BIOSTORAGE YOU CAN DEPEND ON

Refrigerators & freezers for the bio sciences

bioline

GRAM

Biostorage you can depend on

Refrigerators and freezers
– knowledge in historical data

Danish design, made in Denmark
All Gram BioLine products are designed and manufactured at our factory in Vojens, Denmark. The company was founded here in 1901, when industrialist Hans Gram established a 100m² machine shop. We have remained in Vojens to this day.

Maintaining manufacturing in Vojens has proven to be a sound decision, facilitating state-of-the-art development in production, process, and product technology, ultimately providing a superior product.

From better to best
We have applied all our vast range of refrigerator and freezer know-how to providing the ultimate in meticulously controlled, highly dependable biostorage.

We design the Gram BioLine range with all the mission-critical components and systems to exceptional specifications, with every detail super-optimised to tackle the exceptional demands of discerning bio science customers.

We focus on making Gram BioLine cabinets and systems supremely reliable, so you can be sure of keeping delicate, high-value bio science materials under perfect conditions at all times, with a minimum of effort or concern.

Designed & manufactured in Denmark

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

MADE IN DENMARK

Managing quality and traditions
– with core values at heart

While Gram Scientific ApS might seem like a new organisation, it is not. Many of our employees have a long history from the «Gram Commercial days», and have an intrinsic knowledge of what good practice is, and what defines Gram Scientific ApS.

We are here to make a lasting impression, not only in our community or region, but as far as we can possibly reach. Flexibility, agility and the ability to monitor quality throughout a product's lifespan. Taking ownership of a product long after it has left the Vojens factory. It allows us to transform refrigeration and engineering know-how into new high-quality products.

Our aim is to market the best possible solutions, this is our way of making a difference and has been for the past 120 years.

We are an international company, operating in over 30 countries (exporting 85% of all products manufactured). This is all supported by branches in Germany, the Netherlands, Sweden and Norway and distributors throughout the world and approx. 150 employees.

An International company, operating in over 30 countries (exporting 85% of all products manufactured).

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Quality across the full spectrum of the definition, is maintained through managing risks, timely and adequate preventative- or corrective measures, endless efforts for improvements and a company-wide consensus of what “good quality” is and how to obtain and maintain this.

Gram Scientific ApS
constantly moving forwards

1908 Development of refrigeration equipment, and other equipment for the dairy and food sectors

1960 Large-scale manufacture of refrigerators and freezers for domestic as well as commercial use

1969 First range of upright refrigerators and freezers with fan-assisted cooling

1983 First low-temperature freezer (-33 °C) specially designed for lab use

1993 R134a and R404A HFC refrigerants used to replace R12, R22 and R502 CFC/HCFC refrigerants in all Gram Commercial products

1930 Manufacture of the first automated machinery for producing ice cream

1972 First product delivered to the pharmaceutical sector

1991 Ventilated air circulation system and electronic control panel introduced in all upright cabinets

1901 Gram Commercial set up as an engineering works and electrical installation company

1961 First range of refrigerated display counters and frozen food cabinets

1985 Compact range of upright cabinets, based on standardised 60 cm-wide module

1908 **1930** **1960** **1961** **1969** **1972** **1983** **1985** **1991** **1993**

1972 First product delivered to a blood bank

In the business of «cold» for over 100 years

Established in 1901 by Hans Gram, it was not set in stone that refrigeration would be Gram's core business for almost a century. But as with many things in life, one thing leads to another.

2007 World's first mass-produced product range compliant with both internal and external ATEX requirements
2007 BioPlus -35 °C freezer with BioLine ventilated air circulation system

2008 BioMidi -40 °C freezer with Gram BioLine ventilated air circulation system
2008 BioBlood -35 °C and -40 °C plasma freezer

2006 Gram BioLine set up as an independent division for biostorage solutions

2009 BioCompact II 610 refrigerator and freezer

2013 BioPlus 930
2013 BioUltra UL570 -86 °C

2020 ExGuard – First Gram BioLine mass-produced product with extraction system compliant with both internal and external ATEX requirements

2010 BioCompact 210/410 – The first 60 cm-wide module refrigeration unit featuring the Gram BioLine ventilated air circulation system, preventing cold walls inside the cabinet

2002 Natural R290 and R600a HC refrigerants become commercially available for mass-produced appliances

2020 BioUltra Hybrid – -86 °C with both air cooled and water-cooled refrigeration system based on natural gases

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2002 2006 2007 2008 2009 2010 2012 2013 2020 2023

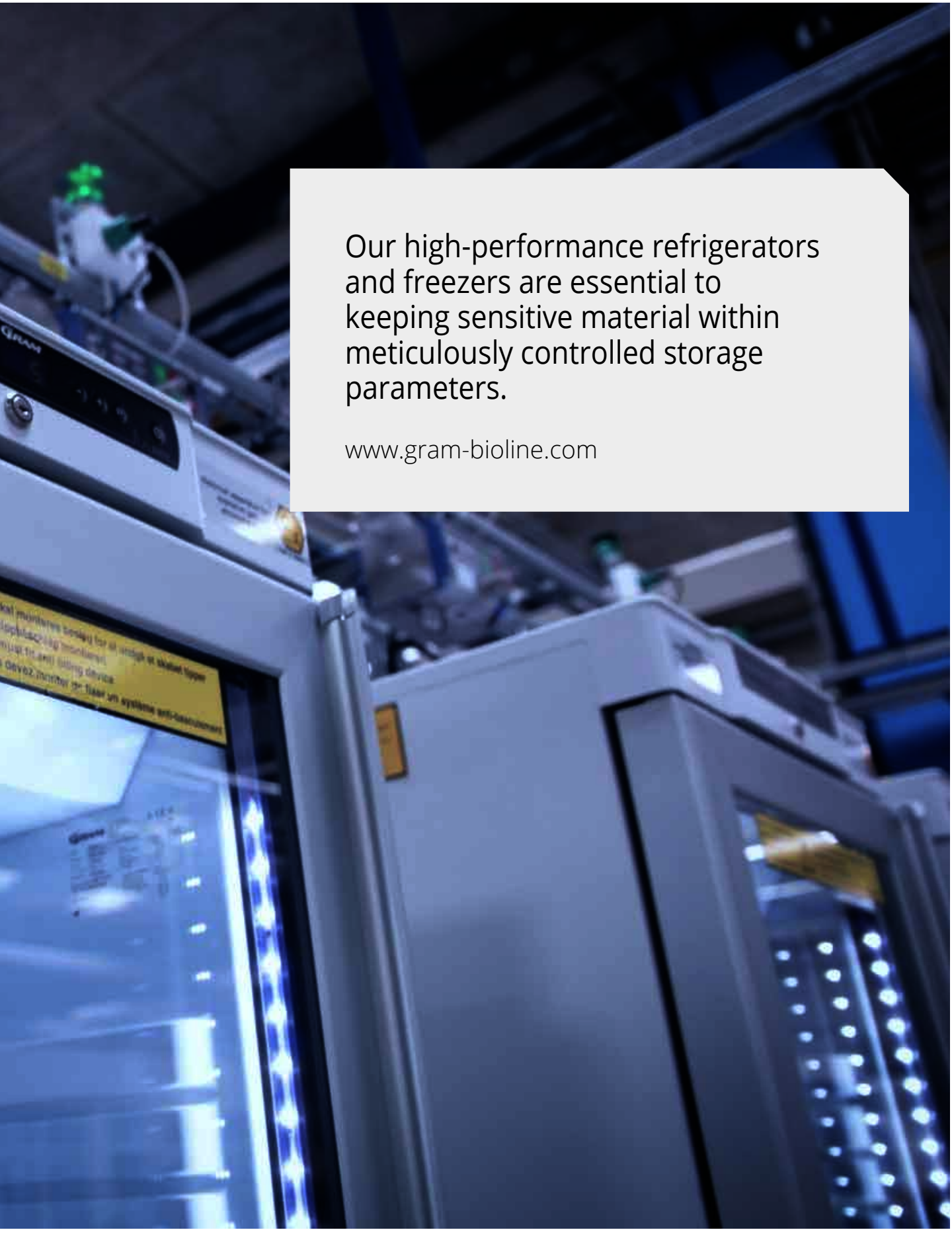
2002 World's first environmentally responsible refrigeration technology incorporated into all Gram Commercial products

