

## P1/P3 FLUIDIC CONTACT WITH VALVE



## Precision modular connectors to suit your application

Since its creation in Switzerland in 1946 the LEMO Group has been recognized as a global leader of circular Push-Pull connectors and connector solutions. Today LEMO and its affiliated companies, REDEL and COELVER, are active in more than 80 countries with the help of over 40 subsidiaries and distributors.

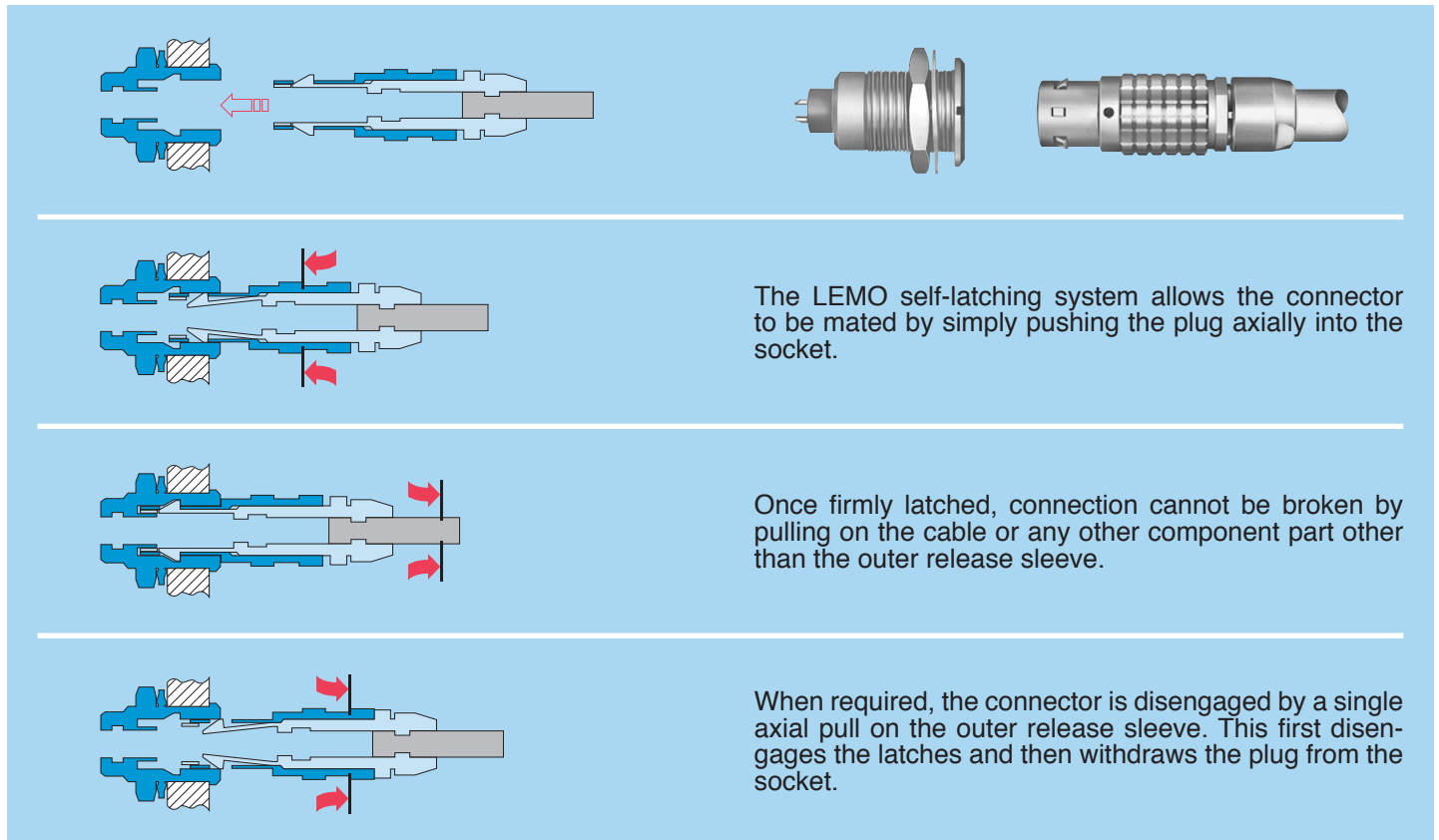
## Over 75000 connectors

The modular design of the LEMO range provides over 75000 connectors from miniature  $\varnothing$  3 mm to  $\varnothing$  50 mm, capable of handling cable diameters up to 30 mm and for up to 114 contacts.

