



**GIOVENZANA**  
INTERNATIONAL B.V.





## INCREASED SAFETY ENCLOSURES

### EX e ENCLOSURE

**A/G\*\*\*\*\*EX.. SERIES**

**SB/ST\*\*\*\*\*EX.. SERIES**

**Suitable for installation in Zone: 1, 2, 21, 22**

 <b>Listed Documents</b>		Any changes should be authorized by ExCB
	EU Type Examination Certificate	<b>FIDI 22 ATEX 0050U</b>
	IECEx Certificate	<b>IECEx FIDI 22.0007U</b>
	Ex Technical Report	<b>HR/FIDI/ExTR 22.0014/00</b> <b>FIDI 22 CR 049</b>

#### INSTRUCTION NOTE: N° 13000098

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#### **A/G\*\*\*\*\*EX.. SERIES**

#### **SB/ST\*\*\*\*\*EX.. SERIES**

**Suitable for installation in Zone: 1, 2, 21, 22**



**A/G\*\*\*\*\*EX SERIES**  
In GRP and  
copper-free aluminium



**SB\*\*\*\*\*EX SERIES**  
In AISI316L



**ST\*\*\*\*\*EX SERIES**  
In AISI316L





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**GIOVENZANA**  
INTERNATIONAL B.V.

GIOVENZANA INTERNATIONAL B.V.  
WTC Strawinskylaan 1105, 1077 XX Amsterdam,  
THE NETHERLANDS

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## 1. General Information

### 1.1 Manufacturer

GIOVENZANA INTERNATIONAL B.V.  
WTC Strawinsky laan 1105, 1077 XX Amsterdam, THE NETHERLANDS



### 1.2 About these Instructions

- **INSTRUCTION NOTE: N° I3000098, issued on JUNE 15<sup>th</sup>, 2022**
- Read carefully these Instructions before using the device
- Keep these Instructions throughout the entire service life of the enclosure
- Make these Instructions available to operating and maintenance personnel
- Update these Instructions every time an amendment is delivered from **GIOVENZANA INTERNATIONAL B.V** In case of sale of empty enclosure, pass these Instructions to subsequent owners

### 1.3 Conformity with Standards and Regulations

- A/G/SB/ST\*\*\*\*Ex Series are manufactured in accordance with ATEX and IEC standards

## 2. Explanation of symbols on the device

Symbol	Meaning
	Product compliant with European Directive 2014/34/EU (ATEX) for installation in hazardous areas
	Product compliant with IEC standards for installation in hazardous areas



### **3. Safety**

#### **3.1 General precautions**

- The empty enclosure, after obtaining the certificate for equipment, must be installed according to **EN/IEC 60079-14** standard (Edit in force) and maintenance operations must be performed according to **EN/IEC 60079-17** standard (Edit in force).
- To further guarantee good product quality/safety, the **Quality System of GIOVENZANA INTERNATIONAL B.V** is **evaluated and approved by a Notified Body**, which carries out Quality System surveillance.
- **GIOVENZANA INTERNATIONAL B.V** ensures and guarantees correct manufacturing of its products.
- Buyer and/or End User are directly responsible of correct product installation and maintenance, according to local and national laws and product installation specifications.
- Use the empty enclosure only in accordance with the operating conditions described in these operating Instructions.
- Use the empty enclosure only for the intended purpose specified in these operating Instructions;
- All modifications and changing are strictly forbidden.

