



# AISO PRODUCT LIST



part 1



# Optics Components



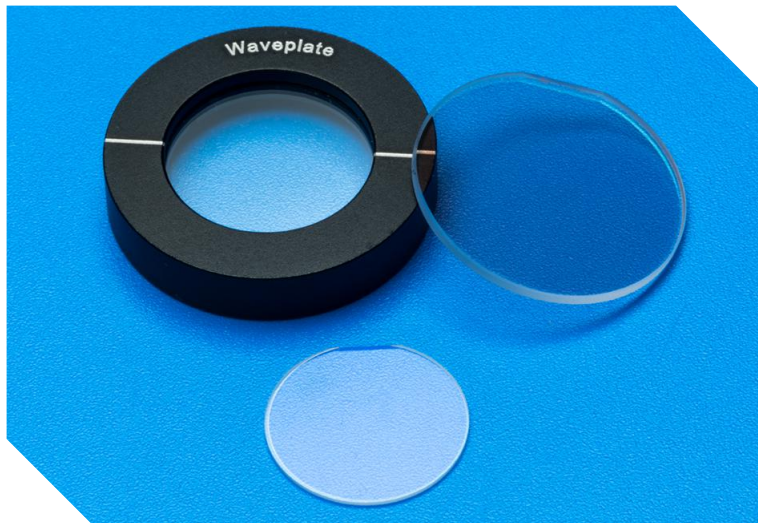
**AISO** specializes in all kinds of high precision optics.

**Precision optics:** Prism, Window, Spherical lens, Cylindrical lens, Laser cavity, Laser Mirror, Filter

**Polarization optics:** Waveplate, Glan Polarizer, Thin Film Polarizer, PBS cube, NPBS cube

**IR optics:** Window, Prism, Lens(Silicon, Germanium, Calcium fluoride , Magnesium fluoride)

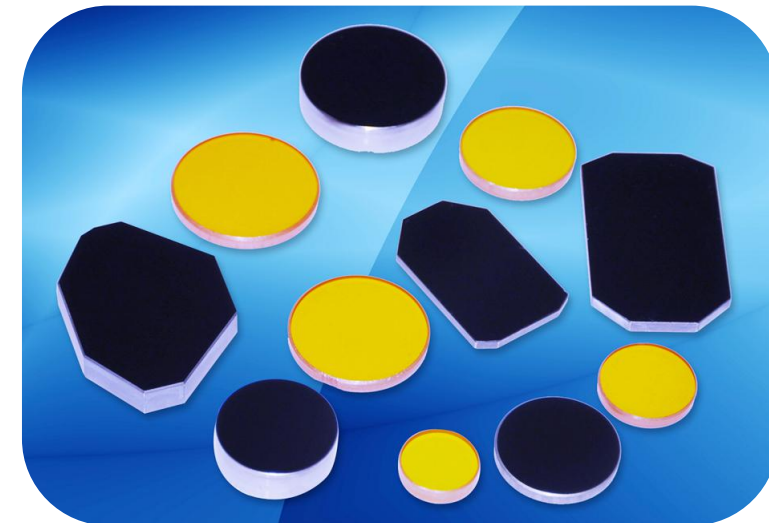
Polarization optics



Precision optics



IR optics



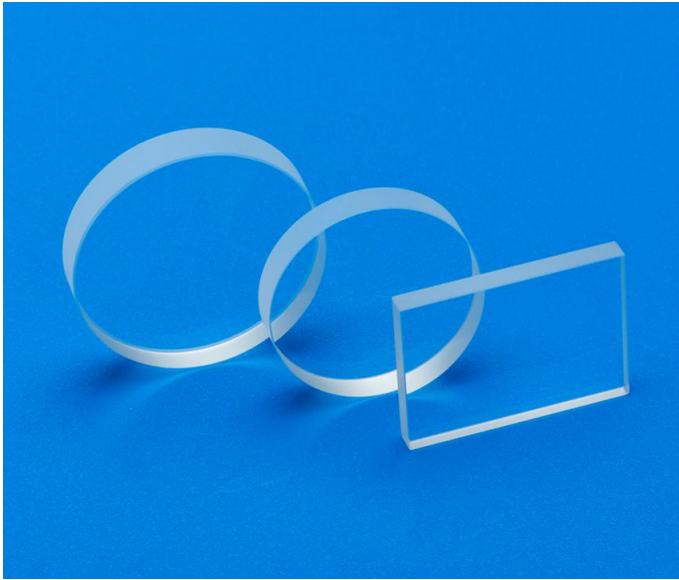
part 2



# Plano Optics



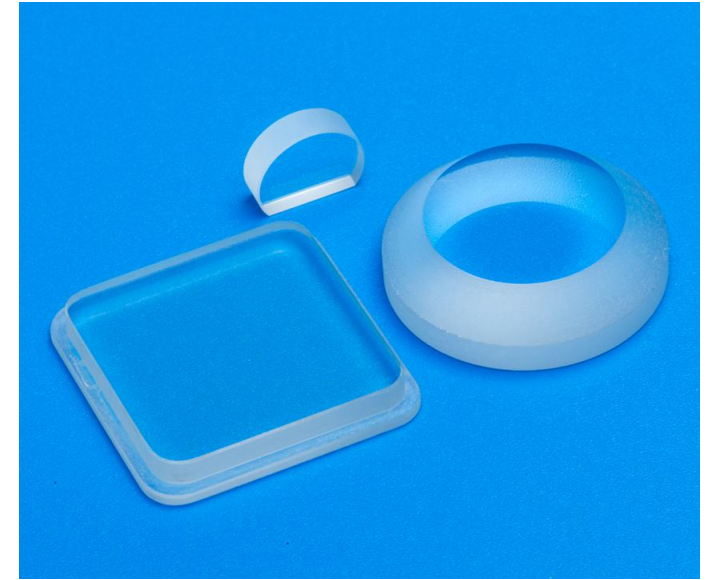
**AISO** specializes in kinds of plano optics: window, prism, mirror, filter, we have Japanese Oporun coating and advanced measuring instrument to control the quality, such as ZYGO 4inch GPI interferometer.



Window



Prism



Mirror



Materials Used: All types of optical glass, CaF2

Parameter	Standard	High Precision	Measurement
Size	Dia3mm to Dia300mm		
Dimension/Diameter(mm)	+/-0.05mm	+/-0.01mm	YES
Thickness(mm)	+/-0.1mm	+/-0.01mm	YES
Flatness	L/4@633nm	L/10@633nm	YES
Surface quality	40-20	10-5	YES
Wedge/Angle	<3 arc minutes	<10 arc seconds	YES
Perpendicularity	<15 arc minutes	<3 arc minutes	YES
Parallelism	<1 arc minutes	<1 arc seconds	YES
Bevel	<0.5mm	<0.1mm	YES
Surface Roughness(Å rms)	<10	<3	YES

part 2



# Plano manufacture line



We have low speed polishing and continuous polishing machines.

