



General applications: Centrifuges high capacity

Series CONSUL 22

N-Wissen GmbH
info@lab-wissen.de;
Tel: +49 (0) 69 8900 4008;
Fax: +49 (0) 69 8900 4007
Ferdinand-Porsche-Str. 2, 63073 Offenbach - Germany

CONSUL 22

TFT



Centrifuges high capacity: Series Consul 22



IVD CE

Max. capacity: 4 x 400 ml. **Max. speed:** 21.948 xg / 14.300 RPM

A great centrifuge, compact, high capacity and with the advantages of equipment in superior segments. The type of control provided, through its TFT colour touch screen, provides the user with features that enable, in addition to the control of the equipment by operating parameters, the possibility to export the data for subsequent analysis and programming for operation in the future. 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.

The same as the rest of Ortoalresa centrifuges, it is designed to be versatile, therefore it has swing out rotors with volumes of 400 ml. per bucket, rotors for microplates 80 mm height, angle fixed rotors for high speed and microtubes as well as a wide range of adaptors for all of them.

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 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: 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. Hermetic lids.
- 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 61010-2-101, 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 226	490	600	400	59	220-230	50-60	620
CE 227	490	600	400	59	110-120	50-60	620

CONSUL 22 R



The control panel features a TFT screen displaying the following 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

Below the screen, the text 'consul 22 R' is visible on the left, and 'orto alresa' is on the right. The screen also shows a 'method ita-4 nanopart' icon and a 'method ita-4 nanopart' label.

Centrifuges high capacity: Series Consul 22



Max. capacity: 4 x 400 ml.

Max. speed: 21.948 xg / 14.300 RPM

A great refrigerated centrifuge, compact, high capacity and with the advantages of equipment in superior segments. Its TFT colour touch screen, provides the user with features that enable, in addition to the control of the equipment by operating parameters, the possibility to export the data for subsequent analysis and programming for operation in the future. As the rest of Ortoalresa centrifuges, it's designed to be versatile, therefore it has swing out rotors with volumes of 400 ml. per bucket, rotors for microplates of 80 mm height, angle fixed rotors for high speed and microtubes as well as a wide range of adaptors for all of them.

The autonomy that this equipment gives to the user optimises the laboratory routine by the personalization of the work cycles. These particularities also ensure process traceability and the assurance that no parameter is uncontrolled. Its refrigeration system allows 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 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: Unbalancing location system indicating on the screen the number of the bucket which produces the unbalance switch off.
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- Rotors and adapters list on memory.
- Noise level: below 60 dB.
- Start, stop, open lid and short spin with adjustable speed buttons.
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 - 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 61010-2-101, 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.
CE 232	670	730	400	98	220-230	50	1.020	< 0,446
CE 233	670	730	400	98	110-120	60	1.250	< 0,446

Accessories

Centrifuges series Consul 22

		MICROTITER PLATES											
		RT 285		RT 286		RT 288		RT 297		RT 280		RT 281	
													
		SWING OUT		SWING OUT		SWING OUT		SWING OUT		ANGLE FIXED 45 °		ANGLE FIXED 45 °	
ROTOR		SWING OUT		SWING OUT		SWING OUT		SWING OUT		ANGLE FIXED 45 °		ANGLE FIXED 45 °	
Max. capacity		4 x 250 ml.		4 x 400 ml.		12/8/4 microtiter		10/6/2/2 microtiter		8 x 50 ml.		4 x 100 ml.	
RPM Max.		4.200		4.000		3.500		4.500		6.000		5.600	
Radius (mm)		183		180		149		166		149		138	
RCF Max. (xg)		3.609		3.220		2.041		3.758		5.997		4.838	
Min. temp. at max. speed (°C)		-1		-2		-4		4		-2		-1	
SAMPLE VOLUME	Dim (mm) approx.	ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS		ADAPTERS	
		Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.	Tubes	Ref.
400 ml.	ø 80 x 118	-	-	4	RE 450	-	-	-	-	-	-	-	-
250 ml.	ø 60 x 135	4	RE 449	4	RE 430	-	-	-	-	-	-	-	-
200 ml.	ø 60 x 120	4	RE 449	4	RE 430	-	-	-	-	-	-	-	-
100 ml.	ø 48 x 100	4	RE 327	4	RE 412	-	-	-	-	-	-	4	RE 446
85 ml. (hs) / 80 ml. (hs)	ø 38 x 112	4	RE 498	4	RE 499	-	-	-	-	-	-	4	RE 380
80 ml.	ø 44 x 100	4	RE 422	4	RE 421	-	-	-	-	-	-	4	RE 338
50 ml.	ø 34 x 100	4	RE 334	12	RE 414	-	-	-	-	8	RE 448	4	RE 335
50 ml. conical	ø 29 x 117	4	RE 340	12	RE 413	-	-	-	-	8	RE 375	4	RE 341
30 ml. / 30 ml. (hs)	ø 25 x 98	12	RE 312	20	RE 415	-	-	-	-	8	RE 370	4	RE 332
25 ml. conical	ø 29 x 83	4	RE 612	12	RE 613	-	-	-	-	8	RE 599	4	RE 597
15 ml.	ø 16 x 100	28	RE 376	48	RE 417	-	-	-	-	8	RE 369	16	RE 316
15 ml. conical	ø 17 x 122	20	RE 321	28	RE 416	-	-	-	-	8	RE 369	4	RE 339
15 ml. blood sample	ø 16 x 132	-	-	-	-	-	-	-	-	8	RE 369	-	-
10 ml.	ø 13 x 100	40	RE 343	72	RE 418	-	-	-	-	24	RE 366	20	RE 320
10 ml. blood sample	ø 16 x 107	28	RE 376	48	RE 417	-	-	-	-	8	RE 369	16	RE 316
7/10 ml. blood sample	ø 13 x 107	28	RE 324	48	RE 419	-	-	-	-	8	RE 373	20	RE 320
5 ml.	ø 13 x 75	40	RE 343	72	RE 418	-	-	-	-	24	RE 366	20	RE 320
5 ml. blood sample	ø 13 x 82	28	RE 324	48	RE 419	-	-	-	-	8	RE 373	20	RE 320
10 x 100 mm.	ø 10 x 100	52	RE 346	76	RE 420	-	-	-	-	24	RE 367	36	RE 326
Microtubes 1,5-2 ml.	ø 11 x 42	24	RE 440	48	RE 431	144	RE 460	72	RE 401	24	RE 465	20	RE 408
Microtubes 0,5-0,6 ml.	ø 8 x 30	24	RE 523	48	RE 489	144	RE 584	72	RE 580	24	RE 535	20	RE 519
Microtubes 0,2-0,4 ml.	ø 6 x 45	24	RE 458	48	RE 525	144	RE 585	72	RE 581	24	RE 526	20	RE 473
Microtiter plates	128x86x15/21/45	-	-	-	-	12/8/4	-	10/6/2	-	-	-	-	-
Microtiter plates(h: 80mm)	128x86x80	-	-	-	-	-	-	2	-	-	-	-	-
Cell culture	128x86x22	-	-	-	-	8	-	6	-	-	-	-	-

