

Prizmatix

Fiber Optic Coupler OptiBlock Assembly and Alignment Procedure

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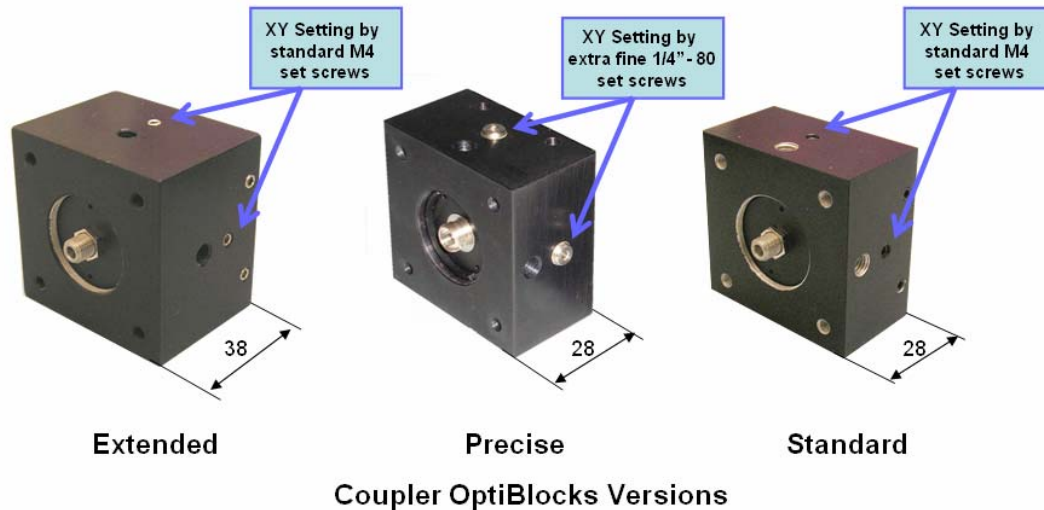
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Coupler OptiBlocks versions

The Multi mode fiber optic Coupler OptiBlocks are manufactured in three versions:

- Standard – OptiBlock length is 28 mm
- Extended – OptiBlock length is 38 mm
- Precise – XY setting by 1/4"-80 extra fine set screws



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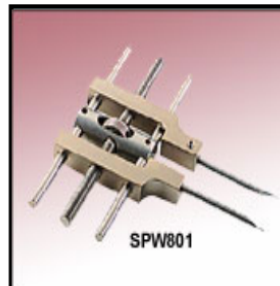
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Tools Required:

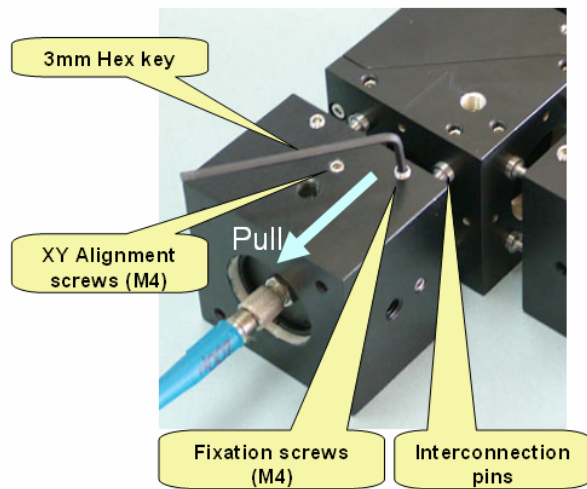
Tool #	Tool	QTY	Used for	Remark
1	3 mm Hex key	2	XY adjustment (M4 screws)	Standard, Extended
2	5/64" Hex key	2	XY adjustment (1/4"-80 screws)	Required only for Precise Coupler OptiBlock
3	1.5 mm Hex key	1	Lens assembly fixation (M2 screws)	
4	Spanner Wrench Thorlabs SPW602	1	Z (focus) adjustment	Optional, other tools may be used
5	Spanner Wrench Thorlabs SPW801	1	Retaining ring fixation	Optional, other tools may be used



