anaerobic chamber in our range. Although it takes up little bench space, the A20 has the same precise control of parameters as our larger workstations. It can accommodate up to 240 x 90mm Petri dishes but, in an emergency, it can incubate up to 270 plates. This workstation has the option of Anaerobic and Catalyst Monitoring Systems. The A20 is the perfect step-up from using anaerobic jars.

## FEATURES

- Two multi-functional glove ports that act as mini airlocks.
- You can check your plates as often as you like and perform tasks inside the chamber without risk to your samples.
- Full colour touchscreen interface for ease of use and display of parameters.
- Low gas consumption – economic to run.
- Ethernet enabled for remote access to the touchscreen.
- Automatic commissioning cycle.
- Two styles of trolley are also available for this workstation:
  - a custom-built version with castors for ease of movement.
  - a motorised height adjustable version so the user can adjust the workstation – in situ– to a comfortable working height.
- Optional side loading single plate entry system so samples can be incubated immediately, thus improving results.

*Please see pages 25–28 for a full list of features and options.*

# 07 Whitley A25 Workstation

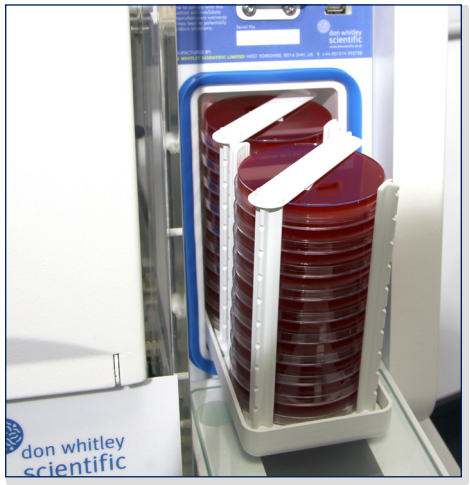
The A25 is a truly compact workstation equipped with many unique features to ensure easy and efficient use and to guarantee that the very best anaerobic conditions are maintained. It has a capacity of over 300 Petri dishes while still leaving more than adequate space to process samples in a strictly controlled anaerobic environment. Fitted with the Instant Access Porthole System to provide rapid access to and egress from the chamber. A versatile system, the A25 can also be used as a microaerobic workstation by simply connecting the relevant pre-mixed gas. The perfect alternative to Anaerobic Jars!

## FEATURES

- The rapid airlock can accommodate 20 x Petri dishes or 3 x 500 ml Duran bottles and a cycle takes 20 seconds
- The choice of an Instant Access Porthole System or our unique Oval Porthole System.
- Airlock doors are interlocked so cannot be opened simultaneously.
- A side loading letterbox entry system is also available, providing a straightforward way to quickly introduce individual samples into the workstation.
- Fitted with a colour touch screen providing the user with an intuitive interface to control and operate the workstation.
- The automatic early warnings about the status of the anaerobic atmosphere and the catalyst function, which are only available on Whitley Workstations, were not previously available on our smaller workstations.
- With a wide selection of options available, the A25 can fulfil the needs of any laboratory requiring a compact anaerobic workstation.

*Please see pages 25–28 for a full list of features and options.*

*A25 Touchscreen*

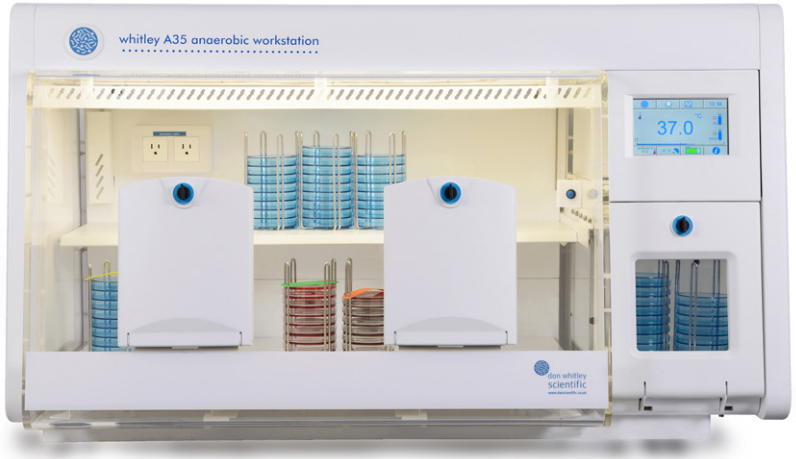



*New, Slimline Airlock*

# Whitley A35 Workstation 08

*Instant Access Ports*

*A35 Touchscreen*




Sample manipulation within a secure anaerobic environment is now as easy as working aerobically at the laboratory bench. The Whitley A35 Anaerobic Workstation fulfils the diverse specifications of both research and clinical customers. This workstation accommodates up to 600 x 90mm Petri dishes. An optional Anaerobic Conditions Monitor provides confirmation that anaerobic conditions exist inside the workstation and provides an early indication if optimal growth conditions begin to vary.

## FEATURES

- Rapid, built-in airlock with mechanical and electrical interlocks – no risk of compromising conditions inside the chamber. The airlock is flushed with nitrogen as an additional cost saving.
- Innovative colour touch screen interface with PIN code-protected user levels.
- Available with the Instant Access Porthole System that allows rapid access to the chamber or with the unique oval, sleeved ports.
- Dual gas operation and automatic commissioning cycle as standard.
- Automatic dehumidifier – no user maintenance necessary.
- Both the working and storage areas of the chamber are temperature controlled, allowing the full internal volume to be used for incubation.
- Bright, even illumination ensures sufficient light for any tasks performed inside the chamber.
- Available with HEPA Filtration System that ensures levels of atmospheric cleanliness inside the workstation that exceed the requirements of ISO 14644 Class 3.

