

Controlled biostorage

Most people think a fridge is a fridge and a freezer is a freezer. Keeping things cold isn't exactly rocket science, is it?
But in the competitive commercial world of bioscience, there can be huge investments riding on the speed, dependability and success of research work, R&D and biomedical breakthroughs. This means there's an intense focus on fully monitored, controlled storage of the biomaterials at temperatures that are crucial to such operations.

In both commercial bioscience and scientific research, the window of opportunity can be exceedingly limited and development time frames under heavy scrutiny.

High-performance refrigeration and freezer equipment is therefore essential for keeping sensitive, delicate material within meticulously controlled temperature storage parameters.

Gram Commercial 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.

Gram reserves the right to alter prices and specifications.

Please consult our website for warranty information. www.gram-bioline.com



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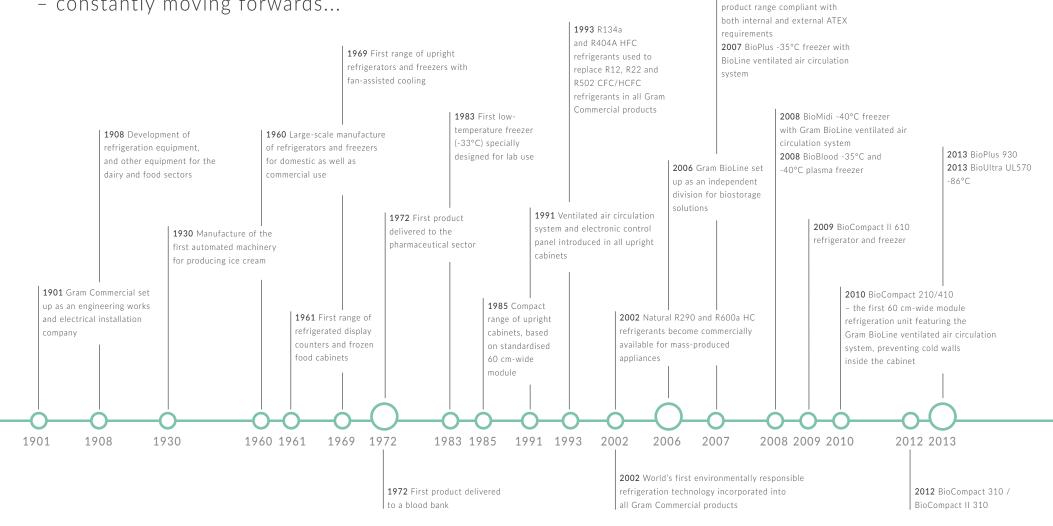
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2007 World's first mass-produced

Gram Commercial





The Gram BioLine advantage

Appearances can be deceptive. The basic box shape is just about the only thing that Gram BioLine controlled biostorage solutions have in common with the household fridges and freezers that we're all familiar with.

The Gram BioLine range also features significantly higher performance and considerably more demanding specifications than any commercial refrigeration and freezer equipment. We have designed, fine-tuned and optimised all the details 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 legislative requirements and international standards, right across the board. There are five entirely separate models 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.

Refrigerators	Temp.				
RR	Regular refrigeration	+2/+20°C			
ER	-2/+20°C				
Freezers					
RF	Regular freezer	-25/-5°C			
EF	Extended freezer	-35,-40/-5°C			
UL	Ultra low freezer	-86/-60°C			





ER and RF 500
ER and RF 600D
ER and RF 600W
ER and RF 660D
ER and RF 660W
ER and RF 930
ER and RF 1270
ER and RF 1400
EF 600W and 660W

BioUltra

Freezers -86/-60°C

The BioUltra is our ultra-low-temperature cabinet, designed to meet exceptional expectations for safe storage. It has a powerful bottom mounted cascade refrigeration system, vacuum insulated panel technology and safe closing system constituted by multi-tier gaskets placed in a labyrinth frame. The BioUltra is available in full-height unit with capacity of 570 liters.

UL 570

BioPlus

Refrigerators -2/+20°C Freezers -25/-5°C or -35/-5°C

This is our most advanced model, specifically designed to meet even the most stringent biostorage requirements. The compressor is mounted on top of the cabinet, and the interior is made entirely of stainless steel. BioPlus cabinets are available as full-height units with six different capacities in the range 500–1400 litres.



RR and RF 425 RR and RF 625 EF 425



RR and RF 210 RR and RF 310 RR and RF 410 RR and RF 610 RR210/RF210 RF210/RF210 RR210/RR210

BioMidi

Refrigerators +2/+20°C Freezers -25/-5°C or -40/-5°C

This is our mid-range model, designed to comply with demanding biostorage requirements. The compressor is mounted at the base of the cabinet, and the interior sides are made of aluminium or stainless steel. All BioMidi models feature a high-specification control system. BioMidi cabinets are available as full-height units with capacities of 425 or 625 litres.

BioCompact II

Refrigerators +2/+20°C Freezers -25/-5°C

The BioCompact II design is a general-purpose cabinet that features a ventilated cooling system. BioCompact II cabinets feature the same high-specification control system as the BioMidi model. BioCompact II cabinets are available from full-height to under-the-counter models, with capacities of 125, 218, 250, 346 or 583 litres.



RR and RF 210 RR and RF 310 RR and RF 410 RR210/RF210 RF210/RF210 RR210/RR210

BioCompact

Refrigerators +2/+20°C Freezers -25/-5°C

The BioCompact is a general-purpose cabinet that features a ventilated cooling system. BioCompact cabinets are available from full-height to under-the-counter models, with capacities of 125, 218, 250 or 346 litres.

Introducing the Gram BioLine "Caring products" policy

We listen to your priorities

At Gram BioLine, we work with governments, NGOs, public-sector health and research bodies, and major corporations throughout the world, and we listen to what our customers want, and what their priorities are.

Product requirements such as low energy consumption and a "green profile" – once game-changing – are now just prerequisites. An organisation that takes environmental responsibility seriously now expects any equipment supplier to make sure its products have minimal environmental impact.

Get serious

That's why we go beyond providing biostorage equipment with the best performance and low energy consumption. Doing everything we can to provide customers and partners with extensive documentation for what, and how we do it. We call this the Gram BioLine "Caring products" policy.

Leading from the front

In the world of refrigerators and freezer cabinets, biostorage systems are at the very forefront of new technologies, new standards and new capabilities. We're constantly introducing new solutions, and Gram BioLine cabinets are widely considered the benchmark for what is possible.

We've also made a clear decision to continue manufacturing our products at Gram BioLine facilities in Scandinavia. This is because the Scandinavian rules and regulations regarding environmental responsibility and working conditions are among the most stringent in the world – and these are the only kind of standards we're interested in.

Design thinking

An important part of our "Caring products" policy stems from focusing on designing every feature to perform its role with maximum benefit for the user. Every innovative feature we include is developed and fine-tuned by multidisciplinary teams, and assessed by external focus groups consisting of both users and other interested parties.

Our design work also involves considering the work conditions of the people who use our products. We aim to make sure that users' well-being is taken into account at every stage, so day-to-day use becomes a comfortable convenience.

Pledge for longevity - Spare parts availability

A pivotal point of our "Caring products" policy is to provide the best possible service to our customers, part of this of the being the serviceability and availability of spare parts for our products. Acknowledging the value of keeping products in service, we guarantee the availability of spare parts for at least 10 years after initial purchase of the product.

Documentation is key

In a world where requirements for biostorage systems are increasing, the demand for documentation is following suite, and has in many cases become a prerequisite.

Acknowledging a more holistic approach to biostorage systems, and in junction with our "Caring products" policy, we continually strive to provide the highest degree of documentation for our products.

Going beyond the conventional - IQ, OQ, PQ

Going against the industry standard, we have opted for the high-road. Making extensive IQ, OQ, PQ-documentation readily available for our customers.

This goes hand-in-hand with market demand, and our views on «how it should be». Find IQ,OQ,PQ documentation along with manuals on our website.

ISO 9001

Quality is one thing, "Quality management" is another. Gram BioLine ensures and recognizes in a literal fashion that quality management – with inherent risk management, product traceability and process validation – is of the utmost importance.

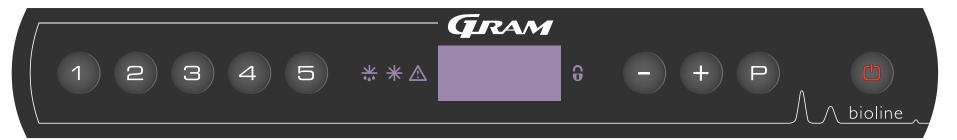
With 9001 certification, Gram BioLine cabinets reap the fruits of a comprehensive array of quality management systems.

Declaration of Conformity

Find the standards, guidelines and directives we comply with in our declarations of conformity, freely available for all our products on our website under «Documentation».

Control Unit - Gram MPC 4.6





The MPC 4.6 control unit was specially developed for users of BioLine storage cabinets. Decades of experience blended with the best of modern technologies provide a uniquely capable control unit.

Temperature alarm* - Provides visual and acoustic alarms if the temperature exceeds the designated temperature limits. High and low alarm limits can be set separately, and the time delay before the alarm goes off can also be adjusted.

Highest/lowest temperature logging* - Logging of maximum and minimum temperatures in the period since these were last reset. The designated reference sensor can be either the room sensor (A-sensor) or the extra sensor (E-sensor).

Temperature history* - Records time and temperature if the upper or lower temperature limits set by the customer are exceeded. Records the total period of time during which the upper or lower temperature limits were exceeded, as well as the maximum or minimum temperatures reached in excess of those limits. The display flashes if the temperature history function has been activated.

E-sensor* – Extra sensor placed inside the storage space makes it possible to measure temperatures in the materials stored inside, or in a simulated substance. The E-sensor can be designated as the reference point for all temperature alarms.

Voltage-free output – Provides a remote alarm in case of power failure, door alarm or temperature alarm, with separate delay.

Offset – Temperature sensors can be adjusted separately.

Door alarm – Provides an acoustic and visual alarm if the door is open longer than the set delay or if the door is left ajar. This alarm can be set with individual delays. Does not apply for BioUltra.

Key pad lock - The display can be locked using a code. This ensures that nobody can change the settings or accidentally turn off the cabinet power supply.

Display - Easy-to-read LED display with soft-touch buttons.

^{*} BioUltra, BioPlus, BioMidi and BioCompact II

ATEX

ATEX is a French abbreviation for "ATmosphère EXplosif" – and is the only European set of regulations (ATEX directive 2014/34/EC) for equipment intended for use in potentially explosive atmospheres. The intentions behind ATEX are to improve the working environment and provide better protection for both staff and the surrounding environment against danger and the risk of damage as a result of equipment or installations that could ignite any flammable atmosphere that might be present.

The ATEX requirements differ from the vast majority of regulations relating to the Low Voltage Directive (LVD) in not only taking electric components into consideration, but also involving materials, moving parts, instructions for use, labelling, etc.

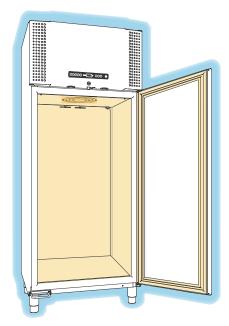
ATEX thus provides an all-round assessment of the complete product with a view to ensuring greater safety for the user and better protection for the environment. This also means Gram BioLine storage cabinets represent a solid investment in a safe, environmentally responsible future.

The Gram BioLine ATEX benefit

The Gram BioLine range of biostorage cabinets provides you with full ATEX compliance* – both internal and external – at no extra charge. Gram BioLine is currently the only supplier capable of providing both internal and external ATEX compliance for a refrigerator or freezer in serial production.

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.

This means you can place any Gram BioLine cabinet in a Zone 2 area categorised according to EN/IEC 60079-10. The key benefit is that you can then position the cabinet within the actual work zone, rather than in some a remote location, as would be required with only internal ATEX compliance.





II 3G Ex nA nC nL IIB T1 - T6

TÜV 08 ATEX 354663 TÜV 08 ATEX 354664 TÜV 10 ATEX 367068 TÜV 10 ATEX 381563

BioLine products have been assessed to ATEX requirements by

Internal ATEX

The storage space within the cabinet complies with EN/IEC 60079-15 Category 3 Zone 2 requirements. This means the cabinet can be used for storing substances categorised as potentially explosive or with a risk of creating an explosive atmosphere.

External ATEX

All components that are in contact with the surrounding atmosphere comply with EN/IEC 60079-15 Category 3 Zone 2 requirements. This means the cabinet can be placed in any working area categorised as an explosive atmosphere Category 3 Zone 2 according to EN/IEC 60079-10.

^{*} Not applicable to BioUltra

Applications

bioline

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 medicine 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

More than the sum of the parts

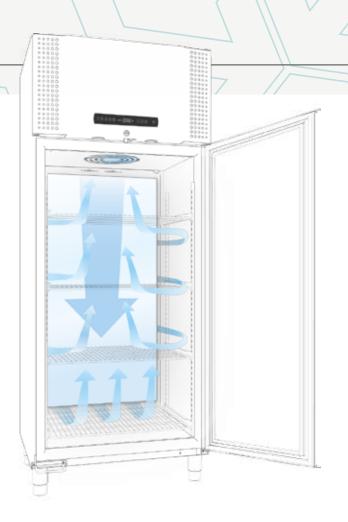
A wide range of new forward thinking, and technical innovations combine to make Gram BioLine biostorage systems the best-performing solutions currently available.



No cold walls

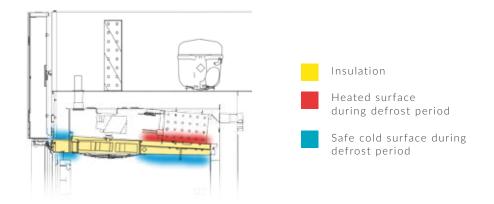
The refrigeration system based on a finned tube evaporator is the backbone of the range of Gram BioLine products, and provides exceptional benefits compared with other systems.

The design results in a refrigerated storage space with no cold walls that can damage any delicate items stored in the cabinet. When combined with the Gram BioLine air distribution system, it also ensures even better temperature stability inside the cabinet.



Optimised air flow

The unique Gram BioLine air distribution system leads a flow of cold air down a special distribution plate at the back of the cabinet interior. This air is then forced around inside the cabinet while it is moved upwards to the evaporator fan mounted in the top. This makes sure 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. This helps keep energy consumption to a minimum.



Temperature management

All Gram BioLine refrigerated units feature the "Smart defrost" automatic defrost function, and the freezers (BioPlus and BioMidi) are also equipped with a defrost shield, which is an insulated separation between the storage compartment and the electric defrost element that is used during defrosting, if needed.

This ensures that only a minimum of heat is released into the storage compartment when the system is defrosting, keeping any temperature peaks to an absolute minimum. The surface that leads the defrost water out of the cabinet for re-evaporation is heated very gently to prevent any build-up of ice and to ensure the continuous safe running cycle of the cabinet.

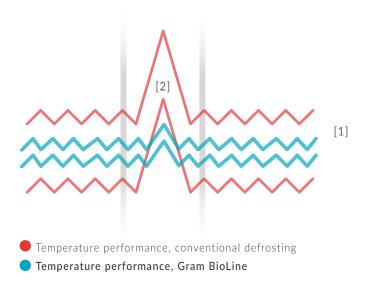
Controlled defrosting

Gram BioLine "Smart defrost" is an advanced automatic defrosting 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, by calculating the required time and energy necessary based on the actual condition of the refrigeration system. Smart defrost lets the user determine frequency of defrost cycles, thus providing the user with full control over the defrosting function.

Safer biostorage

These many exceptionally innovative effective features combine to provide the most effective and efficient biostorage solutions on the market today – cabinets that are also the most practical and convenient for the user.

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



Customised to your needs

Every single user has a unique set of requirements for how a biostorage fridge or freezer should be configured, and how the interior should be laid out.

That's why there are no standard arrangements for cabinets in the Gram BioLine range – it'd be highly unlikely that "standard" would live up to your particular working requirements.

Our approach is to make sure that all the Gram BioLine cabinets featured in this price list have a high standard specification.

We then provide you with a comprehensive selection of optional features, as well as standardised modules for internal arrangements, fittings and accessories.

These choices enable you to select exactly what you need, and to customise both the operating specifications and the interior layout of your Gram BioLine cabinets, so that they're right in line with your particular requirements.

Configuration

How to configure and customise your particular Gram BioLine biostorage cabinet

1. Select model

BioUltra, BioPlus, BioMidi or BioCompact and cabinet size (210, 310, 410, 425, 500, 570, 600, 610, 625, 660, 930,1270 or 1400)

BioPlus 600D

2. Select exterior

- select between lacquered steel, aluminium/stainless steel or stainless steel

White

3. Select temperature range

- select refrigerators RR or ER or freezers RF or EF

White	
BioPlus ER 600D White	XXXX

4. Select door

- solid insulated doors for refrigerators and freezers, or double-layer energy-optimised glass doors for refrigerators.

