



Installation - Manual

SQV - Acoustic Housing

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**Always observe all relevant standards and
statutory regulations**

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All business transactions based on our Terms and Conditions, available at
www.solflex.eu

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1. General Information

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

SonaSafe SQV* Serie



2. Technical Description

Professional sound reduction by double-walled enclosure in attractive, straight design. The housing serves mainly as a problem solution for all noise disturbances and compliance with all legal regulations (including statutory night rest). Furthermore, access to the thus protected outdoor unit is prevented for unauthorized persons. A deliberate destruction of the valuable and difficult to replace outdoor unit is excluded (Only opening of service doors with tools). The enclosure consists of a stable aluminium frame construction with inwardly screwed connectors. All panels can be easily removed by means of 3D closures. The required special tools are provided with. Access to the enclosed outdoor unit is from all sides possible. The assembly of the acoustic housing is possible by 2 workers in about 2 hours without further tools such as expensive lifting cranes. By default, the enclosure comes with a 50mm thick insulation. The inner plate consists of perforated galvanized steel with a mesh size of 50x50x10mm. The outside plate is standard powder coated in RAL9010 (pure white). Between the double-walled plates, there is a layer of non-combustible glass fibre insulation that is protected by a resistant and water-repellent coating on the side of the perforated plate.

For units with **horizontal** air discharge

SonaSafe Type	Principle	Housing Dimensions [mm]			Weight [kg]520	Max. Unit Dimension * [mm]			Fan
		H	W	D		H	W	d	
SQV100NP	Vertical suction and discharge	3400	1600	1600	520	On Demand			1
SQV200NP		3400	2375	1600	700				2
SQV210NP		3400	3150	1600	880				3
SQV220NP		3400	3925	1600	1060				4
SQV221NP		3400	4700	1600	1240				5
SQV222NP		3400	5475	1600	1420				6
SQVY100NP		On Demand			3800	1600	1600	570	1
SQVY200NP					3800	2375	1600	760	2
SQVY210NP					3800	3150	1600	950	3
SQVY220NP					3800	3925	1600	1140	4
SQVY221NP					3800	4700	1600	1340	5
SQVY222NP					3800	5475	1600	1530	6

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

SQV 4 Feet	SonaSafe SQV 4 Feet support system. Material: galvanised steel. Dimensions (HxWxD): 470x1.550x1.275mm. Weight: ca. 22,5 kg. Max. Load: 400 kg.
SQV 6 Feet	SonaSafe SQV 6 Feet support system. Material: galvanised steel. Dimensions (HxWxD): 470x2.800x1.275mm. Weight: ca. 42,25 kg. Max. Load: 600 kg..
SQV 8 Feet	SonaSafe SQV 8 Feet support system. Material: galvanised steel. Dimensions (HxWxD): 470x4.050x1.275mm. Weight: ca. 62 kg. Max. Load: 800 kg..
SQV Drain Pan	Drain pan with oil separator. Incl. fixations to mount onto big foot system.
SQV Electrical Heater	Temperature-controlled electronic condensate tray heating.
SQV Hood	Deflection arc for blowing in horizontal direction..
SQV Bottom Plate	Sound attenuated base plate with controlled drain to mount the acousting housing on e.g. when standing onto metal grid base.
SQV Damping mat	Damping mat made of recycled rubber granules 1000 x 1000 mm t=10mm
SQV Rubber Spring Strip	Rubber spring stripes according to DIN 4109 to mount the acoustic housing onto.
SQV RAL Custom	Painted in custom RAL colour.
SQV Transport EU	DAP delivery at place within EU (main land) without installation

3. Sound level reduction

The sound insulation performance of our acoustic enclosures was measured by an independent laboratory, according to DIN EN ISO 3744.

Measurement method

- Sound power measurement (MP1) of the calibrated reference sound source over a spherical envelope with 12 microphones. Acoustic data: Class 2 according to DIN EN ISO 3744, as third octave spectrum and octave spectrum.
- Sound power measurement (MP2) of the Solflex SonaSafe acoustic enclosure with reference sound source inside the acoustic housing over a spherical envelope with 12 microphones. Acoustic data: Class 2 according to DIN EN ISO 3744, as third octave spectrum and octave spectrum.
- The difference between the two measurements is the sound insulation performance or sound level reduction of the acoustic housing.

MP1 - MP2 = sound level reduction by acoustic enclosure*

* The measurement tolerance of +/- 1.5 dB(A) or tolerance range of 3 dB(A) according to DIN EN ISO 3744 was not taken in consideration and we publish only the minimum sound level reduction values.

Measurement result

The **SQV acoustic** enclosure has a nominal sound level reduction of 25 dB(A).

Nominal Sound Reduction SQV Acoustic Housing :

f	[Hz]	63	125	250	500	1000	2000	4000	8000	16000
De	[dB(A)]	5,1	7,8	18,6	24,1	24,4	24,9	27,1	26,5	23,3

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 month date of 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



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

5.2.2 Risks from electric power



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

5.2.3 Risk of damage to property and the environment



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.**

5.3 Emergency procedures

5.3.1 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

At the installation site, the soundproofing wall must be properly fixed or secured so that it is suitable for the wind load. We do not offer this static calculation as a commercial service.

