

## InFlow-R

Rotating tubular scaffold bioreactor

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### InFlow-R CC200

The InFlow-R Bioreactor is designed for cell seeding and culturing on a tubular scaffold. The bioreactor allows for rotational movement of the scaffold around their longitudinal axes. A polymeric chamber houses the biological materials throughout the culture period. Cylindrical scaffold holders are constructed with ends of different diameters, to house matrices of different dimensions. Secondary elements moving with the scaffold holder induce continuous mixing of the culture medium to increase oxygenation and mass transport. The intraluminal and extraluminal flow paths may be connected or maintained separately.



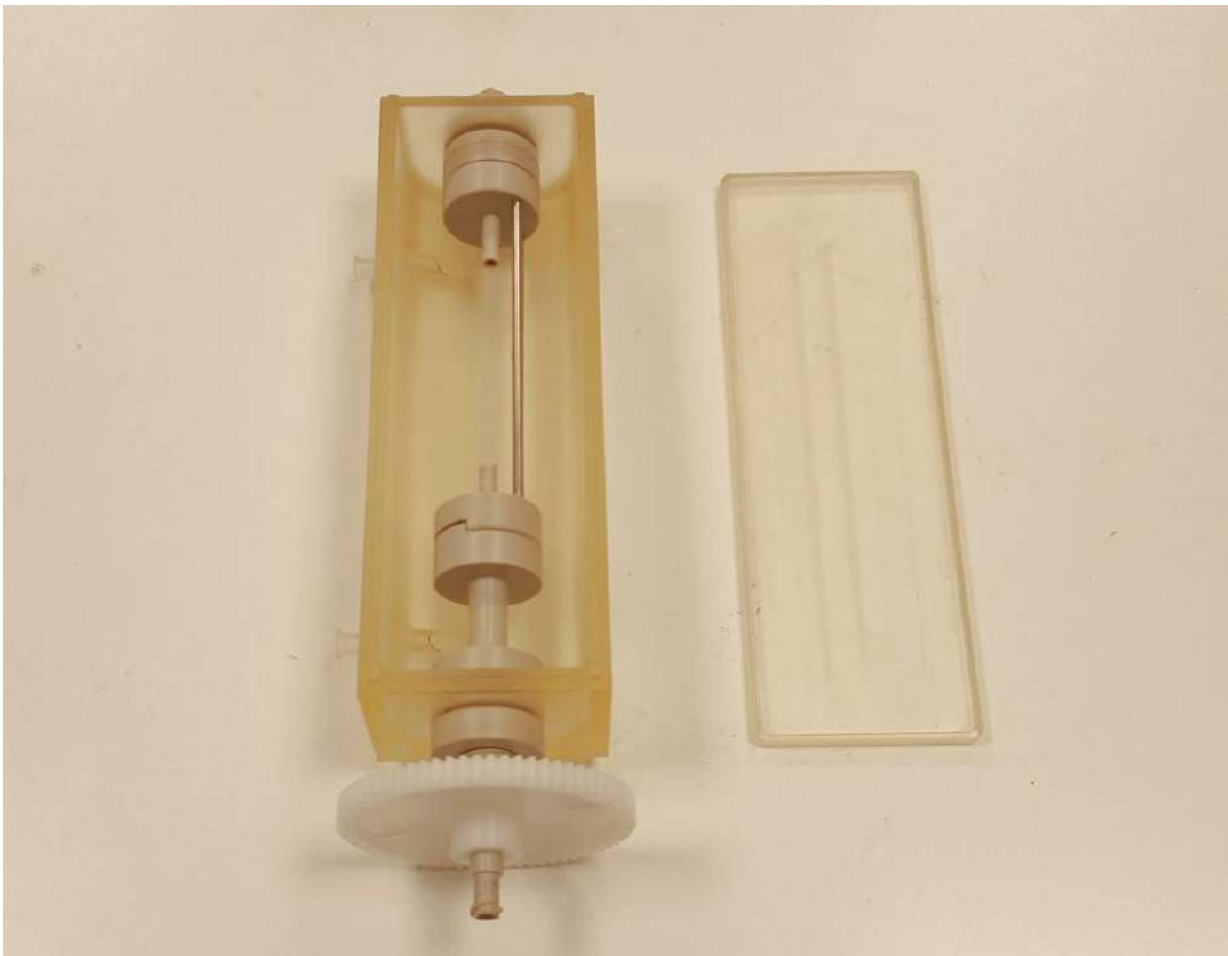
InFlow-R CC200 main features are:

