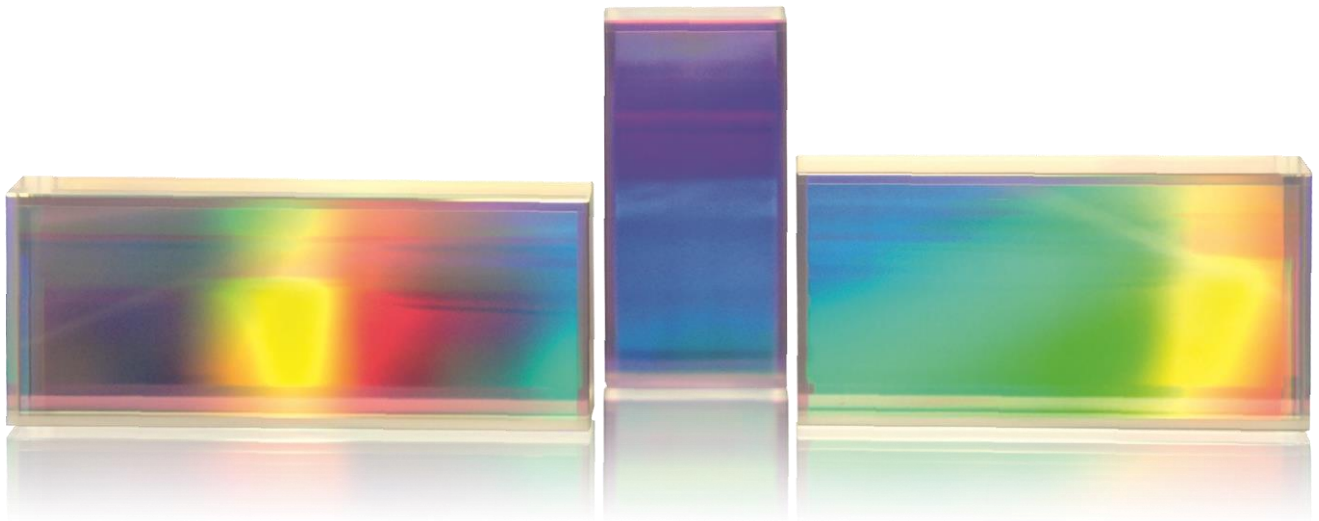


Transmission Gratings for UV

Fused Silica Gratings customized for your application



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COMPANY STORY

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- ✓ TOP CONDITIONS
- ✓ HIGH QUALITY GRATINGS
- ✓ HIGH AVAILABILITY
- ✓ INDIVIDUAL GRATING DESIGN

SPECIFICATIONS

Center wavelength [nm]	266
Grating period [nm]	333
Line density [l/mm]	3003.0
Polarization	TE+TM (unpol.)
Angle of Incidence ⁽¹⁾	23.5°
Diffraction efficiency (≥) ^(1,2)	82.0% ⁽³⁾
Angular dispersion [°/nm] ⁽¹⁾	-0.188
Substrate material	Fused silica: Heraeus Suprasil 3002 ⁽⁴⁾
Substrate thickness [mm]	3.00 6.35
Grating sizes W x H [mm x mm]	12 x 10 ... 132 x 67 ⁽⁵⁾

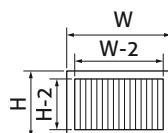
⁽¹⁾ at center wavelength

⁽²⁾ including AR coating

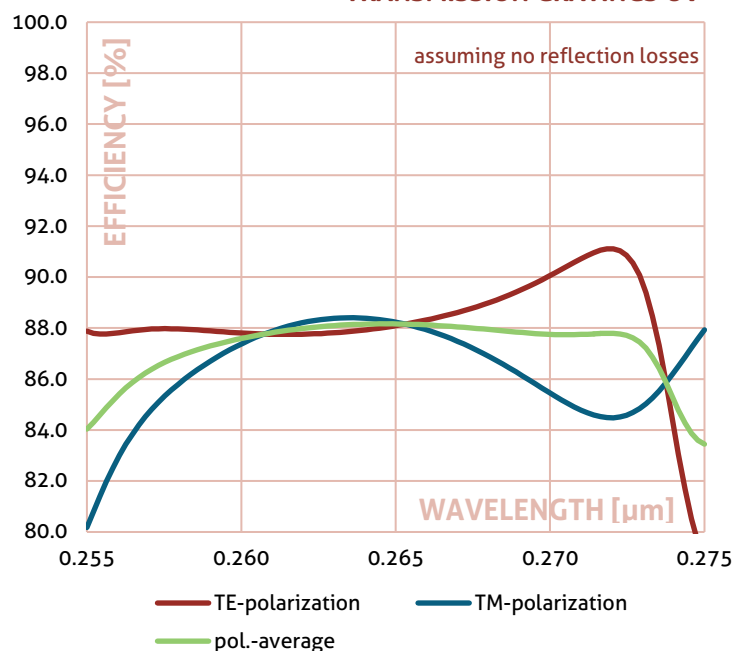
⁽³⁾ averaged over polarization-modes

⁽⁴⁾ with reduced OH content of < 1 ppm

⁽⁵⁾ customizable to meet your specific demands



TRANSMISSION GRATINGS UV



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99441 Magdala
Germany



Fused Silica Transmission Gratings for VIS

High-Efficiency Gratings customized for your application



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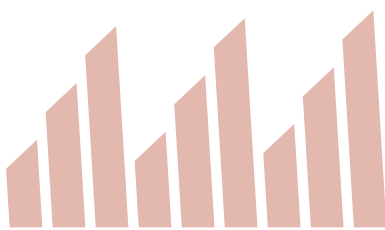
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- ✓ INDIVIDUAL GRATING DESIGN



Gitterwerk GmbH
Auf der Schanze 1a
99441 Magdala
Germany





OPTICAL SPECIFICATIONS

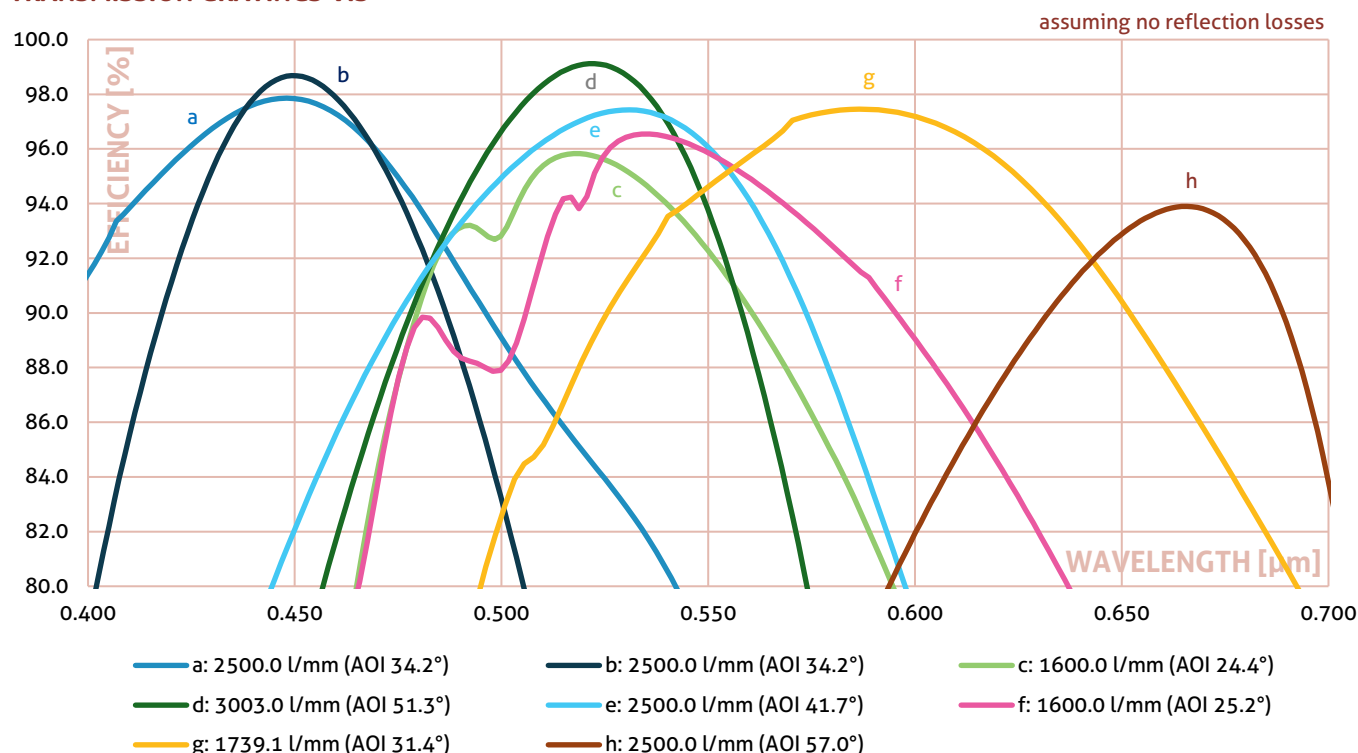
Graph annotations	a	b	c	d	e	f	g	h
Center wavelength [nm]	450	450	517	520	532	532	600	671
Grating period [nm]	400	400	625	333	400	625	575	400
Line density [l/mm]	2500.0	2500.0	1600.0	3003.0	2500.0	1600.0	1739.1	2500.0
Polarization	TE (s-pol.)	TM (p-pol.)	TM (p-pol.)	TE (s-pol.)	TE (s-pol.)	TM (p-pol.)	TE+TM (unpol.)	TE (s-pol.)
Angle of Incidence ⁽¹⁾	34.2°	34.2°	24.4°	51.3°	41.7°	25.2°	31.4°	57.0°
Diffraction efficiency (≥) ^(1,2)	97.0%	97.5%	92.5%	97.5%	96.5%	94.0%	95.0% ⁽³⁾	90.0%
Angular dispersion [°/nm] ⁽¹⁾	-0.173	-0.173	-0.101	-0.275	-0.192	-0.101	-0.117	-0.263

