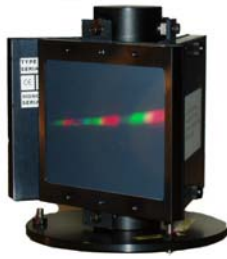


Diffraction Gratings



Bentham offers around 200 types of diffraction gratings.

The following table lists the most popular types which are likely to suit the majority of applications.

| Grooves per mm | Blaze Wavelength | Type* | Recommended Wavelength Range | Comments |
|----------------|------------------|-------|------------------------------|--|
| 2400 | 250nm | H | 200nm – 675nm | Optimum resolution in UV |
| 1800 | 250nm | H | 200nm – 900nm | High resolution, low scatter in UV-VIS |
| 1800 | 500nm | R | 200nm – 900nm | High resolution, high efficiency in UV-VIS |
| 1200 | 500nm | R | 250nm – 1200nm | High efficiency in UV-VIS-NIR |
| 1200 | 750nm | R | 350nm – 1200nm | Night vision compatibility testing |
| 830 | 1.2µm | R | 500nm – 1.8µm | Optimum for 1.1µm to 1.8µm |
| 600 | 1.6µm | R | 0.8µm – 2.5µm | Fibre spectral loss |
| 300 | 3.0µm | R | 1.5µm – 5.5µm | General purpose IR |
| 150 | 4.0µm | R | 2.4µm – 8.0µm | Recommended 3µm to 5µm |
| 100 | 9.0µm | R | 4.5µm – 16.2µm | General purpose IR |
| 75 | 12.0µm | R | 6µm - 21µm | Recommended 8µm to 14µm |
| 50 | 18.0µm | R | 9µm - 27µm | General purpose IR |

| GRATINGS FOR ARRAY DETECTORS | | | | |
|------------------------------|------------------|-------|------------------------------|--------------------------------|
| Grooves per mm | Blaze Wavelength | Type* | Recommended Wavelength Range | Comments |
| 150 | - | H | 540nm | Spectral range with 25mm array |
| 300 | - | H | 270nm | Spectral range with 25mm array |
| 600 | - | H | 135nm | Spectral range with 25mm array |

* H = holographic, R = ruled

Gratings for single and double monochromators

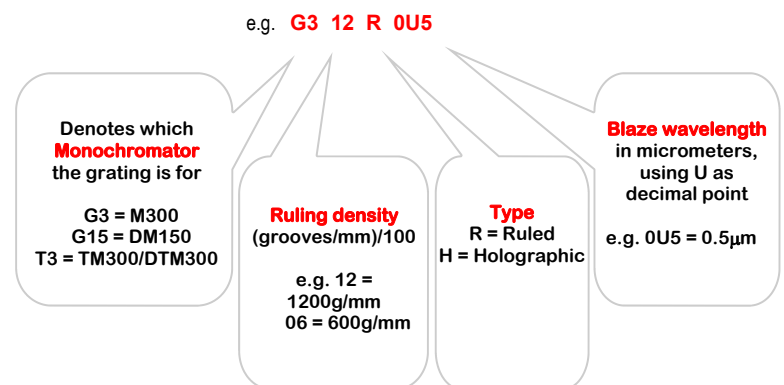
Bentham supplies mounted diffraction gratings for use in the M300 series single and double monochromators in three different ways:

- Standard range
- Non-standard range
- Special gratings

All gratings are supplied on kinematic mounts which allow adjustment in 3° of freedom. Once set up for a particular monochromator, the gratings can be removed and replaced without loss of calibration. A screw-on protective cover is supplied so that gratings not in use can be stored without damage or accumulation of dust.

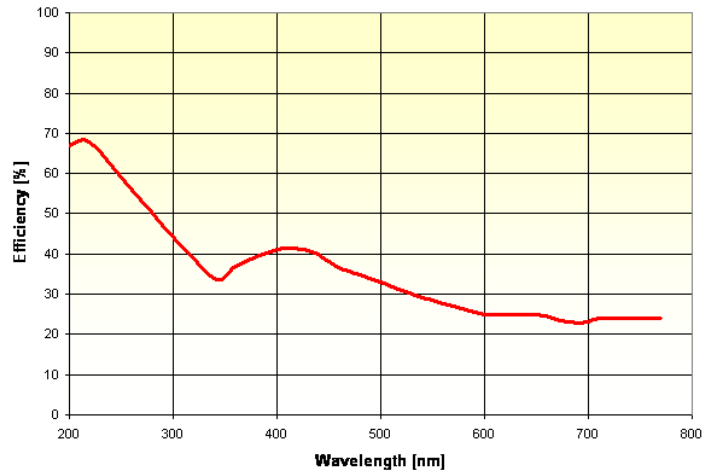
Ordering Information

Bentham's part numbering system for gratings is as follows:



