

Insight200M Pre-Installation Guide



NOTICE: This document contains references to “Cobalt” or “Cobalt Light Systems.” Please note that Cobalt Light Systems was purchased by Agilent in July 2017. For more information about these products and support, go to

www.agilent.com/en/products/raman-spectroscopy-/raman-spectroscopy-systems



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1. Introduction

1.1. Delivery

When the system arrives, check that there is no visible damage, with the delivery driver present. If damage has occurred contact the carrier and Cobalt immediately. **Make a photographic record where possible.**

Check that shock-watch and tilt indicators, if fitted to the outside of the packing cases, have not been activated. If the indicators have been activated notify your distributor or Cobalt immediately.

The system is supplied as a single unit in a number of possible of packaging types depending on customer location:

- Typically the system will be externally crated in accordance with ISPM15 UK WMMP. The case dimensions (mm) are approximately 680w x 530d x 780h. The cardboard crate is approximately 32kg including the Insight200M and accessories.
- In some cases, where requested or for demonstration/loan systems the Insight200M may be transported in a flight case. The Flight case has dimensions approximately (mm 680w x 530d x 810h) and weighs approximately 60kg Figure 1 is an example of an Insight200M flight case. *Note that the colour of the flight case could change (e.g. red)*

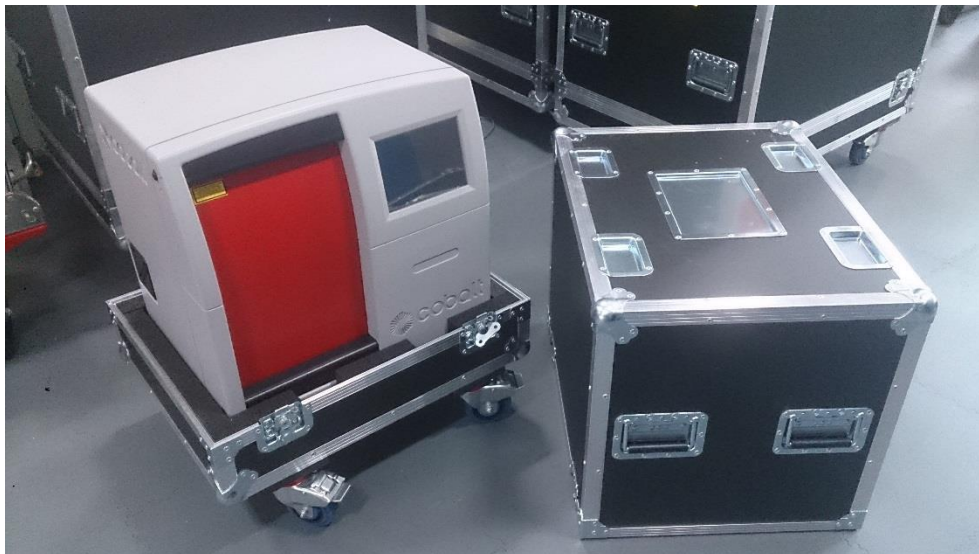


Figure 1 – Insight200M Shown in Flight Case Base with Lid to Side

It is recommended that the Insight200M is a **two man lift** to off load palletized or crated shipments and position the system near to its final installation position.

Note: The system should not be manually carried on flights of stairs.



WARNING

The packing crates are heavy and could cause serious injury and damage to the equipment if not handled correctly. Use suitable lifting equipment and procedures. Only lift the packing cases using handles provided or forklift from the base.

1.2. Unpacking

It is recommended not to remove the Insight200M from its packaging if it has been freight shipped for 24 hours to acclimatise. Cables, manuals and test piece are typically included in the Insight200M's cardboard packaging



CAUTION

Do not remove the equipment from the packing crates until they have been moved to their designated installation site. The equipment has been carefully packed to protect the equipment from damage in transit. Removal of the packing could make the equipment vulnerable to damage during transit.

1.3. Insight200M Mechanical Installation

The Insight200m weighs approximately 25 kg/53 lbs and has the dimensions shown in figure 2

