

Gentle Flex Pro

High-Throughput, Automated, and Fully-Closed Cell Processing System

- Patented FaSe fast separation
- Centrifugal chamber with temperature control
- Gentle handling with low damage
- continuous flow centrifugation
- High-precision dispensing



Product Overview

The Gentle Flex Pro is a fully-closed, automated, digital and flexible cell processing instrument. Designed for use in solid tumor applications and allogenic cell therapy products, The Gentle Flex Pro concentrates, washes, and dispenses large-scale cellular products. At the same time, it also performs functions such as PBMC separation, magnetic bead incubation, and washing.

Product Features

- High-precision dispensing
- Gentle cell processing for high viability
- Continuous flow centrifugation
- Patented FaSe fast separation
- Centrifugal chamber with temperature control function



PBMC separation

Support whole blood, fresh apheresis blood, cryopreserved apheresis blood, and umbilical cord blood



Magnetic bead incubation



Viral transduction

High viral transduction efficiency



Cell washing and harvest

Concentrated harvest by continuous flow centrifugation



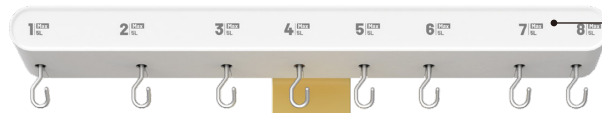
Cell concentration

Centrifugal mixing and washing



Formulation

Cryopreservation solution replacement
Multi-batch dispensing, 3 bags/batch



Weighing module

Precisely control the volume of liquid in and out

Pinch valve

Control hydraulic switches and flow paths

Liquid and pressure sensors

Achieve real-time monitoring of protocol progress and pressure in the tubes as well as early warning of risks, while detecting disposables and hardware performance

Peristaltic pump

Control liquid flow rate and flow direction

Centrifugal module

The main module of cell processing, which controls the cell processing mode, including centrifugal intensity, mixing intensity, etc.

Heat dissipation module

Used for heat dissipation of the centrifugal chamber and circuit module

Pinch valve indicator light

Each pinch valve is equipped with an indicator light to indicate the open and closed state of these valves (the closed state is shown in the figure)

Intuitive GUI touchscreen

Operation interface, including: basic operation and protocol run, etc.

Card swiping area

Swipe card and enter password for dual authentication login, which is in compliance with regulatory requirements

QRcode scanner holder

Used to place the QRcode scanner for inputting disposables information



Product Advantages

Multi-functional modules

PBMC separation, magnetic bead incubation, viral transduction, cell washing, cell concentration, washing harvest, cryopreservation solution replacement, and dispensing

Economical

Functional integration of processes can provide cost savings and reduce waste. The PBMC separation and magnetic bead incubation processes are integrated into one protocol with only one set of consumables; and the concentrated washing, cryopreservation solution replacement, and dispensing processes are integrated into one protocol with a single set of disposables.

Equipped with sterile sampling kit

Allows for more convenient sampling and counting as the disposables are equipped with sterile sampling kits to easily perform analytical tests without disturbing the final cell bag.

Large volume, and large number of cells

Specifically developed for solid tumors and ularge cell number or allogenic cell therapyuniversality, supporting a maximum sample size of 50L, and a high flow rate of 220mL/min