*Please see pages 25–28 for a full list of features and options.*

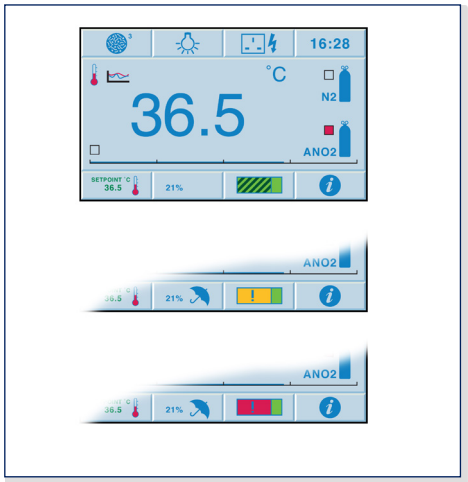
# 09 Whitley **A45** Workstation

The Whitley A45 Anaerobic Workstation is 50% larger than a Whitley A35 and has three ports to provide convenient access to the entire incubation and working areas. Even with a relatively small footprint incubation capacity is maximised and creates the perfect controlled environment for small or large sample numbers. Accomodates over 780 x 90mm Petri dishes while providing a generous working area. A motorised height adjustable trolley is available as an option.

## FEATURES

- The choice of an Instant Access Porthole System or our unique oval porthole system.
- Rapid, built-in airlock with mechanical and electrical interlocks – no risk of compromising conditions inside the chamber. The airlock is flushed with nitrogen as an additional cost saving.
- Innovative colour touch screen interface with password-protected user levels.
- Optional removable front on the right hand side with either 2x Instant Access Ports or 2x conventional, oval ports.
- Automatic dehumidifier – no user maintenance necessary.
- Optional Anaerobic Conditions Monitor.
- HEPA model features the unique Whitley Internal HEPA Filtration System. All the atmosphere inside the chamber passes through the filter hundreds of times an hour, which ensures the chamber environment is cleaned quickly. Levels of atmospheric cleanliness inside the workstation exceed the requirements of ISO 14644 Class 3.

*Please see pages 25–28 for a full list of features and options.*




*Anaerobic Conditions Monitor*

*HEPA Filtration*

# Whitley **A55** Workstation

*A Removable Front*

*Left Hand Airlock*

The Whitley A55 has a chamber size twice the width of an A35, with a huge working and incubation area and airlocks at both ends. Petri dishes and samples can be introduced and removed through either airlock creating a natural, Lean rhythm for your laboratory workflow. The A55 is ideal for the busy lab where organisation of samples and cultures is key as it can accommodate up to 1200 x 90mm Petri dishes in racks.

## FEATURES

- The choice of conventional oval sleeved ports or a mixture of oval and Instant Access Ports.
- 2x rapid, built–in airlocks; flushed with nitrogen as an additional cost saving.
- Innovative colour touch screen interface with PIN–code protected user levels.
- Dual gas operation for real savings on gas.
- Comfortable to work in and excellent visibility.
- A motorised height adjustable trolley is available for this workstation..
- Optional Anaerobic Conditions Monitor.
- Available as a dual temperature version allowing different temperatures in each half.
- Also available with the Whitley Internal HEPA Filtration System.

***Please see pages 25–28 for a full list of features and options.***

# 11 Whitley **A85** Workstation

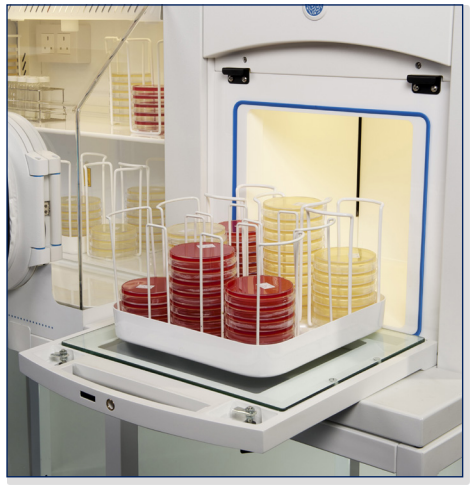
The Whitley A85 Anaerobic Workstation has been created to enable both research and clinical scientists to carry out microbial manipulation within a secure anaerobic environment. Every aspect of system functionality has been thoroughly considered – a 36 litre airlock; environmental control systems; touch screen interface; workspace visibility; fabrication quality; the unique gloveport system and maximum incubation capacity. It provides the ideal controlled environment for small or large numbers of samples.

## FEATURES

- Innovative touch screen interface with PIN code–protected user access.
- Control temperature from 5°C above ambient up to 45°C.
- Dual gas operation to minimise running costs.
- Massive 36 litre airlock that can accommodate 90 x 90mm Petri dishes.
- Automatic commissioning cycle.
- Automatic de–humidification system – no user maintenance necessary.
- Patented multi–functional gloveports.
- Optional refrigeration unit available for growing organisms that thrive in lower temperatures.
- A motorised height adjustable trolley is available for this workstation..
- Three Gas (TG) version available that operates using separate cylinders of $N_2$, $H_2$ and $CO_2$.

*Please see pages 25–28 for a full list of features and options.*

*A85 Front Loading Letterbox*



*Large Airlock*

# Whitley **A95** Workstation

*A95 Touchscreen*

*90 Petri dishes in a transfer tray*

The A95 Workstation has a huge capacity of up to 1120 x 90mm Petri dishes, depending upon the way you choose to configure your working and incubation areas. This model is ideal for tutoring or for very busy laboratories. As well as having a huge 36 litre airlock, each port also acts as a mini-airlock so you can transfer 10 plates when you insert or withdraw each arm, reducing gas usage and the number of airlock cycles required.

