C. BECHSTEIN
Digital

C. BECHSTEIN Connect
Installation instructions for pianos

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This document is available in the current version
and in other languages as a PDF file.

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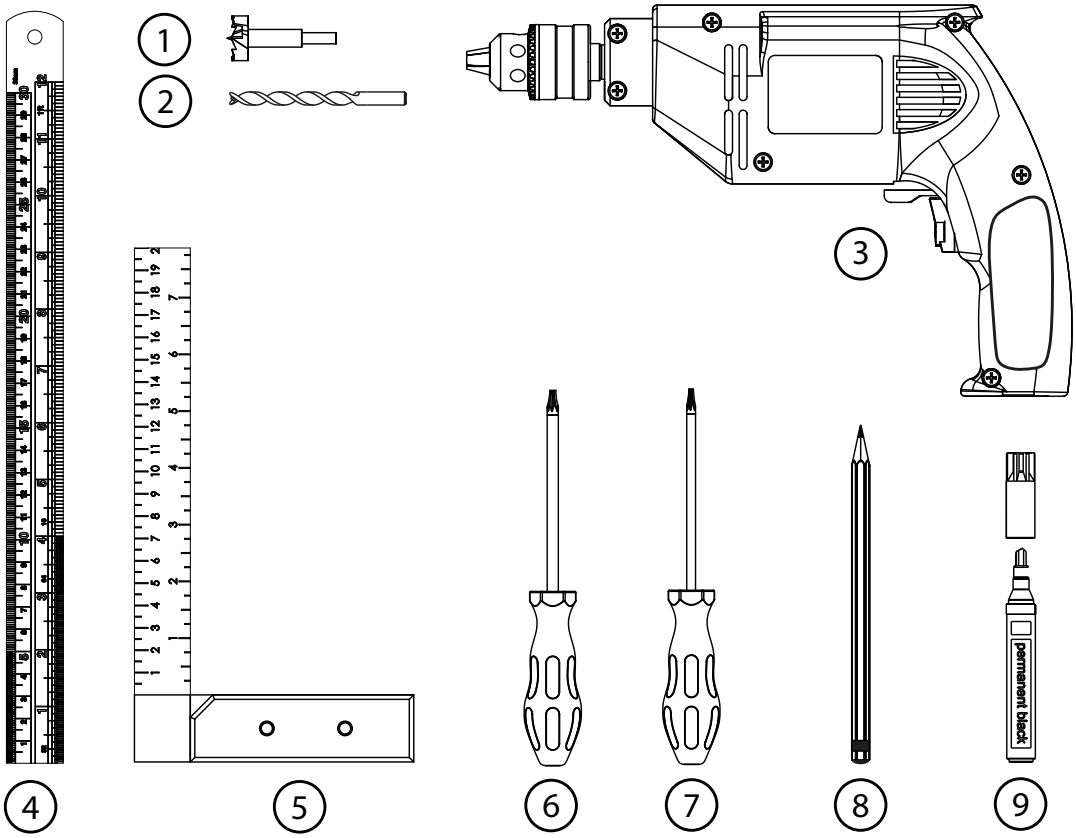
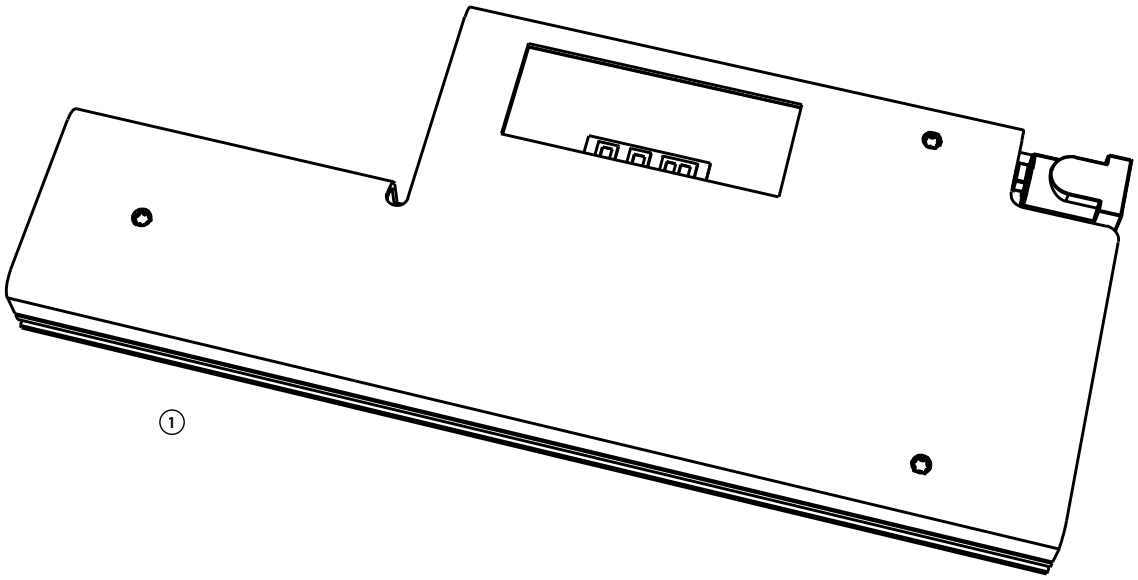
REQUIRED TOOLS



1. Forstner drill Ø 20.0 mm
2. Drill Ø 2.5 mm
3. Drilling machine
4. Meter ruler
5. Right angle
6. Torx screwdriver/ Bits T20
7. Torx screwdriver/ Bits T10
8. Pencil
9. Permanent marker

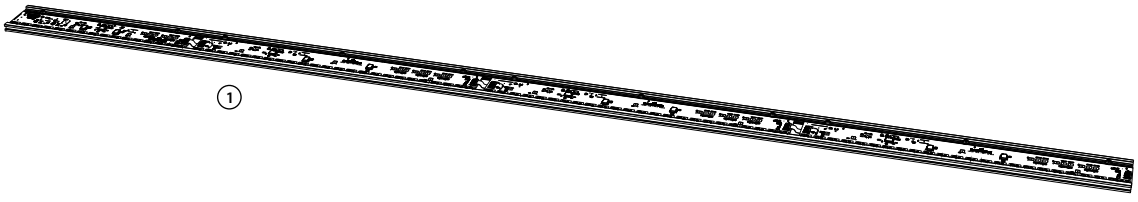
PART LISTS

Part list - Base board incl. housing



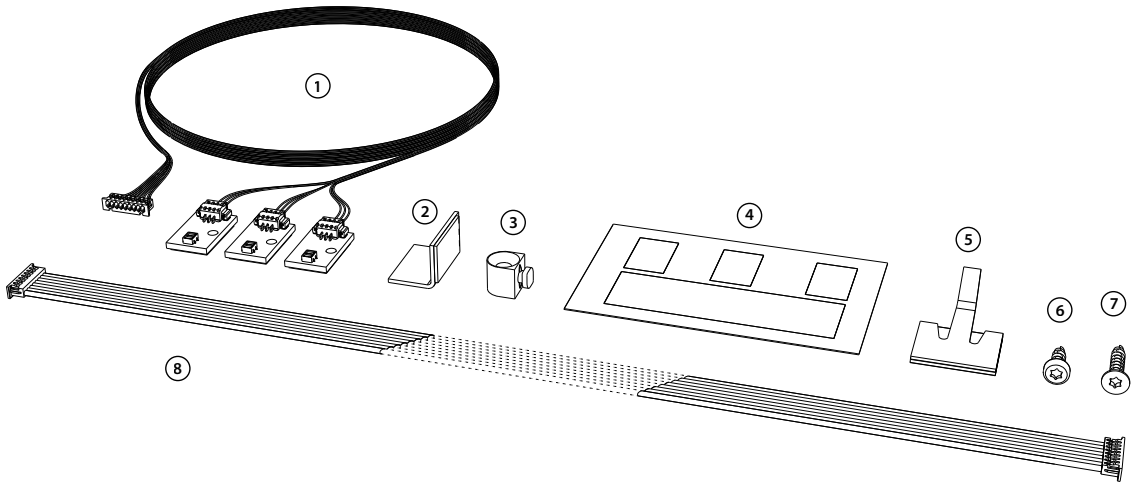
①	**VE01001000000**	C. Bechstein Connect base board incl. housing	1

