



ALS Laboratory & Process Equipment

DISCOVER

Withnell Sensors

Withnell Sensors specialises in temperature and humidity monitoring, validation and calibration offering product solutions to many industries including; pharmaceutical, healthcare, automotive, food, aerospace, scientific research and many more.

With many years of experience in our field we continue to be sought out as experts in the services that we offer. Our trained engineers offer independent advice, helping you to source the right products for your bespoke requirements. With over 10 years in business we are proud to work with many of the market leading, international manufacturers and research organisations.

We sell thermal validation equipment from some of the World's leading brands and offer the high calibre of after sales care and service that our customers have come to rely on. This includes bespoke calibration options from our UKAS accredited temperature and humidity calibration lab in Lancashire that offers some of the best temperature and humidity uncertainties in the UK. We also offer rental equipment to support seasonal mapping, project work and new plant commissioning.

If you have a temperature or humidity monitoring requirement then we would love to discuss how we can support you.

Customer Care Promise

Customer service is important to us, it is a fundamental part of our ethos and has acted as the driving force behind many of our commercial decisions. We aim to actively incorporate all feedback to ensure that we deliver better results for the future. Servicing an array of customers from small businesses through to multi-national organisations, we always endeavour to offer consistently high levels of service.

Exceptional Standards

Our background is within the pharmaceutical and biotechnology sectors where we are practised to the high standards expected from world leaders in this field. We have adopted the same high standards across our business. Our in-house laboratory is accredited to the internationally recognised ISO/IEC 17025:2017. Our accreditation is a representation of our ability to offer complete quality assurance.



Service, Calibration and Mapping

Experienced engineers providing service on-site or at our facility in Lancashire. Offering a range of UKAS accredited calibrations.



Data Loggers and Thermocouples

A range of equipment to suit all requirements. Expert independent advice is available.



Laboratory and Process Equipment

An exclusive range of specialist, high performance equipment.



Thermal Validation Rental Equipment

Validation equipment for unexpected demands, shut down periods and new plant commissioning.

Customers we are proud to have worked with:



ABOUT

Angelantoni Life Science

An Industry Leader and Innovator



Withnell Sensors Ltd. is thrilled to partner and represent the well established and renowned brand Angelantoni Life Science (ALS).

Angelantoni Life Science is a sub-holding entirely controlled by Angelantoni Industrie, and an International leader in the manufacturing of cold and cryogenic equipment and advanced systems in healthcare and in biotechnology. ALS is intensely involved in the innovation of technological solutions to sustain the continuously increasing global demand for improved life conditions.

ALS develops a broad range of standard and special equipment for Research Centres, hospitals, laboratories, Academia and pharma industries. Angelantoni Life Science is present in more than 40 countries and can be an ideal partner in science and technology.

Giuseppe Angelantoni founded the ALS brand in 1932, specialising in the cold storage technique. He would never have imagined that years later his surname would become a synonym for 'cold storage engineering'. His ingenious work has passed through significant cold technology applications, some of which are patented, such as the first test chamber at -60°C in 1954; the first autonomous vehicle-driven food transport system in 1956; the first freezer in Europe at -104°C in 1961 with mechanical cooling, without LN2.

ALS Equipment:

- ✓ Medical / Laboratory Fridges & Freezers
- ✓ Blood and Plasma Bank Fridges & Freezers
- ✓ Medical Waste Steriliser
- ✓ Plant Growth and Stability Chambers
- ✓ Laminar Flow Hoods and Cabinets
- ✓ Mortuary Chambers and Equipment
- ✓ Cold Storage Rooms

Professional Laboratory Refrigerators & Freezers:



The X-COLD range provides a complete selection of laboratory refrigerators, freezers and combined fridge freezers, primarily for the preservation of biological samples and reagents, vaccines and medicines. Angelantoni's experience in the freezing industry, combined with the continuous search for solutions has resulted in the creation of X-COLD, a line of products characterised by functions developed and tested for professionals in the biomedical sector. The wide range of machines offers different volumes equipped with cutting edge electronic controllers makes the X-COLD line one of the best laboratory products on the market in terms of flexibility and reliability.

X-COLD cabinets provide an insulation with high density injected CFC-free PU foam of minimum 70mm thickness. The doors for the units come in either a plain option or with triple glass; depending on your specific preference. The lab refrigerators and freezers are always key lockable or if required there is an optional ID Card opening feature (Bioguard™)

The X-COLD controller is state-of-the-art with full colour display, touch keys and full digital data recording / transferrable via USB or WiFi / Ethernet / 3G connections with CLOUD space also.

The full series includes machines from 100 - 1500 litres, with glass or blind doors, and with storage temperatures ranging from +4°C to -30°C.

