



Operating Instructions

Varioshake Shaking Apparatus

VS 8 O, VS 8 B, VS 8 OE, VS 8 BE

VS 15 O, VS 15 B, VS 15 T, VS 15 R

VS 30 O





VS 8 OE, VS 8 BE

An electronically geared AC motor as well as a stable and durable shaking mechanism create two different Shaker types for orbital and reciprocating motions. The units are designed for use in incubation rooms. For permissible environmental conditions, please refer to the technical data of these instructions.



VS 8 O, VS 8 B, VS 15 T, VS 15 R, VS 15 O, VS 15 B, VS 30 O

Electronically geared AC motors as well as stable and durable shaking mechanisms create seven different Shaking Apparatus models (three load classes) for four different motions: orbital, reciprocating, orbital rocking and rocking. Shaking frequency and remaining running time are LC displayed during operation. It is possible to run the units with Digital Control Unit via PC (RS 232 – interface optional available).

LAUDA Varioshake Shaking Apparatus are extremely silent and universally applicable, suitable for both, gentle moving of liquids and vigorous mixing.

Before installation, please check whether contents of package are in good order and complete. Should you note any damages or have any reasons for complaint, please contact your supplier or directly us.

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1 Use of the Distillation Apparatus

1.1 Intended Use

The information in these operating instructions must by all means be carefully read and observed. Only then a perfect functioning of the Shaking Apparatus can be guaranteed. The units may only be installed and operated by persons who have made themselves familiar with these operating instructions. The frequency of the shaking motion can be set and is electronically regulated. Laboratory vessels that are to be used on the Shaking Apparatus must be fixed safe-to-operate. The maximum usable shaking frequency is also determined by the kind and weight of the load. Provide sufficient working space in the vicinity of the unit to put down accessories in use safely.



Caution:
due to increased risk of injury never reach into the unit as long as it is still in motion.

1.2 Improper Use

LAUDA Varioshake Shaking Apparatus, operated in a laboratory, are no Medical Devices. They fall neither under national nor international Medical Device Directives and have to be used and applied accordingly. The Shaking Apparatus may not be used in potentially explosive surroundings and may neither be set up nor operated in laboratory areas with aggressive or corrosive ambient.

By all means make sure to prevent the shaking procedure creating an explosive atmosphere during operation of the Shaking Apparatus.

2 Warranty

For all laboratory apparatus and their accessories from LAUDA-GFL, there is a warranty claim, as well for spare parts, repairs and modifications, carried out by LAUDA-GFL. In order to identify defective units, we require both model and serial number on the nameplate, on the back of the Shaking Apparatus and, if applicable, a copy of the invoice.

3 Before Initiation

The information in these operating instructions must by all means be carefully read and observed. Only then a perfect functioning of the Shaking Apparatus can be guaranteed. A free of charge guarantee repair cannot be granted for defects due to improper installation or handling.

Safety precautions are marked with the following symbols



Read and observe the operating instructions



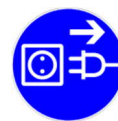
Warning of hand injuries



Warning of dangerous electrical voltage



General warning



Before maintenance and repair disconnect the unit all-pole from the electrical mains (pull the plug from the socket).

4 Transport, Set-up and Location of the Shaking Apparatus

Protect yourself and the unit during transport and setup by working carefully and avoid danger of e. g. shifting or tilting the unit. Place on solid, even and level surfaces inside buildings only. The location must provide sufficient space as well as the necessary carrying capacity for the unit (unit weight as per Technical Data, of this Operating Instructions, plus weight of the accessories and load). The unit is suitable for bench mounting indoors and for use in incubation and tempering rooms. For use in incubation and tempering rooms please observe the environmental conditions stated in the Technical Data. The Shaking Apparatus is not suitable for use in explosion endangered surroundings, e. g. during anaesthesia with inflammable gas or steam types. In some Shaking Apparatus models, a paperboard strip has been inserted as a transport protection between shaking table and housing. The paperboard strip must be removed before installation.

5 Operating Voltage

The Shaking Apparatus must be connected to the mains through a correctly installed shock-proof socket or through an on-site main switch. The Shaking Apparatus is a protection class I electrical appliance, a connection to the earth conductor (PE) must be ensured. For information on the required mains fuse please view Technical Data of this manual. The electrical connection must ensure an all-pole separation of the Shaking Apparatus from the mains at any time.



The left knob of the unit (only models VS 8 OE and VS 8 BE) must be off (position O). The voltage on the nameplate (at the back of the unit) must be identical to the mains voltage. If they are identical, connect the unit to the mains. For further information, please also refer to chapter 13 of these operating instructions "Connection to the Mains Supply".

6 Initiation – analog control VS 8 OE, VS 8 BE



Caution:
due to increased risk of injury never reach into the unit as long as it is still in motion.



Caution:
by all means make sure to prevent the shaking procedure creating an explosive atmosphere during operation of the Shaking Apparatus.

Before initiation turn the left-hand control knob anti-clockwise to limit stop (minimum shaking frequency). Then turn right-hand control knob clockwise until the green pilot lamp glows.

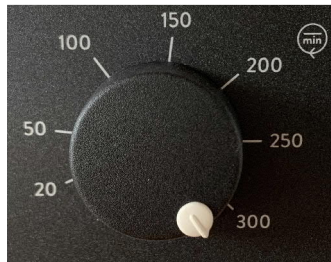
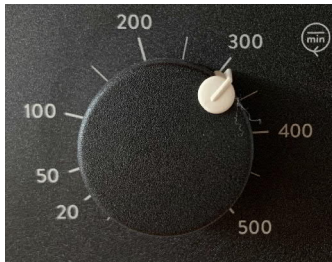
6.1 Choosing the operation mode



For continuous operation turn the knob to the first scale line; the knob will catch there. To switch off, turn the knob anti-clockwise to position O. For timed runs turn the control knob past the scale line for continuous run to the scale graduation marks for timed runs, showing time limits in minutes. The maximum timed period is 60 minutes. After expiry of the timed run, the Shaking Apparatus will be switched off automatically. Timed runs chosen by mistake can be reversed by turning the control knob anti-clockwise.

To switch off the Shaking Apparatus, turn the control anti-clockwise to position O.

6.2 Choosing the shaking frequency



Turn the left-hand control knob clockwise to increase the shaking frequency and anti-clockwise to decrease the shaking frequency.

The shaking frequency ranges of Shaking Apparatus are stated in the Technical Data of these operating instructions.

