



# Multi-tier Cultivation Rooms



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Fitotron® Multi-tier Cultivation Rooms (MCR's) have been specifically designed to suit a variety of different plant growth applications. They are ideal for research involving Arabidopsis and similar-sized plants.

MCR's can be assembled and fully operational within a short space of time - the ideal solution for immediate requirements. In addition, MCR's can be fitted with a number of different shelf and lighting options to suit a wide range of biological applications.

## Lighting

Lighting can be specified by the user and is available in racks of 3 or 4 tiers. Lighting racks can be purchased independently of the room itself and are delivered as complete, free-standing 'plug and play' units, incorporating the growing surface, lighting and air distribution. Each lighting bank ensures even distribution of airflow across the shelves, resulting in minimum temperature variations.

Lighting in the MCR range provides medium intensity of  $250 \mu\text{mol m}^{-2}\text{s}^{-1}$  @ 300mm for the 3 tier version and  $180 \mu\text{mol m}^{-2}\text{s}^{-1}$  @ 300mm for the 4 tier version. Lighting racks are supplied with fluorescent lamps, each level of which is individually dimmable from an intensity of 100% to 10%. LED lighting can also be fitted if required.

Users also have the option of adding light boxes, within which specimens can be cultured at different temperature and lighting conditions to the plants grown on the open light racks. Users can therefore have different conditions within the same room.

## Control

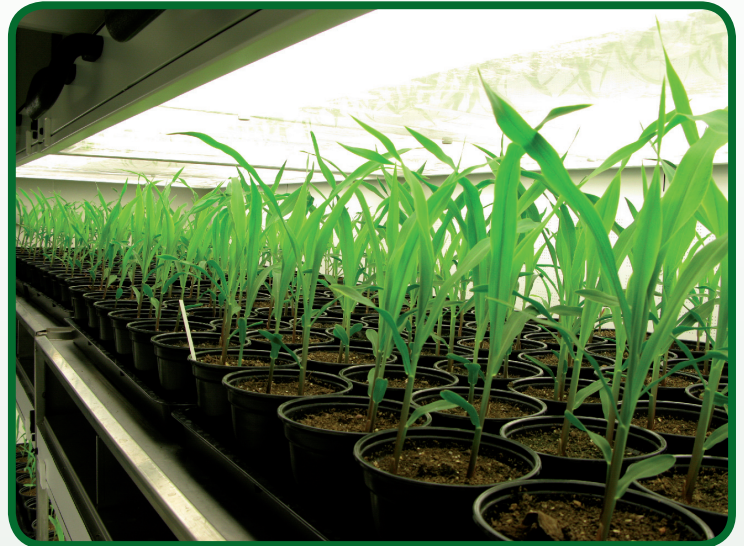
The MCR range features the latest 3.5" Colour Touch Panel for programming, conveniently mounted on the front of the room.

## Refrigeration

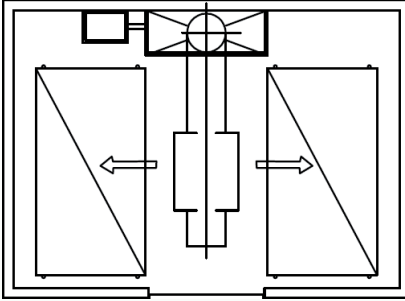
Cooling for the MCR range is designed for maximum energy efficiency, as the unit senses when it is required to be in operation. This is far more efficient than other 'continuous compressor operation' systems, whilst maintaining the same close control of environmental conditions.

## Humidity

An optional humidifier can be added, providing a humidity range of 50%RH to 80%RH lights off and 50%RH to 75%RH lights on. The use of steam to generate humidity produces sterile atomised water. This is the safest and cleanest method of humidification, eliminating the risk of airborne contamination such as Legionella.



Based on a modular concept, MCR's are available in multiple formats and can be added to with retro-fittable lighting racks.