This vast portfolio enables you to select the ideal connector configuration to suit almost any specific requirement in most markets, including medical devices, test and measurement instruments, machinery, audio video broadcast, telecommunications and military.

## LEMO's Push-Pull Self-Latching Connection System (not shown in this catalogue)



This self-latching system is renowned worldwide for its easy and quick mating and unmating features. It provides absolute security against vibration, shock or pull on the cable, and facilitates operation in a very limited space.



## UL Recognition

LEMO connectors are recognized by the Underwriters Laboratories (UL). The approval of the complete system (LEMO connector, cable and your equipment) will be easier because LEMO connectors are recognized.

## CE marking

CE marking  means that the appliance or equipment bearing it complies with the protection requirements of one or several European safety directives. CE marking  applies to complete products or equipment, **but not to electromechanical components, such as connectors.**

## RoHS

LEMO connector specifications conforms the requirements of the RoHS directive (2011/65/EU) of the European Parliament and the latest amendments. This directive specifies the restrictions of the use of hazardous substances in electrical and electronic equipment marketed in Europe.

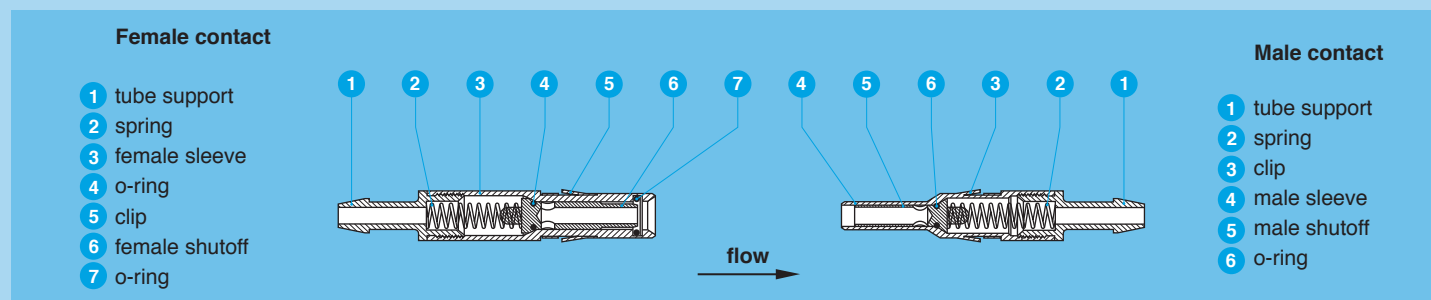
## P1/P3 Fluidic contact with valve

The P1 fluidic contact is designed to fit multi fluid connectors or mixed fluid/electrical connectors from 2B to 5B and 2K to 5K series. This new design includes a shut-off valve. It fits into all insert cavities that already accept the LEMO coaxial type «C» of contact. The P3 fluidic contact is designed to fit multi fluid connectors of the 5B and 5K series.

Its main features are:

- contacts with shut-off valve
  - maximum working pressure 6 bars
  - stainless alloy body
  - after mounting on tube, the contact is installed in the main insulator and retained with a metallic clip.
- The contact is fitted with FPM o-ring, it can be used with liquids or gas.

### Part Section Showing Internal Components



### Technical Characteristics

#### Material and Treatment

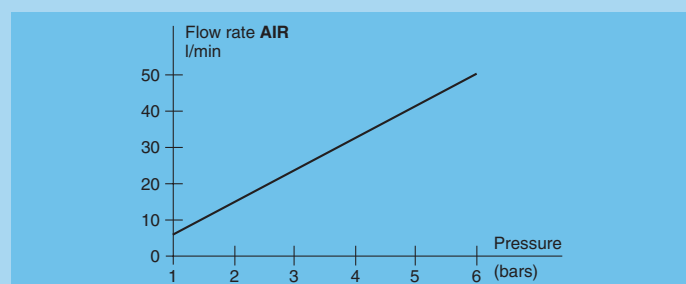
Components	Value
Body	Stainless steel
Valve	Alloy CuNiZn
Spring	Stainless steel
Clips	CuBe
O-ring	FPM

