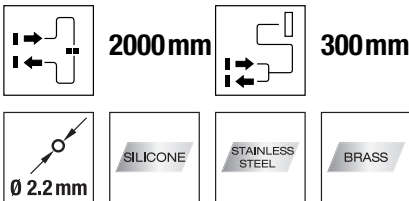


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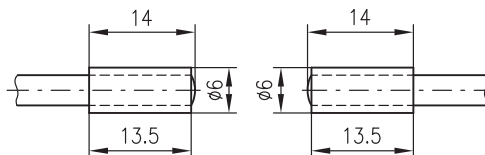


- Glass fiber optics in throughbeam or scanner operation
- Connection suitable for amplifiers LV463 and LV463B
- For fiber optic amplifier with 2.2mm connection
- Different sheath materials

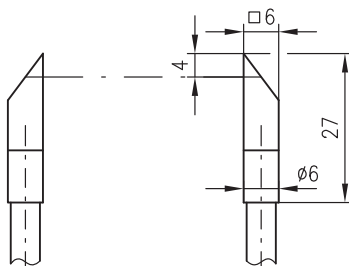
Accessories:

(available separately)

- Lens attachment **GF-L1** (part no. 50014649), only for throughbeam operation with GF-LB-...-IQ



- Angular attachment **GF-U1** (part no. 50009382), only for throughbeam operation with GF-LB-...-IQ



Specifications

Optical data

Typ. operating range limit ¹⁾		With LV463	With LV463B
GF-LB-...	0 ... 400mm	0 ... 680mm	0 ... 680mm
GF-ETG-...	2 ... 180mm	2 ... 300mm	2 ... 300mm
GF-ETM-...	2 ... 180mm	2 ... 300mm	2 ... 300mm
GF-LB-...-IQ + GF-L1	0 ... 1200mm	0 ... 2000mm	0 ... 2000mm
GF-LB-...-IQ + GF-U1	0 ... 800mm	0 ... 1360mm	0 ... 1360mm
Fiber material	glass		
Core diameter	50µm		
Opening angle	65°		
Number of fibers (transmitter/receiver)	approx. 990 units with D = 1.5mm		
Fiber configuration, sensor side	multiple fiber core (see list of types):		
	F1 mixed fiber configuration		
	F2 50%/50% fiber configuration		
	F3 coaxial fiber configuration		

Mechanical data

Length of fiber optics	see list of types	
Optical outlet	glass	
Material	Sheathing	End piece
	...-SI-... silicone	stainless steel V2A
	...-SS-... stainless steel V2A	stainless steel V2A
	...-BR-... brass	aluminum
Fiber optics cross section D3	see list of types	
Fiber diameter D7	see list of types	
Bending radius	...-SI-... > 40mm	
	...-SS-... > 40mm	
	...-BR-... > 40mm	
Connection	Ø 2.2mm amplifier side	

Environmental data

Operating temperature	Rigid laying	Flexible laying
	...-SI-... -30°C ... +180°C	-30°C ... +160°C
	...-SS-... -30°C ... +300°C	-30°C ... +200°C
	...-BR-... -30°C ... +160°C	-30°C ... +140°C

1) Typ. operating range limit: max. attainable range without performance reserve

Part number code

G F - L B - S I - 4 0 5 - I Q

Fiber material	
GF	glass fiber
Optical operating principle	
L	throughbeam photoelectric sensor
ET	energetic scanner
Fiber diameter (D6, D7 see tables)	
B	D6 = 1.0mm or 1.5mm
G	D7 = 1.0mm or 2.5mm
M	D7 = 0.5mm
Sheathing material	
SI	silicone
SS	stainless steel V2A
BN	brass
Head diameter at optical inlet/outlet (D1 see tables)	
3	D1 = 3.0mm
4	D1 = 4.0mm or M4
6	D1 = 1.5mm or 5.5mm
7	D1 = 1.5mm
8	D1 = 10mm or M8
Length of the optical fiber	
02	L _{total} = 200mm
05	L _{total} = 500mm
10	L _{total} = 1000mm
20	L _{total} = 2000mm
30	L _{total} = 3000mm
50	L _{total} = 5000mm
Sleeve length at optical inlet/outlet (L1 see tables)	
I	L1 = 10mm
S	L1 = 5 / 10 / 16 / 20mm
Design at optical inlet/outlet	
Q	without thread
U	bent 90°
D	lateral optical outlet without lens
F	lateral optical outlet with lens
M	metric thread

We reserve the right to make changes • DS_GF_en_50126563.fm

Remarks

Observe intended use!

