

# PrO-Research

By Centurion Scientific Ltd



25 years of  
Excellence

Benchtop Centrifuges

## Welcome to our new PrO-Research range.

Designed with Research Scientists, we offer state of the art centrifuges for R&D. Derived from our LCD display centrifuges spanning over 25 years of Centrifuge manufacturing. True research centrifuges, allowing you to program 108 memory's of Speed to **1** Rpm difference or Rcf (G) and time to within **1** second, or use the **W2t**, normally found on Ultracentrifuges.

Allowing excellent separations time and time again, or use it to research the best methodology

See Page 23 for further details

### Ambient

Designed to keep sample heating to a minimum, our **"Through flow air system"** is unsurpassed. Thus keeping not only the samples cool, but the motor too, allowing , if necessary, long run times.

Feature count is the best for your various needs

### Refrigeration

Our Latest **"Dynamic efficiency control system"** derived from our long running LCD series is now available to meet the needs of the market.

Our aim with all our Refrigeration Systems was to reduce power by 25% and was easily achieved.

New thicker stainless bowls and improved heat exchanger, with larger, yet more efficient compressors and condensers.

Our control is unsurpassed, by using bypass hot gas, against its own cooling we can control to levels beyond our competitors, who simply switch the fridge on and off.

A new, next generation PID control software system adds to the control too.

A body redesign has resulted in a simple access panel , should any Mains voltage control parts need servicing.

### Rotors

We are aware of the needs of longevity and the need for corrosive or chemical resistance is paramount. NOTE all bowls in the Centrifuges are stainless steel (salt saturation tested). To this end our fixed angle rotors are CNC machined from polypropylene as are the adaptors, giving the best strength and chemical resistance for your needs.

Our swing out rotors and high speed rotors are made from aircraft grade high strength aluminium and then double anodised for protection.

As a manufacturer we are aware of your different needs, If you have such requests, please call us, if possible we can specialise or add a rotor from another range to assist.

### **From the start of 2014 all Centrifuges and rotors carry a 3 year warranty**

That is how confident we are of our Quality and resilience

Please see our Features page for more information on this range Page 3

# Centurion Scientific Ltd

## PrO-Research Centrifuges



Welcome to our latest range, we trust you will find the following pages informative. With time comes experience and in our 24 years we have learnt that development is an ongoing sequence that is led by materials and analytical changes in the world. To this end, our development has improved user use, sample integrity and access. By working with all our suppliers, our reliability has been retained and improved to give all our range a **3 year warranty** as standard.



CE marked and ISO 9001 regulated and now IVD certified too

### User features to PrO-Research Advantages

Large LCD display with touch control	Clarity & ease of use
Rotor recognition	Safe selection of rotors
10 acceleration rates 10 deceleration rates	Sample assistance
108 memory (12 pages of 9)	Multi department & users
Timer 0-9999 minutes & Hold in 1 second increments	Total flexibility
Pulse short run	Fast pelleting
Run in Speed (Rpm) or Rcf (G) in 1 Rpm increments	Accuracy
W2t Plots Time, Accel, Rpm and Decel	True sample repeatability
Sound <60Db (rotor dependant)	Quiet
Orientation acceleration rate	Prevents initial sample side deposits

### Standard to PrO-Research Advantages

Extra thick Stainless steel bowl	Easy clean & rust free
Port to lid	Tachometer speed certification
Alloy & steel frame with composite's	Strong light & quiet
World leading Industrial grade Inverter	Reliability & strength
Best Quality European Brushless motor	Quiet, cool & reliable
High technology airflow (ambient models)	Cooler running
All centrifuges have user accessible service sections to access all safety parameters	

### Safety features to PrO-Research Advantages

Multi point lid locking	Lid safety
Emergency lid release	Power failure release
Lid gas struts	Lid dropping safety
Lid lock detection	To run Lid must be shut
Imbalance detection	Easy "eye" volume loading
Overspeed Sensor	Safe detection of speed
Set inverter values	Electronic safety of speed
Barrier ring	Extra metal protection of chamber
Motor overheat sensor	Safe motor protection

### Refrigerated PrO-Research Advantages

Variable from -9 to +40°C with stand by cooling	Flexibility (see rotors)
CFC free R404A gas	Ozone friendly
Valve control of Gas	Efficient temperature control
PID control of valve	Supreme temperature accuracy

Centurion Scientific Ltd centrifuges comply to all relevant EU standards for Quality and medical Devices IEC 61010 and CE conformity test marks Emission, immunity to EN/IEC 61326-1, Class B

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*NOTE: other Rotors in our range can be used, available upon request.*

# K1015 Microtube Centrifuge



Display indicative only.

- Speed** ..... 500-15000 Rpm  
(1 Rpm steps)
- Rcf max** ..... 22,000 G
- Timer** ..... 0-99 Mins & hold  
(1 sec steps)
- Dims HWD** .... 235 x 235 x 350mm
- Weight** ..... 12.8 Kg (without rotor)
- Power** ..... 172 watts
- Memory** ..... 108 programs
- Accel rates** ... 10 programs
- Decel rates** ... 10 programs

## Microtube Rotors 15,000 Rpm

### NEW

High dome sealed  
Polycarbonate lid  
included



Rotors	BRK5424	BRK5436	BRK5448	BRK5494	BRK5407	BRK5408
Rotor type	24 x 2ml	36 x 0.5ml	48 x 0.2ml	4 x Pcr strips	4 x 15ml & 4 x 10ml	8 x 15ml
Tube size max	11 x 50mm	8 x 30mm	6 x 40mm	8 per strip	17 x 120mm & 113x 110mm	17 x 120mm
Minimum speed	500 Rpm	500 Rpm	500 Rpm	500 Rpm	500 Rpm	500 Rpm
Maximum speed	15,000 Rpm	15,000 Rpm	15,000 Rpm	15,000 Rpm	6000 Rpm	6000 Rpm
Maximum Rcf (G)	22000	22000	22000	22000	3500	3500
Radius max cms	8.75cms	8.75cms	8.75cms	8.75cms	8.50	8.50
Sample tube angle (°)	45	45	45	45	30	30
Acceleration time (secs)	20	20	20	20	30	30
Deceleration time (secs)	20	20	20	20	30	30
Autoclaveable (frequency)	121°C (20)	121°C (20)	121°C (20)	121°C (20)	121°C (10)	121°C (20)

## Reducers

Rotor	BRK5424
Part number Pack 24	<b>RS04</b> (0.2 - 0.4ml)
Tube size max	6 x 30mm
Part number Pack 24	<b>RS05</b> (0.5ml)
Tube size max	8 x 30mm



## K2015 Ambient Centrifuge



Display indicative only.

