

## UNIVERSAL FIBRE OPTICS



- *Extra-flexible versions*
- *High-temperature versions*
- *High-efficiency versions*
- *Focusing, collimating and deviating lenses*

## OF SERIES

The **OF** series offers a complete range of universal plastic fibre-optics, either for through-beam or diffuse and coaxial proximity detection, with free terminals that can be cut and connected to all the sensors with standard holes of 2.2 mm diameter.

Together with the standard models, suited to the most diffused applications, other versions for particular requirements are available: high temperature fibres resistant up to 125°C, ultra-flexible fibres with only 2 mm bending radius, high-efficiency fibres with enhanced core, fibres with extending coiled cable, thin fibres with only 1 mm external diameter.

The **OF** series accessories include various additional lenses for focusing, collimating, or deviating the beam; as well as protecting metal sheaths, diameter adapters for thin fibres and universal cutting tools.

## TECHNICAL DATA

**External diameter (sheath):** ..... Ø 2.2 mm  
   Ø 1 mm (-TN vers.)

**Internal diameter (core):** ..... Ø 1 mm  
   Ø 1.5 mm (-HP vers.)  
   Ø 0.5 mm (-TN vers.)

**Bending radius:** ..... 25 mm  
   15 mm (-TN vers.)  
   5 mm (-XF vers.)  
   2 mm (-UF vers.)

**Normalised efficiency:** ..... refer to table 1

**Mechanical protection:** ..... IP67

**Core material:** ..... PMMA plastic

**Sheath material:** ..... PE plastic

**Terminal material:** ..... nickel-plated brass

**Operating temperature:** ..... -40 ... +60°C  
   -40 ... +125°C (-HT vers.)

**Storage temperature:** ..... -40 ... +60°C  
   -40 ... +125°C (-HT vers.)

## TABLE

<i>Fibre type</i>	<i>Code</i>	<i>Efficiency</i>
standard	-ST-	100%
high-temperature	-HT-	70%
extra-flexible	-XF-	90%
ultra-flexible	-UF-	90%
high-efficiency	-HP-	125%
coiled cable	-CL-	65%
thin cable	-TN-	35%