Doors are selected to be hinged on either the right or the left (single door units only)

Glass door, right hand hinged xxx

5 . Select interior

- from a wide range of versatile interior fittings including shelves, drawers, reference container, low temperature protection, chart recorder, wall mounting etc.

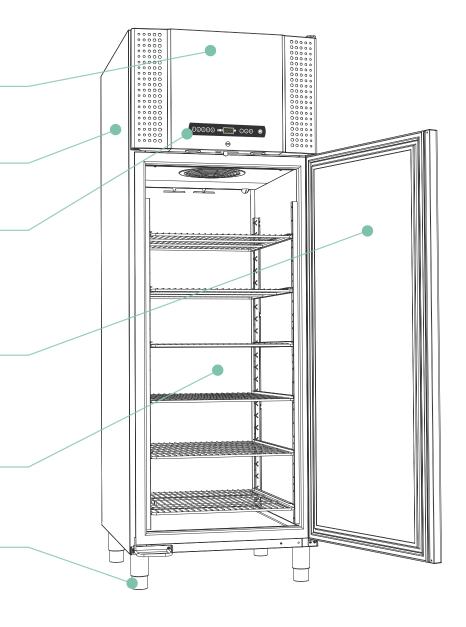
6 wire shelves in stainless steel	XXX
Low temperature protection	XXX
Reference container	XX

6. Select base

- select between legs, wheels or prepared for mounting on plinth

Legs	X

Customised cabinet	XXXX
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When your needs change

Configuring a Gram BioLine cabinet to your current requirements doesn't lock you in to those specifications for ever. If new requirements arise or you need to change the way your staff use the cabinet, you can easily reconfigure it to meet these changing needs. All the fixtures and fittings inside Gram BioLine cabinets are based on the same modular system, making it easy to install new and/or different equipment to replace interior fittings that no longer meet your current requirements.

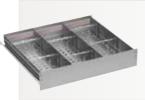
Gram BioLine "factory-fitted" items are the extra equipment and fittings you can select when the cabinet is delivered new from the factory.

Gram BioLine "supplied separately" items are the additional equipment and fittings you can purchase to supplement or alter the capabilities and layout in your existing Gram BioLine cabinets.

See page 76-79 - Products and prices for detailed information

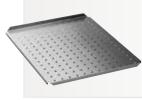
Factory-fitted	Supplied separately
Additional equipment and fittings	
BioLine aluminium drawer with length and cross dividers	XXX
BioLine aluminium drawer with length and cross dividers	XXX
BioLine stainless steel drawer 30 kg	XXX
BioLine stainless steel drawer 40 kg	XXX
BioLine stainless steel drawer with glass front 40 kg	XXX
BioLine stainless steel drawer with glass from 15 kg	XX
BioLine dividers for stainless steel drawers (1 set)xx	XX
BioLine perforated shelf in stainless steelxx	XX
BioLine wire shelf in stainless steelxx	
BioLine wire shelf with plastic coatingxx	
Door hinge – on right or left sidex	
A basis or for mounting on a plinthX	XXX

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.



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.



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.



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.



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 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.



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.



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

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Wall mounting

BioCompact 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 Gram BioLine product range at no extra charge.



Wheels

A cabinet with wheels provides you with a bio-storage unit you can move around. For an even more manoeuvrable cabinet, you can upgrade from the standard option of two lockable castors and two fixed wheels to the option with four lockable castors.



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 refrigerating system to operate if 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 user'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.

BioUltra 570

Acoustic and visual alarm

- provides clear notification if either maximum or minimum permitted temperature is reached. All alarm parameters are set separately.

Vacuum insulated panels

- help to ensure that the cabinet can maintain safe and stable interior conditions when operating at -86 $^{\circ}\text{C}.$

Service hatch

- on the back of the cabinet allows easy access to heat exchanger and dry filter.

Extra sensor

- "E-sensor" for temperature reference in the storage compartment.

Exterior / interior finish

- exterior in lacquered steel / Interior in lacquered steel, inside of doors and bottom panel in stainless steel.

Interior fittings

- customisable layout allows users to adapt the cabinet to changing storage requirements.

Alarm recording

- and Hi/Low temperature read out.

Voltage-free contact

- for IT networks, monitoring systems and/or remote alarms.

Insulated inner doors

- makes for efficient day-to-day use and ensures safe operation, even with the outer door left ajar.

Door handle

- designed to be ergonomically correct and easy to use, ensures safe access to the cabinet interior.

Access ports

- two 24.5 mm ports for ease of access, e.g. sensors for external temperature surveillance.

Gaskets

 multi-tier gasket system placed in a labyrinthshaped frame ensures maximum protection from ambient conditions.

Door lock

- for preventing unattended entry.

Cascade refrigeration system

specifically designed for ultra-low-temperature operation.
 Ensuring high efficiency, performance and durability.

The base

- has multifunctional levelling castors, for easy positioning and with the added stability of legs once deployed.



BioUltra 570

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The BioUltra UL570 is an ultra-low-temperature freezer that operates safely at -86°C.

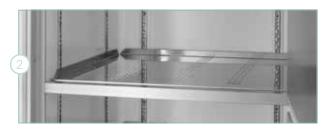
By utilising high-capacity components, cascade refrigeration system, latest generation vacuum insulated panel technology and insulated inner doors, the BioUltra cabinets are able to maintain safe and stable interior conditions when operating at -86°C.

The BioUltra UL570 holds up to $384\ 2^{\circ}/50\ \text{mm}$ boxes, $192\ 3^{\circ}/75\ \text{mm}$ boxes or $192\ 4^{\circ}/100\ \text{mm}$ boxes.

BioUltra freezers					
UL	Ultra Low Freezer	-86/-60°C			

- 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.









Technical specifications					
Temperature range	-86/-60°C				
Ambient temperature range	10/30°C				
Control Unit	Gram BioLine MPC 4.6, voltage-free contact, E-sensor, acoustic temperature alarm that can be programmed individually, alarm recording, hi/low temperature and offset function.				
Material: Interior Exterior	White lacquered steel, inside of doors and bottom panel in stainless steel White lacquered steel or stainless steel				
Ext. dimensions mm ($W \times D \times H$):	856 x 979 x 1986/1996 (min./max. height)				
Net weight	Unpackaged net weight without optional fittings: 257 kg				
Gross volume	570 litres/20.1 cubic feet				
Modules for shelves	Adjustable with 12.5 mm increments 5 Stainless steel perforated shelves come as standard				
Rack capacity: 2"/50 mm boxes	384 boxes (using 4x4 racks) 38.400 vials (using 4x4 racks)				
Rack capacity: 3"/75 mm boxes	192 boxes (using 3x4 racks)	19.200 vials (using 3x4 racks)			
Rack capacity: 4"/100 mm boxes	192 boxes (using 2x4 racks)	19.200 vials (using 2x4 racks)			
Insulation	70 mm (HFC and CFC free cy	clopentane) Vacuum insulated panels			
Refrigerant	Stage 1: R404A / Stage 2: R50	08B and R601 (n-pentane)			
CO ₂ e	R404A: 844 / R508B: 4199				
Sensors used	PT-10.000				
Base	Levelling castors				
Connection	230 V, 50 Hz, 16 Amp				
Power consumption**	13.5 kWh/24h				
★ Sound level	49 dB(A)				

Optional fittings and equipment – product configuration guide on page 12								
Equipped with 5 perfo	orated shelves in stainless steel							
50 Chart recorde	r	20/	/21	Door hinge – on right or left side				

^{**} Measured with empty cabinet, setpoint of -80°C with an ambient temperature of 20°C

Racks					
	Model	Туре	Description	HxDxW	Price*
E E	Eco AluRack	Side opening, aluminium construction	For 4x4 boxes max 137x137mm	228x558x140	
2"/50 n	Standard rack	Side opening, stainless steel construction	For 4x4 boxes max 137x137mm	228x558x140	
2"/	Comfort rack	Shuffle rack, stainless steel construction	For 4x4 boxes max 137x137mm	228x558x140	
mm	Eco AluRack Side opening, aluminium construction		For 3x4 boxes max 137x137mm	240x558x140	
3"/75 n	Standard rack	Side opening, stainless steel construction	For 3x4 boxes max 137x137mm	240x558x140	
"°	Comfort rack	Shuffle rack, stainless steel construction	For 3x4 boxes max 137x137mm	240x558x140	
mm	Eco AluRack	Side opening, aluminium construction	For 2x4 boxes max 137x137mm	212x558x140	
4"/100 r	Standard rack	Side opening, stainless steel construction	For 2x4 boxes max 137x137mm	212x558x140	
4"/1	Comfort rack	Shuffle rack, stainless steel construction	For 2x4 boxes max 137x137mm	212x558x140	

^{*} prices are without boxes

Boxes				
	Box height	Туре	Description	Price/pcs.
	2"/50 mm	Coated cardboard, white	133x133mm with 9x9 dividers	
6×6	3"/70 mm	Coated cardboard, white	133x133mm with 9x9 dividers	
	4"/100 mm	Coated cardboard, white	133x133mm with 9x9 dividers	
0	2"/50 mm	Coated cardboard, white	136x136mm with 10x10 dividers	
10x1(3"/70 mm	Coated cardboard, white	136x136mm with 10x10 dividers	
	4"/100 mm	Coated cardboard, white	136x136mm with 10x10 dividers	

BioPlus

Acoustic and visual alarm

- provides clear notification if either maximum or minimum permitted temperature is reached. A door alarm is also fitted. All alarm parameters are set separately.

Smart defrost

- smart automatic defrosting system with re-evaporation of the defrost water.

Extra Sensor

- "E-sensor" for temperature reference in the storage compartment. The E-sensor can be combined with a reference container.

High-capacity refrigeration unit

- makes sure the interior quickly returns to the specified temperature after the door has been opened. A cooling system prepared for remote compressor is also available.

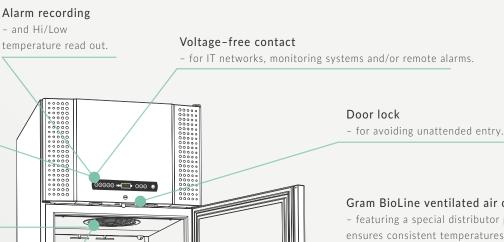
Exterior & Interior finish

- made of lacqueered steel or stainless steel. - made of stainless steel.

Interior fittings

- A wide range of versatile interior fittings and layouts are available. The operating specifications and the interior layout can both be customised.

Alarm recording



Gram BioLine ventilated air circulation system

- featuring a special distributor plate that ensures consistent temperatures everywhere in the cabinet.

Self-closing

- solid door as standard or well-insulated glass door as an optional extra for refrigerators (ER models).

ATEX

- The Gram BioLine range of biostorage cabinets provides you with full ATEX compliance
- both internal and external.

Access port

- 24.5 mm port for ease of access, e.g. sensors for external temperature surveillance.

Foot pedal

- so that the cabinet is easy to open, with full access even when the user's hands are full.

The base

- can be fitted with castors or feet, or for mounting on a plinth.

BioPlus

bioline



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. In terms of performance, these units are designed to provide the very best results even under exceptional conditions.

Available with capacities of 500, 600, 660, 930, 1270 and 1400 litres and in a range of different sizes, in either white or stainless steel finish.

BioPlus refrigerators								
ER Extended refrigeration -2/+20°C								
BioPlus freezers								
RF Regular freezer -25/-5°C								
EF Extended freezer -35/-5°C								

- 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.







BioPlus ER500



Technical specifications	
Temperature range	-2/+20°C
Ambient temperature range	Solid door 10/43°C; glass door 10/38°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording, dry cool function and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	600 x 806 x 2025/2275
Net weight	Unpackaged net weight without optional fittings: 130 kg
Gross volume	500 litres/17.7 cubic feet
Net volume	365 litres/12.9 cubic feet
Modules for shelves and drawers	52 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.297 W/m²K; glass door 0.426 W/m²K
Refrigerant	R290/ R134a/prepared for external compressor
CO ₂ e	R134a: 372
Refrigeration capacity at -10°C	R290 389 watt; R134a 314 watt
Energy consumption	1.26 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	48.7 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide on pa	ge 12					
А	BioLine aluminium drawer with length and cross dividers	Т	BioLine wire shelf in stainless steel		81	Low-temperature protection	
R	BioLine stainless steel drawer 30 kg	N	BioLine wire shelf with plastic coating		82	60 Hz compressor	
S	BioLine stainless steel drawer 40 kg	11	Glass door		V	Reference container	
К	BioLine stainless steel drawer with glass front 40 kg	70	Draught shields (set of 3 inner doors)*			**Legs, wheels or for mounting on a plinth	
С	BioLine dividers for stainless steel drawers (1 set)	50	Chart recorder		31	Castors, 360°C swivel	
Р	BioLine perforated shelf in stainless steel	69	DIN kit 58345	2	20/21	Door hinge – on right or left side	

^{*} Cannot be combined with Bioline wire shelf with plastic coating or aluminium drawers

^{**} See page 80

BioPlus RF500 [®]-25 °C





Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/43°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W x D x H):	600 x 806 x 2025/2275
Net weight	Unpackaged net weight without optional fittings: 130 kg
Gross volume	500 litres/17.7 cubic feet
Net volume	365 litres/12.9 cubic feet
Modules for shelves and drawers	52 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.297 W/m ² K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 981
Refrigeration capacity at -25°C	R290 475 watt; R404A 568 watt
Energy consumption	3.83 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	51.2 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide	on page 12	2				
R	BioLine stainless steel drawer 30 kg		Ν	BioLine wire shelf with plastic coating	V	Reference container	
S	BioLine stainless steel drawer 40 kg		70	Draught shields (set of 3 inner doors)*		**Legs, wheels or for mounting on a plinth	
С	BioLine dividers for stainless steel drawers (1 set)		50	Chart recorder	31	Castors, 360° swivel	
Р	BioLine perforated shelf in stainless steel		82	60 Hz compressor	20/21	Door hinge – on right or left side	
Т	BioLine wire shelf in stainless steel						

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus ER600D



Technical specifications	
Temperature range	-2/+20°C
Ambient temperature range	Solid door 10/43°C; glass door 10/38°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording, dry cool function and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	695 x 876 x 1875/2125
Net weight	Unpackaged net weight without optional fittings: 146 kg
Gross volume	600 litres/21.2 cubic feet
Net volume	432 litres/15.3 cubic feet
Modules for shelves and drawers	24 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.296 W/m²K; glass door 0.425 W/m²K
Refrigerant	R290/ R134a/prepared for external compressor
CO ₂ e	R134a: 329
Refrigeration capacity at -10°C	R290 389 watt; R134a 314 watt
Energy consumption	1.26 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	48.5 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide on pa	age 12			
А	BioLine aluminium drawer with length and cross dividers	N	BioLine wire shelf with plastic coating	V	Reference container
R	BioLine stainless steel drawer 30 kg	11	Glass door		**Legs, wheels or for mounting on a plinth
S	BioLine stainless steel drawer 40 kg	70	Draught shields (set of 3 inner doors)*	31	Castors, 360° swivel
К	BioLine stainless steel drawer with glass front 40 kg	50	Chart recorder	20/21	Door hinge – on right or left side
С	BioLine dividers for stainless steel drawers (1 set)	81	Low-temperature protection		
Р	BioLine perforated shelf in stainless steel	82	60 Hz compressor		
Т	BioLine wire shelf in stainless steel	69	DIN kit 58345		

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus RF600D*-25°C





Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/43°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	695 x 876 x 1875/2125
Net weight	Unpackaged net weight without optional fittings: 146 kg
Gross volume	600 litres/21.2 cubic feet
Net volume	432 litres/15.3 cubic feet
Modules for shelves and drawers	24 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.296 W/m²K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 902
Refrigeration capacity at -25°C	R290 475 watt; R404A 568 watt
Energy consumption	4.03 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	49.8 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	Optional fittings and equipment – product configuration guide on page 12							
R	BioLine stainless steel drawer 30 kg		Ν	BioLine wire shelf with plastic coating			**Legs, wheels or for mounting on a plinth	
S	BioLine stainless steel drawer 40 kg		70	Draught shields (set of 3 inner doors)*		31	Castors, 360° swivel	
С	BioLine dividers for stainless steel drawers (1 set)		50	Chart recorder		20/21	Door hinge – on right or left side	
Р	BioLine perforated shelf in stainless steel		82	60 Hz compressor				
Т	BioLine wire shelf in stainless steel		V	Reference container				

