Operating instructions and spare parts list

US03-1 / US03-2
Ultrasonic sieve system

Translation of the original operating instructions
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US03-1 / US03-2
General safety regulations

This chapter sets out the fundamental safety regulations that must be followed by the user and third parties using the US03-1 / US03-2 Ultrasonic sieve system.

These safety regulations must be read and understood before the US03-1 / US03-2 Ultrasonic sieve system is used.

Safety symbols (pictograms)

The following warnings with their meanings can be found in the operating instructions. The general safety precautions must also be followed as well as the regulations in these operating instructions.

DANGER!
danger due to live electricity or moving parts. Possible consequences: Death or serious injury

WARNING!
Improper use of the equipment could damage the machine or cause it to malfunction. Possible consequences: minor injuries or damage to equipment

INFORMATION!
useful tips and other information

Conformity of use

1. The US03-1 / US03-2 Ultrasonic sieve system is built to the latest specification and conforms to the recognized technical safety regulations. It is designed for the normal application of powder coating.

2. Any other use beyond this is not intended. The manufacturer is not responsible for any damage resulting from this; the risk for this is carried by the user alone. If the US03-1 / US03-2 Ultrasonic sieve system is to be used for other purposes or other substances outside of our guidelines then Gema Switzerland GmbH should be consulted.
3. Observance of the operating, service and maintenance instructions specified by the manufacturer is also part of the conformity of use. The US03-1 / US03-2 Ultrasonic sieve system should only be used, maintained and started up by trained personnel who are informed about and are familiar with the possible hazards involved.

4. The start-up (i.e. the execution of a particular operation) is forbidden until it has been established that the US03-1 / US03-2 Ultrasonic sieve system has been set up and wired according to the guidelines for machinery (2006/42/EG). EN 60204-1 (machine safety) must also be observed.

5. Unauthorized modifications to US03-1 / US03-2 Ultrasonic sieve system exempts the manufacturer from any liability from resulting damage.

6. The relevant accident prevention regulations, as well as other generally recognized safety regulations, occupational health and structural regulations, are to be observed.

7. Furthermore, the country-specific safety regulations must be observed.

### Explosion protection

<table>
<thead>
<tr>
<th>Protection type</th>
<th>Temperature class</th>
</tr>
</thead>
<tbody>
<tr>
<td>II 2 D</td>
<td>Sieve/converter, zone 21, T140°C</td>
</tr>
<tr>
<td>II 3 D</td>
<td>Ultrasonic sieve generator, zone 22, T60°C</td>
</tr>
</tbody>
</table>

### Product specific safety precautions

- The installation work, to be done by the customer, must be carried out according to local regulations
- Before starting up the plant, check if no foreign objects are in the booth or in the ducting (input and exhaust air)
- It must be observed, that all components of the plant are grounded according to the local regulations

### US03-1 / US03-2 Ultrasonic sieve system

The US03-1 / US03-2 Ultrasonic sieve system is a component of the system and is thus integrated into the safety system of the plant.

For the use outside of the safety concept, corresponding measures must be taken.

**NOTE:**

For further security information, see the more detailed Gema safety regulations!
About this manual

General information

This operating manual contains all the important information which you require for the working with the US03-1 / US03-2 Ultrasonic sieve system. It will safely guide you through the start-up process and give you references and tips for the optimal use of your new powder coating system.

Information about the function mode of the individual system components - booth, gun control unit, manual gun or powder injector - should be referenced to their corresponding documents.

DANGER:

Working without operating instructions

Working without operating instructions or with individual pages from the operating instructions may result in damage to property and personal injury if relevant safety information is not observed.

► Before working with the device, organize the required documents and read the section "Safety regulations".

► Work should only be carried out in accordance with the instructions of the relevant documents.

► Always work with the complete original document.
Function description

Field of application

The US03 Ultrasonic sieve system is built exclusively for electrostatic coating with organic powders. Any other use is considered as non-conform. The manufacturer is not responsible for any damage resulting from this - the risk for this is assumed by the user alone!

Utilization

The US03 Ultrasonic sieve system with the corresponding USC02 Ultrasonic sieve generator is used for the ultrasonic supported sieving of coating powder.

