TESTING Bluhm & Feuerherdt GmbH

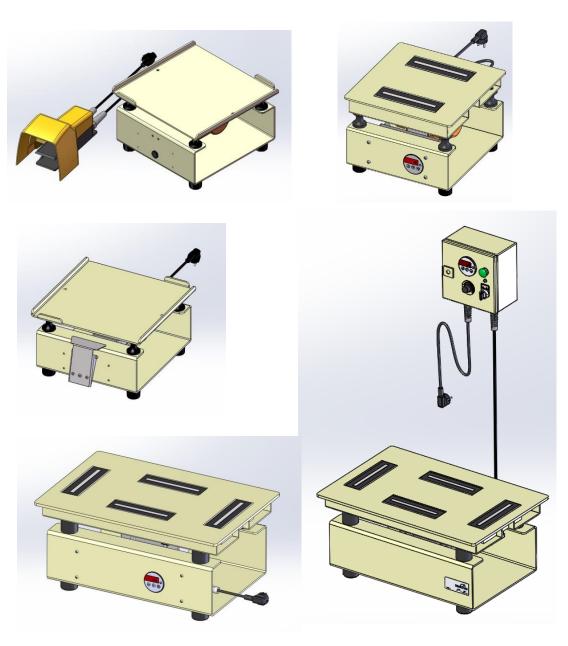
Production and distribution of construction-material testing devices



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Operating Manual

Vibrating Table





Importance of this Operating Manual:

The operator must read and understand this <u>entire</u> Operating Manual before putting the machine into operation.

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Enclosures:

European Union Declaration of Conformity Circuit diagram Testing and Measuring Record



1. Basic instructions

1.1 Designation

Designation of the device: Please see the name plate on the machine, which

shows the complete characteristic data and the electric

properties of the system.

1.2 Purpose for which this system was designed

This Operating Manual contains the information required for operation of the products described here, for the purpose for which they have been designed. This Operating Manual is intended to be used only by technically qualified staff.

"Technically qualified staff" is defined as those persons who – as a result of their training; their experience; the instructions which they have received; as well as their knowledge of the relevant standards, regulations, accident-prevention regulations, and conditions of product operation in the company – have been authorized by the person responsible for the safety of the company equipment to carry out the activities and actions required for operation of the equipment described below, and who can recognize and prevent any possible dangers arising from such operation (this definition of technically qualified staff has been provided).

The User must by all means observe the requirements and limit values, as well as all safety instructions, given in this Operating Manual. Any use of this device not in conformity with these stipulations shall be considered to be in violation of the use for which this system was intended. If this device must be operated under special conditions, or with special modes of operation, then this shall be authorized only after consultation with the manufacturer, and after obtaining his prior and express approval.

This Vibrating Table may be used <u>only</u> for compaction of fresh concrete that has been filled into moulds. The user must by all means observe the operating instructions, requirements, the limit values, and the safety instructions contained in this Operating Manual. Any use beyond this is considered as improper use.

Caution!



The instructions provided in this operating manual concern only the correct use of the system. To perform the test correctly, the user must observe the specific norms for the test.

- Please read these instructions carefully, as they describe how the system is operated safely.
- This operating manual is to be regarded as an integral part of the product and relates only to the system it is supplied with.
- Always keep the operating manual in an orderly condition for the entire period the system is operating. This will to allow you to obtain help easily when required.
- If the system is sold, the operating manual must be passed on to the new owner, along with its annexes.



- The manufacturer accepts no liability for any damage caused by incorrect use of the system.
- Changes reserved: The manufacturer retains the right to change the technical descriptions as well as the system to which they relate without advance notice.

