



GRAM

Biostorage you can depend on

2018

CONTROLLED **BIOSTORAGE**

THE **BIOLINE**
RANGE

bioline



Biostorage you can depend on

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The Gram BioLine advantage

The Gram BioLine range features high performance and demanding specifications. We have designed, fine-tuned and optimised all the features in BioLine biostorage cabinets to ensure:

- Maximum reliability
- Stringent control
- Optimised air flows
- A responsible environmental profile
- Easy customisation
- Rapid support from trained staff

This all means, you can rely on every product in our Gram BioLine range to meet and exceed any current performance requirements right across the board.



The Gram BioLine range

There are five entirely separate product series in the Gram BioLine range of controlled biostorage solutions. Together, these cover everything from high-specification biostorage designed for “mission-critical” work to general-purpose refrigeration and freezer units.

Scandinavian design and manufacture

Gram Commercial A/S develops, manufactures and markets the complete Gram BioLine range for customers in Europe, the Middle East and Asia, operating from our administration and manufacturing facilities in Denmark.



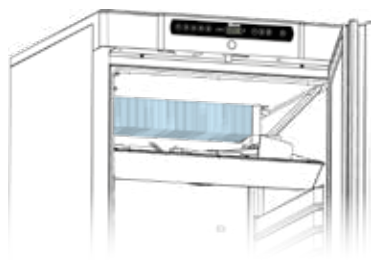
Gram BioLine units comply with the EN/IEC 60079-15 standard*, which covers electrical apparatus for use in Category 3, Zone 2 locations where explosive gas atmospheres may be present.

Gram BioLine products have been assessed according to ATEX requirements by
* Not applicable to BioUltra



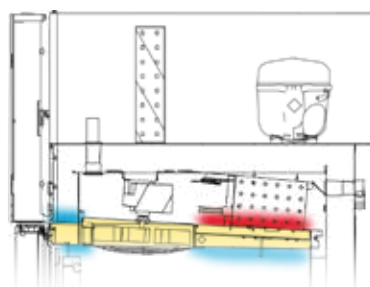
More than the sum of the parts

A wide range of new forward thinking, and technical innovations combine to make Gram BioLine biostorage systems the best-performing solutions currently available.



No cold walls

The refrigeration system based on a finned tube evaporator is the backbone of the complete range of Gram BioLine products, and provides exceptional benefits compared to other systems.



- Insulation
- Heated surface during defrost period
- Safe cold surface during defrost period

Temperature management

BioPlus and BioMidi are equipped with a defrost shield which ensures that only a minimum of heat is released into the storage compartment when the system is defrosting, keeping temperature peaks to an absolute minimum.

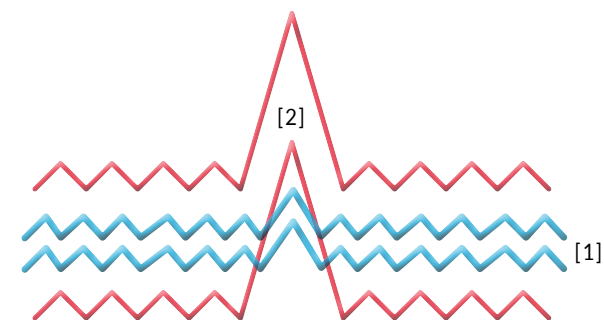
... and controlled defrosting

All Gram BioLine refrigerated units feature the "Smart defrost" automatic defrost function. Unlike conventional defrosting systems where the user has no control of the defrost cycle, this intelligent automatic system makes sure an absolute minimum of time and

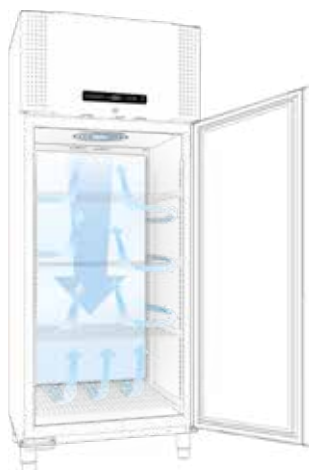
energy is used during each individual defrost cycle. The defrost water is automatically re-evaporated after each defrost cycle.