⁽¹⁾ at center wavelength

⁽²⁾ including AR coating

⁽³⁾ averaged over polarization-modes

TRANSMISSION GRATINGS VIS

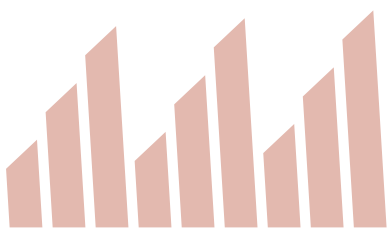
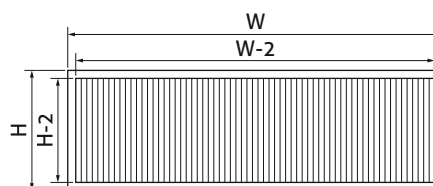


SUBSTRATE / MECHANICAL SPECIFICATIONS

Substrate material	Fused silica: Heraeus Suprasil 3002 ⁽⁴⁾				
Substrate thickness [mm]	Popular formats W x H [mm x mm] ⁽⁵⁾				
6.35	137 x 28	135 x 20	100 x 20	77 x 15	
3.00	65 x 25	55 x 25	30 x 25	30 x 20	

⁽⁴⁾ with reduced OH content of < 1 ppm

⁽⁵⁾ customizable to meet your specific demands



Fused Silica Transmission Gratings for 800 nm

High-Efficiency Gratings for Pulse Compression



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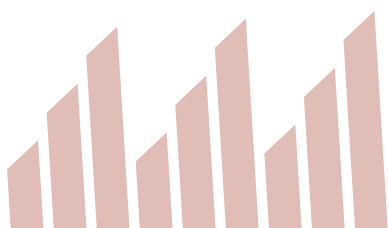
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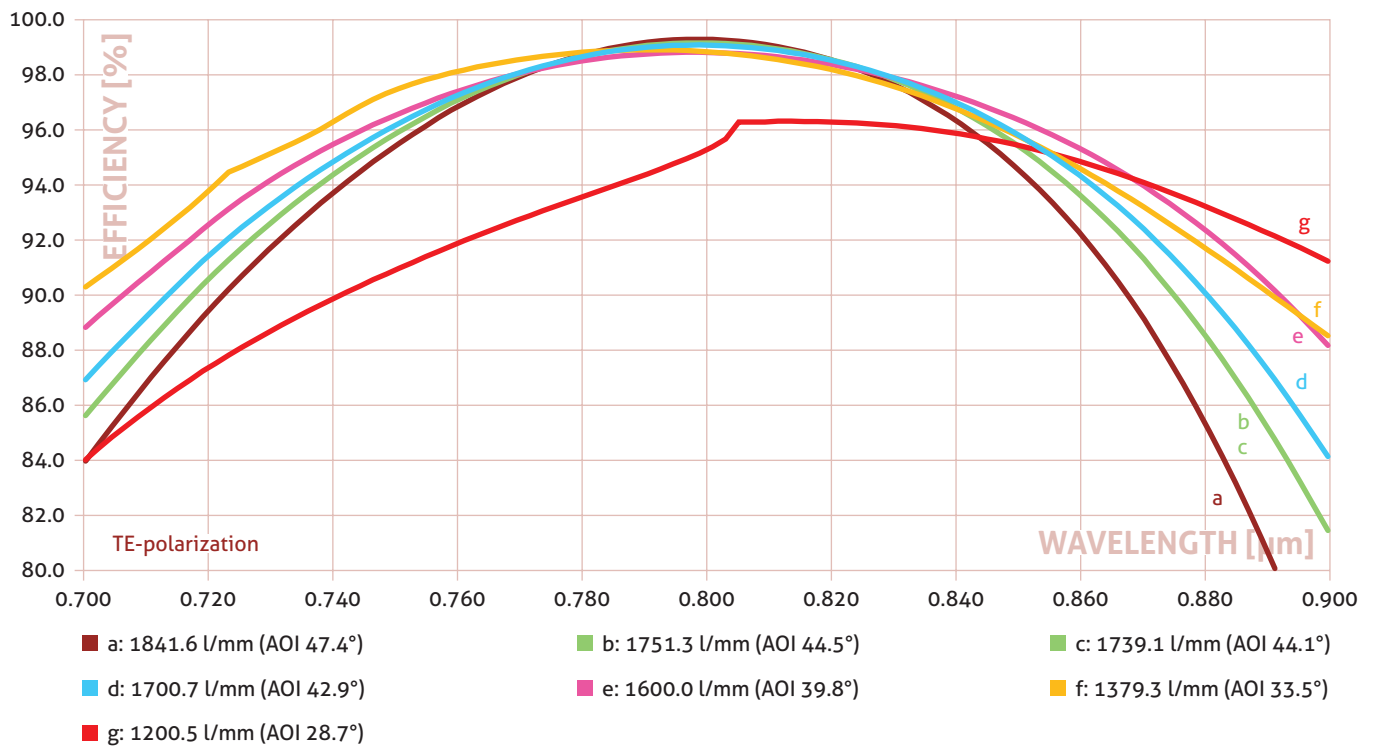


OPTICAL SPECIFICATIONS

Graph annotations	a	b	c	d	e	f	g
Central wavelength [nm]	800	800	800	800	800	800	800
Grating period [nm]	543	571	575	588	625	725	833
Line density [l/mm]	1841.6	1751.3	1739.1	1700.7	1600.0	1379.3	1200.5
Polarization	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)
Angle of Incidence	47.4°	44.5°	44.1°	42.9°	39.8°	33.5°	28.7°
Diffraction efficiency (≥)*	97.5 %	97.5 %	97.5 %	97.5 %	97.5 %	97.5 %	94.5 %
Angular dispersion [°/nm]	-0.156	-0.141	-0.139	-0.133	-0.119	-0.095	-0.078

* at the central wavelength, including AR coating

TRANSMISSION GRATINGS 800 nm

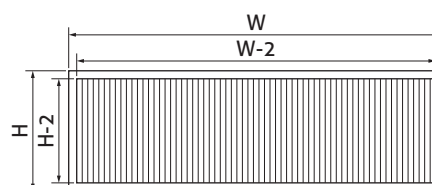


SUBSTRATE / MECHANICAL SPECIFICATIONS

Substrate material	Fused silica: Heraeus Suprasil 3002**					
Substrate thickness [mm]	Popular formats W x H [mm x mm]**					
6.35	135 x 20	100 x 15	77 x 15	30 x 20	17 x 15	
3.00	65 x 25	55 x 25	30 x 25	35 x 20	20 x 14	

** with reduced OH content of < 1 ppm

*** customizable to meet your specific demands



Transmission Gratings for OCT

Fused Silica Gratings customized for your application



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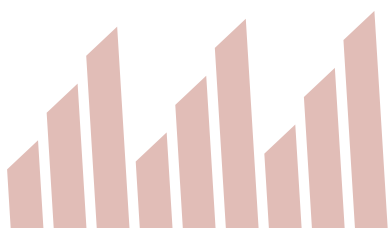
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- ✓ HIGH AVAILABILITY
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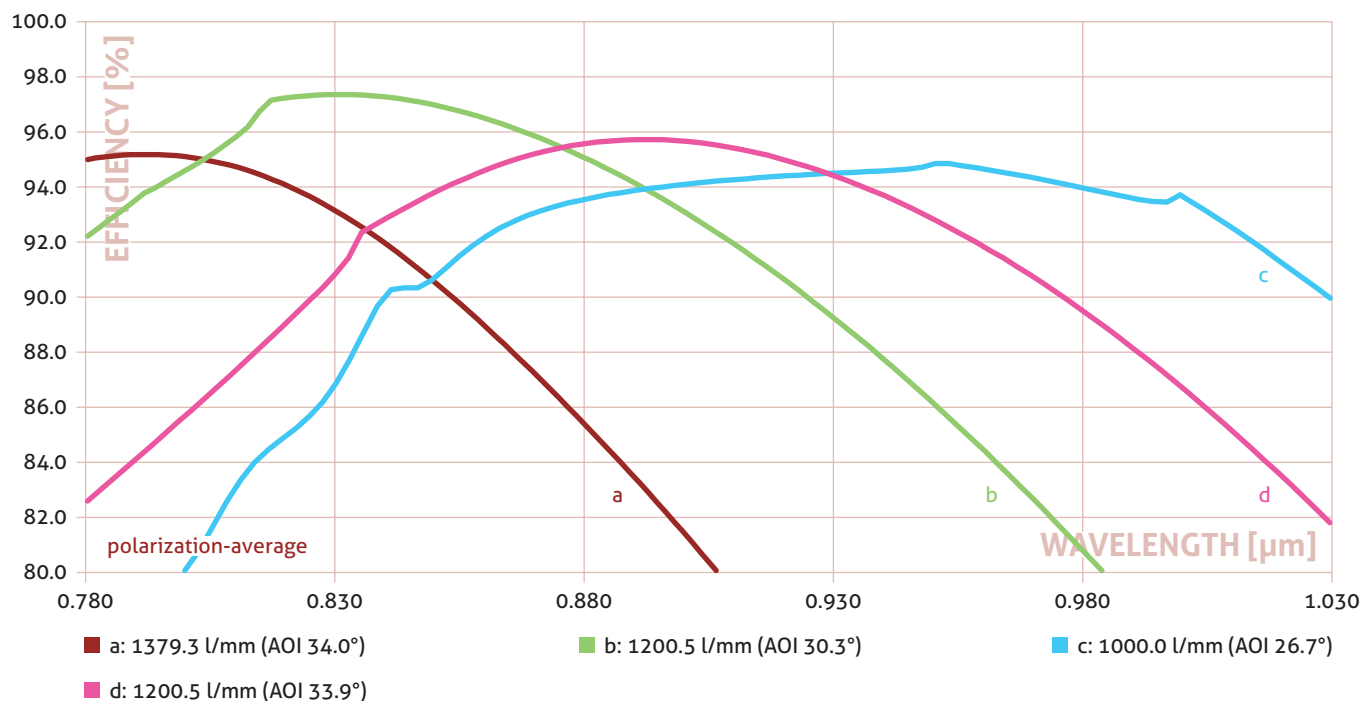


