DOCUMENTATION

MANUAL PAN EVAC SERIES
EN 54-24 CERTIFIED LOUDSPEAKERS FOR VOICE ALARM SYSTEMS

Pan EVAC P 02-EN54
Pan EVAC P 04-EN54
Pan EVAC P 08-EN54

Shapely.
Versatile.
Functional.

Read the manual carefully before putting the device into operation.
The manual must be retained.

QUALITY
MADE IN GERMANY
SINCE 2002

All products are designed, developed and manufactured by Pan Acoustics in Germany.
Pan Acoustics reserves the right to modify products without prior notice.

www.pan-acoustics.de

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Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

General information

Manual Pan EVAC series
Pan EVAC P 02-EN54
Pan EVAC P 04-EN54
Pan EVAC P 08-EN54

Language: English

This document must be kept with the product or in a safe place so that it is available when needed.

If the product is resold, the document must be handed over to the new owner in printed or electronic form.

Pan Acoustics reserves the right to change/update the document without prior notice. The latest version of this document can be downloaded from the Pan Acoustics website.

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Table of contents

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

1. Product description

Thank you for choosing a product from Pan Acoustics. The passive column loudspeakers from the Pan EVAC series, certified according to EN 54-24 (type B), are passive 100 V column loudspeakers with aluminium enclosure for operation in voice alarm systems, including visual display for an available pilot signal.

The loudspeakers of the Pan EVAC series conform to protection class IP 33C and are therefore also suited for outdoor applications. The loudspeakers Pan EVAC P 02-EN54, Pan EVAC P 04-EN54 and Pan EVAC P 08-EN54 from the Pan EVAC series have been tested for ball impact resistance and can be used in sports environments.

With the EN 54-24 loudspeakers, the Pan EVAC series offers a comprehensive range of loudspeaker models, e.g. for acoustically challenging environments, traditional AV installations, theatre and outdoor applications. All products of the Pan EVAC series are optimised for natural speech reproduction.

Please read this manual carefully prior to startup in order to guarantee fault-free operation.

2. Symbols and explanation

⚠ DANGER	This symbol indicates a hazard with a high level of risk. If this hazard is not avoided, serious injury or death may result.
⚠ WARNING	This symbol indicates a hazard with a medium level of risk. If this hazard is not avoided, moderate to serious injury or death may result.
⚠ CAUTION	This symbol indicates a hazard with a low level of risk. Failure to observe this instruction may result in minor injuries or damage to property.
⚠ NOTICE	This symbol provides important instructions for the proper handling of the product. Failure to observe this instruction may result in damage to the product or malfunctions.

3. General information and target group

All information in this manual is based on the product properties available at the time of writing and the safety regulations applicable at that time.

This manual describes the design, function and connection of the Pan EVAC P 02-EN54, Pan EVAC P 04-EN54 and Pan EVAC P 08-EN54 loudspeaker systems. It is aimed at system technicians and persons assigned the task of installing and operating a relevant system.

Pan Acoustics reserves the right to make changes and modifications within the scope of legal regulations and product improvements without prior notice.

This manual and all additional information required for operation must be read prior to use by all persons involved in commissioning. The manual and all additional information required must be kept within easy reach near the device.

All necessary information and documents can be obtained from the Pan Acoustics website, **https://www.pan-acoustics.de/en/service/downloads**, or by e-mail, **contact@pan-acoustics.de**.

4. General safety regulations

The following safety regulations must be read completely and diligently before putting the device into operation and must then be kept in a safe place near the device. Reading the manual does not replace the knowledge and observance of all valid local safety rules and regulations. The information and technical specifications published in this document are based on data available at the time of publication. We reserve the right to make changes to the product aimed towards product improvement and adjustment to new applicable standards.

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

⚠ DANGER

To prevent injuries, electric shock and fire, ensure that all persons involved in the set up, operation, dismounting or installation of the device/system have read this manual.

⚠ WARNING

In order to prevent falling object injuries,

- this device is to be fastened to building fixtures with friction-locking connections using suitable connector elements according to the installation instructions. The base surface is to be checked for suitability of installation and, where required, prepared by qualified personnel.
- the connections and components delivered by Pan Acoustics or expressly mentioned in this manual are to be used.
- the load-bearing elements and connections are to be checked regularly for wear and loosening.

To minimise the risk of fire or electric shock,

- the product must not be opened. It does not contain any parts that can be serviced by the user.
- the product is not allowed to be exposed to moisture or humidity.
- no objects filled with liquid (e.g. bottles) must be placed on top of the device.
- the device must not be exposed to excessive heat, direct sunlight, fire or the like.
- no open sources of fire (e.g. candles) must be placed on top of or under the device.

To prevent injury, this product must be taken out of operation, clearly marked and secured against accidental operation if the product

- shows signs of visible damage.
- contains loose parts.
- no longer works flawlessly.
- has been stored for a long time under unfavourable conditions (e.g. in humid rooms).
- was subjected to severe transport stress (e.g. with improper packaging).

To avoid injuries such as hearing damage due to excessive volume levels, persons should

- never stand directly in front of a connected loudspeaker.
- not be subjected to high volume levels for a prolonged period.

⚠ CAUTION

To prevent damage to the product, avoid

- generating acoustic feedback.
- playing back distorted signals of high power over a long period of time.
- generating impulse-like sounds (e.g. popping noises) which occur when a media player is switched on, connected or disconnected.

⚠ NOTICE

Device protection and operating safety

- The device is completely disconnected from the signal network by disconnecting the signal connection.
- The device may only be cleaned from the outside using a dry cloth.
- The original packaging or an appropriate transport box (flight case) should be used when transporting the device. The device must be protected against vibrations.

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

5. Safety instructions

All products from Pan Acoustics are developed and manufactured in Germany according to the latest safety regulations. Each product is thoroughly inspected prior to shipping according to in-house quality guidelines.

The device conforms to the current CE regulations for operation in residential, business, commercial and industrial areas.

The device must be carefully inspected upon receipt for transport damage and completeness. In case of damage, the transport company and the shipper must be notified without delay.

Safety may be compromised if the product:
- shows signs of visible damage.
- no longer works correctly.
- has been stored for a long time under unfavourable conditions.
- has been transported incorrectly (e.g. unsuitable packaging).

If the product shows signs of impairments that no longer guarantee safe operation, the device must be secured and labelled accordingly. It must also be ensured that no intentional or accidental operation by third parties is possible.

6. Scope of delivery

Inspect the product for completeness upon delivery. The Pan EVAC EN54 system includes the following components:

1 x Pan EVAC P 02-EN54 or Pan EVAC P 04-EN54 or Pan EVAC P 08-EN54
1 x manual download information
1 x connection sealing plate (including 2 x cable screw connections, 1 x blind plug)
1 x TWM III wall mount

7. Setup location

The loudspeakers can be operated in interior rooms or in outdoor areas. Sufficient air circulation must be ensured when operating the device indoors.

The device may be damaged by condensation. It should therefore be appropriately acclimatised before operation.