## FEATURES

- Innovative touch screen interface, which allows the incorporation of some unique features and benefits.
- The four manually operated, oval glove ports enable two people to operate within the same controlled atmosphere simultaneously.
- Rapid, built-in airlock with mechanical and electrical interlocks – no risk of compromising conditions inside the chamber, flushed with nitrogen as an additional cost saving.
- Optional Anaerobic Conditions Monitor.
- Dual gas operation for real savings on gas.
- Automatic commissioning cycle.
- Automatic de-humidification system – no user maintenance necessary.
- Three Gas (TG) version available to help reduce running costs and provide additional flexibility.

*Please see pages 25–28 for a full list of features and options.*

# 13 Whitley **A135 HEPA** Workstation

The A135 is ideal for studies where a variety of equipment needs to be used within an anaerobic environment. This workstation operates from two gas supplies to achieve the most cost-effective running conditions. The A135 is supplied Ethernet-enabled for remote access to the touchscreen. The rapid airlock ensures samples can be transferred into the workstation atmosphere as soon as possible – takes only 60 seconds.

## FEATURES

- Removable front to facilitate cleaning and to aid the transfer of bulk quantities of samples and larger items of equipment.
- Fitted with the unique Whitley Internal HEPA Filtration System ensuring that levels of atmospheric cleanliness inside the workstation exceed the requirements of ISO 14644 Class 3.
- Colour touchscreen interface for ease of use and visual display of parameters such as temperature, humidity and airlock cycle status.
- Includes automatic commissioning cycle to save you time and resources.
- Heat removal system available to reduce heat generated by equipment used inside the chamber.
- A range of options is available to tailor the workstation to your requirements, eg. single sample entry system, chilled incubation compartment and Anaerobic Conditions Monitoring.
- Fully integrated gas control reduces the need for additional bench space.

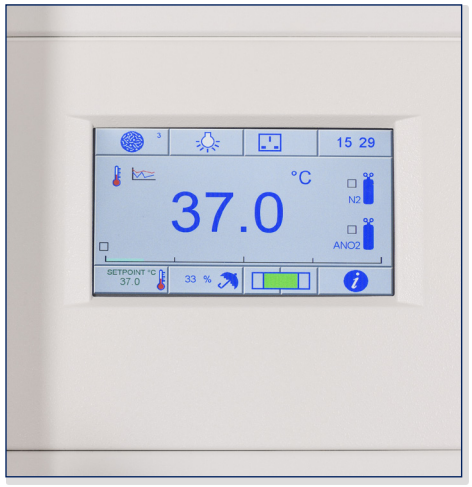
*Please see pages 27–30 for a full list of features and options.*

*Remote Access*

*Chilled Incubation Compartment*

# Whitley **A155 HEPA** Workstation






*A155 Touchscreen*

*Right Hand Airlock*

The A155 is the largest workstation in the Whitley Workstation range – 350mm taller than the A55. It has a capacity of 1800 litres and has been designed to allow the use of a variety of laboratory equipment inside the chamber and still leave more than adequate space to process samples in a strictly controlled anaerobic environment. The A155 is usually sold with HEPA filtration to reduce particle counts inside the chamber to levels exceeding the requirements of ISO 14644 Class 3. There are many unique, optional features to ensure easy and efficient use and to guarantee that the very best anaerobic conditions are maintained.

## FEATURES

- Two deep airlocks, one at either end of the workstation, can be operated independently and take only 60 seconds to run a cycle.
- Each airlock can accommodate up to 10 x 500 ml Duran bottles and is the perfect size for introducing serological pipettes.
- Two removable fronts to enable the transfer of larger batches of samples or pieces of equipment for use inside the chamber.
- A new, cool white / daylight LED lighting system provides excellent illumination.
- Optional refrigeration system (operates at less than 10°C) to achieve lower temperatures.
- A front loading letterbox entry system is also available, providing a straightforward way to quickly introduce individual samples into the workstation.
- Options available to tailor the workstation to your requirements, including the Whitley Anaerobic Conditions Monitoring System; data logging/download; cable glands; Rotating Turntables mounted on the shelves; and the Movable Platform that facilitates optimal positioning of equipment inside the chamber.

*Please see pages 27–30 for a full list of features and options.*

# 15 Whitley **M35** Workstation

The Whitley M35 is a microaerobic workstation ideal for the study and isolation of *Campylobacter* spp., *Helicobacter pylori* and other similarly fastidious organisms. It has a capacity of 600 Petri dishes. Although this chamber provides the perfect way of manipulating samples in a sustainable microaerobic environment it can also be operated as an anaerobic workstation – providing you with ultimate flexibility.

A HEPA filtered option of this workstation is also available.

## FEATURES

- For total flexibility, up to four gases – nitrogen, carbon dioxide, air and a 10% hydrogen/90% nitrogen mix – can be controlled within safe and varying ratios to provide a specific atmosphere for your experiments
- Supplied with an automated dehumidification control system with no user maintenance necessary.
- Oval, sleeved ports allow bare hand working.
- Intuitive colour touch screen interface with PIN-code protected user levels.
- Optional Automatic Humidification System provides a sterile source of moisture to increase humidity.
- Rapid integral airlock – no risk of compromising conditions inside the chamber.
- For additional cost-efficiency, the airlock is flushed with nitrogen.
- Optional Oxygen Profiling software allows the workstation to be switched from microaerobic to anaerobic conditions without needing to swap incoming gases.

*Please see pages 25–28 for a full list of features and options.*

*A Removable Front*

*40 Petri dishes in a Transfer Tray*

# Whitley **M45** Workstation

*Sleeves and Cuffs*

*Instant Access Port*

The M45 has three ports for convenient user access to the entire incubation and working areas. This workstation can accommodate over 780 x 90mm Petri dishes whilst still providing a generous working area. The M45 is used in the study and isolation of fastidious anaerobes such as *Campylobacter* spp. and *Helicobacter pylori.*

Available with the Whitley Automatic Humidification System for a sterile source of increased humidity without the need for open trays of water.

