VOICE ACOUSTIC
professional german loudspeaker systems

MANUAL
PAVEOSUB-218SP

Bass reflex Subwoofer



QUALITY MADE IN GERMANY

Thank you very much,
for purchasing a Voice-Acoustic product.
Since 2006 we have been developing our
products in the firm belief that details matter.
May we wish you a lot of pleasure with this product.

Herzlichen Dank,
dass Sie ein Voice-Acoustic Produkt gekauft haben.
Seit dem Jahr 2006 entwickeln wir unsere Produkte
in der Überzeugung, dass es auf die Details ankommt.
Wir wünschen Ihnen viel Freude mit diesem Produkt.

Muchas gracias
por haber comprado un producto de Voice-Acoustic.
Desdel año 2006 estamos desarrollando nuestros productos
estando convencidos, que son los detalles que cuentan.
Le(s) deseamos mucha alegría usando este producto.

Merci beaucoup
d´avoir acheté un produit Voice-Acoustic.
Depuis 2006, nous développons des produits
avec la ferme conviction que les détails comptent.
Nous vous souhaitons beaucoup de plaisir à utiliser ce produit.

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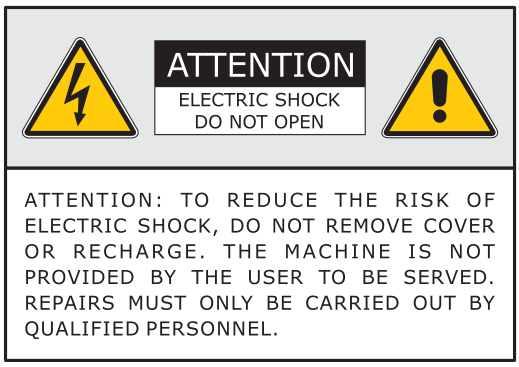
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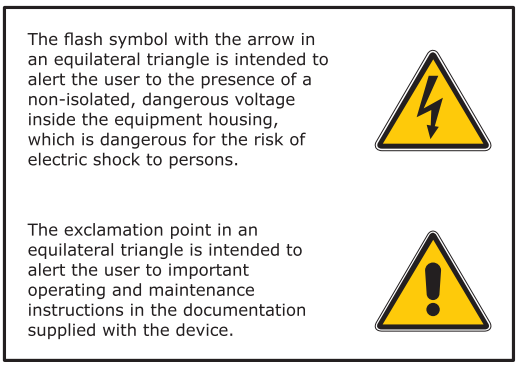
Manufacturer's declaration

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Introduction

Safety Instructions Active Electronics





Read these instructions.

Observe all warning instructions.

Follow all operating instructions.

To prevent fire hazard or risk of electric shock, do not use this device in the rain or in moist environments. Do not operate the unit nearby the water.

Clean the unit only with a dry cloth.

Observe the instructions from the manufacturer for the mounting of the unit.

Do not mount the unit in the proximity of heat sources, such as heating units, herds or other heat radiation devices.

Install the power cable at places where it cannot be damaged, especially at the sites of the socket, extension cables and where it leaves the unit.

Never remove the safety device from the two terminal or grounding-type plug. A two-pin plug has two different plug contact widths. An earth plug has two plug contacts and a third contact for earthing. The wider plug contact or additional earth contact is for your safety. If the supplied plug size does not fit in your socket box, please consult an electrician for exchanging the socket box.

Only use additional devices/accessory parts, that meet the manufacturer's instructions.

Pull the power plug out in case of storm or when you do not use your device for a longer period.

All maintenance works must be performed by qualified service staff. Maintenance is required when the unit has been damaged, objects or fluids have leaked or fallen inside, when the unit was exposed to rain or humidity, or in case of malfunctioning or when it has fallen on the floor.

Introduction

General Safety Instructions:
Loudspeakers produce a static magnetic field even if they are not connected or are not in use. Therefore make sure when erecting and transporting loudspeakers that they are nowhere near equipment and objects which may be impaired or damaged by an external magnetic field. Persons with cardiac pacemakers must maintain a safe distance.

The minimum recommended safety clearance is 1 m.