- Speed** .....500-15000 Rpm  
(1 Rpm steps)
- Rcf max** .....22,000 G
- Timer** .....0-9999 Mins & hold  
(1 sec steps)
- Dimensions** ...HWD 275 x 325 x 470mm
- Weight** .....21.8 Kg (without rotor)
- Power** .....120 watts
- Memory** .....108 programs
- Accel rates** ...10
- Decel rates** ...10

## K2015R Refrigerated Centrifuge



Display indicative only.

- Speed** .....500-15000 Rpm  
(1 Rpm steps)
- Rcf max** .....22,000 G
- Timer** .....0-9999 Mins & hold  
(1 sec steps)
- Dimensions** ...HWD 315 x 450 x 635mm
- Weight** .....62.2 Kg (without rotor)
- Power** .....448 watts
- Memory** .....108 programs
- Accel rates** ...10
- Decel rates** ...10
- Temp** .....-9 to +40°C PID  
controlled to +/- 1°C

# Microtube Rotors 15,000 Rpm

**NEW**  
High dome sealed  
Polycarbonate lid  
included



Rotors	<b>BRK5424</b>	<b>BRK5436</b>	<b>BRK5448</b>	<b>BRK5494</b>
Rotor type	24 x 2ml	36 x 0.5ml	48 x 0.2ml	4 x Pcr strips
Tube size max	11 x 50mm	8 x 30mm	6 x 40mm	8 per strip
Minimum speed	500 Rpm	500 Rpm	500 Rpm	500 Rpm
Maximum speed	15,000 Rpm	15,000 Rpm	15,000 Rpm	15,000 Rpm
Maximum Rcf (G)	22000	22000	22000	22000
Radius max cms	8.75cms	8.75cms	8.75cms	8.75cms
Sample tube angle (o)	45	45	45	45
Acceleration time (secs)	20	20	20	20
Deceleration time (secs)	20	20	20	20
Autoclaveable (frequency)	121°C (20)	121°C (20)	121°C (20)	121°C (20)

## Refrigerated Centrifuges only

Minimum Temperature	4°C	4°C	4°C	4°C
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At maximum speed (relative to room temperature at 23°C )

# Reducers



Rotor	BRK5424
Part number - Pack 24	<b>RS04 (0.2 - 0.4ml)</b>
Tube size max	6 x 30mm
Part number - Pack 24	<b>RS05 (0.5ml)</b>
Tube size max	8 x 30mm

# Rotors 6000 Rpm



Rotors	<b>BRK5324</b>	<b>BRK5308</b>	<b>BRK5100</b>
Rotor type	24 x 15ml	8 x 50ml	6 x 100ml
Tube size max	17 x 120mm	30 x 120mm	45 x 125mm
Minimum speed	500 Rpm	500 Rpm	500 Rpm
Maximum speed	6,000 Rpm	6,000 Rpm	6,000 Rpm
Maximum Rcf (G)	4800	4800	4800
Radius max cms	12	12	12
Sample tube angle (°)	30	30	30
Acceleration time (secs)	35	35	35
Deceleration time (secs)	35	35	35
Autoclaveable (frequency)	121°C (20)	121°C (20)	121°C (20)

## Refrigerated Centrifuges only

Minimum Temperature	4°C	4°C	4°C
At maximum speed (relative to room temperature at 23°C )			

# Reducers



Rotors	BRK5324	BRK5308	BRK5100
Part number	<b>RM05 (5ml)</b>	<b>RM15 (15ml)</b>	<b>RL10 (10ml)</b>
Tube size max	13 x 80mm	17 x 120mm	16 x 100mm
Part number	<b>RM10 (10ml)</b>	<b>RM25 (25ml)</b>	<b>RL25 (25ml)</b>
Tube size max	16 x 100mm	25 x 100mm	25 x 100mm
Part number			<b>RL50 (50ml)</b>
Tube size max			35 x 115mm
Part number			<b>RL85 (85ml)</b>
Tube size max			39 x 110mm



# Swing out rotors



Not available to K2015

Rotors	<b>BRK5505</b>	<b>BRK5530</b>
Rotor type	4 x 100ml	4 x microtitor plate
Tube size max	45 x 100mm	85 x 130mm
Minimum speed	500 Rpm	500 Rpm
Maximum speed	4,000 Rpm	3,000 Rpm
Maximum Rcf (G)	2200	1250
Radius max cms	12.5	12.5
Sample tube angle (°)	0	0
Acceleration time (secs)	25	25
Deceleration time (secs)	25	25
Autoclaveable (frequency)	121°C (20)	121°C (20)

## *Refrigerated Centrifuges only*

Minimum Temperature	4°C	4°C
At maximum speed (relative to room temperature at 23°C )		

*Adaptors available - see page 22*

## K241 Ambient Centrifuge 1 litre



Display indicative only.

