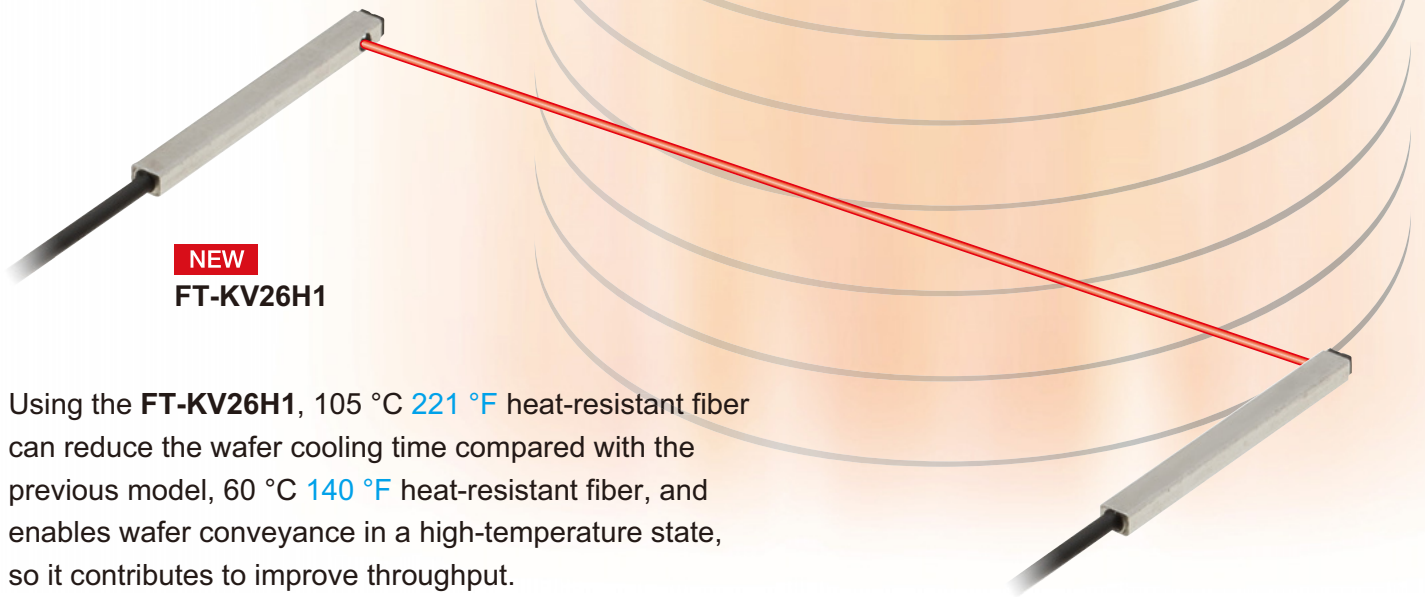


High throughput now possible with 105 °C 221 °F heat-resistant fiber!

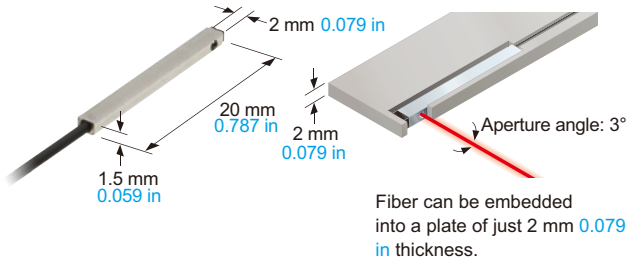


Using the **FT-KV26H1**, 105 °C 221 °F heat-resistant fiber can reduce the wafer cooling time compared with the previous model, 60 °C 140 °F heat-resistant fiber, and enables wafer conveyance in a high-temperature state, so it contributes to improve throughput.

Ultra-compact size

FT-KV26H1 FT-KV26

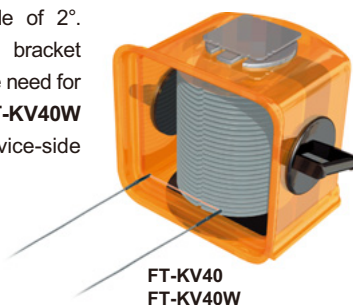
Thanks to its ultra-compact size of just W2 × H1.5 × D20 mm W0.079 × H0.059 × D0.787 in, the **FT-KV26H1** and **FT-KV26** can be installed even in limited spaces such as robot hands.