The ambient temperature during operation of the device should not exceed 70 °C and should not fall below -25 °C.

> ⚠ WARNING
> When unpacking, it is important to pay attention to the temperature difference between the ambient temperature and the device. If the temperature difference is high, it is necessary to wait a sufficiently long time before operating the device to avoid damage due to condensation.

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

8. Assembly and connection

8.1. Assembly

For the installation of the Pan EVAC EN 54 loudspeakers on walls, there is a corresponding mount available from the Pan EVAC series range of accessories
--> see chapter 15. “Mount”.

The installation and commissioning of loudspeakers must only be carried out by qualified personnel. Ensure that the mount chosen corresponds to the requirements on the wall or ceiling structure, along with operating requirements.

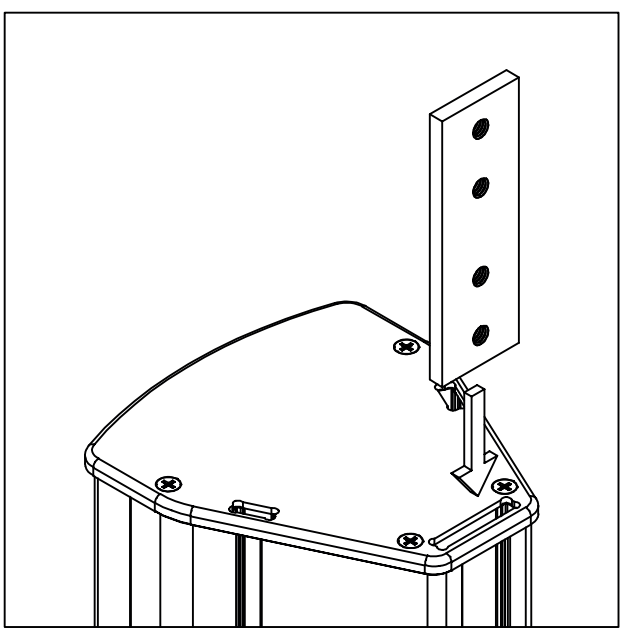
National safety regulations for operation and assembly must be followed.

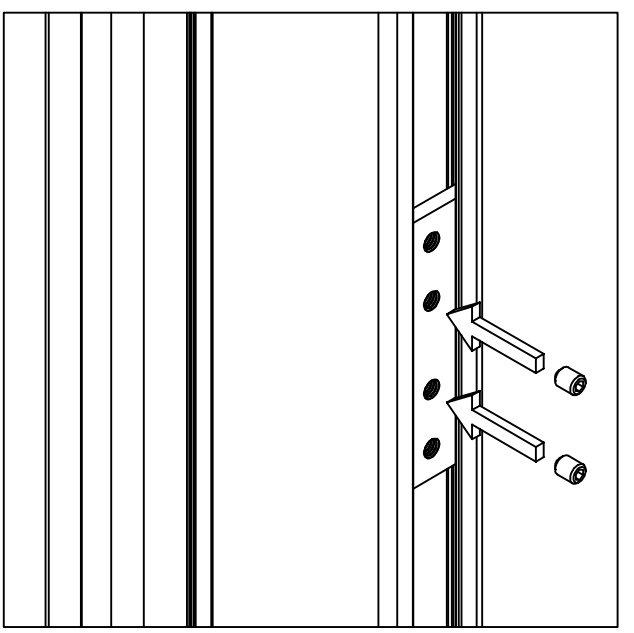
CONNECTION WITH THE BUILDING STRUCTURE

- It must be ensured that the ceiling/wall area where the device is to be installed is structurally suitable.
- The mount must lie flat on the surface of the building structure. The surface must not show any settlement effects even in the long term.
- For a safe and durable connection, plug and screw connections must be dimensioned according to the acting forces that may occur through lever effects.
- In case of doubt as to the type and composition of the building structure, consult a structural engineer.

CONNECTION OF THE LOUDSPEAKER AND MOUNT

- The mount sourced via Pan Acoustics for the Pan EVAC EN 54 loudspeakers is delivered with suitable installation material for connection with the loudspeaker.
- The connection between the loudspeaker and the mount is made by a fixing point (e.g. a slot nut, which is inserted into the rear slot of the loudspeaker and tightened with two M6 set screws).
- To avoid damage to the mounts and the loudspeakers, no screws longer than the original ones must be used. Longer screws may destroy the stability of the loudspeaker or cause short circuits inside the loudspeaker.
- A tightening torque of 10 Nm must be observed for the screw connection between the mount and the loudspeaker.





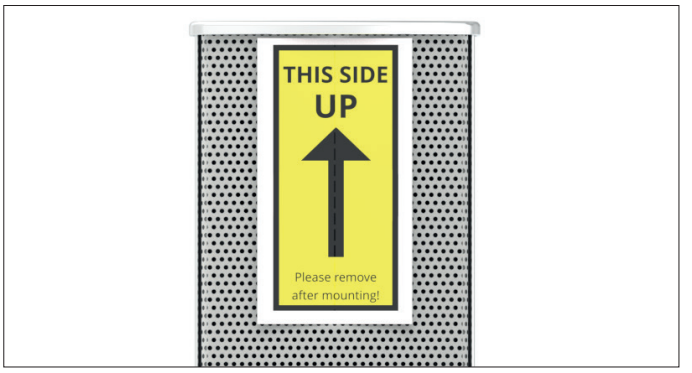
⚠NOTICE

The assembly manual for the selected mount is included along with the mount.

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

8.2. Note on the mounting orientation of the Pan EVAC P 04-EN54 and Pan EVAC P 08-EN54

The loudspeakers have a passive vertical beam steering of -4°. Therefore their orientation must be observed when mounting. There is a corresponding sticker on the loudspeaker that indicates which lid must face upwards. The sticker has to be removed after mounting.

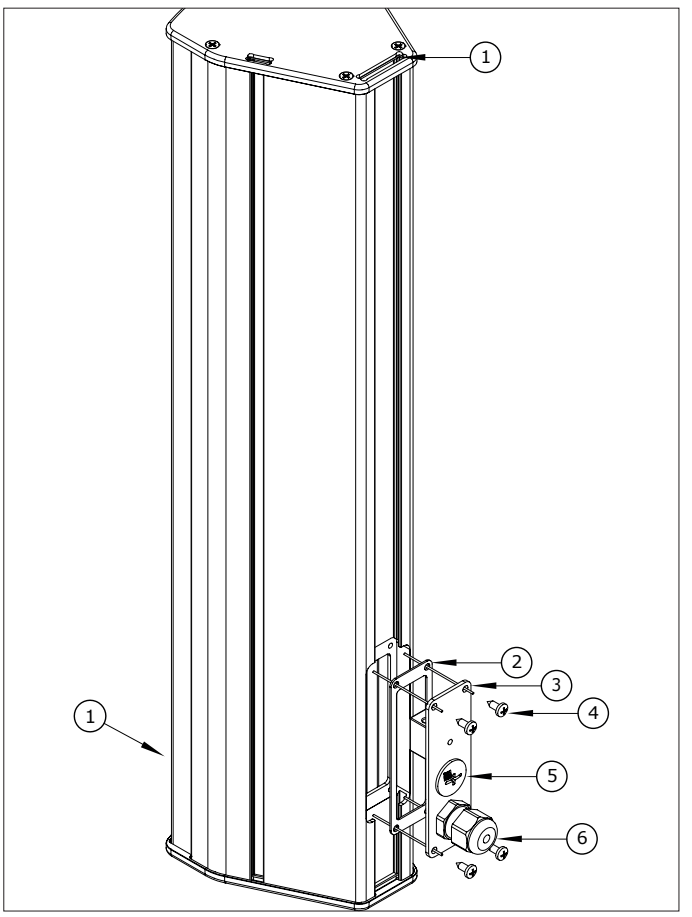


8.3. Electrical connection

The loudspeakers of the Pan EVAC series are passive 100 V systems. External power amplifiers are required for their operation.