7 Initiation – digital control VS 8 O, VS 8 B, T, R, O, VS 30 O



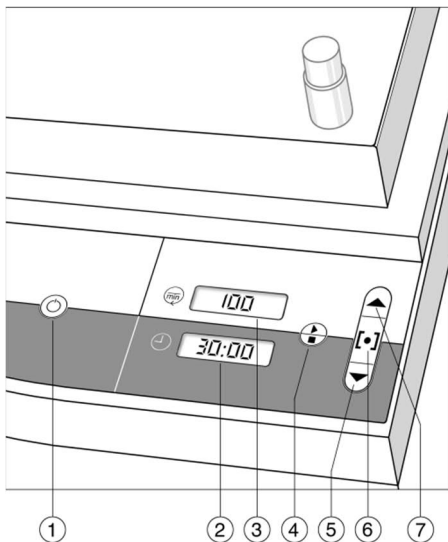
Caution:
due to increased risk of injury never reach into the unit as long as it is still in motion.



Caution:
by all means make sure to prevent the shaking procedure creating an explosive atmosphere during operation of the Shaking Apparatus.

To initiate, press switch 1. Displays 2 and 3 show the memorized set points for running time and shaking frequency

7.1 Operation and display elements on the control panel



- ① To switch the Shaking Apparatus on and off
- ② Display shows the preset running time and the remaining running time during operation of the Shaking Apparatus
- ③ Display shows the preset or actual shaking frequency
- ④ Switch: to start or to terminate the shaking motion, and to confirm altered set points of shaking frequency and running time
- ⑤ Switch: to set lower shaking frequency and running time points
- ⑥ Change-over key: switches to setting shaking frequency and running time points.
- ⑦ Switch: to set higher shaking frequency and running time points.

7.2 Setting shaking frequency and running time

After pressing switch 1 to switch on the Shaking Apparatus, displays 2 and 3 show the last set and memorized set points of running time and shaking frequency. By pressing switch 6 the setting mode of the unit alternates between setting modes of shaking frequency and running time. Displays 2 and 3 show the respective set point, put in flashing brackets. The respective set point can now be increased using switch 7 or decreased using switch 5.

Altered set points are confirmed using switch 4. The Shaking Apparatus starts operation. The set points are memorized after switching off the shaking motion with switch 4 and switching off the unit with switch 1

The running time of the Shaking Apparatus can be preset either between 1 minute and 99:59 hours for timed runs or for continuous operation. Continuous operation can be set with switch 5 in the operation mode and is displayed by the symbol - : - - ,. The settable shaking frequency range of the various models can be taken from Technical Data of these operating instructions. Mistakenly preset set points can be altered during operation with switch 6 and switches 5 and 7, and switch 4, as described above. Set points that are altered during operation will not be memorized when the Shaking Apparatus is switched off with switch 1.

If the Shaking Apparatus is not used for a longer period, it should be separated from the mains.

7.3 Remote control via PC (optional RS 232 - interface)



Caution:

Before initiation, please check the Shaking Apparatus assembly to make sure that any hazard is excluded. The Shaking Apparatus must be operated within field of vision.

If the Shaking Apparatus is in remote control mode, take special caution in the operation area of the Shaking Apparatus. The remote control programme may start the Shaking Apparatus at any time.

An interface module with connection at the back of the Shaking Apparatus generates the transmission format RS 232. The interface allows reading out current actual and set values. In order to set values, the unit has to be switched to remote control mode via a PC signal. Function of switches 4 – 7 is then blocked. A PC symbol flashes in display 3.

The connection cable between interface and PC must not be longer than 3 metres. After switching on the remote control mode, the regulator is inactive, the shaking motion is switched off, and the set value is 0.

If the transmitted set value is within the permissible range, the Shaking Apparatus will start shaking at the chosen frequency. The shaking motion is cut off by setting the value to 0. If the Shaking Apparatus is to be operated manually again, the remote control mode has to be switched off via a PC signal. The PC symbol in the display disappears.

For operation of the RS 232 interface, an interface protocol is available on request. Please advise model and serial numbers of the Shaking Apparatus.

8 Functional description

Analog control:

Über ein mechanisches Uhrenlaufwerk wird der Schüttelapparat in der Betriebsart Dauer- oder zeitbegrenzter Betrieb eingeschaltet.

Digital control:

A microprocessor controller regulates the shaking frequency of the Shaking Apparatus in continuous or timed operation. The Shaker can be operated manually via the control panel as well as in remote control mode via PC.



All models are equipped with ac motors, protected against overload. The electronic frequency control ensures a gentle start-up, irrespective of load.

A stable and durable mechanical construction serves to impart the torque of the motor with the specific shaking motion to the shaking platform.

The four plastic pins on the shaking platform serve to fix the accessories (chapter 15).

9 Servicing, maintenance and clearing possible defects



Please make sure that no fluids come into contact with cable connections or the electrical parts of the inside unit!

Before cleaning and/or opening the unit (only by an electrician!) always pull the plug from the mains socket.

9.1 Exchanging the fuses



The two fuses of the Shaking Apparatus are situated in a drawer at the back of the unit. In order to check or to exchange these fuses, press the fixing clips on both sides of the drawer and pull.

The fuses may only be exchanged against fuses of the same type. Information on the fuse type can be found on the nameplate next to the unit plug and in the spare parts list of these operating instructions.

9.2 Breakdown in case of overload and mains failure

Overheating of the Shaking Apparatus due to overload will cause the unit to be switched off. Caution, the unit will restart automatically after cooling down. After a mains failure, the Shaking Apparatus with digital control will not restart automatically, but has to be restarted as described in chapter 7.2.

If the Shaking Apparatus fails due to any kind of breakdown, the unit must by all means be separated from the mains before it is touched.

LAUDA- GFL Shaking Apparatus are produced with first class materials and are made to withstand even rough service conditions. Nevertheless, the units should only be subjected to rough conditions within sensible limits. The off-white powder-coated surfaces of the housing and the shaking platform may be cleaned with mild detergents, if necessary.

Please do not hesitate to contact your local dealer or us for technical support. In case of complaints please contact your local dealer or us

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Servicings, repairs or modifications must be carried out according to the commonly recognised Technical Rules and Regulations by competent electricians only.

Only original spare parts must be used. Always demand a detailed confirmation of the carried out tasks by the person in charge (company, date, signature).

10 Disposal of Old Units

LAUDA-GFL will take responsibility, within the scope of the legal directives, for an environmentally sound handling and disposal of all used LAUDA-GFL units as of the production year 1995 that are returned to us free of charge and will have it materially recycled. Before the unit is returned, a legally binding declaration must be provided from the sender confirming that the unit is free from harmful and/or hazardous contaminations as well as from hazardous substances caused by the previous use of the unit.

LAUDA-GFL laboratory apparatus are exclusively designed for industrial use and may not be disposed of through public waste disposal authorities.

