
# STIRRING LINE

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# MAGNETIC STIRRERS

## MAGNETIC STIRRERS

Specially designed for chemical, biotechnological, pharmaceutical, microbiological and medical applications such as growing microorganisms, dissolving nutrients and solids and preventing suspended matter from settling during titration. VELP Scientifica's magnetic stirrers offer solutions for diversified laboratory applications and the **highest safety standards** available on the market, with sample volumes ranging from 250 ml to 25 liters.

## MST AND MICROSTIRRER

The **MST** magnetic stirrer with ABS structure and **MICROSTIRRER** with epoxy painted metal structuire ensure a **high resistance** to chemical agents. **Small**, **simple** and extremely useful where small but reliable instruments are needed, the white surface makes them particularly suitable for titration. The MST and MICROSTIRRER **remain cold** even after several days of continuous use, a feature that is very highly appreciated in microbiology and biochemistry.

Electronic speed regulation: up to 1100 rpm
Stirring volume ($H_2O$): up to 5 L

UK, AU and USA adapter plugs are available on request.

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| MST | 100÷240 V / 50-60 Hz | F203A0160 |
| MICROSTIRRER | 100÷240 V / 50-60 Hz | F203A0161 |

## ESP

The **ESP** is an **ultraflat** magnetic stirrer with no moving mechanical components, it is therefore **maintenance-free**. The stirring system consists of coils that induce a rotating magnetic field. A gentle start-up ensures **optimum progression of the stirring speed** whilst its modern, ergonomic structure is made of materials that ensure a **high resistance** to chemical reagents.

Electronic speed regulation: up to 1100 rpm
Stirring volume ($H_2O$): up to 5 L

UK, AU and USA adapter plugs are available on request.

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| ESP | 100÷240 V / 50-60 Hz | F206A0179 |

## AGE

The **AGE** magnetic stirrer has an epoxy painted metal structure that ensures a **high resistance** to chemical agents. It is suitable for the most common laboratory stirring requirements.

Electronic speed regulation: up to 1200 rpm
Stirring volume ($H_2O$): up to 8 L

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| AGE | 230 V / 50 Hz | F20320164 |
| AGE | 230 V / 60 Hz | F20330164 |
| AGE | 115 V / 60 Hz | F20340164 |

## ATE

The **ATE** is a **high power** magnetic stirrer suitable for medium-high volumes. It ensures a high resistance to chemicals agents.

Electronic speed regulation: up to 1200 rpm
Stirring volume ($H_2O$): up to 25 L

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| ATE | 230 V / 50-60 Hz | F20300165 |
| ATE | 115 V / 50-60 Hz | F20310165 |

# MULTISTIRRER 6 AND MULTISTIRRER 15

The **MULTISTIRRER 6** is a 6-place magnetic stirrer for beakers with a maximum diameter of 85 mm. The MULTISTIRRER 6 **remains cold** even after several days of continuous operation, a feature that is highly appreciated in microbiology and biochemistry. It is possible to thermostat the samples using a recirculating water bath.

Electronic speed regulation: from 50 to 850 rpm
Stirring volume ($H_2O$): up to 0.4 L per position
Distance between stirring position centres: 100 mm

The **MULTISTIRRER 15** is a 15-place magnetic stirrer for beakers with a maximum diameter of 64 mm. The MULTISTIRRER 15 **remains cold** even after several days of continuous operation, a feature that is highly appreciated in microbiology and biochemistry. It is possible to thermostat the samples using a recirculating water bath.

Electronic speed regulation: from 50 to 850 rpm
Stirring volume ($H_2O$): up to 0.25 L per position
Distance between stirring position centres: 74 mm

UK, AU and USA adapter plugs are available on request.

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| MULTISTIRRER 6 | 100÷240 V / 50-60 Hz | F203A0177 |
| MULTISTIRRER 15 | 100÷240 V / 50-60 Hz | F203A0178 |

# AMI AND AMI 4

The **AMI** is an **illuminated** single-position magnetic stirrer particularly useful for titrations where **optimum lighting conditions** are needed in order to identify the colorimetric end point. It is especially recommended for titrations that have subtle color changes.

Electronic speed regulation: up to 1100 rpm
Stirring volume ($H_2O$): up to 5 L

The **AMI 4** is an **illuminated** magnetic stirrer with 4 separately controlled positions. It is particularly useful for titrations where **optimum lighting conditions** are needed in order to identify the colorimetric end point. It is especially recommended for titrations that have subtle color changes.

Electronic speed regulation: up to 1100 rpm
Stirring volume ($H_2O$): up to 5 L per position
Distance between stirring position centres: 150 mm

UK, AU and USA adapter plugs are available on request.

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| AMI | 100÷240 V / 50-60 Hz | F204A0167 |
| AMI 4 | 100÷240 V / 50-60 Hz | F204A0168 |

| | STIRRING SPEED rpm | STIRRING VOLUME L | DIMENSIONS (WxHxD) mm (in) | WEIGHT Kg (lb) | POWER SUPPLY | POWER |
|---|---|---|---|---|---|---|
| **MST** | up to 1100 | up to 5 | 130x50x150 (5.1x2.0x5.9) | 0.4 (0.9) | 100÷240 V | 0.6 W |
| **MICROSTIRRER** | up to 1100 | up to 5 | 120x48x128 (4.7x1.9x5.0) | 0.55 (1.1) | 100÷240 V | 0.6 W |
| **ESP** | up to 1100 | up to 5 | 160x33x230 (6.3x1.3x9.0) | 0.9 (2.0) | 100÷240 V | 5 W |
| **AGE** | up to 1200 | up to 8 | 171x75x190 (6.7x2.9x7.5) | 1.8 (4.0) | 115 or 230 V | 40 W |
| **ATE** | up to 1200 | up to 25 | 250x120x285 (9.8x4.7x11.2) | 3.7 (8.1) | 115 or 230 V | 15 W |
| **MULTISTIRRER 6** | from 50 to 850 | up to 2.4 | 230x51.5x370 (9.0x2.0x14.5) | 1.75 (3.8) | 100÷240 V | 3.6 W |
| **MULTISTIRRER 15** | from 50 to 850 | up to 3.75 | 230x51.5x370 (9.0x2.0x14.5) | 2.1 (4.6) | 100÷240 V | 9 W |
| **AMI** | up to 1100 | up to 5 | 150x55x270 (5.9x2.2x10.6) | 1.2 (2.6) | 100÷240 V | 1.2 W |
| **AMI 4** | up to 1100 | up to 20 | 600x55x270 (23.6x2.2x10.6) | 4 (8.8) | 100÷240 V | 4.8 W |