- Speed** .....500-15000 Rpm  
(1 Rpm steps)
- Rcf max** .....22,000 G
- Timer**.....0-9999 Mins & hold  
(1 sec steps)
- Dimensions** ...HWD 310 x 400 x 500mm
- Weight**.....31.6 Kg (without rotor)
- Power**.....309 watts
- Memory**.....108 programs
- Accel rates** ...10
- Decel rates** ...10

## K241R Refrigerated Centrifuge



Display indicative only.

- Speed** .....500-15000 Rpm  
(1 Rpm steps)
- Rcf max** .....22,000 G
- Timer**.....0-9999 Mins & hold  
(1 sec steps)
- Dimensions** ...HWD 315 x 450 x 635mm
- Weight**.....62.2 Kg (without rotor)
- Power**.....448 watts
- Memory**.....108 programs
- Accel rates** ...10
- Decel rates** ...10
- Temp** .....-9 to +40°C PID  
controlled to +/- 1°C

# Microtube Rotors 15,000 Rpm

## NEW

High dome sealed Polycarbonate lid included



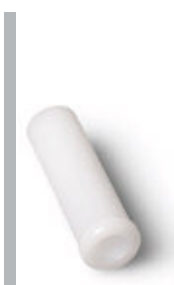
Rotors	BRK5424	BRK5436	BRK5448	BRK5494
Rotor type	24 x 2ml	36 x 0.5ml	48 x 0.2ml	4 x Pcr strips
Tube size max	11 x 50mm	8 x 30mm	6 x 40mm	8 per strip
Minimum speed	500 Rpm	500 Rpm	500 Rpm	500 Rpm
Maximum speed	15,000 Rpm	15,000 Rpm	15,000 Rpm	15,000 Rpm
Maximum Rcf (G)	22000	22000	22000	22000
Radius max cms	8.75cms	8.75cms	8.75cms	8.75cms
Sample tube angle (o)	45	45	45	45
Acceleration time (secs)	20	20	20	20
Deceleration time (secs)	20	20	20	20
Autoclaveable (frequency)	121°C (20)	121°C (20)	121°C (20)	121°C (20)

## Refrigerated Centrifuges only

Minimum Temperature	4°C	4°C	4°C	4°C
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At maximum speed (relative to room temperature at 23°C )

# Reducers Swing out rotors *Adaptors available - see page 22*



Rotor	BRK5424
Part number - Pack 24	<b>RS04</b> (0.2 - 0.4ml)
Tube size max	6 x 30mm
Part number - Pack 24	<b>RS05</b> (0.5ml)
Tube size max	8 x 30mm

## Rotors

	BRK5510	BRK5508L	BRK5530
Buckets	B5250 (set 4 required)	Complete with buckets	Complete with buckets
Sealed Lids	B5419	N/A	N/A
Rotor type	4 x 250ml	8 x 15ml	4 x microtitor plate
Tube size max	62 x 110mm	17 x 125mm	85 x 130mm
Minimum speed	500 Rpm	500 Rpm	500 Rpm
Maximum speed	4,000 Rpm	4,000 Rpm	3,000 Rpm
Maximum Rcf (G)	2600	2600	1250
Radius max cms	14.6	14.6	12.5
Sample tube angle (o)	0	0	0
Acceleration time (secs)	25	20	25
Deceleration time (secs)	25	20	25
Autoclaveable (frequency)	121°C (20)	121°C (20)	121°C (20)

## Refrigerated Centrifuges only

Minimum Temperature	4°C	4°C	4°C
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At maximum speed (relative to room temperature at 23°C )

# Rotors 10,000 Rpm



## Rotors

Rotor type

Tube size max

Minimum speed

Maximum speed

Maximum Rcf (G)

Radius max cms

Sample tube angle (°)

Acceleration time (secs)

Deceleration time (secs)

Autoclaveable (frequency)

### BRK5212

12 x 15ml

17 x 120mm

500 Rpm

10,000 Rpm

10600

9.5

30

35

35

121°C (30)

### BRK5206

6 x 50ml

30 x 120mm

500 Rpm

10,000 Rpm

10600

9.5

30

35

35

121°C (30)

## Refrigerated Centrifuges only

Minimum Temperature

4°C

4°C

At maximum speed (relative to room temperature at 23°C )

# Reducers



Rotor

BRK5212

BRK5206

Part number

**RM05** (5ml)

**RM15** (15ml)

Tube size max

13 x 80mm

17 x 120mm

Part number

**RM10** (10ml)

**RM25** (25ml)

Tube size max

16 x 100mm

25 x 100mm

# Rotors 6000 Rpm

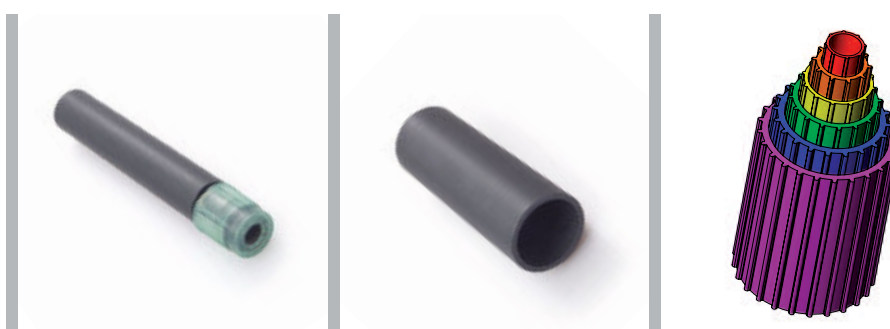


Rotors	BRK5324	BRK5308	BRK5100
Rotor type	24 x 15ml	8 x 50ml	6 x 100ml
Tube size max	17 x 120mm	30 x 120mm	45 x 125mm
Minimum speed	500 Rpm	500 Rpm	500 Rpm
Maximum speed	6,000 Rpm	6,000 Rpm	6,000 Rpm
Maximum Rcf (G)	4800	4800	4800
Radius max cms	12	12	12
Sample tube angle (°)	30	30	30
Acceleration time (secs)	35	35	35
Deceleration time (secs)	35	35	35
Autoclaveable (frequency)	121°C (20)	121°C (20)	121°C (20)