EAR Registration Number WEEE-ID.NO.DE 67770231

11 Technical Data

11.1 Varioshake Shaking Apparatus VS 8 B, VS 8 BE

	VS 8 B	VS 8 BE
Exterior dimensions (W x D x H)	350 mm x 355 mm x 160 mm	350 mm x 375 mm x 160 mm
Shaking platform (W x D)	330 mm x 330 mm	330 mm x 330 mm
Max. load depending on the kind of load (even load distribution) and the required shaking frequency.	up to max. 8 kg	up to max. 8 kg
Control	digital	analog
Shaking motion	reciprocating	reciprocating
Shaking amplitude	20 mm	20 mm
Shaking frequency	20 - 300 min ⁻¹	20 - 300 min ⁻¹
Timer	1 min to 99:59 hrs or continuous operation	up to 60 min or continuous operation
Electrical connection	115 V or 230 V, +/- 10 %, 50 / 60 Hz	115 V or 230 V, +/- 10 %, 50 / 60 Hz
Mains fuse	10 A	10 A
Internal fuse	F1 / F2 500 mA T	F1 / F2 500 mA T
Power	65 W	65 W
Protection type / class	I / IP20	I / IP20
Surrounding conditions	Use only inside buildings. also in incubation and tempering rooms (not in explosion endangered surroundings)	Use only inside buildings. also in incubation and tempering rooms (not in explosion endangered surroundings)
Temperature	+ 10 °C to + 50 °C	+ 10 °C to + 60 °C
Humidity	max. 70 % rel. humidity up to 31 °C, decreasing to 50 % rel. humidity at 50 °C, non-condensing.	max. 70 % rel. humidity up to 31 °C, decreasing to 50 % rel. humidity at 60 °C, non-condensing.
Weight	13.0 kg	13.0 kg

11.2 Varioshake Shaking Apparatus VS 8 O, VS 8 OE

	VS 8 O	VS 8 OE
Exterior dimensions (W x D x H)	350 mm x 355 mm x 160 mm	350 mm x 375 mm x 160 mm
Shaking platform (W x D)	330 mm x 330 mm	330 mm x 330 mm
Max. load depending on the kind of load (even load distribution) and the required shaking frequency.	up to max. 8 kg	up to max. 8 kg
Control	digital	analog
Shaking motion	orbital	orbital
Shaking amplitude	10 mm	10 mm
Shaking frequency	20-300 min ⁻¹	20-500 min ⁻¹
Timer	1 min to 99:59 hrs or continuous operation	up to 60 min or continuous operation
Electrical connection	115 V or 230 V, +/- 10 %, 50 / 60 Hz	115 V or 230 V, +/- 10 %, 50 / 60 Hz
Mains fuse	10 A	10 A
Internal fuse	F1 / F2 500 mA T	F1 / F2 500 mA T
Power	65 W	65 W
Protection type / class	I / IP20	I / IP20
Surrounding conditions	Use only inside buildings. also in incubation and tempering rooms (not in explosion endangered surroundings)	Use only inside buildings. also in incubation and tempering rooms (not in explosion endangered surroundings)
Temperature	+ 10 °C to + 50 °C	+ 10 °C to + 60 °C
Humidity	max. 70 % rel. humidity up to 31 °C, decreasing to 50 % rel. humidity at 50 °C, non-condensing.	max. 70 % rel. humidity up to 31 °C, decreasing to 50 % rel. humidity at 50 °C, non-condensing.
Weight	13.0 kg	13.0 kg

11.3 Varioshake Shaking Apparatus VS 15 O, VS 15 B

	VS 15 O	VS 15 B
Exterior dimensions (W x D x H)	480 mm x 487 mm x 160 mm	480 mm x 487 mm x 160 mm
Shaking platform (W x D)	450 mm x 450 mm	450 mm x 450 mm
Max. load depending on the kind of load (even load distribution) and the required shaking frequency.	up to max. 15 kg	up to max. 15 kg
Control	digital	digital
Shaking motion	orbital	reciprocating
Shaking amplitude	30 mm	30 mm
Shaking frequency	20-300 min ⁻¹	20-300 min ⁻¹
Timer	1 min to 99:59 hrs or continuous operation	1 min to 99:59 hrs or continuous operation
Electrical connection	115 V or 230 V, +/- 10 %, 50 / 60 Hz	115 V or 230 V, +/- 10 %, 50 / 60 Hz
Mains fuse	10 A	10 A
Internal fuse	F1 / F2 500 mA T	F1 / F2 500 mA T
Power	65 W	65 W
Protection type / class	I / IP20	I / IP20
Surrounding conditions	Use only inside buildings. also in incubation and tempering rooms (not in explosion endangered surroundings)	Use only inside buildings. also in incubation and tempering rooms (not in explosion endangered surroundings)
Temperature	+ 10 °C to + 50 °C	+ 10 °C to + 50 °C
Humidity	max. 70 % rel. humidity up to 31 °C, decreasing to 50 % rel. humidity at 50 °C, non-condensing.	max. 70 % rel. humidity up to 31 °C, decreasing to 50 % rel. humidity at 50 °C, non-condensing.
Weight	23.5 kg	23.5 kg

11.4 Varioshake Shaking Apparatus VS 15 T, VS 15 R

	VS 15 T	VS 15 R
Exterior dimensions (W x D x H)	480 mm x 487 mm x 160 mm	480 mm x 487 mm x 160 mm
Shaking platform (W x D)	450 mm x 450 mm	450 mm x 450 mm
Max. load depending on the kind of load (even load distribution) and the required shaking frequency.	up to max. 15 kg	up to max. 15 kg
Control	digital	digital
Shaking motion	three-dimensional orbital rocking	rocking
Shaking amplitude	3 degrees to horizontal	3 degrees to horizontal
Shaking frequency	2-50 min ⁻¹	2-50 min ⁻¹
Timer	1 min to 99:59 hrs or continuous operation	1 min to 99:59 hrs or continuous operation
Electrical connection	115 V or 230 V, +/- 10 %, 50 / 60 Hz	115 V or 230 V, +/- 10 %, 50 / 60 Hz
Mains fuse	10 A	10 A
Internal fuse	F1 / F2 500 mA T	F1 / F2 500 mA T
Power	90 W	90 W
Protection type / class	I / IP20	I / IP20
Surrounding conditions	Use only inside buildings. also in incubation and tempering rooms (not in explosion endangered surroundings)	Use only inside buildings. also in incubation and tempering rooms (not in explosion endangered surroundings)
Temperature	+ 10 °C to + 50 °C	+ 10 °C to + 50 °C
Humidity	max. 70 % rel. humidity up to 31 °C, decreasing to 50 % rel. humidity at 50 °C, non-condensing.	max. 70 % rel. humidity up to 31 °C, decreasing to 50 % rel. humidity at 50 °C, non-condensing.
Weight	23.5 kg	23.5 kg