## FEATURES

- This is a 4-gas system with built in oxygen, CO2 and hydrogen sensors allowing users to programme precise gas concentrations, perfect for manipulating samples in a sustainable microaerobic environment.
- Optional removable front (with instant access or traditional sleeved ports) to enable the transfer of larger batches of samples or pieces of equipment for use inside the chamber.
- Built-in rapid airlock allows the transfer of plates in just 60 seconds, with the option of extending this in 1 minute increments to 5 minutes.
- Colour, touch-screen control panel for ease of use and for visual display of parameters such as temperature, humidity, and airlock cycle status
- Save time with the automatic commissioning cycle.
- A version of this workstation is available with the Whitley Internal HEPA Filtration Sysytem. Exceeds the requirements of ISO 14644 Class 3.
- A reminder to perform calibration can be set for between 7 and 21 days.

***Please see pages 25–28 for a full list of features and options.***

# 17 Whitley **M55** Workstation

The Whitley M55 Workstation is a 4-gas sealed chamber with 2 x 12 litre airlocks – one at either end of the workstation. it is the only Whitley 'M' range workstation that is available as a dual temperature version allowing different temperatures in each half. It has a capacity of 600 litres (which will accommodate between 1080 to 1200 Petri dishes) and is ideal for the study of microaerophiles.

## FEATURES

- Intuitive colour touch screen interface with PIN-code protected user levels.
- 2 x rapid airlocks that each take only 60 seconds to complete a cycle.
- Uses up to 4 gases – nitrogen, carbon dioxide, air and a 10% hydrogen/ 90% nitrogen mix for total flexibility.
- Removable front as standard on the right hand side of the unit to facilitate the transfer of bulk samples or larger pieces of equipment for use inside the workstation.
- 4 x oval sleeved ports can accommodate two people working side-by-side.
- Comes complete with bespoke trolley.
- Ethernet enabled for remote access to the touchscreen.
- A motorised height adjustable trolley is available for this workstation..
- Optional Oxygen Profiling software allows the workstation to be switched from microaerobic to anaerobic conditions without needing to swap incoming gases.

*Please see pages 25–28 for a full list of features and options.*

*Remote Access*

*Intuitive colour touch screen*

# Whitley **M85** Workstation

*Plates being loaded*

*Refrigeration System*

The Whitley M85 Workstation accommodates between 480 and 560 x 90mm plates. This variable atmosphere workstation is ideal for the study and isolation of microaerophiles. The M85 has a large 36 litre airlock with a powered internal door, which provides effective sample and equipment transfer in the fastest possible time whilst ensuring the internal chamber conditions are not compromised. Also available with HEPA filtration.

## FEATURES

- For total flexibility, up to four gases – nitrogen, carbon dioxide, air and a 10% hydrogen/90% nitrogen mix – can be combined within safe and varying ratios to provide a specific atmosphere for your experiments.
- Two oval ports enable you to work gloved or bare handed.
- Each porthole also acts as a mini–airlock so you can transfer up to 10 plates each time you insert or withdraw your arms, thereby reducing airlock cycles and gas usage.
- Colour, touch–screen control panel for ease of use and for visual display of parameters such as temperature, humidity, and airlock cycle status.
- Optional refrigeration unit available if you are working with organisms that need low temperature incubation or storage conditions.
- Automatic commissioning cycle to save you time and resources.
- Optional motorised height adjustable trolley is available.

***Please see pages 25–28 for a full list of features and options.***

# 19 Whitley **M95** Workstation

The Whitley M95 Microaerobic Workstation is ideal for the study and isolation of *Campylobacter spp, Helicobacter pylori* and other similarly fastidious organisms. This workstation has a huge capacity of between 960 and 1120 x 90mm Petri dishes, depending upon the way you choose to configure your working and incubation areas. With the latest in touch screen technology, other unique features and benefits are now possible. Also available with HEPA filtration.

## FEATURES

- For total flexibility, up to four gases – nitrogen, carbon dioxide, air and a 10% hydrogen/90% nitrogen mix – can be combined within safe and varying ratios to provide a specific atmosphere for your experiments.
- The large, integral 36 litre airlock with automatic internal door has no awkward manual locking mechanism and is 20% faster than previous models.
- Four oval glove ports enable two people to operate within the same controlled atmosphere simultaneously. This is ideal for tutoring or very busy laboratories.
- Each porthole also acts as a mini–airlock so you can transfer 10 plates per porthole each time you insert or withdraw your arms, thereby reducing airlock cycles and gas usage.
- A range of other options are available so you can tailor the system to your specific requirements.

*Please see pages 25–28 for a full list of features and options.*

*Insert 10 Plates through the glove port*

*Colour Touchscreen*

# Whitley **M135 HEPA** Workstation

*Removable Front*

*16 litre Airlock*

The M135 HEPA is a tall, wide, deep microaerobic chamber ideal for the study and isolation of fastidious microaerophiles where HEPA filtration is required. It has an internal volume of 900 litres and can accommodate a variety of items of equipment such as imaging devices, microscopes, plate readers, spiral platers, etc. A rapid 16 litre airlock ensures no risk of compromising conditions inside the chamber. Fitted with the unique Whitley Internal HEPA Filtration System, all the atmosphere passes through the filter hundreds of times an hour, which ensures the chamber environment is cleaned quickly.

