

## ABOUT HYLEC CONTROLS

Test and measurement instruments and devices are integral to the effective monitoring, maintenance and operation of industrial systems and processes. Advances in smart sensor technologies are transforming devices and what they can bring to operation management, enhancing the collection and analysis of data for effective decision making.

Hylec Controls is an Australian owned and managed company based in Auburn, Sydney. Founded in 1979, Hylec Controls is dedicated to providing a wide range of controlled test systems across a broad variety of industries. We employ a number of engineers and technicians who carry out commissioning, installation, and repair work as well as regular maintenance to supplied equipment.

We focus on providing our clients with more than just a testing device, but also a solution. Our solution managers seek to provide you the most information possible to build you a final quote. Please contact our team of engineers to discuss the solution and your project.

## PACKAGING TESTING EQUIPMENT

Leader of packaging testing solutions

[www.hyleccontrols.com.au](http://www.hyleccontrols.com.au)

### Barrier Performance

Barrier performance refers to the barrier effect of packaging materials against permeation such as water, steam, and liquids. Barrier testing includes opposite bodies (oxygen, nitrogen, carbon oxide, air, organic water, etc.) and steaming performance. The barrier performance of two types of materials is an important indicator that affects the quality of the product during the shelf life, and it is also an important basis for analyzing the shelf life. This test solves the problems of the deterioration of the product sensitive to water, oxygen, and mildew, etc.

### Physical and Mechanical Performance Testing

The physical and mechanical properties are the basic performance indicators that measure the protection of the packaging during production, transportation, shelf life, and use. General properties include: tensile strength, heat seal strength, peeling, puncture resistance, and pressure resistance, impact resistance, tear resistance, suspension pull-off performance and other indicators to ensure.

### Total Migration and Non-Volatile Matter Detection

Packaging materials such as secondary utensils, metals, chemicals, etc., the total migration or non-volatile matter does not meet the standards, and the product will precipitate a large amount of toxic components when it encounters wine, vinegar, oil and other contents during use. After being absorbed by the body, it will be harmful to health and precipitate into it will also affect the stable performance, color, odor, taste and other qualities of substances, drugs, and chemical substances.

### Packaging Sealing Performance Testing

The sealing performance of the package is the reliability of the sealing of the packaging bag, bottle, box, tube, filling, etc. The test can ensure the integrity of the seal of the entire package product, and prevent the package from leaking due to poor product sealing performance, and the package is affected pollution deteriorates.

### Surface Performance Testing

Friction resistance and friction coefficient are important indicators for evaluating the slip performance of various metals and non-metal materials inside and outside of packaging materials. The measurement of friction resistance and friction performance can ensure its production and use occasions, art production, actual safety and comfort during application, smoothness during long-term use.

### Cap Torque Detection

In-bottle packaging is one of the commonly used packaging. The cap is locked and the opening torque is an important process parameter controlled by the production unit or online. Whether the torque is appropriate is the guarantee of the quality of the product transportation process and the safety of consumers. The protection of the country plays an important role.

### Retort Resistance Test

Cooking packaging is widely used in the food field, but whether the performance of packaging materials still meet the requirements after the cooking sequence, the cooking performance must be tested, and the changes in packaging performance and expansion changes before and after cooking are evaluated through the high-temperature counter-pressure cooking pot.

### Solvent Residue Detection

A large amount of organic solvents, such as toluene, xylene, ethyl acetate, ethanol, etc., are used in the composite coating process in the packaging production, process. Many or less of these chemical solvents remain in the packaging materials, leaving too much packaged food or drugs will endanger human health.

## Water Vapor Permeability Analyzer

Widely used in quality inspection organizations, drug control institutions, research institutes, packaging, thin film, food companies, pharmaceutical enterprises, personal care industry, electronics industry and so on.