## Refrigerated Centrifuges only

Minimum Temperature	4°C	4°C	4°C
At maximum speed (relative to room temperature at 23°C )			

# Reducers



Rotor	BRK5324	BRK5308	BRK5100
Part number	<b>RM05</b> (5ml)	<b>RM15</b> (15ml)	<b>RL10</b> (10ml)
Tube size max	13 x 80mm	17 x 120mm	16 x 100mm
Part number	<b>RM10</b> (10ml)	<b>RM25</b> (25ml)	<b>RL25</b> (25ml)
Tube size max	16 x 100mm	25 x 100mm	25 x 100mm
Part number			<b>RL50</b> (50ml)
Tube size max			35 x 115mm
Part number			<b>RL85</b> (85ml)
Tube size max			39 x 115mm

## K242 Ambient Centrifuge 2 litre



Display indicative only.

- Speed** .....500-15000 Rpm  
(1 Rpm steps)
- Rcf max** .....22,000 G
- Timer**.....0-9999 Mins & hold  
(1 sec steps)
- Dimensions** ...HWD 375 x 600 x 630mm
- Weight**.....63.5 Kg (without rotor)
- Power**.....750 watts
- Memory**.....108 programs
- Accel rates** ...10
- Decel rates** ...10

## K242R Refrigerated Centrifuge



Display indicative only.

- Speed** .....500-15000 Rpm  
(1 Rpm steps)
- Rcf max** .....22,000 G
- Timer**.....0-9999 Mins & hold  
(1 sec steps)
- Dimensions** ...HWD 410 x 998 x 630mm
- Weight**.....120 Kg (without rotor)
- Power**.....1200 watts
- Memory**.....108 programs
- Accel rates** ...10
- Decel rates** ...10
- Temp** .....-9 to +40°C PID  
controlled to +/- 1°C

# Microtube Rotors 15,000 Rpm

## NEW

High dome sealed Polycarbonate lid included



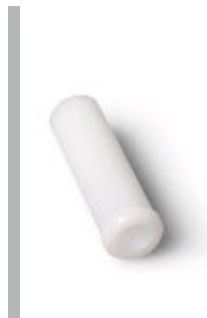
Part number	BRK5424	BRK5436	BRK5448	BRK5494
Rotor type	24 x 2ml	36 x 0.5ml	48 x 0.2ml	4 x Pcr strips
Tube size max	11 x 50mm	8 x 30mm	6 x 40mm	8 per strip
Minimum speed	500 Rpm	500 Rpm	500 Rpm	500 Rpm
Maximum speed	15,000 Rpm	15,000 Rpm	15,000 Rpm	15,000 Rpm
Maximum Rcf (G)	22000	22000	22000	22000
Radius max cms	8.75cms	8.75cms	8.75cms	8.75cms
Sample tube angle (°)	45	45	45	45
Acceleration time (secs)	20	20	20	20
Deceleration time (secs)	20	20	20	20
Autoclaveable (frequency)	121°C (20)	121°C (20)	121°C (20)	121°C (20)

## Refrigerated Centrifuges only

Minimum Temperature **4°C** **4°C** **4°C** **4°C**

At maximum speed (relative to room temperature at 23°C )

## Reducers



Rotor	BRK5424
Part number - Pack 24	<b>RS04</b> (0.2 - 0.4ml)
Tube size max	6 x 30mm
Part number - Pack 24	<b>RS05</b> (0.5ml)
Tube size max	8 x 30mm

## Swing out rotors

Adaptors available - see page 22



Part number	BRK5520	Microtitor Buckets
Buckets	B2000 set 4 (Required)	B5200
Rotor type	4 x 500ml	4 x microtitor plate
Tube size max	98 x 155mm	85 x 130mm
Minimum speed	500 Rpm	500 Rpm
Maximum speed	4,000 Rpm	4,000 Rpm
Maximum Rcf (G)	3400	3400
Radius max cms	19.15	19.15
Sample tube angle (°)	0	0
Acceleration time (secs)	45	35
Deceleration time (secs)	45	35
Autoclaveable (frequency)	121°C (20)	121°C (20)

**Sealed lids available Part Nos B5319 set 4**

## Refrigerated Centrifuges only

Minimum Temperature **4°C** **4°C**

At maximum speed (relative to room temperature at 23°C )

# Rotors 10,000 Rpm



	<b>BRK5224</b>	<b>BRK5208</b>	<b>BRK5210</b>
Part number	<b>BRK5224</b>	<b>BRK5208</b>	<b>BRK5210</b>
Rotor type	24 x 15ml	8 x 50ml	6 x 100ml
Tube size max	17 x 120mm	30 x 120mm	45 x 125mm
Minimum speed	500 Rpm	500 Rpm	500 Rpm
Maximum speed	10,000 Rpm	10,000 Rpm	10,000 Rpm
Maximum Rcf (G)	13400	13400	13400
Radius max cms	12	12	12
Sample tube angle (°)	30	30	30
Acceleration time (secs)	35	35	35
Deceleration time (secs)	35	35	35
Autoclaveable (frequency)	121°C (30)	121°C (30)	121°C (30)

## Refrigerated Centrifuges only

Minimum Temperature	4°C	4°C	4°C
At maximum speed (relative to room temperature at 23°C )			

# Reducers



Rotor	BRK5324	BRK5308	BRK5100
Part number	<b>RM05 (5ml)</b>	<b>RM15 (15ml)</b>	<b>RL10 (10ml)</b>
Tube size max	13 x 80mm	17 x 120mm	16 x 100mm
Part number	<b>RM10 (10ml)</b>	<b>RM25 (25ml)</b>	<b>RL25 (25ml)</b>
Tube size max	16 x 100mm	25 x 100mm	25 x 100mm
Part number			<b>RL50 (50ml)</b>
Tube size max			35 x 115mm
Part number			<b>RL85 (85ml)</b>
Tube size max			39 x 115mm



