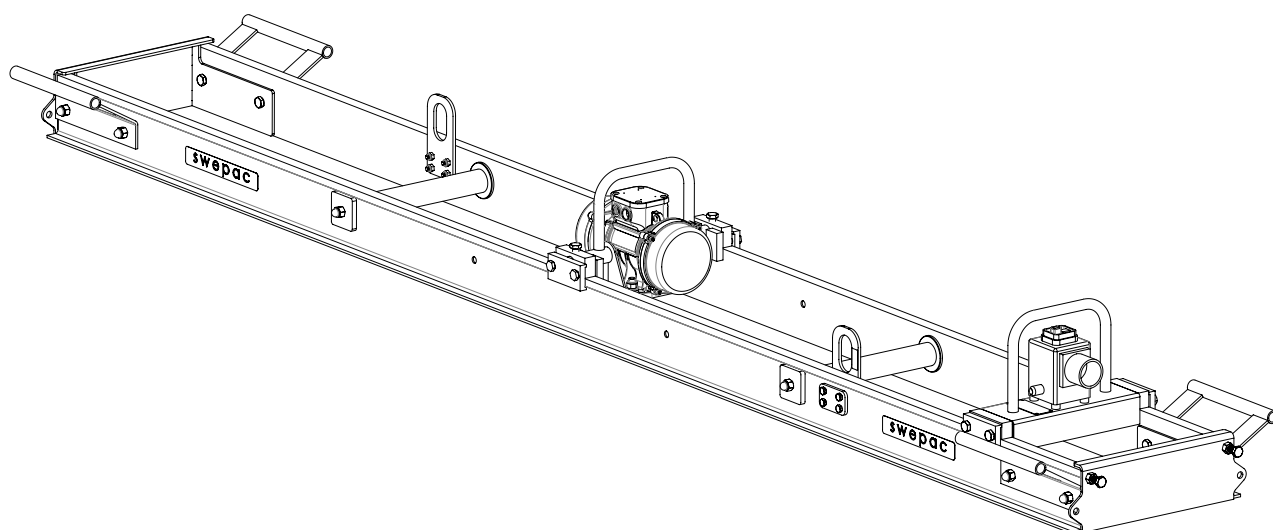

USER MANUAL IN ORIGINAL



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SAFETY INSTRUCTIONS

To reduce the risk of serious injury or death to yourself or others read and understand the Safety and operating instruction before installing, operating, repairing, maintaining, or changing accessories on the machine.

Post this Safety and operating instruction at work locations, provide copies to employees, and make sure that everyone reads the Safety and operating instruction before operating or servicing the machine.

In addition, the operator or the operator's employer must assess the specific risks that maybe present as a result of each use of the machine.

Additional instructions for the engine can be found in the manufacturer's engine manual.

Personal precautions and qualifications

Only qualified and trained persons may operate or maintain the machine. They must be physically able to handle the bulk, weight, and power of the machine. Always use your common sense and good judgement.

Personal protective equipment

Always use approved protective equipment. Operators and all other persons in the working area must wear protective equipment, including at a minimum:

- Protective helmet
- Hearing protection
- Impact resistant eye protection with side protection
- Respiratory protection when appropriate
- Protective gloves
- Proper protective boots
- Appropriate work overall or similar clothing (not loose-fitting) that covers your arms and legs.

Drugs, alcohol or medication

Drugs, alcohol or medication may impair your judgment and powers of concentration. Poor reactions and incorrect assessments can lead to severe accidents or death.

Never use the machine when you are tired or under the influence of drugs, alcohol or medication.

No person who is under the influence of drugs, alcohol or medication may operate the machine.

OPERATION, PRECAUTIONS

DANGER Explosion hazard

If a warm machine or exhaust pipe comes into contact with explosives, an explosion could occur. During operating with certain materials, sparks and ignition can occur. Explosions will lead to severe injuries or death.

Never operate the machine in any explosive environment.

Never use the machine near flammable materials, fumes or dust.

Make sure that there are no undetected sources of gas or explosives.

Avoid contact with the warm exhaust pipe or the bottom of the machine.

DANGER Fire hazard

If a fire starts in the machine, it can cause injury.

If possible use an ABE-class powder extinguisher, otherwise use a BE-type carbon dioxide fire extinguisher.

DANGER Fuel hazard

The fuel is flammable and fuel fumes can explode when ignited, causing serious injury or death.

Protect your skin from contact with the fuel. If fuel has penetrated the skin, consult a qualified health professional.

Never remove the filler cap, or fill the fuel tank when the machine is hot.

Fill the fuel tank outdoors or in a clean and well ventilated place, free from sparks and open flames. Fill the fuel tank at least ten meters (30 feet) from the place where the machine is to be used.

Release the filler cap slowly to let pressure escape.

Never over fill the fuel tank.

Make sure the filler cap is screwed on when the machine is used.