### Infrared Sensor Method Water Vapor Permeability Analyzer

Technical Specification/Model	W401 2.0	AUTO W46/1	W405 2.0	W413 2.0
Test range	0.002~200g/(m <sup>2</sup> ·24h)	0.001~20g/(m <sup>2</sup> ·24h)	0.002~500g/(m <sup>2</sup> ·24h)film and sheet	0.002~1000g/(m <sup>2</sup> ·24h)film and sheet
Test resolution	0.001g/(m <sup>2</sup> ·24h)film and sheet			
Temperature range	15~45°C (15~60°C Optional)			
Temperature accuracy	±0.1°C			
Humidity range	(5~90)%RH, 100%RH			
Transmission dimensions				
Humidity accuracy	±1%RH	±2%RH	±2%RH	±2%RH
Sample number	1 piece	6 pieces	3 pieces	3 pieces
Carrier gas pressure	≥0.1MPa	≥0.1MPa	≥0.1MPa	≥0.1MPa
Carrier gas flow	5~100 mL/min	5~100 mL/min	5~100 mL/min	5~100 mL/min
Gas connection	1/8 inch metal pipe	1/8 inch metal pipe	1/8 inch metal pipe	1/8 inch metal pipe



### Electrolytic Sensor Method Water Vapor Permeability Analyzer

Technical Specification/Model	W203 2.0
Test range	0.001~50g/(m <sup>2</sup> ·24h)
Test precision	0.001g/(m <sup>2</sup> ·24h)
Temperature range	15~45°C
Temperature accuracy	±0.1°C
Humidity range	30~90%RH, 100%RH
Humidity accuracy	±2%RH
Transmission dimensions	50.24 cm <sup>2</sup>
Sample number	3 pieces



### Cup Method Water Vapor Permeability Analyzer

Technical Specification/Model	W301 2.0	W303 2.0	W303 2.0
Test range	0.1~10000 g/(m <sup>2</sup> ·24h)		
Test precision	0.0001 g/(m <sup>2</sup> ·24h)		
Temperature range	15~55°C		
Temperature accuracy	±0.1°C		
Humidity control range	≥90%RH		
Humidity accuracy	±1%RH		
Transmission dimensions	50.24 cm		
Sample number	1 piece	3 pieces	
Sample thickness	≤3mm	≤3mm	
Sample dimensions	Φ90 mm	Φ90 mm	
Blowing speed	0.5~2.5m/s	0.5~2.5m/s	



## Infrared Sensor Method Water Vapor Permeability Analyzer

Technical Specification/Model	AUTO W806	AUTO W809	AUTO W812
Test range	0.05~10,000 g/(m <sup>2</sup> ·24h)	0.001~20g/(m <sup>2</sup> ·24h)	
Test precision		0.001g/(m <sup>2</sup> ·24h)film and sheet	
Temperature range		10~50±0.1 °C	
Temperature accuracy		±0.3°C	
Humidity range		5~95%RH,100%RH	
Air speed		0.5~2.5 m/s (0.03~0.5 m/s optional)	
Transmission dimensions		50.24cm <sup>2</sup> (Installation of adapter 0.785cm <sup>2</sup> )	
Test station	6	9	12
Carrier gas pressure	≥0.6MPa	≥0.6MPa	≥0.6MPa
Standard test area	33 cm <sup>2</sup>	33 cm <sup>2</sup>	33 cm <sup>2</sup>
Connection size	Φ6 mm Polyurethane tube	Φ6 mm Polyurethane tube	Φ6 mm Polyurethane tube



## Gas Permeability Analyzer

Widely used in quality inspection organizations, drug control institutions, research institutes, packaging, thin film, food companies, pharmaceutical enterprises, personal care industry, electronics industry and so on.

### Gas Permeation Analyzer

Technical Specification/Model	N500 L	AUTO N53/1	N530L	AUTO N50/1
Test range	0.02~50000 cm <sup>3</sup> /(m <sup>2</sup> ·24h·0.1MPa)	0.02~50000 cm <sup>3</sup> /(m <sup>2</sup> ·24h·0.1MPa)	0.02~50000 cm <sup>3</sup> /(m <sup>2</sup> ·24h·0.1 MPa)	0.01~5000 cm <sup>3</sup> /(m <sup>2</sup> ·24 h·0.1 MPa)
Vacuum Level	<20 Pa	<20 Pa	<20 Pa	<20 Pa
Sample dimensions	Φ110 mm	Φ110 mm	Φ110 mm	Φ110 mm
Sample number	1 piece	3 pieces	3 pieces	1 piece