Part list - Key sensor rail



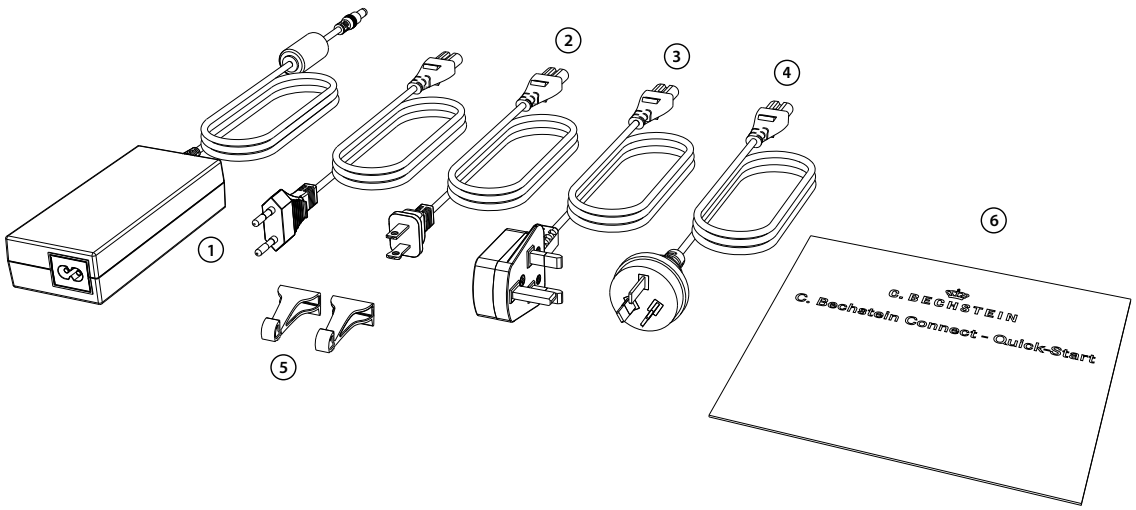
①	**VE01110000000**	C. Bechstein Connect key sensor rail	1

Part list - Mounting material & pedal sensors



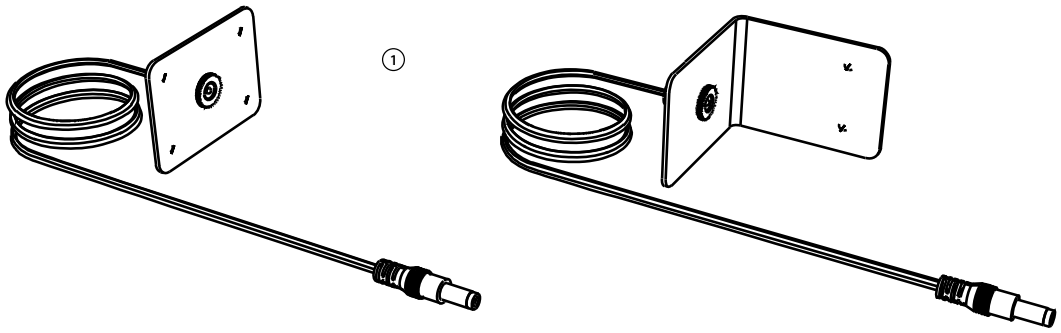
①	**VE01004000000**	C. Bechstein Connect pedal sensors incl. connection cables	1
②	**VE01005000000**	C. Bechstein Connect aluminium bracket f. pedal sensors (Set)	3
③	**CBD-00022**	Clamping sockets TPE (SW)	12
④	**CBD-00019**	Reflector stripes	1
⑤	**CBD-00024**	Cable clamp (SIL)	13
⑥	**VE00003000001**	Round-head screw TX10 3x10 mm (SW)	2/4
⑦	**CBD-00021**	Countersunk screw TX10 3,5x16 mm (SIL)	12
⑧	**CBD-00023**	Flat ribbon cable VSKS 500 mm	1

Part list - Accessories & Documents



①	**CBD-00028**	C. Bechstein Power supply 19 V incl. connection cable C (Euro)	1
②	**CBD-00033**	C. Bechstein connection cable A (USA)	1
③	**CBD-00032**	C. Bechstein connection cable G (UK)	1
④	**CBD-00279**	C. Bechstein connection cable I (AU), as needed	1
⑤	**VE00004000001**	C. Bechstein Display Stand (SW)	1
⑥	**CBD-00280**	C. Bechstein Connect Quick Start Manual DE/EN/FR	3

Part list - DC socket incl. connector



①	**VE01002000000**	C. Bechstein Connect DC socket incl. connector, **depending on model**	1/1

PREPARING THE INSTRUMENT

Remove upper panel, lower panel, fall board, key slip, cheek-blocks and action.

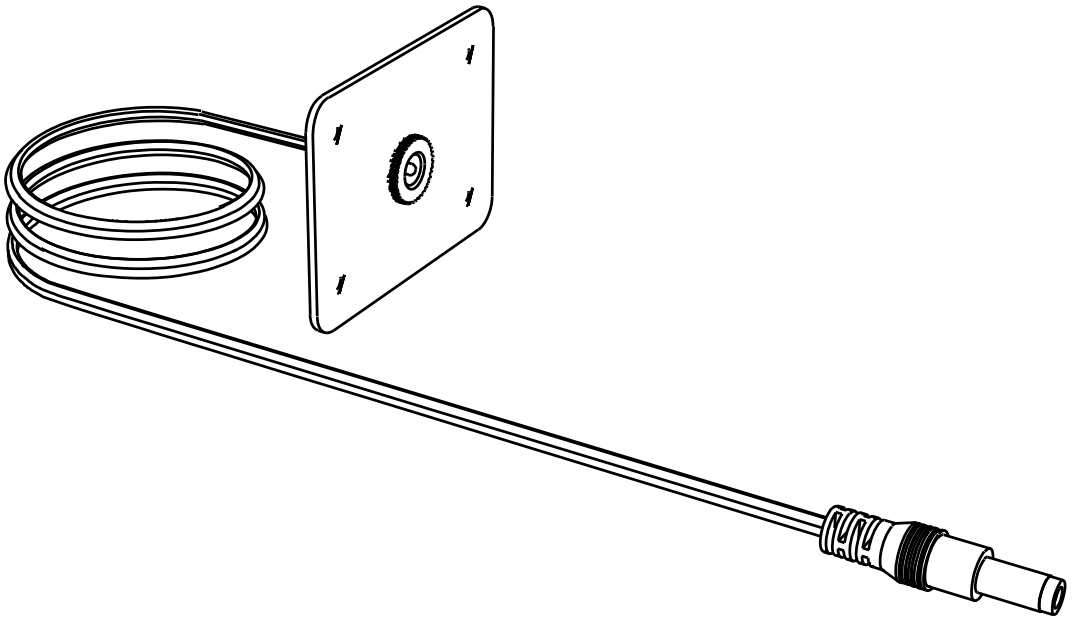
Check the regulation of the piano and adjust it if necessary.

INSTALLATION OF THE DC POWER CONNECTION

Mounting is done either on the false floor or, in the case of instruments without a false floor, as in the W. Hoffmann series, on the back-frame.

Mounting on the false floor

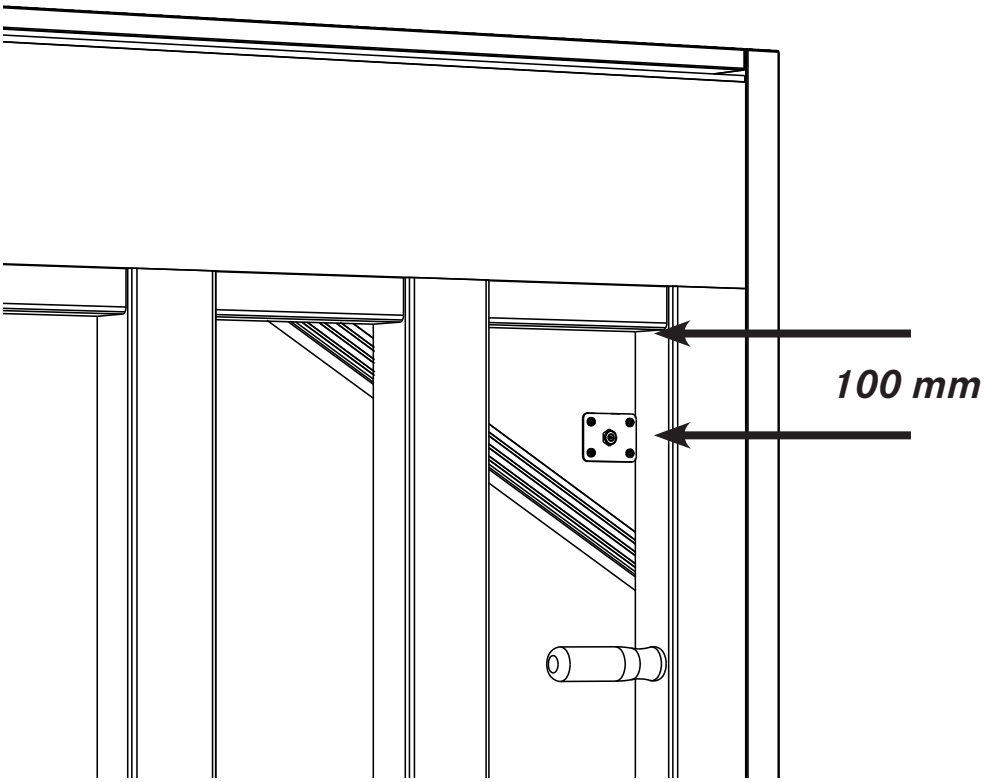
When mounting on the false floor, the DC socket version with plate (VE01002000000) must be used.