Safer biostorage

The sum of all these technical innovations result in supreme temperature stability inside the cabinet [1], with greatly reduced temperature peaks during defrosting [2].



- Temperature performance, conventional defrosting
- Temperature performance, Gram Bioline



Optimised air flow

The unique Gram BioLine air distribution system makes sure that the temperature is consistent everywhere in the cabinet and that the time taken to return to the programmed temperature after a door has been opened, is very short.

Applications

Introducing "Applications"

Distinguishing between the different model ranges and where they are best suited has become easier. "Application" icons bridge the gap between product ranges and the requirements in the different segments, work environments and use patterns. Allowing for quick and precise evaluation of needs and requirements.



ATEX

The yellow ATEX application sticker on our different model ranges enables placement in environments with potential explosive atmospheres and storage of substances that can cause potential explosive atmospheres.



GMP "Good Manufacturing Practice"

Models able to comply with the requirements present in GMP areas, where safe storage during manufacturing of food or pharmaceuticals is paramount - ensuring consistently high quality products.



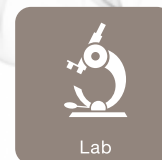
GLP "Good Laboratory Practice"

Complies with the requirements for storing laboratory studies, ensuring the ability to replicate tests consistently (in the protection of man and the environment).



MEDICINE

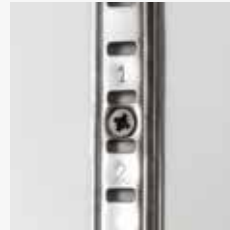
Models that are able to comply with the performance and feature requirements, relevant to the safe storage of medicines and vaccines.



LAB

Models that are able to comply with the requirements in general purpose storage scenarios such as basic exploratory research or proof of concept studies.

BioUltra



The BioUltra UL570 is an ultra-low-temperature freezer that operates safely at -86°C. By utilising high-capacity components, cascade refrigeration system, latest generation vacuum insulated panel technology and insulated inner doors, the BioUltra cabinets are able to maintain safe and stable interior conditions when operating at -86°C. The BioUltra UL570 holds up to 382 2"/50 mm boxes, 192 3"/75 mm boxes or 192 4"/100 mm boxes.

- High capacity cascade refrigeration system
- Vacuum insulated panels
- Insulated inner doors
- Multi-tier gasket system
- Levelling multifunctional castors
- Easy-access service hatch
- Voltage-free contact
- Acoustic and visual, high/low temperature alarms
- E-sensor
- Alarm recording
- 2 access ports
- Material combinations:
 - L: Exterior/interior: White/white
 - C: Exterior/interior: Stainless/stainless

- 1 The Gram MPC 4.6 control unit lets you adjust several different parameters individually. This makes it easy to adjust the cabinet's operating profile to your specific requirements or changing needs.
- 2 Each UL570 is delivered with five adjustable stainless steel perforated shelves, for full utilisation of the storage space.
- 3 Two separate insulated inner doors facilitate safe operation and high flexibility. The inner doors can be removed for easy cleaning.

BioUltra freezer			* Min./Max. height
Model	UL -60°C/-86°C	Ext. W x D x H*	Volume Litres / Cubic feet
UL570	•	856 x 979 x 1986/1996*	570/20.1 cubic feet
Sound level	49 dB(A)	•	•
Power consumption	13,5 kWh/24h	•	•



BioPlus

II 3G Ex nA nC nL IIB T2
TÜV 08 ATEX 354663



The BioPlus range is designed for the storage of the most delicate biomaterials, in situations where even tiny fluctuations in conditions inside the storage cabinet can have a serious effect on the contents. BioPlus refrigerators also enable you to reduce internal relative humidity, thus cutting down on any likelihood of undesirable contaminants getting near delicate biomaterials.

