

VELP SCIENTIFICA
Constant Commitment to Knowledge Development

ML5167 Wizard Vortex



Instruction Manual

VORTEX MIXER

Wizard & Classic

90÷260V - 50÷60Hz



Preface:

Thank you for having chosen this vibrating Vortex Mixer. Vortex Mixer is suitable for the spinning and mixing of solutions in tubes (e.g. vials, Eppendorf, microtiter, etc.) or in small flasks.

Safety instructions:



Before using the unit please carefully read the operating manual supplied with the apparatus.



Do not dispose this equipment like an urban waste

In order to prevent possible risks of electric shocks, fire and harm to persons when the unit is being used, basic safety measures must always be taken, including the following:

- Make sure that the liquid does not come into contact with the power cable or the electrical parts inside the unit.
- Check that the power cable is inserted into an electric socket that corresponds to the data on the plate on the unit.
- Only correctly earthed three-terminal power cables must be used.
- Do not use the unit if it should malfunction. If this should happen, contact your nearest assistance centre.
- Personal protective equipment must be compatible with possible risks posed by the material being processed and the glass of the containers.
- Follow the cleaning instructions for the unit as described in this manual

This unit must only be used for laboratory applications

The manufacturers decline all responsibility for use of the unit that does not comply with these instructions.

This unit has been designed and produced in compliance with the following standards:

Safety requirements for electrical apparatus

| | |
|--|----------------|
| For measurement and control and for laboratory use | CEI EN 61010-1 |
| Electrical equipment for laboratory use | UL 3101-1 |
| General requirement – Canadian electrical code | CAN/CSA-C22.2 |

N.B.: *The manufacturers are committed to constantly improving the quality of their products and reserve the right to modify the characteristics thereof without prior notice.*

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1. Introduction

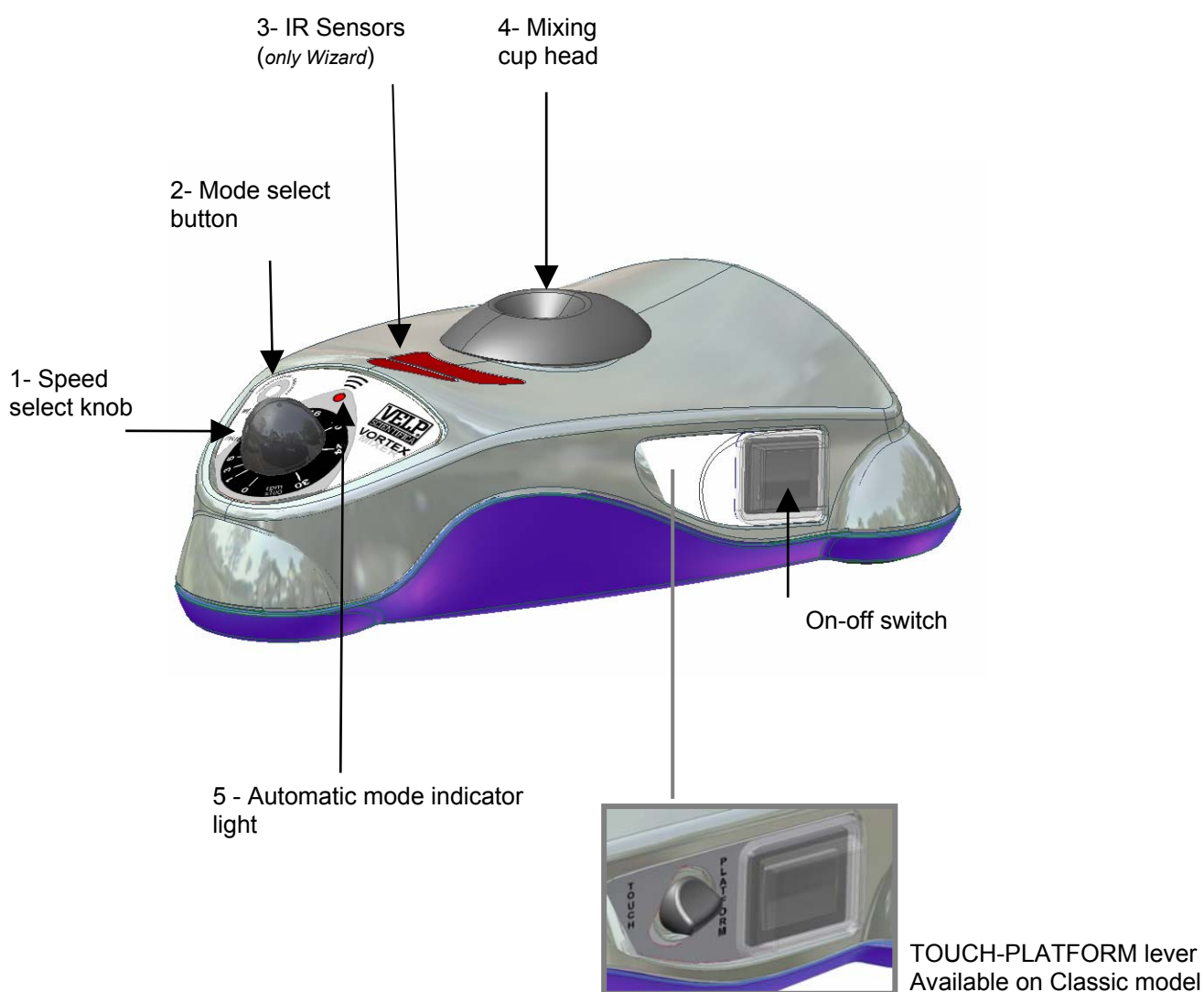
Mixing by spinning can be carried out quickly and safely by placing the tube containing the sample on the special plastic cup head.