**DANGER: EXPLOSION HAZARD DUE TO IMPROPER USE AND/OR ALTERATIONS TO THE ENCLOSURE CAN CAUSE SEVERE OR FATAL INJURIES**

**WARNING: THE SIGN “U” PLACED BEHIND THE CERTIFICATE NUMBER INDICATES THAT THIS CERTIFICATE SHOULD NOT BE CONFUSED WITH CERTIFICATES ISSUED FOR EQUIPMENT OR PROTECTIVE SYSTEMS. THIS COMPONENT CERTIFICATE ONLY SERVES AS A BASIS FOR THE ISSUING OF CERTIFICATES FOR EQUIPMENT OR PROTECTIVE SYSTEMS.**

**WARNING: ALL MODIFICATIONS / CHANGING, MADE BY BUYER / END USER, WITHOUT GIOVENZANA INTERNATIONAL B.V WRITTEN ACCEPTANCE WILL INVALIDATE CERTIFICATIONS, WARRANTIES AND ANY OTHER CONTRACTUAL AGREEMENT**



**RESIDUAL RISK:** ALTHOUGH USED PROPERLY, THE EMPTY ENCLOSURE CAN PRESENT RESIDUAL RISKS, WHICH ARE TYPICAL OF ANY MECHANICAL DEVICES.

### 3.2 Type of protection

A/G/SB/ST\*\*\*\*EX... Series – Protection: Ex eb, Ex tb

Compliant with:

- *IEC 60079-0* & *EN IEC 60079-0*  
Equipment - General requirement
- *IEC 60079-7* & *EN IEC 60079-7*  
Equipment protection by increased safety "e"
- *IEC 60079-31* & *EN 60079-31*  
Equipment dust ignition protection by enclosure "t"

Enclosure:

**Type of protection Ex eb:**

It provides an impact resistant enclosure for electrical equipment and ensures that the contents will not produce a spark, temperature or current creepage that could ignite the external flammable atmosphere in a hazardous area zone, location or workspace.

**Type of protection Ex tb:**

It avoids combustible dust penetration into the enclosure and ensures surface temperature limitation for use in explosive dust atmospheres.



### 3.3 Intended Use

**A/G/SB/ST\*\*\*\*EX...** Series are suitable for:

- Equipment for explosive gas and dust atmospheres, having a "high" Level of Protection, which is not a source of ignition in normal operation or during expected malfunctions.
- Applications such as: Junction boxes, local control stations and local control panels.
- Indoor / Outdoor application;
- Hazardous areas: Zone 1, 2, 21, 22.
- Safe areas.

**WARNING:** THE ENCLOSURES ARE CERTIFIED AS "COMPONENT" AND ARE SUITABLE TO BE INSTALLED IN HAZARDOUS AREAS CLASSIFIED FOR EXPLOSIVE GAS (ZONE 1 & 2) AND DUST (ZONE 21 & 22) ATMOSPHERES ONLY AFTER A FURTHER CERTIFICATION AS COMPLETE ELECTRICAL EQUIPMENT.

**WARNING:** USE THE EMPTY ENCLOSURE ONLY FOR ITS INTENDED PURPOSE. AN INCORRECT USE MAY AFFECT NEGATIVELY ON ITS THE EFFICIENCY.

**WARNING:** USE THE COMPONENT ONLY IN THE HAZARDOUS AREAS STATED IN THESE INSTRUCTIONS.

**DANGER:** AN IMPROPER USE OF THE COMPONENT MAY LEAD TO SEVER AND/OR FATAL INJURIES.





## **4. Transport, Storage & Handling**

### **4.1 Transport & Storage**

- Transport and store the device only in its original packaging:
  - Paper/carton boxes; or
  - Wood boxes; or
  - Wood cages
- Store the device in a dry place, protected from sunlight, humidity, rain and vibration-free in the following condition:
  - -20°C ... +50°C

### **4.2 Handling**

For handling, no special measures are required, therefore it is recommended to perform this operation following the common safety standards. Nevertheless, the enclosure could be heavy, so in order to avoid personal injuries or property damage, make appropriate provisions for the mounting procedure.

## **5. Mounting & Installation**

### **5.1 Preparation of the product: unpacking**

- Make sure to throw away any packaging component which could result dangerous to people, such as: screws, belts, plastic bags, etc...;
- Make sure that the packaging has not been damaged during transport;
- Put down the right side of the packaging and unpack the empty enclosure;
- Remove the empty enclosure from the package in the most appropriate manner according to its weight.