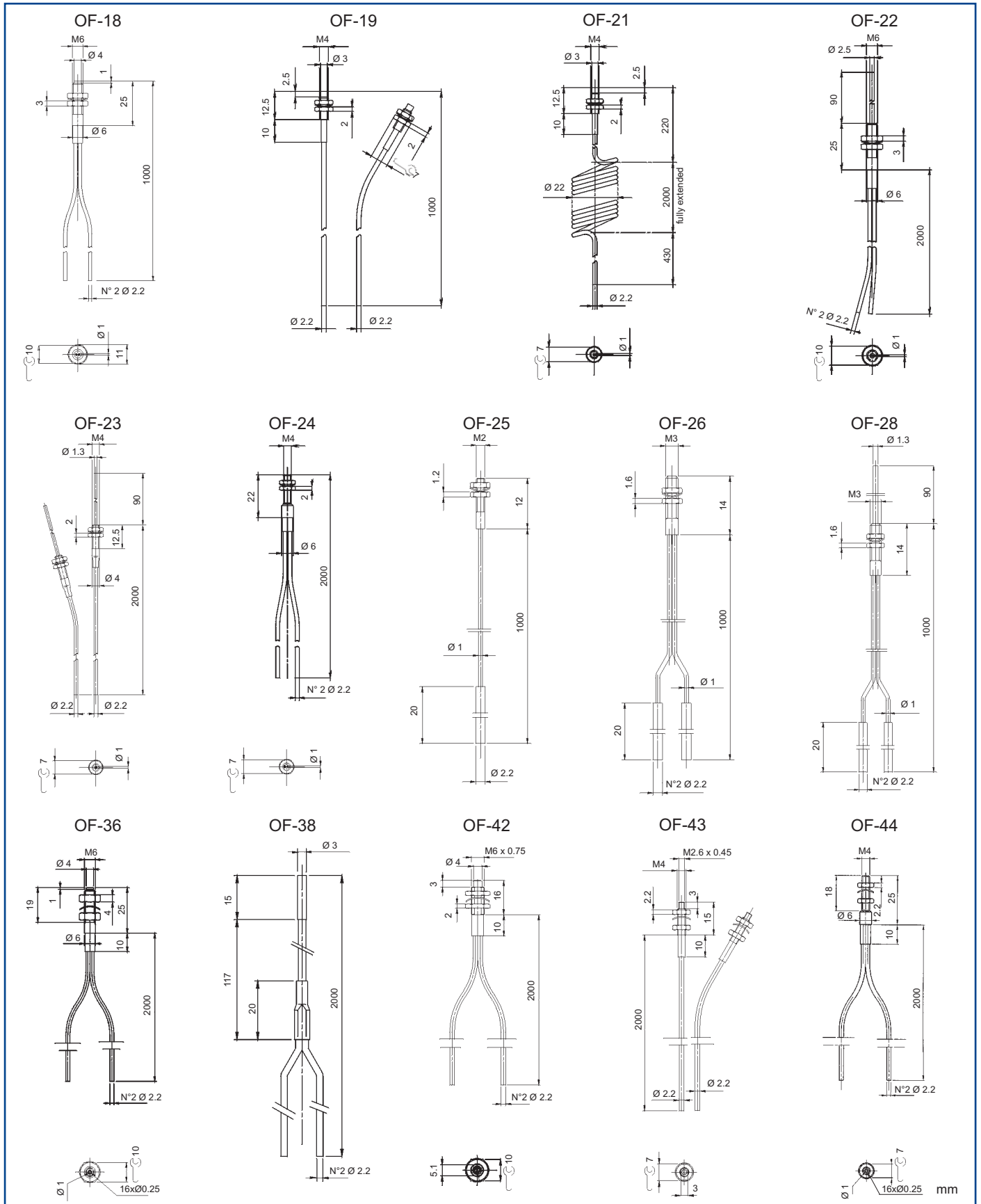
**Table 1: NORMALISED EFFICIENCY \***

\* The operating distance is obtained multiplying the normalised efficiency value by the distance indicated for each sensor with standard fibre-optics.

## ACCESSORIES

<p><b>AF-1</b> 2 pcs 90° deviating lenses Gain: distance x 0.7</p>	<p><b>AF-2</b> 2 pcs collimating lenses Gain: distance x 4</p>	<p><b>AF-3</b> 1 pc focusing lenses with 4 mm resolution Operating distance: 19 ± 2 mm</p>	<p><b>AF-4</b> 1 pc focusing lenses with 0.4 mm resolution Operating distance: 7 ± 1 mm</p>	<p><b>AF-5</b> 2 pcs adapters Ø2.2mm for thin fibres Ø1mm Material: plastic</p>
<p>Suitable fibres: OF-43-xx      Suitable fibres: OF-43-xx      Suitable fibres: OF-44-xx      Suitable fibres: OF-44-xx      Suitable fibres: OF-xx-TN</p>				
<p><b>AF-7</b> 1 pc metal sheath for M6 x 0.75 fibres Material: stainless steel</p>	<p><b>AF-9</b> 1 pc metal sheath for M4 x 0.7 fibres Material: stainless steel</p>	<p><b>AF-11</b> Fibre-cutting tool with Ø 2.2 mm and Ø 1.1 mm holes Material: plastic with stainless steel blade</p>		
<p>Suitable fibres: OF-42-xx      Suitable fibres: OF-43-xx      Suitable fibres: all</p>				
mm				