This operating manual contains safety instructions that are to be observed in order to exclude any risk of fatalities, injuries, damage to the equipment or improper operation. Safety markings are as follows:

Caution!	This warning refers to dangers that could cause material damage.
Danger	This warning refers to dangers that could cause severe injuries or even fatalities.
Note	Provides practical advice on operation

1.3 Conditions under which this Vibrating Table may <u>not</u> be used

This Vibrating Table is not designed for operation under the following conditions, and may therefore not be used in such cases:

- The Vibrating Table must not be used on a surface that is not level. And on a surface that cannot safely support its weight or the forces that it produces.
- The Vibrating Table may not be subjected to unbalanced loads or weights (i.e., loads or weights only on one side).
- The Vibrating Table may not be used under dangerous, adverse, or any other unfavourable conditions.
- Persons must not step or stand on the table while it is in operation, or while it is shut
 off.

1.4 Guarantee

Our General Terms of Sales and Delivery apply in all cases.

The Manufacturer guarantees that this Operating Manual has been prepared in conformity with the technical and functional parameters of the machine as delivered. The Manufacturer reserves the right to add supplementary information to this Operating Manual as required.



The guarantee provided by the Manufacturer is the legal guarantee. This guarantee does not cover wear-and-tear parts.

The Manufacturer guarantees trouble-free operation only if the User observes the instructions in this Operating Manual, and only if the User employs the machine for the purpose for which it is intended.

The Manufacturer shall not be liable for damages that may occur if the machine is used for purposes for which it is not intended, or if the User does not observe the instructions and rules for operation as set forth in this Operating Manual.

No claims for damages may be lodged against the Manufacturer if the machine is modified in its structural or constructional characteristics without the prior written consent of the Manufacturer, or if its functional characteristics are modified without such consent.

1.5 Safety regulations

1.5.1 General regulations

Precise information about all of the safety regulations and warnings that are contained in these operating instructions, as well as their problem-free technical implementation, are a requirement for the safe installation, putting into operation, safe usage and maintenance of TESTING products. Therefore, it is absolutely necessary that all measures are carried out by qualified personnel. All personnel who are involved with the project planning, installation and operation must be familiar with the safety concepts and qualified in such matters.

Qualifications of the operating personnel

Only trained technical personnel are permitted to put the machine into operation and to operate the machine.

Furthermore, the following requirements apply:

- Operating personnel must be physically and mentally capable.
- They must have been instructed in the independent operation of the device.
- They must have been instructed in the intended usage of the device.
- They must be familiar with the necessary safety devices.
- They must have been authorised to put the devices and systems independently into operation in accordance with the standards of safety engineering.
- They must have been designated by the employer for independent work with the device.

1.5.2 Obligations of the operator

The person operating the device must ensure that both themselves and other people are not endangered. Only persons who have been instructed in the operation of the device may operate the device independently.



If the operating safety of the device is impaired by defects or damage, the device should be taken out of operation immediately and should only be used again after all of the sources of danger have been dealt with.

Check to see whether the specification that is given on the identification plate corresponds with your mains voltage. Connect only to alternating current.

Use the device only for the applications that are described here. Improper usage will lead to the loss of guarantee cover.

If the device or the power supply line is damaged, then remove the power plug immediately.

The unit has been built with the latest technology and according to the approved technical regulations. However, when it is used, it could lead to dangers for life and limb for the operator or for a third party, or to impairments or damage to machine technical components or to other material assets.

Manipulations and modification to the machine (electrical and mechanical alterations, etc.) that have not been authorised with the written agreement of the manufacturer shall be considered to be forbidden and the manufacturer shall accept no claims for damages.

The machine must be positioned at a location that is fire proof and explosion proof.

1.5.3 Information about the CE symbol

TESTING Bluhm & Feuerherdt GmbH testing devices carry the CE symbol.

The CE marking confirms that the product conforms with the EC Directives that must be taken into consideration for the product and also that the product is in compliance with the "essential requirements" that are defined therein, and the defined general relevant level of protection. The conformity-assessment procedure has in each case been carried out in accordance with the applicable EC Directives. Decisive here is Council Decision on the modules to be used in the technical harmonisation directives for the various phases of the conformity-assessment procedure and the regulations for the mounting and usage of the CE mark.

