

# Gooch & Housego



## 2+1x1 Multimode Power Combiner with Signal Feedthrough

G&H proprietary manufacturing techniques allow the precise fusion of multimode pump fibres to a signal feedthrough fibre and a dual clad output fibre providing high coupling efficiency over a wide pump wavelength range.

Available in a standard (2+1)x1 configuration, the combiner can be fabricated from a range of industry standard fibres for ease of splicing to commercially available laser diodes, signal and gain fibres.

Custom variants using non-standard fibres including LMA fibres are available on request.

Please contact the sales team for further information.

### Key Features:

- 1.5 $\mu$ m and 1.0 $\mu$ m Signal feedthroughs available
- All fibre construction
- High power design
- High Coupling Efficiency
- Custom configurations available

### Applications:

- Cladding pumped fibre lasers
- Cladding pumped fibre amplifiers
- Telecoms
- Medical
- Industrial
- Defence



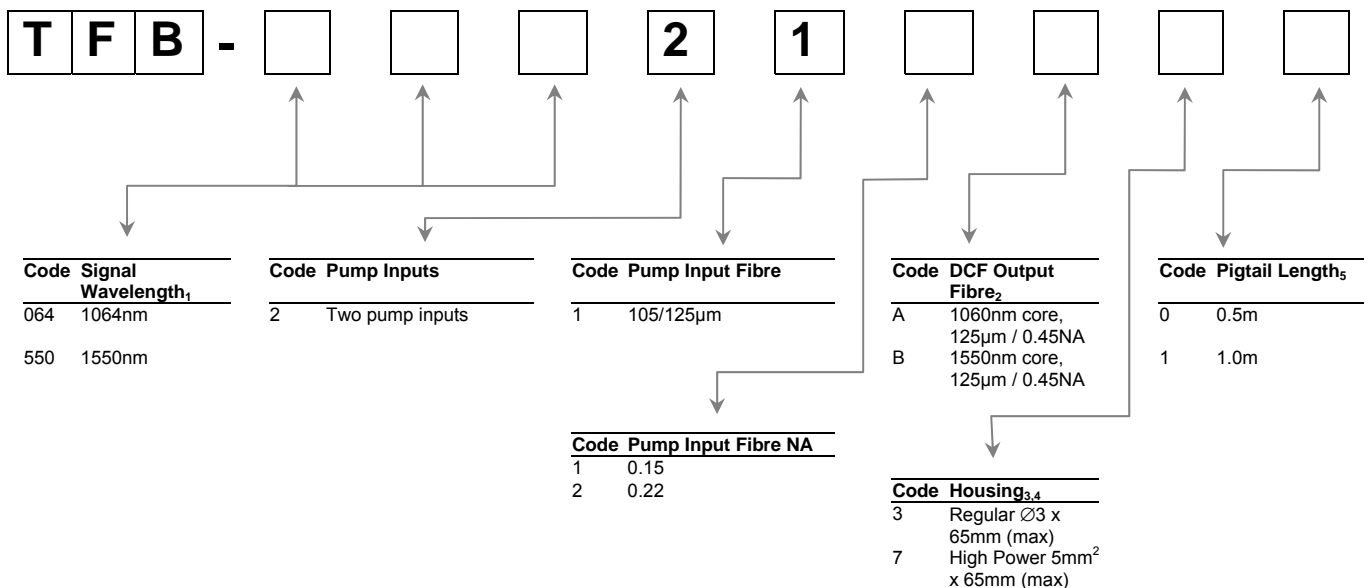
## Optical Specifications<sub>1</sub>

Parameter	Specification	Unit
Pump Input Fibre NA	0.15 or 0.22	-
Pump Input Wavelength	780 to 1000	nm
Signal Input Wavelength	1530-1565 (1550) or 1030-1090 (1064)	nm
Pump (MM) Transmission Efficiency <sub>2</sub>	≥ 90 (typ. 95)	%
Signal Transmission Efficiency <sub>3</sub>	≥ 93 (typ. 97)	%
Return Loss	≥40	dB
Operating Temperature	-5 to +65	°C
Storage Temperature	-40 to +85	°C

1. All specifications are for operation at room temperature.
2. MM Transmission efficiencies based on typical system mode fill conditions and 0.5m pigtails. Reported at 975nm as standard.
3. Signal (feedthrough) transmission efficiency reported at centre wavelength

## Ordering Code Information

**Example: TFB-550212B31** (2+1x1 Tapered Fibre Bundle with 1550nm Signal input, two 105/125µm 0.22NA pump inputs, 1550nm core DCF Output in regular housing with 1.0m pigtails).



1. Signal wavelengths of 1064nm or 1550nm assume the use of Corning Hi1060 or SMF-28 (or equivalent) fibres respectively.
2. Typical mode field diameters are based on 6.2µm for 1064nm and 10.5µm for 1550nm. Fibres are passive.
3. Maximum housing lengths shown.
4. The 3mm cylindrical package is recommended for pump powers up to 10W per port. The High Power housing is recommended for pump powers up to 50W per port. Adequate heat-sinking is required for high power operation. For more information please contact the G&H sales team.
5. Minimum pigtail lengths.

Signal Input Fiber として、ダブルクラッドファイバー (例 8/125 µ m NA 0.1/0.46) を用いた (2+1) x1 コンバイナーも製造可能です。 お問い合わせ下さい。