Ultra-narrow beam aperture angle 2° or less

FT-KV40 FT-KV40W

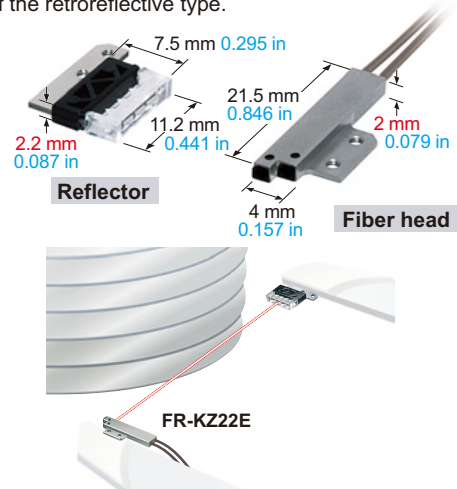
Realized laser-like aperture angle of 2°. Use of the exclusive mounting bracket enables easy mounting without the need for grooving. The **FT-KV40** and **FT-KV40W** are optimal for mounting on device-side mapping mechanism.



Ultra-thin retroreflective type reduces construction work

FR-KZ22E

The **FR-KZ22E** is an ultra-thin shape (fiber: 2 mm thick, reflector: 2.2 mm thick), it can be installed even on thin robot hands. Using the **FR-KZ22E** reduces wiring and robot hand processing, and secures strength because of the retroreflective type.



Increased heat resistance up to 80 °C

FT-KS40 FT-KV40 FT-KV26

The **FT-KS40**, **FT-KV40** and **FT-KV26** have been redesigned to increase their heat resistance from 60 °C 140 °F up to 80 °C 176 °F, improved its environmental durability.

Note: The **FT-KS40**, **FT-KV40** and **FT-KV26** produced until September 2014 are heat-resistant 60 °C 140 °F.

LIST OF FIBERS

Tough : Refers to a fiber which possesses both unbreakable (bending radius: R10 mm **R0.394 in**, reciprocating bending: 180°) and more flexible (bending radius: R4 mm **R0.157 in** or less) features.
Bending durability : Refers to a fiber which possesses unbreakable bending resistant feature (bending radius: R10 mm **R0.394 in**, reciprocating bending: 180°).

Thru-beam type (one pair set)

*The **FT-KS40**, **FT-KV40** and **FT-KV26** have been changed in specifications from production in October 2014. The specifications shown here reflect those changes.

| Type | Shape of fiber head (mm) | Model No. | Bending radius (mm) | Fiber cable length (m) | Sensing range (mm in) (Note 1) | | | Beam axis dia. (mm) | Beam axis position/Inclination of beam axis | Protection | Ambient temp. |
|--------------------------|-------------------------------|--|---------------------|------------------------|---|---|---|---------------------|---|------------|----------------|
| | | | | | FX-500 series | U-LG LONG FAST H-SP | FX-101 (Upper value) FX-102 (Lower value) | | | | |
| Narrow beam Side-view | Aperture angle 2° | NEW Tough *FT-KS40 Bending durability | R2 | 2 m | STD (Note 2) 3,600 141.732 HYPR (Note 2) 3,600 141.732 | 3,600 141.732 (Note 2) 3,600 141.732 (Note 2) 1,200 47.244 | 2,200 86.614 3,600 141.732 (Note 2) | ∅2.2 | — | IP40 | -40 to +80 °C |
| | Aperture angle 2° ∅4 | NEW Tough *FT-KV40 Bending durability | R2 | | STD (Note 2) 3,600 141.732 HYPR (Note 2) 3,600 141.732 | 3,600 141.732 (Note 2) 3,600 141.732 (Note 2) 1,200 47.244 | 2,200 86.614 3,600 141.732 (Note 2) | ∅2.5 | ±0.8° | IP30 | -40 to +60 °C |
| | Aperture angle 2° ∅4 | FT-KV40W | R1 | | STD (Note 2) 3,600 141.732 HYPR (Note 2) 3,600 141.732 | 3,600 141.732 (Note 2) 3,600 141.732 (Note 2) 3,100 122.047 940 37.008 | 2,200 86.614 3,600 141.732 (Note 2) | ∅2.5 | ±0.8° | IP30 | -40 to +60 °C |
| | Aperture angle 3° 1.5 × 2 | NEW Tough *FT-KV26 Bending durability | R2 | | STD (Note 2) 3,600 141.732 HYPR (Note 2) 3,600 141.732 | 1,600 62.992 1,200 47.244 440 17.323 160 6.299 | 135 5.315 560 22.047 | ∅1 | X±1° Z±0.5° | IP30 | -40 to +80 °C |
| | Aperture angle 3° 1.5 × 2 | NEW FT-KV26H1 | R10 | | STD (Note 2) 3,600 141.732 HYPR (Note 2) 3,600 141.732 | 1,430 56.299 1,070 42.126 390 15.354 135 5.315 | 160 6.299 500 19.685 | ∅1 | X±1° Z±0.5° | IP30 | -40 to +105 °C |

