

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



# OUR EXPERIENCE

## in biomedical cold storage

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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**



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



Internal chamber in  
**AISI 304**  
**STAINLESS STEEL**



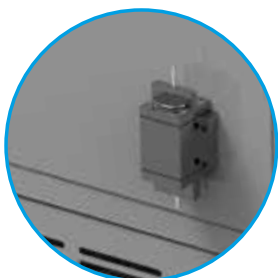
Real-time data download  
via integrated **USB** port  
and basic software  
included



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.





### 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.



## 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

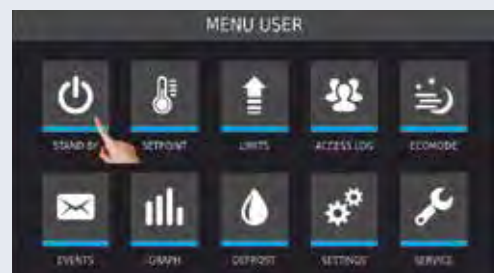
A LEADING COMPONENT FOR ITS RELIABILITY, PERFORMANCE AND EASY USE



**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.

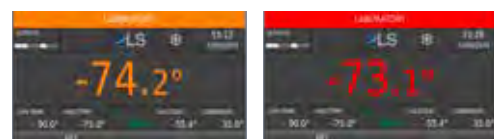
Access to parameters is password protected with **3 access levels**: user, service and administrator.



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.

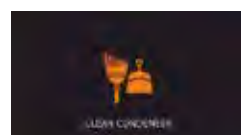
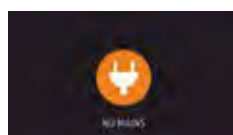
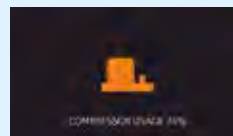
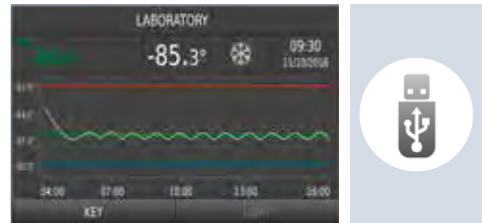
It is possible to regulate access to the controller and enable the modification of the user parameters through the use of **PERSONAL PASSWORDS**.

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



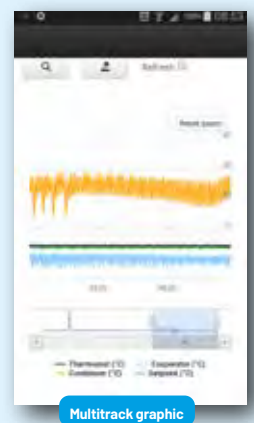
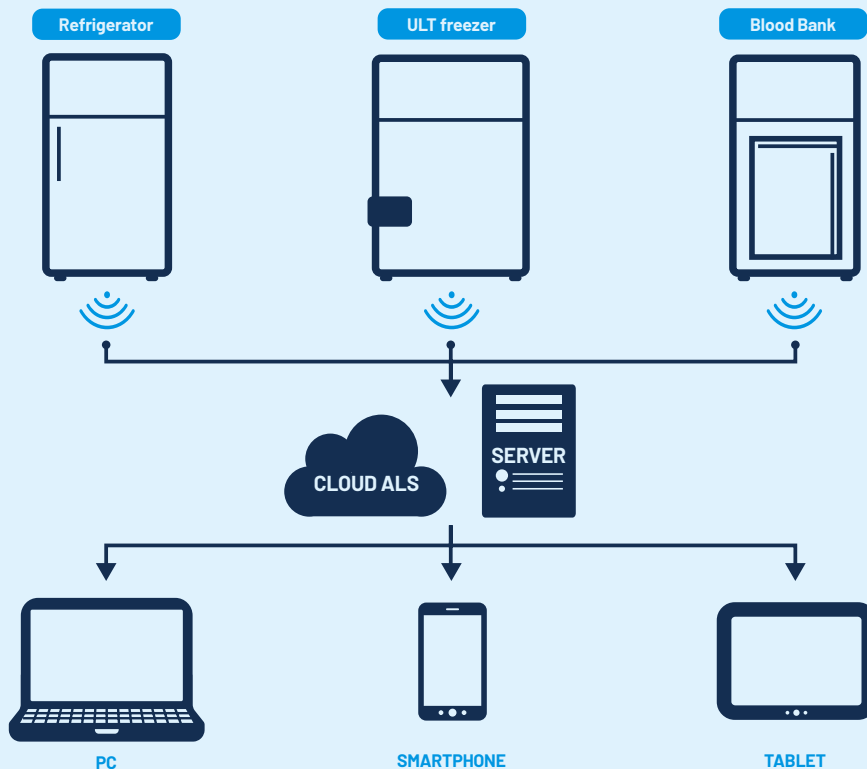
## LATEST GENERATION controller