OPTICAL SPECIFICATIONS

Graph annotations	a	b	c	d
Central wavelength [nm]	810	840	900	930
Grating period [nm]	725	833	1000	833
Line density [l/mm]	1379.3	1200.5	1000.0	1200.5
Polarization	TE+TM (un-pol.)	TE+TM (un-pol.)	TE+TM (un-pol.)	TE+TM (un-pol.)
Angle of Incidence	34.0°	30.3°	26.7°	33.9°
Diffraction efficiency (≥)*	92.0 %	94.0 %	90.0 %	92.0 %
Angular dispersion [°/nm]	-0.095	-0.080	-0.064	-0.083

* at the central wavelength, on average over the polarizations, including AR coating

TRANSMISSION GRATINGS OCT

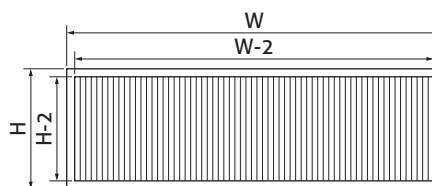


SUBSTRATE / MECHANICAL SPECIFICATIONS

Substrate material	Fused silica: Heraeus Suprasil 3002**				
Substrate thickness [mm]	Popular formats W x H [mm x mm]***				
6.35	135 x 20	100 x 15	77 x 15	30 x 20	17 x 15
3.00	65 x 25	55 x 25	30 x 25	35 x 20	20 x 14

** with reduced OH content of < 1 ppm

*** customizable to meet your specific demands



Fused Silica Transmission Gratings for 920 nm

High-Efficiency Gratings for Pulse Compression



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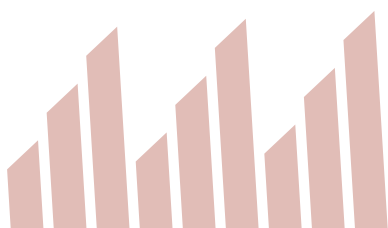
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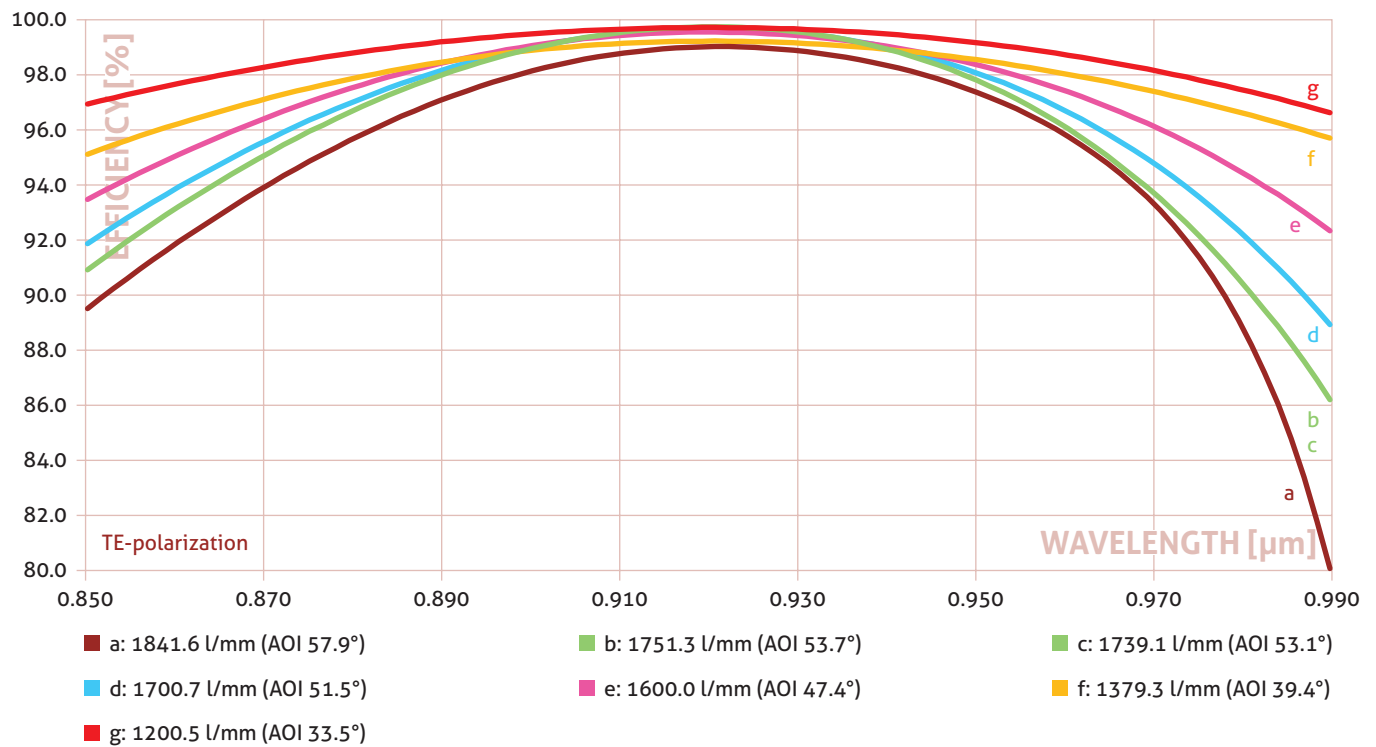


OPTICAL SPECIFICATIONS

Graph annotations	a	b	c	d	e	f	g
Central wavelength [nm]	920	920	920	920	920	920	920
Grating period [nm]	543	571	575	588	625	725	833
Line density [l/mm]	1841.6	1751.3	1739.1	1700.7	1600.0	1379.3	1200.5
Polarization	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)
Angle of Incidence	57.9°	53.7°	53.1°	51.5°	47.4°	39.4°	33.5°
Diffraction efficiency (≥)*	97.5 %	97.5 %	97.5 %	97.5 %	97.5 %	97.5 %	97.5 %
Angular dispersion [°/nm]	-0.199	-0.169	-0.166	-0.156	-0.135	-0.102	-0.083

* at the central wavelength, including AR coating

TRANSMISSION GRATINGS 920 nm

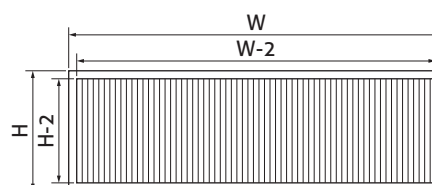


SUBSTRATE / MECHANICAL SPECIFICATIONS

Substrate material	Fused silica: Heraeus Suprasil 3002**					
Substrate thickness [mm]	Popular formats W x H [mm x mm]***					
6.35	135 x 20	100 x 15	77 x 15	30 x 20	17 x 15	
3.00	65 x 25	55 x 25	30 x 25	35 x 20	20 x 14	

** with reduced OH content of < 1 ppm

*** customizable to meet your specific demands



Transmission Gratings for 975 nm

High-Efficiency Fused Silica Gratings



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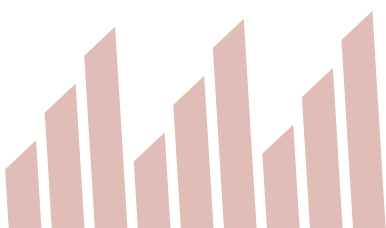
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- ✓ HIGH AVAILABILITY
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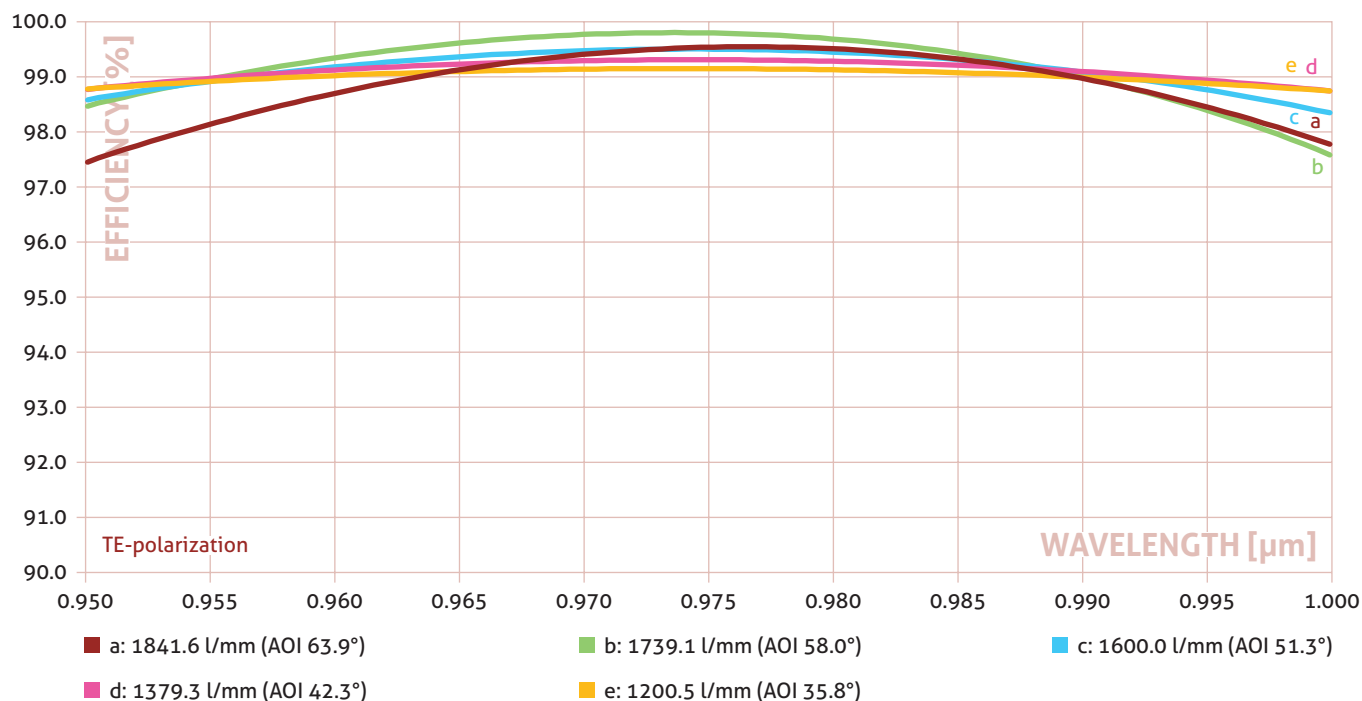


