



## Installation - Manual

(S)QH - Acoustic Housing

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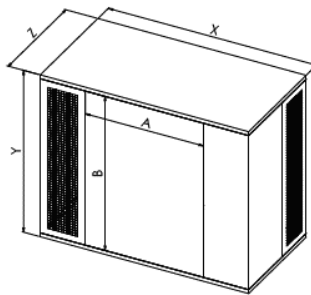
## 1. General information

Solflex produces SonaSafe acoustic housing for a wide range of Heat Pump, Air Conditioning and Refrigeration systems.

This manual applies to the following series:

**SonaSafe QH\* Serie**

**SonaSafe SQH\* Serie**



## 2. Technical Data

Stable, acoustic enclosure with fully demountable structure. Housing constructed in RAL 9010 pure white painted galvanized steel, optional available painted in any RAL colour. Sound insulation made of high-quality material combination for airborne sound absorption from non-combustible insulation material. Functional and yet design-oriented design with deflection of the air stream with low pressure drop and two service panels, easy to remove by one person, on the front and rear sides of the housing. The pressure loss (see technical data) within the acoustic housing depends on the air volume of the installed heat pump or AC system. Always proof the available static pressure of the fans with consideration of the performance of the system with the supplier or manufacturer of the heat pump. An integrated thermal separator is provided for the exact separation of the suction and the discharge air. The complete construction is completely weatherproof and optimized for the operation of heat pumps.

Prinzip	SonaSafe Typ	Edition	Housing Dimensions [mm]			Weight [kg]	Max. Max. Unit Dimension <sup>(1)</sup>			Airflow (m <sup>3</sup> /h) pressure drop
			H	W	D		H	W	D	
Suction and discharge on site	QHW100NP	RAL9010 pure white	1115	1560	790	128	1035	800	350	1000
	QHWY100NP		1305	1950	1030	178	1225	1030	430	1700
	QHW200NP		1625	2150	1180	220	1545	1030	430	2800
Suction and discharge on site	QHG100NP	RAL7035 light grey	1115	1560	790	128	1035	800	350	1000
	QHGY100NP		1305	1950	1030	178	1225	1030	430	1700
	QHG200NP		1625	2150	1180	220	1545	1030	430	2800
Suction and discharge on site	SQHW100NP	RAL9010 pure white	1115	1720	790	179	1035	800	350	1200
	SQHWY100NP		1305	2250	1030	229	1225	1030	430	2000
	SQHW200NP		1625	2550	1180	296	1545	1030	430	3500
Suction and discharge on site	SQHG100NP	RAL7035 light grey	1115	1720	790	179	1035	800	350	1200
	SQHGY100NP		1305	2250	1030	229	1225	1030	430	2000
	SQHG200NP		1625	2550	1180	296	1545	1030	430	3500

\* The dimensions of the device used must be checked individually.

#### Options:

**QH100NP Wall Mounted Set**      Option for wall mounted execution including wall brackets for the acoustic housing (not for the to be built-in unit) and sound insulated bottom plate.

**QHY100NP Wall Mounted Set**      Option for wall mounted execution including wall brackets for the acoustic housing (not for the to be built-in unit) and sound insulated bottom plate.

**QH200NP Wall Mounted Set**      Option for wall mounted execution including wall brackets for the acoustic housing (not for the to be built-in unit) and sound insulated bottom plate.

**QH RAL Custom**      Painted in custom RAL colour.

**QH Transport EU**      DAP delivery at place within EU with bulk transport.

**SQH100NP Wall Mounted Set**      Option for wall mounted execution including wall brackets for the acoustic housing (not for the to be built-in unit) and sound insulated bottom plate.

**SQHY100NP Wall Mounted Set**      Option for wall mounted execution including wall brackets for the acoustic housing (not for the to be built-in unit) and sound insulated bottom plate.

SQH200NP Wall Mounted Set      Option for wall mounted execution including wall brackets for the acoustic housing (not for the to be built-in unit) and sound insulated bottom plate.

SQH RAL Custom      Painted in custom RAL colour.

SQH Transport EU      DAP delivery at place within EU with bulk transport.

Nominal Sound Reduction QH Acoustic Housing

f (Hz)	63	125	250	500	1000	2000	4000	8000	16000
De (dB)A	2	4	6	15	15	14	15	14	13

Nominal Sound Reduction SQH Acoustic Housing

f (Hz)	63	125	250	500	1000	2000	4000	8000	16000
De (dB)A	2	4	9	16	18	18	23	21	22

The acoustic result depends on the device to be installed and is prone to deviations due to the particular conditions at the installation site.

### 3. Performance sound insulation

The sound insulation performance of our sound protection enclosure was measured by an independent laboratory according to DIN EN ISO 3744.

#### Measurement method

- Measurement of sound power of the calibrated (MP1) reference source via a ball surface with 12 microphones. Acoustic data: Class 2 According to DIN EN ISO 3744, as third spectrum and octave spectrum.
- Measurement of Sound Power (MP2) of the Solflex Sonasafe Sound Insulation Housing Reference source in the housing via a ball surface with 12 microphones. Acoustic Data Class 2 according to DIN EN ISO 3744, as a third spectrum and octave spectrum.
- The difference between the two measurements is the sound insulation power of the noise-isolating housing.

#### **MP1-MP2= Sound insulation performance Sound Insulation Housing** \*

\* The measurement tolerance of +/-1.5 dB (A) or tolerance width of 3 dB (A) according to DIN EN ISO 3744 would finalised not be used and we publish excluding the minimum sound insulation performance data.

#### Measurement results

The **QH Sound insulation housing** has a sound insulation capacity of **13 db (A)**.

The **SQH sound insulation housing** has a well absorbing power of **17 db (A)**.

