

www.crystech.com

No.102 Keyuanweisi Rd, Qingdao 266101, China
Tel: +86-532-88703980 ext1505/1508(Overseas), +86-532-88703981 ext1502/1516(Domestic)
Fax: +86-532-88703982 ext1515

CRYSTECH Inc.



Professional Manufacturer of Core Components for All-Solid-State Lasers

Introduction

CRYSTECH was founded in 2001. After years of development, CRYSTECH has become a leading laser components manufacturer in the world. Our factory is located in the beautiful coastal city Qingdao of China. At present, we have 190 employees, and a working space of 8000 sqm.

CRYSTECH's main products include ALEXANDRITE, Nd:YAG, KTP, HGTR-KTP, RTP and KD*P Q-SWITCH, HANDPIECE and LASER OPTICS. We master advanced modern growth technology (Flux, Aqueous solutions, Czochralsky method), advanced polishing technique, modern coating technology (IBS, IAD, Ebeam). Our know-how ensures us to meet various demands of the customers.

CRYSTECH has been certified in the quality management system ISO9001 since 2006. We have established a quality control center with a full range of inspection equipments to make sure each aspect of the products conform to the specifications.

Excellent technical team, strict quality control, and professional sales team are our assurance to customer satisfaction.



Laser Crystals Alexandrite



Applications

- Laser Medical Devices for Long Pulse, Q-switch or Picosecond 755nm Lasers
- Dermatology
- Spectroscopy
- Lithotripsy
- Atmospheric lidar etc.

Advantages

- Low threshold, High efficiency
- High damage threshold
- Excellent quality, Competitive price, Fast delivery

Specifications

Dimension Tolerance	D(+0/-0.05)*L(+1/-0.5) mm
Surface Quality	10/5
Parallelism	≤ 30"
Flatness	λ/10@633nm
Perpendicularity	≤ 5'
Chips	≤ 0.1mm
Barrel finish	55±5 μinches
Coatings	Option 1-Normal: AR/AR 755nm Option 2-Mirror coating: HR/PR 755nm
Standard Products	φ5x115mm, φ6.35x115mm, φ6.35x120mm, φ7x110mm, φ7x120mm, φ7x125mm, φ8x125mm, φ8x130mm, φ9.53x116.8mm

Note Please contact us for customized products.



Laser Crystals

Nd:YAG



Applications

- Q-Switch laser system
- Long pulse laser system

Advantages

- High gain, Low threshold
- High thermal conductivity
- High damage threshold

Specifications

Dimension Tolerance	D(+0/-0.05) * L(+1/-0.5) mm
Cut Angle	<111>
Dopant Concentration	0.5 at% - 1.1 at%
Surface Quality	10/5
Flatness	$\lambda/10@633\text{nm}$
Parallelism	$\leq 10''$
Perpendicularity	$\leq 5'$
Chips	$\leq 0.1\text{mm}$
Barrel finish	$55 \pm 5 \mu\text{inches}$
Extinction Ratio	>28dB
Coatings	Option 1- Normal : AR/AR 1064nm Option 2 -Mirror coating: HR/PR 1064nm
Standard Products	$\phi 7 \times 115$, $\phi 8 \times 100$, $\phi 8 \times 105$, $\phi 9.53 \times 116.8$

Note Please contact us for customized products.



Laser Crystals

Nd:Ce:YAG



Applications

- Flash lamp pumped laser system
- Long pulse laser system

Advantages

- High gain, Low threshold
- High thermal conductivity

Specifications

Dimension Tolerance	D(+0/-0.1) * L(+1/-0.5) mm
Cut Angle	<111>
Dopant Concentration	Nd:1.1-1.4%, Ce:0.05-0.1%
Surface Quality	10/5
Flatness	$\lambda/8@633\text{nm}$
Parallelism	$\leq 10''$
Perpendicularity	$\leq 5'$
Chips	$\leq 0.1\text{mm}$
Barrel finish	$55 \pm 5 \mu\text{inches}$
Standard Coating	AR/AR 1064nm
Lasing Wavelength	1064nm