Main benefits of the US03 Ultrasonic sieve system

- Removal of powder accumulations (loosening of the coating powder)
- High powder flow rate with fine sieve mesh and small sieve surface
- Quick and easy cleaning
- Low power consumption
- Quiet operation
- Compliant to ATEX
US03 Ultrasonic sieve system - overview

US03-1 Ultrasonic sieve system
The US03-1 Ultrasonic sieve system is used with a swivel frame.

US03-2 Ultrasonic sieve system
The US03-2 Ultrasonic sieve system is installed on a corresponding sieve support.
US03 Ultrasonic sieve system - components

1. Sieve cover
2. Sieve base
3. Converter
4. HF cable
5. Vibrator
6. Ultrasonic sieve generator
7. Sieve funnel
8. Swivel frame (US03-1)
9. Sieve support
USC02 Ultrasonic sieve generator

Front side

The USC02 Ultrasonic sieve generator is located in a strong plastic housing. The operating elements (keys) and display elements (LEDs) are freely accessible and described in the corresponding chapters.

![USC02 Ultrasonic sieve generator - front side](image)

1 Main switch 4 Intensity adjustment key
2 Operating mode key 5 Intensity display
3 Operating mode display 6 Status display

Display elements

- The **POWER** main switch illuminates as soon as the USC02 Ultrasonic sieve generator is switched on.
- The **MODE** display indicates the corresponding operating mode.
- The **INTENSITY** display indicates the defined amplitude.
- The **STATUS** display indicates the operating status:
  - **US-RUN** illuminates green, if the USC02 Ultrasonic sieve generator supplies ultrasound.
  - **REMOTE** illuminates green, if the generator is externally controlled.
- The operating elements (MODE and INTENSITY key) are deactivated in the REMOTE operating mode
- ALARM illuminates red, if the mains voltage is too low or the generator overheats

Rear side

USC02 Ultrasonic sieve generator - rear side

1. D-Sub control connection / programming plug connection, 15 pins
2. Mains cable
3. HF plug-in connection, 7 pins
4. Cable length selector switch

Programming plug

The adjusted operation mode and the intensity can be preselected by the programming plug. The performance output results from the adjusted intensity. After connecting the programming plug to the 15 pin control connection, the operating elements will be locked. This prevents that the settings can be changed manually.

The programming plug must be opened for adjusting the desired settings. The settings should be made with a corresponding screwdriver. The operating mode is set on CONT and the intensity is set on 3 by factory!

After the adjustment of the corresponding parameters, the programming plug must be tightly locked.
ATTENTION:
By increasing the intensity, the temperature on the sieve increases too! It must be guaranteed by means of temperature measurement that the allowed maximum temperature for the material to be sieved is not exceeded!

Ultrasonic sieve

Ultrasonic sieve - overview

1 Sieve resonator  3 Converter protection cap
2 Converter  4 HF cable
Technical data

US03 Ultrasonic sieve system

General data

<table>
<thead>
<tr>
<th>US03 Ultrasonic sieve system</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Powder flow rate with standard sieve (200 µm)</td>
<td>3500 g/min (210 kg/h)</td>
</tr>
<tr>
<td>Powder flow rate with sieve (140 µm)</td>
<td>1500 g/min (90 kg/h)</td>
</tr>
</tbody>
</table>

NOTE:
The above-mentioned powder flow rates refer to standard powder and can differ, depending on powder condition and powder characteristics!

