

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



Our experience

in biomedical cold storage



➤ For over 85 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.



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

Connection through an **ACCESS PORT**

Internal chamber in **AISI 304 STAINLESS STEEL**

Safety and traceability access with the **BIOGUARD®** system

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

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

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

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

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.



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.



Vertical model



Version with drawers



Version with Racks



Horizontal model

New ergonomic handle

EASY ACCESS TO YOUR SAMPLES

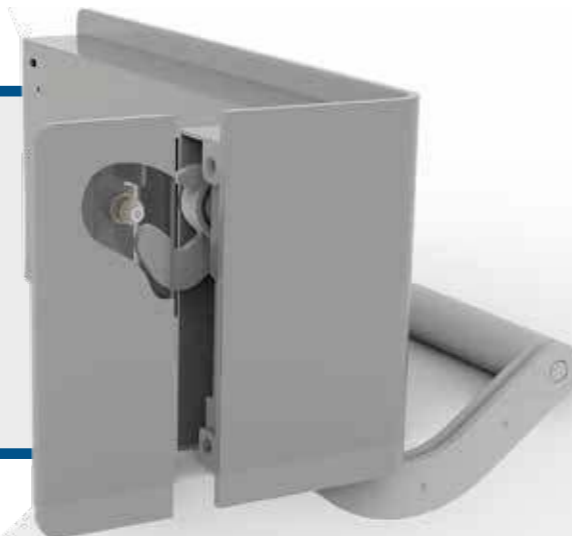


Following an extensive study and design process, **NEXUS** ULT freezers have been equipped with a **new door handle** incorporating modern design and ergonomics. The **lever-operated** opening and closing mechanism, reduces the effort during opening and generates maximum pressure with minimum effort 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 **touch screen** 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.

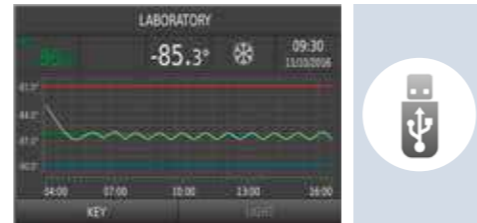
It is possible to regulate access to the controller and enable the modification of the user parameters through the use of **PERSONAL PASSWORDS**.

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.