Laser Crystals

CTH:YAG



Applications

- Medical
- Scientific
- Military

Advantages

- High efficient conversion to 2100nm
- Operation at room temperature
- Flashlamp pumped or Diode pumped
- High spectral overlap with flashlamps
- Eye-safe wavelength

Specifications

Dimension Tolerance	D(+0/-0.05) * L(+1/-0.5) mm
Cut Angle	<111>
Dopant Concentration	Cr ³⁺ 1.2 at%, Tm ³⁺ 6.0 at%, Ho ³⁺ 0.36 at%
Surface Quality	10/5
Flatness	λ/10@633nm
Parallelism	≤ 20"
Perpendicularity	≤ 5'
Chips	≤ 0.1mm
Barrel finish	55±5 μinches
Ends Type	Plan/Plan or Concave/Concave
Standard Coating	AR/AR 2100nm
Lasing Wavelength	2100nm



Laser Crystals

Nd:YVO₄



Applications

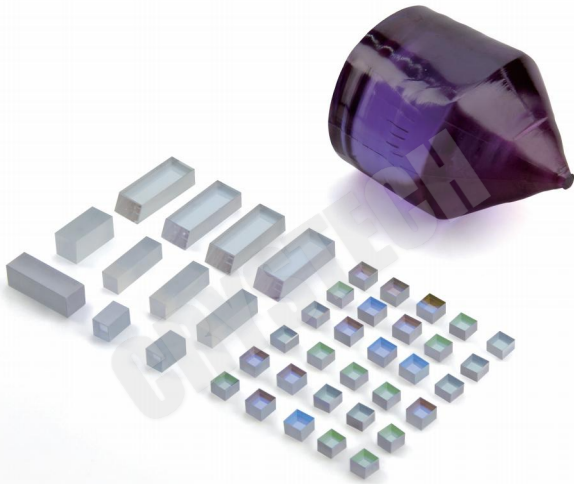
- Mainly used for end-pumped CW and QCW
- Low and medium-power solid-state lasers

Advantages

- High absorption coefficient
- Wide pump bandwidth
- Low threshold and high slope efficiency
- Uniaxial crystal, the output is linearly polarized

Specifications

Dimension Tolerance	W(+/-0.1)*H(+/-0.1)*L(+0.5/-0.1)mm
Cut Angle	a-cut
Dopant Concentration	0.1 at% - 3 at%
Surface Quality	10/5
Flatness	λ/10@633nm
Parallelism	≤ 20"
Perpendicularity	≤ 5'
Chips	≤ 0.1mm
Clear Aperture	≥ 90%
Standard Coatings	AR@1064nm&808nm, other coatings upon request
Lasing Wavelength	1064nm, 1342nm



Laser Crystals Diffusion Bonded Crystal



Applications

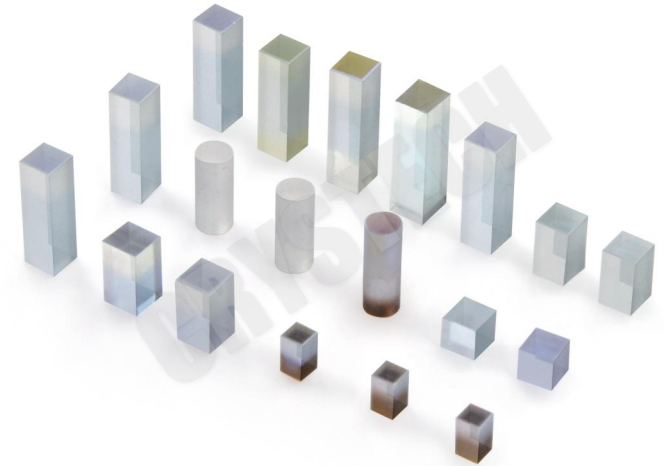
- Mainly for mid & high power end-pumped and side-pumped laser systems

Advantages

- Reduce thermal lens effect
- Increase the output power of the laser crystal

Specifications

Type	YVO ₄ +Nd:YVO ₄ , YVO ₄ +Nd:YVO ₄ +YVO ₄ YAG+Nd:YAG, YAG+Nd:YAG+YAG Nd:YAG+Cr:YAG
Dimension Tolerance	W(+/-0.1)*H(+/-0.1)*L(+0.5/-0.1)mm
Surface Quality	20/10
Perpendicularity	≤ 10'
Flatness	λ/10@633nm
Parallelism	≤ 10"
Wavefront Distortion	λ/8@633nm
Chamfer	≤ 0.2mmx45
Chips	≤ 0.1mm
Clear Aperture	≥ 90%