- ✓ Volumes from 100L - 1500L
- ✓ Temperatures from +4°C to -30°C
- ✓ Always key lockable
- ✓ Access security and traceability with the BIOGUARD® system
- ✓ Real-time data download via integrated USB
- ✓ Latest generation electronics with Can-Bus internal communication protocol
- ✓ Maximum connectivity with the use of 3G or Ethernet communication modules or Wi-Fi and Teleassistance
- ✓ Weekly chart recorder



X-Cold Range:

	100/1				200/1				300/1				500/1			
	100/1 TN	100/1 TN-GL	100/1 BT	100/1 BT-GL	200/1 TN	200/1 TN-GL	200/1 BT	200/1 BT-GL	300/1 TN	300/1 TN-GL	300/1 BT	300/1 BT-GL	500/1 TN	500/1 TN-GL	500/1 BT	500/1 BT-GL
External Dimensions (LxWxH)	600 x 615 x 850mm				600 x 615 x 1425mm				600 x 615 x 1995mm				685 x 805 x 1835mm			
Internal Dimensions (LxWxH)	480 x 500 x 450mm				480 x 500 x 815mm				480 x 500 x 1385mm				605 x 690 x 1355mm			
Volume	95L				176L				303L				528L		500L	
Temperature Range °C	0/+15	0/+15	-10/-23	-10/-23	0/+15	0/+15	-10/-23	-10/-23	0/+15	0/+15	-10/-23	-10/-23	0/+15	0/+15	-10/-23	-10/-23
Climate Class	CLASS SN/ST				CLASS SN/ST				CLASS SN/ST				CLASS SN/ST			
Thermal Dissipation (kcal/h)	170	170	400	400	215	215	430	430	215	215	430	430	400	400	700	700
Shelves	2				2				3				3			
Maximum Shelf Load	30Kg				30Kg				30Kg				30Kg			

	700/1				900/1				1500/2		
	700/1 TN	700/1 TN-GL	700/1 BT	700/1 LT	900/1 TN	900/1 TN-GL	900/1 BT	900/1 LT	1500/2 TN	1500/2 TN-GL	1500/2 BT
External Dimensions (LxWxH)	740 x 815 x 1998mm				810 x 1010 x 1998mm				1480 x 815 x 1998mm		
Internal Dimensions (LxWxH)	590 x 675 x 1500mm				660 x 875 x 1510mm				1330 x 675 x 1500mm		
Volume	600L				870L				1400L		
Temperature Range °C	0/+15	0/+15	-10/-23	-10/-30	0/+15	0/+15	-10/-23	-10/-30	0/+15	0/+15	-10/-23
Climate Class	CLASS SN/T		CLASS SN		CLASS SN/T		CLASS SN		CLASS SN/T		CLASS SN
Thermal Dissipation (kcal/h)	180	180	210	345	215	260	320	430	220	225	345
Shelves	3				3				6		
Maximum Shelf Load	40Kg				40Kg				40Kg		

X-Cold Combined Fridge Freezer Range:

	300/2		700/2 T		1500/2 T	
	300/2 TN/2TS		700/2 TN / 2TS		1500/2 TN / 2 TS	
External Dimensions (LxWxH)	600 x 635 x 1995mm		710 x 800 x 1998mm		1480 x 815 x 1998mm	
Internal Dimensions (LxWxH)	480x500x845mm	480x500x495mm	590x650x720mm	590x650x720mm	635x675x1500mm	635x675x1500mm
Volume	184L	100L	300L	300L	600L	600L
Temperature Range °C	0/+15	-10/-23	0/+15	-10/-23	0/+15	-10/-23
Climate Class	CLASS SN/ST		CLASS SN/T		CLASS SN/T	
Thermal Dissipation (kcal/h)	700		320		430	
Shelves	3	2	2		3	
Maximum Shelf Load	30Kg		40Kg		40Kg	

NEXUS Ultra-Low Temperature Freezers:

For over 85 years ALS have been producing a full range of freezers for vaccine storage, long-term biological sample preservation, pharmaceutical research, hospitals and in any other applications where it is necessary to preserve materials of human, animal, plant origins or microorganisms at low ultra-low temperatures.

NEXUS is a line of ultra-low temperature freezers. This line is ideally suited for the long-term storage of various biological samples. The ultra-low temperature freezers come in many different shapes and sizes depending on your requirements, as well as, two different temperature ranges to suit your needs. Security is unmatched, as the fridges are always key lockable or can also be equipped with the Bioguard™ (key card access for specified personnel).



- ✓ 2 X Temperature ranges: -40°C and -86°C
- ✓ Reduced ice formation and low noise
- ✓ Always key lockable
- ✓ Available in several models (horizontal and vertical)

-40°C Ultra-Low Temperature Range:

	HORIZONTAL			VERTICAL		
	110 SH	370 SH	550 SH	340 SV	530 SV	810 SV
Volume	113L	370L	550L	340L	530L	810L
External Dimensions (WxDxH)	730 x 850 x 1080mm	1780 x 855 x 1140mm	2350 x 855 x 1140mm	792 x 950 x 1975mm	1025 x 950 x 1975mm	1112 x 960 x 1978mm
Temperature Range	-20°C to -43°C (Working Temperature -40°C)					
Inner Doors	1	4	4	3 or 4	3 or 4	4 or 5
Shelves	-	-	-	2 or 3 height adjustable	2 or 3 height adjustable	3 or 4 height adjustable
Max. Load Per Shelf	-	-	-	40Kg	40Kg	40Kg

-86°C Ultra-Low Temperature Range:

	HORIZONTAL			VERTICAL		
	110 H	370 H	550 H	340 V	530 V	810 V
Volume	113L	370L	550L	340L	530L	810L
External Dimensions (WxDxH)	730 x 850 x 1080mm	1780 x 855 x 1140mm	2350 x 855 x 1140mm	792 x 950 x 1975mm	1025 x 950 x 1975mm	1112 x 960 x 1978mm
Temperature Range	-40°C to -86°C (Working Temperature -80°C)					
Inner Doors	1	4	4	3 or 4	3 or 4	4 or 5
Shelves	-	-	-	2 or 3 height adjustable	2 or 3 height adjustable	3 or 4 height adjustable
Max. Load Per Shelf	-	-	-	40Kg	40Kg	40Kg

NEXUS Evo MD Ultra-Low Temperature Medical Freezers:

The Nexus Evo MD ultra-low medical freezer line- certified as a medical device according to directive 93/42/EEC is ideal for long-term storage at very low temperatures. The freezer uses an exclusive, silent and powerful cooling system, utilising one compressor that runs on environmentally friendly gaseous coolants and comes equipped with a microprocessor and large 7" digital display.

The ideal application for the Nexus Evo MD medical freezer is in all situations where plasma bags need to be stored for a long period of time - usually in scientific laboratories, pharmaceutical research, hospitals, blood banks and any other applications that require storage of any human samples and parts at extremely low temperatures.



- ✓ 2 X Temperature ranges: -40°C and -86°C
- ✓ Real time data download with integrated USB
- ✓ BioGuard Keycard system available
- ✓ Available in several models (horizontal and vertical)

-40°C Ultra-Low Temperature Range:

	HORIZONTAL			VERTICAL			
	110 SH EVO MD	370 SH EVO MD	550 SH EVO MD	340 SV EVO MD	518 SV EVO MD	530 SV EVO MD	810 SV EVO MD
Volume	113L	370L	550L	322L	500L	530L	813L
External Dimensions (WxDxH)	730 x 990 x 1100mm	1780 x 910 x 1140mm	2320 x 910 x 1140mm	790 x 794 x 1978mm	745 x 820 x 1965mm	1040 x 974 x 1974mm	1112 x 960 x 1978mm
Internal Dimensions (WxDxH)	450 x 560 x 450mm	1050 x 520 x 670mm	1590 x 520 x 670mm	450 x 530 x 1350mm	605 x 550 x 1550mm	700 x 530 x 1350mm	906 x 609 x 1472mm
Temperature Range	-20°C to -43°C (Working Temperature -40°C)						
Inner Doors	1	4	4	3 or 4	-	3 or 4	4 or 5
Shelves	-	-	-	2 or 3	7	3 or 4	4 or 5
Drawers	-	-	-	maximum 9 (optional)	14	maximum 8 (optional)	maximum 12 (optional)
Shelf/Drawer Capacity	-	-	-	40Kg	20Kg	40Kg	40Kg
1000ml Plasma Bags (300mm x 130mm)	50 in Total	130 in Total	200 in Total	4 Per Shelf	2 Shelf / 28 Total	8 Per Shelf	12 Per Shelf
450ml Plasma Bags (180mm x 130mm)	100 in Total	260 in Total	400 in Total	8 Per Shelf	6 Shelf / 84 Total	14 Per Shelf	20 Per Shelf

-86°C Ultra-Low Temperature Range:

	HORIZONTAL			VERTICAL		
	110 H EVO MD	370 H EVO MD	550 H EVO MD	340 V EVO MD	530 V EVO MD	810 V EVO MD
Volume	113L	370L	550L	322L	530L	813L
External Dimensions (WxDxH)	730 x 990 x 1100mm	1780 x 910 x 1140mm	2320 x 910 x 1140mm	790 x 794 x 1978mm	1040 x 974 x 1974mm	1112 x 960 x 1978mm
Internal Dimensions (WxDxH)	450 x 560 x 450mm	1050 x 520 x 670mm	1590 x 520 x 670mm	450 x 530 x 1350mm	700 x 530 x 1350mm	906 x 609 x 1472mm
Temperature Range	-40°C to -86°C (Working Temperature -80°C)					
Inner Doors	1	4	4	3 or 4	3 or 4	4 or 5
Shelves	-	-	-	2 or 3	3 or 4	4 or 5
Drawers	-	-	-	maximum 9 (optional)	maximum 8 (optional)	maximum 12 (optional)
Shelf/Drawer Capacity	-	-	-	40Kg	40Kg	40Kg
1000ml Plasma Bags (300mm x 130mm)	50 in Total	130 in Total	200 in Total	4 Per Shelf	8 Per Shelf	12 Per Shelf
450ml Plasma Bags (180mm x 130mm)	100 in Total	260 in Total	400 in Total	8 Per Shelf	14 Per Shelf	20 Per Shelf

Blood Bank Refrigerators:

Withnell Sensors is thrilled to offer this complete line of +4°C blood bank fridges. The blood bank fridges are used for storing blood, plasma, hemoderivatives and plasma derivatives. All the equipment is certified according to the Medical Devices Directive 93/42/EEC, as a demonstration of the company's great commitment to the manufacture of high quality and high reliability products that can guarantee maximum safety in the storage of biological liquids.