AISO is dedicated to manufacturing high precision plano optics from prototype to volume production.



Fine  
polishing

Continuous  
polishing

Laser  
interferometer



**AISO** specializes in high precision spherical lens, we have ZYGO 4inch GPI Interferometer to test Radius and surface form error, Focometer to test focal length and centration.



Single lens



Cemented lens



Lens assembly



### Materials Used: All types of optical glass

Parameter	Standard	High Precision	Measurement
Size	Dia2mm to Dia300mm		
Radius	From 3mm to 10000mm		
Dimension/Diameter(mm)	+/-0.1mm	+/-0.01mm	YES
Thickness(mm)	+/-0.1mm	+/-0.03mm	YES
Radius tolerance	+/-0.5%	+/-0.1%	YES
Surface accuracy	L/2@633nm	L/10@633nm	YES
Surface quality	60-40	10-5	YES
Transmission Centration	<5 arc minutes	<1 arc minutes	YES

part 3



# Lens manufacture line



Our lines have low speed and high speed polishing machines which are mostly made from Korea. ALSO is dedicated to manufacturing high precision lenses from prototype to volume production.



Centering

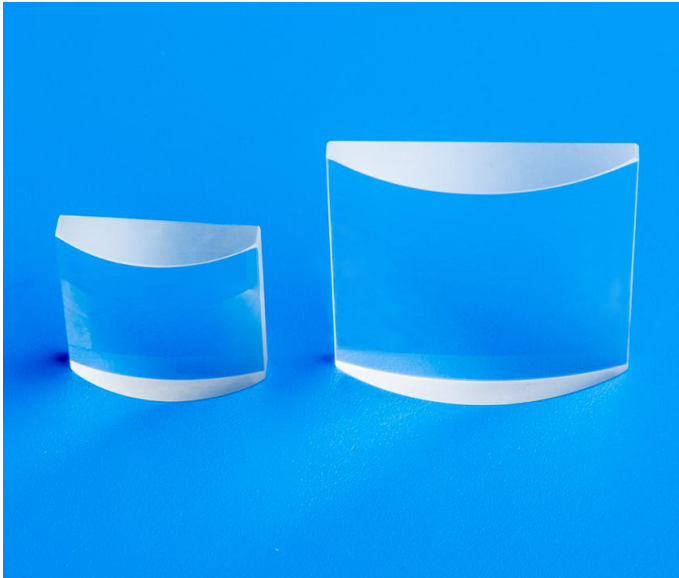
Polishing

Interferometer  
-F601

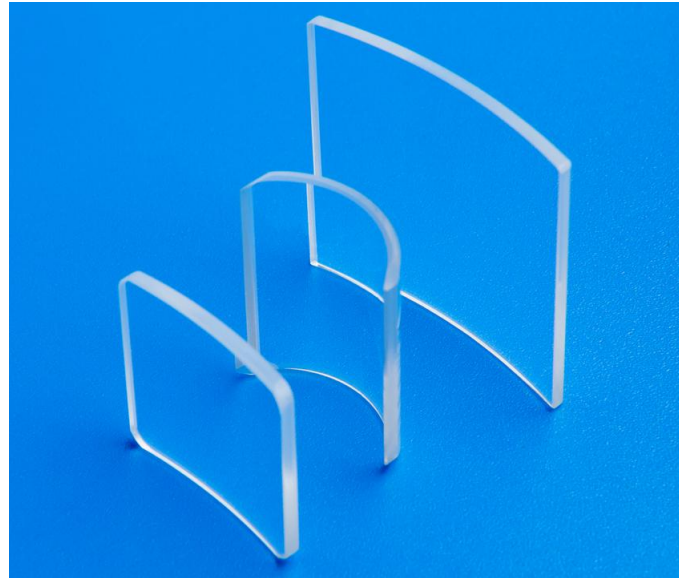




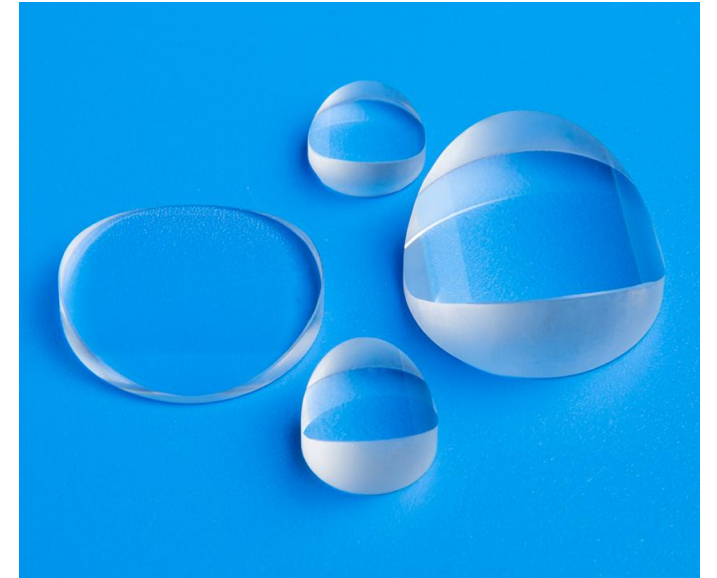
**AISO** also offer precision cylindrical lens, we have ZYGO 4inch GPI Interferometer, and CGH 0.75, 1.5, 3.0 and 5.5 Lens to test Radius and flatness, Off-center instrument to test centration.



Square  
cylindrical  
lens



Square  
cylindrical  
lens



Round  
cylindrical  
lens



**Materials Used: All types of optical glass, CaF2**

Parameter	Standard	High Precision	Measurement
Size	Dia3mm to Dia200mm		
Radius	From 2.5mm to 2000mm		
Dimension/Diameter(mm)	+/-0.1mm	+/-0.02mm	YES
Thickness(mm)	+/-0.1mm	+/-0.03mm	YES
Radius tolerance	+/-0.5%	+/-0.1%	YES
Surface accuracy	L/2@633nm	L/8@633nm	YES
Surface quality	60-40	10-5	YES
Transmission Centration	<5 arc minutes	<1 arc minutes	YES

part 4

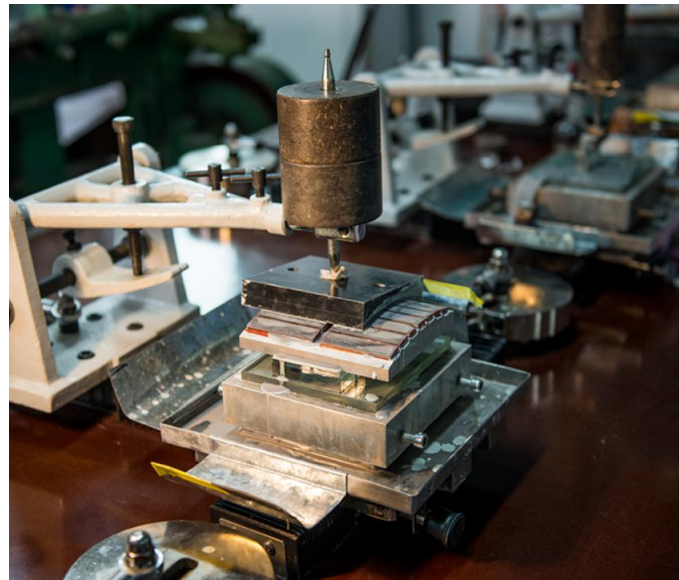


## Cylindrical lens manufacture line



Our lines have low speed and high speed polishing machines.