Avoid spilling fuel on the machine, wipe off any spilled fuel.

Check regularly for fuel leaks. Never use the machine if it is leaking fuel.

Never use the machine in the proximity of material that can generate sparks. Remove all hot or spark-generating devices before starting the machine.

Never smoke when filling the fuel tank or when working with the machine or servicing it.

Only store fuel in a container that is specially constructed and approved for the purpose.

Consumed fuel and oil containers must be taken care of and returned to the retailer.

Never use your fingers to check for fluid leaks.

WARNING Unexpected movements

The machine is exposed to heavy strains during operation. If the machine breaks or gets stuck, there may be sudden and unexpected movements that can cause injuries.

Always inspect the machine prior to use. Never use the machine if you suspect that it is damaged.

Make sure that the handle is clean and free of grease and oil.

Keep your feet away from the machine.

Never sit on the machine.

Never strike or abuse the machine.

Pay attention and look at what you are doing.

WARNING Dust and fume hazard

Dusts and /or fumes generated or dispersed when using the machine may cause serious and permanent respiratory disease, illness, or other bodily injury (foreexample, silicosis or other irreversible lung disease that can be fatal, cancer, birth defects, and /or skin inflammation). Some dusts and fumes created by compaction work contain substances known to cause respiratory disease, cancer, birth defects, or other reproductive harm.

Dust and fumes in the air can be invisible to the naked eye, so do not rely on eye sight to determine if there is dust or fumes in the air. To reduce the risk of exposure to dust and fumes, do all of the following:

Perform site-specific risk assessment. The risk assessment should include dust and fumes created by the use of the machine and the potential for disturbing existing dust.

Wear, maintain and correctly use respiratory protection as instructed by your employer and as required by occupational health and safety regulations. Respiratory protection must be effective for the type of substance at issue (and if applicable, approved by relevant governmental authority).

Work in a well ventilated area.

If the machine has an exhaust, direct the exhaust so as to reduce disturbance of dust in a dust filled environment.

Operate and maintain the machine as recommended in the operating and safety instructions.

Wear washable or disposable protective clothes at the worksite, and shower and change into clean clothes before leaving the work site to reduce exposure of dust and fumes to yourself, other persons, cars, homes, and other areas.

Avoid eating, drinking, and using tobacco products in areas where there is dust or fumes.

Wash your hands and face thoroughly as soon as possible upon leaving the exposure area, and always before eating, drinking, using tobacco products, or making contact with other persons.

Comply with all applicable laws and regulations, including occupational health and safety regulations.

Participate in air monitoring, medical examination programs, and health and safety training programs provided by your employer or trade organizations and in accordance with occupational health and safety regulations and recommendations. Consult with physicians experienced in relevant occupational medicine.

Work with your employer and trade organization to reduce dust and fume exposure at the work site and to reduce the risks. Effective health and safety programs, policies and procedures for protecting workers and others against harmful exposure to dust and fumes should be established and implemented based on advice from health and safety experts. Consult with experts.

DANGER Exhaust gas hazard

The exhaust gas from the machine's combustion engine contains carbon monoxide which is poisonous, and chemicals which cause cancer, birth defects, or other reproductive harm. Inhalation of exhaust fumes can cause serious injury, illness, or death.

Never inhale exhaust fumes.

Ensure good ventilation (extraction of air by fan if necessary).

WARNING Projectiles

Failure of the work piece, of accessories, or even of the machine itself may generate high velocity projectiles. During operating, splinters or other particles from the compacted material may become projectiles and cause personal injury by striking the operator or other persons. To reduce these risk:

Use approved personal protective equipment and safety helmet, including impact resistant eye protection with side protection.

Make sure that no unauthorised persons trespass into the working zone.

Keep the work place free from foreign objects.

WARNING Rotating blades hazards

There is a risk of hands and feet getting caught by the rotating blades when the machine is running. This can cause personal injury.

Never place your hands or feet inside the protection ring when the machine is running

WARNING Motions hazards

When using the machine to perform work-related activities, you may experience discomfort in the hands, arms, shoulders, neck, or other parts of the body.

Adopt a comfortable posture whilst maintaining secure footing and avoiding awkward off-balanced postures.

Changing posture during extended tasks may help avoid discomfort and fatigue.

In case of persistent or recurring symptoms, consult a qualified health professional.

WARNING Vibrations hazards

Normal and proper use of the machine exposes the operator to vibration. Regular and frequent exposure to vibration may cause, contribute to, or aggravate injury or disorders to the operator's fingers, hands, wrists, arms, shoulders and/or nerves and blood supply or other body parts, including debilitating and/or permanent injuries or disorders that may develop gradually over periods of weeks, months, or years. Such injuries or disorders may include damage to the blood circulatory system, damage to the nervous system, damage to joints, and possibly damage to other body structures.