- ⚠ This product is not a safety sensor and is not intended as personnel protection.
- ⚠ The product may only be put into operation by competent persons.
- ⚠ Only use the product in accordance with the intended use.

Delivery contents

With the GF-LB..., delivery is in pairs.

Mounting

When mounting the fiber optics, a minimum bending radius of 40mm must be maintained for reliable function.

Connecting to the fiber optic amplifier

The fiber optics are plugged into the intended openings on the fiber optic amplifier. The fiber optics must be secure. The fiber optics are fastened via the clamping lever.

Optic attachments

For larger operating ranges or to deflect the light channel in throughbeam operation, optic attachments are available (see "Accessories").



CAUTION

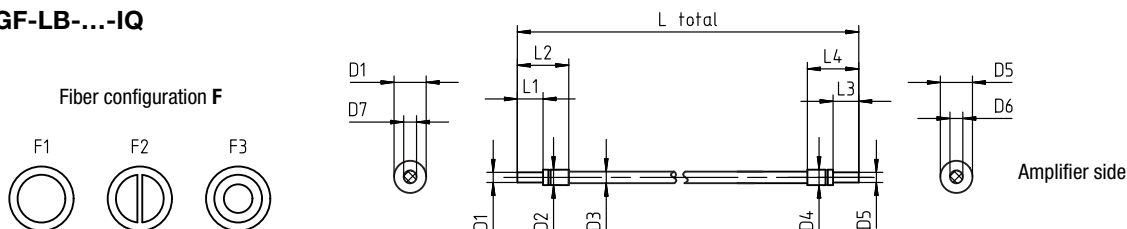
- ⚠ When mounting the attachments, make certain that no adhesive enters the area of the optics. The adhesive must have the required temperature resistance and is not included in the delivery contents.

Other designs

Fiber optics with other lengths, head pieces and cross sections on request.

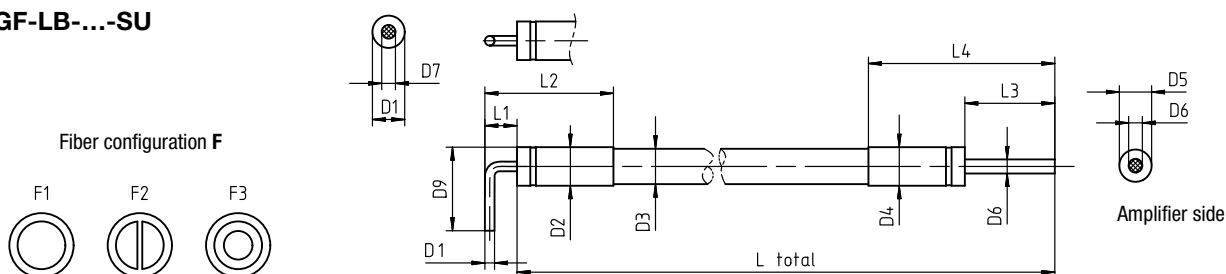
Dimensioned drawing / List of types - Throughbeam operation