These systems have identical connections for the feed cable. The rated power can be adjusted via an internal switch. Likewise, the high-pass filter can be activated via a switch.

For connecting (linking) to other loudspeakers, there is a second cable gland.



(1) Enclosure
with connection plate and slot for assembly of mounts

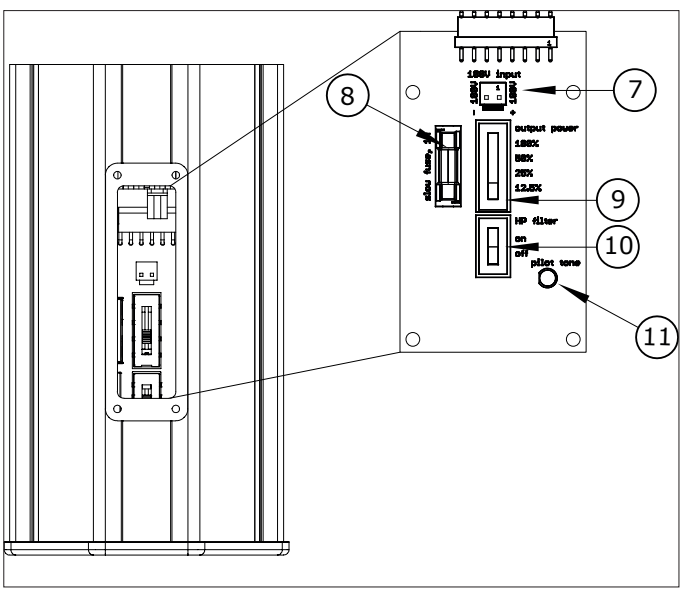
(2) Sealing plate

(3) Connection plate

(4) 4 x screws for fastening the connecting plate (3) to the enclosure

(5) Bore with blind plug
for second cable gland / 100 V link

(6) Cable gland
pre-assembled for introduction of the connection cable



(7) 100 V connector of the connection plate

(8) Fuse

(9) Slide switch for power tap
stated in %: 100 / 50 / 25 / 12.5
= P 02-EN54: 30 W / 15 W / 7.5 W / 3.75 W
= P 04-EN54: 75 W / 37.5 W / 18.8 W / 9.8 W
= P 08-EN54: 125 W / 62 W / 32 W / 15 W

(10) Slide switch for high-pass filter

(11) Indicator
lights up green when pilot signal is detected
Frequency range: 20 kHz - 23 kHz
Required signal level (min): 6 V_{rms}

> ⚠NOTICE
> Switch positions in the delivery state:
> - HPF: off,
> - Power: 100%

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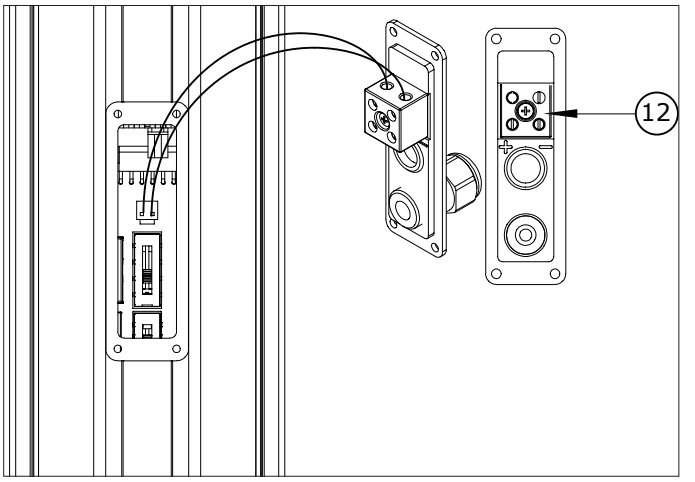
(12) Connection for signal input lead
suitable for cable diameters up to 2.5 mm²

The cables must be adequately dimensioned with respect to their diameter. The cable ends to be connected must be fitted with wire end ferrules.

The loudspeaker is delivered with a sealing plate and two M16 cable glands. These are used to seal the loudspeaker and to relieve strain on the connection cables. The cable glands are suitable for Ø 4.5–10 mm. If only one connection cable is used, the second cable gland is to be replaced by a plug.



9. Operating conditions

The product is suitable for operation in an ambient temperature from -25 °C to +70 °C. If the product is operated below 0 °C, the device must be operated by means of a continuous signal in order to prevent the loudspeaker chassis from freezing.

Before operating the device for the first time, it must be acclimatised. Avoid exposing the device to aggressive chemical liquids and vapours. The device must not be covered by textiles. Take precautions to prevent the enclosure from heating up due to direct exposure to sunlight or powerful spotlights. The device must also not be exposed to strong vibrations.

10. Service and repair

Service and repair work may only be carried out by persons and partners instructed by Pan Acoustics.

No service or repair measures are to be performed on the device that exceed the statements made in chapter 11. “Maintenance”.

Contact data:
--> see chapter 14. “Contact address”.

11. Maintenance measures

The following measures must be carried out at regular intervals:

Cleaning
The enclosure should be regularly dusted off with a damp cloth and checked for damage.

Visual and functional check
The installed device should be regularly subjected to a visual check.

The following checks must be carried out:
- Check the wall and ceiling mount for a firm fit
- Check the enclosure for damage
- Check the connection cable for damage

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

12. EC conformity

CE 22
0786

Pan Acoustics GmbH,
Schweigerstraße 13d, D-38302 Wolfenbüttel

0786 - CPR - 21753

EN 54-24
Loudspeakers for voice alarm systems
in Fire alarm systems for buildings

passive loudspeakers
Pan EVAC P 02-EN54
Typ B

Technical data: see page 12 of this manual

CE 22
0786

Pan Acoustics GmbH,
Schweigerstraße 13d, D-38302 Wolfenbüttel

0786 - CPR - 21753

EN 54-24
Loudspeakers for voice alarm systems
in Fire alarm systems for buildings

passive loudspeakers
Pan EVAC P 04-EN54
Typ B

Technical data: see page 13 of this manual

CE 22
0786

Pan Acoustics GmbH,
Schweigerstraße 13d, D-38302 Wolfenbüttel

0786 - CPR - 21753

EN 54-24
Loudspeakers for voice alarm systems
in Fire alarm systems for buildings

passive loudspeakers
Pan EVAC P 08-EN54
Typ B

Technical data: see page 13 of this manual

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

13. WEEE declaration (disposal)

The waste bin symbol indicates that electrical and electronic devices must not be disposed of with household waste after their useful life. This symbol can be found on the type plate of our products. Dispose of the device in accordance with the applicable regulations and any contractual agreements. If you have any questions about disposal, please contact your dealer, distributor or us.