The acoustic result depends on the device to be installed and is prone to deviations due to the particular conditions at the installation site.

## 4. Warranty

24 months from delivery.

## 5. Safety

In the event of improper operation or operation for a purpose other than the intended, there is however a risk of serious or even fatal injury to persons and a risk of damage to the unit and other property.

### 5.1. Intended use

The unit must only be used as acoustic housing for compatible Heat Pump, Air Conditioning and Refrigeration systems. Any other use is strictly prohibited.

### 5.2. Safety instructions

All work about the assembly, installation and commissioning of the unit must be carried out by specially trained technicians.

#### 5.2.1. Risks during unloading and transportation

#### WARNING

Risk of serious injury from dislodged loads.  
Do not stand under suspended loads.

#### 5.2.2. Risks from electric power

#### WARNING

Risk of electric shock from electrostatic charge of housing:  
Earth the device.

#### 5.2.3. Risk of damage to property and the environment

#### NOTICE

**Serious damage to property from dropping loads; please observe the instructions in section "Delivery of product".**

Serious damage to heat exchanger connections, panelling and other mounted components from force impact during moving of unit elements; **always move the unit elements by their base frame.**

**Risk of damage to components from heavy impact, e.g. when attempting to dislodge a part with a hammer, etc.: Components that rest on the foundation must only be moved by shifting.**

#### 5.2.4. Emergency procedures

#### 5.2.5. Fire fighting

Strictly adhere to all statutory fire safety regulations.  
The insulation foam has a fire behaviour according norm.



## 6. Product delivery

Upon delivery, inspect the product for damage caused during transport and ensure that the delivery is complete. Record any damage or missing parts on the transport documents. Complaints regarding obvious transport damage or incomplete deliveries cannot be considered if made too late.

On the construction site, protect the unit against dirt, impact and the elements.

### 6.1. Unloading / transport to location of installation

This unit is shipped in parts on a pallet. For unloading, lift the unit by the pallet.


Too short forks can damage the acoustic housing.



Risk of serious injury or damage to property from dropping loads. Observe the safety instructions of the transport equipment and lifting gear.

Do not climb onto the unit.

## 7. Mounting

 **ACHTUNG**

At the site must be a flawless service and maintenance and necessary air intake of built-in air conditioning, refrigeration and heat pump equipment possible.

**When planning the site is to pay attention to the following minimum distances:**

 **WARNING**

The sound protection cover must not be used as a support structure for the heat pump.

**For a frost-proof discharge of the resulting condensate, suitable options must be provided by the customer.**

## 7.1. Floor Mounting



M6x16 - DIN 967  
63 Stk.



Cage Nut M6 \_ 9,5x9,5 \_ 0,7-1,6  
4 Stk.



M6x55 DIN 965  
13 Stk



M6x16 - DIN 912 (Cylinder  
Screw)  
2 Stk.



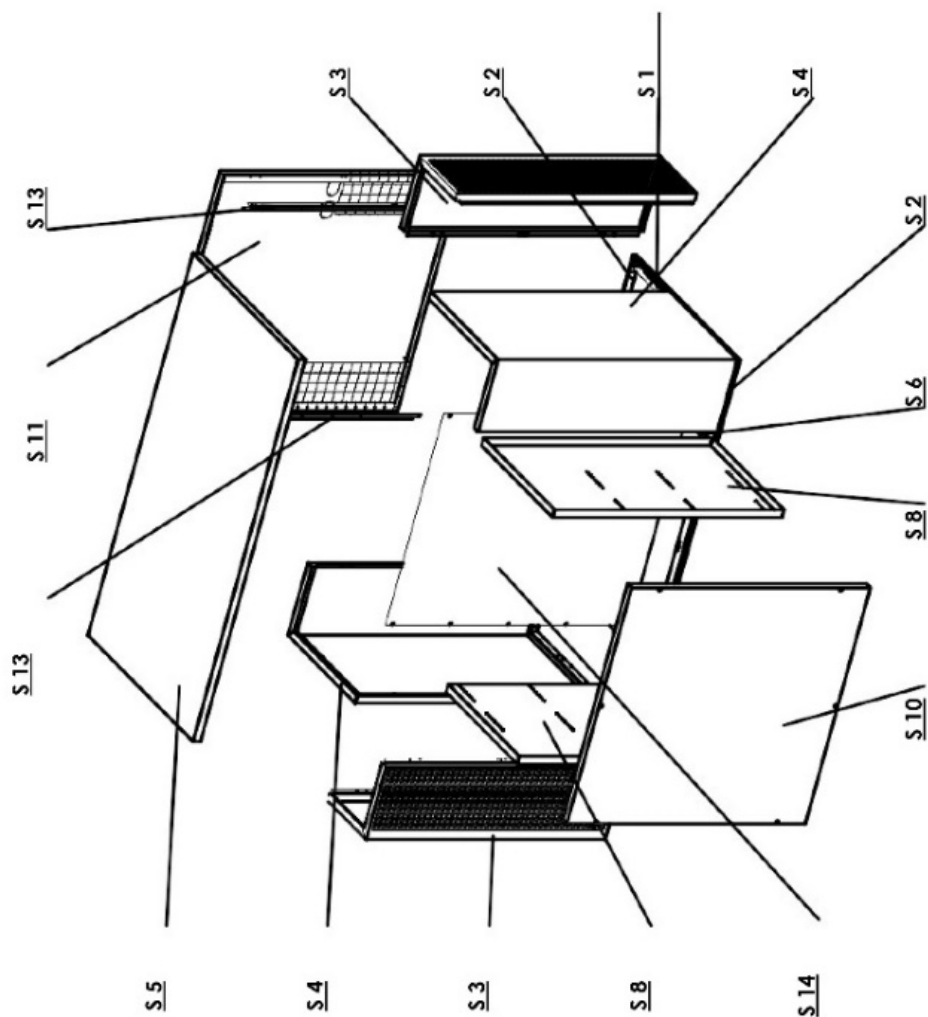
4.8x16 - DIN 7504N  
8 Stk.

