

# LED display Centrifuges

## Ambient Instruction Manual



# Pro-Hospital

Micro, Small, Medium.1L, Large.2L  
Large.3L & Floor

# Transportation & Set up

## Before setting up

- Check the Centrifuge and the Packaging for any shipping damage. Inform the shipping company and Centurion Scientific immediately
- Check the order for completeness, if not contact Centurion Scientific

## Location

The Centrifuge should only be operated indoors.

The set up location must fulfil the following requirements

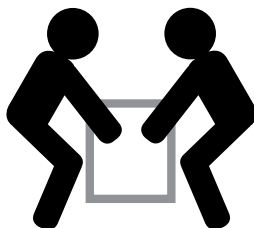
- A safety zone of at least 30Cm must be maintained around the Centrifuge
- People and hazardous substances must be kept out of this zone during centrifugation

## Warning

- The bench or supporting structure must be stable and free from resonance
- The Bench or supporting structure must be suitable for horizontal use of the centrifuge
- The Centrifuge should Not be exposed to heat or strong sunlight
- Ultra violet rays can damage the stability of plastics and coatings
- Do not subject the Polypropylene, Delrin rotors or accessories to direct sunlight
- The Zone location must be well ventilated at all times

## Transporting the Centrifuge

- Always remove the Rotor before transportation
- Due to its weight the Centrifuge should be carried by several people
- Transport the Centrifuge upright and if possible in its packaging
- Always lift the centrifuge at both sides (see below). NOT front to rear.

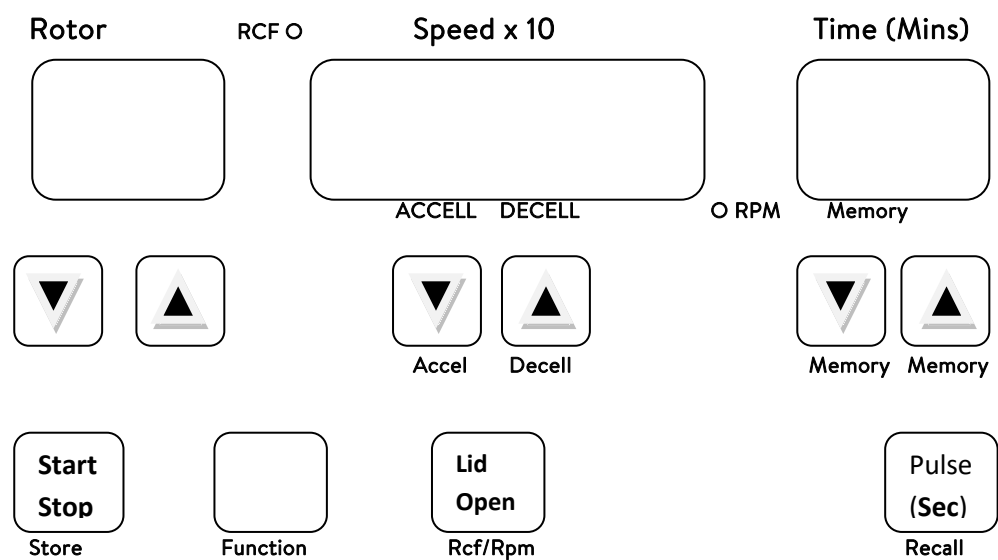


## Notice

- Store the original packaging, Keep this for future service to base , if required.

# Instructions for use

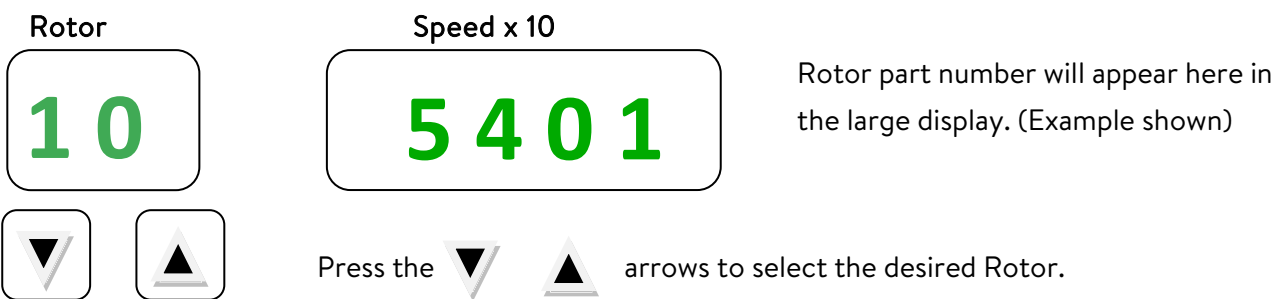
Prime and Dual models only. Ambient



START POINT.

## A. Selection of your fitted Rotor

First set the rotor 0-99. See the rotor option relevant to your Centrifuge.

