# Pro-Analytical By Centurion Scientific



#### Welcome to our new PrO-Analytical range.

Designed by an Analytical Chemist and Laboratory Scientists, we offer state of the art and best value centrifuges for Analytical and General purpose use. Derived from our LED display centrifuges spanning over 25 year's of Centrifuge manufacturing.

#### **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" in LED display format 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 steel bowls and improved heat exchanger; with larger, yet more efficent compressors and condensors.

Our control is unsurpassed, by using the compressor's hot by pass 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 of 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 of your needs.

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

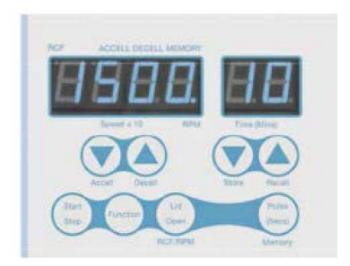
As a manufacturer we are aware of your different needs, if you have such requests, please call us, if possible we can specialise or add a rotor from another range to assist.

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 specifications on our features page for more information on this range.

#### **Centurion Scientific Ltd**

#### PrO-Analytical Centrifuges



Built to last, strong construction yet offering a sleek modern design that will fit into any modern laboratory.

No compromises on quality only the best components are used in the manufacturing process.

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 regulator and now IVD certified too

User features to PrO-Analyticaal series	Advantages
Large LCD display with touch screen control	Clarity & ease of use
Rotor Recognition	Safe selection of rotors
10 Accelerations rates 10 deceleration rates	Sample assistance
10 program memory	Multi department & Users
Timer 0-99 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 dependent)	Quiet
Orientation acceleration rate	Prevents initial sample side deposits

Standard to PrO-Analytical series	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 mode)	Cooler running
All Contribute have ween acceptable continue acctions to acc	and all aufters manages at an

All Centrifuge have user accesible service sections to access all saftey parameters

Saftey features to PrO-Analytical series	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

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

## Welcome to our new PrO-Analytical range

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Page 19	Adaptors available to all

NOTE: Other Rotors in our range can be used, available upon request

## C1006 Small Centrifuge



Speed	500-6000rpm
	(10Rpm steps)
Rcf max	3,500 G
Timer	0-99 Mins & Hold
	(30 sec steps)
Dims HWD	235 x 235 x 350mm
Weight	12.8Kg (without rotor)
Power	172 watts
Memory	10 programs
Accel Rates	10 programs
Decel Rates	10 programs

## Fixed Angle Rotor to 15ml





121°C (20)

#### Rotor type Size max

Minimum speed
Maximum speed
Maximum Rcf (G)
Radius max cms
Sample tybe angle °
Acceleration time (secs)
Deceleration time (secs)
Autoclavable (frequency)

#### BRK5407 BRK5408

4 x 15ml & 4 x 10ml 8 x 15ml tube 17 x 120mm & 17 x 120mm 13 x 110mm 500Rpm 500Rpm 6000Rpm 6000Rpm 3500 3500 8.5 8.5 30 30 30 30 30 30

#### Reducers

Rotor
Part number
Tube size max
Part number
Tube size max



121°C (20)

### C2012 Haematocrit Centrifuge



HOHITIGA		10,000 0
Timer		0-99 Mins & Hold
		(30 sec steps)
Dims H\	<b>√</b> D	235 x 235 x 350mm
Weight		12.8Kg (without rotor)
Power		172 watts
Memory	<i>I</i>	10 programs
Accel Ra	ates	10 programs
Decel Ra	ates	10 programs

500-12000rpm (10Rpm steps)

13.500 G

#### Haematocrit & Microtube rotor





Rcf max



**BRK5401** 

**BRK5424** 

With NEW High dome Polycarbonate lid included

Rotor type 24 x capillary/12 x 2ml 24 x 2ml Size max 2 x 75mm/11 x 40mm 11 x 50mm Minimum speed 500 Rpm 500 Rpm Maximum speed 12,000 Rpm 12,000 Rpm 13500 13500 Maximum Rcf (G) 8.5 8.75 Radius max cms 45 Sample tybe angle ° 0/60 25 20 Acceleration time (secs) Deceleration time (secs) 20 Autoclavable (frequecncy) 121°C (20) 121°C (20)

