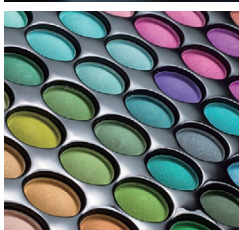
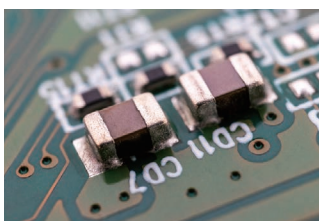


partica LA-960V2

Laser Scattering Particle Size Distribution Analyzer



*See the True Characterization
of Your Particles.*



partica LA-960V2 Series

Laser Scattering Particle Size Distribution Analyzer

HORIBA proudly introduces the newest breakthrough in particle size technology.

Laser Scattering Particle Size Distribution Analyzer Partica LA-960V2

This latest evolution in the LA series advances scientific knowledge for tomorrow's world through intuitive software, unique accessories, and high performance. The Partica LA-960V2 continues HORIBA's long standing tradition of leading the industry with innovative design in both the hardware and the software. The new optical design allows the user to visualize the particle dispersion in real time.



Proven high accuracy and resolution for wide application

CMP slurry
Catalysts
Ink / Pigments
Plastics
Minerals
Metal powder
Emulsion

- Ceria
- Silica
- Alumina

Battery
Capacitor
3D printing
Paper Coating
Pharmaceutical
Cosmetics
Food / Drink
Building materials

- Positive electrode
- Negative electrode
- Electrolyte



HORIBA's Original Optical Design

The groundbreaking optical design perfects the static light scattering particle sizing technique.

Advanced Detector Design

The number of detectors, angular range, and layout contribute to overall system performance.

The Partica LA-960V2 uses logarithmically spaced silicon photodiodes that detect a wide range up to 165 degrees to allowing the measurement of complete particle size distributions.

Automatic Laser Alignment in Seconds

Always make perfect measurements with computer-controlled laser alignment.

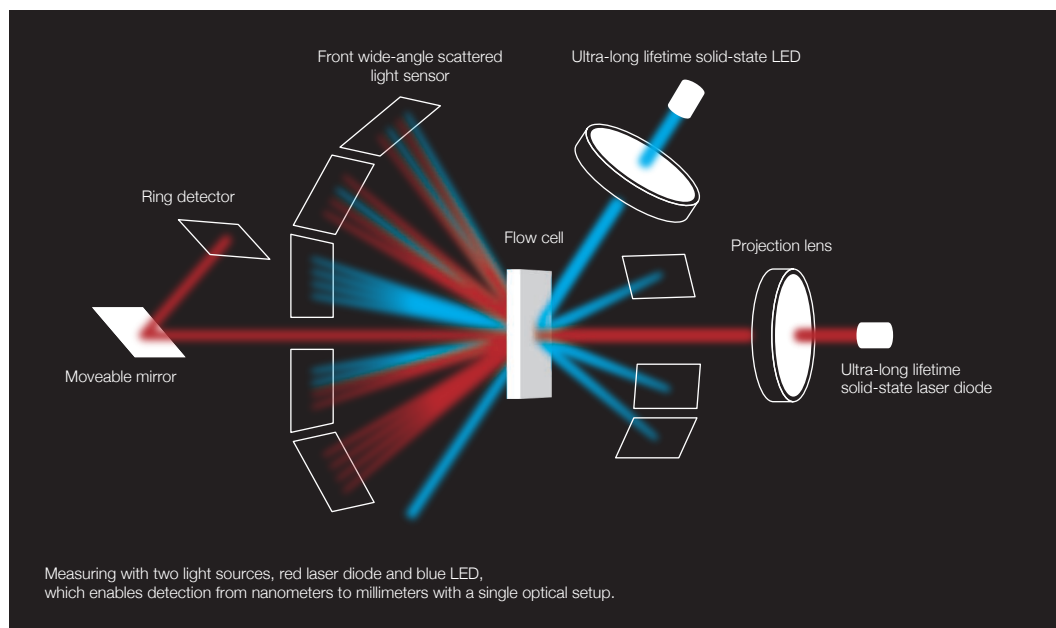
The alignment process is completed in only a few seconds with HORIBA's innovative approach.