# Rotors 6000 Rpm



	<b>BRK5324</b>	<b>BRK5308</b>	<b>BRK5100</b>
Part number	<b>BRK5324</b>	<b>BRK5308</b>	<b>BRK5100</b>
Rotor type	24 x 15ml	8 x 50ml	6 x 100ml
Tube size max	17 x 120mm	30 x 120mm	45 x 125mm
Minimum speed	500 Rpm	500 Rpm	500 Rpm
Maximum speed	6,000 Rpm	6,000 Rpm	6,000 Rpm
Maximum Rcf (G)	4800	4800	4800
Radius max cms	12	12	12
Sample tube angle (°)	30	30	30
Acceleration time (secs)	35	35	35
Deceleration time (secs)	35	35	35
Autoclaveable (frequency)	121°C (20)	121°C (20)	121°C (20)

## Refrigerated Centrifuges only

Minimum Temperature	4°C	4°C	4°C
At maximum speed (relative to room temperature at 23°C )			

# Reducers



	<b>BRK5324</b>	<b>BRK5308</b>	<b>BRK5100</b>
Rotor	<b>RM05 (5ml)</b>	<b>RM15 (15ml)</b>	<b>RL10 (10ml)</b>
Part number	<b>RM05 (5ml)</b>	<b>RM15 (15ml)</b>	<b>RL10 (10ml)</b>
Tube size max	13 x 80mm	17 x 120mm	16 x 100mm
Part number	<b>RM10 (10ml)</b>	<b>RM25 (25ml)</b>	<b>RL25 (25ml)</b>
Tube size max	16 x 100mm	25 x 100mm	25 x 100mm
Part number			<b>RL50 (50ml)</b>
Tube size max			35 x 115mm
Part number			<b>RL85 (85ml)</b>
Tube size max			39 x 115mm

## K243 Ambient Centrifuge 3 litre



*Display indicative only.*

- Speed** .....500-15000 Rpm  
(1 Rpm steps)
- Rcf max** .....22,000 G
- Timer**.....0-9999 Mins & hold  
(1 sec steps)
- Dimensions** ...HWD 375 x 600 x 630mm
- Weight**.....63.5 Kg (without rotor)
- Power**.....750 watts
- Memory**.....108 programs
- Accel rates** ...10
- Decel rates** ...10

## K243R Refrigerated Centrifuge



*Display indicative only.*

- Speed** .....500-15000 Rpm  
(1 Rpm steps)
- Rcf max** .....22,000 G
- Timer**.....0-9999 Mins & hold  
(1 sec steps)
- Dimensions** ...HWD 410 x 998 x 630mm
- Weight**.....120 Kg (without rotor)
- Power**.....1200 watts
- Memory**.....108 programs
- Accel rates** ...10
- Decel rates** ...10
- Temp** .....-9 to +40°C PID  
controlled to +/- 1°C

# Microtube Rotors 15,000 Rpm

## NEW

High dome sealed Polycarbonate lid included



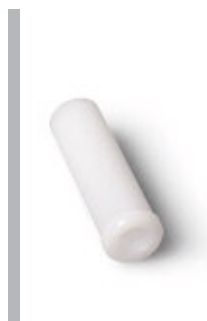
Part number	BRK5424	BRK5436	BRK5448	BRK5494
Rotor type	24 x 2ml	36 x 0.5ml	48 x 0.2ml	4 x Pcr strips
Tube size max	11 x 50mm	8 x 30mm	6 x 40mm	8 per strip
Minimum speed	500 Rpm	500 Rpm	500 Rpm	500 Rpm
Maximum speed	15,000 Rpm	15,000 Rpm	15,000 Rpm	15,000 Rpm
Maximum Rcf (G)	22000	22000	22000	22000
Radius max cms	8.75cms	8.75cms	8.75cms	8.75cms
Sample tube angle (°)	45	45	45	45
Acceleration time (secs)	20	20	20	20
Deceleration time (secs)	20	20	20	20
Autoclaveable (frequency)	121°C (20)	121°C (20)	121°C (20)	121°C (20)

## Refrigerated Centrifuges only

Minimum Temperature **4°C** **4°C** **4°C** **4°C**

At maximum speed (relative to room temperature at 23°C )

## Reducers



Rotor	BRK5424
Part number - Pack 24	<b>RS04</b> (0.2 - 0.4ml)
Tube size max	6 x 30mm
Part number - Pack 24	<b>RS05</b> (0.5ml)
Tube size max	8 x 30mm

## Swing out rotors

Adaptors available - see page 22



Part number	BRK5553	Microtitor Buckets
Buckets	B3000 set 4 (Required)	B5200
Rotor type	4 x 750ml	4 x microtitor plate
Tube size max	98 x 170mm	85 x 130mm
Minimum speed	500 Rpm	500 Rpm
Maximum speed	4,000 Rpm	4,000 Rpm
Maximum Rcf (G)	3600	3600
Radius max cms	20.15	20.15
Sample tube angle (°)	0	0
Acceleration time (secs)	45	35
Deceleration time (secs)	45	35
Autoclaveable (frequency)	121°C (20)	121°C (20)

**Sealed lids available Part Nos B5319 set 4**

## Refrigerated Centrifuges only

Minimum Temperature **4°C** **4°C**

At maximum speed (relative to room temperature at 23°C )

