



# CATALOG 2006

Version 1.2

## WESTERN PHOTONICS TECHNOLOGY



Western Photonics Technology (Western Technology) develops and manufactures laser systems, endoscopes and industrial borescopes, optics and micro-lenses, light fibers and image fibers, CCD and CMOS cameras and adaptors, holographic systems and products etc. With over 20 years of experience in optical and laser components and systems, Western Photonics Technology guarantees the best price in either standard or custom-made products, provides extremely high quality products, and offers an excellent service for the industry.



**Western Photonics Technology**  
2005 Orange Street, Suite D  
Alhambra CA 91803  
USA

**Tel: 626 289 1686**  
**Fax: 626 289 1048**  
**Email: [info@wptec.com](mailto:info@wptec.com)**  
**Website: [www.wptec.com](http://www.wptec.com)**



## Contact

With a strong emphasis on product quality and customer services, Western Photonics Technology (Western Technology) develops and manufactures laser systems, endoscopes and industrial borescopes, optics and micro-lenses, light fibers and image fibers, CCD and CMOS cameras and adaptors, holographic systems and products etc. With over 20 years of experience in optical and laser components and systems, Western Photonics Technology guarantees the best price in either standard or custom-made products, provides extremely high quality products, and offers an excellent service for the industry.

- † **Best price**
- † **Highest quality**
- † **Largest variety**
- † **Fastest response time**
- † **No minimum order**

Please feel free to contact our engineers for further information.

Western Photonics Technology  
(Western Technology)  
2005 Orange Street, Suite D  
Alhambra, CA 91803  
Tel.: 626 289 1686 Fax: 626 289 1048  
Email: [info@wptec.com](mailto:info@wptec.com)  
Website: [www.wptec.com](http://www.wptec.com)

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## 1. Ho:YAG Lasers (2.1um)



### Specifications

Laser System:	Holmium YAG Laser
Wavelength:	2.1 $\mu$ m
Pulse Energy:	0.2 – 5.0 J
Repetition Rate:	5 – 15Hz
Average Power:	30W, 50W
Pulse Duration:	200 $\mu$ s, 800 $\mu$ s
Pulse Peak Power:	15KW
Fiber Delivery:	Option
Aiming Beam:	Green Diode Laser
Utilities:	220V, 50Hz, 30A 110V, 50Hz, 60A
Cooling:	Integrated refrigerant
Dimensions:	
Weight:	

### Applications

Industrial Processing  
 Biomedical Applications  
 Atmospheric Testing  
 Laser Surgery  
 Laser dentistry

### Main Features

- \* High reliability
- \* Low maintenance

## 2. Rigid/Flexible Borescopes



### Specifications

Outer Diameter: 1mm to 15mm

Working Length: up to 400mm

Field of View: 70°

Focusing Range: 0 - ∞

Viewing Angle: 0°, 15°, 30°, 45°, 70°

### Main Applications

- \* Inside narrow diameter holes and pipes.
- \* Inside cast and hydraulic parts and honing holes
- \* Inside aircraft engines, hollow walls and machinery
- \* Excellent images are delivered by eye or when a camera is attached.



### Main Features

- \* Clear, high-resolution images
- \* Outstanding durability

### 2.1 Rigid Boroscopes/Endoscopes

Item Number	Out Diameter (mm)	Working Length (mm)	Viewing Angle(°)	Price (US\$)
WT030050-00	3.0	50	0	
WT030090-00	3.0	90	0	
WT030090-30	3.0	90	30	
WT040175-00	4.0	175	0	
WT040175-30	4.0	175	30	
WT040300-00	4.0	300	0	
WT040300-45	4.0	300	45	
WT040300-70	4.0	300	70	
WT050185-00	5.0	185	0	
WT050185-30	5.0	185	30	



WT050185-70	5.0	185	70
WT050300-00	5.0	300	0
WT050300-30	5.0	300	30
WT080185-00	8.0	185	0
WT080185-70	8.0	185	70
WT100325-00	10	325	0
WT100325-30	10	325	30
WT100325-45	10	325	45
WT100325-70	10	325	70
WT120325-00	12	325	0

## 2.2 Light Source Specifications

Item Number	Lamp	Weight	Dimensions	Power supply	Power consumption	Price (US\$)
	150W	6kg	320x358x98mm	110V AC	160W	
	24W high efficient quartz halogen, 12V	6kg	320x358x98mm	110V AC	25W	

Custom design and assembly are also available.