OPTICAL SPECIFICATIONS

Graph annotations	a	b	c	d	e
Central wavelength [nm]	975	975	975	975	975
Grating period [nm]	543	575	625	725	833
Line density [l/mm]	1841.6	1739.1	1600.0	1379.3	1200.5
Polarization	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)
Angle of Incidence	63.9°	58.0°	51.3°	42.3°	35.8°
Diffraction efficiency (≥)*	98.0 %	98.0 %	98.0 %	98.0 %	98.0 %
Angular dispersion [°/nm]	-0.240	-0.188	-0.146	-0.107	-0.085

* at the central wavelength, including AR coating

TRANSMISSION GRATINGS 975 nm

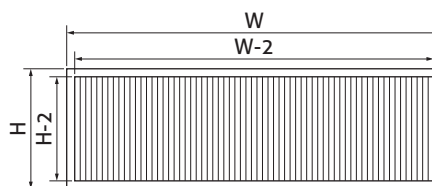


SUBSTRATE / MECHANICAL SPECIFICATIONS

Substrate material	Fused silica: Heraeus Suprasil 3002**				
Substrate thickness [mm]	Popular formats W x H [mm x mm]**				
6.35	135 x 20	100 x 15	77 x 15	30 x 20	17 x 15
3.00	65 x 25	55 x 25	30 x 25	35 x 20	20 x 14

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Reflection Gratings for 1030 nm

Multi-Layer Dielectric Reflection Gratings



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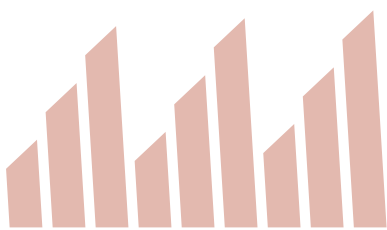
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Reflection Gratings for 1030 nm

Multi-Layer Dielectric Reflection Gratings



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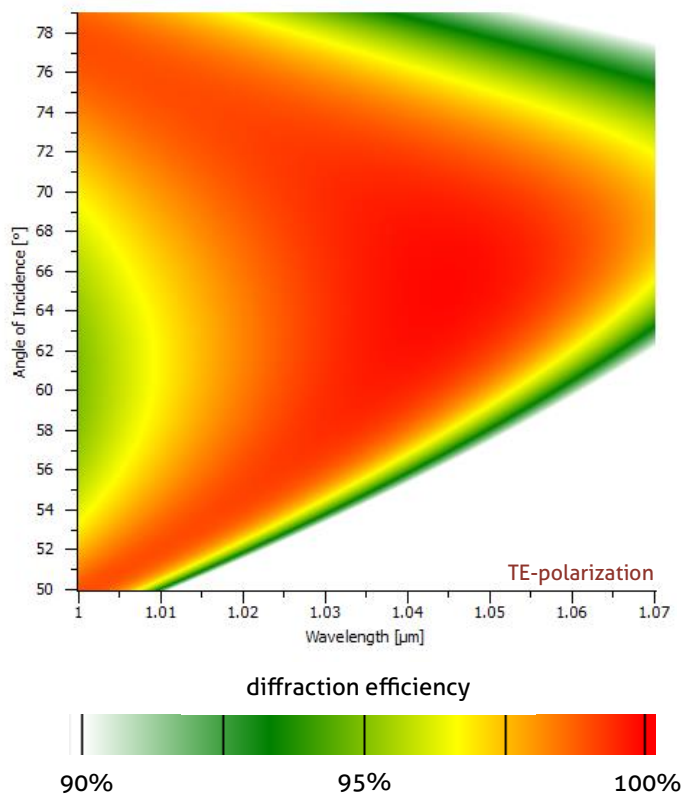
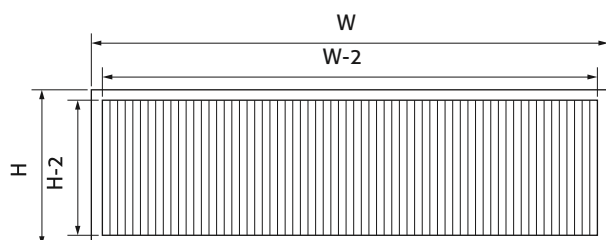
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SPECIFICATIONS

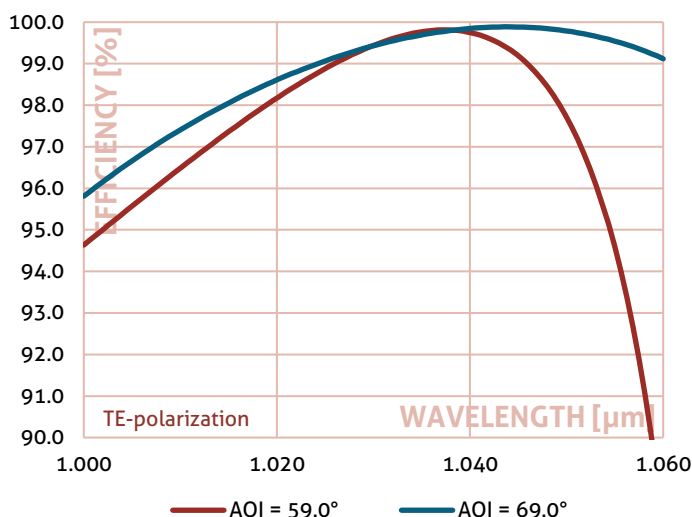
Center wavelength [nm]	1030
Grating period [nm]	575
Line density [l/mm]	1739.1
Polarization	TE (s-pol.)
Angle of Incidence	55° ... 78°
Diffraction efficiency ($\geq$) ⁽¹⁾	98.0%
Angular dispersion [$^{\circ}$ /nm] ⁽¹⁾	-0.425 ... -0.171
Substrate material	Fused silica: Heraeus Suprasil 3002
Substrate thickness [mm]	6.35
Grating sizes W x H [mm x mm]	12 x 10 ... 132 x 67 ⁽²⁾

⁽¹⁾ depending on center wavelength and angle of incidence

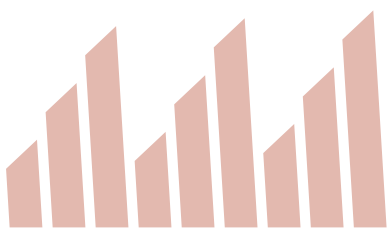
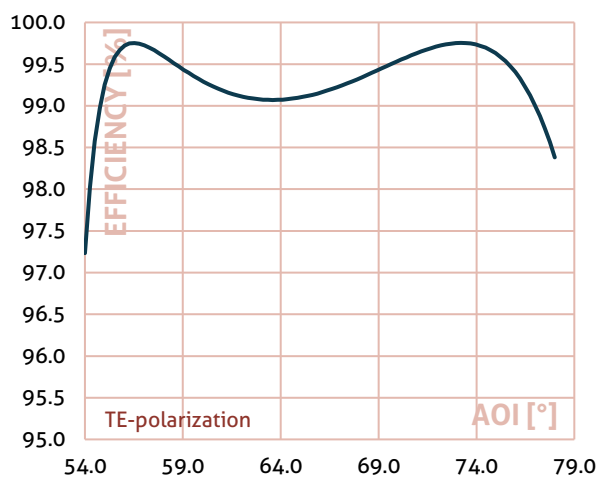
⁽²⁾ customizable to meet your specific demands



REFLECTION GRATINGS 1030 nm - spectral response -



REFLECTION GRATINGS 1030 nm - angular response -



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99441 Magdala
Germany



Fused Silica Transmission Gratings for 1030 nm

High-Efficiency Gratings for Pulse Compression



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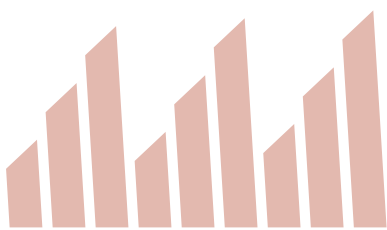
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Fused Silica Transmission Gratings for 1030 nm

