DairyTest
X
User Manual

Valid for Firmware V0.93 'Alderney'
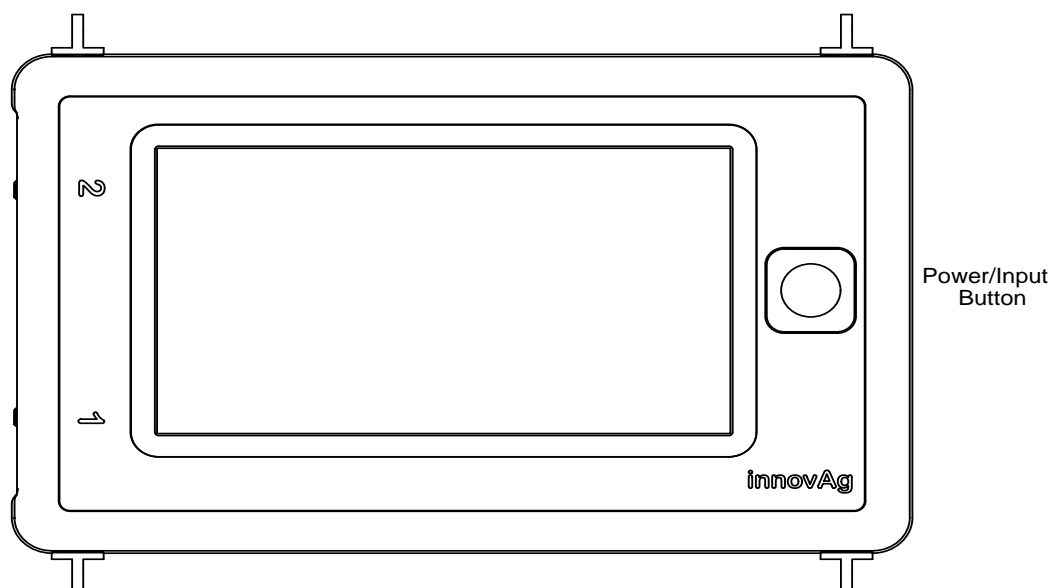
INCOMPLETE DRAFT!!

innovAg

Index

1. DTX

Thank you for purchasing our latest Pulsation Tester, DairyTest X. We have put our 30 years of experience into DTX's design to provide you with a fast and easy (fun even!) way to do your job. If you have any questions or comments, please feel free to contact us via our web site;
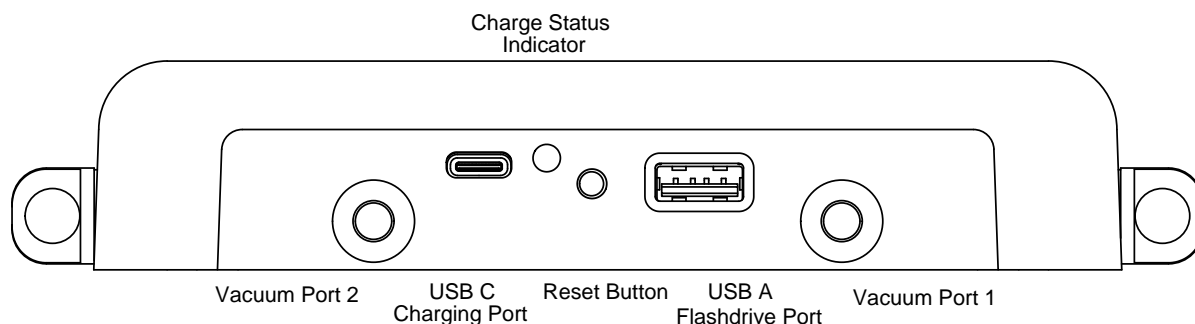

https://innovag.com/pages/contact-us

Front Screen

Power/Input Button

Port End

Charge Status Indicator

Vacuum Port 2   USB C Charging Port   Reset Button   USB A Flashdrive Port   Vacuum Port 1

2.   Charging

DairyTest X is charged via the USB C port. Use the included Wall or Car adaptor with the PD compliant cable.

When charging, the Charge Status Indicator will flash GREEN, and once charging is complete it will show GREEN.

The Indicator will show RED if there is an error. Disconnect and reconnect the charger to re-run the charge cycle. If the error persists, contact your distributor.

Note: If you lose any of the charging components you should replace them with similarly specified parts to get the best charging performance.

