



INSTALLATION, OPERATION AND CARE MANUAL

REMEMBER TO COMPLETE THE ONLINE
WARRANTY REGISTRATION TO
RECEIVE YOUR FULL TWO YEAR WARRANTY.

WARRANTY

All Scientific equipment comes with a standard ONE year warranty, The 1 Year Extended Warranty is only valid for customers who have registered their warranty online at www.scientific.co.za within the first year after making their purchase.

MANUFACTURED
IN SOUTH AFRICA





ALL SCIENTIFIC EQUIPMENT COMES WITH A TWO
YEAR WARRANTY ON COMPONENTS AND
DEFECTIVE WORKMANSHIP - Ts & Cs APPLY.

REGISTER ONLINE TODAY

- Register your warranty on-line at www.scientific.co.za today and learn how to get the best out of your Scientific product.

NO WEB ACCESS?

- If you do not have access to the Web, register by completing this form and Email it to the Scientific head office in South Africa. Email: sales@scientific.co.za

ONLY COMPLETE IF YOU DO NOT HAVE WEB ACCESS

Company _____

Name _____

Surname _____

Telephone _____

Cellphone _____

Email Address _____

Country _____

Postal address _____

Scientific products purchased _____

Product Code (see box label) _____

Serial number (see back of machine) _____

INTENDED USE

- | | | |
|---------------------------------------|--|---|
| <input type="checkbox"/> Agriculture | <input type="checkbox"/> Genetics | <input type="checkbox"/> Pharmaceutical Physics |
| <input type="checkbox"/> Automotive | <input type="checkbox"/> Industrial | <input type="checkbox"/> Power Generation |
| <input type="checkbox"/> Biochemistry | <input type="checkbox"/> Medical | <input type="checkbox"/> Special Metals |
| <input type="checkbox"/> Botony | <input type="checkbox"/> Microbiology | <input type="checkbox"/> Sugar |
| <input type="checkbox"/> Chemistry | <input type="checkbox"/> Mining | <input type="checkbox"/> Water |
| <input type="checkbox"/> Cosmetics | <input type="checkbox"/> Nuclear | <input type="checkbox"/> Zoology |
| <input type="checkbox"/> Electronics | <input type="checkbox"/> Paper/Packaging | <input type="checkbox"/> Other (Specify): _____ |
| <input type="checkbox"/> Food | <input type="checkbox"/> Petrochemical | |



LIMITED WARRANTY

The manufacturer guarantees that this unit is free from defect in materials and workmanship when it leaves the factory and undertakes to replace or repair the unit if it proves defective in normal use or during servicing for a period of 1(one) year. The date of original installation and is for the benefit of the original purchaser only. The liability under this warranty is limited to repairing the defective unit or any part of the unit provided it is sent carriage paid to an authorized dealer. All other Warranties ,expressed or implied , statutory or otherwise, including without limitations any implied Warranty of Merchantability or fitness for purpose are excluded .The Seller shall in no event be liable for direct,indirect or consequential damages in connection with the products.

This unit is at all times to be used according to the instruction manual and for its normal purpose.

This Warranty is not effective if damage occurs because of accident, carelessness,improper installation,lack of proper set-up,supervision when required or if the equipment is installed or operated in any manner contrary to the installation and operating instructions. In these cases,repairs will be made at a reasonable cost. Work performed by unauthorized personnel or unauthorized service agencies voids this Warranty.

ORBITAL /LINEAR SHAKER



**INSTALLATION OPERATION AND CARE OF
ORBITAL SHAKER
LINEAR SHAKER
MODELS: 261/262/264**

UNPACKING

Unpack the product and check for any damage incurred during transit. This should be reported to the responsible carrier, railway or postal authority, and a request for a damage report should be made.



THESE INSTRUCTIONS MUST BE FOLLOWED FOR US TO GUARANTEE OUR FULL SUPPORT OF YOUR CLAIM FOR PROTECTING AGAINST LOSS FROM CONCEALED DAMAGE. THE FORM FOR FILING SUCH A CLAIM WILL BE PROVIDED BY THE CARRIER.

PRODUCT DESCRIPTION

These heavy duty shakers have been developed in three sizes to accommodate an 8kg, 20kg and a 30kg load respectively.

The units feature an analogue setting knob and digital indicating meter showing rotational speed. Speed control is microprocessor controlled. A 120 minute timer with infinity setting is fitted.

The shakers are quiet running and belt driven via a cast iron eccentric drive platform. Shaking platforms are supplied with four clamping bars and rubber mat. There is a built in fuse which can be reset via a push button located on the rear of the unit.

Shaking speeds are variable from 10 to 250 rpm. The stroke for the Orbital Shakers is 25mm (Model 261 & 262) and for the Linear Shaker it is 40mm (Model 263)



THE 264 LINEAR SHAKER CAN AT HIGHER SPEEDS AND HEAVIER LOADS BECOME UNSTABLE

GENERAL INSTALLATION AND OPERATION INFORMATION

- Position the unit on a stable bench.
- Ensure that the unit is at least 100mm - 200mm from the wall and other equipment to ensure that the platform does not come into contact with any object during the shaking cycle.
- Do not overload the platform. Where possible distribute the load evenly.
- Start the unit with the speed setting on a low position to avoid sudden movement and possible spillage.