#### Mechanical and Environmental

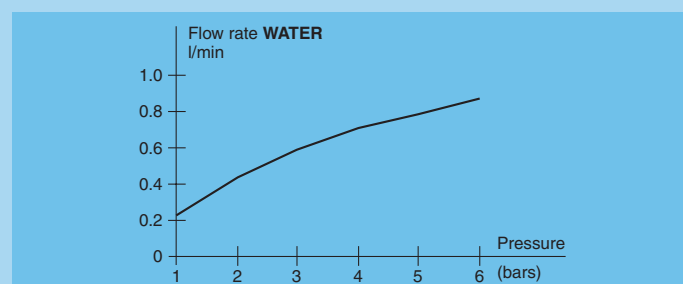
Characteristics	Value	Cont. type	Standard
Mating durability	1000 cycles	P1/P3	IEC 60512-5 test 9a
Temperature range	-20°C, +125°C	P1/P3	
Max. working pressure	6 bars	P1/P3	
Air flow rate at 6 bars	50 l/min	P1	
Water flow rate at 6 bars	0.80 l/min	P1	
Air flow rate at 6 bars	210 l/min	P3	
Water flow rate at 6 bars	4.20 l/min	P3	

**Note:** flow direction is always from female contact to male contact.

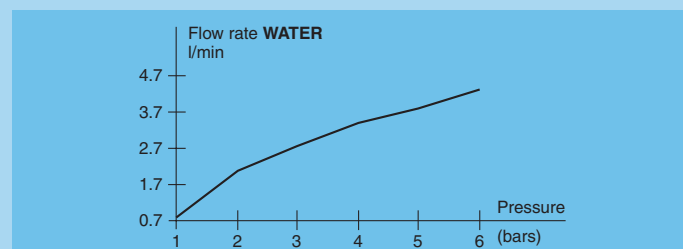
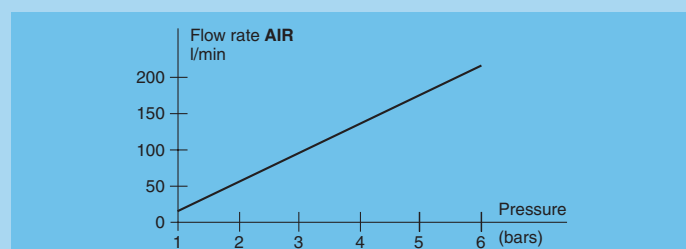
### Flow/pressure diagram P1 contact type



