


# orto alresa

About centrifugation

**General applications | Series DIGICEN 22**




# DIGICEN 22

**PULL** to **Remove**

**3 YEAR WARRANTY**

IVD CE

Universal by design. With a wide range of rotors for microplates, cryotubes, microtubes, tubes from 100 ml., with options as versatile as con 28 x 15 ml. tubes in a swing out rotor and 32 x 15 ml. conical tubes in an angle fixed rotor, and rotors for high speed 85 ml., 80 ml., 50 ml., 30 ml. and 10 ml. tubes.

Its accessories, provided with the REI system (Rotor Easy to Install) are securely installed on the rotor without the need for tools, and are unlocked by simply removing them from their position.

We have a device with which we can process a wide range of samples, offering the most exhaustive control of the equipment, as thanks to the free Ortoalresa SmartConnect application, you can access the centrifuge from the device of your choice; PC, tablet and mobile phone.

Just connect it to your lab's WiFi network and you will be able to manage and monitor your equipment from our app.

## Features

TFT color touch screen:

- Shows RPM and RCF, time and acceleration/deceleration values (PCBS)
- Speed programming in 10 RPM/10 xg steps.
- Real RCF values on screen based on accessories configuration.
- Count up/down from "0" or at "set RPM/RCF" for reproducible tests.
- Timer from 1 sec. to 99 hours programmable in 1 sec. steps and hold position.
- PCBS: Progressive controlled acceleration and braking system up to 175 selectable ramps that prevents sample homogenization after separation.
- Start delay: To program the time at which the cycle is to begin.
- Linked program: Permits the linking of up to 8 consecutive programs without the need of user intervention.
- 100 programmable memories, with protection under password.
- Several acoustic and visual messages showing the situation of the device to the user.

## Easy to use

- Provided with REI system (Rotor Easy to Install)
- Microprocessor controlled. Connectivity.
- Induction motor maintenance free (brushless).
- Rotors and adapters list in memory.
- Noise level: below 60 dB.
- Start, stop, open lid and short spin with adjustable speed buttons.
- Possibility to block or modify the speed during the cycle.
- Automatic lid opening, programmable.
- Last values remain in memory.
- Automatic rotor recognition. Over-speed protection



**Max. Capacity** 4 x 125 ml

**Max. Speed** 26.480 xg / 16.500 RPM

**Screen Type** TFT

**Version** ✓ Ventilated

**Max. Volume** 500 ml

EU Directives: 2011/65/EU, 2012/19/EU, 2014/30/EU, 2014/35/EU, 2017/746/EU
Standards: EN 61010-1, EN 61010-2-101, EN 61010-2-020, EN 61326-2-6, EN 61326-1.

## Safety

- Lid provided with security systems:
  - Automatic lid lock system, motorized with double lock.
  - Emergency lid-lock release.
  - Locking and protection against opening along the run.
  - Lid dropping protection.
  - Port in the lid for calibration and operation checking.
- Unbalance detection and switch off.
- Protection safety ring between the centrifugation chamber and the housing.
- Chamber of centrifugation in stainless steel (easy cleaning).
- Rotors can be removed with the lid closed. Hermetic lids.
- Rotors and adapters autoclavable, easy to install without tools (REI System)
- Forced ventilation to reduce temperature increasing.
- Automatic disconnection for energy saving up to 8 h., with deactivation option.

## Versions

| | Dimensions (mm) (w x d x h) | | | Net Weight (Kg) | Voltage (V) | Frequency (Hz) | Consumption (W) |
|---|---|---|---|---|---|---|---|
| CE 257 | 410 | 520 | 320 | 35 | 220-230 | 50-60 | 400 |
| CE 258 | 410 | 520 | 320 | 35 | 110-120 | 50-60 | 400 |

*IVD version available, please indicate it in your request



Universal centrifuges: Series Digicen 22




# DIGICEN 22 R

PULL to Remove

3 YEAR WARRANTY

IVD CE

Versatility fused with effectiveness. The centrifuge Digicen 22 R has a wide range of angle fixed rotors, both for low revolutions, with capacity up to 32 tubes of 15 ml./15 ml. conical, and for microtubes, cryotubes and high speed tubes. For the swing out versions, it has rotors for 4 tubes of 100 ml. and up to 28 positions for 15 ml. tubes. All its rotors are provided with the REI system (Rotor Easy to Install), which allows them to be securely installed on the rotor without the need for tools, and to be unlocked by simply removing them from their position.