## FIBRE-OPTIC DIMENSIONS



## MODEL SELECTION AND ORDER INFORMATION

MODEL	OPTIC FUNCTION	FIBRE TYPE	LENGTH **	TERMINAL	CODE N°
OF-18-ST-10	proximity	standard	1 m	M6x1 mm	S76021801
OF-19-ST-10	through beam	standard	1 m	M4x0.7 mm	S76021901
OF-21-CL-20	through beam	coiled	2 m	M4x0.7 mm	S76022100
OF-22-ST-20	proximity	standard	2 m	M6x1 mm *	S76022200
OF-23-ST-20	through beam	standard	2 m	M4x0.7 mm *	S76022300
OF-24-ST-20	proximity	standard	2 m	M4x0.7 mm	S76022400
OF-25-TN-10	through beam	thin (Ø 1 mm)	1 m	M2x0.4 mm	S76022500
OF-26-TN-10	proximity	thin (Ø 1 mm)	1 m	M3x0.5 mm	S76022600
OF-28-TN-10	proximity	thin (Ø 1 mm)	1 m	M3x0.5 mm *	S76022800
OF-36-ST-20	coaxial proximity	standard	2 m	M6x1 mm	95A201000
OF-36-XF-20	coaxial proximity	extra-flexible	2 m	M6x1 mm	95A201330
OF-38-ST-20	proximity	standard	2 m	D3x15 mm	95A201070
OF-42-ST-20	proximity	standard	2 m	M6x0.75 mm	95A201340
OF-42-HT-20	proximity	high-temperature	2 m	M6x0.75 mm	95A201250
OF-42-UF-20	proximity	ultra-flexible	2 m	M6x0.75 mm	95A201260
OF-42-HP-20	proximity	high-efficiency	2 m	M6x0.75 mm	95A201270
OF-43-ST-20	through beam	standard	2 m	M4x0.7 mm	95A201350
OF-43-HT-20	through beam	high-temperature	2 m	M4x0.7 mm	95A201280
OF-43-UF-20	through beam	ultra-flexible	2 m	M4x0.7 mm	95A201290
OF-43-HP-20	through beam	high-efficiency	2 m	M4x0.7 mm	95A201300
OF-44-ST-20	coaxial proximity	standard	2 m	M4x0.7 mm	95A201310
OF-44-XF-20	coaxial proximity	extra-flexible	2 m	M4x0.7 mm	95A201320

\* a bendable stainless steel extension 90mm long protrudes from the threaded optic head

\*\* the length indicated is approximate; please refer to the mechanical drawings for the exact dimensions

## ACCESSORY SELECTION AND ORDER INFORMATION

MODEL	DESCRIPTION	SUITABLE FIBRES	CODE N°
AF-1	2 pcs 90° deviating lenses	OF-43-xx	95ACC1170
AF-2	2 pcs long distance collimating lenses (x 10)	OF-43-xx	95ACC1180
AF-3	1 pc focusing lens with 4 mm resolution	OF-44-xx	95ACC1190
AF-4	1 pc focusing lens with 0.4 mm resolution	OF-44-xx	95ACC1200
AF-5	2 pcs adapters Ø 2.2 mm for thin fibres	OF-xx-TN	95ACC1210
AF-7	1 pc metal sheath for M6 x 0.75 fibres	OF-42-xx	95ACC1230
AF-9	1 pc metal sheath for M4 x 07 fibres	OF-43-xx (*)	95ACC1250
AF-11	fibre-cutting tool with Ø 2.2 mm and Ø 1.1 mm holes	all	95ACC1260

\* 2 sheaths have to be ordered for both the emitter-receiver sections

### Distributed by:



### HEADQUARTERS

#### DATASENSOR SpA

via Lavino, 265 - 40050 Monte San Pietro, BO - Italy

Tel. +39 051/6765611 • Fax +39 051/6759324

www.datasensor.com • e-mail info@datasensor.com

Datasensor SpA endeavours to continuously improve and renew its products; for this reason the technical data and contents of this catalogue may undergo variations without prior notice. For correct installation and use Datasensor SpA can guarantee only the data indicated in the instruction manual supplied with the products.