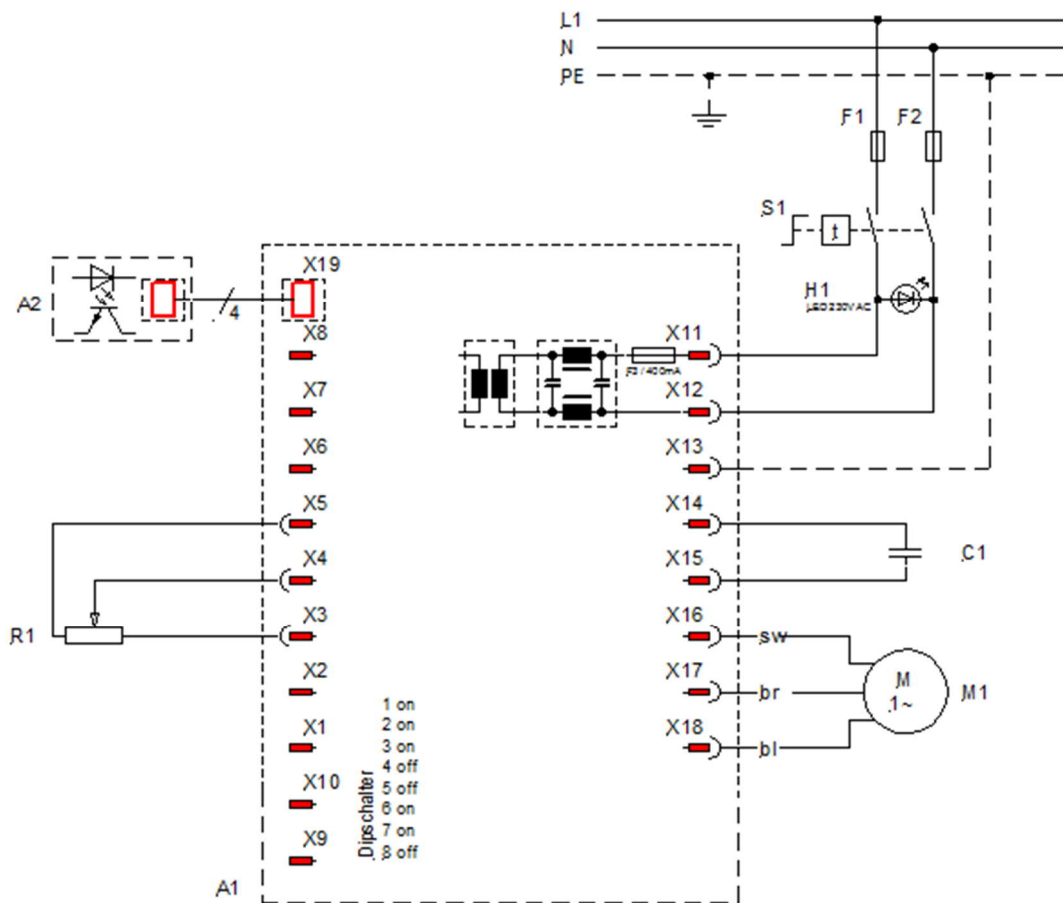
11.5 Varioshake Shaking Apparatus VS 30 O

VS 30 O

Exterior dimensions (W x D x H)	705 mm x 607 mm x 160 mm
Shaking platform (W x D)	676 mm x 540 mm
Max. load depending on the kind of load (even load distribution) and the required shaking frequency.	up to max. 30 kg
Control	digital
Shaking motion	orbital
Shaking amplitude	32 mm
Shaking frequency	20-250 min ⁻¹ (with platform frame 20-200 min ⁻¹)
Timer	1 min to 99:59 hrs or continuous operation
Electrical connection	115 V or 230 V, +/- 10 %, 50 / 60 Hz
Mains fuse	10 A
Internal fuse	F1 / F2 500 mA T
Power	90 W
Protection type / class	I / IP20
Surrounding conditions	Use only inside buildings. also in incubation and tempering rooms (not in explosion endangered surroundings)
Temperature	+ 10 °C to + 50 °C
Humidity	max. 70 % rel. humidity up to 31 °C, decreasing to 50 % rel. humidity at 50 °C, non-condensing.
Weight	44.0 kg

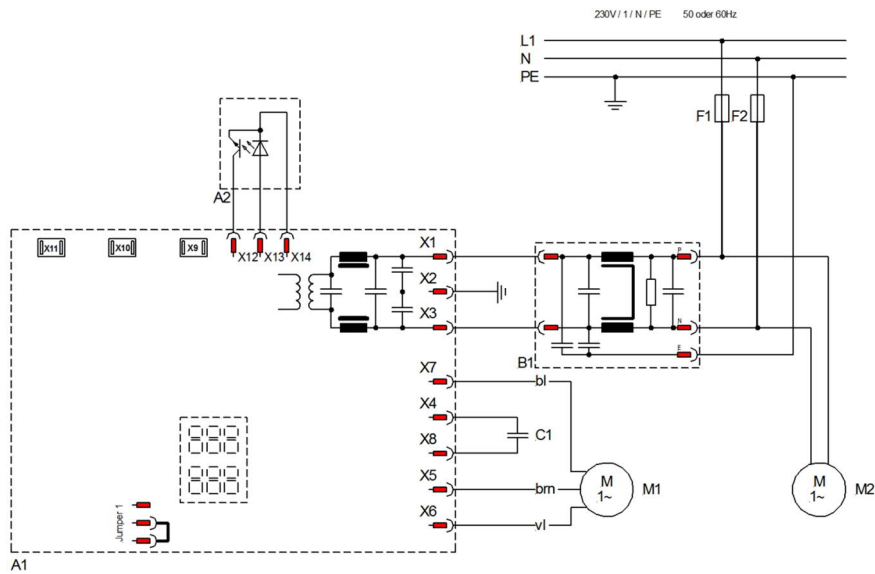
12 Circuit diagram

12.1 Varioshake Shaking Apparatus VS 8 OE, VS 8 BE

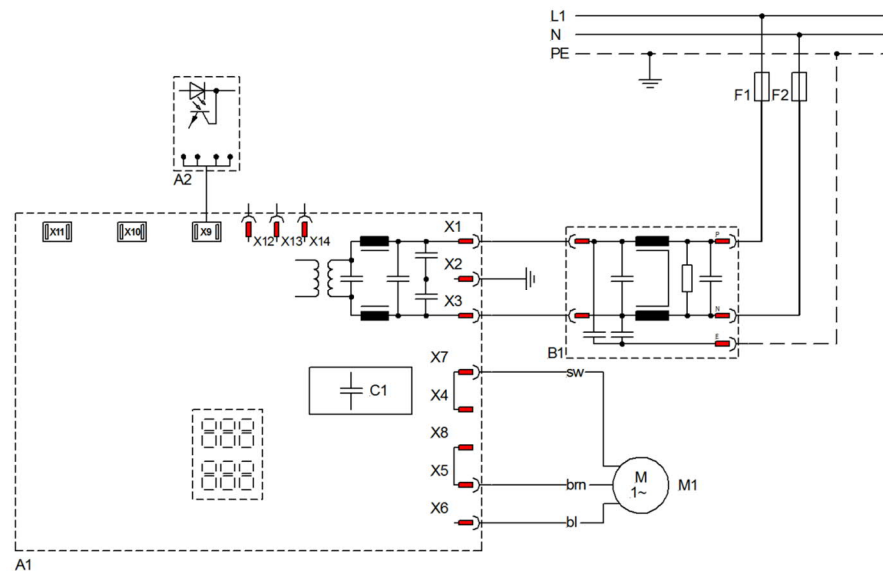


A1	Frequency control
A2	Forked light barrier
C1	Condenser
F1	Fuse 500 mA inert
F2	Fuse 500 mA inert
F3	Fuse 400 mA
H1	Operation pilot lamp
M1	Drive motor
R1	Potentiometer
S1	Timer
	Timed operation up to 60 minutes and continuous operation