USC02 Ultrasonic sieve generator

Electrical data

<table>
<thead>
<tr>
<th>USC02 Ultrasonic sieve generator</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical connection</td>
<td>200-240 V, max. 1 A</td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Max. ultrasonic performance</td>
<td>100 W eff.</td>
</tr>
<tr>
<td>Output voltage</td>
<td>max. 800 V eff.</td>
</tr>
<tr>
<td>Max. output current</td>
<td>0.5 A (limited)</td>
</tr>
<tr>
<td>Device fuse</td>
<td>2x1.6 A, delay-action (200-240 V)</td>
</tr>
<tr>
<td>Output frequency</td>
<td>35 kHz ±1 kHz, automatically controlled</td>
</tr>
<tr>
<td>Operating modes</td>
<td>Continuously (at 100% duty cycle) or pulsating (1-10 Hz modulation at 50% duty cycle)</td>
</tr>
<tr>
<td>Amplitude setting (intensity)</td>
<td>50-100%, in 8 steps</td>
</tr>
<tr>
<td>Inputs</td>
<td>Ultrasonic ON/OFF, potential-free</td>
</tr>
<tr>
<td></td>
<td>Operating mode selection, potential-free</td>
</tr>
<tr>
<td></td>
<td>Amplitude setting</td>
</tr>
</tbody>
</table>
Technical data

USC02 Ultrasonic sieve generator

<table>
<thead>
<tr>
<th>Output</th>
<th>Alarm output (collective alarm), potential-free</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature</td>
<td>0 - 40°C (+32°F - +104°F)</td>
</tr>
<tr>
<td>Max. relative air humidity</td>
<td>80% at 30°C</td>
</tr>
<tr>
<td>Protection type</td>
<td>IP65</td>
</tr>
<tr>
<td>Operating location</td>
<td>interior room, until 2000 m of altitude</td>
</tr>
<tr>
<td>Approvals</td>
<td>![CE II 3 D BVS 04 ATEX E 193 X]</td>
</tr>
</tbody>
</table>

Dimensions

USC02 Ultrasonic sieve generator

| Width       | 292 mm     |
| Height      | 110 mm     |
| Depth       | 307 mm     |
| Weight      | 3.25 kg    |

Converter

Electrical data

<table>
<thead>
<tr>
<th>Converter</th>
<th>Performance</th>
<th>100 W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating temperature</td>
<td>60°C</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>0.41 kg</td>
<td></td>
</tr>
<tr>
<td>Approvals (converter)</td>
<td>![CE II 2 D BVS 04 ATEX E 193 X]</td>
<td></td>
</tr>
</tbody>
</table>

Vibration motor

Electrical data

<table>
<thead>
<tr>
<th>Vibration motor</th>
<th>Performance</th>
<th>0.05 kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical connection</td>
<td>3x400 VAC</td>
<td></td>
</tr>
<tr>
<td>Number of revolutions</td>
<td>2600 1/min</td>
<td></td>
</tr>
<tr>
<td>Protection type</td>
<td>IP65</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Start-up and operation

USC02 Ultrasonic sieve generator

NOTE:
The USC02 Ultrasonic sieve generator may not be installed at swinging/vibrating elements of the plant! Nonobservance of this information exempts the manufacturer from any liability from resulting damage to persons and equipment!

ATTENTION:
The textual instructions must be followed step by step, in order to avoid damage!

Preparation
- The USC02 Ultrasonic sieve generator must be placed on a stable basis
- Switch off the device (POWER to OFF)
- Connect the ultrasonic sieve connection (HF cable), observe the cable length. Maybe 1-5 m must be adjusted with the cable length selector switch on the rear side, and/or 5-20 m (delivery by factory with 6 m HF cable)
- Connect the mains cable only at sockets with protective earth/ground and with tension in accordance to the type plate

NOTE:
It must be ensured that the mains cable cannot be disconnected under tension!

If this is not possible, the following solutions can be selected:
- Switch off the USC02 Ultrasonic sieve generator and disconnect it from the mains
- Installation of the entire ultrasonic sieve generator into a control cabinet
- Wire the ultrasonic sieve generator directly on the clamps
- Use plug and socket with mechanical locking device against unintentional disconnecting

The potential equalization must be made with a 4 mm² wire on the rear side of the ultrasonic sieve generator. The parts located around the resonator must be merged into this potential equalization. Usually, these are funnels, cowls, tubes etc.

By installing into a plastic housing, a sufficient grounding is to be ensured by the plant manufacturer or the customer.

If an overtemperature occurs, the ultrasonic sieve generator switches off. After cooling down, the ultrasonic sieve generator switches on automatically.

NOTE:
The power density on the sieve may not exceed 0.1 W/cm²!
Therefore, the power output on the generator is limited to 50 W!