Superior Instrument-to-Instrument Precision

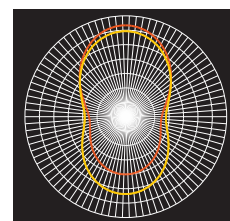
The Partica LA-960V2 is designed and built to provide the same experience regardless of manufacture date, operator skill, or geographic location. It achieves unmatched instrument agreement without the need for additional correlation procedures.

Guaranteed Accuracy

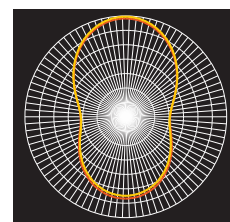
The Partica LA-960V2 is capable of accurately measuring NIST-traceable size standards within 0.6% of specification. Fully compliant with ISO 13320 recommendations.



Superior nanoparticle detection using red and blue light sources



0.05 μm 405 nm
0.07 μm 405 nm



0.05 μm 650 nm
0.07 μm 650 nm

partica LA-960V2 Series

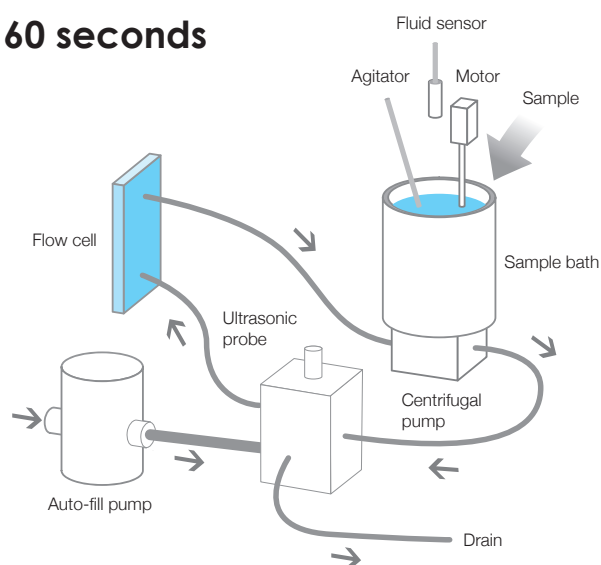
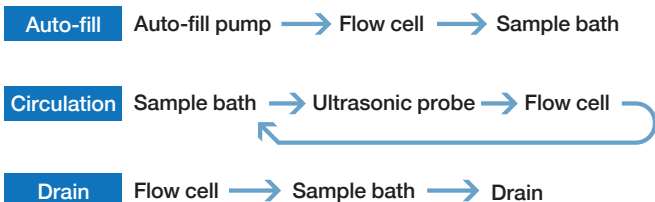
Laser Scattering Particle Size Distribution Analyzer

State of the Art Sampling Systems

Wet Measurement

Sample-to-sample analysis in less than 60 seconds

The Partica LA-960V2 wet circulation system is an easy, fast and very powerful dispersion system. The standard wet system offers a full package which includes dispersant fill pump, liquid level sensor, circulation pump, 30 W in-line ultrasonic probe, and drain valve. It is all software-controlled for true one-button operation. This advanced design provides highly reproducible particle size results.



