



Ultra low temperature freezers -40°C and -86°C
NEXUS Series

ALS
ANGELANTONI
LIFESCIENCE

Our experience

in biomedical cold storage



C For over 80 years Angelantoni has been producing a full range of freezers for the long-term preservation of biological samples used in scientific laboratories, in pharmaceutical research, in hospitals and in any other application where it is necessary to preserve material of human, animal, plant origin or microorganisms at low / ultra-low temperatures.

Angelantoni's experience in the refrigeration market, combined with the continuous search for solutions which can provide its customers quality products, has led to the development of NEXUS, a new state of the art line of ultra-freezers with functions developed and tested by biomedical professionals.

The innovative handle and the new generation controller contribute to the **NEXUS** line's top level performance.



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MAXIMUM CONNECTIVITY
using **3G** communication modules
or **Ethernet** or **Wi-Fi** and
TELESERVICE



Connection
through an
ACCESS PORT



Latest generation
CONTROLLER with **CAN-BUS**
internal protocol



Internal chamber in
AISI 304
STAINLESS STEEL



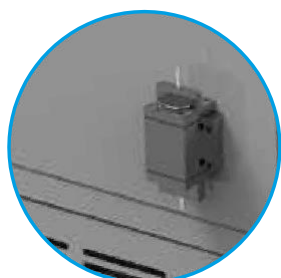
Real-time data download via
integrated **USB** port and basic
software included



Safety and traceability
access with the
BIOGUARD® system



Easy, user friendly with
a new **ERGONOMIC**
HANDLE for user comfort



Pressure equalization valve that
allows **REDUCED ICE FORMATION**
and **ENERGY SAVING**



Easy moving
with
PIVOTING CASTORS



NEXUS: Product Features



Maximum protection

The AISI 304 Stainless steel internal chamber, together with the sophisticated external powder coated epoxy paint process, ensures maximum corrosion protection and long life.



Reduced ice formation

Inner doors with a variable configuration (from 3 to 5) and new concepts of pressure equalization valve reduce ice formation. The door's insulation efficiency is also guaranteed by a system of flat hinges which improve the seal of the gaskets.



Outside communication

Standard 23mm access port for the insertion of additional probes.



Interior space optimization

All ULT freezers are equipped with a system of height-adjustable shelves (drawers optional) allowing for the maximum utilization of the interior space, as well as the appropriate placement of the storage racks and cryogenic boxes.



Easy opening system

The main door opening and closing is characterized by a new, effective, ergonomic handle that allows for single handed operation. Standard key lock or optional BIOGUARD® lock system.



Environmentally friendly

At ANGELANTONI we consider ourselves to be "eco-friendly", so we use HCFC-free gas in all our products.



Vertical model



Version with drawers

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Easy cleaning

The washable and reusable air filter is located in the lower front face of the ULT freezer, allowing easy access. Rounded corners of the internal chamber simplify cleaning.



Low noise levels

The cabinet and cooling system are designed to minimize noise, so the ULT freezers can be placed in laboratories or hospitals without disturbing operators.



More safety in the accesses

The security of samples can be increased with the optional BIOGUARD® system, which provides complete access control. With this option, the door is equipped with an electric lock that can only be opened using authorized cards. This ensures total traceability of accesses.



Easy handling

All vertical and horizontal ULT freezers are equipped with pivoting castors, making it easy to move them when necessary. Adjustable feet are provided for easy levelling.



Freezing uniformity

The serpentine cooling system ensures and constant cooling, guaranteeing the internal temperature stability and uniformity.



Maximum connectivity

The electronic management of all ULT freezers is provided by the latest generation controller that optimizes performance and functionality and allows for simple remote adjustment and monitoring of the freezer.