Never stand in the immediate vicinity of loudspeakers driven at a high level. Professional loudspeaker systems are capable of causing a sound pressure level detrimental to human health. Seemingly non-critical sound levels (from approx. 90 dB SPL) can cause hearing damage if people are exposed to it over a long period.

All connected cables must be laid in such a way that they cannot be crushed by objects and that nobody can step on them! Replace damaged cables immediately and do not use them!

Use only accessory parts specified by Voice-Acoustic or original accessory parts from Voice-Acoustic. Check all cabinets and accessories regularly for wear and replace them if necessary.

Do not set up the loudspeakers in places where they are permanently exposed to moisture, dust, dirt or direct sunlight.

Care
Wipe the surface of loudspeakers only with a damp cloth and pure water. In case of heavy pollution, repeat the above procedure several times if necessary. Do not use any chemical additives or aggressive detergents, as these may harm and damage the surfaces.

Transport and storage
When transporting and storing the unit, it is important to ensure that the surface and front grill of the loudspeaker are not damaged. Moisture can penetrate through exposed wood surfaces and cause the wood to swell. A bent or broken front grill will no longer adequately protect the sensitive speaker membranes. In addition, appreciable dust deposits may considerably impair the functionality of a loudspeaker membrane. For this reason, the loudspeakers should be transported and stored in a safe, careful, dry and largely dust-free manner.

The following accessory parts for transport and storage are available from Voice-Acoustic:

- Transport and rain cover for Paveosub-218 (Art.-Nr. 502181000)
- Detachable wheelboard for Paveosub-218 (Art.-Nr. 502184000)
- Dolly for transport up to 3 x Paveosub-218 (Art.-Nr. 502187000)
- Steering Roller set for Paveosub-218 (Art.-Nr. 999490985)

Note: *The original packaging is unsuitable as permanent storage and transport packaging!*

Warranty
The warranty period is 24 months from date of delivery.

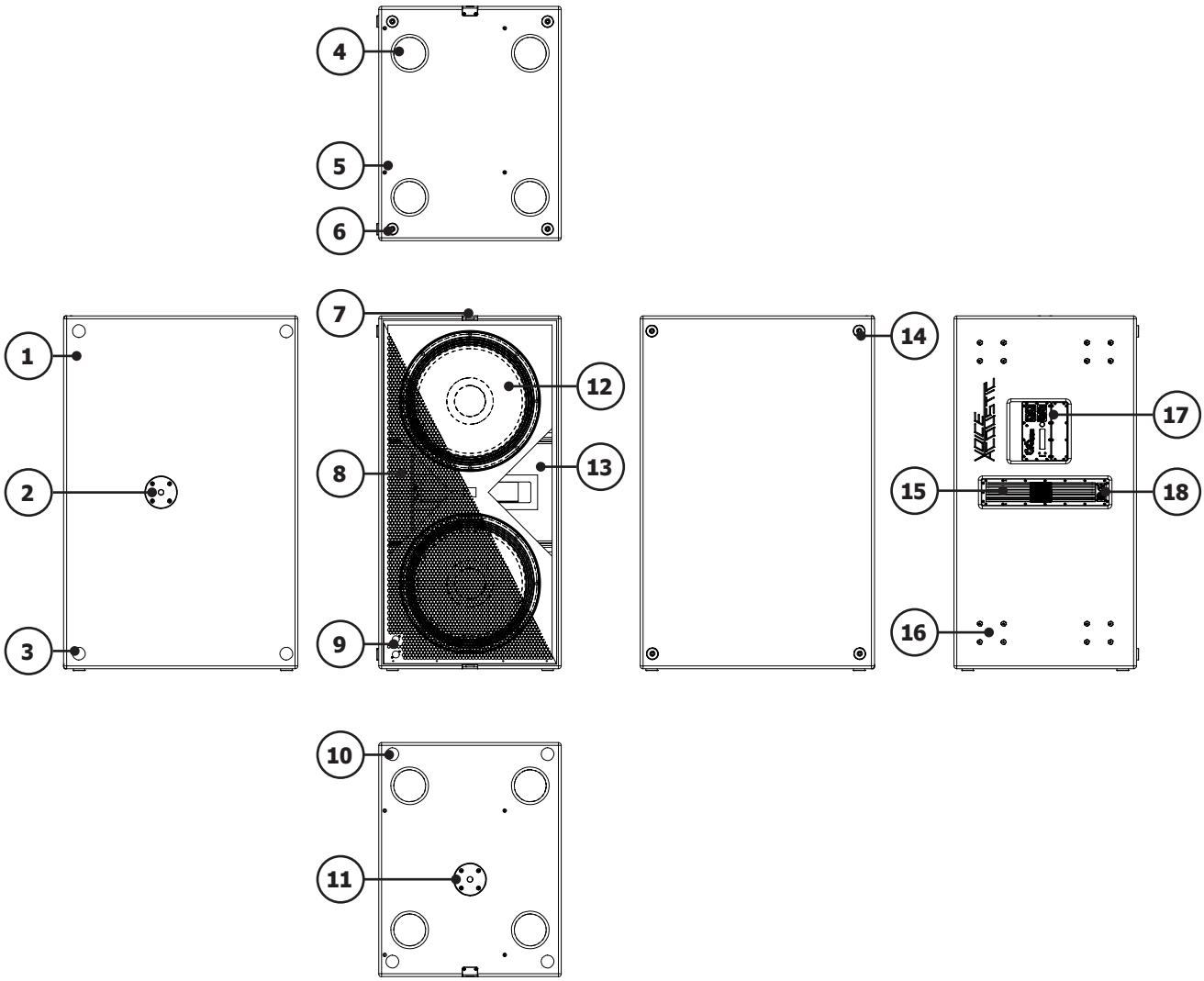
On our choice we will eliminate any lack of conformity with repair or with replacement of the faulty goods. The place of performance for warranty services is Voice-Acoustic headquarters in Dörverden. In case of remedy of defects, the buyer shall bear all costs resulting from transportation of the goods to Voice-Acoustic headquarters in Dörverden.

