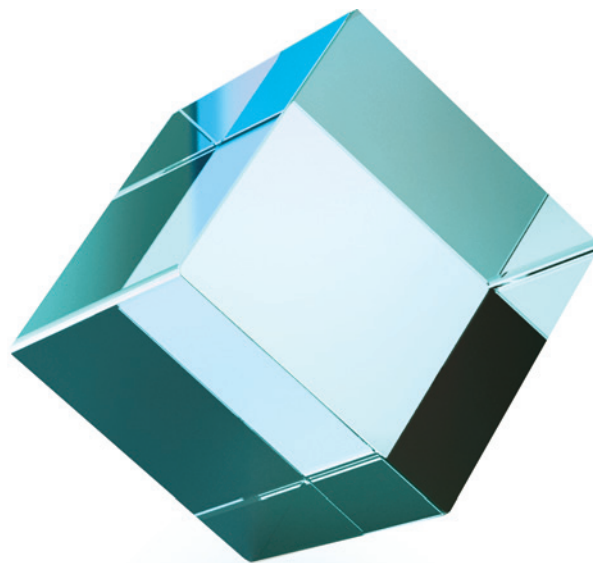




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Ultrafast Phenomena Related Products for Femtosecond Systems



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Developed by **Altechna**

Optics Set for Ti:Sapphire and Ytterbium Based Lasers

(For fundamental wavelengths $\lambda = 760-840$ or $1020-1040$ nm and their harmonics)

Optics set for titanium sapphire and ytterbium based lasers is a perfect combination of optical components and accessories suitable for femtosecond applications. Set consists of dielectric coated, polarizing optics, laser and non-linear crystals and laser accessories. Usually, all the items are from stock.

Dielectric coated optics

Substrate material	UVFS
Diameter	$\varnothing 25.4 \times 5$ mm ($\varnothing 12.7 \times 2$ mm also available)
Angle	45° (0° by request)
Adhesion and durability	Per MIL-C-675A
Clear aperture	>90% of diameter
Surface quality	20-10 S-D
Surface flatness	$< \lambda/8 @ 632.8$ nm
Diameter tolerance	+0.0/-0.1 mm
Thickness tolerance	± 0.1 mm
Chamfer	0.3 mm @ 45° typical
Parallelism	<1 arcmin
Laser damage threshold	>500 mJ/cm ² for 300 fs @ 1030 nm



Low GDD Ultrafast Mirrors			
Product ID	Wavelength of coating, nm	AOI, °	Price, €
1-OS-2-0254-5-[1P45-GDD]	$R_{avg} > 99.5\% @ 1000 - 1060$ nm	45	74
1-OS-2-0254-5-[1K45-GDD]	$R_{avg} > 99.5\% @ 760 - 840$ nm	45	76
1-OS-2-0254-5-[1E45-GDD]	$R_{avg} > 99.5\% @ 500 - 532$ nm	45	76
1-OS-2-0254-5-[1C45-GDD]	$R_{avg} > 99.5\% @ 380 - 420$ nm	45	63
1-OS-2-0254-5-[1B45-GDD]	$R_{avg} > 99.5\% @ 340 - 370$ nm	45	76
1-OS-2-0254-5-[1A45-GDD]	$R_{avg} > 99.5\% @ 250 - 270$ nm	45	76

Low loss HR mirrors			
Product ID	Wavelength of coating, nm	AOI, °	Price, €
1-OS-2-0254-5-[1PR45-IBS]	$R_s > 99.995\%, R_p > 99.95\% @ 1030 - 1060$ nm	45	140
1-OS-2-0254-5-[1K45-IBS]	$R_s > 99.995\%, R_p > 99.95\% @ 800$ nm	45	135
1-OS-2-0254-5-[1F45-IBS]	$R_s > 99.99\%, R_p > 99.9\% @ 515 - 532$ nm	45	115
1-OS-2-0254-5-[1C45-IBS]	$R_s > 99.95\%, R_p > 99.8\% @ 400$ nm	45	125
1-OS-2-0254-5-[1B45-IBS]	$R_s > 99.9\%, R_p > 99.7\% @ 343 - 355$ nm	45	155