### Gas Permeation Analyzer

Technical Specification/Model	N530 2.0	AUTO N530
Test range	0.02~50000 cm <sup>3</sup> /(m <sup>2</sup> ·24h·0.1MPa)	0.01~5000 cm <sup>3</sup> /(m <sup>2</sup> ·24 h·0.1 MPa)
Vacuum Level	<20 Pa	<20 Pa
Sample dimensions	Φ110 mm	Φ110 mm
Sample number	3 piece	3 piece



## Oxygen Permeability Analyzer

Widely used in quality inspection organizations, drug control institutions, research institutes, packaging, thin film, food companies, pharmaceutical enterprises, personal care industry, electronics industry and so on.

### Coulometric Sensor Method Oxygen Permeability Analyzer

Technical Specification/Model	Auto Y36/1	Y110L	Y310L
Test range		0.05~1000 cm <sup>3</sup> /(m <sup>2</sup> ·24h)	
Test precision		0.001g/(m <sup>2</sup> ·24h)	
Temperature range		15~45°C	
Temperature accuracy		±0.1°C	
Humidity range		30~90%RH, 100%RH	
Carrier gas pressure		≥0.1 MPa	
Transmission dimensions		50.24 cm <sup>2</sup>	
Sample number	6 piece	1 pieces	1~3 pieces
Carrier gas pressure	≥0.3 MPa	≥0.1 MPa	≥0.1MPa
Carrier gas flow	0~100 mL/min	0~100 mL/min	0~100 mL/min
Gas connection	1/8 inch metal pipe	1/8 inch metal pipe	1/8 inch metal pipe



### Coulometric Sensor Method Oxygen Permeability Analyzer

Technical Specification/Model	Y110 2.0	Y310 2.0
Test range		0.05~1000 cm <sup>3</sup> /(m <sup>2</sup> ·24h)
Test precision		0.001g/(m <sup>2</sup> ·24h)
Temperature range		15~45°C
Temperature accuracy		±0.1°C
Humidity range		30~90%RH, 100%RH
Carrier gas pressure		≥0.1 MPa
Transmission dimensions		50.24 cm <sup>2</sup>
Sample number	1 piece	3 pieces
Carrier gas pressure	≥0.1 MPa	≥0.1MPa
Carrier gas flow	0~100 mL/min	0~100 mL/min
Gas connection	1/8 inch metal pipe	1/8 inch metal pipe

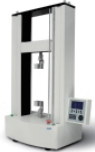




### Heat Seal Tester





Technical Specification / Model	GBB-F1	GBB-A1	GBB-F	GBB-A
Temperature control accuracy	Room temperature ~ 250 °C		Room temperature ~ 250 °C	
Control accuracy	±1°C		±1°C	
Seal time range	0.1s~99h		0.1s~99h	
Pressure range	0~0.8MPa		0~1MPa	
Heat seal method	Upper bar and lower bar double heating		Automatic or manual	Automatic or manual







## Universal Material Testing Machine/Sample Cutter/Electronic Tensile Tester

Technical Specification/Model	GHH	GBH-2	LC-1
Test speed	0~500 mm/min (continuously variable speed)		
Effective test stroke	1000 mm	750mm (1000 mm customizable)	
Test Speed	0~500 mm/min	0~500 mm/min	Cut sample quantity:10pcs(single layer)
Displacement measurement accuracy	± within 0.5% of the indicated value	Indicated value± within 0.5%.	Sample thickness:≤300µm
			

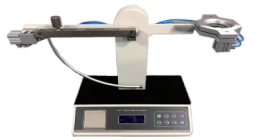

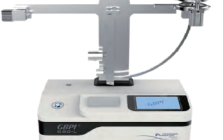
## Electronic Tensile Tester / Sample Cutter

Technical Specification/Model	GL-H	GBL-L	GBS	LC-2
Force measurement range	0~300 N (optional 0~500 N), 1250% elongation			
Specification size	475 mm×460 mm×1430 mm	475 mm×460 mm×1430 mm	600 mm×500 mm×1300 mm	
Test Speed	0~500 mm/min			Cut sample quantity:12pcs(single layer)
Effective test width	30 mm (50 mm can be customized)			Sample thickness:≤200µm
				