Mark the position of the DC connection on the back of the instrument on the false floor (bass range).

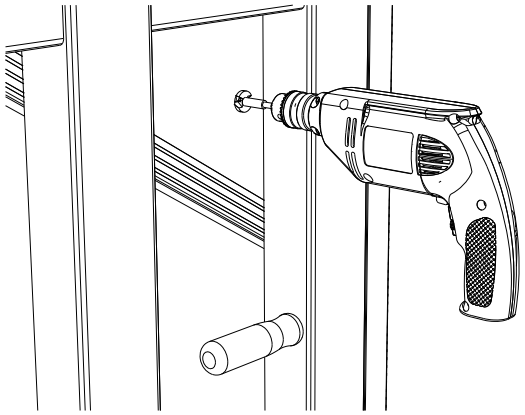
Please note that when using these dimensions for pianos with a height of 121 cm (48“) or more, the left action bracket pivot must be removed in order to be able to drill from the front. If you want to avoid this, you can also select a different position for the connection.

In any case, please note the position of the carrying handle and the necessary distance of the socket incl. sheet metal from the detent bar and soundboard brace.

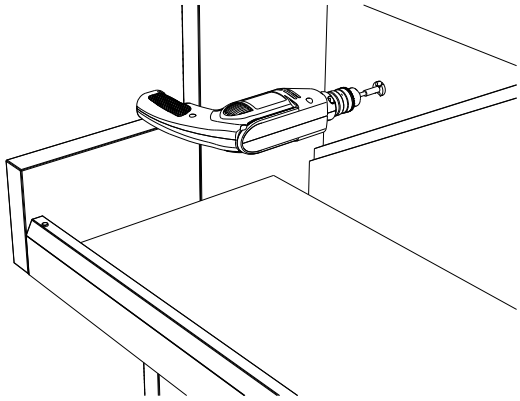


Drill through using a 2.5 mm (1“) drill bit at the marked position.

Then drill with the Forstner drill Ø 20 mm (3/4“) approx. up to half.
Then drill from the other side.
Do not drill only from one side to avoid splintering of the wood.

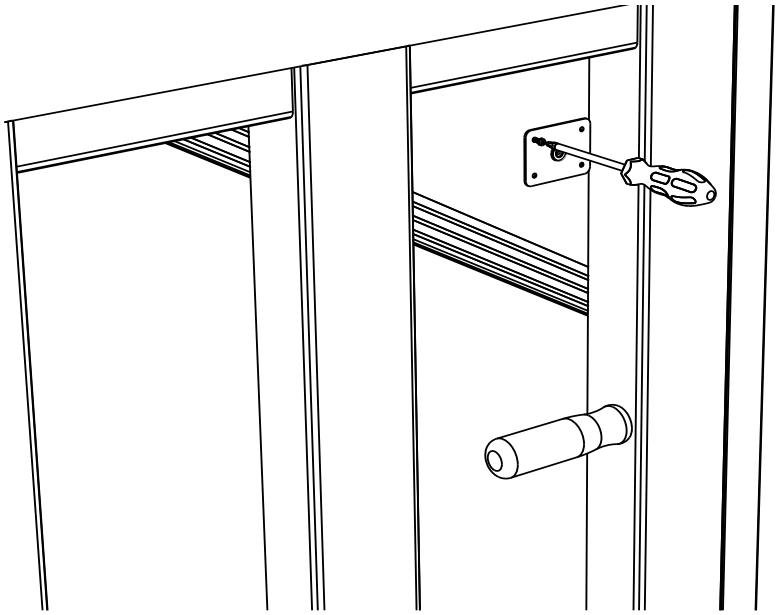


*Drilling of the back side up to half with Ø 20 mm (*3/4“*).*



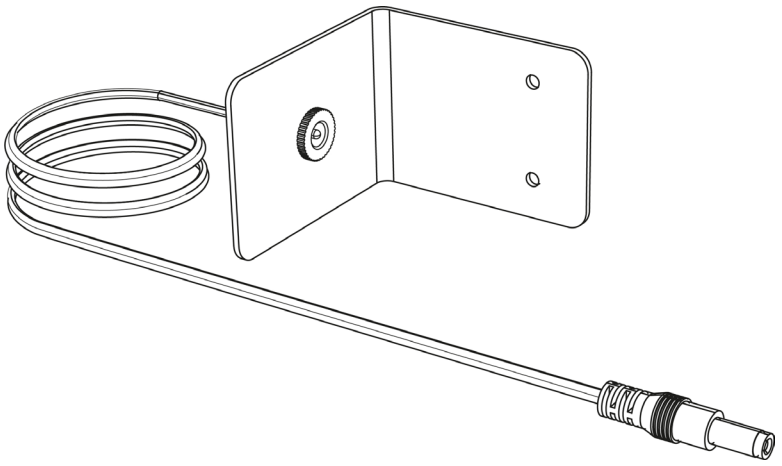
Drilling the front side.

Screw the DC connection plate (VE01002000000) with four screws (VE00003000001).



Mounting on the back-frame

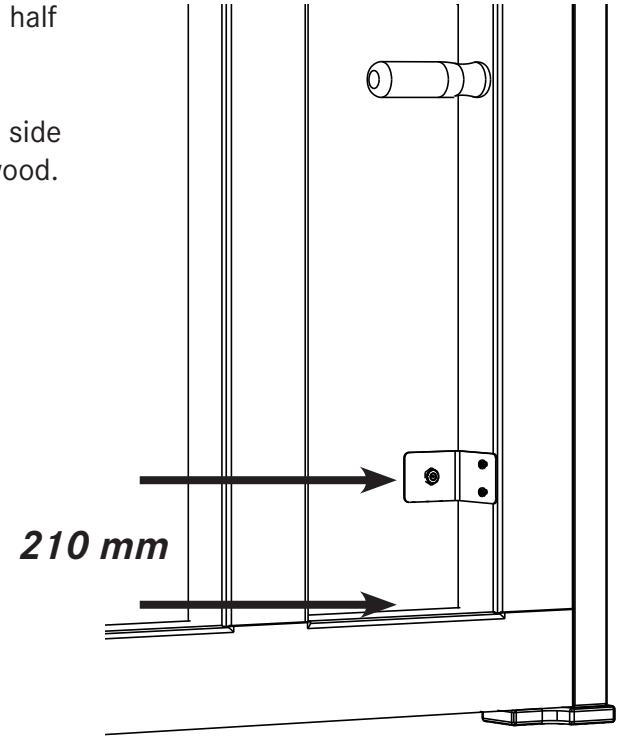
For pianos without false floor the angle version (VE01002000000) must be used.
The fixing is carried out on the detent bar.



Measure 210 mm (8 1/4“) upwards from the upper edge of the back-frame and mark the position for the hole on the soundboard.
If constructional circumstances on the piano prevent this, a different position can be chosen.

Pre-drill with a 2.5 mm drill bit and up to half with a Forstner drill bit Ø 20 mm (3/4“).
Drill the rest from the other side.
Do not drill all the way through from one side drill through to avoid splintering of the wood.

Screw on the DC connection plate with two screws (VE00003000001).