If numbness, persistent recurring discomfort, burning sensation, stiffness, throbbing, tingling, pain, clumsiness, weakened grip, whitening of the skin, or other symptoms occur at any time, when operating the machine or when not operating the machine, stop operating the machine, tell your employer and seek medical attention. Continued use of the machine after the occurrence of any such symptom may increase the risk of symptoms becoming more severe and /or permanent.

Operate and maintain the machine as recommended in these instructions, to prevent an unnecessary increase in vibration.

The following may help to reduce exposure to vibration for the operator:

If the machine has vibration absorbing handles, keep them in a central position, avoid pressing the handles into the end stops.

When the percussion mechanism is activated, the only body contact with the machine you should have are your hands on the handle or handles. Avoid any other contact, for example supporting any part of the body against the machine or leaning onto the machine trying to increase the feed force.

Make sure that the machine is well-maintained and not worn out.

Immediately stop working if the machine suddenly starts to vibrate strongly. Before resuming the work, find and remove the cause of the increased vibrations.

Participate in health surveillance or monitoring, medical exams and training programs offered by your employer and when required by law.

When working in cold conditions wear warm clothing and keep hands warm and dry.

See the "Noise and vibration declaration statement" for the machine, including the declared vibration values. This information can be found at the end of these Safety and operating instructions.

WARNING Trapping hazards

There is a risk of neck ware, hair, gloves, and clothes getting dragged into or caught by rotating machine parts. This may cause choking, scalping, lacerations, or death. To reduce the risk:

Never grab or touch a rotating machine part.

Avoid wearing clothing, neck ware or gloves that may get caught.

Cover long hair with a hair net.

DANGER Electrical hazard

The machine is not electrically insulated. If the machine comes in to contact with electricity, serious injuries or death may result.

Never operate the machine near any electric wire or other source of electricity.

Make sure that there are no concealed wires or other sources of electricity in the working area.

DANGER Concealed object hazard

During operating, concealed wires and pipes constitute a danger that can result in serious injury.

Check the composition of the material before operating.

Watch out for concealed cables and pipes for example electricity, telephone, water, gas, and sewage lines.

If the machine seems to have hit a concealed object, switch off the machine immediately.

Make sure that there is no danger before continuing.

WARNING Involuntary start

Involuntary start of the machine may cause injury.

Keep your hands away from the start and stop device until you are ready to start the machine.

Learn how the machine is switched off in the event of an emergency.

WARNING Noise hazard

High noise levels can cause permanent and disabling hearing loss and other problems such as tinnitus (ringing, buzzing, whistling, or humming in the ears). To reduce risks and prevent an unnecessary increase in noise levels:

Risk assessment of these hazards and implementation of appropriate controls is essential.

Operate and maintain the machine as recommended in these instructions.

If the machine has an silencer, check that it is in place and in good working condition.

Always use hearing protection.

TRANSPORT, PRECAUTIONS**WARNING Loading and unloading hazard**

When the machine is lifted by a crane and similar appliance, this can lead to injury.

Use marked lifting points.

Make sure that all lifting devices are dimensioned for the weight of the machine.

Never remain under or in the immediate vicinity of the machine.

MAINTENANCE, PRECAUTIONS**WARNING Unexpected start hazard**

During maintenance or when changing blades on the machine, there is a risk that the engine backfires or that the machine unexpectedly starts. This applies especially when the engine is hot and if the switch is in position ON. This can result in serious personal injury.

Always let the engine cool down.

Always turn the switch to position OFF.

Always take the cap off the spark plug.

WARNING Unexpected start hazard

Any machine modification may result in bodily injuries to yourself or others.

Never modify the machine. Modified machines are not covered by warranty or product liability.

Always use original parts, insertion tools, and accessories.

Change damaged parts immediately.

Replace worn components in good time.

CAUTION High temperature

The machine's engine exhaust pipe, and bottom become hot during operation. Touching them can lead to burns.

Never touch a hot machine.

Never touch the bottom of the machine when its hot.

Wait until the engine, exhaust pipe, and bottom of the machine have cooled down before carrying out maintenance work.

STORAGE, PRECAUTIONS

Keep the machine in a safe place, out of the reach of children and locked up.

TECHNICAL DATA
SVF

Engine,	3-phase, 400 V
Sealing class	IP 65
Engine output.....	2.2 kW
Speed, (engine shaft) rpm.....	2830 rpm
Centrifugal force	500 N/m

Weights

Weight el. drive unit.....	22 kg
Weight module 3,2m	52 kg
Weight module 4,2 m	62 kg
Weight module 5,2 m.....	68 kg
Weight module 6,2 m	74 kg
Weight module 7,2m	80 kg

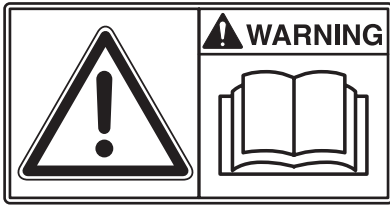
Dimensions

Length module.....	3,2m
Length module.....	4,2m
Length module.....	5,2m
Length module.....	6,2m
Length module.....	7,2m

Hand/arm vibrations ahv according to ISO 5349 on fresh concrete	4,5 m/s ²
Guaranteed sound-power level, LWA.....	106 dB(A)
Sound pressure level (at operators ear).....	95 dB(A)

SIGNS

Warning Signs



Before use, carefully read the manual and its safety instructions so that you can handle the machine safely. Ensure that the manual is always accessible.