12.2 Varioshake Shaking Apparatus VS 15 T, VS 15 R, VS 30 O



12.3 Varioshake Shaking Apparatus VS 8 O, VS 8 B, VS 15 O, VS 15 B



- A1 Microprocessor-controlled frequency control
- A2 Forked light barrier
- B1 Interference filter
- C1 Condenser
- F1 Fuse 500 mA inert
- F2 Fuse 500 mA inert
- M1 Drive motor

13 Connection to the mains supply

LAUDA-GFL Varioshake Shaking Apparatus are supplied with a pre-assembled, cast-on shock-proof plug (CEE 7/7). Make sure to connect to a protective conductor terminal.

Colour coding of the mains cable

ge/gr – yellow/green

bl – blue

sw – black

Mains supply

PE (Protective earth)

N

L1

13.1 Electrical fuses

Model	Power	Power consumption at mains voltage *	Mains fuse (F4, F5)
VS 8 O VS 8 B VS 8 OE VS 8 BE	0.065 kW	0.3 A at 230 V	10 A (max. 16 A)

Model	Power	Power consumption at mains voltage *	Mains fuse (F4, F5)
VS 15 O VS 15 B	0.065 kW	0.3 A at 230 V	10 A (max. 16 A)

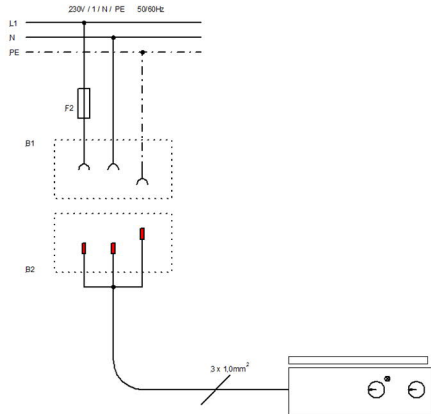
Model	Power	Power consumption at mains voltage *	Mains fuse (F4, F5)
VS 15 T VS 15 R VS 30 O	0.090 kW	0.4 A at 230 V	10 A (max. 16 A)

* see nameplate

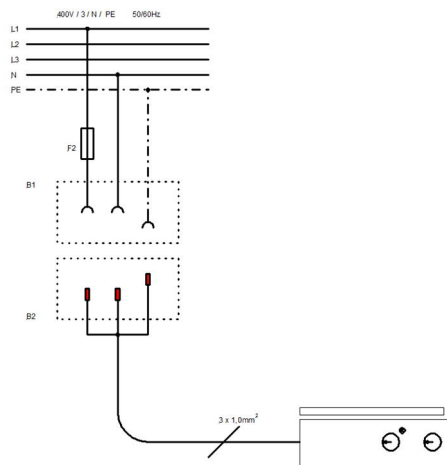
13.2 Examples for connection to the mains supply

Components

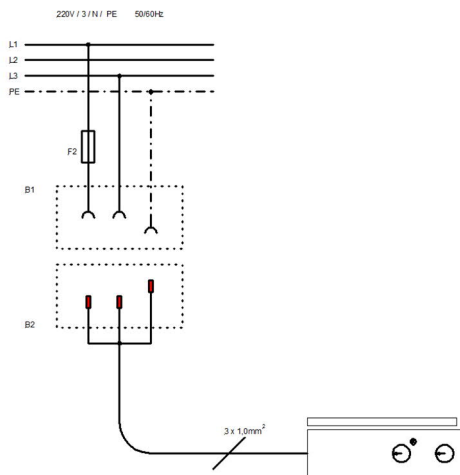
- B1 Shock-proof socket (on-site)
- B2 Shock-proof plug (mounted on the unit)
- F4 Mains fuse (on-site)
- F5 Mains fuse (on-site)



Varioshake Shaking Apparatus in 230 V
with mains supply 230 V / N / PE / 50 / 60 Hz,
connected through 3-pole shock-proof plug system.



Varioshake Shaking Apparatus in 230 V
with mains supply 400 V / 3 ~ / N / PE / 50 / 60 Hz
connected through 3-pole shock-proof plug system.

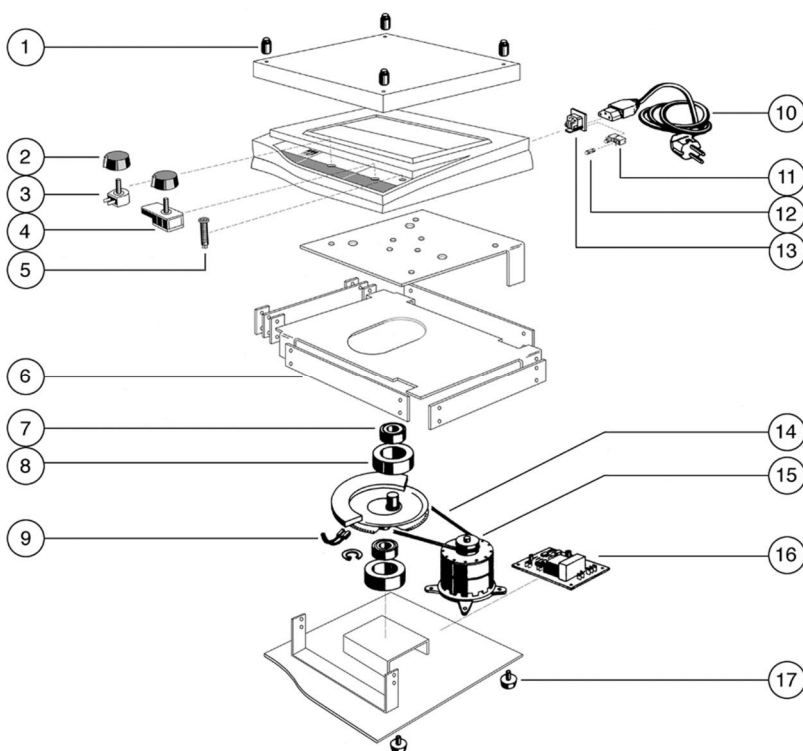


Varioshake Shaking Apparatus in 230 V
with mains supply 230 V / 3 ~ / PE / 50 / 60 Hz
connected through 3-pole shock-proof plug system.

