



## CEPA High-Speed Centrifuges for Separation and Solids Removal from Liquids

The CEPA family of high-speed centrifuges is widely used in a variety of biological processes from cell harvesting and clarifying to separations of chemicals, foods, blood and pharmaceuticals. Consistently high performance is achieved without using costly disposables in continuous, semi-continuous or batch operations. Ruggedly built in a range of sizes, CEPA centrifuges provide an efficient, cost-effective technology in a myriad of applications extending from the research laboratory to the production plant. The CEPA High Speed Centrifuge family of instruments, offered through John Morris Scientific, efficiently separates from one to several thousand litres of biological cultures and other mixtures. For mixtures with extremely high solids concentrations, drum centrifuges can be supplied for high performance separations.

### How They Work

CEPA centrifuges are characterised by their ability to process many times the volume of their tubular bowl. Fluid mixtures are fed into the bottom of the rapidly rotating separation chamber. Solids are retained, while liquid components are expelled from the top of the chamber through a collection tray. For liquid-liquid separations, two collection trays are used. The retained solids cake is dry and densely packed by the high G-forces of the CEPA centrifuge. Plastic bowl liners are available for models LE, Z41 and Z61 to facilitate cell paste removal.

The optimum size of a centrifuge for a given application depends on the properties of your process liquid. Typical process volumes specified for each centrifuge are approximate. Contact John Morris Scientific for a no-obligation consultation regarding your specific application.

### Typical Applications

Harvesting biomass Clarifying process liquids Separating liquid products Fractionation of human blood Animal blood processing Bioremediation Processing of granular, crystalline and fibrous suspensions Separation of filterable and non-filterable sludges Features and Benefits

Rapid separations. Consistent performance. Range of models facilitate scale-up. Simple to set up, easy to use and rapidly cleaned with minimal downtime. No fragile membranes to install. No replacement membranes, or costly disposables Small footprint saves valuable space Enclosed models available to help control aerosols and ambient gas and attain quieter operations For mixtures with extremely high solids concentrations, drum centrifuges can be supplied Powerful 3-phase electric motors (in models Z41 - Z101) provide rapid acceleration, and quieter operation Permanently lubricated oversized head bearings maintain long service life Variety of Models To Choose From

Model LE: This bench-top laboratory model features variable speed as a standard and a wide choice of optional bowls for research, scale-up experiments and small volume production. This model is typically used with 2 to 15 litre cultures. Maximum throughput is 30litres/hour. Model Z101G: an enclosed model used for processing large volumes at high rates. Shown with optional cooling coil. Model Z41: This small, dual-purpose, floor standing machine is employed in large or small pilot-scale application and typically used with 20 to 75 litre culture volumes. Maximum throughput is 500 litres/hour. Model Z61: This popular size centrifuge allows convenient handling of workloads. With roughly three times the solids capacity of the Z41, Model Z61 is often used in multiples for large volumes production operations. This unit is typically used with 30 to 200 liter process volumes. Maximum throughput is 1,500 litres/hour. Model Z81: This large and powerful production centrifuge is typically used with 100 to 500 litre process volumes. Maximum throughput is 2,000 litres/hour. Model Z101: As powerful as the Z81, and with a 25% larger cylinder capacity, this model is typically used with 150 to 600 litre process volumes. Maximum throughput is 3,000 litres/hour. Advantages of Centrifugation Over Filtration

Of the two technologies commonly used to separate fluids, centrifugation and filtration, CEPA centrifuges offer these benefits:

Economical to use, no costly membranes or other disposables. Faster; In the same floor or bench space, CEPAs process many times faster than filtration systems. No wasted product; with CEPA High Speed Centrifuges, separated solid and liquid components are readily available. Filtration systems trap and embed cell mass and other solids. Consistent performance; No mid-run degradation as filters clog. No membrane ageing or lot variations. No chemical leaching from polymeric filters. Rugged; Heavy duty construction. All stainless steel\* fluid path resists chemicals and high temperatures. \* Except when equipped with optional silicone rubber bottom valve.

Need to know more about the CEPA high-speed centrifuges?

Talk to our experts in the Laboratory team today

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NEW WEBSITE: [www.johnmorrisgroup.com/AU/Laboratory](http://www.johnmorrisgroup.com/AU/Laboratory)

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