

# XFA

## TUNABLE FILTER WITH FIXED BANDWIDTH



The XFA is electronically controlled and wavelength tuning ranges from 1450 nm to 1650 nm. The bandwidth is factory-set and can be selected at purchase between 50 pm and 800 pm with respect to the center wavelength.

### KEY FEATURES

Fixed Bandwidth Flat-top Filter

Ultra-sharp Filter Edges

High Isolation

200 nm Wavelength Range

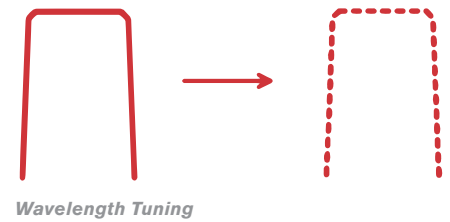
High Accuracy & Repeatability

Easy-to-Use Software

## KEY FEATURES

### Fixed Bandwidth Flat-top Filter

The bandwidth of the XFA filters can be selected at purchase between 50 pm and 800 pm. The filter has a flat-top profile with minimal ripple, less than 0.2 dB.



### Ultra-sharp Filter Edges

The XFA uses EXFO patented quadruple pass technology. This creates extremely sharp filter edges with slopes of 500 dB/nm. Single or groups of narrowly spaced DWDM channels or coherent super-channels can be selected with ease.

### High Isolation

In addition to the sharp filter edges, the quadruple pass technology achieves higher isolation than conventional double-pass filters. Isolation is typically 60 dB.

### High Accuracy & Repeatability

High resolution translation stages are used for wavelength control. This ensures the XFA can be set accurately and repeatedly over time.

### 200 nm Wavelength Range

The XFA has a very wide wavelength range and covers the key telecom wavelengths from 1450 nm to 1650 nm.

### Easy-to-Use Software

The XFA is operated through its 7-inch touch screen to drive all operations. It enables fast setup with a complete set of functions such as sequence execution, ITU Grid selection, custom grid generation.

| ITU Grid: C-Band, 25 GHz |             |             |             |             |         | Local        |
|--------------------------|-------------|-------------|-------------|-------------|---------|--------------|
| 195.975                  | 194.925 ... | 193.875 ... | 192.775 ... | 191.775 ... |         |              |
| 195.975                  | 195.950     | 195.925     | 195.900     | 195.875     | 195.850 |              |
| 195.825                  | 195.800     | 195.775     | 195.750     | 195.725     | 195.700 |              |
| 195.675                  | 195.650     | 195.625     | 195.600     | 195.575     | 195.550 |              |
| 195.525                  | 195.500     | 195.475     | 195.450     | 195.425     | 195.400 | FWHM<br>6.24 |
| 195.375                  | 195.350     | 195.325     | 195.300     | 195.275     | 195.250 |              |
| 195.225                  | 195.200     | 195.175     | 195.150     | 195.125     | 195.100 |              |
| 195.075                  | 195.050     | 195.025     | 195.000     | 194.975     | 194.950 |              |

XFA - ITU Grid Selection

## APPLICATION

### DWDM Channel Selection

Low dispersion, steep edges and high isolation mean that DWDM channels, or even coherent superchannels with spacing down to 10 GHz, can be separated with ease. BER tests have never been so good!

### Variable OSNR Source

A variable OSNR source typically consists of an ASE source combined with a variable attenuator. Adding the XFA with a flat-top bandwidth enables consistent noise loading for all DWDM wavelengths.

### R&D of Modulation Formats

The XFA is perfect for the filtering and analysis of sub-bands of complex modulations formats.

### Pulse Shaping

Wide bandwidth flexibility enables the filter to be used for pulse shaping of femtosecond lasers.

## SPECIFICATIONS

| Optical Characteristics                                  | XFA  |
|--|--|
| Wavelength range   | 1450-1650 nm                                     |
| Wavelength resolution                                    | 1 pm   |
| Wavelength accuracy <sup>a</sup>                         | ±30 pm   |
| Insertion loss <sup>b, c</sup>                           | 5 dB (4.5 dB typical)                            |
| Polarization dependent loss <sup>c, d</sup>              | ±0.2 dB  |
| Wavelength tuning speed                                  | 1 s  |
| <b>Optical Bandwidth (FWHM) (selected at order time)</b> |  |
| Minimum bandwidth (FWHM)                                 | 50 pm  |
| Maximum bandwidth (FWHM)                                 | 800 pm   |
| FWHM accuracy  | ±10 pm   |
| <b>Optical Bandwidth Shape</b>                           |  |
| Out-of-band suppression (crosstalk) <sup>e</sup>         | 40 dB (60 dB typical)                            |
| Flatness <sup>f</sup>                                    | 0.2 dB   |
| Filter edge roll-off <sup>g</sup>                        | 500 dB/nm typical                                |
| <b>Interfaces</b>  |  |
| Display  | 7 inch resistive touch-screen (res. 800x480)     |
| Communication interfaces                                 | USB-B, Ethernet (x2), RS-232C, GPIB <sup>h</sup> |
| Display and other interfaces                             | DVI-I (x1), USB 2.0-A (x4), PS/2 (x2)            |
| Optical fiber type                                       | SMF or PMF                                       |
| Connector type   | FC/PC or FC/APC                                  |
| <b>Operating Conditions</b>                              |  |
| Temperature range  | 15 to 35 °C                                      |
| Maximum optical input power                              | 30 dBm   |
| Power Supply   | 100-240 V (50-60 Hz)                             |
| <b>Size</b>  |  |
| Dimensions (W x D x H)                                   | 254 x 385 x 154 mm                               |
| Weight   | 7 kg   |

All specifications are given at 21°± 3°C after 30 minutes warm-up.

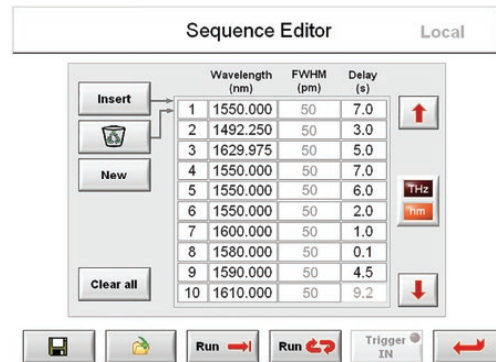
**Notes**

- With "Backlash Suppression" setting enabled.
- From 1500 to 1600 nm & FWHM > 60 pm.
- At lowest FWHM the insertion loss is 7 dB typical.
- At 1500, 1550 and 1600 nm, FWHM > 100 pm.
- Measured 1 nm away from the -3 dB points.
- Centered width of FWHM-150 pm. For 150 pm < FWHM < 650 pm.
- Between -3 and -40 dB for FWHM < 800 pm.
- GPIB is supported as an option through an external RS-232/GPIB converter.



## ADVANCED FEATURES & PERFORMANCE

Easy access to optical connectors for cleaning. Easing maintenance and enabling the lowest losses to be maintained.



XFA – Sequence Editor

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