14 Lists of spare parts

14.1 Varioshake Shaking Apparatus VS 8 OE, VS 8 BE

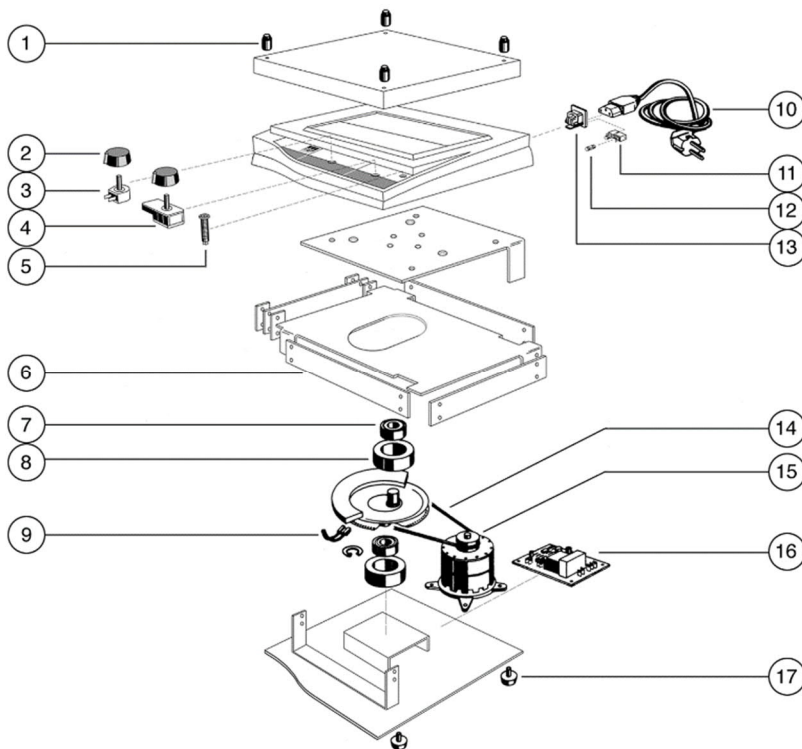
Pos. No.	Part-No.	Article
1	0015533	Pivot shaft
2	0014579	Knob
	0014580	Indicating dial
3	0030103	Potentiometer
4	0013309	Timer
5	0012634	Green pilot lamp
6	0026281	Flat spring (Set complete)
7	0026283	Ball bearing
8	0015522	Ball bearing seat
9	A000097	Forked light barrier
10	0030096	Mains connection cable
11	0012045	Drawer
12	0012915	Fine fuse 0,5 A inert
14	A000112	Driving belt for model VS 8 OE
	0017330	Driving belt for model VS 8 BE
15	A000073	Motor (please order together with belt pulley)
	0015575	Belt pulley for model VS 8 OE
	0015565	Belt pulley for model VS 8 BE
16	0013788	Frequency control
17	0014320	Stand



Please always state model and serial no of the water still when placing an order for spare parts (information on name plate).

14.2 Varioshake Shaking Apparatus VS 8 O, VS 8 B

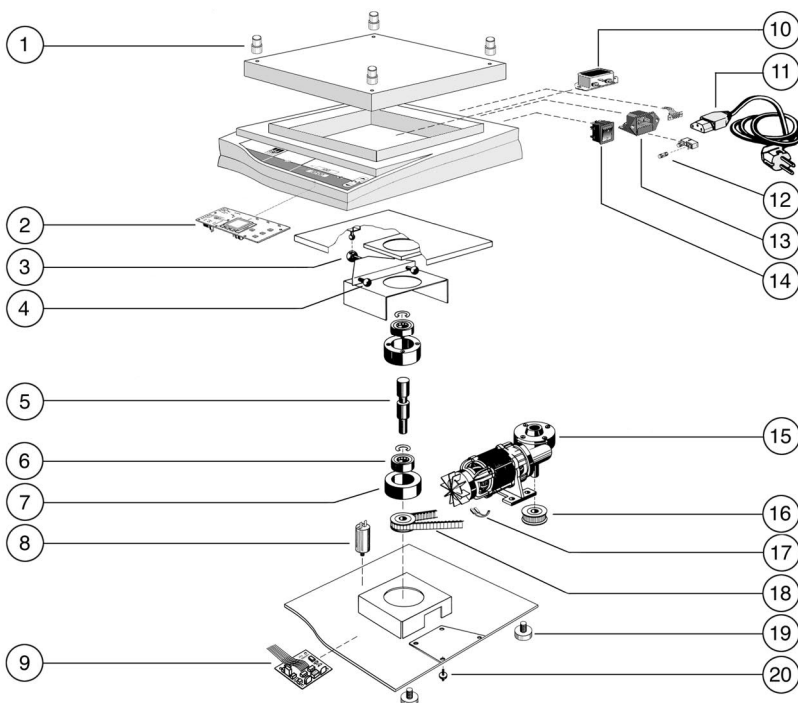
Pos. No.	Part-No.	Article
1	0015533	Pivot shaft
2-5	A000101	Microprocessor control
6	0026281	Flat spring (Set complete)
7	0026283	Ball bearing
8	0015522	Seat for ball bearing
9	A000097	Forked light barrier
10	0030010	Mains connection cable
11	0012045	Drawer
12	0012915	Fine fuse 0,5 A T
13	0012044	Unit plug
14	0026615	Driving belt for VS 8 O
	0017330	Driving belt for VS 8 B
15	A000073	Motor
	0015565	Belt pulley for VS 8 O
	0013737	Belt pulley for VS 8 B
17	0014320	Stand



Please always state model and serial no of the water still when placing an order for spare parts (information on name plate).

