

# AirPro

**Air Permeability Tester**  
Sales Tool Kit



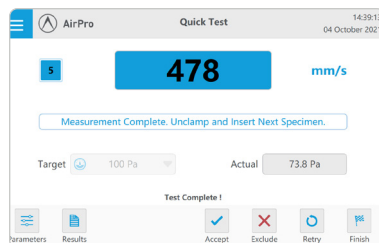


# AirPro

## Air Permeability Tester

AirPro is a consistent and accurate Air Permeability Tester, used to test the resistance of the flow of air through woven, knitted and nonwoven textile materials. It is supplied with TestWise software, making it intuitive and easy to use.

MODEL NO: 2135 | STOCK CODE: 905-350



## KEY BENEFITS

### Our best testwise software yet

A 7 inch touchscreen houses our popular TestWise software. It has pre-loaded standards, a 'Quick Test' function, full flexibility to create new standards, comprehensive reporting and export options. It is easy to use and requires minimal training.

### Range of test heads to meet standards

Different standards and applications require different sized test heads, and we supply a range to cater to all of our customers needs.

### Quick change test heads

Changing between the different test heads is quick and easy, and can be done without disconnecting the air pressure sensors, which is the case for some competitor instruments.

### Integrated storage

A drawer on the side of AirPro stores accessories to keep your laboratory tidy.

### Large illuminated test bed

AirPro's illuminated test bed can accommodate large samples, and is suitable for testing a variety of different materials and finished garments.

# AirPro MARKET SECTORS/PRODUCT TYPES



Sportswear



Outdoorwear



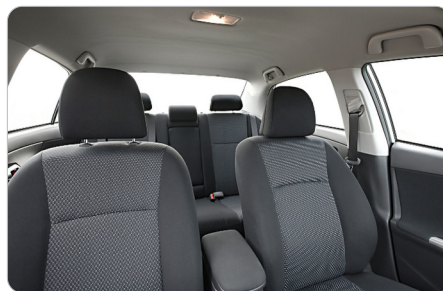
Personal protective equipment



Medical



Geotextiles



Automotive



Military



Community face coverings



Infant bedding



Tenting

# AirPro STANDARDS



ASTM D737  
ASTM D1117



BS 3424-16, BS 6F 100-3.13  
BS EN ISO 9073-15, BS 5636



ISO 9237  
ISO 9073-15



GB/T 5453



JIS L 1096 – test 8.26  
Method C



NWSP 70.1



DIN 53887



SANS 5265



IS 15891-15

## ABOUT THE TEST

Air permeability is defined as 'the velocity of air flow passing horizontally through a test specimen, under specified conditions of test area, pressure drop and time'.

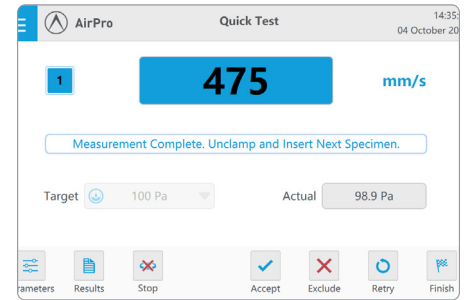
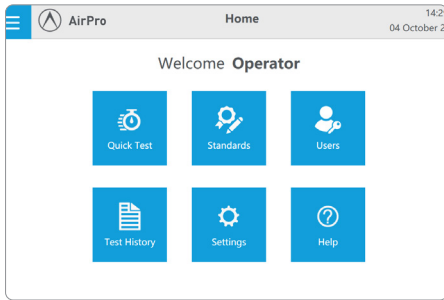
The instrument pulls air through a specimen and adjusts the flow of air gradually until a pressure drop is achieved. The measurements can be taken multiple times dependent on the standard, and a mean air permeability is expressed in the preferred units of the selected standard.