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus ER600W



Technical specifications	
Temperature range	-2/+20°C
Ambient temperature range	Solid door 10/43°C; glass door 10/38°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording, dry cool function and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	815 x 756 x 1875/2125
Net weight	Unpackaged net weight without optional fittings: 146 kg
Gross volume	600 litres/21.2 cubic feet
Net volume	432 litres/15.3 cubic feet
Modules for shelves and drawers	24 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.295 W/m²K; glass door 0.444 W/m²K
Refrigerant	R290/ R134a/prepared for external compressor
CO ₂ e	R134a: 329 / R134a (dual comp.): 615
Refrigeration capacity at -10°C	R290 389 watt; R134a 314 watt
Energy consumption	1.35 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	47.3 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide on p	age 12			
А	BioLine aluminium drawer with length and cross dividers	N	BioLine wire shelf with plastic coating	V	Reference container
R	BioLine stainless steel drawer 30 kg	11	Glass door		**Legs, wheels or for mounting on a plinth
S	BioLine stainless steel drawer 40 kg	70	Draught shields (set of 3 inner doors)*	31	Castors, 360° swivel
Κ	BioLine stainless steel drawer with glass front 40 kg	50	Chart recorder	20/21	Door hinge – on right or left side
С	BioLine dividers for stainless steel drawers (1 set)	81	Low-temperature protection	80	Dual refrigeration circuit
Р	BioLine perforated shelf in stainless steel	82	60 Hz compressor		
Т	BioLine wire shelf in stainless steel	69	DIN kit 58345		

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus RF600W * -25 °C





Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/43°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	815 x 756 x 1875/2125
Net weight	Unpackaged net weight without optional fittings: 146 kg
Gross volume	600 litres/21.2 cubic feet
Net volume	432 litres/15.3 cubic feet
Modules for shelves and drawers	24 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.295 W/m²K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 902 / R404A (dual comp.): 1545
Refrigeration capacity at -25°C	R290 475 watt; R404A 568 watt
Energy consumption	4.07 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	48.3 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide	on page 12				
R	BioLine stainless steel drawer 30 kg	7	O Draught shiel	ds (set of 3 inner doors)*		**Legs, wheels or for mounting on a plinth
S	BioLine stainless steel drawer 40 kg	E	O Chart recorde	er	31	Castors, 360° swivel
С	BioLine dividers for stainless steel drawers (1 set)	3	2 60 Hz compre	essor	20/21	Door hinge – on right or left side
Р	BioLine perforated shelf in stainless steel		V Reference cor	ntainer	80	Dual refrigeration circuit
Т	BioLine wire shelf in stainless steel					
Ν	BioLine wire shelf with plastic coating					

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus ER660D



Technical specifications	
Temperature range	-2/+20°C
Ambient temperature range	Solid door 10/43°C; glass door 10/38°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording, dry cool function and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	695 x 876 x 2025/2275
Net weight	Unpackaged net weight without optional fittings: 152 kg
Gross volume	660 litres/23.3 cubic feet
Net volume	484 litres/17.0 cubic feet
Modules for shelves and drawers	27 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.296 W/m²K; glass door 0.426 W/m²K
Refrigerant	R290/ R134a/prepared for external compressor
CO ₂ e	R134a: 329
Refrigeration capacity at -10°C	R290 389 watt; R134a 314 watt
Energy consumption	1.18 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	48.5 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optional fittings and equipment – product configuration	guide on page 12			
A BioLine aluminium drawer with length and cross div	iders N	BioLine wire shelf with plastic coating	\	/ Reference container
R BioLine stainless steel drawer 30 kg	11	Glass door		**Legs, wheels or for mounting on a plinth
S BioLine stainless steel drawer 40 kg	70	Draught shields (set of 3 inner doors)*	3:	Castors, 360° swivel
K BioLine stainless steel drawer with glass front 40 k	g 50	Chart recorder	20/2:	Door hinge – on right or left side
C BioLine dividers for stainless steel drawers (1 set)	81	Low-temperature protection		
P BioLine perforated shelf in stainless steel	82	60 Hz compressor		
T BioLine wire shelf in stainless steel	69	DIN kit 58345		

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus RF660D *-25 °C





Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/43°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W x D x H):	695 x 876 x 2025/2275
Net weight	Unpackaged net weight without optional fittings: 152 kg
Gross volume	660 litres/23.3 cubic feet
Net volume	484 litres/17.0 cubic feet
Modules for shelves and drawers	27 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.296 W/m²K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 902
Refrigeration capacity at -25°C	R290 475 watt; R404A 568 watt
Energy consumption	4.23 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	49.8 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide	e on page 12	2				
R	BioLine stainless steel drawer 30 kg		Ν	BioLine wire shelf with plastic coating			**Legs, wheels or for mounting on a plinth
S	BioLine stainless steel drawer 40 kg		70	Draught shields (set of 3 inner doors)*		31	Castors, 360° swivel
С	BioLine dividers for stainless steel drawers (1 set)		50	Chart recorder	2	20/21	Door hinge – on right or left side
Р	BioLine perforated shelf in stainless steel		82	60 Hz compressor			
Т	BioLine wire shelf in stainless steel		V	Reference container			

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus ER660W



Technical specifications	
Temperature range	-2/+20°C
Ambient temperature range	Solid door 10/43°C; glass door 10/38°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording, dry cool function and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W x D x H):	815 x 756 x 2025/2275
Net weight	Unpackaged net weight without optional fittings: 152 kg
Gross volume	660 litres/23.3 cubic feet
Net volume	484 litres/17.0 cubic feet
Modules for shelves and drawers	27 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.295 W/m²K; glass door 0.446 W/m²K
Refrigerant	R290/ R134a/prepared for external compressor
CO ₂ e	R134a: 329 / R134a (dual comp.): 615
Refrigeration capacity at -10°C	R290 389 watt; R134a 314 watt
Energy consumption	1.28 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	48.5 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide on pa	ge 12					
А	BioLine aluminium drawer with length and cross dividers	N	BioLine wire shelf with plastic coating		V	Reference container	
R	BioLine stainless steel drawer 30 kg	11	Glass door			**Legs, wheels or for mounting on a plinth	
S	BioLine stainless steel drawer 40 kg	70	Draught shields (set of 3 inner doors)*		31	Castors, 360° swivel	
К	BioLine stainless steel drawer with glass front 40 kg	50	Chart recorder	20	0/21	Door hinge – on right or left side	
С	BioLine dividers for stainless steel drawers (1 set)	81	Low-temperature protection		80	Dual refrigeration circuit	
Р	BioLine perforated shelf in stainless steel	82	60 Hz compressor				
Т	BioLine wire shelf in stainless steel	69	DIN kit 58345				

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus RF660W * -25 °C





Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/43°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	815 x 756 x 2025/2275
Net weight	Unpackaged net weight without optional fittings: 152 kg
Gross volume	660 litres/23.3 cubic feet
Net volume	484 litres/17.0 cubic feet
Modules for shelves and drawers	27 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.295 W/m ² K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 902 / R404A (dual comp.): 1545
Refrigeration capacity at -25°C	R290 475 watt; R404A 568 watt
Energy consumption	4.46 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	49.5 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide	e on page 12	2			
R	BioLine stainless steel drawer 30 kg		Ν	BioLine wire shelf with plastic coating		**Legs, wheels or for mounting on a plinth
S	BioLine stainless steel drawer 40 kg		70	Draught shields (set of 3 inner doors)*	31	Castors, 360° swivel
С	BioLine dividers for stainless steel drawers (1 set)		50	Chart recorder	20/21	Door hinge – on right or left side
Р	BioLine perforated shelf in stainless steel		82	60 Hz compressor	80	Dual refrigeration circuit
Т	BioLine wire shelf in stainless steel		V	Reference container		

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus ER930



Technical specifications	
Temperature range	-2/+20°C
Ambient temperature range	Solid door 10/43°C; glass door 10/38°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording, dry cool function and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	780 x 1045 x 2025/2275
Net weight	Unpackaged net weight without optional fittings: 165 kg
Gross volume	930 litres/32.8 cubic feet
Net volume	702 litres/24.8 cubic feet
Modules for shelves and drawers	27 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.295 W/m²K
Refrigerant	R290/ R134a/prepared for external compressor
CO ₂ e	R134a: 572
Refrigeration capacity at -10°C	R290 389 watt; R134a 314 watt
Energy consumption	2.10 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	48.5 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Option	nal fittings and equipment – product configuration gui	de on page 12					
S	BioLine stainless steel drawer 40 kg		50	Chart recorder	V	Reference container	
Р	BioLine perforated shelf in stainless steel		69	DIN kit 58345		**Legs, wheels or for mounting on a plinth	
Т	BioLine wire shelf in stainless steel		81	Low-temperature protection	31	Castors, 360° swivel	
11	Glass door		82	60 Hz compressor	20/21	Door hinge – on right or left side	

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus RF930 *-25 °C





Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/43°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	780 x 1045 x 2025/2275
Net weight	Unpackaged net weight without optional fittings: 165 kg
Gross volume	930 litres/32.8 cubic feet
Net volume	702 litres/24.8 cubic feet
Modules for shelves and drawers	27 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.295 W/m ² K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 1177
Refrigeration capacity at -25°C	R290 475 watt; R404A 568 watt
Energy consumption	6.12 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	49.5 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	Optional fittings and equipment – product configuration guide on page 12							
S	BioLine stainless steel drawer 40 kg		50	Chart recorder			**Legs, wheels or for mounting on a plinth	
Р	BioLine perforated shelf in stainless steel		82	60 Hz compressor		31	Castors, 360° swivel	
Т	BioLine wire shelf in stainless steel		\vee	Reference container		20/21	Door hinge – on right or left side	

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus ER1270



Technical specifications	
Temperature range	-2/+20°C
Ambient temperature range	Solid door 10/43°C; glass door 10/38°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording, dry cool function and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W x D x H):	1390 x 876 x 1875/2125
Net weight	Unpackaged net weight without optional fittings: 271 kg
Gross volume	1270 litres/44.8 cubic feet
Net volume	864 litres/30.6 cubic feet
Modules for shelves and drawers	48 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.293 W/m²K; glass door 0.452 W/m²K
Refrigerant	R290/ R134a/prepared for external compressor
CO ₂ e	R134a: 508 / R134a (dual comp.): 615
Refrigeration capacity at -10°C	R290 946 watt; R134a 703 watt
Energy consumption	2.50 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	50.8 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide on p	age 12			
А	BioLine aluminium drawer with length and cross dividers	Т	BioLine wire shelf in stainless steel	81	Low-temperature protection
R	BioLine stainless steel drawer 30 kg	N	BioLine wire shelf with plastic coating	82	60 Hz compressor
S	BioLine stainless steel drawer 40 kg	11	Glass doors	V	Reference container
Κ	BioLine stainless steel drawer with glass front 40 kg	70	Draught shields (set of 6 inner doors)*		**Legs, wheels or for mounting on a plinth
С	BioLine dividers for stainless steel drawers (1 set)	50	Chart recorder	31	Castors, 360° swivel
Р	BioLine perforated shelf in stainless steel	69	DIN kit 58345	80	Dual refrigeration circuit

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus RF1270 * -25 °C

\ bioline



Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/43°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	1390 x 876 x 1875/2125
Net weight	Unpackaged net weight without optional fittings: 271 kg
Gross volume	1270 litres/44.8 cubic feet
Net volume	864 litres/30.6 cubic feet
Modules for shelves and drawers	48 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.293 W/m ² K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 1647 / R404A (dual comp.): 1726
Refrigeration capacity at -25°C	R290 950 watt; R404A 947 watt
Energy consumption	7.97 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	53.5 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	Optional fittings and equipment – product configuration guide on page 12							
R	BioLine stainless steel drawer 30 kg		Ν	BioLine wire shelf with plastic coating		V	Reference container	
S	BioLine stainless steel drawer 40 kg		70	Draught shields (set of 6 inner doors)*			**Legs, wheels or for mounting on a plinth	
С	BioLine dividers for stainless steel drawers (1 set)		50	Chart recorder		31	Castors, 360° swivel	
Р	BioLine perforated shelf in stainless steel		82	60 Hz compressor		80	Dual refrigeration circuit	
Т	BioLine wire shelf in stainless steel							

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus ER1400



Technical specifications	
Temperature range	-2/+20°C
Ambient temperature range	Solid door 10/43°C; glass door 10/38°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording, dry cool function and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	1390 x 876 x 2025/2275
Net weight	Unpackaged net weight without optional fittings: 283 kg
Gross volume	1400 litres/49.4 cubic feet
Net volume	968 litres/34.0 cubic feet
Modules for shelves and drawers	54 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.295 W/m²K; glass door 0.456 W/m²K
Refrigerant	R290/ R134a/prepared for external compressor
CO ₂ e	R134a: 508 / R134a (dual comp.): 615
Refrigeration capacity at -10°C	R290 946 watt; R134a 703 watt
Energy consumption	2.56 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	50.8 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide on pag	ge 12			
А	BioLine aluminium drawer with length and cross dividers	N	BioLine wire shelf with plastic coating	\ \	Reference container
R	BioLine stainless steel drawer 30 kg	11	Glass doors		**Legs, wheels or for mounting on a plinth
S	BioLine stainless steel drawer 40 kg	70	Draught shields (set of 6 inner doors)*	31	Castors, 360° swivel
К	BioLine stainless steel drawer with glass front 40 kg	50	Chart recorder	80	Dual refrigeration circuit
С	BioLine dividers for stainless steel drawers (1 set)	81	Low-temperature protection		
Р	BioLine perforated shelf in stainless steel	82	60 Hz compressor		
Т	BioLine wire shelf in stainless steel	69	DIN kit 58345		

^{*} Cannot be combined with Bioline wire shelf with plastic coating

^{**} See page 80

BioPlus RF1400 * -25 °C

\ bioline



Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/43°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	Stainless steel White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	1390 x 876 x 2025/2275
Net weight	Unpackaged net weight without optional fittings: 283 kg
Gross volume	1400 litres/49.4 cubic feet
Net volume	968 litres/34.0 cubic feet
Modules for shelves and drawers	54 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.295 W/m ² K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 1647 / R404A (dual comp.): 1726
Refrigeration capacity at -25°C	R290 950 watt; R404A 947 watt
Energy consumption	8.39 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	53.5 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

ptional fittings and equipment – product configuration guide on page 12					
R BioLine stainless steel drawer 30 kg	N	BioLine wire shelf with plastic coating			**Legs, wheels or for mounting on a plinth
S BioLine stainless steel drawer 40 kg	70	Draught shields (set of 6 inner doors)*		31	Castors, 360° swivel
C BioLine dividers for stainless steel drawers (1 set)	50	Chart recorder		80	Dual refrigeration circuit
P BioLine perforated shelf in stainless steel	82	60 Hz compressor			
T BioLine wire shelf in stainless steel	\	Reference container			

^{*} Cannot be combined with Bioline wire shelf with plastic coating

Option codes

^{**} See page 80

BioPlus EF600W * -35 °C



Technical specifications	
Temperature range	-35/-5°C
Ambient temperature range	10/30°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	Stainless steel and inner doors in PMMA White lacquered steel or stainless steel
Ext. dimensions mm (W x D x H):	837 x 756 x 1875/2125
Net weight	Unpackaged net weight without optional fittings: 146 kg
Gross volume	600 litres/21.2 cubic feet
Net volume	432 litres/15.3 cubic feet
Modules for shelves and drawers	24 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.295 W/m ² K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 902 / R404A (dual comp.): 1545
Refrigeration capacity at -40°C	R290 244 watt; R404A 313 watt
Energy consumption	8.86 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	55.3 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

ptional fittings and equipment – product configuration guide on page 12				
R BioLine stainless steel drawer 30 kg	50	Chart recorder		**Legs, wheels or for mounting on a plinth
S BioLine stainless steel drawer 40 kg	82	60 Hz compressor	3	1 Castors, 360° swivel
C BioLine dividers for stainless steel drawers (1 set)	V	Reference container	80	Dual refrigeration circuit
P BioLine perforated shelf in stainless steel	20/21	Door hinge – on right or left side		
T BioLine wire shelf in stainless steel				

^{**} See page 80

BioPlus EF660W* -35°C





Technical specifications	
Temperature range	-35/-5°C
Ambient temperature range	10/30°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	Stainless steel and inner doors in PMMA White lacquered steel or stainless steel
Ext. dimensions mm (W \times D \times H):	837 x 756 x 2023/2273
Net weight	Unpackaged net weight without optional fittings: 152 kg
Gross volume	660 litres/23.3 cubic feet
Net volume	484 litres/17.0 cubic feet
Modules for shelves and drawers	27 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.295 W/m ² K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 902 / R404A (dual comp.): 1545
Refrigeration capacity at -40°C	R290 244 watt; R404A 313 watt
Energy consumption	9.02 kWh/24h (see page 82)
Connection	230 V, 50 Hz
Sound level	55.3 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	Optional fittings and equipment – product configuration guide on page 12					
R	BioLine stainless steel drawer 30 kg		Т	BioLine wire shelf in stainless steel		**Legs, wheels or for mounting on a plinth
S	BioLine stainless steel drawer 40 kg		50	Chart recorder	3	1 Castors, 360° swivel
С	BioLine dividers for stainless steel drawers (1 set)		82	60 Hz compressor	20/2	Door hinge – on right or left side
Р	BioLine perforated shelf in stainless steel		V	Reference container	8	Dual refrigeration circuit

^{**} See page 80 Option codes

BioMidi

Acoustic and visual alarm

 provides clear notification if either maximum or minimum permitted temperature is reached.
 A door alarm is also fitted. All alarm parameters are set separately.

Smart defrost

- smart automatic defrosting system with re-evaporation of the defrost water.