To confirm the conformity with EU Directive 2014/30/EC on Electromagnetic Compatibility (EMC), our products are tested in accordance with the EMC requirements for emitted interference and interference immunity for electrical measurement, control, regulation and laboratory devices.

Compliance with the safety requirements in residential areas, commercial and light industrial areas as well as small businesses (residential areas and buildings that are connected directly to the public low voltage power supply network) as well as the safety requirements in the industrial area, is fulfilled. Our strict regulations regarding performance level and the considerable efforts made in development and inspections underline the efforts that we make to guarantee the high level of quality of our products, even under difficult electromagnetic conditions.



Practice has also shown that even CE marked devices such as monitors or displays can be affected when their manufacturers accept such an influence (e.g. the flickering of displays) as the minimum quality under EMC conditions. For this reason and in your own interests, we would recommend that you keep a minimum distance of approximately 1 metres to such devices.

1.6 Acceptance of delivery, transport

1.6.1 Acceptance of delivery

When accepting delivery of the product, first inspect it for its outer, visible condition. If this inspection is satisfactory, the product may be accepted from the freight forwarder (railways, parcel service, or other haulage company).

If there are no shortcomings, and if there are no transport damages, then use the bill of delivery to make sure that the consignment is complete, and that all parts have been delivered.

If you assume or suspect transport damage, or if transport damage becomes apparent only after you have accepted the delivery, immediately make an exact report of the conditions and any damage as they exist. Send us this report immediately by fax or e-mail. Important: Absolutely do not make any changes to the delivered goods.

After we have studied your report, we can make a decision whether we can:

- Deliver spare parts to you, or
- Send a specialized fitter/installer to your plant, or
- Ask that you return the product to us for repair.

1.6.2 Transport

If you wish to transport the Vibrating Table to another location, or to load it onto a vehicle, you can do so manually if you wish. Or, you can stand it on a pallet vertically and pick it up with a fork-lift.

Be sure to protect the Vibrating Table at all times from the effects of the weather and climate.

1.7 Equipment delivered

Vibrating Table, ready for operation, with a power cable Power cable with a full-rubber, two-pole and earthing-pin plug.



1.8 Connection to the power supply

The machine must be connected to the building power system by Danger a qualified electrician. In accordance with the pertinent standards, the yellow-green connection terminal must be attached to the earthing system before additional electrical connections are made. Before making the electrical connections, please study the enclosed wiring diagram. Also check the machine rating plate to make sure that the ratings of the building power supply conform to the requirements for voltage, wattage, amperage, and frequency of the machine. The electrical socket must have a safety device that will protect the system against over-current. This safety device must satisfy the stipulations of the relevant standards, and must match the machine voltage. The technical characteristics of this safety device must also satisfy the standards that apply in the country in which the machine is installed. Caution The manufacturer of the machine cannot be held liable for any damages that result because the information here is not observed.

Electrical tolerances:

Actual voltage: \pm 10% of the rated voltage

Frequency: \pm 1% of the rated frequency, continually; \pm 2% of the rated frequency, on a

short-term basis

The manufacturer shall not be liable for damages to persons or property that arise because the above instructions have not been observed.



2. Device characteristics

2.1 Mechanical features

The Vibrating Table is constructed of robust steel plate. The surfaces are powder coated. Switching on/off depends on the model (see table)

The power connection is provided by a full-rubber, two-pole and earthing-pin plug.

Standard vibrating tables without magnetic clamping device

The root-mean-square (RMS) value for acceleration to which the upper parts of the operator's body is subjected is not more than 2.5 m/s².

Standard vibrating tables with magnetic clamping device

Caution



The magnets involved are electromagnets, which become magnetised when voltage is applied. Without voltage, they are non-magnetic.