3.   Safety Precautions

DairyTest X is intended to be used in the milking stall – always allow for the unpredictable nature of animals.

During the measurements, sharp needles may be used – take care they don't hurt people or animals.

Always ask the dairy farmer about the behaviour of the animals and milking method used.

If using DairyTest X in wet tests, always keep the unit above the test point to prevent fluid entering.

Damage to the unit from fluid entering the sensor is not covered under the warranty.

4.   Maintenance and Calibration

DairyTest X is not waterproof; do not immerse or sit in water. Clean with a moist cloth. Do not use cleaning agents.

A self test is performed at powerup. If an error message is displayed, or you suspect the unit is damaged; contact innovAg or your local distributor for further information.

DairyTest X automatically performs a zero calibration when turned on. If the vacuum levels are fluctuating or are very different from the previous zeroing levels the DTX does not change the zeroing values – this can occur when there has been a large shift in atmospheric pressure. A manual 'Force-zero' can be implemented if required.

A complete calibration should be performed with an approved and certified calibration test instrument every 24 months. This can be organised by InnovAg or your local distributor.

5. User Interface

DTX's Screen is divided into a Title Bar and the Display Area.
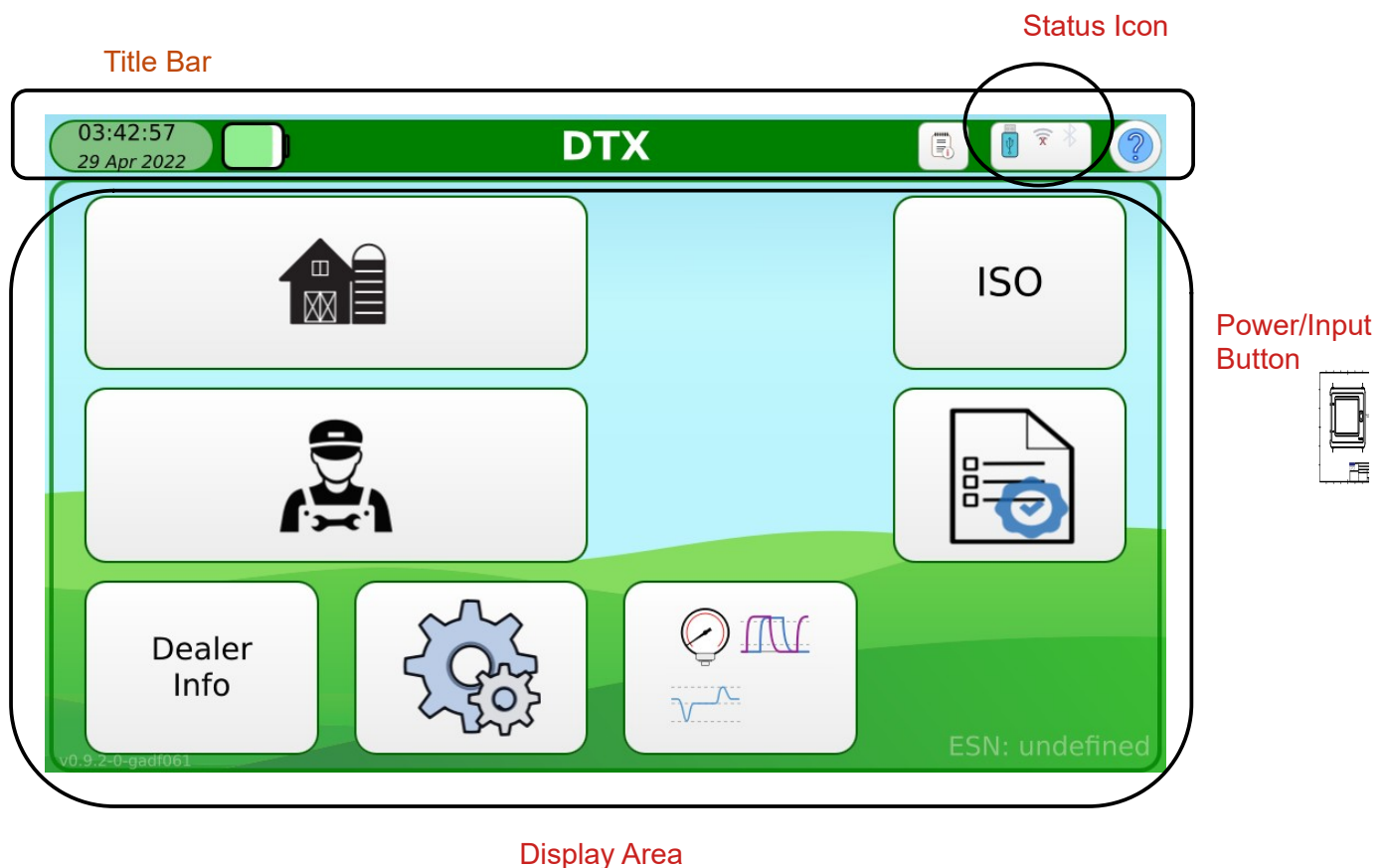
The Title bar tells you where you are as well as the status of various functions. Pressing on a Status Icon will take you to another screen showing more detail of that function.
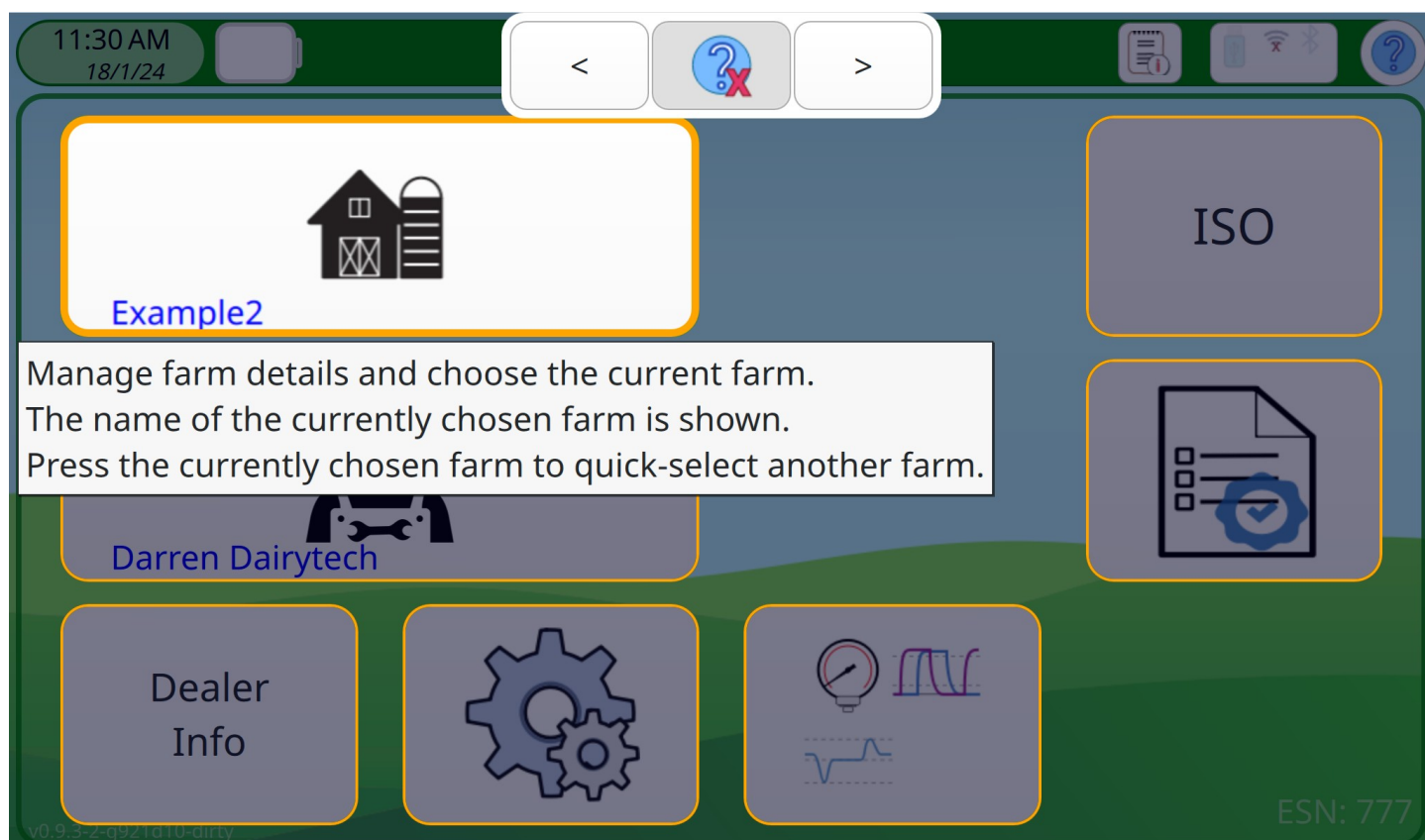
The Display Area contains icons to access DairyTest's functions and/or display data.