Extra Sensor

- "E-sensor" for temperature reference in the storage compartment. The E-sensor can be combined with a reference container.

Interior fittings

- A wide range of versatile interior fittings and layouts are available. The operating specifications and the interior layout can both be customised.

Exterior finish

- made of lacquered steel, aluminium/stainless steel or stainless steel.

Interior finish

- made of aluminium/stainless steel or stainless steel.

Door lock

- for avoiding unattended entry.

The base

- is fittet with lockable recessed wheels.

Alam recording

- and Hi/Low temperature read out.

Voltage-free contact

- for IT networks, monitoring systems and/or remote alarms.

Gram BioLine ventilated air circulation system

- featuring a special distributor plate that ensures consistent temperatures everywhere in the cabinet.

Self-closing

- solid door as standard or well-insulated glass door as an optional extra for refrigerators (RR models).

ATEX

- the Gram BioLine range of biostorage cabinets provides you with full ATEX compliance
- both internal and external.

Access port

- 24.5 mm port for ease of access, e.g. sensors for external temperature surveillance.

High-capacity refrigeration unit

- makes sure the interior quickly returns to the specified temperature after the door has been opened. A cooling system prepared for remote compressor is also available.

BioMidi

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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.

Available with capacities of 425 or 625 litres and in two different sizes, with white, aluminium/stainless or stainless steel finish.

BioMidi refrigerators									
RR Regular refrigeration +2/+20°C									
BioMidi freezers									
RF	Regular freezer	-25/-5°C							
EF	Extended freezer -40/-5°C								

- 1 The user interface consist 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, 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.
- 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.







BioMidi RR425



Technical specifications	
Temperature range	+2/+20°C
Ambient temperature range	Solid door 10/43°C; glass door 10/38°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior* Exterior	Aluminium/stainless steel or stainless steel White lacquered steel or aluminium/stainless steel or stainless steel
Ext. dimensions mm (W \times D \times H):	600 x 731 x 1979/2000
Net weight	Unpackaged net weight without optional fittings: 112 kg
Gross volume	425 litres/15.0 cubic feet
Net volume	303 litres/10.7 cubic feet
Modules for shelves and drawers	25 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.297 W/m²K; glass door 0.430 W/m²K
Refrigerant	R290/ R134a/prepared for external compressor
CO ₂ e	R134a: 293
Refrigeration capacity at -10°C	R290 389 watt; R134a 279 watt
Energy consumption	1.27 kWh/24h (see page 83)
Connection	230 V, 50 Hz
Sound level	47.2 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	Optional fittings and equipment – product configuration guide on page 12					
А	BioLine aluminium drawer with length and cross dividers	N	BioLine wire shelf with plastic coating	V	Reference container	
R	BioLine stainless steel drawer 30 kg	11	Glass door	20/21	Door hinge – on right or left side	
S	BioLine stainless steel drawer 40 kg	70	Draught shields (set of 3 inner doors)**	84	Noise reduction kit	
K	BioLine stainless steel drawer with glass front 40 kg	50	Chart recorder			
С	BioLine dividers for stainless steel drawers (1 set)	81	Low-temperature protection			
Р	BioLine perforated shelf in stainless steel	82	60 Hz compressor			
Т	BioLine wire shelf in stainless steel	69	DIN kit 58345			

^{*} White and alu/stainless steel versions comes with internal sides in aluminium and botttom and backside of door in stainless steel. Stainless versions comes as all stainless,

^{**} Cannot be combined with Bioline wire shelf with plastic coating

BioMidi RF425 [®] -25 °C





Tomporatura rango	-25/-5°C
Temperature range	
Ambient temperature range	10/43°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior* Exterior	Aluminium/stainless steel or stainless steel White lacquered steel or aluminium/stainless steel or stainless steel
Ext. dimensions mm (W \times D \times H):	600 x 731 x 1979/2000
Net weight	Unpackaged net weight without optional fittings: 112 kg
Gross volume	425 litres/15.0 cubic feet
Net volume	303 litres/10.7 cubic feet
Modules for shelves and drawers	25 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.297 W/m²K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 784
Refrigeration capacity at -25°C	R290 374 watt; R404A 424 watt
Energy consumption	3.61 kWh/24h (see page 83)
Connection	230 V, 50 Hz
Sound level	44.7 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	Optional fittings and equipment – product configuration guide on page 12							
R	BioLine stainless steel drawer 30 kg		Ν	BioLine wire shelf with plastic coating		V	Reference container	
S	BioLine stainless steel drawer 40 kg		70	Draught shields (set of 3 inner doors)**	20,)/21	Door hinge – on right or left side	
С	BioLine dividers for stainless steel drawers (1 set)		50	Chart recorder		84	Noise reduction kit	
Р	BioLine perforated shelf in stainless steel		82	60 Hz compressor				
Т	BioLine wire shelf in stainless steel							

^{*} White and alu/stainless steel versions comes with internal sides in aluminium and botttom and backside of door in stainless steel. Stainless versions comes as all stainless,

^{**} Cannot be combined with Bioline wire shelf with plastic coating

BioMidi RR625



Technical specifications						
Temperature range	+2/+20°C					
Ambient temperature range	Solid door 10/43°C; glass door 10/38°C					
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function					
Material: Interior* Exterior	Aluminium/stainless steel or stainless steel White lacquered steel or aluminium/stainless steel or stainless steel					
Ext. dimensions mm (W \times D \times H):	815 x 731 x 1979/2000					
Net weight	Unpackaged net weight without optional fittings: 152 kg					
Gross volume	625 litres/22.1 cubic feet					
Net volume	451 litres/15.9 cubic feet					
Modules for shelves and drawers	25 (see page 86)					
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant					
K-Value	Solid door 0.295 W/m²K; glass door 0.445 W/m²K					
Refrigerant	R290/ R134a/prepared for external compressor					
CO ₂ e	R134a: 329					
Refrigeration capacity at -10°C	R290 389 watt; R134a 314 watt					
Energy consumption	1.30 kWh/24h (see page 83)					
Connection	230 V, 50 Hz					
Sound level	44.7 dB(A)					
Air system	Gram BioLine ventilated air distribution system					
Defrost system	Automatic smart defrost with re-evaporation of the defrost water					

Optio	nal fittings and equipment – product configuration guide on p	page 12			
А	BioLine aluminium drawer with length and cross dividers	Т	BioLine wire shelf in stainless steel	81	Low-temperature protection
R	BioLine stainless steel drawer 30 kg	N	BioLine wire shelf with plastic coating	82	60 Hz compressor
S	BioLine stainless steel drawer 40 kg	11	Glass door	V	Reference container
К	BioLine stainless steel drawer with glass front 40 kg	70	Draught shields (set of 3 inner doors)**	20/21	Door hinge – on right or left side
С	BioLine dividers for stainless steel drawers (1 set)	50	Chart recorder	84	Noise reduction kit
Р	BioLine perforated shelf in stainless steel	69	DIN kit 58345		

^{*} White and alu/stainless steel versions comes with internal sides in aluminium and botttom and backside of door in stainless steel. Stainless versions comes as all stainless,

^{**} Cannot be combined with Bioline wire shelf with plastic coating

BioMidi RF625 [®] -25 °C





Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/43°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior* Exterior	Aluminium/stainless steel or stainless steel White lacquered steel or aluminium/stainless steel or stainless steel
Ext. dimensions mm (W \times D \times H):	815 x 731 x 1979/2000
Net weight	Unpackaged net weight without optional fittings: 152 kg
Gross volume	625 litres/22.1 cubic feet
Net volume	451 litres/15.9 cubic feet
Modules for shelves and drawers	25 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.295 W/m ² K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 941
Refrigeration capacity at -25°C	R290 475 watt; R404A 568 watt
Energy consumption	4.03 kWh/24h (see page 83)
Connection	230 V, 50 Hz
Sound level	47.4 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide	e on page 12)					
R	BioLine stainless steel drawer 30 kg		Ν	BioLine wire shelf with plastic coating		V	Reference container	
S	BioLine stainless steel drawer 40 kg		70	Draught shields (set of 3 inner doors)**	20,)/21	Door hinge – on right or left side	
С	BioLine dividers for stainless steel drawers (1 set)		50	Chart recorder		84	Noise reduction kit	
Р	BioLine perforated shelf in stainless steel		82	60 Hz compressor				
Т	BioLine wire shelf in stainless steel							

^{*} White and alu/stainless steel versions comes with internal sides in aluminium and botttom and backside of door in stainless steel. Stainless versions comes as all stainless,

^{**} Cannot be combined with Bioline wire shelf with plastic coating

BioMidi EF425^{*} -40 °C

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Temperature range	-40/-5°C
1 0	
Ambient temperature range	10/30°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior* Exterior	Aluminium/stainless steel or stainless steel and inner doors in PMMA White lacquered steel or aluminium/stainless steel or stainless steel
Ext. dimensions mm (W \times D \times H):	622 x 731 x 1979/2000
Net weight	Unpackaged net weight without optional fittings: 112 kg
Gross volume	425 litres/15.0 cubic feet
Net volume	303 litres/10.7 cubic feet
Modules for shelves and drawers	25 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.297 W/m ² K
Refrigerant	R290/ R404A/prepared for external compressor
CO ₂ e	R404A: 1059
Refrigeration capacity at -40°C	R290 396 watt; R404A 378 watt
Energy consumption	8.93 kWh/24h (see page 83)
Connection	230 V, 50 Hz
Sound level	57.8 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optional fittings and equipment – product configuration guide of	on page 12				
R BioLine stainless steel drawer 30 kg	-	BioLine wire shelf in stainless steel	\	Reference container	
S BioLine stainless steel drawer 40 kg	50	Chart recorder	20/21	Door hinge – on right or left side	
C BioLine dividers for stainless steel drawers (1 set)	82	2 60 Hz compressor	84	Noise reduction kit	
P BioLine perforated shelf in stainless steel					

^{*} White and alu/stainless steel versions comes with internal sides in aluminium and botttom and backside of door in stainless steel. Stainless versions comes as all stainless.



BioCompact II

Alarm recording

- and Hi/Low temperature read out.

Acoustic and visual alarm

- provides clear notification if either maximum or minimum permitted temperature is reached. A door alarm is also fitted. All alarm parameters are set separately.

Voltage-free contact

- for IT networks, monitoring systems and/or remote alarms.

Smart defrost

- smart automatic defrosting system with re-evaporation of the defrost water.

Extra Sensor

"E-sensor" for temperature reference in the storage compartment.
 The E-sensor can be combined with a reference container.

High-capacity refrigeration unit

- makes sure the interior quickly returns to the specified temperature after the door has been opened.

Exterior finish

made of lacquered steel or stainless steel finish.

Interior finish

a made of a durable one-piece moulded ABS inner lining with U-shaped rails in the walls for mounting of shelves and drawers.

Door lock

Gram BioLine ventilated air circulation system

- featuring a special distributor plate that ensures consistent temperatures everywhere in the cabinet.

- for avoiding unattended entry.

Self-closing

 solid door as standard or well-insulated glass door with LED light as an optional extra for refrigerators (RR models).

ATEX

- the Gram BioLine range of biostorage cabinets provides you with full ATEX compliance
- both internal and external.

Access port

 $\,$ – $\,$ 24.5 mm port for ease of access, e.g. sensors for external temperature surveillance.

+

Optional extra

Practical foot pedal door opener.

The base

- can be fitted with castors or feet, or for mounting on a plinth.

Interior fittings

- a wide range of versatile interior fittings and layouts are available. The operating specifications and the interior layout can both be customised.



BioCompact II

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This is a compact refrigerator or freezer cabinet for a wide range of biostorage purposes where the prime focus is on dependability. The BioCompact II provides you with significantly better performance than any other cabinets in this segment for storing ordinary biomaterial under stable conditions. If you need to store different biomaterials at different times, this design gives you lots of ways to deal with individual storage needs, thanks to the versatile interior layout and a comprehensive selection of fixtures and fittings. The small footprint of this design also makes it the perfect biostorage unit for use in confined spaces.

Available with capacities of 125, 218, 250, 346 and 583 litres with either white or stainless steel finish.

BioCompact II refrigerators						
RR Regular refrigeration +2/+20°C						
BioCompact II fr	eezers					
RF Regular freezer -25/-5°C						

- 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 strored in the cabinet.







BioCompact II RR210



Technical specifications	
Temperature range	+2/+20°C
Ambient temperature range	Solid door 10/35°C; glass door 10/32°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish
Ext. dimensions mm (W \times D \times H):	595 x 640 x 801/1001
Net weight	Unpackaged net weight without optional fittings: 46 kg
Gross volume	125 litres/4.4 cubic feet
Net volume	104 litres/3.7 cubic feet
Modules for shelves and drawers	4 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m²K; glass door 0.457 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	R134a: 114
Refrigeration capacity at -10°C	R600a 154 watt; R134a 150 watt
Energy consumption	0.61 kWh/24h (see page 84)
Connection	230 V, 50 Hz
Sound level	36.5 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Option	Optional fittings and equipment – product configuration guide on page 12						
А	BioLine aluminium drawer (length/cross dividers) 420 mm	V	BioLine wire shelf with plastic coating 430 mm		*Legs, wheels		
AA	BioLine aluminium drawer (length/cross dividers) 300 mm	WW	BioLine wire shelf with plastic coating 300 mm	31	Castors, 360° swivel		
Е	BioLine ABS drawer (length/cross dividers) 420 mm	\sim	BioLine wire basket with plastic coating 430 mm	20/21	Door hinge – on right or left side		
Н	BioLine wire drawer (length dividers) 430 mm	MM	BioLine wire basket with plastic coating 300 mm	91	Wall mounting		
НН	BioLine wire drawer (length dividers) 300 mm	11	Glass door with LED light		*Chart recorder		
Р	BioLine perforated shelf in stainless steel 430 mm	81	Low-temperature protection		Combination kit for 210/310		
PP	BioLine perforated shelf in stainless steel 300 mm	82	60 Hz compressor				
Т	BioLine wire shelf in stainless steel 430 mm	69	DIN kit 58345				
TT	BioLine wire shelf in stainless steel 300 mm	\ \	Reference container				

^{*} See page 79

BioCompact II RF210 * -25 °C





Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/35°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish
Ext. dimensions mm (W \times D \times H):	595 x 640 x 801/1001
Net weight	Unpackaged net weight without optional fittings: 46 kg
Gross volume	125 litres/4.4 cubic feet
Net volume	104 litres/3.7 cubic feet
Modules for shelves and drawers	4 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m ² K
Refrigerant	R600a / R134a
CO ₂ e	R134a: 100
Refrigeration capacity at -25°C	R600a 156 watt; R134a 149 watt
Energy consumption	1.53 kWh/24h (see page 84)
Connection	230 V, 50 Hz
Sound level	39.7 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide on	page 12			
А	BioLine aluminium drawer (length dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm	31	Castors, 360° swivel
AA	BioLine aluminium drawer (length dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm	20/21	Door hinge – on right or left side
Е	BioLine ABS drawer (length dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm	91	Wall mounting
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm		*Chart recorder
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm		Combination kit for 210/310
Р	BioLine perforated shelf in stainless steel 430 mm	82	60 Hz compressor		
PP	BioLine perforated shelf in stainless steel 300 mm	V	Reference container		
Т	BioLine wire shelf in stainless steel 430 mm		*Legs, wheels		

^{*} See page 79

Option codes

BioCompact II RR310



Technical specifications	
Temperature range	+2/+20°C
Ambient temperature range	Solid door 10/35°C; glass door 10/32°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish
Ext. dimensions mm (W \times D \times H):	595 x 640 x 1190/1390
Net weight	Unpackaged net weight without optional fittings: 55 kg
Gross volume	218 litres/7.8 cubic feet
Net volume	189 litres/6.7 cubic feet
Modules for shelves and drawers	11 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m²K; glass door 0.460 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	R134a: 136
Refrigeration capacity at -10°C	R600a 154 watt; R134a 150 watt
Energy consumption	0.63 kWh/24h (see page 84)
Connection	220 V, 50 Hz
Sound level	36.8 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Option	nal fittings and equipment – product configuration guide on pa	ge 12			
А	BioLine aluminium drawer (length/cross dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm	82	60 Hz compressor
AA	BioLine aluminium drawer (length/cross dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm	V	Reference container
Ε	BioLine ABS drawer (length/cross dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm		*Legs, wheels
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm	31	Castors, 360° swivel
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm	20/21	Door hinge – on right or left side
Р	BioLine perforated shelf in stainless steel 430 mm	11	Glass door with LED light		*Chart recorder
PP	BioLine perforated shelf in stainless steel 300 mm	81	Low-temperature protection	91	Wall mounting
Т	BioLine wire shelf in stainless steel 430 mm	69	DIN kit 58345		Combination kit for 210/310