Operating temperature: Probe -10 to 150 °C (+14 to +302 °F)  
 Other parts -10 to 40 °C (+14 to +302 °F)  
 Operating pressure: Probe in air 0.7 to 1.7 bar (10.3 to 25 lbf/in<sup>2</sup>)  
 in water 1.0 to 1.7 bar (14.7 to 25 lbf/in<sup>2</sup>)  
 Fluid resistance: Probe can be immersed in salt water, petrol, diesel, engine oil, brake fluid, ethylene, glycol and methanol at normal temperature.

## 2.3 Optical Fiber Light Cables

Item Number	Diameter (mm)	Length (mm)	Price (US\$)
WTLGT0640-18	4.0	1800	
WTLGT0640-25	4.0	2500	
WTLGT0640-30	4.0	3000	
WTLGT0650-18	5.0	1800	
WTLGT0650-25	5.0	2500	
WTLGT0650-30	5.0	3000	



## 2.4 Light Fibers

<i>Item Number</i>	<i>Diameter (mm)</i>	<i>NA</i>	<i>Price (US\$)</i>
WTLF070-010	1	0.70	
WTLF070-012	1.2	0.70	
WTLF070-020	2	0.70	
WTLF070-030	3	0.70	
WTLF070-040	4	0.70	
WTLF070-060	6	0.70	
WTLF086-010	1	0.86	
WTLF086-018	1.8	0.86	
WTLF086-020	2	0.86	
WTLF086-030	3	0.86	
WTLF086-040	4	0.86	
WTLF086-060	6	0.86	
WTLF086-120	12	0.86	

## 2.5 Semi-Flexible Fiber Image Bundles

<i>Item Number</i>	<i>Diameter (mm)</i>	<i>Angle of View (°)</i>	<i>Price (US\$)</i>
WTSIB-020	0.25	50 / 70	
WTSIB-035	0.42	50 / 70	
WTSIB-037	0.45	50 / 70	
WTSIB-050	0.60	50 / 70	
WTSIB-080	1.00	50 / 70	
WTSIB-100	1.80	50 / 70	
WTSIB-150	2.60	50 / 70	
WTSIB-200	3.00	50 / 70	



## 2.6 Video C-mount Adaptor

<i>Item Number</i>	<i>Focal Length (mm)</i>	<i>Price (US\$)</i>
WTRVC-001	23.0	
WTRVC-002	27.0	
WTRVC-003	32.0	
WTRVC-004	18.0	

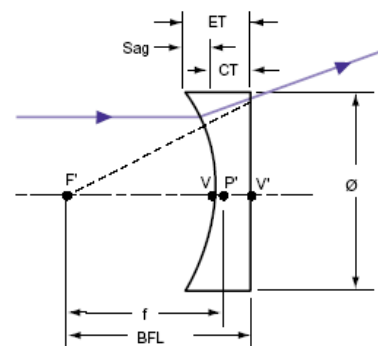
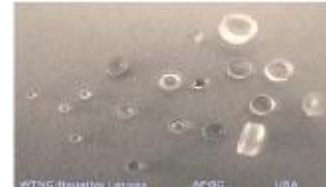


### 3. Optics and laser optics

#### 3.1 Plano-Concave lenses

##### Specifications

Material: BK7  
 Refractive Index: 1.5168 (at 587.6 nm)  
 Focal Length Tolerance:  $\pm 2\%$   
 Diameter Tolerance:  $+0, -0.04$  mm  
 Center Thickness Tolerance:  $\pm 0.02$  mm  
 Surface Flatness:  $\lambda/8$  at 632.8 nm  
 Wedge Angle:  $< 5$  arcmin  
 Surface Quality: 20-10 scratch and dig  
 Uncoated  
 Diameter from 1mm to 100 mm



