

Спектрометр колебательного кругового дихроизма FVS-6000

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231	Калининград (4012)72-03-81	Омск (3812)21-46-40	Сыктывкар (8212)25-95-17
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Астрахань (8512)99-46-04	Киров (8332)68-02-04	Пенза (8412)22-31-16	Тольятти (8482)63-91-07
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Волгоград (844)278-03-48	Магнитогорск (3519)55-03-13	Санкт-Петербург (812)309-46-40	Чебоксары (8352)28-53-07
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Воронеж (473)204-51-73	Мурманск (8152)59-64-93	Севастополь (8692)22-31-93	Череповец (8202)49-02-64
Екатеринбург (343)384-55-89	Набережные Челны (8552)20-53-41	Симферополь (3652)67-13-56	Чита (3022)38-34-83
Иваново (4932)77-34-06	Нижний Новгород (831)429-08-12	Смоленск (4812)29-41-54	Якутск (4112)23-90-97
Ижевск (3412)26-03-58	Новокузнецк (3843)20-46-81	Сочи (862)225-72-31	Ярославль (4852)69-52-93
Иркутск (395)279-98-46	Ноябрьск (3496)41-32-12	Ставрополь (8652)20-65-13	
Казань (843)206-01-48	Новосибирск (383)227-86-73	Сургут (3462)77-98-35	
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FVS-6000 Vibrational Circular Dichroism Spectrometer

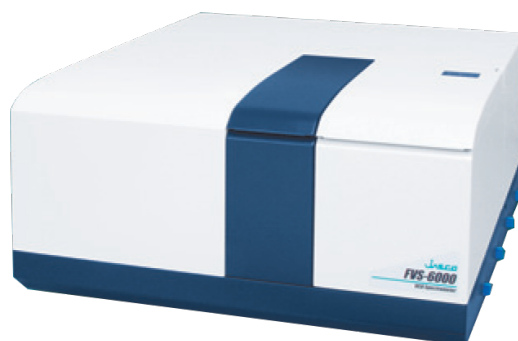
Unique design with high-sensitivity and broad wavelength range 4,000-750 cm^{-1} .

FVS-6000 Vibrational Circular Dichroism Spectrometer

The FVS-6000 vibrational circular dichroism spectrometer measures both IR absorption and VCD, and provides accurate and highly sensitive measurement in the fingerprint region. It also has several unique features such as a wide measurement range option of 4,000-750 cm^{-1} , with a choice of detectors

Since the VCD signals in the infrared region are typically one or more orders of magnitude lower than ECD signals in the UV-Visible region, high sensitivity and stability are especially important for a VCD spectrometer.

Spectra Manager™ Suite provides a simple user interface with tools that ensure excellent VCD data acquisition and analysis. Theoretically calculated VCD spectra from *ab initio* calculation software (such as Schrodinger Jaguar or Gaussian) can be plotted as the theoretical spectra compared with the experimental data for further tertiary structure analysis of molecules.



FVS-6000 Vibrational Circular Dichroism Spectrometer

Optimized Optics

The FVS-6000 optical system uses a 28 deg interferometer with gold coated corner cube mirrors for high throughput and to minimize polarization effects with reflective optics to eliminate artifacts caused by birefringence, resulting in very high-quality VCD data.

Thermal Stability

Multi-zone temperature control with feedback monitoring throughout the optical bench ensures that thermal stability is well maintained for the long-term baseline stability required for long duration measurements.. The key components of high intensity ceramic light source), photo-elastic modulator, interferometer, sample compartment and detector are separately controlled.

Wide Spectral Range

The FVS-6000 uses a unique highly sensitive narrow-band MCT detector specially developed for VCD measurement across the spectral range 3,200-850 cm^{-1} . Optional detectors and filters can be added to extend the range to 4,000-750 cm^{-1} , typically for measurement of OH and NH bands. Detectors are easily exchanged without the need for manual alignment, and optical filters can be selected automatically.

Narrow Band Mode

The 'narrow band mode' allows measurements of small peaks at targeted absorption bands with high sensitivity using optional band-pass filters.

VCD Auto-Alignment

The auto-alignment function optimizes the VCD optics to reduce linear anisotropy artifacts. No manual alignment is required when the detector and/or optical filters are exchanged.

Lock-in Detection with DSP

Phase-sensitive lock-in detection uses DSP (Digital Signal Processing) with a sophisticated algorithm optimized for VCD and offers dramatic improvement in the S/N ratio, particularly compared to more complicated optical designs.

Purge

The interferometer and optics, sample chamber and detector housing are all independently purgeable with N₂ for high-precision data free of interference from atmospheric gases.

Long Term stable Measurement

The FVS-6000 MCT detector includes an extra large LN₂ dewar for up to 15 hours of operation without refill

Optional accessories

- **Auto-sampling** – Automatic sampling is useful for unattended operation for long duration spectral accumulations. The TAS-FVS autosampler can be used for both background and sample measurements.
- **Sample rotation** – For samples that have linear dichroism or birefringence, rotation can be a useful method for identifying and minimizing the effects. The SRU-FVS can be set up for unattended operation to analyze the sample in different orientations and collect spectra for comparison.

Specifications	
Measurement Range	Standard: 3200 ~ 850 cm ⁻¹ Option: 4000 ~ 750 cm ⁻¹
Resolution	16 ~ 0.5 cm ⁻¹
Noise Level (Measurement Conditions)	less than 8 x 10 ⁻⁶ ΔAbs (4 cm ⁻¹ , 20 min accumulation) Using high intensity ceramic source, insulated mount
Light Source	High intensity ceramic source, insulated mount
Detector	Standard: MCT-V (3200 ~ 850 cm ⁻¹) Options: MCT-C (1000 ~ 750 cm ⁻¹) InSb (4000 ~ 2000 cm ⁻¹)
Lock-In Detection	DSP
PC Communication	USB2.0 for main unit RS-232C for PEM driver
Interferometer	28° Michelson interferometer, with gold coated corner-cube mirrors. mechanical bearing, temperature stabilized
Optical Filter	Standard: 3200 ~ 2000 cm ⁻¹ , 2000 ~ 850 cm ⁻¹ (6-position automatic switching) Option: 4000 ~ 2700 cm ⁻¹ , 1000 ~ 750 cm ⁻¹ , 1850 ~ 1550 cm ⁻¹
Polarizer	KRS-5
Options	3-position automated sample shuttle Fixed liquid cell, BaF ₂ or CaF ₂ window, 25 ~ 100 μm cell path Demountable liquid cell, BaF ₂ or CaF ₂ window, including 50 and 100 μm cell spacer Temperature control cell (Peltier cooled)
Dimensions	590(W) x 670(D) x 313(H) mm
Weight	65 kg

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