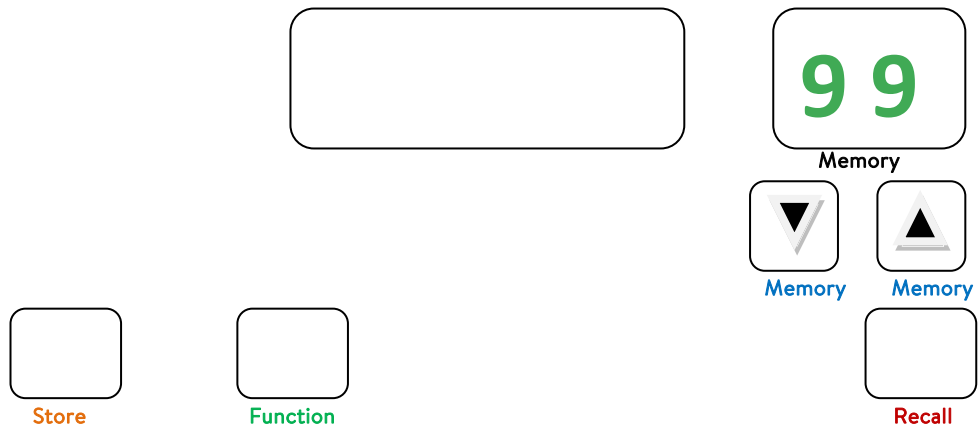


NOTE. Dual models have 1-2 selection only. Model dependant



# Instructions for use

D. Programming, 100 are available from 0 – 99

Set all parameters as previous details. **A** Rotor, **B**. Speed or Rcf(G), Accel, Decell. **C**Time



After setting all your required parameters.

Press **Function** and select memory to your desired number by pressing   **Memory** buttons

Once done whilst pressing **Function** Press **Store**.

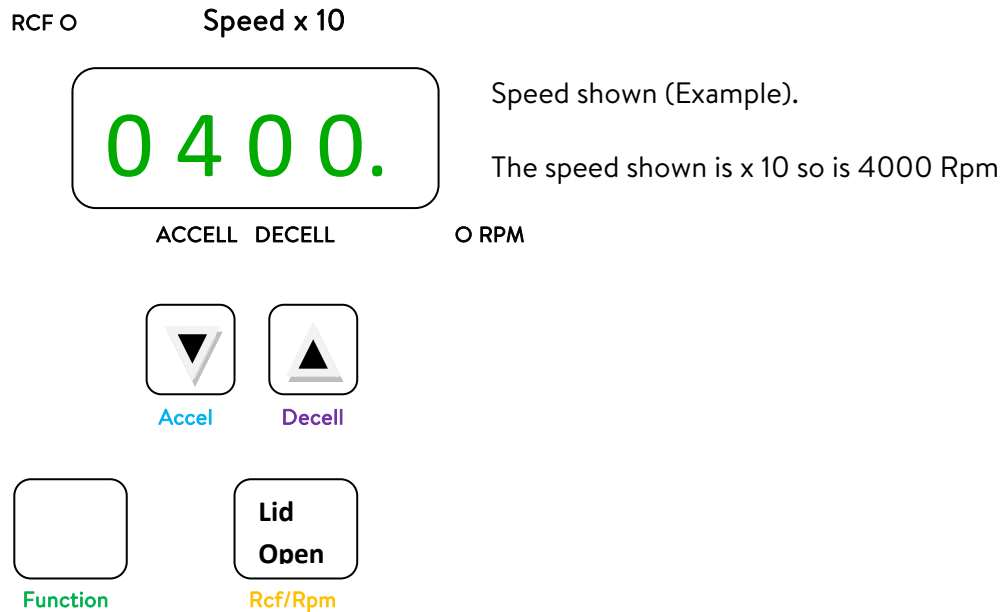
To recall a program Press **Function** and memory to desired program number



Once done whilst pressing **Function** Press **Recall**.

NOTE. The last run data (program must be run) will be kept, after turning off the Centrifuge power

# Instructions for use

## B. Setting of Speed or Rcf(G) and acceleration or Deceleration (braking)



- 1 **Select** if you require Speed or Rcf (G)  
RCF (G) is the actual force that does the work for your analysis.  
It is speed x the radius maximum of the Rotor that is the separation for analysis.  
Press **Function** button and press the **Rcf/Rpm** it will pulse dot Left top Rcf and Bottom right RPM
- 2 **Select** the value you require by using the  or  Arrows  
In increments of 10 Rpm or 10 Rcf(G)
- 3 **Select** your acceleration rate (9 is fastest 0 has no braking and is slowest)  
Press **Function** and **Accel** increment from 0-9
- 4 **Select** your Deceleration rate (9 is fastest 0 is slowest)  
Press **Function** and **Decell** increment from 0-9

## C. Selection of Time period

Time periods run 0-99 minutes. 2h, 3h, 4h, 5h, 6h, 7h, 8h, 9h & CO  
2h, etc means 2 hours and so on, CO means constant

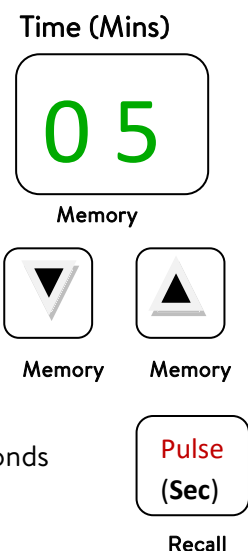
**Select** Time by pressing up or down arrow.

Time shown is **5 minutes** (Example)

For "Pelleting" or fast separations up to 60 seconds

Use the **Pulse** button, when held down the timer counts up in seconds

Once your desired time is reached, release the button



# Troubleshooting

## Mechanical Emergency Door release

During a power failure, you will not be able to open the Centrifuge lid via the Display

A mechanical override is provided to allow sample recovery

However this is for Emergency use only

This should Not be used for normal use.

## Warning

The rotor can still be spinning at a high speed, if touched it can cause serious injuries.

Always wait till the rotor has stopped.

Proceed as follows

- Make sure the Rotor has stopped (view via the port in the Lid)
- Once stopped turn off the power via the inlet Switch
- Pull the Centrifuge slightly over the bench (as shown in (a))
- You will notice one (b) or some models two plastic plug (c). **Plug \***
- Pop open with a screwdriver (tool) and pull downwards .
- The lid will pop open You can now retrieve your samples



(a)



(b)



(c)

After replace the Plastic plugs back into their original position.