AISO is dedicated to manufacturing high precision cylindrical lens from prototype to volume production.



High speed  
polishing

Low speed  
polishing

Centration  
testor



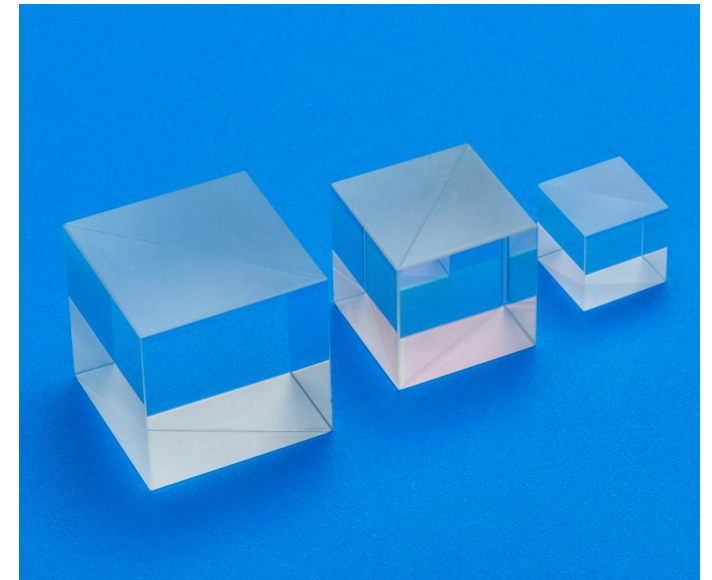
**AISO** specializes in high precision Polarization optics, including: Waveplate, Glan Polarizer, Thin Film Polarizer, PBS cube, NBPS cube.



Waveplate



Glan prism



PBS/NPBS



**Waveplate:** Multiple order waveplate, Zero order waveplate, True zero order waveplate, Achromatic waveplate, Dual wavelength waveplate. Now we have more than fifty thousand standard waveplate in stock.

Parameter	Multiple order	Zero order			True order		Achromatic	Dual wavelength
		Cemented	Optical contacted	Air-spaced	Cemented	Single		
Material	Quartz Crystal	Quartz Crystal			Quartz +H-K9L	Quartz	Quartz +MgF2	Quartz Crystal
Diameter (mm)	+0/-0.1mm	+0/-0.1mm	+0/-0.1mm	+0/-0.1mm	+0/-0.1mm	+0/-0.1mm	+0/-0.1mm	+0/-0.1mm
Surface quality	20-10	20-10	20-10	20-10	20-10	20-10	20-10	20-10
Wavefront distortion	L/8	L/8	L/8	L/8	L/8	L/4	L/8	L/8
Retardation	L/300	L/300	L/300	L/300	L/300	L/300	L/300	L/300
Parallelism	1 arc sec	3 arc sec	1 arc sec	1 arc sec	3 arc sec	1 arc sec	1 arc sec	1 arc sec
Standard wavelength	266, 355, 532, 633, 780, 808, 850, 980, 1064, 1310, 1480, 1550nm					980, 1064, 1310, 1480, 1550	465-650 700-1000 1200-1650	1064&532



**Polarizers:** Glan Laser Polarizer, Glan Taylor Polarizer, Glan Thompson Polarizer, Wollaston Polarizer, Rochon Polarizer.

The following specs table list is for Glan Laser Polarizer.

$\alpha$ -BBO									
Wavelength range	Extinction ratio	Angular field	C.A.	O.D.	L	Parallelism	Surface quality	Beam deviation	Wavefront distortion
200-270, 300-700, 700-3000	$<5 \times 10^{-6}$	$>6.0(^{\circ})$	Dia6 to Dia15mm	Dia15 to Dia30mm	29 to 38.6mm	1 arc min	20-10	$< 3$ arc mins	L/4

Calcite									
Wavelength range	Extinction ratio	Angular field	C.A.	O.D.	L	Parallelism	Surface quality	Beam deviation	Wavefront distortion
350-2300	$<5 \times 10^{-6}$	$>7.7(^{\circ})$	Dia6 to Dia12.7m m	Dia15 to Dia30mm	21 to 33.3mm	1 arc min	20-10	$< 3$ arc mins	L/4



High Power Polarization Cube: These cubes are deep-optically contacted and have higher damage threshold than cemented cubes, usually specially designed for application in high power lasers.

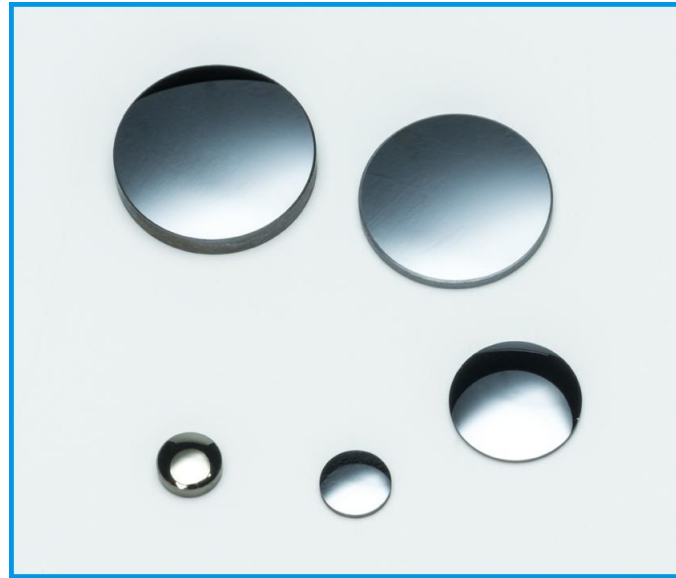
Parameter	Narrow band wavelength	Broad band wavelength
Size	3x3x3 to 25x25x25mm	
Material	BK7 or Fused Silica	SF5
Surface quality	40-20	40-20
Surface Figure	L/4	L/4
Extinction Ratio	Tp/Ts 1000:1 Tp>95%,Rs>99.5%	Tp/Ts 500:1 Tp>90%,Rs>99.5%
Damage Threshold	10 J/cm <sup>2</sup> for VIS and NIR 5J/cm <sup>2</sup> for UV	
Beam deviation	<3 arc min	
Clear aperture	>85%	
Wavelength	532,633,808, 980,1064, 1310,1550nm	450-650, 650-900, 900-1200, 1200-1550,1550- 1610