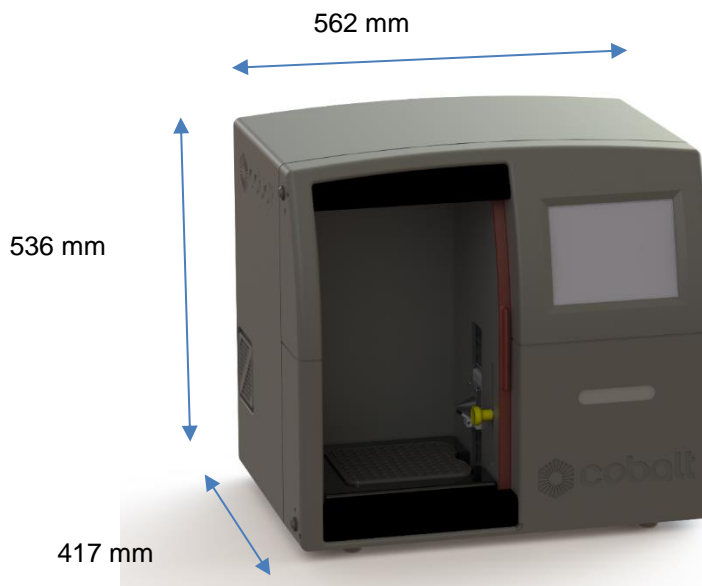


Figure 2 – Insight200M Overall Dimensions

It is recommended that the Insight200M is positioned on a stable bench or table, which is capable of supporting loads up to 50kg. A cantilever style table should not be used.

The customer should ensure that the Insight200M is level and free of potential damage from falling.

Certain routine maintenance activities require the rear panel to be accessed.

The air cooling intake and hot extract are on the sides of the system as shown in Figure 3. Care should be taken not to block these vents



Figure 3 – Insight200M forced air cooling vents

2. Specifications

2.1. Environmental Requirements

The system should be installed in an environment as detailed here.

Recommended ambient temperature during operation	0 to +40 °C
Recommended stability of ambient temperature during operation	± 2 °C
Storage temperature	-7°C - +49°C
Relative humidity	<95 % non – condensing
Location	Preferably dust free environment, free of significant sources or shock and vibration >2m from air conditioning ducts or heating units Note: The greater the dust in the environment, the more frequently the unit should be cleaned.
Size	562mm W x 417mm D X 536mm H
Weight	25kg

Table 1 - Environmental Requirements

Note: If the area the unit is being installed is not dust free, ensure that the fans on the unit are clear of contamination, and are inspected regularly for cleanliness. Dust and debris can affect the performance and accuracy of the equipment.

Note: Temperature fluctuations can affect the stability of various components such as the laser. Accuracy and repeatability of measurements is achieved by: allowing the instrument a warm up period prior to use; reducing the ambient temperature fluctuations below the limits described above. Systematic fluctuations from heating and cooling ducts should be reduced by moving the Insight200M further away from these sources.

2.2. Electrical Services

The electrical system has been designed meet BS EN 61010-1 2010 standards and checked against US regulations. All installed wiring and electrical components have been selected to comply with European standards and are UL recognized.

The mains electrical input, laser, CCD camera, computer, DC power supply units inputs and outputs are all protected a master power Magnetic Circuit Breaker (MCB), On/Off switch.

There are no high voltage circuits accessible in the sample measurement area, and all low voltage circuits, such as interlocks and door locks are double insulated.

The voltage requirement is automatic between two supply ranges.

Number of outlets required.	1 x single-phase outlet for the Insight200M
Location of inlet	Rear panel towards bottom left of Insight200M
Type of electrical inlet	Bulgin IEC C13. An IEC 10A mains lead with either a BS1363 (fused British plug), a CE22 (European plug) or CEE22 (USA plug) as required.
Voltage requirements	90 – 264VAC
Current Requirements	6.3A maximum
Line Frequency	50/60Hz
Voltage fluctuation	< ± 10%

Table 2 - Electrical Supply Requirements

2.3. Other services

The system can be networked via the RJ45 connector mounted on the rear of the instrument, utilised by an optional extra software monitoring package.

The instrument may also be connected to USB devices (portable storage, keyboard, mouse, and printer) via a Bulgin Type A connection on the rear of the instrument.

2.4. Laser Safety and Interlocks

The Insight200M system operates as a Class 1 laser system. It incorporates a Class 4 infrared laser and a Class 1 red laser which are protected by the safety interlocks in the Insight200M system.

WARNING: Direct exposure to a Class 4 laser can damage eyesight. Do not use the Insight200M system if you believe it has been tampered with or the interlocks have been overridden.

The laser source is described in

Table 3. Protective housings and interlocks protect personnel from the laser beam in normal operation.

Description	Value
Wavelength	830nm
Average Power at source	>600mW
Operating Mode	CW
Nominal Ocular Hazard Distance	<25cm
Nominal Skin Hazard Distance	<12cm

Table 3 – Insight200M Laser Radiation

3. Support Contact Details

3.1. Contact Details

United Kingdom

Address: **Agilent Technologies LDA UK Ltd.**

174 Brook Drive

Milton Park

Abingdon

Oxfordshire OX14 4SD

United Kingdom

Tel: **+44 (0)1235 856 555**

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