

A close-up photograph of laboratory equipment. In the foreground, a black cylindrical component with a white adjustment knob is visible, labeled with the number '1' and 'ortoalresa Ns 220759/05'. To the right, several stainless steel tubes are arranged diagonally, each engraved with 'ortoalresa Ns 220607/02'. In the background, a black container holds several red caps. A dark semi-transparent banner is overlaid on the right side of the image, containing the company logo and tagline.

**orto  
alresa**  
About centrifugation

General applications | DILITCEN 22 R



## DILITCEN 22 R



The largest of our benchtop machines, with a capacity of up to 4 litres and an ergonomic design that enables easy loading of the rotor, as well as traceability of the positioning of the samples so as to balance the load and for easy identification. It has a wide range of accessories with capacity for four 1.000 ml. bottles, microplates, microtubes and a large number of positions for the most commonly used 15 ml. conical, 50 ml. conical, 15 ml., 10 ml. and 5 ml. tubes for clinical as well as biotechnology applications.

Its colour TFT touch screen offers performance that enables, in addition to controlling the equipment by operational parameters, the possibility of exporting data for analysis and timer programmed operation. The autonomy provided by this equipment facilitates the automation of work cycles and modes. This also ensures traceability of the process, not leaving any parameter uncontrolled and maintaining the process at all times.

It has a refrigeration system that enables it to maintain the minimum temperature of the chamber below 4°C regardless of the type of rotor and the speed selected.

### Features

- TFT color touch screen, visible from more than 3 m.:
- Shows RPM and RCF, time, temperature, acceleration/deceleration values (PCBS) and unbalance location system (ULS).
- 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.
- ULS: Unbalance location system indicating on the screen the number of the bucket which produces the unbalance switch off.
- 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.
- Last values remain in memory.
- Automatic rotor recognition. Over-speed protection.

3 YEAR  
WARRANTY



**Max. Capacity**  
4 x 1000 ml



**Max. Speed**  
21.948 xg / 14.300 RPM



**Screen Type**  
TFT



**Version**  
Refrigerated



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 by the user.
- Automatic disconnection for energy saving up to 8 h, with deactivation option.

### Refrigeration







- Maintains the refrigeration after the centrifugation process.
- Precooling program with rotor spinning and temperature selectable.
- Guarantees 4 °C at maximum RPM.
- Temperature range from -20°C (-4°F) to 40°C (104°F) in 1°C/1°F steps. Programmable in °C o °F.
- 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 221	720	800	430		118	220-230	50	1100
CE 222	720	800	430		118	110-120	60	1100

\*IVD version available, please indicate it in your request

Accessories centrifuge Dilitcen 22 R  
- Rolling table (pag. 78)  
- Rotors & adapters