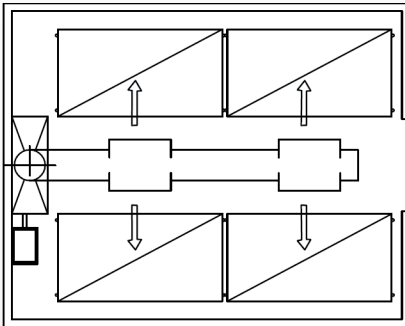


### MCR 210

2 lighting racks, 1 rack along each side of the room, 3 tiers high.

2 lighting racks, 1 rack along each side of the room, 4 tiers high.

2 lighting racks, 1 rack along each side of the room, 1 rack 3 tiers high, 1 rack 4 tiers high.

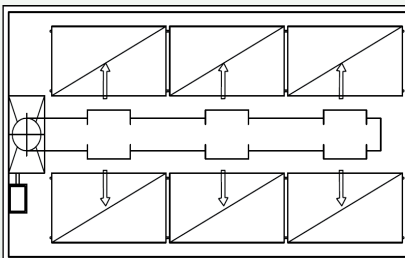


### MCR 220

4 lighting racks, 2 along each side of the room, 3 tiers high.

4 lighting racks, 2 along each side of the room, 4 tiers high.

4 lighting racks, 2 along each side of the room, combination of 3 and 4 tiers high.

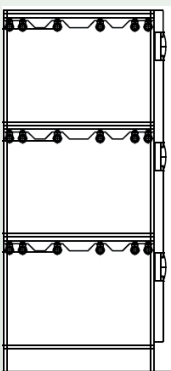


### MCR 230

6 lighting racks, 3 along each side of the room, 3 tiers high.

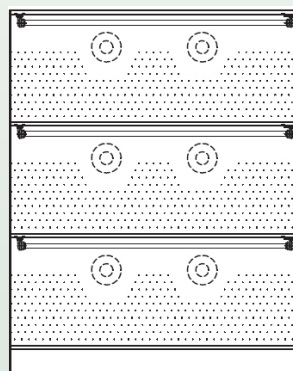
6 lighting racks, 3 along each side of the room, 4 tiers high.

6 lighting racks, 3 along each side of the room, combination of 3 and 4 tiers high.

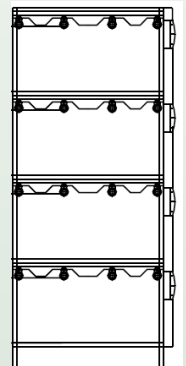


3 tier freestanding lighting/air distribution module

### Integrated air distribution



4 tier freestanding lighting/air distribution module



## Performance

Temperature range (lights on and lights off)

+15°C to +30°C

Lighting intensity 3 tiers

250  $\mu\text{mol m}^{-2}\text{s}^{-1}$  @ 25°C 300mm below lights

Lighting intensity 4 tiers

180  $\mu\text{mol m}^{-2}\text{s}^{-1}$  @ 25°C 300mm below lights

Humidity range\* (lights on)

50%RH to 75%RH

Humidity range\* (lights off)

50%RH to 80%RH

Dewpoint range\* (lights on)

+10°C to +22°C

Dewpoint range\* (lights off)

+10°C to +24°C

\*with optional humidifier

## Dimensions

	MCR 210	MCR 220	MCR 230
<b>External (mm)</b>			
Width	3160	3160	3160
Depth	2560	4060	5860
Height	2580	2580	2580
<b>Growth height (mm)</b>			
3 tier	525	525	525
4 tier	370	370	370
<b>Growth area per tier (m<sup>2</sup>)</b>	1.2	1.2	1.2
<b>Growth area per lighting rack (m<sup>2</sup>)</b>			
3 shelf	3.6	3.6	3.6
4 shelf	4.8	4.8	4.8

## Options

- 3 tier light rack or 4 tier light rack
- Humidifier
- External water chiller, if no chilled water supply is available
- Non boosted RO (purified water) supply, if no RO is available
- Boosted RO (purified water) supply, if RO is available but without the pressure required
- Condensate pump
- 24 hour Performance Test

## Service and Support

The training undertaken by our agents and engineers is of the highest standard in the industry, ensuring that our customers are supported by the highest level of technical expertise.

Our global network of engineers enables us to respond to any technical query, ensuring that our customers receive the maximum benefit from their equipment.

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