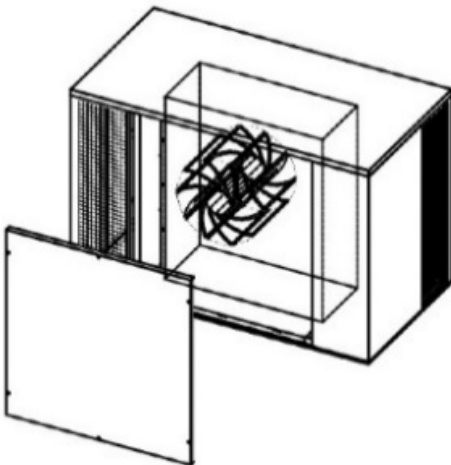
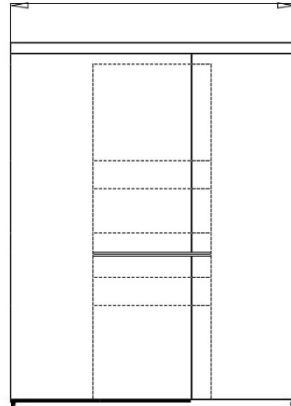
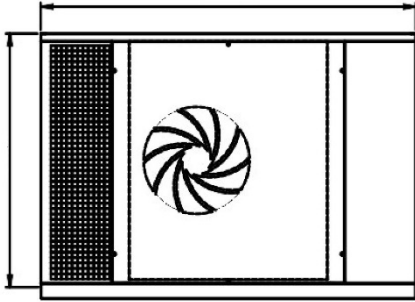


Double-sided tape 4m

### Component list

	Stk.	
S 1	2	
S 10	1	
S 11	1	
S 13	2	
S 14	1	
S 2	2	
S 3	2	
S 4	2	
S 5	1	
S 6	2	
S 8	2	



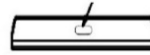


### 7.1.1. Framework

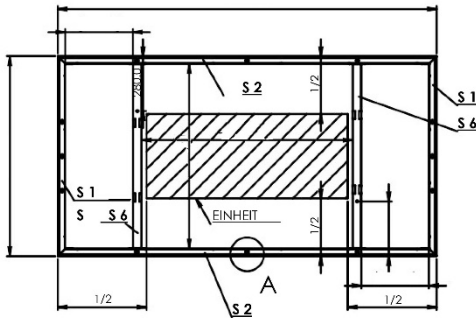
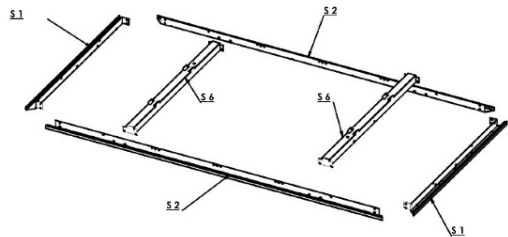


M6x16 - DIN 967

Oval for anchoring (12x)



Detail A  
Scale 1:4



- 1) Parts of the frame S1 S2 in the corners with the screw M6x16-din 967 screws.
- 2) Place the parts S6 in the frame and screw the M6xM16 – Din 967 to the side surface screws
- 3) Place the composite frame on the horizontal and stable surface so that the unit is in the middle.
- 4) Anchor the frame to the surface according to the prepared ovals in the parts S1 s2. For screws we use at least 4x ovals, preferably 2x oval on each side

### 7.1.2. Back



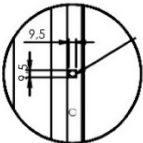
M6x16 - DIN 967



Cage Nut M6 \_ 9,5x9,5 \_ 0,7-1,6

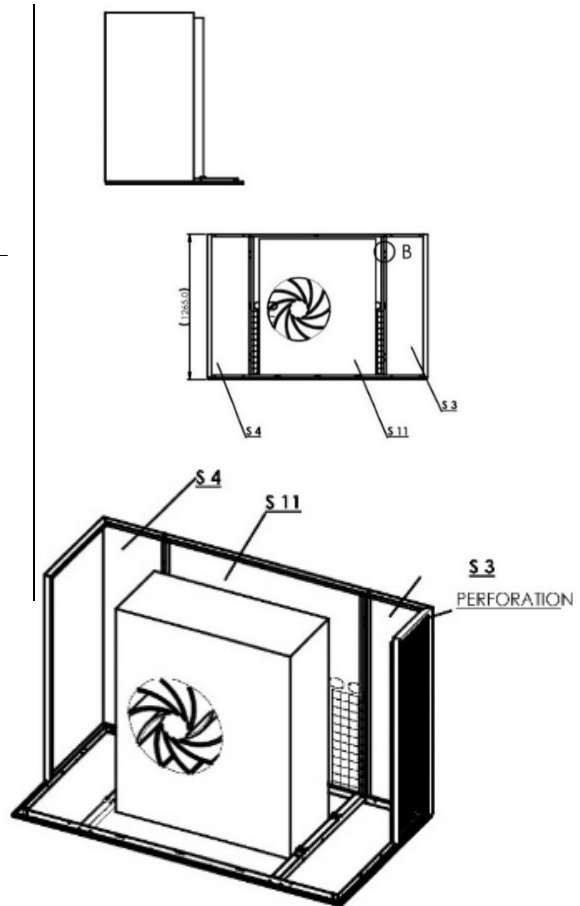


M6x55 DIN 965



Opening for Cage Nut  
Nut M6

Detail B  
Scale 1:4



1) The perforation in part S3 towards free space, which is necessary to ensure sufficient space for the absorption/exhaust of the air.