MICROTITER PLATES													
		RT 279		RT 278		RT 299		RT 277		RT 265		RT 284	
													
		(6)						(1) (4)		(7)		(4)	
ROTOR		SWING OUT		SWING OUT		SWING OUT		SWING OUT		SWING OUT		SWING OUT	
Max. capacity		104 x 5 ml.		4 x 250 ml.		6 x 250 ml.		4 x 750 ml.		4 x 1.000 ml.		12/8/4 microtiter	
RPM Max.		3.800		4.200		2.500		3.700		4.000		3.700	
Radius (mm)		160		202		212		204		205		182 (3)	
RCF Max. (xg)		2.583		3.984		1.481		3.122		3.667		2.786	
Min. temp. at max. speed (°C)		0		1		-5		0		2		-4	
SAMPLE VOLUME	Dim (mm) approx.	ADAPTERS Tubes	Ref.	ADAPTERS Tubes	Ref.	ADAPTERS Tubes	Ref.	ADAPTERS Tubes	Ref.	ADAPTERS Tubes	Ref.	ADAPTERS Tubes	Ref.
1.000 ml.	ø110 x 135	-	-	-	-	-	-	-	-	4	-	-	-
750 ml.	ø96 x 130	-	-	-	-	-	-	4	RE 434	4	RE 522	-	-
500 ml.	ø90 x 120	-	-	-	-	-	-	4	RE 310	4	(5)	-	-
250 ml.	ø60 x 135	-	-	4	RE 449	6	RE 530	4	RE 330	4	RE 543	-	-
250 ml. conical	ø 60 x 145	-	-	4	RE 593	6	RE 608	4	RE 592	4	RE 607	-	-
100 ml.	ø48 x 100	-	-	4	RE 327	6	RE 558	4	RE 409	12	RE 544	-	-
85 ml. (hs) / 80 ml. (hs)	ø38 x 112	-	-	4	RE 498	6	RE 559	12	RE 500	20	RE 590	-	-
80 ml.	ø44 x 100	-	-	4	RE 422	6	RE 560	8	RE 352	12	RE 557	-	-
50 ml.	ø34 x 100	-	-	4	RE 334	6	RE 561	16	RE 317	24	RE 545	-	-
50 ml. conical	ø29 x 117	-	-	4	RE 340	6	RE562	20	RE 472	32	RE 546	-	-
30 ml. / 30 ml. (hs)	ø25 x 98	-	-	12	RE 312	18	RE 563	24	RE 322	40	RE 547	-	-
25 ml. conical	ø29 x 83	-	-	4	RE 612	6	RE 616	20	RE 614	32	RE 615	-	-
15 ml.	ø16 x 100	-	-	28	RE 376	42	RE 564	80	RE 625	112	RE 627	-	-
15 ml. conical	ø17 x 122	-	-	20	RE 321	30	RE 565	52	RE 347	76	RE 548	-	-
15 ml. blood sample	ø16 x 132	-	-	28	RE 376	42	RE 564	32	RE 441	48	RE 591	-	-
10 ml.	ø13 x 100	104	RE 309	40	RE 343	60	RE 566	100	RE 354	168	RE 552	-	-
10 ml. blood sample	ø16 x 107	-	-	28	RE 376	42	RE 564	80	RE 625	112	RE 627	-	-
7/10 ml. blood sample	ø13 x 107	104	RE 309	28	RE 324	42	RE 567	92	RE 624	128	RE 626	-	-
5 ml.	ø13 x 75	104	-	40	RE 343	60	RE 566	100	RE 354	168	RE 552	-	-
5 ml. blood sample	ø13 x 82	104	-	28	RE 324	42	RE 567	92	RE 624	128	RE 626	-	-
Microtubes 1,5-2 ml.	ø11x42	-	-	24	RE 440	36	RE 569	72	RE 426	132	RE 554	144	RE 460
Microtubes 0,5-0,6 ml.	ø8x30	-	-	24	RE 523	36	RE 570	72	RE 466	132	RE 555	144	RE 584
Microtubes 0,2-0,4 ml.	ø6x45	-	-	24	RE 458	36	RE 571	72	RE 524	132	RE 556	144	RE 585
Microtiter plates	128x86x15/21/45	-	-	-	-	-	-	12/8/4	RE 307	20/12/4	RE 589	12/8/4	-
Microtiter plates (h:80 mm)	128x86x80	-	-	-	-	-	-	-	-	4	RE 589	-	-

(1) This rotor can be supplied with hermetic lids (RE 356)  
(2) This rotor can fit adapters for blood bags (RE 308)  
(3) Medium radius on bucket.  
(4) Allows different configurations depending of the microplates height.