Gires-Tournois Interferometer Mirrors (GTI)				
Product ID	Wavelength of coating, nm	Average GDD, fs ²	AOI, °	Price, €
1-OS-2-0254-5-1000-[10B00]	$R_{sp} > 99.8\% @ 1010 - 1080$ nm	-1000	0-10	390
1-OS-2-0254-5-600-[10B00]	$R_{sp} > 99.8\% @ 1010 - 1080$ nm	-600	0-10	390
1-OS-2-0254-5-400-[10B00]	$R_{sp} > 99.8\% @ 1010 - 1080$ nm	-400	0-10	390
1-OS-2-0254-5-200-[10B00]	$R_{sp} > 99.8\% @ 1010 - 1080$ nm	-200	0-10	390
1-OS-2-0254-5-400-[10A00]	$R_{sp} > 99.8\% @ 700 - 900$ nm	-400	0-10	390
1-OS-2-0254-5-250-[10A00]	$R_{sp} > 99.8\% @ 700 - 900$ nm	-250	0-10	390
1-OS-2-0254-5-150-[10A00]	$R_{sp} > 99.8\% @ 700 - 900$ nm	-150	0-10	390

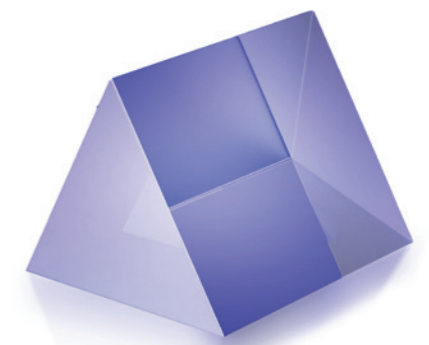
Non-polarizing Plate Beamsplitters				
Product ID	Wavelength of coating, nm	Reflectivity (R _s , R _p), %	AOI, °	Price, €
1-OS-2-0254-5-[4G45-50]	1025 - 1095 nm (GDD < 100 fs ²)	50	45	220
1-OS-2-0254-5-[4F45-50]	770 - 830 nm (GDD < 75 fs ²)	50	45	220
1-OS-2-0254-5-[4D45-50]	515 - 532 nm	50	45	175
1-OS-2-0254-5-[4C45-50]	390 - 410 (GDD < 20 fs ²)	50	45	155

Laser Output Coupler			
Product ID	Wavelength of coating, nm	AOI, °	Price, €
1-OS-2-0254-5-[3F100-70]	$R_{avg} > 70 \pm 3\% @ 760 - 840$ nm	0 - 5	87
1-OS-2-0254-5-[3H100-70]	$R_{avg} > 70 \pm 3\% @ 1020 - 1070$ nm	0 - 5	87
1-OS-2-0254-5-[3F100-80]	$R_{avg} > 80 \pm 3\% @ 760 - 840$ nm	0 - 5	87
1-OS-2-0254-5-[3H100-80]	$R_{avg} > 80 \pm 3\% @ 1020 - 1070$ nm	0 - 5	87
1-OS-2-0254-5-[3F100-90]	$R_{avg} > 90 \pm 2\% @ 760 - 840$ nm	0 - 5	87
1-OS-2-0254-5-[3H100-90]	$R_{avg} > 90 \pm 2\% @ 1020 - 1070$ nm	0 - 5	87
1-OS-2-0254-5-[3F100-95]	$R_{avg} > 95 \pm 1\% @ 760 - 840$ nm	0 - 5	87
1-OS-2-0254-5-[3H100-95]	$R_{avg} > 95 \pm 1\% @ 1020 - 1070$ nm	0 - 5	87
1-OS-2-0254-5-[3F100-97]	$R_{avg} > 97 \pm 1\% @ 760 - 840$ nm	0 - 5	90
1-OS-2-0254-5-[3H100-97]	$R_{avg} > 97 \pm 1\% @ 1020 - 1070$ nm	0 - 5	90
1-OS-2-0254-5-[3F100-98]	$R_{avg} > 98 \pm 1\% @ 760 - 840$ nm	0 - 5	90
1-OS-2-0254-5-[3H100-98]	$R_{avg} > 98 \pm 1\% @ 1020 - 1070$ nm	0 - 5	90
1-OS-2-0254-5-[3F100-99]	$R_{avg} > 99 \pm 0.5\% @ 760 - 840$ nm	0 - 5	95
1-OS-2-0254-5-[3H100-99]	$R_{avg} > 99 \pm 0.5\% @ 1020 - 1070$ nm	0 - 5	95