## Coefficient Friction Tester

Technical Specification/Model	GM-1	GM-4	GM-6	GM-F1
Test range	0.001~0.999	0.001~0.999	0.001~0.999	Angle range: 0°~85°
Slider speed	100, 150, 500 mm/min	0~500 mm/min	0~500 mm/min	Resolution: 0.01°
Force range	0~10N	0~10N	0~10N	Sensor accuracy: 0.1 %FS
Slide weight	200±2g	200±2g	200±2g	200g,1300g,235 g±10 g
				

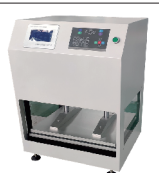



## Pendulum Impact Tester

Technical Specification/Model	GBG-L	GBD-B	GBG-L2
Maximum impact energy	5 J (8J optional)	3J	5 J (8J optional)
Pendulum angle	90°	90°	90°
Resolution ratio	0.001J	0.001J	0.001J
Pendulum swing radius	285mm	285mm	285mm
			




## Impact Tester

Technical Specification/Model	GBD-L	GB-LQ	GQ-D1	GBD-L2
Impact height	1500mm/660mm	Adjust arbitrarily within 20~2000mm	0~900 mm	1500 mm/660 mm
Dart head quality	50~2000g, 5g/increment, quality error≤0.5%			Φ38 mm±1 mm in method A Φ50 mm±1 mm in method B
Specimen size	180×180mm	≤150×150mm	325 mm×550 mm×1341 mm	Pneumatic gripper, inner diameter 125 mm
				


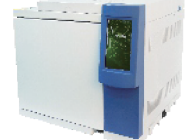


## Compression Tester

Technical Specification/Model	GBN200A	GBN200G	GBN200Z	GBN2000Z
Test range	0~3000 N	Pressure range: 100~700 kPa	0~2000 N	20 KN
Test Stroke	0~135mm	0~100 mm	0~100 mm	
Speed range	0~500mm/min (continuously variable speed)			0~300mm/min (continuously variable speed)
Force measurement accuracy	±0.8%			Within ±1% of the displayed value
				

## Vacuum Coating Thickness Tester

Technical Specification/Model	GH-3	GH-D	GH-E
Test range	0.001-12.5 mm	0~6 mm	50~1200 Å (emi)
Resolution	Value variability: 1 µm		±5 %Fs
Measuring force	0.5~1 N	0.4 N	Square resistance test range: 0.3~10 Ω
Measuring head	Φ5 mm (customizable)	Φ6 mm	Sample size: 300 mm×100 mm
			

## Gas Chromatography /Gas generator /

Technical Specification	GC-9802	GC-9803	NHA-300	DHG-9030A
Temperature range	Highest 400°C	Room temperature plus15°C-399°C(increment 1°C)	Nitrogen purity:99.99%	Room temperature ±10°C~+200°C
Temperature accuracy	0.1%			Better than ±0.1
Carrier gas source	N2, Purity 99.99%, 0.4MPa, dry	Number of simultaneous installations: 3 pieces at most;		Hydrogen purity:99.99%
Hydrogen gas source	Purity 99.99%, 0.4MPa, dry	Type of injection unit: packed column and split flow;		N2, H2:0~300ml/min
Air source	0.4MPa,dry clean,oil-free	Flow setting range: H2 0-200ml/ min, N2 0-150ml/min		Temperature:10°C-40°C
				

## Leakage Tester

Technical Specification/Model	AUTO GBM-L1	GB-M1	GB-M2
Vacuum degree	0~100 kPa	-(0~90)KPa	-(0~90) KPa
Vacuum precision	Detection sensitivity: 1~3 μm	1% of the indicated value	1% of the indicated value
Vacuum retention time	Reference vacuum decay: -2000 Pa~2000 Pa	1s~99h59m59s	1 s~99 h59 m59 s
Intake pressure	Vacuum purge time: 1 to 3600 s	(0.6~0.8)MPa	(0.6~0.8)MPa