The ordering party is not entitled to remedy the defect by itself or to organise a replacement and to charge such activities to Voice-Acoustic. In case of self remedy by the ordering party the warranty given by Voice-Acoustic becomes void.

Warranty doesn't apply to parts of wear and tear, such as threaded points, M20 flanges, lashing rings, rubber feet and the SpeakON® connectors.

Introduction

Components

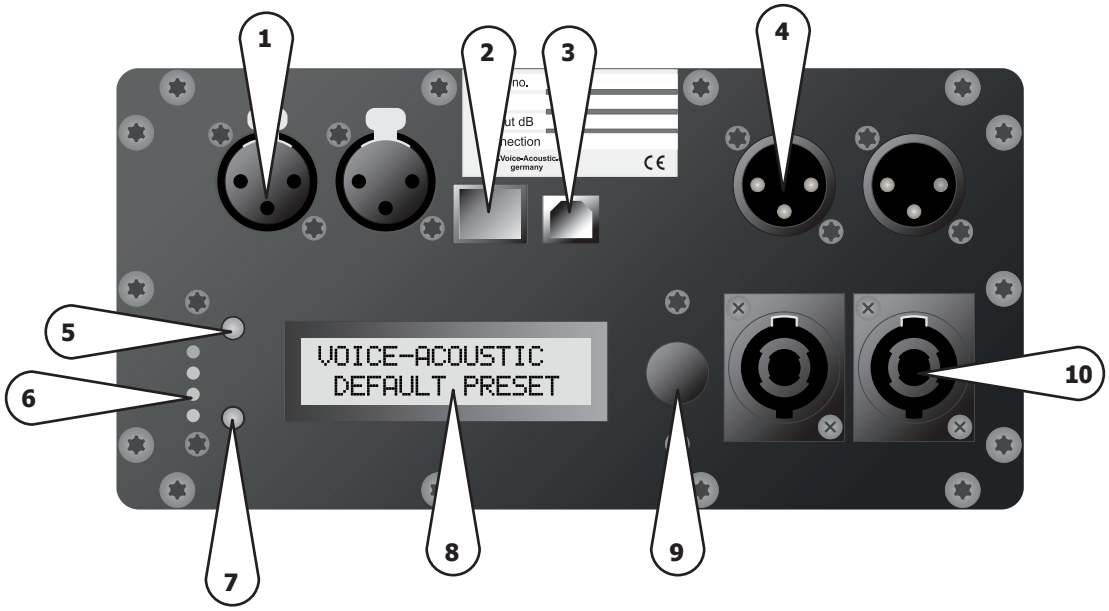


1. 15 mm multiplex cabinet, finish Polyurea coating in RAL 9005 or Warnex textured paint
2. M20 Mounting flange for spacer rod
3. 4 x stacking troughs in the upper side
4. Handles on both sides in the side walls
5. Water drain of the handles
6. 4 x Rubber feet on the side to stand upright
7. Butterfly holders on both sides for front wheelboard
8. Front grille 2 mm with 10 mm acoustic foam
9. Two additional SpeakON® sockets for front cabling
10. 4 x stacking trays in the side panel, e.g. for the Ikarray-12 Stackboard
11. M20 Mounting flange for spacer rod
12. 18“ Neodym long excursion woofer
13. Bass reflex port
14. 4 x rubber feet on the underside
15. Amplifier module with cooling fins and fan
16. M6 mounting points for 100 mm swivel castors
17. Control element* with type plate and serial number
18. powerCON TRUE1 connectors

*For equipment and functions see Voice-Acoustic-Control operating manual.

Introduction

Connections Control element



01. Analog input
2 x separate 3-Pin connector for Audio-input. Each input is a symmetric XLR-connector

02. Ethernet connection
RJ45 jack for network connection.

03. Standard USB Jack Type B
The unit can connected to the PC via a traditional USB-cable.

04. Analog output
2 x separate 3-Pin connector for Audio-output. Each output is a symmetric XLR-connector

05. Button top
To enter the system menu and browse between the configuration functions.

06. Peak Level LEDs
Displays the current PEAK level in 5 levels: -18 dB, -12 dB, -6 dB (green), -3 dB (yellow), Limit (red).

07. Button bottom