14.3 Varioshake Shaking Apparatus VS 15 T

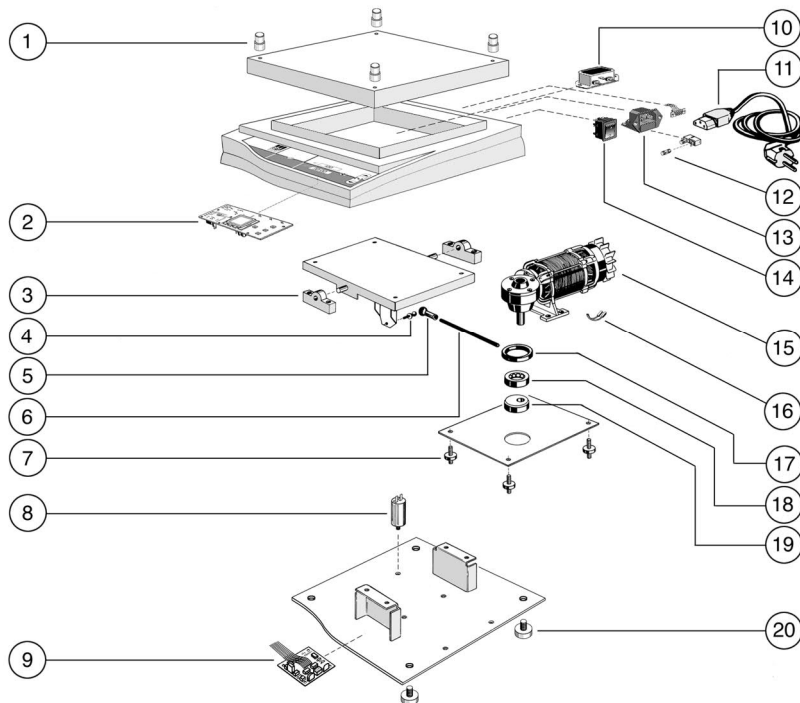
Pos. No.	Part-No.	Article
1	0015533	Pivot shaft
2	A000101	Microprocessor control
3	0015417	Ball brass
4	0015416	Ball pivot
5	0015536	Drive shaft
6	0026283	Ball bearing
7	0015522	Seat for ball bearing
8	0012798	Condenser
9	0013778	RS232 interface
10	0030116	Mains suppression filter
11	0030010	Mains connection cable
12	0012045	Drawer
	0012915	Fine fuse 0,5 A T
13	0012044	Unit plug
15	0012141	Geared motor
16	0026606/10	Studded disc d=10mm
17	0012847	Forked light barrier
18	0026604	Toothed belt
19	0013311	Stand
20	0014310	Rubber / metal buffer



Please always state model and serial no of the water still when placing an order for spare parts (information on name plate).

14.4 Varioshake Shaking Apparatus VS 15 R

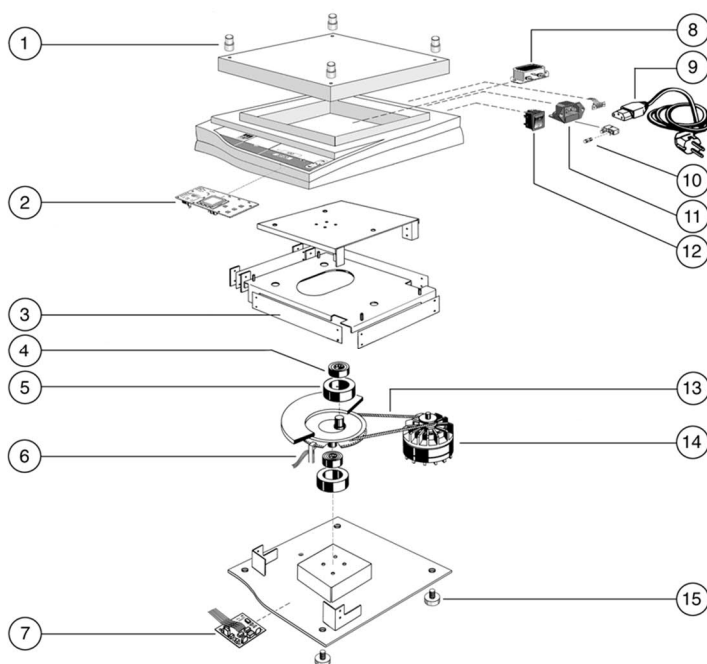
Pos. No.	Part-No.	Article
1	0015533	Pivot shaft
2	A000101	Microprocessor control
3	0026269	Slide bearing
4	0015416	Ball pivot
5	0015417	Ball brass
6	0015141	Connecting rod
7	0014310	Rubber / metal buffer
8	0012798	Condenser
9	0013778	RS232 interface, optional
10	0030116	Mains suppression filter
11	0030010	Mains connection cable
12	0012045	Drawer
	0012915	Fine fuse 0,5 A T
13	0012044	Unit plug
15	0012141	Geared motor
16	0012847	Forked light barrier
17	0015485	Ball bearing seat
18	0026264	Ball bearing
19	0015484	Eccentric
20	0014311	Stand



Please always state model and serial no of the water still when placing an order for spare parts (information on name plate).

14.5 Varioshake Shaking Apparatus VS 15 O, VS 15 B

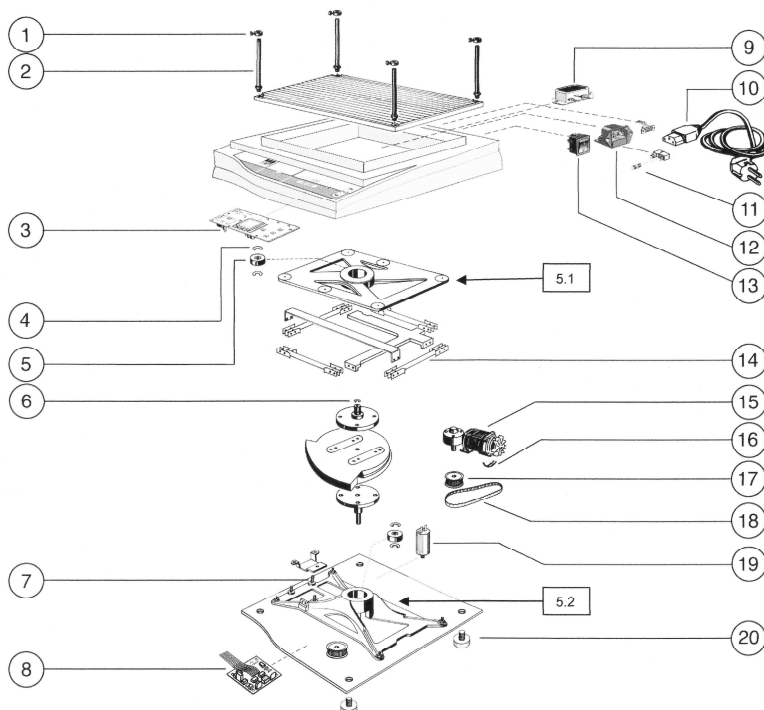
Pos. No.	Part-No.	Article
1	0015533	Pivot shaft
2	A000101	Microprocessor control
3	0026285	Flat spring (Set complete)
4	0026283	Ball bearing
5	0015522	Seat for ball bearing
6	A000097	Forked light barrier
7	0013778	RS232 interface, optional
8	0030116	Mains suppression filter
9	0030010	Mains connection cable
10	0012045	Drawer
	0012915	Fine fuse 0,5 A T
11	0012044	Unit plug
13	A000112	Driving belt
14	A000073	Motor
	0015531	Belt pulley for motor
15	0014320	Stand



Please always state model and serial no of the water still when placing an order for spare parts (information on name plate).

