*Note: Values given for wavelength accuracy, wavelength repeatability, photometric accuracy, photometric repeatability, baseline flatness, and RMS noise are those obtained more than one hour after the light source was turned on.*

## 2.4 V-670 UV/VIS/NIR Spectrophotometer Specifications

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|---|---|
| Optical system | Single monochromator<br>UV/VIS region: 1200 lines/mm plane grating<br>NIR region: 300 lines/mm plane grating<br>Czerny-Turner mount<br>Double beam type |
| Light source | Deuterium lamp: 190 to 350 nm<br>Halogen lamp: 330 to 2700 nm |
| Light source exchange wavelength | Any wavelength between 330 and 350 nm can be selected. |
| Detector | Photomultiplier tube<br>PbS photoconductive cell |
| Detector exchange wavelength | Any wavelength between 750 and 900 nm can be selected.<br>The diffraction grating is set to the same wavelength as the detector exchange wavelength. |
| Wavelength range | 190 to 2700 nm<br>Using the optional wavelength extension accessory, wavelength of up to 3200 nm can be measured. |
| Wavelength accuracy | ±0.3 nm (at a spectral bandwidth of 0.5 nm, UV/VIS region, when the room temperature is stabilized.)<br>±1.5 nm (at a spectral bandwidth of 2.0 nm, NIR region, when the room temperature is stabilized.) |
| Wavelength repeatability | ±0.05 nm (at a spectral bandwidth of 0.5 nm, UV/VIS region)<br>±0.2 nm (at a spectral bandwidth of 2.0 nm, NIR region) |
| Slew speed | 12000 nm/min (UV/VIS region)<br>48000 nm/min (NIR region) |
| Spectral bandwidth | 0.1, 0.2, 0.5, 1, 2, 5, 10 nm (UV/VIS region)<br>L2, L5, L10 nm (low stray-light mode, UV/VIS region)<br>M1, M2 nm (micro-cell mode)<br>0.4, 0.8, 1, 2, 4, 8, 20, 40 nm (NIR region)<br>L8, L20, L40 nm (low stray-light mode, NIR region)<br>M4, M8 nm (micro-cell mode, NIR region) |
| Photometric range | 0 to 10000 %T<br>-2 to 4 Abs (UV/VIS region)<br>-2 to 3 Abs (NIR region) |
| Photometric accuracy | ±0.002 Abs (0 to 0.5 Abs)<br>±0.003 Abs (0.5 to 1 Abs)<br>±0.3 %T<br>(Tested with NIST SRM 930D) |
| Photometric repeatability | ±0.001 Abs (0 to 0.5 Abs)<br>±0.001 Abs (0.5 to 1 Abs) |
| Stray light | 1 % (198 nm KCL 12g/L aqueous solution)<br>0.005 % (220 nm NaI 10g/L aqueous solution)<br>0.005 % (340 nm $NaNO_2$ 50g/L aqueous solution)<br>0.005 % (370 nm $NaNO_2$ 50g/L aqueous solution)<br>(spectral band width: L2 nm, 10 mm cell used)<br>0.04% (1690 nm $H_2O$ 10 mm cell used) |

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|---|---|
| | 0.1% (1690 nm $CH_2Br_2$ 50 mm cell used)<br>(spectral bandwidth: L8 nm) |
| Baseline stability | 0.0003 Abs/hour<br>(Value obtained more than two hours after turning on the light source, when the room temperature is stabilized, wavelength: 250 nm, response: slow, and spectral bandwidth: 2nm) |
| Baseline flatness | ±0.0005 Abs<br>(Value obtained after baseline correction with a temperature variation of less than 5°C, wavelength: 200 to 850 nm, response : medium, spectral bandwidth: 2 nm, smoothing processing and wavelength scanning speed: 400 nm/min, spectral bandwidth: 8 nm in wavelength 850 to 2500 nm) |
| RMS noise | 0.00003 Abs (0 Abs, wavelength: 500 nm, measurement time 60 sec, response: medium, spectral bandwidth: 2 nm) |
| Power requirements | 100, 115, 200, 220, 230, 240 V ±10 %, 145 VA |
| Dimensions and weight | 270(H) × 460(W) × 602(D) mm (excluding protrusions)<br>28 kg |

*Note: Values given for wavelength accuracy, wavelength repeatability, photometric accuracy, photometric repeatability, baseline flatness, and RMS noise are those obtained more than one hour after the light source was turned on.*