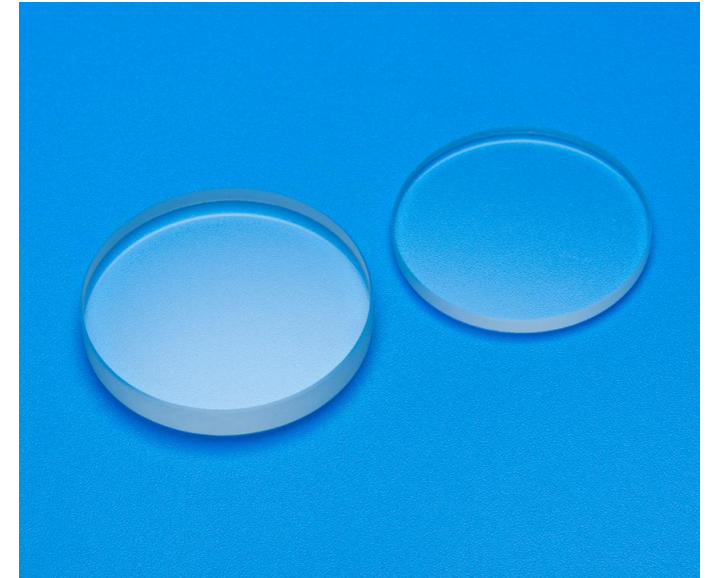
**AISO** also offer IR optics, such as Silicon, Germanium, CaF<sub>2</sub>(calcium fluoride), MgF<sub>2</sub>(magnesium fluoride).



Si and Ge  
window



Si and Ge  
lens



CaF<sub>2</sub>/MgF<sub>2</sub>



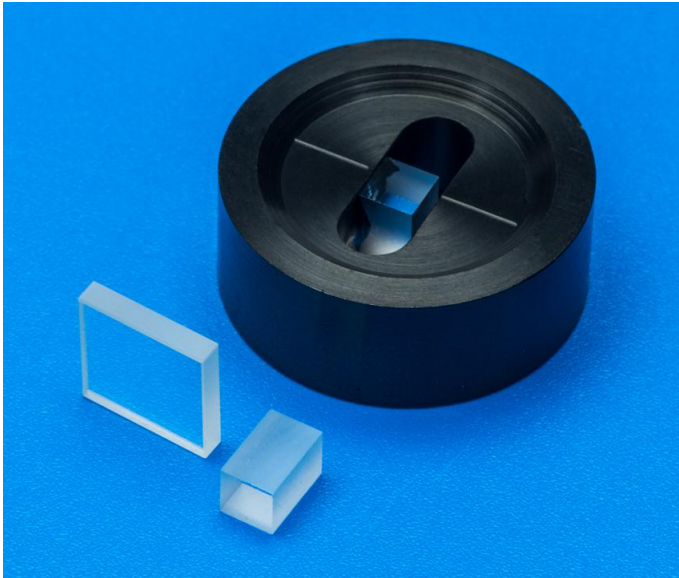
part 7



# Crystals



**AISO** can provide NLO crystals(BBO, LBO,KTP), Laser crystals(Nd:YAG, Nd:YVO4,Nd:GdVO4,Ti:Sapphire), Birefringent crystals(Alpha-BBO, YVO4, Calcite), Passive crystal(Cr4+:YAG)...



NLO Crystal



Polishing



Orientation



**AISO chinese partner** has three coating machines including two Chinese coater and Two Japanese Optorun OTFC-1300 coating machines. we have a Lambda 750 of Perkin-Elmer spectrophotometers, now our coating products are used in laser, telecom, medical, digital imaging and IR instrument.



### Chinese Machines



### Japanese Machines



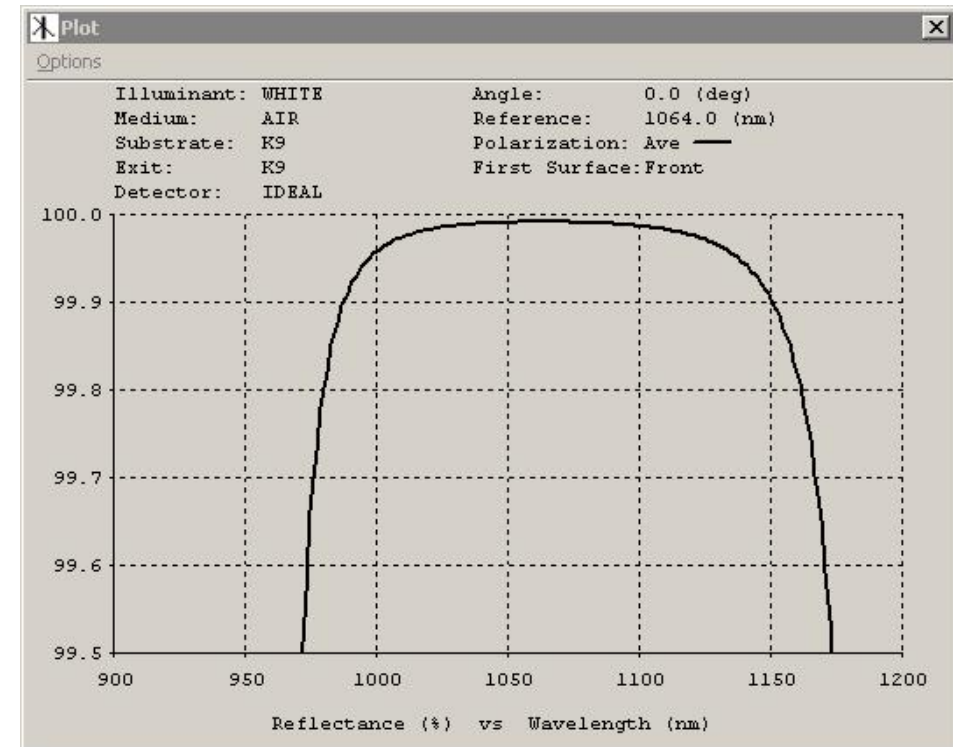
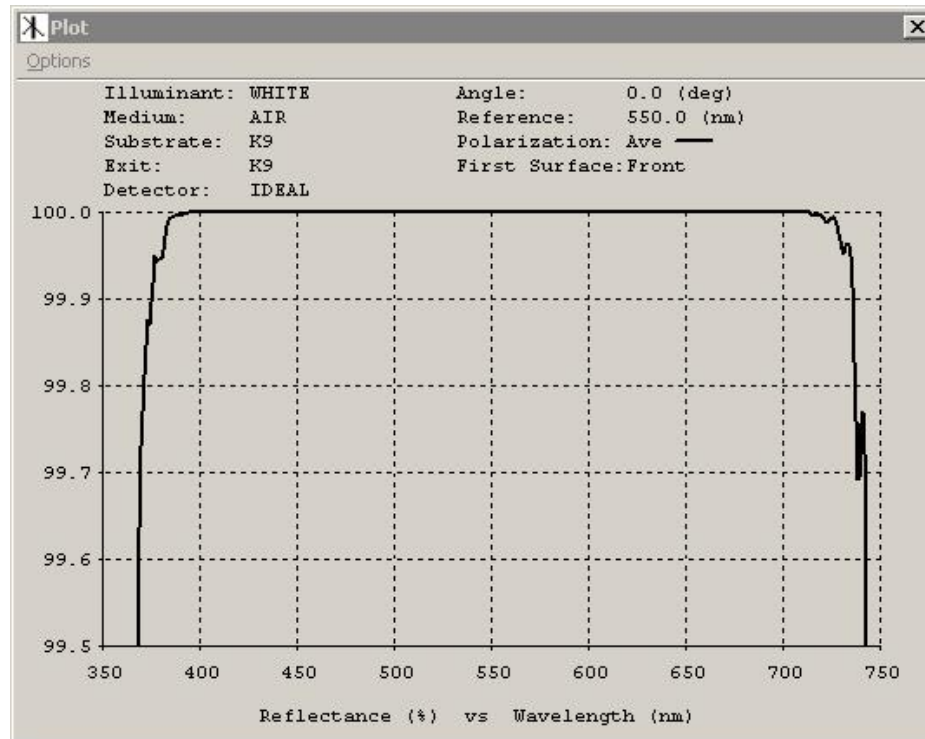
### Optorun OTFC-1300