#### **Accessories**

Part Number	Description
8012	Plain Capillary tubes pack 1000
8013	Heparanised Capillary tubes pack 1000





8003 PCV reader

8014 Sealing Clay

## C2015 Microtube Centrifuge



Display indicative only

Speed	500-15000rpm
	(10Rpm steps)
Rcf max	22,000 G
Timer	0-99 Mins & Hold
	(30 sec steps)
Dims HWD	235 x 235 x 350mm

#### Microtube rotors











With NEW High dome Polycarbonate lid included	BRK5424	BRK5436	BRK5448	BRK5494
Rotor type	24 x 2ml	36 x 0.5ml	48 x 0.2ml	4 x Pcr Strips
Size max	11 x 50mm	8 x 30mm	6 x 40mm	8 per strips
Minimum speed	500 Rpm	500 Rpm	500 Rpm	500 Rpm
Maximum speed	15,000Rpm	15,000 Rpm	15,000 Rpm	15,000 Rpm
Maximum Rcf (G)	22000	55000	22000	22000
Radius max cms	8.75cms	8.75cms	8.75cms	8.75cms
Sample tybe angle °	45	45	45	45
Acceleration time (secs)	20	20	20	20
Deceleration time (secs)	20	20	20	20
Autoclavable (frequecncy)	121 (20)	121 (20)	121 (20)	121 (20)

#### Reducers

Rotor
Part number
Tube size max
Part number
Tube size max

BRK5424 RS04 (0.2- 0.4ml) 6 x 30mm RS05 (0.5ml) 8 x 30mm



## C2004 Medium Centrifuge



Speed	500-4000rpm
	(10 Rpm steps)
Rcf max	2200 G
Timer	0-99 Mins & Hold
	(30 sec steps)
Dims HWD	275 x 325 x 470mm
Weight	21.8Kg (without rotor)
Power	125 watts
Memory	10 programs
Accel Rates	10 programs
Decel Rates	10 programs

## Rotors 4000rpm

## Swing Out Rotor Adaptors requires see page 19







. 1.55.51
Rotor type
Size max
Minimum speed
Maximum speed
Maximum Rcf (G)
Radius max cms
Sample tybe angle °
Acceleration time (secs)
Deceleration time (secs)
Autoclavable (frequecncy)

Rotors

BRK5431	BRK5434	
24 x 15ml	8 x 50ml	
17 x 120mm	30 x 120mm	
500 Rpm	500 Rpm	
4000 Rpm	4,000 Rpm	
2200	2200	
12.3	12.3	
30	30	
35	35	
35	35	
121°C (20)	121°C (20)	

BRK5505
4 x 100ml
45 x 100mm
500 Rpm
4000 Rpm
2200
12.3
0
25
25
121°C (20)

#### Reducers



## C2006 Small Centrifuge



Speed	500-6000rpm
	(10 Rpm steps)
Rcf max	3,800 G
Timer	0-99 Mins & Hold
	(30 sec steps)
Dims HWD	275 x 325 x 470mm
Weight	21.8Kg (without rotor)
Power	80 watts
Memory	10 programs
Accel Rates	10 programs
Decel Rates	10 programs

### Rotors 6000 Rpm



	100000
BRK5412	BRK5406

Rotor type
Size max
Minimum speed
Maximum speed
Maximum Rcf [G]
Radius max cms
Sample tybe angle °
Acceleration time (secs)
Deceleration time (secs)
Autoclavable (frequeency)

Rotors

12 x 15ml 6 x 50ml 17 x 120mm 30 x 120mm 500 Rpm 500 Rpm 6000 Rpm 6,000 Rpm 3800 3800 9.5 30 30 25 25 25 25 121°C (20) 121°C (20)