14. Contact address

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Germany

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Fax: +49 (0) 5331 900 95 79

E-mail: support@pan-acoustics.de

15. Mount

The loudspeakers from the Pan EVAC series can be mounted to the wall with the following mount.

The installation instructions and steps for the "Horizontally rotatable wall mount (TWM III)" can be found in the valid version of the mount manual (document number 2022_01588). The corresponding manual can be obtained via the following URL:

https://www.pan-acoustics.de/en/service/download

Horizontally rotatable wall mount
(TWM III)
Article no.801841

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

16. Technical data loudspeaker

16.1. Pan EVAC P 02-EN54

ACOUSTIC PROPERTIES

Configuration:	Point source loudspeaker
Drivers:	2 x 3.5”
Rated power:	30.0 W / 15 W / 7.5 W / 3.75 W (switchable)
Recommended amplifier:	Sufficiently dimensioned power amplifier
Maximum SPL 100 V*:	92 dB_{SPL} @ 4 m
Sensitivity (1 W/4 m)*:	78 dB_{SPL}
Frequency range:	200 Hz – 17 kHz (-10 dB, +6 dB, HPF off)
Horizontal radiation pattern*:	@ 500 Hz: 360° @ 1000 Hz: 220° @ 2000 Hz: 150° @ 4000 Hz: 100°
Vertical radiation pattern*:	@ 500 Hz: 360° @ 1000 Hz: 110° @ 2000 Hz: 60° @ 4000 Hz: 30°
Range:**	10 m

ELECTRICAL PROPERTIES

Impedance*:	@ 100%: 315 Ω @ 50%: 630 Ω @ 25%: 1260 Ω @ 12.5%: 2520 Ω
Rated noise power:	30 W_{rms}
Rated noise voltage:	100 V_{rms}
Switch:	Power selector switch (100%, 50%, 25%, 12.5%) Switchable high-pass filter**
Fuses:	Lead fuse (1.0 A, time-lag type, replaceable) Thermal fuse (trigger temperature 104 °C, 16 A, 250 V_{AC}, one-shot operation, replaceable)
Connections:	Connecting terminal (ceramic) (2-pin) Cable diameter: 0.5 ... 2.5 mm^2 Cable screw connection: Ø 4.5 ... 10 mm

MECHANICAL PROPERTIES

Pilot signal detection:**	Indicator: green LED behind protective grid Frequency range: 20 kHz – 23 kHz Required signal level (min): 6 V_{rms}
Enclosure:	Aluminium profile
Grille:	Powder-coated perforated metal sheet
Standard colours (with silver lids)*: (optional: lids in enclosure colour)**	Aluminium RAL 9006 White RAL 9010 (silk matt) Black RAL 9005 (silk matt)
Operating temperature:	-25 °C to +70 °C ambient temperature
Dimensions (H x W x D):	306 x 107 x 136 mm
Weight:	2.5 kg
Certificates:	EN 54-24 Type B (outdoor) IP 33C Ball impact resistant**
Connection options:	Extensive range of mounting accessories available

FREQUENCY RESPONSE

f [Hz]	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000
L [dB]	64	65	64	64	65	66	67	67	68	68	67	66	66

* according to EN 54-24, HPF off
** not measured/tested in laboratory
*** special colours available on request
Acoustic environment for measurements: Free field

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

16.2. Pan EVAC P 04-EN54

ACOUSTIC PROPERTIES

Configuration:	Passive line array
Drivers:	4 x 3.5”
Rated power:	75.0 W / 37.5 W / 18.8 W / 9.8 W (switchable)
Recommended amplifier:	Sufficiently dimensioned DSP power amplifier
Maximum SPL 100 V*:	94 dB_{SPL} @ 4 m
Sensitivity (1 W/4 m)*:	79 dB_{SPL}
Frequency range:	190 Hz - 15 kHz (-10 dB, +6 dB, HPF off)
Horizontal radiation pattern*:	@ 500 Hz: 360° @ 1000 Hz: 215° @ 2000 Hz: 158° @ 4000 Hz: 98°
Vertical radiation pattern*:	@ 500 Hz: 120° @ 1000 Hz: 75° @ 2000 Hz: 30° @ 4000 Hz: 15°
Tilt angle:**	Vertical -4°
Range:**	15 m

ELECTRICAL PROPERTIES

Impedance*:	@ 100%: 133 Ω @ 50%: 266 Ω @ 25%: 532 Ω @ 12.5%: 1013 Ω
Rated noise power:	75 W_{rms}
Rated noise voltage:	100 V_{rms}
Switch:	Power selector switch (100%, 50%, 25%, 12.5%) Switchable high-pass filter**
Fuses:	Lead fuse (1.0 A, time-lag type, replaceable) Thermal fuse (trigger temperature 104 °C, 16 A, 250 V_{AC}, one-shot operation, replaceable)
Connections:	Connecting terminal (ceramic) (2-pin) Cable diameter: 0.5 ... 2.5 mm^2 Cable screw connection: Ø 4.5 ... 10 mm

MECHANICAL PROPERTIES

Pilot signal detection:**	Indicator: green LED behind protective grid Frequency range: 20 kHz – 23 kHz Required signal level (min): 6 V_{rms}
Enclosure:	Aluminium profile
Grille:	Powder-coated perforated metal sheet
Standard colours (with silver lids)*: (optional: lids in enclosure colour)**	Aluminium RAL 9006 White RAL 9010 (silk matt) Black RAL 9005 (silk matt)
Operating temperature:	-25 °C to +70 °C ambient temperature
Dimensions (H x W x D):	506 x 107 x 136 mm
Weight:	3.6 kg
Certificates:	EN 54-24 Type B (outdoor) IP 33C Ball impact resistant**
Mounting:	Horizontally rotatable wall mount (TWM III)

FREQUENCY RESPONSE

f [Hz]	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000
L [dB]	67	67	66	66	66	67	66	66	66	66	66	67	68

* according to EN 54-24, HPF off
** not measured/tested in laboratory
*** special colours available on request
Acoustic environment for measurements: Free field