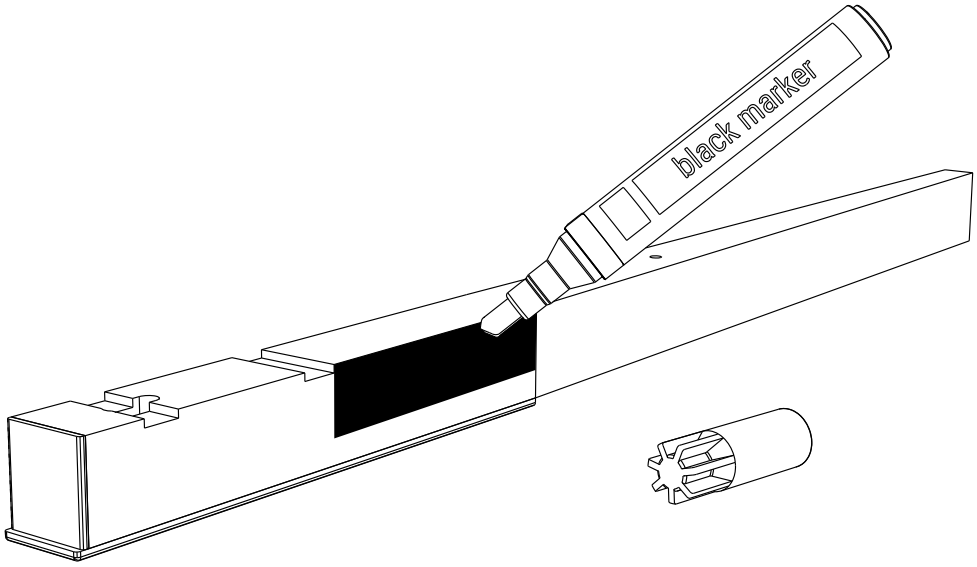
INSTALLATION OF THE SENSOR RAIL

Preparing the keys

First remove keys from the instrument.

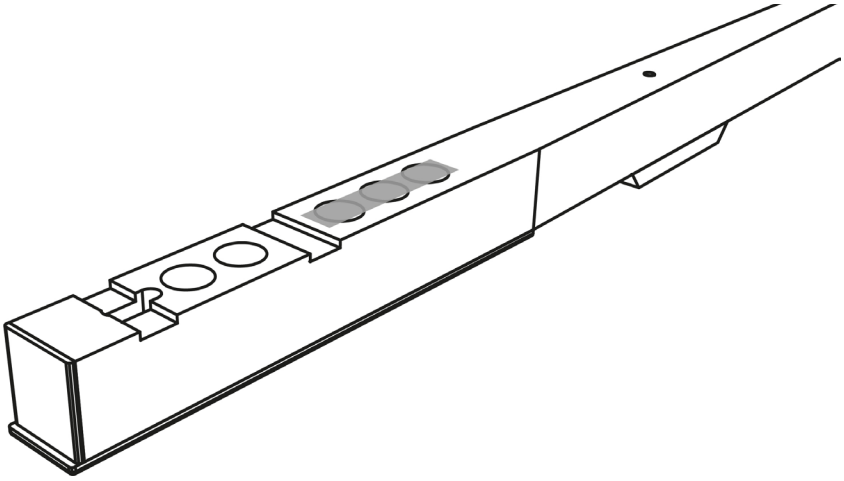
To prevent the IR light from scattering, the instrument keys must be colored on their sides with black permanent marker.
In practice, it has been shown in many cases that both “white keys” and the (already) black keys should be (additionally) colored (i.e., painted over) on the sides.
The paint usually used to color the black keys often contains metallic particles (glossy / matte-glossy). Thus, such a coating has a counterproductive effect.
We recommend the product *edding 850* permanent marker black for blackening the keys. Also suitable is the (widely used) product *edding 8750* industrial paint marker black.
However, the 850 model is suitable because of its wide tip (15 mm) to work faster.

The key must only be blackened from the side (i.e. not from the underside). Make sure that the blackening reaches all the way to the bottom edge.
In practice, an area of only 1-2 mm not covered with *edding* has already proven to be problematic (depending on the black paint originally used, which, as mentioned above, may contain reflective particles).



Coloring keys.

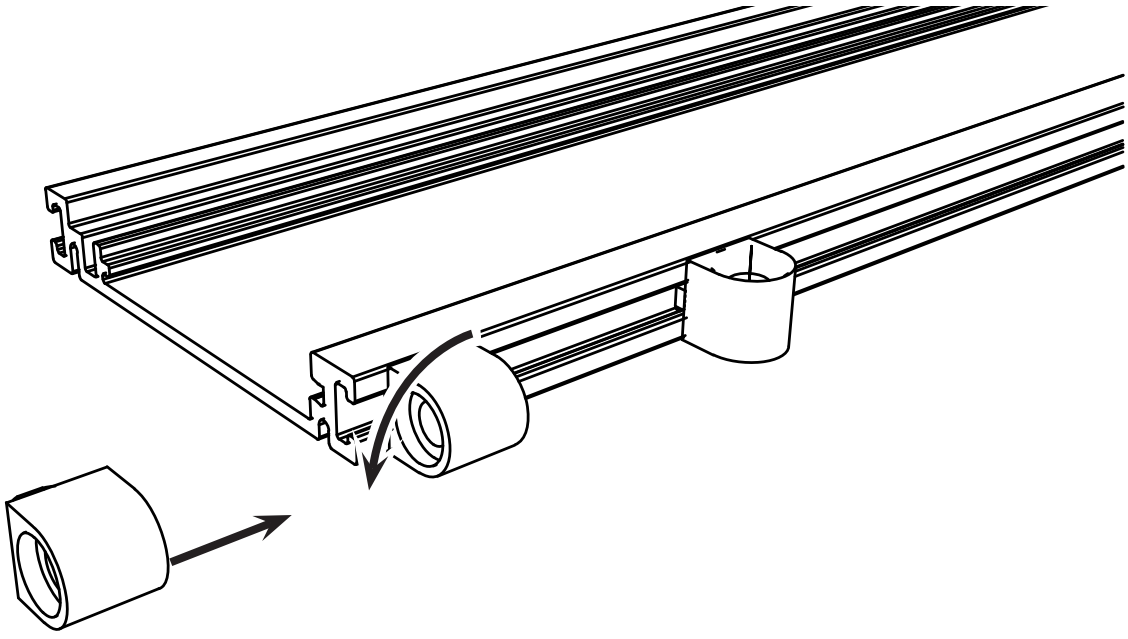
If key no. 88 has holes on the bottom, stick the reflector foil (CBD-00019) over it at the level of the sensors. This is important to ensure a bright and smooth reflective surface.



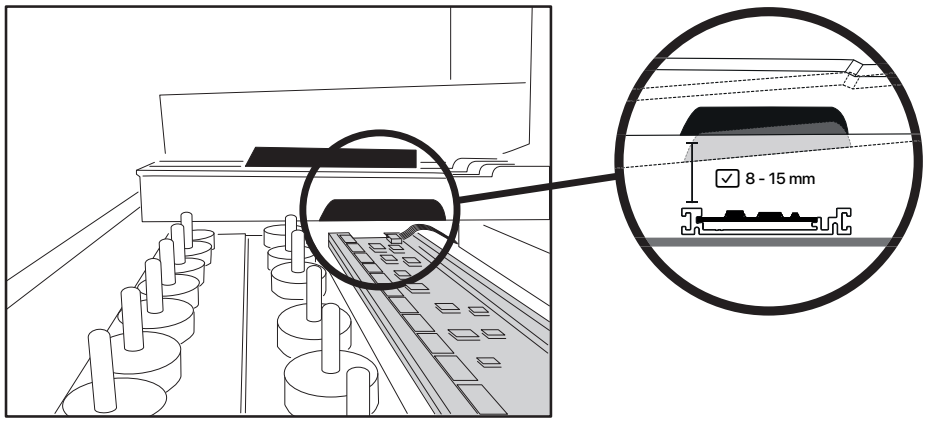
Key no. 88, holes covered with reflector foil.

Preparation and alignment of the key sensor rail

Thread three clamping sockets (CBD-00022) on each side of the support frame and move them to appropriate positions approximately centered on the fittings between the keyframe rails. For keyframes without crosspieces, distribute four screws evenly over the length of the sensor rail on each side.
The sockets can only be rotated 90° in one direction without any greater effort, so that the countersunk recess points upwards.