## FEATURES

- Two patented oval ports enable you to work comfortably, gloved or bare handed.
- This 4–gas system has built in oxygen, CO2 and hydrogen sensors allowing users to programme precise gas concentrations, perfect for manipulating samples in a sustainable microaerobic environment.
- The generous internal height facilitates easy pipetting and allows all your work to be performed without removing your samples from the required conditions.
- DWS has worked with one of the world's leading filter manufacturers to develop a filter specifically tailored to suit this workstation.
- A Refrigeration System could be useful if you are working with organisms that need low temperature incubation. Alternatively, the Heat Removal System allows the workstation to maintain ambient temperatures at all times.
- Levels of atmospheric cleanliness inside the workstation exceeds the requirements of ISO 14644 Class 3 (equivalent to Class 1 of the US Fed Std 209E Cleanroom Standards and exceeds the particle counts attained at rest' (without an operator) of Grade A as set out in the GMP Guidelines). We can provide test results confirming particulate levels inside the workstation.

*Please see pages 25–28 for a full list of features and options.*

# 21 Whitley **M155 HEPA** Workstation

The Whitley M155 HEPA variable atmosphere workstation is ideal for the study and isolation of fastidious microaerophiles where HEPA filtration is required. This workstation has a capacity of 1800 litres; two airlocks; and two removable fronts. The huge capacity of this workstation means that it can accommodate a variety of laboratory equipment, eg cell sorters, colony pickers, high throughput bioreactors, microscopes and spiral platers, such as the Whitley WASP Touch. DWS also offers two optional cooling methods for this workstation.

## FEATURES

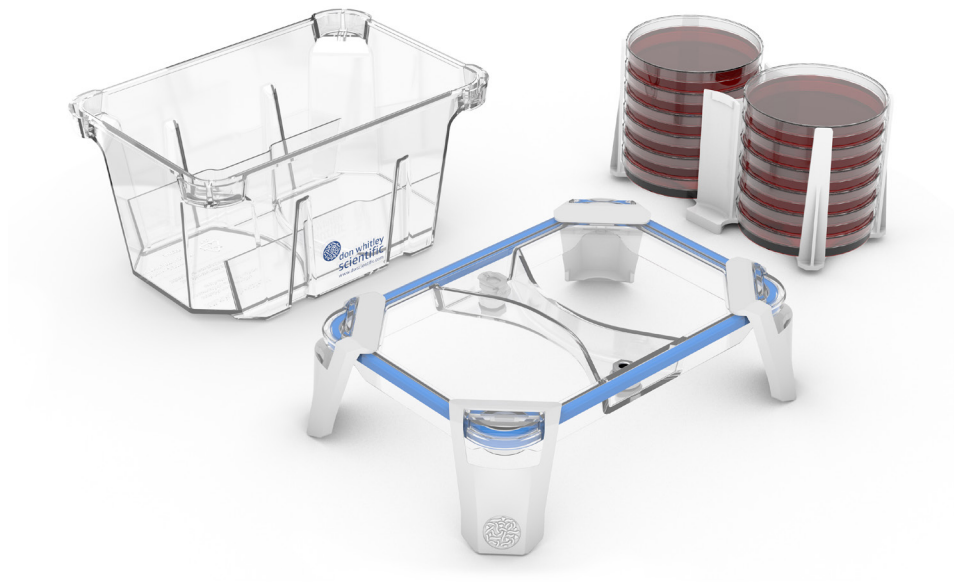
- For total flexibility, up to four gases – nitrogen, carbon dioxide, air and a 10% hydrogen/90% nitrogen mix – can be combined within safe and varying ratios to provide a specific atmosphere for your experiments.
- Four patented oval ports enable you to work comfortably, gloved or bare handed.
- The M155 HEPA is fitted with the unique Whitley Internal HEPA Filtration System.
- Levels of atmospheric cleanliness inside the workstation exceeds the requirements of ISO 14644 Class 3.
- Fitted with a fan that circulates the internal atmosphere continuously contributing to even temperature distribution and ensuring any internal particulate will be in motion.
- Colour, touch screen control panel for ease of use and for visual display of parameters such as temperature, humidity and airlock cycle status.

*Please see pages 25–28 for a full list of features and options.*

*Platform Assembly*

*Turntable Accessory*

# Whitley Incubation Box



This rectangular, transparent, and stackable anaerobic 'jar' is ideal for use with the Whitley Jar Gassing System but can be used as a stand-alone jar with gas generation sachets.

The Whitley Incubation Box can be used for the culture of anaerobes and microaerophiles. It has a capacity of 12–14 x 90mm Petri dishes and 5 x 96 well trays.

## FEATURES

- Accommodates both Petri dishes and multi-well plates.
- Completed jars can be stacked on top of each other for incubation.
- Rectangular shape saves space in the incubator.
- Both lids and bases can be nested for storage.
- Flexibility to create anaerobic and microaerobic conditions.
- Latches are permanently attached to the lid so there are no loose parts to misplace.
- Includes a safety valve to ensure an appropriate level of vacuum is achieved without damaging the box itself.
- Durable and lightweight.

# 23 Whitley AsPROvac

The Whitley AsPROvac is an all-in-one laboratory aspirator to ensure biological liquid waste can be aspirated and disposed of quickly and safely. Whether it is the delicate removal of supernatants or the rapid emptying of larger culture flasks, this flexible system has a range of 1 – 20 vacuum levels to alter the aspiration speed. A range of aspiration tools are provided to enable you to aspirate from a variety of vessels. AsPROvac features a novel, quick-release cap/lid assembly, a shatterproof 4 litre autoclavable waste bottle and digital display of the vacuum level. The AsPROvac laboratory vacuum system is ideal for use with a Whitley Workstation (that has a vacuum take-off port fitted).

## FEATURES

- Self-closure connectors avoid the escape of liquids and aerosols.
- Equipped with a novel, quick-click lid – with no multi-turn screw that the previous user has over-tightened!
- Supplied with a 4 litre, shatterproof waste bottle.
- The hand-held aspirator comprises a reusable single tip and an adaptor for single use tips along with a reusable 8-channel tip and an 8-channel adaptor for single use tips.
- All parts that come into contact with the liquid waste are autoclavable.
- The integral display shows the vacuum level selected – perfect for speeding up the emptying of large vessels or reducing the level for the delicate and careful removal of smaller quantities of biological liquid waste.
- Lightweight so can be moved around the laboratory with ease.