Diffraction Gratings

| | |
|---|------------------------------|
| T324H0U25 / G324H0U25 / G1524H0U25 | |
| Grooves/mm: | 2400 |
| Blaze wavelength: | 250nm |
| Type: | Holographic +45° - Aluminium |



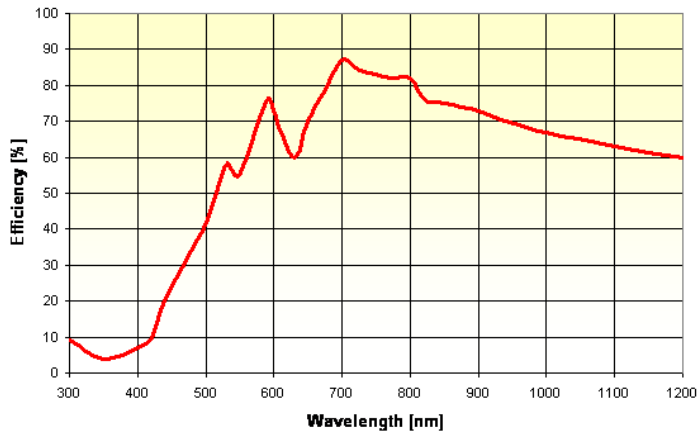
| | |
|---|------------------------------|
| T318H0U25 / G318H0U25 / G1518H0U25 | |
| Grooves/mm: | 1800 |
| Blaze wavelength: | 250nm |
| Type: | Holographic +45° - Aluminium |



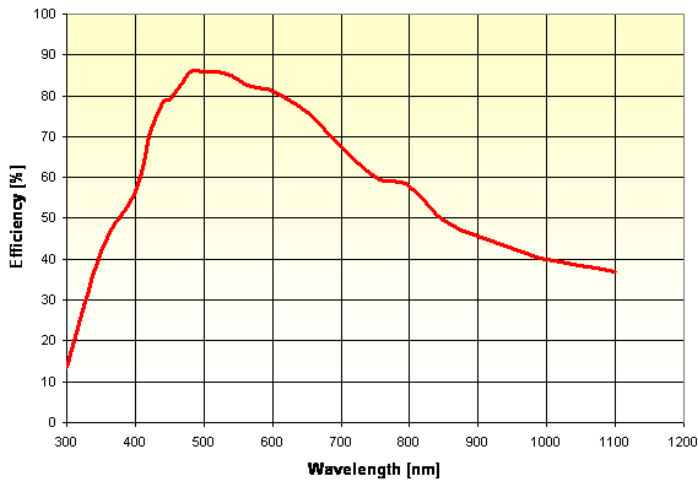
| | |
|--|------------------------|
| T318R0U5 / G318R0U5 / G1518R0U5 | |
| Grooves/mm: | 1800 |
| Blaze wavelength: | 500nm |
| Type: | Ruled +45° - Aluminium |



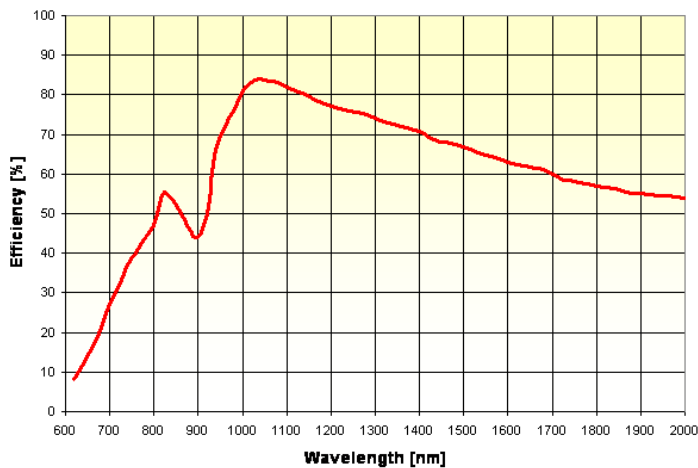
Diffraction Gratings



| T312R0U75 / G312R0U75 / G1512R0U75 | |
|---|------------------------|
| Grooves/mm: | 1200 |
| Blaze wavelength: | 750nm |
| Type: | Ruled +45° - Aluminium |