Eye-Safe Crystals 1535 Bonded Crystal

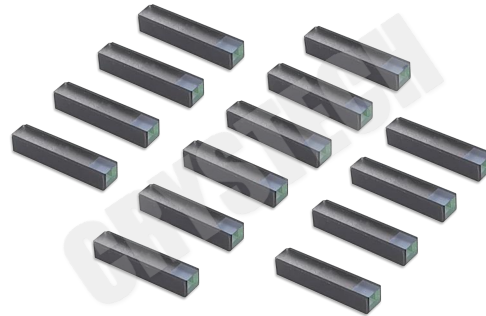


Applications

- Laser Ranging, Laser Radar

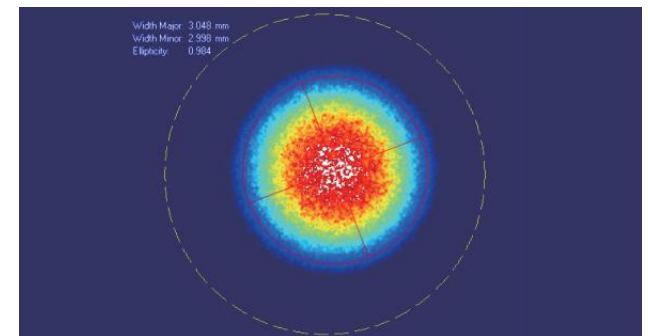
Advantages

- Eye safe
- High efficiency, low-power consumption
- Excellent energy stability
- Wide working temperature
- Compact structure, simple adjustment



Standard Products

Type	Size	Energy	Frequency	Pulse Width	Stability
DB1535-40-01	1.4x1.0x5.5	40 uJ	1K Hz	4±1ns	±3%
DB1535-100-02	1.4x1.0x7	100 uJ	10 Hz	4±1ns	±3%
DB1535-200-02	1.4x1.0x8	200 uJ	10 Hz	4±1ns	±3%
DB1535-300-02	1.4x1.0x10	300 uJ	10 Hz	4±1ns	±3%
DB1535-500-02	1.7x1.3x13	500 uJ	10 Hz	5±1ns	±3%
DB1535-750-01	2.0x1.6x17	750 uJ	5 Hz	6±1ns	±3%



Note Please contact us for customized products.

Q-Switch KD*P Pockels Cell



Applications

- Pulsed Laser System
- Medical Laser System
- Aesthetic Laser System

Advantages

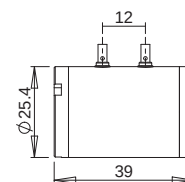
- High Extinction Ratio
- Low Insertion Loss
- High laser damage threshold
- Low capacitance, Low current leakage



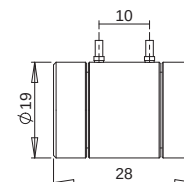
Standard Products

Operation wavelength: 1064nm

Type	CA(mm)	Size(mm)	Extinction Ratio	Capacitance	Insertion Loss	Quarter-wave Voltage	LIDT(@1064nm)
QD08H	8	Φ19x28	>5000:1(CP) >1500:1(PP)	≈4pF	<2%	~3400V	10J/cm ²
QD10H	10	Φ25.4x39	>5000:1(CP) >1500:1(PP)	≈6pF	<2%	~3400V	10J/cm ²
QD12H	12	Φ25.4x44	>5000:1(CP) >1500:1(PP)	≈6pF	<2%	~3400V	10J/cm ²
QD15H	15	Φ30x44	>5000:1(CP) >1500:1(PP)	≈9pF	<2%	~3400V	10J/cm ²



QD10H



QD08H

Note Please contact us for customized products.