Timer switch:

The timer switch is set at the factory to 120 seconds.

Minimum timer setting: 1 second
Maximum timer setting: 999 hours
Class of enclosure protection: IP-65

2.2 Noise emission values

The noise level indicated is not necessarily a safe level for the person operating the device. The level that the operator is exposed to will be influenced by other factors such as the amount of time exposed, the surroundings, other devices that have been installed in the vicinity, etc.

Using the exposure levels, the damage that could be caused by the noise can be evaluated.

Sound emission intensity of the device	< 65 dB(A)
Standard for the above information	EN ISO 3746

Continued usage of the devices/machines together with other loud noises can cause a high level of exposure. If the operator is exposed to a level of noise of more than 85 dB(A) daily, it is recommended that they wear safety protective devices such as hearing protection (headphones). If the operator is exposed to a level of noise of more than 90 dB(A) daily, it is obligatory for them to wear safety protective devices. Further information can be found in the guidelines/standards that are valid in the country in which the machine has been installed.



The amount of noise that is caused by the machine is dependent upon a number of different factors, including for example the product, the site of installation, etc. It is therefore impossible to given a generally valid sound level pressure.

2.3 Electric smog

Electrical fields and alternating magnetic fields have varying effects on people. Magnetic fields are generated when electrical current flows, are difficult to screen off and penetrate buildings virtually unhindered, likewise the human body. The vibrating table operates at 50 Hz, namely a frequency at which relatively low levels of energy are transferred.

Electromagnetic fields may cause e.g. headaches, sleep disorders and other minor ailments, but the action of weak magnetic fields on people is unlikely to trigger any acute health problems.

However, as a precaution, those at risk should maintain a minimum distance of 50 cm. Generally speaking, the amount of exposure is so low that it is often several orders of magnitude below the limit values.

The applicable limit value defined for the magnetic field is < 100 micro Tesla and < 5 KV/m for the electrical field.

The device is in the category of work equipment for which the magnetic field emissions generally do not reach the limit value. However, the emissions generated by the device itself depend on various factors, e.g. product, installation site etc.

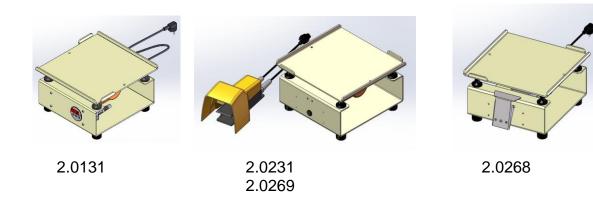
For this reason, it is impossible to specify a generally accepted measurement value.

We recommend that people in the following categories maintain a precautionary safe distance when working with the vibrating table, namely:

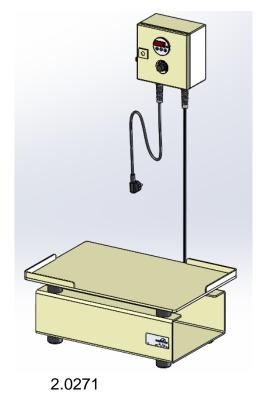
- Those with pacemakers
- Those using data media with magnetic recording
- Those bringing magnetic parts



2.4 Standard vibrating tables without magnetic clamping device







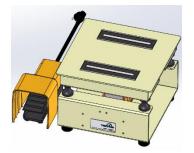


Model	2.0131	2.0231	2.0268	2.0269	2.0233	2.0234	2.0271
Dim.: W × H × D [mm]		350 >	350 × 350 220			600 × 400 255	
Table plate [mm]		350 >	350 × 350			600 × 400	
weight [kg]	20	23	22	24	41	14	54
RPM [U/min]		3000		0006	0009	0006	2000-9000
Power supply [V / Hz]			22	220-240 V / 50 Hz	Z		
power [W]		< 100			120 -	120 - 130	
Protection class				IP 55			
Pedal switch 2-polig		×		×			
Timer switch	×				×	×	×
Manual switch			×				