Version with Racks



Horizontal model

New ergonomic handle

EASY ACCESS TO YOUR SAMPLES

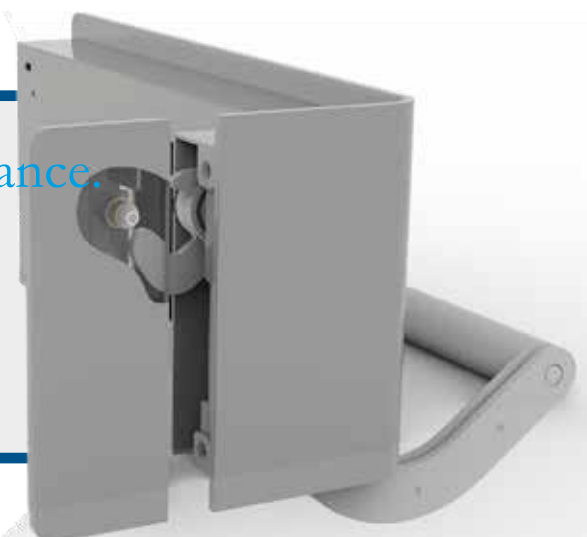


Following an extensive study and design process, **NEXUS** ULT freezers have been equipped with a **new door handle** incorporating modern design and ergonomics. The **lever-operated** opening and closing mechanism, reduces the effort during opening and generates maximum pressure with minimum effort when closing. This makes it possible to increase the effectiveness of the insulation from the outside, reducing ice formation. The front position of the handle allows the ULT freezer to be positioned alongside other equipment, maximizing space usage.

In order to improve the mechanical performance, the handle also has a servo assisted system that totally eliminates friction, allowing the opening and closing to be done **with just one hand**.

More practical, improved performance.

In the **NEXUS** ULT freezers the handle is easily gripped and functional, providing the perfect balance between the Made in Italy design and ergonomics.



Latest generation controller

A LEADING COMPONENT FOR ITS RELIABILITY, PERFORMANCE AND EASY USE



NEXUS ULT freezers are fitted with the latest generation **ACP7** controller, developed after years of experience and utilizing the latest technologies. It is capable of guaranteeing high performance, maximum safety and ease of use.

The **controller** has a **user friendly** interface which allows the monitoring of functions and change of settings.

Access to parameters is password protected with **3 access levels**: user, service and administrator.



The sophisticated **display uses advanced technology** and is easy to use, thanks to **intuitive icon surfing**, the **touchscreen** and the **multilingual instructions**. Its large 7" size allows easy and immediate display of the menu steps and an intuitive color identification of the alarms.

The controller is equipped with a system of **3 independent microprocessors** that communicate with each other using **CAN-BUS** connection system, which is well known for its high reliability and immunity to electrical interference.



Latest generation controller

COLD CONNECTIVITY AND INTELLIGENT CONTROL

The ACP7 controller has innovative features that reduce consumption and thanks to 3 separate microprocessors for: REGULATION, ALARM and DISPLAY allows continuous monitoring of parameters.

The **REAL-TIME** function allows daily display of temperatures. The functionality is completed by the events lists. Temperature recording and operating variables sampled every 30 sec. for up to **10 years**. All data is stored and the event log files can be downloaded to a PC via the built in **USB port**.

The **ECOMODE** function enables the ULT freezer to operate in energy saving mode.

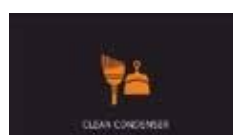
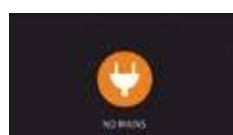
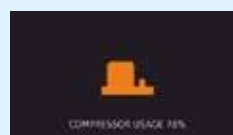
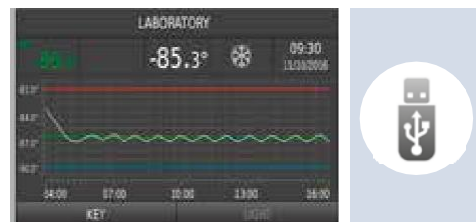
It is possible to regulate access to the controller and enable the modification of the user parameters through the use of **PERSONAL PASSWORDS**.

The **SMART DIAGNOSTIC** function ensures constant monitoring of the wear of the main components. When the preset maximum wear threshold has been reached, an alarm will prompt the replacement of the component, reducing the risk of machine downtime.

The internal temperature is constantly monitored with an alert when it reaches the safety threshold.

The **BACK-UP BATTERY** provides periodic tests, state of charge and replacement warning. In case of a power failure, the battery has a 30 hours operating time.

In case of power or mechanical failure, the **BACK-UP CO2** or **LN2** system (optional) guarantees the safety of the samples for approximately 24 hours. In case of prolonged door opening, the CO2 or LN2 back up system starts working to support the immediate recovery of the temperature, thanks to the intelligent reading of the electronic system.