The Emoplasmabank series are equipped with two separate compressors, one for each compartment. Each compressor is controlled by a dedicated microprocessor controller. The models have one 7" display, which is able to control the two compressors independently.



EmoBank Range:

	100/2	200/3	200/4	300/5	300/6
External Dimensions (WxDxH)	600 x 615 x 850mm	600 x 500 x 815mm	600 x 615 x 1425mm	600 x 615 x 1995mm	600 x 615 x 1995mm
Internal Dimensions (WxDxH)	480 x 500 x 450mm	480 x 500 x 815mm	480 x 500 x 815mm	480 x 500 x 1385mm	480 x 500 x 1385mm
Volume	95L	176L	176L	303L	303L
Temperature Range	0°C to +15°C	0°C to +15°C	0°C to +15°C	0°C to +15°C	0°C to +15°C
Shelves	2	3	4	5	6
Maximum Shelf Load	30Kg	30Kg	30Kg	30Kg	30Kg
Maximum Plasma Bags (Per Shelf)	30 bags (250ml) 16 bags (450ml)	30 bags (250ml) 16 bags (450ml)	30 bags (250ml) 16 bags (450ml)	30 bags (250ml) 16 bags (450ml)	30 bags (250ml) 16 bags (450ml)
Maximum Plasma Bags (In Total)	60 bags (250ml) 32 bags (450ml)	90 bags (250ml) 48 bags (450ml)	120 bags (250ml) 64 bags (450ml)	150 bags (250ml) 80 bags (450ml)	180 bags (250ml) 96 bags (450ml)

	700/5	700/6	700/7	700/8	700/B
External Dimensions (WxDxH)	740 x 815 x 1998mm	740 x 815 x 1998mm	740 x 815 x 1998mm	740 x 815 x 1998mm	740 x 815 x 1998mm
Internal Dimensions (WxDxH)	590 x 675 x 1500mm	590 x 675 x 1500mm	590 x 675 x 1500mm	590 x 675 x 1500mm	590 x 675 x 1500mm
Volume	600L	600L	600L	600L	600L
Temperature Range	0°C to +15°C	0°C to +15°C	0°C to +15°C	0°C to +15°C	0°C to +15°C
Shelves	5	6	7	8	7
Maximum Shelf Load	40Kg	40Kg	40Kg	40Kg	40Kg
Maximum Plasma Bags (Per Shelf)	76 bags (250ml) 44 bags (450ml)	76 bags (250ml) 44 bags (450ml)	76 bags (250ml) 44 bags (450ml)	76 bags (250ml) 44 bags (450ml)	76 bags (250ml) 44 bags (450ml)
Maximum Plasma Bags (In Total)	380 bags (250ml) 220 bags (450ml)	456 bags (250ml) 264 bags (450ml)	532 bags (250ml) 308 bags (450ml)	608 bags (250ml) 352 bags (450ml)	532 bags (250ml) 308 bags (450ml)

	900/8	900/9	900/B	1500/12	1500/14	1500/B
External Dimensions (WxDxH)	810x1010x1998mm	810x1010x1998mm	810x1010x1998mm	1480x815x1998mm	1480x815x1998mm	1480x815x1998mm
Internal Dimensions (WxDxH)	660x875x1510mm	660x875x1510mm	660x875x1510mm	1330x675x1500mm	1330x675x1500mm	1330x675x1500mm
Volume	870L	870L	870L	1400L	1400L	1400L
Temperature Range	0°C to +15°C	0°C to +15°C	0°C to +15°C	0°C to +15°C	0°C to +15°C	0°C to +15°C
Shelves	8	9	9	12	14	14
Maximum Shelf Load	40Kg	40Kg	40Kg	40Kg	40Kg	40Kg
Maximum Plasma Bags (Per Shelf)	90 bags (250ml) 55 bags (450ml)	90 bags (250ml) 55 bags (450ml)	90 bags (250ml) 55 bags (450ml)	76 bags (250ml) 44 bags (450ml)	76 bags (250ml) 44 bags (450ml)	76 bags (250ml) 44 bags (450ml)
Maximum Plasma Bags (In Total)	720 bags (250ml) 440 bags (450ml)	810 bags (250ml) 495 bags (450ml)	810 bags (250ml) 495 bags (450ml)	912 bags (250ml) 528 bags (450ml)	1064 bags (250ml) 616 bags (450ml)	1064 bags (250ml) 616 bags (450ml)

Blood Bank Freezers:

Withnell Sensors is thrilled to offer PlasmaBank by ALS. A line of -30°C blood bank freezers, used for storing blood, plasma, hemoderivatives and plasma derivatives.

All the equipment is certified according to the Medical Devices Directive 93/42/EEC. The Monoblock cabinets are intended for the conservation of blood bags as well as diagnostic drugs, biological material, serums, vaccines and related blood products of small, medium and large hospital transfusion centres, analysis laboratories, research centres and universities.