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SPECIFIC INSTALLATION AND OPERATING INFORMATION

MODEL 261
MODEL 262

ORBITAL PLATFORM SHAKER 8kg
ORBITAL PLATFORM SHAKER 30kg

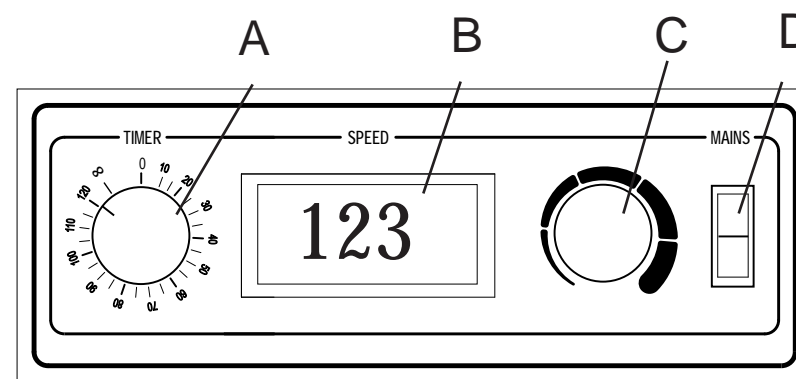


FIG 1.1

CONTROL PANEL

1. Ensure that the power plug of the unit is plugged into the mains power socket
2. Place the sample on the platform and secure with clamping bars by loosening the end screws, positioning bars and then re-tightening the end screws.
3. Select the cycle time required by turning knob "A" clockwise or alternatively turn knob counter clockwise to the ∞ (infinity) position. The infinity position will ensure that the shaker remains on continuously.
4. Press the mains switch "D" to the on position. The switch will now illuminate indicating there is power to the unit
5. Select the rotation speed required by turning knob "C". The rotation speed will be indicated on the digital display "B"

SPECIFIC INSTALLATION AND OPERATING INFORMATION
MODEL 264 LINEAR PLATFORM SHAKER 20kg

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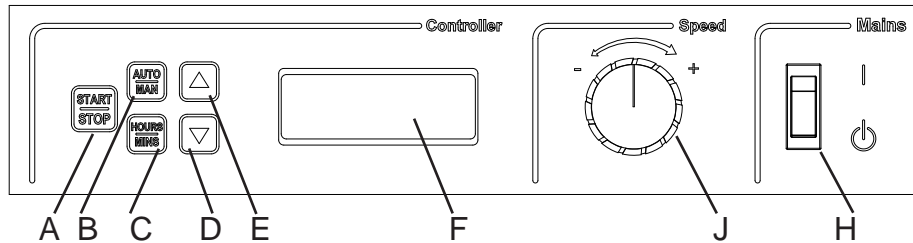


FIG 1.2

CONTROL PANEL

1. Ensure that the power plug of the unit is plugged into the mains power socket.
2. Place the sample on the platform and secure with clamping bars by loosening the end screws, positioning bars and then re-tightening the end screws.
3. Press the mains switch "H" to the ON position. The switch "H" and Controller display "F" will now illuminate indicating there is power to the unit.
4. Select the cycle time. By pressing button "B" you can alternate between Manual and Automatic modes.
 In Manual mode the time display will run up showing how long the the unit has been operational.
 In Automatic mode the operational time can be set and the time display will run down to zero, showing how much time is left for the preset cycle. To set time, in Automatic mode press button "C" to alternate between Hours, Minutes and Seconds. Set each individually by pressing button "E" to increase value or alternatively press button "D" to decrease value.
 "RUN TIME:" must be displayed again before the "START" button can be pressed.
5. Select the rotation speed required by turning knob "J" clockwise to increase or counter clockwise to decrease speed value.
6. START and/or STOP the unit by PRESSING button "A".

EXPLODED VIEW LEGEND**MODEL: LINEAR SHAKER****MODEL CODE : 264 R00**

Part No.	SCE Part No.	Description
1	3-RM-264	RUNNER MAT
2	3-S/TUBE-10MM	SILICON TUBE - CROSS BAR COVER
3	6-SCB-264	CROSS BAR
4	SE060-26	SHAKER PLATFORM
5	SE060-27	SHAKER PLATFORM SIDES
6	3-WRAP-KNOB	CROSS BAR ADJUSTING KNOB
7		LINEAR SHAKER BODY
8	1-EC-CODE264	ELECTRONIC CONTROLLER
9	4-FACIA	FASCIA
10	3-CAP-OVENKNOB	CONTROL KNOB CAP
11	3-OVEN-KNOB	CONTROL KNOB
12	1-17TAF	MAINS SWITCH
13	SE060-24	BOTTOM COVER
14	3-L-RDS	RUBBER FOOT
15	7-BEAR-608	608-2Z BEARING
16	7-BEAR-108-TVH	108-TVH SELF ALIGNING BEARING
17	6-CS-264	CRANK ARM
18		LINEAR PLATFORM
19	SE060-20	RETAINING BRACKET
20	6-SLIDER-264	RETAINING SLIDER
21	6-LBH-264	LINEAR BEARING HOUSING
22	7-SB13MM-264	LINEAR BEARING
23	1-MOT-CODE264	MOTOR
24	7-SP-264	DRIVING PULLEY
25	SE060-25	ENCODER DISC
26	1-PCB-105-EC	ENCODER SENSOR
27	7-BELT-264	BELT
28	7-LP-264	DRIVEN PULLEY
29	SE060-22	PULLEY FLANGE
30	SE060-23	CENTER WASHER
31	14-CIRCLIP-10MM	10MM EXTERNAL CIRCLIP
32	6-CBH-264	CENTER BEARING HOUSING
33	7-BEAR-6000	6000-2Z BEARING
34		ECCENTRIC SHAFT
35	SE060-18	BEARING PLATFORM
36	6-HSPACE-264	PLATFORM SPACER
37	SE060-17	BASE PLATFORM

CLEANING

BEFORE CLEANING THE UNIT, DISCONNECT THE POWER PLUG FROM THE MAINS SOCKET!

- Clean the outside of the unit using a damp cloth with soapy water.
- Under no circumstances should steel wool be used.
- Do not clean with organic solvents.
- Do not submerge in water or subject the unit to water spray.