Q-Switch RTP Q-Switch

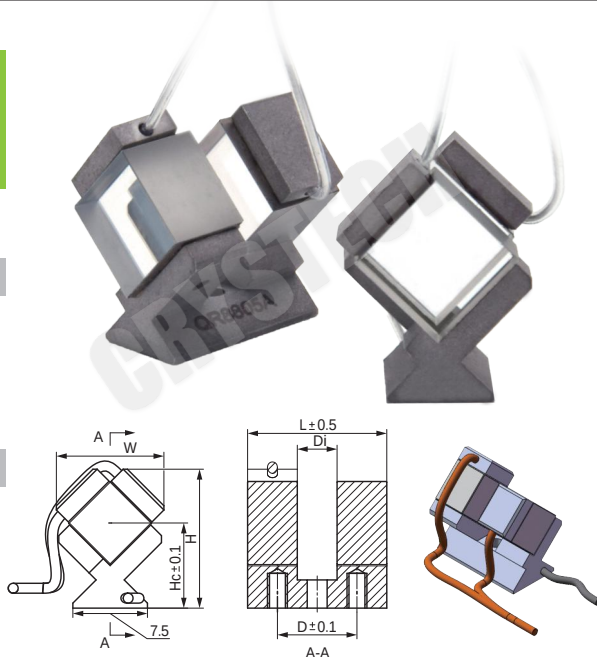


Applications

- Laser Ranging, Laser Radar, Industrial Laser
- Laser Power Modulation
- Pulse Picker

Advantages

- No Piezoelectric Ringing, Operation at high frequency
- Wide working temperature (-40°C ~ +70°C)
- Low half-wave voltage
- High damage threshold
- Non-hygroscopic



Standard Products

Type	Size	W	H	L	Hc	D	Di	1/2 Voltage @1064nm
QR2205A	2x2x12	5.9	8.6	12	5.7	8	2	1600V±15%
QR2210A	2x2x22	5.9	8.6	22	5.7	18	2	800V±15%
QR3305A	3x3x14	7.3	10	14	6.4	8	4	2400V±15%
QR3308A	3x3x20	7.3	10	20	6.4	13	4	1500V±15%
QR4405A	4x4x14	8.7	11.5	14	7.1	8	4	3200V±15%
QR4410A	4x4x25	8.7	11.5	25	7.1	18	5	1600V±15%
QR6605A	6x6x14	11.5	14.3	14	8.6	8	4	4800V±15%
QR6610A	6x6x25	11.5	14.3	25	8.6	18	5	2400V±15%
QR7705A	7x7x14	12.9	15.7	14	9.3	8	4	5600V±15%
QR7707A	7x7x18	12.9	15.7	18	9.3	13	4	3900V±15%
QR7710A	7x7x25	12.9	15.7	25	9.3	18	5	2800V±15%
QR8805A	8x8x14	14.3	17.1	14	10	8	4	6400V±15%
QR8810A	8x8x25	14.3	17.1	25	10	18	5	3200V±15%
QR1005A	10x10x14	16.5	19.6	14	11.4	8	4	8000V±15%

Note Please contact us for customized products.

Q-Switch Cr:YAG



Applications

- Passive Q-Switch

Advantages

- High power laser pulses without electro-optic Q-Switches
- High damage threshold

Q-Switch LiNbO₃ /MgO:LiNbO₃



Applications

- Q-Switch
- Phase Modulation

Advantages

- Large electro-optic coefficients
- Large aperture available

NLO Crystals KTP



Applications

- Second Harmonic Generations (SHG)
- Optical Parametric Oscillation (OPO)

Advantages

- High conversion efficiency
- High damage threshold
- Wide temperature acceptance
- Stable quality

Note Please contact us for customized products.