- Access port
- Self-closing door with key lock
- Voltage-free contact
- Acoustic and visual door alarm
- E-sensor
- Acoustic and visual temperature alarms
- Alarm recording
- Foot pedal
- Material combinations:
L: Exterior/interior: White/stainless
C: Exterior/interior: Stainless/stainless

BioPlus		* Min. height without base/max. height with highest base				
Model	ER -2°/+20°C	RF -25°/-5°C	EF -35°/-5°C	Ext. W x D x H*	Volume Litres / Cubic feet	
500	•	•		600 x 806 x 2025/2275	Gross: 500 Net: 365	
600 D	•	•		695 x 876 x 1875/2125	Gross: 600 Net: 432	
600 W	•	•	•	815 x 756 x 1875/2125	Gross: 660 Net: 484	
660 D	•	•		695 x 876 x 2025/2275	Gross: 930 Net: 702	
660 W	•	•	•	815 x 756 x 2025/2275	Gross: 1270 Net: 864	
930	•	•		780 x 1045 x 2025/2275	Gross: 1400 Net: 968	
1270	•	•		1390 x 876 x 1875/2125		
1400	•	•		1390 x 876 x 2025/2275		

1 The Gram MPC 4.6 lets you adjust several different parameters individually, so that you can adjust the cabinet's operating profile to specific requirements or changing needs.

2 Glass door (optional on all refrigerators) makes it easy to carry out rapid, at-a-glance checks of the contents of the cabinet.

3 The interior is made of stainless steel that is extremely durable, ready to withstand many years of use. Access port located in the back of the cabinet.



BioMidi

- II 3G Ex nA nC nL IIB T3 (R600a/R290)
- II 3G Ex nA nC nL IIB T6 (R134a/R404)
- II 3G Ex nA nC nL IIB T5 (R600a/R290)
- II 3G Ex nA nC nL IIB T3 (R134a/R404)
- TÜV 08 ATEX 354664



The BioMidi cabinet is designed to meet the majority of biomaterial refrigeration and freezer requirements, with very few limitations. The specifications include the major features from our top-of-the-range BioPlus model, making it the ideal choice when the ability to maintain stable temperatures is decisive in a purchasing decision. The functional design ensures easy, ergonomically correct access to the storage space.


- Access port
- Self-closing door with key lock
- Voltage-free contact
- Acoustic and visual door alarm
- E-sensor
- Acoustic and visual temperature alarms
- Alarm recording
- Material combinations :
 - L: Exterior/interior: White/alu and stainless
 - R: Exterior/interior: Alu and stainless/alu and stainless
 - C: Exterior/interior: Stainless/stainless

BioMidi		* Min. height without base/max. height with highest base			
Model	RR +2°/+20°C	RF -25°/-5°C	EF -40°/-5°C	Ext. W x D x H*	Volume Litres / Cubic feet
425	•	•	•	600 x 731 x 1979/2000	Gross: 425 /15.0 Net: 303 /10.7
625	•	•		815 x 731 x 1979/2000	Gross: 625 /22.1 Net: 451 /15.9

- 1 The user interface consists of large, easy to use buttons and an easy-to-read LED display. This helps make sure that adjusting cabinet settings is always a rapid and straightforward procedure.
- 2 Draught shield that minimizes cold loss when the outer door is opened, is standard on the EF425 and optional extras to the other BioMidi variants.
- 3 Mounting the compressor in the base of the cabinet puts the interior space at an ideal working height, ensuring users better ergonomic positions and comfortable working heights.



BioCompact II

 II 3G Ex nA nC nL IIB T6
 II 3G Ex nA nC nL IIB T4
 TÜV 09 ATEX 367068
 TÜV 10 ATEX 381563



This is a compact refrigerator or freezer cabinet for a wide range of biostorage purposes where the prime focus is dependability. The BioCompact II provides you with significantly better performance than any other cabinets in this segment for storing ordinary biomaterial under stable conditions. The small footprint of this design also makes it the perfect biostorage unit for use in confined spaces.