2) Parts S3 S4 to frame with screw M6x16 – din 967.

3) In Holes 9, 5x9, 5 The cage nuts M6\_9, 5x9, 5 \_ 0.7-1.6 are pressed according to need.

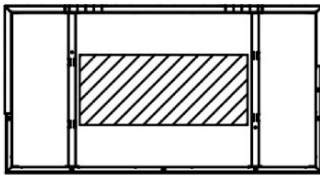
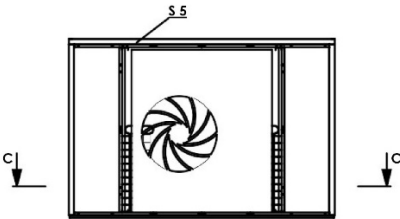
4) According to the access to part S11 there is the possibility:  
 a mounting from the outside with the screws M6x55 din 965  
 b mounting from inside with the screws M6x16 din 967

5) The part S11 can be edited (cutting etc) according to the management of the installation unit.

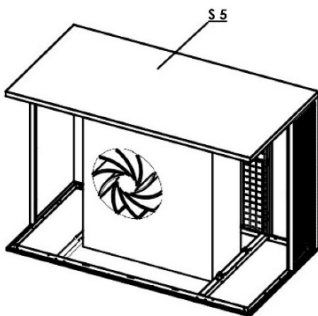
**7.1.3. Cover**



M6x16 - DIN 967



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1 S5 with screws M6x16 – din 967 screws.

**7.1.4. Front**

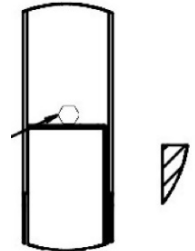


M6x16 - DIN 967

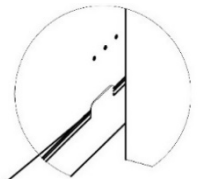


M6x16 - DIN 912  
(Cylinder Screw)

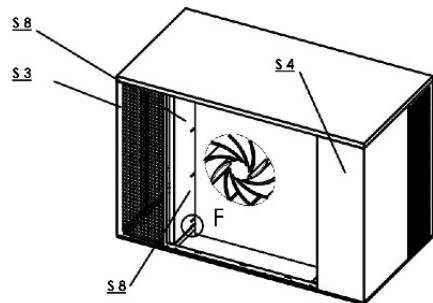
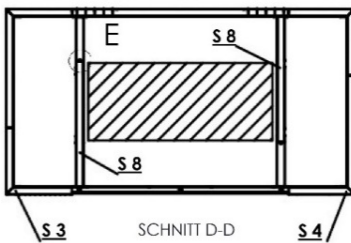
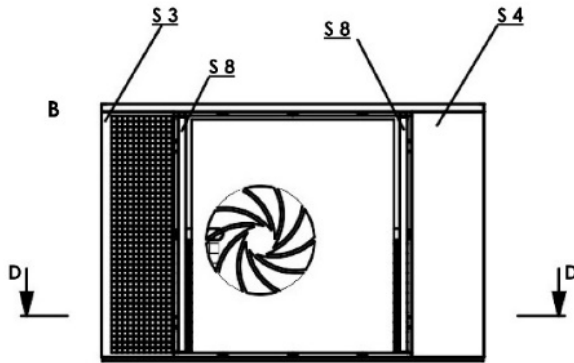
The position for  
the screw lock  
(Cylinder Screw)



Position of the part S8







- 1) The perforation in part S3 is aligned to the open space. It is necessary to secure sufficient space for the suction/buoyancy.
- 2) Parts S3 S4 with Screw M6x16 – din 967 screws.
- 3) Part S8 from the front into the prepared line in the insert frame and ceiling
- 4) Parts s8 with the Screw M6x16 – din 912 secure, the cylinder head of the screw serves as a stop.



M6x16 - DIN 967



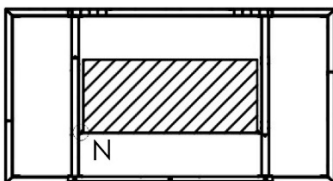
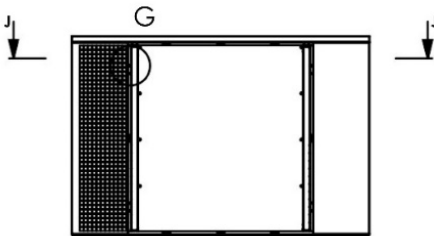
Cage Nut M6 \_ 9,5x9,5 \_  
0,7-1,6