Its powerful refrigeration system allows it to keep the minimum chamber temperature below 4°C regardless of the type of rotor and the selected speed.

For improved traceability, it has a connectivity system that allows the user to access the centrifuge from the device of their choice; PC, tablet and mobile phone thanks to the free Ortoalresa SmartConnect app.

Just connect it to your laboratory's WiFi network and you will be able to manage and monitor your equipment from our app.

## Features

TFT color touch screen:
- Shows RPM and RCF, time, temperature and acceleration/deceleration values (PCBS)
- Speed programming in 10 RPM/10 xg steps.
- Real RCF values on screen based on accessories configuration.
- Count up/down from "0" or at "set RPM/RCF" for reproducible tests.
- Timer from 1 sec. to 99 hours programmable in 1 sec. steps and hold position.
- PCBS: Progressive controlled acceleration and braking system up to 175 selectable ramps that prevents sample homogenization after separation.
- Start delay: To program the time at which the cycle is to begin.
- Linked program: Permits the linking of up to 8 consecutive programs without the need of user intervention.
- 100 programmable memories, with protection under password.
- Several acoustic and visual messages showing the situation of the device to the user.

## Easy to use

- Provided with REI system (Rotor Easy to Install)
- Microprocessor controlled. Connectivity.
- Induction motor maintenance free (brushless).
- Rotors and adapters list in memory.
- Noise level: below 60 dB.
- Start, stop, open lid and short spin with adjustable speed buttons.
- Possibility to block or modify the speed during the cycle.
- Last values remain in memory.
- Automatic rotor recognition. Over-speed protection.



**Max. Capacity** 4 x 125 ml

**Max. Speed** 26.480 xg / 16.500 RPM

**Screen Type** TFT

**Version** Refrigerated

**Max. Volume** 500 ml

EU Directives: 2011/65/EU, 2012/19/EU, 2014/30/EU, 2014/35/EU, 2017/746/EU.
Regulation n°: (EC) 1005/2009, (EU) 517/2014.
Standards: EN 61010-1, EN 61010-2-101, EN 61010-2-020, EN 61326-2-6, EN 61326-1.

## Safety

- Lid provided with security systems:
  - Automatic lid lock system, motorized with double lock.
  - Emergency lid-lock release.
  - Locking and protection against opening along the run.
  - Lid dropping protection.
  - Port in the lid for calibration and operation checking.
- Unbalance detection and switch off.
- Protection safety ring between the centrifugation chamber and the housing.
- Chamber of centrifugation in stainless steel (easy cleaning).
- Rotors can be removed with the lid closed. Hermetic lids.
- Rotors and adapters autoclavable, easy to install without tools (REI System)
- Automatic disconnection for energy saving up to 8 h.

## Refrigeration

- Maintains the refrigeration after the centrifugation process.
- Precooling program with rotor spinning and selectable temperature.
- Guarantees 4°C at maximum RPM.
- Temperature range from -20°C (-4°F) to 40°C (104°F) in 1°C steps.
- Temperature sensor inside the chamber.
- Gas R 449A HFO (CFC free).

## Versions

| | Dimensions (mm) (w x d x h) | | | Net Weight (Kg) | Voltage (V) | Frequency (Hz) | Consumption (W) |
|---|---|---|---|---|---|---|---|
| CE 259 | 590 | 620 | 320 | 65 | 220-230 | 50 | 700 |
| CE 260 | 590 | 620 | 320 | 65 | 110-120 | 60 | 700 |