CLEAN THE STAINLESS STEEL PARTS WITH WATER AND SOAP. AVOID THE USE OF DETERGENTS CONTAINING ABRASIVE SUBSTANCES. ALWAYS RINSE WELL AND DRY CAREFULLY AFTER CLEANING. DO NOT USE PRODUCTS CONTAINING AGGRESSIVE CHEMICALS, ACIDS OR PRODUCTS WITH CHLORINE TO CLEAN THE STAINLESS STEEL EVEN IF DILUTED



WARNING

Electric Shock Hazard.

Keep water and other liquids from entering the inside of the equipment. Liquid inside the equipment could cause an electrical shock.

Do not spray water or cleaning products. Liquid could contact the electrical components and cause a short circuit or an electrical shock. Do not use equipment if power cord is damaged or has been modified.

SAFETY

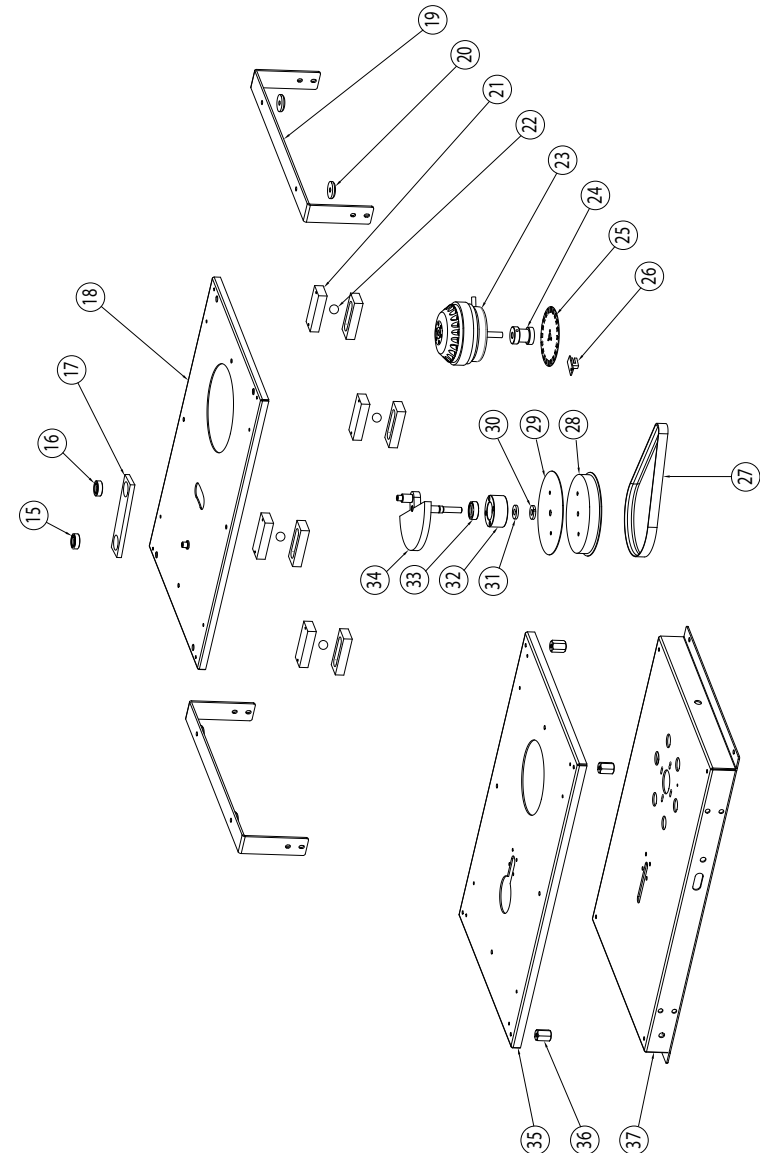
READ ALL INSTRUCTIONS BEFORE USE. FAILURE TO FOLLOW THESE PRECAUTIONS COULD RESULT IN INJURY TO YOURSELF AND OTHERS

1. Use the Shakers on an individual 15A mains outlet only. **DO NOT OVERLOAD THE CIRCUIT.**
2. Ensure that the equipment and the power supply cord does not come into contact with hot surfaces.
3. This unit is only to be used by properly trained laboratory staff.
4. If the supply cord is damaged, it must be replaced with a new cord assembly available from the suppliers agent.
5. Use only earthed outlets matching the serial plate voltage.
6. Have equipment installed by a qualified personnel in accordance with local codes and ordinances.
7. Use equipment in a flat level position.
8. Do not operate if equipment has been damaged or is malfunctioning in any way.
9. These units are designed to run only on alternating current (A.C.) **DO NOT CONNECT TO DIRECT CURRENT (D.C)**