## MST, MICROSTIRRER, ESP, AGE, ATE, MULTISTIRRER 6, MULTISTIRRER 15, AMI, AMI 4 ACCESSORIES

| INTERCHANGEABLE PLUGS | CODE No |
|---|---|
| US plug | **10003083** * |
| UK plug | **10003084** * |
| Australian plug | **10003085** * |

* for MST, MICROSTIRRER, MULTISTIRRER 6, MULTISTIRRER 15, AMI, AMI 4 and ESP

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| Magnetic stirring bar, 6x20 mm | **A00001057** * |
| Magnetic stirring bar, 6x35 mm | **A00001056** ** |
| Magnetic stirring bar, 9.5x60 mm | **A00001061** *** |
| Magnetic stirring bar, 10x40 mm | **A00001060** **** |
| Thermostatic bath for samples, 408x240x85 mm | **A00001055** ***** |

* for MST, MICROSTIRRER, AGE, MULTISTIRRER 15, AMI and AMI 4
** for MST, MICROSTIRRER, AGE, MULTISTIRRER 6, MULTISTIRRER 15, AMI and AMI 4
*** ATE only
**** ESP only
***** for MULTISTIRRER 6 and MULTISTIRRER 15

# HEATING MAGNETIC STIRRERS

## ALUMINUM TOP

VELP Scientifica offers a wide range of heating magnetic stirrers with aluminum top. Aluminum top ensures **excellent conductivity** and **temperature homogeneity** and **good resistance to chemicals**. As always VELP Scientifica ensures the **most advanced safety standards**.

### ARE

The **ARE** is widely used in research and development, industrial and university laboratories worldwide. The ARE has an **aluminum alloy heating plate** coated with a special protective layer in order to ensure **uniform heat distribution** and **excellent resistance** to chemicals.

Electronic speed regulation: up to 1200 rpm
Stirring volume ($H_2O$): up to 15 L
Temperature: up to 370 °C

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| ARE | 230 V / 50 Hz | F20520162 |
| ARE | 230 V / 60 Hz | F20530162 |
| ARE | 115 V / 60 Hz | F20540162 |

### AREX

The **AREX** has an **aluminum alloy heating plate** to ensure **uniform heat distribution** over the entire surface, coated with a special protective layer that ensures **excellent resistance** to chemicals. This heating magnetic stirrer guarantees **precise thermoregulation** of the heating plate as well as a high degree of **reliability** and **safety**. The AREX has a socket for the connection of a **VTF Vertex** digital thermoregulator for direct temperature control of the liquid.

Electronic speed regulation: up to 1200 rpm
Stirring volume ($H_2O$): up to 20 L
Temperature: up to 370 °C

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| AREX | 230 V / 50 Hz | F20520163 |
| AREX | 230 V / 60 Hz | F20530163 |
| AREX | 115 V / 60 Hz | F20540163 |

### ARED

The **ARED** is a high power heating magnetic stirrer for **medium/high volumes**. The **aluminum alloy heating plate** is coated with a special protective layer and ensures **uniform heat distribution** as well as **excellent resistance** to chemicals.

Electronic speed regulation: up to 1200 rpm
Stirring volume ($H_2O$): up to 25 L
Temperature: up to 370 °C

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| ARED | 230 V / 50 Hz | F20520169 |
| ARED | 230 V / 60 Hz | F20530169 |
| ARED | 115 V / 60 Hz | F20540169 |

# T.ARE

The **T.ARE** is suitable for **medium/high volumes**. The **aluminum alloy heating plate** is coated with a special protective layer in order to ensure **uniform heat distribution** and **excellent resistance** to chemicals. The instrument can run in continuous mode or the timer can be programmed with an operating time of up to 60 minutes with automatic switch-off.

Electronic speed regulation: up to 1200 rpm
Stirring volume ($H_2O$): up to 25 L
Temperature: up to 370 °C

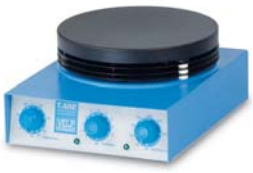
| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| T.ARE | 230 V / 50 Hz | F20520170 |
| T.ARE | 230 V / 60 Hz | F20530170 |
| T.ARE | 115 V / 60 Hz | F20540170 |

# AM4

The **AM4** is a multiple-position heating magnetic stirrer with four separately controlled stirring plates. The **aluminum alloy heating plates** are coated with a special protective layer and ensure **uniform heat distribution** over the entire surface as well as **excellent resistance** to chemicals.

