

## SDH High-Aperture Compact Spectrometers

### SPECIFICATIONS

Specifications are subject to change without notice

Optical scheme	optimized Cherny-Turner											
Focal length, mm	150											
F/Number	4.4											
Entrance slit, mm	0.016 x 3 <sup>1)</sup> or 0.04 x 3 <sup>2)3)</sup>											
Computer interface	Full-Speed or High-Speed USB2.0 <sup>4)</sup>											
Overall size, weight	(242 x 280 x 113) mm; 4.85 kg											
<b>SDH Spectrometer</b>												
Diffraction grating, lines/mm	300	400	600	1200	1800	100						
Spectral range, nm	200-1100	200-1100	200-1100	200-1000	200-650	800-1700 <sup>3)</sup>						
Width of the concurrently measured spectral range (average), nm	620 <sup>1)</sup> 540 <sup>2)</sup>	460 <sup>1)</sup> 400 <sup>2)</sup>	300 <sup>1)</sup> 260 <sup>2)</sup>	130 <sup>1)</sup> 110 <sup>2)</sup>	80 <sup>1)</sup> 75 <sup>2)</sup>	900 <sup>3)</sup>						
Reciprocal linear dispersion (average), nm/mm	21.3	15.8	10.2	4.0	3.0	65						
Spectral resolution (FWHM, average), nm	0.5 <sup>1)</sup> 1.3 <sup>2)</sup>	0.38 <sup>1)</sup> 1.0 <sup>2)</sup>	0.24 <sup>1)</sup> 0.65 <sup>2)</sup>	0.1 <sup>1)</sup> 0.3 <sup>2)</sup>	0.07 <sup>1)</sup> 0.2 <sup>2)</sup>	4.5 <sup>3)</sup>						
<b>SDH-IV Spectrometer</b>												
Spectral range <sup>5)</sup>	200-1100 nm				200-1100 nm				800-1700 nm			
Linear image sensor	TCD1304AP				S8378-1024Q				series G9212-512S — G9214-512S			
Active area	29.1 mm 3648 pixels 8mkm x 0.2mm				25.6 mm 1024 pixels 25mkm x 0.5mm				12,8 mm 512 pixels 25mkm x 0.5mm(0.25mm)			
Diffraction gratings, lines/mm	900	600	400	300	900	600	400	300	100	400	300	200
Detectable spectral range, nm	190-390	300-600	450-905	600-1140	200-380	300-570	450-855	600-1140	800-1714	900-1100	1065-1330	1295-1701
Reciprocal linear dispersion (average), nm/mm nm/pixel	7.0 0.056	10.5 0.084	15.8 0.126	21.1 0.17	7.0 0.175	10.5 0.26	15.8 0.4	21.1 0.53	65 1.62	15.5 0.39	20.9 0.52	31.7 0.79
Spectral resolution (FWHM, average), nm	0.18	0.28	0.42	0.54	0.44	0.65	1.0	1.3	4.0	0.95	1.3	2.0

1) for 29.184mm long linear image sensor with pixel size of 8mkm (TCD1304AP, Toshiba)

2) for 25.6mm long linear image sensor with pixel size of 25mkm (S8378-1024, Hamamatsu)

3) for 12.8mm long linear image sensor with pixel size of 25mkm (G9214-512S or G9212-512S)

5) interface type depends on the installed detector

6) for obtaining spectral parameters differing from the above, diffraction gratings with a different quantity of lines can be used.

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