For the use and integration of optional performance and amplitude regulations, as well as the adjustment of the start settings, see the corresponding chapters in this manual. The default settings are: Mode = OFF and intensity = 50 %.

If the generator enclosure is damaged, it has to be put immediately out of operation and has to be replaced!

ATTENTION:
All plugs may never be disconnected under tension!

If the converter gets too hot, the ultrasonic switches off and the US-RUN LED expires. If the converter temperature drops under the adjusted threshold value, the ultrasonic switches on again and the US-RUN LED illuminates.

The ultrasonic sieve generator is to be set up in such a way that it is protected against impacts, falling down objects, thermal radiation (also solar radiation)!

The ambient temperatures may only be between 0-40°C!

Automatic switching on (Remote operation)
- Connect the programming plug to the REMOTE output and secure it
- The UCS02 Ultrasonic sieve generator can be put into operation by applying an input voltage (200-240 V). Thereby, the sieve generator main switch must be on the ON position
- The position of the MODE display after switching on the UCS02 Ultrasonic sieve generator is on CONT. The generator supplies ultrasonic power
- INTENSITY is set to 3 by factory
- US-RUN lamp must illuminates, ALARM lamp may not be illuminated

NOTE:
The status display of the generator indicates the external control by the green REMOTE LED!
Manual switching on

- Remove the programming plug and close the REMOTE output
- Put the main switch to position ON
- The position of the MODE display after switching on the UCS02 Ultrasonic sieve generator is on OFF. The generator does not supply ultrasonic power
- Set the operating mode CONTINUOUS (continuous ultrasonic) or PULSE (pulsating ultrasonic). The generator produces ultrasonic on the sieve mesh through the converter
- US-RUN lamp must illuminate, ALARM lamp may not be illuminated
- Adjust the required intensity

NOTE:
The ALARM lamp illuminates if the mains voltage is too low (<180 V) and/or the heating inside the equipment is too high!

ATTENTION, BURN DANGER!
The sieve resonator may not be touched when the USC02 Ultrasonic sieve generator is switched on!

NOTE:
The USC02 Ultrasonic sieve generator of the US03 Ultrasonic sieve system may be operated only with the original sieve resonators! The equipment may be operated only by trained and instructed personnel and considering the operating instructions!

NOTE:
The USC02 Ultrasonic sieve generator may be installed only until 2000 m of altitude, so that the full electrical tensions protection can be observed in accordance to IEC1010-1!

Use

- only by trained and instructed personnel
- only in technically perfect condition
- safety and conscious of danger
- considering the operating instructions
- in trouble-free and safe environment
- with adherence to the maintenance conditions
Consequences of inappropriate utilization
- Danger to life and limb of the user or a third party
- Impairment of the sieve device and other equipment

Shutdown and disassembly
- Switch off the USC02 Ultrasonic sieve generator with the main switch
- Disconnect all connections
- Store the USC02 Ultrasonic sieve generator in a protected place

Ultrasonic sieve

Ultrasonic sieve - converter
The ultrasonic sieve converter may be operated only with the resonator, the cable and the generator released for it. Modifications of the components require the consent of the company Gema Switzerland GmbH!

The locking torque of the converter on the sieve resonator corresponds to 15 Nm (aluminum). If the starting torque is lower, this will lead to heat at the junction point. The connecting surface of the converter at the resonator must be clean and free of grease!

NOTE:
The sieve resonator may not be touched during operating status! If longer operation takes place, let the system cool down - Attention, burn danger!

It is to be provided for a sufficient cooling of the resonator and the converter. In capsuled systems, an additional cooling or power output limitation is necessary!

ATEX NOTE:
The sealing system of the sieve machine is to be examined regularly by the operator, so that no outward zone diversion can take place! The resonator must be closed dust-proof to the environment! The zone diversion from the inside to the outside or vice versa is to be prevent!
Sieve resonator

NOTE:
It is important, that nothing sticks on the sieve surface or touches it, e.g. adhesive strips, seal material etc. When a friction takes place, there may be a risk of higher temperatures!

Modifications require the consent of the company Gema Switzerland GmbH!