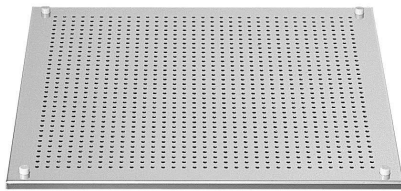
14.6 Varioshake Shaking Apparatus VS 30 O

Pos. No.	Part-No.	Article
1	0015464	Adjusting ring
2	0015463	Support rod
3	A000101	Microprocessor control
4	0025408	Securing ring
5	0026257	Ball bearing
5.1	0015211	Upper ball bearing seat (incl. ball bearing Pos. No.5, pre-assembled)
5.2	0015210	Lower ball bearing seat (incl. ball bearing Pos. No.5, pre-assembled)
6	0025407	Securing ring
7	0014310	Rubber metal buffer
8	0013778	RS232 interface, optional
9	0030116	Mains suppression filter
10	0030010	Mains connection cable
11	0012045	Drawer
	0012915	Fine fuse 0,5 A T
12	0012044	Unit plug
14	0026297	Flat spring (Set complete with holders)
15	A000070	Geared motor (Studded disc, pre-assembled, pos. 17, to be ordered with the motor.)
16	0012847	Forked light barrier
17	0026607	Studded disc
18	0026605	Belt
19	0030119	Condenser
20	0014311	Stand



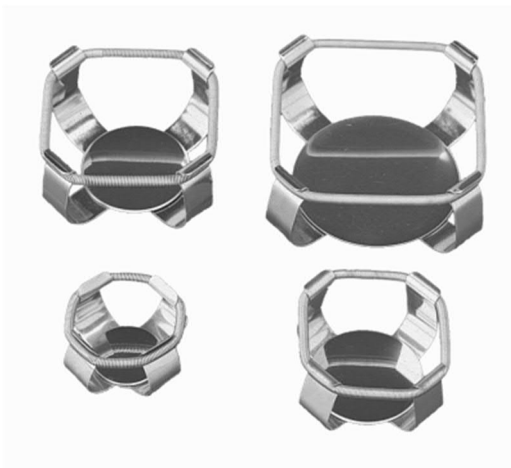
Please always state model and serial no of the water still when placing an order for spare parts (information on name plate).

15 Accessories



Shaking Tray with holes to fix clamps for Erlenmeyer flasks and separating funnels, and to fix test tube rack A000059

Part-No. A000044 made of stainless steel for models VS 8
 Part-No. A000045 made of stainless steel for models VS 15
 Part-No. A000047 made of anodized aluminium for model VS 30 O



Clamps for Erlenmeyer flasks, made of stainless steel. Supplied complete with fixing material to be screwed onto shaking tray A000023.
 * =Höchstmengen an Klammern pro Tablar.

Part-No. A000025	for	25 ml Erlenmeyer flasks
Part-No. A000026	for	50 ml Erlenmeyer flasks
Part-No. A000027	for	100 ml Erlenmeyer flasks
Part-No. A000028	for	200 ml Erlenmeyer flasks
Part-No. A000029	for	250-300 ml Erlenmeyer flasks
Part-No. A000030	for	500 ml Erlenmeyer flasks
Part-No. A000031	for	1000 ml Erlenmeyer flasks
Part-No. A000053	for	2000 ml Erlenmeyer flasks



Clamps for separating funnels, made of stainless steel. Supplied complete with fixing material, to be screwed onto a shaking tray.

Part-No. A000054	for	50ml separating funnels
Part-No. A000055	for	100ml separating funnels
Part-No. A000056	for	250ml separating funnels
Part-No. A000057	for	250ml separating funnels (conical form)
Part-No. A000058	for	500ml separating funnels



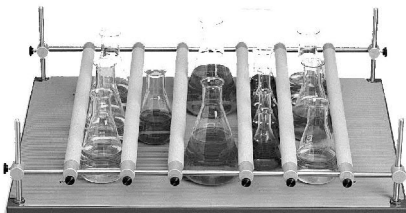
Non-slip Rubber Mat for slow moving e. g. of culture media in petri dishes.

Part-No. A000042 for VS 8
 Part-No. A000043 for VS 15



Universal mount for safe fixing of various shaking objects between rubber-coated bars.

Part-No. A000048 with 4 rubber-coated bars for VS 8
 Part-No. A000049 with 6 rubber-coated bars for VS 15



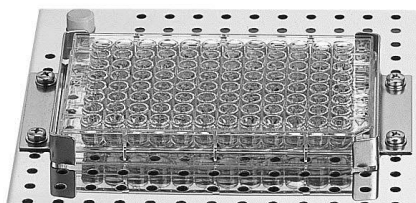
Universalaufsatz zur sicheren Befestigung unterschiedlicher Schüttelobjekte zwischen gummierten Querstangen

Part-No. A000050 with 6 rubber-coated bars for VS 30



Adhesive mat, black. Strong adhesive special mat for easy attachment of different vessels onto the shaking platform or tray. Max. shaking speed: up to 250 min^{-1} (depending on shape and weight of the vessel as well as on the shaking amplitude). Dimensions: 200 x 200 mm, the mat can be cut or trimmed with scissors. Temperature: 15 bis $50 \text{ }^\circ\text{C}$

Part-No. A000041



Holder for fixing test plates on shaking trays
 one set, including screwing material

Part-No. A000061



Test Tube Rack, seat for test tubes can be tilted by 90 ° for easy loading, with springs for firm hold and silent shaking of the tubes. Supplied complete with fixing material to be screwed onto a shaking tray.

Part-No. A000059 for 24 tubes 75-160 mm length / Ø 12-17 mm
Part-No. A000060 for 16 tubes 75-160 mm length / Ø 25-29 mm



Platform Frames to increase the capacity of the Shaking Apparatus made of stainless steel with 4 levels

Part-No. A000051 for VS 15 T and VS 15 R

EC DECLARATION OF CONFORMITY

Hereby we,

LAUDA-GFL Gesellschaft für Labortechnik mbH
Schulze-Delitzsch-Str. 4+5
30938 Burgwedel
Federal Republic of Germany

declare that the below stated **Varioshake Shaking apparatus** models:

**VS 8 O, VS 8 B, VS 8 OE, VS 8 BE
VS 15 O, VS 15 B, VS 15 T, VS 15 R
VS 30 O**

with the technical data:

**230 V, 50 / 60 Hz
0.065 kW (VS 8 O, VS 8 B, VS 8 OE, VS 8 BE, VS 15 O, VS 15 B)
0.090 kW (VS 15 T, VS 15 R, VS 30 O)**

are in conformity with the following EC Directives:

**I 2006/42/EC (Machinery Directive)
II 2014/30/EU (EMC Directive)
III 2011/65/EU + (EU) 2015/863 (RoHS Directive)**

For conformity **with I** the following standards were applied:

EN 61010 - 1:2010

For conformity **with II** the following standard was applied:

EN 61326-1:2013

Authorized representative for the compilation of the technical documentation:

Mr Florian Wunderling at LAUDA-GFL

LAUDA-GFL Ges. für Labortechnik mbH



Andreas Degmayr
Managing director

Burgwedel, 01 July 2020

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