Reconnect the centrifuge power line once the mains power has been restored.

Check all is working correctly by closing the lid, wait 5 seconds then press lid open.

**If not working refit or Contact your Distributor**

# Rotor Balance

## Haematocrit Rotor



- ALWAYS** load your tubes opposite to each other
- ALWAYS** weigh samples to within 1.0 Grams. For best separations
- ALWAYS** fit the lid supplied
- CHECK** the Rim seal gasket and replace regularly (Part number 8011)
- CHECK** the rotor screw fixing tightness regularly

## Micro Rotors



- ALWAYS** load your tubes opposite to each other
- ALWAYS** weigh samples to within 1.0 Grams. For best separations
- ALWAYS** fit the lid supplied
- CHECK** the two top seals and replace regularly (Part number 8044)
- CHECK** the rotor screw fixing tightness regularly

# Rotor balance

## Small fixed angle Rotors



**ALWAYS** load your tubes opposite to each other  
**ALWAYS** weigh samples to within 1.0 Grams. For best separations  
**CHECK** The rotor screw fixing tightness regularly

## Large fixed angle Rotors



**ALWAYS** load your tubes opposite to each other  
**ALWAYS** weigh samples to within 1.0 Grams. For best separations  
**CHECK** The rotor screw fixing tightness regularly



# Rotor balance

## Small swing out Rotor



- ALWAYS** load your tubes opposite to each other
- ALWAYS** weigh samples to within 1.0 Grams. For best separations
- ALWAYS** fit ALL the Tube Holders and any supports
- CHECK** The rotor screw fixing tightness regularly

## Medium – Large Swing out Rotors



- ALWAYS** load your tubes opposite to each other
- ALWAYS** weigh samples to within 1.0 Grams. For best separations
- ALWAYS** fit ALL 4 Buckets and 4 Adaptors supplied
- CHECK** the rotor screw fixing tightness regularly

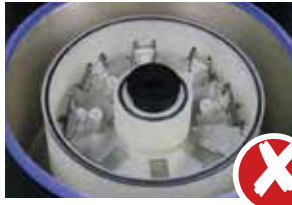
## Microtiter Rotor



- ALWAYS** load your plates opposite to each other
- ALWAYS** weigh samples to within 1.0 Grams. For best separations
- ALWAYS** fit ALL 2 Buckets supplied
- CHECK** the rotor screw fixing tightness regularly

# Rotor Balance

## Cytology Rotors



- ALWAYS** load your holders opposite to each other
- ALWAYS** weigh samples to within 1.0 Grams. For best separations
- ALWAYS** fit the lid supplied
- Check** the two top Gaskets and replace regularly (Part Number 8055)
- CHECK** the rotor screw fixing tightness regularly

## Manual Cell Washing Rotor



- ALWAYS** load your tubes opposite to each other
- ALWAYS** weigh samples to within 1.0 Grams. For best separations
- Regularly smear a small amount of Silicon grease over the O rings
- Check** the inner and outer O rings and replace regularly (Part Number 8066)
- CHECK** the rotor screw fixing tightness regularly

# Technical Support

## Caring for your Centrifuge & Buckets



Always keep buckets & adapters clean and free from moisture at all times, this will help prevent corrosion.

---



Use only official Centurion Scientific accessories with your product. Always ensure samples are distributed in a diametric pattern to ensure the machine runs balanced.

---



Rotor pins should be kept clean and lubricated on a regular basis.

---



It is recommended that your centrifuge is switched off and the lid left open overnight to ensure that any moisture build up can evaporate.

---



Always ensure that lids and accessories are correctly tightened before running the unit.

---



Ensure that all buckets are present in the rotor when running your centrifuge, as using the unit with an unbalanced rotor can cause distortion and excessive wear.

---



Do not use any kind of scourers or abrasive material to clean the buckets and ensure that a pH neutral cleaner is always used.

---



Aluminium buckets should be kept clean and moisture free to keep them in a good, safe operating condition.

---



It is recommended that regular maintenance and cleaning of the unit and accessories is carried out.

---

# Technical Support

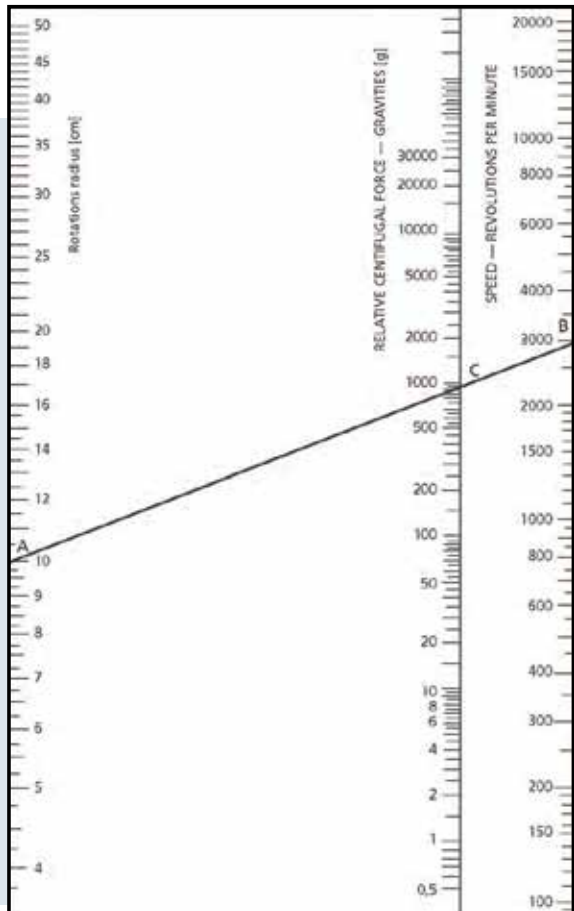
## Nomogram for RCF Determination

### Example

To find the relative centrifugal force at a radial distance of 10 cm from the center of rotation when operating the centrifuge at a speed of 3000 r.p.m., place a straightedge on the chart connecting the 10cm point on the Rotating Radius Scale (A) with the 3000 r.p.m. point on the Speed Scale (B).