^{*} See page 79

BioCompact II RF310 *-25 °C





Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/35°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish
Ext. dimensions mm (W \times D \times H):	595 x 640 x 1190/1390
Net weight	Unpackaged net weight without optional fittings: 55 kg
Gross volume	218 litres/7.8 cubic feet
Net volume	189 litres/6.7 cubic feet
Modules for shelves and drawers	11 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m ² K
Refrigerant	R600a / R134a
CO ₂ e	R134a: 114
Refrigeration capacity at -25°C	R600a 156 watt; R134a 149 watt
Energy consumption	1.69 kWh/24h (see page 84)
Connection	220 V, 50 Hz
Sound level	39.9 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	Optional fittings and equipment – product configuration guide on page 12						
А	BioLine aluminium drawer (length dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm	31	Castors, 360° swivel		
AA	BioLine aluminium drawer (length dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm	20/21	Door hinge – on right or left side		
Е	BioLine ABS drawer (length dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm	91	Wall mounting		
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm		*Chart recorder		
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm		Combination kit for 210/310		
Р	BioLine perforated shelf in stainless steel 430 mm	82	60 Hz compressor				
PP	BioLine perforated shelf in stainless steel 300 mm	V	Reference container				
Т	BioLine wire shelf in stainless steel 430 mm		*Legs, wheels				

^{*} See page 79

BioCompact II RR410



Technical specifications	
Temperature range	+2/+20°C
Ambient temperature range	Solid door 10/35°C; glass door 10/32°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish
Ext. dimensions mm (W \times D \times H):	595 x 640 x 1776/1976
Net weight	Unpackaged net weight without optional fittings: 78 kg
Gross volume	346 litres/12.3 cubic feet
Net volume	312 litres/11.1 cubic feet
Modules for shelves and drawers	22 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.337 W/m²K; glass door 0.474 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	R134a: 172
Refrigeration capacity at -10°C	R600a 207 watt; R134a 226 watt
Energy consumption	0.73 kWh/24h (see page 84)
Connection	230 V, 50 Hz
Sound level	35.1 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Option	Optional fittings and equipment – product configuration guide on page 12							
А	BioLine aluminium drawer (length/cross dividers) 420 mm		W	BioLine wire shelf with plastic coating 430 mm		31	Castors, 360° swivel	
AA	BioLine aluminium drawer (length/cross dividers) 300 mm		WW	BioLine wire shelf with plastic coating 300 mm		20/21	Door hinge - on right or left side	
Е	BioLine ABS drawer (length/cross) dividers 420 mm		М	BioLine wire basket with plastic coating 430 mm		91	Wall mounting	
Н	BioLine wire drawer (length dividers) 430 mm		MM	BioLine wire basket with plastic coating 300 mm			*Chart recorder	
НН	BioLine wire drawer (length dividers) 300 mm		11	Glass door with LED light			*Pedal door opener	
Р	BioLine perforated shelf in stainless steel 430 mm		81	Low-temperature protection		V	Reference container	
PP	BioLine perforated shelf in stainless steel 300 mm		82	60 Hz compressor				
Т	BioLine wire shelf in stainless steel 430 mm		69	DIN kit 58345				
TT	BioLine wire shelf in stainless steel 300 mm			*Legs, wheels				

^{*} See page 79

BioCompact II RF410 *-25 °C

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Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/35°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish
Ext. dimensions mm (W \times D \times H):	595 x 640 x 1776/1976
Net weight	Unpackaged net weight without optional fittings: 78 kg
Gross volume	346 litres/12.3 cubic feet
Net volume	312 litres/11.1 cubic feet
Modules for shelves and drawers	22 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.337 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	R134a: 136
Refrigeration capacity at -25°C	R600a 175 watt; R134a 195 watt
Energy consumption	2.13 kWh/24h (see page 84)
Connection	230 V, 50 Hz
Sound level	38.6 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	Optional fittings and equipment – product configuration guide on page 12						
А	BioLine aluminium drawer (length dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm	31	Castors, 360° swivel		
AA	BioLine aluminium drawer (length dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm	20/21	Door hinge – on right or left side		
Е	BioLine ABS drawer (length dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm	91	Wall mounting		
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm		*Chart recorder		
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm		*Pedal door opener		
Р	BioLine perforated shelf in stainless steel 430 mm	82	60 Hz compressor				
PP	BioLine perforated shelf in stainless steel 300 mm	V	Reference container				
Т	BioLine wire shelf in stainless steel 430 mm		*Legs, wheels				

^{*} See page 79

BioCompact II RR610



Technical specifications	
Temperature range	+2/+20°C
Ambient temperature range	Solid door 10/43°C; Glass door 10/38°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	ABS lining with wall rails in stainless steel White lacquered steel or stainless steel finish
Ext. dimensions mm (W \times D \times H):	695 x 868 x 1875/2075
Net weight	Unpackaged net weight without optional fittings: 114 kg
Gross volume	583 litres/20.6 cubic feet
Net volume	419 litres/16.7 cubic feet
Modules for shelves and drawers	24 (see page 86)
Insulation (mm)	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.294 W/m ² K
Refrigerant	R600a / R134a
CO ₂ e	R134a: 329
Refrigeration capacity at -10°C	R600a 354 watt; R134a 314 watt
Energy consumption	1.15 kWh/24h (see page 84)
Connection	230 V, 50 Hz
Sound level	48.0 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	Optional fittings and equipment – product configuration guide on page 12						
А	BioLine aluminium drawer with length and cross dividers	1	BioLine wire shelf with plastic coating	31	Castors, 360° swivel		
R	BioLine stainless steel drawer 30 kg	50	Chart recorder	20/21	Door hinge – on right or left side		
S	BioLine stainless steel drawer 40 kg	8	Low-temperature protection	11	Glass door with LED light		
К	BioLine stainless steel drawer with glass front 40 kg	8:	2 60 Hz compressor		*Pedal door opener		
С	BioLine dividers for stainless steel drawers (1 set)	\	/ Reference container				
Р	BioLine perforated shelf in stainless steel		*Legs, wheels				
Т	BioLine wire shelf in stainless steel	6'	DIN kit 58345				

^{*} See page 79

BioCompact II RF610 *-25 °C

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Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/43°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	ABS lining with wall rails in stainless steel White lacquered steel or stainless steel finish
Ext. dimensions mm (W x D x H):	695 x 868 x 1875/2075
Net weight	Unpackaged net weight without optional fittings: 114 kg
Gross volume	583 litres/20.6 cubic feet
Net volume	419 litres/16.7 cubic feet
Modules for shelves and drawers	24 (see page 86)
Insulation	60 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.294 W/m²K
Refrigerant	R290 / R404A
CO ₂ e	R404A: 863
Refrigeration capacity at -25°C	R290 512 watt; R404A 568 watt
Energy consumption	3.88 kWh/24h (see page 84)
Connection	230 V, 50 Hz
Sound level	50.4 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide	e on page 12					
R	BioLine stainless steel drawer 30 kg		50	Chart recorder	31	Castors, 360° swivel	
S	BioLine stainless steel drawer 40 kg		82	60 Hz compressor	20/21	Door hinge – on right or left side	
С	BioLine dividers for stainless steel drawers (1 set)		V	Reference container		*Pedal door opener	
Р	BioLine perforated shelf in stainless steel			*Legs, wheels			
Т	BioLine wire shelf in stainless steel						
Ν	BioLine wire shelf with plastic coating						

^{*} See page 79

BioCompact II RR210/RF210



Technical specifications	
Temperature range	+2/+20°C and -25/-5°C
Ambient temperature range	Solid door 10/35°C; glass door 10/32°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior	ABS lining
Exterior	White lacquered steel or stainless steel finish
Ext. dimensions mm (W x D x H):	595 x 640 x 1602/1802
Net weight	Unpackaged net weight without optional fittings: 92 kg
Gross volume	125 litres/4.4 cubic feet and 125 litres/4.4 cubic feet
Net volume	104 litres/3.7 cubic feet and 104 litres/3.7 cubic feet
Modules for shelves and drawers	4 x 430 mm + 3 x 300 mm and 4 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m²K; glass door 0.457 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	RR210 R134a: 114 / RF210 R134a: 100
Refrigeration capacity at -10°C Refrigeration capacity at -25°C	RR: R600a 154 watt; R134a 150 watt RF: R600a 156 watt; R134a 149 watt
Energy consumption	2.14 kWh/24h (see page 84)
Connection	230 V, 50 Hz
Sound level	40.9 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Option	Optional fittings and equipment – product configuration guide on page 12							
А	BioLine aluminium drawer (length/cross dividers) 420 mm	PP	BioLine perforated shelf in stainless steel 300 mm		81	Low-temperature protection (RR only)		
AA	BioLine aluminium drawer (length/cross dividers) 300 mm	Т	BioLine wire shelf in stainless steel 430 mm		82	60 Hz compressor		
А	BioLine aluminium drawer (length dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm		V	Reference container (per unit)		
AA	BioLine aluminium drawer (length dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm			*Legs, wheels		
Е	BioLine ABS drawer (length/cross dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm		31	Castors, 360° swivel		
Е	BioLine ABS drawer (length dividers) 420 mm	М	BioLine wire basket with plastic coating 430 mm		20/21	Door hinge – on right or left side		
Н	BioLine wire drawer (length dividers) 430 mm	MM	BioLine wire basket with plastic coating 300 mm		91	Wall mounting		
НН	BioLine wire drawer (length dividers) 300 mm	11	Glass door with LED light (RR only)			*Chart recorder (per unit)		
Р	BioLine perforated shelf in stainless steel 430 mm	69	DIN kit 58345					

^{*} See page 79

BioCompact II RR210/RR210





Technical specifications	
Temperature range	+2/+20°C and +2/+20°C
Ambient temperature range	Solid door 10/35°C; glass door 10/32°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish
Dimensions mm (W \times D \times H):	595 x 640 x 1602/1802
Net weight	Unpackaged net weight without optional fittings: 92 kg
Gross volume	125 litres/4.4 cubic feet and 125 litres/4.4 cubic feet
Net volume	104 litres/3.7 cubic feet and 104 litres/3.7 cubic feet
Modules for shelves and drawers	4 x 430 mm + 3 x 300 mm and 4 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m²K; glass door 0.457 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	RR210 R134a: 114 / RR210 R134a: 114
Refrigeration capacity at -10°C	R600a 154 watt; R134a 150 watt
Energy consumption	1.22 kWh/24h (see page 84)
Connection	230 V, 50 Hz
Sound level	39.1 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide on pa	ige 12			
А	BioLine aluminium drawer (length/cross dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm	82	60 Hz compressor
AA	BioLine aluminium drawer (length/cross dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm	V	Reference container (per unit)
Е	BioLine ABS drawer (length/cross divers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm		*Legs, wheels
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm	31	Castors, 360° swivel
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm	20/21	Door hinge – on right or left side
Р	BioLine perforated shelf in stainless steel 430 mm	11	Glass door with LED light (per unit)	91	Wall mounting
PP	BioLine perforated shelf in stainless steel 300 mm	81	Low-temperature protection (per unit)		*Chart recorder (per unit)
Т	BioLine wire shelf in stainless steel 430 mm	69	DIN kit 58345 (per unit)		

^{*} See page 79

BioCompact | IRF210/RF210





Technical specifications	
Temperature range	-25/-5°C and -25/-5°C
Ambient temperature range	10/35°C
Control Unit	Gram Control Unit with voltage-free contact, E-sensor, acoustic and visual door and temperature alarms that can be programmed individually, alarm recording and offset function
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish
Ext. dimensions mm (W \times D \times H):	595 x 640 x 1602/1802
Net weight	Unpackaged net weight without optional fittings: 92 kg
Gross volume	125 litres/4.4 cubic feet and 125 litres/4.4 cubic feet
Net volume	104 litres/3.7 cubic feet and 104 litres/3.7 cubic feet
Modules for shelves and drawers	4 x 430 mm + 3 x 300 mm and 4 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	RF210 R134a: 100 / RF210 R134a: 100
Refrigeration capacity at -25°C	R600a 156 watt; R134a 149 watt
Energy consumption	3.06 kWh/24h (see page 84)
Connection	230 V, 50 Hz
Sound level	42.1 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Option	nal fittings and equipment – product configuration guide on p	age 12			
А	BioLine aluminium drawer (length dividers) 420 mm	Т	BioLine wire shelf in stainless steel 430 mm	V	Reference container (per unit)
AA	BioLine aluminium drawer (length dividers) 300 mm	TT	BioLine wire shelf in stainless steel 300 mm		*Legs, wheels
Е	BioLine ABS drawer (length dividers) 420 mm	W	BioLine wire shelf with plastic coating 430 mm	31	Castors, 360° swivel
Н	BioLine wire drawer (length dividers) 430 mm	WW	BioLine wire shelf with plastic coating 300 mm	20/21	Door hinge – on right or left side
НН	BioLine wire drawer (length dividers) 300 mm	М	BioLine wire basket with plastic coating 430 mm	91	Wall mounting
Р	BioLine perforated shelf in stainless steel 430 mm	MM	BioLine wire basket with plastic coating 300 mm		*Chart recorder (per unit)
PP	BioLine perforated shelf in stainless steel 300 mm	82	60 Hz compressor		

^{*} See page 79



BioCompact

Voltage-free contact

- for IT networks, monitoring systems and/or remote alarms.

Acoustic and visual door alarm

- with delay function that can be set separately.

Door lock

- for avoiding unattended entry.

Smart defrost

- smart automatic defrosting system with re-evaporation of the defrost water.

High-capacity refrigeration unit

- makes sure the interior quickly returns to the specified temperature after the door has been opened.

Exterior finish

- made of lacquered steel or stainless steel finish.

Interior finish

 made of a durable one-piece moulded
 ABS inner lining with U-shaped rails in the walls for mounting of shelves and drawers.

Gram Bioline ventilated air circulation system

 featuring a special distributor plate that ensures consistent temperatures everywhere in the cabinet.

Solid door

 as standard or well-insulated glass door with LED-lighting as an optional extra for refrigerators (RR models).

ATEX

- the Gram BioLine range of biostorage cabinets provides you with full ATEX compliance
- both internal and external.

Access port

- 24.5 mm port for ease of access, e.g. sensors for external temperature surveillance.

The base

- can be fitted with castors or feet.

Interior fittings

- a wide range of versatile interior fittings and layouts are available. The operating specifications and the interior layout can both be customised.



Optional extra

Practical foot pedal door opener.

BioCompact

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BioCompact is a general-purpose refrigerator/freezer cabinet for basic biostorage purposes where the focus is on 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.

Available with capacities of 125, 218, 250 and 346 litres in white or stainless steel finish.

BioCompact refrigerators						
RR Regular refrigeration +2/+20°						
BioCompact freezers						
RF	RF Regular freezer -					

- 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.







BioCompact RR210



Technical specifications	
Temperature range	+2/+20°C
Ambient temperature range	Solid door 10/35°C; glass door 10/32°C
Control Unit	Gram Control Unit with voltage-free contact, acoustic and visual door alarms that can be programmed individually, and offset function
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish
Ext. dimensions mm (W x D x H):	595 x 640 x 801/1001
Net weight	Unpackaged net weight without optional fittings: 46 kg
Gross volume	125 litres/4.4 cubic feet
Net volume	104 litres/3.7 cubic feet
Modules for shelves and drawers	4 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m²K; glass door 0.457 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	R134a: 114
Refrigeration capacity at -10°C	R600a 154 watt; R134a 150 watt
Energy consumption	0.61 kWh/24h (see page 85)
Connection	230 V, 50 Hz
Sound level	36.5 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	Optional fittings and equipment – product configuration guide on page 12					
А	BioLine aluminium drawer (length/cross dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm	81	Low-temperature protection	
AA	BioLine aluminium drawer (length/cross dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm	82	60 Hz compressor	
Е	BioLine ABS drawer (length/cross dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm	V	Reference container	
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm		*Legs, wheels	
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm	31	Castors, 360° swivel	
Р	BioLine perforated shelf in stainless steel 430 mm	11	Glass door with LED light	91	Wall mounting	
PP	BioLine perforated shelf in stainless steel 300 mm	20/21	Self closing door. Door hinge - on right or left side		*Chart recorder	
Т	BioLine wire shelf in stainless steel 430 mm	22/23	Door hinge – on right or left side		Combination kit for 210/310	

^{*} See page 79

BioCompact RF210 * -25 °C





Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/35°C
Control Unit	Gram Control Unit with voltage-free contact, acoustic and visual door alarms that can be programmed individually, and offset function
Material: Interior	ABS lining
Exterior	White lacquered steel or stainless steel finish
Ext. dimensions mm (W x D x H):	595 x 640 x 801/1001
Net weight	Unpackaged net weight without optional fittings: 46 kg
Gross volume	125 litres/4.4 cubic feet
Net volume	104 litres/3.7 cubic feet
Modules for shelves and drawers	4 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	R134a: 100
Refrigeration capacity at -25°C	R600a 156 watt; R134a 149 watt
Energy consumption	1.53 kWh/24h (see page 85)
Connection	230 V, 50 Hz
Sound level	39.7 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Option	Optional fittings and equipment – product configuration guide on page 12					
А	BioLine aluminium drawer (length dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm	V	Reference container	
AA	BioLine aluminium drawer (length dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm		*Legs, wheels	
Е	BioLine ABS drawer (length dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm	31	Castors, 360° swivel	
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm	91	Wall mounting	
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm		*Chart recorder	
Р	BioLine perforated shelf in stainless steel 430 mm	20/21	Self closing door. Door hinge - on right or left side		Combination kit for 210/310	
PP	BioLine perforated shelf in stainless steel 300 mm	22/23	Door hinge – on right or left side			
Т	BioLine wire shelf in stainless steel 430 mm	82	60 Hz compressor			