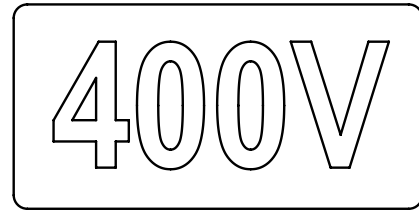
Engine and silencer: to avoid burns or discomfort, do not touch hot engine parts when the engine is on or when the machine has recently been used.



Belt drive: Keep hands, tools and other objects away from the belt drive when the machine is on to avoid injury and damage. See the safety instructions in the manual.



As the sound pressure level at the operator's ears exceeds 80 dB (A), ear protectors must be used when working with the machine to prevent hearing damage.

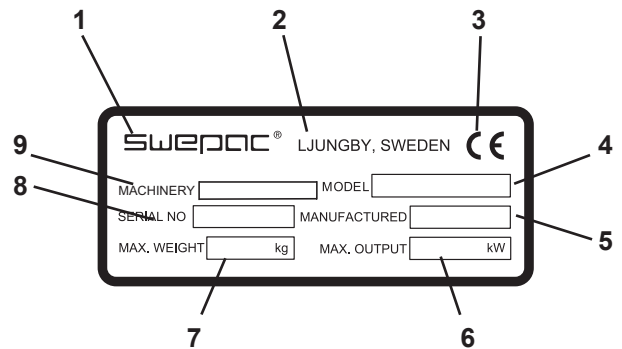


The sticker shows the electrical system voltage supply.



NOTE! Use only the machine's lifting eye to lift the machine.

Machine Signs



- | | |
|-----------------------------------|-----------------------|
| 1. Manufacturer | 6. Max. engine power. |
| 2. Place, country of manufacture. | 7. Max. weight. |
| 3. CE mark. | 8. Serial number. |
| 4. Model name. | 9. Machine type |
| 5. Year of manufacture. | |

