



Which type of Fusion Splicer should I choose – Core Alignment or fixed V-Groove?

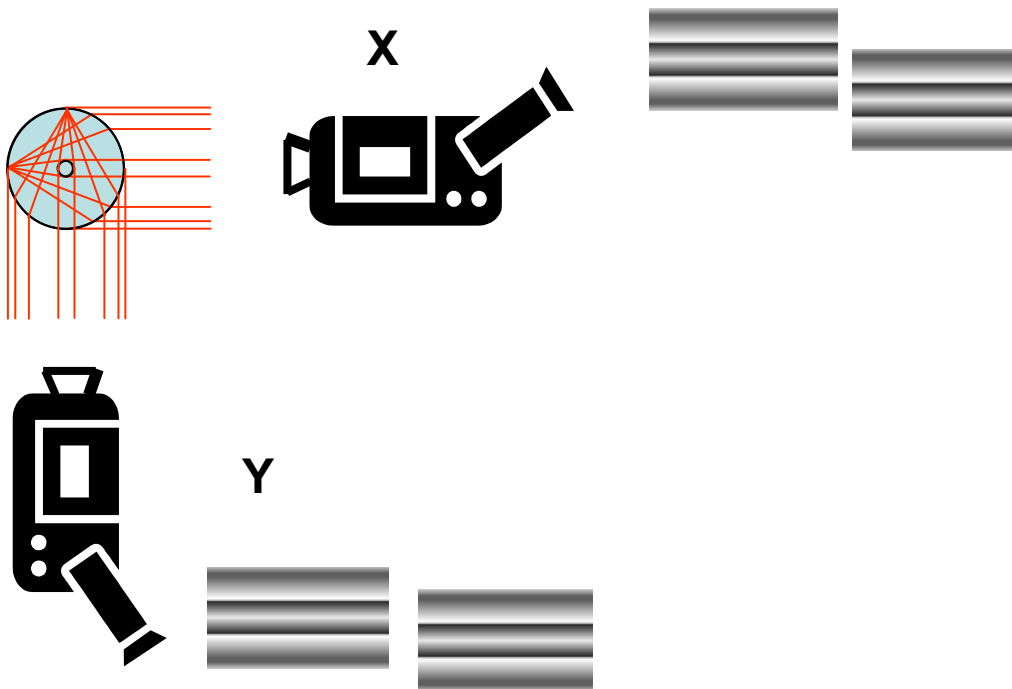
(A) Profile Alignment (Core alignment): *Great for all fibres - singlemode and multimode, good fibre and bad fibre and when splicing old fibre to new fibre.*

The splicer uses various methods to see the fibres. It uses that input to have precisely controlled motors move the fibres along their X (horizontal), Y (vertical) and Z (in and out) axes until they are aligned

The PAS System "sees" the core by detecting the refraction of light caused at the core-cladding interface.

Images are taken in two orthogonal planes so that the core can be located precisely

The splicer uses a V-groove to hold the fibres in place and moves the V-groove along the X, Y, axes until the cores are aligned in both views



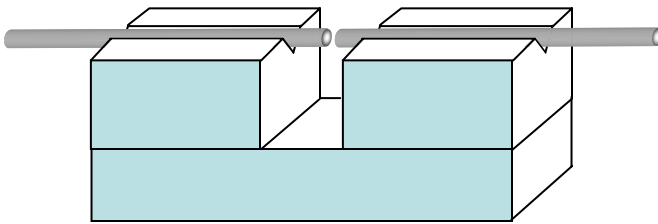
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(B) Passive Alignment (Cladding Alignment Fixed V-groove): *Great for multimode fibres or splicing singlemode fibres of good quality.*

The fibres rest in a fixed V-groove that relies on the concentricity of the outside of the glass to align them in along the X and Y axes. Z alignment is done by the splicer or the user (in manual machines). Typically, this is referred to as a fixed V-groove.

The only movement of the fibres is along the Z axis as the splicer brings the fibres together. This process relies heavily on precisely-shaped V-grooves and very clean fibre. Chipped V-grooves or dirty fibres can affect the X or Y alignment to the point that the splicer cannot perform a good splice on them. Passive alignment relies on the core being central within the fibre. If the core is offset then losses will be higher – this is particularly true with singlemode where the cores are very small and a very small offset can lead to high losses.



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