Brewster Angle Dispersing Prisms for Ultrashort Pulses

Angle Tolerance	± 3 arcmin
Clear Aperture	>80%
Dimension Tolerances	+0.0/-0.2 mm
Protective chamfers	<0.25 mm x 45°
Dimensions	25.4 x 25.4 mm

Product ID	Material	Apex Angle, °	Price, €
1-BDP-2-0254	UVFS	69.06	87
1-BDP-3-0254	SF10	60.60	87
1-BDP-4-0254	LaKL21	63.00	87



Crystalline Quartz Waveplates

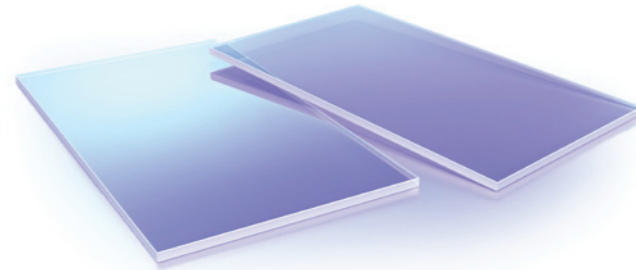
Material	Crystalline quartz
Diameter	$\varnothing 25.4$ mm (up to $\varnothing 80$ mm also available)
Dimension tolerance	+0.0/-0.12 mm
AR coatings	$R < 0.2\%$ @ each surface
Retardation tolerance	$\lambda/300 @ 20^\circ\text{C}$
Wavefront distortion	$\lambda/10 @ 632.8$ nm
Clear aperture	>18 mm
Surface quality	20-10 S-D
Parallelism	<3 arcsec
Laser damage threshold	>1 J/cm ² for 300 fs @ 1030 nm
Mounting	Mounted in 25.4 mm anodized metal mount

Product ID	Wavelength, nm	Retardation	Price, €
ZO-1030-2	1030	$\lambda/2$	210
ZO-0800-2	800	$\lambda/2$	210
ZO-0515-2	515	$\lambda/2$	210
ZO-0400-2	400	$\lambda/2$	210
ZO-0343-2	343	$\lambda/2$	210
ZO-0258-2	258	$\lambda/2$	210
ZO-1030-4	1030	$\lambda/4$	210
ZO-0800-4	800	$\lambda/4$	210
ZO-0515-4	515	$\lambda/4$	210
ZO-0343-4	343	$\lambda/4$	210
ZO-0400-4	400	$\lambda/4$	210
ZO-0258-4	258	$\lambda/4$	210



Brewster Type Thin Film Polarizers

Substrate material	UVFS
Dimensions	20 x 40 mm (ø25,4 x 5 mm also available)
Dimensions tolerance	+0.0/-0.12 mm
Thickness	5 mm
Thickness tolerance	±0.2 mm
Clear aperture	>90% of diameter
Surface quality	20-10 S-D
Wavefront distortion	$\lambda/8$ @ 632.8 nm
Parallelism error	<30 arcsec
Extinction ratio, T_p/T_s	>200:1
Typical transmission	$T_p > 95\%$
Typical reflection	$R_s > 99.5\%$
Laser damage threshold	>500 mJ/cm ² for 300 fs @ 1030 nm



Product ID	Wavelength, nm	Price, €
2-BFP-1030-2040	1020 - 1040 (centered @ 1030)	150
2-BFP-0800-A-2040	780 - 820 (centered @ 800 nm)	160
2-BFP-0515-2040	515	130
2-BFP-0400-2040	400	130
2-BFP-0343-2040	343	170

Achromatic (Broadband) Waveplates

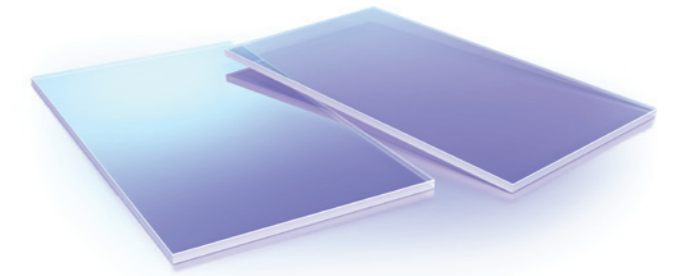
Material	Quartz + MgF ₂
Dimension tolerance	+0.0/-0.2 mm
Retardation tolerance	$\lambda/100$
Clear aperture	>18 mm
Wavefront distortion	$\lambda/4$ @ 632.8 nm
Surface Quality	40-20 S-D
Parallelism error	<30 arcsec
Laser damage threshold	5 J/cm ² 10 ns pulsed at 1064 nm typical
AR coatings	BBAR coated by default
Mounting	Mounted in ø25.4x6 mm black anodized metal mount