## 5.2 Apparatus composition

The **A/G/SB/ST\*\*\*\*EX** Series are Ex e and/or Ex tb empty enclosures in stainless steel, aluminium alloy or glass fiber reinforced polyester resin, of various dimensions.

The cover of **A/G/SB/ST\*\*\*\*EX** is fixed to the body with screw, between body and cover a gasket guarantee the protection degree IP66 (IP66/67 depending on models).

For **S\*\*\*\*EX...** it is also possible to add locking device and/or swing handle element (IP66).

The cover of **ST...EX** is fixed to the the body with locking device and/or swing handle (IP66), between body and cover a gasket guarantee the protection degree.

The walls of the boxes can be drilled with maximum size and maximum number of holes as specified in the manufacturer documents. The enclosure can be provided with hinges and/or transparent window, according to manufacturer documents. Removable flange can be installed on **SB...EX** and **ST...EX** Connection of metallic enclosure in blocks are allowed.

Each enclosure can be provided with internal earthing plate or lug, earthing screw or bolt.

Metal enclosures are provided by external earthing screw or bolt; stainless steel enclosures are available with or without glands plate.

**NOTE: THE ENCLOSURE COMPOSITION DEPENDS TO CUSTOMER'S REQUIREMENT, BUT IN ANY CASE IT IS SUBJECT TO CONFORMITY CERTIFICATION.**



## 5.3 Installation

### ENCLOSURE LIDS AND FLANGES FASTENING:

To ensure the IP protection degree, the lid / flanges screws / nuts must be screwed tight. Suggested tightening torque as per following table:

<b>Polyester enclosures G*****EX...Series</b>	<b>Aluminium enclosures A*****EX... .. Series</b>	<b>Stainless steel enclosures S*****EX... Series</b>
<b>2Nm</b>	<b>2Nm</b>	<b>1.5Nm</b>

Enclosures SB...EX can be equipped with locking devices and swing handle. Locking devices do not substitute any fastening screws. The degree of protection are guarantee only from the use of the screws.

For **SB101209EX** and **SB151510EX** the cover can be closed only with screw.

Enclosures ST...EX is equipped with locking devices and swing handle. The degree of protection is guarantee from the use of locking devices.

### GROUNDING TERMINALS FASTENING:

The screws and/or nuts of the grounding cables terminals must be screwed tight. Suggested tightening torque as per following table:

<b>M5</b>	<b>M6</b>	<b>M8</b>	<b>M10</b>	<b>M12</b>
<b>8.5Nm</b>	<b>9Nm</b>	<b>20Nm</b>	<b>25Nm</b>	<b>35Nm</b>



The internal grounding terminal, when installed, is positioned on the internal mounting plate or in a threaded hole.

The internal grounding terminal is suitable to clamp at least one cable lug for conductor size:

Phase conductor size $S\text{mm}^2$	Protection conductor size $S\text{mm}^2$
$S \leq 16$	$S$
$16 < S \leq 35$	$16$
$S > 35$	$0,5 S$

The external grounding terminal (in metal enclosures only), when installed, is positioned on one of the enclosure walls.

Dimensions suitable to clamp a cable lug for conductor size: at least  $4\text{mm}^2$ .

#### PASSING THROUGH GROUNDING TERMINALS:

The enclosures can be supplied (on each wall) c/w passing through terminals installed by GIOVENZANA INTERNATIONAL B.V .

#### TRANSPARENT PARTS:

The enclosures can be supplied c/w transparent polycarbonate parts installed by GIOVENZANA INTERNATIONAL B.V .

## 5.4 Walls and Lid drillings

According to the allowable area on the walls of the enclosures, the drilling are made on the enclosures walls as per fig. 1 and 2

The installed cable glands must be certified according to the types of protection Ex eb IIC and/or Ex tb IIIC.