The Vortex Mixer units offer the possibility of either automatic or continual mode start up: mixing speed for both work modes can be selected with knob (1).

The Wizard model, automatically starts mixing when the tube crosses the infrared sensor field (3) near the cup head (4); while the Classic model starts up mixing when the tube is placed on the cup head.

Selecting the continual mode by pressing key (2), the stirring is always on to the selected speed. Led (5) lighted indicates the automatic modality of the instrument.

Push fit attachment means that the mixing cup head can easily be substituted by any of the different accessories available for mixing tubes of different sizes (see Chap 7 p. 8).



1.1 Parts included

Check the unit is complete after unpacking.

The table below shows the parts included in the packing:

| Parts included | | Qty |
|----------------|---------------------------------------|-----|
| 1 | Vortex Mixer complete with cup head * | 1 |
| 2 | Power cable | 1 |
| 3 | Instruction manual | 1 |

* Two different models are available with the following product codes:

Vortex Mixer Wizard F202A0175

Vortex Mixer Classic F202A0173

1.2 Description of the unit

The unit is made from Zinc alloy die-cast and has three rubber feet and a low profile to keep the unit in place during operation in all working conditions.


Its attractive innovative design combines ergonomics and high standards of electrical safety IP42 compliant with CEI EN 60529 standards.

*The innovative infrared system used to detect the presence of the tube (Wizard version), **patent pending by Velp Scientifica**, makes routine operations simpler by avoiding the need for pressure on the cup head.*



Use the button on the front of the unit to select this mode (led lighted) and it will automatically start up at the set speed. The unit's electronics permit uniform high precision regulation at any mixing speed between 0 and 3000 rpm.

1.3 Buttons and Functions

Wizard Model

| | |
|---|--|
| <p>CONTINUOUS-SENSOR</p>  | <p>Pushing the Continuous-Sensor button activates the respective modes:</p> <ul style="list-style-type: none"> - Continuous (indicator light off) allows continuous operation mode even with different accessories; - Sensor (indicator light on) allows automatic operation mode even with different accessories. |
| <p>SPEED REGULATION KNOB</p> | <p>The knob on the front of the unit can be used for quick precision regulation of mixing speed from 0 to 3000 rpm.</p> |
| <p>ON-OFF SWITCH</p> | <p>The on-off switch turns the unit on and off. If the switch is in the “0” position the unit is off; if the switch is in the “1” position the unit is on.</p> |