# Whitley **GMP** Workstations

GMP Workstations* are the latest workstations to be added to the anaerobic range, and are specifically designed to be used as a clean-air isolators in processes following Good Manufacturing Practice (GMP). These new anaerobic workstations provide Grade A air cleanliness (EU GMP), and combine sterile laminar airflow, positive operating pressure, and physical isolation, to provide highly effective product protection. Due to being a completely closed, re-circulating, isolator system, these workstations can be housed in a Grade D cleanroom during GMP compliant use. There is a generous amount of working space inside the workstation chamber to house equipment such as centrifuges and homogenisers.

## FEATURES

- These workstations maintain strict anaerobic conditions, operating from two gas supplies for the most effective and efficient running costs.
- HEPA filter face velocity/uniformity of GMP Anaerobic and Dispersed Oil Particulate (DOP) tests are carried out in accordance with ISO14644-3.
- The large workstation chamber is perfect for accommodating a variety of items of equipment, which can be installed and removed via the removable front (fitted as standard).
- A password protected full colour touch screen interface allows easy monitoring of all parameters simultaneously. Alarms and status notices are also displayed.
- These workstations are Ethernet-enabled for remote access review and control.
- Data logging system records all monitored parameters every 60 seconds
- A fully automated de-humidification system is included as standard. It does not require any operator intervention.
- Please see dedicated Whitley GMP Workstation brochure for full details.

* *Patent applied for*

| Features | Whitley A20 Workstation | Whitley A25 Workstation | Whitley A35 Workstation | Whitley A45 Workstation |
|---|---|---|---|---|
| *Chamber Capacity | 240 / 270 | 300 / 340 | 560 / 620 | 780 / 860 |
| Port / Airlock Capacity | 10 plates per port (20) | 20 plates via airlock | 40 plates via airlock | 40 plates via airlock |
| Porthole System | Manual Ports | Instant Access or Manual Ports | Instant Access or Manual Ports | Instant Access or Manual Ports |
| Gas Supplies | $ANO_2$ / $N_2$ | $ANO_2$ / $N_2$ | $ANO_2$ / $N_2$ | $ANO_2$ / $N_2$ |
| TG Version | – | – | – | – |
| Footswitch | Wireless | Wireless | Wireless | Wireless |
| Auto Sleeve Gassing | ○ | ○ | ○ | ○ |
| Internal Mains Socket | ○ | ○ | ○ | ○ |
| Storage Trays | ○ | ○ | ○ | ○ |
| Lighting | ● | ● | ● | ● |
| Inspection Lamp | ○ | ○ | ○ | ○ |
| Single Sample Entry | ○ | ○ | ○ | ○ |
| $ANO_2$ Conditions Monitor | ○ | ○ | ○ | ○ |
| Catalyst Monitoring System | ○ | ○ | ○ | ○ |
| Refrigeration | – | – | – | – |
| Data Logging | ○ | ○ | ○ | ○ |
| Airlock Cycle Time | 15 second sample transfer via ports | 20 seconds | 60 seconds † | 60 seconds † |
| Extra Cable Glands | ○ | ○ | ○ | ○ |
| HEPA Filtration | – | – | ○ | ○ |
| Microscope | – | – | – | – |
| Automatic Dehumidifier | ● | ● | ● | ● |
| Automatic Humidifier | – | – | ○ | ○ |
| Chilled Incubation Compartment | – | – | ○ | ○ |
| Removable Front | – | – | ○ | ○ |
| Workstation Trolley | ○ | ○ | ○ | ○ |
| Remote Access | ● | ● | ● | ● |
| Dimensions w/d/h (mm) | 720 / 720 / 731 | 790 / 720 / 710 | 1255 / 720 / 710 | 1660 / 720 / 710 |
| Weight (lbs/kg) | 165 / 75 | 163 / 74 | 220 / 100 | 286 / 130 |

| KEY: | ● Fitted as standard | ○ Option available | – Not applicable |
|---|---|---|---|

| Whitley A55 Workstation | Whitley A85 Workstation | Whitley A95 Workstation | Whitley A135 HEPA W/station | Whitley A155 HEPA W/station | Features |
|---|---|---|---|---|---|
| 1120 / 1240 | 480 / 560 | 960 / 1120 | 900 Litres | 1800 Litres | *Chamber Capacity |
| 40 plates via each airlock (2 airlocks) | 10 plates p/port + 90 plates via airlock | 10 plates p/port + 90 plates via airlock | 40 plates via airlock | 40 plates via each airlock (2 airlocks) | Port / Airlock Capacity |
| Instant Access or Manual Ports | Manual Ports | Manual Ports | Manual Ports | Manual Ports | Porthole System |
| $ANO_2$ / $N_2$ | $ANO_2$ / $N_2$ | $ANO_2$ / $N_2$ | $ANO_2$ / $N_2$ | $ANO_2$ / $N_2$ | Gas Supplies |
| – | ○ | ○ | – | – | TG Version |
| Wireless | Wireless | Wireless | Wireless | Wireless | Footswitch |
| ○ | ○ | ○ | ○ | ○ | Auto Sleeve Gassing |
| ○ | ○ | ○ | ○ | ○ | Internal Mains Socket |
| ○ | – | – | ○ | ○ | Storage Trays |
| ● | ● | ● | ● | ● | Lighting |
| – | ○ | ○ | ○ | ○ | Inspection Lamp |
| ○ (front loading version only) | ○ | ○ | ○ | ○ | Single Sample Entry |
| ○ | ○ | ○ | ○ | ○ | ANO2 Conditions Monitor |
| ○ | ○ | ○ | – | – | Catalyst Monitoring System |
| – | ○ | – | ○ | ○ | Refrigeration / Cooling |
| ○ | ○ | ○ | ○ | ○ | Data Logging |
| 60 seconds per airlock (2 airlocks) | 5 minutes | 5 minutes | 60 seconds | 60 seconds | Airlock Cycle Time |
| ○ | ○ | ○ | ○ | ○ | Extra Cable Glands |
| ○ | ○ | ○ | ● | ● | HEPA Filtration |
| – | ○ | ○ | – | – | Microscope |
| ● | ● | ● | ● | ● | Automatic Dehumidifier |
| – | – | – | ○ | ○ | Automatic Humidifier |
| – | – | – | – | – | Chilled Incubation Compartment |
| ● (Right-hand side only) | – | – | ● | ● | Removable Front |
| ● | ○ | ○ | ● | ● | Workstation Trolley |
| ● | ● | ● | ● | ● | Remote Access |
| | 1570 / 760 / 840 | 2415 / 760 / 1063 | 1473 / 1056 / 1063 | 2875 / 1056 / 993 | Dimensions w/d/h (mm) |
| 440 / 200 | 330 / 150 | 456 / 207 | 386 / 175 | 771 / 350 | Weight (lbs/kg) |