GF-LB-...-IQ



Part no.	Product name	Sheathing	Dimensions [mm]															
			L _{total}	L1	L2	L3	L4	L5	D1	D2	D3	D4	D5	D6	D7	D8	D9	F
50126459	GF-LB-SI-405-IQ	silicone	500	10	25	14	24	—	4.0	6.0	4.5	6.0	2.2	1.5	1.5	—	—	F1
50126460	GF-LB-SI-410-IQ	silicone	1000	10	25	14	24	—	4.0	6.0	4.5	6.0	2.2	1.5	1.5	—	—	F1
50126461	GF-LB-SI-430-IQ	silicone	3000	10	25	14	24	—	4.0	6.0	4.5	6.0	2.2	1.5	1.5	—	—	F1
50126462	GF-LB-SI-450-IQ	silicone	5000	10	25	14	24	—	4.0	6.0	4.5	6.0	2.2	1.5	1.5	—	—	F1
50126463	GF-LB-SS-405-IQ	stainless steel	500	10	25	14	24	—	4.0	6.0	5.5	6.0	2.2	1.5	1.5	—	—	F1
50126464	GF-LB-SS-410-IQ	stainless steel	1000	10	25	14	24	—	4.0	6.0	5.5	6.0	2.2	1.5	1.5	—	—	F1
50126465	GF-LB-SS-430-IQ	stainless steel	3000	10	25	14	24	—	4.0	6.0	5.5	6.0	2.2	1.5	1.5	—	—	F1
50126466	GF-LB-SS-450-IQ	stainless steel	5000	10	25	14	24	—	4.0	6.0	5.5	6.0	2.2	1.5	1.5	—	—	F1
50126467	GF-LB-BR-405-IQ	brass	500	10	25	14	24	—	4.0	6.0	5.5	6.0	2.2	1.5	1.5	—	—	F1
50126468	GF-LB-BR-410-IQ	brass	1000	10	25	14	24	—	4.0	6.0	5.5	6.0	2.2	1.5	1.5	—	—	F1
50126469	GF-LB-BR-430-IQ	brass	3000	10	25	14	24	—	4.0	6.0	5.5	6.0	2.2	1.5	1.5	—	—	F1
50126470	GF-LB-BR-450-IQ	brass	5000	10	25	14	24	—	4.0	6.0	5.5	6.0	2.2	1.5	1.5	—	—	F1

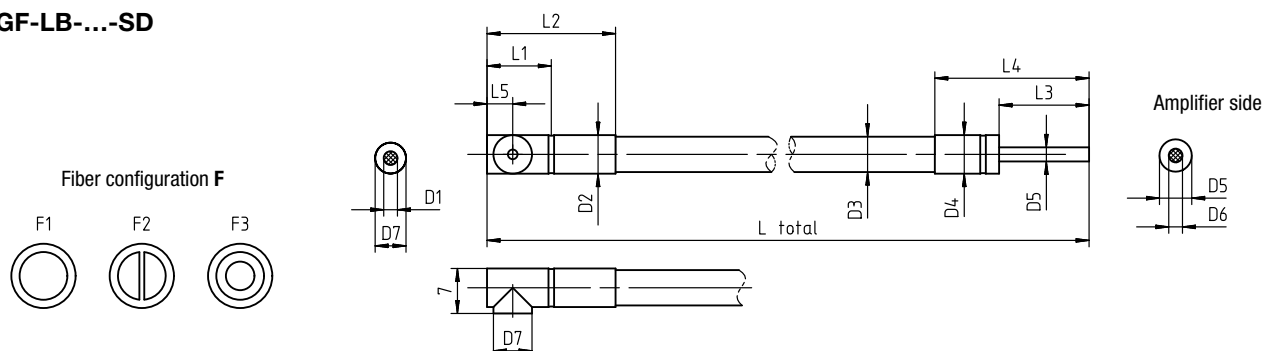
GF-LB-...-SU



Part no.	Product name	Sheathing	Dimensions [mm]															
			L _{total}	L1	L2	L3	L4	L5	D1	D2	D3	D4	D5	D6	D7	D8	D9	F
50126489	GF-LB-SI-610-SU	silicone	1000	5	20	14	24	—	1.5	6.0	4.5	6.0	2.2	1.0	1.0	—	13	F1
50126490	GF-LB-SS-610-SU	stainless steel	1000	5	20	14	24	—	1.5	6.0	4.5	6.0	2.2	1.0	1.0	—	13	F1
50126491	GF-LB-BR-610-SU	brass	1000	5	20	14	24	—	1.5	6.0	4.5	6.0	2.2	1.0	1.0	—	13	F1