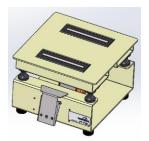
2.5 Models with magnetic clamping device





2.0131M

2.0231M



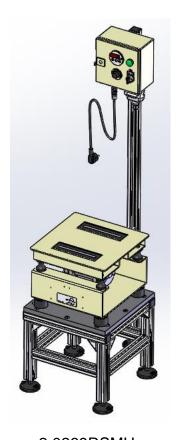
2.0268M



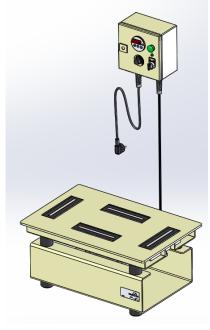
2.0233M 2.0234M



2.0233M2 2.0234M2



2.0269RSMU



2.0271SM2



Model	2.0131M	2.0231M	2.0268M	2.0269 RSMU	2.0233M 2.0233M2	2.0234M 2.0234M2	2.0271SM2
Dim.: W x H x D [mm]		350 × 350 255		350 x 350 1540		600 x 400 280	
Table plate [mm]		350 x 350	(350			600 x 400	
weight [kg]	e e	32	46	72	0 2	56 63	63
RPM [U/min]		3000		0006	0009	0006	2000-9000
Power supply [V / Hz]			22	220-240 V / 50 Hz	Z		
power [W]		130			150	150 - 200	
Protection class				IP 55			
Pedal switch 2-polig		×		×			
Timer switch	×				×	×	×
Manual switch			×				
Separate Controllerbox				×			×
Amount of 150er cube moulds		_			T 2	7 7	2



3. Placing the Vibrating Table into operation

The device may only be operated in dry rooms!

The following limit values apply:

Permissible temperature: from 5 °C to +40 °C Operating humidity range: from 20 % to 75 % r.H.

Be sure to set up the Vibrating Table on a level surface which can satisfactorily support its weight and the vibration forces.

Carry out a short functional test by connecting the mains plug to the mains supply.

Caution



We strongly recommend that you use a residual-current-operated circuit-breaker (RCCB; also known as earth-leakage circuit-breaker, ELCB) with this Vibrating Table. This device should have a fault-current tripping rating of 30 mA.

4. Operation

Danger



Be aware that incorrect inputs to the system can lead to malfunctions, breakdown of the system, major material damage or to danger to the operating personnel.

Standard vibrating tables without magnetic clamping device

Place a filled concrete mould on the centre of the vibratory plate of the table, and hold it securely by hand.

Start the vibration function by using the pedal switch / manual switch or time switch.

During the vibration process, the operator must hold the concrete mould securely by hand.

After the desired time has lapsed, or after it has become visually apparent that the desired results have been achieved, stop the vibration function by using the pedal / manual switch or time switch again.

Attention



Remove overflowing material with a wet cloth. Do not keep the appliance under water. It is only protected against splash water!

Set the desired vibration time (from a minimum of 1 second to a maximum of 9,999 seconds)

Start the vibration function by using the START/STOP button.



Models with magnetic clamping device

Place a filled concrete mould on the vibratory plate of the table.



Set the desired vibration time (from a minimum of 1 second to a maximum of 9,999 seconds)

Start the vibration function by using the START/STOP button.

After the pre-selected time has elapsed, or if the Operator presses the STOP button before this time has run out, the vibration function will stop.

5. How to set the timer switch ST64-31.07

5.1 General description

The microprocessor-controlled timer switch is equipped with a timer with a simple START-STOP function. When the timer switch is turned on, it displays the time at which it will run out (the setpoint value). The Operator uses the downward button (\blacktriangledown) and the upward button (\blacktriangle) to set the required value for the timer. When the Operator presses the START-STOP button, the time begins to run. When the elapsed time reaches the setpoint value, the timer switch will switch off the Vibrating Table. When the time has run out, the automatic-reset function will return the timer switch back to its starting state.