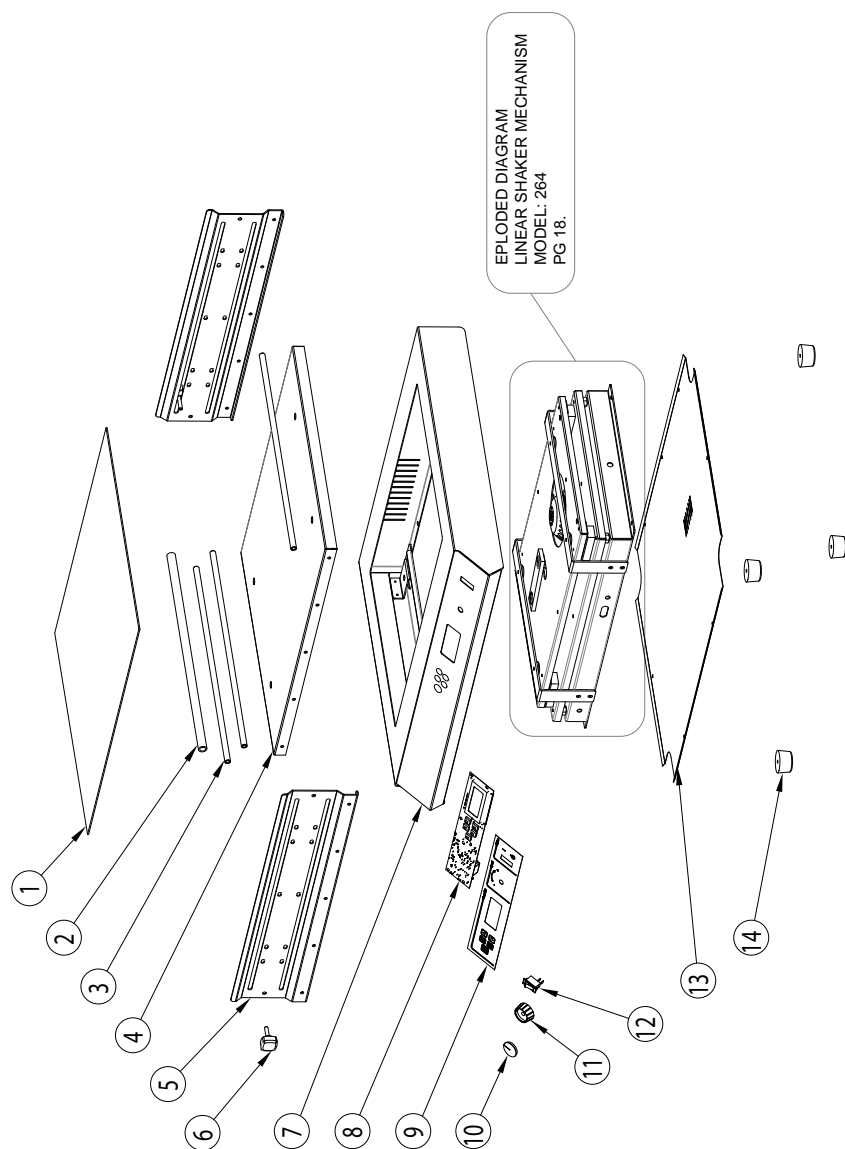
SAFETY RECOMMENDATIONS

1. When loading and unloading the shaker platforms, turn the speed control to a slow setting and switch off the mains switch (switch "D" - FIG 1.1 & 1.2).
2. Be aware of the range of movement of the platform and keep objects clear of the shaker before switching on.