High-Efficiency Gratings for Pulse Compression



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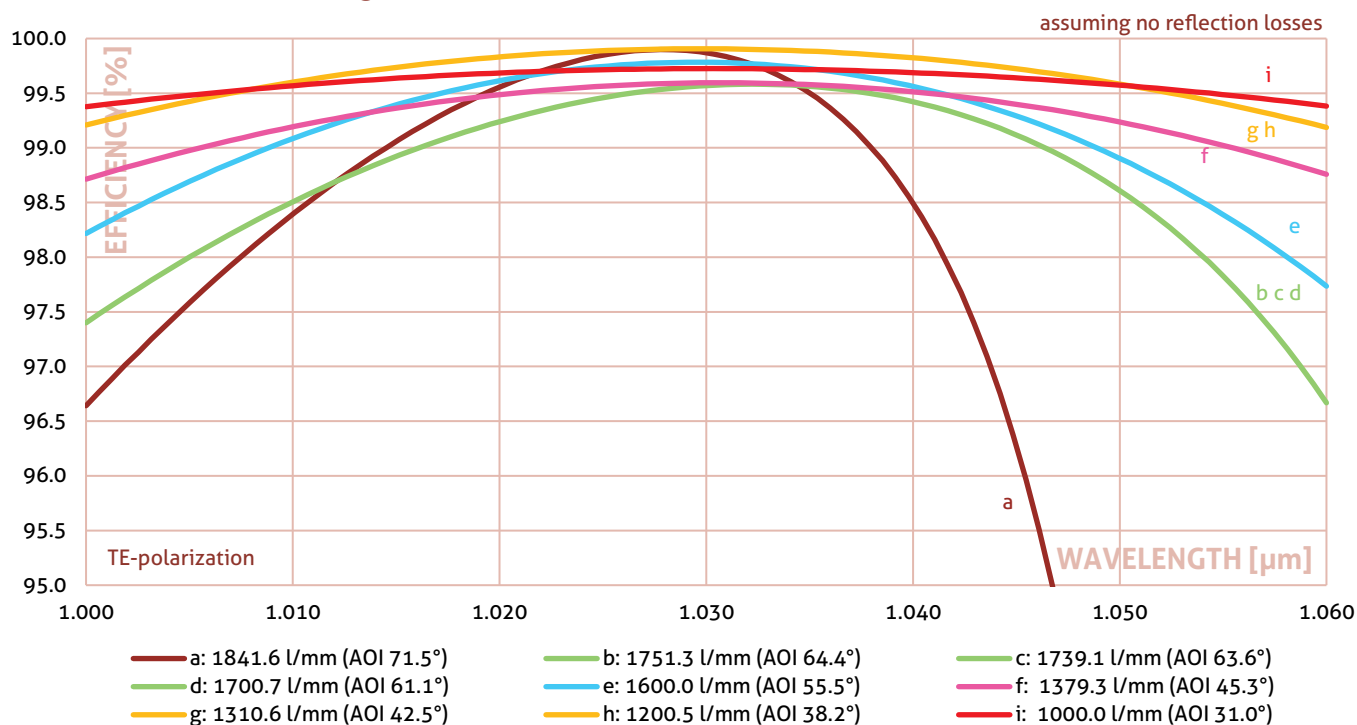
OPTICAL SPECIFICATIONS

Graph annotations	a	b	c	d	e	f	g	h	i
Center wavelength [nm]	1030	1030	1030	1030	1030	1030	1030	1030	1030
Grating period [nm]	543	571	575	588	625	725	763	833	1000
Line density [l/mm]	1841.6	1751.3	1739.1	1700.7	1600.0	1379.3	1310.6	1200.5	1000.0
Polarization	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)
Angle of Incidence ⁽¹⁾	71.5°	64.4°	63.6°	61.1°	55.5°	45.3°	42.5°	38.2°	31.0°
Diffraction efficiency (≥) ^(1,2)	97.5%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%
Angular dispersion [°/nm] ⁽¹⁾	-0.333	-0.232	-0.224	-0.202	-0.162	-0.112	-0.102	-0.087	-0.066

⁽¹⁾ at center wavelength

⁽²⁾ including AR coating

TRANSMISSION GRATINGS 1030 nm

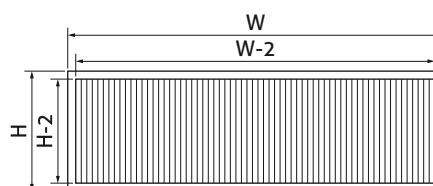


SUBSTRATE / MECHANICAL SPECIFICATIONS

Substrate material	Fused silica: Heraeus Suprasil 3002 ⁽³⁾				
Substrate thickness [mm]	Popular formats W x H [mm x mm] ⁽⁴⁾				
6.35	137 x 28	135 x 20	100 x 20	77 x 15	
3.00	65 x 25	55 x 25	30 x 25	30 x 20	

⁽³⁾ with reduced OH content of < 1 ppm

⁽⁴⁾ customizable to meet your specific demands



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99441 Magdala
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Reflection Gratings for 1064 nm

Multi-Layer Dielectric Reflection Gratings



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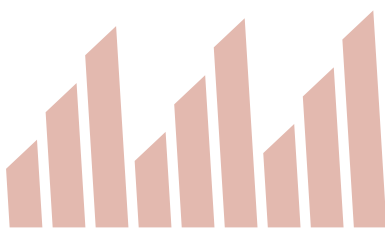
COMPANY STORY

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- ✓ TOP CONDITIONS
- ✓ HIGH QUALITY GRATINGS
- ✓ HIGH AVAILABILITY
- ✓ INDIVIDUAL GRATING DESIGN



Gitterwerk GmbH
Auf der Schanze 1a
99441 Magdala
Germany



Reflection Gratings for 1064 nm

Multi-Layer Dielectric Reflection Gratings



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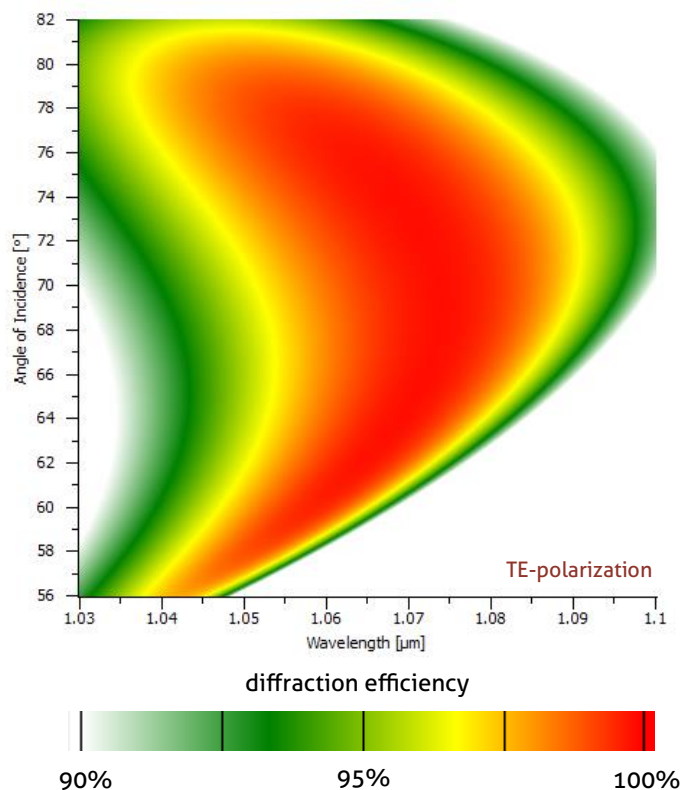
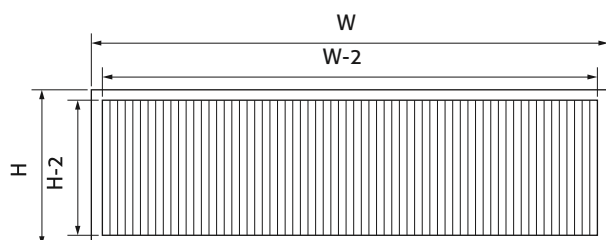
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SPECIFICATIONS

Center wavelength [nm]	1064
Grating period [nm]	575
Line density [l/mm]	1739.1
Polarization	TE (s-pol.)
Angle of Incidence	60° ... 79°
Diffraction efficiency ($\geq$) ⁽¹⁾	98.0%
Angular dispersion [$^{\circ}$ /nm] ⁽¹⁾	-0.567 ... -0.201
Substrate material	Fused silica: Heraeus Suprasil 3002
Substrate thickness [mm]	6.35
Grating sizes W x H [mm x mm]	12 x 10 ... 132 x 67 ⁽²⁾

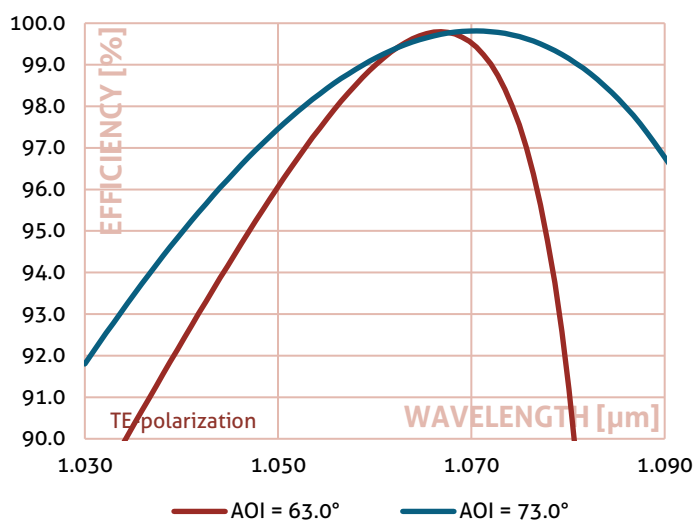
⁽¹⁾ depending on center wavelength and angle of incidence