Specifications

Dimension Tolerance	W(+/-0.1)*H(+/-0.1)*L(+0.5/-0.1)mm
Surface Quality	20/10
Parallelism	10"
Flatness	λ/10@633nm
Wavefront distortion	λ/8@633nm
Standard coating	AR1064&532nm, AR1064&1570nm, HR1570, HT1064nm HR1064, PR1570nm
Standard Size	2x2x5, 3x3x5, 4x4x7, 7x7x5, 7x7x7, 8x8x5, 9x9x5, 10x10x5, 13x13x3, 13x13x6, 15x15x6, 5x5x20, 6x6x20, 7x7x20, 8x8x20, 8x8x25
Damage Threshold	500MW/cm ² @1064nm, 10ns
Perpendicularity	≤ 10'
Chamfer	≤ 0.2mmx45°
Chips	≤ 0.1mm
Clear Aperture	≥ 90%



NLO Crystals HGTR-KTP



Applications

- Second Harmonic Generations(SHG)
- Mainly for mid & high power CW and Quasi CW Laser

Advantages

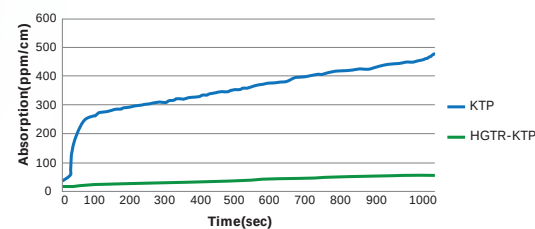
- Low absorption at 1064nm & 532nm
- Higher gray track resistance than normal KTP(5X-10X)
- Higher efficiency than normal KTP
- Broad temperature bandwidth than normal KTP



Specifications

Dimension Tolerance	W(+/-0.1)*H(+/-0.1)*L(+0.5/-0.1)mm
Surface Quality	20/10
Parallelism	10"
Flatness	$\lambda/10@633\text{nm}$
Wavefront distortion	$\lambda/8@633\text{nm}$
Coatings	AR1064&532
Damage Threshold	500MW/cm ² @1064nm, 10ns
Perpendicularity	$\leq 10'$
Chamfer	$\leq 0.2\text{mm} \times 45^\circ$
Chips	$\leq 0.1\text{mm}$
Clear Aperture	$\geq 90\%$

Gray Track Resistance for 1000s



NLO Crystals KTA



Applications

- Laser Ranging
- Mid IR OPO
- Research

Advantages

- High transmittance at 3000–5000nm
- High damage threshold
- Broad temperature acceptance High efficiency

Specifications

Dimension Tolerance	W(+/-0.1)*H(+/-0.1)*L(+0.5/-0.1)mm
Surface Quality	20/10
Parallelism	$\leq 10''$
Flatness	$\lambda/10@633\text{nm}$
Wavefront distortion	$\lambda/8@633\text{nm}$
Coatings	AR Coating
Damage Threshold	500MW/cm ² @1064nm, 10ns
Perpendicularity	$\leq 10'$
Chamfer	$\leq 0.2\text{mm} \times 45^\circ$
Chips	$\leq 0.1\text{mm}$
Clear Aperture	$\geq 90\%$



NLO Crystals BBO



Applications

- SHG@800nm --->400nm
- THG@1064nm --->355nm
- SHG@532nm --->266nm
- Mainly used for fs laser and UV Laser

Advantages

- Wide phase matching bandwidth (410 – 2100nm)
- Wide transmission bandwidth (190 – 3500nm)
- High damage threshold (1GW/cm² @1064nm, 10ns)

Specifications

Dimension Tolerance	W(+/-0.1)*H(+/-0.1)*L(+0.5/-0.1)mm
Surface Quality	20/10
Parallelism	≤ 10''
Flatness	λ/10@633nm
Wavefront distortion	λ/8@633nm
Coatings	AR Coating, PCoating
Damage Threshold	1GW/cm ² @1064nm, 10ns
Perpendicularity	≤ 10'
Chamfer	≤ 0.2mmx45°
Chips	≤ 0.1mm
Clear Aperture	≥ 90%



Optics Lens



Optics Mirrors



Optics Windows



Advantages

- High quality, Fast delivery, Competitive price

Standard Diameter

- 6, 10, 12.7, 15, 20, 25.4, 30mm

Type	Plano-convex, Plano-concave, Double-convex, Meniscus
Working wavelength	532~2940nm; 10.6μm, etc.
Material	BK7, Fused Silica, ZnSe, etc.
Coating	Uncoated, AR, HR, PR etc.

Advantages

- High quality, Fast delivery, Competitive price

Standard Diameter

- 12.7, 15, 20, 25.4, 30mm

Type	Plano-plano, Plano-convex, Plano-concave
Working wavelength	532~2940nm; 10.6μm, etc.
Material	BK7, Fused Silica, etc.
Coating	HR, PR Coating, etc.