**Note:** test carried out with a 2 mm inner diameter tube.



### Flow/pressure diagram P3 contact type

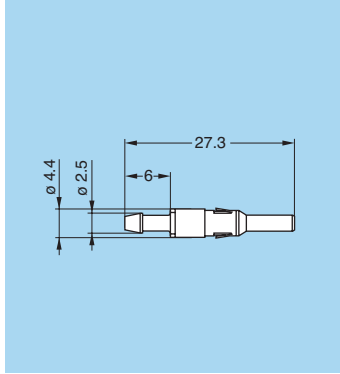




## Model - Fluidic Contact Type

### P1 contacts

#### FGG.P1 Male fluidic contact with valve

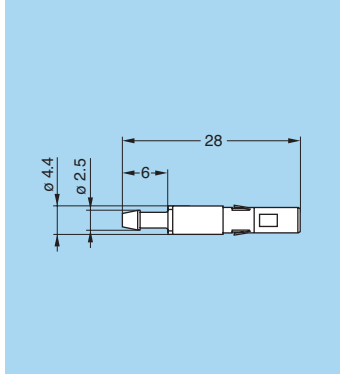


Part number

**FGG.P1.150.ACV**

**Note:** Connectors are delivered without the P1 contacts.

#### EGG.P1 Female fluidic contact with valve



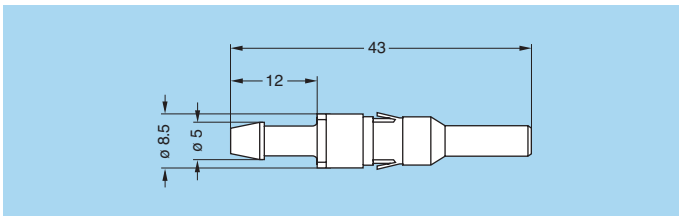
Part number

**EGG.P1.150.ACV**

**Note:** Connectors are delivered without the P1 contacts.

### P3 contacts

#### FGG.P3 Male fluidic contact with valve



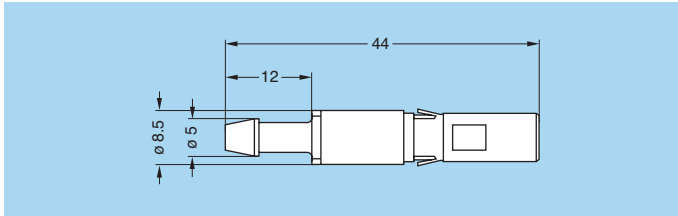
Part number

**FGG.P3.300.ACV**

**Note:** Connectors are delivered without the P3 contacts.



## EGG.P3 Female fluidic contact with valve



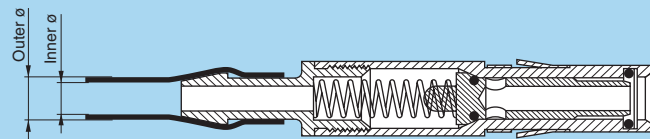