- ✓ Temperature range -30°C and -10°C
- ✓ BioGuard Keycard system available
- ✓ 700L to 900L models
- ✓ Alarm system in place

PlasmaBank Range:

	PLASMABANK 700LT	PLASMABANK 900LT
External Dimensions (WxDxH)	740 x 815 x 1998mm	810 x 1010 x 1998mm
Internal Dimensions (WxDxH)	590 x 675 x 1500mm	660 x 875 x 1510mm
Volume	600L	870L
Temperature Range	-30°C to -10°C	-30°C to -10°C
Shelves	7	9
Maximum Shelf Load	40Kg	40Kg
Maximum Plasma Bags (Per Shelf)	44 bags (450ml)	55 bags (450ml)
Maximum Plasma Bags (In Total)	308 bags (450ml)	495 bags (450ml)



Blood Bank Refrigerator Freezers:

The Emoplasmabank Series by ALS are a line of blood bank refrigerator freezer units with one compartment at +4°C and another compartment at -20°C, used for storing blood, plasma, hemoderivatives and plasma derivatives.

The Emoplasmabank series are equipped with two separate compressors, one for each compartment. Each compressor is controlled by a dedicated microprocessor controller. The models have one 7" display, which is able to control the two compressors independently.

- ✓ 2 X compartments at +4°C and -20°C
- ✓ BioGuard Keycard system available
- ✓ Volumes from 300L to 1500L
- ✓ Eco friendly & low energy consumption

EmoPlasmaBank Range:

	EMOPLASMABANK 300		EMOPLASMABANK 700		EMOPLASMABANK 1500	
	REFRIGERATOR	FREEZER	REFRIGERATOR	FREEZER	REFRIGERATOR	FREEZER
External Dimensions (WxDxH)	600 x 635 x 1995mm		740 x 815 x 1998mm		148 x 815 x 1998mm	
Internal Dimensions (WxDxH)	480x500x845mm	480x500x495mm	590 x 675 x 675mm		590 x 675 x 675mm	
Volume	184L	108L	300L	300L	600L	600L
Temperature Range	0°C to +15°C	-23°C to -10°C	0°C to +15°C	23°C to -10°C	0°C to +15°C	23°C to -10°C
Shelves	3	2	2	2	5	7
Maximum Shelf Load	30Kg		40Kg		40Kg	
Maximum Plasma Bags (Per Shelf)	30 bags (250ml), 16 bags (450ml)		76 bags (250ml), 44 bags (450ml)		76 bags (250ml), 44 bags (450ml)	
Maximum Plasma Bags (In Total)	150 bags (250ml), 80 bags (450ml)		304 bags (250ml), 176 bags (450ml)		912 bags (250ml), 528 bags (450ml)	



Plasma Blast Freezing Unit:

Plasma Blast Freezing, is a certified (Patented) freezing process that brings the plasma bags temperature to -30°C in less than 60 minutes.

The PlasmaFrost ITeM™ is a medical device, certified according to the EU Directive 93/42/CEE. It provides complete back traceability of each freezing cycle plus maximum freezing efficiency due to the innovative uniformity plates as well as horizontal freezing for the best temperature uniformity. The system also allows the possibility to freeze any kind and shape of soft plasma bags. It also brings increased productivity due the optimised freezing times.

In all PlasmaFrost ITeM™ models the shelves act as freezing elements: the refrigerant flows inside the shelves for the best freezing efficiency, while the uniformity plates press the bags to evenly distribute the temperature.

- ✓ Complies to EU recommendation n° R (95) 15
- ✓ Plasma bags temp. -30°C in under 60 minutes
- ✓ 24 - 40 bag capacity
- ✓ Traceability of each freezing cycle



PlasmaFrost ITeM Range:

	PlasmaFrost ITeM 3	PlasmaFrost ITeM 4
External Dimensions (WxDxH)	1300 x 1490 x 1830mm	1300 x 1490 x 1830mm
Working Temperature	-75°C	-75°C
Shelves	3	4
Maximum Plasma Bags (In Total)	24 bags (450ml)	40 bags (450ml)

Automated Liquid Nitrogen Freezer:

The Smartfreezer is a fully automated cryogenic liquid nitrogen freezer from Angelantoni Life Science. It is the only fully automated ultra-low temperature or cryogenic freezer for the individual storage and retrieval of biological vials at -180°C in liquid nitrogen (vapor phase). This is a robotic solution, fully automating the storage and retrieval of vials containing biological materials and thus removing human error, cross contamination, vial deterioration, freezing or thawing and avoiding any harm to operators.

- ✓ Fully automated retrieval
- ✓ Operator and sample protection
- ✓ Ice formation prevention
- ✓ Remote alarm



Smartfreezer® Range:

	V 180.10	V 180.20	V 180.30	V 180.45
Storage Capacity	14.470	8.410	6.006	5.046
Type of Vial	1ml	2ml	3ml	4.5ml
Vial Identification	Barcode / Dot Code	Barcode / Dot Code	Barcode / Dot Code	Barcode / Dot Code
Speed to load and unload	20 s/vial	20 s/vial	20 s/vial	20 s/vial
Working Temperature	-180°C	-180°C	-180°C	-180°C
LN ₂ Consumption (lt/day)	15 to 20	15 to 20	15 to 20	15 to 20
Temperature Backup	Auto-backup	Auto-backup	Auto-backup	Auto-backup
Uninterruptible Power Supply	Yes	Yes	Yes	Yes
Pneumatic Backup System	Yes	Yes	Yes	Yes
External Dimensions	1400 x 890 x 1960mm	1400 x 890 x 1960mm	1400 x 890 x 1960mm	1400 x 890 x 1960mm

Automated Blood Bank Fridge:

Hemosafe® is a computerised and automated blood bank refrigerator that allows you to allocate and pick the right bag for the right patient at the point of care and at the time of actual need.