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

16.3. Pan EVAC P 08-EN54

ACOUSTIC PROPERTIES

Configuration:	Passive line array
Drivers:	8 x 3.5”
Rated power:	125 W / 62 W / 32 W / 15 W (switchable)
Recommended amplifier:	Sufficiently dimensioned DSP power amplifier
Maximum SPL 100 V*:	99 dB_{SPL} @ 4 m
Sensitivity (1 W/4 m)*:	80 dB_{SPL}
Frequency range:	140 Hz – 15 kHz (-10 dB, +6 dB, HPF off)
Horizontal radiation pattern*:	@ 500 Hz: 360° @ 1000 Hz: 215° @ 2000 Hz: 147° @ 4000 Hz: 100°
Vertical radiation pattern*:	@ 500 Hz: 66° @ 1000 Hz: 33° @ 2000 Hz: 25° @ 4000 Hz: 8°
Tilt angle:**	Vertical -4°
Range:**	20 m

ELECTRICAL PROPERTIES

Impedance*:	@ 100%: 80 Ω @ 50%: 158 Ω @ 25%: 322 Ω @ 12.5%: 666 Ω
Rated noise power:	125 W_{rms}
Rated noise voltage:	100 V_{rms}
Switch:	Power selector switch (100%, 50%, 25%, 12.5%) Switchable high-pass filter**
Fuses:	Lead fuse (1.6 A, time-lag type, replaceable) Thermal fuse (trigger temperature 104 °C, 16 A, 250 V_{AC}, one-shot operation, replaceable)
Connections:	Connecting terminal (ceramic) (2-pin) Cable diameter: 0.5 ... 2.5 mm^2 Cable screw connection: Ø 4.5 ... 10 mm

MECHANICAL PROPERTIES

Pilot signal detection:**	Indicator: green LED behind protective grid Frequency range: 20 kHz – 23 kHz Required signal level (min): 6 V_{rms}
Enclosure:	Aluminium profile
Grille:	Powder-coated perforated metal sheet
Standard colours (with silver lids)*: (optional: lids in enclosure colour)**	Aluminium RAL 9006 White RAL 9010 (silk matt) Black RAL 9005 (silk matt)
Operating temperature:	-25 °C to +70 °C ambient temperature
Dimensions (H x W x D):	906 x 107 x 136 mm
Weight:	5.55 kg
Certificates:	EN 54-24 Type B (outdoor) IP 33C Ball impact resistant**
Mounting:	Horizontally rotatable wall mount (TWM III)

FREQUENCY RESPONSE

f [Hz]	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000
L [dB]	70	70	69	68	67	68	68	67	68	66	64	64	66

* according to EN 54-24, HPF off
** not measured/tested in laboratory
*** special colours available on request
Acoustic environment for measurements: Free field

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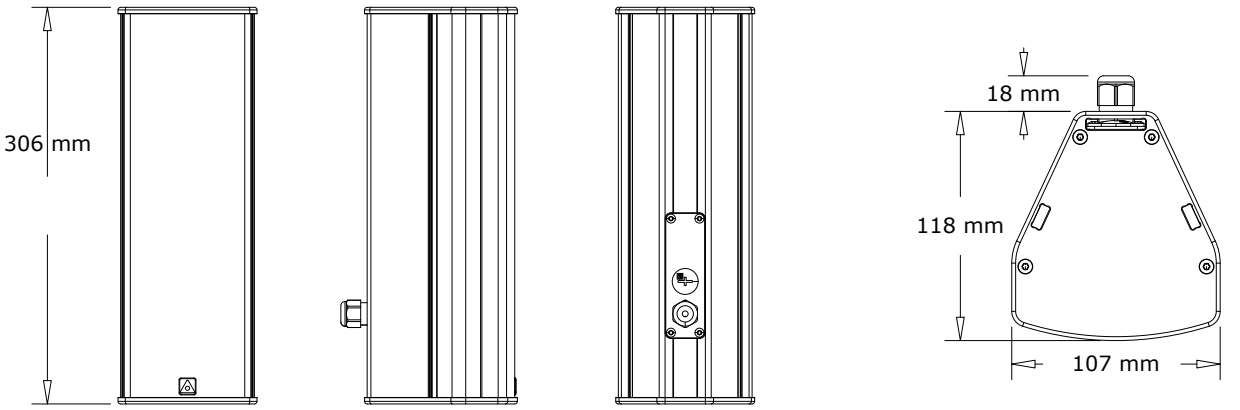
17. Technical illustrations loudspeaker

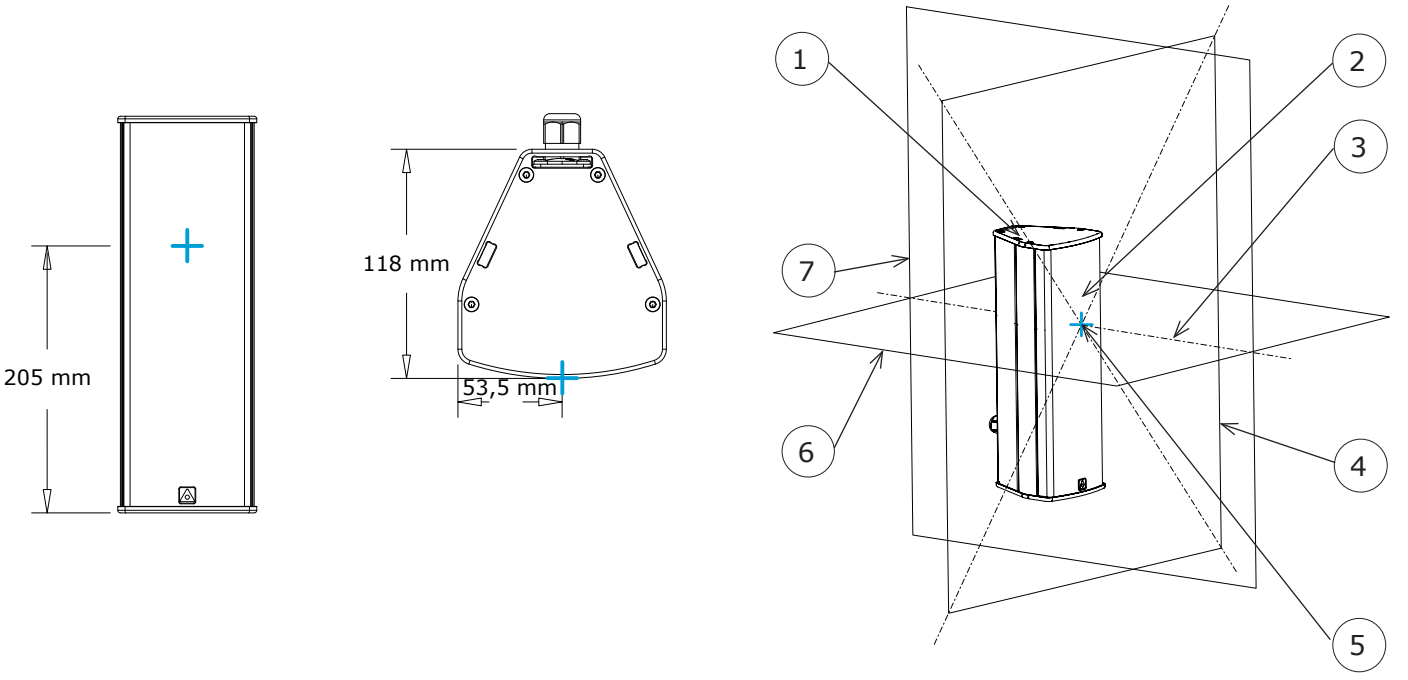
17.1. Pan EVAC P 02-EN54



PHYSICAL REFERENCE DATA OF THE LOUDSPEAKER

LEGEND

1	Loudspeaker enclosure
2	Loudspeaker front
3	Reference axis
4	Reference plane
5	Reference point
6	Horizontal plane
7	Vertical plane