- Access port
- Self-closing door with keylock
- Voltage-free contact
- Acoustic and visual door alarm
- E-sensor
- Acoustic and visual temperature alarms
- Alarm recording
- Glass door with integrated LED lighting
- Material combinations:
 - L: Exterior/interior: White/ABS
 - C: Exterior/interior: Stainless/ABS

BioCompact II						* Min. height without base/max. height with highest base	
Model	RR: +2°/+20°C	RF: -25°/-5°C	RR/RF: +2°/+20°C -25°/-5°C	RF/RF: -25°/-5°C -25°/-5°C	RR/RR: +2°/+20°C +2°/+20°C	Ext. W x D x H*	Volume Litres / Cubic feet
210	•	•				595 x 640 x 801/1001	Gross: 125 /4.4 Net: 104 /3.7
210/210			•	•	•	595 x 640 x 1602/1802	Gross: 250 /8.8 Net: 208 /7.4
310	•	•				595 x 640 x 1190/1390	Gross: 218 /7.8 Net: 189 /6.7
410	•	•				595 x 640 x 1776/1976	Gross: 346 /12.3 Net: 312 /11.1
610	•	•				695 x 868 x 1875/2075	Gross: 583 /20.6 Net: 419 /16.7

- 1 Gram MPC 4.6 control unit with temperature and door alarms and voltage-free contact.
- 2 Extra sensor for providing a temperature reference within the storage is standard on all BioCompact II variants.
- 3 The refrigeration system based on a finned tube evaporator provides even better temperature stability and results in a storage place with no cold walls that can damage any delicate items stored in the cabinet.



BioCompact

 II 3G Ex nA nC nL IIB T6
 II 3G Ex nA nC nL IIB T4
 TÜV 10 ATEX 381563



BioCompact is a general-purpose refrigerator/freezer cabinet for basic biostorage purposes where the focus is reliability and refined performance. These units are ideal if you need refrigerated and/or deep-freeze biostorage that is more reliable and consistent than a traditional household fridge. The small footprint of this design also makes it the perfect biostorage solution when space is limited.

- Access port
- Door lock
- Voltage-free contact
- Acoustic and visual door alarm
- Glass door with integrated LED lighting
- Material combinations:
 L: Exterior/interior: White/ABS
 C: Exterior/interior: Stainless/ABS

BioCompact						* Min. height without base/max. height with highest base	
Model	RR: +2°/+20°C	RF: -25°/-5°C	RR/RF: +2°/+20°C -25°/-5°C	RF/RF: -25°/-5°C -25°/-5°C	RR/RR: +2°/+20°C +2°/+20°C	Ext. W x D x H*	Volume Litres / Cubic feet
210	•	•				595 x 640 x 801/1001	Gross: 125 /4.4 Net: 104 /3.7
210/210			•	•	•	595 x 640 x 1602/1802	Gross: 250 /8.8 Net: 208 /7.4
310	•	•				595 x 640 x 1190/1390	Gross: 218 /7.8 Net: 189 /6.7
410	•	•				595 x 640 x 1776/1976	Gross: 346 /12.3 Net: 312 /11.1

- 1 Reliable, straightforward electronic control system with digital LED display.
- 2 Access port for ease of access, e.g. sensors for external temperature surveillance.
- 3 Voltage-free contact that provides a remote alarm in case of power failure or door alarm.



BioLine options



Aluminium drawers

Specially built, multi-purpose drawers provide a high degree of flexibility for your biostorage. The drawers can be divided horizontally and vertically according to your specific needs and changing daily requirements.



ABS drawers

The BioCompact - ABS drawer has been designed from the ground up to meet the most stringent requirements. The drawer is one-piece injection molded for maximum rigidity and seamless smooth surfaces. Available for 210, 310 and 410 models.