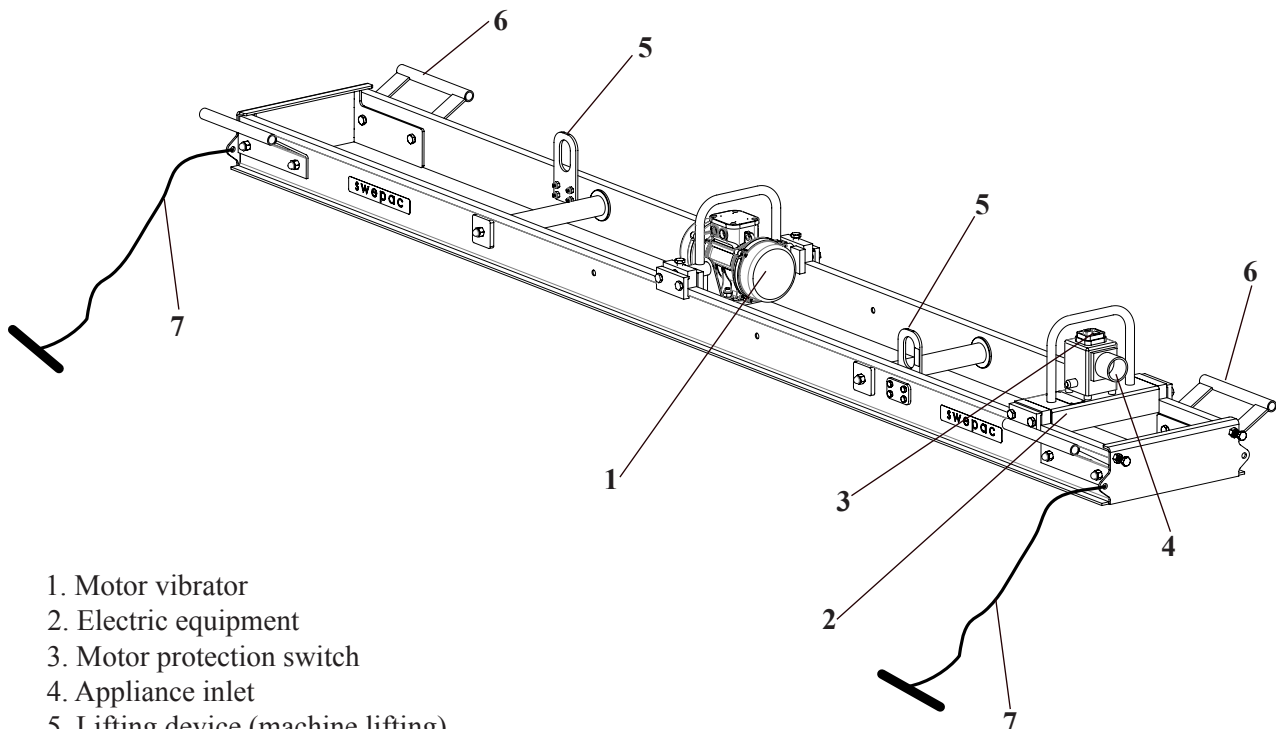
DESCRIPTION

The surface vibrator consists of a beam of the type or and a vibrator unit. The beam has two parallel aluminium profiles which each can be tensioned with a pushing bar in order to receive straightness or a certain over bend in the middle. The vibration penetration depth of the beam is highly dependent on the consistency of the concrete and on the stability of the rails, but should, in most cases, be 10-15 cm.

Vibrator unit consists of an electric motor with built-in eccentric weights (motor vibrator), (fig 1) and electric equipment (fig 2). The electric motor is of short-circuit 3 phase type for 230/400 V, 50 Hz. The electric equipment is composed of a motor protection switch (3) and appliance socket for phase shifting (4) moun- ted on a movable bridge. The vibrator unit has eccentric weights which are found in packages of 10 on each side of the motor shaft.

FIELD OF APPLICATION

SVF is intended for surface vibration of fresh concrete in connection with casting of mainly horizontal surfaces. SVF shall be run on levelled screed rails, such as form edges, prefabricated concrete rails or free standing track rails. At use of track rails SVF outrig- gers or are suitable. Remember that the final result is highly dependent on how well the track rails are set and levelled. (See figures)

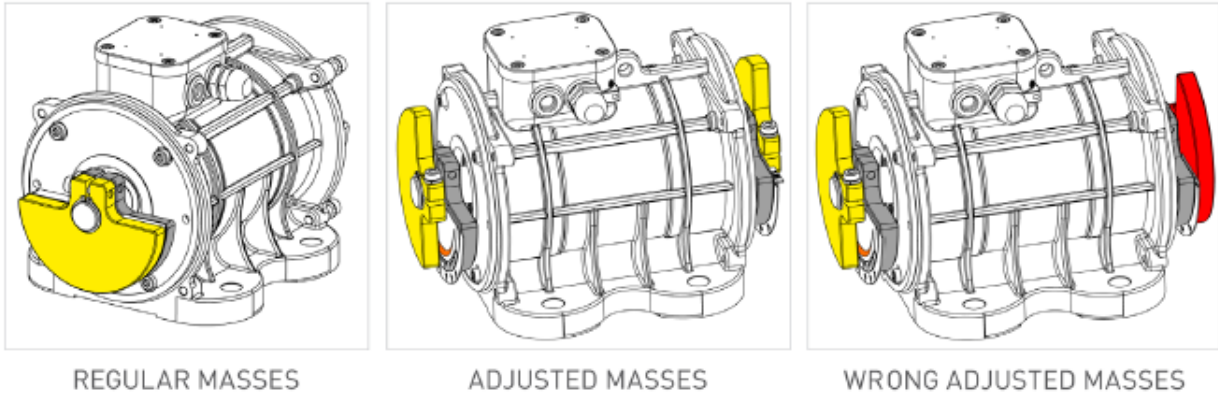


1. Motor vibrator
2. Electric equipment
3. Motor protection switch
4. Appliance inlet
5. Lifting device (machine lifting)
6. Lifting device (manual lifting)
7. Ropes for manual pulling

DESCRIPTION

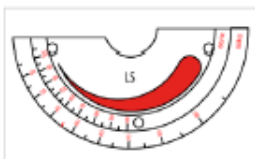
By changing the position in relation to each other, the fly weight torque could be changed in steps (see” Adjustments ”below). The vibrator unit and the electronic equipment are fastened with special pinches and are therefore easily moved to a beam of type .

Adjustment



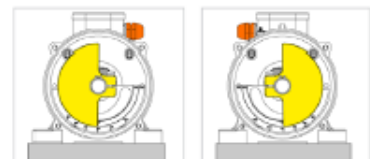
2 TRICKS TO ADJUST THE MASSES PROPERLY:

Rotate the mass following the design on the plate: from the thinner tip towards the thick tip.



left side, for sizes up to 60

Rotate the masses in the opposite direction to the cable gland.



left side

right side

Adjustment of the turning weights in relation to the length of the vibrator beam:

In order to get the correct vibration effect, it is important to adjust the swing weights setting to obtain the correct centrifugal force. The outer sheet of the swing weights is loosened and rotated relative to the interior so that the effect in percent is appropriate to the weight to be moved.

In other words, low percentages = short beams and high percentage = long beams.