2012 BioCompact 310 / BioCompact II 310

2023 Gram Scientific ApS Focus on the Gram BioLine core values

GRAM SCIENTIFIC


WARNING
SEE INSTRUCTIONS
Risiko for at skabet tipper
Achtung Kippgefahr
Risk of tilting
Risque de basculement



Our high-performance refrigerators and freezers are essential to keeping sensitive material within meticulously controlled storage parameters.

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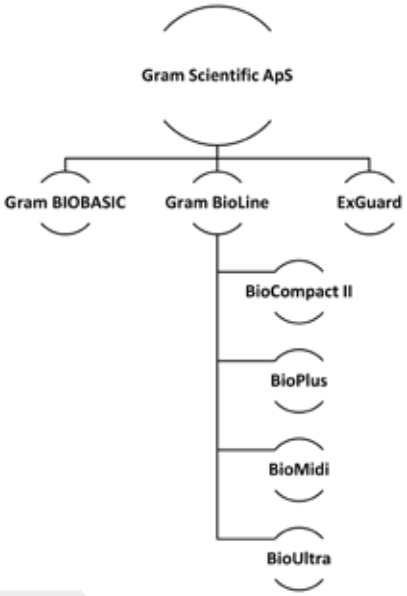
GRAM

SCIENTIFIC

A part of something bigger
A part of Gram Scientific

Gram Scientific ApS manufactures high-end commercial refrigeration and freezing solutions to customers where stable temperature is of outmost importance. Everything designed, developed and manufactured in our factory in Vojens, Denmark.

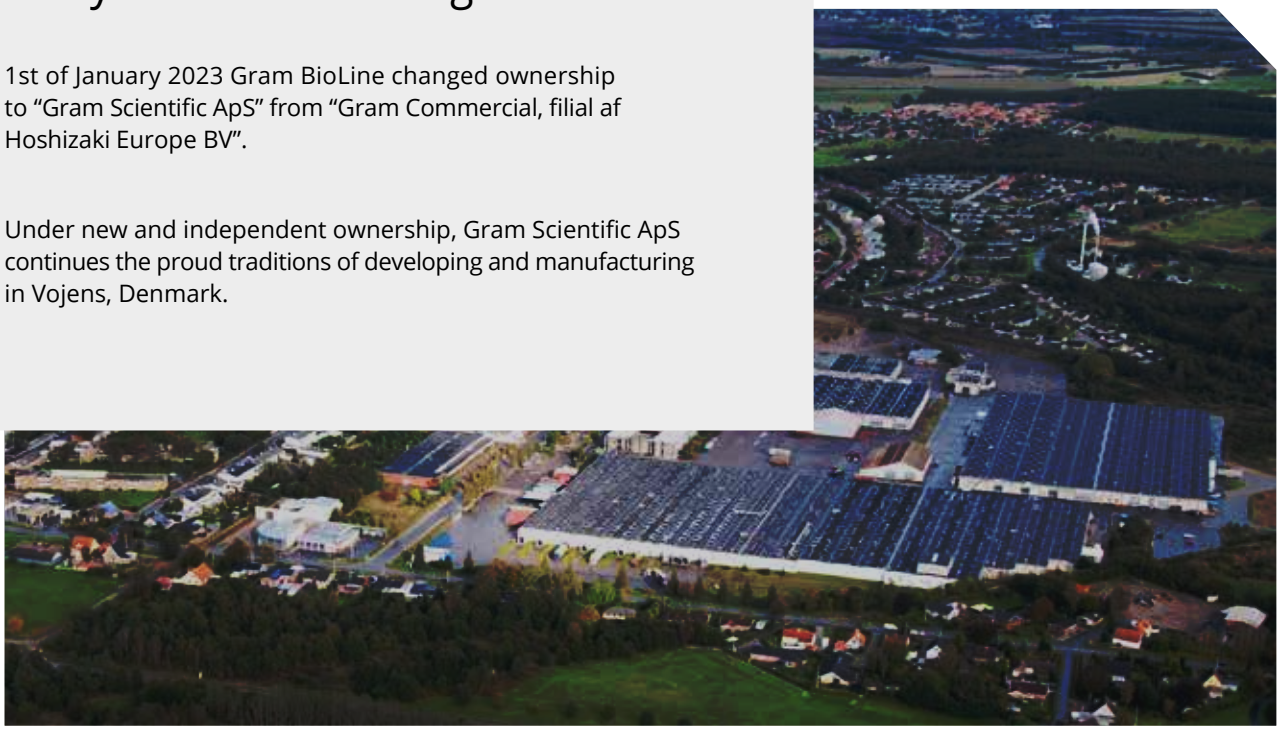
Our current manufacturing facilities were built by Gram in the 1960s and 70s with the sole purpose of manufacturing and marketing world-class products. The culture of entrepreneurship, inventiveness and customer involvement was established in those years and remains vital to the values upheld by Gram Scientific to this day. We still reside in these halls many years to come and we are proud to do so.