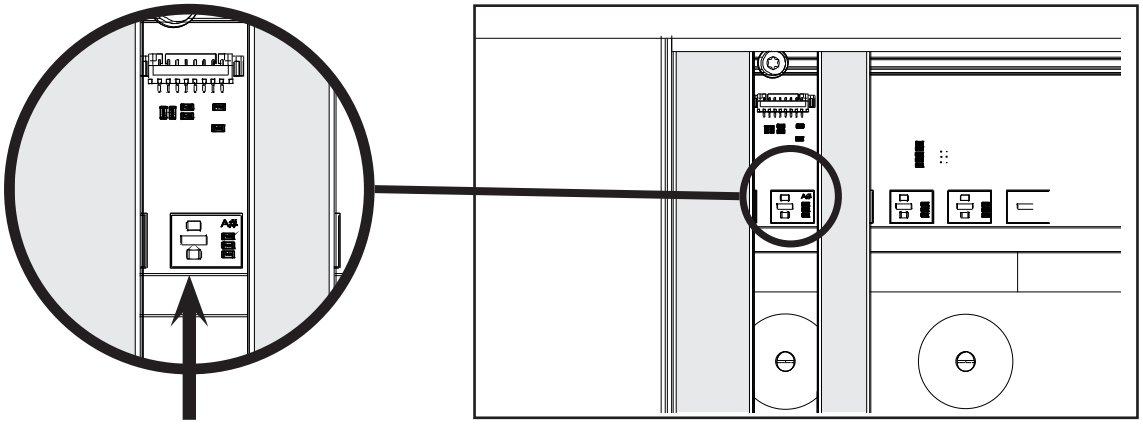
A minimum distance of the sensor strip within the keyframe results from the size of the clamping sockets. The strip should be as parallel as possible to the keyframe.
The height of the upper edge of the sensor rail to the lower edge of the key in the rest position must not exceed 15 mm. At a minimum, the sensor rail must not be touched by the key which is heavily struck. This corresponds to about 8 mm distance in the rest position.



Hint: For instruments with limited space, the clamping sockets can also be omitted on one side so that a slot in the sensor rail is flush with the keyframe. In order to avoid resonances caused by vibration, a felt can be placed or glued between the keyframe and the sensor rail in such a case.

The horizontal position (left / right) of the sensor rail, must be positioned in such a way that the sensors (not the white square printed on the circuit boards for each key) are as centrally as possible under the keys.

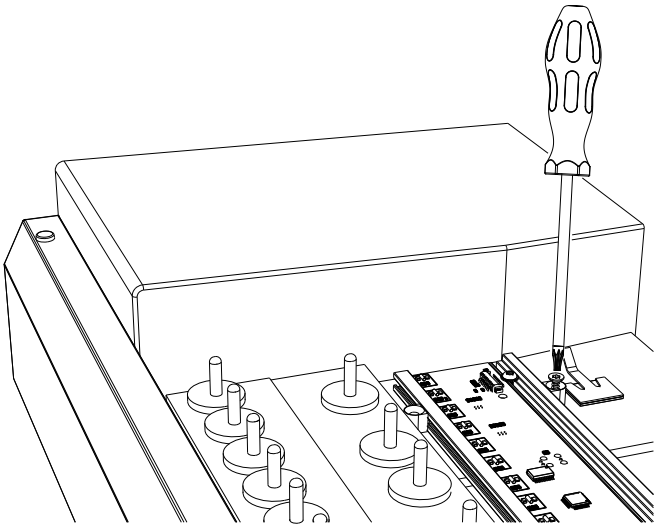
For positioning we recommend to insert the keys 1 and 3. Then move the sensor rail to the left or right so that the second sensor from the left (marked A#) appears in the middle between these keys.



The optical sensor for A# is located in the middle between key 1 and 3. Note that the sensors are slightly offset in the square. Do not align with the square.

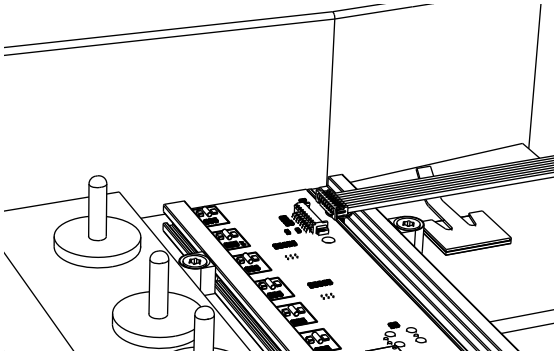
Installation of the sensor rail

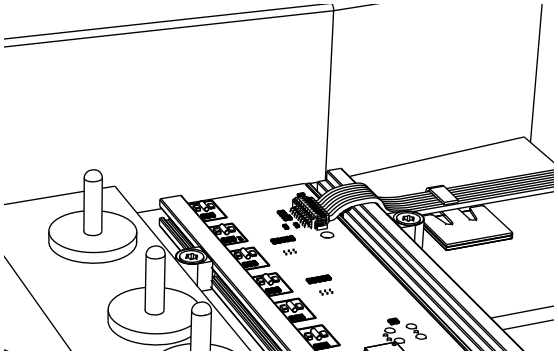
Screw the clamping sockets in central position and discant position using a bit size TX10. When screwing, please make sure that the clamping sockets are not crushed. The soft material of the clamping sockets has been selected to allow you to move the sensor rail later with moderate force.



Then check once again whether the sensor rail has shifted when tightened and fasten the two remaining clamping sockets.

Place the connection cable (CBD-00023) of the sensor rail using the self-adhesive cable clamps (CBD-00024). Make sure that the cable is led along the cheek-block.

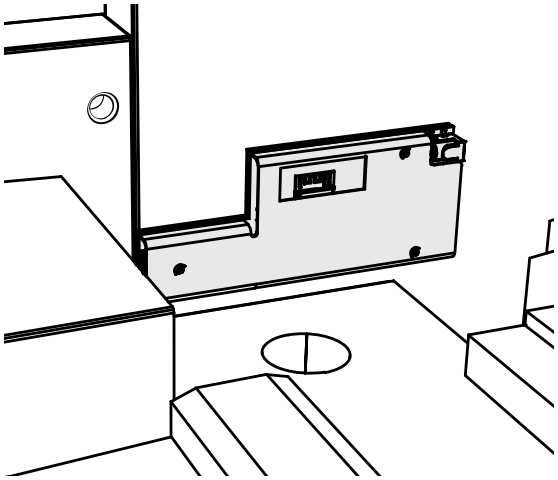




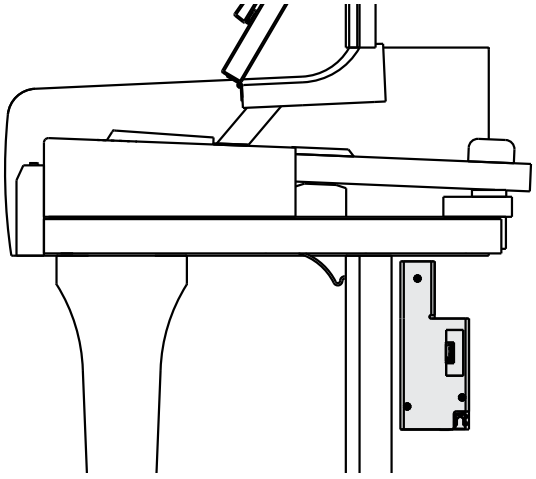
Once all steps are completed, return all keys to the keyframe.

INSTALLATION OF THE C. BECHSTEIN CONNECT BASE BOARD

The base board (VE01001000000) is installed directly on the left-hand side of the piano without surrounding case. We recommend installation behind the cheek on the left-hand side of the piano or underneath the key bed on the left-hand inner wall.



Installation behind the cheek on the left-hand side of the piano.

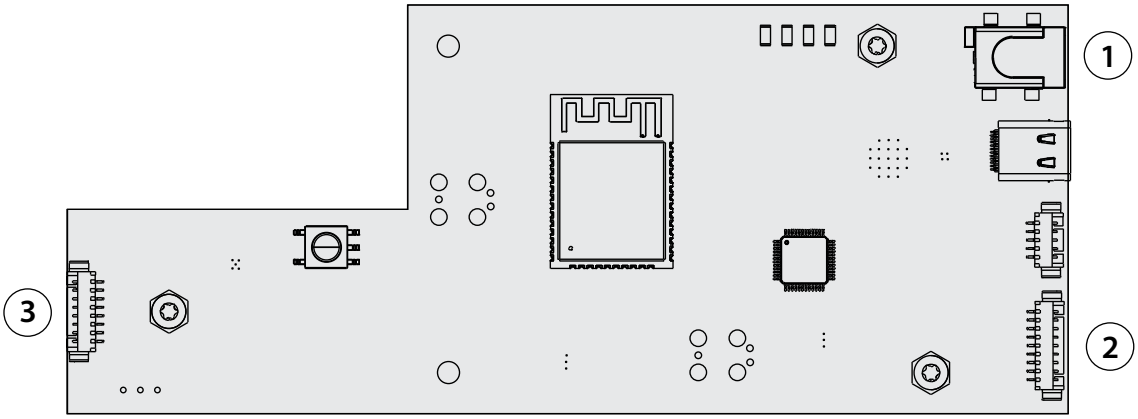


Installation underneath the key bed on the left-hand inner wall.