# Rotors 10,000 Rpm



Part number	<b>BRK5224</b>	<b>BRK5208</b>	<b>BRK5210</b>	<b>BRK5256</b>
Rotor type	24 x 15ml	8 x 50ml	6 x 100ml	6 x 250ml
Tube size max	17 x 120mm	30 x 120mm	45 x 125mm	62 x 130mm
Minimum speed	500 Rpm	500 Rpm	500 Rpm	500 Rpm
Maximum speed	10,000 Rpm	10,000 Rpm	10,000 Rpm	10,000 Rpm
Maximum Rcf (G)	13400	13400	13400	15650
Radius max cms	12	12	12	14
Sample tube angle (°)	30	30	30	30
Acceleration time (secs)	40	45	45	60
Deceleration time (secs)	40	45	45	85
Autoclaveable (frequency)	121°C (30)	121°C (30)	121°C (30)	121°C (30)

## Refrigerated Centrifuges only

Minimum Temperature	4°C	4°C	4°C	4°C
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At maximum speed (relative to room temperature at 23°C )

# Reducers



Rotor	BRK5224	BRK5208	BRK5210	BRK5256
Part number	<b>RM05 (5ml)</b>	<b>RM15 (15ml)</b>	<b>RL10 (10ml)</b>	<b>RX10 (10ml)</b>
Tube size max	13 x 80mm	17 x 120mm	16 x 100mm	16 x 100mm
Part number	<b>RM10 (10ml)</b>	<b>RM25 (25ml)</b>	<b>RL25 (25ml)</b>	<b>RX25 (25ml)</b>
Tube size max	16 x 100mm	25 x 100mm	25 x 100mm	25 x 100mm
Part number			<b>RL50 (50ml)</b>	<b>RX50 (50ml)</b>
Tube size max			35 x 115mm	35 x 115mm
Part number			<b>RL85 (85ml)</b>	<b>RX85 (85ml)</b>
Tube size max			39 x 115mm	39 x 110mm
Part number				<b>RX100 (100ml)</b>
Tube size max				48 x 110mm
Part number				<b>RX175 (175ml)</b>
Tube size max				62 x 121mm

# Rotors 6000 Rpm



	<b>BRK5324</b>	<b>BRK5308</b>	<b>BRK5100</b>
Part number	<b>BRK5324</b>	<b>BRK5308</b>	<b>BRK5100</b>
Rotor type	24 x 15ml	8 x 50ml	6 x 100ml
Tube size max	17 x 120mm	30 x 120mm	45 x 125mm
Minimum speed	500 Rpm	500 Rpm	500 Rpm
Maximum speed	6,000 Rpm	6,000 Rpm	6,000 Rpm
Maximum Rcf (G)	4800	4800	4800
Radius max cms	12	12	12
Sample tube angle (°)	30	30	30
Acceleration time (secs)	35	35	35
Deceleration time (secs)	35	35	35
Autoclaveable (frequency)	121°C (20)	121°C (20)	121°C (20)










## Refrigerated Centrifuges only

Minimum Temperature	4°C	4°C	4°C
At maximum speed (relative to room temperature at 23°C )			

# Reducers



	<b>BRK5324</b>	<b>BRK5308</b>	<b>BRK5100</b>
Rotor	<b>RM05 (5ml)</b>	<b>RM15 (15ml)</b>	<b>RL10 (10ml)</b>
Part number	<b>RM05 (5ml)</b>	<b>RM15 (15ml)</b>	<b>RL10 (10ml)</b>
Tube size max	13 x 80mm	17 x 120mm	16 x 100mm
Part number	<b>RM10 (10ml)</b>	<b>RM25 (25ml)</b>	<b>RL25 (25ml)</b>
Tube size max	16 x 100mm	25 x 100mm	25 x 100mm
Part number			<b>RL50 (50ml)</b>
Tube size max			35 x 115mm
Part number			<b>RL85 (85ml)</b>
Tube size max			39 x 115mm