### 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

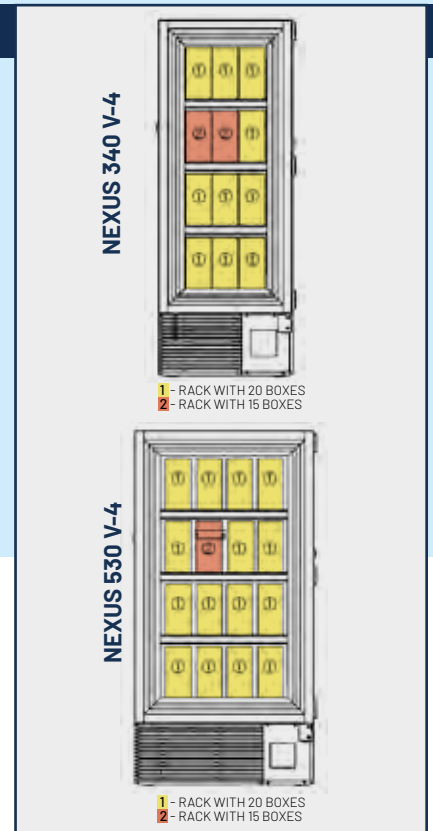
SERVICE

**OPTIONALS**

	NEXUS							NEXUSSlim	
	340V-3/340SV-3	340V-4/340SV-4	530V-3/530SV-3	530V-4/530SV-4	110H/110SH	370H/370SH	550H/550SH	810V-4/810SV-4	810V-5/810SV-5
7-days temperature chart recorder for SH and SV models								11351	
7-days temperature chart recorder for Hand V models								11352	
BIOGUARD Card door opening system for one door (only when ACP7 is 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 4-20mA 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 I0 and 00 protocols								I0_00 ALS	

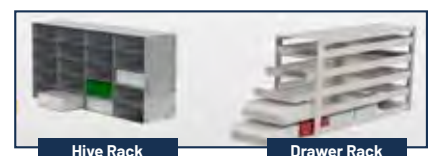
**Rack for cryoboxes 50mm**

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)			2		
	14019 (1)			Hive		
	14465 (2)	2				
	14016 (1)	Stainless Steel	10			
	14464 (2)		2			
Nexus 530 V-4*	14014 (1)	Drawer	Stainless Steel	15	315	31500
	14463 (2)			1		
	14019 (1)			Hive		
	14465 (2)	1				
	14016 (1)	Stainless Steel	15			
	14464 (2)		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	14497	Hive	Aluminium	9	72	7200
	14494		Stainless Steel			
	14010		Hive			
14008	Stainless Steel					
Nexus 370H	14010	Hive	Aluminium	21	231	23100
	14008		Stainless Steel			
	Nexus 550H	14010	Hive	Aluminium	33	363
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		NEXUSSlim	
	110	370	550	340	530	810	
<b>DIMENSIONS</b>							
Ext. Dim. (mm) (WxDxH)	730 x 990 x 1100	1780 x 920 x 1140	2320 x 920 x 1140	791 x 1026 x 1978	1040 x 1026 x 1978	1112 x 1114 x 1978	
Int. Dim (mm) (WxDxH)	450 x 560 x 450	1050 x 520 x 670	1590 x 520 x 670	450 x 530 x 1350	700 x 530 x 1350	906 x 601 x 1472	
Liters (lt)	113	370	550	322	500	801	
Weight (kg)	150 (SH) 180 (H)	234 (SH) 260 (H)	275 (SH) 312 (H)	214 (SV) 234 (V)	262 (SV) 300 (V)	312 (SV) 362 (V)	
<b>TECHINCAL PERFORMANCES</b>							
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	7	9
	SH	SV	3,5	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)				
<b>STRUCTURE</b>							
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	
Shelves (nr)			/			2 or 3 height-adjustable	
Max load per shelf (kg)			/			40	
						50	

# ALS

SERVING  
LIFE SCIENTISTS

AS

AG

STERIL

AIC

**Angelantoni Life Science (ALS)** is a world leader in the supply of refrigeration equipment and in the design of technological solutions in the biomedical sector, constantly engaged in innovation and safety, both biological and environmental.

**AS** brand provides for a wide range of refrigerators cabinets, ultra-low temperature freezers, blood banks refrigerators, freezers to preserve blood components, mortuary prefabricated rooms, stability tests and plant growth chambers, refrigerators and freezers for COVID-19 vaccines.

**AG** brand supplies standardized brine chilling units for pharmaceutical and chemical applications or pharma process, manual or automated solutions allow to reach  $-70^{\circ}\text{C}$  for special walk-in chambers and shelters to storage vaccines or other farmaceutical products.

**STERIL** brand provides for equipment able to meet any product protection need, as well as the product, operator and environment safety requirements, for any level of concentration and for any kind of substance (horizontal and vertical laminar flow cabinets, biohazard and cytostatic safety cabinets, laminar flow pass boxes with UV, sanitized hydrogen peroxide pass boxes, weighing, sampling and dispensing cabinets and isolators designed in accordance with the latest international standards (GMP).

**AIC** brand provides Waster, and an automated treatment system for hospital and contaminated waste.



Angelantoni Plants



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*Angelantoni*  
TECHNOLOGY FOR LIFE

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