Electronic speed regulation: up to 1200 rpm
Stirring volume ($H_2O$): up to 5 L per position
Temperature: up to 370 °C
Distance between stirring position centres: 186 mm

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| AM4 | 230 V / 50 Hz | F20520166 |
| AM4 | 230 V / 60 Hz | F20530166 |



| | HEATING PLATE | HEATING PLATE DIMENSIONS mm (in) | STIRRING SPEED rpm | STIRRING VOLUME L | TEMPERATURE REGULATION °C | OVERTEMP. PROTECTION | DIMENSIONS (WxHxD) mm (in) | WEIGHT Kg (lb) | POWER SUPPLY | POWER |
|---|---|---|---|---|---|---|---|---|---|---|
| **ARE** | Aluminum alloy | ∅ 155 (6.1) | up to 1200 | up to 15 | Ambient to 370 | • | 165x115x280 (6.5x4.5x11.0) | 2.6 (5.7) | 115 or 230 V | 630 W |
| **AREX** | Aluminum alloy | ∅ 155 (6.1) | up to 1200 | up to 20 | Ambient to 370 | • | 165x115x280 (6.5x4.5x11.0) | 2.6 (5.7) | 115 or 230 V | 630 W |
| **ARED** | Aluminum alloy | ∅ 180 (7.1) | up to 1200 | up to 25 | Ambient to 370 | • | 190x110x245 (7.5x4.3x9.6) | 3.1 (6.8) | 115 or 230 V | 900 W |
| **T.ARE** | Aluminum alloy | ∅ 180 (7.1) | up to 1200 | up to 25 | Ambient to 370 | • | 190x110x245 (7.5x4.3x9.6) | 3.1 (6.8) | 115 or 230 V | 900 W |
| **AM4** | Aluminum alloy | ∅ 155 (6.1) | up to 1200 | up to 20 | Ambient to 370 | • | 715x115x220 (28.1x4.5x8.7) | 8.3 (18.2) | 230 V | 2550 W |

## ARE, AREX, ARED, T.ARE, AM4 ACCESSORIES

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| Hemispheric bowl for 250 ml flasks | **A00001071** |
| Hemispheric bowl for 500 ml flasks | **A00001072** |
| Hemispheric bowl for 1000 ml flasks | **A00001073** |

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| Magnetic stirring bar, 6x35 mm | **A00001056** |
| Magnetic stirring bar, 9.5x60 mm | **A00001061** |
| Magnetic stirring bar, 10x40 mm | **A00001060** |
| VTF Vertex, digital Thermoregulator | **F208B0063** * |
| Spiral cable for other Thermoregulators | **40000781** * |
| Support rod | **A00001069** ** |

* AREX only
** supplied with AREX

# HEATING MAGNETIC STIRRERS

## CERAMIC TOP

VELP Scientifica offers a wide range of heating magnetic stirrers with ceramic top. Ceramic top ensures **excellent resistance to chemicals** and **scratches** and are **extremely easy to clean**. As always VELP Scientifica ensures the **most advanced safety standards**.

### AREC

The **AREC** is a **digital heating magnetic stirrer** with a **white ceramic heating plate** extremely **resistant** to corrosion and **easy to clean**. It is suitable for observing colour changes (e.g. during titration, etc.). The control panel is separated from the heating plate, this feature increases the **safety** rating during use and the **durability** of the instrument. The inclination of the knobs has been carefully studied to facilitate use. A microprocessor ensures **constant speed** even when the viscosity changes (**counter-reaction**). The AREC has an ergonomic and innovative design with a **clear and bright digital display**. Metal vessels can be used.

Electronic speed regulation: up to 1300 rpm
Stirring volume ($H_2O$): up to 15 L
Temperature: up to 540 °C
Counter-reaction: constant speed even when the viscosity changes

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| AREC | 230 V / 50-60 Hz | F20500010 |
| AREC | 115 V / 50-60 Hz | F20510010 |

### AREC.X

The **AREC.X** has a **white ceramic heating plate**, extremely **resistant** to corrosion and **easy to clean**. It is suitable for observing colour changes (e.g. during titration, etc.). The control panel with its **clear and bright digital display** is separated from the heating plate, this feature increases the **safety** rating during use and the **durability** of the instrument. The inclination of the knobs has been carefully studied to facilitate use. A microprocessor ensures **constant speed** even when the viscosity changes (**counter-reaction**). The **digital** heating magnetic stirrer AREC.X has a socket for the connection of a **VTF Vertex** digital thermoregulator for direct temperature control of the liquid. Metal vessels can be used.

Electronic speed regulation: up to 1300 rpm
Stirring volume ($H_2O$): up to 15 L
Temperature: up to 540 °C
Counter-reaction: constant speed even when the viscosity changes

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| AREC.X | 230 V / 50-60 Hz | F20500060 |
| AREC.X | 115 V / 50-60 Hz | F20510060 |

### HSC

The **HSC** heating magnetic stirrer has a **white ceramic heating plate** extremely **resistant** to corrosion and **easy to clean**. It is suitable for observing changes of color (e.g. during titration, etc.). The control panel is separated from the heating plate, this feature increases the **safety** rating during use and the **durability** of the instrument. The inclination of the knobs has been carefully studied to facilitate use. A new "analogic" solution able to give the **best performance** at a **competitive price**. Metal vessels can be used.

Electronic speed regulation: up to 1300 rpm
Stirring volume ($H_2O$): up to 15 L
Temperature: up to 400 °C

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| HSC | 230 V / 50-60 Hz | F20500100 |
| HSC | 115 V / 50-60 Hz | F20510100 |

# AREC.T

## SEPARATED FRONTAL PANEL
AREC, AREC.X, HSC, AREC.T

The **AREC.T** has a **white ceramic heating**, extremely **resistant** to corrosion and **easy to clean**. It is suitable for observing colour changes (e.g. during titration, etc.). The control panel with its **clear and bright digital display** is separated from the heating plate, this feature increases the **safety** rating during use and the **durability** of the instrument. The inclination of the knobs has been carefully studied to facilitate use. A microprocessor ensures **constant speed** even when the viscosity changes (**counter-reaction**). The **digital** heating magnetic stirrer AREC.T has a built-in **programmable timer** up to 999 minutes with automatic switch off. Metal vessels can be used.