# AirPro AT A GLANCE



# AirPro FEATURES AND BENEFITS



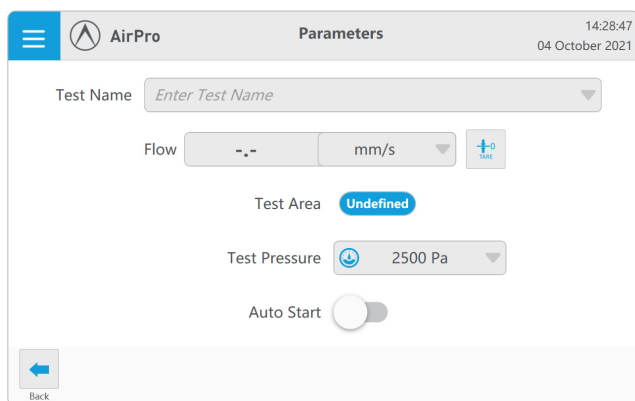
## EASY TO USE TESTWISE SOFTWARE

We have developed our popular TestWise software for HydroView, housed in a 7" touchscreen that is clear and easy to read.

## STANDARDS

The software comes with pre-loaded standards which inputs the test parameters for the user, and a 'Quick Test' function to start testing quickly.

Users can also modify existing standards or create their own, giving full flexibility.



## SETTINGS

Multiple users can create their own profile for testing.

Volume, brightness, language and notifications can all be managed from the settings screen.

## USER WARNINGS

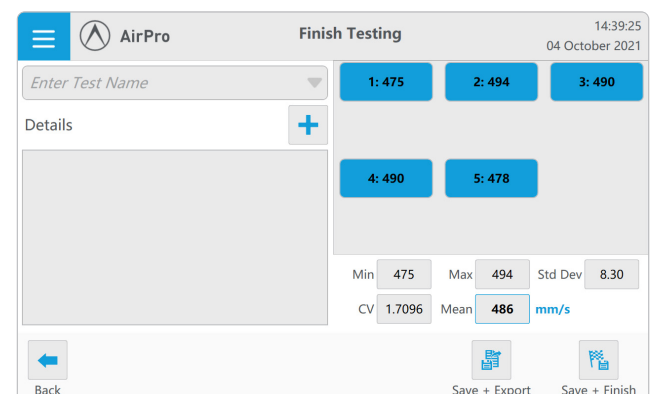
TestWise detects if the incorrect test head is being used and warns the user. This cuts down on user error and makes testing easier.

## REPORTING

Test reports are easy to view and analyse on screen at the instrument. Users can look through their test history and re-visit stored tests.

The user can create custom reports, with fields of their choosing.

Reports can also be exported to Excel or PDF, and moved onto a computer quickly by inserting a USB flash drive into the instrument.



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# AirPro FEATURES AND BENEFITS

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## RANGE OF TEST HEADS TO MEET STANDARDS

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Different standards and applications require different sized test heads, and we supply a range to cater to all of our customer's needs.

The sizes available to order with the instrument are:

- **5cm<sup>2</sup>**
- **6.45cm<sup>2</sup>**
- **10cm<sup>2</sup>**
- **20cm<sup>2</sup>**
- **25cm<sup>2</sup>**
- **38cm<sup>2</sup>**
- **50cm<sup>2</sup>**
- **100cm<sup>2</sup>**



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## QUICK CHANGE TEST HEADS

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A quick release mechanism makes changing between the different test heads quick and easy to do.

It can be done without disconnecting the air pressure sensors, which is the case for some competitor instruments.

This will speed up testing in the laboratory, with less down time in between tests.



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## INTEGRATED STORAGE

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AirPro can be supplied with a range of test heads.

The integrated drawer on the AirPro provides a storage area for test heads, which helps to keep laboratory areas tidy.



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## WHEEL BASE

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The AirPro has a wheel base for easy movement. It will allow factories to take the instrument to the production area and conduct rapid testing and analysis.



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# AirPro FEATURES AND BENEFITS

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## LARGE ILLUMINATED TEST BED

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AirPro's illuminated test bed can accommodate large samples, and is suitable for testing a variety of different materials and finished garments.

Moving between samples and taking them on and off the bed is easy to do.



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## NO COMPRESSED AIR REQUIRED

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AirPro does not require a supply of compressed air to clean or maintain the instrument. This gives laboratories more flexibility in where they place their instrument, and makes it easier to install.