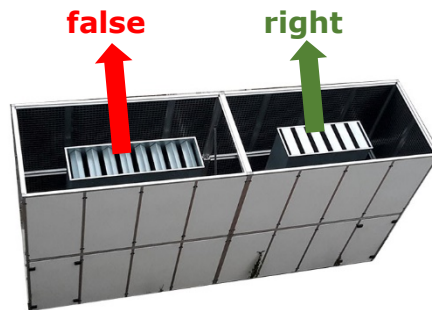
The silencer is placed on the device with at least 3 people or using an assembly lift and firmly screwed. (Self-adhesive foam tape and sheet metal screws are to be provided by the customer.)

The sound insulation panels are covered with a matt, transparent protective film. Please remove during assembly. Otherwise the softener in the film can come loose due to strong UV radiation and bubbles can form between the film and the sheet metal.



! NOTICE

Please pay attention to a correct installation of the silencer on the outdoor unit, to ensure the functionality of the acoustic housing.



The recommended distance between the wall and the acoustic housing to enclose several outdoor units is at least 150mm so that the panels can be inserted and closed with the toggle fasteners.



The second step is to mount the base frame. After this the aluminium grille is placed with the white sound insulation panels, thereby guaranteeing the stability of the base frame for the next steps.



The upper frame is manufactured precisely and can be screwed with the base frame with little effort.



The doors are fitted with a rotary latch closure and are lockable. The panels are fastened with a rotating latch, which makes the system reversible from all sides.



The build-up time for the sound and vandal protection per built-in device is about 1.5 hours with 2 men.

Example pictures of spans:



Examples of stiffening:



Manual SQV Acoustic Housing
Version: 10/2020

Example images Mounting with rubber bracket on foil roof:



Example image Mounting with adjustable foot:



Example image Mounting with attachment to the Big Foot frame:



Example image Mounting with clamping connection to the steel frame:





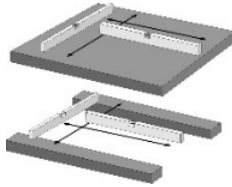
Important NOTE:



Please always use the required safety work gear during installation.
 Due to the packaging materials and the production process, personal injury may occur, such as hand injuries.
 If the soundproof housing is freely accessible, the necessary measures during assembly should be taken to local conditions to avoid personal injury.

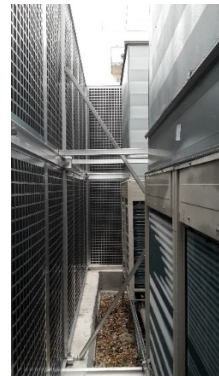
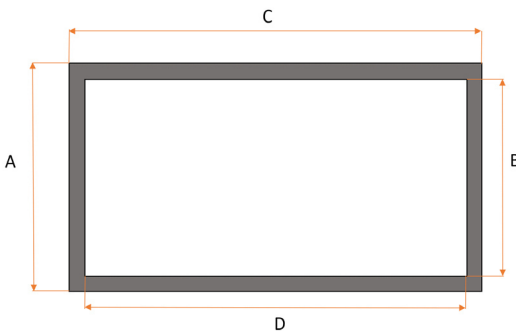
7.1 Foundation

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.

Fundamental example:



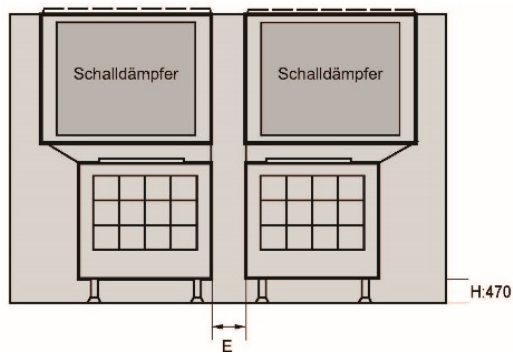
SonaSafe Type	Housing Dimensions [mm]			Weight Wall / Meter [kg]	Weight [kg]	Total Weight [kg]	Dimensions Fundament [mm]			
	H	B	T				A	B	C	D
SQV100NP	3400	1600	1600	68	75	520	1800	1400	1800	1400
SQV200NP	3400	2375	1600	68	150	700	1800	1400	2575	2175
SQV210NP	3400	3150	1600	68	225	880	1800	1400	3350	2950
SQV220NP	3400	3925	1600	68	300	1060	1800	1400	4125	3725
SQV221NP	3400	4700	1600	68	375	1240	1800	1400	4900	4500
SQV222NP	3400	5475	1600	68	450	1420	1800	1400	5675	5275

Note 1:

The bottom side of the outdoor unit and the upper side of the foundation must be at the same level, whereupon the acoustic housing is placed.