## Leakage Tester

Technical Specification/Model	GB-M	GB-M3	AUTO GBM-D1
Vacuum degree	-(0~90)KPa	-90 KPa~400 KPa	0.1 Kpa~1 Mpa
Vacuum precision	1%	Maximum input pressure:400 Kpa	0.1 Kpa
Vacuum retention time	0.01s~99.99h	1 s~999 s	Test time:1~1000 s
Intake pressure	(0.6~0.8)MPa	Test barrel capacity:10L	Test type: burst, leakage, creep, bubble method



## Bursting Strength tester

Technical Specification / Model	GNP-1
Measurement range	(40~1600) kPa
Measurement precision	Indication error: ±0.5%FS Indication fluctuation: ≤0.5%
Hydraulic oil	(95 ± 5) ml/min
Film resistance	Bulge degree: 9mm Film resistance: (30 ± 5) kPa
Sample clipping pressure	(0-2000) kPa (adjustable)
System seal degree	1min pressure decrease <10%p max
Instrument size	500mm × 750mm × 505mm
Instrument weight	47kg
Pressure gauge pressure setting	(0.2~0.22)MPa
Equipped with air compressor	Discharge capacity:(0.02~0.4)m <sup>3</sup> /min Rated pressure:(0.6~0.8)Mpa



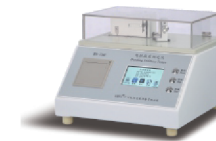
## Tear Tester

Technical Specification / Model	GBD-S
Test range	0~6400gf 0-18000mN
Tearing arm	104 ± 1mm
Initial tearing angle	27.5° ± 0.5°
Indication error	within ±0.5% in 20%-90% of max range
Gas supply pressure	0.2~0.4MPa
Relative fluctuation	within 1%
Power supply	Φ6mm



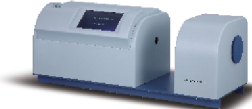
## PaperStiffnessTester/PaperBowlStiffnessTester/CrushTester

Technical Specification/Model	RH-T50	RH-BT10	GY-1
Test range	0.5-500mN	(50 ± 2.5) mm/min (1-30) N Resolution 0.01N	(30~3000) N; Resolution 1N
Test speed	5°/S	(30~80) mm/min is adjustable	Test Speed Default (12.5 ± 2.5) mm/min; and can
Accuracy of indication	2%	Indicating value error ±1%, variability of indicating value ≤1%	
Resolution	0.01mN		
Load arm length	50mm		



## Standard Light Source /Intelligent Gloss Tester / Light Transmittance and Haze Tester

Technical Specification / Model	KGZ-1C	P60	SGW-810
Test accuracy	0-199.9 gloss units ± 1.0 gloss units	Light source:D65, TL84, FUV	Light transmittance 0~100.0%, haze degree 0~30.00%
Instrument Stability	No more than 0.5 gloss unit/30 minutes		Light transmittance Accuracy: ≤1%
Repeatability	No more than 0.5 gloss unit		Light transmittance: 0.5%
Detector size	180mm × 100mm × 50mm	Outer size:700mm × 420mm × 550mm	Light transmittance 0.01%, haze degree 0.01%
Power	25w		Preheating time:30min
Power supply	220vAC, 50HZ	Weight:21kg	



## Pressure Sterilized Boiler

Technical Specification / Model	ZM-100
pressure	0~0.22Mpa(saturated vapor pressure)
Safety and pressure	0.23MPa
Water compensation pressure	≥0.32 Mpa
Inverted pressure	0.14~0.165 Mpa
Sterilization temperature	100~135°C
Time setting	1min~ 99.59min



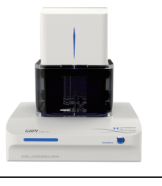
## Hot Tack Tester

Technical Specification / Model	GBR
Temperature range	Room temperature~250 °C
Temperature accuracy	±1°C
Heat Seal Dwell Time	0.01s-99s
Heat sealing pressure	0.1-0.8MPa
Sample length	200mm
Test range	0-300N





## HeatingShrinkTester

Technical Specification / Model	
Systolic force accuracy	Measured value ±0.5% (10%-100% of sensor specification), ±0.05%FS (0%-10% of sensor specification)
Display Resolution	0.001 N
Displacement measurement range	0.1~70 mm
Displacement Sensor Accuracy	±0.07 mm
Temperature fluctuations	±0.2°C
Temperature Accuracy	±0.5°C (single point calibration)
Number of workstations	1 group (2)