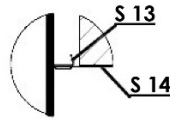
M6x55 DIN 965



4.8x16 - DIN 7504N

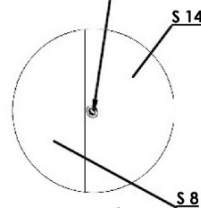


Interface

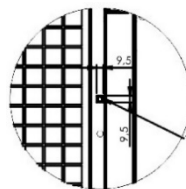


Detail N  
Scale 1:4

The diaphragm according to the holes Screws

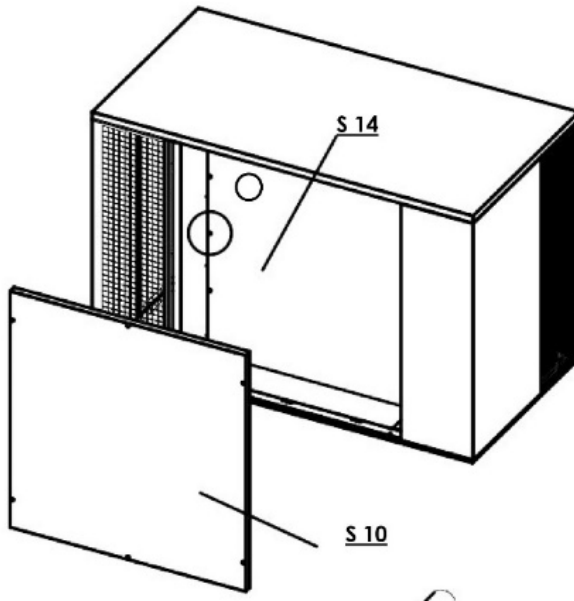


Detail O  
Scale 1:4



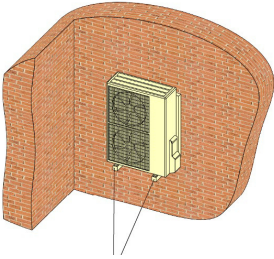
Opening for  
Cage Nut M6

Detail G  
Scale 1:4



- 1) Screw 4.8 x 19-Din 7504N accordingly in the openings S8, so that the front edge is on the same plane as the unit.
- 2) Use the screws M6x16 – DIN 967 to screw the membranes tarpaulin S14.
- 3) Cut a hole in S14 with the knife that corresponds to the fan size of the unit.
- 4) Glue the cut hole with the double-sided tape and fix it with the unit.
- 5) In Holes 9, 5x9, 5 presses according to demand cage nuts M6\_9, 5x9, 5\_0, 7-1.6.
- 6) Mounting part s10 with screws M6x55 din 965 screws.

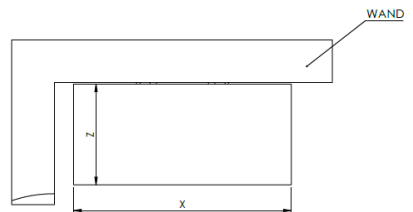
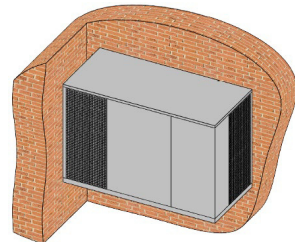
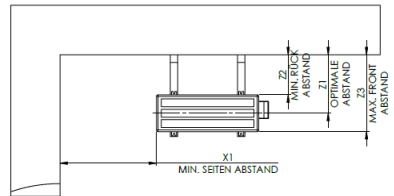
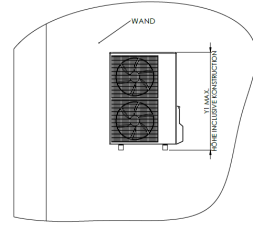
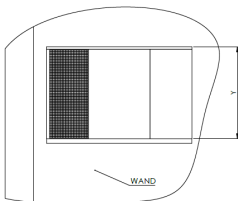
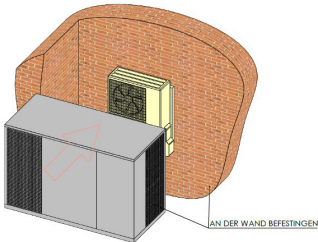
## 7.2. Wall Mounting



Heat pump with the carrying construction on the wall

**When planning the site is to pay attention to the following minimum distances:**

SonaSafe Type	(mm)	X1	Z1	Z2 min.	Z3 max.	Y1 max
QH100NP		410	415	240	590	1.035
SQH100NP		490	415	240	590	1.035
QH100NP		490	535	320	750	1.225
SQH100NP		640	535	320	750	1.225
QH200NP		590	610	395	825	1.545
SQH200NP		790	610	395	825	1.545





M6x16 - DIN 967  
44 Stk.



M6x16 - DIN 912 (Cylinder  
Screw)  
2 Stk.



Cage Nut M6 \_ 9,5x9,5 \_  
0,7-1,6  
2 Stk.



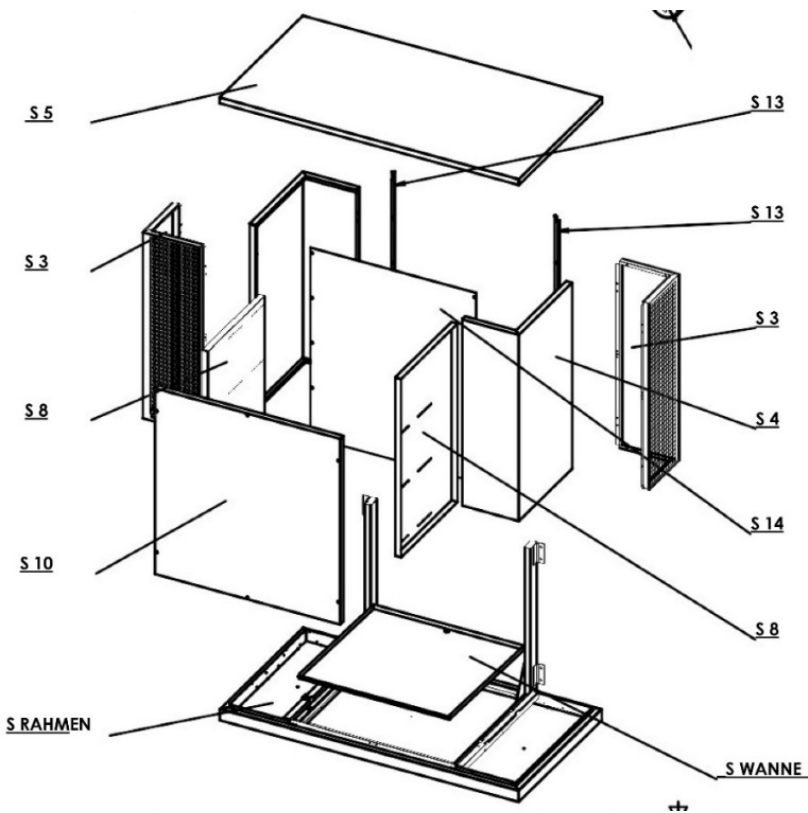
4.8x16 - DIN 7504N  
8 Stk.