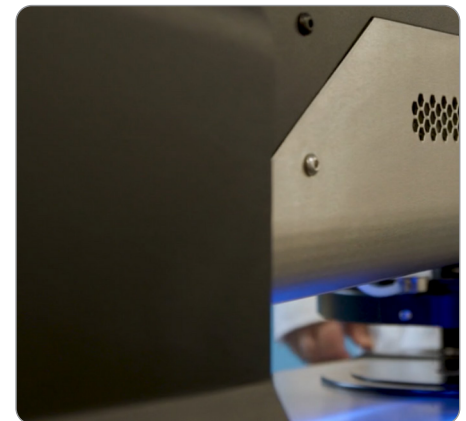
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## QUALITY AND AVAILABILITY OF PARTS

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We've focussed on the quality of the parts used to make AirPro, for example we have used medical grade valves, like those used in ventilators, to keep the airflow consistent. This will prolong the lifespan and maintain the performance of the instrument.

When replacement parts are required, we have ensured this process is easy and reasonably priced.



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## ERGONOMIC

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We always consider the ergonomics of an instrument, to ensure any back or neck pain is minimised for the user. The placement of the touchscreen has been designed with this in mind.





# AirPro HOW TO PERFORM A TEST

1

Select your standard from the pre-loaded standards library, or create your own.



2

Insert the test head and test plate size that complies with the specific standard chosen. The software will indicate to the user which test head – or test heads - are permissible for that standard.



3

Insert the sample into the test area in between the test head and the test plate. Samples don't usually need to be cut to a specific size for this test.



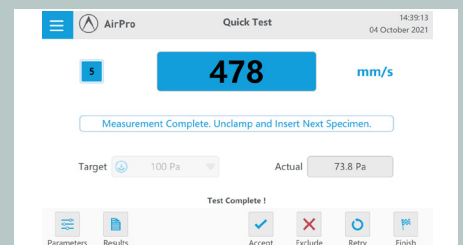
4

Clamp the sample by moving the test arm down, and the test will begin automatically.



5

The touchscreen will then indicate when the specimen reading has been found, and AirPro will give an audible alert to let the user know the test is finished. Moving onto the next specimen is quick and easy.



6

You can read the results on screen, or export them to PDF or Excel. You can create custom reports with fields of your choosing.



# AirPro SPECIFICATION MEASURING RANGE

	mm/s			m/s			l/m <sup>2</sup> /s			ft <sup>3</sup> /ft <sup>2</sup> /m (cfm)			cm <sup>3</sup> /s/cm <sup>2</sup>			l/s/cm <sup>2</sup>			l/cm <sup>2</sup> /min			m <sup>3</sup> /m <sup>2</sup> /min			m <sup>3</sup> /m <sup>2</sup> /h					
<b>Flow l/min</b>	0.2	...	1500	0.2	...	1500	0.2	...	1500	0.2	...	1500	0.2	...	1500	0.2	...	1500	0.2	...	1500	0.2	...	1500	0.2	...	1500	0.2	...	1500
<b>Area (cm<sup>2</sup>)</b>																														
<b>5</b>	6.7	...	50010	0.007	...	50	6.7	...	50010	1.3	...	9840	0.7	...	5001	0.0007	...	5.0	0.04	...	300	0.40	...	3000	24	...	180000			
<b>6.45</b>	5.2	...	38767	0.005	...	39	5.2	...	38767	1.0	...	7628	0.5	...	3877	0.0005	...	3.9	0.03	...	233	0.31	...	2326	19	...	139535			
<b>10</b>	3.3	...	25005	0.003	...	25	3.3	...	25005	0.7	...	4920	0.3	...	2501	0.0003	...	2.5	0.02	...	150	0.20	...	1500	12	...	90000			
<b>20</b>	1.7	...	12503	0.002	...	13	1.7	...	12503	0.3	...	2460	0.2	...	1250	0.0002	...	1.3	0.01	...	75	0.10	...	750	6	...	45000			
<b>25</b>	1.3	...	10002	0.001	...	10	1.3	...	10002	0.3	...	1968	0.1	...	1000	0.0001	...	1.0	0.01	...	60	0.08	...	600	5	...	36000			
<b>38</b>	0.9	...	6580	0.001	...	7	0.9	...	6580	0.2	...	1295	0.1	...	658	0.0001	...	0.7	0.01	...	39	0.05	...	395	3	...	23684			
<b>50</b>	0.7	...	5001	0.001	...	5	0.7	...	5001	0.1	...	984	0.1	...	500	0.0001	...	0.5	0.00	...	30	0.04	...	300	2	...	18000			
<b>100</b>	0.3	...	2501	0.000	...	3	0.3	...	2501	0.1	...	492	0.0	...	250	0.0000	...	0.3	0.00	...	15	0.02	...	150	1	...	9000			