Dry Measurement

Automated, powerful dry powder dispersion

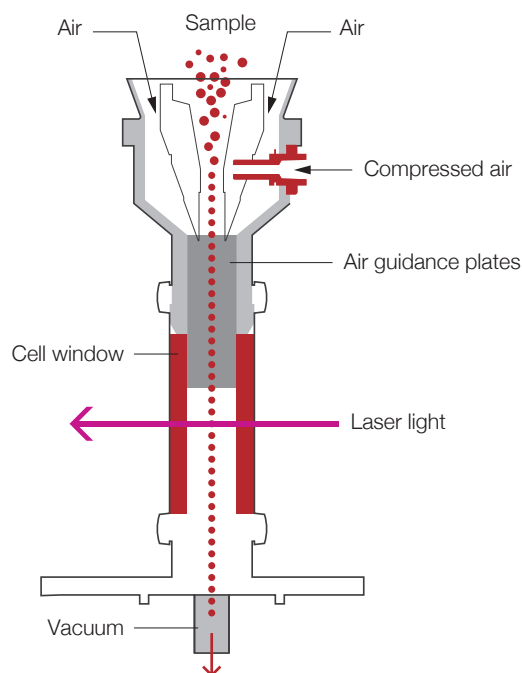
The Partica LA-960V2 Powderjet combines several unique and patented features to provide the most reproducible dry measurements. Use the Auto Measurement function to control vacuum, air pressure, powder flow, start/stop conditions, measurement duration, and data processing. Designed to handle every application including small sample amounts, friable powders, and highly agglomerated materials.

Smart Scans - Trigger Function

This function allows precious materials to be measured accurately. When the sample amount is limited or has low flowability, the trigger functions starts and stops the measurement with faultless precision.

Self-adjusting Powder Flow

Historically, the biggest challenge in dry powder measurement involved establishing an even powder flow. The Partica LA-960V2 Powderjet has solved that challenge with a self-adjusting feedback loop to maintain a constant laser transmittance. This is a crucial factor in creating reliable, reproducible dry powder size measurements.



Available chutes

Standard chute

Equipped with every Powderjet Dry Feeder and used for most powders.



V type chute

This chute is ideal for both small amounts of powder and powder which does not flow easily, e.g. magnetic powders.



Coated chute

This coated chute is useful for samples which adhere to the stainless steel standard chute.



Vacuum sampler

This accessory is useful for measuring very small amounts of powder.

*Sampling table is included.



Accessories

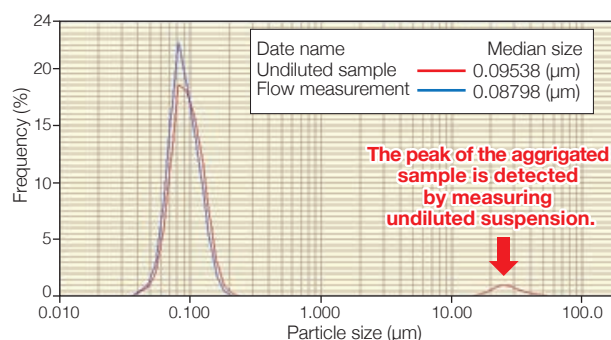
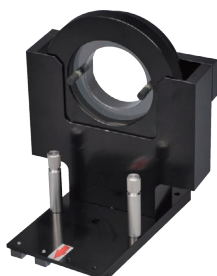
High Concentration Cell

Feature

The high concentration cell unit allows measurement closer to the original concentration with low dilution rates, no dilution and variable concentration.

Typical Applications

Understand the particle dispersion state of high concentration slurry, such as positive and negative electrode materials of batteries, inks, paints, pigments, emulsions etc.



■ Comparison of the results of undiluted suspension measurement and flow measurement (diluted with dispersant)

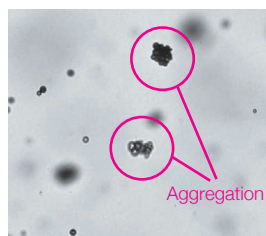
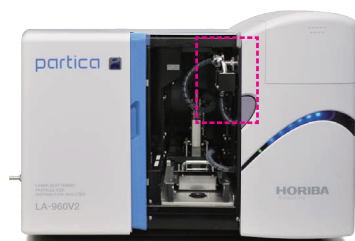
Imaging Analysis Unit (Built-in option)

Feature

The imaging unit visualizes the particles in the wet circulation system. It is very small and built into the main unit, and can acquire particle images information without changing the usability. Measurement range : 9 μm-1000 μm

Typical Applications

Find and count small amounts of large particles and aggregated particles. 8 types of particle shape analysis and the alarm of the observed "bubble" are also possible.