*IVD version available, please indicate it in your request



Universal centrifuges: Series Digicen 22

**MICROTUBES**

| | | RT 315 | | RT 316 | | RT 317 | | RT 318 | | RT 319 | | RT 320 | | RT 321 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  (1) (2) | |  (3) | |  | |  | |  (5) | |
| ROTOR | | SWING OUT | | SWING OUT | | SWING OUT | | SWING OUT | | ANGLE FIXED 45 ° | | ANGLE FIXED 45 ° | | ANGLE FIXED 45 ° | |
| Max. capacity | | 28 x 15 ml. | | 4 x 50 ml. | | 4 x 100 ml. | | 6/4/2 microtiter | | 32 x 0,2 ml. | | 24 x 1,5-2 ml. | | 12 x 5 ml | |
| RPM Max. | | 5.000 | | 5.300 | | 5.000 | | 4.000 | | 16.500 | | 16.500 | | 16.500 | |
| Radius (mm) | | 147 | | 145 | | 147 | | 122 (4) | | 55 (4) | | 82 | | 87 | |
| RCF Max. (xg) | | 4.108 | | 4.554 | | 4.109 | | 2.182 | | 16.741 | | 24.959 | | 26.480 | |
| Min. temp. at max. speed (°C) | | -6 | | -7 | | -7 | | -9 | | -6 | | -4 | | -2 | |
| **SAMPLE VOLUME** | **Dim (mm) approx.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** |
| 125 ml. | ø48 x 100 | - | - | - | - | 4 | RE 446 | - | - | - | - | - | - | - | - |
| 85 ml. (hs) / 80 ml. (hs) | ø38 x 112 | - | - | - | - | 4 | RE 380 | - | - | - | - | - | - | - | - |
| 80 ml. | ø44 x 100 | - | - | - | - | 4 | RE 338 | - | - | - | - | - | - | - | - |
| 50 ml. (hs) | ø29 x 108 | - | - | 4 | RE 342 | 4 | RE 341 | - | - | - | - | - | - | - | - |
| 50 ml. | ø34 x 100 | - | - | 4 | RE 445 | 4 | RE 335 | - | - | - | - | - | - | - | - |
| 50 ml. conical | ø29 x 117 | - | - | 4 | RE 342 | 4 | RE 341 | - | - | - | - | - | - | - | - |
| 30 ml. / 30 ml. (hs) | ø25 x 98 | - | - | 4 | RE 333 | 4 | RE 332 | - | - | - | - | - | - | - | - |
| 25 ml. conical | ø29 x 83 | - | - | 4 | RE 596 | 4 | RE 597 | - | - | - | - | - | - | - | - |
| 15 ml. | ø16 x 100 | 28 | - | 4 | RE 329 | 16 | RE 316 | - | - | - | - | - | - | - | - |
| 15 ml. conical | ø17 x 122 | 4 | - | 4 | RE 329 | 4/8 | RE 339/579 | - | - | - | - | - | - | - | - |
| 10 ml. (hs) | ø16 x 80 | 28 | RE 621 | 4 | RE 329 | 16 | RE 316 | - | - | - | - | - | - | - | - |
| 10 ml. | ø13 x 100 | 28 | RE 516 | 12 | RE 313 | 20 | RE 320 | - | - | - | - | - | - | - | - |
| 10 ml. blood sample | ø16 x 107 | 28 | - | 4 | RE 329 | 16 | RE 316 | - | - | - | - | - | - | - | - |
| 7/10 ml. blood sample | ø13 x 107 | 28 | RE 516 | 4 | RE 337 | 20 | RE 320 | - | - | - | - | - | - | - | - |
| 5 ml. | ø13 x 75 | 28 | RE 512 | 12 | RE 313 | 20 | RE 320 | - | - | - | - | - | - | - | - |
| 5 ml. conical / screw cup | ø17 x 60/ 68 | - | - | - | - | - | - | - | - | - | - | - | - | 12/6 | - |
| 5 ml. blood sample | ø13 x 82 | 28 | RE 512 | 4 | RE 337 | 20 | RE 320 | - | - | - | - | - | - | - | - |
| Microtubes 1,5-2 ml. | ø11 x 42 | 28 | RE 578 | 12 | RE 463 | 20 | RE 408 | 72 | RE 401 | - | - | 24 | - | 12 | RE 506 |
| Microtubes 0,5-0,6 ml. | ø8 x 30 | 28 | RE 582 | 12 | RE 531 | 20 | RE 519 | 72 | RE 580 | - | - | 24 | RE 305 | 12 | RE 507 |
| Microtubes 0,2-0,4 ml. | ø6 x 45 | 28 | RE 583 | 12 | RE 532 | 20 | RE 473 | 72 | RE 581 | 32 x 0,2 | - | 24 | RE 304 | 12 | RE 508 |
| Microtiter plates | 128x86x15/21/45 | - | - | - | - | - | - | 6/4/2 | - | - | - | - | - | - | - |
| Cell culture | 128x86x22 | - | - | - | - | - | - | 4 | - | - | - | - | - | - | - |

