About series Digtor 21 C

Centrifuges on oil lab can be used for several applications as sediment & water on oils, fuel oils and middle distillate fuels, precipitation on lubricating oils, characterization of bio fuels… Ortoalresa has expanded its Series Digtor 21 C, thinking about all user, now formed by three centrifuges:

- Digtor 21 C-U: Centrifuge for oil **without heating** for 4 tubes of 8 “.
- Digtor 21 C: Centrifuge for oil with heating **for 4 tubes 8”**.
- Digtor 21 C-8: Centrifuge for oil with heating **for 8 tubes of 8”**.

These three centrifuges include the all standards on safety and also include the pre-installation for GRS (Gas Release System) for aerosols’ extraction formed along centrifugation, that could affect to the user and lab environment.

A complete & safety solution for oil and bio fuel labs.

General specifications for series Digtor 21 C

User friendliness

- **TFT touch screen** easy to read and values selection (RPM on steps of 100, RCF on steps of 10xg), time, temperature (1°C steps) and acceleration/deceleration (1 second steps).
- The screen which indicates the status can be seen from more than 3m.
- Rotor and adapters list on memory. Automatic rotor recognition
- Real values on screen of RCF (x g) based on accessories configuration.
- Timer count up/down, from 0 or at “set RPM/RCF” for test reproducibility.
- **Progressive acceleration and braking** selectable by operator up to 175 ramps.
- Microprocessor controlled. Automatic lid latch lock.
- Option: free or locked adjustment of RPM/RCF along the run.
- Program data protection through password selectable.
- Device and accessories specially designed for oil applications.

Features

- Induction motor maintenance free.
- Max. speed 3.000 RPM/2.425 RCF (on steps 100 RPM/ 10 xg)
- Quiet: noise level < 60 dB.
- 15 memories + pre-heating program: it allows warm the chamber to test temperature before spin the sample (except Digtor 21 C-U with 16 memories).
- Short spin key with speed adjustable.
- Bio fuel compatible.
- Proper for conical (6 or 8 “), trace sediment and pear or 12,5 ml.

Safety

- Optional **Gas Release System**: all devices include **pre-installation.**
- Isolated avoiding heat lost. Overheating protection.
- Lid locking and holding and lid dropping protection.
- Imbalance switch off.
- Chamber of centrifugation in stainless steel.
- Viewing and calibration port in the lid.
- Messages about progress on TFT.
- Guard ring between the chamber of centrifugation and the housing.
- Tubes on **upright on rest**.

DIGTOR 21 C-U

Digtor 21 C–U is the **unheated version** of Serie Digtor 21C, its provided of several memories which allow the user to store up to 16 programs according different centrifugation parameters following several standards.

It has been equipped with accessories, rotors RT 239 and RT 220 for run 6 and 8 inches, pear shaped tubes, traces and 12,5 ml tubes, all of them specially designed for oil applications, so they are easy to clean, made in high resistance materials, allow a quick identification of samples on the rotor position.

Its proper for processing samples according following standards:
ASTM D 91, D 96, D 893, D 2273, D 2709, D 2711, D 5546, API 2542, API 2548, BS 4385, ISO 3734, IP75, (it can be used for several other standard, please ask us info@ortoalresa.com).



DIGTOR 21 C

Digtor 21 C has been equipped with accessories, rotors RT 239 and RT 220 for run 6 and 8 inches, pear shaped tubes, traces and 12,5 ml tubes, all of them specially designed for oil applications, so they are easy to clean, made in high resistance materials, allow a quick identification of samples on the rotor position.

The centrifuge is provided of 15 memories which allow the user to introduce programs with selectable centrifugation parameters following different standards.

It’s provided of a pre-heating program which allows the operator a constant temperature along the run.

Its proper for processing samples according following standards:
ASTM D 91, D 96, D 893, D 1796, D 2273, D 2709, D 2711, D 4007, D 5546, API 2542, API 2548, BS 4385, ISO 3734, ISO 9030, IP75, IP 359, NF M07-020 (it can be used for several other standard, please ask us info@ortoalresa.com).

Heating

- Preheating program with rotor spinning and temperature selectable by operator.
- Temperature from room + 5°C to 80°C (176°F).
- Scale Celsius or Fahrenheit.
- Temperature sensor inside the chamber.

Accessories

		RT 239		RT 220	
ROTOR		**SWING OUT**		**SWING OUT**	
Max. capacity		4x100 ml. (8”/6”)		4x100 ml. (8”)	
RPM		3.000		3.000	
Radius(mm)		241		241	
RCF Max. (xg)		2.425		2.425	
SAMPLE VOLUME	**Dim (mm) approx.**	**ADAPTERS** Tubes	Ref.	**ADAPTERS** Tubes	Ref.
ASTM cone shape 6”	Ø 44x162	4	RE 475	-	-
ASTM pear shape	Ø 58x157	4	RE 477	-	-
ASTM cone shape 8”	Ø 36x203	4	RE 476	4	-
Finger tubes 12,5 ml	Ø 16x105	28	RE 456	4	RE 455
Finger tubes 12,5 ml	Ø 16x105	-	-	16	RE 454

* Please check your tubes specifications.