MiniFlow (Circulation system)

Feature

The MiniFlow minimizes sample and dispersant amounts. This miniaturized circulation system features fill and circulation pumps, an ultrasonic probe, and drain valve for fully automated operation. Measurement range: 10 nm – 1000 μm

Typical Applications

Valuable samples requiring powerful dispersion and materials requiring hazardous dispersants such as organic solvent and oil solvent.



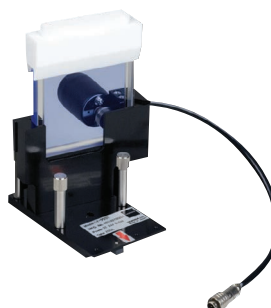
Fraction Cell

Feature

The Fraction Cell makes measurements with only micrograms of sample. This unique accessory is available in 5, 10 and 15 mL volumes and fully solvent resistant.

Typical Applications

Samples requiring minimal dispersion such as precious samples, bio material and highly volatile solvent. Samples to measure without dispersing force.

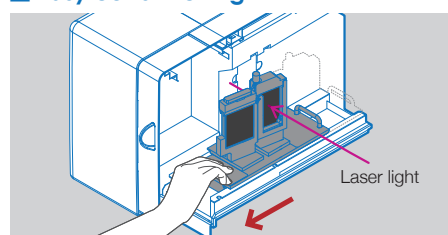


Auto Sampler (Wet measurement in powder)

The Auto Sampler is a rotary table-type automatic sampling system equipped with 24 detachable sample cups.



Easy cell switching



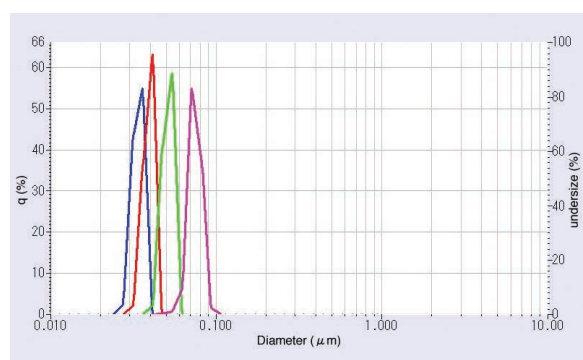
Change cells just by sliding changer table.
No tools and no complicated procedures are required.

Innovations in hardware and software

Performance

State of the art nanoparticle measurement

The advanced design of the Partica LA-960V2 allows for easy measurement of nanoparticle applications. NIST-traceable size standards verify that the Partica LA-960V2 accurately measures peaks as fine as 30 nanometers.

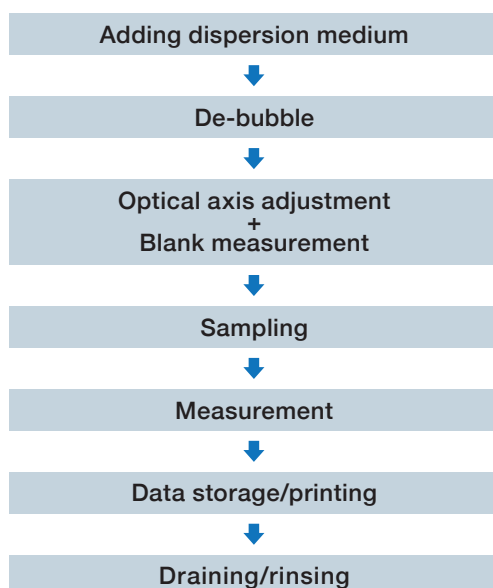


Overlay of 30, 40, 50 and 70 nm results

Speed

One click measurement Navigation system

This incredible speed is made possible by automatic laser alignment, fully automated liquid handling and intuitive software design.



Wide range

Measurement range 10 nm - 5000 μm

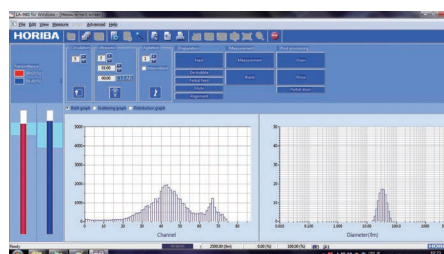
The Partica LA-960V2 features a wide measurement range to measure every application. The unique optical bench is user-friendly and standard in every Partica LA-960V2 configuration.