Read the point at which the straightedge intersects the Relative Centrifugal Force Scale (C) – in this case, 1000 x gravity.

Similarly, if the desired “r.c.f.” is known, the necessary speed for a given rotating radius may be determined by connecting the two known points and reading the intersection of the straightedge with the Speed Scale.



### Equation for Calculating R.C.F.

$$\text{R.C.F.} = .00001118 \times r \times N^2$$

R.C.F. = relative centrifugal force (gravities)

r = radius from center of rotation to bottom of tube (cm)

N = rotating speed (rev. per minute)

# Chemical resistance table

Key S - Satisfactory M - Moderate attack U - Unsatisfactory	ALUMINIUM	ANODIC COATING for ALUMINIUM	DELRIN™	GLASS	POLYCARBONATE	POLYPROPYLENE	TEFLON™	SILICONE RUBBER	STAINLESS ST/L
CHEMICAL									
2-Butanol			S		U	S	S		
2-Butyl Alcohol			S		U	S	S		
2-mercaptoethanol	S	S	S	S	S	S	S	S	S
2-Propanol				/	U	S	S		
3-Pentanone					U	M	S		
Acetaldehyde	S	/	/	/	U	M	S	U	/
Acetic Acid (10%)					M	S	S		
Acetic Acid (5%)		S	M	S	M	S	S		S
Acetic Acid (5%)	S	S	M	S	S	S	S	S	M
Acetic Acid (60%)		S	U	S	U	S	S		M
Acetic Acid (60%)	S	S	U	S	U	M	S	M	U
Acetic Acid (Glacial)	S	S	U	S	U	U	S	U	U
Acetic Anhydride			/	/	U	M	S		
Acetone	M	S	M	S	U	S	S	M	M
Acetonitrile	S	S	S	S	U	M	S	S	S
Acetophenone				/	U	M	S		
Acetylene			/		U	M	S		
Alconox™	U	U	S	S	M	S	S	S	S
Allyl Alcohol	/	/	S	/	S	S	S	/	/
Aluminium Chloride		U	U	S	S	S	S		U
Aluminium Fluoride			C		S	S	S		
Aluminium Potassium Sulphate			C		S	S	S		
Aluminium Sulphate			/		M	S	S		
Aluminum Chloride	U	U	U	S	S	S	S	M	U
Ammonia					U	S	S		
Ammonium Acetate	S	S	S	S	S	S	S	S	S
Ammonium Carbonate	M	S	S	S	U	S	S	S	M
Ammonium Carbonate, saturated					U	S	S		
Ammonium Chloride				/	M	S	S		
Ammonium Chloride, saturated			U		M	S	S		
Ammonium Hydroxide (10%)	U	U	M	S	U	S	S	S	S
Ammonium Hydroxide (28%)	U	U	M	S	U	S	S	S	S
Ammonium Hydroxide (conc.)	U	U	M	/	U	S	S	S	S
Ammonium Nitrate			/		M	S	S		

# Chemical resistance table

Key S - Satisfactory M - Moderate attack U - Unsatisfactory	ALUMINIUM	ANODIC COATING for ALUMINIUM	DELRIN™	GLASS	POLYCARBONATE	POLYPROPYLENE	TEFLON™	SILICONE RUBBER	STAINLESS ST/L
Ammonium Persulphate			/		M	S	S		
Ammonium Phosphate	U	/	S	S	S	S	S	S	M
Ammonium Sulphate	U	M	U	S	S	S	S	S	U
Ammonium Sulphate (77%)					M	S	S		
Ammonium Sulphate (sat.)					U	S	S		
Ammonium Sulphide					U	S	S		
Ammonium Sulphide, sat.					U	S	S		
Amyl Acetate			/		U	U	S		
Amyl Alcohol	S	/	S	/	S	M	/	U	/
Aniline	S	S	S	S	U	M	S	S	S
Aqua Regia	U	/	U	/	U	U	/	/	/
Barium Salts	M	U	S	S	S	S	S	S	M
Benzaldehyde			/	/	U	M	S		
Benzenamine				/	U	M	S		
Benzene	S	S	M	S	U	U	S	U	U
Benzoic Acid			/	/	S	S	S		
Benzyl Alcohol		/	M	/	U	U	S		/
Beta-Mercaptoethanol					S	S	S		
Boric Acid	U	S	U	S	S	S	S	S	S
Butane			/		U	S	S		
Butyl Acetate				/	U	S	U		
Calcium Bisulphate			/		U	S	S		
Calcium Chloride	M	U	S	S	M	S	S	S	M
Calcium Hypochlorite	M	/	M	/	M	S	S	M	U
Calcium Salts					U	S	S		
Carbon Dioxide			/		S	S	S		
Carbon Disulphide			/		U	M	S		
Carbon Tetrachloride		U	M	S	U	S	S		M
Cesium Acetate	M	/	S	S	S	S	S	S	M
Cesium Bromide	M	S	S	S	S	S	S	S	M
Cesium Chloride	M	S	S	S	S	S	S	S	M
Cesium Formate	M	S	S	S	S	S	S	S	M
Cesium Iodide	M	S	S	S	S	S	S	S	M
Cesium Sulphate	M	S	S	S	S	S	S	S	M
Chlorine, dry gas			/		M	U	S		
Chlorine, water solution			/	/	M	M	S		