Connecting cables

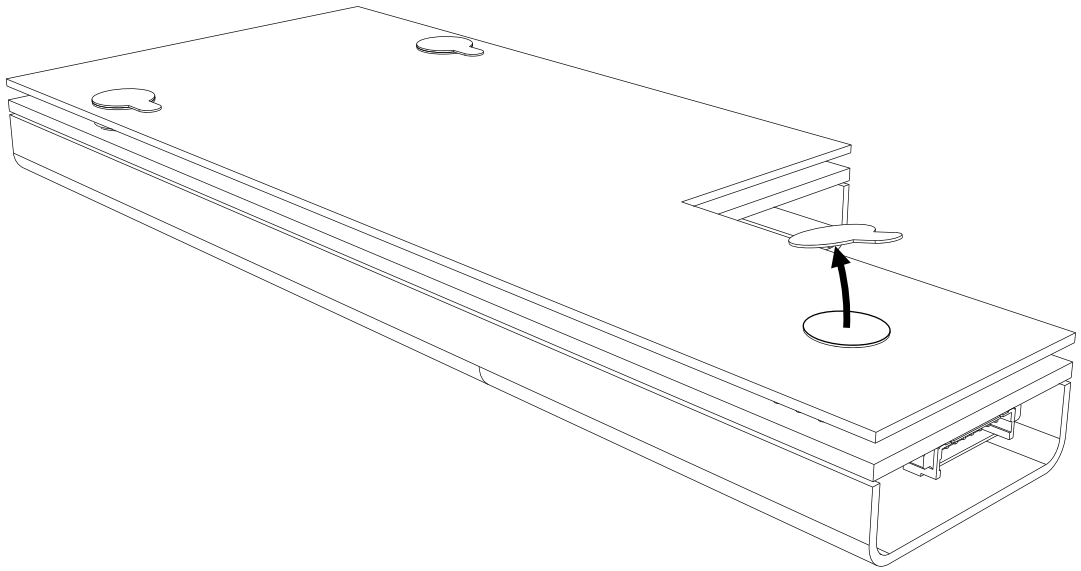
Connect the cables of the following components to the base board.

1. DC connection cable (VE01002000000)
2. Pedal sensors with three-coloured connection cable (VE01004000000)
3. Cable connection to the sensor rail (CBD-00023)

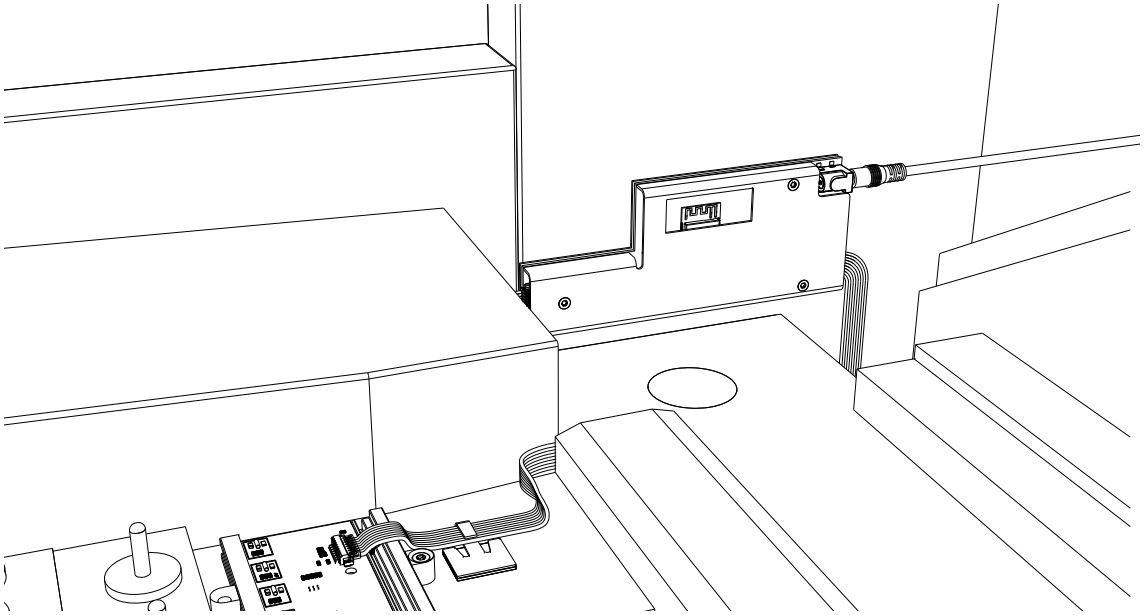


Mounting of the base board

The cables must not be bent in the final position base board.



The base board is glued on using the adhesive dots that are attached to the housing.
Degrease the surface to which the base board is to be attached.
Remove the protective foil from the adhesive dots and place base board with light pressure on the spot you have selected.



If necessary, the base board can be loosened again by turning it on the mounting surface and repositioned with new adhesive dots.

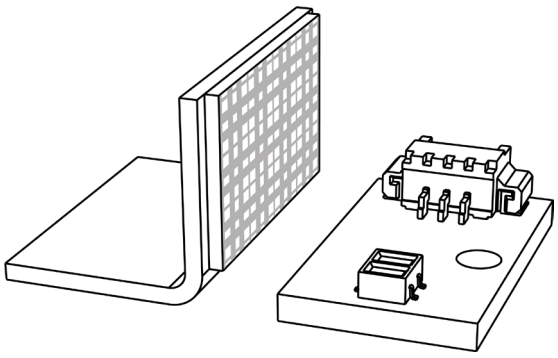
INSTALLING THE PEDAL SENSORS

Mounting for pianos with pedal pivot rods

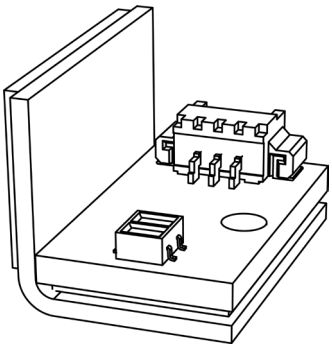
Attach the connection cable of the pedal sensors to the base board (VE01001000000) if not already done.

Provide the surface of the pedals with one reflector strip each at the level of the pedal sensors. The adhesive surface must be free of dust and grease.

Remove the protective film of the adhesive point from the sensor (VE01004000000) and press it firmly into the aluminum bracket (VE01005000000). Carry out this step for all three pedal sensors.



Aluminium bracket and pedal sensor.



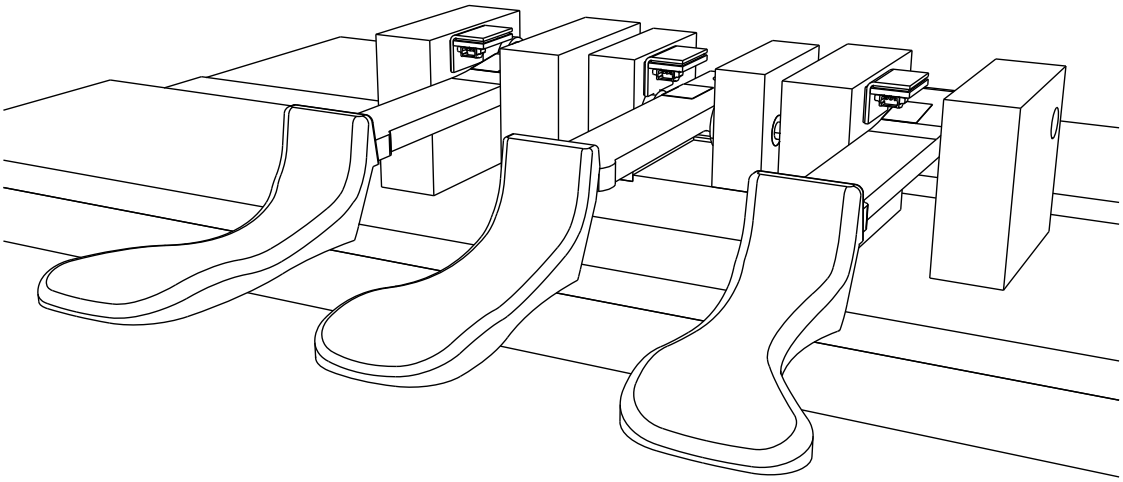
Pedal sensor, glued into the bracket.