(1) This rotor can be supplied with hermetic lids (RE 405). (2) Allows different configurations depending of the microplates height. (3) Only available for refrigerated models.

HIGH SPEED

RT 282



RT 292



RT 287



ROTOR		ANGLE FIXED 30 °		ANGLE FIXED 30 °		ANGLE FIXED 45 °	
Max. capacity		4 x 250 ml.		6 x 85 ml		30 x 1,5-2 ml.	
RPM Max.		4.700		9.000		14.300	
Radius (mm)		153		112		96	
RCF Max. (xg)		3.779		10.142		21.948	
Min. temp. at max. speed (°C)		-3		0		-3	
SAMPLE VOLUME	Dim (mm) approx.	ADAPTERS		ADAPTERS		ADAPTERS	
		Tubes	Ref.	Tubes	Ref.	Tubes	Ref.
400 ml.	ø 80 x 118	-	-	-	-	-	-
250 ml.	ø 60 x 135	4	RE 449	-	-	-	-
200 ml.	ø 60 x 120	4	RE 449	-	-	-	-
100 ml.	ø 48 x 100	4	RE 327	-	-	-	-
85 ml. (hs) / 80 ml. (hs)	ø 38 x 112	4	RE 498	6	-	-	-
80 ml.	ø 44 x 100	4	RE 422	-	-	-	-
50 ml.	ø 34 x 100	4	RE 334	6	RE 490	-	-
50 ml. conical	ø 29 x 117	4	RE 340	6	RE 483	-	-
30 ml. / 30 ml. (hs)	ø 25 x 98	12	RE 312	6	RE 493	-	-
25 ml. conical	ø 29 x 83	4	RE 612	6	RE 600	-	-
15 ml.	ø 16 x 100	28	RE 376	18	RE 485	-	-
15 ml. conical	ø 17 x 122	20	RE 321	6	RE 484	-	-
15 ml. blood sample	ø 16 x 132	28	RE 376	-	-	-	-
10 ml.	ø 13 x 100	40	RE 343	30	RE 497	-	-
10 ml. blood sample	ø 16 x 107	28	RE 376	18	RE 485	-	-
7/10 ml. blood sample	ø 13 x 107	28	RE 324	18	RE 503	-	-
5 ml.	ø 13 x 75	40	RE 343	30	RE 501	-	-
5 ml. blood sample	ø 13 x 82	28	RE 324	18	RE 492	-	-
10 x 100 mm.	ø 10 x 100	52	RE 346	-	-	-	-
Microtubes 1,5-2 ml.	ø 11 x 42	24	RE 440	24	RE 494	30	-
Microtubes 0,5-0,6 ml.	ø 8 x 30	24	RE 523	24	RE 495	30	RE 428
Microtubes 0,2-0,4 ml.	ø 6 x 45	24	RE 458	24	RE 496	30	RE 427
Microtiter plates	128x86x15/21/45	-	-	-	-	-	-
Microtiter plates(h: 80mm)	128x86x80	-	-	-	-	-	-
Cell culture	128x86x22	-	-	-	-	-	-





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