It is difficult to say exactly how to adjust the setting as the concrete’s consistency and composition affect the choice of setting.

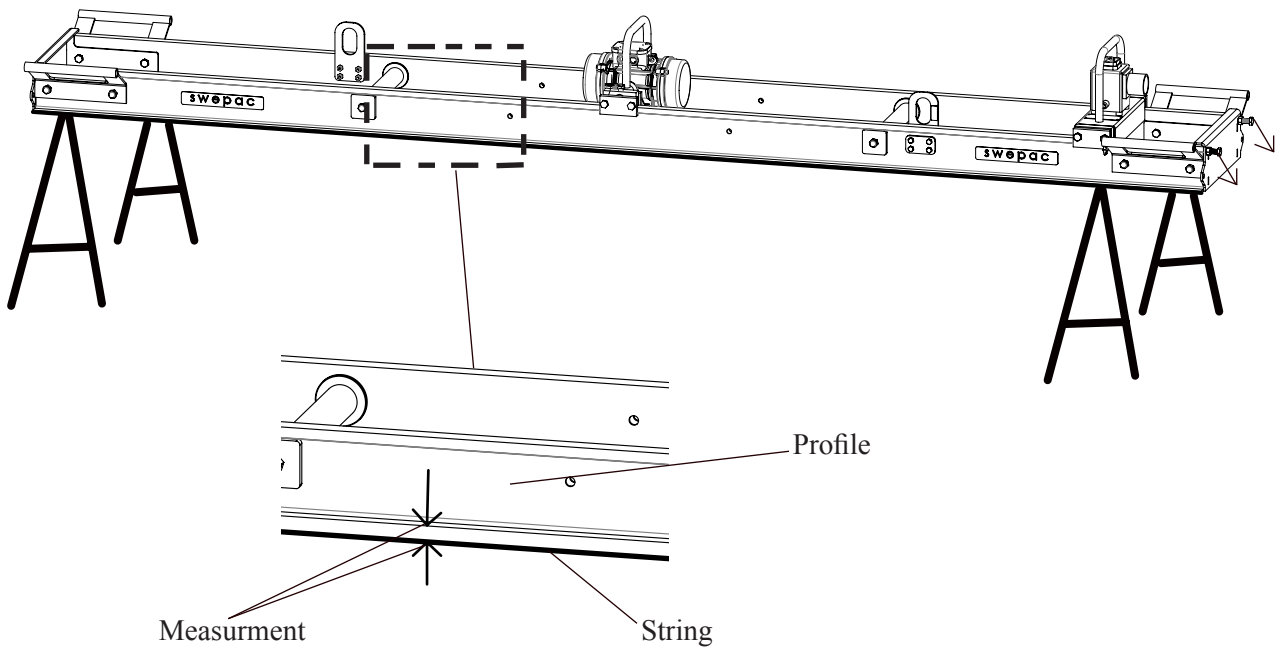
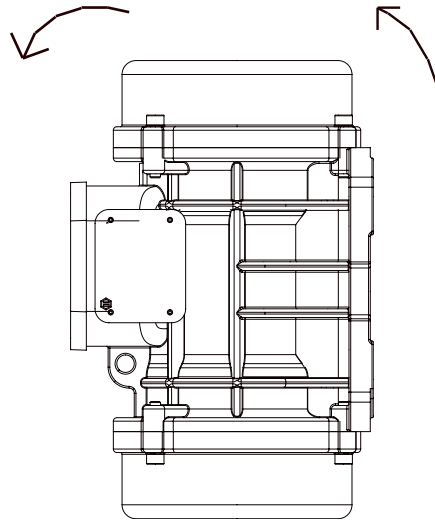
Recommended recommendation table:

2,2 m	40-50%
3,2 m	50-60%
4,2 m	60-70%
5,2 m	70-80%
6,2 m	80-90%
7,2 m	100%
8,2 m	80%

Note! The 8,2m vibrator beam uses a larger motor vibrator with a higher centrifugal force.

The setting values are approximate as the concrete properties also affect how much percent which can be selected.

The Vibrator can be turned 90 degrees so the shaft gets a vertical position which results in horizontal vibration.