Product ID	Wavelength, nm	Retardation	Price, €
2-APW-L/2-018D	900 - 2100	$\lambda/2$	640
2-APW-L/2-018C	650 - 1100	$\lambda/2$	640
2-APW-L/2-018B	550 - 750	$\lambda/2$	640
2-APW-L/2-018A	450 - 650	$\lambda/2$	640
2-APW-L/4-018D	900 - 2100	$\lambda/4$	640
2-APW-L/4-018C	650 - 1100	$\lambda/4$	640
2-APW-L/4-018B	550 - 750	$\lambda/4$	640
2-APW-L/4-018A	450 - 650	$\lambda/4$	640

High Contrast Thin Film Polarizers

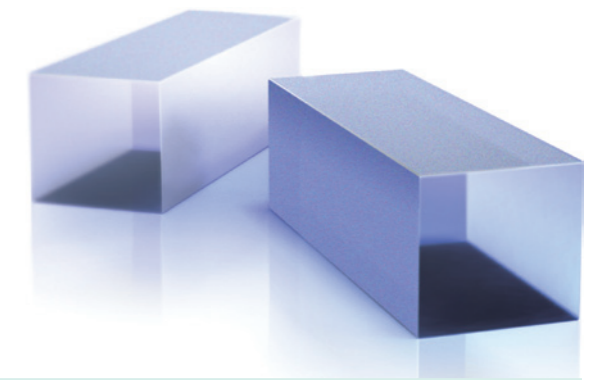
Dimensions	Ø25.4 x 5
Clear Aperture	>90%
Diameter Tolerance	+0.0/-0.12 mm
Laser Damage Threshold	>10 J/cm ² for 10 ns pulses @ 1064 nm typical
Parallelism	<30 arcsec
Substrate Material	UVFS
Surface Quality	20-10 S-D
Thickness Tolerance	±0.2 mm



Product ID	Wavelength, nm	Coating GDD	Transmission	Price, €
2-HCTFP-1030-0254	1030	GDD(s-pol)<200 fs ² GDD(p-pol)<500 fs ²	$T_p > 99\%$, $T_s < 0.1\%$	200
2-HCTFP-0800-0254	800	GDD(s-pol)<200 fs ² GDD(p-pol)<400 fs ²	$T_p > 99\%$, $T_s < 0.1\%$	180
2-HCTFP-0515-0254	515	GDD(s-pol)<100 fs ² GDD(p-pol)<300 fs ²	$T_p > 99\%$, $T_s < 0.1\%$	165
2-HCTFP-0400-0254	400	GDD(s-pol)<100 fs ² GDD(p-pol)<300 fs ²	$T_p > 98\%$, $T_s < 0.1\%$	165
2-HCTFP-0343-0254	343	GDD(s-pol)<50 fs ² GDD(p-pol)<80 fs ²	$T_p > 97.5\%$, $T_s < 0.1\%$	180

BBO Crystals

Aperture Tolerance	+0.0/-0.1 mm
Laser Damage Threshold	>0.5 GW/cm ² for 10 ns pulses @ 1064 nm
Length Tolerance	+0.0/-0.1 mm
Orientation Accuracy of Cut Angle	<30 arcmin
Parallelism	<20 arcsec
Perpendicularity	<5 arcmin
Surface Flatness	$\lambda/8$ @ 632.8 nm
Surface Quality	10-5 S-D
Transparency Range	189 - 3500 nm