The Power/Input button is used to turn DTX on, go back a menu level, or cancel an entry.
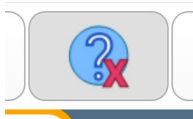
6. Help System

Pressing the help icon in the Title Bar provides a highlight showing the elements on the display. Just press the element you want to know more about.

Press or the Return Button to exit the Help System.

7. Settings

The Settings screen provides access to all the usual operating parameters. It can be accessed from the Main Menu or by pressing the Status Icon in the Title Bar.
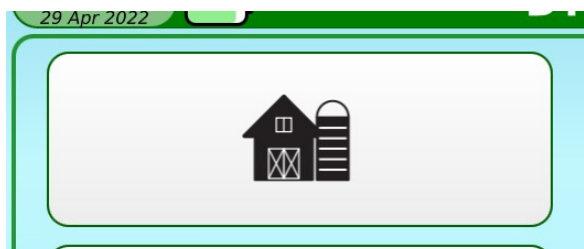

Manually check for updates on update screen

Set up a WiFi connection to your preferred network to get Software Update notifications and allow email access for Test Reports.

Bluetooth is used for connection to Wireless Sensors.

8.   Farms

Farm information is used to pre-configure the ISO test and is printed on the report. There is no practical limit on the number of farms you can store on DTX. Farms can also be exported and imported using a USB disk.

It is recommended that Farm be created on one unit and then exported to others.

Details with an astrisk are required to allow DTX to properly perform preconfiguration. If the Farm details are not sufficient to preconfigure an ISO test, DTX will jump to the edit screen for that farm.

9.   Technician
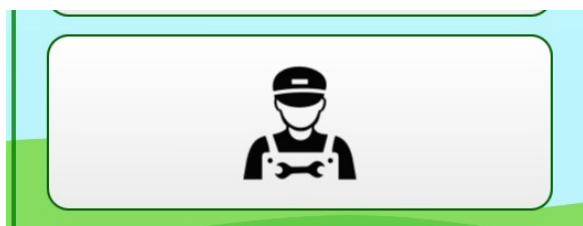
Technician information is used to connect test session to a particular person. The Technician name is mandatory to commence an ISO Test. The Technician name and accreditation (if entered) will be printed on the report.

10. Dealer
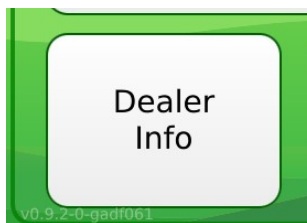
Dealer information is not required to perform an ISO test. All Dealer information is printed on the report.

11. Shortcuts and Quick tips

DairyTest X has some useful shortcuts to help save you time and ease your testing routine.

Push and hold:

Power Button

Chevron Technician and Farm saving

Pulsation Measurement Display:

Large single reading

Select graph for enlarged graph

Select Port# for enlarged view of all readings

Long Vacuum recording:

2-finger to change zoom, 1 finger drag to move across the timebase or the vacuum scale.
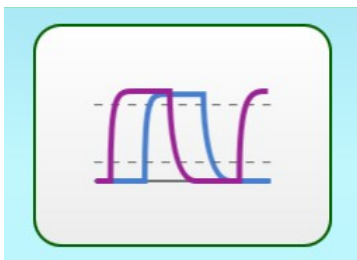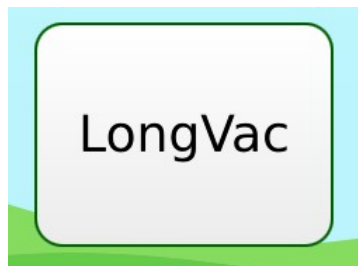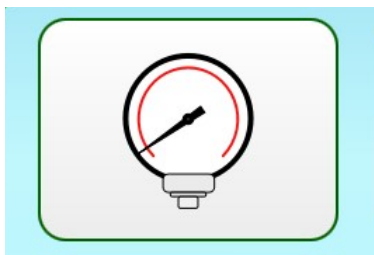
12. Quick Measurements

Use the 'Quick Measurements' mode when you just want to perform a couple of tests.