Advantages

- High quality, Fast delivery, Competitive price

Standard Diameter

- 12.7, 15, 20, 25.4, 30mm

Working wavelength	532~2940nm; 10.6μm, etc.
Material	BK7, Fused Silica, etc.
Coating	Uncoated, AR Coating, etc.



Optics I Polarizer Glan-type Polarizer



Standard material

- α -BBO, Calcite, YVO₄, etc.

Working wavelength

- 200-3500nm

Type

- Rochon polarizer
- Glan-Taylor polarizer
- Glan-Laser polarizer, etc.

Optics I Polarizer Thin Film Polarizer



Applications

- High Power Q-Switch laser system

Working wavelength

- 1064nm, 755nm, 532nm

Advantages

- High Transmission (Tp>98%)
- High EXT.(>1000:1)
- High damage threshold(>10J/cm²)

Standard Products

P/N	Size(mm)	Wavelength(nm)	EXT	Material
OP.POL.D30003.C004	φ30x3	1064nm	500:1	BK7
OP.POL.271602.C004	27x16x2	1064nm	500:1	BK7
OP.POL.271602.C006	27x16x2	1064nm	1000:1	UVFS
OP.POL.161002.C005	16x10x2	1064nm	1000:1	BK7
OP.POL.203006.C003	20x30x6	1064nm	1000:1	UVFS
OP.POL.271602.C010	27x16x2	755nm	500:1	BK7

Note Please contact us for customized products.

Optics Pico Lens



Applications

- High Power Q-Switch laser system

Advantages

- High quality, Fast delivery, Competitive price

Working wavelength	1064nm, 755nm, 694nm, 532nm
Material	FS

Standard Products

P/N	Size(mm)	Focuslenth(mm)
OP.PIC.D16002.P001	φ16x2	40mm

Optics Cell Mirror



Applications

- High Power Q-Switch laser system

Advantages

- High quality, Fast delivery, Competitive price

Working wavelength	1064nm, 694nm, etc.
Material	BK7

Standard Products

P/N	Size(mm)	Wavelength(nm)	Curvature
OP.CLM.D15004.C005	φ15x4	1064nm	R=-2000mm
OP.CLM.D15004.C002	φ15x4	1064nm	R=-2500mm
OP.CLM.D15004.C003	φ15x4	1064nm	R=-3000mm
OP.CLM.D15004.C004	φ15x4	1064nm	R=-4000mm
OP.CLM.D20004.C020	φ20x4	1064nm	R=-4000mm
OP.CLM.D25405.C101	φ25.4x5	1064nm	R=-2000mm

Note Please contact us for customized products.

Optics Prisms



Advantages

- High quality, Fast delivery, Competitive price

Type	Right Angle, Dove, Corner Cube, etc.
Working wavelength	532~1064nm, etc.
Material	BK7, Fused Silica, etc.
Coating	Uncoated, AR Coating, etc.

Standard Products

P/N	Size(mm)	Coating	Type
OP.PRI.141414.C003	14x14x14	AR/AR1064&532	Right Angle
OP.PRI.151547.C102	15x15x47	AR1064&532/无	Dove
OP.PRI.121237.C002	12x12x37	AR1064/无	Dove
OP.PRI.501215.C002	50x12x15	AR1064&532/无	Porro(180°folding)

Note Please contact us for customized products.



Optics Waveplate



Applications

- High Power laser system

Advantages

- High quality, Fast delivery, Competitive price

Working wavelength	1064nm, 755nm, 532nm, 694nm, etc.
Material	Quartz
Coating Specs	<0.2%@wavelength
Type	Low order, Zero order, Achromatic, etc.

Standard Products

P/N	Size(mm)	Wavelength(nm)	Coating	Type
OP.WAV.D12705.C002	φ12.7x0.5	λ/4@1064nm	AR1064	Low order
OP.WAV.D15005.C002	φ15x0.5	λ/4@1064nm	AR1064	Low order
OP.WAV.D12705.C005	φ12.7x0.5	λ/2@1064nm	AR1064	Low order
OP.WAV.D12705.C006	φ12.7x0.5	λ/4@755nm	AR755	Low order
OP.WAV.D10006.C003	φ10x0.06	λ/2@1064nm	AR1064	Zero order

Note Please contact us for customized products.

