

# VIR-100/200/300

Versatile FT-IR / **Fourier Transform Infrared Spectrometers**

The VIR series FT-IR spectrometers are designed with flexibility in mind, providing various configurations for the laboratory, the field and customized applications. The most suitable system can be configured by selecting specific accessories matched to the desired applications, additional accessories added as needs change. The unique MultiChamberIR attachment allows a user to select among three measurement modes from transmittance, ATR and DRIFTS in one attachment. Such multi-measurement modes in one attachment are best suited to incoming inspection of a wide variety of samples ranging from solids to powders to liquids for qualitative and quantitative applications.

For even greater flexibility, external connection optics allows the user to install up to three different attachments in one system, selecting the most appropriate application accessory by simply switching the PC controlled optical configuration. A further extension of application capabilities can be achieved by integrating the universal optical base to configure a freely customized configuration by simply placing optimized optical components and sample holders onto the base. Thus even a large sample or an attachment which cannot fit in a standard sample compartment can now be utilized without compromise.

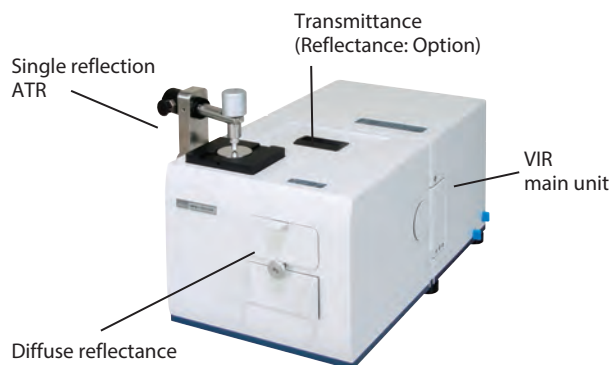


## Features

- ◆ Three models available: VIR-100, 200 and 300.
- ◆ Simple and easy-to-use operations by combination of a variety of attachments and measurement/analysis programs
- ◆ Parallel configuration of up to three attachments in one system by utilizing the External connection optics Universal optical base allowing users to build customized systems
- ◆ Eco-friendly system including sleep-mode as well as a compact & space-saving design
- ◆ High-speed monitoring using the optional 40 Hz rapid scan
- ◆ Highly reliable data acquisition based on self-diagnostics & validation functions
- ◆

### ■ Combination with MultiChamberIR attachment

Up to three measurement modes in one attachment



### ■ Combination with External connection optics

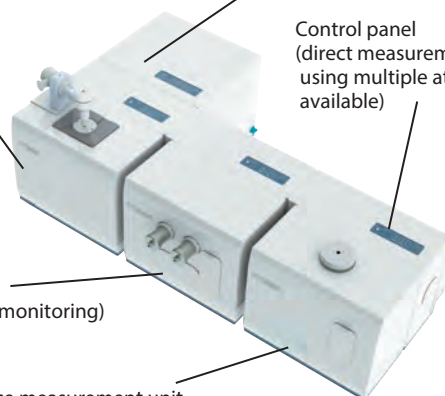
Single reflection ATR unit (applicable to powder, solid and liquid sample without sample pre-treatment)

VIR main unit

Control panel (direct measurement using multiple attachments available)

Fiber interface unit (applicable to process monitoring)

NIR Specular reflectance measurement unit (applicable to non-destructive measurement of tablets or samples in glass)



## A wide variety of measurement attachments

### Selection of accessories

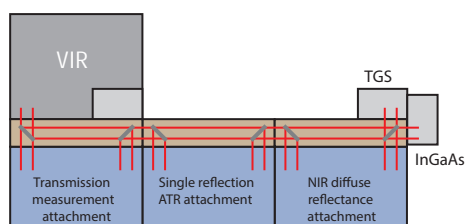
A wide variety of measurement attachments are available. Furthermore, the Universal optical base allows a user to configure freely customized optics by simply putting mirrors and sample holders onto the bench.

\* Newly developed External connection optics enables the parallel configuration of up to three attachments in one system.

Name of attachment	Main application / feature
SmartTech attachment	Qualitative measurement of powder and solid samples
Fiber interface attachment	Process monitoring
Long path gas cell attachment	Quantification of gas/vapor samples
Single reflectance ATR attachment	Analysis of powder, solid and liquid samples
NIR Specular reflectance attachment	Non-destructive measurement of coatings and reflective samples
IRT-1000 micro IR attachment	Micro-samples and contaminants
Autosampler attachment	High throughput analysis of drugs, etc.
Transmission measurement attachment	Qualitative / quantitative analysis of film samples
MultiChambIR attachment	Three measurement modes (Transmittance/reflectance, diffuse reflectance and ATR) in one attachment

### System configuration examples

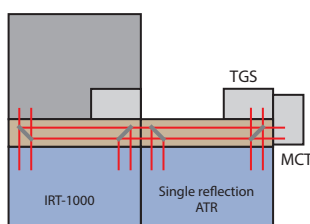
#### External connection optics



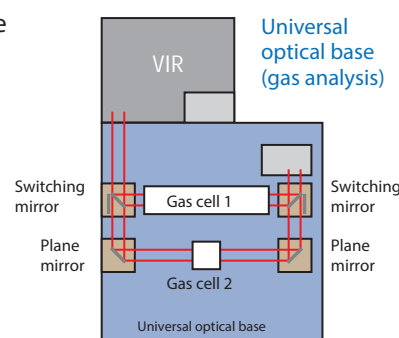
Qualitative, surface and quantitative analysis can be carried out in one system.