**AISO** now provide AR coating, PR coating, HR coating, PBS coating, NPBS coating, some Filter coating, we also have one domestic coating machine to do Metal coating such as Al, Ag, Au coating.

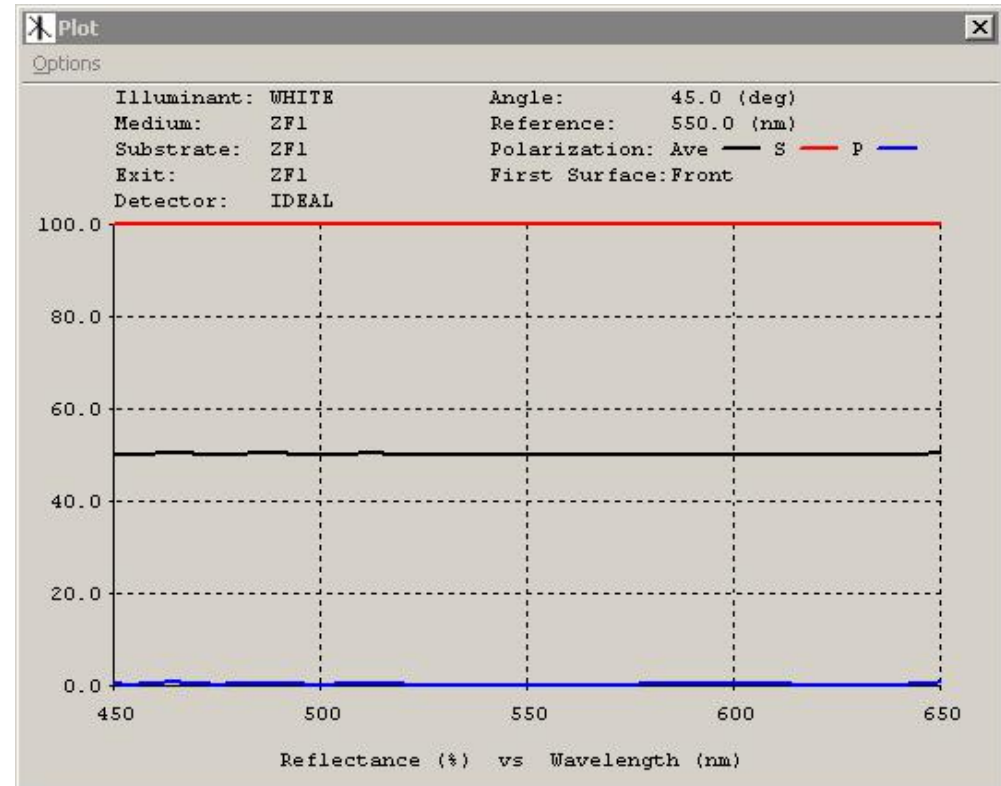
### HR coating curve





Narrow band beam splitter coating @1550nm

Broad band beam splitter coating@450-650nm

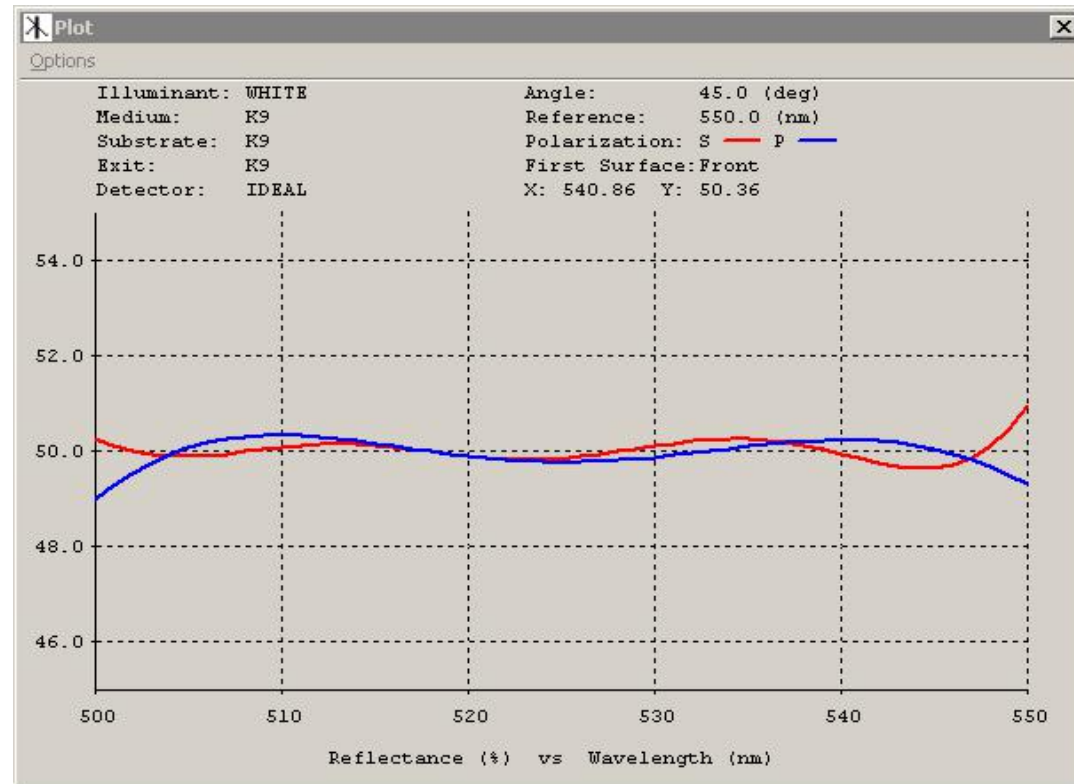