Fig. 1

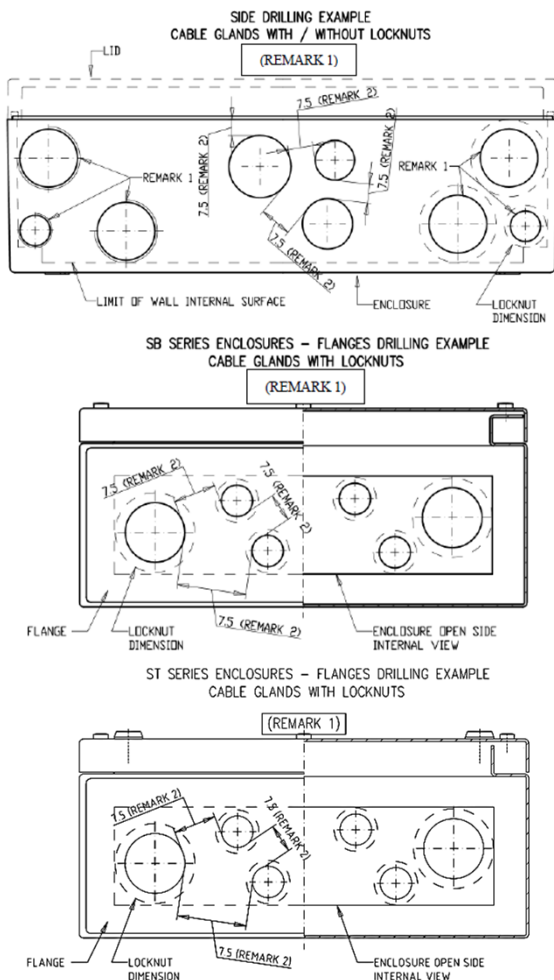
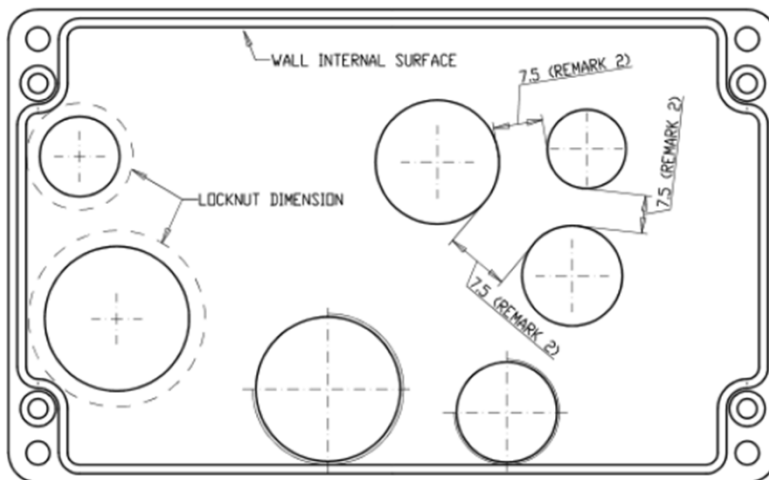