#### - according to specified purpose

#### Contaminant analysis



A wide range of sample sizes from centimeters down to microns can be easily analyzed.



A wide range of gas concentrations can be applied by attaching gas cells with several different pathlengths.

Specification		VIR-100	VIR-200	VIR-300
Wavenumber range:	Standard:	7,800 ~ 350 cm <sup>-1</sup>	7,800 ~ 350 cm <sup>-1</sup>	15,000 ~ 2,200 cm <sup>-1</sup>
	Option:	-	12,000 ~ 375 cm <sup>-1</sup>	12,000 ~ 375 cm <sup>-1</sup>
Resolution:		0.9 ~ 16 cm <sup>-1</sup>	0.4 ~ 16 cm <sup>-1</sup>	0.4 ~ 16 cm <sup>-1</sup>
S/N ratio:		18,000:1	22,000:1	4,000:1
Detector:	Standard:	DLATGS		
	Option:	M-MCT, N-MCT, W-MCT	InGaAs, InSb, M-MCT, N-MCT, W-MCT	
Beam splitter:	Standard:	Ge/KBr		Si/CaF <sub>2</sub>
	Option:	-	Broadband KBr	
Light Source:	Standard:	High-intensity ceramic source		Halogen lamp
	Option:	-	Halogen lamp (Auto switching)	High-intensity ceramic source (Auto-switching)
Interferometer:		45° Michelson Interferometer, Corner cube mirror interferometer with auto-alignment mechanism		
Purge:		Available		
Drive mode:		DSP electromagnetic drive, Mechanical bearing	DSP electromagnetic drive, Mechanical bearing Active DSP control for scan optimization	
Rapid scan:		-	40 Hz (option)	
Auto validation:		-	Standard	
Operation panel:		Measurement (Sample, Background, Stop), Sleep, Indicator		
Communication:		USB 2.0		
Software:		VIR Measurement program		
Dimension & Weight:		Main unit: 270 (W) x 236.5 (D) x 245 (H) mm, 14.5 kg    Power supply unit: 160 (W) x 315 (D) x 92 (H) mm, 3 kg		



● Specifications are subject to change without notice

## JASCO INTERNATIONAL CO., LTD.

11-10, Myojin-cho 1-chome, Hachioji, Tokyo 192-0046, Japan  
Tel: +81-42-649-3247 Fax: +81-42-649-3518 <http://www.jascoint.co.jp/english/>  
Australia, Hong Kong, India, Indonesia, Korea, Malaysia, New Zealand,  
Pakistan, Philippines, Russia, Singapore, Taiwan, Thailand, Vietnam

## JASCO INCORPORATED

28600 Mary's Court, Easton, MD 21601, U.S.A  
Tel: +1-800-333-5272 +1-410-822-1220 Fax: +1-410-822-7526 <http://www.jascoinc.com>  
Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Guatemala, Mexico, Paraguay,  
Peru, Puerto Rico, United States of America, Uruguay, Venezuela

## JASCO EUROPE s.r.l.

Via Luigi Cadorna 1, 23894 Cremella (Lc), Italy  
Tel: +39-039-9215811 Fax: +39-039-9215835 <http://www.jasco-europe.com>

JASCO Deutschland [www.jasco.de](http://www.jasco.de), JASCO UK [www.jasco.co.uk](http://www.jasco.co.uk),

JASCO France [www.jascofrance.fr](http://www.jascofrance.fr), JASCO Benelux [www.jasco.nl](http://www.jasco.nl),

JASCO Spain [www.jasco-spain.com](http://www.jasco-spain.com)

Algeria, Austria, Belgium, Cyprus, Denmark, Egypt, Finland, France, Germany, Greece, Hungary, Iran,  
Iraq, Israel, Italy, Jordan, Kuwait, Lebanon, Luxembourg, Morocco, Netherlands, Norway, Poland,  
Portugal, Romania, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Tunisia, Turkey,  
United Arab Emirates, United Kingdom, Yemen

## JASCO China (Shanghai) Co., Ltd.

Room No.D, 10F, World Plaza, 855 Pudong South Road, Pudong New Area, Shanghai, China  
Tel: +86-21-6888-7871 Fax: +86-21-6888-7879 <http://www.jasco-global.com>

For more information, please contact :