Daisy Petal™ System Specifications

System Hardware

General

Weight	<100 Kg
Dimensions (H x W x D)	1m x 0.8m x 0.5m
Material	Stainless steel framing
Compliance	Designed and built under ISO 9001 design controls with electrical and functional safety standards consistent with IEC 61010, IEC 60730

Connections

Electrical Supply	6 Standard 15A AC plugs (120V, 60Hz or 240V, 50Hz)
Power Consumption	>500 Watts
Gas Supply	Up to 1.7 SLPM air & oxygen (90% O_2 +6%/-3%)
Temperature	Thermoelectric Recirculating Chiller (230 W)
Communication	Serial (analog 0-24 V, 0-4 mA)

Sensors

Off-Gas Analyzer	Cartridges: % CO_2(0-25 vol-% ±3 % of value); % O_2 (0-100 vol-% ±3 % of value)
Scales	1 x Bioreactor scale; measured value ±10 g

Pumps

Buffers	3 x Peristaltic pumps for independent buffer additions (acid, base, antifoam; rates bounded by system controls)
Media Feed	2 x Peristaltic pumps for media addition (up to three sources each) (0.035 - 1.39 mL/min)
Cell Stream	1 x Peristaltic pump for cell stream collection (0.05-2.1 mL/min)
Collection	1 x Peristaltic pump for cell-free collection (rates bounded by perfusion rates)

Single-Use Assembly

Bioreactor

Vessel Total Volume	1.7 L (3:1 H:D)
Vessel Working Volume	1 L (2:1 H:D)
Perfusion Rates	0.5-2 Vessel Volumes per Day (0.35 - 1.39 mL/min)
Material	Single-use polymer shell compatible with USP 88 Class VI or USP 87, ADCF
Cell Retention Device	2 x In-vessel Sunflower Cell Retention Device (for perfusion)
Gas Vent	1 x Gas filter (0.2 micron, hydrophobic)
Mixing	2 x Marine impellers 1 x Scooped Rushton-style impellers Agitation rates from 0.6 to 2 m/s 3 Baffles

Monitoring

Dissolved Oxygen	1 x Probe (4 ppb - 25 ppm/0-300 %-sat)
pH/Temperature	1 x Probe (3 - 10 pH operating range) / (4 - 50 °C operating range)

Sampling

Cell Recovery Line	Manual valve for cell recovery
Collection Line	Manual valve for cell-free collection

Connections

Fluid Input/Output	Two options available: Aseptic or MPC

Sterilization

Sterilization Method	Gamma irradiation compatible