Classic Model

| | |
|--|--|
| <p>CONTINUOUS-TOUCH</p>  | <p>Pushing the Continuous-Sensor button activates the respective modes:</p> <ul style="list-style-type: none"> - Continuous (indicator light off) allows continuous operation mode even with different accessories; - Touch (indicator light on) allows automatic operation mode even with different accessories |
| <p>SPEED REGULATION KNOB</p> | <p>The knob on the front of the unit can be used for quick precision regulation of mixing speed from 0 to 3000 rpm.</p> |
| <p>ON-OFF SWITCH</p> | <p>The on-off switch turns the unit on and off. If the switch is in the “0” position the unit is off; if the switch is in the “1” position the unit is on.</p> |
| <p>TOUCH-PLATFORM</p>  | <p>Turn the lever to Platform (→ in platform direction) when the mixing platforms are being used (indicator light off) to increase unit stability. Check that the lever is in the Touch position (← in touch direction) when the indicator light is on.</p> |

1.4 Information regarding construction materials

| | |
|---------------------------|------------|
| Housing | Zinc alloy |
| Paint | PET |
| Front control panel | PET |
| Cup head | SEBS |
| Feet | MQ/MVQ |
| Platform | PP |
| Foamed part for platforms | PE |

If the liquid being processed should fall onto the above materials, clean them immediately to avoid chemical corrosion.

2. Assembly and installation

2.1 Connecting to the power supply

After unpacking the unit, position it correctly on the laboratory bench. Before connecting to the power supply, check that the on-off switch is turned to “0” and check that the data on the unit’s plate correspond to those supplied by the electric socket. The unit works at voltages of between 90 and 260V with a frequency of 50 and/or 60 Hz.

N.B.

The on-off switch means the unit can be completely disconnected from the power supply when it is not in use, thus reducing energy consumption.

2.2 Start up

Check that the plastic cup head for holding the tube is correctly inserted in place.

NOTE

To replace the cup head, pull it upwards and off. The other push-fit accessories can then be inserted. (chap.7 p 8).

Also check that the speed regulation knob is turned to “0 rpm”. Use the on-off switch on the side of the unit to turn the unit on (position “I”). When switched on the unit starts up in “Sensor or Touch” mode (depending from the version of the instrument) with the indicator light on.,

3. Function controls

With the unit switched on by the general switch, use the knob on the front control panel of the unit to select the speed desired.

NOTE

Each time the unit is switched on it automatically starts up in “Sensor or Touch” mode depending on the version.

To change operation mode to continuous start up, push the button on the front control panel (“Continuous-Sensor” for the Wizard model and “Continuous-Touch” for the Classic model). When the continuous start up mode is selected the indicator light next to the button comes off.

In this way the mixing cup head is always functioning at the speed set by the relative knob.

3.1 Wizard Model

Mixing starts automatically when the tube crosses the sensor field (infrared optical system). The sensor field has been purposely designed to detect the presence of any kind of tube to be mixed.

Fig. 3 shows the sensor field of the Wizard model. By selecting automatic “**Sensor**” mode with the button on the front panel (indicator light on) mixing starts automatically when the tube enters the shaded area, without the need for any pressure on the cup head.

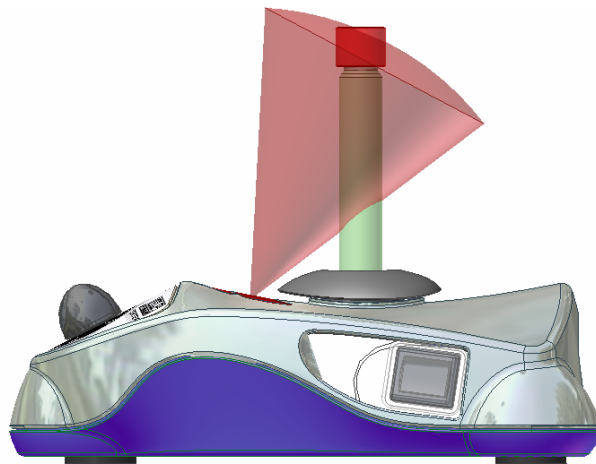


Fig. 3 WIZARD MODEL

NOTE

Vortex Mixer Wizard enables you to mix tubes without exerting pressure on the cup head, thus reducing effort by the operator. Remember however to hold the tube tightly during mixing

3.2 Classic Model

Mixing starts as the tube is pressed onto the cup head.