120 years and counting

1st of January 2023 Gram BioLine changed ownership to “Gram Scientific ApS” from “Gram Commercial, filial af Hoshizaki Europe BV”.

Under new and independent ownership, Gram Scientific ApS continues the proud traditions of developing and manufacturing in Vojens, Denmark.



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. 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 simply prerequisites. An organisation that takes environmental responsibility seriously now expects any equipment supplier to make sure its products have minimal environmental impact.

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

We have also made a clear decision to continue manufacturing our products at Gram BioLine facilities in Scandinavia. Owing to the fact that 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 are 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 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 suit, 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.

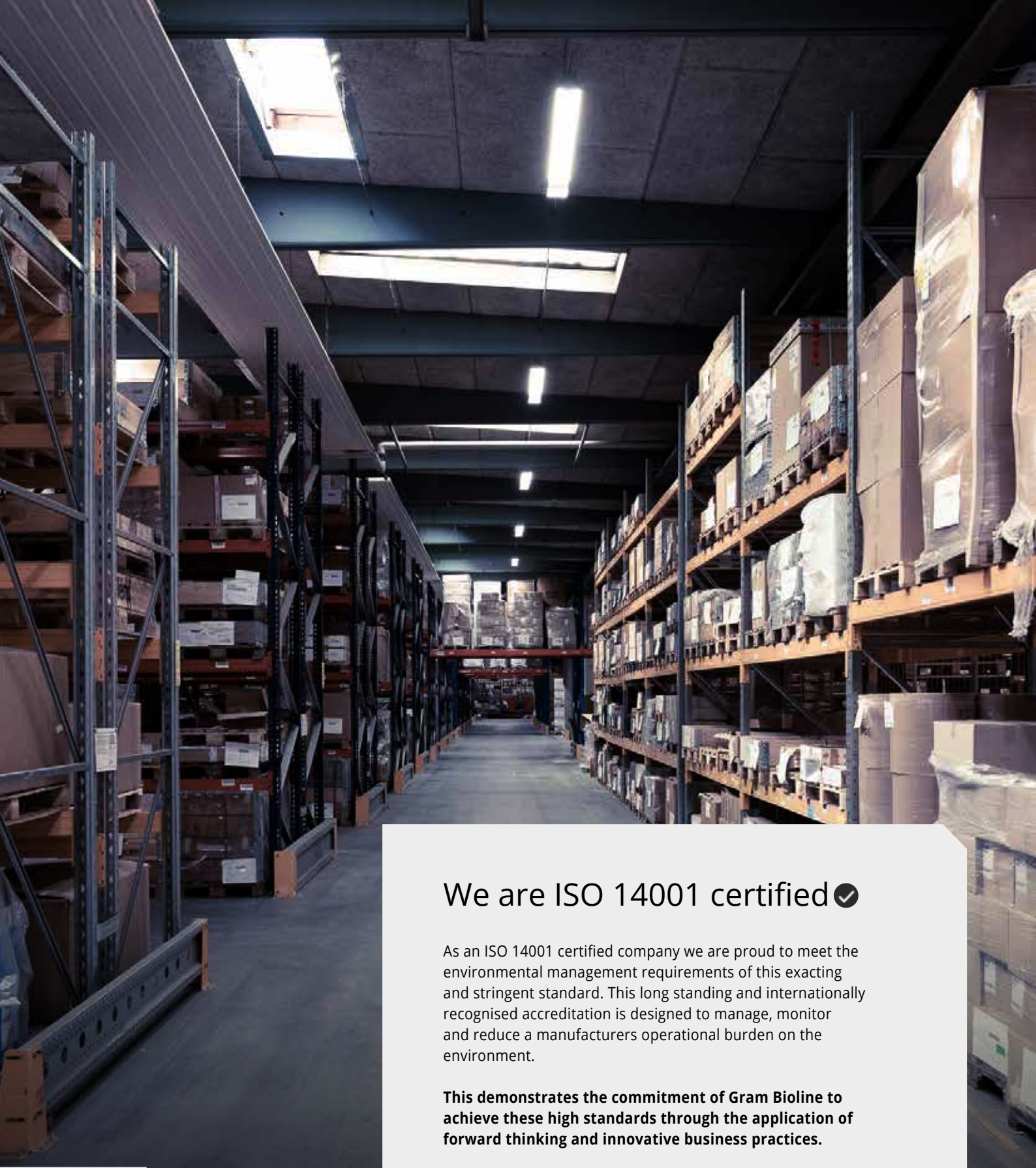
ISO 9001
Quality is one thing, "Quality management" is another.
Gram BioLine ensures and recognises in a literal fashion that quality management – with inherent risk management, product traceability and process validation – is of the utmost importance. With 9001 certification, Gram BioLine cabinets reap the fruits of a comprehensive array of quality Management systems.

ISO 14001
Gram BioLine has been awarded the stringent ISO 14001 approval as a result of continued improvement of its Environmental Management Systems and practices. Attaining the internationally accepted standard represents the achievement of maintaining profitability whilst reducing the environmental impact in the daily operation of all aspects of the organisation.

EC 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».

Certification & Compliance
As a global player within storage of sensitive biostorage, we work under global certifications, rules and regulations. We believe in transparency and with global recognized and well-renowned standards, our customers can rest assured that our products either comply or exceed regulation.

ATEX - certifed by third party notified body - CE Mark



We are ISO 14001 certified

As an ISO 14001 certified company we are proud to meet the environmental management requirements of this exacting and stringent standard. This long standing and internationally recognised accreditation is designed to manage, monitor and reduce a manufacturers operational burden on the environment.

This demonstrates the commitment of Gram Bioline to achieve these high standards through the application of forward thinking and innovative business practices.

Introducing the
Gram BioLine Applications

Choosing the right product
"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.

Distinguishing between the different model ranges and where they are best suited has become easier.

