

# WQF-530



## WQF-530 FT-IR SPECTROMETER



# WQF-530



Beijing Beifen-Ruili Analytical Instrument (Group) Co., Ltd  
Add: No.160 Beijing Road, Haidian District, Beijing, China  
Tel: +86 10 62404762/4195  
Fax: 86 10 64377039  
E-mail: international@bfrl.com.cn  
<http://www.bfrl.com.cn>

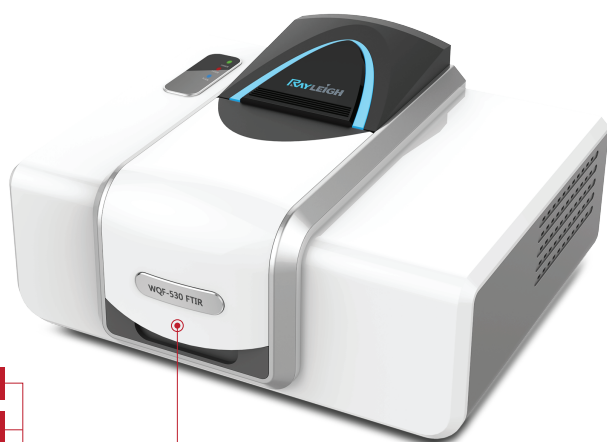
QUALITY · PROFESSION · SCIENCE AND TECHNOLOGY  
Beijing Beifen-Ruili Analytical Instrument (Group) Co.,Ltd.

# WQF-530

FT-IR Spectrometer

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FT-IR Spectrometer



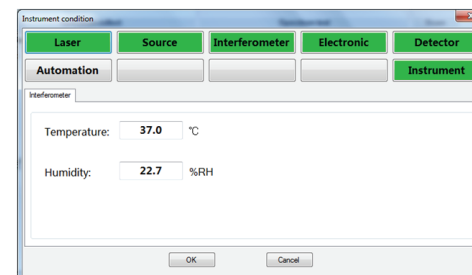
- High sensitivity and stability
- Intelligent real-time monitoring of instrument status
- Multiple communication options
- Flexible and convenient testing
- Powerful software workstation

Based on more than thirty years experience in FTIR R&D and manufacturing, BFRL has launched a new type FTIR Spectrometer WQF-530 with fully independent intellectual property rights. Adhering to consistent excellent quality and superior performance, the new model obtains the best balance between intelligence and convenient operation, advance performance and low operation and maintenance cost. It is a good choice for basic science research analysis, production quality control, testing and detection in various fields.

### Innovations

- Real-time diagnosis of instrument status

real-time monitoring of instrument working status, performance and communication



- Optional temperature stabilized, high sensitivity DLATGS detector module

providing stable detector response, thus ensuring high sensitivity, good reproducibility and stability of IR spectral analysis.

- “Internet+ detection” instrument design with multiple communication options

Ethernet interface as standard supply for data transfer, WIFI wireless communication as an option, adapting to “Internet+ detection” instrument development trend, setting up a basic platform for interconnected tests, remote operation and maintenance, and data cloud computing.



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FT-IR Spectrometer

## Brand-new powerful MainFTOS Suite software workstation

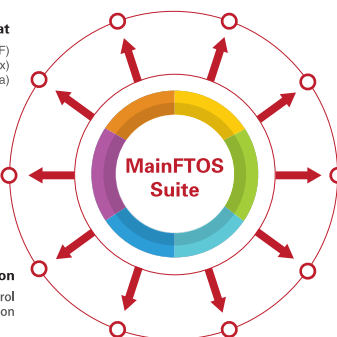
### All versions Windows OS compatible

including Windows XP、Windows 7、Windows 8、Windows 8.1 and Windows 10 (32bits and 64bits)

### Modular platform design

With data collection, processing and analysis, report print out functions, and different special software functional module options

**Standard data format**  
 IEEE Floating Point Standard ("\*.A7F")  
 JUPAC JCAMP-DX ("\*.dx")  
 Thermo Scientific OMNIC ("\*.spa")



**Language switch over**  
 between Chinese and English

**Touch control operation**  
 Satisfying Windows 10's touch control function

### FDA CFR 21 Part 11 Compliance

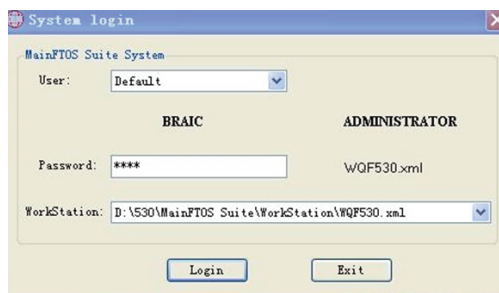
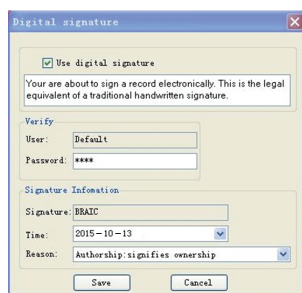
With functions as access control, authority assignment, audit trail, digital signature etc., meet GLP/GMP and CFDA<The Computerized System> requirements