To leave the system menu or the configuration functions.

08. LCD Display
Background lit double-space 16-Segment LCD Display, for all important edition parameters.

09. Encoder wheel
The encoder wheel is used for changing the parameter values. By pressing you can select several parameter values and set these with a dial function.

10. Speaker outputs
The 2.400 W channel (CH1) of the output stage module is no longer routed out via the SpeakON® sockets of the 218sp, since the two 18" chassis are internally connected in parallel to 4 Ω and CH1 is already busy (input routing XLR 1 left).

Amplifier channel 2 is connected to 1+/1- on the left SpeakON® socket (input routing XLR 2 on the right). The amplifier channel 3 (Input Routing XLR 2 right) is connected to the right SpeakON® socket on 1+/1- and channel 2 to 2+/2-. Thus, both 800 W channels are available on the right SpeakON® sockets to connect bi-amping speakers in Half Power Mode with a 4-pin cable.

The audio signal for the subwoofer is connected to the left XLR IN1. The audio signal for tops powered by the subwoofer is connected to the right XLR IN2. If both 800 W channels are to receive the same audio signal as the 2.400 W channel from the subwoofer to XLR IN1, the routing in the DSP must be changed internally, or an XLR patch cable must be plugged from XLR OUT1 to XLR IN2.

Introduction

Technical data

Components	2 x 18“ Neodym long excursion woofer (LF) with 4“ voice coil
Lower cut-off frequency	32 Hz (- 10 dB) 36 Hz (- 3 dB)
Coverage range (h x v)	Omnidirektional
Powerhandling	2.400 W AES / 4.800 W program / 9.600 W peak at 4 Ω
Sound pressure	136 dB SPL AES / 139 dB SPL program / 142 dB SPL peak
Dimensions / Weight	600 (h) x 1.160 (w) x 770 mm (d) / 80,5 kg

Integrated 3-Way Amplifier Modul

Power output CH1	2.400 W/4 Ω, 1.580 W/8 Ω, 800 W/16 Ω
Power output CH2 and CH3	800 W/4 Ω, 450 W/8 Ω, 200 W/16 Ω
Amplifier gain	CH1 32 dB, CH2/3 26 dB
Signal-to-noise ratio	>120 dB (20 - 20.000 Hz, 8 Ω)
Damping factor	>1.000 (8 Ω, 1 kHz)
Distortion	THD+N < 0,05 % (20 - 20.000 Hz, 8 Ω)