- Homogeneity by facilitating cell seeding on the scaffold
- A way to promote cell seeding and culturing on either side of the tubular structure using varied cell types
- An environment that enhances oxygenation and mass transport between the medium and cells
- Stimulation for the cells with hydrodynamic forces favoring metabolic activity and differentiation
- Lid ensure oxygenation and air flow-through, like a petri dish

The InFlow-R Bioreactors are made up of four major components: the chamber, motor unit, organ holder and a controller. Many sizes of tubular scaffold can be accommodated.

The chamber is easily detachable from the motor unit and can be sterilized in standard laboratory autoclaves.

The motor unit turns the spindle in the chamber providing consistent variable speed rotation to the organ holder. The specially designed housing protects the motor from the corrosive moisture inside the incubator. The motor and chamber are connected by a spindle that allows the chamber to be easily removed from the motor. The location of the controller outside the incubator allows adjustments to be made without opening the incubator.



## TECHNICAL DATA

### Culture chamber

Autoclavable culture chamber in polysulfone (FDA-approved) with luer lock connection.  
Autoclavable lid in polysulfone. Scaffold holder in PEEK (different sizes)



### Scaffold

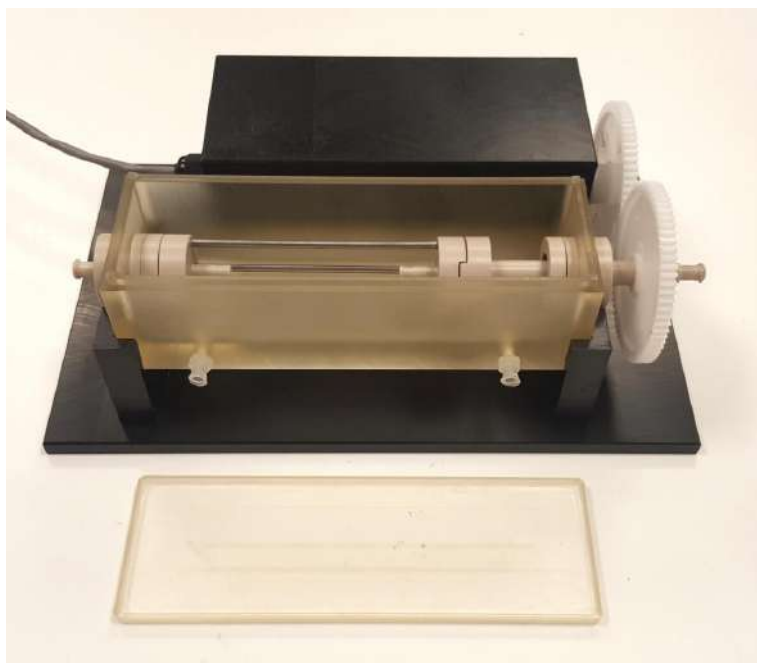
Tubular scaffold, length 10mm  
Diameters: starting from ID 4 mm

Scaffold holders are customizable on customer requirements.  
SKE Research Equipment ® could provide silk fibroin electrospun scaffold (see Scaffold datasheet).



### Medium recirculation

Chamber has 2 ports to connect medium recirculation (optional)



### Motor controller

Motor controller unit to set rotational speed, placed outside incubator.



## Sterilization

The chamber and the lid could be autoclaved or sterilized in EtO.

## Optical sensors option

Optical sensors to real-time on-line monitor culture parameters.

Available upgrades:

pH and/or O<sub>2</sub> flow through optical sensors connected in series with the hydraulic circuit.



*Sensor in series with the circuit*

## TECHNICAL DATA

Material	Base: Plastic (PVC) Culture chamber and lid: Polysulfone Scaffold holder: PEEK Tubing: platinum-cured silicone
Weight	Approx. 2 kg
Dimensions	365 x 170 x 65 mm (W x D x H)
Tubular scaffold diameter	4 - 12 mm
Tubular scaffold length	10 mm

## ORDERING DETAILS

Product code                      CC200

Standard options:

InFlow-R tubular structure bioreactor is highly customizable and can be modified upon customer specification.

Further details will be clarified by our technical office during the technical definition stage.

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