

TWO-CHANNEL IMAGING MONOCHROMATOR - SPECTROGRAPH



0.27 Meter

MODEL

NP 250-2

The two-channel Imaging Monochromator-Spectrograph **NP250-2** with F/3,9, a focal length of 270 mm is a completely automated spectral device.

The **NP250-2** uses an original optic configuration with two independent optical channels. Besides selection of two spectrum intervals by grating rotation, the Spectrograph allows quick manual gratings change-over in each channel.

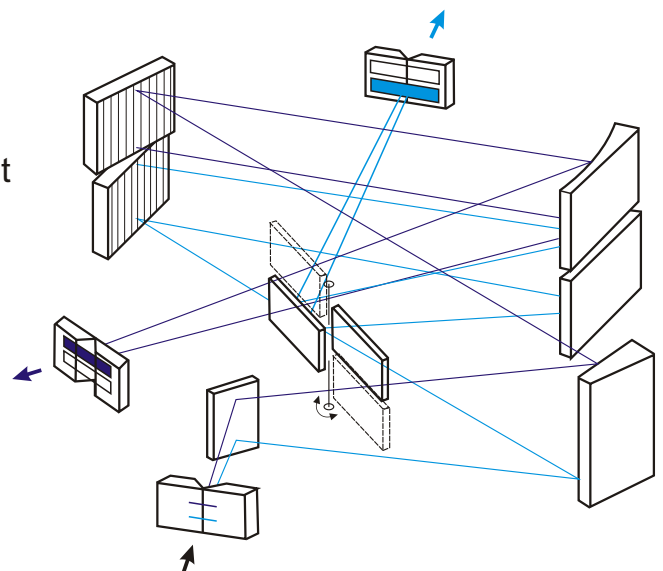
FEATURES

- ◆ Total computer control
- ◆ Continuously automatically or manually variable slits
- ◆ Aspheric collimating and focusing mirrors
- ◆ Two exit ports to enable mounting of different detectors
- ◆ Simultaneous detection of two independent spectra with CCD detectors
- ◆ Original software Win'9x/ME/NT/2000/XP

APPLICATIONS

- UV to IR measurement
- Emission, Fluorescence and Raman Spectroscopy
- Absorption and Transmission
- Multichannel Spectroscopy (PDA and CCD)

Optic Layout



SPECIFICATIONS

SYSTEM

Design:	The NP 250-2 uses an original optic configuration with two pairs of off-axis parabolic mirrors to form two independent channels
Ports:	1 input, 1 or 2 outputs
Usable Wavelength Range:	180 nm to 60 μ m
F/Number (Input):	3,9
Focal Length:	270 mm
Main Mirrors:	Parabolic
Stray Light:	5×10^{-5} (20nm from 632,8 laser line)
Flat Field:	25 mm x 8 mm

IMAGING

Imaging magnification:	1,0
Abberation limited (vertical) field center:	0 mm
off field center +/-10 mm:	< 0,2 mm

DRIVE

Motor:	High torque microstepper
Drive:	Worm
Step Size:	1,29 arc seconds
Precision:	+/- 1 step
Max. Speed:	10000 steps/s

GRATINGS

Grating Rotation:	Optical center
Grating Size:	50x40x10 mm

WAVELENGTH (grating 1200 l/mm)*

Reciprocal Dispersion:	2,97 nm/mm
Wavelength Repeatability:	+/- 0,03 nm
Wavelength Resolution:	0,08 nm
Wavelength Accuracy:	+/- 0,125 nm
Wavelength Step Size (aver):	0,01 nm

SLITS

Motor (Micrometer) Driven Slit Assembly:	Width variable from 0 to 2,0 mm Diaphragm-varied height from 0 to 4 mm
Step size:	0,5 μ m
Parallelism:	+/- 1 μ m
Accuracy:	+/- 10 μ m
Reading accuracy (micrometer):	2 μ m

SYSTEM CONTROL

Central Control by On Board CPU
 External Control by Hand Controller
 Programmed Control by External Computer
 EXTERNAL INTERFACE RS-232C

