

Standard Concave Gratings for Flat-field Polychromators

| Code number | Wavelength range                   |      | Entrance path length | Detector length | Nominal blaze wavelength (*1) | Relative efficiency minimum (*2) | Groove density    | Dispersion   | Other mounting parameters |                |                    |                |                    |                |                    | Dimensions    |
|-------------|------------------------------------|------|----------------------|-----------------|-------------------------------|----------------------------------|-------------------|--------------|---------------------------|----------------|--------------------|----------------|--------------------|----------------|--------------------|---------------|
|             | $\lambda_1 \sim \lambda_2$<br>(nm) |      | r<br>(mm)            | L<br>(mm)       | $\lambda_B$<br>(nm)           | (%)                              | N<br>(grooves/mm) | D<br>(nm/mm) | $\alpha$<br>(deg)         | $r_1'$<br>(mm) | $\beta_1$<br>(deg) | $r_2'$<br>(mm) | $\beta_2$<br>(deg) | $r_i'$<br>(mm) | $\beta_i$<br>(deg) | W×H×T<br>(mm) |
| P0265-01    | 190                                | 800  | 147.4                | 25.1            | 220                           | 45                               | 265               | 24.3         | 6.50                      | 150.8          | −9.41              | 148.6          | −18.97             | 148.6          | −19.30             | φ25×5.0       |
| P0380-01    | 190                                | 800  | 126.9                | 26.9            | 350                           | 40                               | 380               | 22.7         | 17.50                     | 111.9          | −13.21             | 116.1          | 0.19               | 111.9          | −15.41             | 40×40×10.0    |
| P0430-01    | 190                                | 800  | 86.4                 | 24.5            | 240                           | 50                               | 430               | 24.9         | 6.00                      | 89.4           | −10.73             | 85.4           | −26.65             | 85.3           | −28.00             | φ25×5.0       |
| P0240-01    | 200                                | 1000 | 148.5                | 27.5            | 215                           | 45                               | 240               | 29.1         | 17.20                     | 140.4          | −14.34             | 142.0          | −3.19              | 140.3          | −12.20             | φ24×5.2       |
| P0300-01    | 220                                | 1100 | 96.4                 | 27.5            | (260)                         | 28                               | 300               | 32.1         | 15.00                     | 97.8           | −11.12             | 104.2          | 4.08               | 97.3           | −16.83             | 40×40×10.0    |
| P0405-01    | 285                                | 715  | 137.4                | 25.6            | 300                           | 50                               | 405               | 16.8         | −5.59                     | 138.3          | 12.29              | 131.5          | 22.77              | 129.4          | 33.00              | φ30×5.0       |
| P0430-02    | 300                                | 900  | 86.5                 | 24.5            | 300                           | 50                               | 430               | 24.5         | 5.46                      | 89.3           | −12.95             | 84.1           | −28.82             | 83.9           | −33.01             | φ25×5.0       |
| P0900-01    | 340                                | 700  | 80.2                 | 40.4            | 420                           | 55                               | 900               | 8.9          | 0.00                      | 92.9           | −17.82             | 108.9          | −39.05             | 90.8           | −5.56              | 30×30×4.1     |
| P0800-02    | 340                                | 750  | 86.3                 | 37.0            | 370                           | 60                               | 800               | 11.1         | 0.00                      | 85.9           | −15.80             | 100.5          | −36.90             | 83.9           | −3.54              | 30×30×10.0    |
| P0800-01    | 340                                | 750  | 86.3                 | 37.0            | 450                           | 60                               | 800               | 11.1         | 0.00                      | 85.9           | −15.80             | 100.5          | −36.90             | 83.9           | −3.54              | 30×30×10.0    |
| P0785-01    | 340                                | 800  | 55.5                 | 34.0            | 340                           | 60                               | 785               | 13.5         | −2.79                     | 57.9           | 18.40              | 77.1           | 42.59              | 53.9           | −3.09              | 25×25×5.0     |
| P0580-01    | 340                                | 850  | 98.2                 | 31.8            | 360                           | 60                               | 580               | 16.0         | 0.00                      | 100.5          | −11.37             | 100.8          | −29.54             | 99.4           | −20.00             | 30×40×7.5     |
| P0600-01    | 380                                | 740  | 150.0                | 36.9            | 450                           | 55                               | 600               | 9.8          | 20.00                     | 171.4          | −6.55              | 169.7          | 5.85               | 169.3          | 2.26               | 30×30×10.0    |
| P0400-01    | 400                                | 1100 | 96.9                 | 27.7            | 600                           | 50                               | 400               | 25.3         | 20.00                     | 97.1           | −10.49             | 99.5           | 5.62               | 96.9           | −7.51              | 40×40×9.5     |
| P0250-01    | 500                                | 1000 | 106.0                | 12.4            | 700                           | 55                               | 250               | 40.3         | 14.06                     | 99.3           | −6.77              | 99.1           | 0.40               | 99.0           | −2.23              | 40×40×8.0     |
| P0380-02    | 600                                | 1100 | 71.3                 | 12.1            | 700                           | 50                               | 380               | 41.2         | 24.99                     | 62.9           | −11.21             | 59.6           | −0.25              | 58.6           | 9.96               | 25×25×5.0     |
| P0780-01    | 850                                | 1150 | 96.3                 | 24.7            | 950                           | 60                               | 780               | 12.1         | 38.22                     | 102.6          | 2.54               | 104.9          | 16.16              | 102.6          | 4.22               | 30×30×10.0    |
| P1400-01    | 440                                | 570  | 68.0                 | 15.5            | 500                           | 65                               | 1400              | 8.4          | 42.00                     | 85.2           | −3.05              | 82.5           | 7.40               | 82.3           | 12.00              | 25×25×7.0     |
| P0925-01    | 480                                | 620  | 191.4                | 25.6            | 500                           | 55                               | 925               | 5.5          | 21.33                     | 195.4          | 4.60               | 195.5          | 12.11              | 195.0          | 8.10               | 50×50×7.0     |
| P1200-01    | 530                                | 630  | 155.6                | 21.7            | 530                           | 60                               | 1200              | 4.6          | 32.00                     | 161.9          | 6.09               | 169.8          | 13.07              | 154.0          | −11.84             | 40×40×10.0    |

\*1: Nominal blaze wavelength is the wavelength of the maximum diffraction efficiency (target) with the design mounting.

No one to guarantee the wavelength of the maximum diffraction efficiency.

Blazing is performed with an ion-beam etching technology.

The nominal blazed wavelength showned by ( ) on the list shows non-blaze wavelength (Holographic grating).

\*2: Relative efficiency minimum is at the nominal blaze wavelength.

Concave Grating Mounting for Flat-field Polychromator