By selecting the automatic “**Touch**” mode with the button on the front panel (indicator light on) mixing starts up when the tube is lightly pressed down on the cup head (Fig. 4).

NOTE

Make sure that the Touch-Platform lever is in “Touch” position

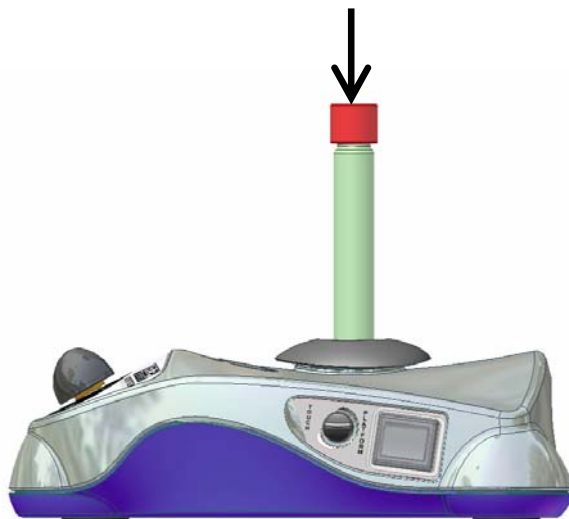


Fig. 4 CLASSIC MODEL

4. End of work session

When the work session is completed, should the unit remain connected to the power supply, switch it off using the on-off switch on the side.

5. Maintenance

No ordinary or special maintenance is necessary apart from periodic cleaning of the unit as described in this manual (chap.5.1).

In compliance with the product guarantee law, repairs to our units must be carried out in our factory, unless previously agreed otherwise with local distributors.

Should the fuse need changing, disconnect the unit from the power supply and open the cover on the back of the unit to access the two fuses (500 mA).

5.1 Cleaning

Disconnect the unit from the power supply and use a cloth dampened with a non-flammable non-aggressive detergent to clean the unit.

5.2 Disposal

For disposal of the materials and components of the unit, follow the directives and laws in force in the country where disassembly take place.

6. Accessories available on request

The following accessories can be ordered separately and are to be attached to the apposite push-fit sede once the standard cup head supplied with the unit has been removed.

To attach accessories, simply push gently until they lock into place.

| Description: | Code |
|--|------------|
| Foam stand for 19 microvials 1.5 ml - Eppendorf® | A00000012 |
| Customizable soft foam top | A00000013 |
| Foam stand 5 test tubes Ø16mm | A00000014 |
| Foam stand for microtiter | A00000015 |
| Small rubber supporting plate Ø 50mm | A00000016 |
| Big foam supporting plate Ø 94mm | A00000017* |

*Accessory recommended only for the Classic version

| | | |
|---|---|---|
|  |  |  |
| A00000012 | A00000013 | A00000014 |
|  |  |  |
| A00000015 | A00000016 | A00000017 |

WARNING

- Do not exceed a speed of 800 rpm (microtiter) when the microtiter foam stand is being used. High speeds may cause the sample to spill.
- Do not exceed a speed of 1200 rpm when platforms are being used.

NOTE

With the Classic version remember to turn the side lever (TOUCH-PLATFORM) to the PLATFORM position to optimise the unit's performance.

7. Spare parts

| Description: | Code |
|-----------------|----------|
| Mixing cup head | 10002021 |
| Knob | 10002097 |
| Foot | 10002030 |