Product ID	Aperture, mm	Application	Orientation $\Theta / \phi, ^\circ$	Length, mm	Protective coatings S1/S2, nm/nm	Price, €
4-BBO-0605-2	6 x 6	SHG @ 1030 nm	23.4/90	0.5	515 + 1030 / 515 + 1030	490
4-BBO-0610-2	6 x 6	SHG @ 1030 nm	23.4/90	1	515 + 1030 / 515 + 1030	420
4-BBO-0615-2	6 x 6	SHG @ 1030 nm	23.4/90	1.5	515 + 1030 / 515 + 1030	465
4-BBO-1005-2	10 x 10	SHG @ 1030 nm	23.4/90	0.5	515 + 1030 / 515 + 1030	650
4-BBO-1010-2	10 x 10	SHG @ 1030 nm	23.4/90	1	515 + 1030 / 515 + 1030	610
4-BBO-1015-2	10 x 10	SHG @ 1030 nm	23.4/90	1.5	515 + 1030 / 515 + 1030	695
4-BBO-0601-0	6 x 6	SHG @ 800 nm	29.2/90	0.1	400 - 800 / 400 - 800	455
4-BBO-0601-1	6 x 6	THG @ 800 nm	44.3/90	0.1	400 - 800 / 266	455
4-BBO-0602-0	6 x 6	SHG @ 800 nm	29.2/90	0.2	400 - 800 / 400 - 800	455
4-BBO-0602-1	6 x 6	THG @ 800 nm	44.3/90	0.2	400 - 800 / 266	455
4-BBO-0605-0	6 x 6	SHG @ 800 nm	29.2/90	0.5	400 - 800 / 400 - 800	360
4-BBO-0605-1	6 x 6	THG @ 800 nm	44.3/90	0.5	400 - 800 / 266	360
4-BBO-0610-0	6 x 6	SHG @ 800 nm	29.2/90	1	400 - 800 / 400 - 800	260
4-BBO-0610-1	6 x 6	THG @ 800 nm	44.3/90	1	400 - 800 / 266	260
4-BBO-1001-0	10 x 10	SHG @ 800 nm	29.2/90	0.1	400 - 800 / 400 - 800	675
4-BBO-1002-0	10 x 10	SHG @ 800 nm	29.2/90	0.2	400 - 800 / 400 - 800	675
4-BBO-1005-0	10 x 10	SHG @ 800 nm	29.2/90	0.5	400 - 800 / 400 - 800	610
4-BBO-1010-0	10 x 10	SHG @ 800 nm	29.2/90	1	400 - 800 / 400 - 800	575

LBO Crystals

Length	0.9 mm (other lengths also available)
Aperture Tolerance	+0.0/-0.1 mm
Laser Damage Threshold	>10 GW/cm ² for 10 ns pulses @ 1064 nm
Length Tolerance	+0.0/-0.1 mm
Orientation Accuracy of Cut Angle	<30 arcmin
Parallelism	<20 arcsec
Perpendicularity	<5 arcmin
Surface Flatness	$\lambda/8$ @ 632.8 nm
Surface Quality	10-5 S-D
Transparency Range	160 - 2800 nm



Product ID	Aperture, mm	Application	Orientation Θ/ϕ , °	Protective coatings S1/S2, nm/nm	Price,€
4-LBO-0609-2	6 x 6	SHG @ 1030 nm	90/13.8	515 + 1030 / 515 + 1030	490
4-LBO-0809-2	8 x 8	SHG @ 1030 nm	90/13.8	515 + 1030 / 515 + 1030	625
4-LBO-1009-2	10 x 10	SHG @ 1030 nm	90/13.8	515 + 1030 / 515 + 1030	650
4-LBO-1209-2	12 x 12	SHG @ 1030 nm	90/13.8	515 + 1030 / 515 + 1030	940
4-LBO-2009-2	20 x 20	SHG @ 1030 nm	90/13.8	515 + 1030 / 515 + 1030	2495

Ti:Sapphire Crystals

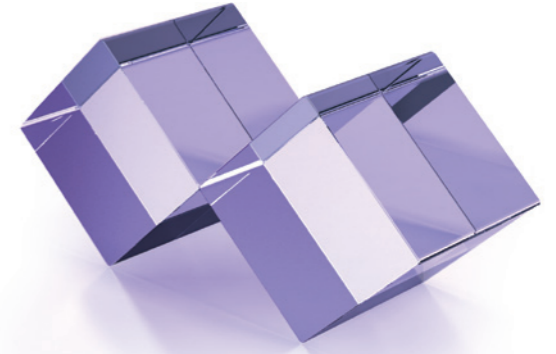
Absorption @ 532 nm on crystal length	>90%
Dimension Tolerances	± 0.1 mm
Flatness	$<\lambda/10$ @ 632.8 nm over CA
Length Tolerance	± 0.1 mm
Maximal size	50 x 50 x 50 mm
Orientation	Optical axis C normal to rod axis
Parallelism	<30 arcsec
Protective chamfers	<0.1 mm x 45°
Surface Quality	10-5 S-D
Ti2O3 Concentration	0.03 - 0.25 wt. %
Transmitted Wavefront Distortion	$<\lambda/4$ @ 632.8 nm over CA