<i>Item Number</i>	<i>Focal Length (mm)</i>	<i>Diameter <math>f</math> (mm)</i>	<i>Principal Point <math>V P'</math> (mm)</i>	<i>Radius of Curvature (mm)</i>	<i>Center Thickness CT (mm)</i>	<i>Edge Thickness ET (mm)</i>	<i>Price (US\$)</i>
WTNC090-050-050		0.90		0.50		0.50	
WTNC090-065-047		0.90		0.65		0.47	
WTNC100-050-050		1.00		0.50		0.50	
WTNC110-060-030		1.10		0.60		0.30	
WTNC120-060-040		1.20		0.60		0.40	
WTNC120-065-045		1.20		0.65		0.45	
WTNC130-065-050		1.30		0.65		0.50	
WTNC130-075-050		1.30		0.75		0.50	
WTNC140-040-050		1.40		0.40		0.50	
WTNC140-060-045		1.40		0.60		0.45	
WTNC145-065-045		1.45		0.65		0.45	
WTNC145-075-050		1.45		0.75		0.50	
WTNC150-050-050		1.50		0.50		0.50	
WTNC150-075-050		1.50		0.75		0.50	
WTNC160-080-065		1.60		0.80		0.65	
WTNC160-090-050		1.60		0.90		0.50	
WTNC160-140-070		1.60		1.40		0.70	
WTNC170-047-058		1.70		0.47		0.58	



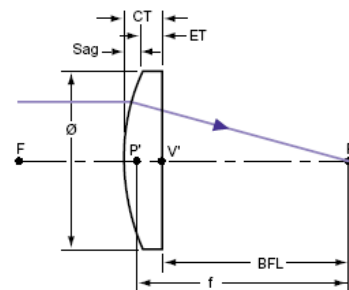
WTNC170-090-035	1.70	0.90	0.35
WTNC180-065-050	1.80	0.65	0.50
WTNC180-090-050	1.80	0.90	0.50
WTNC185-090-050	1.85	0.90	0.50
WTNC185-120-050	1.85	1.20	0.50
WTNC200-050-050	2.00	0.50	0.50
WTNC200-060-050	2.00	0.60	0.50
WTNC200-075-060	2.00	0.75	0.60
WTNC200-080-062	2.00	0.80	0.62
WTNC200-090-055	2.00	0.90	0.55
WTNC200-120-040	2.00	1.20	0.40
WTNC200-120-060	2.00	1.20	0.60
WTNC200-120-090	2.00	1.20	0.90
WTNC200-150-070	2.00	1.20	0.90
WTNC200-150-080	2.00	1.50	0.80
WTNC200-240-070	2.00	2.40	0.70
WTNC200-250-070	2.00	2.50	0.70
WTNC210-090-075	2.10	0.90	0.75
WTNC220-090-050	2.20	0.90	0.50
WTNC220-090-060	2.20	0.90	0.60
WTNC220-100-050	2.20	1.00	0.50
WTNC220-100-060	2.20	1.00	0.60
WTNC220-120-090	2.20	1.20	0.90
WTNC230-090-050	2.30	0.90	0.50
WTNC240-075-070	2.40	0.75	0.70
WTNC240-090-060	2.40	0.90	0.60
WTNC240-100-060	2.40	1.00	0.60
WTNC240-150-060	2.40	1.50	0.60
WTNC240-200-050	2.40	2.00	0.50
WTNC245-090-050	2.45	0.90	0.50
WTNC250-090-055	2.50	0.90	0.55
WTNC250-110-050	2.50	1.10	0.50
WTNC280-050-050	2.80	0.50	0.50
WTNC280-080-070	2.80	0.80	0.70
WTNC280-150-060	2.80	1.50	0.60
WTNC300-140-090	3.00	1.40	0.90
WTNC300-150-050	3.00	1.50	0.50
WTNC300-170-055	3.00	1.70	0.55
WTNC300-190-110	3.00	1.90	1.10
WTNC300-195-095	3.00	1.95	0.95
WTNC350-150-085	3.50	1.50	0.85
WTNC400-170-150	4.00	1.70	1.50
WTNC500-200-140	5.00	2.00	1.40
WTNC600-150-090	6.00	1.50	0.90
WTNC650-130-150	6.50	1.30	1.50

Custom design and assembly are also available.