Electronic speed regulation: up to 1300 rpm
Stirring volume ($H_2O$): up to 15 L
Temperature: up to 540 °C
Counter-reaction: constant speed even when the viscosity changes

- **Long-Life**
Designed to last
- **Safe Working Conditions**
The user always remains far from the heating source and from the boiling liquids
- **Excellent engineering**
Improved comfort and low profile

## DIGITAL DISPLAY
AREC, AREC.X, AREC.T

- **Easy to Read Temperature Display**
The bright display shows the set point temperature for repeatable and precise results
- **"Hot Plate" Warning**
It remains displayed while the instrument is in use at temperatures of above 50 °C. When the instrument is turned off it flashes until the temperature of the plate has cooled to below 50 °C
- **Timer (AREC.T only)**
It will automatically switch off both the heating and the stirring, being perfect for timed applications

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| AREC.T | 230 V / 50-60 Hz | F20500050 |
| AREC.T | 115 V / 50-60 Hz | F20510050 |

| | HEATING PLATE | HEATING PLATE DIMENSIONS mm (in) | STIRRING SPEED rpm | STIRRING VOLUME L | TEMPERATURE REGULATION °C | COUNTER REACTION | OVERTEMP. PROTECTION | DIMENSIONS (WxHxD) mm (in) | WEIGHT Kg (lb) | POWER SUPPLY | POWER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **AREC** | Ceramic | 180x180 (7.1x7.1) | up to 1300 | up to 15 | Ambient to 540 | • | • | 205x96x335 (8.0x3.7x13.2) | 3.9 (8.6) | 115 or 230 V | 800 W |
| **AREC.X** | Ceramic | 180x180 (7.1x7.1) | up to 1300 | up to 15 | Ambient to 540 | • | • | 205x96x335 (8.0x3.7x13.2) | 3.9 (8.6) | 115 or 230 V | 800 W |
| **HSC** | Ceramic | 180x180 (7.1x7.1) | up to 1300 | up to 15 | Ambient to 400 | | • | 205x96x335 (8.0x3.7x13.2) | 3.9 (8.6) | 115 or 230 V | 800 W |
| **AREC.T** | Ceramic | 180x180 (7.1x7.1) | up to 1300 | up to 15 | Ambient to 540 | • | • | 205x96x335 (8.0x3.7x13.2) | 3.9 (8.6) | 115 or 230 V | 800 W |

## AREC, AREC.X, HSC, AREC.T ACCESSORIES

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| Hemispheric bowl for 250 ml flasks | A00001071 |
| Hemispheric bowl for 500 ml flasks | A00001072 |
| Hemispheric bowl for 1000 ml flasks | A00001073 |

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| Magnetic stirring bar, 6x35 mm | A00001056 |
| Magnetic stirring bar, 9.5x60 mm | A00001061 |
| Magnetic stirring bar, 10x40 mm | A00001060 |
| VTF Vertex, digital Thermoregulator | F208B0063 * |
| Spiral cable for other Thermoregulators | 40000781 * |
| Support rod | A00001069 ** |

* AREC.X only
** supplied with AREC.X

# THERMOREGULATOR

The VELP Scientifica thermoregulator uses electronic “Fuzzy Logic” meaning that thermoregulation is **automatically** adapted to various factors such as power, load and thermal dispersion.

## VTF
## VERTEX DIGITAL THERMOREGULATOR WITH FUZZY LOGIC TECHNOLOGY

The **VTF** uses **Fuzzy Logic** technology and is suitable for many applications where **precise thermoregulation** is required.
The instrument can be combined with the most common heating magnetic stirrers and is **ready for use**.

A **user-friendly** probe positioning system allows the operator to adjust the position of the probe easily and quickly whilst an **in-built timer** means that the thermoregulation time can be pre-set.

Thanks to the derivation element PW 10, the VTF can be used with all types of heating devices such as water and oil baths, heating plates, etc. The VTF Vertex comes complete with temperature probe and power cable for direct connection to the heating magnetic stirrers AREX and AREC.X.

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| VTF | 12 V cc | F208B0063 |

### GENERAL FEATURES AND PERFORMANCE

| | |
|---|---|
| THERMOREGULATION RANGE °C | from -10 to +300 |
| RESOLUTION °C | 0.2 |
| PRECISION °C | ± 0.5 |
| TIMER HH:MM | from 00:00 to 24:59 |
| PROTECTION RATING CEI EN 60529 | IP54 |
| DIMENSIONS (WxHxD) | 75x145x120 mm (3.0x5.7x4.7 in) |
| WEIGHT Kg (lb) | 0.3 (0.7) |

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| Derivation element PW 10 | A00000001 |
| Probe extension cable, 1 m | A00000002 |
| Glass probe | A00000003 |
| Probe clamp | A00000004 |

# HEATING PLATES

VELP Scientifica's heating plates are extremely **safe**, **simple** and **affordable** instruments with a **long life-span**.
They are designed for every day laboratory requirements where the heating of liquid samples is required.

## RC AND RC2

Single **(RC)** and double **(RC2)** heating plates with **temperature regulation**. The **aluminum alloy heating plates** are coated with a special protective layer that ensures **uniform heat distribution** over the entire surface and **excellent resistance** to chemicals.

Temperature: up to 370 °C
Distance between stirring position centres (RC2): 180 mm

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| RC | 230 V / 50-60 Hz | F20700174 |
| RC | 115 V / 50-60 Hz | F20710174 |
| RC2 | 230 V / 50-60 Hz | F20700172 |
| RC2 | 115 V / 50-60 Hz | F20710172 |

## REC

The **REC** is a **white ceramic heating plate** that is **highly resistant** to corrosion, **very easy to clean** and excellent for observing colour changes (e.g. during titration, etc.). A **bright display** allows constant monitoring of the temperature. The control panel is completely separate from the heating plate, this feature increases the **safety** rating during use as well as the **durability** of the instrument. The electronic control board activates a high temperature warning that remains displayed while the instrument is in use at temperatures of above 50 °C. When the instrument is turned off the high-temperature warning flashes until the temperature of the plate has cooled to below 50 °C.