Product ID	Aperture, mm	AR coatings	End surfaces	FOM	Length, mm	Price,€
3-TS-0-0605	$\varnothing 6$	(R<1%) @ 532 nm + (R<0.3%) @ 780 - 820 nm	Right-angle cut	>120	5	970
3-TS-0-0610	$\varnothing 6$	(R<1%) @ 532 nm + (R<0.3%) @ 780 - 820 nm	Right-angle cut	>150	10	1020
3-TS-0-0615	$\varnothing 6$	(R<1%) @ 532 nm + (R<0.3%) @ 780 - 820 nm	Right-angle cut	>150	15	1100
3-TS-0-6605	6 x 6	(R<1%) @ 532 nm + (R<0.3%) @ 780 - 820 nm	Right-angle cut	>120	5	970
3-TS-0-6610	6 x 6	(R<1%) @ 532 nm + (R<0.3%) @ 780 - 820 nm	Right-angle cut	>150	10	1020
3-TS-0-6615	6 x 6	(R<1%) @ 532 nm + (R<0.3%) @ 780 - 820 nm	Right-angle cut	>150	15	1100
3-TS-1-0605	$\varnothing 6$	none	Brewster cut	>120	5	970
3-TS-1-0610	$\varnothing 6$	none	Brewster cut	>150	10	1020
3-TS-1-0615	$\varnothing 6$	none	Brewster cut	>150	15	1100
3-TS-1-6605	6 x 6	none	Brewster cut	>120	5	970
3-TS-1-6610	6 x 6	none	Brewster cut	>150	10	1020
3-TS-1-6615	6 x 6	none	Brewster cut	>150	15	1100

Yb:KGW and Yb:KYW Crystals

Aperture	5 x 5 mm
Dopant Concentration	0.5 - 5 atm. % for Yb:KGW 0.5 - 100 atm. % for Yb:KYW
Flatness	$\lambda/10$ @ 632.8 nm
Orientation	b-cut: Nm-axis is parallel to input/ output faces (other orientations also available)
Parallelism Error	≤ 10 arcsec
Perpendicularity	≤ 10 arcmin
Protective chamfers	<0.1 mm @ 45°
Surface Quality	10-5 S-D



Product ID	Coatings	Material	End surfaces	Length, mm	Price,€
3-YB10KYW-01/02/03	2AR @ 980 - 1080 nm	Yb(10%):KYW	Right-angle cut	1 / 2 / 3	700
3-YB10KYW-04/05/06	none	Yb(10%):KYW	Brewster-angle cut	1 / 2 / 3	740
3-YB1KGW-01/02/03	2AR @ 980 - 1080 nm	Yb(1%):KGW	Right-angle cut	2 / 3 / 5	700
3-YB1KGW-04/05/06	none	Yb(1%):KGW	Brewster-angle cut	2 / 3 / 5	740
3-YB20KYW-01/02/03	2AR @ 980 - 1080 nm	Yb(20%):KYW	Right-angle cut	1 / 2 / 3	700
3-YB20KYW-04/05/06	none	Yb(20%):KYW	Brewster-angle cut	1 / 2 / 3	740
3-YB3KGW-01/02/03	2AR @ 980 - 1080 nm	Yb(3%):KGW	Right-angle cut	1 / 3 / 5	700
3-YB3KGW-04/05/06	none	Yb(3%):KGW	Brewster-angle cut	1 / 3 / 5	740
3-YB5KGW-01/02/03	2AR @ 980 - 1080 nm	Yb(5%):KGW	Right-angle cut	1 / 2 / 3	700
3-YB5KGW-04/05/06	none	Yb(5%):KGW	Brewster-angle cut	1 / 2 / 3	740