#### Reducers



## CR2000 Multi Purpose Centrifuge Rotor recognition - 4 x 100ml Max



Speed	500-12000rpm
	(10 Rpm steps)
Rcf max	13,500 G
Timer	0-99 Mins & Hold
	(30 sec steps)
Dims HWD	275 x 325 x 470mm
Weight	21.8Kg (without rotor)
Power	175 watts
Memory	10 programs
Accel Rates	10 programs
Decel Rates	10 programs

## Swing Out Rotors

Adaptors requires see page 19



Rotors

Rotor type Size max Minimum speed Maximum speed Maximum Rcf (G) Radius max cms Sample tybe angle ° Acceleration time (secs) Deceleration time (secs) Autoclavable [frequecncy] 4 x 100ml 45 x 100mm 500 Rpm 4000 Rpm 2200 12.3 0 25 121°C (20)

8 x 10ml 15 x 115mm 500 Rpm 4000 Rpm 2200 12.3 0 25 25 121°C (20)

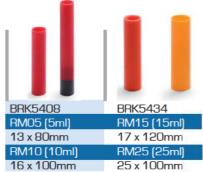
### Rotors available to CR2000 Rotors High Speed



#### **Rotors Medium Speed**



Reducers



#### CR4000 Ambient Centrifuge 1 Litre Max



Speed	500-15000rpm
	(10 Rpm steps)
Rcf max	22,000 G
Timer	0-99 Mins & Hold
	(30 sec steps)
Dims HWD	310 x 400 x 500mm
Weight	31.6 Kg (without rotor)
Power	309 watts
Memory	10 programs
Accel Rates	10 programs
Decel Rates	10 programs

## CR4000R Refrigerated Centrifuge 1 Litre Max



Display indicative only

Speed	500-15000rpm
	(10 Rpm steps)
Rcf max	22,000 G
Timer	0-99 Mins & Hold
	(30 sec steps)
Dims HWD	310 x 400 x 500mm
Weight	31.6 Kg (without rotor)
Power	309 watts
Memory	10 programs
Accel Rates	10 programs
Decel Rates	10 programs
Temp	-9°C to +40°C PID
	controlled to +/-1°C

### Microtube Rotors 15,000 Rpm











With NEW High dome Polycarbonate lid included	BRK5424	BRK5436	BRK5448	BRK5424
Rotor type	24 x 2ml	36 x 0.5ml	48 x 0.2ml	4 x Pcr Strips
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	8.75	8.75	8.75	8.75
Sample tybe angle °	45	45	45	45
Acceleration time (secs)	20	20	20	20
Deceleration time (secs)	20	20	20	20
Autoclavable (frequecncy)	121°C (20)	121°C (20)	121°C (20)	121°C (20)

#### Refrigerated Centrifuges Only

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

### Swing out rotors

#### Adaptors available - see page 19







	A Life		Si
Rotors	BRK5510	BRK5408	BRK5530
Buckets	B5250 (Set of 4 required)	Complete with buckets	
Selaed Lids	B5419	N/A	
Rotor type	4 x 250ml	8 x 15ml	4 x microtitor plates
Size max	62 x 110mm	17 x 125mm	85 x 135mm
Minimum speed	500 Rpm	500 Rpm	500 Rpm
Maximum speed	4,000 Rpm	4,000Rpm	3,000
Maximum Rcf (G)	2600	2600	1250
Radius max cms	14.6	14.6	12.5
Sample tybe angle °	0	0	0
Acceleration time (secs)	25	20	25
Deceleration time (secs)	25	20	25
Autoclavable (frequeency)	121°C (20)	121°C (20)	121°C (20)

#### Refrigerated Centrifuges Only

Minimum Temperature 4°C 4°C (20°C Max)

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

#### Rotors 6000 Rpm



[20°C Max]

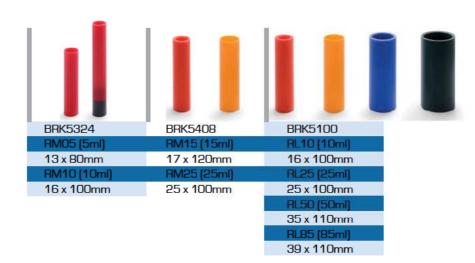
4°C

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

4°C

#### Reducers

Minimum Temperature



[20°C Max]