Integrated Loudspeaker Management System

Manual hand operation	2 button and 1 x digital encoder-wheel
Operable language	Selectable between English, German, France, Spain
Software connection	Bi-directional connection in real time via USB, Ethernet
Controllable units about software	Up to 128 self-powered Speaker & HDSP-amplifier in one network
DSP preset memory quantity	80 Presets
Processor	64 bit, 96 kHz sample rate
Dynamic range input	120 dB
Maximum input level	+ 23 dB
Latency	0,5 ms
Routing	2-input signals can mix together in one loudspeaker
EQ filter	10 parametric filter each In- and Output
X-Over	Butterworth, Bessel, Linkwitz-Riley
Limiter	In each Input and Output

Introduction

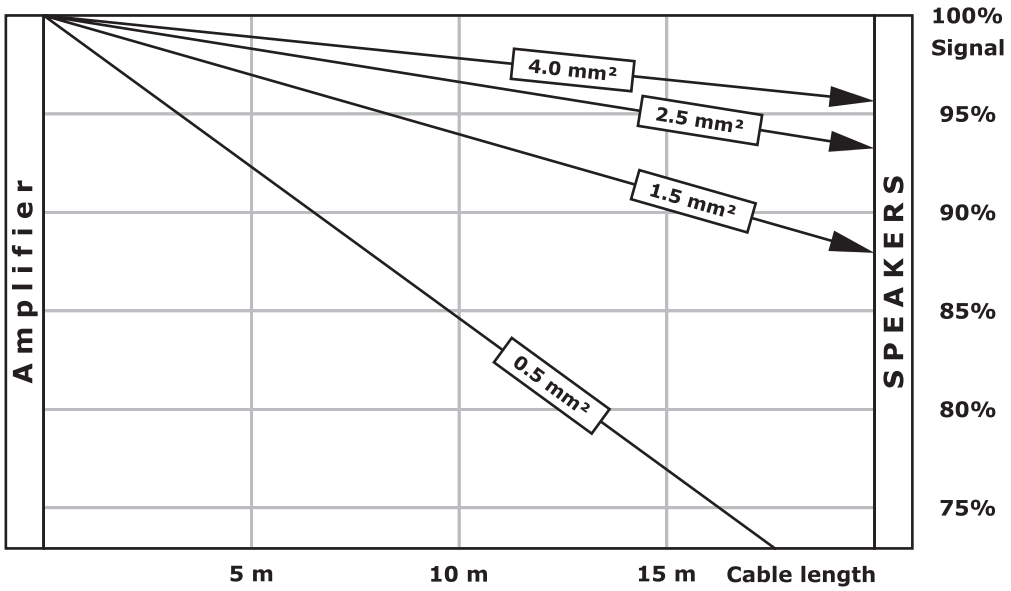
Setup
The Paveosub-218 is designed for stationary operation. Ensure that the subwoofer is in a secure position to prevent personal injury and property damage.

Connecting cables
When connecting the cables to the loudspeaker, ensure that the polarity (+/-) and pin assignment (1/2) is correct. Incorrect connection results in a significant change in the loudspeaker sound characteristics and may damage the compression driver.

The two connection sockets on the back of the loudspeaker can be used to link multiple loudspeakers on a single amplifier. Note that parallel connection reduces the total impedance (Ω) seen by the amplifier. The total impedance of loudspeakers connected in parallel must not drop below the minimum operating impedance of the amplifier.

Voice-Acoustic recommends to use the available 4 x 4 mm² Speakon cables for mobile use.

We recommend wiring the basses with at least 4 mm² in installations. The cables of the tops in installations must be sufficiently dimensioned according to impedance, power and cable length.



Simplified display without consideration of loudspeaker impedances

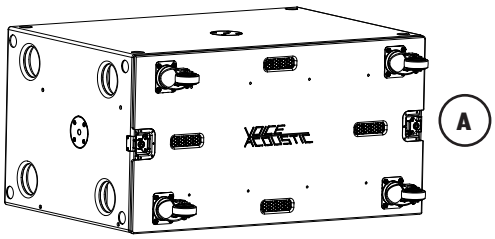
Operation
The two 18" chassis of the Paveosub-218sp are powered by a channel (2.400 W/4 Ω) of the internal power amplifier module.