Tunable Laser Beam Expanders

Housing material	black anodized aluminium
Mounting	M27 x 1
Laser Damage Threshold	>5 J/cm ² , 10 ns, @ 1064 nm
Lens material	UVFS
Each lens wavefront distortion	$<\lambda/4$ @ 632.8 nm
Transmission	97%



Product ID	Expansion	Exit aperture, mm	Input aperture, mm	Wavelength, nm	Price,€
6-BE-Tx	1.5X - 5X	30	8	343 or 515 or 1030	1250
6-BE-Tx	2X - 8X	36	11	343 or 515 or 1030	1290
6-BE-Tx	1.5X - 5X	30	8	800 + 400	1450
6-BE-Tx	2X - 8X	36	11	800 + 400	1450

MOTEX - Motorized Tunable Beam Expanders

Continuously variable magnification	2.5x...12x	Wavelength range, nm
Material	BK7 or UVFS	
Control interfaces	USB	1020 - 1070
Supported OS	Win XP/2003/Vista/7/8, Linux, MAC	510 - 540
Input aperture	10 mm	340 - 360
Output aperture	50 mm	
Overall transmission	98.5%	
Price	on request info@femtolutions.eu	



Enhanced Watt Pilot – Attenuator

Attenuation range @ CWL 0.5 – 98% for reflected s-pol beam

Clear aperture 15 mm (up to 50 mm by request)
 Time dispersion $t < 4$ fs for 100 fs laser pulse
 Laser damage threshold > 5 J/cm²; > 100 mJ/cm² @ 100 fs, 10 Hz, 800 nm



Motorized Watt Pilot – Attenuator

Motorized Enhanced Watt pilot includes also controller and all the necessary cables.

Specifications of computer controlled device:

Number of steps (360°) 31200
 Rotation speed 11.54°/s (at 1000 steps/s)
 Resolution 0.4 mrad/s

Product ID	Wavelength, nm	Price, €	Enhanced version, price, €
2-EWP-BBR-1030-M	1020 - 1040 (centered @ 1030)	1570	820
2-EWP-R-0800-M	800	1470	720
2-EWP-R-0515-M	515	1470	720
2-EWP-R-0400-M	400	1470	720

ultraFAST Watt Pilot – Attenuator

Attenuation range: reflection mode $R_s \sim 4 - 96\%$;
 reflection contrast mode $R_s \sim 0.1 - 70\%$.

Central wavelength 800 or 1030 nm (other available upon request)
 Clear aperture Standard 15 mm (up to 50 mm are available)
 Laser damage threshold > 5 J/cm² 10 ns, 10 Hz pulses @ 1064 nm;
 > 100 J/cm² @ 100 fs, 10 Hz, 800 nm



Product ID	Wavelength range, nm	Optimization	Configuration	Price, €	Manual version, price, €
2-UWP-R1-1030-M	1005 - 1055	Reflection mode	$\lambda/2$ ZO waveplate + 2x BB polarizers	1970	1220
2-UWP-R2-1030-M	1005 - 1055	Reflection contrast mode	$\lambda/2$ ZO waveplate + 2x BB polarizers	1970	1220
2-UWPA-R1-1030-M	980 - 1090	Reflection mode	$\lambda/2$ achromatic waveplate + 2x BB polarizers	2130	1380
2-UWPA-R2-1030-M	980 - 1090	Reflection contrast mode	$\lambda/2$ achromatic waveplate + 2x BB polarizers	2130	1380
2-UWP-R1-0800-M	775 - 825	Reflection mode	$\lambda/2$ ZO waveplate + 2x BB polarizers	1970	1220
2-UWP-R2-0800-M	775 - 825	Reflection contrast mode	$\lambda/2$ ZO waveplate + 2x BB polarizers	1970	1220
2-UWPA-R1-0800-M	750 - 850	Reflection mode	$\lambda/2$ achromatic waveplate + 2x BB polarizers	2130	1380
2-UWPA-R2-0800-M	750 - 850	Reflection contrast mode	$\lambda/2$ achromatic waveplate + 2x BB polarizers	2130	1380

Spectacles

Protects from fundamental wavelength ($\lambda = 1020-1040$ nm) and its harmonics

Product ID: SG-DBY
 Transmittance in VIS 35%
 Price 150€

Spectral range, nm	Optical density
190 - 534	7+
960 - 1064	7+
925 - 1070	6+
850 - 925	5+