MORE SAFETY FOR YOUR SAMPLES

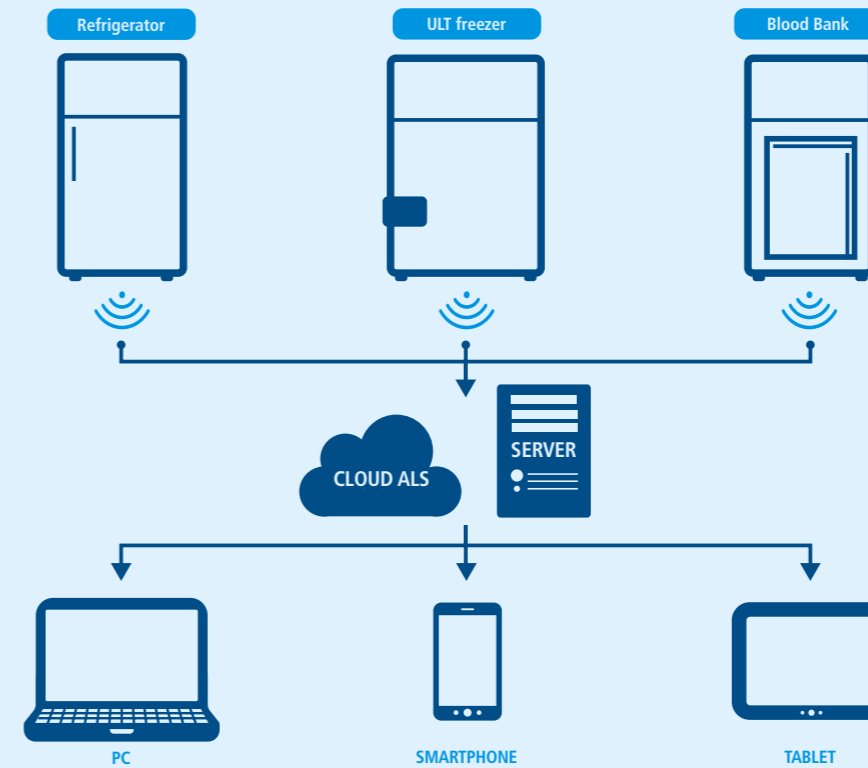
Latest generation controller

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

USER

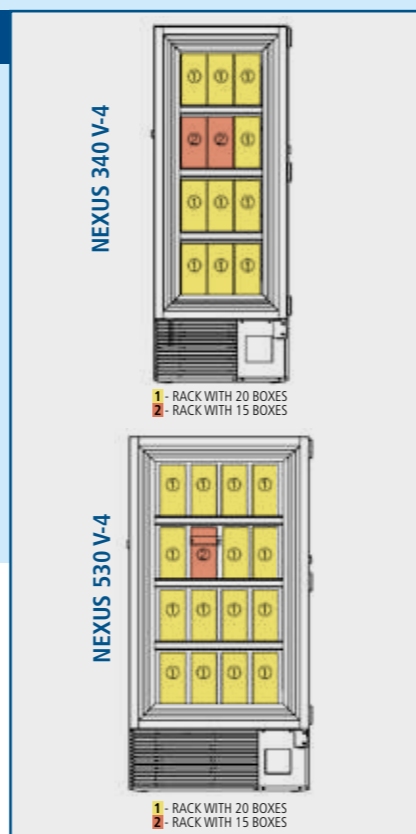
SERVICE

Optionals

	NEXUS							NEXUSSlim	
	340V3/340SV3	340V4/340SV4	530V3/530SV3	530V4/530SV4	110H/110SH	370H/370SH	550H/550SH	810V4/810SV4	810V5/810SV5
7-days temperature chart recorder for SH and SV models								11351	
7-days temperature chart recorder for H and V models								11352	
BIOGUARD Card door opening system for one door (only when ACP7 installed)	14161			N.D.		14161			
N.1 Additional user badge for BIOGUARD system								11976	
Porth hole 23 mm with cap								11234	
SS internal shelf (Max 10)	11204		11205		N.D.			13006	
SS sliding telescopic drawer	11202		11203		N.D.			13004	
	max 9 drawers	max 8 drawers	max 9 drawers	max 8 drawers	N.D.	N.D.	N.D.	max 12 drawers	max 10 drawers
CO2 back-up system (up-right models V)								14163	
CO2 back-up system (chest models H)								14164	
LN2 back-up system with hose (all models H e V)								14165	
GSM Module								13884	
Additional PT 100 probe (three wires), class A								13233	
Additional PT 100 class A probe with 4-20A signal converter								11870	
Addit. cert. PT 100 probe, class A with 3 points temp. Calib. (-30°C, -40°C, -43°C) only for model SV e SH								13665	
Addit. certified PT 100 probe, class A with 3 points temp. Calib. (-60°C/-70°C/-80°C) only for model H e V								14174	
Ethernet Module								13921	
CRYOLOG License								13925	
ALS IQ and OQ protocols								IQ_OQ ALS	

Rack for cryoboxes 50 mm

Model	Code	Type	Material	Racks Tot.	Boxes Tot.	Vials Tot. (1ml)
Nexus 340 V-3	14057	Drawer	Stainless Steel	9	252	25200
	14067	Hive	Aluminium			
	14069					
Nexus 530 V-3	14057	Drawer	Stainless Steel	12	336	33600
	14067	Hive	Aluminium			
	14069					
Nexus 340 V-4*	14014 (1)	Drawer	Stainless Steel	10	230	23000
	14463 (2)		Aluminium	2		
	14019 (1)	Hive	Aluminium	10		
	14465 (2)		Stainless Steel	2		
	14016 (1)		Aluminium	10		
	14464 (2)		Stainless Steel	2		
Nexus 530 V-4*	14014 (1)	Drawer	Stainless Steel	15	315	31500
	14463 (2)		Aluminium	1		
	14019 (1)	Hive	Aluminium	15		
	14465 (2)		Stainless Steel	1		
	14016 (1)		Aluminium	15		
	14464 (2)		Stainless Steel	1		
NexusSlim 810 V-4	14013	Drawer	Stainless Steel	24	576	57600
	14018	Hive	Aluminium			
	14015		Stainless Steel			
NexusSlim 810 V-5	14005	Drawer	Stainless Steel	30	480	48000
	14020	Hive	Aluminium			
	14017		Stainless Steel			
Nexus 110H	14010	Hive	Aluminium	9	99	9900
	14008		Stainless Steel			
Nexus 370H	14010	Hive	Aluminium	21	231	23100
	14008		Stainless Steel			
Nexus 550H	14010	Hive	Aluminium	33	363	36300
	14008		Stainless Steel			