ATEX
The yellow ATEX application sticker on our different modelranges 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)

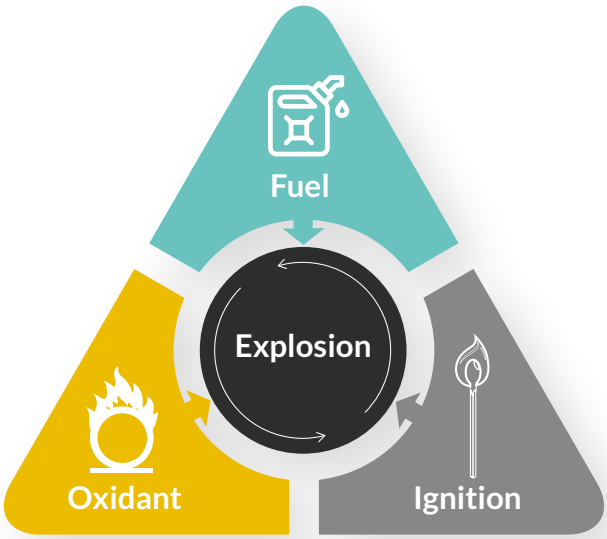
MEDICINE
Models that are able to comply with the performance and feature requirements, relevant to the safe storage of medicine and vaccines

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

ATEX

Gram BioLine, the leading authority in mass market ATEX compliant temperature critical storage.

Understanding combustion:
To first grasp ATEX, it is crucial to appreciate the three essential components needed for an explosion to take place.
These are:



Oxidant, Fuel, Ignition source:
When these three components come together in the right proportions, combustion can occur. Under the right conditions, an explosion may take place as a result of the combustion. Eliminating one of these components can prevent or mitigate the risk of explosions.

Oxidant:
Oxygen is an oxidant and is abundant in ambient air. Given the obvious necessities of air, this is typically not a viable option to remove in risk aversion context.

Fuel:
Considering the volatile nature of many of the items stored in a refrigerator or freezer, vapours and gases emitted by volatile chemicals and solvents can act as a significant source of fuel. In the context of working with these substances, where they are with all likelihood a key component, removing the fuel component is highly impractical if not impossible.

Ignition source:
An ignition source provides the necessary heat to start the combustion process. In the context of a refrigerator or freezer this would be a spark or heat with the sufficient energy to trigger a chemical reaction between the fuel and oxidant. Sparks could originate from static charge or the electrical system of the refrigerator or freezer.

While components like fuel and oxidant are essential for either breathing or working in the environment, the source of ignition can be carefully mitigated without compromising practicality or safety.

Mitigating ignition sources on the whole of the refrigerator or freezer requires extensive documentation, in depth risk analyses and proactive management of potential ignition sources. This approach ultimately ensures end-user and environmental security while maintaining practicality.

A way of mitigating these risks is the compliance and potential certification in accordance with the regulations in the ATEX directive.

Understanding ATEX

All in the effort to keep users safe
ATEX is a group of European Union (EU) regulations that direct the safety requirements for equipment and systems intended for use in environments with potentially explosive atmospheres. These regulations are set in place to protect workers and facilities from the risk of explosions caused by gases and vapours among others.

Applications for ATEX refrigerators and freezers are vast and varied, spanning across many industries and environments where explosive atmospheres are a potential hazard. Some key industries that benefit from ATEX-compliant refrigeration solutions include:

- Chemical and pharmaceutical industries
- Oil and gas industries
- Laboratories
- Food-production and -innovation industries
- Electronics manufacturing industry

The Gram BioLine ATEX benefits

ATEX is a French abbreviation for "**AT**mospheres **EX**plosibles" – and is the only European set of regulations (ATEX directive 2014/34/EU) 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.

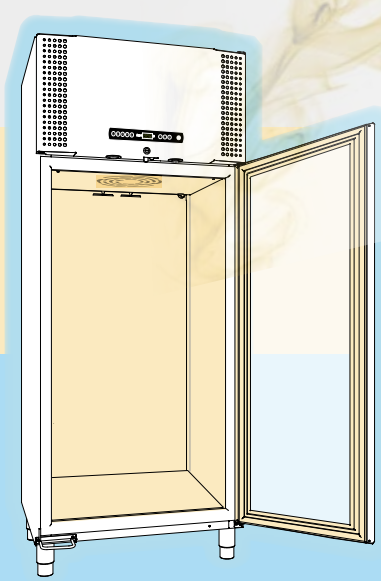
The Gram BioLine ATEX benefit
The Gram BioLine range of biostorage cabinets provides you with full ATEX compliance – both internal and external – at no extra charge. Gram BioLine is currently the only supplier capable of providing both internal and external ATEX compliance for a refrigerator or freezer 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 position the cabinet within the actual work zone, rather than in a remote location, as would be required with only internal ATEX compliance.

ATEX

Why should ATEX compliance be important to you?

Personal and environmetal safety. ATEX internal and external.
Better workflows, given the ability to safely place cabinets in work environments



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.

ATEX Rating

ATEX Rating Explained

Equipment Group
I – Mining
II – All other areas

Atmosphere
G = Gas
D = Dust

Protection concept
ec – Increased safety
nC – Non-sparking
ic – Intrinsic safety

Temperature Class
Maximum surface temperature
T1 – 450°C T2 – 300°C
T3 – 200°C T4 – 135°C
T5 – 100°C T6 – 85°C

ATEX | II | 3 | G | Ex | ec nC ic | IIB | T4 | Gb

Category
M1 – (Mining) Operation possible in the event of firedamp
M2 – (Mining) To be de-energized in the event of firedamp
1= zone 0 (gas) / zone 20 (dust)
2= zone 1 (gas) / zone 21 (dust)
3= zone 2 (gas) / zone 22 (dust)
Category 2. explosive atmosphere is likely to occur in normal operation

Explosion-Proof
equipment, in compliance with european ATEX Directive and IEC Ex.