Part number

**EGG.P3.300.AC**V

**Note:** Connectors are delivered without the P3 contacts.

## Recommended tubing/hose

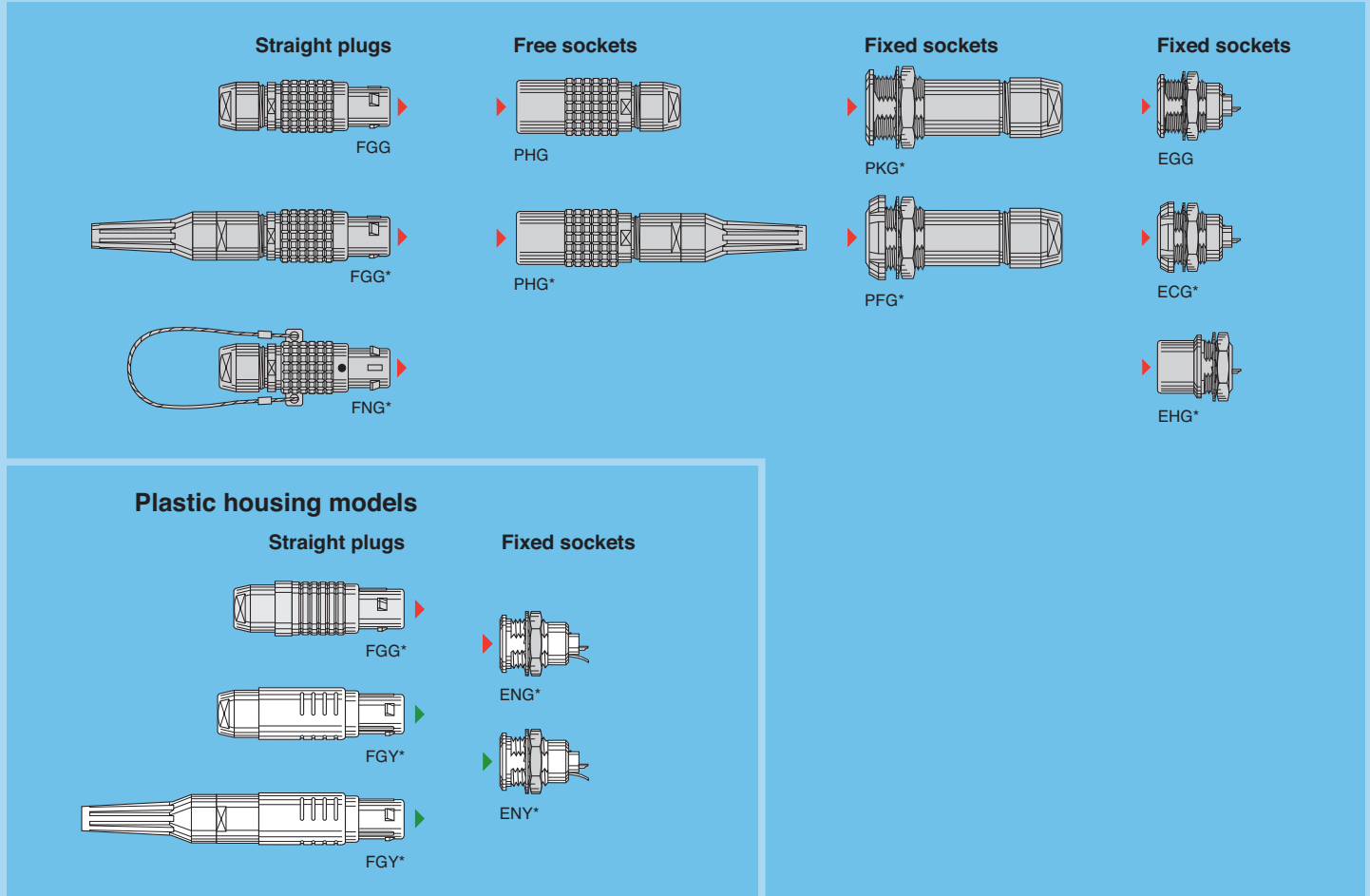
Series	Contact type	Diameter (mm)		Supplier	Material	Colour	Working temperature
		Outer $\varnothing$	Inner $\varnothing$				
2B, 3B, 2K, 3K	P1	4.0	2.0	Legris 1100P0400	Polyamide (nylon)	White	-20° C to 80° C
2B, 3B, 2K, 3K	P1	4.0	2.0	Legris 1100P0401	Polyamide (nylon)	Black	-20° C to 80° C
2B, 3B, 4B, 5B	P1	3.0	1.8	Legris 1025U030118	Polyurethane	Black	-20° C to 70° C
2K, 3K, 4K, 5K	P1	3.0	1.8	Legris 1025U030118	Polyurethane	Black	-20° C to 70° C
5B, 5K	P3	6.0	4.0	Legris 1100P0601	Polyamide (nylon)	Black	-20° C to 80° C