4°C

[20°C Max]

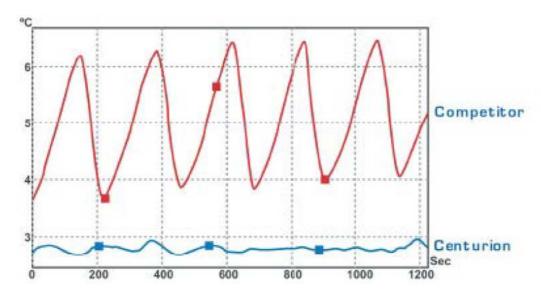
#### 2014 Refrigerated Centrifuges temperature control

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 power. Due to the fact that the refrigeration unit is running constantly it is quite usual to see ice in the chamber even at above  $0^{\circ}$ C temperatures.

For 2014, new larger, yet more efficient CFC free compressor and lower power needs.

To maintain the temperature, we have a highly efficient compressor bypass solenoid value, where we pulse the 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.

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



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 tube area.

But as you can see, we control to 0.3°C, whereas our competitor controls it to 3°C. The Centurion's control is unsurpassed, and our competitor, 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 15 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.

#### CR7000 Ambient Centrifuge 3 Litre Max



Display indicative only

Speed	500-15000rpm
	(10 Rpm steps)
Rcf max	22,000 G
Timer	0-99 Mins & Hold
	(30 sec steps)
Dims HWD	375 x 600 x 630mm
Weight	63.5 Kg (without rotor)
Power	750 watts
Memory	10 programs
Accel Rates	10 programs
Decel Rates	10 programs

### CR7000R Refrigerated Centrifuge 3 Litre Max



Display indicative only

Speed	500-15000rpm
	(10 Rpm steps)
Rcf max	22,000 G
Timer	0-99 Mins & Hold
	(30 sec steps)
Dims HWD	410 x 998 x 630mm
Weight	120 Kg (without rotor)
Power	1200watts
Memory	10 programs
Accel Rates	10 programs
Decel Rates	10 programs
Temp	-9°C to +40°C PID
	controlled to +/-1°C

#### Microtube Rotors 15,000 Rpm











With NEW High dome Polycarbonate lid included	BRK5424	BRK5436	BRK5448	BRK5424
Rotor type Size max Minimum speed	24 x 2ml	36 x 0.5ml	48 x 0.2ml	4 x Pcr Strips
	11 x 50mm	8 x 30mm	6 x 40mm	8 per strip
Maximum speed  Maximum Rcf (G)	500 Rpm	500 Rpm	500 Rpm	500 Rpm
	15,000 Rpm	15,000 Rpm	15,000 Rpm	15,000 Rpm
	22000	22000	22000	22000
Radius max cms	8.75	8.75	8.75	8.75
Sample tybe angle °	45	45	45	45
Acceleration time (secs)  Deceleration time (secs)	20	20	20	20
	20	20	20	20
Autoclavable (frequecncy)	121°C (20)	121°C (20)	121°C (20)	121°C (20)

#### Refrigerated Centrifuges Only

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

## Swing out rotors

Adaptors available - see page 19



Rotor
Part number
Tube size max
Part number
Tube size max



#### Rotors BRK5553

Buckets B3000 (Set of 4 required) Selaed Lids B5319 Rotor type 4 x 750ml Size max 98 x 170mm Minimum speed 500 Rpm Maximum speed 4,000 Rpm Maximum Rcf (G) 3600 Radius max cms 20.15 Sample tybe angle ° Acceleration time (secs) 45 Deceleration time (secs)

#### Refrigerated Centrifuges Only

121°C (20)

Minimum Temperature

Autoclavable (frequecncy)

4°C

## Rotors 6000 Rpm







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

#### Refrigerated Centrifuges Only

Minimum Temperature 4°C [20°C Max] 4°C [20°C Max] 4°C [20°C Max]