Operation

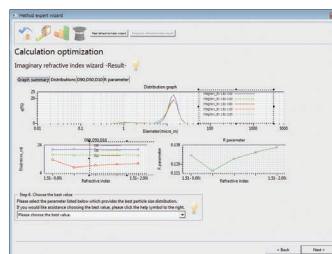
Intuitive software

The Partica LA-960V2 software is designed to be intuitive, allowing the user to check particle size distribution in real time. There is also a navigation system that allows one click measurements.

In addition, Method Expert software makes it easy to create robust, powerful methods for research and development purposes as well as quality control. The Method Expert is a series of guided, automated tests with advice to help the user choose values for refractive index, concentration, ultrasonic dispersion, pump speed and measurement duration. Without any training, users can generate effective data in a short amount of time using the software.



Measurement Screen
Real-time display of the measurement result



The Method Expert recommends the most suitable refractive index

Data support

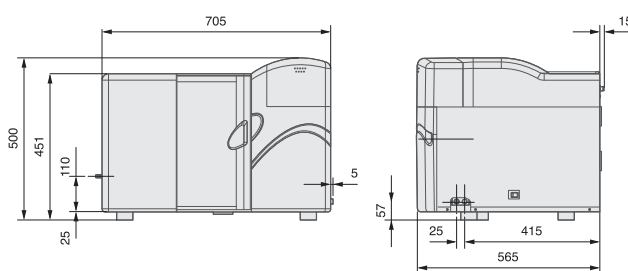
- ✓ Traceability certification
- ✓ 21 CFR Part 11 compliant support optional software
- ✓ IQ/OQ/PQ documents support
- ✓ Data correlation support with old model

Partica LA-960V2 Standard Model

Measurement Principle	Mie scattering and Fraunhofer diffraction
Measurement Range	10 nm - 3000 µm
Measurement Time	Typical measurement takes 60 seconds from liquid filling, sampling and measurement to rinsing
Measurement Method	Circulation measurement or fraction cell measurement (Fraction cell is optional)
Sample Quantity	Approximately 10 mg - 5 g (Depending on the particle size, distribution and density)
Dispersing Volume	Approximately 180 mL for standard pumping system 5/10/15 mL for Fraction Cell accessory Minimum volume 35 mL for Mini Flow accessory Approximately 1 L of LiterFlow option
Available Carrier Fluid	Aqua* (A type), Organic solvent (S type) (*Small volume ethanol can be used as a dispersing additive)
Communication	USB 2.0
Light Sources	Red solid state 5 mW laser diode (650 nm), Blue solid state 3 mW LED (405 nm)
Dispersion System	In-line ultrasonic probe: 30 W, 20 kHz, adjustable levels Circulation pump: Fully automated fill and circulation pumps, 4 selectable fill levels, 15 selectable circulation speeds (max: 10 L/min)
Operating Conditions	15 - 35°C (59 - 95°F), relative humidity 85% or less (No condensation)
Power	AC100-240 V 50/60 Hz, 300 VA
Dimensions	705 (W) x 565 (D) x 500 (H) mm
Mass	54 kg
Computer Requirements	PC operation, Software compatible with Windows® 10 and 11 32-bit and 64-bit environments, *Contact HORIBA for additional operating system compatibilities

* Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

Dimensions (mm)