Temperature: up to 540 °C

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| REC | 230 V / 50-60 Hz | F20700080 |
| REC | 115 V / 50-60 Hz | F20710080 |

| | HEATING PLATE | HEATING PLATE DIMENSIONS mm (in) | TEMPERATURE REGULATION °C | OVERTEMP. PROTECTION | DIMENSIONS (WxHxD) mm (in) | WEIGHT Kg (lb) | POWER SUPPLY | POWER |
|---|---|---|---|---|---|---|---|---|
| **RC** | Aluminum alloy | ∅ 155 (6.1) | Ambient to 370 | • | 165x115x280 (6.5x4.5x11.0) | 1.4 (3.1) | 115 or 230 V | 600 W |
| **RC2** | Aluminum alloy | ∅ 155 (6.1) | Ambient to 370 | • | 340x90x190 (13.4x3.5x7.5) | 3.3 (7.3) | 115 or 230 V | 1200 W |
| **REC** | Ceramic | 180 x 180 (7.1 x 7.1) | Ambient to 540 | • | 205x96x335 (8.0x3.7x13.2) | 3.15 (7.0) | 115 or 230 V | 800 W |

## RC, RC2, REC ACCESSORIES

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| Hemispheric bowl for 250 ml flasks | A00001071 |
| Hemispheric bowl for 500 ml flasks | A00001072 |
| Hemispheric bowl for 1000 ml flasks | A00001073 |

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| Support rod | A00001069 * |

* for REC and RC

# OVERHEAD STIRRERS

Overhead stirrers are commonly used during solubilization, mixing, emulsification and homogenization. VELP Scientifica offers a complete range of overhead stirrers with electronic adjustment for a variety of needs in terms of viscosity and volume. The **self-locking chuck** simplifies assembly and the gentle start-up ensures **optimum progression of the stirring speed**. As always VELP Scientifica ensures the **most advanced safety standards**.

## ES

The **ES** is an economic overhead stirrer for **low/medium viscosity** liquids. A special system blocks the stirrer in case of incorrect functioning thus ensuring **safe operation**. The ES is fitted with a **user-friendly self-locking chuck**.

Electronic speed regulation: up to 1300 rpm
Stirring volume ($H_2O$): up to 15 L
Viscosity: up to 1,000 mPa*s

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| ES | 230 V / 50-60 Hz | F20100152 |
| ES | 115 V / 50-60 Hz | F20110152 |

## BS

The **BS** is suitable for use with **low/medium viscosity** liquids. A special system blocks the stirrer in case of incorrect functioning thus ensuring **safe operation**. The BS is fitted with a **user-friendly self-locking chuck**.

Electronic speed regulation: from 50 to 2000 rpm
Stirring volume ($H_2O$): up to 25 L
Viscosity: up to 10,000 mPa*s

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| BS | 230 V / 50-60 Hz | F20100151 |
| BS | 115 V / 50-60 Hz | F20110151 |

## DLS

The **DLS** is a digital overhead stirrer for **medium viscosity** liquids. A microprocessor ensures **constant speed** even when the viscosity changes (**counter-reaction**). A special system blocks the stirrer in case of incorrect functioning thus ensuring **safe operation**. The DLS is fitted with a **user-friendly self-locking chuck**.

**Two clear, easy-to-read displays** show the current speed and the set speed.

Electronic speed regulation: from 50 to 2000 rpm
Stirring volume ($H_2O$): up to 25 L
Viscosity: up to 25,000 mPa*s
Counter-reaction: constant speed even when the viscosity changes

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| DLS | 230 V / 50-60 Hz | F20100155 |
| DLS | 115 V / 50-60 Hz | F20110155 |

# LH AND DLH

The **LH** and **DLH** are the ideal solution for **high viscosity** liquids. A microprocessor ensures **constant speed** even when the viscosity changes (**counter-reaction**). A special system blocks the stirrer in case of incorrect functioning thus ensuring **safe operation**. The LH and DLH are fitted with **user-friendly self-locking chucks**.
The DLH has **two clear**, **easy-to-read displays** showing the current speed and the set speed.

Electronic speed regulation: from 50 to 2000 rpm
Stirring volume ($H_2O$): up to 40 L
Viscosity: up to 50,000 mPa*s
Counter-reaction: constant speed even when the viscosity changes

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| LH | 230 V / 50-60 Hz | F20100156 |
| LH | 115 V / 50-60 Hz | F20110156 |
| DLH | 230 V / 50-60 Hz | F20100157 |
| DLH | 115 V / 50-60 Hz | F20110157 |

# PW

The **PW** is the optimum solution for stirring **high viscosity** liquids. A special system blocks the stirrer in case of incorrect functioning thus ensuring **safe operation**. The PW is fitted with a **user-friendly self-locking chuck**.

Electronic speed regulation: from 20 to 1200 rpm
Stirring volume ($H_2O$): up to 70 L
Viscosity: up to 100,000 mPa*s

