

# orto alresa

Centrifuges and laboratory products

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General applications: Centrifuges high capacity

## Series DIGTOR 22

# DIGTOR 22

TFT



The TFT screen displays a rotor selection menu with the following data:

Type	Rotor	Description	Max. RPM	Max. RCF
	RT 199	4 x 250 ml	4.700	3.779
	RT 203	4 x 250 ml	4.200	3.409
	RT 205	4 x 400 ml	4.000	3.220
	RT 206	20 x 1.5-2 ml	14.300	21.940
	RT 238	6 x 85 ml	9.000	10.142
	RT 245	10 microcentrifuge plates	4.500	3.758

Below the table, the screen shows "Temp. 3 °C" and the "ortoalresa" logo. At the bottom of the screen, the text "digtor 22" and "ortoalresa" are visible.

IVD CE

Centrifuges high capacity: Series Digtor 22

**Max. capacity:** 4 x 750 ml.

**Max. speed:** 21.948 xg / 14.300 RPM

Benchtop centrifuge with large capacity and high performance. With a wide range of accessories to process tubes from 750 ml. to 0,2 ml. in more than 12 rotors, both angle fixed and swing out. It has more than 50 different sets of adaptors, giving it great versatility. This equipment is the culmination of the merger of high capacity and high speed equipment, resulting in a routine use centrifuge with some specifications characteristic of superior level models. Its colour TFT touch screen offers performance that permits, 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 enables the user to optimise working time in the lab, by automation of cycles and modes of operation. These features also ensure process traceability and the assurance that no parameter is uncontrolled.

## Features

### TFT color touch screen, visible from more than 3 m.:

- Shows RPM and RCF, time, acceleration/deceleration values (PCBS) and unbalancing location system (ULS).
- Speed programming in 10 RPM/10 xg steps.
- Real RCF values on screen based in accessories configuration.
- Count up/down from "0" or at "set RPM/RCF" for test reproducibility.
- Timer countdown/up from "0" or at "set RPM/ RCF" for reproducible tests.
- Timer from 1 min 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: Unbalancing location system indicating on the screen the number of the bucket which produces the unbalance switch off.
- 40 programmable memories, with protection under password.
- Several acoustic and visual messages warning the user the device situation.

## Easy to use

- Microprocessor controlled. PC connection.
- Induction motor maintenance free (brushless).
- Rotors and adaptors list on memory.
- Noise level: below 60 dB.
- Start, stop, open lid and short spin with adjustable speed buttons.
- Option of free/locked adjustment of RPM/ RCF along the run.
- Automatic open lid, programmable.
- Last values remain in memory.
- Automatic rotor recognition. Over-speed protection.

## 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.
- Rotors and adapters autoclavable, easy to install by the user.
- Forced ventilation to reduce temperature increasing.
- Automatic disconnection for energy saving up to 8 h., with deactivation option.

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

**Standards:** EN 61010-1, EN 61010-2-020, EN 61326-2-6, EN 61326-1.

## Versions

	Dimensions (mm)(w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)
CE 187	540	650	390	50	220-230	50-60	1020
CE 188	540	650	390	50	110-120	50-60	1020

Centrifuges high capacity: Series Digtor 22

# DIGTOR 22 R



Home ? Settings

Prog.: method ita-4 nanopart

Rotor: RT 206 Adapt.: RE 428

Time: 00:35:00 Temp.: 4°C

RPM: 12.950 RCF: 18.000

Accel.: 25 s Deccel.: 25 s

ortoalresa

digtor 22 R



**Max. capacity:** 4 x 750 ml.

**Max. speed:** 21.948 xg / 14.300 RPM

The largest of our refrigerated benchtop centrifuges that offers the maximum performance. With an ergonomic design that enables easy loading of the rotor, as well as traceability of the position of the samples for easy identification of the charge balance. It has a wide range of accessories that offer capacity for tubes of 750 ml., microplates, microtubes and a great number of positions for the more common use tubes of 15 ml. conical, 50 ml. conical, 15 ml., 10 ml., and 5 ml.

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 that this equipment gives to the user reduces the work time, by the automatization of the cycles and work modes, ensuring the process traceability. 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 unbalancing location system (ULS).
- Speed programming in 10 RPM/10 xg steps.
- Real RCF values on screen based in accessories configuration.
- Count up/down from "0" or at "set RPM/RCF" for test reproducibility.
- Timer countdown/up from "0" or at "set RPM/ RCF" for reproducible tests.
- Timer from 1 min 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: Unbalancing location system indicating on the screen the number of the bucket which produces the unbalance switch off.
- 40 programmable memories, with protection under password.
- Several acoustic and visual messages warning the user the device situation.