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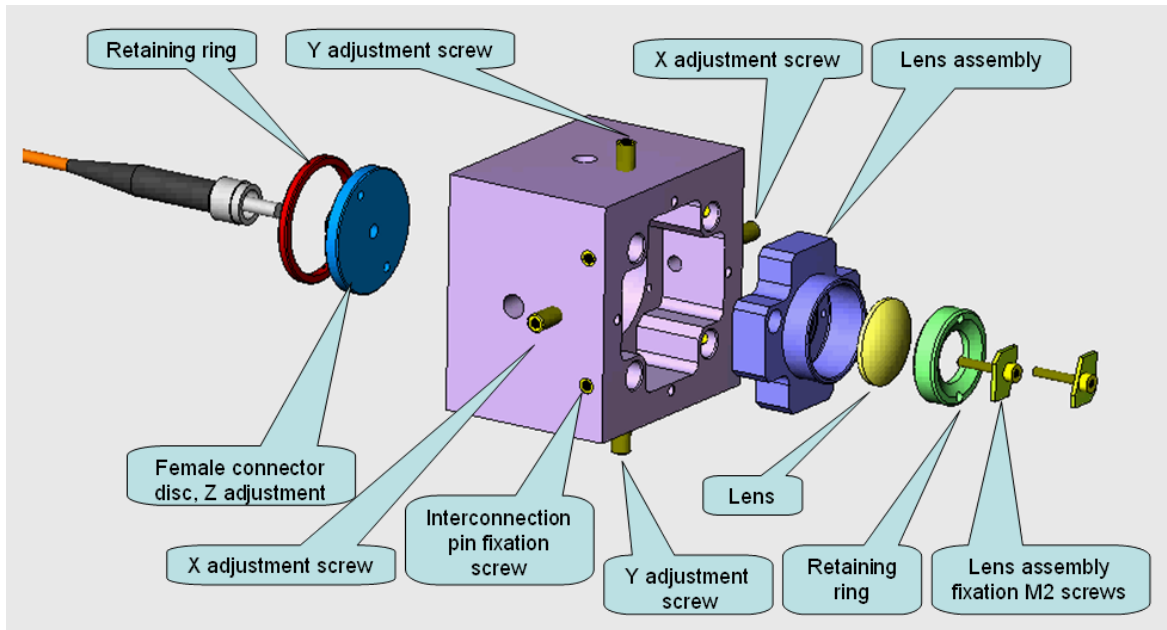
Coupler OptiBlock disconnection from the system

1. Untight the four M4 interconnection pin fixation screws (use tool #1).
2. Pull out the Coupler OptiBlock to disengage it from the system.



Coupler OptiBlock assembly

The following figure describes the Coupler OptiBlock assembly.



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Coupler Alignment

Z Adjustment

In most cases the Coupler OptiBlock is supplied with preset Z, therefore NO readjustment of the Z is required.

However, fine Z tuning is performed as follows:

1. Release the retaining ring of the fiber optic female connector disc (use tool #4).
2. Rotate the disc in its thread to adjust Z distance (use tool #5).
3. Tight the retaining ring to lock the disc in place (use tool #4).

XY Adjustment for Standard and Extended OptiBlocks

The XY adjustment is sometimes required due to slight deviations in the optical path within the OptiBlock system (for example due to variations of beam splitter thickness) or optical filter replacement.

Adjust XY position as follows:

- 1) Slightly loose the Lens assembly M2 fixation screws (use tool #3).
- 2) Adjust the X and Y placement of the Lens assembly by the respective XY adjustment screws (M4 Allen screws). Use two 3 mm Allen screw drivers on opposite sides of the OptiBlock (tool #1).
- 3) Tighten the Lens assembly M2 fixation screws (use tool #3).

Tip: It is easier to adjust the coupling using large core fibers. Adjusting the coupling of small core fibers becomes easier if performed after initial alignment with large core fiber.

XY Adjustment for Precise OptiBlock

The XY adjustment is sometimes required due to slight deviations in the optical path within the OptiBlock system (for example due to variations of beam splitter thickness) or optical filter replacement.

Adjust XY position as follows:

- 1) Slightly loose the Lens assembly M2 fixation screws (use tool #3).
- 2) Adjust the X and Y placement of the Lens assembly by the respective XY adjustment screws (1/4"-80 Allen screws). Use two 5/64" Allen screw drivers on opposite sides of the OptiBlock (tool #2).
- 3) Tighten the Lens assembly M2 fixation screws (use tool #3).

Tip: It is easier to adjust the coupling using large core fibers. Adjusting the coupling of small core fibers becomes easier if performed after initial alignment with large core fiber.