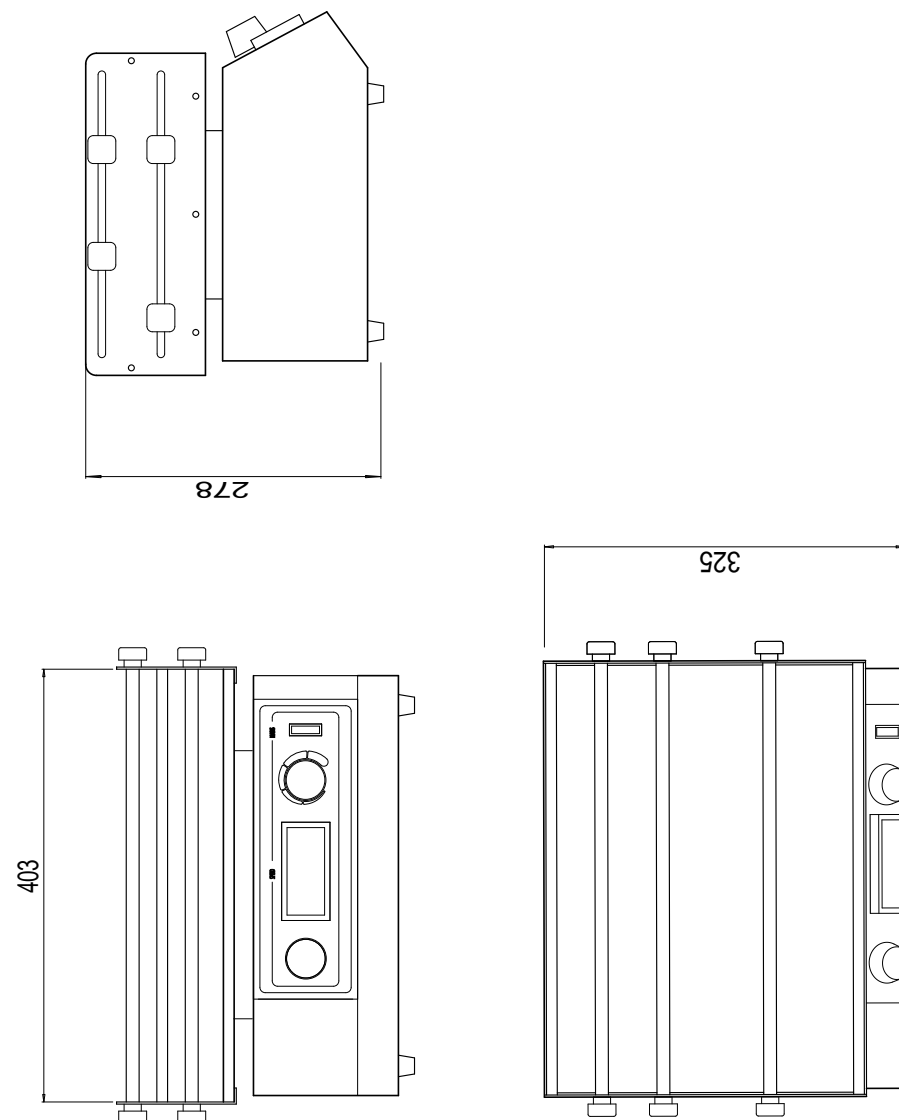
EXPLODED DIAGRAM - LINEAR MECHANISM MODEL: LINEAR SHAKER MODEL CODE: 264 R00



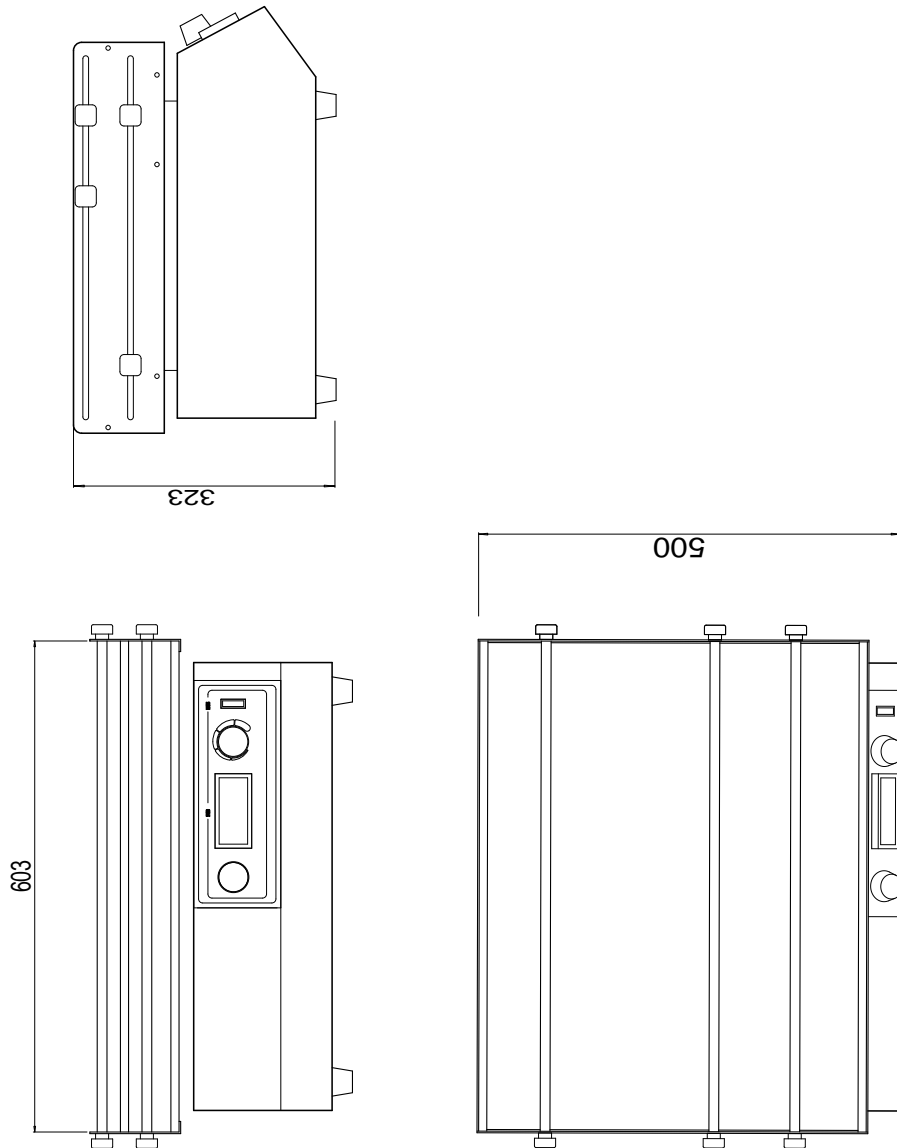
EXPLODED DIAGRAM - MAIN ASSEMBLY
MODEL: LINEAR SHAKER
MODEL CODE: 264 R00



POSITIONING DIAGRAM
ORBITAL SHAKER
MODEL: 261



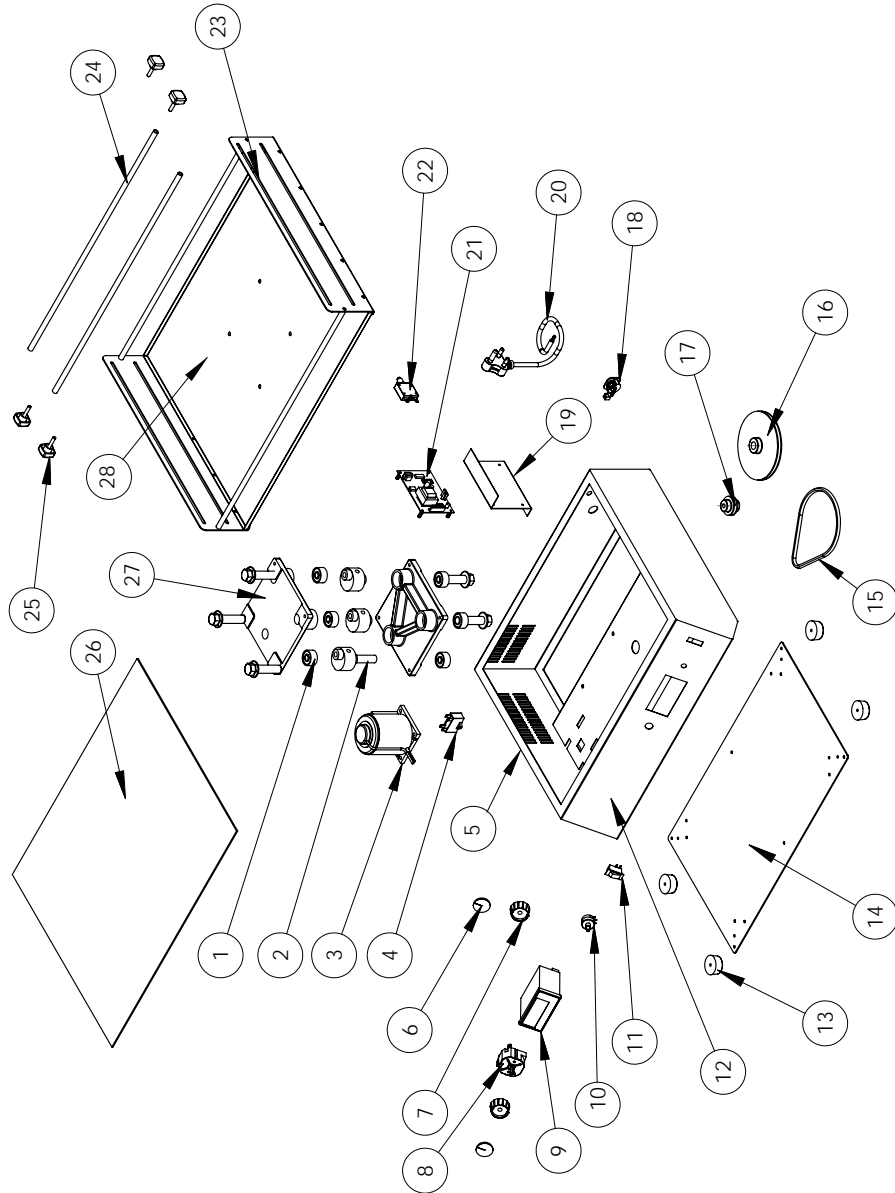
**POSITIONING DIAGRAM
ORBITAL SHAKER
MODEL: 262**