There are 4 measurements available in Quick mode;

Vacuum, Pulsation, Regulation and Long Vacuum.

13. Performing an ISO Test

You can perform an ISO or other predefined test. You can also re-arrange the test order.

DairyTest X ships with an ISO Test procedure. There may also be country-specific Test Procedures depending on where and from whom you purchased your unit.

Regulation Sensitivity $|Vsv - Vwv| < 2.0kPa$	**Regulation Deviation** $|Vnom - Vsv| < 2.0kPa$	Save Session
Regulation Loss $Amr - Aer < (35lpm \mathbin{||} \{Amr * 0.1\})$	**Effective Reserve** $Aer > Aer\_min$	
Vac Drop in Air Line $(Vdm - Vdr <= 1.0) \mathbin{\&\&} (Vdm - Vdp <= 3.0)$	**Regulation Tests** ☐	
Vacuum Regulator Leakage $Anr - Ar < (35 \mathbin{||} \{0.05 * Amr\})$	**Vacuum Gauge Error** ☐ $|Vg - Vact| < 1.0\ kPa$	
Pump Working Values	**Pump Capacity - Pump 1**	Re-or...
Pump 1 Back Pressure	**Leakage in Vacuum System**	

You can perform the test steps in any order, subject to any preconditions/test results that a given step may need. DTX will have a natural testflow to move through steps in the listed order, ie, when one step is completed it will move on to the next uncompleted step.

The step order can be rearranged to suit different preferences.
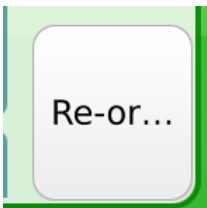
Just drag and drop the steps into your preferred order. The changes you make will be applied to the current test you are performing and committed when the Session is saved

The step reordering popup will make live changes in the current test, and will be committed when the test session is saved.

You can make the current order a 'Favourite' so that next time an ISO test is started it will use your Favourite step order. Otherwise the revised order will not be saved past the current test session.

14. <mark>Generating a Report</mark>
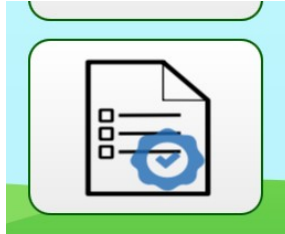
<mark>You can generate a report for any stored session from any farm.</mark>

15. Specifications

Pressure: 15 ~ 115kPa Absolute, ±0.5kPa (0.3kPa typical)

Pulsation sampling: 1kHz

Internal Li-Ion Battery: 3.6V 9600mAH; 35WH

USB C Charger input: BC1.2 Compliant

USB A Port: DairyTest X as Host.

Operating Temperature: 5 to 45 °C

Storage Temperature: 0 to 60 °C

Specifications are subject to change without notice.

16. Warranty

InnovAg Pty. Ltd. ("INN") provides the following limited one-year warranty ("Warranty") to the original purchaser ("Purchaser") of MV ("Product"). This warranty cannot be assigned or transferred to subsequent purchasers. The registration form must be completed and returned to INN in order to be able to claim under this Warranty.

WHAT WE WILL DO

If MV ("Product") fails under normal use and service because of a manufacturing defect in materials or workmanship within the warranty period, INN will, at its option either repair or replace the Product with an equivalent product. The repaired or replacement product will be warranted under the terms of this Warranty for the remainder of the applicable warranty period. Repair may include the replacement of parts or components with functionally equivalent reconditioned parts or components.

WARRANTY PERIOD

The term of this warranty is two (2) years from the date of purchase.

WHAT IS NOT COVERED

This Warranty does not cover any failures of equipment not supplied by INVN nor does it cover any failures of or damage to the Product due to:

(i)   improper handling, misuse, neglect, accident, improper installation , non-compliance with the directions for use;

(ii) any internal or external alteration or modification of any kind which in the opinion of INN will affect the ability to service the Product; or

(iii) repair by anyone other than an authorised InnovAg Service Centre.

RIGHTS UNDER THE TRADE PRACTICES ACT

Under applicable State, Territory and Commonwealth law, certain conditions and warranties may be implied in this contract and rights and remedies conferred upon you as user in relation to the Product which cannot be excluded, restricted or modified by agreement ("Non-excludable Rights"). Any rights conferred upon you by this Warranty are in addition to and do not detract from those Non-excludable Rights.