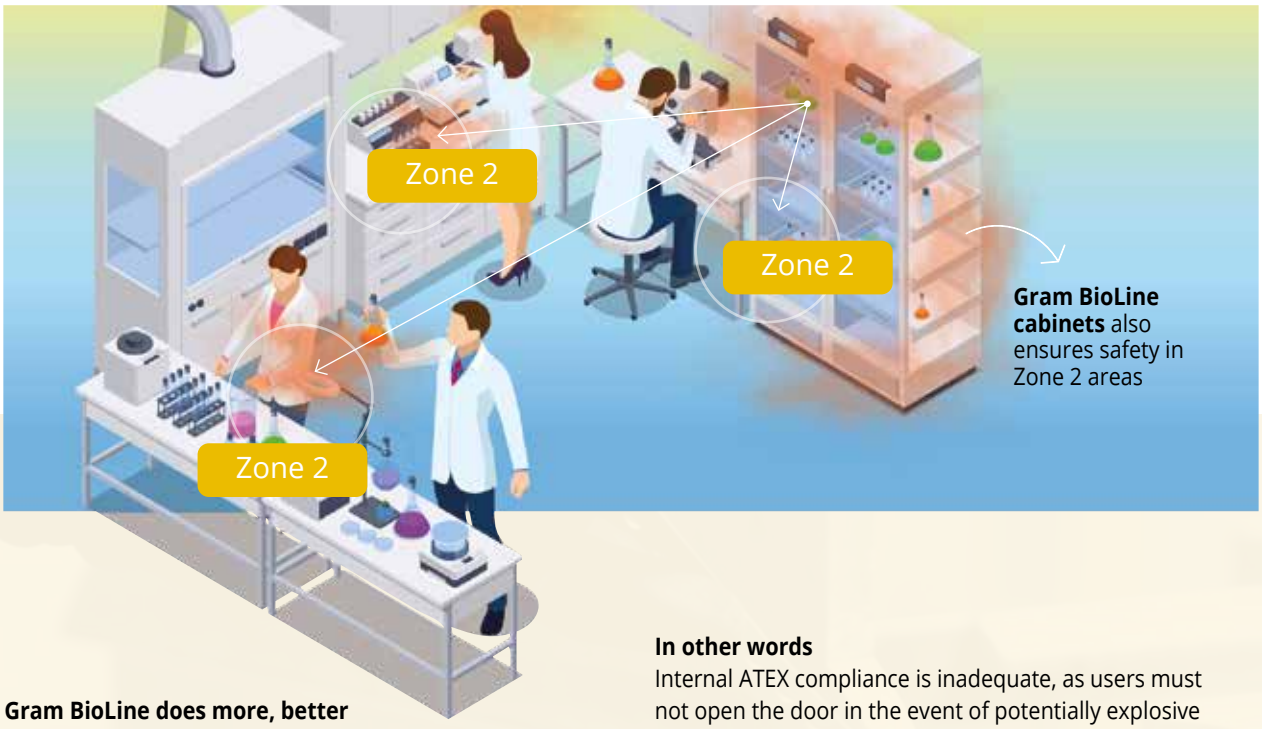
Explosion Group

Gas:	Dust:
I = Methane	I = Coal dust
IIA = Propane	IIIA = Flammable fibres
IIB = Ethylene	IIIB = Non-conductive
IIC = Hydrogen	IIIC = Conductive

IIC/IIIC is the highest rating

Protection Level
Ga = Used in zone 0, 1, 2 / 20, 21, 22
Gb = Used in zone 1, 2 / 21, 22
Gc = Used in zone 2 / 22

Scoping ATEX Zones



Gram BioLine does more, better
Gram BioLine cabinets stand out. ATEX compliance and user safety are integral to their design, never an afterthought. Engineered to meet or exceed both internal and external ATEX requirements. Gram BioLine ATEX compliance comes with no caveats, fine print, or conditions. They simply comply.

Internal compliance is insufficient
In a real-world application the ATEX directive applies to both the interior and the exterior of the cabinet if potentially explosive atmospheres can accumulate in the cabinet interior.

In other words
Internal ATEX compliance is inadequate, as users must not open the door in the event of potentially explosive atmospheres in the cabinet interior. Relying solely on internal ATEX compliance creates a false sense of security for both the user and the organisation.

ATEX 2014/34/EU Guidelines § 256
"If a potentially explosive atmosphere is likely to form around the refrigerator or cabinet as a result of vapours from inside exiting and collecting around the unit when the door is opened, it would be considered to be operating in a potentially explosive atmosphere and covered by Directive 2014/34/EU, not LVD".

Environmentally speaking, the little and big picture

"Eco-friendliness" is a process we continuously strive for at Gram BioLine.

The act of taking responsibility, in its purest human sense, is something that is derived from within. It is something that you as a person take upon yourself.

But when assessing responsibility in a wider, more holistic sense – responsibility suddenly goes from a micro perspective; taking care of your family, being part of a football club etc., to a macro perspective, where the term responsibility is interpreted to be comprehensive, and extensive in subject matter.

Much like quality management, where internal audits should be needless, since proper procedures are in place. We at Gram BioLine believe that responsibility should come from within, even when it comes to corporate responsibility.

We ensure best-in-class products by

- Developing products with focus on safety for the user and for the items stored.
- Comprehensive tests of all products before they leave the factory.
- Delivering products with a long and stable life cycle.
- Following or exceeding legislation regarding the environment and safety.
- Minimising the use of resources and reducing strain on the environment.
- Developing innovative products that match market needs.
- Delivering products with improved energy consumption.

