



BDR16 REACH-IN

PLANT GROWTH

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Product Overview/Applications

The BDR16 is designed for high-end plant physiology research where tight performance is critical to ensure a consistent plant canopy temperature throughout the chamber. To achieve a tight performance, this unit employs a constant temperature lamp bank, cooled by the refrigeration system, which results in a constant light intensity output regardless of operating temperature. With 65" (1650mm) of growth height and 16.2ft² (1.5 m²) of growth area, the BDR16 accommodates tall plants to maturity. Please consult Conviron regarding specific requirements.

Lighting

The BDR16 utilizes an innovative lamp bank design that maintains a constant temperature within the barriered lamp canopy. This results in a constant light intensity output that is unaffected by the temperature within the chamber. Standard lighting for the BDR16 combines T5 fluorescent and halogen incandescents with 3 light levels per lamp type, resulting in a broad based spectrum ideally suited for plant growth. Lamp replacement is easily achieved from outside the growth area by raising the hinged, counter-balanced canopy. Standard lighting intensity is 800 micromoles/m²/s which is measured by a quantum light meter and then transmitted to the controller's status screen for User readout. Higher light intensities are available.

Airflow

Airflow is distributed uniformly in a downward direction. The unit includes fresh air intake and exhaust ports which are adjustable to allow up to 30ft³/min (0.84m³/min) of air exchange.

Refrigeration

Cooling is provided by a self-contained air-cooled condensing unit with hot gas bypass for continuous compressor operation. An electronic modulating valve provides tight temperature control while ensuring quiet operation. Pressure transducers are included for monitoring the status of the refrigeration system. Consult the factory for heat rejection information and alternative refrigeration methods.

Experiment Protection

User programmable "set and forget" alarms track the chamber's operation versus user-defined set points. This allows for exceptionally accurate monitoring without the need for adjustment every time the set point is redefined. Backup "high/low" alarms provide a further level of protection while visual and audible notification is provided when any alarm is activated. Contacts for connection to a building management system are also included.

Key Product Attributes

- High performance chamber that delivers tight environmental control and uniformity
- Specular aluminum interior for improved light uniformity
- 65" usable growth height allows the growth of tall plant species to maturity
- Product certifications/markings; _cCSA_{US} (NRTL), CE



Performance Data

Temperature Range (°C)	Interior Capacity	Growth Area	Growth Height	Exterior Dimensions (WxDxH)	Light Intensities (6in. from lamp)	Electrical Service	Weight
10 – 40 lights on	88.5ft ³	16.2ft ²	65"	105" x 36" x 89"	800 μmoles/m ² /s	120/208-3Ø-60Hz	1360lb.
4 – 40 lights off	2500L	1.5m ²	1650mm	2675 x 915 x 2260 (mm)	@ 25°C	220/380-3Ø-50Hz	617kg

CONVIRON MODEL BDR16

PLANT GROWTH CHAMBER



NOTES:

1. STANDARD REFRIGERATION SYSTEM IS WATER COOLED (1/2"Ø (13mmØ) CONNECTION).
2. REQUIRE A MINIMUM OF 5" (130mm) FROM REAR OF CHAMBER TO BACK WALL.
3. CASTER OPTION ADDS 2" (51mm) TO OVERALL HEIGHT OF CHAMBER.
4. DEPTH DIMENSION IS CHAMBER SIZE ONLY. DIMENSION DOES NOT INCLUDE DOOR LATCH OR PIPING ON BACK WALL.
5. LENGTH AND WIDTH DIMENSIONS ±1/4 (6mm). HEIGHT DIMENSION ±1" (25mm).