Fig. 2

**BOTTOM DRILLING EXAMPLE**  
**CABLE GLANDS WITH / WITHOUT LOCKNUTS** (REMARK 1)



Remark 1

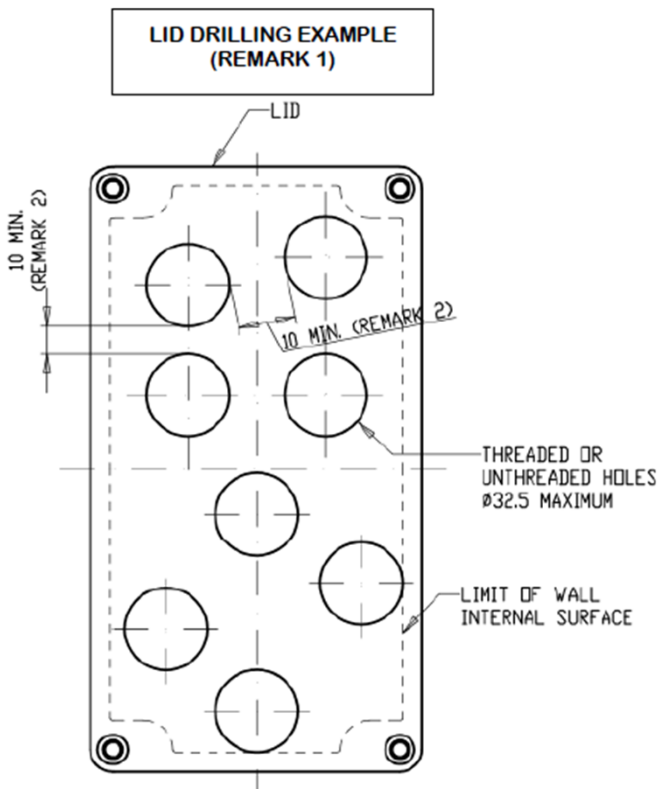
- Drilling examples suitable for the whole range of enclosures.
- Threaded or unthreaded holes. Max. holes dimensions 91mm.
- Parallel or taper threadings are admitted according to the threading of the cable glands to be installed.
- When installed on unthreaded holes, the mechanical fastening of the entry device must be by a locknut.
- The locknut must be also installed when required by the installation instructions of the cable glands.
- The diameter of the unthreaded hole must be maximum 1mm larger than the cable gland threading diameter when not otherwise specified by the assembling instructions of the cable glands.
- To ensure the IP degree of the enclosures, cable glands having at least the same IP degree of the enclosures must be installed. The IP protection degree of the coupling cable gland/enclosure is obtained according to the assembling instructions of the cable glands.
- Taper threadings are not admitted in polyester enclosures.

Remark 2

- Minimum distance (mm) between holes.

When required, drillings for externally operated devices are made on the enclosure lid as per fig. 3

Fig. 3



Remark 1

- Drilling example suitable for the whole range of enclosures.
- Dimension of the threaded or unthread holes must be according to the drilling instructions of the device to be installed.
- The mechanical fastening of the device must be made according its installing instructions.
- To ensure the IP degree of the enclosures, devices having at least the same IP degree of the enclosures must be installed. The IP protection degree of the coupling device/enclosure is obtained according to the assembling instructions of the device.

Remark 2

- Minimum distances (mm) between holes.



## **Maintenance**

### **6.1 General information**

- The maintenance is a set of operations performed in order to maintain the safety and functional features of the enclosure during its operating life.
- The maintenance operations must be performed according to **EN/IEC 60079-17** standard (Edit in force).
- The empty enclosure must be submitted to a detailed maintenance program studied and managed by qualified and authorized technicians and related to the type of apparatus, its operating service and environmental conditions.
- Do not exceed the limit of two years between inspections.
- Check the WARNINGS on the marking tag before using the enclosure.
- If the enclosure is subjected to vibrations, verify frequently the fastening of screws, pipe and/or cable entries and each part of the enclosure.
- Replace damaged parts by original GIOVENZANA INTERNATIONAL B.V spare parts only.
- The inspections and maintenance on the enclosure must be carried out only from expert staff, whose training has included all the necessary instructions on the installation modalities, on the laws and standards relevant and on the general principles of the classification of the hazardous areas.

## **7. Cleaning**

- Use only non-metallic brushes and non-corrosive cleaning fluids;
- Before reassembling the empty enclosure, verify that flanged, gasket and screws have not been damaged;

When the enclosure is installed in environments with combustible dust:

- Proceed with a regular cleaning of the enclosure to avoid dust accumulation on the surfaces;





When the Warning: "POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS" is present on the tag:

- Proceed with a regular cleaning using damp cloth or antistatic products only;
- During cleaning process, touch the enclosure with an insulated object.

**DANGER: EXPLOSION HAZARD DUE TO DAMAGED GASKET DURING CLEANING TREATMENTS CAN CAUSE SEVERE OR FATAL INJURIES**

## **8. Repairing**

Repair of the re-certified equipment must be performed according to the standard EN/IEC 60079-19 by trained personnel.