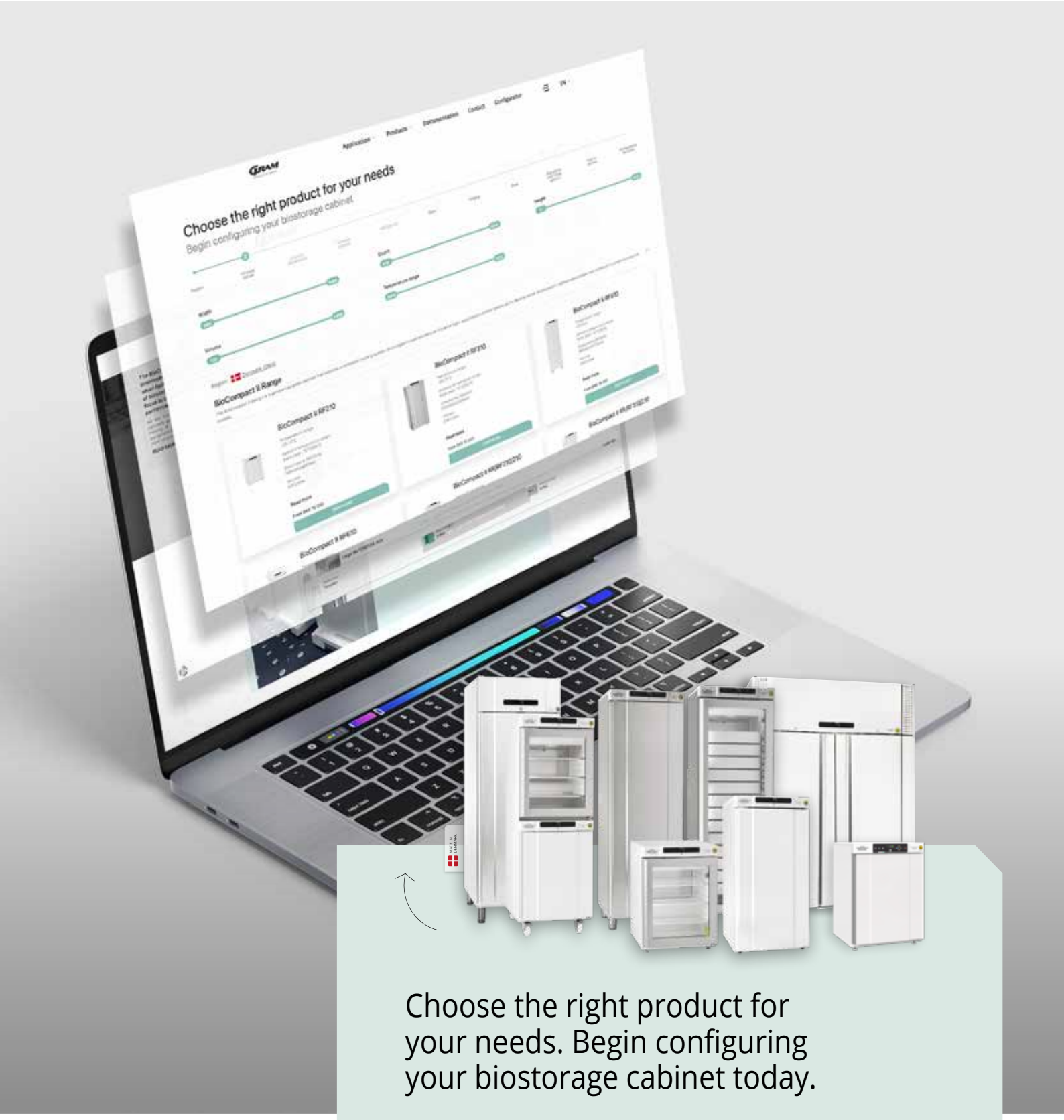
We strive to lower our environmental impact by

- Minimising our Co2 emissions in our products, both in terms of energy usage and by the use of natural refrigerants.
- Pushing environmentally friendly solutions, like CFC and HCFC- free insulation
- Minimising energy consumption in our production.
- Re-use of materials in production.
- Minimising waste and sorting of waste.

We have been on the forefront of many aspects of cleaner, efficient and effective professional refrigeration since our inception.

Some of our initiatives include:

- *ISO 14001 certification*
- *Class leading energy efficiency*
- *CFC and HCFC-free insulation*
- *Eco-friendly refrigerants since the 90s*



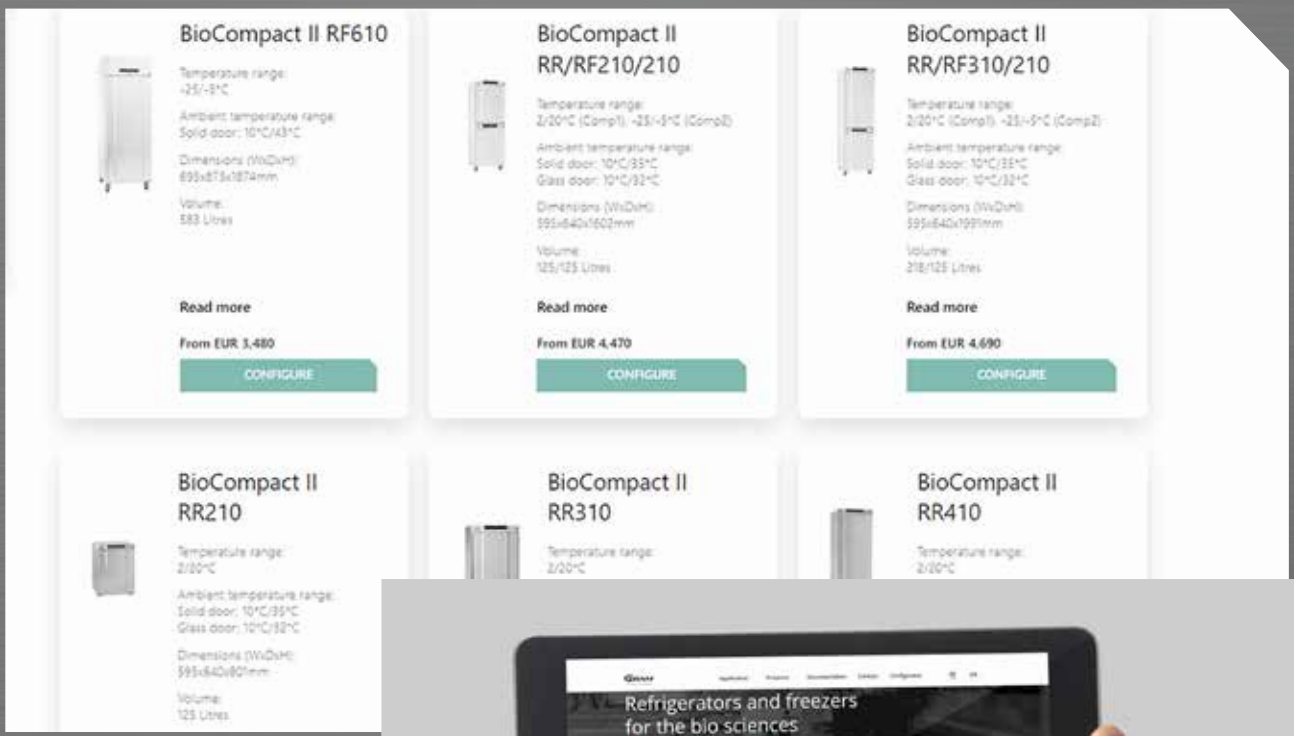
Choose the right product for your needs. Begin configuring your biostorage cabinet today.

www.gram-bioline.com

Introducing the Gram BioLine Configurator

Customise with ease: Tailor your Gram BioLine refrigerator or freezer effortlessly using our intuitive configurator. Get precise configurations, prices and dimensions instantly as a PDF. Explore infinite possibilities hassle-free.

Our intuitive configurator is accessible across a range of devices for your convenience. Whether you prefer the functionality of a PC or MAC, the portability of a tablet, or a smartphone, our configurator adapts to your preferred platform.