The upper edge of the silencer will thus be at the same level as the upper edge of the sound-absorbing wall, and the connection between the outdoor unit and the silencer will be less stressed under extreme wind loads





SonaSafe Type	Housing Dimensions [mm]			Weight wall / Meter [kg]	Weight [kg]	Total Weight [kg]	Dimensions Fundament [mm]	
	H	B	T				A	C
SQVY100NP	3800	1600	1600	76	75	570	1800	1800
SQVY200NP	3800	2375	1600	76	150	760	1800	2575
SQVY210NP	3800	3150	1600	76	225	950	1800	3350
SQVY220NP	3800	3925	1600	76	300	1140	1800	4125
SQVY221NP	3800	4700	1600	76	375	1340	1800	4900
SQVY222NP	3800	5475	1600	76	450	1530	1800	5675

Note 2:

If you use our SQV Feet for mounting the outdoor unit, the height is H: 470mm. During production, it is taken into account that the upper edge of the silencer does not extend far above the sound-absorbing wall. If our SQV Feet is not used, please tell us the height H and the distance E between two outdoor units when ordering.



7.2 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.



Important Notice! For different manufacturers of the installed refrigeration, air conditioning and heat pump outdoor unit, the ESP setting must be adjusted manually on the PCB so that the fan runs with a high static pressure. Please contact the refrigeration, air conditioning and heat pump outdoor unit manufacturer for more detailed information.

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 to carry out a grounding or lightning protection.

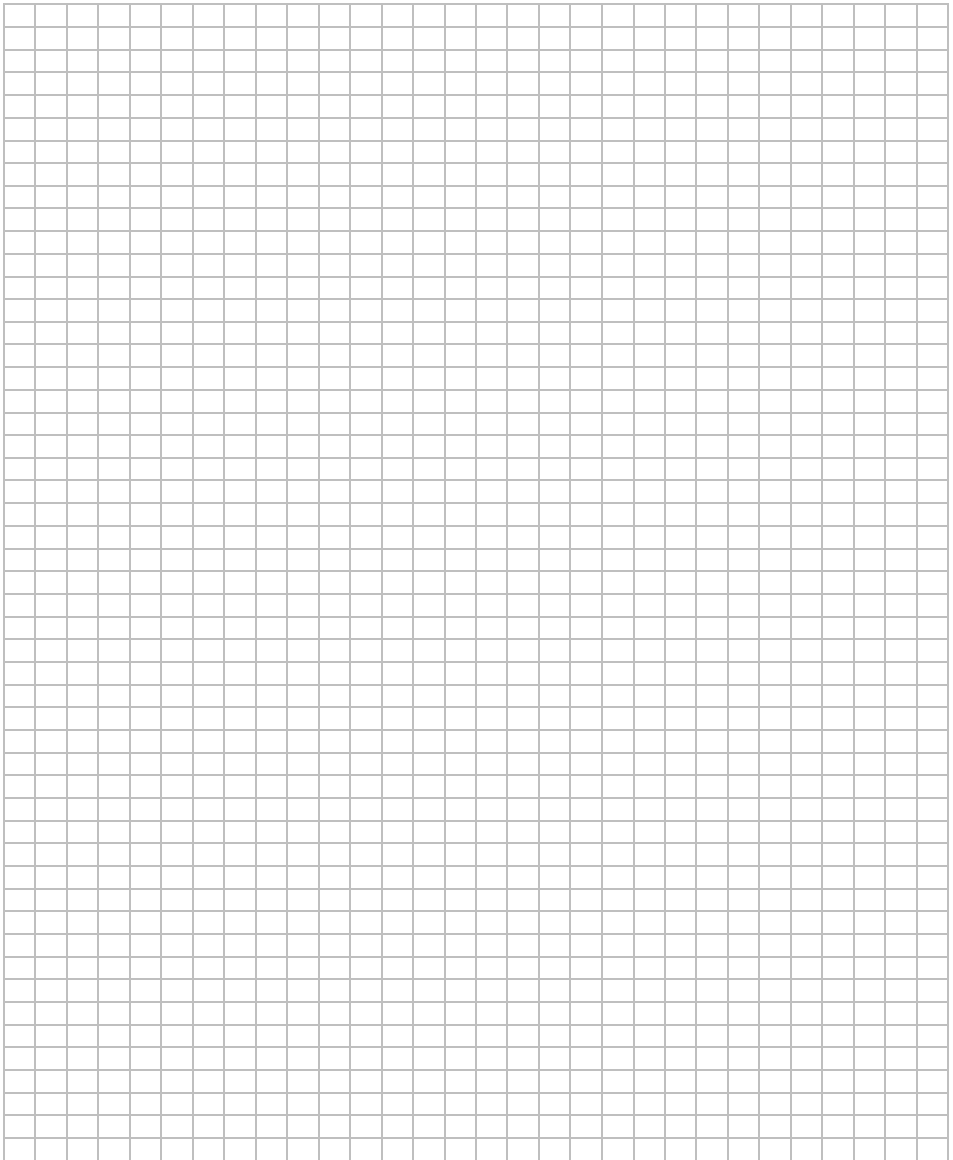
8.4 Test run

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.

Note:



Do you have anymore questions?



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SQV-IM-10/2020-ENG