

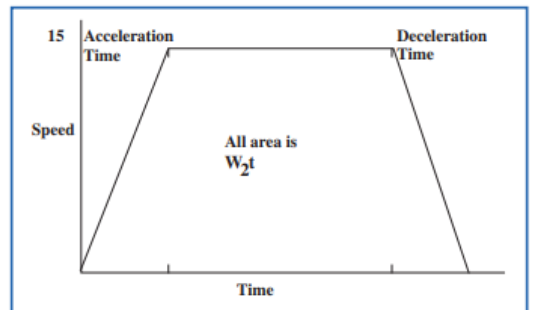
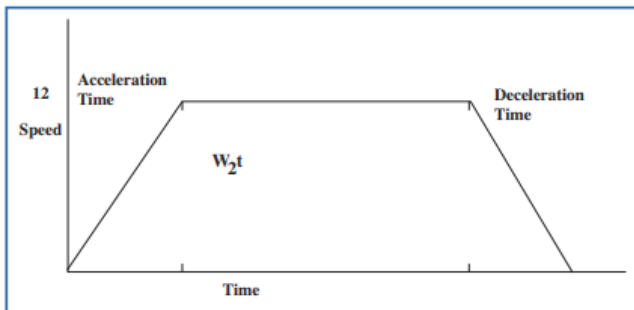
## **PrO-Research Centrifuge K243R, 3L Large Prime Refrigerated**



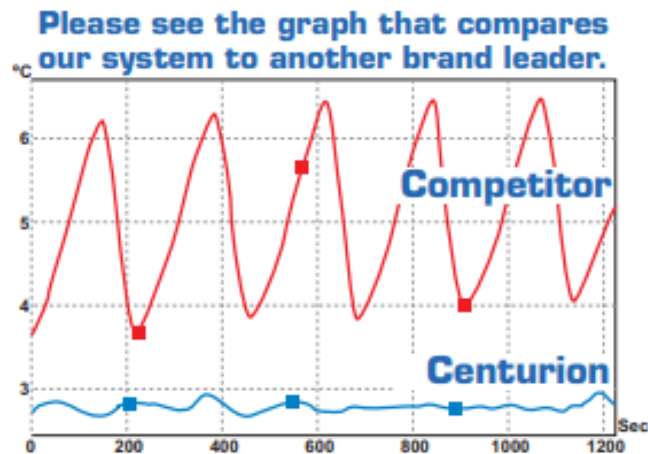
At Centurion, we have taken temperature control seriously. We keep the refrigeration unit in the refrigerated centrifuges running constantly, as this not only gives the compressor a longer and reliable life, but stops the constant surges of start up power. Due to the fact that the refrigeration unit is running constantly it is quit usual to see ice in the chamber even at above 0°C temperatures. 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.

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.

**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.





BRK5553 ROTOR  
(4\*750ml)

Model	BRK5553
Rotor type	4 x 750ml
Tube size	98 x 170 mm
Speed mín, rpm	500
Speed máx, rpm	4000
Max. Acceleration, Rcf (G)	3600
Tube angle	0
Accel. time, seg	45
Desacel time, seg	45
Autoclave sterilization temp	121 (20) °C



Falcon with cap  
Falcon with cap

point 15ml  
point 50ml

17x120  
29x115

ADAPTER	TUBES
AF815	48
AF850	16

### Specifications:

Catalogue Nr.	PRO-K243R
Speed	500-15,000 Rpm (1 Rpm steps)
RCF Max	22,000 G
Timer	0-9999 Min (1 sec steps)
Memory	108 programs
Acceleration rates	10 programs
Deceleration rates	10 programs
Operation Temperature	-9 a 40°C PID controlled
Weight	120 Kg (without rotor)
Dimensions (H*W*D)	410*998*630mm
Power	1200W
Voltage supply	120V, 50/60Hz