For these two types of models it is need to order both types of racks, for example if beehive type material is chosen, you must order rack code



Code	CARDBOARD BOXES
14021	Cardboard white standard box (133x133x50), with divider 9x9 for vials 2 ml
14331	Cardboard white standard box (133x133x50), with divider 10x10 for vials 1 ml

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
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 810 V-4*	14092	NEXUSSlim 810 SV-4*	14159
NEXUSSlim 810 V-5*	14093	NEXUSSlim 810 SV-5*	14160

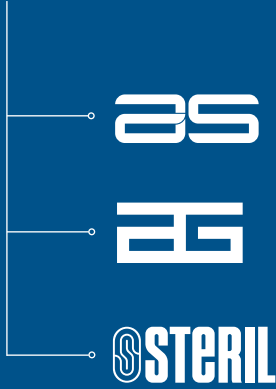
* Inner doors quantity

Specifications

MODELS	HORIZONTAL			VERTICAL		
	NEXUS	NEXUS	NEXUS	NEXUS	NEXUS	NEXUSSlim
	110	370	550	340	530	810
DIMENSIONS						
Ext. Dim. (mm) (WxDxH)	730 x 850 x 1080	1780 x 855 x 1140	2350 x 855 x 1140	792 x 950 x 1975	1025 x 950 x 1975	1112 x 960 x 1978
Liters (lt)	113	370	550	340	530	810
Weight (kg)	180	260	312	236	302	314
TECHINCAL PERFORMANCES						
Range of temperature (°C)	H	V	(- 40 ~ - 86)			
	SH	SV	(- 20 ~ - 43)			
Working temperature (°C)	H	V	- 80			
	SH	SV	- 40			
Noise level (db (A))	< 52					
Maximum absorbed current (A)	H	V	7	7	7	9
	SH	SV	3,5	3,5	3,5	4
Power supply	220 V – 115 V (50 Hz o 60 Hz)					
Refrigerant Gas	H	V	MIX (R23+R290+R170) (for -86°C)			
	SH	SV	R452a (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	3 or 4		4 or 5
Shelves (nr)	/			2 or 3 height-adjustable		3 or 4 height-adjustable
Max load per shelf (kg)	/			40		



Due to continuous and improving development of the product and of its accessories, the images on the brochure can be slightly different.



Angelantoni Life Science (ALS), a sub-holding fully owned by Angelantoni Industrie, is one of the leading international companies in the supply of refrigerating equipment and the design of technological solutions in the biomedical industry, with a constant commitment to biological and environmental innovation and safety.

Research centers, hospitals, laboratories, universities and industrial companies in the pharmaceutical and chemical industry are the recipients of ALS production, which covers all the needs for refrigeration, infection control and microbiological safety with a wide range of standard and special products. With its agents and distributors in over 40 countries, Angelantoni Life Science is the ideal partner in the healthcare sector and scientific research.

Our strength comes from the skills of our engineers and the experience they have gained in design, from the professionalism of our technicians in production and service and the coordination of experienced managers supporting our staff.

Each team member contributes their enthusiasm and scientific and industrial knowledge to a work environment that stimulates innovation and development. Angelantoni Life Science invests more than 10% of its turnover in Research and Development, involving a multidisciplinary team of technicians and researchers.

Founded in 1932, Angelantoni Industrie is an industrial group with 4 plants and over 500 employees. It is one of the world's leading companies in the production of environmental and space simulation chambers (ATT Angelantoni Test Technologies), cold technology applications in pharmaceutical and hospital research (ALS Angelantoni Life Science), Energy Efficiency (Turboalgor) and Solar Thermodynamic Energy (Archimede Solar Energy receiver tubes).



Angelantoni Plants



Angelantoni Life Science S.r.l.
MASSA MARTANA HEADQUARTERS
 Località Cimacolle, 464 - 06056 Massa Martana (PG)
 tel. (+39) 075.89551 - fax (+39) 075.8955312
MILANO HEADQUARTERS
 viale Monza, 291 - 20126 Milano (MI)
 tel. (+39) 02.939701.1



biomedical@angelantoni.it

www.angelantonilifescience.it