\*Practical measuring range 0.2 l/min to 1500 l/min

**Units of measure:** mm/s, m/s, l/m<sup>2</sup>/s, ft<sup>3</sup>/min/ft<sup>2</sup>, cfm, cm<sup>3</sup>/s/cm<sup>2</sup>, l/s/cm<sup>2</sup>, l/cm<sup>2</sup>/min, l/dm<sup>2</sup>/min, l/min, m<sup>3</sup>/min, dm<sup>3</sup>/s, m<sup>3</sup>/s/m<sup>2</sup>, m<sup>3</sup>/min/m<sup>2</sup>, m<sup>3</sup>/h/m<sup>2</sup>, ft<sup>3</sup>/s/ft<sup>2</sup>

**Measuring error: Flow Rate** ± 2.0% of indicated value. **Pressure Drop** ± 0.1%

**Test pressure range:** 20 to 2500 Pa

**Test pressure units:** Pa, mbar, cmH<sub>2</sub>O, inH<sub>2</sub>O

**Test areas:** 5cm<sup>2</sup>, 6.45cm<sup>2</sup>, 10cm<sup>2</sup>, 20cm<sup>2</sup>, 25cm<sup>2</sup>, 38cm<sup>2</sup>, 50cm<sup>2</sup>, 100cm<sup>2</sup>

## AirPro SPECIFICATION - TEST AREAS AND STANDARDS

Material Type		Textile				Coated Fabric	Nonwoven	
Test Area (cm <sup>2</sup> )	Stock Code	ASTM D737	EN ISO 9237	JIS L1096 Method C	GB/T 5453	BS 3425-16 Method 18	NWSP 70.1	EN ISO 9073-15
5	735-001	○	○	○	○	○	○	
6.45	735-002	○						
10	735-003							
20	735-004		●	●	●	○	○	○
25	735-005						○	
38.3	735-006	●					○	○
50	735-007		○	○	○	○	○	○
100	735-008	○	○	○	○	○	○	

○ Option in standard

● Preferred option

## AirPro SPECIFICATION - TEST AREAS CONVERSION

Test Area (cm <sup>2</sup> )	Test Area (inch <sup>2</sup> )	Test Diameter (mm)	Test Diameter (inch)
5	0.78	26.6	1.05
6.45	1.00	30.2	1.19
10	1.55	37.0	1.46
20	3.10	51.7	2.04
25	3.88	57.7	2.27
38.3	5.94	71.1	2.80
50	7.76	81.1	3.19
100	15.50	114.2	4.50

In all cases above, the Test Areas have a circular profile

# AirPro INSTRUMENT AND ACCESSORIES

Stock Code	Description		
905-350	<b>2135 Air Permeability Tester</b> Supplied with Mains Lead Set Straight		
<i>Order Clamps (Test Heads) Separately - order at least one:</i>			
735-001	5 cm <sup>2</sup> Specimen Clamp	735-005	25 cm <sup>2</sup> Specimen Clamp
735-002	6.45 cm <sup>2</sup> Specimen Clamp	735-006	38 cm <sup>2</sup> Specimen Clamp
735-003	10 cm <sup>2</sup> Specimen Clamp	735-007	50 cm <sup>2</sup> Specimen Clamp
735-004	20 cm <sup>2</sup> Specimen Clamp	735-008	100 cm <sup>2</sup> Specimen Clamp
2135-SPARES	<b>AirPro 2-year Spares Kit</b> Comprising: 2 x O'ring id 133.07 x 1.78 mm 1 O'ring id 90 x 1.5 mm 1 x AirPro Filter 2 x Fuse 10A AntiSurge		

## YOU MAY ALSO BE INTERESTED IN...

### AquAbrasion

The AquAbrasion instrument is an accurate and repeatable way of conducting wet abrasion testing. This is a crucial step when looking to establish the durability of outdoor wear.

### TruRain

TruRain is an artificial rain shower testing instrument for determining the water repellence of textiles. This is an important function of technical fabrics, which are intended to be used in wet conditions.