# Chemical resistance table

Key S - Satisfactory M - Moderate attack U - Unsatisfactory	ALUMINIUM	ANODIC COATING for ALUMINIUM	DELRIN™	GLASS	POLYCARBONATE	POLYPROPYLENE	TEFLON™	SILICONE RUBBER	STAINLESS ST/L
Chlorine, wet gas				/	M	M	S		
Chlorobenzene			/	/	U	U	S		
Chloroethane					U	U	S		
Chloroform	U	U	M	S	U	M	S	U	U
Chlorosulphonic Acid					U	U	S		
Chromic Acid (10%)		U	S	S	M	U	S		
Chromic Acid (30%)			/		M	S	S		
Chromic Acid (50%)		/	U	/	U	S	S		/
Chromic Acid (80%)					U	U	S		
Chromic Acid -10%	U	/	U	S	M	S	S	M	U
Chromic Acid -50%	U	/	U	/	M	S	S	/	U
Citric Acid		/	M	/	M	S	S		/
Citric Acid (10%)	M	S	M	S	S	S	S	S	S
Copper Salts					S	S	S		
Copper Sulphate			/	/	S	S	S		
Cresol Mixture	S	S	S	S	U	U	S	S	S
Culture Media					S	S	S		
Cyclohexane	S	S	S	S	U	U	S	U	M
Cyclohexanone			/	/	U	M	S		
Decalin				/	U	U	S		
Deoxycholate	S	S	S	S	S	S	S	S	S
Dextran	M	S	S	S	S	S	S	S	M
Dextran (Sulphate)					S	S	S		
Diacetone				/	U	S	S		
Dibutyl Phthalate			S	/	U	M	S		
Dichloroethylene			/		U	U	S		
Diethyl Ether	S	S	S	S	U	U	S	S	S
Diethyl Ketone	S	/	M	S	U	M	S	/	/
Diethylpyro-carbonate	S	S	S	S	U	S	S	S	S
Dimethylsulfoxide	S	S	S	S	U	S	S	S	S
Dioxane	M	S	M	S	U	M	S	S	S
Distilled Water	S	S	S	S	S	S	S	S	S
Ethanol (10%)					M	S	S		
Ethanol (100%)					U	S	S		
Ethanol (5%)					M	S	S		
Ethanol (50%)			S		U	S	S		

# Chemical resistance table

Key S - Satisfactory M - Moderate attack U - Unsatisfactory	ALUMINIUM	ANODIC COATING for ALUMINIUM	DELRIN™	GLASS	POLYCARBONATE	POLYPROPYLENE	TEFLON™	SILICONE RUBBER	STAINLESS ST/L
Ethanol (70%)					U	S	S		
Ethanol (95%)			S		U	S	S		
Ethanol (96%)					U	S	S		
Ethanolamine			/		U	S	S		
Ethyl Acetate	M	M	M	S	U	S	S	M	M
Ethyl Alcohol (10%)					M	S	S		
Ethyl Alcohol (100%)					U	S	S		
Ethyl Alcohol (5%)					M	S	S		
Ethyl Alcohol (50%)	S	S	M	S	U	S	S	S	M
Ethyl Alcohol (50%)					U	S	S		
Ethyl Alcohol (70%)					U	S	S		
Ethyl Alcohol (95%)	S	S	M	S	U	S	S	S	U
Ethyl Alcohol (95%)		/	M	/	U	S	S		/
Ethyl Alcohol (96%)		/	M	/	U	S	S		/
Ethyl Chloride				/	U	U	S		
Ethylene Dichloride	S	/	S	/	U	U	S	U	/
Ethylene Glycol	S	S	S	S	U	S	S	S	M
Ethylene Oxide (100%)				/	U	U	S		
Ethylene Oxide Gas			/	/	M	S	S		
Ethylene Oxide Vapour	S	/	/	S	M	S	S	U	S
Fatty Acids, saturated			S		U	S	S		
Fatty Acids, unsaturated			U		U	S	S		
Ferric Chloride	U	U	M	/	/	S	/	M	U
Ferric Sulphate			/		S	S	S		
Ferrous Chloride			/		M	S	S		
Ferrous Sulphate			/		S	S	S		
Ficoll-Hypaque™	M	S	S	S	S	S	S	S	M
Fluoboric Acid			/		/	S	S		
Formaldehyde (40%)		/	S	/	M	S	S		/
Formaldehyde (5%)					M	S	S		
Formaldehyde -40%	M	M	S	S	S	S	S	S	M
Formalin					M	M	S		
Formalin (40%)			/	/	M	M	S		
Formalin (5%)					M	S	S		
Formic Acid			/	/	U	S	S		
Formic Acid (10%)				/	M	S	S		