The aluminium brackets (VE01005000000) with pedal sensors are now attached to the respective pedal blocks. The pedal sensors and their cables are marked in the following colours:

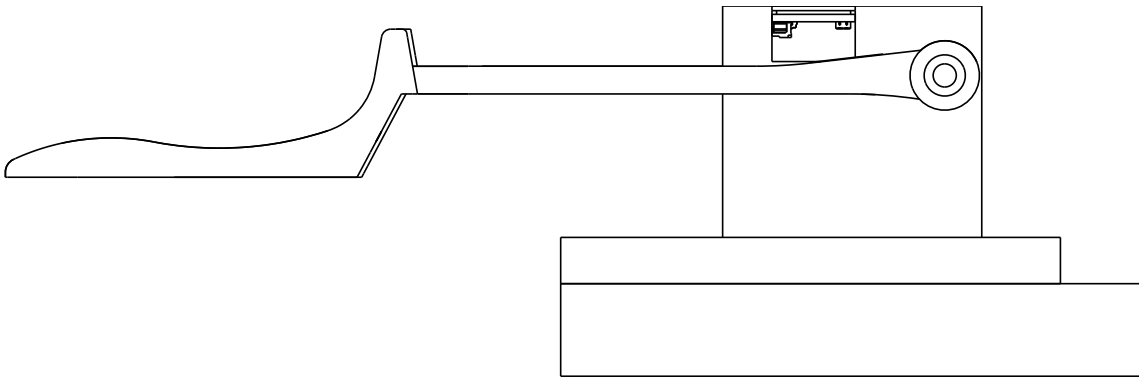
Right pedal: Red

Middle pedal: Black

Left pedal: White



The distance between pedal sensor and reflection surface has to be 3 to 15 mm and should be chosen in such a way that the greatest possible difference between the pressed pedal and the rest position can be measured.



Remove the protective foil from the adhesive surface of the aluminium bracket and press it on firmly.
Attach the pedal sensor cables using the cable clamps so that no moving parts are touched.

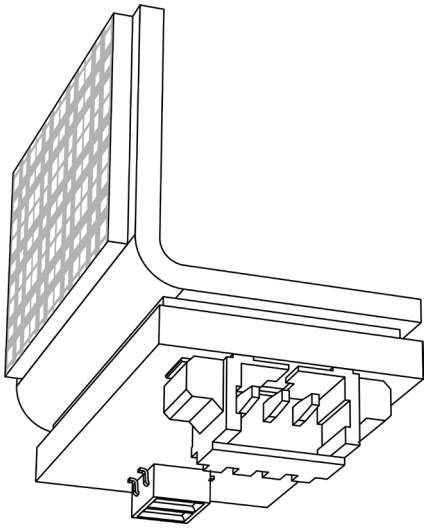
Mounting for pianos <u>without</u> pedal pivot rods

For pianos without pedal pivot rods the pedal sensors are mounted on the bottom rail above the pedals. The pedal sensor is glued on the outside (bottom) of the aluminium bracket (VE01005000000).

Attach the connection cable of the pedal sensors to the base board (VE01001000000) if not already done.

Provide the surface of the pedals with one reflector strip each at the level of the pedal sensors. The adhesive surface must be free of dust and grease.

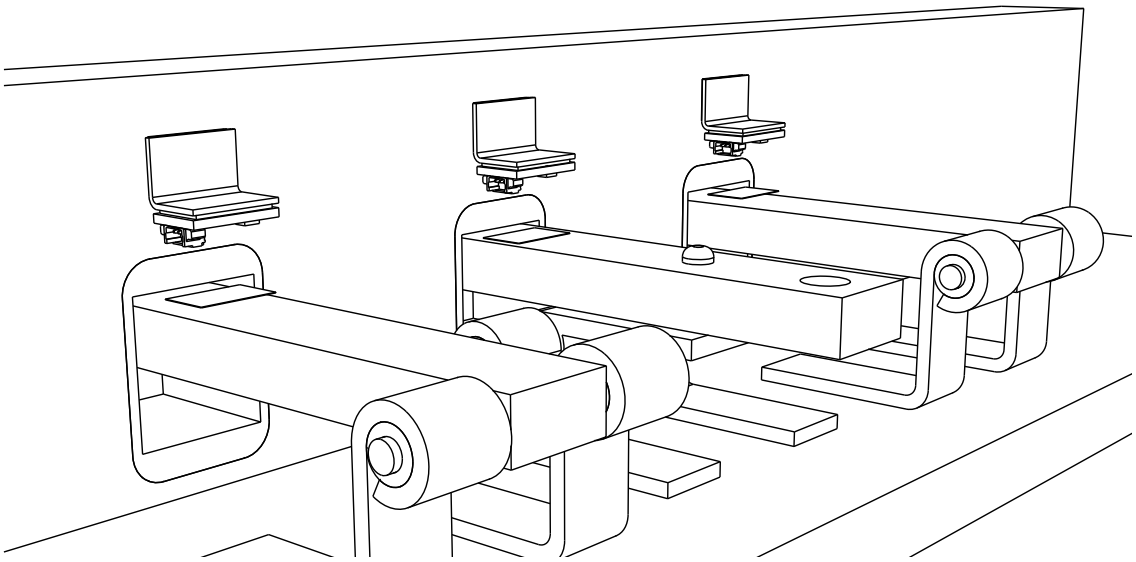
Remove the protective film of the adhesive point from the sensor (VE01004000000) and press it firmly into the aluminum bracket (VE01005000000). Carry out this step for all three pedal sensors.



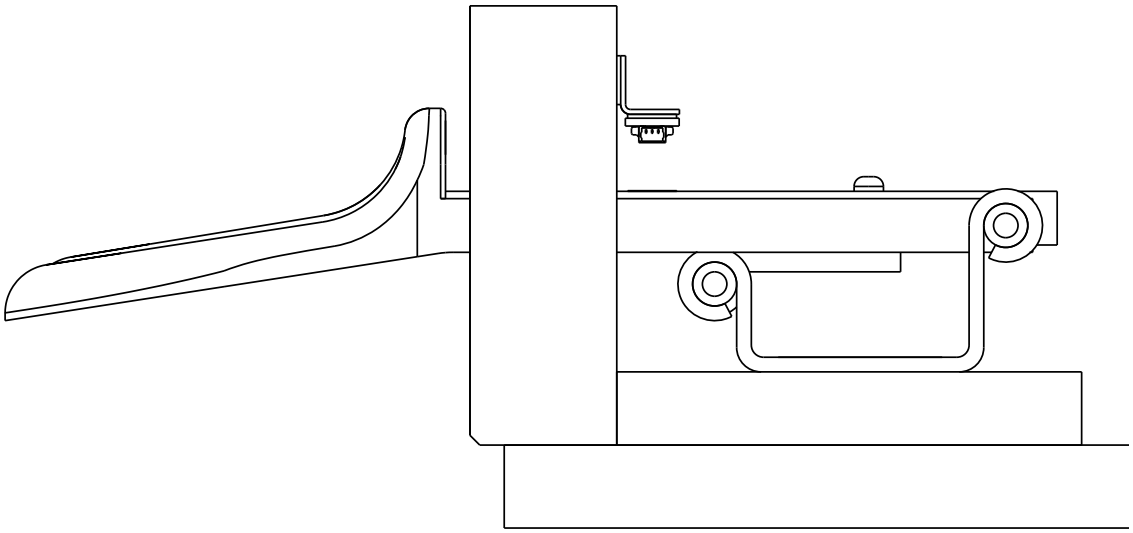
Pedal sensor, glued outside at the bracket.

Attach the aluminum brackets (VE01005000000) with sensors to the baseboard. The pedal sensors and their cables are marked in the following colours:

Right pedal:	Red
Middle pedal:	Black
Left pedal:	White



The distance between pedal sensor and reflection surface has to be 3 to 15 mm and should be chosen in such a way that the greatest possible difference between the pressed pedal and the rest position can be measured.



Position of the pedal sensors in the center above the pedals.

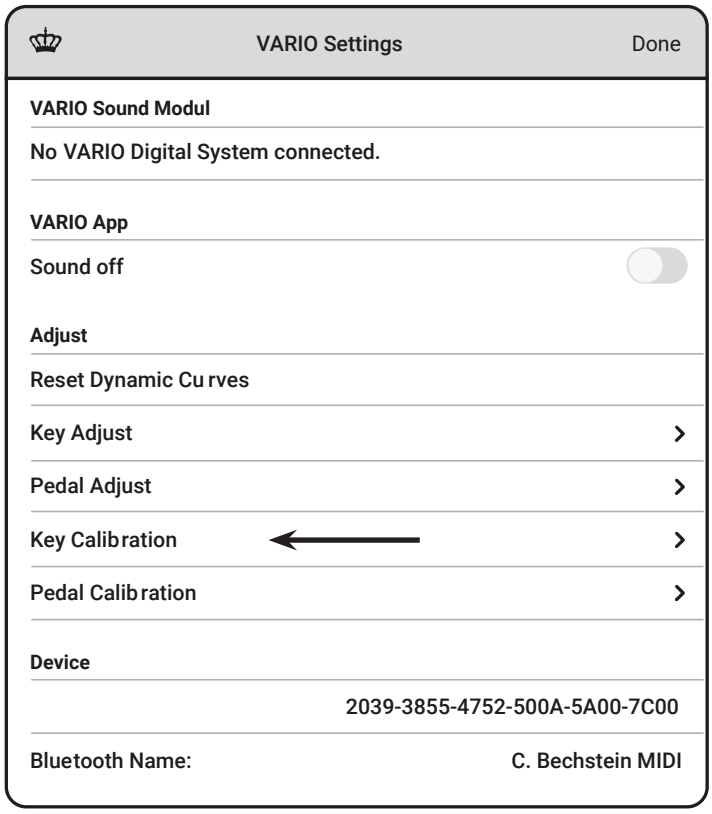
Remove the protective foil from the adhesive surface of the aluminium bracket and press it on firmly.
Attach the pedal sensor cables using the cable clamps so that no moving parts are touched.