^{*} See page 79

Option codes

BioCompact RR310



Technical specifications	
Temperature range	+2/+20°C
Ambient temperature range	Solid door 10/35°C; glass door 10/32°C
Control Unit	Gram Control Unit with voltage-free contact, acoustic and visual door alarms that can be programmed individually, and offset function.
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish
Ext. dimensions mm (W \times D \times H):	595 x 640 x 1190/1390
Net weight	Unpackaged net weight without optional fittings: 55 kg
Gross volume	218 litres/7.8 cubic feet
Net volume	189 litres/6.7 cubic feet
Modules for shelves and drawers	11 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m²K; glass door 0.457 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	R134a: 136
Refrigeration capacity at -10°C	R600a 154 watt; R134a 150 watt
Energy consumption	0.63 kWh/24h (see page 85)
Connection	220 V, 50 Hz
Sound level	36.8 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	Optional fittings and equipment – product configuration guide on page 12				
А	BioLine aluminium drawer (length/cross dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm	81	Low-temperature protection
AA	BioLine aluminium drawer (length/cross dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm	82	60 Hz compressor
Е	BioLine ABS drawer (length/cross dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm	V	Reference container
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm		*Legs, wheels
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm	31	Castors, 360° swivel
Р	BioLine perforated shelf in stainless steel 430 mm	11	Glass door with LED light		*Chart recorder
PP	BioLine perforated shelf in stainless steel 300 mm	20/21	Self closing door. Door hinge - on right or left side	91	Wall mounting
Т	BioLine wire shelf in stainless steel 430 mm	22/23	Door hinge – on right or left side		Combination kit for 210/310

^{*} See page 79

BioCompact RF310 * -25 °C





Technical specifications	
Temperature range	-25/-5°C
Ambient temperature range	10/35°C
Control Unit	Gram Control Unit with voltage-free contact,, acoustic and visual door alarms that can be programmed individually, and offset function.
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish
Ext. dimensions mm (W \times D \times H):	595 x 640 x 1190/1390
Net weight	Unpackaged net weight without optional fittings: 55 kg
Gross volume	218 litres/7.8 cubic feet
Net volume	189 litres/6.7 cubic feet
Modules for shelves and drawers	11x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	R134a: 114
Refrigeration capacity at -25°C	R600a 156 watt; R134a 149 watt
Energy consumption	1.69 kWh/24h (see page 85)
Connection	220 V, 50 Hz
Sound level	39.9 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Automatic smart defrost with re-evaporation of the defrost water

Optio	nal fittings and equipment – product configuration guide on	page 12			
А	BioLine aluminium drawer (length dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm	V	Reference container
AA	BioLine aluminium drawer (length dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm		*Legs, wheels
Е	BioLine ABS drawer (length dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm	31	Castors, 360° swivel
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm	91	Wall mounting
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm		*Chart recorder
Р	BioLine perforated shelf in stainless steel 430 mm	20/21	Self closing door. Door hinge - on right or left side		Combination kit for 210/310
PP	BioLine perforated shelf in stainless steel 300 mm	22/23	Door hinge – on right or left side		
Т	BioLine wire shelf in stainless steel 430 mm	82	60 Hz compressor		

^{*} See page 79

BioCompact RR410



Technical specifications						
Temperature range	+2/+20°C					
Ambient temperature range	Solid door 10/35°C; glass door 10/32°C					
Control Unit	Gram Control Unit with voltage-free contact, acoustic and visual door alarms that can be programmed individually, and offset function					
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish					
Ext. dimensions mm (W x D x H):	595 x 640 x 1776/1976					
Net weight	Unpackaged net weight without optional fittings: 78 kg					
Gross volume	346 litres/12.3 cubic feet					
Net volume	312 litres/11.1 cubic feet					
Modules for shelves and drawers	22 x 430 mm + 3 x 300 mm (see page 86)					
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant					
K-Value	Solid door 0.337 W/m²K; glass door 0.474 W/m²K					
Refrigerant	R600a / R134a					
CO ₂ e	R134a: 172					
Refrigeration capacity at -10°C	R600a 207 watt; R134a 226 watt					
Energy consumption	0.73 kWh/24h (see page 85)					
Connection	230 V, 50 Hz					
Sound level	36.1 dB(A)					
Air system	Gram BioLine ventilated air distribution system					
Defrost system	Automatic smart defrost with re-evaporation of the defrost water					

Optio	nal fittings and equipment – product configuration guide on pa	ge 12				
А	BioLine aluminium drawer (length/cross dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm		Low-temperature protection	
AA	BioLine aluminium drawer (length/cross dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm		32 60 Hz compressor	
Е	BioLine ABS drawer (length/cross dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm		V Reference container	
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm		*Legs, wheels	
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm	;	Castors, 360° swivel	
Р	BioLine perforated shelf in stainless steel 430 mm	11	Glass door with LED light		Wall mounting	
PP	BioLine perforated shelf in stainless steel 300 mm	20/21	Self closing door. Door hinge - on right or left side		*Chart recorder	
Т	BioLine wire shelf in stainless steel 430 mm	22/23	Door hinge – on right or left side		*Pedal door opener	

^{*} See page 79

BioCompact RF410 * -25 °C





Technical specifications							
Temperature range	-25/-5°C						
Ambient temperature range	10/35°C						
Control Unit	Gram Control Unit with voltage-free contact, acoustic and visual door alarms that can be programmed individually, and offset function						
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish						
Ext. dimensions mm (W \times D \times H):	595 x 640 x 1776/1976						
Net weight	Unpackaged net weight without optional fittings: 78 kg						
Gross volume	346 litres/12.3 cubic feet						
Net volume	312 litres/11.1 cubic feet						
Modules for shelves and drawers	22 x 430 mm + 3 x 300 mm (see page 86)						
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant						
K-Value	Solid door 0.337 W/m²K						
Refrigerant	R600a / R134a						
CO ₂ e	R134a: 136						
Refrigeration capacity at -25°C	R600a 175 watt; R134a 195 watt						
Energy consumption	2.13 kWh/24h (see page 85)						
Connection	230 V, 50 Hz						
Sound level	38.6 dB(A)						
Air system	Gram BioLine ventilated air distribution system						
Defrost system	Automatic smart defrost with re-evaporation of the defrost water						

Optio	nal fittings and equipment – product configuration guide on p	page 12			
А	BioLine aluminium drawer (length dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm	V	Reference container
AA	BioLine aluminium drawer (length dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm		*Legs, wheels
Е	BioLine ABS drawer (length dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm	31	Castors, 360° swivel
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm	91	Wall mounting
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm		*Chart recorder
Р	BioLine perforated shelf in stainless steel 430 mm	20/21	Self closing door. Door hinge - on right or left side		*Pedal door opener
PP	BioLine perforated shelf in stainless steel 300 mm	22/23	Door hinge - on right or left side		
Т	BioLine wire shelf in stainless steel 430 mm	82	60 Hz compressor		

^{*} See page 79 Option codes

BioCompact RR210/RF210



Technical specifications	
Temperature range	+2/+20°C and -25/-5°C
Ambient temperature range	Solid door 10/35°C; glass door 10/32°C
Control Unit	Gram Control Unit with voltage-free contact, acoustic and visual door alarms that can be programmed individually, and offset function
Material: Interior	ABS lining
Exterior	White lacquered steel or stainless steel finish
Ext. dimensions mm (W \times D \times H):	595 x 640 x 1602/1802
Net weight	Unpackaged net weight without optional fittings: 92 kg
Gross volume	125 litres/4.4 cubic feet and 125 litres/4.4 cubic feet
Net volume	104 litres/3.7 cubic feet and 104 litres/3.7 cubic feet
Modules for shelves and drawers	4 x 430 mm + 3 x 300 mm and 4 x 430 mm + 3 x 300 mm (see page 86)
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant
K-Value	Solid door 0.338 W/m²K; glass door 0.457 W/m²K
Refrigerant	R600a / R134a
CO ₂ e	RR210 R134a: 114 / RF210 R134a: 100
Refrigeration capacity at -10°C Refrigeration capacity at -25°C	RR: R600a 154 watt; R134a 150 watt RF: R600a 156 watt; R134a 149 watt
Energy consumption	2.14 kWh/24h (see page 85)
Connection	230 V, 50 Hz
Sound level	40.9 dB(A)
Air system	Gram BioLine ventilated air distribution system
Defrost system	Smart defrost and automatic re-evaporation of the defrost water

Option	Optional fittings and equipment – product configuration guide on page 12							
А	BioLine aluminium drawer (length/cross dividers) 420 mm	PP	BioLine perforated shelf in stainless steel 300 mm		22/23	Door hinge – on right or left side		
AA	BioLine aluminium drawer (length/cross dividers) 300 mm	Т	BioLine wire shelf in stainless steel 430 mm		81	Low-temperature protection (RR only)		
А	BioLine aluminium drawer (length dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm		82	60 Hz compressor		
AA	BioLine aluminium drawer (length dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm		V	Reference container (per unit)		
Е	BioLine ABS drawer (length/cross dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm			*Legs, wheels		
Е	BioLine ABS drawer (length dividers) 420 mm	М	BioLine wire basket with plastic coating 430 mm		31	Castors, 360° swivel		
Н	BioLine wire drawer (length dividers) 430 mm	MM	BioLine wire basket with plastic coating 300 mm		91	Wall mounting		
НН	BioLine wire drawer (length dividers) 300 mm	11	Glass door with LED light (RR only)			*Chart recorder (per unit)		
Р	BioLine perforated shelf in stainless steel 430 mm	20/21	Self closing door. Door hinge - on right or left side					

^{*} See page 79

BioCompact RR210/RR210





Technical specifications					
Temperature range	+2/+20°C and +2/+20°C				
Ambient temperature range	Solid door 10/35°C; glass door 10/32°C				
Control Unit	Gram Control Unit with voltage-free contact, acoustic and visual door alarms that can be programmed individually, and offset function				
Material: Interior	ABS lining				
Exterior	White lacquered steel or stainless steel finish				
Ext. dimensions mm (W \times D \times H):	595 x 640 x 1602/1802				
Net weight	Unpackaged net weight without optional fittings: 92 kg				
Gross volume	125 litres/4.4 cubic feet and 125 litres/4.4 cubic feet				
Net volume	104 litres/3.7 cubic feet and 104 litres/3.7 cubic feet				
Modules for shelves and drawers	4 x 430 mm + 3 x 300 mm and 4 x 430 mm + 3 x 300 mm (see page 86)				
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant				
K-Value	Solid door 0.338 W/m²K; glass door 0.457 W/m²K				
Refrigerant	R600a / R134a				
CO ₂ e	RR210 R134a: 114 / RR210 R134a: 114				
Refrigeration capacity at -10°C	R600a 154 watt; R134a 150 watt				
Energy consumption	1.22 kWh/24h (see page 85)				
Connection	230 V, 50 Hz				
Sound level	39.1 dB(A)				
Air system	Gram BioLine ventilated air distribution system				
Defrost system	Automatic smart defrost with re-evaporation of the defrost water				

Option	Optional fittings and equipment – product configuration guide on page 12							
А	BioLine aluminium drawer (length/cross dividers) 420 mm	W	BioLine wire shelf with plastic coating 430 mm		V	Reference container (per unit)		
AA	BioLine aluminium drawer (length/cross dividers) 300 mm	WW	BioLine wire shelf with plastic coating 300 mm			*Legs, wheels		
Е	BioLine ABS drawer (length/cross dividers) 420 mm	М	BioLine wire basket with plastic coating 430 mm		31	Castors, 360° swivel		
Н	BioLine wire drawer (length dividers) 430 mm	MM	BioLine wire basket with plastic coating 300 mm		91	Wall mounting		
НН	BioLine wire drawer (length dividers) 300 mm	11	Glass door with LED light (per unit)			*Chart recorder (per unit)		
Р	BioLine perforated shelf in stainless steel 430 mm	20/21	Self closing door. Door hinge - on right or left side (per unit)					
PP	BioLine perforated shelf in stainless steel 300 mm	22/23	Door hinge – on right or left side					
Т	BioLine wire shelf in stainless steel 430 mm	81	Low-temperature protection (per unit)					
TT	BioLine wire shelf in stainless steel 300 mm	82	60 Hz compressor					

^{*} See page 79

BioCompact RF210/RF210





Technical specifications							
Temperature range	-25/-5°C and -25/-5°C						
Ambient temperature range	10/35°C						
Control Unit	Gram Control Unit with voltage-free contact, acoustic and visual door alarms that can be programmed individually, and offset function						
Material: Interior Exterior	ABS lining White lacquered steel or stainless steel finish						
Ext. dimensions mm (W \times D \times H):	595 x 640 x 1602/1802						
Net weight	Unpackaged net weight without optional fittings: 92 kg						
Gross volume	125 litres/4.4 cubic feet and 125 litres/4.4 cubic feet						
Net volume	104 litres/3.7 cubic feet and 104 litres/3.7 cubic feet						
Modules for shelves and drawers	4 x 430 mm + 3 x 300 mm and 4 x 430 mm + 3 x 300 mm (see page 86)						
Insulation	50 mm polyurethane with HFC-free cyclopentane propellant						
K-Value	Solid door 0.338 W/m ² K						
Refrigerant	R600a / R134a						
CO ₂ e	RF210 R134a: 100 / RF210 R134a: 100						
Refrigeration capacity at -25°C	R600a 156 watt; R134a 149 watt						
Energy consumption	3.06 kWh/24h (see page 85)						
Connection	230 V, 50 Hz						
Sound level	42.1 dB(A)						
Air system	Gram BioLine ventilated air distribution system						
Defrost system	Automatic smart defrost with re-evaporation of the defrost water						

Option	nal fittings and equipment – product configuration guide or	page 12			
А	BioLine aluminium drawer (length dividers) 420 mm	TT	BioLine wire shelf in stainless steel 300 mm	82	60 Hz compressor
AA	BioLine aluminium drawer (length dividers) 300 mm	W	BioLine wire shelf with plastic coating 430 mm	V	Reference container (per unit)
Е	BioLine ABS drawer (length dividers) 420 mm	WW	BioLine wire shelf with plastic coating 300 mm		*Legs, wheels
Н	BioLine wire drawer (length dividers) 430 mm	М	BioLine wire basket with plastic coating 430 mm	31	Castors, 360° swivel
НН	BioLine wire drawer (length dividers) 300 mm	MM	BioLine wire basket with plastic coating 300 mm	91	Wall mounting
Р	BioLine perforated shelf in stainless steel 430 mm	20/21	Self closing door. Door hinge - on right or left side		*Chart recorder (per unit)
PP	BioLine perforated shelf in stainless steel 300 mm	22/23	Door hinge – on right or left side		
Т	BioLine wire shelf in stainless steel 430 mm				

^{*} See page 79



Models and options

	BioUltra	BioPlus	BioMidi	BioCompact II	BioCompact
Temperature range					
Refrigerators +2/+20°C			•	•	•
Refrigerators -2/+20°C		•			
Refrigerators +2/+6°C					
Freezers -25/-5°C		•	•	•	•
Freezers -35/-5°C		•			
Freezers -40/-5°C			•		
Freezers -86/-60°C	•				
Materials exterior/interior					
White/stainless		•			
White/White, stainless	•				
Stainless/stainless		•	•		
White/aluminium, stainless			•		
Aluminium, stainless/aluminium, stainless			•		
White/ABS				•	•
Stainless/ABS				•	•
Technical specifications					
Gram BioLine ventilated air distribution system		•	•	•	•
Dry cooling		● (ER)			
Smart Defrost		•	•	•	•
Defrost shield		● (RF/EF)	• (RF/EF)		
Automatic re-evaporation of defrost water		•	•	•	•
Defrost interval, adjustable		•	•	•	•
Dual refrigeration circuit		O (W/1270/1400)			
Voltage-free contact	•	•	•	•	•
Low-temperature protection		O (ER)	O (RR)	O (RR)	O (RR)
E-sensor	•	•	•	•	
Chart recorder	0	0	0	0	0
Acoustic and visual alarm for upper and lower temperature limits	•	•	•	•	
Acoustic and visual alarm for open door		•	•	•	•
Separate setting of all alarm parameters	•	•	•	•	•
Alarm recording	•	•	•	•	
High/low temperature read-out	•	•	•	•	
Offset of temperature sensor(s)	•	•	•	•	•

