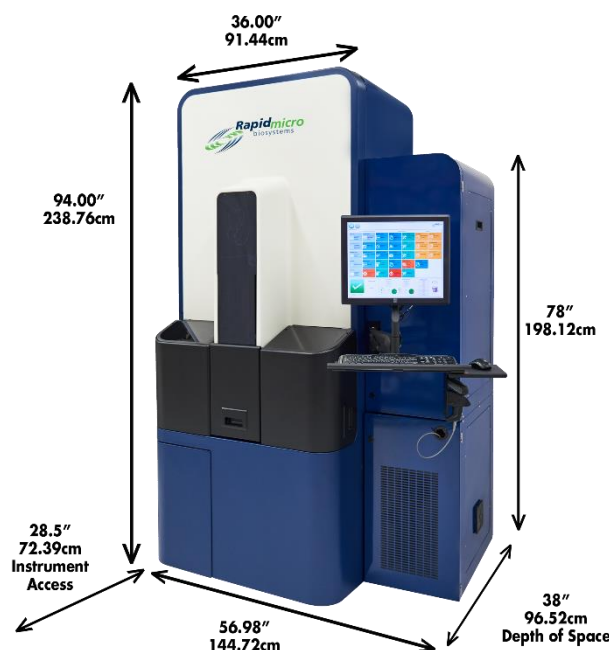


The Growth Direct™ System is designed to fully automate incubation and imaging of Growth cassettes to accomplish enumeration of microorganisms. Each cassette is tracked via barcode and housed in an incubator hotel with random access capability.

The Growth Direct System tracks samples from their initial loading into the instrument until completion of the assay.

As part its operation, the Growth Direct System provides the following capabilities:

- Verifies daily system performance and record in report format resulting in an audit trail.
- Tracks incubator temperatures, I/O capacities, system temperatures, electrical faults, and calibration settings.
- Identifies cassettes that deviate from user set limits and flag for further review and approval.
- Tracks system operating parameters that can affect assay performance or indicative of a system failure.
- Transfers positive samples to output queue for manual ID or continues to incubate samples of interest until requested for output.
- Reports on key performance metrics including:
 - Enumeration results
 - Calibration
 - Maintenance details



Instrument Specifications:

| Instrument Dimensions/Weight | |
|------------------------------|-----------------------------------------------------------------|
| Weight | Empty - 1187kg (2616lbs) Full – 1212kg (2672lbs) |
| Structural load | Empty – 933 kg/m2 (191 lbs/ft2)) Full – 952 kg/m2 (195 lbs/ft2) |

| Shipping Dimensions | |
|---------------------|---------------------------------------------------------------|
| Crate 1 | 929kg, 185.42cm x 132.08cm x 223.52 (2050lbs, 73"x 52"x 88") |
| Crate 2 | 435kg, 137.16cm x 96.52cm x 195.58cm (960lbs, 54"x 38"x 77") |
| Crate 3 | 387kg, 233.68cm x 157.48cm x 129.54cm (834lbs, 92"x 62"x 51") |
| Crate 4 | 174kg, 86.36cm x 93.98cm x 111.76cm (384lbs, 34"x 37"x 44") |

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| Utilities | |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connectivity | The system is equipped with a 10/100 Base-T Ethernet connector for connection to customer's network. |
| Power Infeed | The system operates on 200 - 240VAC, single phase, 50 - 60Hz, 15A circuit. |
| Compressed air supply at Instrument Infeed | Site air connection must fit R 1/4 female thread. Clean, dry air supplied at 6 – 10 bar (87 – 145 psi) with a minimum of 170 l/min (6 ft ³ /min). Supplied air must meet ISO 8573-1 Class 5 standards |

| Certification and Compliance | |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certification | ETL Listing 4009448 and CE certification |
| Compliance | Conforms to IEC61010-1 (European Standards for Safety Electrical Equipment for Laboratory Use) |
| | European Low Voltage Directive 2006/95/EC including Low Voltage Directive 2006/95/EC |
| | IEC 61010-2-081 Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purpose |
| | IEC/EN 61010-2-010 Particular requirements for laboratory equipment for the heating of materials |
| | IEC 61010-1 General Requirements, including audible noise |
| | IEC 62471 Photobiological Safety of Lamps and Lamp Systems |
| | Conform to requirements for Group 1, class A of the European EMC Directive 89/336/EC including IEC61326:1997 (Electrical Equipment for Measurement, Control, and Laboratory Use EMC Requirements) and IEC6100 EMC Emissions and Immunity Testing. |
| | Conforms to European Machinery Directive 2006/42/EC |
| ISO | The Growth Direct™ System is ISO 9001:2008 certified. |

| Environmental Requirements | |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ambient Environment | Temperature range from 15 - 28°C; Relative humidity range from 5 - 75% (non-condensing); Altitude – maximum operating altitude of 2440 meters. |
| Thermal Output | The system's thermal output can be up to 1465 Watts (5,000 BTU/hr). The thermal output is evenly split between the duct flange located on the top of the imager area and the top of the side panel of the incubator section. |
| Exhaust Air Flow | The system's exhaust air flow is 14,870 l/min (525 ft ³ /min). |

| | |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Backup Power | Provides enough power to transport all cassettes back to their respective incubators & shut down the instrument in an orderly fashion. |
| Noise | ≤ 65 dB at 1meter from unit |
| Vibration | No noticeable instrument vibration due to actuator movements at maximum acceleration. No vibration detectable by camera during imaging. |