CARR BIOSYSTEMS™

CELL THERAPY | GENE THERAPY | BIOLOGICS | VACCINES

UniFuge® U2k

The U2k® is an automated batch and/or continuous centrifuge for low shear separation of mammalian, bacteria, and insect cell lines. This system produces high cell recovery rates. The centrifuge features a Tubular Single-Use Module mounted in the bowl. In addition, all process contact surfaces in the centrifuge system are disposable and 100% replaceable after each run. The pumping system controls the flow and direction of the media into the module and the processed media out of the module. One pump is provided for feeding the centrifuge, and the other pump is for discharging concentrated media. In continuous separation mode the concentrate pump will operate alongside the centrate discharge. The centrate discharges via a centripetal pump located inside of the centrifuge module. When operating in batch mode, the concentrate pump will not be operated. The concentration of media will be discharged via the feed pump by running it in reverse. The process controls are a combination of electrical and pneumatic devices. For the flow control of the media, the machine is equipped with two bubble sensors.

Features

- Minimizes shear forces on cells
- Single-use module with tube-set
- Continuous/Intermittent discharge of concentrate and supernatant
- Integrated cooling jacket (customer supplied cooling fluids)
- Programmable automated batch-processing including peristaltic pump and pinch valves for Feed, Concentrate, Supernatant, and Buffer
- Recipe System for setting system parameters
- Optional data acquisition for SCADA System via Ethernet connection
- Optional features for 21 CFR Part 11 compliance
- Processes scalable from UFMini and UFPilot
- CE Compliant Design

Operating Parameters*

- Variable G-force between 500-3000 x g
- Processing Rates: 5 – 20 liters/min
- Recommended Bioreactor Volume: 500L – 2,000L
- Maximum Bowl Speed: 4,040 RPM
- Maximum Concentrate Density: < 1.5 g/ml
- Automated with flexible cycle parameters
- Designed for fluid transfer with temperatures between 5-40 °C (41-104 °F)
- Low noise level (below 80 dB) during operation

Equipment Specifications

- Four pinch valve configuration:
- Two Peristaltic Pumps
- Portable stainless-steel skid
- IP 55 Control Panel
- Allen-Bradley® PLC & HMI Touchscreen 30.7 cm (12.1") – 4:3 aspect ratio
- System footprint: 81cm wide x 200cm deep x 153cm high (32" x 79" x 60" high)
- System weight (approx.): 912 kg (2010 lbs.)

Utility Requirements

- Electrical:
  - 200V, 50/60Hz, 39 Amps, 3-Phase
  - 230V, 60Hz, 38 Amps, 3-Phase (w/ transformer)
  - 400V, 50Hz, 28 Amps, 3-Phase
  - 460V, 60Hz, 19 Amps, 3 Phase (w/ transformer)
- Pneumatic:
  - 7.2 (+/- 1) Bar, 105(+/-15) PSI, 725 (+/-100) kPa
- Bowl Case Cooling (optional):
  - 4-15 liters per minute @ 550 kPa (80 psi) maximum
  - - 25º C to 38º C (process dependent)

*Processing speeds are application-dependent and may vary.
**Weights and dimensions dependent on system configuration and options required.

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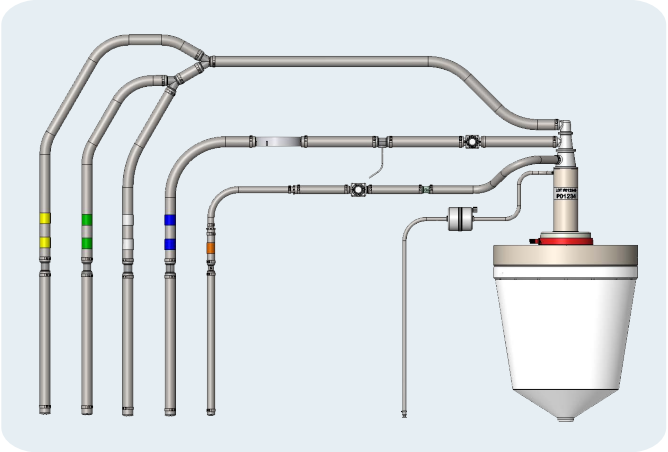
UniFuge® U2k Single-Use Modules

The single-use module is supplied with a tube-set, which can be readily tube welded to your single-use bioreactor connections. Customer-specified single-use connectors available upon request.

Tubular-bowl technology is optimal for high cell viability, recovery, concentration, washing and fast processing times that address the challenges of conventional centrifugation by continuously separating cells in a low shear, scalable and automated system.



System	U2k	
Module	Continuous	Semi-Continuous
Part Number	C63390266	C63390267
Min Working Volume	10 L	10 L
Recommended Bioreactor Volume	500L - 2,000 L*	500 L - 2,000 L*
Tubing Materials & Connection	TPE, Plug	TPE, Plug
Tubing Diameter ID (OD)	3/4" (1")	3/4" (1")
Integrity Testing	✓	✓
Endotoxin Free	✓	✓
Animal Derived Component Free	✓	✓
Gamma Irradiated	✓	✓
Physiochemical: USP <87> <88> Class VI, USP 661 (or ISO 10993) for plastic materials	✓	✓
Manufactured in ISO 13485 facility with Class 7 cleanroom	✓	✓

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