# Chemical resistance table

Key S - Satisfactory M - Moderate attack U - Unsatisfactory	ALUMINUM	ANODIC COATING for ALUMINIUM	DELRIN™	GLASS	POLYCARBONATE	POLYPROPYLENE	TEFLON™	SILICONE RUBBER	STAINLESS ST/L
Formic Acid (100%)		/	U	/	U	S	S		/
Formic Acid (3%)				/	M	S	S		
Formic Acid -100%	/	S	U	/	M	S	S	/	U
Fuel Oil			/	/	M	M	S		
Furfural			/		U	U	S		
Gallic Acid					U	S	S		
Gasoline				/	U	U	S		
Guanidine Hydrochloric		/	S	/	S	S	S		/
Glutaraldehyde	S	S	S	S	S	S	/	S	S
Glycerine			/	/	S	S	S		
Glycerol	M	S	S	S	S	S	S	S	S
Guanidine Hydrochloride	U	U	S	S	S	S	S	S	U
Haemo-Sol™	S	S	S	S	S	S	S	S	S
Hexane	S	S	S	S	U	S	S	U	S
Hydrochloric Acid (10%)			U		M	S	S		
Hydrochloric Acid (30%)					U	M	S		
Hydrochloric Acid (37%)			C		U	M	S		
Hydrochloric Acid (5%)				/	S	S	S		
Hydrochloric Acid (50%)		/	U	/	U	S	S		/
Hydrochloric Acid (conc.)	U	U	U	/	U	S	S	U	U
Hydrochloric Acid -10%	U	U	U	S	U	S	S	S	U
Hydrochloric Acid -50%	U	U	U	S	U	S	S	M	U
Hydrocyanic Acid			/		S	S	S		
Hydrofluoric Acid (10%)		/	U	/	M	S	S		/
Hydrofluoric Acid (100%)					U	M	S		
Hydrofluoric Acid (38%)					U	S	S		
Hydrofluoric Acid (50%)		/	U	/	U	S	S		/
Hydrofluoric Acid (60%)					U	M	S		
Hydrofluoric Acid (70%)					U	M	S		
Hydrofluoric Acid -10%	U	U	U	/	M	S	S	U	U
Hydrofluoric Acid -50%	U	U	U	/	U	S	S	U	U
Hydrofluoric Acid conc.					U	M	S		
Hydrogen Peroxide (10%)		/	U	/	S	S	S		/
Hydrogen Peroxide (100%)			/		U	U	S		
Hydrogen Peroxide (3%)		/	S	/	S	S	S		/
Hydrogen Peroxide (30%)			/	/	S	S	S		

# Chemical resistance table

Key S - Satisfactory M - Moderate attack U - Unsatisfactory	ALUMINUM	ANODIC COATING for ALUMINIUM	DELRIN™	GLASS	POLYCARBONATE	POLYPROPYLENE	TEFLON™	SILICONE RUBBER	STAINLESS ST/L
Hydrogen Peroxide (conc.)					U	U	S		
Hydrogen Peroxide -3%	S	M	S	S	S	S	S	S	S
Hydrogen Peroxide-10%	U	U	U	S	S	S	S	S	M
Hydrogen Sulphide, dry gas					M	S	S		
Hydrogen Sulphide, wet gas			C		M	S	S		
Hydroquinone			/		/	S	S		
Iodoacetic Acid		/	S	/	S	S	S		/
Iodine Solution					M	S	S		
Iodoacetic Acid	S	S	S	S	S	S	S	M	S
Iso-Butanol					U	S	S		
Isobutyl Alcohol	/	/	S	/	S	S	S	S	/
Iso-Butyl Alcohol (10%)					U	S	S		
Iso-Octane					U	U	S		
Iso-Propanol (100%)			S	/	U	S	S		
Isopropyl Alcohol	M	M	S	S	U	S	S	S	M
Isopropyl Alcohol (100)					U	S	S		
Kerosene	S	S	S	S	M	M	S	U	S
Lacquer Thinner			U	/	U	U	S		
Lactic Acid (100%)	/	/	/	/	S	S	S	M	S
Lactic Acid (20%)	/	/	/	/	S	S	S	M	S
Lactic Acid (50%)					M	S	S		
Lauryl Alcohol					/	S	S		
Lead Acetate			/	/	M	S	S		
Magnesium Chloride	M	S	S	S	S	S	S	S	M
Magnesium Hydroxide			/		U	S	S		
Magnesium Hydroxide, saturated					U	S	S		
Magnesium Sulphate			/		S	S	S		
Maleic Acid			/		M	S	S		
Manganese Salts					/	/	S		
Mercaptoacetic Acid	U	S	S	S	U	U	S	U	S
Mercuric Chloride				/	S	S	S		
Mercury				/	U	S	S		
Mercury Salts					S	S	S		
Methanol			S		U	S	S		
Methanol (10%)					M	S	S		
Methanol (100%)					U	S	S		