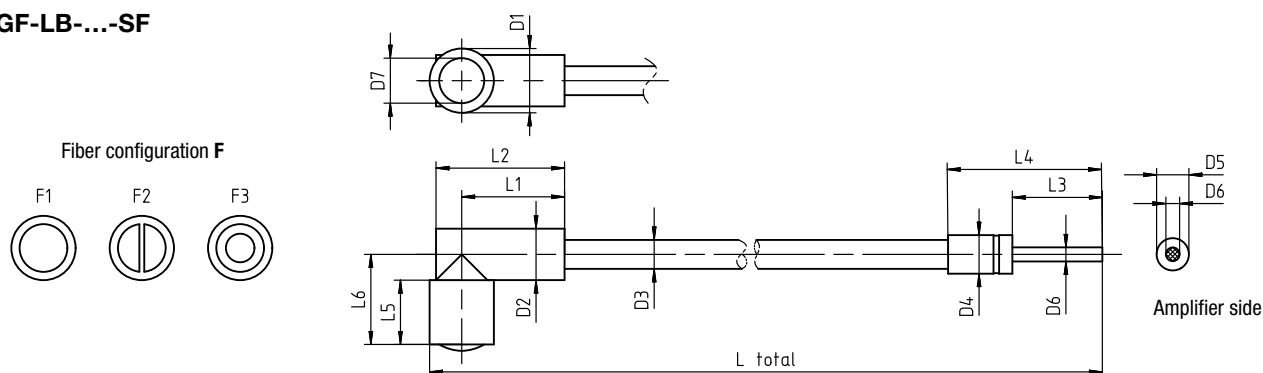
Dimensioned drawing / List of types - Throughbeam operation (cont.)

GF-LB-...-SD



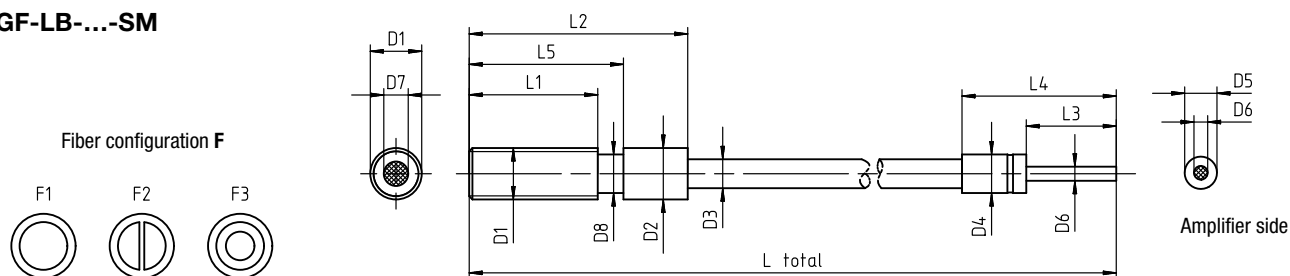
Part no.	Product name	Sheathing	Dimensions [mm]															
			L _{total}	L1	L2	L3	L4	L5	D1	D2	D3	D4	D5	D6	D7	D8	D9	F
50126495	GF-LB-SI-610-SD	silicone	1000	10	20	14	24	4.0	1.5	6.0	4.5	6.0	2.2	1.5	4.0	–	6.0	F1
50126496	GF-LB-SS-610-SD	stainless steel	1000	10	20	14	24	4.0	1.5	6.0	4.5	6.0	2.2	1.5	4.0	–	6.0	F1
50126497	GF-LB-BR-610-SD	brass	1000	10	20	14	24	4.0	1.5	6.0	4.5	6.0	2.2	1.5	4.0	–	6.0	F1
50126498	GF-LB-SI-630-SD	silicone	3000	10	20	14	24	4.0	1.5	6.0	4.5	6.0	2.2	1.5	4.0	–	6.0	F1
50126499	GF-LB-SS-630-SD	stainless steel	3000	10	20	14	24	4.0	1.5	6.0	4.5	6.0	2.2	1.5	4.0	–	6.0	F1
50126500	GF-LB-BR-630-SD	brass	3000	10	20	14	24	4.0	1.5	6.0	4.5	6.0	2.2	1.5	4.0	–	6.0	F1

GF-LB-...-SF



Part no.	Product name	Sheathing	Dimensions [mm]															
			L _{total}	L1	L2	L3	L4	L5	L6	D1	D2	D3	D4	D5	D6	D7	D8	F
50127338	GF-LB-SI-810-SF	silicone	1000	16	20	14	24	10.0	14.0	10.0	8.0	4.5	6.0	2.2	1.5	7.0	–	F1
50127339	GF-LB-SS-810-SF	stainless steel	1000	16	20	14	24	10.0	14.0	10.0	8.0	4.5	6.0	2.2	1.5	7.0	–	F1
50127340	GF-LB-BR-810-SF	brass	1000	16	20	14	24	10.0	14.0	10.0	8.0	4.5	6.0	2.2	1.5	7.0	–	F1