**Fastening screws of cover must be replaced by GIOVENZANA INTERNATIONAL B.V spare parts only.**

**All repairing impacting the type of protection** (except for replacement with original GIOVENZANA INTERNATIONAL B.V spare parts) **are admitted only under written authorization of GIOVENZANA INTERNATIONAL B.V.**

Written agreements with GIOVENZANA INTERNATIONAL B.V must be taken concerning procedures for mandatory verifications and tests to be performed after repairing.

## **9. Disposal**



The symbol, applied to the product or to the package, indicates that **the product should not be considered normal domestic waste, but must be taken to the appropriate collection point for the recycling of electric and electronic devices.**

Ensuring that you dispose of the product in the appropriate way contributes to avoiding potential negative consequences that might arise from unsuitable disposal of the product. For further information about recycling of this product, contact your local municipal offices, the local municipal waste disposal service or the point-of-sale where you purchased this product.



## **10. Schedule of Limitation**

- Enclosures series **A/G/SB/ST\*\*\*\*EX...** are Ex component, are not intended to be used alone and requires additional consideration by the conformity assessment procedure when incorporated into electrical equipment or systems;
- Enclosures series **A/G/SB/ST\*\*\*\*EX...** are suitable for the service temperature -50°C to +105°C.
- Installation of cable entries or plugs and drillings in walls/lid shall be in accordance with manufacturer's instructions. The suitability of all entries should be considered during equipment certification.
- Enclosures equipped with polycarbonate transparent parts, painted enclosures having paint layer thickness more than 0,2 mm, and not antistatic polyester enclosures (other than the black coloured ones: clean only by damp cloth or antistatic products).

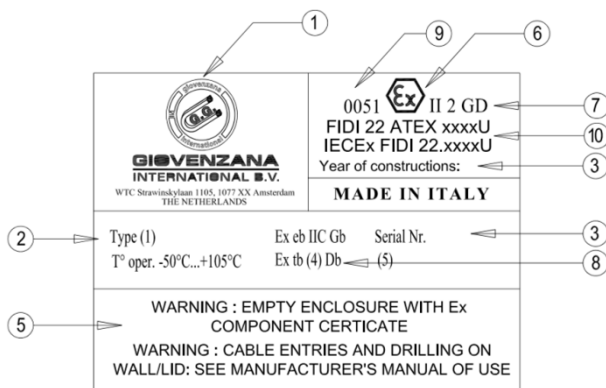
## **11. Management of non-conformities**

In case of receiving a Product considered as non-compliant, please contact GIOVENZANA INTERNATIONAL B.V..



## 12. Marking

Find below an example of marking that will be present on flameproof enclosure  
**A/G/SB/ST\*\*\*\*EX... Series**



Legenda:	
(1)	Brand, name and address of the manufacturer
(2)	Equipment type designation given by manufacturer
(3)	Year of construction and serial number
(4)	Service Temperature range T <sub>s</sub>
(5)	Warning used for all types of Enclosure
(6)	Distinctive community mark specific of explosion protection
(7)	<b>ATEX Marking</b>
	II: Group of apparatus - equipment suitable to be installed in surface places
	2G: Category - equipment suitable to be installed in places in which, during the normal activities, explosive atmosphere caused by gases, vapours, mists (G) are likely to occur (zone 1); suitable to be installed in zone 1 and in zone 2.
	2D: Category - equipment suitable to be installed in places in which, during the normal activities, explosive atmosphere caused by mixture of air and combustible dust are likely to occur (zone 21); suitable to be installed in zone 21 and in zone 22.
(8)	<b>IECEx marking - type of protection</b>
	Ex: Protection against explosion.
	eb Type of protection "eb" - Equipment protection by increased safety (for EPL Gb)
	IIC Equipment suitable to be installed in surface places for all types of combustible gas.
	Gb: Equipment for explosive gas atmospheres, having a "enhanced" level of protection, which is not source of ignition in normal operation and which may have some additional protection to ensure that it remains inactive as an ignition source in the case of regular expected occurrences.
	tb: Protection by enclosures, (for EPL Db).
	IIIC Group III for use in places with an explosive dust atmosphere other than mines susceptible to firedamp; conductive dust
	Db: Equipment for explosive dust atmospheres, having an "high" level of protection, which is not a source of ignition in normal operation or during expected malfunctions
(9)	Identification of Notified Body that have issued the QAN and QAR
(10)	Identification of Notified Body that have issued ATEX and IECEx certificate