INITIAL SETUP OF THE SOFTWARE

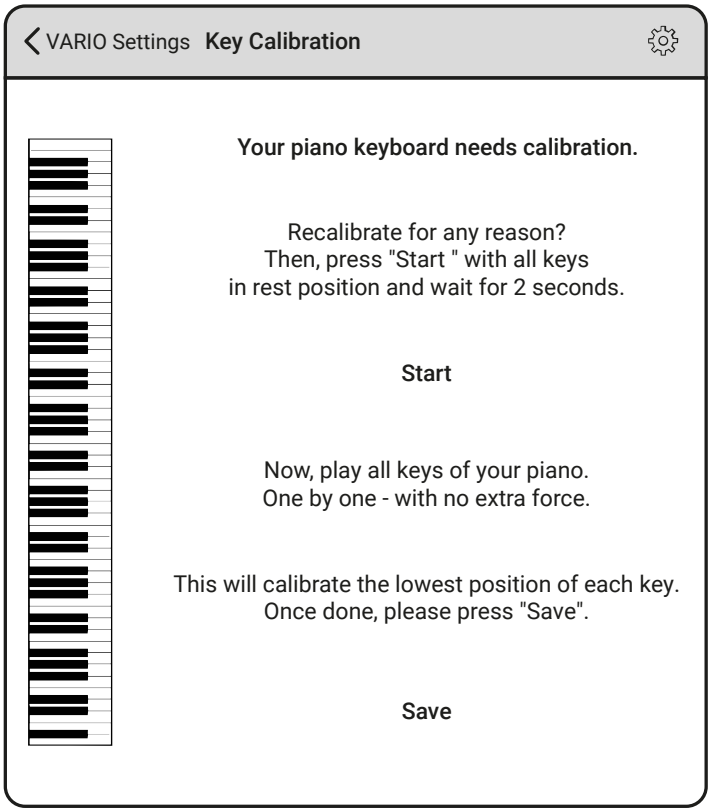
After all components have been installed, the sensors of the C. Bechstein Connect system must be calibrated. Without an initial calibration, the system does not generate any key and pedal information.
In addition, the Bluetooth identifier can be replaced by the model name and serial number of the instrument.
The initial setup of the software requires the use of the VARIO App.
The necessary steps and a list of compatible devices can be found on our service website *service.bechstein-digital.com*.
The calibration must be done with the instrument assembled (Reinsert the action, cheek-blocks, key slip, fall board, lower panel and upper panel).

Short overview of the calibration:

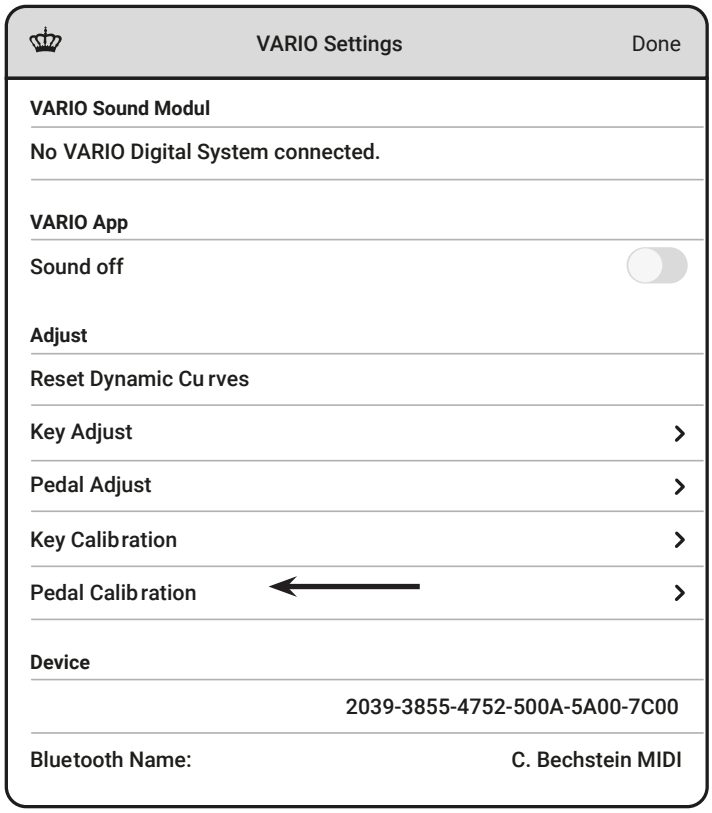
- Connect the instrument to the power supply.
- Start the VARIO App.
- Connect your mobile device to the instrument via Bluetooth-MIDI.
- Switch to Settings → Key Calibration:



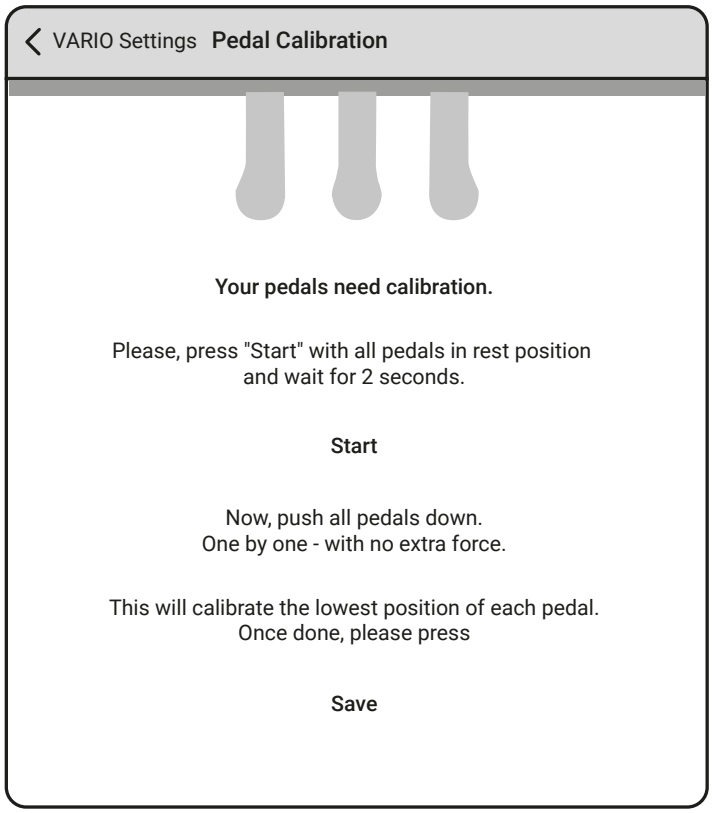
- Press Start – the keyboard in the graphic will be colored. Wait two seconds while the rest position of the keys is calibrated.
- Play one key after the other and „decolorize“ the keyboard in this way.
- Press Save.



- Switch to Settings → Pedal Calibration:



- Calibrate the pedals and save the calibration.



After successful calibration, bars or bubbles can be seen on the VARIO app monitor when playing the piano.

- If necessary, fine-tune in the Settings → Key Adjustment and Pedal Adjustment.
- If necessary, make further adjustments using the SENSITIVTY (velocity curve) function to adjust the dynamic response to the instrument.

For assigning an individual Bluetooth identifier (Bluetooth name):

- Open the „Bluetooth name“ item in the VARIO Settings.
- Enter a new name. We recommend choosing an abbreviation for the respective instrument (e.g. R6) plus the serial number of the instrument (#123456), as an example:

  R6 #123456

- Confirm the entry by pressing the Enter / Return key on the screen keyboard and exit the dialog.
- The Bluetooth MIDI connection must then be re-established.

Use our service on the Internet:

- Manuals in other languages
- Current installation instructions
- Service requests
- Ordering spare parts

Under: service.bechstein-digital.com

Service phone:

+800 1853 0000 (free of charge)

We look forward to getting in touch with you -
Your service team from C. Bechstein Digital