⁽²⁾ customizable to meet your specific demands



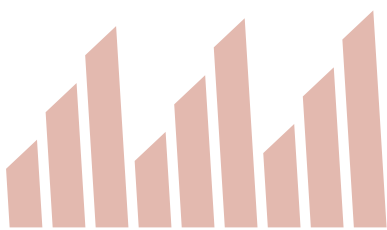
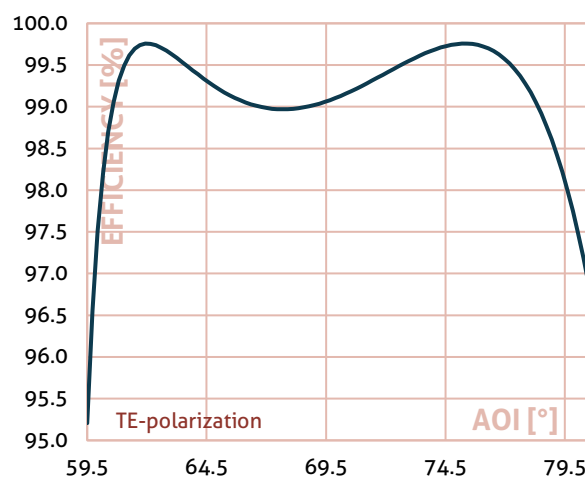
REFLECTION GRATINGS 1064 nm

- spectral response -



REFLECTION GRATINGS 1064 nm

- angular response -



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Germany



Transmission Gratings for 1064 nm

High-Efficiency Fused Silica Gratings



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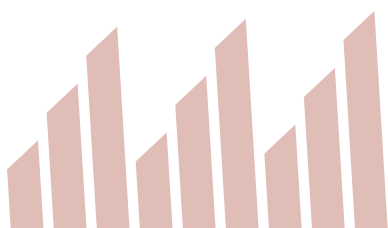
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Gitterwerk GmbH
Moritz-von-Rohr-Str. 1a
07745 Jena
Thuringia, Germany

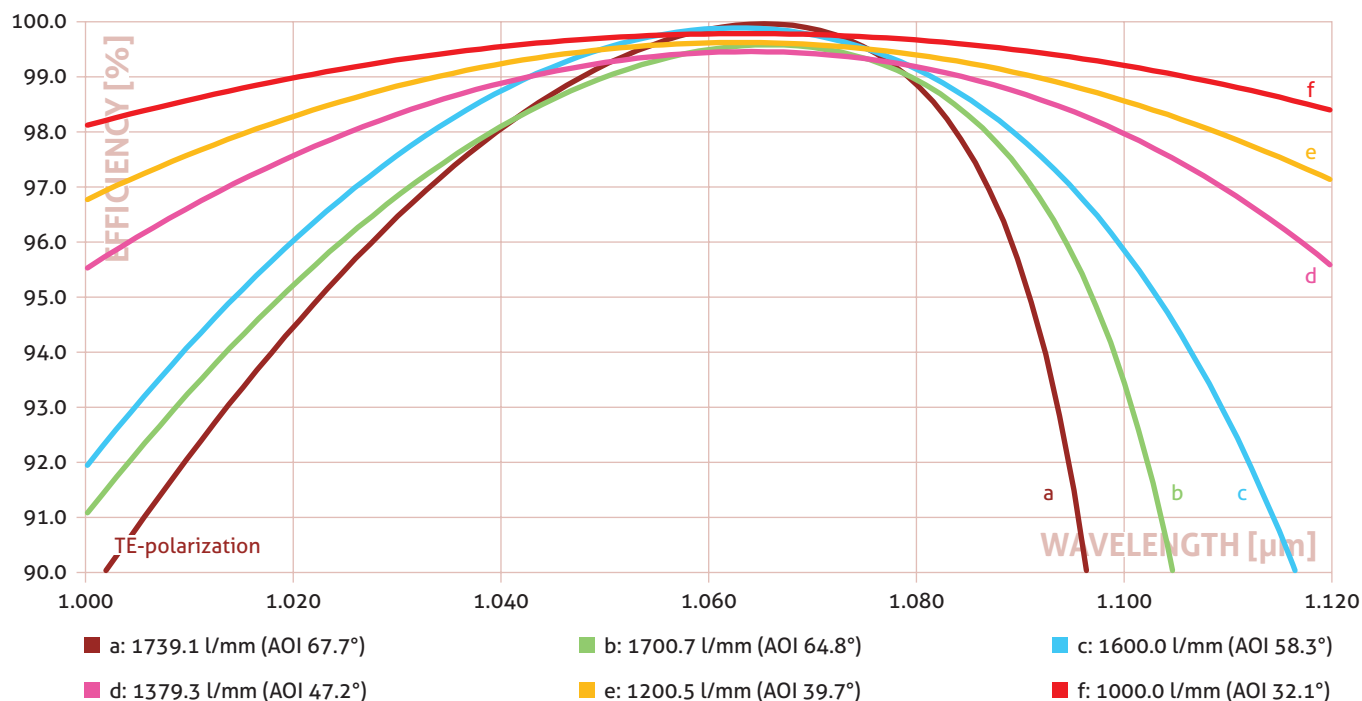


OPTICAL SPECIFICATIONS

Graph annotations	a	b	c	d	e	f
Central wavelength [nm]	1064	1064	1064	1064	1064	1064
Grating period [nm]	575	588	625	725	833	1000
Line density [l/mm]	1739.1	1700.7	1600.0	1379.3	1200.5	1000.0
Polarization	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)
Angle of Incidence	67.7°	64.8°	58.3°	47.2°	39.7°	32.1°
Diffraction efficiency (≥)*	98.0 %	98.0 %	98.0 %	98.0 %	98.0 %	98.0 %
Angular dispersion [°/nm]	-0.263	-0.229	-0.175	-0.116	-0.089	-0.068

* at the central wavelength, including AR coating

TRANSMISSION GRATINGS 1064 nm

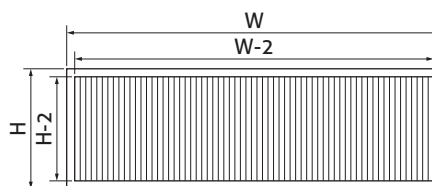


SUBSTRATE / MECHANICAL SPECIFICATIONS

Substrate material	Fused silica: Heraeus Suprasil 3002**				
Substrate thickness [mm]	Popular formats W x H [mm x mm]**				
6.35	135 x 20	100 x 15	77 x 15	30 x 20	17 x 15
3.00	65 x 25	55 x 25	30 x 25	35 x 20	20 x 14

** with reduced OH content of < 1 ppm

*** customizable to meet your specific demands



Fused Silica Transmission Gratings for NIR

High-Efficiency Gratings customized for your application



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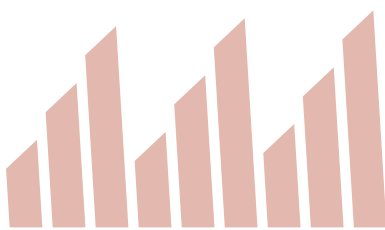
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Gitterwerk GmbH
Auf der Schanze 1a
99441 Magdala
Germany





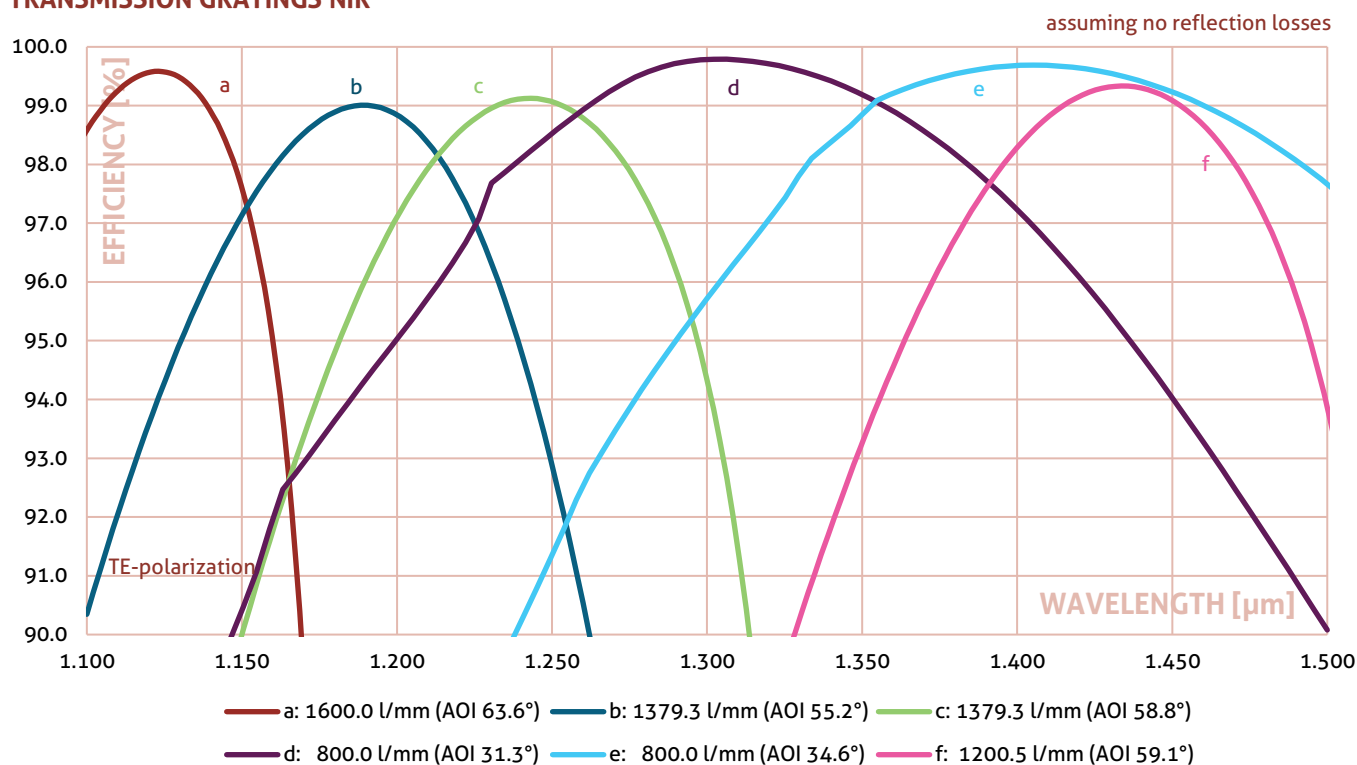
OPTICAL SPECIFICATIONS

Graph annotations	a	b	c	d	e	f
Center wavelength [nm]	1120	1190	1240	1300	1420	1430
Grating period [nm]	625	725	725	1250	1250	833
Line density [l/mm]	1600.0	1379.3	1379.3	800.0	800.0	1200.5
Polarization	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)
Angle of Incidence ⁽¹⁾	63.6°	55.2°	58.8°	31.3°	34.6°	59.1°
Diffraction efficiency (≥) ^(1,2)	98.0%	97.5%	97.5%	97.5%	97.5%	97.5%
Angular dispersion [°/nm] ⁽¹⁾	-0.206	-0.138	-0.152	-0.054	-0.056	-0.134