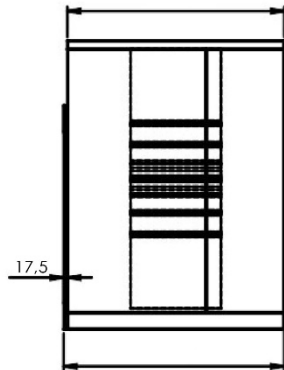
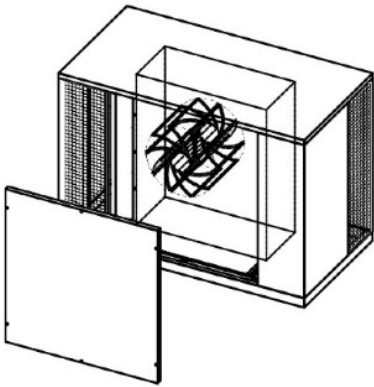
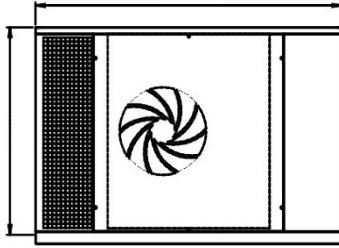


M6x55 DIN 965  
6 Stk

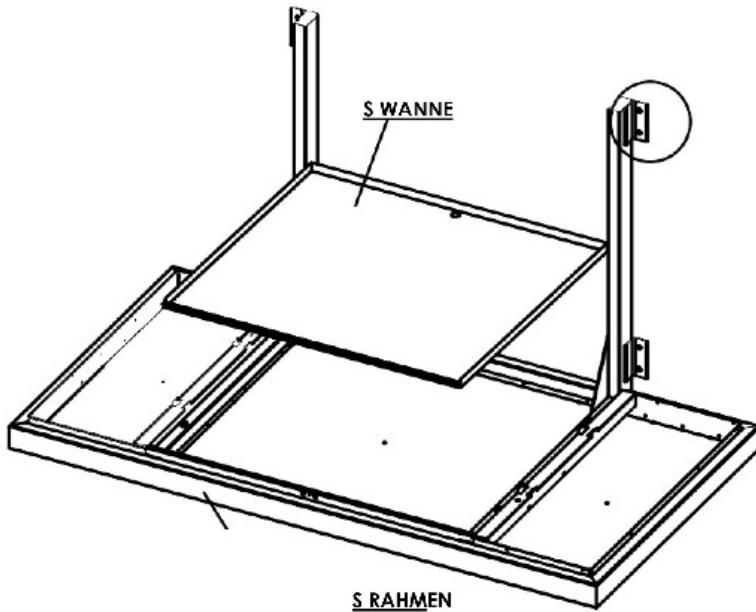
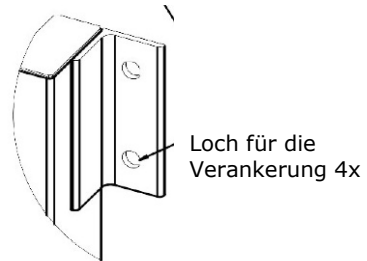
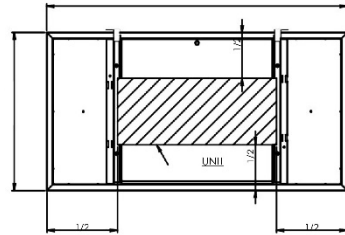
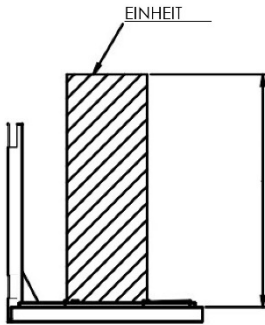


Double-sided tape  
4m





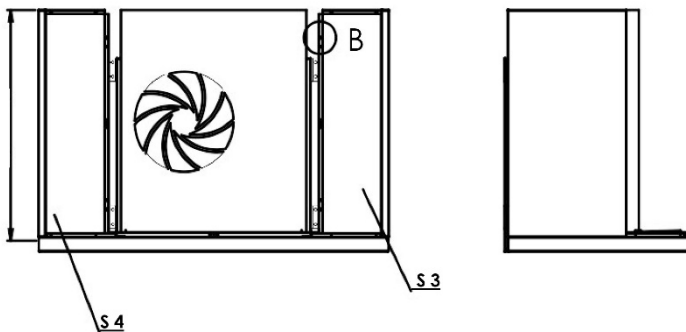
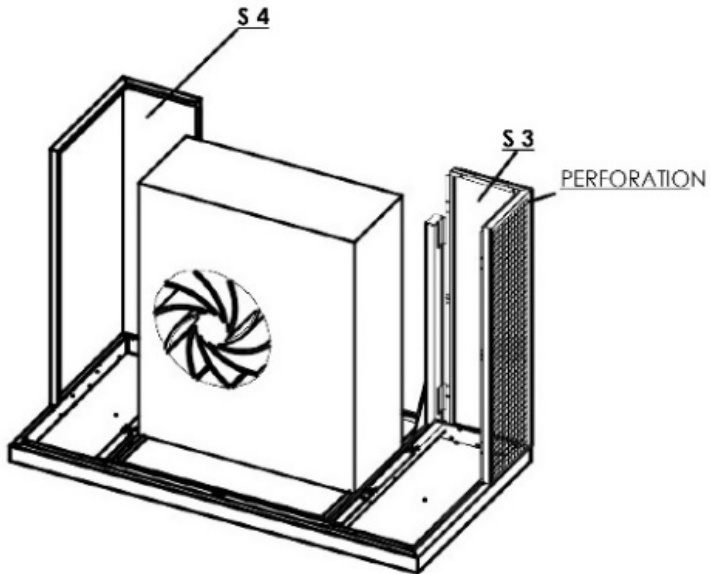
### 7.2.1. Framework



**7.2.2. Back**



M6x16 - DIN 967  
44 Stk.

