FTIR Microscopes Specifications

Principle	FTIR microscope with cassegrain optical system
Measurement Method	Transmittance / Reflectance measurement
Standard Detector	IRT-5100: DLATGS detector (7800-400 cm^{-1}) IRT-5200 & IRT-7100: Single mid-band MCT (7800-600 cm^{-1}) IRT-7200: Linear array MCT (7000-650 cm^{-1} x 16 element) Single mid-band MCT (7800-600 cm) $^{-1}$
Detector Exchange	Dual detector capability (software controlled), user exchangeable single element detectors are available as an option.
Optional Detectors	Single element detector (IRT-5100): - Narrow-band: MCT (5000-750 cm^{-1}) - Mid-band: MCT (7800-600 cm^{-1}) - Wide-band: MCT (7800-450 cm^{-1}) - InSb: (15000-1850 cm^{-1}) - InGaAs detector: (12000-4000 cm^{-1}) Single element detector (IRT-5200, IRT-7100, & IRT-7200): - Narrow-band: MCT (5000-750 cm^{-1}) - Wide-band: MCT (7800-450 cm^{-1}) - DLATGS: (7800-400 cm^{-1}) - InSb: (15000-1850 cm^{-1}) - InGaAs detector: (12000-4000 cm^{-1}) Linear array detector (IRT-5200, IRT-7100): - MCT (7000-650 cm^{-1}), 1 x 16 element - MCT (7000-650 cm^{-1}), 2 x 16 element - InSb (10000-1900 cm^{-1}), 1 x 16 element - InGaAs (10000-5000 cm^{-1}) , 1 x 16 element Linear array detector (IRT-7200): - MCT (7000-650 cm^{-1}), 2 x 16 element

	- InSb (10000-1900 cm^{-1}), 1 x 16 element - InGaAs (10000-5000 cm^{-1}) , 1 x 16 element
S/N Ratio	Single element detector (IRT-5100): - 1000:1 (Aperture size 300 μm^2, resolution 4 cm^{-1}, 1 min. acquisition, near 2200 cm^{-1}, p-p) Single element detector (IRT-5200, IRT-7100, & IRT-7200): - 8000:1 (Aperture size 100 μm^2, resolution 4 cm^{-1}, 1 min. acquisition, near 2200 cm^{-1}, p-p) Linear array detector (IRT-7200): - 1500:1 (Aperture size 12.5 μm^2, resolution 16 cm^{-1}, 1 min. acquisition, near 2200 cm^{-1}, p-p)
Microscope Objectives	IRT-5100, IRT-5200, & IRT-7100: - Cassegrain: 16 x 32 x or 10 x - Automatic objective recognition function (standard) - Up to four objectives can be selected by the software. IRT-7200: - Cassegrain: 16 x 32 x as standard, 10 x as option - Automatic objective recognition function (standard) - Up to four objectives can be selected by the software.
Condenser Mirror	IRT-5100, IRT-5200, & IRT-7100: - Cassegrain: 16 x 32 or 10 x (manual exchange) - Automatic condenser mirror recognition function (standard) IRT-7200: - Cassegrain: 16 x, 32 x as standard (manual exchange), 10 x as option
Condenser Mirror Compensation	Standard auto-compensation function
Aperture	PC-controlled vertical horizontal adjustment and angle of rotation
Sample Storage	Standard (IRT-5100 & IRT-5200): - Manual stage with fine adjustment (Movable distance: X: 70, Y: 50, Z: 20 mm) Standard (IRT-7100 & IRT-7200): - Auto XYZ stage with auto-focus function (Movable distance: X: 100, Y: 75, Z: 25 mm, 1 µm step) Option (IRT-5100 & IRT-5200): - Auto XYZ stage with auto-focus function (Movable distance X: 100, Y: 75, Z: 25 MM, 1 µm step Joystick for auto XYZ stage control)

	Option (IRT-7100 & IRT-7200): - Joystick for auto XYZ stage control
Auto Focus	Option (IRT-5100 & IRT-5200) Standard (IRT-7100 & IRT-7200)
IQ Mapping	Standard (IRT-7100 & IRT-7200)
Sample Observation	High-resolution, 3 Megapixel CMOS camera with a 3X optional zoom function (standard) IQ Monitor (simultaneous sample measurement and observation) and auto illumination function (standard) 5.7 inch integrated color LCD display (option), Binocular (option)
Observation Options	Visible polarization observation, Differential interference contrast observation, Fluorescence observation Refractive objectives: 10×, 20×
Microscope Objectives	Cassegrain 16× - standard; 10×, 32× - optional Automatic objective recognition function is standard. Up to four objectives can be selected by the software.
ATR Measurement (Option)	"Clear-View" ATR objective (ATR-5000-SS/SD/SG) *1 , conventional ATR objective (ATR-5000-D/Z/G) *1 , Stage-mounted micro ATR using transmittance light path (ATR-5000-TPZ)
Grazing Angle Measurement (option)	Cassegrain grazing angle objective (RAS-5000) *2
Purge	Sample area purge case is optional as an option.
Integrated Control Panel	Transmittance/Reflection switching with indicator; detector indicator; objective selection/indicator; open/close and rotation of aperture; auto-compensation of condenser mirror; visible illumination adjustment
Dimension	IRT-5100 & IRT-5200: 587 (H) × 302 (W) × 695 (D) mm, 54 kg IRT-7100 & IRT-7200: 613 (H) × 302 (W) × 695 (D) mm, 56 kg
Power Consumption	IRT-5100 & IRT-5200: AC 100-240 V, 50/60 Hz, max. 60 VA IRT-7100 & IRT-7200: AC 100-240 V, 50/60 Hz, max. 75 VA

*1 Pressure sensor (PRS-M-5000, PRS-A-5000) is required.
*2 Infrared polarizer (PL-IR-5000, PL-IR-7000) is required.