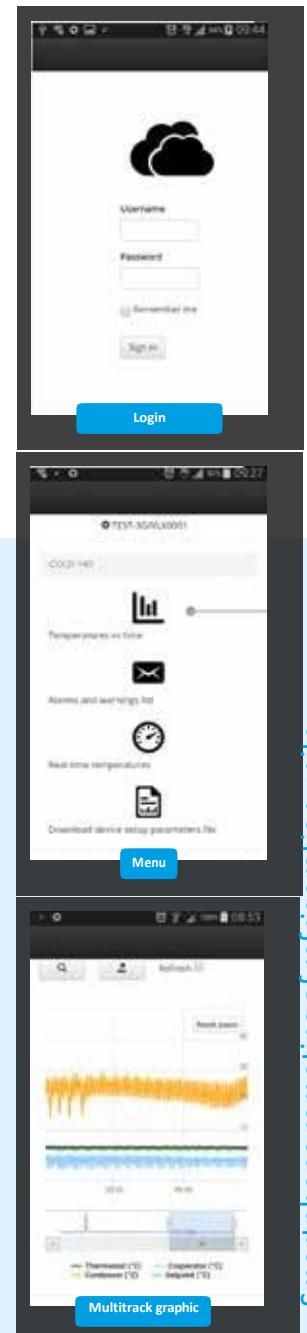
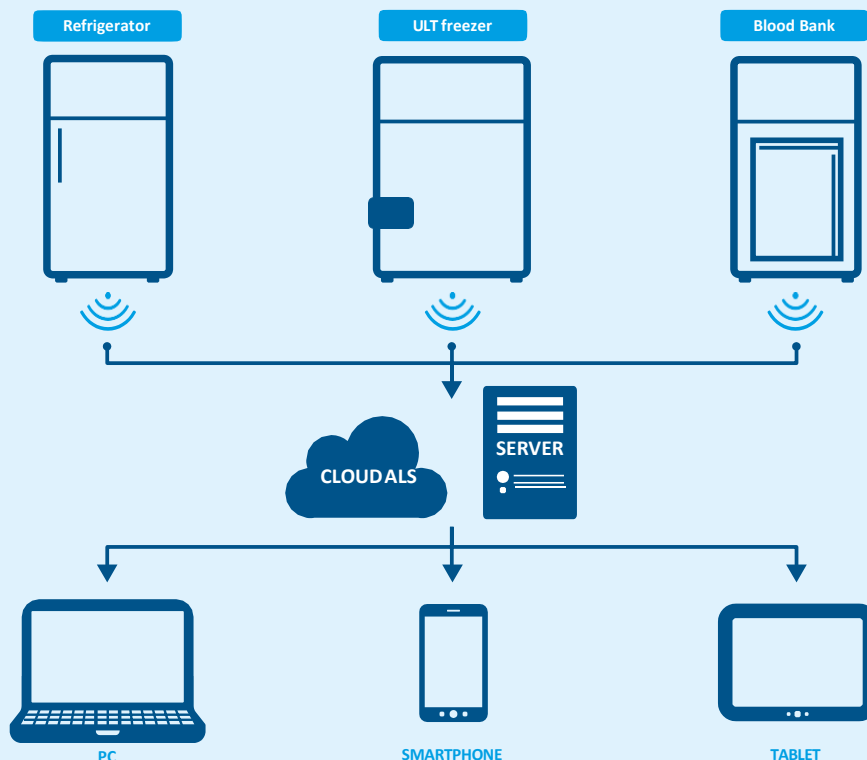
Latest generation controller

CONSTANT MONITORING, WHERE AND WHEN YOU WANT IT

The new controller ensures maximum connectivity and constant monitoring thanks to the **CloudALS** computing, or local storage server (Owner Server), easily accessible from PC, Smartphones and Tablets.

Using this option, users can check, in Real-Time, the storage temperatures of the ULT freezer. The service engineers can promptly access detailed information on the operation of the refrigerating unit and its components.

The possibility of choosing between a **3G** network, or **Ethernet**, or **Wi-Fi** communication module facilitates any type of connection in the work environment, allowing the remoting of the functions of one or more Angelantoni devices (refrigerators, ULT freezers, etc.) that has the latest generation controller (ACP series) and that are installed in a single, or in several laboratories.