⁽¹⁾ at center wavelength

⁽²⁾ including AR coating

TRANSMISSION GRATINGS NIR

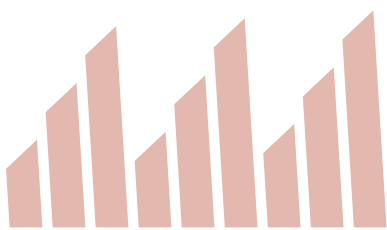
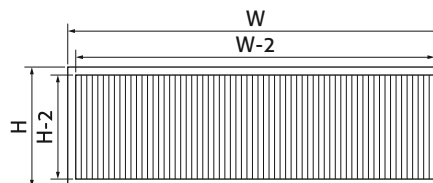


SUBSTRATE / MECHANICAL SPECIFICATIONS

Substrate material	Fused silica: Heraeus Suprasil 3002 ⁽³⁾				
Substrate thickness [mm]	Popular formats W x H [mm x mm] ⁽⁴⁾				
6.35	137 x 28	135 x 20	100 x 20	77 x 15	
3.00	65 x 25	55 x 25	30 x 25	30 x 20	

⁽³⁾ with reduced OH content of < 1 ppm

⁽⁴⁾ customizable to meet your specific demands



Transmission Gratings for 1550 nm

High-Efficiency Fused Silica Gratings



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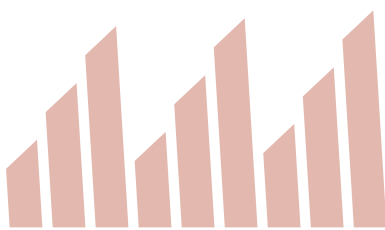
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99441 Magdala
Germany





OPTICAL SPECIFICATIONS

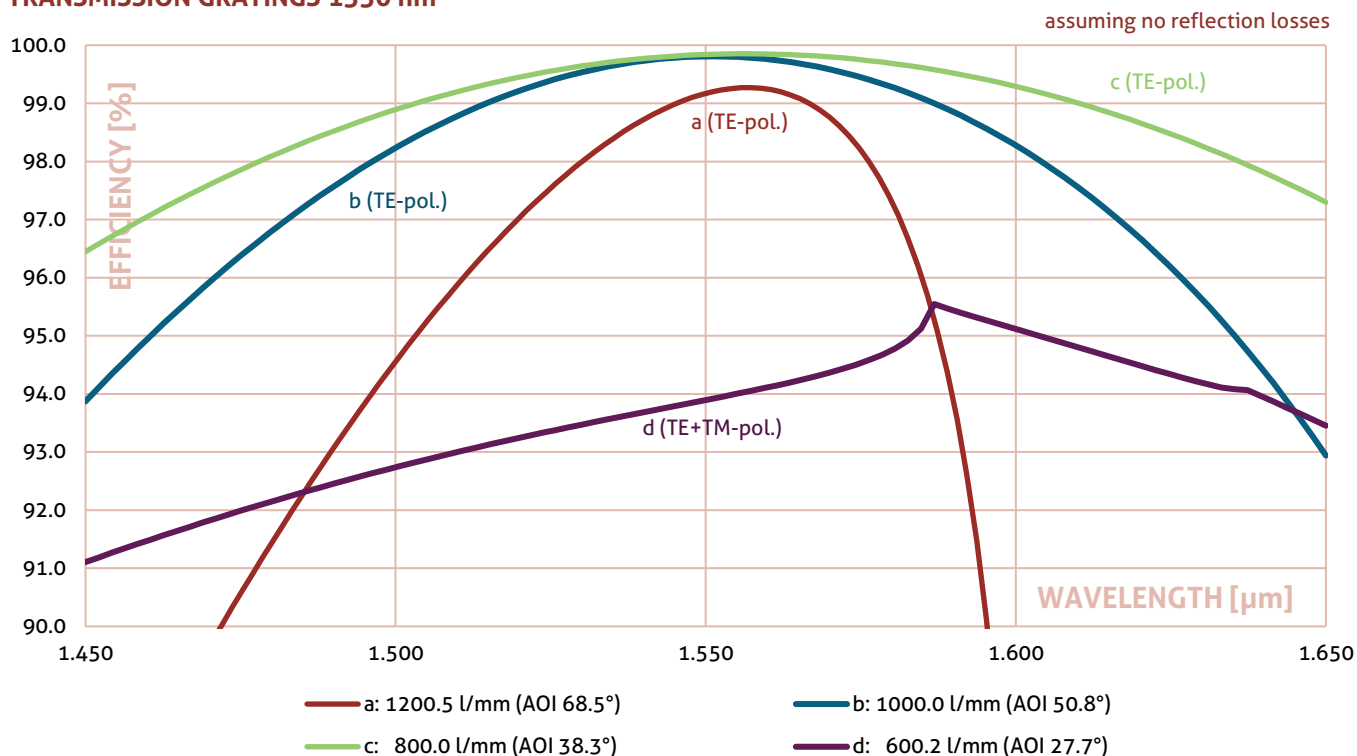
Graph annotations	a	b	c	d
Center wavelength [nm]	1550	1550	1550	1550
Grating period [nm]	833	1000	1250	1666
Line density [l/mm]	1200.5	1000.0	800.0	600.2
Polarization	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE+TM (unpol.)
Angle of Incidence ⁽¹⁾	68.5°	50.8°	38.3°	27.7°
Diffraction efficiency (≥) ^(1,2)	97.5%	97.5%	97.5%	90.0% ⁽³⁾
Angular dispersion [°/nm] ⁽¹⁾	-0.188	-0.091	-0.058	-0.039

⁽¹⁾ at center wavelength

⁽²⁾ including AR coating

⁽³⁾ averaged over polarization-modes

TRANSMISSION GRATINGS 1550 nm

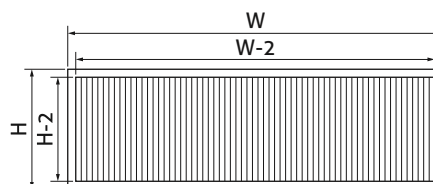


SUBSTRATE / MECHANICAL SPECIFICATIONS

Substrate material	Fused silica: Heraeus Suprasil 3002 ⁽⁴⁾			
Substrate thickness [mm]	Popular formats W x H [mm x mm] ⁽⁵⁾			
6.35	137 x 28	135 x 20	100 x 20	77 x 15
3.00	65 x 25	55 x 25	30 x 25	30 x 20

⁽⁴⁾ with reduced OH content of < 1 ppm

⁽⁵⁾ customizable to meet your specific demands



Reflection Gratings for 2 μm

Multi-Layer Dielectric Reflection Gratings



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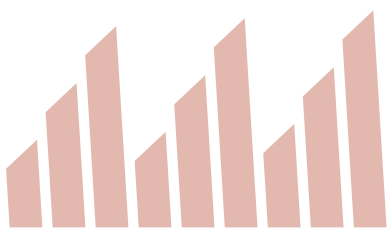
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Reflection Gratings for 2 μm

Multi-Layer Dielectric Reflection Gratings



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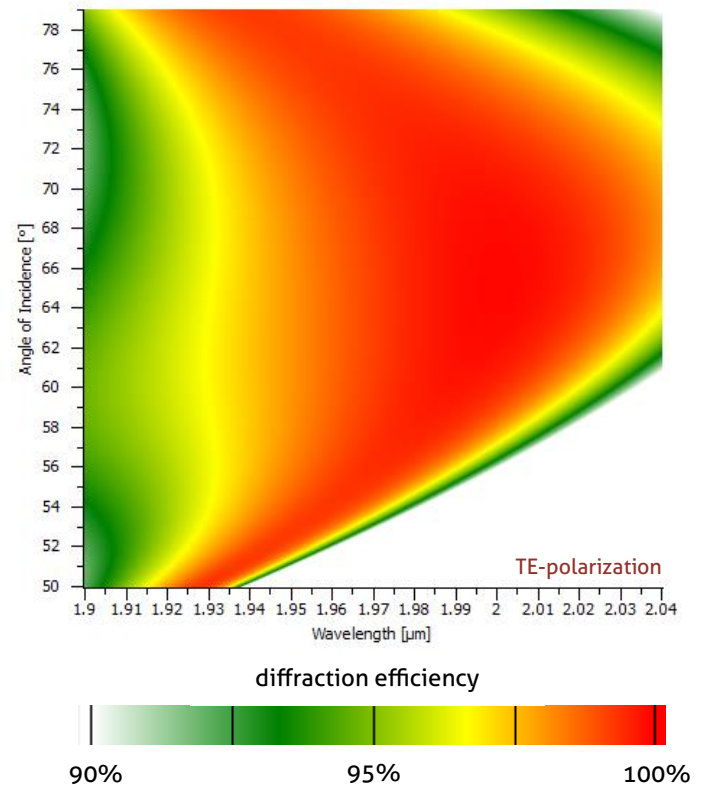
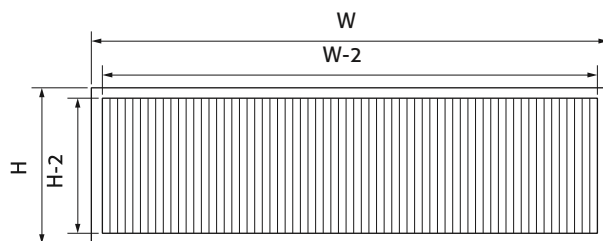
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SPECIFICATIONS