It provides the storage (+4°C), as well as the assignment and the distribution of blood bags, assuring full traceability and safety. Hemosafe® 2.0; is certified according to Medical Device Directive 93/42/EEC and following amendments.

Thanks to the integrated management software and the automatic reading of the barcodes of the bags, Hemosafe® 2.0 is able to select the most suitable blood bag for each patient and delivers it to the operator quickly (in less than 60 seconds) without human error.

Hemosafe® 2.0 makes blood available 24 hours a day, 7 days a week at each peripheral hospital, optimising the distribution and drastically reducing the number of trips between Transfusion Centres and hospitals, and deploys a safe and rational management of the blood supply in it preserved (FIFO - First In First Out).



- ✓ Reduced wastage of blood
- ✓ Reduction in transport costs
- ✓ Increased patient safety
- ✓ Complete traceability

Hemosafe®:

	HEMOSAFE®
Working Temperature	+4°C
Maximum Plasma Bags (In Total)	92 bags (450ml)

Medical Waste Steriliser:

Withnell Sensors are proud to introduce WaSter® which is a new generation of medical waste treatment machinery. It is the most advanced medical waste steriliser design carried out by Angelantoni Life Science, a leader in infectious control. The three steps to safe and sterile waste that this system follows are through trituration (shredding), sterilisation with steam and drying via deep vacuum. WaSter® complies with international standards applicable for the hospital sterilisation operations and it is capable to execute a decontamination process that can be validated with biological indicators to prove the sterilisation of the Biohazard waste, including Bio Safety Level class 3 / 4 rated solid waste).



- ✓ Trituration through shredding
- ✓ Drying via deep vacuum
- ✓ Sterilisation via saturated steam
- ✓ Discharge of sterile material

WaSter® Range:

	WASTER 50	WASTER 50 (with pass-through)	DOUBLE WASTER 50	DOUBLE WASTER 50 (with pass-through)
Waste weight volume ratio	50 Kg/h	50 Kg/h	50 Kg/h	50 Kg/h
Productivity	50 Kg/h	50 Kg/h	50 Kg/h	50 Kg/h
Waste weight reduction ratio	1/10	1/10	1/10	1/10
Waste loading volume	1/5	1/5	1/5	1/5
Treated waste final volume	500	500	500	500
Cycle time	1h	1h	1h	1h

Laminar Flow Hoods and Cabinets:

The ALS cabinets we offer provide an aseptic work area whilst containing infectious splashes or aerosols produced by microbiological procedures. Laminar flow hoods shield the working environment from airborne contaminants such as dust by maintaining a constant, unidirectional flow of HEPA-filtered air over the workspace. Depending on the requirement - the flow can be horizontal, blowing parallel to the work surface, or vertical, blowing from top down onto the work surface.

What are the classes of laminar flow hoods?

There are three kinds of laminar flow hoods, designated as Class I, II and III, each have been established to meet various research and clinical requirements.

Class I- offer significant levels of protection to laboratory personnel and to the environment when used with correct microbiological techniques. However, they do not provide cultures protection from contamination.

Class II- are designed for work involving BSL-1, 2, and 3 materials, and they also provide an aseptic environment required for cell culture experiments. Class II laminar flow cabinets are used for handling potentially hazardous materials such as primate-derived cultures, virally infected cultures, carcinogenic etc.

Class III- laminar flow cabinets are gas-tight, they deliver the highest level of protection achievable to personnel and the external environment. Class III laminar flow cabinets are required for work involving known human pathogens and other BSL-4 materials.

CTH Biohazard Safety Cabinets (BSC):

✔ Class II ✔ 4 models available

CTH Class 2 Cytotoxic Drugs Handling Cabinets are used in all situations where you must protect the operator and the environment from harmful effects stemming from the uncontrolled spread of airborne contaminants. As well as to ensure there is no environmental interference from contaminants which may compromise the product

Applications:

- Pharmacies of hospitals
- Day-hospitals
- Oncology departments
- Pharmaceutical industry



SterilSafe Laminar Flow Hood:

✔ Class II ✔ 4 models available

Sterilsafe Class 2 Biohazard Safety Cabinets are used in all situations where you must protect the operator and the environment from harmful effects stemming from the uncontrolled spread of airborne contaminants. As well as to ensure there is no environmental interference from contaminants which may compromise the product.

Applications:

- Microbiology
- Virology
- Haematology
- Cell cultures
- Oncogenic viruses
- Recombinant DNA
- Pathogens



SterilSafe Evo Biohazard Safety Cabinets:

✔ Class II A ✔ 4 models available

Sterilsafe Evo Class 2 Biohazard Safety Cabinets are used in all situations where you must protect the operator and the environment from harmful effects stemming from the uncontrolled spread of airborne contaminants. As well as to ensure there is no environmental interference from contaminants which may compromise the product.