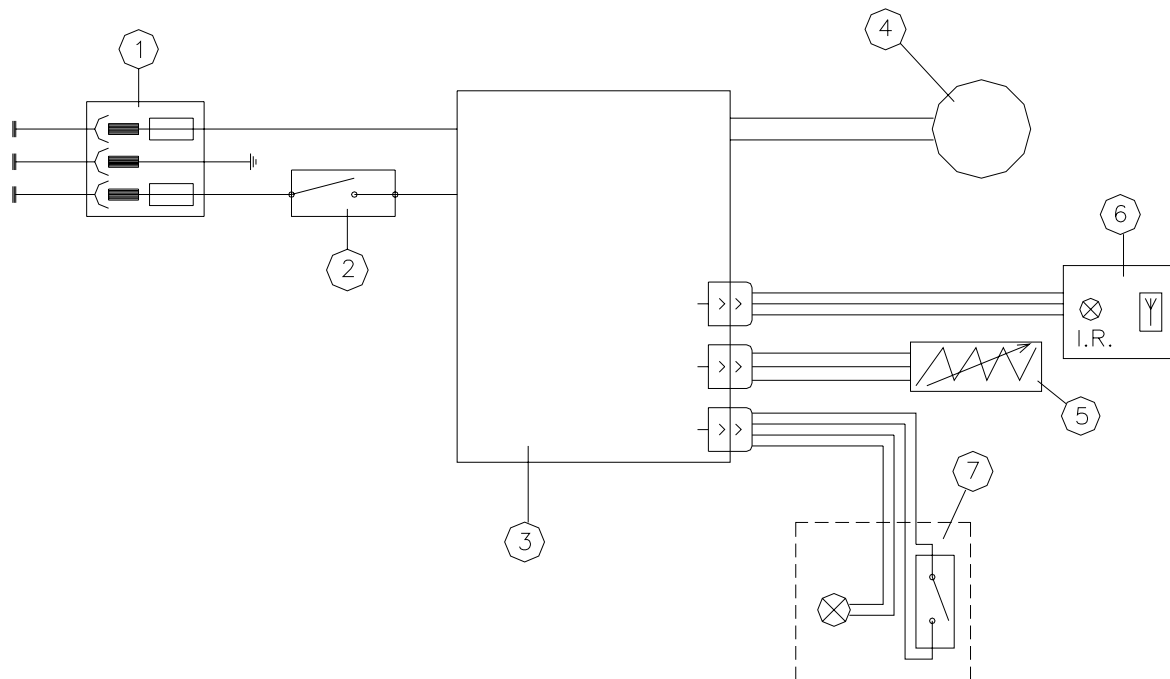
8. Technical characteristics

GENERAL

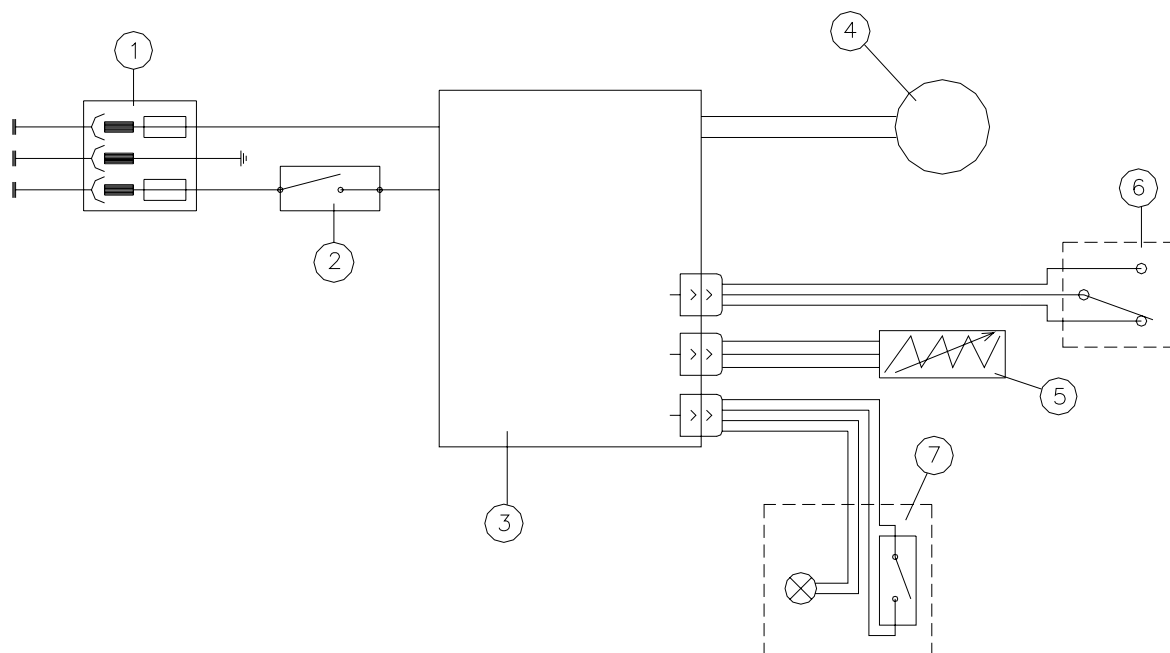
| | | |
|------------------------------|---------------|--|
| Power supply | V/Hz | 90÷260 / 50-60 |
| Power | W | 30 |
| Size | mm (wxhxd) | 180x70x220 |
| | Inch (wxhxd) | 7x2.75x8.6 |
| Weight | Kg | 2.4 |
| | lbs | 5.3 |
| Speed range | rpm (1/min) | 0÷3.000 |
| Spin diameter | mm | 4.5 |
| | Inch | 0.177 |
| Max weight on the cup head | Kg | 0.5 |
| | lbs | 1,1 |
| Construction material | | Zinc alloy die cast |
| Admitted environmental temp. | °C | 5°...+40 |
| | °F | +41...+104 |
| Admitted storage temp. | °C | -10...+60 |
| | °F | +14...+140 |
| Admitted humidity | % | Max 80 |
| Permitted operation | | Continuous |
| Operation mode | | Continuous or Automatic start (Touch or Sensor) |
| IR tube sensor | | Only Wizard model |
| Electrical safety level | CEI EN60529 | IP42 |
| Pollution degree | CEI EN61010-1 | 2 |
| Fuses | mA | 500 |