Narrow band: 488, 532, 632.8, 650, 808, 850, 980, 1064, 1310, 1550nm

Broad band: 450-650, 700-1100, 1200-1700 nm



None beam splitter coating  $TP=TS=50\% \pm 5\% @ 500-550\text{nm}$

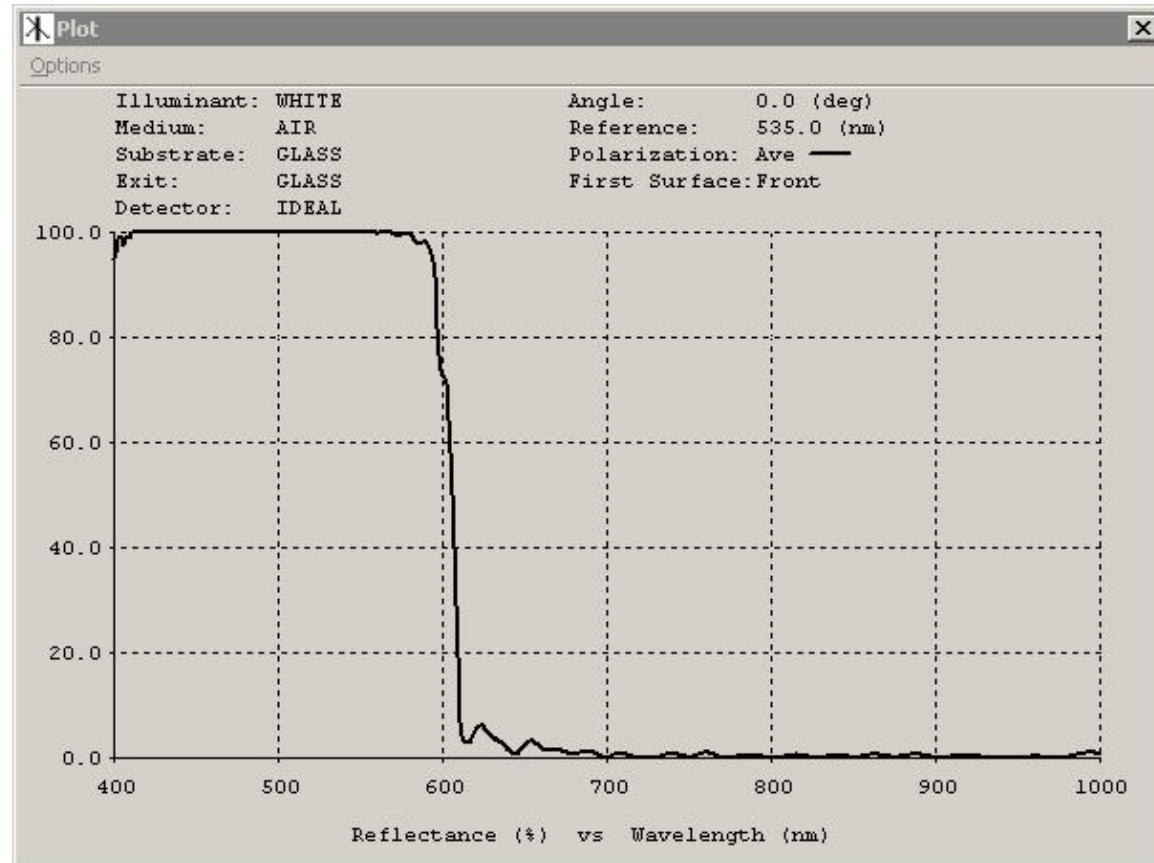


Narrow Band: 633, 780, 850, 980, 1310, 1550 nm

Broadband: 450-680, 650-900, 900-1200 nm

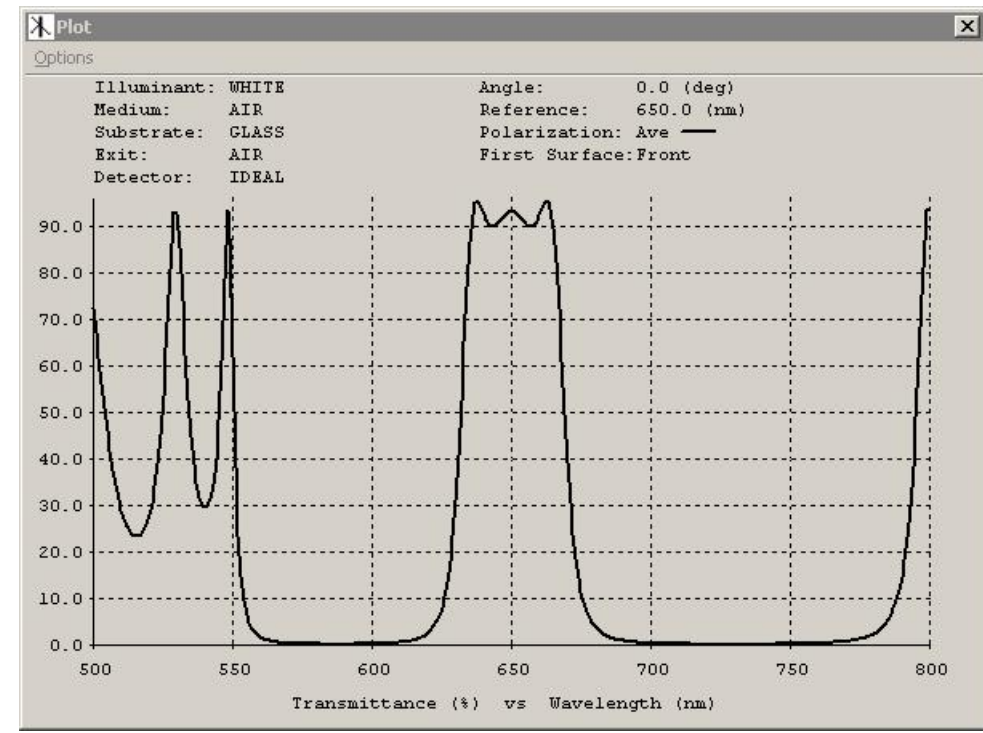
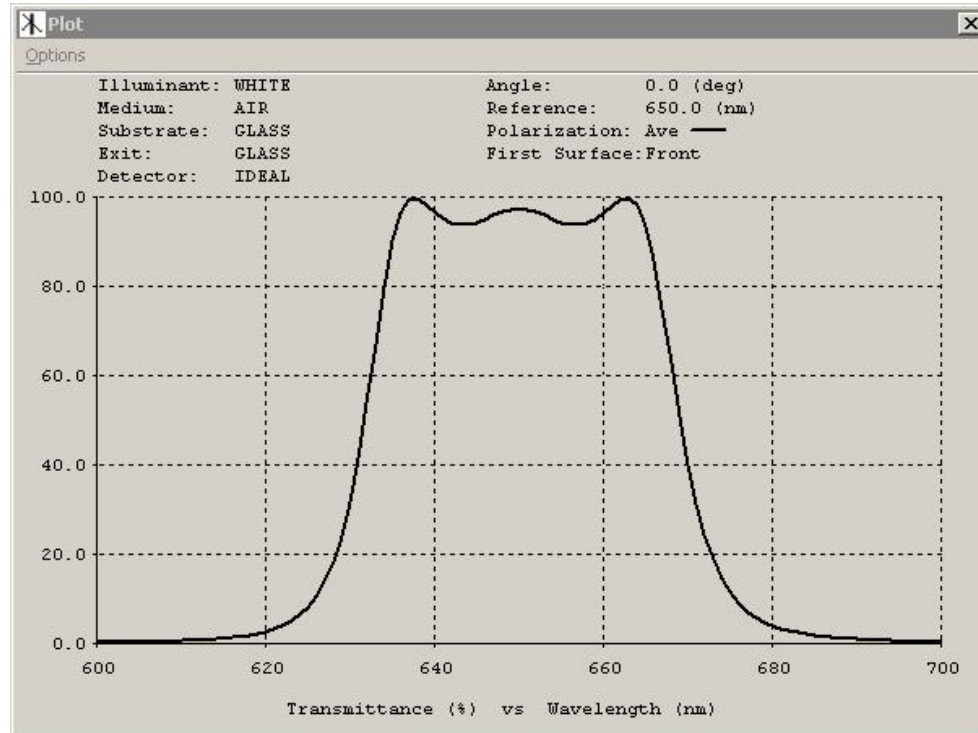


