

A close-up photograph of a centrifuge rotor assembly. The rotor is black with several grey and white caps. In the foreground, four stainless steel tubes are arranged in a row, each engraved with the text 'ortoalresa - No 220759/05'. The background shows a black bucket containing several red-tipped tubes. The overall scene is brightly lit, highlighting the metallic and plastic textures.

# orto alresa

About centrifugation

General applications | Series DIGICEN 22



## DIGICEN 22



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 consult, programme and control 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 have complete control of your equipment from our app (+ info on page 58 of the general catalogue).

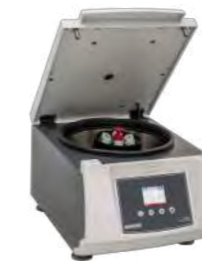
### Features

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 programmes 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

- 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.



<b>Max. Capacity</b> 4 x 125 ml		<b>Max. Speed</b> 26.480 xg / 16.500 RPM	
<b>Screen Type</b> TFT		<input checked="" type="checkbox"/> <b>Version</b> Ventilated	
<b>Max. Volume</b> 500 ml			

EU Directives: 2011/65/EU, 2012/19/EU, 2014/30/EU, 2014/35/EU, 98/79/EC.  
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	36	220-230	50-60	440
CE 258	410	520	320	36	110-120	50-60	420



## DIGICEN 22 R



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 consult, programme and control 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 have complete control of your equipment from our app. (+ info on page 58 of the general catalogue).

### 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 programmes 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

- 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.



<b>Max. Capacity</b> 4 x 125 ml		<b>Max. Speed</b> 26.480 xg / 16.500 RPM	
<b>Screen Type</b> TFT		<b>Version</b> Refrigerated	
<b>Max. Volume</b> 500 ml			

EU Directives: 2011/65/EU, 2012/19/EU, 2014/30/EU, 2014/35/EU, 98/79/EC.  
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	800

**Accessories centrifuge series Digicen 22**  
**- Rolling table (Page 8)**  
**- Rotors & adapters**

**MICROTUBES**

	RT 315	RT 316	RT 317	RT 318	RT 319	RT 320	RT 321						
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 (3)	55 (3)	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		ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS	
		Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	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	-	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	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 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 508
Microtiter plates	128x86x15/21/45	-	-	-	-	-	-	6/4/2	-	-	-	-	-
Cell culture	128x86x22	-	-	-	-	-	-	4	-	-	-	-	-

- (1) This rotor includes hermetic lids.
- (2) Allows different configurations depending of the microplates height.
- (3) Medium radius.
- (4) Available adapters for cryotubes.
- (5) Please check tubes features.
- (6) 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						
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		ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS	
		Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	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	RE 536
50 ml.	ø34 x 100	-	-	-	-	6	RE 447	-	-	-	-	-	-
50 ml. conical	ø29 x 117	-	-	-	-	6	RE 365	-	-	-	-	6	RE 536
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
15 ml. conical	ø17 x 122	-	-	12	-	32	-	6	RE 361	-	-	6	RE 394
10 ml. (hs)	ø16 x 80	-	-	24	RE 384	32	RE 529	6	RE 361	12	-	8	RE 391
10 ml.	ø13 x 100	-	-	24	RE 385	32	RE 518	18	RE 360	-	-	8	RE 407
10 ml. blood sample	ø16 x 107	-	-	24	-	32	-	6	RE 361	-	-	-	6
7/10 ml. blood sample	ø13 x 107	-	-	24	RE 385	32	RE 518	6	RE 364	-	-	-	6
5 ml.	ø13 x 75	24	-	24	RE 306	32	RE 517	18	RE 360	12	RE 389	8	RE 390
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
Microtubes 1,5-2 ml.	ø11 x 42	-	-	24	RE 601	32	RE 602	18	RE 464	-	-	-	18
Microtubes 0,5-0,6 ml.	ø8 x 30	-	-	24	RE 603	32	RE 604	18	RE 533	-	-	-	18
Microtubes 0,2-0,4 ml.	ø6 x 45	-	-	24	RE 605	32	RE 606	18	RE 534	-	-	-	18
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 360° 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 offer 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

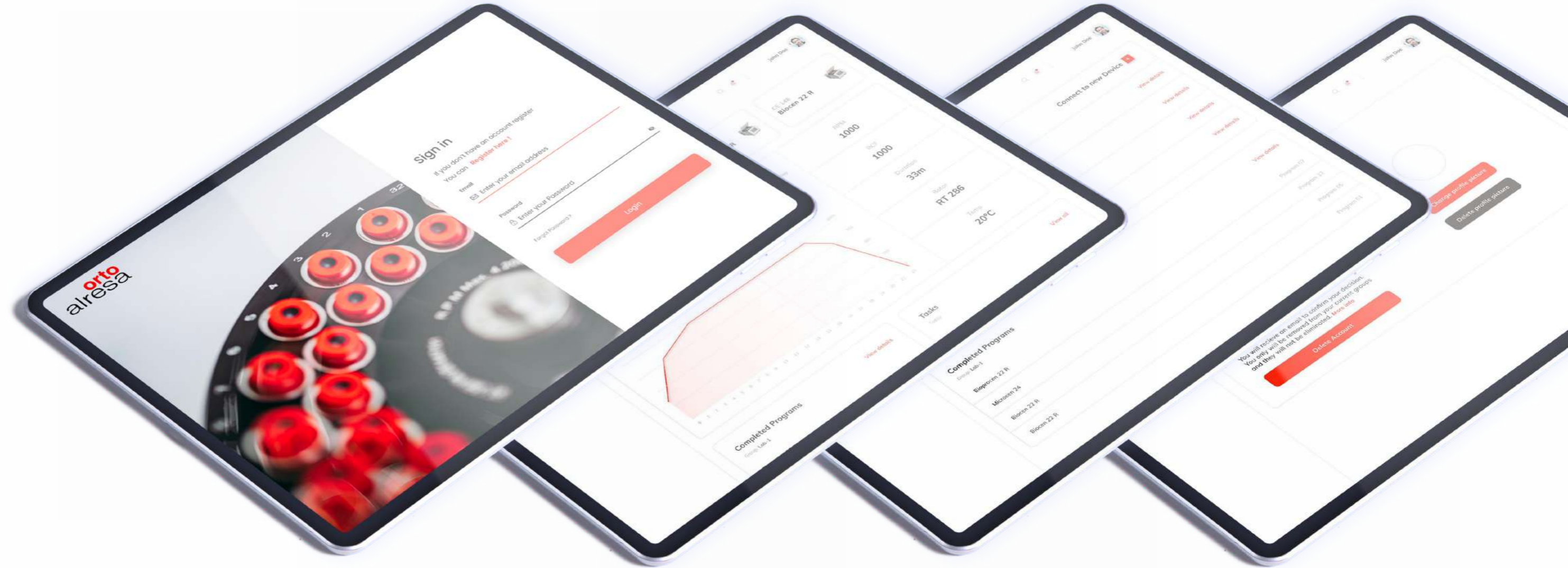
Being able to manage the information and performance of our centrifuge from a device with an Internet connection is now a reality.

Thanks to the free Ortoalresa SmartConnect application, you will be able to consult, program and control 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 have complete control of your equipment from our app.

Ortoalresa SmartConnect allows:

- Remote control and 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...
- Modifying the work parameters from the app and, in the opposite direction, automatically updating those modified from the TFT screen of the centrifuge
- 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.







**orto**  
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About centrifugation

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