Class 1 Laser Product

With PowderJet Dry Feeder Accessory

Dispersion Method	Compressed air dispersion using Venturi nozzle
Sample Delivery	Vibrating feeder
Sample Disposal	Vacuum-driven evacuation
Measurement Range	100 nm - 5000 µm
Controls	Communication: Serial cable to the main unit Measurement: Vibrating feeder controlled automatically via feedback or manually by user, Vacuum AUTO/OFF, Compressed Air AUTO/OFF, Air pressure adjustable from 0 - 0.4 MPa in 40 steps
Measurement Time	Typical measurement takes 2 seconds or longer
Operating Conditions for PowderJet	15 - 35°C (59 - 95°F), relative humidity 85% or less (no condensation)
Dimensions	332 (W) x 321 (D) x 244 (H) mm (Not including dimensions of projections and the measurement unit)
Power for PowderJet Operation	AC100 V, 120 V, 230 V, 50 or 60 Hz, 1500 VA (Including vacuum but the measurement unit)
Compressed Air Supply Pressure	Compressed air supply origin pressure: 0.4 - 0.8 MPa Compressed air controlling range: 0.01 - 0.4 MPa
Compressed Air Connection	Quick connector for resin tube with 6 mm outer diameter (Compressed air supply equipment must be provided separately)
Remarks	Vacuum is equipped as standard

* When ordering the PowderJet, please specify the power requirements for the final destination.

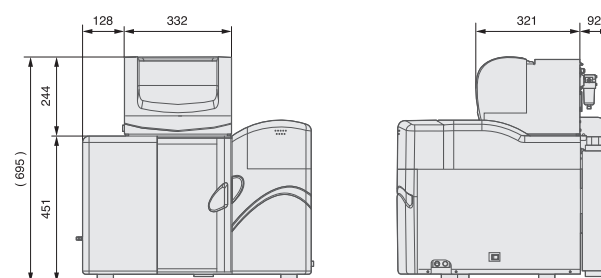
* Above specifications and functionality are valid only when PowderJet is installed on the main unit and controlled using the Partica LA-960V2 software.

* Manufacturers and models indicated for vacuum, air compressor, computer, monitor and/or printer are subject to change.

Air Compressor

Inlet pressure within 0.5 - 0.8 MPa, Tank capacity 26 L or larger, Flow rate 45 L/min or faster

Dimensions (mm)



Class 1 Laser Product

HORIBA Global Application/Service Network



The HORIBA Group adopts IMS (Integrated Management System) which integrates Quality Management System ISO9001, Environmental Management System ISO14001, and Occupational Health and Safety Management System ISO45001. We have now integrated Business Continuity Management System ISO22301 in order to provide our products and services in a stable manner, even in emergencies.



Please read the operation manual before using this product to assure safe and proper handling of the product.

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<https://www.horiba.com>

HORIBA, Ltd. **Japan**
Head Office
 2 Miyano Higashi-cho, Kisshoin, Minami-ku, Kyoto, 601-8510, Japan
 Phone: 81 (75) 313-8121 Fax: 81 (75) 321-5725
Tokyo Sales Office
 2-6, Kanda-Awaji-cho, Chiyoda-ku, Tokyo, 101-0063, Japan
 Phone: 81 (3) 6206-4721 Fax: 81 (3) 6206-4730

HORIBA Taiwan, Inc. **Taiwan**
 8F.-8, No.38, Taiyuan St. Zhubei City, Hsinchu County 30265, Taiwan (R.O.C.)
 Phone: 886 (3) 560-0606 Fax: 886 (3) 560-0550

HORIBA INSTRUMENTS (SHANGHAI) CO., LTD **China**
 No.99, Chunxiu Rd., Anting Town, Jiading District, Shanghai, China 201804
 Phone: 86 (21) 6952-2835 FAX: 86 (21) 6952-2823

HORIBA (China) Trading Co., Ltd. **China**
 Unit D, 1F, Building A, Synnex International Park, 1068 West Tianshan Road, 200335, Shanghai, China
 Phone: 86 (21) 6289-6060 Fax: 86 (21) 6289-5553
Beijing Branch
 12F, Metropolis Tower, No.2, Haidian Dong 3 Street, Beijing, 100080, China
 Phone: 86 (10) 8567-9966 Fax: 86 (10) 8567-9066

HORIBA Instruments (Singapore) Pte Ltd. **Singapore**
 3 Changi Business Park Vista #01-01, Singapore 486051
 Phone: 65 (6) 745-8300 Fax: 65 (6) 745-8155