# Chemical resistance table

Key S - Satisfactory M - Moderate attack U - Unsatisfactory	ALUMINIUM	ANODIC COATING for ALUMINIUM	DELRIN™	GLASS	POLYCARBONATE	POLYPROPYLENE	TEFLON™	SILICONE RUBBER	STAINLESS ST/L
Methyl Alcohol	S	S	M	S	U	S	S	S	M
Methyl Alcohol (10%)			/		M	S	S		
Methyl Alcohol (100%)				/	U	S	S		
Methyl Ethyl Ketone	S	S	M	S	U	S	S	S	S
Methyl Isobutyl Ketone				/	U	S	S		
Methylene Chloride	U	U	S	S	U	U	S	S	M
Metrizamide™	M	S	S	S	S	S	S	S	M
Milk			/		S	S	S		
N, N-Dimethyl- formamide	S	S	S	S	U	S	S	M	S
N/Butyl Alcohol	S	/	S	/	M	S	S	M	/
N/Butyl Phthalate	S	S	S	S	U	U	S	M	M
Naphthalene (100%)			/		U	M	S		
N-Butyl Alcohol		/	S	/	U	S	S		/
N-Butyl Phthalate		S	S	S		U			M
Nickel Chloride					S	S	S		
Nickel Salts	U	S	/	S	S	S	S	S	M
Nickel Sulphate					S	S	S		
Nitric Acid (10%)	U	S	U	S	S	S	S	M	S
Nitric Acid (30%)					M	S	S		
Nitric Acid (50%)	U	S	U	S	M	M	S	U	S
Nitric Acid (60%)					U	U	S		
Nitric Acid (70%)				/	U	U	S		
Nitric Acid (95%)	U	/	U	/	U	M	S	U	S
Nitric Acid conc.			/		U	U	S		
Nitric Acid, fuming					U	U	S		
Nitrobenzene			C	/	U	M	S		
N-N-Dimethylformamide		/	S	/	U	S	S		/
n-Propanol					U	S	S		
Oil (Cottons/d)					M	S	S		
Oil (Lins/d)			/		U	M	S		
Oil (Mineral)			/	/	U	U	S		
Oil (Paraffin)					U	U	S		
Oil (Silicone)			/		M	M	S		
Oil (Vegetable)					M	S	S		
Oils (Other)	S	/	S	S	S	S	S	/	S
Oils (Petroleum)	S	S	S	S	M	U	S	U	S

# Chemical resistance table

Key S - Satisfactory M - Moderate attack U - Unsatisfactory	ALUMINUM	ANODIC COATING for ALUMINIUM	DELRIN™	GLASS	POLYCARBONATE	POLYPROPYLENE	TEFLON™	SILICONE RUBBER	STAINLESS ST/L
Oleic Acid	S	/	U	S	S	S	S	M	U
Oxalic Acid	U	U	U	S	U	S	S	S	U
Oxalic Acid (50%)					S	S	S		
Oxygen					S	S	S		
Palmitic Acid			/		S	S	S		
Paraffin			/		M	M	S		
Paraffin, White					M	M	S		
Perchloric Acid (10%)		/	U	/	U	S	S		/
Perchloric Acid (70%)		/	U	/	U	M	S		/
Perchloric Acid -10%	U	/	U	S	U	M	S	U	/
Perchloric Acid -70%	U	U	U	S	U	M	S	U	U
Perchloric Acid (conc.)					U	M	S		
Petrol			/	/	U	U	S		
Petroleum Ether					U	U	S		
Phenol					U	M	S		
Phenol (5%)	U	S	M	S	U	S	S	U	M
Phenol (50%)	U	S	M	S	U	M	S	U	U
Phenol, liquefied (92%)					U	U	S		
Phosphate Trichloride			/		U	U	S		
Phosphoric Acid (10%)		/	U	/	S	S	S		/
Phosphoric Acid (25%)					M	S	S		
Phosphoric Acid (30%)					U	S	S		
Phosphoric Acid (50%)			U	/	U	S	S		
Phosphoric Acid (85%)				/	U	S	S		
Phosphoric Acid (95%)					U	S	S		
Phosphoric Acid (conc.)	U	U	U	/	M	M	S	U	M
Phosphoric Acid -10%	U	U	U	S	S	S	S	U	M
Physiologic Media (Serum, Urine)	M	S	S	S	S	S	S	S	S
Picric Acid	S	S	S	S	S	S	S	U	M
Potassium Acetate					S	S	S		
Potassium Bromide	U	S	S	S	S	S	S	S	M
Potassium Carbonate	M	U	S	S	U	S	S	S	S
Potassium Carbonate, saturated					U	S	S		
Potassium Chloride	U	S	S	S	S	S	S	S	U
Potassium Hydroxide (10%)					U	S	S		
Potassium Hydroxide (45%)			U		U	S	S		

# Chemical resistance table

Key S - Satisfactory M - Moderate attack U - Unsatisfactory	ALUMINIUM	ANODIC COATING for ALUMINIUM	DELRIN™	GLASS	POLYCARBONATE	POLYPROPYLENE	TEFLON™	SILICONE RUBBER	STAINLESS ST/L
Potassium Hydroxide (5%)	U	U	M	S	U	S	S	M	U
Potassium Hydroxide (conc.)	U	U	M	M	U	M	U	/	U
Potassium Iodide					/	S	S		
Potassium Permanganate	S	S	S	S	S	M	S	S	M
Potassium Sulphate			/		S	S	S		
Propane					U	U	S		
Pyridine			/	/	U	M	S		
Pyridine (5%)					U	M	S		
Pyridine (50%)	U	S	U	U	U	S	S	S	U
Rubidium Bromide	M	S	S	S	S	S	S	S	M
Rubidium Chloride	M	S	S	S	S	S	S	S	M
Sera					S	S	S		
Silver Cyanide					S	S	S		
Silver Nitrate			S	/	S	S	S		
Sodium Bicarbonate			/		S	S	S		
Sodium Bisulphate			/		S	S	S		
Sodium Borate	M	S	S	S	S	S	S	S	M
Sodium Bromide	U	S	S	S	S	S	S	S	M
Sodium Carbonate			S	/	M	S	S		
Sodium Carbonate (2%)		/	S	/	M	S	S		/
Sodium Carbonate -2%	M	U	S	S	U	S	S	S	S
Sodium Chlorate			/		S	S	S		
Sodium Chloride (10%)		/	S	/	S	S	S		/
Sodium Chloride (sat'd)	U	/	S	/	S	S	/	S	S
Sodium Chloride -10%	S	/	S	/	S	S	/	S	S
Sodium Cyanide			/		/	S	S		
Sodium Dichromate				/	M	S	S		
Sodium Dodecyl Sulphate	S	S	S	S	S	S	S	S	S
Sodium Hydroxide (<1%)		/	/	SS	M	S	S		/
Sodium Hydroxide (1%)			U		U	S	S		
Sodium Hydroxide (10%)		/	U	S	M	S	S		/
Sodium Hydroxide (conc.)					U	S	S		
Sodium Hydroxide -10%	U	/	U	M	U	S	S	M	S
Sodium Hypochlorite					M	M	S		
Sodium Hypochlorite (5%)	U	U	U	S	S	M	S	M	U

