



BCC Holding Area Boom

Products & Solutions for forest nurseries

Irrigating your plants properly throughout the germination process is crucial. BCC offers customized irrigation systems for both greenhouses and holding areas. The customer can design his own irrigation system based on the needs of his specific nursery, such as dimension, irrigation features, type of nozzle, fertilizing injectors, etc

THE BCC HOLDING AREA BOOM

The BCC Holding Area Booms fulfil the above water application requirements for containerised forest nurseries while guaranteeing flexible and reliable functioning.

To ensure optimum growth and even development of plants, it is essential that each individual plant receives the correct amount of water throughout its propagation period. Since the surface area of each tray cell is relatively small, the quality of application is even more vital. Further to this, the limited volume of moisture reserves in small containers also means that critical moisture stresses can develop quickly.

THE PROCESS

The BCC Holding Area Irrigation Boom design is based on a modular concept. Features can be adjusted and added according to growing requirements.

Holding Area or Combi Boom:

Holding Area Booms are suitable for large open areas (up to 38 m wide) with sufficient aisle space for a rail system. Generally Holding Area Boom rails are placed directly on the ground supported by wooden sleepers. Alternatively the rail can be suspended by mounting it on legs. This allows for a retractable shading or black-out system to be installed below the boom.

For shade areas and greenhouses which are generally narrower (up to 16 m wide) and have less space for rail systems, the light-weight Combi Boom offers a more optimal solution.

Boom arms with spray line and nozzles:

An additional spray line can be added to the boom arms, fitted with lower flow rate nozzles for chemical treatments. The main spray line fitted with larger nozzles is used for irrigation and fertigation.

Alternative to an additional spray line, triple nozzle holders can be fitted to the main spray line allowing for different flow rates for various applications, e.g. for watering, fertilizing and chemical treatments (fungicide and insecticide).

A wide range of nozzles are available for various applications and depending on physical requirements in the shade houses and holding areas, e.g. spray pattern, spray angle, flow rate and droplet size.

Height adjustable spray lines are available for increased flexibility.

Edge irrigation nozzles are also available to prevent drying out of substrate along edges and walkways.

In nurseries where benches or tables are used in the shade or holding areas, nozzles can be distributed along the spray line to match with bench or table width. This reduces water spillage in aisles between benches and tables.

Chemical dosage unit:

A chemical dosage unit can be mounted on the boom carriage for direct fertilizer and chemical injection. Application rate is adjustable from 0.2% – 2.0% on the dosage unit. A chemical batch solution tank with 35 liter capacity is also mounted on the carriage. Larger batch tanks are available.

Direct injection of chemicals into the spray line ensures an even application of fertilizers, fungicides and insecticides to the seedlings. This avoids the situation where long main water lines (in the case of a central pump house) are filled with a mixture of chemicals that require regular flushing.

Flexible control unit:

Boom operation can be adjusted for continuous running mode or pre-set running mode. When operated in pre-set running mode, a selection switch can be used to run the boom for a number of cycles.

Water supply to the boom can be regulated remotely from the control panel via a solenoid valve on the main water supply line. Multiple spray lines on the boom arms can also be regulated via solenoid valves from the control panel.

Frequency control is available for variable speed of the boom to manipulate quantity of water applied.

The control unit can equip in three different types. Type 1 (Manual), Type 2 (Auto) and Type 3 (Range).

Type 1 - Manual	Type 2 - Auto	Type 3 - Range
Features including: start/stop, recall of boom, water/fertilizing, number of cycles, drive speed, etc.	Features including; same as type 1, program several operations separately, water/fertilizing, drive speed, number of cycles, etc.	Features including: same functions as type 1 & 2, programmable drive range from home position per operation, irrigate/fertilize in sections, etc.

Note! The benefit of two solenoid valves is ONLY obtained if the customer uses a central fertilizing system controlled with solenoid valves. It is NOT possible to control a solenoid valve with injector with separate tank.

Boom start-up and shut-down can be controlled manually or activated by built-in timer. The timer is programmable for daily irrigation regimes. An external input for remote start signals from another source is also available.

OPERATIONAL BENEFITS & KEY FEATURES

- Floor-mounted or suspended rail systems.
- Hot-dipped galvanized rail systems.
- Robust galvanized carriage.
- Nylon wheels fitted with sealed ball bearings.
- Boom carriages feature a walk-through design.
- Swivel arm for water hose fitted to carriage.
- Nylon-coated wire ropes connecting the boom arms with the carriage ensure stability.
- Light-weight aluminum boom arms adjustable for height above seedlings.
- Single PVC spray line fitted with flat spray pattern nozzles (2.3 liters/minute at 1.5Bar) mounted to boom arms at intervals of 600mm to ensure sufficient overlap of the spray fan.
- Direct water application to plants ensuring even coverage for optimum growth and even development.
- The water supply line on the carriage is equipped with a cartridge filter.
- The drive unit has variable speed geared motor.
- The cable return wheel and drive units, including the geared motor, are protected by galvanized sheet-metal hoods.
- Central control panel for easy boom operation
- Hose car system makes irrigation area longer (approx 190 m)
- Long lasting hose in system





ACCESSORIES AND EXTRA FEATURES

- A choice of other functions like pressure regulators, water filters, pressure gauges and safety functions like emergency stops and pressure drop sensors for detection of hose breakage are available as options

TECHNICAL DATA

Holding Area Booms:	Length – 120m effective (holding area length 128m) Width – 38m (maximum)
Holding Area Booms: with hose car	Length – 180m effective (holding area length 190m) Width – 38m (maximum)
Combi Booms:	Length – 105m effective (holding area length 110m) Width – 15m (maximum)
Power supply:	1X 230V, 50Hz (depends on requirement)
Power requirement:	0.5kW
Operating pressure:	2-3Bar – recommended in spray line
Water supply pressure:	5-6Bar – recommended at point of connection
Operating speed:	
Variable speed:	0–10m/min

* Note that the equipment can be customized to meet individual requirements

Disclaimer - As BCC AB equipment is continuously developed and refined, the design and capacity can differ from the figures listed here.