**Automatic software updating**  
 Getting the latest software version from the updating center

**Real-time instrument status diagnosis**  
 Real-time monitor of working status, specifications and communication status

**Specialized IR libraries**  
 Providing various specialized IR libraries

**Secondary development library**  
 Providing C++ and C# development sample code for different application development



# WQF-530

## FT-IR Spectrometer

### Features

#### High sensitivity optical system

Cube-corner Michelson interferometer combined with patented fixing mirror alignment technology ( Utility model ZL 2013 2 0099730.2; fixing mirror alignment assembly ) , to ensure long term stability, without the need of dynamic alignment which needs extra complicated electronic circuits. Reflecting mirrors are coated with gold to provide the maximum light throughput and ensure the detection sensitivity.

#### High stability modular partition design

Compact structure modular design with layout on cast aluminum base and overall balance of mechanical robustness and partition heat dissipation, offering higher ability of deformation resistance and less sensitive to vibrations and thermal variations, greatly improves the mechanical stability and long term working stability of the instrument.

#### Intelligent multi-sealed moisture-proof design

Multiple sealed interferometer, large-capacity desiccant cartridge with visible window and easy replacement structure, real-time monitoring of temperature and humidity inside the interferometer, getting rid of influences of high temperature, high humidity and chemical corrosions to the optical system in many ways.

#### Innovated integration electronic system

High sensitivity integrated DLATGS detector pre-amplifier technology, dynamic gain amplification technology, high precision 24-bit A/D conversion technology, real-time control and data processing technology, digital filter and network communication technology, ensuring high quality real-time data collection and high-speed transmission.

#### Good anti-electromagnetic interference capability

The electronic system is designed to meet CE certification and electromagnetic compatibility requirements, minimizing electromagnetic radiation in design and technology, in line with green instrument designing concept.

#### High intensity IR source assembly

High intensity, long lifetime IR source module, with the highest energy distributed in fingerprint region, adopts a reflex sphere design to obtain even and stable IR radiation. External isolated IR source module and large space heat dissipation chamber design provide higher thermal stability and stable optical interference.

#### The sampling compartment

The sampling compartment, reserving accessory mounting holes on the base plate, is wide enough for various accessories such as Defused/Specular Reflection, ATR, Liquid cell, Gas cell, and IR microscope etc.

### Specifications

Interferometer	Cube-corner Michelson interferometer	
Beam splitter	Multilayer Ge coated KBr	
Detector	Room temperature DLATGS module (standard)	Temperature stabilized, high sensitivity DLATGS module (optional)
IR Source	High intensity, long lifetime, air-cooled IR source	
Wavenumber Range	7800cm <sup>-1</sup> ~350cm <sup>-1</sup>	
Resolution	0.85 cm <sup>-1</sup>	
Signal to noise ratio	Better than 20,000:1 (RMS value, at 2100cm <sup>-1</sup> ~ 2000cm <sup>-1</sup> or 2100cm <sup>-1</sup> ~ 2200cm <sup>-1</sup> , resolution: 4cm <sup>-1</sup> , detector: DLATGS, 1 minute data collection)	
Wavenumber Accuracy	± 0.01 cm <sup>-1</sup>	
Scanning Speed	Microprocessor control, different scanning speed selectable.	
Software	Main FTOS Suite software workstation, compatible to all version Windows OS	Various specialized functional software modules (optional)
Communication	Ethernet interface (standard)	WiFi wireless communication (optional)
Data Output	Standard data format, report generation and output	
Status Diagnosis	Power on self check, real-time temperature and humidity monitoring and reminders	
Certification		FDA 21 CFR Part11 compliance, IQ/OQ/PQ ( Optional )
Environment Conditions	Temperature: 10℃ ~ 30℃, humidity: less than 70%	
Power Supply	AC220V ± 22V, 50Hz ± 1Hz	AC110V ( optional )
Dimensions & Weight	520 x 435 x 255mm, 24kg	
Accessories	Transmission sample holder (Standard)	Optional accessories such as gas cell, liquid cell, Defused/Specular Reflection, single/multi reflection ATR, etc.