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| PW | 230 V / 50-60 Hz | F20100150 |
| PW | 115 V / 50-60 Hz | F20110150 |

| | STIRRING SPEED rpm | STIRRING VOLUME L | MAXIMUM VISCOSITY mPa*s | MAXIMUM TORQUE Ncm | MAXIMUM SHAFT DIAMETER mm | COUNTER-REACTION | DIMENSIONS (WxHxD) mm (in) | WEIGHT Kg (lb) | POWER SUPPLY | POWER |
|---|---|---|---|---|---|---|---|---|---|---|
| **ES** | from 50 to 1300 | up to 15 | 1,000 | 17 | 8.5 | | 80x160x200 (3.1x6.3x7.9) | 1.7 (3.7) | 115 or 230 V | 35 W |
| **BS** | from 50 to 2000 | up to 25 | 10,000 | 75 | 8.5 | | 80x215x196 (3.1x8.5x7.7) | 2.8 (6.2) | 115 or 230 V | 60 W |
| **DLS** | from 50 to 2000 | up to 25 | 25,000 | 45 | 8.5 | • | 80x215x196 (3.1x8.5x7.7) | 3.0 (6.6) | 115 or 230 V | 60 W |
| **LH** | from 50 to 2000 | up to 40 | 50,000 | 90 | 8.5 | • | 80x230x196 (3.1x9.0x7.7) | 3.4 (7.5) | 115 or 230 V | 120 W |
| **DLH** | from 50 to 2000 | up to 40 | 50,000 | 90 | 8.5 | • | 80x230x196 (3.1x9.0x7.7) | 3.5 (7.7) | 115 or 230 V | 120 W |
| **PW** | from 20 to 1200 | up to 70 | 100,000 | 135 | 8.5 | | 80x230x196 (3.1x9.0x7.7) | 3.4 (7.5) | 115 or 230 V | 120 W |

## ES, BS, DLS, LH, DLH, PW ACCESSORIES

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| Support rod and base | A00001300 |
| Double clamp | A00001301 |
| Ribbon clamp | A00001302 |

# STIRRING SHAFTS

**Stirring shaft with floating blades** **Code No A00001304**
**Characteristics**: The two blades that open as the speed rises generate an axial flow in the container, from the top towards the bottom. Particularly recommended for stirring in narrow-neck containers, e.g. flasks.

**Stirring shaft with folding blade** **Code No A00001305**
**Characteristics**: The blade that automatically falls into line during rotation generates an axial flow in the container, from the top towards the bottom. Particularly recommended for stirring in narrow-neck containers.

**Stirring shaft with fixed blade** **Code No A00001306**
**Characteristics**: It generates an axial flow in the container, from the top towards the bottom. Employment: Use at medium-high speed for whirling light solids, for flocculations, mixing thickening agents, stirring sludge, etc.

**Stirring shaft with propeller** **Code No A00001307**
**Characteristics**: Standard stirring shaft. It generates an axial flow in the container with suction of the substance from the bottom towards the top and localized occurence of shearing forces.

**Stirring shaft with 6-hole paddle** **Code No A00001308**
**Characteristics**: It generates a tangential flow with reduced turbulence and with gentle mixing of the product.

**Stirring shaft with turbine blade** **Code No A00001309**
**Characteristics**: It generates a radial flow with suction of the product from the top towards the bottom, with high turbulence and high shearing forces.

**Stirring shaft with turbo propeller** **Code No A00001310**
**Characteristics**: It generates an axial flow in the container with suction of the substance from the top towards the bottom with low shearing forces. Limited danger of any contact of the blade with the walls of the product's container.

**Stirring shaft with anchor** **Code No A00001311**
**Characteristics**: It generates a tangential flow with high shearing forces on the ends. The flow generated limits the possibility of sedimentation on the walls of the container.

| DESCRIPTION | CODE No | BLADES NUMBER | BLADES Ø mm | SHAFT Ø mm | LENGHT OF SHAFT mm | SPEED RANGE | VISCOSITY RANGE |
|---|---|---|---|---|---|---|---|
| Stirring shaft with floating blades, stainless steel | A00001304 | 2 | 93 | 7 | 400 | M-H | VL-L |
| Stirring shaft with folding blade, stainless steel | A00001305 | 1 | 60 | 7 | 400 | M-H | VL-L |
| Stirring shaft with fixed blade, stainless steel | A00001306 | 1 | 50 | 7 | 400 | M-H | VL-L-M |
| Stirring shaft with propeller, stainless steel | A00001307 | 3 | 60 | 7 | 400 | M-H | VL-L-M |
| Stirring shaft with paddle,six holes, stainless steel | A00001308 | 1 | 69 | 7 | 450 | L-M | L-M |
| Stirring shaft with turbine, stainless steel | A00001309 | 10 | 49 | 7 | 450 | M-H | M-H |
| Stirring shaft with turbo propeller, stainless steel | A00001310 | 3 | 46 | 7 | 450 | M-H | M-H |
| Stirring shaft with anchor, stainless steel | A00001311 | 2 | 45 | 8 | 450 | L-M | M-H |

**Choosing the correct shaft**
Stirring shafts must be chosen bearing in mind the stirrer power, the volume of substances to be stirred and its viscosity. The technical features and the application fields of the stirring shafts are summarized in the following tables:

| SPEED RANGE | rpm |
|---|---|
| Low (L) | < 250 |
| Medium (M) | 250 – 800 |
| High (H) | > 800 |

| VISCOSITY RANGE | mPa*s |
|---|---|
| Very low (VL) | 0 – 100 |
| Low (L) | 100 – 1,000 |
| Medium (M) | 1,000 – 10,000 |
| High (H) | 10,000 – 100,000 |

| VISCOSITY mPa*s | SUBSTANCE |
|---|---|
| 1 | Water |
| 5 | Milk |
| 10 | Kerosene |
| 100 | Lubricating oil |
| 1,000 | Castor oil, Glicerine |
| 7,000 | Refined honey |
| 25,000 | Chocolate syrup |
| 50,000 | Ketchup |
| 100,000 | Molasses |

# VORTEX MIXERS/SHAKERS

Vortex mixers are suitable for mixing substances in any shape or size of test tube thanks to the orbital movement of the rubber cup. The five models manufactured by VELP Scientifica offer **manual**, **continuous or infrared operating modes** in order to meet the multiple needs of every laboratory with **high safety standards**. VELP Scientifica is the first company in the world to manufacture and market the unique and **patented INFRARED vortex mixer** which uses a **special IR system** to activate vibration **without the need to apply pressure**.