After the timer has started, it can be interrupted at any time and returned to its starting state. To do this, the Operator presses the START-STOP button.

5.2 Setting the timer-switch parameters

- Connect the Vibrating Table with Timer Switch to the power source.
- Press the downward button (▼) and the upward button (▲) at the same time and hold both buttons down for at least four (4) seconds. The display will then show the parameter list for timer-switch parameters (beginning with P1).
- Use the upward button (▲) to page upward in the list, and use the downward button (▼) to page downward.

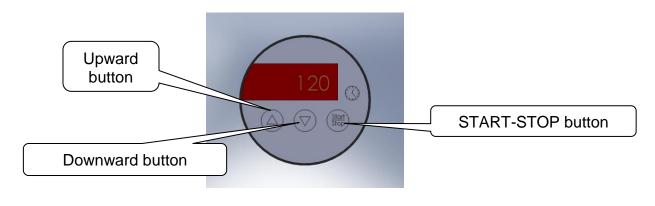


- By pressing the START-STOP button, you can show the value of the respective parameter. If you then at the same time also press the upward button (▲) or the downward button (▼) while still holding down the START-STOP button, you can change the value of the parameter being shown.
- When you release all the buttons, this will permanently save the new value. If you press
 no button for longer than 60 seconds, or if you press BOTH the upward button (▲)
 AND the downward button (▼) at the same time for at least four (4) seconds, the system will jump back to the original state.

Parameters:	Functional description	Setting range	Default	Customer's set- ting
P1	Time range	0: 0 999 s 1: 0 999 min 2: 0 999 h 3: 0 999 tenths of seconds	0	0
P5	Function of input E1 (START/STOP)	0: effective when closing 1: effective when opening	0	0
P7	Function of output K1	0: active ON 1: active OFF	0	0
P9	Signal duration of buzzer	0 10 s	10	0
P10	Trip for start function	0: button or input 1: only button 2: only input	0	1
P11	Trip for stop function	0: button or input 1: only button 2: only input	0	1
P12	Display of actual time	0: remaining time 1: time elapsed	0	0
P17	Auto reset	0: no auto reset 1: timer has run out: reset	0	1

5.3 Setting the time for the timer to run

- Connect the Vibrating Table with Timer Switch to the power source.
- You now set the time for the timer switch to run by briefly pressing the upward button (▲) or the downward button (▼).
- You can now start the timer switch by pressing the START-STOP button.





5.4 Explanation of the display

- The very large and especially bright characters simplify checking work and making settings, under all conditions.
- As a result of the high safety class of the front panel (IP-66), the system can withstand water and rough treatment.
- Since there are only 3 buttons for the Operator to use, operations and programming are especially simple.

6. Inspection and maintenance

All maintenance work that is concerned with the components of the devices/machines and the electrical system must be carried out by specialists (trained personnel).

The only maintenance work required for the Vibrating Table is to remove any residual concrete that may have become adhered to the equipment.

Warning



Any cleaning that is performed using pressurised, sprayed or splashed water, or bringing water into the control device from dripping sponges or other similar unsuitable tools or aids will lead to lasting damage to the mechanical and/or electrical and electronic components of the devices/machines.

Electrical current-carrying components are located inside the devices/machines. It is therefore absolutely essential to separate the machine from the power supply before opening it.

Before maintenance work is carried out, ensure that the device cannot be turned on again unintentionally by switching the device off and disconnecting it from the power supply. Begin the maintenance work only after the machine has come to a complete stop.

Inspection

Note



The devices/machines must be checked for their industrial safety at regular intervals. There are national regulations for this that must be complied with, for example the UVV.

Regular inspections of the correct functioning will supply important information on the operational condition of the devices/machines.

