

# Penta Prism

Penta Prism has 90° deviation angle independent of the orientation of the prism. This will benefit for applications in which prism orientation can not be controlled precisely. The reflecting surfaces must be coated with metallic or dielectric coating due to the geometry. The standard Penta Prism reflecting surfaces are coated with aluminum or enhanced aluminum. Sometimes, the coated surfaces are with black painting.



## Specifications

Material: BK7 Grade A or equivalent optical glass

Dimension Tolerance:  $\pm 0.25\text{mm}$

### 90° Deviation Tolerance:

Standard series: < 30 arc seconds

Precision series: up to 10 arc seconds

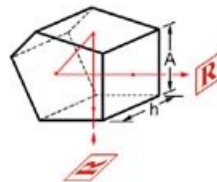
### Flatness:

Standard series:  $\lambda/2$  at 632.8 nm

Precision series: up to  $\lambda/4$  at 632.8 nm

Reflectivity:  $R > 95\%$  per face from 630 to 680 nm

Surface Quality: 60-40 scratch and dig



A x h (mm)	1 min. deviation Part No.	30 sec. deviation Part No.	10 sec. deviation Part No.
7 x 6	PP-7X6-DEV60	PP-7X6-DEV30	PP-7X6-DEV10
10 x 10	PP-10X10-DEV60	PP-10X10-DEV30	PP-10X10-DEV10
15 x 15	PP15x15-DEV60	PP-15x15-DEV30	PP-15x15-DEV10
20 x 20	PP20x20-DEV60	PP-20x20-DEV30	PP-20x20-DEV10

## Precision Penta Prism

Precision Penta Prism is a standard Penta Prism but with wedge added. It is often used in Plumb Level, Surveying, Alignment, Range-Finding and Optical Tooling.

## Specifications

Material: BK7 Grade A or equivalent optical glass

Dimension Tolerance:  $\pm 0.25\text{mm}$

### 90 Deviation Tolerance:

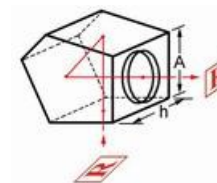
Precision series: up to 2 arc seconds

### Flatness:

Precision series:  $\lambda/4$  at 632.8 nm

Reflectivity:  $R > 95\%$  per face from 630 to 680 nm

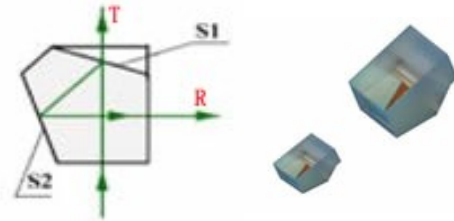
Surface Quality: 60-40 scratch and dig



A x h (mm)	2.5 sec. deviation Part no.
18 x 18	PP-18X18-DEV2.5

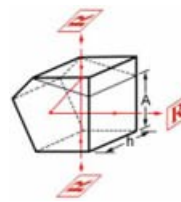
### Beam Splitter Penta Prism

Beam splitter Penta Prism is a standard Penta Prism but with wedge and partial reflective coating on surfaces S1 added. Transmission/reflection (T/R) ratio of 20/80, 50/50 or others for Beam splitter Penta Prism is available upon request.



### Specifications

Material: BK7 Grade A or equivalent optical glass  
 Dimension (h) Tolerance: ±0.1mm  
 Dimension (A) Tolerance: ±0.2mm  
 90° , 180° Deviation Tolerance:  
 Standard series: < 30 arc seconds  
 Precision series: up to 15 arc seconds  
 Flatness:  
 Standard series: λ/2 at 632.8 nm  
 Precision series: up to λ/4 at 632.8 nm  
 Surface Quality :60-40 scratch and dig  
 Beam splitter Ratio Transmission/Reflection: @630-680nm, T/R:20/80±5



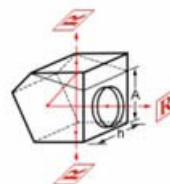
A x h (mm)	1 min. deviation Part no.	30 sec. deviation Part no.	15 sec. deviation Part no.
7 x 6	PP-7X6-DEV60-SP	PP-7X6-DEV30-SP	PP-7X6-DEV15-SP
10 x 10	PP-10x10-DEV60-SP	PP-10x10-DEV30-SP	PP-10x10-DEV15-SP
15 x 15	PP-15x15-DEV60-SP	PP-15x15-DEV30-SP	PP-15x15-DEV15-SP
20 x 20	PP-20x20-DEV60-SP	PP-20x20-DEV30-SP	PP-20x20-DEV15-SP

### Precision Beam Splitter Penta Prism

By adding a wedge and with partial refractive coating on surfaces S1, it can be used as a beam splitter. The other wedge can increase precision of right angle beam. It is often used in Plumb Level, Surveying, Alignment, Range-Finding and Optical Tooling.

### Specifications

Material: BK7 Grade A or equivalent optical glass  
 Dimension (h) Tolerance: ±0.25mm  
**90° Deviation Tolerance:**  
 Precision series: up to 2 arc seconds  
 180° Deviation Tolerance:  
 Precision series: up to 4 arc seconds  
**Flatness:**  
 Precision series: up to λ/4 at 632.8 nm  
 Reflectivity: R>95% per face @633nm  
 Surface Quality : 60-40 scratch and dig  
 Working Wavelength : 633nm



A x h (mm)	2.5 sec. deviation Part no.
18 x 18	PP-18X18-DEV2.5-SP