Retroreflective type

| Type | Shape of fiber head (mm) | Model No. | Bending radius (mm) | Fiber cable length (m) | Sensing range (mm in) (Note 1, 3) | | | Protection | Ambient temp. |
|---------------|---|---|---------------------|------------------------|---|--|---|------------|---------------|
| | | | | | FX-500 series | U-LG LONG FAST H-SP | FX-101 (Upper value) FX-102 (Lower value) | | |
| Wafer mapping | W7.5 × H2.2 × D11.2 Aperture angle 3° (emitter) W4 × H2 × D21.5 | Tough FR-KZ22E Bending durability | R2 | 2 m | STD 15 to 310 0.591 to 12.205 HYPR 15 to 570 0.591 to 22.441 | 15 to 460 0.591 to 18.110 15 to 410 0.591 to 16.142 15 to 220 0.591 to 8.661 15 to 100 0.591 to 3.937 | 15 to 200 0.591 to 7.874 15 to 360 0.591 to 14.173 | IP30 | -40 to +60 °C |

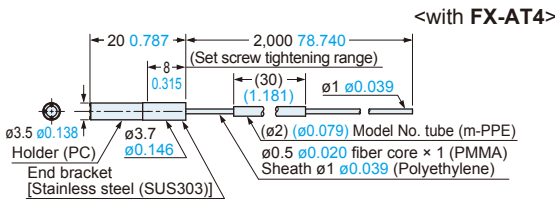
Notes: 1) Note that the sensing range of the free-cut type fiber may be reduced by 20 % max. depending upon how the fiber is cut.
 2) The fiber cable length practically limits the sensing range.
 3) The sensing range is the possible setting range for the attached reflector. The fiber can detect an object less than setting range for the reflector.

DIMENSIONS (Unit: mm in)

Refer to our website, fiber sensor guide book or general catalog for the amplifiers. The CAD data with the dimensions listed can be downloaded from our website.

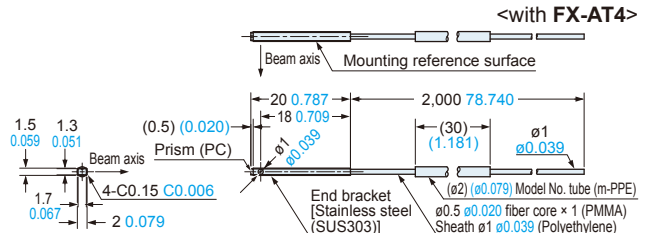
FT-KS40

Free-cut



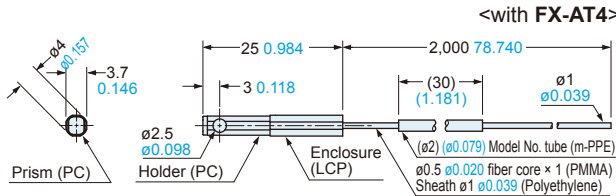
FT-KV26 FT-KV26H1

Free-cut



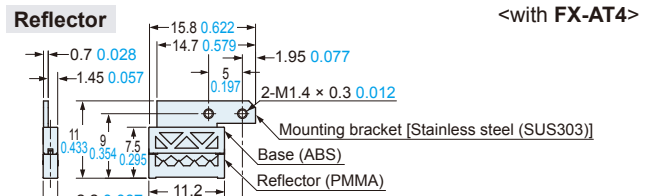
FT-KV40 FT-KV40W

Free-cut

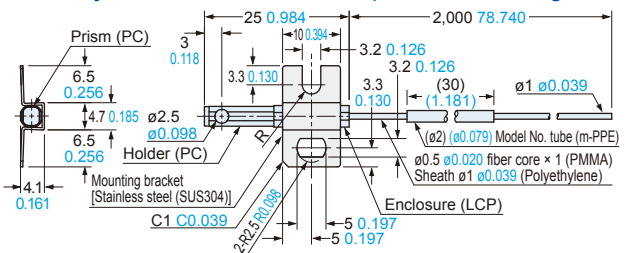


FR-KZ22E

Free-cut



Assembly dimensions with MS-FD-3 (attached mounting bracket)



Fiber