Optics Filter

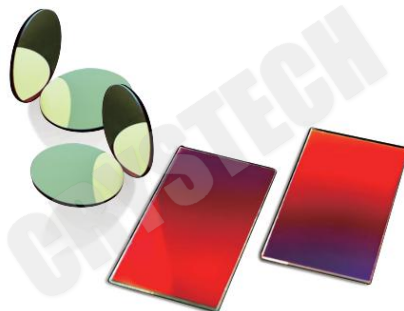


Applications

- Biochemical Interference
- Laser system
- IPL for medical
- IR Sensor

Advantages

- High quality
- Fast delivery
- Competitive price



Narrow band pass Filter

CWL(nm)	Center wavelength±2nm
FWHM(nm)	8nm
Tpeak	>90%
Blocking	OD>6@200-1200nm
Standard wavelength	1064nm, 1535nm, 1570nm, 1550nm, 940nm, 808nm, 785nm, 532nm

IPL Filter

Wavelength	300~1400nm
T avg.	>95%
T block.	<0.5%
Substrate	BK7, FS, Sapphire
Standard wavelength	420nm, 500nm, 515nm, 560nm, 590nm, 640nm, 695nm, 800nm

Band pass Filter

CWL(nm)	Center wavelength±2nm
FWHM(nm)	Bandwidth±5nm
Tpeak	>90%
Blocking	OD>6@200-1200nm
Standard wavelength	1064nm, 1535nm, 1570nm, 1550nm, 940nm, 808nm, 785nm, 532nm

Components Ceramic Reflector



Applications

- Flash lamp pumped laser system

Advantages

- High quality
- Fast delivery
- Competitive price

Material	Ceramic
Reflectivity	>97%

Standard Products

P/N	Size(mm)	Type
OT.CMR.D31065.W002	φ31x65	Full Glazing
OT.CMR.D31097.W003	φ31X97	Full Glazing
OT.CMR.594370.W002	59X43X70	Full Glazing
OT.CMR.472510.W002	47X25X100	Full Glazing
OT.CMR.D25488.W002	φ25.4x88	Half Glazing



Note Please contact us for customized products.

Components Quartz Reflector



Applications

- Flash lamp pumped laser system

Advantages

- High quality
- Fast delivery
- Competitive price

Material	Quartz
Reflectivity	>98%

Standard Products

P/N	Size(mm)	Type
OT.CMR.281690.W001	28X16X90	Quartz
OT.CMR.162990.W001	16X29X90	Quartz
OT.CMR.164290.W002	16X42X90	Quartz



Note Please contact us for customized products.

Components Dye Laser Hand Piece



Specifications (585 HP)

Size	φ31.5x186mm
Application	Input 532nm, Output 585nm
Beam Size	Input 12-13mm, Output 2-3mm
Life Time	>20K pulses
Threaded interface	M22x1.5, Length: 8mm

Specifications (650 HP)

Size	φ31.5x186mm
Application	Input 532nm, Output 650nm
Beam Size	Input 12-13mm, Output 2-3mm
Life Time	>20K pulses
Threaded interface	M22x1.5, Length: 8mm

Important Note:

1. Input must be pure 532nm laser, it should be filtered well
2. Flat top beam is preferred
3. Power density should be $\leq 0.5J/cm^2@532nm, 8-10ns$
4. Repeat frequency is suggested as 1-2Hz to extend the lifetime



Components Fractional Hand Piece



Specifications (FLA HP)

Size	φ31.5x176.5mm
Working wavelength	1064&532nm or 755nm
Max input beam size	φ12mm-13mm
Spot Size	about φ0.5mm
Threaded interface	M22x1.5, Length:8mm

Specifications (DOE HP)

Size	φ31.5x176.5mm
Working wavelength	1064nm or 532nm
Input beam size	φ12mm-13mm
Output beam size	10 x10mm
Threaded interface	M22x1.5, Length:8mm