INN disclaims all express or implied conditions and warranties in relation to the Product other than the express terms of this Warranty and any Non-excludable Rights. With respect to Non-excludable Rights, INN's responsibility to the Purchaser, where permitted, is limited to the undertakings as stated in the clause headed 'WHAT WE WILL DO'.

Subject to the above, in no event shall INN be liable (whether before or after discharge of the contract for supply of the Product or otherwise) for any loss or damage suffered by you as the user arising from or caused or contributed to by the negligence of INN, its servants or agents, nor shall INN be liable for special, incidental, indirect or consequential loss or damages suffered by you as user as a result of breach by INN of this Warranty or otherwise including but not limited to economic or moral loss, loss of profits or revenue or costs arising from the loss of use of the Product or the cost of substitute products.

17. Repairs

For defects, please contact your local distributor or the manufacturer:

InnovAg Pty. Ltd.
Unit 37, 328 Reserve Rd., Cheltenham, VIC 3192, Australia

☏   +613 9583 2832

✉   info@innovag.com

FCC Compliance Statement

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. This device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity

Standards to which Conformity is declared:

- EN 61000-3-2: 2018 Ed 5.0
- EN 61000-3-3: 2013, A1:2017 Ed 3.0
- EN 61000-4-2: 2009 (IEC 61000-4-2: 2008 Ed 2)
- EN 61000-4-3: 2006, A1:2008, A2:2010 (IEC 61000-4-3: 2006 Ed 3)
- EN 61000-4-4: 2012 (IEC 6100-4-4: 2012 Ed 3)
- EN 61000-4-5: 2014, A1:2017
- EN 61000-4-6: 2014
- EN 61000-4-8: 2010 (IEC 61000-4-8: 2009)
- EN 61000-4-11: 2004 (IEC 61000-4-11: 2004 Ed 2)
- EN 55032: 2015, A1:2020
- EN 55035: 2017, A11:2020
- ETSI EN 300 328 V2.2.2 (2019-07)
- UN38.3
- EN 61000-6-1: 2016
- EN 61000-6-2: 2016
- EN 61000-6-4: 2018
- IEC 61326-1:2020 Ed 3.0
- RoHS EU Directive 2011/65/EU
- EU Directive 2014/108/EC
- China RoHS (See following page)

Manufacturer's Name: InnovAg Pty. Ltd.

Manufacturer's Address: Unit 37,
328 Reserve Rd.
Cheltenham
Victoria 3192
Australia

Type of Equipment: Vacuum Measuring Instrument

Brand Name: DairyTest X

Model Number: DR40-0188

	SVHC (EU RoHS)		Toxic or Hazardous Substances and Elements					
Part Name	Substance	CAS Number	Lead	Mercury	Cadmium	Hexavalent Chromium	Polybrominated Biphenyls	Polybrominated Diphenyl Ethers
			(Pb)	(Hg)	(Cd)	(Cr VI)	(PBB)	(PBDE)
Enclosure	No SVHC	NA	O	O	O	O	O	O
Printed Circuit Assemblies	No SVHC	NA	O	O	O	O	O	O
Silicone Tubing	No SVHC	NA	O	O	O	O	O	O
Metal Fittings	No SVHC	NA	O	O	O	O	O	O
Plastic Fittings	No SVHC	NA	O	O	O	O	O	O
Labelling	No SVHC	NA	O	O	O	O	O	O
Internal Storage Media	No SVHC	NA	O	O	O	O	O	O
Battery	No SVHC	NA	O	O	O	O	O	O
Power Adaptor	No SVHC	NA	O	O	O	O	O	O

EU RoHS/REACH:

Disclosure is calculated based on the total % w/w of all part types listed in each table.

China RoHS:

In accordance with China"s Administrative Measures on the Control of Pollution Caused by Electronic Information Products "China RoHS", the above table is provided regarding the names and concentration levels of Toxic and/or Hazardous Substances which may be contained in DairyTest X. The China RoHS requirements can be found in the Chinese MII MCV standard: "Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products."

Printed Circuit Assembly includes all Printed Circuit Boards (PCBs) and their respective population of active and discrete components and connectors.

"O" indicates the hazardous and toxic substance content of the part is lower than the threshold defined by the MCV Standard.

"X" indicates the hazardous and toxic substance content of the part is over the threshold defined by the MCV Standard.

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directives and Standards.

Date: 28 December 2023

Braham Basser
Director
InnovAg Pty. Ltd