The measuring string and the lowest edge of the profile must be in-between the following tolerance:

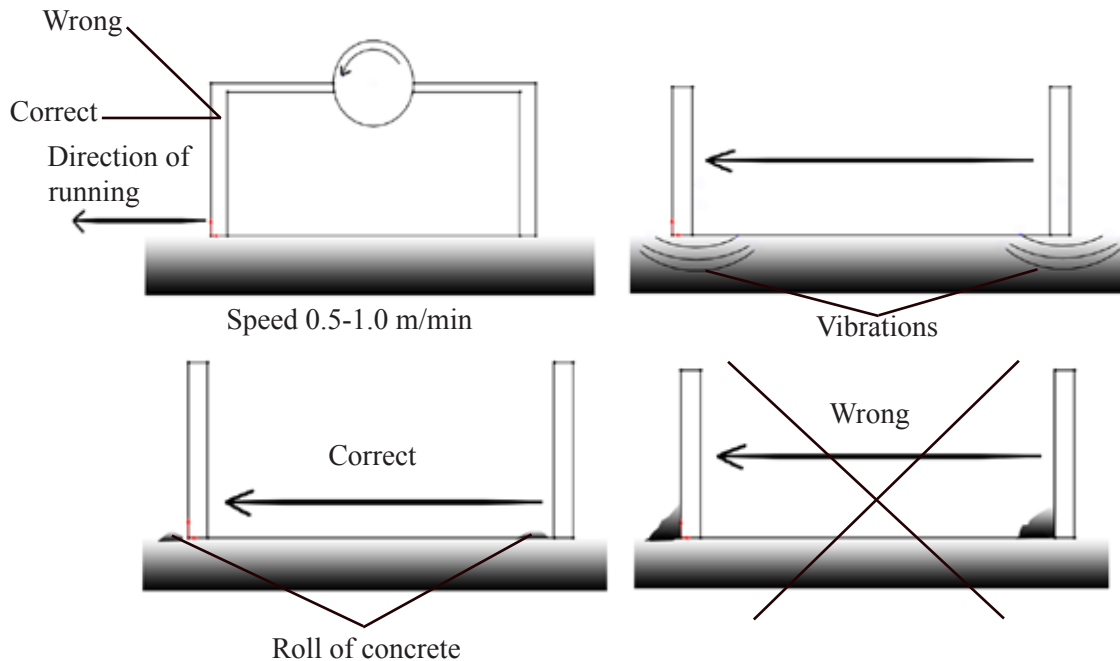
String; 0

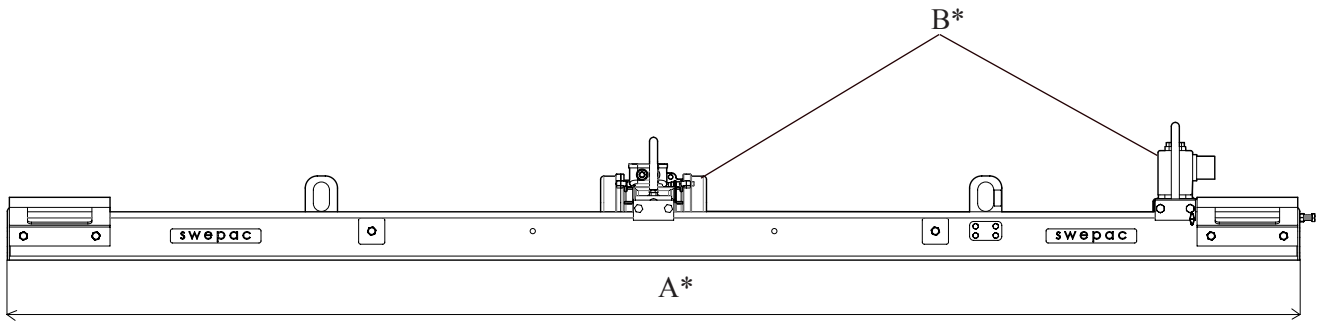
Profile; 0 to +1mm mm

Note! Both profiles must be measured in the same way, and we recommend that it be checked after each operation to a new workplace

OPERATION

Spread the concrete as evenly as possible in front of the surface vibrator. The area shall be large to enable the surface vibrator to be pulled a long distance without stops. The surface becomes smoother if the surface vibrator is pulled with a regular speed. The surface vibrator is pulled forward and controlled with the drag ropes. Use the full length of the ropes and hold them in a low position, (at waist level), so that the front of the beam does not leave the surface, (see figure no 9). If the front profile of the beam leaves a hole unfilled, some concrete shall be put in front of the rear profile. The concrete will then be vibrated before the rear profile reaches the hole. In front of the beam, and along its entire length, there must always be a small roll of surplus concrete, height about 1-2 cm. The roll must be controlled during operation. If it is too large, the machine is heavy to pull and concrete leaks behind the beam. If the roll is too small the vibration effect is unsatisfactory. The surface vibrator must be pulled along slowly at an even speed of 0.5 - 1 m/min.