(1) This rotor includes hermetic lids.
(2) Fitting the tubes in RE 579 will not allow the rotor lid to be closed.
(3) Allows different configurations depending of the microplates height.
(4) Medium radius.
(5) Available adapters for cryotubes.
(6) Please check tubes features.
(7) Fitting these tubes will not allow the rotor lid to be closed.

**RT 329:** Available rotor for capillaries (includes microhematocrit reader card).





**HIGH SPEED**

| | | RT 322 | | RT 323 | | RT 324 | | RT 325 | | RT 326 | | RT 327 | | RT 328 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | |  | |  | |  | |  | |  (6) | |  (6) | |  (6) | |
| ROTOR | | ANGLE FIXED 35 ° | | ANGLE FIXED 35 ° | | ANGLE FIXED 35 ° | | ANGLE FIXED 45 ° | | ANGLE FIXED 30 ° | | ANGLE FIXED 30 ° | | ANGLE FIXED 28 ° | |
| Max. capacity | | 24 x 5 ml. | | 24 x 15 ml. | | 32 x 15 ml. | | 6 x 50 ml. | | 12 x 10ml. Hermet | | 8 x 30 ml. Hermet | | 6 x 50 ml. Hermet | |
| RPM Max. | | 6.500 | | 5.000 | | 4.200 | | 6.000 | | 15.000 | | 13.500 | | 9.000 | |
| Radius (mm) | | 113 | | 132/114 | | 149/130 | | 132 | | 78 | | 92 | | 101 | |
| RCF Max. (xg) | | 5.338 | | 3.689/3.186 | | 2.938/2.563 | | 5.313 | | 19.621 | | 18.746 | | 9.146 | |
| Min. temp. at max. speed (°C) | | -4 | | -6 | | -5 | | -4 | | -5 | | -1 | | -4 | |
| **SAMPLE VOLUME** | **Dim (mm) approx.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** | **ADAPTERS Tubes** | **Ref.** |
| 125 ml. | ø48 x 100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 85 ml. (hs) / 80 ml. (hs) | ø38 x 112 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 80 ml. | ø44 x 100 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 50 ml. (hs) | ø29 x 108 | - | - | - | - | - | - | 6 | RE 365 | - | - | - | - | 6 | - |
| 50 ml. | ø34 x 100 | - | - | - | - | - | - | 6 | RE 447 | - | - | - | - | - | - |
| 50 ml. conical | ø29 x 117 | - | - | - | - | - | - | 6 | RE 365 | - | - | - | - | 6 | - |
| 30 ml. / 30 ml. (hs) | ø25 x 98 | - | - | - | - | - | - | 6 | RE 387 | - | - | 8 | - | 6 | RE 392 |
| 25 ml. conical | ø29 x 83 | - | - | - | - | - | - | 6 | RE 598 | - | - | - | - | 6 | RE 617 |
| 15 ml. | ø16 x 100 | - | - | 24 | - | 32 | - | 6 | RE 361 | - | - | 8 | RE 406 | 6 | RE 394 |
| 15 ml. conical | ø17 x 122 | - | - | 12 | - | 32 | - | 6 | RE 361 | - | - | - | - | 6 | RE 394 (7) |
| 10 ml. (hs) | ø16 x 80 | - | - | 24 | RE 384 | 32 | RE 529 | 6 | RE 361 | 12 | - | 8 | RE 391 | 6 | RE 395 |
| 10 ml. | ø13 x 100 | - | - | 24 | RE 385 | 32 | RE 518 | 18 | RE 360 | - | - | 8 | RE 407 | 6 | RE 396 |
| 10 ml. blood sample | ø16 x 107 | - | - | 24 | - | 32 | - | 6 | RE 361 | - | - | - | - | 6 | RE 394 |
| 7/10 ml. blood sample | ø13 x 107 | - | - | 24 | RE 385 | 32 | RE 518 | 6 | RE 364 | - | - | - | - | 6 | RE 396 |
| 5 ml. | ø13 x 75 | 24 | - | 24 | RE 306 | 32 | RE 517 | 18 | RE 360 | 12 | RE 389 | 8 | RE 390 | 6 | RE 397 |
| 5 ml. conical / screw cup | ø17 x 60/68 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5 ml. blood sample | ø13 x 82 | 24 | - | 24 | RE 306 | 32 | RE 517 | 6 | RE 364 | 12 | RE 389 | 8 | RE 390 | 6 | RE 397 |
| Microtubes 1,5-2 ml. | ø11 x 42 | - | - | 24 | RE 601 | 32 | RE 602 | 18 | RE 464 | - | - | - | - | 18 | RE 433 |
| Microtubes 0,5-0,6 ml. | ø8 x 30 | - | - | 24 | RE 603 | 32 | RE 604 | 18 | RE 533 | - | - | - | - | 18 | RE 575 |
| Microtubes 0,2-0,4 ml. | ø6 x 45 | - | - | 24 | RE 605 | 32 | RE 606 | 18 | RE 534 | - | - | - | - | 18 | RE 576 |
| Microtiter plates | 128x86x15/21/45 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cell culture | 128x86x22 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# ROLLING TABLE