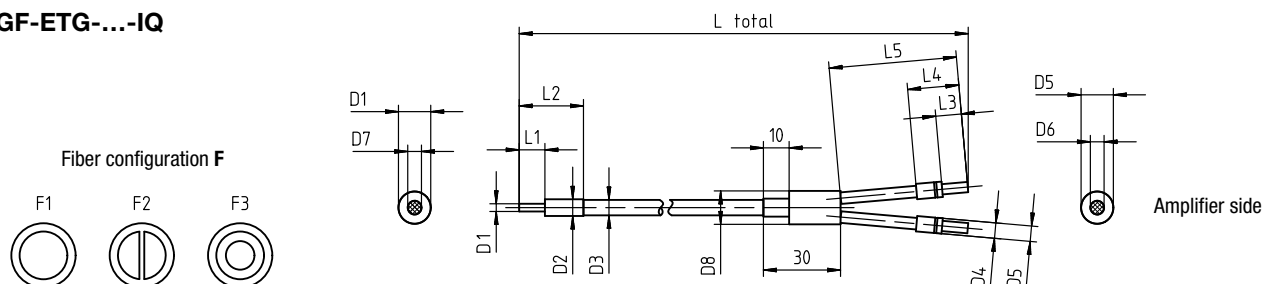
GF-LB-...-SM



Part no.	Product name	Sheathing	Dimensions [mm]																
			L _{total}	L1	L2	L3	L4	L5	D1	D2	D3	D4	D5	D6	D7	D8	D9	F	
50127341	GF-LB-SS-830-SM	stainless steel	3000	20	34	14	24	24	M8	8.0	4.5	6.0	2.2	1.5	3.8	6.0	–	F1	

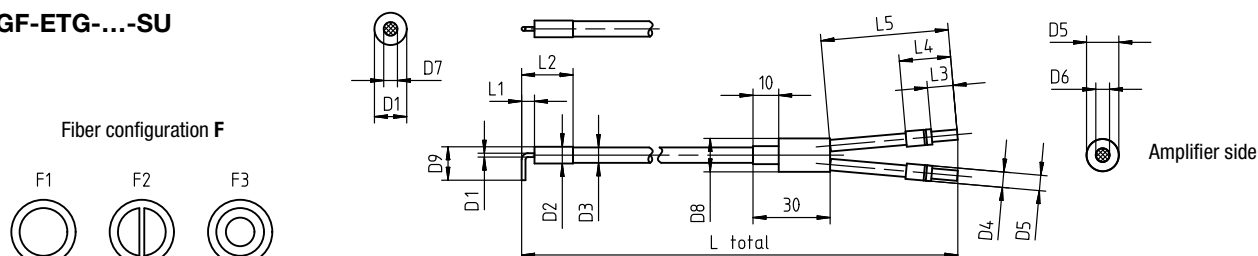
Dimensioned drawing / List of types - Scanner operation