9. Wiring diagram

WIZARD Model



CLASSIC Model



8. Panel plug with fuses
9. On-off switch
10. Electronic panel
11. Electric motor
12. Potentiometer for speed regulation
13. IR card (Microswitch for Classic version)
14. Front control panel with button and indicator light

10. Guarantee

The unit is guaranteed against production defects for 25 months from the date on the delivery note and the serial number on the unit.

In accordance with this guarantee VELP SCIENTIFICA undertakes to repair any units resulting as faulty due to the quality of the materials used or poor workmanship.

Costs for returning the unit will be met by the Customer.

Units rendered faulty due to inexperienced handling/use or carelessness by the Customer's personnel will not be replaced or repaired.

Repairs not covered by the guarantee will be charged to the Customer.

Exclusions:

The guarantee will be considered null and void for faults resulting from:

- inexperience and carelessness of the Customer
- repairs, maintenance or replacement of parts carried out by personnel or Companies not approved by the manufacturers

Declaration of conformity



We

manufacturer VELP SCIENTIFICA s.r.l.
address Via Stazione, 16
 USMATE (MI)
 Italy

Under our responsibility declare that the product is in accordance with the following standards:

EN 61010-1/2001
EN 61326-1/2000

And satisfies the essential requirements of directives:

Machines directive 98/37/CEE

Low voltage directive 73/23/CEE

Electromagnetic compatibility directive 89/336/CEE

Plus modifications and that the documents listed in the annex V are available at Velp's offices as per the machine directive.

Thank you for having chosen a VELP product !

Since 1983 Velp offers to the professional in the field a range of sophisticated and reliable equipment which make available high levels of know-how and operative capacity at competitive price.

Velp works according to **ISO 9001**, **ISO14001** and **OHSAS 18001** Quality System Certification. Instruments are built according to the International norms IEC 1010-1 and to the rules of CE mark.

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PERFORMANCE OF ANAEROBIC DIGESTERS

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MAGNETIC STIRRERS

HEATING MAGNETIC STIRRERS

MULTIPLACE MAGNETIC STIRRERS

LIGHTED MAGNETIC STIRRERS

HEATING PLATES

VORTEX

STIRRERS

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DIGESTERS

STEAM DISTILLING UNITS

SCRUBBER

CATALYST TABLETS

NITROGEN-FREE WEIGHING BOATS

EXTRACTORS FOR RAW FIBER

EXTRACTORS FOR DIETARY FIBER

EXTRACTORS FOR SELECTIVE EXTRACTION OF SOLUBLE PRODUCTS BY SOLVENTS (FOR FAT)

Pumps

PERISTALTIC PUMPS

RECIRCULATING WATER VACUUM PUMP



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