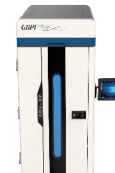
## Seal machine

Technical Specification/Model	GF-2600X	GF-1600H
Whole machine size	5800 mm x 4100 mm x 1800 mm	2900 mm x 2400 mm x 2000 mm
Package Type	Stand-up pouches, three-side seal bags, organ bags, shaped bags	
Material type	Bag: inner layer PE, inner layer PP material, tube: PE, PP material	
Working speed	Double channel 70pcs/min, single channel 35pcs/min	Max 90 pcs/min



## Refrigeration Tester

Technical Specification/Model	AUTO GQ900	AUTO GQ300	AUTO GQ300
Gas measurement range	O <sub>2</sub> : 0% to 25%; CO <sub>2</sub> : 0% to 20%; C <sub>2</sub> H <sub>4</sub> : 0 to 220 ppm; the rest of the gas is N <sub>2</sub>		
Gas testing accuracy	O <sub>2</sub> : 0.01%; CO <sub>2</sub> : 0.01%; C <sub>2</sub> H <sub>4</sub> : 0.1 ppm		
Temperature control range	-5°C~45°C	-5°C~45°C	-5°C~45°C
Test chamber	9	3	1pc/100L


## Intelligent compost degradation tester

Technical Specification /Model	GBDA-180W	AUTO GBDA-180
Temperature range	Room temperature -80°C, step 0.1°C	Room temperature ~80°C
Temperature control accuracy	≤ ±0.2°C	±0.5°C
Testing range	0~4200g	Pressure detection range: 0~200KPa
Testing accuracy	±0.01g	Flow control accuracy: ±1.0%FS
Number of test chambers	18	18
Dimension	2700mm×560 mm×1800 mm	3600 mm*810 mm*1930 mm



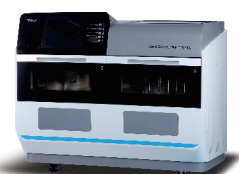
## Melt index tester

Technical Specification /Model	GBB-R
Test Method	(40~1600) kPa
Test range for MFR method	0-200g
Test range for MV R method	0-80cm <sup>3</sup>
Test accuracy of mess	0.1g
Auto test timing	0.1-999.9s
Temperature range	Room temperature ~300°C
Temperature accuracy	±0.5°C
Temperature fluctuation	1°C






## Total migration and non-volatile matter tester

Technical Specification/Model	AUTO ZF3600	AUTO ZF2400	AUTO ZF1800
Measurement Range	0 g~80 g		
Balance Resolution	0.01 mg		
Number of specimens	36	24	18
Temperature accuracy	±0.5°C	±0.5°C	±0.5°C

## Total migration and non-volatile matter tester

Technical Specification/Model	AUTO ZF1800G	AUTO ZF1200	AUTO ZF900
Measurement Range	0 g~80 g		
Balance Resolution	0.01 mg		
Number of specimens	18	12	9
Evaporation dish volume	200 mL	50 mL	100 mL

## Torque Testing Equipment

Technical Specification/Model	HP-D1	HP-200	HP-100
Measurement Range	10 N·m, 20 N·m, 40 N·m (optional)	0~20 N·m	0.01-10N.m
Torque Resolution	0.0001 N·m	0.001 N·m	
Clamping force	Free adjustment of clamping force according to material properties		
Air source pressure	0.7 MPa (101.5 psi)	Φ5~230mm	Φ10~150mm





## Ink layer bonding fastness

Technical Specification/Model	GX-Y2	GX-C2	GX-B3
Speed	Rolling speed: 0~600 mm/min	Friction speed: 5~43 cpm(times/min)	Peeling speed: 0~1 m/s
Pressure	Friction speed: 5~43 cpm(times/min)	Friction speed: 5~43 cpm(times/min)	Peeling speed: 0~1 m/s
Dimension	440 mm×400 mm×200 mm	440 mm×400 mm×200 mm	546 mm×360 mm×300 mm
Diameter	Pressure roller diameter: 84 mm		Diameter of A plate: 170 mm, diameter of B plate: 65 mm

