

# Pioneering Cell Separation Solutions

CARR Biosystems brings over 25 years of expertise to cell separation solutions. Our systems are built in state-of-the-art US facilities following the highest standards of quality control to reliably enable unique applications. That's why top biotechnology companies all around the world rely on our robust and powerful separation equipment.



#### **Performance**

Our reliable and robust centrifuges address even the most challenging separations.



#### Scalability

Our equipment accommodates small process development volumes to very large commercial needs, allowing for seamless scale-up and scale-down.



#### Versatile

Our stainless steel centrifuges are designed to serve a variety of markets.

## Find the Right Centrifuge for Your Application

### The Powerfuge® Family

- Designed for bacteria, fungi, proteins and sub-micron particles
- Proven for the production of plasmid DNA, plasma proteins, vaccines, cellular agriculture and specialty chemicals
- Highest g force in the market (up to 20,000 x g)

- Bowl volumes from 1.1 L to 36 L
- Flow rate from 250 ml/min to 1,700 L/hr
- Solid-bowl centrifuges
- · Automatic solid discharge
- CIP and SIP capabilities
- Hazardous duty option available

### The Viafuge® Family

- · Designed for mammalian, insect and plant cells
- Typical cell viability of 98% or higher
- Yield up to 98%
- G-forces up to 10,000 x g
- Bowl volumes from 1.4 L to 16.7 L
- Flow rate up to 2,400 L/hr
- Solid-bowl centrifuges
- Automatic centrate discharge
- · CIP and SIP capabilities



Markets We Serve Transforming bioseparation across applications.

- Microbial Fermentation
- Cellular Agriculture
- Biologics
- Vaccines
- Plasmid DNA
- Others

# **Technology Comparison**

Differentiation/Technology	Powerfuge	Viafuge	Disc Stack Centrifuges	Depth Filtration	TFF
High G-force (Up to 20,000 x g)	$\otimes$	No	No	No	No
Configurable for Closed Operations and Sterile	$\otimes$	<b>⊗</b>	<b>⊗</b>	No	<b>⊗</b>
Minimizes Solid Waste	$\otimes$	$\otimes$	$\otimes$	No	No
Viable Cell Recovery and Washing	No	$\otimes$	No	No	No
Dewatering (Dry Cake) + Submicron Clarification	$\otimes$	No	No	No	No
Auto Solid Discharge	$\otimes$	$\otimes$	$\otimes$	No	No

# **Uniquely Scalable Centrifuge Families**

Scale from early stage development to commercial-scale manufacturing and licensure.