Clean the sieve in regular intervals, according to the operator experiences. Too much stucked grain or caked powder leads to a rise of temperature!

Grounding of the components

The potential equalization is done by a 4 mm² wire on the rear side of the USC02 Ultrasonic sieve generator (1) to the converter (2). The parts located around the resonator must be merged into this potential equalization. Usually, these are funnels, cowls, tubes etc.

Installing the sieve resonator

ATEX NOTE:
The converter and the sieve resonator are to be installed in such a way that, if operational malfunctions take place, impact or sliding sparks to other devices and components are impossible!

NOTE:
Lay out the HF cable in a safe matter!
The installing regulations according to EN 61241-14 have to be observed!
Resonator/converter connection

NOTE:
The plant may be switched on only if the plug locking is closed and the safety screw is tightened well!

ATTENTION:
All plugs may never be disconnected under tension!

1. Disconnect the plant from the mains (USC02 Ultrasonic sieve generator etc.)
2. Unscrew the special plug screw (1) with a size 8 Torx-screwdriver
3. Push back the clamp ring (2) and disconnect the plug

1
2

Resonator/converter connection
Vibration motor (US03-1 version)

The vibration motor loosens the stucked powder in the sieve funnel. A continual vibration overlay with the sieve operation must be prevented! The vibration motor may be operated only about 1-2 sec. per minute.

NOTE:
If the US03-1 Ultrasonic sieve system is installed by the customer, the vibration motor must be equipped with a corresponding time control!

Functional diagram

<table>
<thead>
<tr>
<th>US03 sieve operation</th>
<th>US03</th>
<th>US03 sieve wake time (NT)</th>
<th>NT</th>
<th>NT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh powder supply operation (FP)</td>
<td>FP</td>
<td>FP %</td>
<td>P1</td>
<td></td>
</tr>
<tr>
<td>Powder recovery operation (RP)</td>
<td>RP</td>
<td>RP %</td>
<td>P1</td>
<td></td>
</tr>
<tr>
<td>Vibration motor operation (US03-1)</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>

Gema parameter

<table>
<thead>
<tr>
<th>US03 sieve wake time (NT)</th>
<th>NT = 30s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interval time P1 = Interval between FP+RP</td>
<td>P1 = 15s</td>
</tr>
<tr>
<td>Running time FP = level sensor / fresh powder dosing portion %</td>
<td>Level sensor signal or FP in %</td>
</tr>
<tr>
<td>Running time FP = level sensor / recycling powder dosing portion %</td>
<td>Level sensor signal or RP in %</td>
</tr>
<tr>
<td>Vibration motor duty cycle = M</td>
<td>M = 2s pro 60s</td>
</tr>
</tbody>
</table>

NOTE:
The fresh powder supply and the powder recovery may not operate at the same time. If no powder supply is in operation (FP+RP), after the end of the NT sequence, the US03 Ultrasonic sieve system must be OFF!

In case of the US03-1 version, the vibration motor may operate only to remove the powder in the sieve!
Maintenance and cleaning

USC02 Ultrasonic sieve generator

The USC02 Ultrasonic sieve generator does not require a technical maintenance.

Periodical check

The periodical check includes the inspection of all connection cables. If isolation damages on cables are determined, these have to be replaced immediately.

All fixing screws on the generator and the enclosure cover must be tightened well.

The sieve mesh should be checked for fractures and caked powder.

Cleaning

NOTE:

By cleaning the ultrasonic system, no ignitable solvents may be used!

USC02 Ultrasonic sieve generator

Clean the USC02 Ultrasonic sieve generator in periodic intervals or if necessary.

- Switch off the USC02 Ultrasonic sieve generator
- Leave all plug connections connected
- Clean the USC02 Ultrasonic sieve generator with a multipurpose cleaner and a humid cloth
- Wipe off the USC02 Ultrasonic sieve generator and switch it on again
Sieve/resonator

The service life of the sieve can be increased by careful cleaning. Treat the sieve mesh carefully. It consists of very thin wires and is sensitive to small-area pressure, which can occur with compressed air guns, screwdrivers, spattles or similar things. When blowing off with compressed air, keep a distance from at least 10 cm. Take care with brooms, brushes and similar things, because bristles can get caught in the mesh. The cleaning in the ultrasonic bath is to be limited on a time as short as possible.