Applications:

- Microbiology
- Virology
- Haematology
- Cell cultures
- Oncogenic viruses
- Recombinant DNA
- Pathogens

(Since these are not biological safety cabins, they CANNOT be used for handling pathogens.)



VBH Laminar Flow Hood:

✔ Class II A ✔ 4 models available

VBH Class 2 Biohazard Safety Cabinets are used in all situations where you must protect the operator and the environment from harmful effects stemming from the uncontrolled spread of airborne contaminants. As well as to ensure there is no environmental interference from contaminants which may compromise the product.

Applications:

- Microbiology
- Virology
- Haematology
- Cell cultures
- Oncogenic viruses
- Recombinant DNA
- Pathogens



Bioban Series Biohazard Safety Cabinets (BSC):

- ✓ Class II A ✓ 4 models available

Bioban Class 2 Biohazard Safety Cabinets (BSC) are used in all situations where you must protect the operator and the environment from harmful effects stemming from the uncontrolled spread of airborne contaminants. As well as to ensure there is no environmental interference from contaminants which may compromise the product.

Applications:

- Microbiology
- Virology
- Haematology
- Cell cultures
- Oncogenic viruses
- Recombinant DNA
- Pathogens



Helios Horizontal Laminar Flow Cabinets:

- ✓ Class III ✓ 4 models available

The Helios series Horizontal Laminar Flow Cabinets are used in all situations where it is necessary to protect the product from harmful effects deriving from the uncontrolled diffusion of airborne contaminants during its handling.

Applications:

- Microbiology
- Micromechanical assemblies
- In vitro fertilisation
- Preparation of parenteral nutritional therapies
- Food Industry Quality Control

(Since these are not biological safety cabins, they CANNOT be used for handling pathogens.)



Gemini Vertical Laminar Airflow Cabinets:

- ✓ Class ISO 3 ✓ 1 model available

Gemini Vertical Laminar Flow cabinets are used in all situations in which it is necessary to protect the product from harmful effects deriving from the uncontrolled diffusion of airborne contaminants during its handling.

Applications:

- Microbiology
- Molecular Biology
- Food Industry Quality Control
- Micromechanical assemblies
- Amplification of nucleic acids and thermocyclizations

(Since these are not biological safety cabins, they CANNOT be used for handling pathogens.)



Polaris Vertical Laminar Flow Hoods:

- ✓ Class ISO 3 ✓ 4 models available

Polaris series vertical laminar flow cabinets are used in all situations in which it is necessary to protect the product from harmful effects deriving from the uncontrolled diffusion of airborne contaminants during its handling.

Applications:

- Microbiology
- Virology
- Haematology
- Cell cultures
- Non-pathogenic cell cultures
- Micromechanical assemblies
- Pharmaceutical Quality Control
- Food Industry Quality Control

(Since these are not biological safety cabins, they CANNOT be used for handling pathogens.)



MVF Series Vertical Laminar Flow Units:

- ✓ Class ISO 3 ✓ 4 models available

MVF modules are Vertical Laminar Flow units providing Class ISO 3 according to ISO 14644-1. They can be joined together to build up small or larger sized clean room environments. These modules can be used in several industries including pharmaceutical manufacturing and in food and beverage production.

Applications:

- Food Processing
- Pharmaceutical Manufacturing



Cytobox Negative Pressure Isolator:

- ✓ Class ISO 3 ✓ 3 models available

Cytobox is a Class 3 Glove Box Negative Pressure Isolator, designed for processes and applications where the operator, product and environment must be protected from the spread of airborne contaminants as well as to avoid any biological contamination between the environment and the product during processing.

Applications:

- Pharmacies of hospitals
- Day-hospitals
- Oncology departments
- Pharmaceutical industry



Mortuary Chambers and Equipment:

Withnell Sensors are pleased to introduce Angelantoni Life Science's prefabricated mortuary chambers, running special internal handling as well as turnkey systems for the morgue. Key features include a Telescopic sliding system for the stretcher's movement, microprocessor controller (E2003), up to 6 corpse per unit, built in anti-moisture resistors on the door frame and temperature configurations ranging from 0°C / +10°C. On request, bespoke versions (long conservation -10°C / -20°C) of mortuary chambers are also available.