Adaptors for Swing out rotors				Adaptors		Adaptors		Adaptors		Adaptors		
Tube type	Shape	Capacity	Size	To fit rotor BRK5505	To fit rotor BRK5510	To fit rotor BRK5520	To fit rotor BRK5550	To fit rotor BRK5550	To fit rotor BRK5550	To fit rotor BRK5550		
			WxH (mm)	Part nos	Nos of tubes per rotor	Part nos	Need buckets	Nos of tubes	Need buckets	Nos of tubes	Part nos	per rotor
	Micro with cap	point	0.5ml	8x20	AM505	36	AM605	40	AM805	120	AM805	120
	Micro with cap	point	1.5ml	11x38	AM520	24	AM620	28	AM820	84	AM820	84
	Micro with cap	point	2.0ml	11x38	AM520	24	AM620	28	AM820	84	AM820	84
	Micro with cap	point	0.2ml	6x20	AM502	36	AM602	48	AM802	168	AM802	168
	Micro with cap	point	0.4ml	6x30	AM504	36	AM604	48	AM804	168	AM804	168
	Plain No cap	round	1ml	6x45	AR501	36	AR601	48	AR801	168	AR801	168
	Plain No cap	round	3ml	10x60	AR503	28	AR603	32	AR803	96	AR803	96
	Plain No cap	round	5ml	12x75	AR505*	28	AR605	32	AR805	96	AR805	96
	Plain No cap	round	6ml	12x82	AR505*	28	AR605	32	AR805	96	AR805	96
	Plain No cap	round	7ml	12x100	AR507*	28	AR607*	32	AR807	96	AR807	96
	Plain No cap	round	9/10ml	14x100	AR509*	24	AR609*	28	AR809	84	AR809	84
	Plain No cap	round	15ml	17x100	AR515*	8	AR615*	28	AR815	52	AR815	52
	Plain No cap	round	25ml	24x100	AR525*	8	AR625	12	AR825	28	AR825	28
	Plain No cap	round	50ml	34x100	AR550*	4	AR650	4	AR850	16	AR850	16
	Plain No cap	round	100ml	45x100	AR5100*	4	AR6100	4	AR8100	8	AR8100	8
	Plain No cap	round	150ml	52x100	See K241/R		AR6150	4	AR8150	4	AR8150	4
	Plain No cap	round	250ml	62x100	See K241/R		BUCKET	4	AR8250	4	AR8250	4
		Falcon with cap	Point	15ml	17x120	AF515*	8	AF615*	16	AF815	48	AF815
Falcon with cap		Point	50ml	29x115	AF550*	4	AF650*	4	AF850	16	AF850	16
Falcon with cap		Point	175ml	61x118	See K241/R		AF6175*	4	AF8175	4	AF8175	4
						AF614	4					
	Corning with cap*	Point	250ml	60x172	See K242/R		See K242/R		AF8250	4	AF8250	4
	Corning with cap*	Point	500ml	98x148	See K242/R		See K242/R		AF8500	4	AF8500	4
	Falcon with cap	Square	12ml	17x100	AFS512*	8	AFS612*	16	AFS812	48	AFS812	48
	Falcon with cap	Square	25ml	25x90	AFS525	4	AFS625*	8	AFS825	28	AFS825	28
	Falcon with cap	Square	30ml	25x110	AFS530	4	AFS630	8	AFS830	28	AFS830	28
	Falcon with cap	Square	50ml	29x115	AFS550*	4	AFS650	4	AFS850	20	AFS850	20
	Falcon with cap	Square	15ml	17x120	N/A	N/A	AFS614	4	AFS815	48	AFS815	48
	Nalgene/Dakridge	Round	10ml	16x80	ANO510*	8	ANO610	16	ANO810	48	ANO810	48
	Nalgene/Dakridge	Round	30ml	26x95	ANO530*	4	ANO630	4	ANO830	28	ANO830	28
	Nalgene/Dakridge	Round	50ml	29x107	ANO550*	4	ANO650	4	ANO850	24	ANO850	24
	Nalgene/Dakridge	Round	85ml	38x106	ANO585	4	ANO685	4	ANO885	12	ANO885	12
	Nalgene/Dakridge*	Flat	250ml	62x130	See K241/R		Buckets 5250	4	ANO8250	4	ANO8250	4
	Nalgene/Dakridge*	Flat	750ml	98x153	See K243/R		See K243/R		See K243/R		Bucket	4
	Monovette	Square	1.1-1.4ml	8x82	AM5014	24	AM6014	40	AM8014	96	AM8014	96
	Monovette	Square	2.7-3ml	11x82	AM503	24	AM603	40	AM803	76	AM803	76
	Monovette	Square	2.6-2.9ml	13x81	AM529	24	AM629	40	AM829	76	AM829	76
	Monovette	Square	4.5-5ml	11x108	AM503*	24	AM603*	40	AM803	76	AM803	76
	Monovette	Square	7.5-8.2ml	13x106	AM579*	24	AM679*	40	AM879	76	AM879	76
	Monovette	Square	4-5.5ml	15x92	AM550*	20	AM650	28	AM850	64	AM850	64
	Monovette	Square	7.5-8.2ml	15x108	AM550*	20	AM650*	28	AM850	64	AM850	64
	Monovette	Square	9-10.0ml	16x108	AM590*	20	AM690*	28	AM890	64	AM890	64
	Vacutainer	Round	1.6-5.0ml	13x75	AV516*	24	AV616	40	AV816	76	AV816	76
	Vacutainer	Round	4-7.0ml	13x100	AV550*	16	AV650	40	AV850	76	AV850	76
	Vacutainer	Round	8.5-10.0ml	16x100	AV580*	12	AV680	28	AV880	64	AV880	64

Note:- We cannot be held responsible if the tube manufacturers change design and/or size of the tube.

\* Limited capacity with sealed bucket lids (B5419 and B5319).

## 2014 Refrigerated Centrifuges temperature control

At Centurion, we have taken temperature control seriously. We keep the refrigeration unit in the refrigerated centrifuges running constantly, as this not only gives the compressor a longer and reliable life, but stops the constant surges of start up power.

Due to the fact that the refrigeration unit is running constantly it is quit usual to see ice in the chamber even at above 0°C temperatures.

For 2014, a new larger, yet more efficient CFC free compressor has been used which also gives lower power needs.

To maintain the temperature, we have a highly efficient compressor gas bypass solenoid valve, where we pulse heat via a highly accurate controller system (PID controller, which calculates and manages the temperature). By running both in conjunction with each other gives better overall temperature control, achieving the desired set temperature.

*Imagine using a shower: you turn on the both the cold and hot water, adjusting to suit your desired temperature. You would not want to use one where you had to stand under the cold water, then the hot, then the cold in order to regulate the temperature.*

Centurion has a set temperature of 3°C, and our competitor of 4°C.

This allows us to separate the target areas, to show how each machine regulates the temperature. Both refrigeration units use the same air probes, temperature units, and have the probes set at the same distance from the rotor, and finally, the correct vertical distance to the optimum the tube area. But as you can see, we control to 0.5°C, whereas our competitor controls it to 3.5°C, the Centurion's control is unsurpassed, and our competitor's, which all use the same method of turning the compressor on and off, is shown to have very poor control.

Having the temperature being so controlled means that the Centurion's power usage is less, and the compressor lasts longer.