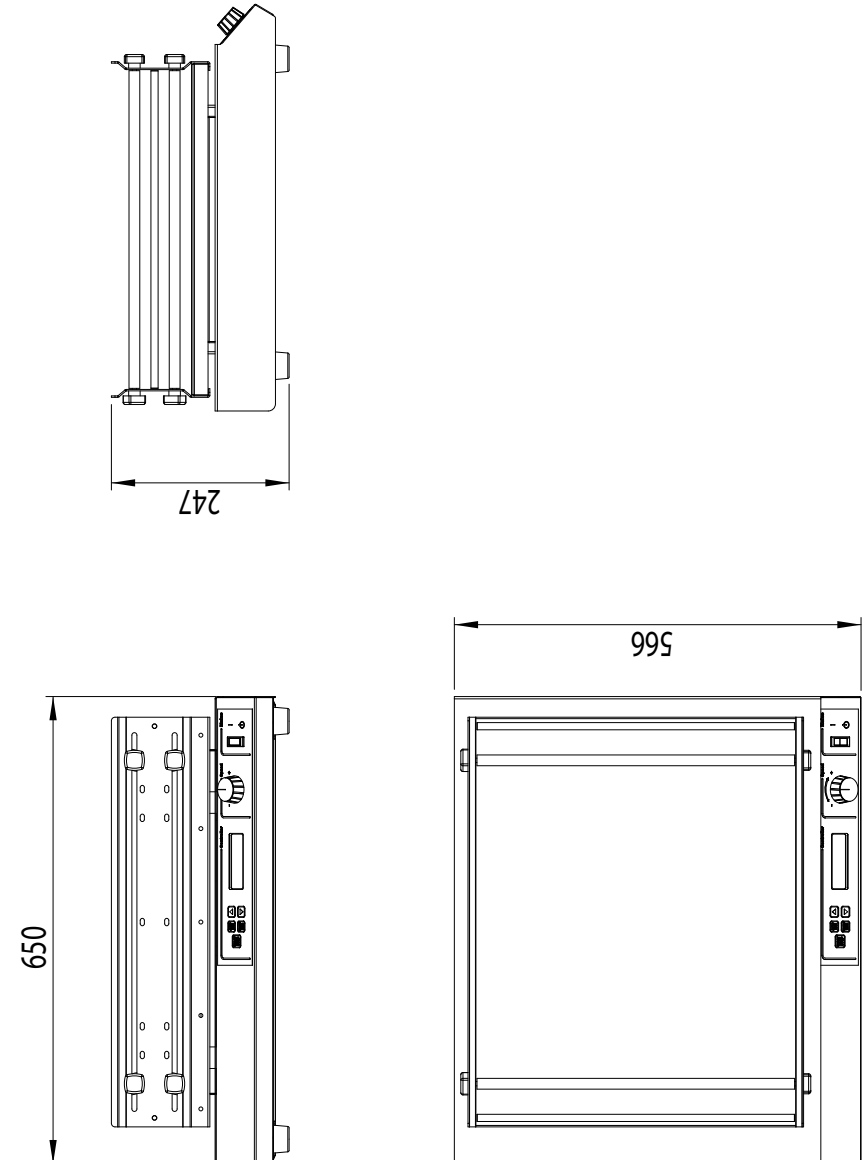
**MODEL : ORBITAL SHAKER
MODEL CODE : 262 R00**

Part No.	Description
1	CAM TABLE BEARING
2	CAM
3	SHAKING MOTOR
4	MOTOR CAPACITOR
5	OUTER ENCLOSURE
6	KNOB CAP
7	KNOB
8	2 HOUR TIMER
9	SHAKING SPEED INDICATOR
10	SPEED CONTROL POTENTIONMETER
11	SWITCH
12	FACIA
13	RUBBER FOOT
14	BOTTOM COVER
15	V BELT
16	SHAKING PULLEY
17	MOTOR PULLEY
18	CABLE GRIP
19	PCB BRACKET
20	POWER CORD
21	SHAKING MOTOR PC BOARD CONTROL
22	RESETABLE FUSE
23	SIDE PANEL
24	SHAKER CROSS BAR
25	CROSS BAR LOCKING KNOB
26	3MM RUBBER MAT
27	SHAKER MOUNTING TABLE
28	TOP TRAY

**EXPLODED DIAGRAM
ORBITAL SHAKER
MODEL: 262**



**POSITIONING DIAGRAM
LINEAR SHAKER
MODEL: 264**



ELECTRICAL CONNECTION INFORMATION

MODEL	DESCRIPTION	VOLTS (V/Hz)	POWER (WATTS)	CAPACITY kg	PLATFORM SIZE (mm)
261	ORBITAL SHAKER	230/50	120	8	400 x 300
262	ORBITAL SHAKER	230/50	120	30	600 x 480
264	LINEAR SHAKER	230/50	40	20	600 x 480



THE CONTROL COMPARTMENT OF THIS UNIT CONTAINS DANGEROUS VOLTAGES. MAINTENANCE AND SERVICING REQUIRING THE REMOVAL OF ANY PANELS OR COVERS SHOULD BE DONE BY QUALIFIED SERVICE PERSONNEL ONLY.