## RX3

The **RX3** is a basic vortex mixer that runs at a single, **fixed stirring speed**.

Electronic speed regulation: constant, 2400 rpm
Operating modes: touch

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| RX3 | 230 V / 50 Hz | F20220171 |
| RX3 | 230 V / 60 Hz | F20230171 |
| RX3 | 115 V / 60 Hz | F20240171 |

## ZX3

The **ZX3** is a basic vortex mixer with **adjustable stirring speed and two operating modes**.

Electronic speed regulation: from 50 to 2400 rpm
Operating modes: touch, continuous

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| ZX3 | 230 V / 50 Hz | F20220176 |
| ZX3 | 230 V / 60 Hz | F20230176 |
| ZX3 | 115 V / 60 Hz | F20240176 |

## VORTEX CLASSIC

The **Classic** combines the **highest performance** ratings in terms of speed with **excellent reliability** and **safety**. The two operating modes, the possibility to change the vibration frequency and a wide range of accessories makes the instrument the ideal solution for a **large variety of needs**.
Touch mode - shaking starts when a small amount of pressure is applied to the rubber cup.
Continuous mode - a wide range of accessories are available for use in continuous mode making this instrument the ideal solution for a **large variety of needs**.

A dedicated selector switch ensures **maximum stability** of the instrument for the operating mode selected.

Electronic speed regulation: from 0 to 3000 rpm
Operating modes: touch, continuous

UK, AU and USA adapter plugs are available on request.

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| VORTEX CLASSIC | 100÷240 V / 50-60 Hz | F202A0173 |

# VORTEX WX

PATENTED

The **Vortex WX** uses the **revolutionary IR system** to detect the presence of the test tube and **start vibrating automatically**. The Vortex WX features the **innovative** and **ergonomic** design which, combined with the special materials used, ensures **high stability** and **increased comfort**.

Electronic speed regulation: from 0 to 3000 rpm
Operating modes: IR sensor

UK, AU and USA adapter plugs are available on request.

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| VORTEX WX | 100÷240 V / 50-60 Hz | F202A0230 |


# VORTEX WIZARD

PATENTED

The **Vortex Wizard** represents a **technological innovation** in the evolutionary process of vortex mixers. **Optical technology** provides an innovative operating mode that is absolutely unique on the market. Thanks to the **revolutionary IR sensor** mode, **an infrared system (IR) detects the presence of the test tube and the instrument automatically starts vibrating!** The Wizard features a **highly innovative** and ergonomic design which, combined with the special materials used, ensures **high stability** and **increased user-comfort**. The instrument offers two operating modes as well as the possibility to regulate the speed of vibration:
Sensor mode - an infrared system automatically activates vibration so the laboratory technician does not have to apply any pressure!
Continuous mode - continuous operating mode can be used with a wide range of accessories.

Electronic speed regulation: from 0 to 3000 rpm
Operating modes: continuous, IR sensor

UK, AU and USA adapter plugs are available on request.

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| VORTEX WIZARD | 100÷240 V / 50-60 Hz | F202A0175 |


| | STIRRING SPEED rpm | ORBITAL DIAMETER mm | OPERATING MODE Touch | OPERATING MODE Continuous | OPERATING MODE IR Sensor | PROTECTION RATING CEI EN 60529 | SUPPORT SYSTEM | DIMENSIONS (WxHxD) mm (in) | WEIGHT Kg (lb) | POWER SUPPLY | POWER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **RX3** | 2400 | 5 | • | | | IP20 | 4 holdfast feet | 150x134x150 (5.9x5.3x5.9) | 2.0 (4.4) | 115 or 230 V | 45 W |
| **ZX3** | 50÷2400 | 5 | • | • | | IP20 | 4 holdfast feet | 150x134x150 (5.9x5.3x5.9) | 2.0 (4.4) | 115 or 230 V | 45 W |
| **CLASSIC** | 0÷3000 | 4.5 | • | • | | IP42 | 3 non-slip feet | 180x70x220 (7.1x2.8x8.7) | 2.2 (4.9) | 100÷240 V | 15 W |
| **WX** | 0÷3000 | 4.5 | | | • | IP42 | 3 non-slip feet | 180x70x220 (7.1x2.8x8.7) | 2.2 (4.9) | 100÷240 V | 15 W |
| **WIZARD** | 0÷3000 | 4.5 | | • | • | IP42 | 3 non-slip feet | 180x70x220 (7.1x2.8x8.7) | 2.2 (4.9) | 100÷240 V | 15 W |

## **CLASSIC, WIZARD** ACCESSORIES

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| Foam stand for 19 microvials Eppendorf, 1.5 ml | A00000012 |
| Customizable soft foam top | A00000013 |
| Foam stand for 5 test tubes Ø 16 mm | A00000014 |
| Foam stand for 4 tubes Ø 29 mm | A00000019 |
| Small rubber supporting plate Ø 50 mm | A00000016 |
| Rubber supporting plate Ø 94 mm | A00000017 |

## **CLASSIC, WX, WIZARD** ACCESSORIES

| INTERCHANGEABLE PLUG | CODE No |
|---|---|
| US plug | 10003083 |
| UK plug | 10003084 |
| Australian plug | 10003085 |

## **RX3, ZX3** ACCESSORIES

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| Stand for microtiter | A00001047 * |
| Stand for 25 microvials Eppendorf -1.5 ml | A00001048 * |
| Supporting plate Ø 90 mm | A00001050 |

* ZX3 only

# OV5

The **OV5** homogenizer is the ideal solution for dispersing, homogenizing, mixing and grinding biological tissue samples (cells, animal and plant tissues), pharmaceutical products, cosmetics and food products. The OV5 is characterized by a **high versatility** that makes it unique on the market. A single shaft can be combined with a wide selection of stator and rotor configurations according to the specific application for which it is to be used. **Flexible**, **easy-to-use**, **rapid** and **user-friendly** stator and rotor **interchangeability**: a single instrument for a wide range of uses that ensures **excellent performance** and **safety**.