Center wavelength [nm]	1975
Grating period [nm]	1100
Line density [l/mm]	909.1
Polarization	TE (s-pol.)
Angle of Incidence	55° ... 78°
Diffraction efficiency ($\geq$) ⁽¹⁾	98.0%
Angular dispersion [$^{\circ}/\text{nm}$] ⁽¹⁾	-0.241 ... -0.090
Substrate material	Fused silica: Heraeus Suprasil 3002
Substrate thickness [mm]	6.35
Grating sizes W x H [mm x mm]	12 x 10 ... 132 x 67 ⁽²⁾

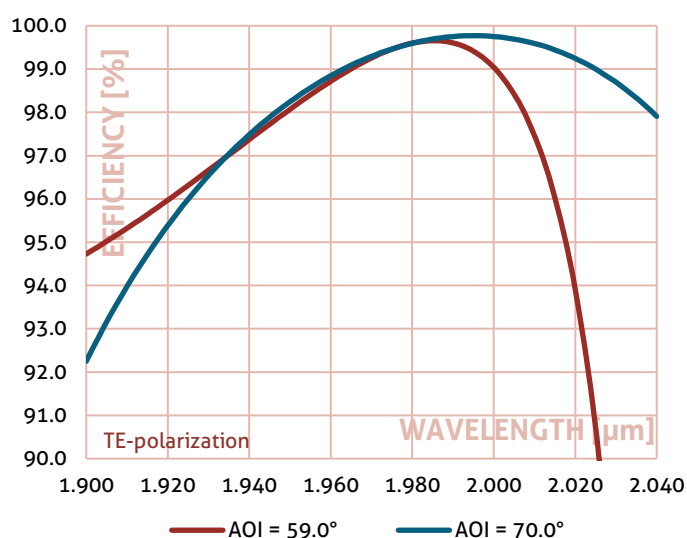
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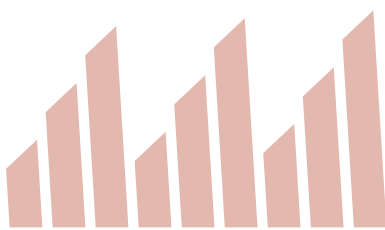
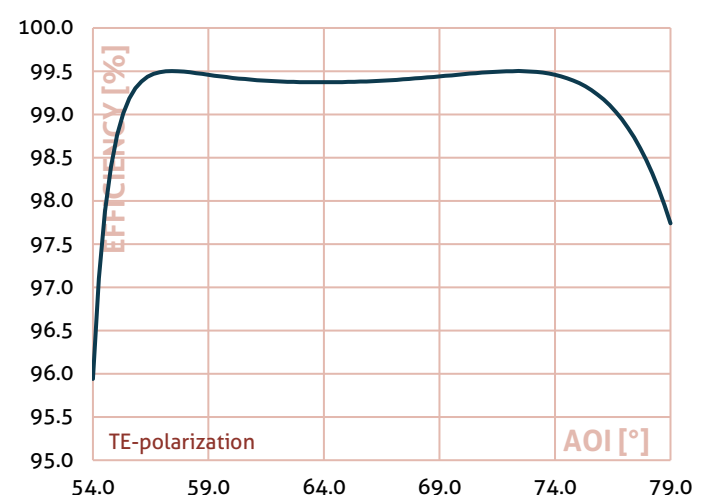
REFLECTION GRATINGS 2 μm

- spectral response -



REFLECTION GRATINGS 2 μm

- angular response -



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Transmission Gratings for 2 μm

Fused Silica Gratings customized for your application



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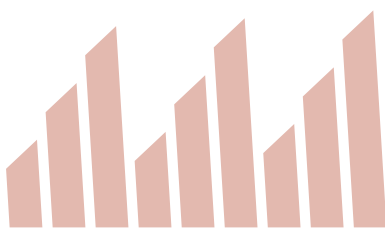
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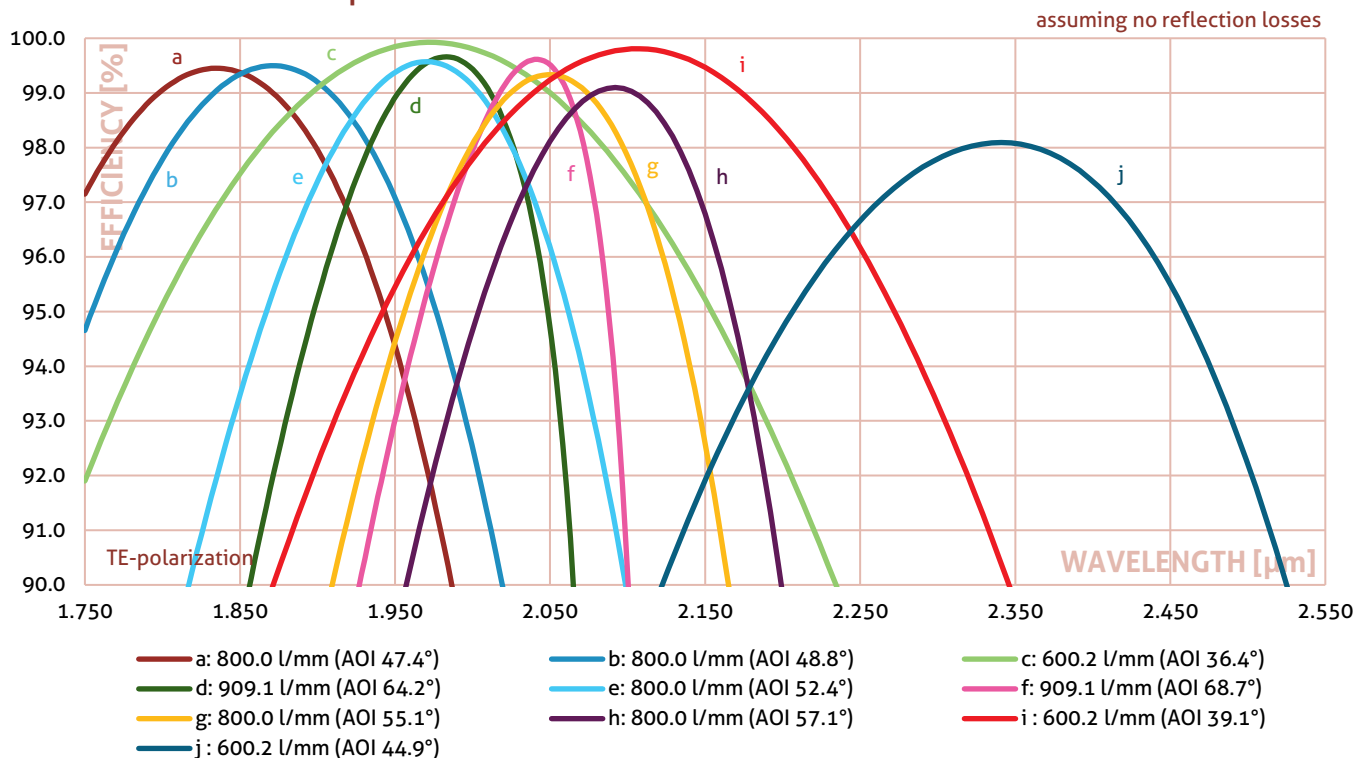
OPTICAL SPECIFICATIONS

Graph annotations	a	b	c	d	e	f	g	h	i	j
Center wavelength [nm]	1840	1880	1975	1980	1980	2050	2050	2100	2100	2350
Grating period [nm]	1250	1250	1666	1100	1250	1100	1250	1250	1666	1666
Line density [l/mm]	800.0	800.0	600.2	909.1	800.0	909.1	800.0	800.0	600.2	600.2
Polarization	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)	TE (s-pol.)
Angle of Incidence ⁽¹⁾	47.4°	48.8°	36.4°	64.2°	52.4°	68.7°	55.1°	57.1°	39.1°	44.9°
Diffraction efficiency ($\geq$) ^(1,2)	97.5%	97.5%	97.5%	97.5%	97.5%	97.5%	97.5%	97.5%	97.5%	97.5%
Angular dispersion [$^{\circ}/\text{nm}$] ⁽¹⁾	-0.068	-0.070	-0.043	-0.119	-0.075	-0.144	-0.080	-0.084	-0.044	-0.049

⁽¹⁾ at center wavelength

⁽²⁾ including AR coating

TRANSMISSION GRATINGS 2 μm

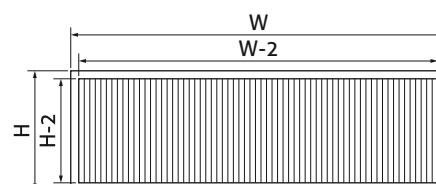


SUBSTRATE / MECHANICAL SPECIFICATIONS

Substrate material	Fused silica: Heraeus Suprasil 3002 ⁽³⁾			
Substrate thickness [mm]	Popular formats W x H [mm x mm] ⁽⁴⁾			
6.35	137 x 28	135 x 20	100 x 20	77 x 15
3.00	65 x 25	55 x 25	30 x 25	30 x 20

⁽³⁾ with reduced OH content of < 1 ppm

⁽⁴⁾ customizable to meet your specific demands



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