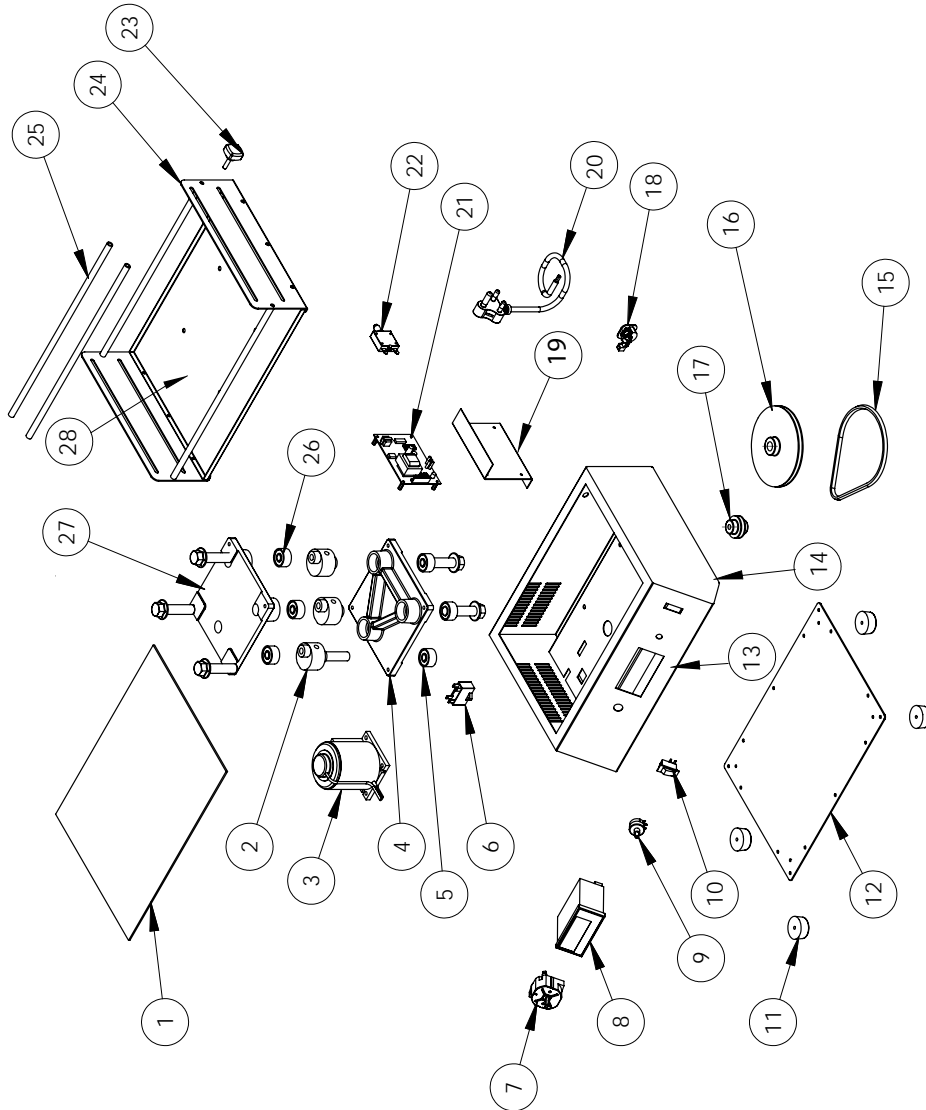


IT IS ESSENTIAL TO MAKE SURE THAT THE INCOMING VOLTAGE IS THE SAME AS THE RATED VOLTAGE OF THE OF THE UNIT AS FOUND ON THE SERIAL PLATE. THE SERIAL PLATE IS LOCATED AT THE REAR OF THE UNIT ADJACENT TO THE INCOMING CABLE ENTRY.

