

# orto alresa

Centrifuges and laboratory products

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Special applications: Centrifuges industry

## Series DIGTOR 22 C

# DIGTOR 22 C



digtor 22 C

Temp 22.0°C

ortho  
alresa

Prog:  ASTM 4007	Adapt: RE 476
Rotor: RT 239	RCF: 2.425
RPM: 3.000	Decel: 30 s
Accel: 30 s	Temp: 60°C
Time: 00:10:00	

Home ? Settings



**Max. capacity:** 4 x 100 ml. (8/6")

**Max. speed:** 2.425 xg / 3.000 RPM

With capacity for 4 tubes of 8", 6", trace and 28 "finger" tubes. Versatile and effective is the better option of all the centrifuges for oil applications.

## Features

- Designed for oil/petrol applications according the standards: ASTM D 91, D96, D 893, D 1796, D2273, D2709, D 2711, D 4007, D 5546, API 2542, API 2548, BS 4385, ISO 3734, ISO 9030, IP75, IP 359, NF M07-020, DIN 51793. Fits Babcock bottles.
- Tubes upright on rest.
- GRS: Gas release system (optional); pre-installation included.

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

## Heating

- Preheating program with rotor spinning and temperature selectable. Allows keep the chamber at working temperature before starting the process.
- Regulation of the room temperature +5°C (41°F) to 80°C (176°F) in 1°C/1°F steps. Programmable in °C o °F.
- Temperature sensor inside the chamber. Overheating protection.
- Internal isolated avoiding heat lost.

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

**Standards:** EN 61010-1, EN 61010-2-020, EN 61010-2-101, EN 61326-2-6, EN 61326-1, EN 61010-2-010.

Versions	Dimensions (mm)(w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)
CE 238	530	640	400	76	220-230	50-60	1.260
CE 239	530	640	400	76	110-120	50-60	1.220

## Accessories

RT 293



RT 289



ROTOR		SWING OUT		SWING OUT	
Max. capacity		4x100 ml. (8/6")		4x100 ml. (8")	
RPM Max.		3.000		3.000	
Radius (mm)		241		241	
RCF Max. (xg)		2.425		2.425	
SAMPLE VOLUME	Dim (mm) approx.	ADAPTERS		ADAPTERS	
		Tubes	Ref.	Tubes	Ref.
ASTM cone shape 6"	Ø 44-46x162-167	4	RE 475	-	-
ASTM pear shape	Ø 58-59x157-160	4	RE 477	-	-
ASTM trace/cone 8"	Ø 36-38x195-203	4	RE 476	4	-
API finger 12,5 ml	Ø 16x105	28	RE 456	4	RE 455
API finger 12,5 ml	Ø 16x105	-	-	16	RE 454

Available tubes check tubes features in pag. 13.

# DIGTOR 22 C-U

TFT

PCBS

UL5



CE



Centrifuges industry: Series Digtor 22 C

**Max. capacity:** 4 x 100 ml. (8/6")

**Max. speed:** 2.425 xg / 3.000 RPM

The most affordable option in the range of centrifuges for oil laboratories that, due to regulations, do not need heating. It has the same accessories as the heated models, all of them are especially designed for working with oily substances as well as the reagents used in regulations applicable with oil.

Effective, quick, versatile, allowing you to work with 6" and 8" conical profile tubes, pear type tubes and "finger" type tubes for small volumes. It has a pre-installation for incorporating a gas release system at any time during the life of the equipment.

## Features

- Designed for oil/petrol applications according the standards: ASTM D 91, D 893, D 2273, D 2709, D 5546, API 2542, API 2548, BS 4385, DIN 51793.
- Tubes upright on rest.
- GRS: Gas release system (optional); pre-installation included.

### 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 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.

**Standards:** EN 61010-1, EN 61010-2-020, EN 61010-2-101, 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 242	530	640	400	73	220-230	50-60	440
CE 243	530	640	400	73	110-120	50-60	460

## Accessories

ROTOR	RT 293		RT 289		
	SWING OUT	SWING OUT	SWING OUT	SWING OUT	
Max. capacity	4x100 ml. (8/6")		4x100 ml. (8")		
RPM Max.	3.000		3.000		
Radius (mm)	241		241		
RCF Max. (xg)	2.425		2.425		
SAMPLE VOLUME	Dim (mm) approx.	ADAPTERS		ADAPTERS	
		Tubes	Ref.	Tubes	Ref.
ASTM cone shape 6"	Ø 44-46x162-167	4	RE 475	-	-
ASTM pear shape	Ø 58-59x157-160	4	RE 477	-	-
ASTM trace/cone 8"	Ø 36-38x195-203	4	RE 476	4	-
API finger 12,5 ml	Ø 16x105	28	RE 456	4	RE 455
API finger 12,5 ml	Ø 16x105	-	-	16	RE 454

Available tubes check tubes features in pag. 13.