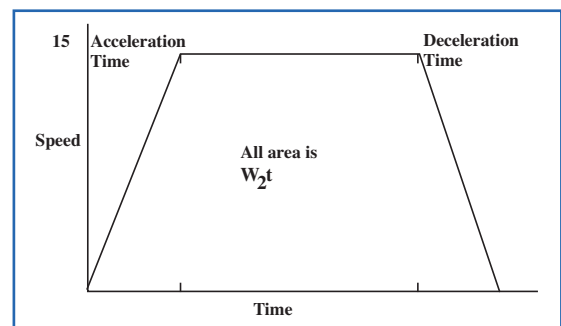
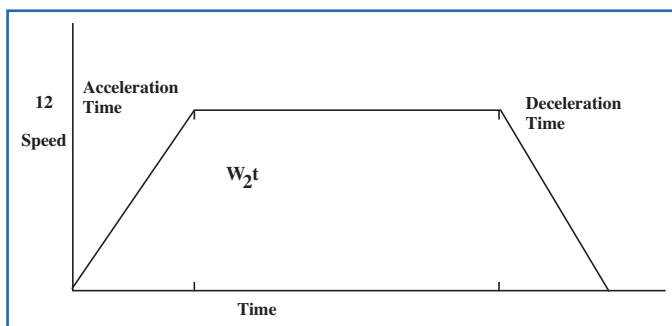
This system has been in use for over 20 years, so we do know the longevity of our products.

**Require complete accuracy with your samples? Purchase a Centurion Centrifuge for total peace of mind. Tried, tested and proven as one of the most accurate systems in the market place.**

## W2t

This is a method of replicating runs, but changing the parameters to suit your sample. Example, you find the speed rate or Rcf is too high and cells rupture , or acceleration rate too high and proteins are sticking to the tube sides. Or maybe you find the run time, simply too long and wish to increase the speed.

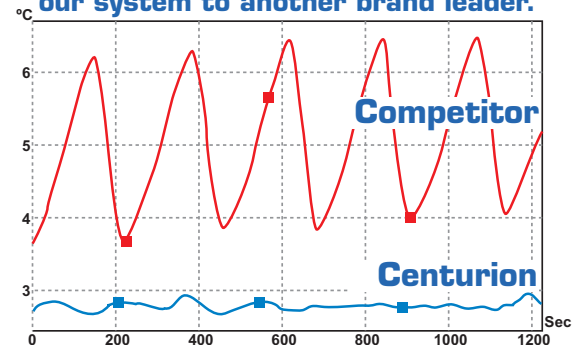
Please look at the W2t graphs below. As you can see it maps the area of acceleration to speed, the time actually at speed and a proportion of deceleration time.



By finding a suitable set of run parameters , taking a note of the W2t on the screen. You can then make a program with that figure.

This time you can change any parameter , acceleration rate, speed/Rcf , time and Deceleration rate. Simply press start the system will adjust the time needed and as it progresses the W2t figure on screen will reduce till zero then brake to a stop. Or you can use this methodology to copy your runs time after time for true repeatability

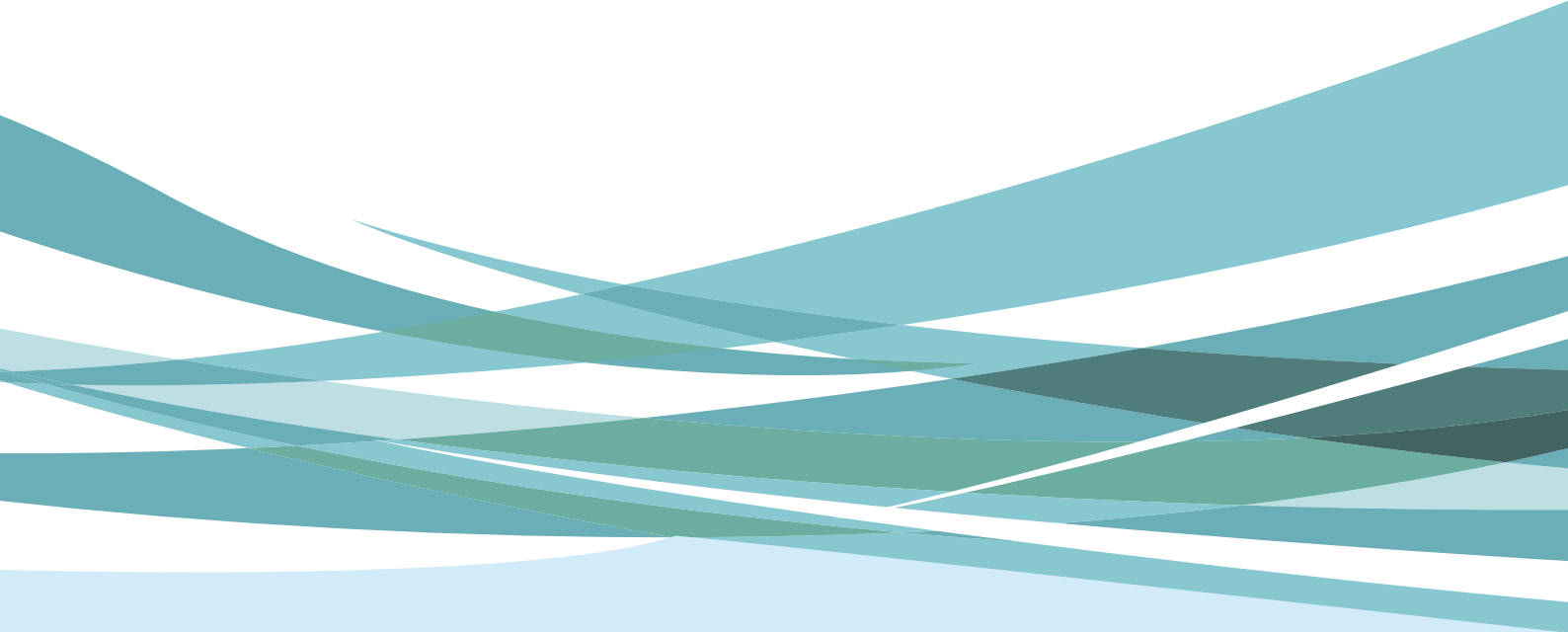
**Please see the graph that compares our system to another brand leader.**





**MADE IN BRITAIN**  
DISTRIBUTED WORLDWIDE

To review all our ranges  
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