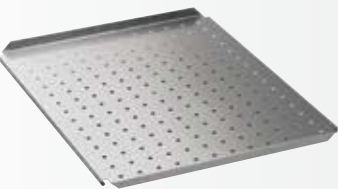
Stainless drawers 30 / 40 kg

High-quality, heavy-duty drawers made of stainless steel are well-suited for use in particularly demanding environments. These drawers are available with a traditional stainless steel front. Or a front made of glass only for 40 kg. Equipped with telescopic drawer rails.



Wire shelves

The high-quality standard wire shelves are constructed of robust stainless steel for long life. Plastic-coated wire shelves are available for general use.



Stainless perforated shelves

The perforated shelves provide a flat surface that helps ensure stable storage. The special design ensures exceptional strength, making them ideal for bearing heavy items. These shelves are highly resistant to a wide range of substances.



Wire drawer

Basic small-mesh wire drawer mounted in u-shaped rails fitted into the walls of the cabinet. Ideal for storing small items. Available for 210, 310 and 410 models.



Wire basket

Large wire basket mounted in u-shaped rails fitted into the walls of the cabinet. Ideal for storing multiple items, with easy access. Available for 210, 310 and 410 models.



Stainless dividers

Divider system for when additional vertically compartments are needed in 30 and 40 kg stainless steel drawers.



Glass doors

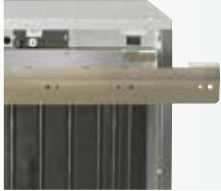
These make checking and access both quicker and easier. Fitted with an energy-saving, extra-insulated double layer of glass, the glass door is optional equipment for the refrigerators in the Gram BioLine range.



Draught shields

Set of 3 extra inner doors that minimise cold loss when the outer cabinet door is opened. Each of the 3 inner doors can be opened separately for access to the storage compartment. Optional for BioPlus and BioMidi and standard equipment on EF versions.

BioLine options



Wall mounting

210, 310 and 410 models can also be wall-mounted, to save floor space and for easy cleaning.



Legs

Adjustable stainless steel legs are the ideal choice for mounting a stationary refrigerator securely and safely. You can also choose to have the refrigerator prepared for mounting on a plinth. Both options are included in the BioLine product range at no extra charge.



Wheels

A cabinet with wheels provides you with a biostorage unit you can move around. For an even more manoeuvrable cabinets, you can upgrade from the standard option of two swivel type castors and two fixed castors to the option with four swivel type castors. Front swivel type castors are lockable.



Chart recorder

The temperature chart recorder is for independent measurement of cabinet temperature. Sensor can be placed in separate liquid container. The recorder is powered by a 1.5 volt battery to ensure recording even in the event of a power failure.



Low-temperature protection

Low-temperature thermostat preventing the refrigeration system from operating, in the unlikely event, the temperature falls below the set minimum. This feature cannot be combined with an external compressor.



Compressors

If the local energy supply is incompatible with the 230V, 50Hz specification that is standard on BioLine products, you can select a 230V, 60Hz compressor as an alternative.



Dual refrigeration circuit

This additional safety feature ensures that the temperature inside the cabinet is maintained even in the unlikely event of a compressor failure. There are two independent refrigeration circuits that operate side-by-side under normal circumstances. However, each is designed to safely maintain the desired cabinet temperature on its own.



Reference container

Container in which the properties of the biomaterial can be simulated. The E-sensor or the customer's own sensor can be placed in the reference container.



DIN Kit

Fitted with the appropriate DIN kit, relevant cabinets will be compliant with DIN 58345.



Pedal door opener

Practical pedal door opener for hand-free opening of the cabinet. Standard for BioPlus and optional available for BioCompact 410, BioCompact II 410/610.



Biostorage you can depend on

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Gram Commercial A/S is one of the world's prime manufacturers of high-performance refrigeration and freezer equipment for discerning professional users. We develop, manufacture and market this technology for customers in Europe, the Middle East and Asia, operating from our administration and manufacturing facilities in Denmark. This is all backed by branches in the UK, Germany, the Netherlands, France, Sweden and Norway and distributors throughout the world.



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