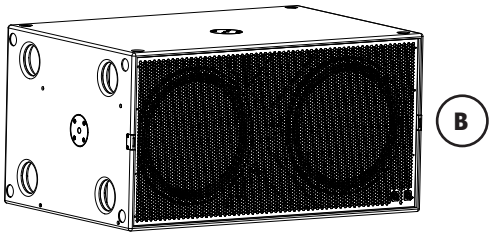
2 x 800 W/4 Ω are available for satellites or monitors.

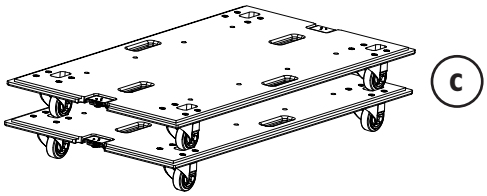
Make sure the correct preset is selected before connecting the speaker to the self-powered subwoofer.

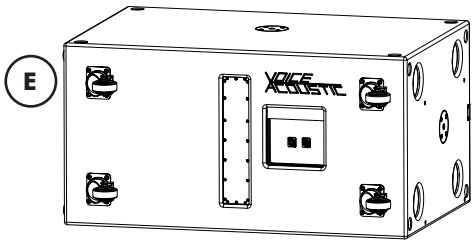
Using the wrong preset can damage parts of the loudspeaker.

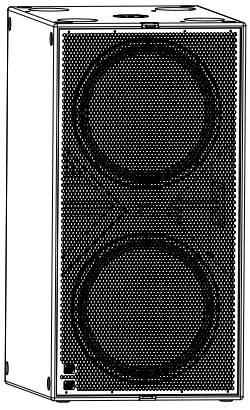
Working with Paveosub-218sp











Mounting and dismounting the wheelboard

For easy transport of the subwoofer and protection of the front grille, use the detachable wheelboard.

1. Place the wheelboard with the butterfly locks (A) on the butterfly holders (B) on the frontside.
2. Turn the two butterfly locks right until they are clicked into place.
3. Now the subwoofer can be placed on the wheels for transport.

Note: *The wheelboard must not be mounted during operation, as the bass reflex port is closed and the chassis may be damaged!*

1. To remove the wheelboard, tilt the subwoofer onto the four rubber feet.
2. Turn the two butterfly locks left until the wheelboard can be removed.

Note: *The wheelboard has stacking troughs (C), so that several* wheelboards *can be stacked on top of each other!*

Mounting the castor set

As an alternative to the wheelboard, a set of castors can also be permanently mounted on the rear wall.

1. Remove the four M6 x 30 mm countersunk screws at each of the four corners from the rear panel.
2. Then use the countersunk screws to mount the four castors on the rear panel of the subwoofer (E).

Standing operation

The Paveosub-218 can also be operated upright thanks to four additional rubber feet and stacking trays on the side walls.

A second M20 flange allows the use of spacer rods.

Working with Paveosub-218sp

Overview Accessories

	Transport and rain cover for Paveosub-218 (Art.-Nr. 502181000)
	Detachable wheelboard for Paveosub-218 (Art.-Nr. 502184000)
	Steering Roller set for Paveosub-218 (Art.-Nr. 999490985)
	M20 Speaker rod »Ring Lock« with a hand crank, high 920 - 1.520 mm (Art.-Nr. 999921340)
	M20 Speaker rod extra high »Ring Lock«, high 1.100 - 1.800 mm (Art.-Nr. 999921368)
	M20 Speaker rod, pure white, high 905 - 1.450 mm (Art.-Nr. 999921337)
	M20 Speaker rod »short« 250 mm (Art.-Nr. 999921329)

Manufacturer‘s declaration

Imprint

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All specifications in this manual are based on information available at the time of publishing for the features and safety guidelines of the described products. Technical specifications, measurements, weights and properties are not guaranteed.

The manufacturer reserves the right to make technical modifications according to legal regulations stipulating the continual improvement of product features. For the safe operation of the unit, this manual and all other required information must be available to all users at the time of assembly and disassembly of the unit, and during operation. Assemble or operate the unit only after reading and understanding this manual, and keeping it at hand at all times at the site.

We are happy to receive your suggestions and proposals for the enhancement of this manual.

Please send us your ideas to the following address:

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