## 13. Annex A – Technical data

### 13.1 Explosion protection

Global (IECEx)	Ex eb IIC Gb
	Ex tb IIIC Db
Europe (ATEX)	II 2 G Ex eb IIC Gb
	II 2 D Ex tb IIIC Db

### 13.2 Mechanical data

Degree of protection:	IP66
	IP66/IP67 (S****EX... only without swing handle element)
Dust Group	IIIC
Ts - Service temp. range	-50°C to 105°C
Body	A*****EX... Copper-free aluminium / G*****EX... GRP
	S*****EX AISI316L stainless steel
Hardware, screws and locking devices	AISI316L stainless steel



## 15. Annex B – Design and models

<b>Material and type</b>	<b>A*****EX... G*****EX... Series</b>	<b>Copper-free aluminium GRP</b>
	<b>S*****EX Series</b>	<b>AISI316L stainless steel</b>
<b>Service temperature</b>	<b>-50°C to +105°C</b>	

<b>KEY CODE</b>		
<b>(1) – (2) (3) (4) EX</b>	<b>(1)</b>	<b>A: Copper-free aluminium G: GRP</b>
	<b>(2)(3)(4)</b>	<b>Dimensions, in cm</b>
<b>SB (2) (3) (4) EX</b>	<b>(2)(3)(4)</b>	<b>Dimensions, in cm</b>
<b>ST (2) (3) (4) EX</b>	<b>(2)(3)(4)</b>	<b>Dimensions, in cm</b>

NOTE 1: For commercial reasons, model name listed in the above table can be modified as follows: first (2) and second (3) digits can be reversed.

NOTE 2: For stainless steel enclosures (except types SB101209EX and SB151510EX) the dimensions (2) and (3) can be decreased or increased up to 20%, the dimensions (3) can be increased up to 800 mm. Model name changes consequently.



MODELS			
Polyester	Aluminium	Stainless steel	Stainless steel
G080806EX	A080806EX	SB101210EX	ST101210EX
G080808EX	A081306EX	SB151510EX	ST151510EX
G081106EX	A081806EX	SB142013EX	ST142013EX
G081606EX	A081808EX	SB202010EX	ST202010EX
G081906EX	A082505EX	SB202016EX	ST202016EX
G121209EX	A082508EX	SB202713EX	ST202713EX
G122209EX	A101008EX	SB272713EX	ST272713EX
G161609EX	A101508EX	SB203016EX	ST203016EX
G162609EX	A101608EX	SB273513EX	ST273513EX
G163609EX	A102008EX	SB282816EX	ST282816EX
G252612EX	A121208EX	SB204016EX	ST204016EX
G252616EX	A122209EX	SB353516EX	ST353516EX
G254012EX	A141409EX	SB282827EX	ST282827EX
G254016EX	A142009EX	SB355016EX	ST355016EX
G256012EX	A161609EX	SB383816EX	ST383816EX
G414012EX	A162410EX	SB384516EX	ST384516EX
G414016EX	A162609EX	SB385716EX	ST385716EX
-	A181810EX	SB505016EX	ST505016EX
-	A182810EX	SB383827EX	ST383827EX
-	A202311EX	SB575716EX	ST575716EX
-	A202318EX	SB577620EX	ST577620EX
-	A232811EX	SB575730EX	ST575730EX
-	A233312EX	SB769520EX	ST769520EX
-	A233318EX	SB1258040EX	ST1258040EX