# DIGTOR 22 C-8

TFT



The TFT display shows the following settings:

- Prog: ASTM 4007
- Rotor: RT 239
- RPM: 3.000
- Accel: 30 s
- Time: 00:10:00
- Adapt: RE 476
- RCF: 2.425
- Decel: 30 s
- Temp: 60°C

Additional icons on the screen include Home, Help, Settings, and a red status bar at the bottom with the text "Serial Open" and "Temp 21.1°C".

digtor 22 C-8

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Centrifuges industry: Series Digtor 22 C

**Max. capacity:** 8 x 100 ml. (8/6")

**Max. speed:** 2.425 xg / 3.000 RPM

The largest of our centrifuges for oil, with capacity for 8 tubes of 8", the best option for centres that carry out a large number of tests every day.

## Features

- Designed for oil/petrol applications according the standards: ASTM D 91, D96, D 893, D 1796, D2273, D2709, D 2711, D 4007, D 5546, API 2542, API 2548, BS 4385, ISO 3734, ISO 9030, IP75, IP 359, NF M07-020, DIN 51793. Fits Babcock bottles.
- Tubes upright on rest.
- GRS: Gas release system (optional); pre-installation included.

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

## Heating

- Preheating program with rotor spinning and temperature selectable. Allows keep the chamber at working temperature before starting the process.
- Regulation of the room temperature +5°C (41°F) to 80°C (176°F) in 1°C/1° F steps. Programmable in °C o °F.
- Temperature sensor inside the chamber. Overheating protection.
- Internal isolated avoiding heat lost.

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

**Standards:** EN 61010-1, EN 61010-2-020, EN 61010-2-101, EN 61326-2-6, EN 61326-1, EN 61010-2-010.

Versions	Dimensions (mm) (w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)
CE 240	530	640	420	77	220-230	50-60	1.260
CE 241	530	640	420	77	110-120	50-60	1.220

## Accessories

	RT 293	RT 289	RT 294	
<b>ROTOR</b>	<b>SWING OUT</b>	<b>SWING OUT</b>	<b>SWING OUT</b>	
Max. capacity	4x100 ml. (8/6")	4x100 ml. (8")	8x100 ml. (8/6")	
RPM Max.	3.000	3.000	2.000	
Radius (mm)	241	241	239	
RCF Max. (xg)	2.425	2.425	1.069	
<b>SAMPLE VOLUME</b>	<b>Dim (mm) approx.</b>	<b>ADAPTERS</b>	<b>ADAPTERS</b>	<b>ADAPTERS</b>
ASTM cone shape 6"	Ø 44-46x162-167	Tubes Ref.	Tubes Ref.	Tubes Ref.
ASTM pear shape	Ø 58-59x157-160	4 RE 475	- -	8 -
ASTM trace/cone 8"	Ø 36-38x195-203	4 RE 477	- -	- -
API finger 12,5 ml	Ø 16x105	4 RE 476	4 -	8 RE 478
API finger 12,5 ml	Ø 16x105	28 RE 456	4 RE 455	- -
		- -	16 RE 454	16 RE 454

Available tubes heck tubes features in pag. 13.

# GAS RELEASE SYSTEM

The petroleum testing laboratories environment presents a number of risks inherent to the type of sample. The devices for the analysis of samples should ensure minimal risk conditions at work, critical premise in the development of devices for this application in Ortoalresa.

Centrifugation processes for the determination of water and sediment in petroleum, require an organic solvent which, reacting with the sample and caloric intake of the equipment, generates aerosols. In order to remove this gas from the centrifuge and take it to a safe area, Ortoalresa has designed GRS (Gas Release System) as an accessory for all of the Digtor 22 C series centrifuges. This accessory creates inside the centrifuge chamber, on its top when it is locked, low pressure intake or vacuum suction, allowing suction from atmosphere high in aerosols. This atmosphere is piped through the GRS up to its exit, where it can be treated in isolation. The whole circuit is continuously monitored by the equipment, which will lead the right moment to operate the system. Moreover, it is only required the presence of a compressed air supply of 2 bar pressure, in order to create a 10l/min suction, sufficient to perform the suction of the centrifuge inside chamber volume every 5 min.



GRS main functions are:

- Decreasing gas concentration during operation, and therefore the risk of explosion.
- Eliminating the user's health risk by inhalation of produced vapors
- Avoiding gas dispersion into laboratory environment.

## Easy to use

- It only requires a compressed air supply.
- It has 4 connections: A compressed air inlet, an air inlet for air removed from the equipment, an atmosphere outlet to a safe area, and the control input from the equipment.
- Operation pilot light.
- Air inlet pressure regulator.
- Inlet pressure gauge.
- Operation controlled by core equipment.

## Features

- Setting up at a 2 bar pressure, creates a 10 l/min suction.
- 0.2 bar gauge accuracy.
- Max 8 bar inlet pressure.
- Fast inlet and outlet connections.
- Suction capacity: minimum twice total chamber volume in 10 min.

## Safety

- Hazardous gases input is not required.
- Low noise level <40 dB.
- Powered only by rotor in motion and lid blocked.
- Low power.

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

**Standards:** EN 61010-1, EN 61010-2-020, EN 61326-1, EN 61010-2-010.

Versions	Dimensions (mm)(w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)
CP 001	140	220	120	2	220-240	50-60	20
CP 004	140	220	120	2	110-120	50-60	20



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About centrifugation

**Álvarez Redondo S.A.**  
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