- ✓ Temperature range 0°C and +10°C
- ✓ Wide range of configurations & accessories
- ✓ Maximum safety & hygiene
- ✓ Key lockable chamber doors



Mortuary Chambers PM and PM Ekom Range:

	PM 2003 /25		PM 2006 /45		PM 2010 /65		PM2...- Ekom		PM4...- Ekom		PM6...- Ekom	
	TN	BT	TN	BT	TN	BT	TN	BT	TN	BT	TN	BT
Corpse compartments	2		4		6		2		4		6	
Temperature Range °C	0/+10 -10/-20		0/+10 -10/-20		0/+10 -10/-20		-5/+5 -10/-20		-5/+5 -10/-20		-5/+5 -10/-20	
Cooling Gas	R134A R404A		R134A R404A		R134A R404A		R404A R404A		R404A R404A		R404A R404A	
External Dimensions	900×2260×2030mm		1800×2260×2030mm		2700×2260×2150mm		970×2170×2560mm		1770×2170×2520mm		1770×2170×2520mm	
Internal Dimensions	740×2100×1870mm		1640×2100×1870mm		2540×2100×1870mm		830×2030×2030mm		1630×2030×2030mm		1630×2030×2030mm	

Plant Growth and Stability Chambers:

We are pleased to provide an excellent range of plant growth and stability test chambers from Angelantoni Life Science (ALS). The high-quality chambers are efficiently designed, providing small external dimensions, easy use, reduced consumption of energy and gold standard reliability.

The climatic chambers are used primarily for performing stability tests in the chemical-pharmaceutical sector and temperature, humidity and controlled lighting cycles for growing plants, insect incubation and in the food industry.

- ✓ High precision
- ✓ Low energy consumption
- ✓ Low noise
- ✓ User friendly programmable controller



EKOCT - EKOCTL - EKOCH - EKOCHL Range:

	EKOCH		EKOCT		EKOCHL		EKOCTL	
	700L	1500L	700L	1500L	700L	1500L	700L	1500L
Volume	700L	1500L	700L	1500L	700L	1500L	700L	1500L
Temperature Range °C	-10°C / +60°C		+10°C / +55°C		-10°C / +60°C (lights on)		+10°C / +55°C	
Dewpoint °C	+5°C		-		+5°C		-	
Relative Humidity with temperature from +10 / +60 °C	20% / 90%		-		20% / 90%		-	
Humidity Precision	±4%		-		+5%		-	
Maximum Absorbed Current	11	11	8	9	8/20 (lights on)	8/20 (lights on)	5/18 (lights on)	6/18 (lights on)
External Dimensions	740 × 940 × 1998mm	1480 × 940 × 1998mm	740 × 820 × 1998mm	1480 × 820 × 1998mm	820 × 990 × 2085mm	1530 × 940 × 2085mm	820 × 990 × 2085mm	1530 × 940 × 2085mm
Internal Dimensions	590 × 640 × 1500mm	1330 × 640 × 1500mm	590 × 640 × 1500mm	1330 × 640 × 1500mm	590 × 640 × 1500mm	1330 × 640 × 1500mm	590 × 640 × 1500mm	1330 × 640 × 1500mm

Climatic and Thermostatic Chamber:

The Bulkfrost Climatic and Thermostatic Chamber allows you to control the temperature and humidity inside the test compartment, in a range from -70°C to + 180°C (temperature) and from 10% to 98% (relative humidity). It guarantees high performance, a generous standard configuration, and a large number of accessories for adapting to all the requests of our customers.

There are generally two main types of tests that can be carried out with the bulkfrost chambers: one being thermostatic - which tests are focused solely on temperature, and the second being climatic tests which involve both the temperature and humidity parameters at the same time.



Bulkfrost Range:

	BULKFROST 340 (*)	BULKFROST 300	BULKFROST 1200	BULKFROST 1600
Volume	337L	553L	1076L	1439L
Temperature Range °C	-75°C / +180°C	-75°C / +180°C	-75°C / +180°C	-75°C / +180°C
Temperature Fluctuation (K)	+0.5°C / +1°C	+0.1°C / +0.3°C	+0.1°C / +0.3°C	+0.1°C / +0.3°C
Temperature Changing Rate Heating ¹	8 K/min	6 K/min	6 K/min	4.5 K/min
Temperature Changing Rate Cooling ²	5.5 K/min	5.5 K/min	5 K/min	2.3 K/min
Maximum Thermal Load (W) ³	3000	3000	3000	3000
External Dimensions (WxDxH)	875 × 1786 × 1765mm	1124 × 1768 × 2049mm	1278 × 2222 × 2111mm	1278 × 2600 × 2111mm
Internal Dimensions (WxDxH)	601 × 810 × 694mm	850 × 730 × 892mm	1000 × 1130 × 953mm	1000 × 1510 × 953mm

(*) Only available with water condensation.

Cold Storage Rooms:

Withnell Sensors have partnered with ALS who offer a wide range of custom built, prefabricated cold storage rooms which are used to preserve large quantities of vaccines, drugs and other products for the pharmaceutical healthcare industry.

The main features of the products in this range are their high reliability and the option of offering customised solutions. All cold storage rooms are manufactured in compliance with the relevant standards in force.



Example of Cold Room Interior:

Characteristics of the range:

- ✓ Precise temperature control (luminous intensity & humidity on demand)
- ✓ Insulation material: polyurethane, polystyrene and mineral wool
- ✓ Temperature range -10°C or -30°C
- ✓ Wide range of capacities (up to 19,000 litres)
- ✓ Quick and easy assembly
- ✓ High performance, high reliability
- ✓ Rounded inside corners
- ✓ Direct and indirect cooling systems
- ✓ ATEX execution on demand
- ✓ Maximum fire resistance rating: A2s1d0





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Data Loggers, Thermocouples & Calibration