OVERALL SIZE: 533x275x219 mm, WEIGHT: 14 kg

* Grating choice upon Customer's request

LOOK AT WHAT YOU CAN GET ADDITIONALLY WITH NP250-2

- ◆ Automated filter wheel
- ◆ Fast shutter
- ◆ Remote control
- ◆ Optical fibers
- ◆ Detectors

UV Gratings (ruled)

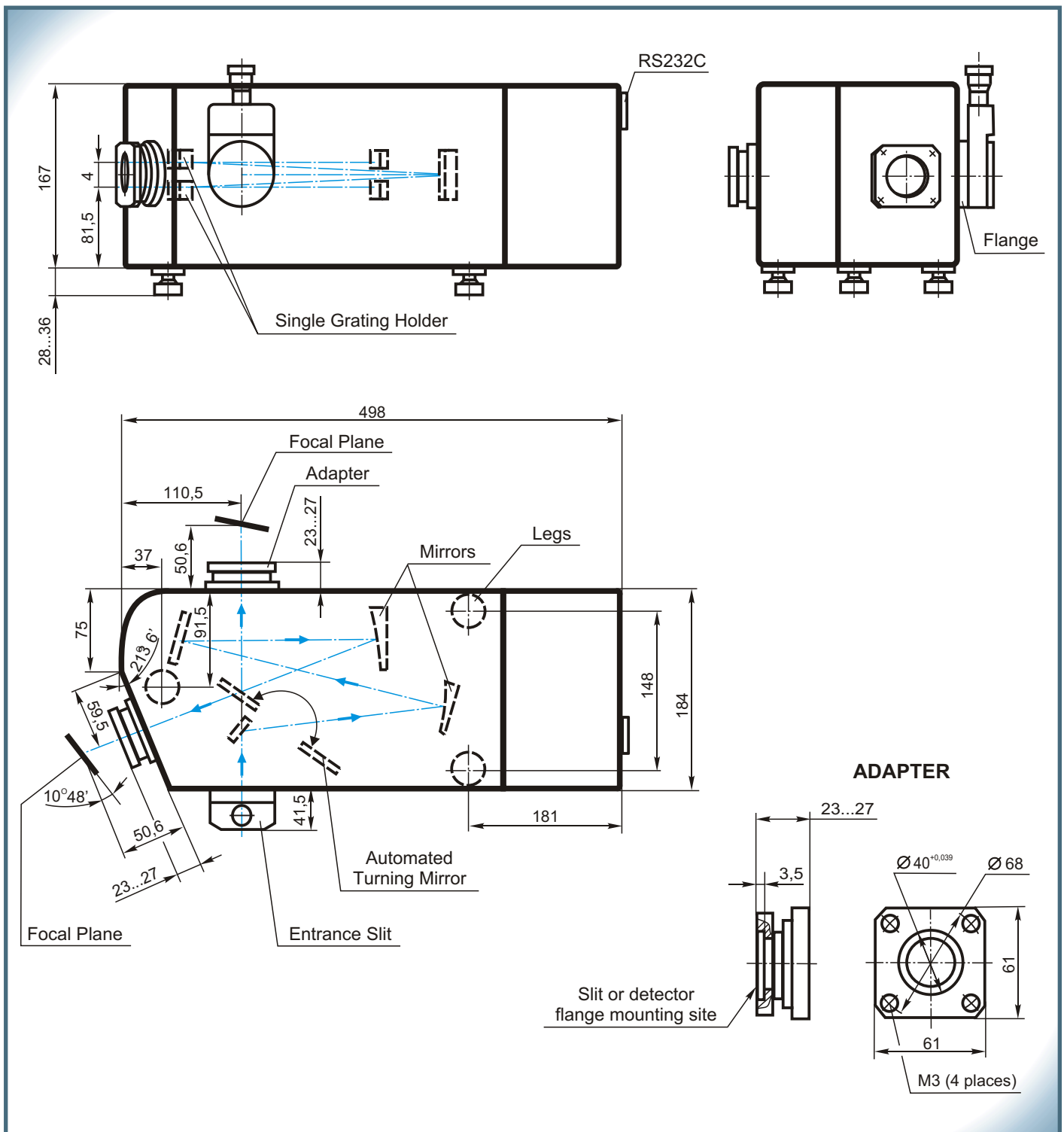
Line density (l/mm)	Blaze wavelength (nm)	Wavelength region corresponding to 40% reflection at blaze (nm)	Model No
2400	225	190 - 450	542422
2400	270	190 - 540	542427
1800	270	190 - 540	541827
1800	400	265 - 800	541840
1800	750	500 - 1200	541875
1200	250	190 - 500	541225
1200	280	190 - 560	541228
1200	400	265 - 800	541240
1200	500	330 - 1000	541250
1200	600	400 - 1200	541260
1200	750	500 -1300	541275
600	230	190 - 460	540623
600	280	190 - 560	540628
600	300	200 - 600	540630
600	400	265 - 800	540640
600	500	330 - 1000	540650
600	600	400 - 1200	540660
600	750	500 -1500	540675
300	300	200 - 600	540330
300	350	230 - 700	540335
300	500	330 -1000	540350
300	600	400 -1200	540360
300	700	465 -1400	540370
200	350	230 - 700	540235
200	400	265 - 800	540240
200	500	330 - 1000	540250
200	700	465 - 1400	540270
150	425	280 - 850	541542
150	700	465 -1400	541570
100	650	430 - 1300	540165
100	700	465 - 1400	540170