## Centrifuges accessories

With the aim of offering an alternative to those laboratories that need to increase their equipment, but do not have enough space, we have designed these rolling tables for our centrifuges.

This accessory allows the equipment to be positioned and moved easily thanks to its four 360º rotating wheels. Once the rolling table is located, and before starting to work with the centrifuge, the wheels can be fixed with the brake system that will prevent involuntary displacement during the centrifugation process. The robust design supports the weight of the equipment and prevents vibration transfer.

We offfer two types of tables, one with height to locate the equipment at the same height as if they were on the laboratory table and another, that enables you to place your centrifuge under the table of your laboratory, saving even more space.

A solution for each type of need.

### References

| | Dimensions (mm) (w x d x h) | | | Net weight (kg) | Centrifuge model |
|---|---|---|---|---|---|
| CP 007 | 560 | 590 | 580 | 65 | Biocen 22 R, Bioprocen 22 R, Digicen 22 R, Consul 22 and Digtor 22 |
| CP 008 | 440 | 500 | 690 | 65 | Unicen 21 and Digicen 22 |
| CP 009 | 750 | 730 | 350 | 70 | Consul 22 R, Digtor 22 R and Dilitcen 22 R - to place under table |
| CP 010 | 750 | 730 | 580 | 90 | Consul 22 R, Digtor 22 R and Dilitcen 22 R |