Long Pass Filter: 400-600nm cut off, 600-1000 transmission



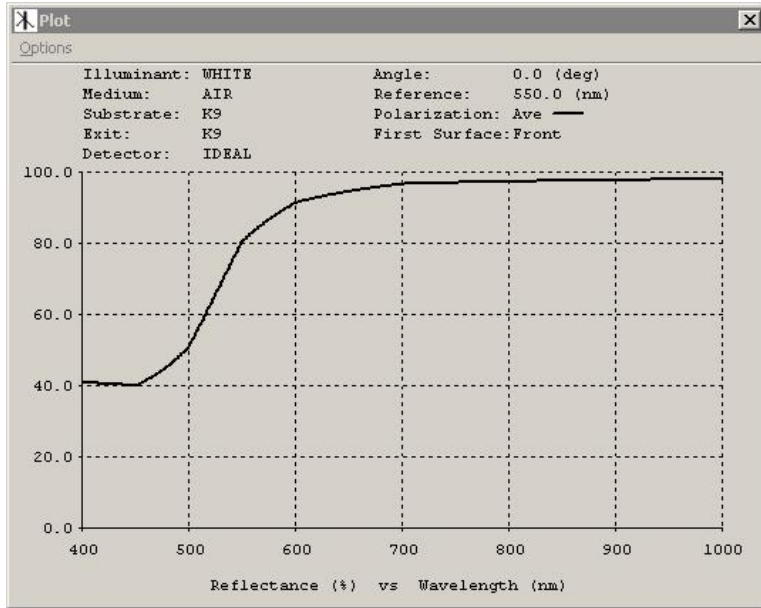


## Narrow wave pass filter

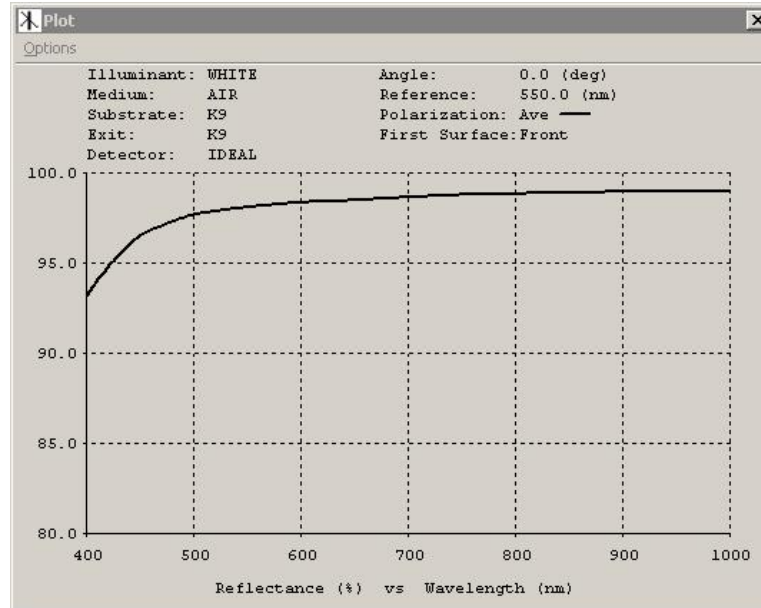




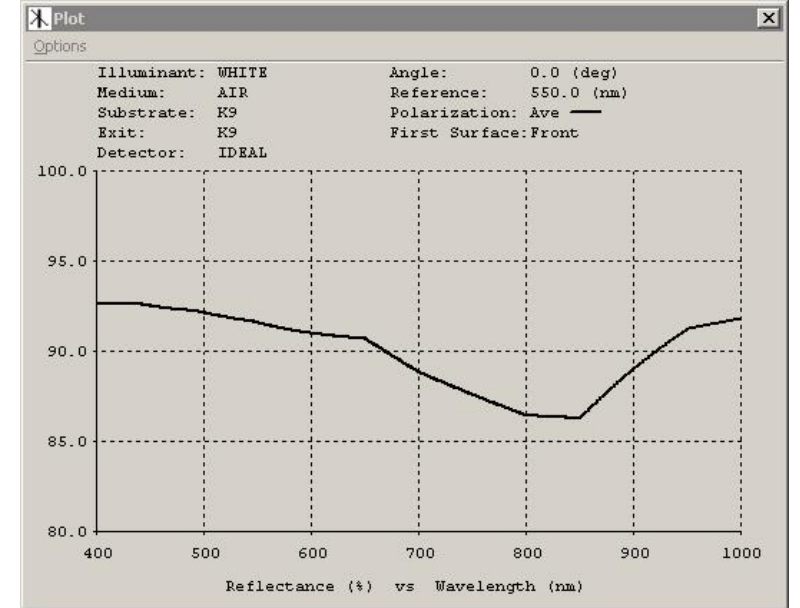
## Metallic high reflective coating



Au coating



Ag coating



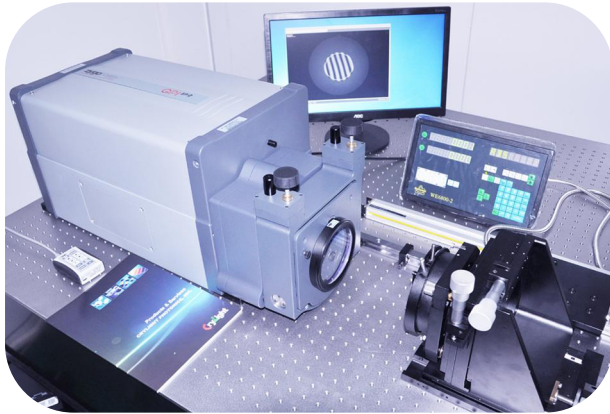
Al coating





01

Zygo 4"  
interferometer



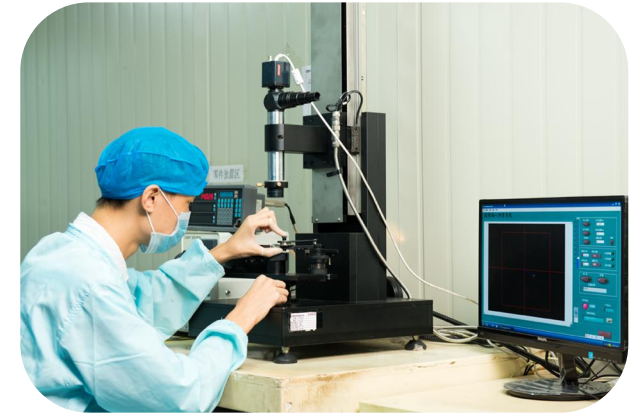
02

Interferometer  
F601



03

Focometer



04

Off-center  
instrument



05

Spectrophotometer



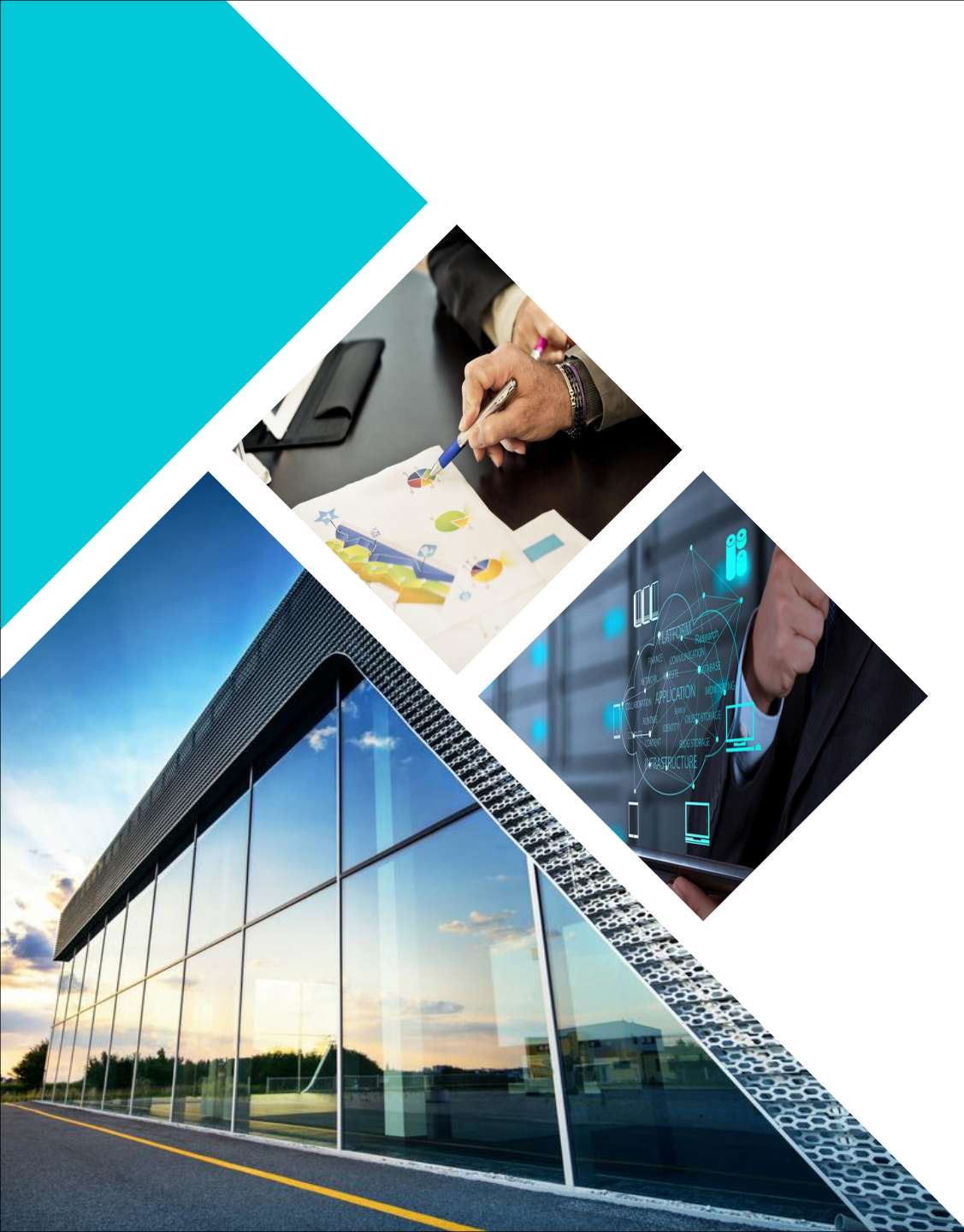
06

Scratch and  
Dip tester  
Keyence





Instrument	Measure Specs
ZYGO 4inch GPI Interferometer	Radius, Flatness, surface accuracy, wavefront distortion
Taiwai AK40 interferometer	Flatness, surface accuracy, wavefront distortion
Keyence Microscope	Scratch and Dig testor
Laser interferometer	Flatness
Interferometer F601	Surface accuracy
Nikon thickness Gauge	Thickness of waveplate
Focometer	Centration, Focal Length
Off-center instrument	Centration of Cylindrical lens
Laser-532nm 10mw, beam D0.5-D10mm	Retardation of waveplate
Spectrophotometer Lambda 750	Coating Reflectivity
Microscope	Surface quality



# THANK YOU!

[www.aiso-corpo.com](http://www.aiso-corpo.com) | [otoiawase@aiso-corpo.com](mailto:otoiawase@aiso-corpo.com)  
| Tel: +81 48 688 9305