HORIBA Vietnam Company Limited **Vietnam**
 Lot 3 and 4, 16 Floor, Detech Tower II, No.107 Nguyen Phong Sac Street, Dich Vong Hau Ward, Cau Giay District, Hanoi, Vietnam
 Phone: 84 (24) 3795-8552 Fax: 84 (24) 3795-8553

PT HORIBA Indonesia **Indonesia**
 Jl. Jalur Sutra Blok 20A, No.16-17, Kel. Kunciran, Kec. Pinang Tangerang-15144, Indonesia
 Phone: 62 (21) 3044-8525 Fax: 62 (21) 3044-8521

HORIBA KOREA Ltd. **Korea**
 25, 94-Gil, Iljik-Ro, Manan-Gu, Anyang-Si, Gyeonggi-Do, 13901, Korea
 Phone: 82 (31) 296-7911 Fax: 82 (31) 296-7913

HORIBA India Private Limited **India**
 246, Okhla Industrial Estate, Phase 3 New Delhi-110020, India
 Phone: 91 (11) 4646-5000 Fax: 91 (11) 4646-5020
Technical Center
 D-255, Chakan MIDC Phase-II, Bhamboli Village, Pune-410501, India
 Phone: 91 (21) 3567-6000

HORIBA Instruments Incorporated **USA**
 9755 Research Drive, Irvine, CA 92618, U.S.A.
 Phone: 1 (949) 250-4811 Fax: 1 (949) 250-0924
Ann Arbor Office
 5900 Hines Drive, Ann Arbor, MI 48108, U.S.A.
 Phone: 1 (734) 213-6555 Fax: 1 (734) 213-6525
Sunnyvale Office
 430 Indio Way, Sunnyvale CA94085, U.S.A.
 Phone: 1 (408) 730-4772 Fax: 1 (408) 730-8975
HORIBA New Jersey Optical Spectroscopy Center
 20 Knightsbridge Rd, Piscataway, NJ 08854, U.S.A.
 Phone: 1 (732) 494-8660 Fax: 1 (732) 549-5125

HORIBA UK Limited **UK**
 Kyoto Close Moulton Park Northampton NN3 6FL UK
 Phone: 44 (0) 1604 542500 Fax: 44 (0) 1604 542699

HORIBA (Austria) GmbH **Austria**
 Kaplanstrasse 5, A-3430 Tulln, Austria
 Phone: 43 (2272) 65225 Fax: 43 (2272) 65225-45

HORIBA FRANCE SAS **France**
 14 Boulevard Thomas Gobert - Passage Jobin Yvon CS 45002-91120 Palaiseau - France
 Phone: 33 (1) 69-74-72-00 Fax: 33 (1) 69-31-32-20

HORIBA ABX SAS **France**
 Parc Euromédecine, rue du Caducée, BP7290, 34184 Montpellier Cedex 4, France
 Phone: 33 (0) 4-67-14-15-16 Fax: 33 (0) 4-67-14-15-17

HORIBA Europe GmbH **Germany**
 Hans-Mess-Str.6, D-61440 Oberursel, Germany
 Phone: 49 (6172) 1396-0 Fax: 49 (6172) 1373-85
Leichlingen Office
 Julius-kronenberg-Str.9, D-42799 Leichlingen, Germany
 Phone: 49 (2175) 8978-0 Fax: 49 (2175) 8978-50

HORIBA Europe GmbH **Sweden**
Sweden Branch (Sodertalje)
 Sydhamnsvagen 55-57, SE-15138, Sodertalje, Sweden
 Phone: 46 (8) 550-80701 Fax: 46 (8) 550-80567

HORIBA ITALIA SRI **Italy**
Torino Office
 Via Ferroggio, 30, 10151 Torino, Italy
 Phone: 39 (11) 904-0601 Fax: 39 (11) 900-0448

HORIBA Czech **Czech**
Prague Office
 Prumyslova 1306 / 7, CZ-10200, Praha 10, Czech Republic
 Phone: 420 (2) 460-392-65

HORIBA OOO **Russia**
 Altufievskoe shosse, 13, building 5, 127106, Moscow, Russia
 Phone: 7 (495) 221-87-71 Fax: 7 (495) 221-87-68

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