## Easy to use

- Microprocessor controlled. PC connection.
- Induction motor maintenance free (brushless).
- Rotors and adapters list on memory.
- Noise level: below 60 dB.
- Start, stop, open lid and short spin with adjustable speed buttons.
- Option of free/locked adjustment of RPM/ RCF along the run.
- Last values remain in memory.
- Automatic rotor recognition. Over-speed protection.

## 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.
- Rotors and adapters autoclavable, easy to install by the user.
- Automatic disconnection for energy saving up to 8 h.

## Refrigeration

- Remains the refrigeration after centrifugation process.
- Precooling program with rotor spinning and temperature selectable.
- Guarantee 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 or °F.
- Temperature sensor inside the chamber.
- Gas R 449A HFO (CFC free).

**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 61010-2-020, EN 61326-2-6, EN 61326-1.

## Versions

	Dimensions (mm)(w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)	Z max advisable (Hz)
CE 189	720	805	390	95	220-230	50-60	1050	< 0.446
CE 190	720	805	390	95	110-120	50-60	1050	< 0.446

## Accessories

### Centrifuges series Digtor 22

		MICROTITER PLATES													
		RT 195		RT 192		RT 264		RT 191		RT 202		RT 245		RT 201	
															
								(1)(4)		(4)		(4)(5)		(1)(2) (4)(5)	
ROTOR		SWING OUT		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.		12/8/4 microtiter		10/6/2/2 microtiter		4 blood bags	
RPM Max.		3.800		4.200		2.500		3.700		3.700		4.500		3.700	
Radius (mm)		185		202		212		204		182 (3)		166		204	
RCF Max. (xg)		2.987		3.984		1.481		3.122		2.786		3.758		3.122	
Min. temp. at max. speed (°C)		0		1		-5		0		-4		4		0	
SAMPLE VOLUME	Dim (mm) orientativas	ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS	
		Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.
750 ml.	ø96 x 130	-	-	-	-	-	-	4	RE 434	-	-	-	-	4	RE 434
500 ml.	ø90 x 120	-	-	-	-	-	-	4	RE 310	-	-	-	-	4	RE 310
250 ml.	ø62 x 120	-	-	4	RE 449	6	RE 530	4	RE 330	-	-	-	-	4	RE 330
100 ml.	ø48 x 100	-	-	4	RE 327	6	RE 558	4	RE 409	-	-	-	-	4	RE 409
85 ml. (hs) / 80 ml. (hs)	ø38 x 112	-	-	4	RE 498	6	RE 559	12	RE 500	-	-	-	-	12	RE 500
80 ml.	ø44 x 100	-	-	4	RE 422	6	RE 560	-	-	-	-	-	-	-	-
50 ml.	ø34 x 100	-	-	4	RE 334	6	RE 561	16	RE 317	-	-	-	-	16	RE 317
50 ml. conical	ø29 x 117	-	-	4	RE 340	6	RE562	20	RE 472	-	-	-	-	20	RE 472
30 ml. / 30 ml. (hs)	ø25 x 98	-	-	12	RE 312	18	RE 563	24	RE 322	-	-	-	-	24	RE 322
15 ml.	ø16 x 100	-	-	28	RE 376	42	RE 564	72	RE 348	-	-	-	-	72	RE 348
15 ml. conical	ø17 x 122	-	-	20	RE 321	30	RE 565	52	RE 347	-	-	-	-	52	RE 347
15 ml. blood sample	ø16 x 132	-	-	28	RE 376	-	-	32	RE 441	-	-	-	-	32	RE 441
10 ml.	ø13 x 100	104	RE 309	40	RE 343	60	RE 566	84	RE 354	-	-	-	-	84	RE 354
10 ml. blood sample	ø16 x 107	-	-	28	RE 376	42	RE 564	72	RE 348	-	-	-	-	72	RE 348
7/10 ml. blood sample	ø13 x 107	104	RE 309	28	RE 324	42	RE 567	72	RE 349	-	-	-	-	72	RE 349
5 ml.	ø13 x 75	104	RE 388	40	RE 343	60	RE 566	84	RE 354	-	-	-	-	84	RE 354
5 ml. blood sample	ø13 x 82	104	RE 388	28	RE 324	42	RE 567	72	RE 349	-	-	-	-	72	RE 349
10 x 100 mm	ø10 x 100	-	-	52	RE 346	78	RE 568	144	RE 315	-	-	-	-	144	RE 315
Microtubes 1,5-2 ml.	ø11x42	-	-	24	RE 440	36	RE 569	72	RE 426	144	RE 460	72	RE 401	72	RE 426
Microtubes 0,5-0,6 ml.	ø8x30	-	-	24	RE 523	36	RE 570	72	RE 466	-	-	-	-	72	RE 466
Microtubes 0,2-0,4 ml.	ø6x45	-	-	24	RE 458	36	RE 571	72	RE 524	-	-	-	-	72	RE 524
Microtiter plates	128x86x15/21/45	-	-	-	-	-	-	12/8/4	RE 307	12/8/4	-	10/6/2	-	12/8/4	RE 307
Microtiter plates (h:80 mm)	128x86x80	-	-	-	-	-	-	-	-	-	-	2	-	-	-