### 3.2 Plano-Convex lenses

#### Specifications

Material: BK7  
 Refractive Index: 1.5168 (at 587.6 nm)  
 Focal Length Tolerance:  $\pm 2\%$   
 Diameter Tolerance:  $+0, -0.04$  mm  
 Center Thickness Tolerance:  $\pm 0.02$  mm  
 Surface Flatness:  $\lambda/8$  at 632.8 nm  
 Wedge Angle:  $< 5$  arcmin  
 Surface Quality: 20-10 scratch and dig  
 Uncoated  
 Diameter from 1mm to 100mm



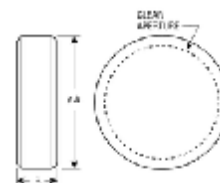
<i>Item Number</i>	<i>Focal Length (mm)</i>	<i>Diameter f (mm)</i>	<i>Principal Point V' P' (mm)</i>	<i>Radius of Curvature (mm)</i>	<i>Center Thickness CT (mm)</i>	<i>Edge Thickness ET (mm)</i>	<i>Price (US\$)</i>
WTPCL200-140-090		2.00		1.40			
WTPCL200-180-155		2.00		1.80			
WTPCL220-140-150		2.20		1.40			
WTPCL220-145-155		2.20		1.45			

Custom design and assembly are also available.

### 3.3 Windows

#### Specifications

Material: BK7  
 Refractive Index: 1.5168 (at 587.6 nm)  
 Diameter Tolerance:  $+0, -0.04$  mm  
 Surface Flatness:  $\lambda/8$  at 632.8 nm  
 Wedge Angle:  $< 5$  arcmin  
 Surface Quality: 20-10  
 Uncoated  
 Diameter from 1mm to 100mm





<b>Item Number</b>	<b>Diameter <math>f</math> (mm)</b>	<b>Thickness CT (mm)</b>	<b>( )</b>	<b>Price (US\$)</b>
WTW090-030	0.90	0.30		
WTW100-030	1.00	0.30		
WTW100-040	1.00	0.40		
WTW110-035	1.10	0.35		
WTW130-030	1.30	0.30		
WTW140-040	1.40	0.40		
WTW150-040	1.50	0.40		
WTW160-040	1.60	0.40		
WTW170-040	1.70	0.40		
WTW190-040	1.90	0.40		
WTW200-020	2.00	0.20		
WTW200-030	2.00	0.30		
WTW200-040	2.00	0.40		
WTW200-050	2.00	0.50		
WTW200-060	2.00	0.60		
WTW200-130	2.00	1.30		
WTW240-050	2.40	0.50		
WTW250-050	2.50	0.50		
WTW260-050	2.60	0.50		
WTW270-080	2.70	0.80		
WTW280-075	2.80	0.75		
WTW290-030	2.90	0.30		
WTW300-050	3.00	0.50		
WTW320-040	3.20	0.40		
WTW340-040	3.40	0.40		
WTW350-100	3.50	1.00		
WTW360-080	3.60	0.80		
WTW370-060	3.70	0.60		
WTW400-120	4.00	1.20		
WTW420-040	4.20	0.40		
WTW440-040	4.40	0.40		
WTW440-100	4.40	1.00		
WTW450-080	4.50	0.80		
WTW450-050	4.50	0.50		
WTW470-050	4.70	0.50		
WTW480-100	4.80	1.00		
WTW490-100	4.90	1.00		
WTW490-200	4.90	2.00		
WTW500-175	5.00	1.75		
WTW600-100	6.00	1.00		
WTW800-200	8.00	2.00		

Custom design and assembly are also available.