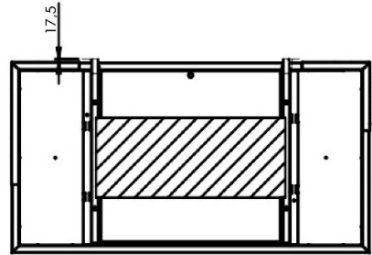
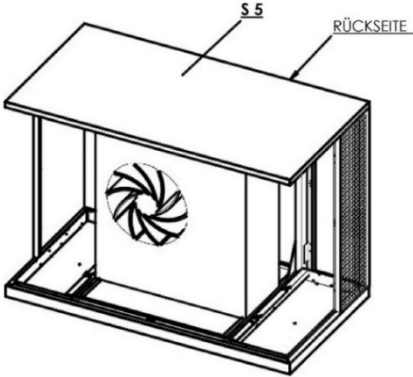




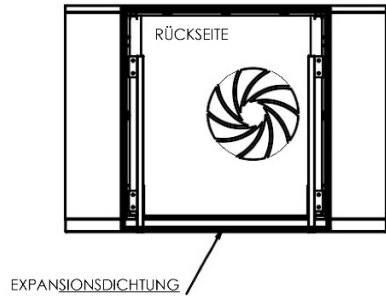
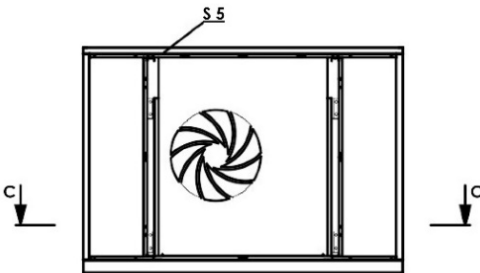
### 7.2.3. Cover



M6x16 - DIN 967  
44 Stk.



SCHNITT C-C



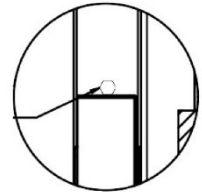
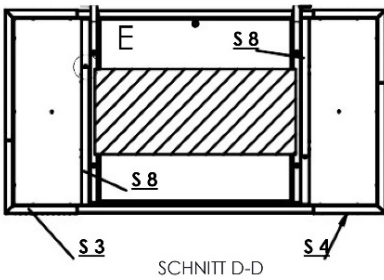
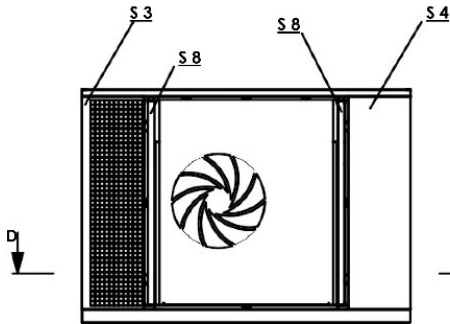
**7.2.4. Front**



M6x16 - DIN 912 (Cylinder Screw)

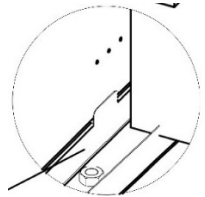


M6x16 - DIN 967



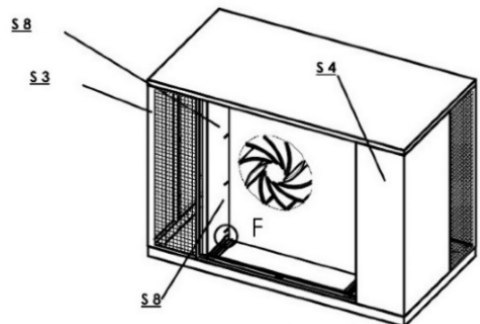
The position for the Screw lock (Cylinder Screw)

Detail E  
Scale 1:2



Position of the part S8

Detail F  
Scale 1:2





M6x16 - DIN 967



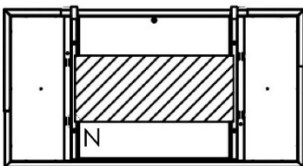
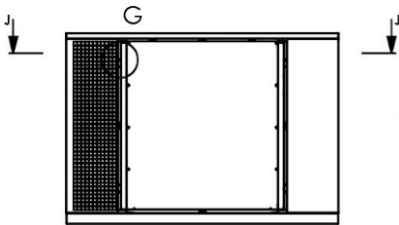
Cage Nut M6 \_ 9,5x9,5 \_  
0,7-1,6



M6x55 DIN 965



4.8x16 - DIN 7504N



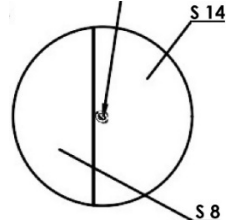
SCHNITT J-J



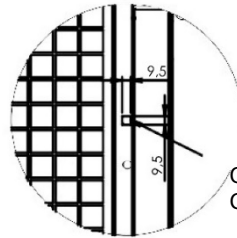
Scale 1:4

### Detail N

The diaphragm according  
to the holes Screws



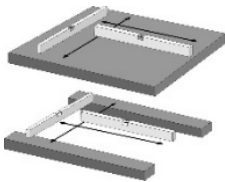
Detail O  
Scale 1:4



Openings for  
Cage Nut M6

### 7.3. Foundation / Wall

The foundation must meet the relevant static and sound propagation requirements and must feature a proper drain for water. It must be level and smooth. The resonance frequency of the support structure must be distinctly different from the excitation frequency of the rotating machine components (Heat Pump, Air Conditioning and Refrigeration system).