*Capacity based upon using 90mm Petri dishes in 10 Plate racks. Shown as sensible working / short term maximum incubation only.

*Capacity based upon using 90mm Petri dishes in 10 Plate racks. Shown as sensible working / short term maximum incubation only.

† Plus option to increase in 1 minute increments to 5 minutes

| Features | Whitley M35 Workstation | Whitley M45 Workstation | Whitley M55 Workstation |
|---|---|---|---|
| *Chamber Capacity | 560 / 620 | 780 / 860 | 1080 / 1200 |
| Port / Airlock Capacity | 40 plates via airlock | 40 plates via airlock | 40 plates via airlock |
| Porthole System | Instant Access or Manual Ports | Instant Access or Manual Ports | Instant Access or Manual Ports |
| Gas Supplies | $H_2 + N_2$ / $CO_2$ / $N_2$ / Air | $H_2 + N_2$ / $CO_2$ / $N_2$ / Air | $H_2 + N_2$ / $CO_2$ / $N_2$ / Air |
| TG Version | – | – | – |
| Footswitch | Wireless | Wireless | Wireless |
| Auto Sleeve Gassing | – | – | – |
| Internal Mains Socket | ○ | ○ | ○ |
| Storage Trays | ○ | ○ | ○ |
| Lighting | ● | ● | ● |
| Inspection Lamp | ○ | ○ | ○ |
| Single Sample Entry | ○ | ○ | ○ |
| $ANO_2$ Conditions Monitor | – | – | – |
| Catalyst Monitoring System | – | – | – |
| Refrigeration / Cooling | – | – | – |
| Data Logging | ○ | ○ | ○ |
| Airlock Cycle Time | 60 seconds † | 60 seconds † | 60 seconds † |
| Extra Cable Glands | ○ | ○ | ○ |
| HEPA Filtration | ○ | ○ | ○ |
| Microscope | – | – | – |
| Automatic Dehumidifier | ● | ● | ● |
| Automatic Humidifier | ○ | ○ | – |
| Chilled Incubation Compartment | ○ | ○ | – |
| Removable Front | ○ | ● | ● |
| Workstation Trolley | ○ | ○ | ● |
| Remote Access | ● | ● | ● |
| Dimensions w/d/h (mm) | 1255 / 720 / 710 | 1660 / 720 / 710 | 2510 / 720 / 710 |
| Weight (lbs/kg) | 220 / 100 | 286 / 130 | 440 / 200 |
| KEY: | ● Fitted as standard | ○ Option available | – Not applicable |

† Option to increase in 1 minute increments to 5 minutes  †† Option to reduce in 1 minute increments to 60 seconds

| Whitley M85 Workstation | Whitley M95 Workstation | Whitley M135 HEPA Workstation | Whitley M155 HEPA Workstation | Features |
|---|---|---|---|---|
| 480 / 560 | 960 / 1120 | 900 Litres | 1800 Litres | *Chamber Capacity |
| 10 plates per port + 90 plates via airlock (110) | 10 plates per port + 90 plates via airlock (130) | 40 plates via airlock | 40 plates via each airlock (2 airlocks) | Port / Airlock Capacity |
| Manual Ports | Manual Ports | Manual Ports | Manual Ports | Porthole System |
| $H_2$ + $N_2$ / $CO_2$ / $N_2$ / Air | $H_2$ + $N_2$ / $CO_2$ / $N_2$ / Air | $H_2$ + $N_2$ / $CO_2$ / $N_2$ / Air | $H_2$ + $N_2$ / $CO_2$ / $N_2$ / Air | Gas Supplies |
| – | – | – | – | TG Version |
| Wireless | Wireless | Wireless | Wireless | Footswitch |
| – | – | – | – | Auto Sleeve Gassing |
| ○ | ○ | ○ | ○ | Internal Mains Socket |
| – | – | ○ | ○ | Storage Trays |
| ● | ● | ● | ● | Lighting |
| ○ | ○ | ○ | ○ | Inspection Lamp |
| ○ | ○ | ○ | ○ | Single Sample Entry |
| – | – | – | – | ANO2 Conditions Monitor |
| – | – | – | – | Catalyst Monitoring System |
| ○ | – | ○ | ○ | Refrigeration / Cooling |
| ○ | ○ | ○ | ○ | Data Logging |
| 5 minutes †† | 5 minutes †† | 60 seconds | 60 seconds | Airlock Cycle Time |
| ○ | ○ | ○ | ○ | Extra Cable Glands |
| ○ | ○ | ● | ● | HEPA Filtration |
| ○ | ○ | – | – | Microscope |
| ● | ● | ● | ● | Automatic Dehumidifier |
| – | – | ○ | – | Automatic Humidifier |
| – | – | – | – | Chilled Incubation Compartment |
| – | – | ● | ● | Removable Front |
| ○ | ○ | ● | ● | Workstation Trolley |
| ● | ● | ● | ● | Remote Access |
| 1570 / 760 / 840 | 2415 / 760 / 840 | 1473 / 1056 / 1063 | 2875 / 1056 / 1063 | Dimensions w/d/h (mm) |
| 330 / 150 | 456 / 207 | 382 / 175 | 771 / 350 | Weight (lbs/kg) |

*Capacity based upon using 90mm Petri dishes in 10 Plate racks. Shown as sensible working / short term maximum incubation only.

