

orto alresa

Centrifuges and laboratory products

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General applications: Centrifuges floor standing

Series MAGNUS 22



MAGNUS 22



Max. capacity: 4 x 750 ml.

Max. speed: 21.948 xg / 14.300 RPM

Regarding floor standing equipment, Magnus 22 offers the maximum perShapence for your processes. Its design enables it to be installed in any space in the lab, avoiding the occupation of useful space. Its ergonomic design allows easy access to the rotor as well as traceability of the positioning to balance the load and ease of identification. Its colour TFT touch screen offers perShapence 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 automation of work cycles and modes. This also ensures traceability of the process, not leaving any parameter uncontrolled.

It has a wide range of accessories for 750 ml. tubes, 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 applications.

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 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.
- 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 191 | 540 | 650 | 930 | 113 | 220-230 | 50-60 | 1020 |
| CE 192 | 540 | 650 | 930 | 113 | 110-120 | 50-60 | 1020 |

MAGNUS 22 R

TFT



The TFT control panel displays the following information:

- Prog.: method ita-4 nanopart.
- Rotor: RT 206
- Time: 00:35:00
- RPM: 12.950
- Accel: 25 s
- Adapt.: RE 428
- Temp.: 4 °C
- RCF: 18.000
- Decel: 25 s

At the bottom of the screen, the text "ortoalresa" and "magnus 22 R" are visible.

Max. capacity: 4 x 750 ml.

Max. speed: 21.948 xg / 14.300 RPM

The refrigerated version of our floor standing equipment offers the maximum performance for your processes. Its design enables it to be installed in any space in the lab, avoiding the occupation of useful space. Its ergonomic design allows easy access to the rotor as well as traceability of the positioning to balance the load and easy identification.

With a wide range of accessories that offers capacities 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. for clinical applications. It also has a specific rotor for blood bags and tubes extraction. Its powerful refrigeration system enables it to maintain the minimum temperature of the chamber below 4°C regardless of the type of rotor and the speed selected. This characteristic gives the user confidence in traceability during the centrifugation cycle.

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.
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- 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 o °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 193 | 540 | 650 | 930 | 145 | 220-230 | 50-60 | 1050 | < 0.446 |
| CE 194 | 540 | 650 | 930 | 145 | 110-120 | 50-60 | 1050 | < 0.446 |

Accessories

Centrifuges series Magnus 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) orientativas | 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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