An uneven foundation might cause malfunction or jammed panels. Liability is excluded for damage caused by installation on an uneven surface.

### 7.4. Installation of Heat Pump, Air Conditioning and Refrigeration outdoor unit

The correct installation position of the air conditioning, refrigeration or heat pump unit is decisive for the fit and function of the acoustic housing.



## 8. Maintenance and Service

### 8.1. General

For maintenance and service work on the refrigeration, air-conditioning or heat pump unit, the necessary panels

can be easily removed from the acoustic housing.

### Cleaning and maintenance of the acoustic housing

- Remove other dirt with a damp cloth; if necessary, use grease- or oil-dissolving detergents (concentrated neutral detergent with pH between 8 and 9).
- Treat galvanized parts with preservation spray.
- Regularly lubricate moving parts such as panel locks with a lubrication spray.
- Regularly treat seals.
- Repair any damage to the coating, including areas that show signs of corrosion, with repair paint.
- Clean the unit thoroughly to remove all construction dust and other dirt.
- Prior to shipping, each unit is carefully inspected at our factory.

### 8.2. Silencers

The sound insulation material of the silencers should be checked for dust during major maintenance work and, if necessary, cleaned with a vacuum cleaner.

If necessary, the silencers must be checked for free passage, as this is necessary for perfect air circulation and the function of the installed refrigeration, air conditioning or heat pump unit.

### **8.3. Grounding**

**Depending on the local regulations and position, we recommend carrying out a grounding or lightning protection.**

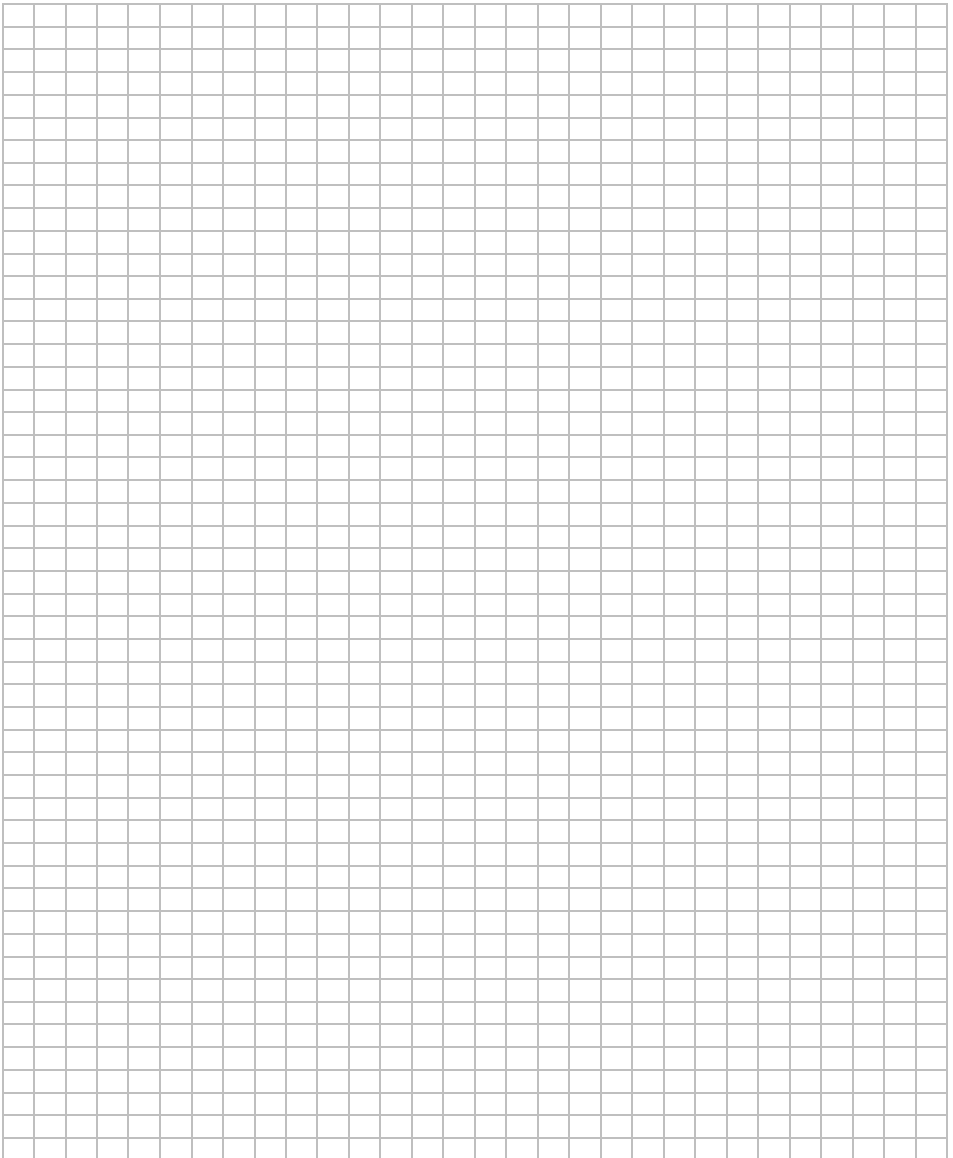
### **8.4. Test run**

After working on the acoustic housing, the person responsible must ensure that no persons are in the acoustic housing before it is put into operation again.

### **8.5. Removal and disposal**

Metal parts and plastic parts are to be recycled, per applicable regulations.

## Notes

A large grid of graph paper, consisting of 20 columns and 30 rows of small squares, intended for taking notes.

**Do you have anymore questions?**



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