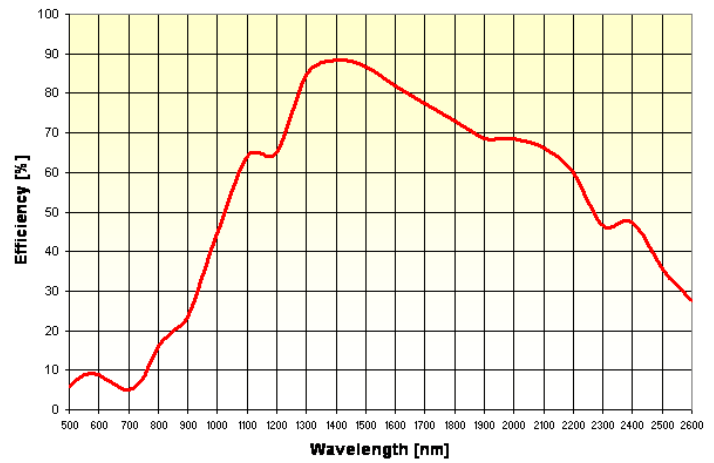
| T312R0U5 / G312R0U5 / G1512R0U5 | |
|--|------------------------|
| Grooves/mm: | 1200 |
| Blaze wavelength: | 500nm |
| Type: | Ruled +45° - Aluminium |



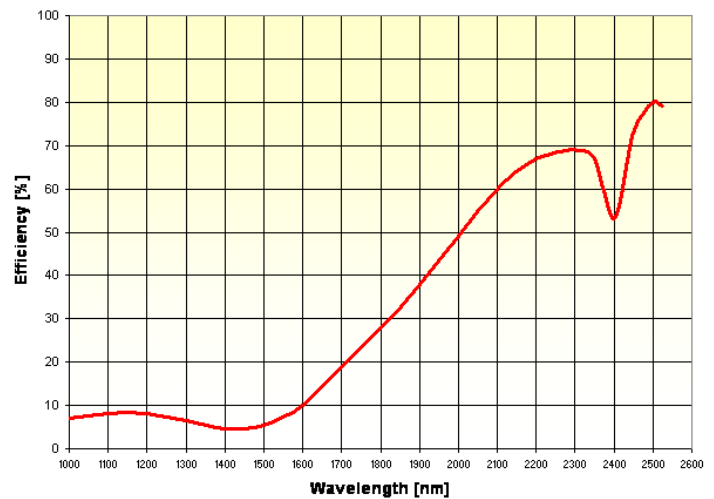
| T3083R1U2 / G3083R1U2 / G15083R1U2 | |
|---|------------------------|
| Grooves/mm: | 830 |
| Blaze wavelength: | 1.2μm |
| Type: | Ruled +45° - Aluminium |

Diffraction Gratings

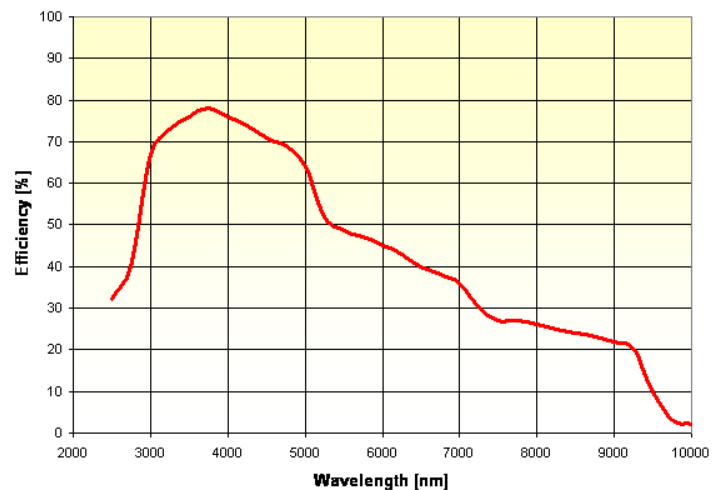
| T306R1U6 / G306R1U6 / G1506R1U6 | |
|---------------------------------|------------------------|
| Grooves/mm: | 600 |
| Blaze wavelength: | 1.6 μ m |
| Type: | Ruled +45° - Aluminium |