Wide range, and high yield

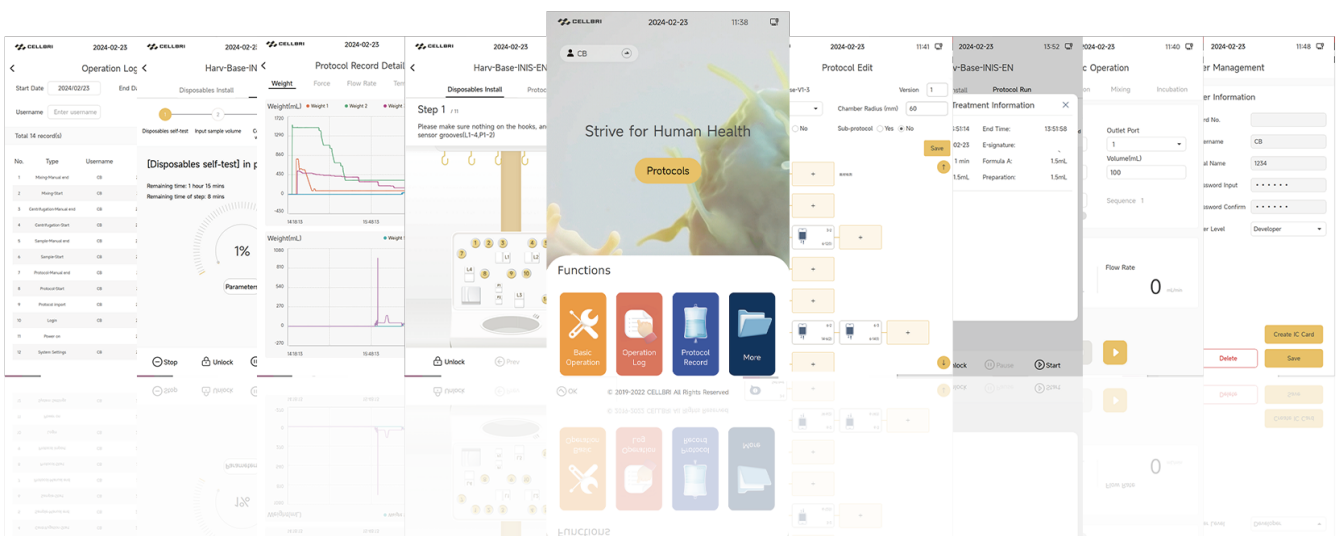
For sample volumes 100mL-50L, the harvest recovery is >90%

Temperature control

The centrifugal chamber has the temperature control function, 4-37°C

Compliance with regulatory requirements

The software design complies with 21 CFR part 11, with the functions of permission management, audit trails, and electronic reporting.



Functional Parameters

PBMC separation

Support 4 sample types	Whole blood, fresh apheresis blood, cryopreserved apheresis blood, and umbilical cord blood
Maximum number of cells in single processing	3E10
Sample volume range that can be processed	10mL - 400mL
Ficoll dosage	345mL
PBMC recovery	40% - 80% (varying according to sample type)
Final output volume	50mL - 400mL
Total process time	About 120min

● Ultra-fast sedimentation density gradient centrifugation technology (FaSe technology)



Efficient

Complete PBMC separation and extraction and washing twice within 120minutes



Flexible

Culture and magnetic bead incubation can be directly conducted.



Low damage

Centrifugation uses low shear force, and cell viability remains unchanged before and after separation.



High performance

Mononuclear cell recovery and purity are superior to manual techniques.

Concentrated harvest and dispensing	Small cell number	Large cell number
Sample type	Cultured cells	Cultured cells
Maximum number of cells in a single processing	4E10(T cell)	1E11(T cell)
Maximum sample volume	20L	50L
Maximum flow rate	150mL/min	220mL/min
Washing method	Centrifugal mixing and washing	Centrifugal mixing and washing
Minimum concentrated volume	40mL	100mL
Number of final collection bags	Multi-batch dispensing,3 bags/batch	Multi-batch dispensing,3 bags/batch
Final collection volume	80mL-5L	200mL-5L
Recovery	90%±10%	90%±10%

*Note:The Flex pro device offers two cell harvesting solutions for different cell volume scenarios.

Collection method	Volume range	Dispensing precision
Tube	3 mL–200 mL	±0.5 mL
Filter	5 mL–200 mL	±0.5 mL

Note:

1. Final collection performance depends on user operation/product configuration.
2. The above indicators refer to when the dispensing volume is < 100mL; if the dispensing volume is > 100 mL, then the calculation is based on the relative error of the indicator.
3. The total volume error of the final collection is better than ±3 mL; when the total volume of the final collection is greater than 100 mL, the total volume error is better than ±3%.
4. The confidence level is 95%.

We Can Provide

● Automated protocol development services

CellBri offers flexible protocol customization services as per the varied protocol requirements of customers. This allows customers to define their own production lines, and ensures effective human-machine collaboration while facilitating a transition from manual protocols to automated procedures. In the future, the planned automated protocol procedure will be integrated into the enterprise production management system, making it convenient for users to integrate data and carry out effective information management.