HIGH SPEED													
		RT 283		RT 280		RT 281		RT 282		RT 287		RT 292	
													
		(1)(2) (4)											
ROTOR		SWING OUT		ANGLE FIXED 45 °		ANGLE FIXED 45 °		ANGLE FIXED 30 °		ANGLE FIXED 45 °		ANGLE FIXED 30 °	
Max. capacity		4 blood bags		8 x 50 ml.		4 x 100 ml.		4 x 250 ml.		30 x 1,5-2 ml.		6 x 85 ml	
RPM Max.		3.700		6.000		5.600		4.700		14.300		9.000	
Radius (mm)		204		149		138		153		96		112	
RCF Max. (xg)		3.122		5.997		4.838		3.779		21.948		10.142	
Min. temp. at max. speed (°C)		0		0		-1		-4		-1		1	
SAMPLE VOLUME	Dim (mm) approx.	ADAPTERS Tubes	Ref.	ADAPTERS Tubes	Ref.	ADAPTERS Tubes	Ref.	ADAPTERS Tubes	Ref.	ADAPTERS Tubes	Ref.	ADAPTERS Tubes	Ref.
1.000 ml.	ø110 x 122	-	-	-	-	-	-	-	-	-	-	-	-
750 ml.	ø96 x 130	4	RE 434	-	-	-	-	-	-	-	-	-	-
500 ml.	ø90 x 120	4	RE 310	-	-	-	-	-	-	-	-	-	-
250 ml.	ø60 x 135	4	RE 330	-	-	-	-	4	RE 449	-	-	-	-
250 ml. conical	ø 60 x 145	4	RE 592	-	-	-	-	4	RE 593	-	-	-	-
100 ml.	ø48 x 100	4	RE 409	-	-	4	RE 446	4	RE 327	-	-	-	-
85 ml. (hs) / 80 ml. (hs)	ø38 x 112	12	RE 500	-	-	4	RE 380	4	RE 498	-	-	6	-
80 ml.	ø44 x 100	8	RE 352	-	-	4	RE 338	4	RE 422	-	-	-	-
50 ml.	ø34 x 100	16	RE 317	8	RE 448	4	RE 335	4	RE 334	-	-	6	RE 490
50 ml. conical	ø29 x 117	20	RE 472	8	RE 375	4	RE 341	4	RE 340	-	-	6	RE 483
30 ml. / 30 ml. (hs)	ø25 x 98	24	RE 322	8	RE 370	4	RE 332	12	RE 312	-	-	6	RE 493
25 ml. conical	ø29 x 83	20	RE 614	8	RE 599	4	RE 597	4	RE 612	-	-	6	RE 600
15 ml.	ø16 x 100	80	RE 625	8	RE 369	16	RE 316	28	RE 376	-	-	18	RE 485
15 ml. conical	ø17 x 122	52	RE 347	8	RE 369	4	RE 339	20	RE 321	-	-	6	RE 484
15 ml. blood sample	ø16 x 132	32	RE 441	8	RE 369	-	-	28	RE 376	-	-	-	-
10 ml.	ø13 x 100	100	RE 354	24	RE 366	20	RE 320	40	RE 343	-	-	30	RE 497
10 ml. blood sample	ø16 x 107	80	RE 625	8	RE 369	16	RE 316	28	RE 376	-	-	18	RE 485
7/10 ml. blood sample	ø13 x 107	92	RE 624	8	RE 373	20	RE 320	28	RE 324	-	-	18	RE 503
5 ml.	ø13 x 75	100	RE 354	24	RE 366	20	RE 320	40	RE 343	-	-	30	RE 501
5 ml. blood sample	ø13 x 82	92	RE 624	8	RE 373	20	RE 320	28	RE 324	-	-	18	RE 492
Microtubes 1,5-2 ml.	ø11x42	72	RE 426	24	RE 465	20	RE 408	24	RE 440	30	-	24	RE 494
Microtubes 0,5-0,6 ml.	ø8x30	72	RE466	24	RE 535	20	RE 519	24	RE 523	30	RE 428	24	RE 495
Microtubes 0,2-0,4 ml.	ø6x45	72	RE 524	24	RE 526	20	RE 473	24	RE 458	30	RE 427	24	RE 496
Microtiter plates	128x86x15/21/45	12/8/4	RE 307	-	-	-	-	-	-	-	-	-	-
Microtiter plates (h:80 mm)	128x86x80	-	-	-	-	-	-	-	-	-	-	-	-

# 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 stainless steel 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





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About centrifugation

**Álvarez Redondo S.A.**



Los frailes, 121  
Pol. Ind. Los Frailes  
28814 Daganzo | Madrid

[www.ortoalresa.com](http://www.ortoalresa.com)



(+34) 91 884 40 16



[info@ortoalresa.com](mailto:info@ortoalresa.com) to ask for information



[sat@ortoalresa.com](mailto:sat@ortoalresa.com) to contact our technical service

[sales@ortoalresa.com](mailto:sales@ortoalresa.com) to contact our comercial department

[marketing@ortoalresa.com](mailto:marketing@ortoalresa.com) to contact our marketing department