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

#### Reducers



39 x 110mm

### **ADAPTOR TABLE**

	Adaptors for Swing out rotors				Adaptors		Adaptors		Adaptors	
	Tube type S	hape C	Capacity	Size	To fit rotor BRK5505		To fit rotor BRK5510		To fit rotor BRK5553	
					Part nos	Nos of tubes Per rotor	Part nos	Nos of tubes Per rotor	Part nos	Nos of tubes Per rotor
	Micro with cap Micro with cap Micro with cap Micro with cap Micro with cap	point point point point point	0.5ml 1.5ml 2.0ml 0.2ml 0.4ml	8x20 11x38 11x38 6x20 6x30	AM505 AM520 AM520 AM502 AM504	36 24 24 36 36	AM605 AM620 AM620 AM602 AM604	40 28 28 48 48	AM805 AM820 AM820 AM802 AM804	120 84 84 168 168
	Plain No cap	round round round round round round round round round round round round	1ml 3ml 5ml 6ml 7ml 9/10ml 15ml 25ml 100ml 150ml 250ml	14x100 17x100 24x100 34x100	CONTRACTOR OF THE PARTY OF THE	36 28 28 28 28 24 8 8 8 4	AR601 AR603 AR605 AR605 AR607 AR609* AR615* AR625 AR650 AR6100 AR601 BUCKET 4	48 32 32 32 32 28 28 12 4 4 4 4 4	AR801 AR803 AR805 AR805 AR805 AR807 AR809 AR815 AR825 AR825 AR825 AR825 AR8100 AR8150 AR8250	168 96 96 96 96 84 48 28 16 8
	Falcon with cap Falcon with cap Falcon with cap Falcon with cap	point point point point	15ml 50ml 175ml 15ml	17x120 29x115 61x118 17x120	AF550* N/A	8 4	AF615* AF650* AF6175* N/A	16 4 4 4	AF815 AF850 AF8175	48 16 4
	Corning with cap* Corning with cap*	point point	250ml 500ml		See K242/R See K242/R		See K242/R See K242/R		AF8250 AF8500	4 4
	Falcon with cap Falcon with cap Falcon with cap Falcon with cap Falcon with cap	square square square square square	25ml 30ml 50ml	17x100 25x90 25x110 29x115 17x120	AFS525 AFS530 AFS550*	8 4 4 4 N/A	AFS612* AFS625* AFS630 AFS650 AFS614	16 8 8 4 4	AFS812 AFS825 AFS830 AFS850 AFS850	48 28 28 20 48
Û	Nalgene/Oakridge Nalgene/Oakridge Nalgene/Oakridge Nalgene/Oakridge	round round	10ml 30ml 50ml 100ml	29x107	AN0510* AN0530* AN0550 AN0585	8 4 4 4	AN0610 AN0630 AN0650 AN0685	16 4 4 4	ANO810 ANO830 ANO850 ANO885	48 28 24 12
	Nalgene/Oakridge Nalgene/Oakridge		250ml 750ml		See K241/R See K243/R		Buckets 5250 See K243/R	4	AN08250 See K243/R	4
	Monovette Monovette Monovette Monovette Monovette Monovette Monovette Monovette	square square square square square	1.1-1.4ml 2.7-3ml 2.6-2.9ml 4.5-5ml 7.5-8.2ml 4.5-5ml 7.5-8.2ml 9-10ml	13x106 15x92 15x108	AM5014 AM503 AM529 AM503* AM579* AM550* AM550*	24 24 24 24 24 20 20 20	AM6014 AM603 AM629 AM603* AM679* AM650 AM650*	40 40 40 40 40 28 28 28	AM8014 AM803 AM829 AM803 AM879 AM850 AM850 AM850	96 76 76 76 76 64 64
$\bigcup$	Vacutainer Vacutainer Vacutainer		1.6-5ml 4-7ml 8.5-10ml	13x75 13x10 16x100	AV516* AV550* AV580*	24 16 12	AV616 AV650 AV680	40 40 28	AV816 AV850 AV880	76 76 64

Note: - We can not be held responsible if the tube manufacturers change the design and/or size of the tube.\* Limited capacity with sealed bucket lids (B5419 and B5319)



## To review all our ranges please visit our global website

### www.centurionscientificglobal.com