(1) This rotor can be supplied with four 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. (5) Only available for refrigerated models.

		HIGH SPEED									
		RT 197		RT 198		RT 199		RT 206		RT 238	
											
ROTOR		ANGLE FIXED 45°		ANGLE FIXED 45°		ANGLE FIXED 30°		ANGLE FIXED 45°		ANGLE FIXED 30°	
Max. capacity		8 x 50 ml.		4 x 100 ml.		4 x 250 ml.		30 x 1,5-2 ml.		6 x 85 ml	
RPM Max.		6.000		5.600		4.700		14.300		9.000	
Radius (mm)		149		138		153		96		112	
RCF Max. (xg)		5.997		4.838		3.779		21.948		10.142	
Min. temp. at max. speed (°C)		0		-1		-4		-1		1	
SAMPLE VOLUME	Dim (mm) approx.	ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS	
		Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.
750 ml.	ø96 x 130	-	-	-	-	-	-	-	-	-	-
500 ml.	ø90 x 120	-	-	-	-	-	-	-	-	-	-
250 ml.	ø62 x 120	-	-	-	-	4	RE 449	-	-	-	-
100 ml.	ø48 x 100	-	-	4	RE 446	4	RE 327	-	-	-	-
85 ml. (hs) / 80 ml. (hs)	ø38 x 112	-	-	4	RE 502	4	RE 498	-	-	6	-
80 ml.	ø44 x 100	-	-	4	RE 338	4	RE 422	-	-	-	-
50 ml.	ø34 x 100	8	RE 448	4	RE 335	4	RE 334	-	-	6	RE 490
50 ml. conical	ø29 x 117	8	RE 375	4	RE 341	4	RE 340	-	-	6	RE 483
30 ml. / 30 ml. (hs)	ø25 x 98	8	RE 370	4	RE 332	12	RE 312	-	-	6	RE 493
15 ml.	ø16 x 100	8	RE 369	16	RE 316	28	RE 376	-	-	18	RE 485
15 ml. conical	ø17 x 122	8	RE 369	4	RE 339	20	RE 321	-	-	6	RE 484
15 ml. blood sample	ø16 x 132	8	RE 369	-	-	28	RE 376	-	-	-	-
10 ml.	ø13 x 100	24	RE 366	20	RE 320	40	RE 343	-	-	30	RE 497
10 ml. blood sample	ø16 x 107	8	RE 369	16	RE 316	28	RE 376	-	-	18	RE 485
7/10 ml. blood sample	ø13 x 107	8	RE 373	20	RE 320	28	RE 324	-	-	18	RE 503
5 ml.	ø13 x 75	24	RE 366	20	RE 320	40	RE 343	-	-	30	RE 501
5 ml. blood sample	ø13 x 82	8	RE 373	20	RE 320	28	RE 324	-	-	18	RE 492
10 x 100 mm	ø10 x 100	24	RE 367	36	RE 326	52	RE 346	-	-	-	-
Microtubes 1,5-2 ml.	ø11x42	24	RE 465	20	RE 408	24	RE 440	30	-	24	RE 494
Microtubes 0,5-0,6 ml.	ø8x30	24	RE 535	20	RE 519	24	RE 523	30	RE 428	24	RE 495
Microtubes 0,2-0,4 ml.	ø6x45	24	RE 526	20	RE 473	24	RE 458	30	RE 427	24	RE 496
Microtiter plates	128x86x15/21/45	-	-	-	-	-	-	-	-	-	-
Microtiter plates (h:80 mm)	128x86x80	-	-	-	-	-	-	-	-	-	-



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About centrifugation

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Edition: January 2017.  
Subject to modifications