● Disposable cell processing kit

Cat#	Size	Application
01020213	GS23-400	Compatible with Gentle Flex Pro for PBMC separation of 10-400mL of blood samples
01020211	GH21-20L	Compatible with Gentle Flex Pro for concentrated harvest of cells within 20L and dispensing, cell replacement and washing, magnetic bead incubation and washing, etc.
01020212	GH23-50L	Compatible with Gentle Flex Pro for concentrated harvest of cells within 50L and dispensing

● Disposable cell processing Protocol

Cat#	Protocol software	Application
090100005	Harv-Pro cell harvesting	Used for cell concentration, washing, solution replacement, addition of cryopreservation solution, and dispensing
090100006	Sep-Pro PBMC separation	For platelet removal, concentration, and separation of mononuclear cells from peripheral blood/fresh apheresis blood
090100007	Sep-Pro-CS PBMC separation	For platelet removal, concentration, and separation of mononuclear cells from cryopreserved apheresis blood

Product Specifications

Specification parameters

Size	28.5×27.3×67.7 in.
Weight	179.7lb

Power consumption parameters

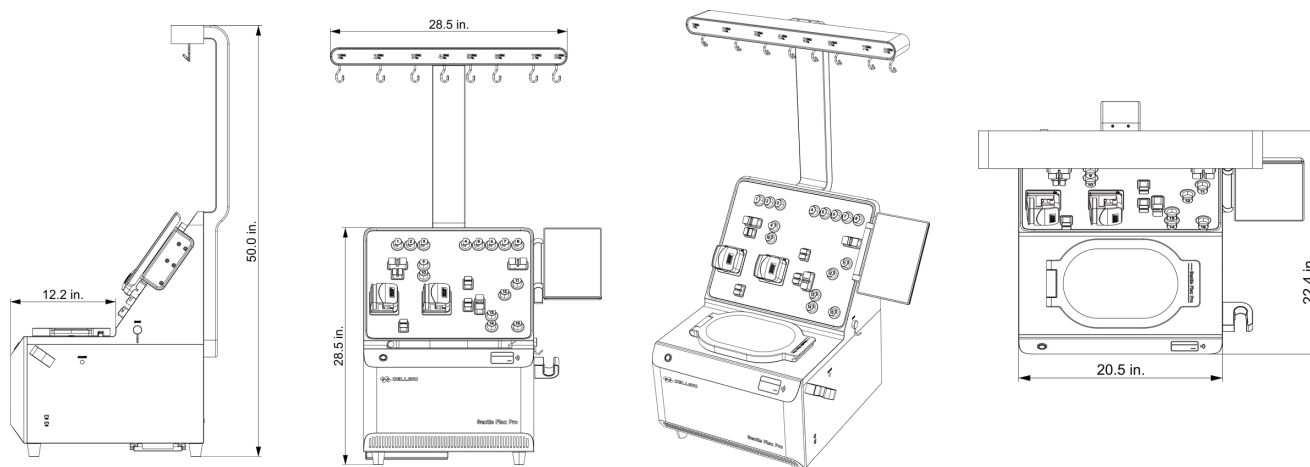
Power supply	100-240 VAC,50/60 Hz
Power	450W

Port parameters

USB	2.0x2
Ethernet port	100Mbit/s

Main unit parameters

Monitor	10.1-inch TFT capacitive touch screen
Centrifugal chamber	With the centrifugal chamber of disposable tubing, the maximum centrifugal force can reach 620g
Sensors	Pressure sensor, liquid sensor, temperature sensor, weighing sensor, liquid leakage sensor, and Hall sensor
Centrifugal chamber temperature control	4°C-37°C
Hook	8 pieces
Liquid delivery devices	Pinch valve, and peristaltic pumps with a rate of 10-400mL/min
Consumables	Single-use fully closed disposables, minimizing the risk of contamination
Software	Linux operating system, with a variety of built-in standardized protocols, which can develop customized protocols according to customer needs
Barcode scanner	Convenient to input the information of various reagents



Cell and Gene Therapy Productivity Transformer

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