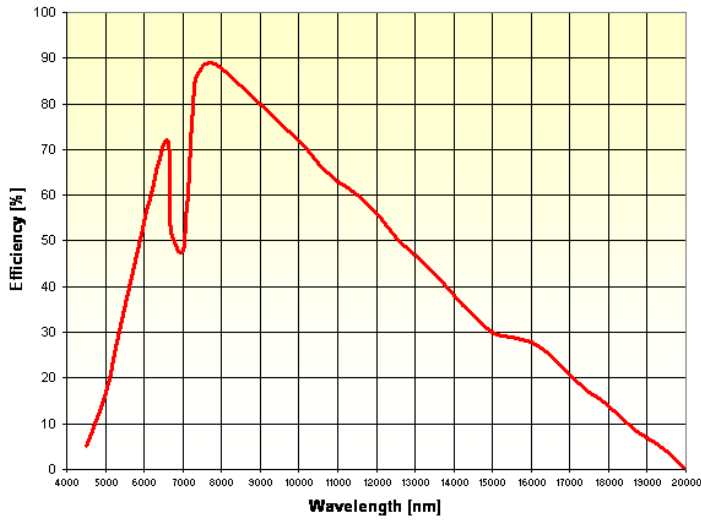
| T303R3U0 / G303R3U0 / G1503R3U0 | |
|---------------------------------|------------------------|
| Grooves/mm: | 300 |
| Blaze wavelength: | 3.0 μ m |
| Type: | Ruled +45° - Aluminium |



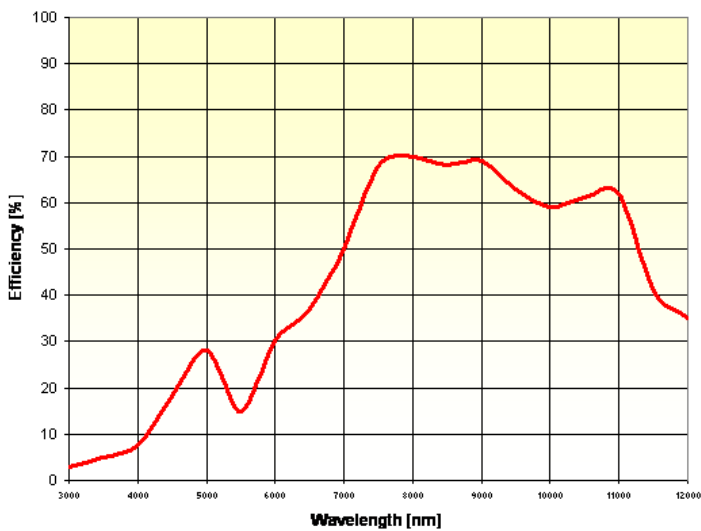
| T3015R4U0 / G3015R4U0 / G15015R4U0 | |
|------------------------------------|------------------------|
| Grooves/mm: | 150 |
| Blaze wavelength: | 4.0 μ m |
| Type: | Ruled +45° - Aluminium |



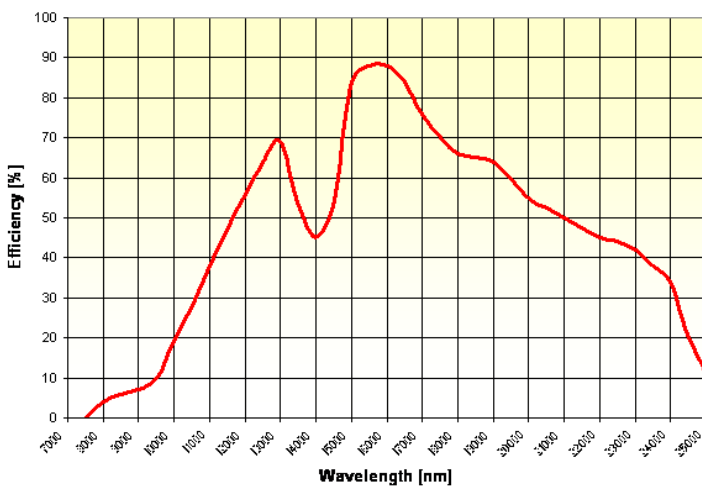
Diffraction Gratings



| T3010R9U0 / G3010R9U0 / G15010R9U0 | |
|------------------------------------|------------------------|
| Grooves/mm: | 100 |
| Blaze wavelength: | 9 μ m |
| Type: | Ruled +45° - Aluminium |



| T3075R12U0 / G3075R12U0 / G15075R12U0 | |
|---------------------------------------|------------------------|
| Grooves/mm: | 75 |
| Blaze wavelength: | 12.0 μ m |
| Type: | Ruled +45° - Aluminium |



| T30050R18U0 / G30050R18U0 / G150050R18U0 | |
|--|------------------------|
| Grooves/mm: | 50 |
| Blaze wavelength: | 18.0 μ m |
| Type: | Ruled +45° - Aluminium |