

Specifications

4.1 P/ACE MDQ System

Use this information to prepare the environment where the system will be located.

Table 2 System Specifications

Item	Description
Weight (P/ACE MDQ)	132 lbs (60 kg) w/o trays and cooling option 155 lbs (70.5 kg) w/trays and cooling option
Firmware Version	5.0 or Higher
Power Requirements MDQ PC (typical) Monitor (17" typical)	CAUTION The supply voltage must not exceed 10% of nominal. 100-240VAC, 5.0A, 50/60Hz; auto-voltage sensing power supply 6.0A, 50/60Hz 1.8A, 50/60Hz
Fuses (MDQ)	8.0 A Slow Blow; 1/4 inch (2 ea.); 100-120 VAC 6.3 A Time Delay; 20mm (2 ea.); 200-240 VAC
Maximum Heat Dissipation (to room) P/ACE MDQ PC and Monitor	400 W (1024 BTUs/Hour) 936W (3194 BTUs/Hour)
Ambient Operating Temperature Range	15-40°C (15-30°C recommended)
Humidity Restrictions	RH<90% (non-condensing) @ 30°C
Altitude Restrictions	up to 2000m (6,562 ft)
PC (Tower)	Beckman Coulter certified controller
Installation Category	Category II
Pollution Degree	2
Sound Pressure Level	Maximum sound pressure: 70 dB Maximum sound pressure at 1 meter away: 66 dB

Computer Requirements

Table 3 Beckman Coulter Computer Requirements

CPU	IBM M51 Computer with 3.2 GHz processor
Memory	1024 Mb (minimum)
Hard Drive	40 Gb or larger
CD/DVD RW	Required
USB Ports	Required
Monitor/Resolution/Colors	1024 x 768/True Color
Keyboard	101 key
Mouse	Microsoft® compatible
Interface	PCIe Communications Interface Board (provided with software)
Printer	Any Windows XP™ compatible printer
Operating System	Microsoft Windows XP Pro with service pack 2

NOTE These are the specifications that must be met if the customer is providing the Personal Computer. Beckman Coulter provided computers will meet or exceed the above specifications.

IMPORTANT Users must have Administrator or Power user permission on the local workstation.

UV Detector

Specification Type	Description
Wavelength Range	190 to 600 nm
Filter Selection	200, 214, 254 and 280 nm (standard); three open positions for additional wavelength selections; filter diameter ½ inch (127 mm); 0.20 in. thick
UV Source	Deuterium Lamp; 30 W; prealigned
Wavelength Accuracy	2 nm
Analog Output	<p>Output 1 is Data; Full scale output is 1.0 AU/V (software selectable multipliers of 1.0, 0.5, 0.2, 0.05, 0.02 and 0.01 providing lower AU/V values).</p> <p>Output 2 not used.</p> <p>Output 3: Current signal when Voltage is programmed; Voltage signal when either Current or Power is programmed.</p>

PDA Detector

Specification Type	Description
Wavelength Range	190 to 600 nm
Detector	256 Element Diode Array
UV Source	Deuterium Lamp; 30 W; pre-aligned
Wavelength Accuracy	2 nm
Bandwidth	6 nm minimum (Absorbance Averaging)
Analog Output	<p>Output 1 is Data Channel 1 and Output 2 is Data Channel 2; Full scale output is 1.0 AU/V (software selectable multipliers of 1.0, 0.5, 0.2, 0.05, 0.02 and 0.01 providing lower AU/V values)</p> <p>Output 3 is Current signal when Voltage is programmed; Voltage signal when either Current or Power is programmed</p>
Scan Collection Frequency	0.5 to 32 Hz

LIF Detector

Specification Type	Description
Relative Fluorescence Units (RFU) range	0 to 1000 RFU
Dynamic Range (at a dynamic range setting of 1000)	> 10 ⁴
Sensitivity	1 x 10 ⁻¹¹ M Sodium Fluorescein with a signal-to noise ratio ≥ 2
Baseline Noise	<0.005 RFU peak to peak*
Baseline Drift	< 0.2 RFU per hour*
488 nm Laser Module Dimensions	Height: 25.00 in. (63.5 cm) Width: 10.25 in. (26.3 cm) Depth: 14.25 in. (36.0 cm) Weight: 82 lbs. (37.3 kg)
635 nm Laser Module Dimensions	Height: 7.5 in. (19.2 cm) Width: 5.25 in. (13.2 cm) Depth: 7.0 in. (17.7 cm) Weight: 5 lbs. (2.3 kg)
Wavelength Ranges (for optics)	Excitation: 300 to 700 nm Emission: 350 to 750 nm
Filters (optional)	For 488 nm laser: 488 Notch filter and 520 nm Band-pass filter For 675 nm laser: 663 nm Long Pass filter (2 required) For user supplied lasers: Each laser configuration requires two filters, a laser filter to block stray laser light and an emission filter to select the wavelength of the emitted light. These filters must have an outside diameter of 0.500" (+.000, -.010") and a thickness not greater than 0.350"; if multiple filters are used in a single channel, the total thickness cannot exceed 0.350".
Fiber cable length	6 feet (1.83 m)
Software Requirements	32 Karat Software, Version 5.0 or later
Laser (optional)	3 mW 488 nm (air-cooled) Argon Ion Laser 3 mW 635 nm Diode Laser

Analog Outputs	Output 1 is Data Channel 1 and Output 2 is Data Channel 2; Full scale output is 1.0 AU/V (software selectable multipliers of 1.0, 0.5, 0.2, 0.05, 0.02 and 0.01 providing lower AU/V values) Output 3 is Current signal when Voltage is programmed; Voltage signal when either Current or Power is programmed
Power Requirements	100/120V, 12A, 50/60 Hz 220/240V, 6A, 50/60 Hz
Ambient Temperature Operating Range	15 to 40°C
Recommended Best Performance Range	15 to 30°C
Relative Humidity	<95% non-condensing @ 35°C
*These specifications are for a 75 µm I.D. capillary.	

Sample Cooling

Specification Type	Description
Ambient Operating Temp. Range	15°C to 30°C
Humidity	80%
Temperature Range	20°C below ambient to 60°C (minimum setting 4°C)
Temperature Stability	±1°C
Accuracy	Temperature of environment: ±2°C within the range of ±15°C from ambient; ±3°C outside the range of ±15°C for ambient.