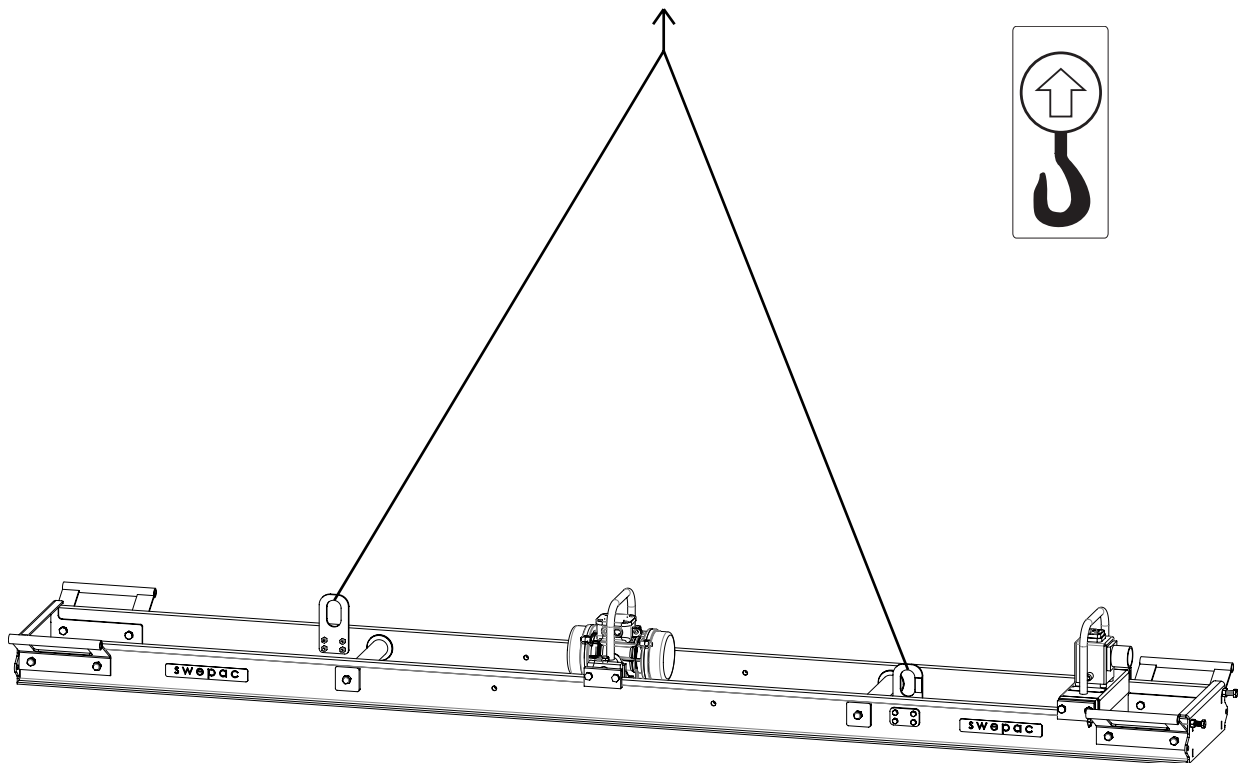




Article number	Position	Length of the SVF
601212	A*	SVF 3.2m
601213	A*	SVF 4.2m
601214	A*	SVF 5.2m
601215	A*	SVF 6.2m
601216	A*	SVF 7.2m

Article number	Position	Description
601408	B*	Electric equipment cpl.

LIFTING BY CRANE



TROUBLESHOOTING

Problem	Cause	Solution
The vibrator unit does not start or stop on its own.	Faulty mains, or faults on the electronic equipment. The vibrator unit does not function normally or is stuck (only models with motor protection switch)	Check that there is current on all three phases. Check that the cables are unbroken and that all connections have contact. Unfasten the eccentric cover on one side and check that the shaft easily rotates.
Tensioning screws are stuck.	Water from concrete penetrated into the threads.	Try some solvent. Grease the screws, if necessary replace them
Tensioning screws loose or missing.	Broken pressure rod. The thread of the screw is worn.	New rod. New screw.
The beam does not keep straight.	Damaged beams or plastic rod. Damaged plastic bushings on the rod.	Replace beams or plastic rod. New bushings.
Unacceptable function of the surface vibrator.	The beam is longer than the baywidth. Unfavourable screed railing, different rails in the two ends of the screed. Too much concrete in front of the beam.	Check that all the eccentric weights have the right position. Check the tensioning and adjust if needed. Adjust the baywidth or select a shorter beam. Adjust the rails. Watch the roll of surplus concrete more carefully.



EC-declaration of conformity

Manufacturer

**Swepac AB
Blockvägen 3
34132 Ljungby**

1. Category: Surface Vibrator

2. Type: SVF

3. Motor output.:
SVF.....2,2kW

The product complies with the following directives:

2006 / 42 / EG

2000 / 14 /EG

2004 / 108 / EG

EN 500-1

EN 500-4

EN 12649:2008+A1:2011

ISO 11201

ISO 5349-2:2001

Technical documentation held by:

Swepac AB, Blockvägen 3 SE-34132 Ljungby
Hans Holmlund / Product Manager

SWEPAC

SWEPAC AB

Address **Blockvägen 3, 341 32 Ljungby, Sweden**, tel. **+46 (0)372-156 00**, fax **+46 (0)372-837 41**, E-mail **mail@swepac.se**,
Internet **www.swepac.se**