Smartphone remoting of refrigeration units

REMOTE FUNCTIONS

- Master Data management
- Multi-Track Real-Time graphics
- E-mail events notification
- Real-Time variable consultations



- Reading of configuration parameters
- Writing of configuration parameters
- Firmware updating
- Teleservice



SERVICE

Optionals

	NEXUS				NEXUS Slim			
	340 V-3	340 V-4	530 V-3	530 V-4	520 V-4	520 V-5	810 V-4	810 V-5
Temperature chart recorder	11352							
Opening system BIOGUARD® by user card 3 user cards are included	14161							
Stainless steel height-adjustable shelf	11204		11205		13349		13006	
Stainless steel AISI 304 telescopic drawer	11202		11203		13351		13004	
	Max. 9 drawers	Max. 8 drawers	Max. 9 drawers	Max. 8 drawers	Max. 9 drawers	Max. 10 drawers	Max. 12 drawers	
CO ₂ backup system It keeps temperature at - 70°C	14163							
LN ₂ backup system It keeps temperature at - 86°C	14165							
Additional PT 100 probe	13233							
Validation protocols IQ,OQ,PQ	13240							
3G Ethernet Wi-Fi Modules	Available for all models							



11352



14161



11204



11202




14163



13233

Rack for cryoboxes 50 mm

NEXUS 340 V-3		NEXUS 530 V-3		NEXUS 340 V-4		NEXUS 530 V-4	
SS rack with drawers (Cod. 14057)				SS rack with drawers (Cod. 14014)			
Rack per ULT freezer: 9		Rack per ULT freezer: 12		Rack per ULT freezer: 12		Rack per ULT freezer: 16	
Cryoboxes per rack: 28		Cryoboxes per rack: 28		Cryoboxes per rack: 20		Cryoboxes per rack: 20	
Cryoboxes per ULT freezer: 252		Cryoboxes per ULT freezer: 336		Cryoboxes per ULT freezer: 240		Cryoboxes per ULT freezer: 320	
Total vials (2ml): 25.200		Total vials (2ml): 33.600		Total vials (2ml): 24.000		Total vials (2ml): 32.000	
				ALUMINIUM standard rack (COD. 14019) Also available in SS (Cod. 14016)			
				Rack per ULT freezer: 12		Rack per ULT freezer: 16	
				Cryoboxes per rack: 20		Cryoboxes per rack: 20	
				Cryoboxes per ULT freezer: 240		Cryoboxes per ULT freezer: 320	
				Total vials (2ml): 24.000		Total vials (2ml): 32.000	
				ALUMINIUM standard rack (COD. 13365)			
						Rack per ULT freezer: 16	
						Cryoboxes per rack: 20	
Cryoboxes per ULT freezer: 400							
		Total vials (2ml): 40.000					
NEXUS Slim 520 V-4		NEXUS Slim 810 V-4		NEXUS Slim 520 V-5		NEXUS Slim 810 V-5	
SS rack with drawers (Cod. 14013)				SS rack with drawers (Cod. 14005)			
Rack per ULT freezer: 16		Rack per ULT freezer: 24		Rack per ULT freezer: 20		Rack per ULT freezer: 30	
Cryoboxes per rack: 24		Cryoboxes per rack: 24		Cryoboxes per rack: 16		Cryoboxes per rack: 16	
Cryoboxes per ULT freezer: 384		Cryoboxes per ULT freezer: 576		Cryoboxes per ULT freezer: 320		Cryoboxes per ULT freezer: 480	
Total vials (2ml): 38.400		Total vials (2ml): 57.600		Total vials (2ml): 32.000		Total vials (2ml): 48.000	
ALUMINIUM standard rack (COD. 14018) Also available in SS (Cod. 14015)				ALUMINIUM standard rack (COD. 14020) Also available in SS (Cod. 14017)			
Rack per ULT freezer: 16		Rack per ULT freezer: 24		Rack per ULT freezer: 20		Rack per ULT freezer: 30	
Cryoboxes per rack: 24		Cryoboxes per rack: 24		Cryoboxes per rack: 16		Cryoboxes per rack: 16	
Cryoboxes per ULT freezer: 384		Cryoboxes per ULT freezer: 576		Cryoboxes per ULT freezer: 320		Cryoboxes per ULT freezer: 480	
Total vials (2ml): 38.400		Total vials (2ml): 57.600		Total vials (2ml): 32.000		Total vials (2ml): 48.000	

Vials

Vials with external thread suitable for cryoboxes with 10x10 dividers.
The thread design allows the cap to be opened and closed with just a half turn.
Available in the following capacities: 0.5 ml 1.0 ml 2.0 ml



Cryoboxes

Available in white, blue, green, red, yellow colors and transparent polypropylene.