The OV5 homogenizer has an **ergonomic design** for simple handling. A built-in electronic motor control offers the possibility to adjust the speed from 10,000 to **30,000 rpm**. The **soft start** prevents spillage whilst the automatic overload protection increases the life-span of the instrument.

The OV5 homogenizer has one shaft for all applications, simply configure it with the most suitable rotor and stator. The shaft ensures **high strength** and **excellent durability**. It connects easily and quickly to the drive body through a snap hook. The rotor/stator configuration can also be assembled in a few seconds and without the use of tools, consisting of a high-speed rotor with sharp blades lodged within a stationary stator with openings. The OV5 is suitable for the most diverse applications thanks to the wide range of rotor/stator configurations available.

| INSTRUMENT | POWER SUPPLY | CODE No |
|---|---|---|
| OV5 | 230 V / 50 Hz | R20900010 |

| OPTIONAL ACCESSORIES | CODE No |
|---|---|
| H-stand with strap clamp, bosshead clamp | A00000045 |
| Support rod and base | A00001300 |
| Double clamp | A00001301 |
| Strap clamp | A00000044 |

**LEGEND**

Example composition:

VSS2CSR2

| VS | S2C | SR2 |
|---|---|---|
| Shaft | Stator | Rotor |
| VS | VS2C | VSR2 |

## CHOOSE THE MOST SUITABLE DISPERSING TOOL

| MODEL | CODE No | APPLICATION FIELDS *** | FUNCTION **** | TREATABLE VOLUME (WATER) ml | MAX CIRCUM. SPEED m/s | Ø ROTOR mm | Ø STATOR mm | TOOL LENGHT mm | MIN/MAX EMERSION DEPTH mm | ULTIMATE FINENESS µm SUSPENSION | ULTIMATE FINENESS µm EMULSION |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *VSS2CSR2 | A00000026 | CE,IF,PC,SI | A | 10 - 5000 | 22,7 | 15 | 20 | 220 | 40/175 | 10 - 50 | 1- 10 |
| VSS2CCR2 | A00000027 | CT,IA,IT,M,SI | B | 10 - 5000 | 22,7 | 15 | 20 | 220 | 40/175 | 10 - 50 | 1- 10 |
| VSS2CMR2 | A00000028 | CE,VE | A | 10 - 5000 | 22,7 | 15 | 20 | 220 | 40/175 | 10 - 50 | 1- 10 |
| *VSS2FER2 | A00000029 | CT,IF,SI,VE | C | 10 - 5000 | 22,7 | 15 | 20 | 220 | 40/175 | 10 - 50 | 1- 10 |
| VSS2FCR2 | A00000031 | BT,CT,IA,IT,M,SI | B | 10 - 5000 | 22,7 | 15 | 20 | 220 | 40/175 | 10 - 50 | 1- 10 |
| VSS2FMR2 | A00000032 | CE,CT,IA,IC,PC,VE | A | 10 - 5000 | 22,7 | 15 | 20 | 220 | 40/175 | 10 - 50 | 1- 10 |
| *VSS3CSR3 | A00000033 | CT,IA,IF,M,SI | A | 100-8000 | 34,9 | 23 | 30 | 220 | 40/175 | 5 - 25 | 1 - 5 |
| VSS3CCR3 | A00000034 | CT,IA,IF,M,SI | B | 100-8000 | 34,9 | 23 | 30 | 220 | 40/175 | 5 - 25 | 1 - 5 |
| VSS3CMR3 | A00000035 | CE,VE | A | 100-8000 | 34,9 | 23 | 30 | 220 | 40/175 | 5 - 25 | 1 - 5 |
| VSS3CMR2 | A00000036 | CE,IA,SI | D | 250-20000 | 34,9 | 15 | 30 | 220 | 40/175 | High speed mixer | |
| *VSS3FER3 | A00000037 | CT,IF,SI,VE | C | 100-8000 | 34,9 | 23 | 30 | 220 | 40/175 | 5 - 25 | 1 - 5 |
| VSS3FSR3 | A00000038 | CT,IF,SI,VE | A | 100-8000 | 34,9 | 23 | 30 | 220 | 40/175 | 5 - 25 | 1 - 5 |
| VSS3FMR3 | A00000040 | CE,IA,IC,IF,IT | A | 100-8000 | 34,9 | 23 | 30 | 220 | 40/175 | 5 - 25 | 1 - 5 |
| *VSS4CMR3 | A00000041 | CE,IA,SI | D | 1000-40000 | 34,9 | 23 | 40 | 220 | 40/175 | High speed mixer | |
| **VSS5CSR4 | A00000046 | BT,M | A | 0,2-50 | 6,3 | 4 | 5 | 128 | 10/60 | 10-50 | 1-10 |

* Most used model

** The dispersing tool works with Ø 4 mm rotor and Ø 5 mm stator for microbiological applications (e.g. suitable for Eppendorf, cuvettes,etc.)

*** BT = biotechnology, CE = ceramic industry, CH = chemical industry, CT = paper & tissue industry, IA = food industry, IC = cosmetic industry, IF = pharmaceutical industry, IT = tobacco industry, M = medicine, PC = petrochemistry industry, SI = sewage pollution control, VE = paint industry

**** A = dispersing tool for solid/liquid media, B = dispersing tool with blades for fibrous/stringy materials, C = dispersing tool for water/oil or oil/water emulsions, D = stirring shaft

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ENVIRONMENT LINE

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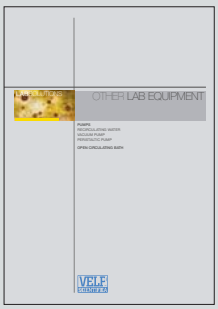

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