### ProDry

ProDry is a dry rate tester which provides unparalleled insight into evaporation, and how garments such as active-wear will dry if damp through rain or sweat.

### WickView

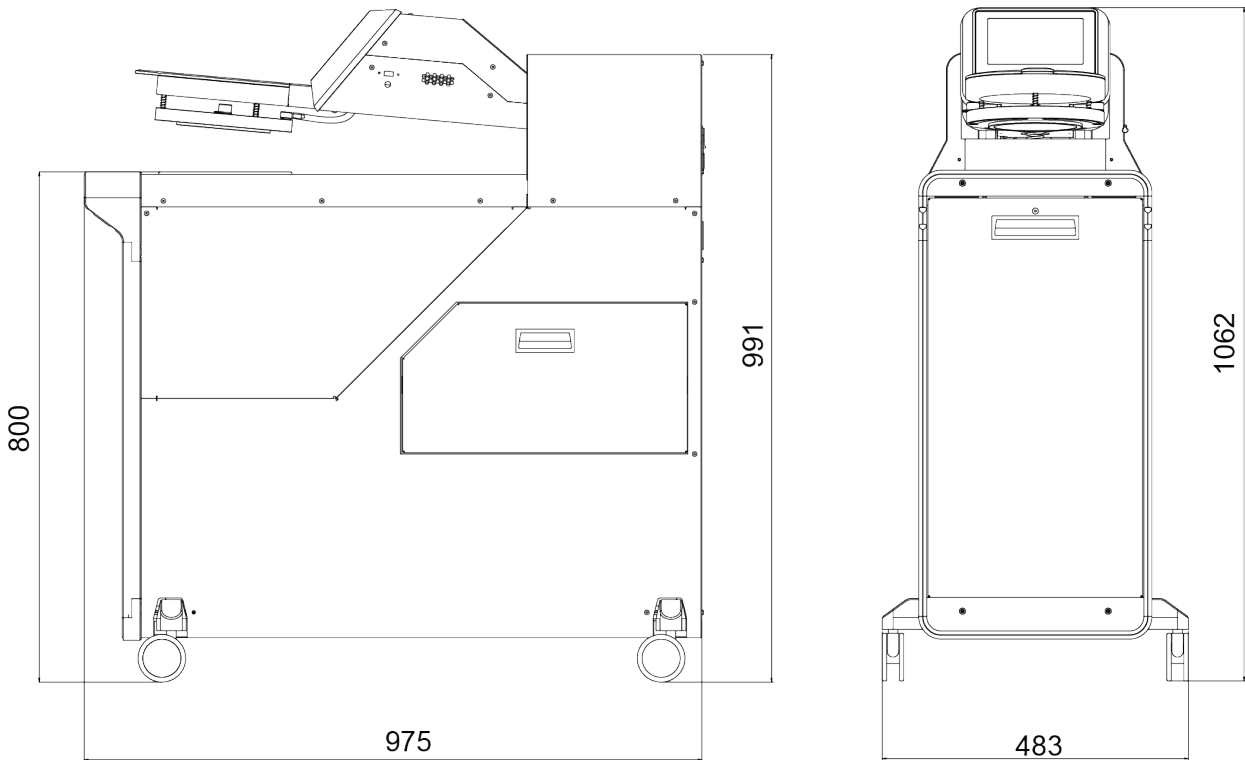
This state-of-the-art instrument assesses the wicking ability of different fabrics. It uses an advanced imaging system to track and record the transfer of moisture through a garment.



Explore these instruments online  
[jamesheal.com/performance](http://jamesheal.com/performance)

# AirPro DIMENSIONS AND WEIGHT

Instrument Dimensions	Height (mm)	Width (mm)	Depth (mm)	Weight (kg)
AirPro	1062	483	975	100



Item:	Comment:
Electricity	Voltage: 120-240V Frequency: 50/60Hz Current: 10A @120V; 5A @240V
Air	Not required
Bench or Floor Standing	Floor Standing
Water Supply	Not required
Drainage	Not required
Air Extraction	Not required
Conditioning	It is recommended the instrument is located and used within a conditioned atmosphere
User Interface	7" Touch Display
Data Ports	USB for USB flash drive used to export test data and update software
Projection of Clamping Arm	47cm
Sample Thickness	0 to 10mm