# CONNECTIVITY

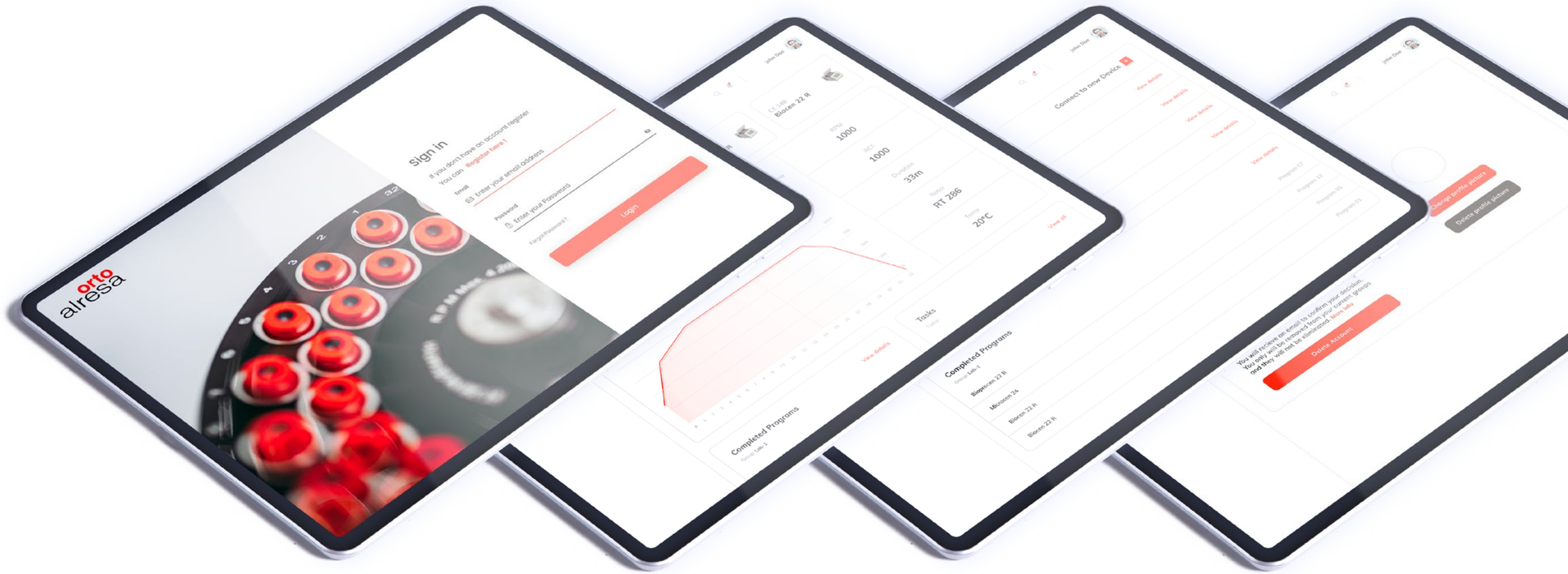
Being able to manage the information and performance of our centrifuge from a device with an Internet connection is now a reality.

Thanks to the free Ortoalresa SmartConnect application, you will be able to consult access your centrifuge from the device of your choice; PC, tablet and mobile phone.

You only need to connect it to the WiFi network of your laboratory to be able to manage and monitor your equipment from our app.

Ortoalresa SmartConnect allows:

- Monitoring of equipment.
- Adding multiple OA centrifuges to your control panel.
- Tracing the history of the executed programs and their results.
- Consulting the programmed work parameters: RPM, RCF, temperature, time, accessories...
- Notifications:
  - Informing and detailing any type of action and notice.
  - Security notifications, related to the maintenance of the centrifuge.
- Consulting the information related to the equipment: number of work cycles of its rotors, working hours of the centrifuge, calibration and maintenance of the equipment programming.
- Registering different users with different levels of accessibility and control.
- Technical service panel access, which allows quick and remote access for the resolve of interventions and diagnosis of the equipment by our qualified technicians.
- Complete traceability of the executed interactions identifying the user.
- Availability of technical documentation of the equipment.
- Downloading data and work cycles in csv (xls) format.



# REI SYSTEM
## (Rotor Easy to Install)

Our new REI (Rotor Easy to Install) system for quick and easy exchange of rotors, allows the rotor to be installed and locked securely without the need for tools, as well as unlocked by simply removing it from its position.

Thanks to its ergonomic design, it can be operated comfortably with one hand. The rotor can be removed and replaced in just a few seconds, without rotating the hand, or pressing buttons. It just needs to be positioned on the motor axis and it will be automatically anchored thanks to the REI system.

For greater security, the equipment screen warns the user if the rotor is not properly installed.

To remove it, gently lift the red handle, which will release the REI system allowing the rotor to be removed.






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About centrifugation

**Álvarez Redondo S.A.**
Los frailes, 121
Pol. Ind. Los Frailes
28814 Daganzo I Madrid

www.ortoalresa.com

(+34) 91 884 40 16

info@ortoalresa.com to ask for information
sat@ortoalresa.com to contact our technical service
sales@ortoalresa.com to contact our comercial department
marketing@ortoalresa.com to contact our marketing department