Daily routine inspections

- mobility
- The connections are in good condition
- Noises
- The condition of the electrical connections



7. Troubleshooting



Work on such electrical equipment may be performed only by suitably trained specialist personnel.

FAULT	CAUSE	REMEDY
Table doesn't work	Fuses triggered	Replace fuses
	Electr. system defective	Check the electrical system by specialists
Mould not secured, wobbling on the table surface	Electr. system defective	Have specialist staff check the electrical system
	Mould not properly centred The shaping base plate is non- magnetic	Consult suppliers
	Dampers are defective	Replace dampers
Mould cannot be re-	Release of the magnets defec-	Have specialist staff check the
moved	tive	electrical system,
		adjust or replace clock timer

In case of malfunction, disconnect the Vibrating Table with Timer Switch from the power supply.

The Vibrating Table contains no built-in systems to protect against excess current or fault current. This means that it has no residual-current-operated circuit-breaker (RCCB; also known as earth-leakage circuit-breaker, ELCB), and no overcurrent trip.

8. Decommissioning

If the system has to be decommissioned for a prolonged period, it must be disconnected from the power supply.

Perform all maintenance work.

Lubricate unpainted parts and cover the system to protect from dust.

9. Scrapping, disposal

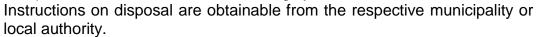
If the system is no longer to be used, the following is recommended.

- Disconnect cable from mains supply.
- Dismantle system and scrap according to currently applicable legal requirements.



The product and the packaging material are made from recyclable materials. The separate, environment friendly disposal of material residues promotes the recycling of reusable materials.

This product complies with directive 2012/19/EC of the European Parliament and Council of Ministers on waste electrical and electronic devices. The product is labelled with the following symbol:







10. After-sales service

Great care was taken to assure that this Operating Manual was properly prepared. We cannot, however, guarantee that it has no mistakes, or that all data are complete and correct in the event of technical modifications.

10.1 Date of this version of the Operating Manual

Edition no.10 May 2020

10.2 Copyright

The copyright to this Operating Manual is held by:

TESTING Bluhm & Feuerherdt GmbH

This Operating Manual is intended for use only by the User and his/her staff. It contains instructions and data that may NOT be:

- Reproduced,
- · Distributed, or
- Provided to any third party.

Any person acting in violation of the above stipulations may be prosecuted before a court of law.

10.3 Spare parts and technical help

If you have any questions of technical nature, or if you need spare parts, please get in touch with the following address:

TESTING Bluhm & Feuerherdt GmbH Motzener Str. 26b DE – 12277 Berlin Germany

Tel. [+ 49 30] 710 96 45-0 Fax [+ 49 30] 710 96 45 98 www.testing.de info@testing.de



EC Declaration of Conformity in accordance with the Machinery Directive 2006/42/EC Appendix II 1.A

The authorised representative established in the community,

Mr. Feuerherdt

hereby declares that the following product

Manufacturer: TESTING Bluhm & Feuerherdt GmbH

Motzener Str. 26b

12277 Berlin

Product designation: vibrating table Serial number: continuous

Serial/Type designation: all designed vibrating tables

complies with all of the relevant provisions of the above named guidelines as well as the additional applied guidelines (following) - including any of the amendments thereto which are in force at the time of the declaration.

The following additional EU Directives have been applied:

Low Voltage Directive 2014/35/EC

The following harmonised standards have been applied:

DIN EN 60204-1 The Safety of Machines - Electrical Equipment of Machines - Part

1: General Requirements (corrigendum 2010)

DIN EN ISO 12100 Safety of machinery - General principles for design - Risk assess-

ment and risk reduction (corrigendum 2013)

The name and address of the person who has been authorised to compile the technical documentation:

Mr. Metge

Location: Berlin

Date: 28/01/2015

(Signature) (Signature)

(Signature) (Signature)
Managing Director Technician