# Chemical resistance table

Key S - Satisfactory M - Moderate attack U - Unsatisfactory	ALUMINUM	ANODIC COATING for ALUMINIUM	DELRIN™	GLASS	POLYCARBONATE	POLYPROPYLENE	TEFLON™	SILICONE RUBBER	STAINLESS ST/L
Sodium Iodide	M	S	S	S	S	S	S	S	M
Sodium Metaborate					U	S	S		
Sodium Nitrate	S	S	S	S	S	S	S	U	S
Sodium Nitrate (10%)					S	S	S		
Sodium Perborate			/		/	M	S		
Sodium Peroxide			/	/	S	M	S		
Sodium Phosphate					M	S	S		
Sodium Silicate			C		U	S	S		
Sodium Sulfate	U	S	S	S	S	S	S	S	M
Sodium Sulfide	S	/	/	/	U	S	/	S	S
Sodium Sulfit	S	S	S	M	S	S	S	S	S
Sodium Sulphate		/	S	/	S	S	S		/
Sodium Sulphite		/	S	/	S	S	S		/
Sodium Thiosulphate			C		M	S	S		
Solution 555 (20%)	S	S	S	S	S	S	S	S	S
Stearic Acid	S	/	S	S	S	S	S	M	M
Sucrose	M	S	S	S	S	S	S	S	S
Sucrose		/	S	/		S			/
Sucrose, Alkaline	M	S	S	S	U	S	S	S	M
Sulfosalicylic Acid	U	U	S	S	S	S	S	S	U
Sulfuric Acid (10%)	M	U	U	S	S	S	S	U	U
Sulfuric Acid (50%)	M	U	U	S	U	S	S	U	U
Sulfuric Acid (conc.)	M	U	U	/	U	S	S	U	U
Sulphosalicyclic Acid		/	S	/	S	S	S		/
Sulphur Chloride			/		U	U	S		
Sulphur Dioxide			/		M	S	S		
Sulphuric Acid (10%)		/	U	/	M	S	S		/
Sulphuric Acid (50%)		/	U	/	U	S	S		/
Sulphuric Acid (60%)			/	/	U	U	S		
Sulphuric Acid (75%)			/		U	M	S		
Sulphuric Acid (conc.)		/	U	/	U	S	S		/
Sulphuric Acid, fuming					U	U	S		
Tannic Acid			/		S	S	S		
Tartaric Acid			/	/	S	S	S		
Tetrachloride	U	U	M	S	U	M	M	M	M
Tetrahydrofuran	S	S	U	S	U	U	S	U	S

## Chemical resistance table

[illegible]



# EC Declaration of Conformity

Declares that product: **Pro-Hospital Centrifuge Series**  
Product options: Rotor plus Accessories

This instrument is fully guaranteed against manufacturing defect for a period of three years from date of purchase invoice.

Service and technical manual can be obtained via our website and address below.

## **Conform to the following Product Specifications:**

IEC 1010-1, 1010-2 020, IEC 1010-2-0202 020, 7.2.101  
EN 61010, EN 61010-1, 7.5 expelled parts, BS 5724, BS 7687:2.20  
BS EN 61010-2-020 1195, 73/23/EEC Low voltage directive  
EMC EU 89 336 (INCLUSIVE 93/68/EEC)

## **Supplementary Information CE Marking**

The product herewith complies with the requirements of the following Directives and carries the CE mark accordingly.

The Low voltage Directive 73.23/EEC

The EMC Directive 89/336/EEC (inclusive 93/68/EEC)

This product was tested in a typical configuration with Centurion Scientific Ltd and other test House Facilities.

## **Quality Control. ISO 90001:2008**

internal systems for testing sub assemblies (5) and final product.

## **IVD 98/79CE - European Directive.**

Self certified group C.

IVD 9879EC

I hereby declare that the equipment named above has been designed to comply with the relevant sections of the above referenced specifications. The unit complies with all the applicable essential requirements of directives.

Certified by: K. Cooper QA Manager

**CENTURION**  
SCIENTIFIC LIMITED



# Certificate of Origin

Centurion Scientific Ltd of The Old Stables, Church Farm,  
Stoughton, Chichester, West Sussex, PO18 9JL,  
UNITED KINGDOM, hereby confirm that all centrifuges and  
accessories supplied by us are of UNITED KINGDOM origin.

Signed for and on behalf of Centurion Scientific Ltd  
Granted 2019

  
Company Representative

CERTIFICATE  
OF ORIGIN

**CENTURION**  
SCIENTIFIC LIMITED

The Old Stables, Church Farm, Stoughton, Chichester, West Sussex. PO18 9JL. United Kingdom.

To review this range  
please visit:

[www.PrO-analyticalcentrifuge.com](http://www.PrO-analyticalcentrifuge.com)

**Distributed by:**

Manufactured by:

**Centurion Scientific Ltd**  
Email: [info@centurionscientific.co.uk](mailto:info@centurionscientific.co.uk)