### 3.4 Objective lenses

#### Specifications

Material: BK7 etc.

Diameter Tolerance: +0, -0.04 mm

Diameter from 1mm to 100mm

<i>Item Number</i>	<i>Diameter <math>f</math> (mm)</i>	<i>Angle of View Field (<math>^{\circ}</math>)</i>	<i>Depth of View Field (mm)</i>	<i>( )</i>	<i>( )</i>	<i>( )</i>	<i>Price (US\$)</i>
WTOLZQJ020	2.0	85	3 – 50				
WTOLZQJ022	2.2	85	3 – 50				
WTOLZQJ025	2.5	85	3 – 50				
WTOLWJ25-98	2.5	105	3 – 100				
WTOLWJ30-98	3.0	105	3 – 100				
WTOLWJ32-98	3.2	105	3 – 100				
WTOLJCJ32-II	3.2	105	3 – 100				
WTOLJCJ35-III	3.5	105	3 – 100				
WTOLYH020	2.0	70	5 – 50				
WTOLYH022	2.2	70	5 – 50				
WTOLYH025	2.5	70	5 – 50				

Custom design is also available.

### 3.5 Light Guide Lens Assemblies

#### Specifications

Focal Length

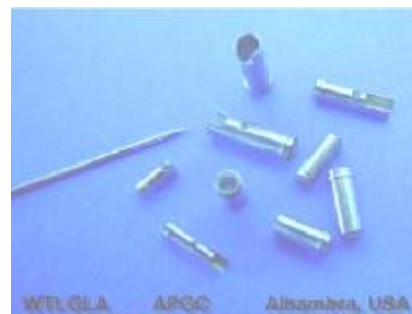
Diameter

Clear Aperture

Working Distance

Total Length

Diameter from 1mm to 100mm



<i>Item Number</i>	<i>Focal Length (mm)</i>	<i>Diameter <math>f</math> (mm)</i>	<i>Clear Aperture (mm)</i>	<i>Working Distance (mm)</i>	<i>Total Length (mm)</i>	<i>Coating</i>	<i>Price (US\$)</i>
WTLGLA-186		1.86					
WTLGLA187		1.86					
WTLGLA-224		2.24					
WTLGLA-227		2.27					
WTLGLA-247		2.47					
WTLGLA-257		2.57					
WTLGLA-277		2.77					
WTLGLA-287		2.87					

Custom design and assembly are also available.


## 4. Camera

### Applications

Industrial imaging  
 Scientific imaging  
 Automation imaging

### Features

High reliability

	<p>TMC-1402 (formerly TMC-1400)</p> <hr/> <p>TMC-1402CL</p>	<p>Miniature, High Resolution (1392 x 1040), Progressive Scan, Color Camera, 15/30 fps selectable, analog and digital (RS-644) outputs</p> <hr/> <p>TMC-1402 with Camera Link</p>
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	<p>TMC-6760CL TMC-6760</p>	<p>Progressive Scan, Compact Color Camera, 648 H x 484 V, 60 fps, RGB analog output, Camera Link</p> <hr/> <p>Progressive Scan, Compact Color Camera, 648 H x 484 V, 60 fps, RGB analog output, RS-644 digital output</p>	
	<p>TMC-1325CL</p>	<p>Progressive Scan, Color Camera, 1392 H x 1040 V, 15/30 fps selectable, partial scan 500 and 250 lines</p>	
	<p>TMC-9700</p>	<p>Progressive Scan, Color Camera, 768 H x 484 V, 30 fps, analog and digital RGB output</p>	

## 5. Holographic products

Western Photonics Technology (Western technology) designs and develops holographic systems and products, such as hologram films, hologram printing papers, hologram folders, hologram labels, hologram stickers, hologram ID, hologram displays, and hologram packages.