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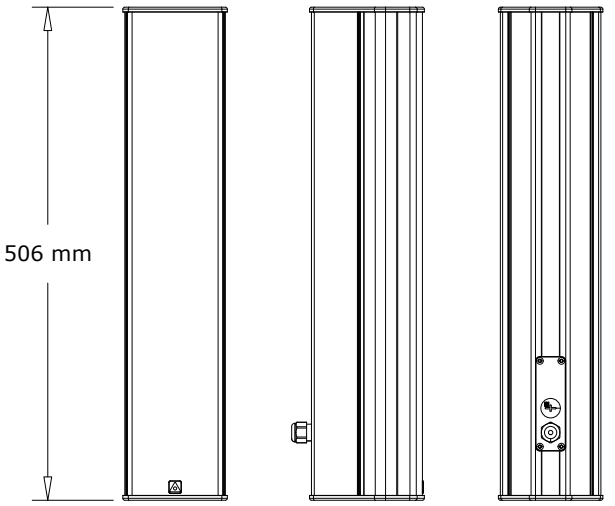
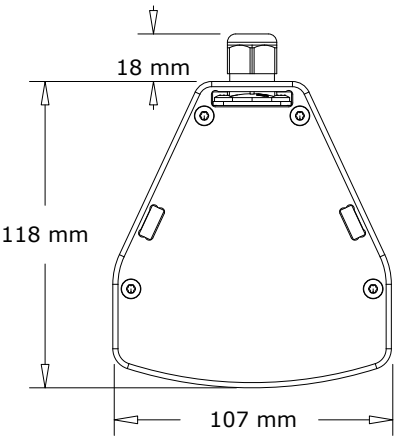
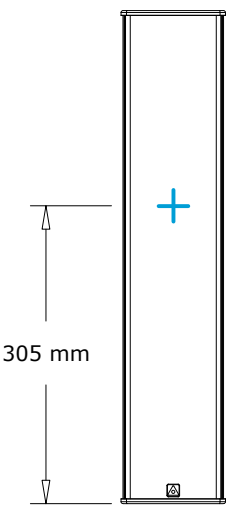
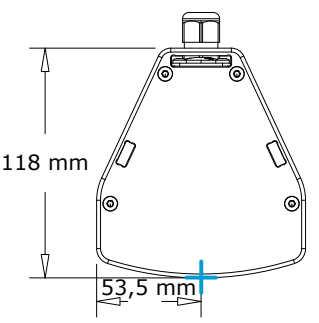
17.2. Pan EVAC P 04-EN54





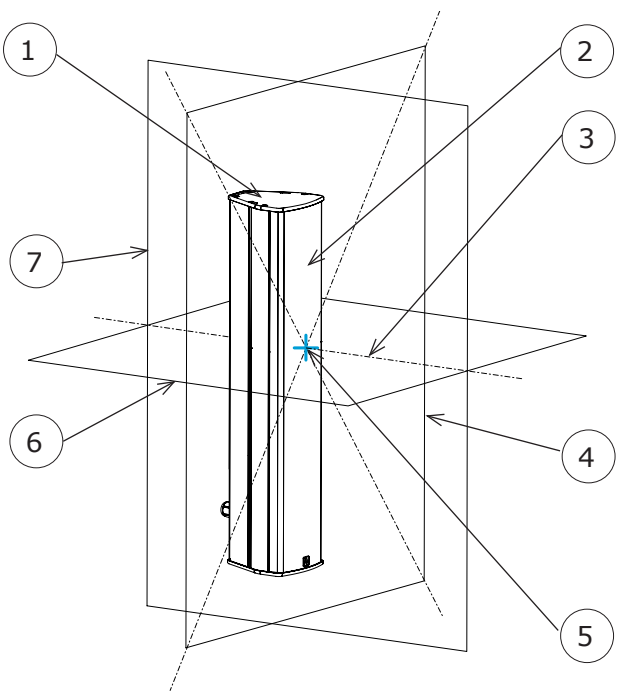
PHYSICAL REFERENCE DATA OF THE LOUDSPEAKER