†† Option to reduce in 1 minute increments to 60 seconds

These complementary services support the design, manufacture and supply of Whitley Workstations.

# MICROBIOLOGY LABORATORY

## *In-house laboratory services*

It's not every laboratory equipment manufacturer that has its own in-house GLP compliant laboratory with experience in food, water, environmental, pharmaceutical and clinical work. A major area of expertise is antimicrobial drug development, including human food safety of antibiotic residues. We are able to work with fastidious organisms such as *Brachyspira* and *Mycoplasma*. As well as having developed a great deal of experience in culturing anaerobic and microaerophilic bacteria, the team of DWS scientists have a key role in new product development. They are also on hand to help customers with the best practical, productive ways of using DWS products.

## SERVICE AND MAINTENANCE

*Comprehensive service plans*

We offer UK customers comprehensive maintenance and repair contracts on a variety of laboratory equipment from many different manufacturers.

We are the only company able to take advantage of training from our in-house colleagues who design and manufacture Whitley products – and, of course, have their day-to-day support.

We also ensure all our engineers have been trained by the manufacturers of any non-DWS equipment they service.

**Engineer coverage across the UK**

**All our overseas distributors are factory trained and fully supported**

**Fast response time**

**Stocks of parts carried to ensure a first time fix**

## UKAS CALIBRATION/ VALIDATION

*100% confidence*

To provide you with 100% confidence in your processes and ensure your equipment and procedures will stand up to scrutiny,

DWS offers UKAS calibration and validation services for heat sterilisation equipment, temperature controlled processes and temperature indicators. This flexible onsite and offsite service is undertaken by our team of experts who will take the time to explain the work they carry out.

If you are a service contract customer, we can schedule your UKAS calibration/validation work to take place at the same time as routine servicing to save you time and money.

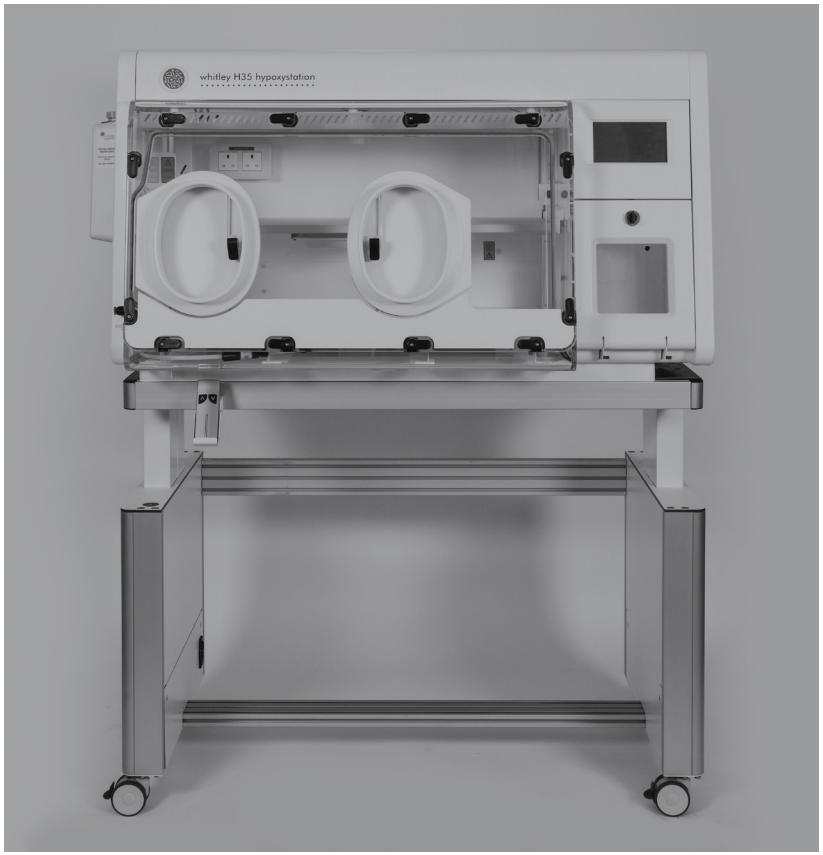
## TEMPERATURE MAPPING

*On-going compliance*

It is part of laboratory life that in today's increasingly regulated environment, there is the need to demonstrate on-going compliance with a range of quality and safety standards, eg for those working to ISO 15189:2012.

DWS is UKAS accredited to provide temperature mapping of Whitley Workstations and other anaerobic/modified atmosphere chambers. This is useful if you need to identify whether or not any temperature gradients are present and need to be avoided when carrying out particularly sensitive incubation tasks.

Our on-site service means the work can be carried out at your convenience with the prompt supply of certification.



ISO 9001 Quality Management Systems CERTIFIED

ISO 14001 Environmental Management CERTIFIED


## Don Whitley Scientific Limited

Victoria Works, Victoria Street, Bingley, BD16 2NH, UK
**t:** +44 (0)1274 595728 **e:** sales@dwscientific.co.uk

www.dwscientific.com


don whitley scientific

*Issue 10 / June 2022*