MODEL : ORBITAL SHAKER MODEL CODE : 261 R00

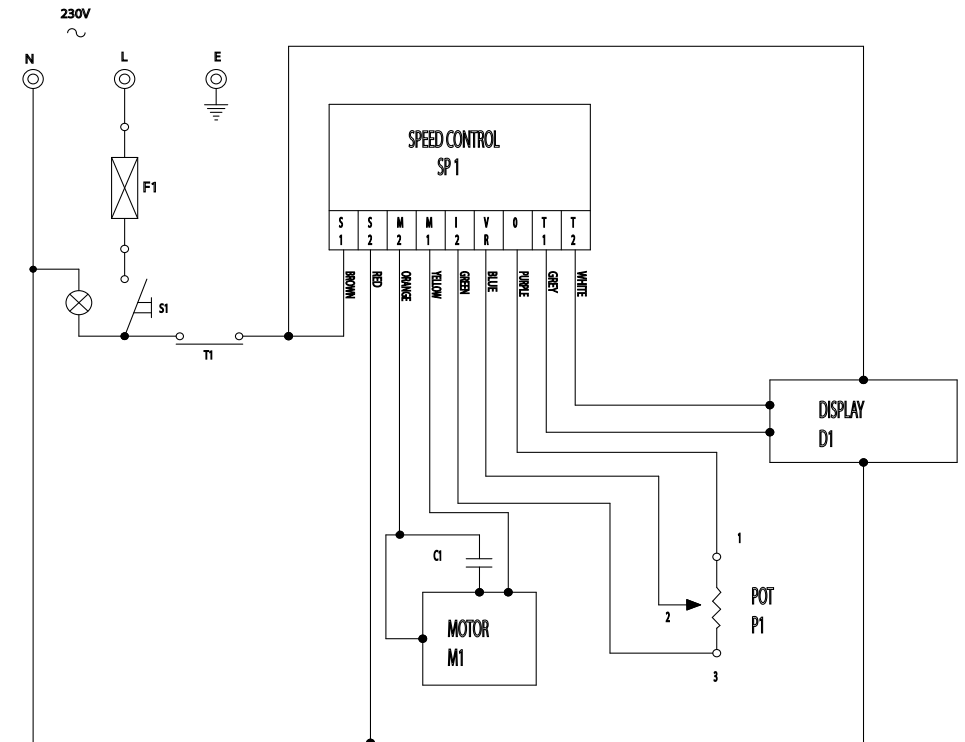
Part No.	Description
1	3MM RUBBER MAT
2	CAM
3	SHAKING MOTOR
4	SHAKER BASE PLATE
5	CAM TABLE BEARING
6	MOTOR CAPACITOR
7	2 HOUR TIMER
8	SHAKING SPEED INDICATOR
9	SPEED CONTROL POTENTIONMETER
10	SWITCH
11	RUBBER FOOT
12	BOTTOM COVER
13	FACIA
14	OUTER ENCLOSURE
15	V BELT
16	SHAKING PULLEY
17	MOTOR PULLEY
18	CABLE GRIP
19	PCB BRACKET
20	POWER CORD
21	SHAKING MOTOR PC BOARD CONTROL
22	RESETABLE FUSE
23	CROSS BAR LOCKING KNOB
24	SIDE PANEL
25	SHAKER CROSS BAR
26	CAM TABLE BEARING
27	SHAKER MOUNTING TABLE
28	TOP TRAY

EXPLODED DIAGRAM ORBITAL SHAKER MODEL: 261



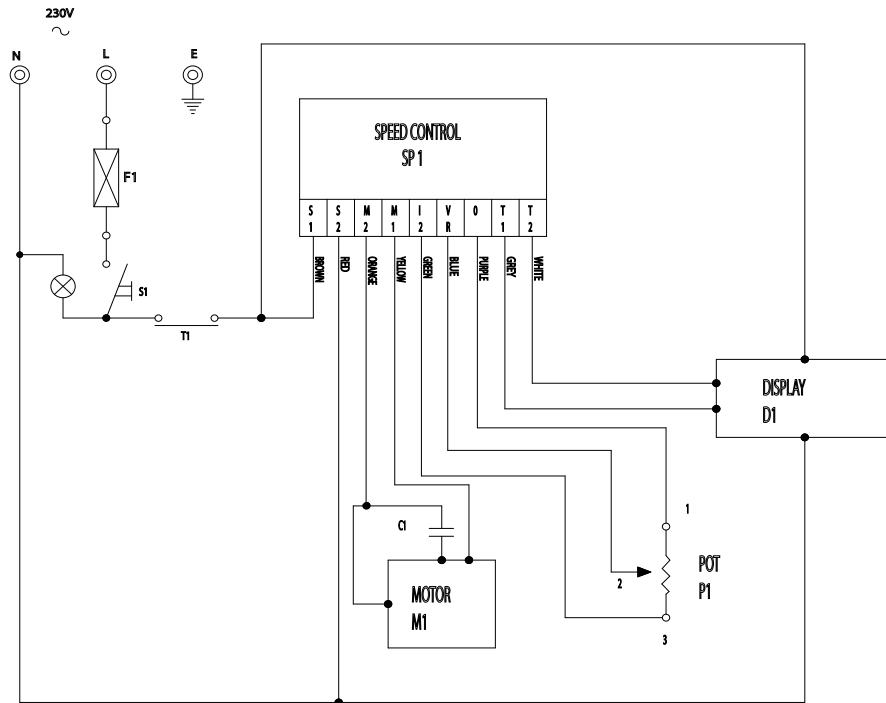
WIRING DIAGRAM MODEL: ORBITAL SHAKER MODEL CODE: 261

LEGEND	DESCRIPTION	PART NUMBER
M1	MOTOR	1-MOT-261
C1	CAPACITOR	1-CAP-1.5MF
F1	INLINE FUSE	1-RF-261
S1	MAIN SWITCH	1-17TAF
P1	SPEED CONTROL POTENTIOMETER	1-SCP-261
D1	SPEED INDICATOR	1-SI-261
SP1	SPEED CONTROL	1-SC-261
H1	CONTROL PILOT LIGHT	1-PL-GP
T1	2 HOUR TIMER	1-2HR-TIMER



WIRING DIAGRAM
MODEL: ORBITAL SHAKER
MODEL CODE: 262

LEGEND	DESCRIPTION	PART NUMBER
M1	MOTOR	1-MOT-261
C1	CAPACITOR	1-CAP-1.5MF
F1	INLINE FUSE	1-RF-261
S1	MAIN SWITCH	1-17TAF
P1	SPEED CONTROL POTENTIOMETER	1-SCP-261
D1	SPEED INDICATOR	1-SI-261
SP1	SPEED CONTROL	1-SC-261
H1	CONTROL PILOT LIGHT	1-PL-GP
T1	2 HOUR TIMER	1-2HR-TIMER



WIRING DIAGRAM
MODEL: LINEAR SHAKER
MODEL CODE: 264

LEGEND	DESCRIPTION	PART NUMBER
M	MOTOR	1-MOT-CODE264
F1	INLINE FUSE	1-RF-354
S1	MAIN SWITCH	1-17TAF
ES1	ENCODER SENSOR	1-PCB-105-EC
PCB	ELECTRONIC CONTROL	1-EC-CODE264
P1	POTENTIOMETER	1-SCP-261