Begin configuring your biostorage cabinet. Start right now using the QR-code.

bioline

We at Gram BioLine strive persistently and purposefully to deliver the quality of products and service that we feel our customers warrant.

www.gram-bioline.com


Micronic

Introducing the unique
MPC 4.6 control unit

The MPC 4.6 control unit was specially developed for users of Gram 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.

Keypad lock – The display can be locked using a code. This ensures that nobody can change the settings or accidentally switch the cabinet to standby.

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

An international company, operating in over 30 countries (exporting 85% of all products manufactured).

www.gram-bioline.com

Control Unit – Gram MPC 4.6

The best of modern technologies

- Temperature alarm
- Highest/lowest temperature logging
- Temperature history
- E-sensor
- Voltage-free output
- Offset
- Keypad lock
- Display

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.

Optimised air flow

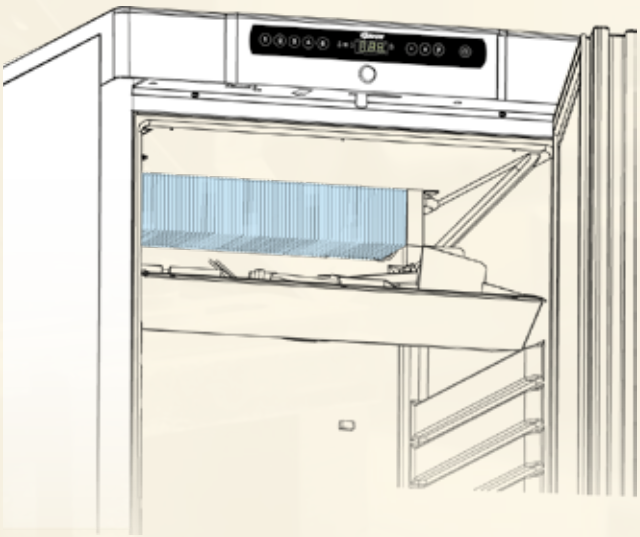
The unique Gram BioLine air distribution system leads a flow of cold air down a special distribution plate at the back of the cabinet interior. The air is forced throughout the cabinet while being moved upwards to the evaporator fan mounted at the top of the cabinet.

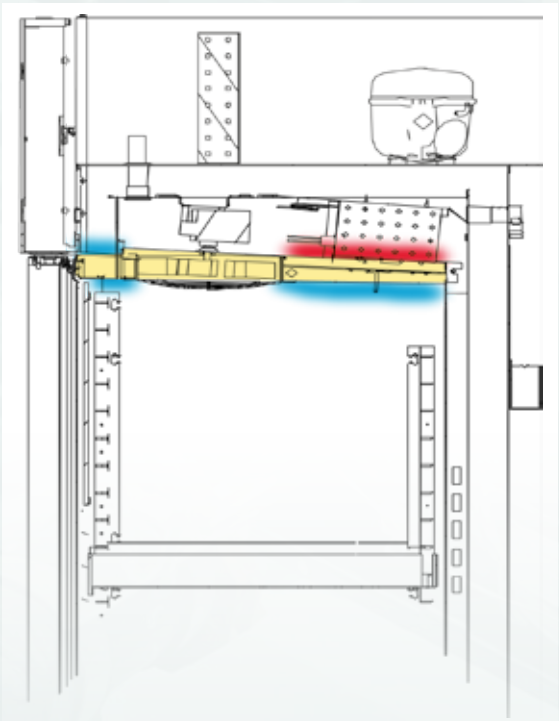
This ensures the temperature is consistent throughout the cabinet and that the recovery time after door openings are short. This helps keep energy consumption to a minimum.

No cold walls

The refrigeration system based on a finned tube evaporator is the backbone 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.





Insulation

Heated surface during defrost period

Safe cold surface during defrost period

Temperature management

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.

Safer biostorage

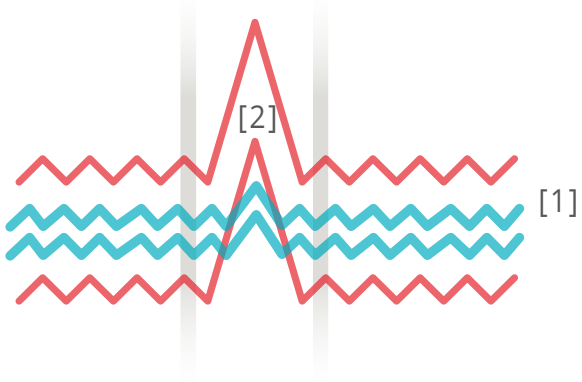
These many exceptionally innovative and effective features combine to provide the most effective and efficient biostorage solutions on the market today. Additionally our cabinets are extremely practical and convinient for the user.

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

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.



- Temperature performance, conventional defrosting
- Temperature performance, Gram BioLine

High-quality, long durability

- Easy customisation
- Maximum reliability
- Class-leading performance
- Stringent control
- Optimised air flows
- A responsible environmental profile

Find our full product range at:

www.gram-bioline.com

There are six entirely separate ranges in the BioLine range of controlled biostorage solutions.

The BioLine advantage

Appearances can be deceptive. The basic box shape is just about the only thing that BioLine controlled biostorage solutions have in common with the household refrigerators and freezers that we are all familiar with. The BioLine range features significantly higher performance and considerably more demanding specifications than any commercial refrigerators and freezers.

This all means you can rely on every product in our BioLine range to meet and exceed any current legislative requirements and international standards, right across the board. There are six entirely separate ranges in the BioLine range of controlled biostorage solutions. Together, they cover everything from high-specification biostorage designed for 'mission-critical' work to general-purpose refrigerators and freezers.

Ensuring that you receive a high-quality product

It involves testing the product in a referenceable environment, with standardised operating parameters and conditions. Type test, functional requirements, installation and use-environment requirements, regulatory and standard requirements and maintenance requirements.

Refrigerators and freezers **for the bio sciensces**

High-performance refrigerators and freezers for bio science applications such as laboratories, hospitals, pharmaceuticals and industrial applications.


BIOBASIC


ExGuard


BioCompact II


BioPlus


BioMidi


BioUltra

BioUltra

II 3G Ex ec nC ic IIB T4 Gc
DTI 22ATEX0248X

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

The BioUltra is designed to meet exceptional expectations for safe storage. It has a powerful bottom mounted cascade refrigeration system, vacuum insulated panel technology and a safe closing system constituted by multi-tier gaskets placed in a labyrinth frame.

The BioUltra is available as a full-height unit with a capacity of 570 litres.

Find more data on the **BioUltra** product.