Included

Models and options



	BioUltra	BioPlus	BioMidi	BioCompact II	BioCompact
Technical specifications continued					
Key pad lock	•	•	•	•	•
Service programme	•	•	•	•	•
Temperature scale in Celsius and Fahrenheit	•	•	•	•	•/-
230V, 50Hz	•	•	•	•	•
230V, 60Hz		• (ER with HFC) • (RF / EF with HFC)	• (RR with HFC) • (RF with HFC)	O (HFC)	O (HFC)
Exterior equipment					
Solid door	•	•	•	•	•
Glass door		O (nly ER)	O (RR)		
Glass door with LED light				O (RR)	O (RR)
Pedal door opener		•		0	0
Self closing door		•	•	•	0
Legs/castors/plinth		•		•/0 (210/310)	• /0 (210/310)
Castors, 360° swivel	● (levelling castors)	0/● (1270/1400)		0	0
Wall mounting				O (210/310/410)	0 (210/310/410)
Door lock	•	•	•	•	•
LED display	•	•	•	•	•
Visual indicator for alarm	• (no door alarm)	•	•	•	
Halogen lights		•	•		
Interior equipment					
Wire shelf, plastic coated		O (not EF, 930 or opt.70)	O (not EF or opt. 70)	0	0
Wire shelf, stainless steel		0	0	0	0
Perforated shelf, stainless steel	•	0	0	0	0
Wire drawer with length dividers				O (210/310/410)	0 (210/310/410)
Wire basket				O (210/310/410)	0 (210/310/410)
Aluminium drawer with length/cross dividers		O (ER, not 930)	O (RR)	O (RR)	O (RR)
Aluminium drawer with length dividers				O (RF 210/310/410)	O (RF)
ABS drawer with length/cross dividers				O (RR 210, 310, 410)	O (RR)
ABS drawer with length dividers				O (RF 210/310/410)	
Stainless steel drawer, 30 kg		O (not 930)	0	O (610)	
Stainless steel drawer, 40 kg		0	0	O (610)	
Stainless steel drawer with glass front, 40 kg		O (not 930)	0	O (610)	
BioLine dividers for stainless steel drawers		0	0	O (610)	
Draught shields	•	O (not 930)/● (EF)	O/● (EF)		
Reference container		0	0	0	0
DIN kit		O (ER)	O (RR)	O (RR)	
Noise reduction kit			0		

Products and Prices · BioUltra / BioPlus

BioUltra - Freezer		Additional equipment and fittings	Factory-fitted	Supplied separately
UL570 (white)		Chart recorder		N/A
UL570 (stainless steel)		Chart recorder, paper – 100 pcs		
		Chart recorder, pens		
		BioLine perforated shelf in stainless steel		
		Door hinge - on right or left side		N/A
		Racks/boxes - Please find on page 19		
BioPlus - Refrigerators	BioPlus - Freezers	Additional equipment and fittings	Factory-fitted	Supplied separately
ER500 (white)	RF500 (white)0	BioLine aluminium drawer with length and cross dividers		
ER500 (stainless steel)	RF500 (stainless steel)0	BioLine stainless steel drawer 30 kg		
ER600D (white)	RF600D (white)	BioLine stainless steel drawer 40 Kg		
ER600D (stainless steel)	RF600D (stainless steel)	BioLine stainless steel drawer with glass front 40 Kg		
ER600W (white)	RF600W (white)	BioLine dividers for stainless steel drawers (1 set)		
ER600W (stainless steel)	RF600W (stainless steel)	BioLine perforated shelf in stainless steel		
ER660D (white)	RF660D (white)O	BioLine wire shelf in stainless steel		
ER660D (stainless steel)	RF660D (stainless steel)	BioLine wire shelf with plastic coating		
ER660W (white)	RF660W (white)	Door hinge - on right or left side		N/A
ER660W (stainless steel)	RF660W (stainless steel)	Legs, castors/wheels or for mounting on a plinth		
ER930 (white)	RF930 (white)	Castors, 360° swivel		
ER930 (stainless steel)	RF930 (stainless steel)	Chart recorder		N/A
ER1270 (white)	RF1270 (white)	Chart recorder, paper - 100 pcs	N/A	
ER1270 (stainless steel)	RF1270 (stainless steel)	Chart recorder, pen - 1 pcs	N/A	
ER1400 (white)	RF1400 (white)	Dual refrigeration circuit (only W, 1270, 1400)		N/A
ER1400 (stainless steel)	RF1400 (stainless steel)	60 Hz compressor		N/A
	EF600W -35°C (white)	Glass door, single door (only ER)		N/A
	EF600W -35°C (stainless steel)	Glass doors, double door (only ER, 1270 or 1400)		N/A
	EF660W -35°C (white)	Draught shields (500, 600 or 660)		
	EF660W -35°C (stainless steel)	Draught shields (1270 or 1400)		
		Low-temperature protection (only ER)		
		Reference container		
		Sterile sand for reference container (enough for 2 reference con	tainers)N/A	
		BioLine divider kit for aluminium drawer (length and cros		
		Shelf supporters (additional)		
		DIN-Kit		N/A

Products and Prices · BioMidi

BioMidi - Refrigerators	BioMidi – Freezer	Additional equipment and fittings	Factory-fitted	Supplied separately
RR425 (white)	RF425 (white)	BioLine aluminium drawer with length and cross dividers		
RR425 (aluminium)	RF425 (aluminium)	BioLine stainless steel drawer 30 kg		
RR425 (stainless steel)	RF425 (stainless steel)	BioLine stainless steel drawer 40 kg		
RR625 (white)	RF625 (white)	BioLine stainless steel drawer with glass front 40 kg		
RR625 (aluminium)	RF625 (aluminium)	BioLine dividers for stainless steel drawers (1 set)		
RR625 (stainless steel)	RF625 (stainless steel)	BioLine perforated shelf in stainless steel		
	EF425 -40°C (white)	BioLine wire shelf in stainless steel		
	EF425 -40°C (aluminum)	BioLine wire shelf with plastic coating		
	EF425 -40°C (stainless steel)	Door hinge - on right or left side		N/A
		Chart recorder		N/A
		Chart recorder, paper - 100 pcs		
		Chart recorder, pen - 1 pcs		
		60 Hz compressor		N/A
		Glass door, single door (only RR)		N/A
		Draught shields		
		Low-temperature protection		
		Reference container		
		Sterile sand for reference container (enough for 2 reference container		
		BioLine divider kit for aluminium drawer (length and cross di		
		Shelf supporters (additional)		
		DIN-Kit		N/A
		Noise reduction kit		
		1000 reduction Nit		

Products and Prices · BioCompact II

BioCompact II - Refrigerators	BioCompact II - Freezers
RR210 (white)	RF210 (white)0
RR210 (stainless)	RF210 (stainless)
RR310 (white)	RR310 (white)0
RR310 (stainless)	RR310 (stainless)
RR410 (white)	RF410 (white)
RR410 (stainless)	RF410 (stainless)
RR610 (white)	RF610 (white)
RR610 (stainless)	RF610 (stainless)

BioCompact II - Combi

RR210/RF210 (white) RR210/RF210 (stainless) RF210/RF210 (white) RF210/RF210 (stainless) RR210/RR210 (white) RR210/RR210 (stainless)

Additional equipment and rittings	ractory nitted	эаррнеа эерагасегу
BioLine aluminium drawer (length/cross dividers) (61	O RR)	
BioLine aluminium drawer (length/cross dividers) (42		
BioLine aluminium drawer (length/cross dividers) (30		
BioLine ABS drawer (length/cross dividers) (420 mm)		
BioLine stainless steel drawer 30 kg (610)		
BioLine stainless steel drawer 40 kg (610)		
BioLine stainless steel drawer with glass front 40 kg		
BioLine dividers for stainless steel drawers (1 set)		
BioLine wire drawer with plastic coating (length dividence)		
BioLine wire drawer with plastic coating (length divid		
BioLine wire basket with plastic coating (430 mm)		
BioLine wire basket with plastic coating (300 mm)		
BioLine perforated shelf in stainless steel (610)		
BioLine perforated shelf in stainless steel (430 mm).		
BioLine perforated shelf in stainless steel (300 mm).		
BioLine wire shelf in stainless steel (610)		
BioLine wire shelf in stainless steel (430 mm)		
BioLine wire shelf in stainless steel (300 mm)		
BioLine wire shelf with plastic coating (610)		
BioLine wire shelf with plastic coating (430 mm)		
BioLine wire shelf with plastic coating (300 mm)		
Door hinge - on right or left side		N/A
Chart recorder		N/A
Chart recorder, paper - 100 pcs	N/A	
Chart recorder, pens - 1 pcs	N/A	
Legs or castors/wheels (only Combi/410/610)		
Legs or castors/wheels (only 210/310)		
Castors, 360° swivel (only Combi/410/610)		
Castors, 360° swivel (only 210/310)		
Wall mounting (Combi/210/310/410)		
Combination kit (only 210/310)		
60 Hz compressor		N/A
Glass door (Combi/210/310/410) (only RR)		N/A
Glass door (610) (only RR)		N/A
Low-temperature protection (only RR)		١٧/٨
Reference container		
Sterile sand for reference container (enough for 2 container		
Pedal door opener (410/610)		
BioLine divider kit for aluminium drawer (length and		
Shelf supporters (additional) (610)		
DIN-Kit		N/A

Factory-fitted

Supplied separately

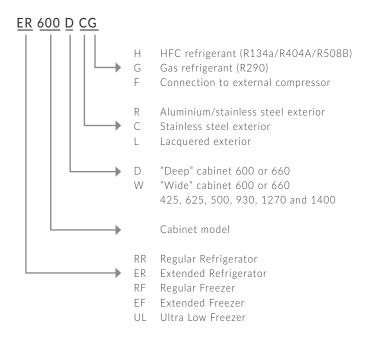
Additional equipment and fittings

Products and Prices · BioCompact

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BioCompact - Refrigerators	BioCompact - Freezers	Additional equipment and fittings	Factory-fitted	Supplied separately
RR210 (white)€ 1,340	RF210 (white)	BioLine aluminium drawer (length/cross dividers) (42	20 mm)	
RR210 (stainless steel) € 1,440	RR310 (white)	BioLine aluminium drawer (length/cross dividers) (30	00 mm)	
RR310 (white)	RR310 (stainless)	BioLine ABS drawer (length/cross dividers) (420 mm)	
RR310 (stainless)	RF410 (white)	BioLine dividers for stainless steel drawers (1 set)		
RR410 (white)€ 1,640	RF410 (stainless steel)	BioLine wire drawer with plastic coating (length divi		
RR410 (stainless steel)€ 1,740		BioLine wire drawer with plastic coating (length divi	ders) (300 mm)	
		BioLine wire basket with plastic coating (430 mm)		
		BioLine wire basket with plastic coating (300 mm)		
BioCompact - Combi		BioLine perforated shelf in stainless steel (430 mm)		
Biocompact Combi	_	BioLine perforated shelf in stainless steel (300 mm)		
RR210/RF210 (white) € 2.980		BioLine wire shelf in stainless steel (430 mm)		
RR210/RF210 (stainless) € 3.180		BioLine wire shelf in stainless steel (300 mm)		
RF210/RF210 (white) € 3.080		BioLine wire shelf with plastic coating (430 mm)		
RF210/RF210 (stainless) € 3.280		BioLine wire shelf with plastic coating (300 mm)		
RR210/RR210 (white) € 2.880		Door hinge - on right or left side		N/A
RR210/RR210 (stainless) € 3.080		Chart recorder		N/A
		Chart recorder, paper - 100 pcs	N/A	
		Chart recorder, pens - 1 pcs		
		Legs or castors/wheels (only Combi/410)		
		Legs or castors/wheels (only 210/310)		
		Castors, 360° swivel (only Combi/410)		
		Castors, 360° swivel (only 210/310)		
		Wall mounting (Combi/210/310/410)		
		Combination kit (only 210/310)		
		60 Hz compressor		N/A
		Glass door (Combi/210/310/410) (only RR)		N/A
		Self-closing door		N/A
		Low-temperature protection (only RR)		
		Reference container		
		Sterile sand for reference container (enough for 2 con-		
		Pedal door opener (410)		
		BioLine divider kit for aluminium drawer (length and	cross dividers) N/A	

Codes for BioUltra/BioPlus/BioMidi



Op	tion codes
10	Solid door
11	Glass door
20	Right hinged
21	Left hinged

	30	Wheels/castors	125	mm
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31 Castors - 360° castors, 2 w/brakes

32 Wheels (BioMidi)

33 Wheels/castors 109 mm

35 Legs H=100/135 mm

36 Legs H=135/200 mm

37 Legs H=185/250 mm

38 Prepared for mounting on a plinth

41 E-sensor

50 Chart recorder

69 DIN kit

70 Draught shield, hinged

79 Water cooled condenser

80 Dual refrigeration

81 Low-temperature protection

82 60 Hz compressor

84 Noise reduction kit (only 425, 625 units)

Option codes Option codes

..R # of stainless steel drawer 30 kg

..S # of stainless steel drawer 40 kg

..K # of stainless steel drawer with glass front 40 kg

..C # of divider set in stainless steel

..P # of perforated shelf in stainless steel

..T # of wire shelf in stainless steel

..TTT # of wire shelf in stainless steel, draught shield

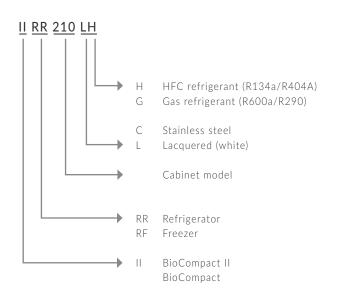
..N # of wire shelf with plastic coating ..V # of liquid containers incl. holder

Item number	Description	Item number	Description
88-570-	BioUltra 570	88-500-	BioPlus 500
88-425-	BioMidi 425	88-600-	BioPlus 600 D
88-426-	BioMidi EF425	88-601-	BioPlus 600 W
88-625-	BioMidi 625	88-604-	BioPlus EF600 W
		88-660-	BioPlus 660 D
		88-661-	BioPlus 660 W
		88-662-	BioPlus EF660 W
		88-930-	BioPlus 930
		88-270-	BioPlus 1270
		88-400-	BioPlus 1400

Codes for BioCompact/BioCompact II

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Option codes



Diocom	Jaci	Diocom	pact II
88-253-	RR 210	88-250-	IIRR 210
88-254-	RR 210 glass door	88-251-	IIRR 210 glass door
88-255-	RF 210	88-252-	IIRF 210
88-353-	RR 310	88-350-	IIRR 310
88-354-	RR 310 glass door	88-351-	IIRR 310 glass door
88-355-	RF 310	88-352-	IIRF 310
88-453-	RR 410	88-450-	IIRR 410
88-454-	RR 410 glass door	88-451-	IIRR 410 glass door
88-455-	RF 410	88-452-	IIRF 410
88-261-	RR 210/RF 210	88-260-	IIRR 210/IIRF 210
88-261-	RF 210/RF 210	88-260-	IIRF 210/IIRF 210
88-261-	RR 210/RR 210	88-260-	IIRR 210/IIRR 210
		88-611-	IIRR 610
		88-613-	IIRR 610 glass door
		88-612-	IIRF 610

BioCompact II

BioCompact

Option codes 10 Solid door 11 Glass door Right hinged, self-closing Left hinged, self-closing Right hinged without self-closing Left hinged without self-closing Wheels/castors 125mm Castors - 360° castors, 2 w/brakes 33 Wheels/castors 109mm Wheels/skids (only 210/310 units) Legs H=100/135 mm Legs H=135/200 mm Prepared for mounting on a plinth Skids 39 41 E-sensor Chart recorder DIN kit (only BioCompact II) Low-temperature protection 60 Hz compressor Combination kit 91 Wall mounting

of aluminium drawers # of aluminium drawers 300 mm # of ABS drawer ..R # of stainless steel drawer 30 kg # of stainless steel drawer 40 kg # of stainless steel drawer with glass front 40 kg # of divider set in stainless steel # of wire drawer with plastic coating # of wire drawer with plastic coating 300 mm # of wire baskets in white plastic coating ..MM # of wire baskets in white plastic coating 300 mm # of perforated shelf in stainless steel # of perforated shelf in stainless steel 300 mm # of wire shelf in stainless steel # of wire shelf in stainless steel 300 mm # of wire shelves in white plastic coating

..WW # of wire shelves in white plastic coating 300 mm

of wire shelves in grey plastic coating 300 mm

of wire shelves in grey plastic coating

of liquid containers incl. holder

BioPlus - I	ER	R290	R134a
ER 500	Solid door	1.26	1.37
	Glass door		
ER 600 D	Solid door	1.26	1.30
	Glass door	1.71	1.64
ER 660 D	Solid door	1.18	1.32
	Glass door	1.69	1.84
ER 600 W	Solid door	1.35	1.52
	Glass door	1.65	1.89
	Dual compressor solid door	-	-
	Dual compressor glass door	-	2.79
ER 660 W	Solid door	1.28	1.42
	Glass door	1.78	1.90
	Dual compressor solid door	2.20	2.29
	Dual compressor glass door	-	-
ER 930	Solid door	2.10	2.79
	Glass door	2.81	2.80
ER 1270	Solid door	2.50	2.85
	Glass door	3.48	3.39
	Dual compressor solid door	2.57	-
	Dual compressor glass door	-	5.09
ER 1400	Solid door	2.56	2.80
	Glass door	3.72	4.16
	Dual compressor solid door	-	2.83
	Dual compressor glass door	4.47	3.90