Changing the ultrasonic sieve resonator

Sieve mesh

Defective sieve resonators may be sent for repair to the Gema Switzerland GmbH. New sieve resonators and their new sieve meshes can be ordered to the Gema Switzerland GmbH (see therefore the corresponding spare parts list).

Dismantling the sieve resonator

The sieve resonator with the new sieve mesh is replaced in accordance to the following instructions:
Assembly of the sieve resonator

1. Install the sieve mesh into the frame.

2. Attach the sieve mesh to the frame using screws.

3. Ensure the sieve mesh is firmly seated in the frame.

4. Tighten the screws to 15 Nm.

5. Check the alignment of the sieve mesh.

6. Adjust as necessary.

7. Verify the sieve mesh is secure.

8. Final inspection for proper installation.

9. Repeat steps for additional sieve mesh units.

10. Secure all sieve mesh units.

11. Confirm all components are properly aligned.

12. Review the assembly for any defects.

13. Ensure the sieve resonator is ready for operation.

14. Test the sieve resonator for functionality.

15. Maintain and clean as required.
15. 

16. 

17. 1,5 mm 

18. 

V 07/14
## Troubleshooting

### US03 Ultrasonic sieve system

<table>
<thead>
<tr>
<th>Fault</th>
<th>Causes</th>
<th>Troubleshooting</th>
</tr>
</thead>
</table>
| The green **US-RUN** LED does not illuminate  
No sound on the sieve | Mains plug not connected | Connect the mains plug |
| | Voltage too low or not available on the socket | Check the socket |
| | Main switch is on **OFF** position | Put the main switch to position **ON** |
| | Fuse is defective | Replace the fuse |
| | Generator is defective | Send in the generator for repair |
| | Sieve resonator not connected | |
| | HF cable interruption | Connect the replacement cable |
| | Short circuit in the HF cable | Connect the replacement cable |
| | No operating mode selected | Select an operating mode |
| The green **US-RUN** LED does not illuminate  
Ultrasound on the sieve | **US-RUN** LED defective | Replace the LED |
| Red **ALARM** LED illuminates  
No sound on the sieve | Mains voltage is too high | Check the mains voltage |
| | Generator overheats | Let the generator cool down |
| Strong heating up of the sieve resonator | Adjusted intensity is too high | Turn back the intensity or switch to **PULSE** operating mode |
| | Connecting surfaces of the converter are not clean | Clean the connecting surfaces of the converter/resonator |
| | Converter is not tightened well | Tighten the converter |
Spare parts list

Ordering spare parts

When ordering spare parts for powder coating equipment, please indicate the following specifications:

- Type and serial number of your powder coating equipment
- Order number, quantity and description of each spare part

Example:

- Type US03-1 / US03-2 Ultrasonic sieve system,
  Serial number 1234 5678
- Order no. 203 386, 1 piece, Clamp - Ø 18/15 mm

When ordering cable or hose material, the required length must also be given. The spare part numbers of this yard/meter ware is always marked with an *

The wear parts are always marked with a #.

All dimensions of plastic hoses are specified with the external and internal diameter:

Example:
Ø 8/6 mm, 8 mm outside diameter (o/d) / 6 mm inside diameter (i/d)

WARNING!

Only original Gema spare parts should be used, because the hazardous location approval will be preserved that way! The use of spare parts from other manufacturers will invalidate the Gema guarantee conditions!
# US03-1 Ultrasonic sieve system - spare parts list

