

WP 785 ER Raman Spectrometer Series

Extended range, excellent resolution



FEATURES AND BENEFITS

200-3500 cm^{-1} range

f/1.3 input to capture more light

Superior optical design based on patented transmissive VPH grating

>10x greater sensitivity vs f/4

TEC cooling option for best SNR

Fiber coupled & free space models

Compact, robust & configurable

Excellent thermal stability

We've added more range to one of our most popular high efficiency spectrometers to give you more sensitivity, better SNR, and faster measurements in a compact footprint – for measurement of Raman bands well beyond the fingerprint region. Collect, keep, and detect more light with our f/1.3 input, high transmission VPH gratings, and diffraction-limited optics. Our build-to-print options for resolution, detector cooling, and sample coupling allow you to configure an extended-range spectrometer with the exact performance you need.

Wasatch Photonics offers the expertise & testing to find your optimal Raman solution. Contact us to get started!

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STANDARD PRODUCT SPECIFICATIONS & OPTIONS

The configuration options for our build-to-print 785 nm extended range Raman spectrometer include slit size (resolution), sample coupling, and detector cooling. We offer TEC-regulated and TEC-cooled detector options, allowing you to balance your required signal to noise (SNR) and temperature stability with cost for the best possible value.

OPTICAL			
DETECTOR COOLING OPTIONS >		Regulated	TEC Cooled
Wavenumber Range (λ_{ex} = 785 nm , with longpass filter)		200 - 3500 cm^{-1}	200 - 3350 cm^{-1}
Resolution	10 μm slit	6 cm^{-1}	9 cm^{-1}
	25 μm slit	9 cm^{-1}	10 cm^{-1}
	50 μm slit	14 cm^{-1}	16 cm^{-1}
f-number (f/#)		1.3	
Connector (fiber coupled models only)		SMA 905	

DETECTOR & ELECTRONICS			
DETECTOR COOLING OPTIONS >		Regulated	TEC Cooled
Hamamatsu Detector		S11511-1106 CCD	S7031-1006S CCD
Detector Temperature		10°C	-15°C
Detector Temperature Stability		$\pm 0.2^\circ\text{C}$	$\pm 0.1^\circ\text{C}$
Active Pixels		2048 x 64	1024 x 58
Pixel Size		14 x 14 μm	24 x 24 μm
Detector Quantum Efficiency: Average / Peak		50% / 80%	47% / 82%
Dynamic Range		50,000	125,000
Signal to Noise Ratio (SNR)		500:1	1000:1
Readout Noise		6 e- RMS	8 e- RMS
Integration Time		3 ms - 60 s	8 ms - 60 s
Maximum Sample Frequency		285 Hz	45 Hz
Communications		USB 2.0 Type B connector	

MECHANICAL & ENVIRONMENTAL	
	Fiber or Free Space Coupled
Size	24.0 x 13.5 x 7.1 cm
Weight	3.0 kg
Power Consumption	<500 mA @ 12 V
Operating Temperature	0°C to 40°C, non-condensing

Custom options available upon request