UL: -86 °C / -60 °C

ExGuard

II 3G Ex ec nC ic IIB T1 Gc
DTI 22ATEX0249X

The ExGuard is designed for safe temperature controlled storage of items potentially emitting noxious, malodourous and/or explosive atmospheres. At the core, the ExGuard is envisioned to facilitate a safer work environment for users.

ExGuard increases work environment safety and allows placement in work environments by letting your existing ventilation system extract the hazardous atmospheres from the cabinet interior prior to you being able to access the interior. As with all other BioLine refrigerators, the ExGuard has internal and external ATEX Cat.3 Zone 2 compliance, thereby keeping the work environment safety as high as possible.

Find more data on the **ExGuard** product.

ER: -2/+20 °C

Product details BioUltra

BioUltra – Ultra-Low-Temperature cabinet			
Model	UL -86 °C / -60°C	W x D x H* (mm)	Volume Litres / Cubic feet
UL570	•	856 x 979 x 1986/1996*	570/20.1

* Min./Max. height

Product details ExGuard

ExGuard			
Model	ER -2/+20 °C	W x D x H* (mm)	Volume Litres / Cubic feet
ER600W	•	820 x 789 x 1996/2246*	Gross: 614/21.7 Net: 486/17.2

*Min. height without base/max. height with highest base

BioPlus

II 3G Ex nA nC nL IIB T2 Gc
II 3G Ex nA nC nL IIB T3 Gc (1270/1400)

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.

Find more data on the **BioPlus** product.

ER: -2/+20 °C
EF: -35/-5 °C
RF: -25/-5 °C

BioMidi

II 3G Ex nA nC nL IIB T5 Gc (RR 425/625)
II 3G Ex nA nC nL IIB T3 Gc (RF/EF 425)
II 3G Ex nA nC nL IIB T2 Gc (RF 625)

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.

Find more data on the **BioMidi** product.

RR: +2/+20 °C
EF: -40/-5 °C
RF: -25/-5 °C

Product details BioPlus

BioPlus					
Model	ER -2/+20 °C	RF -25/-5 °C	EF -35/-5 °C	W x D x H* (mm)	Volume Litres / Cubic feet
500	·	·		600 x 805 x 2025/2275	Gross: 500/17.7 / Net: 365/12.9
600D	·	·		695 x 876 x 1875/2125	Gross: 600/21.2 / Net: 432/15.3
600W	·	·		815 x 756 x 1875/2125	
600W			·	837 x 756 x 1875/2125	
660D	·	·		695 x 876 x 2025/2275	Gross: 660/23.3 / Net: 484/17.0
660W	·	·		815 x 756 x 2025/2275	
660W			·	837 x 756 x 2025/2275	
930	·	·		780 x 1045 x 2025/2275	Gross: 930/32.8 / Net: 702/24.8
1270	·	·		1390 x 876 x 1875/2125	Gross: 1270/44.8 / Net: 864/30.6
1400	·	·		1390 x 876 x 2025/2275	Gross: 1400/49.4 / Net: 968/34

* Min. height without base/max. height with highest base

Product details BioMidi

BioMidi					
Model	RR +2/+20 °C	RF -25/-5 °C	EF -40/-5 °C	W x D x H* (mm)	Volume Litres / Cubic feet
425	·	·		600 x 731 x 1980/2000	Gross: 425/15.0 Net: 303/10.7
425			·	622 x 731 x 1980/2000	Gross: 425/15.0 Net: 303/10.7
625	·	·		815 x 731 x 1980/2000	Gross: 625/ 22.1 Net: 451/15.9

*Min. height without base/max. height with highest base

BioCompact II

II 3G Ex ec nC ic IIB T6 Gc (RR 210/310/410/610)
II 3G Ex ec nC ic IIB T3 Gc (RF 210/310/410)
II 3G Ex ec nC ic IIB T2 Gc (RF 610)
DTI 22ATEX0251X (210/310/410)

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.

RR: +2/+20 °C RF: -25/-5 °C

Find more data on the **BioCompact II** product.

BIOBASIC

II 3G Ex ec nC ic IIB T6 Gc (RR 210/310/410)
II 3G Ex ec nC ic IIB T3 Gc (RF 210/310/410)
II 3G Ex ec nC ic IIB T5 Gc (RR 600)
II 3G Ex ec nC ic IIB T1 Gc (RF 600)
DTI 22ATEX0252X (210/310/410)
DTI 22ATEX0250X (600)

With temperature alarms, internal and external ATEX, no cold walls and a user-friendly interface, the BIOBASIC range provides an exceptional selection of features in a very small package.

With four sizes to choose from, the BIOBASIC range is well suited for use in confined spaces where performance, features and value are paramount.

RR: +2/+15 °C RF: -25/-5 °C

Find more data on the **BIOBASIC** product.

Product details BioCompact II

BioCompact II					
Model	RR +2/+20 °C	RF -25/-5 °C	RR/RF +2/+20 °C -25/-5 °C	W x D x H* (mm)	Volume Litres / Cubic feet
210	·	·		595 x 640 x 801/1001	Gross: 125/4.4 Net: 104/3.7
310	·	·		595 x 640 x 1190/1390	Gross: 218/7.8 Net: 189/6.7
410	·	·		595 x 640 x 1776/1976	Gross: 346/12.3 Net: 312/11.1
610	·	·		695 x 875 x 1874/2075	Gross: 583/20.6 Net: 513/14.8
210/210			·	595 x 640 x 1602/1802	Gross: 125/4.4 & 125/4.4 Net: 104/3.7 & 104/3.7
310/210			·	595 x 640 x 1991/2191	Gross: 218/7.8 & 125/4.4 Net: 189/6.7 & 104/3.7

* Min. height without base/max. height with highest base

Product details BIOBASIC

BIOBASIC				
Model	RR +2/+15 °C	RF -25/-5 °C	W x D x H (mm)	Volume Litres / Cubic feet
210	·	·	595 x 640 x 831	Gross: 125/4.4 Net: 104/3.7
310	·	·	595 x 640 x 1220	Gross: 218/7.8 Net: 189/6.7
410	·	·	595 x 640 x 1876	Gross: 346/12.3 Net: 312/11.1
600	·	·	700 x 895 x 2125	Gross: 610/21.5 Net: 536/18.9

Find more product details at:

www.gram-bioline.com

Gram Scientific ApS 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 supported by branches in Germany, the Netherlands, Sweden, Norway and distributors throughout the world.

www.gram-bioline.com

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