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>US03-1 Ultrasonic sieve system, mesh width 200 µm - complete</td>
<td>1004 818</td>
<td></td>
</tr>
<tr>
<td>US03-1 Ultrasonic sieve system, mesh width 140 µm - complete</td>
<td>1004 819</td>
<td></td>
</tr>
<tr>
<td>Sieve funnel - complete (pos. 3-8)</td>
<td>1004 262</td>
<td></td>
</tr>
<tr>
<td>Sieve funnel</td>
<td>1004 261</td>
<td></td>
</tr>
<tr>
<td>Vibration motor</td>
<td>241 776</td>
<td></td>
</tr>
<tr>
<td>Washer - Ø 5.3/10x1 mm</td>
<td>205 320</td>
<td></td>
</tr>
<tr>
<td>Lock washer - M5 R</td>
<td>205 168</td>
<td></td>
</tr>
<tr>
<td>Hexagon screw - M5x25 mm</td>
<td>243 809</td>
<td></td>
</tr>
<tr>
<td>Rubber damper - Ø 25x25 mm, M6</td>
<td>223 565#</td>
<td></td>
</tr>
<tr>
<td>Sieve base 200 µm - complete (pos. 10, 13, 14, 15, 16, 17, 18)</td>
<td>1004 139</td>
<td></td>
</tr>
<tr>
<td>Sieve base 140 µm - complete (pos. 10.1, 13, 14, 15, 16, 17, 18)</td>
<td>1004 140</td>
<td></td>
</tr>
<tr>
<td>Sieve resonator - 350/250 mm, 200 µm, complete</td>
<td>1004 059</td>
<td></td>
</tr>
<tr>
<td>Sieve resonator - 350/250 mm, 140 µm, complete</td>
<td>1004 058</td>
<td></td>
</tr>
<tr>
<td>Sieve converter - Sk3501 Ex</td>
<td>1004 056</td>
<td></td>
</tr>
<tr>
<td>Gasket</td>
<td>1004 137#</td>
<td></td>
</tr>
<tr>
<td>Sieve base, upper part</td>
<td>1004 142</td>
<td></td>
</tr>
<tr>
<td>Spacer</td>
<td>1004 147</td>
<td></td>
</tr>
<tr>
<td>Sieve base, lower part</td>
<td>1004 141</td>
<td></td>
</tr>
<tr>
<td>Allen cylinder screw - M6x12 mm</td>
<td>216 402</td>
<td></td>
</tr>
<tr>
<td>Sieve cover - complete (without pos. 20 and 21)</td>
<td>1004 258</td>
<td></td>
</tr>
<tr>
<td>Hook</td>
<td>1004 253</td>
<td></td>
</tr>
<tr>
<td>Cap screw - M4x10 mm, Eco-Fix</td>
<td>239 950</td>
<td></td>
</tr>
<tr>
<td>Spiral hose - Ø 60 mm</td>
<td>104 884*</td>
<td></td>
</tr>
<tr>
<td>Hose clamp - NW65</td>
<td>242 977</td>
<td></td>
</tr>
<tr>
<td>Adaptor</td>
<td>1004 260</td>
<td></td>
</tr>
<tr>
<td>Locknut - M6</td>
<td>1003 822</td>
<td></td>
</tr>
<tr>
<td>Washer - Ø 6.4/12.5x1.6 mm</td>
<td>216 020</td>
<td></td>
</tr>
<tr>
<td>Bolt</td>
<td>347 108</td>
<td></td>
</tr>
<tr>
<td>Swivel frame - complete</td>
<td>373 877</td>
<td></td>
</tr>
<tr>
<td>USC02 Ultrasonic sieve generator</td>
<td>1000 842</td>
<td></td>
</tr>
<tr>
<td>HF cable - 6m, ATEX for USC02</td>
<td>1004 822</td>
<td></td>
</tr>
<tr>
<td>Programming plug for USC02</td>
<td>1004 823</td>
<td></td>
</tr>
<tr>
<td>Sieve repair - 200 µm (not shown)</td>
<td>1004 061#</td>
<td></td>
</tr>
<tr>
<td>Sieve repair - 140 µm (not shown)</td>
<td>1004 060#</td>
<td></td>
</tr>
</tbody>
</table>

# Wearing part

* Please indicate length
US03-1 Ultrasonic sieve system - spare parts
### US03-2 Ultrasonic sieve system - spare parts list