BioPlus - R	F/EF	R290	R404a
RF 500	Solid door	3.83	4.78
RF 600 D	Solid door	4.03	4.60
RF 660 D	Solid door	4.23	4.91
RF 600 W Solid door		4.07	4.63
	Dual compressor solid door	5.67	-
RF 660 W	Solid door	4.46	5.07
	Dual compressor solid door	6.02	6.77
RF 930	Solid door	6.12	6.28
RF 1270	Solid door	7.97	7.48
	Dual compressor solid door	7.97	8.89
RF 1400	Solid door	8.39	8.08
	Dual compressor solid door	8.39	9.45
EF 600 W	Solid door	8.86	9.13
	Water cooling massiv dør	-	7.93
	Dual compressor solid door	12.21	12.70
EF 660 W	Solid door	9.02	9.46
	Dual compressor solid door	12.87	12.92

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BioMidi - RR		R290	R134a
RR 425 Solid door		1.27	1.19
	Glass door	1.63	1.87
RR 625	Solid door		1.33
	Glass door	1.64	1.82

BioMidi - RF/EF		R290	R134a
RF 425	Solid door	3.61	4.45
RF 625	Solid door	4.03	4.52
EF 425	Solid door	8.93	9.40

BioCompact II - RR		R600a	R134a
RR 210	Solid door	0.61	0.68
	Glass door	0.98	1.22
RR 310	Solid door	0.63	0.79
	Glass door	0.98	1.30
RR 410	Solid door	0.73	0.96
	Glass door	1.44	1.58
RR 610	Solid door	1.15	1.36
	Glass door	1.9	2.02
RR/RF 210 combi	Solid door	2.14	2.63
RR/RR 210 combi	Solid door	1.22	1.36

BioCompact II - RF		R600a	R134a	R404a
RF 210	Solid door	1.53	1.95	-
RF 310	Solid door	1.69	1.99	-
RF 410	Solid door	2.13	2.66	-
RF 610	Solid door	3.88	-	4.2
RF/RF 210 combi	Solid door	3.06	3.9	-

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BioCompact - RR		R600a	R134a
RR 210	Solid door	0.61	0.68
	Glass door	0.98	1.22
RR 310	Solid door	0.63	0.79
	Glass door	0.98	1.30
RR 410	Solid door	0.73	0.96
	Glass door	1.44	1.58
RR/RF 210 combi	Solid door	1.22	1.36
RR/RR 210 combi	Solid door	1.22	1.36

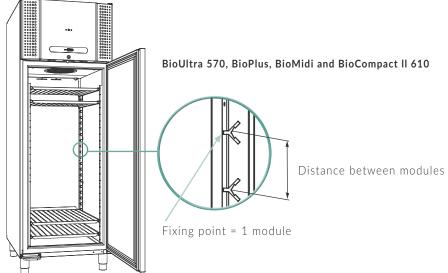
BioCompact - RF		R600a	R134a
RF 210	Solid door	1.53	1.95
RF 310	Solid door	1.69	1.99
RF 410	Solid door	2.13	2.66
RF/RF 210 combi	Solid door	3.06	3.9

Module definition

Model	No. of modules	Distances between modules mm
BioUltra 570	-	12,5
BioPlus 500*	52	25
BioPlus 600D*	24	50
BioPlus 660D*	27	50
BioPlus 600W*	24	50
BioPlus 660W*	27	50
Bioplus 930*	27	50
BioPlus 1270*	2 x 24	50
BioPlus 1400*	2 x 27	50
BioMidi 425*	25	50
BioMidi 625*	25	50
BioCompact/BioCompact II 210	4 x 430 mm + 3 x 300 mm	50
BioCompact/BioCompact II 210/210	8 x 430 mm + 6 x 300 mm	50
BioCompact/BioCompact II 310	11 x 430 mm + 3 x 300 mm	50
BioCompact/BioCompact II 410	22 x 430 mm + 3 x 300 mm	50
BioCompact II 610*	24	50

^{*}Note that reference container (when selected) takes up space corresponding to 2 modules.

BioCompact/BioCompact II (210, 310 and 410) Distance between modules U-shaped rail = 1 module



Dimensions, drawers and shelves



Туре	ABS drawer	Aluminium drawer	Stainless steel drawer 30 kg	Stainless steel drawer 40 kg	Wire drawer**	Wire basket**	Wire shelf	Perforated shelf
D H								
Module size	2	2	2	2	2	3	1	1
570	-	-	-	-	-	-	-	619/574 [-]
210/310/410 ***	429/395/68 [2/5/11]	396/419/60 [2/5/11]	-	-	440/388/70 [2/5/11]	426/386/139 [1/3/6]	486/433 [4/11/22]	483/433 [4/11/22]
210/310/410 ****	-	396/296/60 [2/2/2]	-	-	440/256/70 [2/2/2]	442/260/209 [1/1/1]	486/300 [3/3/3]	483/302 [3/3/3]
610	-	504/626/60 [11]	505/625/60 [11]	492/625/60 [12]	-	-	530/650 [24]	528/630 [24]
425	-	409/508/60 [11]	410/505/60 [11]	397/505/60 [12]	-	-	435/530 or 433/501*[25]	412/510 [25]
625	-	624/496/60 [11]	626/501/60 [11]	612/505/60 [12]	-	-	650/530 or 650/500*[25]	647/500 [25]
500	-	376/576/60 [12]	379/575/60 [12]	364/575/60 [13]	-	-	400/600 or 400/570* [52]	399/580 [52]
600D/660D/ 1270/1400	-	504/626/60 [11/12/22/24]	505/625/60 [11/12/22/24]	492/625/60 [12/13/24/26]	-	-	530/650 or 529/621* [24/27/48/54]	528/630 [24/27/48/54]
930	-	-	-	595/748/60 [13]	-	-	602/785 [27]	600/784 [27]
600/660 W		624/496/60 [11/12]	626/501/60 [11/12]	612/505/60 [12/13]	-	-	650/530 or 650/500* []	647/500 [24/27]

[]: maximum numbers that can be fitted into the cabinet. Dimensions: W x D x H mm

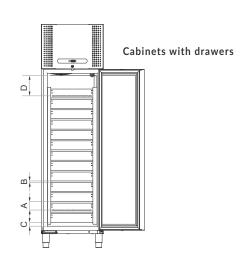
***: Drawer 420 mm

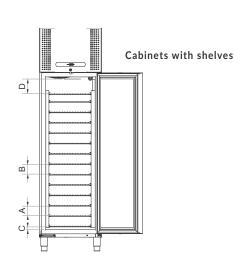
****: 300 mm

^{*} Shelf dimension when combined with draught shield (option code 70).

^{** 120°} door opening required

Loading heights



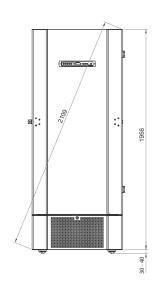


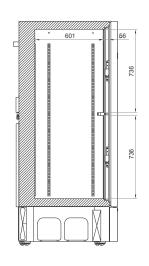
- A = Loading height in drawer/loading height between shelves
- B = Gap between drawers/shelves
- C = Distance to cabinet bottom from cabinet with drawer/ shelf in lowest position
- D = Loading height in top drawer/shelf (to load line)

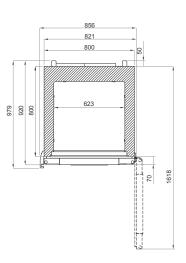
Given as: A\B\C\D mm - interior is placed with minimum distance between each drawer/shelf. See page 86 for distance between modules.

Model	Aluminium drawer	Stainless steel drawer 30 kg	Stainless steel drawer 40 kg	Wire drawer	Wire basket	Wire shelf	Perforated shelf
210	80/14/93/83	-	-	95/26/32/141	430mm: 145/8/-/205, 300mm: 271/8/8/-	39/39/101/65	37/37/96/67
310	80/14/93/123	-	-	95/26/32/181	430mm: 145/8/-/245, 300mm: 271/8/8/-	39/39/101/105	37/37/96/107
410	80/14/93/143	-	-	95/26/32/200	430mm: 145/8/-/265, 300mm: 271/8/8/-	39/39/101/122	37/37/96/144
610	80/14/74/111	84/24/19/143	84/24/50/110	-	-	39/39/34/91	30/30/38/91
425	80/14/37/191	84/24/55/227	84/24/37/175	-	-	39/39/25/141	30/30/20/137
625	80/14/37/191	84/24/55/227	84/24/37/175	-	-	39/39/25/141	30/30/20/137
500	80/14/37/296	84/24/31/147	84/24/37/139	-	-	39/39/23/142	30/30/22/137
570	-	-	-	-	-	-	-
600/660D	80/14/23/158	84/24/42/195	84/24/24/162	-	-	39/39/63/128	30/30/57/125
600/660W	80/14/23/158	84/24/42/195	84/24/24/162	-	-	39/39/63/128	30/30/57/125
930	-	-	84/24/37/139	-	-	39/39/23/142	30/30/22/137
1270	80/14/23/158	84/24/42/195	84/24/24/162	-	-	39/39/63/128	30/30/57/125
1400	80/14/23/158	84/24/42/195	84/24/24/162	-	-	39/39/63/128	30/30/57/125





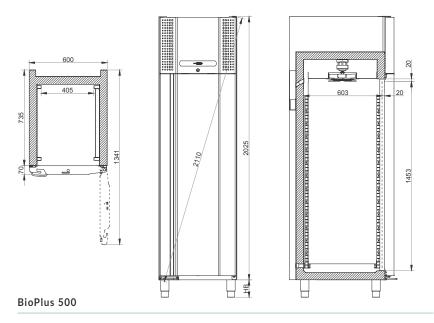




BioUltra 570

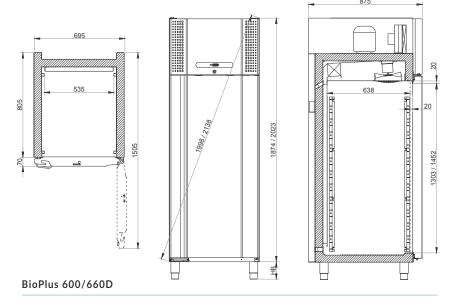
HB code: 29





HB code: 30, 31, 33, 35, 36, 37 or 38

Note: 20 mm air passage is 25 mm when cabinet is equipped with draught shield (option 70)

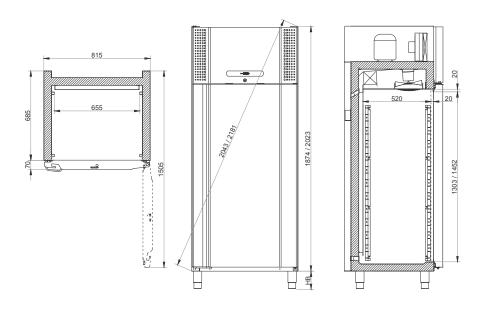


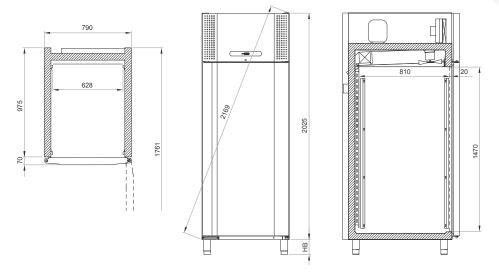
HB code: 30, 31, 33, 35, 36, 37 or 38

Note: 20 mm air passage is 25 mm when cabinet is equipped with draught shield (option 70)

Wheels/castors		Recessed wheels		Legs		Wheels/skids		Skids		Plinth mounting	
						₩ I		1			
Code	HB (mm)	Code	HB (mm)	Code	HB (mm)	Code	HB (mm)	Code	HB (mm)	Code	HB (mm)
30	125	32	30	35	100 - 135	34	30	39	30	38	0
31	125			36	135 - 200						
33	109			37	185 - 250						







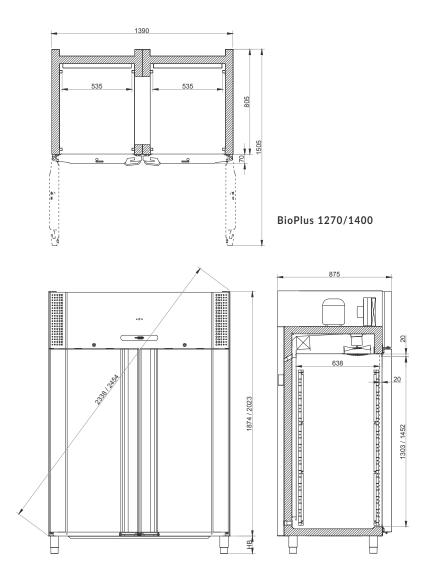
BioPlus 600/660W

HB code: 30, 31, 33, 35, 36, 37 or 38

Note: 20 mm air passage is 25 mm when cabinet is equipped with draught shield (option 70) Width on EF and PF models are 22 mm greater than given on the drawing due to the handle

BioPlus 930

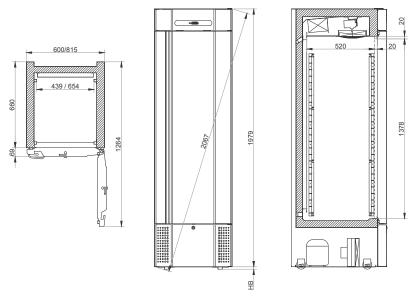
HB code: 30, 31, 33, 35, 36, 37 og 38



HB code: 31, 33, 35, 36, 37 or 38

Note: 20 mm air passage is 25 mm when cabinet is equipped with draught shield (option 70)

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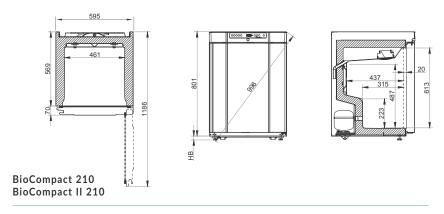


BioMidi 425/625

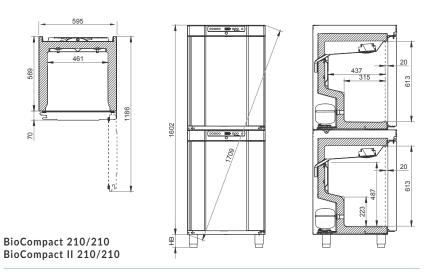
HB code: 32 or 38

Note: 20 mm air passage is 25 mm when cabinet is equipped with draught shield (option 70) Width on EF and PF models are 22 mm greater than given on the drawing due to the handle

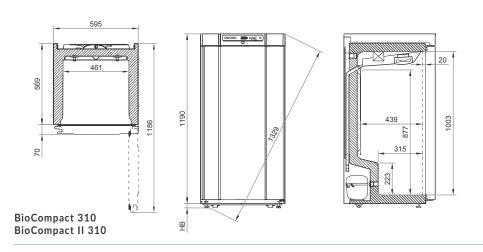
Wheels/castors		Recessed wheels		Legs	Legs		Wheels/skids		Skids		Plinth mounting	
							T L		1			
Code	HB (mm)	Code	HB (mm)	Code	HB (mm)	Code	HB (mm)	Code	HB (mm)	Code	HB (mm)	
30	125	32	30	35	100 - 135	34	30	39	30	38	0	
31	125			36	135 - 200							
33	109			37	185 - 250							



HB code: 30, 31, 33, 34, 35, 36 or 39

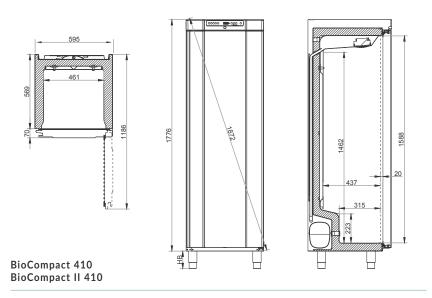


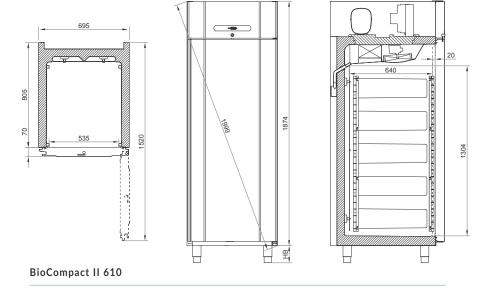
HB code: 30, 31, 33, 35 or 36



HB code: 30, 31, 33, 34, 35, 36 or 39







HB code: 30, 31, 33, 35 or 36

HB code: 30, 31, 33, 35, 36 or 38

Wheels/castors		Recessed wheels		Legs		Wheels/skids		Skids		Plinth mounting	
						T L		1			
Code	HB (mm)	Code	HB (mm)	Code	HB (mm)	Code	HB (mm)	Code	HB (mm)	Code	HB (mm)
30	125	32	30	35	100 - 135	34	30	39	30	38	0
31	125			36	135 - 200						
33	109			37	185 - 250						



Biostorage you can depend on

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info@gram-bioline.com

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Gram Commercial 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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