DIGTOR 21 C-8

Digtor 21 C-8 is has the highest capacity of Serie Digtor 21C, it can fit up to **8 tubes of 8 inches at once**. Its provided of several memories which allow the user to introduce different programs according different centrifugation parameters following different standards.

It’s provided of a pre-heating program which allows the operator a constant temperature along the run.

It has been equipped with accessories, rotors RT 239 , RT 220 , RT 242 **(exclusive for that model)** for run up to 8 tubes of 6 and 8 inches, pear shaped tubes, traces and 12,5 ml tubes, all of them specially designed for oil applications, so they are easy to clean, made in high resistance materials, allow a quick identification of samples on the rotor position.

Its proper for processing samples according following standards:
ASTM D 91, D 96, D 893, D 1796, D 2273, D 2709, D 2711, D 4007, D 5546, API 2542, API 2548, BS 4385, ISO 3734, ISO 9030, IP75, IP 359, NF M07-020 (it can be used for several other standard, please ask us info@ortoalresa.com).

Heating

- Preheating program with rotor spinning and temperature selectable by operator.
- Temperature from room + 5°C to 80°C (176°F).
- Scale Celsius or Fahrenheit.
- Temperature sensor inside the chamber.



Accessories

		RT 239		RT 220		RT 242	
ROTOR		**SWING OUT**		**SWING OUT**		**SWING OUT**	
Max. capacity		4x100 ml. (8”/6”)		4x100 ml. (8”)		8x100 ml. (8”/6”)	
RPM		3.000		3.000		2.000	
Radius(mm)		241		241		239	
RCF Max. (xg)		2.425		2.425		1.069	
SAMPLE VOLUME	**Dim (mm) approx.**	**ADAPTERS** Tubes	Ref.	**ADAPTERS** Tubes	Ref.	**ADAPTERS** Tubes	Ref.
ASTM cone shape 6”	Ø 44x162	4	RE 475	-	-	8	-
ASTM pear shape	Ø 58x157	4	RE 477	-	-	-	-
ASTM cone shape 8”	Ø 36x203	4	RE 476	4	-	8	RE 478
Finger tubes 12,5 ml	Ø 16x105	28	RE 456	4	RE 455	-	-
Finger tubes 12,5 ml	Ø 16x105	-	-	16	RE 454	16	RE 454

* Please check your tubes specifications.

GAS RELEASE SYSTEM

The oil 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 oil, require an organic solvent which, reacting with the sample and heating 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 21 C series centrifuges. This accessory creates inside the centrifuge chamber, on its top when it is locked, through a pressure intake, 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.

User friendliness

- 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.

Versions

Code	Dimensions (mm) (w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)
CP 001	139	214	125	3	220-240	50-60	20
CP 004	139	214	125	3	110-120	50-60	20

* The GRS must be fitted only on those centrifuges provided of pre-instalation



CE

COMPANY:
Standards
ISO 9001

PACKAGING:
ISPM 15
Directives
94/62/EC & 2004/12 EC

GOODS TRANSPORT:
Regulation
300/2008

PRODUCTS:
Directives
2011/65/EU
2012/19/EU
2004/108/EC
2006/95/EC

Standards
EN-61010-1
EN-61010-2-020
EN-61010-2-010
EN-61326-1



Versions

Digtor 21 C-U

Code	Dimensions (mm) (w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)	Heating
CE 166	540	650	400	77	220-240	50-60	600	NO
CE 172	540	650	400	77	110-120	50-60	600	NO

Digtor 21 C

Code	Dimensions (mm) (w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)	Heating
CE 136	540	650	400	77	220-240	50-60	1.400	YES
CE 138	540	650	400	77	110-120	50-60	1.400	YES

Digtor 21 C-8

Code	Dimensions (mm) (w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)	Heating
CE 161	540	650	400	77	220-240	50-60	1.400	YES
CE 162	540	650	400	77	110-120	50-60	1.400	YES

orto alresa
About centrifugation

Catalogue 2014/15

info@ortoalresa.com
www.ortoalresa.com
Tel.: +34 91 884 40 16

orto alresa

Centrifuges for oils use

Series Digtor 21C



Centrifuges
Rotors
Adapters
Accesories

Digtor 21 C-U
Digtor 21 C
Digtor 21 C-8

orto alresa

Centrifuges for oils use

Series Digtor 21C



Centrifuges
Rotors
Adapters
Accesories

Digtor 21 C-U
Digtor 21 C
Digtor 21 C-8

About series Digtor 21 C

Centrifuges on oil lab can be used for several applications as sediment & water on oils, fuel oils and middle distillate fuels, precipitation on lubricating oils, characterization of bio fuels… Ortoalresa has expanded its Series Digtor 21 C, thinking about all user, now formed by three centrifuges:

- Digtor 21 C-U: Centrifuge for oil **without heating** for 4 tubes of 8 ".
- Digtor 21 C: Centrifuge for oil with heating **for 4 tubes 8"**.
- Digtor 21 C-8: Centrifuge for oil with heating **for 8 tubes of 8"**.

These three centrifuges include the all standards on safety and also include the pre-installation for GRS (Gas Release System) for aerosols' extraction formed along centrifugation, that could affect to the user and lab environment.

A complete & safety solution for oil and bio fuel labs.

DIGTOR 21 C-U

Digtor 21 C–U is the **unheated version** of Serie Digtor 21C, its provided of several memories which allow the user to store up to 16 programs according different centrifugation parameters following several standards.

It has been equipped with accessories, rotors RT 239 and RT 220 for run 6 and 8 inches, pear shaped tubes, traces and 12,5 ml tubes, all of them specially designed for oil applications, so they are easy to clean, made in high resistance materials, allow a quick identification of samples on the rotor position.

Its proper for processing samples according following standards:
ASTM D 91, D 96, D 893, D 2273, D 2709, D 2711, D 5546, API 2542, API 2548, BS 4385, ISO 3734, IP75, (it can be used for several other standard, please ask us info@ortoalresa.com).



Accessories

ROTOR	
Max. capacity	
RPM	
Radius(mm)	
RCF Max. (xg)	
SAMPLE VOLUME	**Dim (mm) approx.**
ASTM cone shape 6"	Ø 44x162
ASTM pear shape	Ø 58x157
ASTM cone shape 8"	Ø 36x203
Finger tubes 12,5 ml	Ø 16x105
Finger tubes 12,5 ml	Ø 16x105

* Please check your tubes specifications.

User friendliness

- **TFT touch screen** easy to read and values selection (RPM on steps of 100, RCF on steps of 10xg), time, temperature (1°C steps) and acceleration/deceleration (1 second steps).
- The screen which indicates the status can be seen from more than 3m.
- Rotor and adapters list on memory. Automatic rotor recognition
- Real values on screen of RCF (x g) based on accessories configuration.
- Timer count up/down, from 0 or at “set RPM/RCF” for test reproducibility.
- **Progressive acceleration and braking** selectable by operator up to 175 ramps.
- Microprocessor controlled. Automatic lid latch lock.
- Option: free or locked adjustment of RPM/RCF along the run.
- Program data protection through password selectable.
- Device and accessories specially designed for oil applications.

DIGTOR 21 C

Digtor 21 C has been equipped with accessories, rotors RT 239 and RT 220 for run 6 and 8 inches, pear shaped tubes, traces and 12,5 ml tubes, all of them specially designed for oil applications, so they are easy to clean, made in high resistance materials, allow a quick identification of samples on the rotor position.

The centrifuge is provided of 15 memories which allow the user to introduce programs with selectable centrifugation parameters following different standards.

It’s provided of a pre-heating program which allows the operator a constant temperature along the run.

Its proper for processing samples according following standards:
ASTM D 91, D 96, D 893, D 1796, D 2273, D 2709, D 2711, D 4007, D 5546, API 2542, API 2548, BS 4385, ISO 3734, ISO 9030, IP75, IP 359, NF M07-020 (it can be used for several other standard, please ask us info@ortoalresa.com).

Heating

- Preheating program with rotor spinning and temperature selectable by operator.
- Temperature from room + 5°C to 80°C (176°F).
- Scale Celsius or Fahrenheit.
- Temperature sensor inside the chamber.

RT 239		RT 220	
			
SWING OUT		SWING OUT	
4x100 ml. (8”/6”)		4x100 ml. (8”)	
3.000		3.000	
241		241	
2.425		2.425	
ADAPTERS		ADAPTERS	
Tubes	Ref.	Tubes	Ref.
4	RE 475	-	-
4	RE 477	-	-
4	RE 476	4	-
28	RE 456	4	RE 455
-	-	16	RE 454



Features

- Induction motor maintenance free.
- Max. speed 3.000 RPM/2.425 RCF (on steps 100 RPM/ 10 xg)
- Quiet: noise level < 60 dB.
- 15 memories + pre-heating program: it allows warm the chamber to test temperature before spin the sample (except Digtor 21 C-U with 16 memories).
- Short spin key with speed adjustable.
- Bio fuel compatible.
- Proper for conical (6 or 8 "), trace sediment and pear or 12,5 ml.