GF-ETG-...-IQ



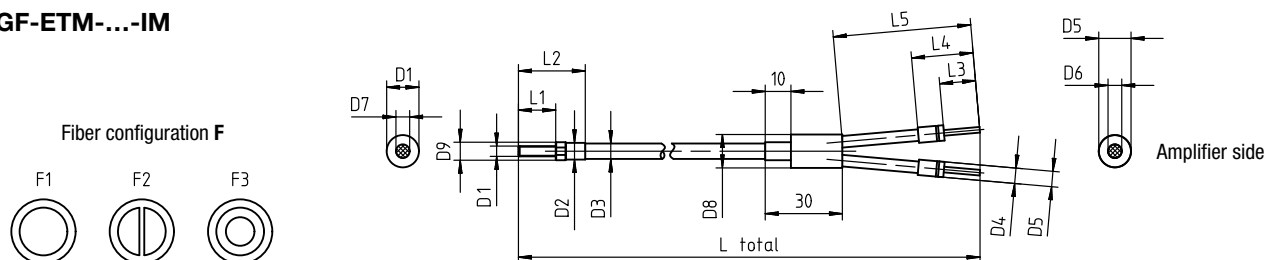
Part no.	Product name	Sheathing	Dimensions [mm]																
			L _{total}	L1	L2	L3	L4	L5	D1	D2	D3	D4	D5	D6	D7	D8	D9	F	
50126471	GF-ETG-SI-305-IQ	silicone	500	10	25	14	24	65	3.0	6.5	5.5	6.0	2.2	1.5	2.5	13	–	F2	
50126472	GF-ETG-SI-605-IQ	silicone	500	10	25	14	24	65	5.5	8.0	5.5	6.0	2.2	1.5	2.5	13	–	F2	
50126473	GF-ETG-SI-310-IQ	silicone	1000	10	25	14	24	65	3.0	6.5	5.5	6.0	2.2	1.5	2.5	13	–	F2	
50126474	GF-ETG-SI-610-IQ	silicone	1000	10	25	14	24	65	5.5	8.0	5.5	6.0	2.2	1.5	2.5	13	–	F2	
50126475	GF-ETG-SI-630-IQ	silicone	3000	10	25	14	24	65	5.5	8.0	5.5	6.0	2.2	1.5	2.5	13	–	F2	
50126476	GF-ETG-SI-650-IQ	silicone	5000	10	25	14	24	65	5.5	8.0	5.5	6.0	2.2	1.5	2.5	13	–	F2	
50126477	GF-ETG-SS-305-IQ	stainless steel	500	10	25	14	24	65	3.0	6.5	6.0	6.0	2.2	1.5	2.5	13	–	F2	
50126478	GF-ETG-SS-605-IQ	stainless steel	500	10	25	14	24	65	5.5	8.0	7.0	6.0	2.2	1.5	2.5	13	–	F2	
50126479	GF-ETG-SS-310-IQ	stainless steel	1000	10	25	14	24	65	3.0	6.5	6.0	6.0	2.2	1.5	2.5	13	–	F2	
50126480	GF-ETG-SS-610-IQ	stainless steel	1000	10	25	14	24	65	5.5	8.0	7.0	6.0	2.2	1.5	2.5	13	–	F2	
50126481	GF-ETG-SS-630-IQ	stainless steel	3000	10	25	14	24	65	5.5	8.0	7.0	6.0	2.2	1.5	2.5	13	–	F2	
50126482	GF-ETG-SS-650-IQ	stainless steel	5000	10	25	14	24	65	5.5	8.0	7.0	6.0	2.2	1.5	2.5	13	–	F2	
50126483	GF-ETG-BR-305-IQ	brass	500	10	25	14	24	65	3.0	6.5	6.0	6.0	2.2	1.5	2.5	13	–	F2	
50126484	GF-ETG-BR-605-IQ	brass	500	10	25	14	24	65	5.5	6.5	6.0	6.0	2.2	1.5	2.5	13	–	F2	
50126485	GF-ETG-BR-310-IQ	brass	1000	10	25	14	24	65	3.0	6.5	6.0	6.0	2.2	1.5	2.5	13	–	F2	
50126486	GF-ETG-BR-610-IQ	brass	1000	10	25	14	24	65	5.5	6.5	6.0	6.0	2.2	1.5	2.5	13	–	F2	
50126487	GF-ETG-BR-630-IQ	brass	3000	10	25	14	24	65	5.5	6.5	6.0	6.0	2.2	1.5	2.5	13	–	F2	
50126488	GF-ETG-BR-650-IQ	brass	5000	10	25	14	24	65	5.5	6.5	6.0	6.0	2.2	1.5	2.5	13	–	F2	

GF-ETG-...-SU



Part no.	Product name	Sheathing	Dimensions [mm]																
			L _{total}	L1	L2	L3	L4	L5	D1	D2	D3	D4	D5	D6	D7	D8	D9	F	
50126492	GF-ETG-SI-710-SU	silicone	1000	5	17	14	24	60	1.5	4.5	6.0	6.0	2.2	1.0	1.0	13.0	13.0	F2	
50126493	GF-ETG-SS-710-SU	stainless steel	1000	5	17	14	24	60	1.5	4.5	6.0	6.0	2.2	1.0	1.0	13.0	13.0	F2	
50126494	GF-ETG-BR-710-SU	brass	1000	5	17	14	24	60	1.5	4.5	6.0	6.0	2.2	1.0	1.0	13.0	13.0	F2	

GF-ETM-...-IM



Part no.	Product name	Sheathing	Dimensions [mm]																
			L _{total}	L1	L2	L3	L4	L5	D1	D2	D3	D4	D5	D6	D7	D8	D9	F	
50127342	GF-ETM-BR-402-IM	brass	250	15	24	14	24	66	M4	6.0	4.5	4.0	2.2	0.5	0.5	13.0	SW7	F1	