IR Gratings (ruled) with Al or Au coatings

Line density (l/mm)	Blaze wavelength (nm)	Wavelength region corresponding to 40% reflection at blaze (nm)	Model No
400	0.8	0.57 - 1.52	5404008
400	1.7	1.2 - 3.2	5404017
400	2.0	1.4 - 3.8	5404020
400	2.5	1.8 - 4.75	5404025
300	1.0	0.7 - 1.9	5403010
300	1.5	1.0 - 2.85	5403015
300	2.0	1.4 - 3.8	5403020
300	3.0	2.1 - 5.7	5403030
300	3.5	2.5 - 6.65	5403035
200	1.5	1.0 - 2.85	5402015
200	2.0	1.4 - 3.8	5402020
200	2.5	1.8 - 4.75	5402025
200	3.0	2.1 - 5.7	5402030
150	3.0	2.1 - 5.7	5415030
150	4.5	3.2 - 8.55	5415045
100	1.0	0.7 - 1.9	5401010
100	2.0	1.4 - 3.8	5401020
100	2.5	1.8 - 4.75	5401025
100	3.0	2.1 - 5.7	5401030
75	7.0	5.0 - 13.0	5475070
75	9.5	6.8 - 18.0	5475095
50	1.0	0.7 - 1.9	5450010
50	3.8	2.7 - 7.2	5450038
50	6.3	4.5 - 12.0	5450063
50	7.0	5.0 - 13.3	5450070
ECHOLETTTS			
100	4.16	3.0 - 7.9	5401042
100	4.84	3.5 - 9.2	5401048
100	5.5	3.9 - 10.5	5401055
100	6.2	4.4 - 11.8	5401062
100	7.2	5.1 - 13.7	5401072
100	8.75	6.2 - 16.6	5401088
100	9.7	6.9 - 18.4	5401097
100	10.3	7.3 - 19.6	5401103
50	6.95	5.0 - 13.2	5450070
50	8.3	5.9 - 15.8	5450083
50	12.36	8.8 - 23.5	5450124
50	16.9	12.0 - 32.1	5450169
50	20.0	14.3 - 38.0	5450200
37.5	2.79	2.0 - 5.3	5437028
37.5	5.57	4.0 - 10.6	5437056
37.5	9.26	6.6 - 17.6	5437093
37.5	15.6	11.1 - 29.7	5437156
24	11.6	8.3 - 22.0	5424116
24	14.4	10.3 - 27.4	5424154
24	17.3	12.4 - 32.9	5424173
24	24.3	17.4 - 46.2	5424243
24	28.5	20.4 - 54.2	5424285
24	32.5	23.2 - 61.8	5424325

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DIMENSIONAL DRAWINGS



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