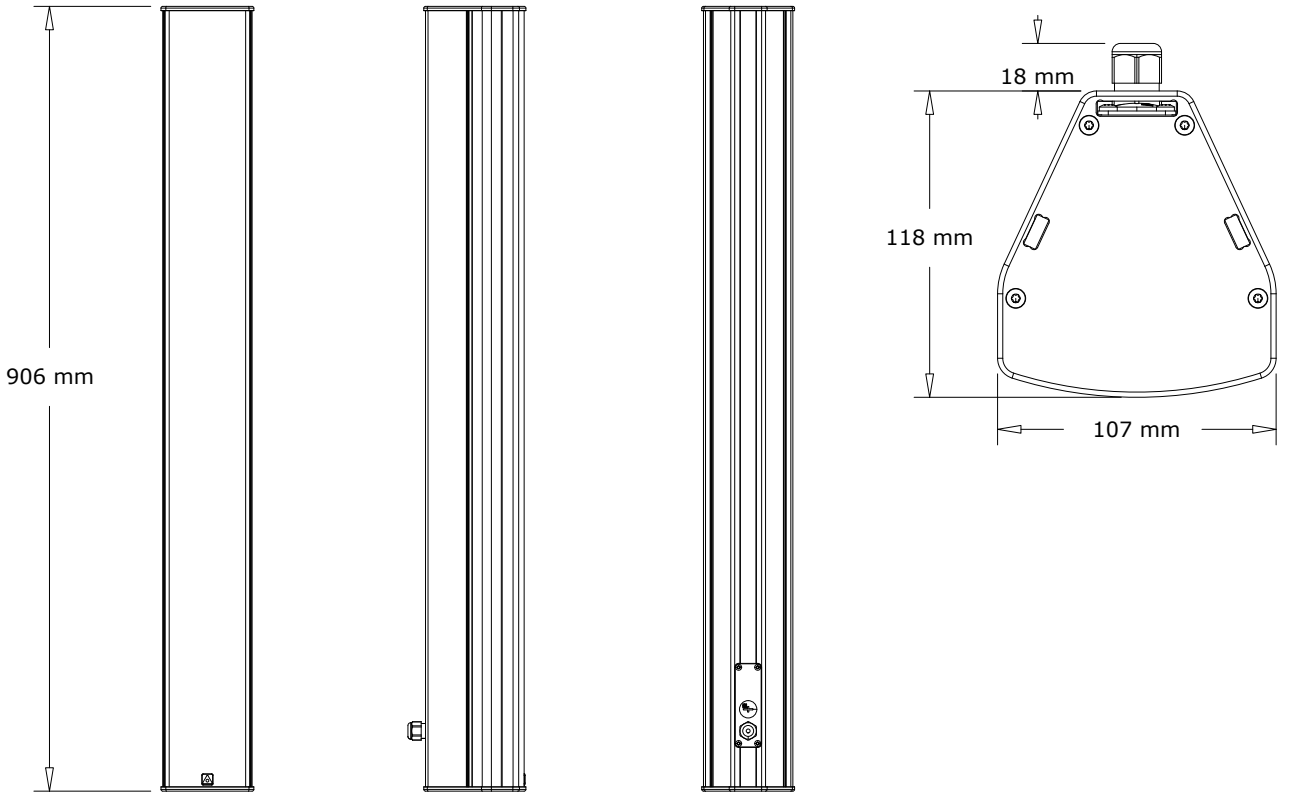
LEGEND

1	Loudspeaker enclosure
2	Loudspeaker front
3	Reference axis
4	Reference plane
5	Reference point
6	Horizontal plane
7	Vertical plane

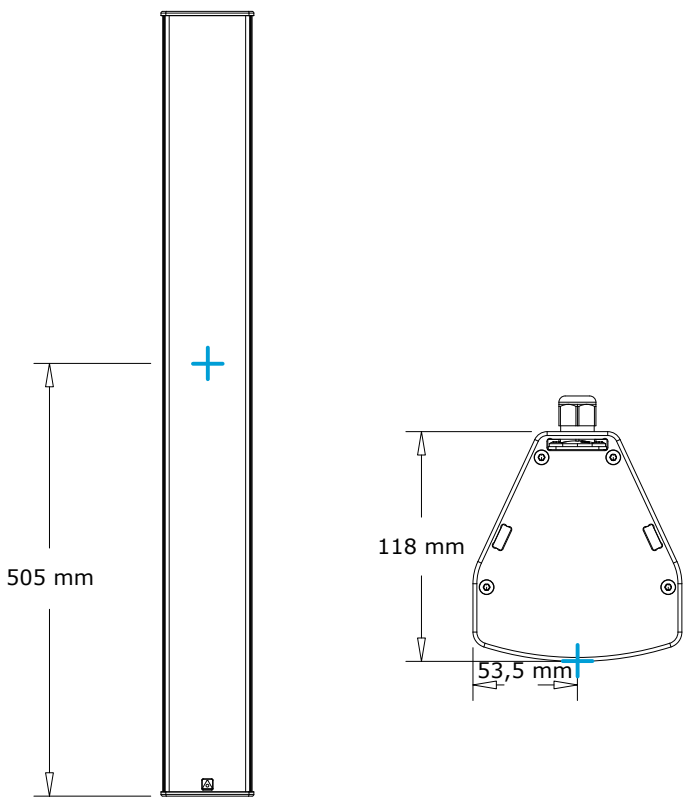


Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

17.3. Pan EVAC P 08-EN54

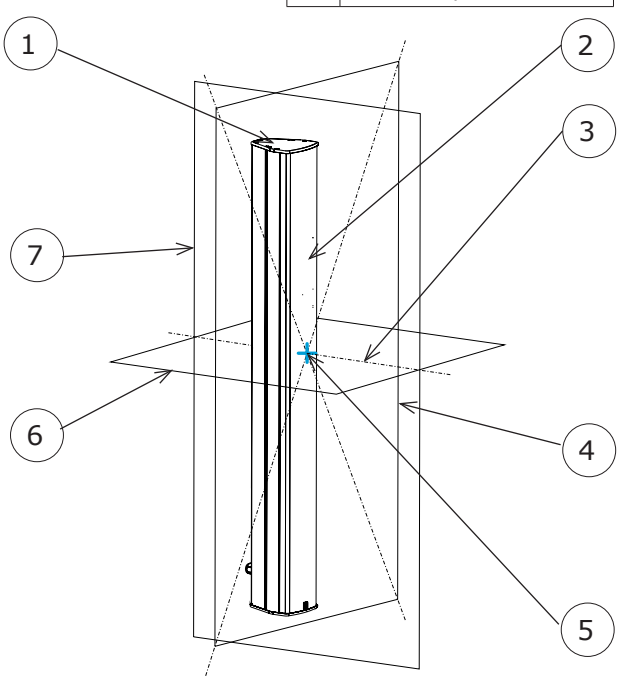


PHYSICAL REFERENCE DATA OF THE LOUDSPEAKER



LEGEND

1	Loudspeaker enclosure
2	Loudspeaker front
3	Reference axis
4	Reference plane
5	Reference point
6	Horizontal plane
7	Vertical plane



Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

18. Certificate

VdS Schadenverhütung GmbH • Amsterdamer Straße 172-174 • D-50735 Köln
Notifizierte Produktzertifizierungsstelle für Bauprodukte • Kenn-Nummer 0786
Notified Product Certification Body for Construction Products • Registration No. 0786

Zertifikat der Leistungsbeständigkeit
Certificate of constancy of performance

0786 – CPR - 21753

Gemäß der Verordnung (EU) Nr. 305/2011 des Europäischen Parlaments und des Rates vom 9. März 2011 (Bauproduktenverordnung - CPR), gilt dieses Zertifikat für das Bauprodukt

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product

Lautsprecher
Pan EVAC P 08-EN54,
Pan EVAC P 04-EN54,
Pan EVAC P 02-EN54

(Produktmerkmale siehe Anlage 1)
(Leistung siehe Anlage 2)

Loudspeaker
Pan EVAC P 08-EN54,
Pan EVAC P 04-EN54,
Pan EVAC P 02-EN54

(Product parameters see annex 1)
(Performance see annex 2)

in Verkehr gebracht unter dem Namen oder der Handelsmarke von

placed on the market under the name or trade mark of

Pan Acoustics GmbH
Schweigerstraße 13d
DE 38302 Wolfenbüttel

und erzeugt im Herstellwerk

and produced in the manufacturing plant

Pan Acoustics GmbH
Schweigerstraße 13d
DE 38302 Wolfenbüttel

Dieses Zertifikat bescheinigt, dass alle Vorschriften über die Bewertung und Überprüfung der Leistungsbeständigkeit beschrieben im Anhang ZA der Norm(en)

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard(s)

EN 54-24:2008

entsprechend System 1 für die in diesem Zertifikat dargelegte Leistung angewendet werden und dass die vom Hersteller durchgeführte werkseigene Produktionskontrolle bewertet wird, um die Leistungsbeständigkeit des Bauproduktes sicherzustellen.

Dieses Zertifikat wurde erstmals am 19.04.2022 ausgestellt und bleibt gültig, solange weder die harmonisierte Norm, das Bauprodukt, das Verfahren zur Bewertung und Überprüfung der Leistungsbeständigkeit noch die Herstellbedingungen im Werk wesentlich geändert werden, sofern es nicht von der notifizierten Produktzertifizierungsstelle suspendiert oder zurückgezogen wird.

under system 1 for the performance set out in this certificate are applied and that the factory production control conducted by the manufacturer is assessed to ensure the constancy of performance of the construction product.