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NEXUS Series

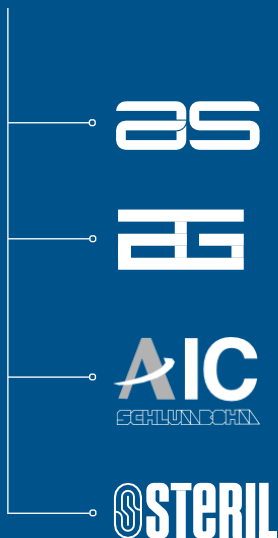
Models

HORIZONTAL			
-86°C		-40°C	
Model	Code	Model	Code
NEXUS 110 H	14082	NEXUS 110 SH	14149
NEXUS 370 H	14083	NEXUS 370 SH	14150
NEXUS 550 H	14084	NEXUS 550 SH	14151
NEXUS 720 H	14085	NEXUS 720 SH	14152
VERTICAL			
-86°C		-40°C	
Model	Code	Model	Code
NEXUS 340 V-3*	14086	NEXUS 340 SV-3*	14153
NEXUS 340 V-4*	14088	NEXUS 340 SV-4*	14154
NEXUS 530 V-3*	14087	NEXUS 530 SV-3*	14155
NEXUS 530 V-4*	14089	NEXUS 530 SV-4*	14156
NEXUSSlim 520 V-4*	14090	NEXUSSlim 520 SV-4*	14157
NEXUSSlim 520 V-5*	14091	NEXUSSlim 520 SV-5*	14158
NEXUSSlim 810 V-4*	14092	NEXUSSlim 810 SV-4*	14159
NEXUSSlim 810 V-5*	14093	NEXUSSlim 810 SV-5*	14160

*Inner doors quantity

Specifications

MODELS		HORIZONTAL				VERTICAL				
		NEXUS				NEXUS		NEXUS Slim		
			110	370	550	720	340	530	520	810
DIMENSIONS										
			730 x 850 x 1080	1780 x 855 x 1140	2350 x 855 x 1140	2834 x 855 x 1140	792 x 950 x 1975	1025 x 950 x 1975	792 x 950 x 1975	1095 x 950 x 1975
Liters (lt)			100	350	557	717	300	500	510	815
Weight (kg)			180	260	312	349	236	302	250	314
TECHINICAL PERFORMANCES										
Range of temperature (°C)	H	V	(- 40 ~ - 86)							
	SH	SV	(- 20 ~ - 43)							
Noise level (db (A))	H	V	- 80							
	SH	SV	- 40							
			< 52							
Maximum absorbed current (A)	H	V	7	7	7	9	7	9	9	9
	SH	SV	3,5	3,5	3,5	3,5	3,5	3,5	3,5	4
Power supply			220 V – 115 V (50 Hz o 60 Hz)							
Refrigerant Gas	H	V	R404/Mix (for -86°C)							
	SH	SV	R404 (for -40°C)							
STRUCTURE										
Exterior finish			Powder coated epoxy paint							
Internal material			Stainless steel AISI 304							
Insulation (mm)			140 (PU)						70 (VIP)	
Inner doors (nr)			1	4	4	5	3 or 4		4 or 5	
Shelves (nr)			/				2 or 3 height-adjustable		3 or 4 height-adjustable	
Max load per shelf (kg)			/				40			



AS

EG

AIC
BEHLUNBOHN

STERIL

ALS is one of the worldwide leading manufacturers of biomedical refrigeration, non contamination and sterilization equipment constantly committed to innovation and to environmental or biological safety.

Research centres, hospitals, universities, chemical and pharmaceutical companies are ALS Customers: our company can satisfy any requirement of scientific refrigeration, infection Control (autoclaves) and microbiological safety through a wide range of standard and special products.

In this field we can offer now a complete range of equipment and services to meet the needs of sterilization (CSSD), disinfection stations (CSDD) and special applications BSL3 laboratories - BSL4 and treating infected wastes (Biohazard).

ALS can be an ideal partner in Science and Technology due to a wide range of products and to the market presence in more than 50 Countries with local Agents and Distributors.

ALS invests more than 5% of its turnover in research and development involving a multidisciplinary team of scientists that support clients with cutting-edge, standard and customized solutions in terms of quality, reliability and innovation.

ALS is a subholding of Angelantoni Industrie Group established in 1932, worldwide known for innovation, R&D and high tech such as climatic chambers and space simulators (Angelantoni Test Technologies), spattering machines for thin film technology (Kenosistec), solar receiver tubes for concentrated solar power plants (Archimede Solar Energy) refrigeration turbo devices for energy saving (Turboalgor) in addition to ALS advanced and patented products such as Hemosafe, Smartfreezers and Waster.



Angelantoni sites



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