

A close-up photograph of laboratory centrifuge components. In the foreground, a black rotor with a white cap is visible, featuring the text '1' and 'ortoalresa Ns 220759/05'. To the right, several stainless steel tubes are arranged in a row, each engraved with 'o-alresa Ns 220607/02'. In the background, a black centrifuge bucket contains several red-tipped tubes. The image is overlaid with a semi-transparent dark grey box in the upper right corner containing the brand name and tagline.

# orto alresa

About centrifugation

Special applications | Series DIGTOR 22 C





## DIGTOR 22 C



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

### Features

- Designed for oil/petrol applications according to 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 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.

### 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.



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



**Max. Speed**  
2.425 xg / 3.000 RPM



**Screen Type**  
TFT



**Version**  
Heated



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.

### Heating

- Preheating program with rotor spinning and selectable temperature. It allows keeping 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 or °F.
- Temperature sensor inside the chamber. Overheating protection.
- Internally isolated avoiding heat loss.

### Versions

	Dimensions (mm) (w x d x h)	Net Weight (Kg)	Voltage (V)	Frequency (Hz)	Consumption (W)
CE 238	530 640 420	77	220-230	50-60	1.260
CE 239	530 640 420	77	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 tube features at pag. 22 of the general catalogue.

Check the max. RCF allowed for your ASTM tubes. Max. RCF supported by our ASTM tubes 850 xg.





## DIGTOR 22 C-U



The most affordable option in the range of centrifuges for oil laboratories that, due to regulations, do not require 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 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 equipment status 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.
- Automatic lid opening, programmable
- Last values remain in memory.
- Automatic rotor recognition. Over-speed protection.



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



**Max. Speed**  
2.425 xg / 3.000 RPM



**Screen Type**  
TFT



**Version**  
Ventilated



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.

### 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.

### Versions

	Dimensions (mm) (w x d x h)			Net Weight (Kg)	Voltage (V)	Frequency (Hz)	Consumption (W)
CE 242	530	640	420	74	220-230	50-60	440
CE 243	530	640	420	74	110-120	50-60	460

### 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		
<b>SAMPLE VOLUME</b>	<b>Dim (mm) approx.</b>	<b>ADAPTERS</b>			
		<b>Tubes</b>	<b>Ref.</b>	<b>Tubes</b>	<b>Ref.</b>
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 tube features at pag. 22 of the general catalogue.

Check the max. RCF allowed for your ASTM tubes. Max. RCF supported by our ASTM tubes 850 xg.





## DIGTOR 22 C-8



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 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.

### 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.



<b>Max. Capacity</b> 8 x 100 ml (8/6")		<b>Max. Speed</b> 2.425 xg / 3.000 RPM	
<b>Screen Type</b> TFT		<b>Version</b> Heated	

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.

### Heating

- Preheating program with rotor spinning and selectable temperature. It allows keeping 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.
- Internally isolated avoiding heat loss.

### Versions

	Dimensions (mm) (w x d x h)			Net Weight (Kg)	Voltage (V)	Frequency (Hz)	Consumption (W)
CE 240	530	640	420	77	220-230	50-60	1.460
CE 241	530	640	420	77	110-120	50-60	1.400

### Accessories

	RT 293	RT 289	RT 294
<b>ROTOR</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>ADAPTERS</b>		<b>ADAPTERS</b>
	Dim (mm) approx.	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
API finger 12,5 ml	Ø 16x105	28	RE 456
API finger 12,5 ml	Ø 16x105	-	-
		16	RE 454
		8	RE 478
		16	RE 454

Available tubes, check tube features at pag. 22 of the general catalogue.  
Check the max. RCF allowed for your ASTM tubes. Max. RCF supported by our ASTM tubes 850 xg.

## GAS RELEASE SYSTEM

Accessories for centrifuge series Digtor 22 C

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

Centrifugation processes for the determination of water and sediment in petroleum, require an organic solvent which, reacting with the sample and the 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 the GRS (Gas Release System) as an accessory for all of the Digtor 22 C series centrifuges. This accessory creates low pressure intake or vacuum suction, inside the centrifuge chamber, concretely on its top, when locked, that allows the suction of the 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, that will manage the right moment to operate the system. Moreover, it only requires 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 consumption.

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)	Frequency (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

## ROLLING TABLE

Accessories for centrifuge series Digtor 22 C

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 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	Series Digtor 22 C









**orto**  
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About centrifugation

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