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>US03-2 Ultrasonic sieve system, mesh width 200 µm - complete</td>
<td>1004 816</td>
</tr>
<tr>
<td>US03-2 Ultrasonic sieve system, mesh width 140 µm - complete</td>
<td>1004 817</td>
</tr>
<tr>
<td>Sieve base 200 µm - complete (pos. 10, 13, 14, 15, 16, 17, 18)</td>
<td>1004 139</td>
</tr>
<tr>
<td>Sieve base 200 µm - complete (pos. 10.1, 13, 14, 15, 16, 17, 18)</td>
<td>1004 140</td>
</tr>
<tr>
<td>10 Sieve resonator - 350/250 mm, 200 µm, complete</td>
<td>1004 059</td>
</tr>
<tr>
<td>10.1 Sieve resonator - 350/250 mm, 140 µm, complete</td>
<td>1004 058</td>
</tr>
<tr>
<td>13 Sieve converter - Sk3501 Ex</td>
<td>1004 056</td>
</tr>
<tr>
<td>14 Gasket</td>
<td>1004 137</td>
</tr>
<tr>
<td>15 Sieve base, upper part</td>
<td>1004 142</td>
</tr>
<tr>
<td>16 Spacer</td>
<td>1004 147</td>
</tr>
<tr>
<td>17 Sieve base, lower part</td>
<td>1004 141</td>
</tr>
<tr>
<td>18 Allen cylinder screw - M6x12 mm</td>
<td>216 402</td>
</tr>
<tr>
<td>19 Sieve cover - complete</td>
<td>1004 258</td>
</tr>
<tr>
<td>20 Toggle clamp - TI 100</td>
<td>211 257</td>
</tr>
<tr>
<td>21 Cap screw - M4x10 mm, Eco-Fix</td>
<td>239 950</td>
</tr>
<tr>
<td>22 Sieve support - complete</td>
<td>1005 014</td>
</tr>
<tr>
<td>23 Bolt</td>
<td>1005 015</td>
</tr>
<tr>
<td>24 Locknut M6</td>
<td>1003 822</td>
</tr>
<tr>
<td>25 Washer - Ø 6.4/12.5x1.6 mm</td>
<td>216 020</td>
</tr>
<tr>
<td>29 USC02 Ultrasonic sieve generator</td>
<td>1000 842</td>
</tr>
<tr>
<td>30 HF cable - 6m, ATEX for USC02</td>
<td>1004 822</td>
</tr>
<tr>
<td>31 Programming plug for USC02</td>
<td>1004 823</td>
</tr>
<tr>
<td>Sieve repair - 200 µm (not shown)</td>
<td>1004 061#</td>
</tr>
<tr>
<td>Sieve repair - 140 µm (not shown)</td>
<td>1004 060#</td>
</tr>
</tbody>
</table>

# Wearing part
US03-2 Ultrasonic sieve system - spare parts
## US03-2 Ultrasonic sieve system - parts kit

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mounting gauge for US03</td>
<td>1004 957</td>
</tr>
<tr>
<td>2</td>
<td>Grounding cable - complete, L=350 mm</td>
<td>377 783</td>
</tr>
<tr>
<td>3</td>
<td>Lock washer - M5 R</td>
<td>205 168</td>
</tr>
<tr>
<td>4</td>
<td>Washer - Ø 5.3/10x1 mm</td>
<td>205 320</td>
</tr>
<tr>
<td>5</td>
<td>Hexagon nut - M5</td>
<td>205 150</td>
</tr>
<tr>
<td>6</td>
<td>Geka coupling</td>
<td>1002 405</td>
</tr>
<tr>
<td>7</td>
<td>Geka coupling with connector - Ø 16 mm</td>
<td>1003 872</td>
</tr>
<tr>
<td>8</td>
<td>Geka coupling with connector - Ø 25 mm</td>
<td>1002 132</td>
</tr>
<tr>
<td>9</td>
<td>Geka coupling with connector - Ø 19 mm</td>
<td>1000 860</td>
</tr>
<tr>
<td>10</td>
<td>Hose clamp - 17-25 mm</td>
<td>223 085</td>
</tr>
<tr>
<td>11</td>
<td>Hose clamp - 25-35 mm</td>
<td>226 335</td>
</tr>
</tbody>
</table>