This certificate was first issued on 19.04.2022 and will remain valid as long as neither the harmonised standard, the construction product, the AVCP methods, nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified product certification body.

Köln, 13.03.2023

VdS SCHADENVERHÜTUNG VdS CE 0786 Köln Zertifizierungsstelle

(ppa. Bellingen)
Leiter der Zertifizierungsstelle
Head of Certification Body

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

Anlage 1 (Seite 1/2) zu Zertifikat der Leistungsbeständigkeit
Annex 1 (page 1/2) to Certificate of constancy of performance

0786 – CPR – 21753

13.03.2023

Produktmerkmale / Product parameters

Lautsprecher für Sprachalarmierungssysteme in Brandmeldeanlagen

Ausführungen:

Pan EVAC P 02-EN54:

Umweltklasse	: Typ B - Zur Verwendung im Freien
Nenn-Rauschspannung	: 100 V
Nenn-Rauschleistung	: 30 W

Leistung (W)	30	15	7,5	3,75
Nenn-Impedanz (Ω)	315	630	1260	2520

Pan EVAC P 04-EN54:

Umweltklasse	: Typ B - Zur Verwendung im Freien
Nenn-Rauschspannung	: 100 V
Nenn-Rauschleistung	: 75 W

Leistung (W)	75	37,5	18,8	9,8
Nenn-Impedanz (Ω)	133	266	532	1013

Pan EVAC P 08-EN54:

Umweltklasse	: Typ B - Zur Verwendung im Freien
Nenn-Rauschspannung	: 100 V
Nenn-Rauschleistung	: 125 W

Leistung (W)	125	62	32	15
Nenn-Impedanz (Ω)	80	158	322	666

Die Bedienungsanleitung des Herstellers ist zu beachten.

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

Anlage 1 (Seite 2/2) zu Zertifikat der Leistungsbeständigkeit
Annex 1 (page 2/2) to Certificate of constancy of performance

0786 – CPR – 21753

13.03.2023

Produktmerkmale / Product parameters

Loudspeaker for voice alarm systems for detection and fire alarm systems

Designs:

Pan EVAC P 02-EN54:

Environmental Class	: Type B - For outdoor use
Rated Noise Voltage	: 100 V
Rated Noise Power	: 30 W

Output (W)	30	15	7,5	3,75
Rated-Impedance (Ω)	315	630	1260	2520

Pan EVAC P 04-EN54:

Environmental Class	: Type B - For outdoor use
Rated Noise Voltage	: 100 V
Rated Noise Power	: 75 W

Output (W)	75	37,5	18,8	9,8
Rated-Impedance (Ω)	133	266	532	1013

Pan EVAC P 08-EN54:

Environmental Class	: Type B - For outdoor use
Rated Noise Voltage	: 100 V
Rated Noise Power	: 125 W

Output (W)	125	62	32	15
Rated-Impedance (Ω)	80	158	322	666

Manufacturer´s operating guide shall be considered.

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

Anlage 2 (Seite 1/2) zu Zertifikat der Leistungsbeständigkeit
Annex 2 (page 1/2) to Certificate of constancy of performance

0786 – CPR – 21753

13.03.2023

Leistungstabelle / Table of Performance

Harmonisierte technische Spezifikation *Harmonised technical specification*			**EN 54-24:2008**
Wesentliche Merkmale	***Essential Characteristics***	**Leistung** ***Performance***	**Abschnitt** ***Clause***
Leistungsfähigkeit im Brandfall	*Performance parameters under fire conditions*		
- Frequenzganggrenzen	- *Frequency response limits*	bestanden *pass*	4.2
- Exemplarstreuung	- *Reproducibility*	bestanden *pass*	5.2
- Nenn-Impedanz	- *Rated impedance*	bestanden *pass*	5.3
- Horizontaler und vertikaler Abstrahlwinkel	- *Horizontal and vertical coverage angles*	bestanden *pass*	5.4
- Maximaler Schalldruckpegel	- *Maximum sound pressure level*	bestanden *pass*	5.5
Betriebszuverlässigkeit	*Operational reliability*		
- Dauerhaftigkeit	- *Durability*	bestanden *pass*	4.3
- Konstruktion	- *Construction*	bestanden *pass*	4.4
- Kennzeichnung und Daten	- *Marking and data*	bestanden *pass*	4.5
- Nenn-Rauschleistung (Dauerhaftigkeit)	- *Rated noise power (durability)*	bestanden *pass*	5.6
- Gehäuseschutz	- *Enclosure of the loudspeaker*	bestanden *pass*	5.18
Dauerhaftigkeit der Betriebszuverlässigkeit, Temperaturbeständigkeit	*Durability of operational reliability, temperature resistance*		
- Trockene Wärme (in Betrieb)	- *Dry heat (operational)*	bestanden *pass*	5.7
- Trockene Wärme (Dauerprüfung)	- *Dry heat (endurance)*	bestanden *pass*	5.8
- Kälte (in Betrieb)	- *Cold (operational)*	bestanden *pass*	5.9

Doc. no.: 01680.V1 - 12.2022 [translation based on German version]

Anlage 2 (Seite 2/2) zu Zertifikat der Leistungsbeständigkeit
Annex 2 (page 2/2) to Certificate of constancy of performance

0786 – CPR – 21753

13.03.2023

Leistungstabelle / Table of Performance

Dauerhaftigkeit der Betriebszuverlässigkeit, Feuchtebeständigkeit	*Durability of operational reliability, humidity resistance*		
- Feuchte Wärme, zyklisch (in Betrieb)	- *Damp heat, cyclic (operational)*	bestanden *pass*	5.10
- Feuchte Wärme, konstant (Dauerprüfung)	- *Damp heat, steady state (endurance)*	bestanden *pass*	5.11
- Feuchte Wärme, zyklisch (Dauerprüfung)	- *Damp heat, cyclic (endurance)*	bestanden *pass*	5.12
Dauerhaftigkeit der Betriebszuverlässigkeit, Korrosionsbeständigkeit	*Durability of operational reliability, corrosion resistance*		
- Schwefeldioxid-(SO2-) Korrosion (Dauerprüfung)	- *Sulphur dioxide (SO2) corrosion (endurance)*	bestanden *pass*	5.13
Dauerhaftigkeit der Betriebszuverlässigkeit, Schlag- und Schwingungs-beständigkeit	*Durability of operational reliability, impact and vibration resistance*		
- Stoß (in Betrieb)	- *Shock (operational)*	bestanden *pass*	5.14
- Schlag (in Betrieb)	- *Impact (operational)*	bestanden *pass*	5.15
- Schwingen, sinusförmig (in Betrieb)	- *Vibration, sinusoidal (operational)*	bestanden *pass*	5.16
- Schwingen, sinusförmig (Dauerprüfung)	- *Vibration, sinusoidal (endurance)*	bestanden *pass*	5.17

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QUALITY
MADE IN GERMANY
SINCE 2002

www.pan-acoustics.de

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