Safety

- Optional **Gas Release System**: all devices include **pre-installation.**
- Isolated avoiding heat lost. Overheating protection.
- Lid locking and holding and lid dropping protection.
- Imbalance switch off.
- Chamber of centrifugation in stainless steel.
- Viewing and calibration port in the lid.
- Messages about progress on TFT.
- Guard ring between the chamber of centrifugation and the housing.
- Tubes on **upright on rest**.

DIGTOR 21 C-8

Digtor 21 C-8 is has the highest capacity of Serie Digtor 21C, it can fit up to **8 tubes of 8 inches at once**. Its provided of several memories which allow the user to introduce different programs according different centrifugation parameters following different standards.

It's provided of a pre-heating program which allows the operator a constant temperature along the run.

It has been equipped with accessories, rotors RT 239 , RT 220 , RT 242 **(exclusive for that model)** for run up to 8 tubes of 6 and 8 inches, pear shaped tubes, traces and 12,5 ml tubes, all of them specially designed for oil applications, so they are easy to clean, made in high resistance materials, allow a quick identification of samples on the rotor position.

Its proper for processing samples according following standards:
ASTM D 91, D 96, D 893, D 1796, D 2273, D 2709, D 2711, D 4007, D 5546, API 2542, API 2548, BS 4385, ISO 3734, ISO 9030, IP75, IP 359, NF M07-020 (it can be used for several other standard, please ask us info@ortoalresa.com).

Heating

- Preheating program with rotor spinning and temperature selectable by operator.
- Temperature from room + 5°C to 80°C (176°F).
- Scale Celsius or Fahrenheit.
- Temperature sensor inside the chamber.



Accessories

		RT 239		RT 220		RT 242	
							
ROTOR		**SWING OUT**		**SWING OUT**		**SWING OUT**	
Max. capacity		4x100 ml. (8"/6")		4x100 ml. (8")		8x100 ml. (8"/6")	
RPM		3.000		3.000		2.000	
Radius(mm)		241		241		239	
RCF Max. (xg)		2.425		2.425		1.069	
SAMPLE VOLUME	**Dim (mm) approx.**	**ADAPTERS** Tubes	Ref.	**ADAPTERS** Tubes	Ref.	**ADAPTERS** Tubes	Ref.
ASTM cone shape 6"	Ø 44x162	4	RE 475	-	-	8	-
ASTM pear shape	Ø 58x157	4	RE 477	-	-	-	-
ASTM cone shape 8"	Ø 36x203	4	RE 476	4	-	8	RE 478
Finger tubes 12,5 ml	Ø 16x105	28	RE 456	4	RE 455	-	-
Finger tubes 12,5 ml	Ø 16x105	-	-	16	RE 454	16	RE 454

* Please check your tubes specifications.

GAS RELEASE SYSTEM

The oil 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 oil, require an organic solvent which, reacting with the sample and heating 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 21 C series centrifuges. This accessory creates inside the centrifuge chamber, on its top when it is locked, through a pressure intake, 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.

User friendliness

- 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.

Versions

Code	Dimensions (mm) (w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)
CP 001	139	214	125	3	220-240	50-60	20
CP 004	139	214	125	3	110-120	50-60	20

* The GRS must be fitted only on those centrifuges provided of pre-instalation



Directives & standards for series Digtor 21 C

COMPANY:
Standards
ISO 9001

PACKAGING:
ISPM 15
Directives
94/62/EC & 2004/12 EC

GOODS TRANSPORT:
Regulation
300/2008

PRODUCTS:
Directives
2011/65/EU
2012/19/EU
2004/108/EC
2006/95/EC

Standards
EN-61010-1
EN-61010-2-020
EN-61010-2-010
EN-61326-1



Versions

Digtor 21 C-U

Code	Dimensions (mm) (w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)	Heating
CE 166	540	650	400	77	220-240	50-60	600	NO
CE 172	540	650	400	77	110-120	50-60	600	NO

Digtor 21 C

Code	Dimensions (mm) (w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)	Heating
CE 136	540	650	400	77	220-240	50-60	1.400	YES
CE 138	540	650	400	77	110-120	50-60	1.400	YES

Digtor 21 C-8

Code	Dimensions (mm) (w x d x h)			Net weight (Kg)	Voltage (V)	Frecuency (Hz)	Consumption (W)	Heating
CE 161	540	650	400	77	220-240	50-60	1.400	YES
CE 162	540	650	400	77	110-120	50-60	1.400	YES

info@ortoalresa.com
www.ortoalresa.com
Tel.: +34 91 884 40 16