## 2B-5B Series

The P1 fluidic contact has been designed to work in the 2B to 5B series. The P3 contact has been designed to work in the 5B series. The main features of these series are as follows:

- security of the LEMO Push-Pull self-latching system
  - the alignment key (G, A...F, Y and R) ensures excellent repeatability of performance during frequent matings
  - the P1 fluid contact allows hybrid configuration in the 2B series and multi fluid up to 10 channels in the 5B series.
- The possible outer cable diameters range from 4.0 to 25 mm.

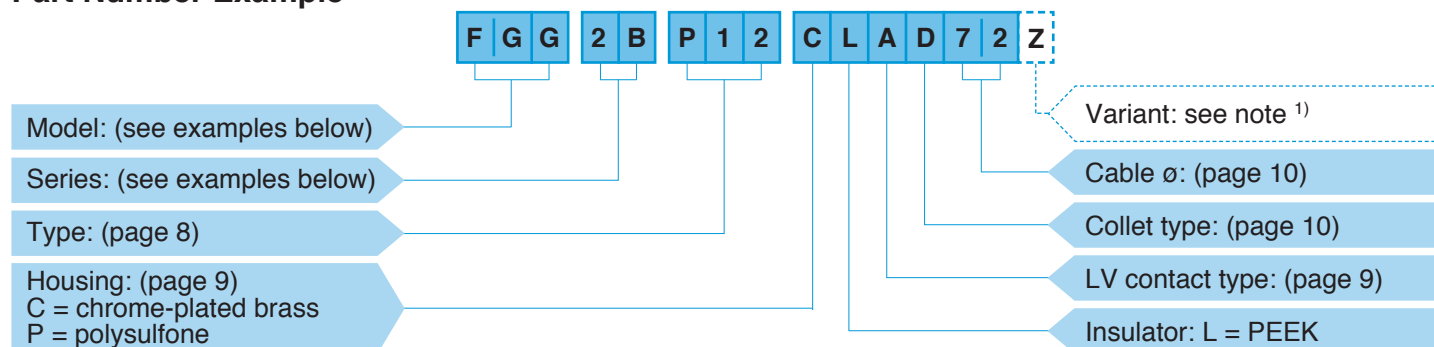


### Model Description

<b>ECG</b>	Fixed socket, with two nuts, key (G) or keys (A...F and R), (back panel mounting)	<b>FGG</b>	Straight plug, key (G), cable collet, PEEK outer shell	<b>PHG</b>	Free socket, key (G) or keys (A...F) and cable collet and nut for fitting a bend relief
<b>EGG</b>	Fixed socket, nut fixing, key (G) or keys (A...F and R)	<b>FGY</b>	Straight plug, keys (Y), cable collet and PSU or PPSU outer shell	<b>PKG</b>	Fixed socket, nut fixing, key (G) or keys (A...F and R) and cable collet
<b>EHG</b>	Fixed socket, nut fixing, key (G) or keys (A...F and R) with visible shell	<b>FGY</b>	Straight plug, keys (Y), cable collet and PSU or PPSU outer shell and nut for fitting a bend relief		
<b>ENG</b>	Fixed socket with grounding tab, nut fixing, key (G), PEEK outer shell	<b>FNG</b>	Straight plug, key (G) or keys (A...F and R) and cable collet with lanyard release		
<b>ENY</b>	Fixed socket with grounding tab, nut fixing, keys (Y), PSU or PPSU outer shell	<b>PFG</b>	Fixed socket, with two nuts, key (G) or keys (A...F and R) and cable collet (back panel mounting)		
<b>FGG</b>	Straight plug, key (G) or keys (A...F and R) and cable collet	<b>PHG</b>	Free socket, key (G) or keys (A...F and R) and cable collet		
<b>FGG</b>	Straight plug, key (G) or keys (A...F) cable collet and nut for fitting a bend relief			*	Not show in this catalogue. Refer to our catalogue unipole-multipole

Certain models and certain alignment key may not be available in all series. Please consult us.

## Part Number Example

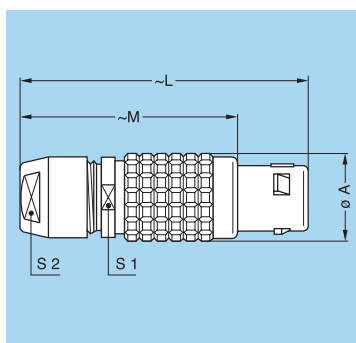


**FGG.2B.P12.CLAD72Z** = Straight plug with key (G), 2B series, mixed type to accept one P1 fluid contact and 4 low voltage electrical contacts, chrome-plated brass housing, PEEK insulator, 4 male solder electrical contacts, type D collet system to suit a 6.1 to 7.0 mm diameter cable, and a nut for fitting a bend relief.

**Note: Connectors are always delivered without fluidic contact.**

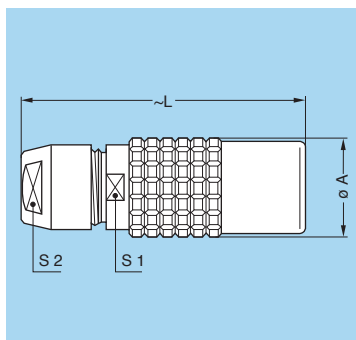
<sup>1)</sup> The «Variant» position in the reference is used to indicate the presence of a collet nut for fitting the bend relief. The bend relief must be ordered separately (see page 12).

## FGG Straight plug, key (G) or keys (A...F and R) and cable collet



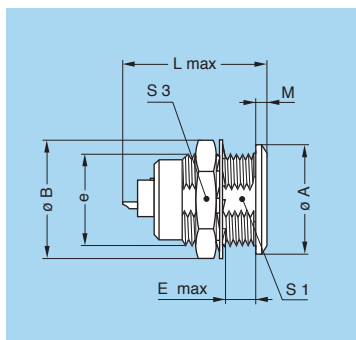
Reference		Dimensions (mm)				
Model	Series	A	L	M	S1	S2
FGG	2B	15	50	38	13	12
FGG	3B	18	58	43	15	14
FGG	4B	25	75	57	21	20
FGG	5B	35	103	78	31	30

## PHG Free socket, key (G) or keys (A...F and R) and cable collet



Reference		Dimensions (mm)			
Model	Series	A	L	S1	S2
PHG	2B	16.5	47.0	13	12
PHG	3B	19.0	56.0	15	14
PHG	4B	24.4	73.0	21	20
PHG	5B	34.2	99.0	31	30

## EGG Fixed socket, nut fixing, key (G) or keys (A...F and R)



Reference		Dimensions (mm)							
Model	Series	A	B	e	E	L	M	S1	S3
EGG	2B	18	19.2	M15x1.0	8.5	28.8	1.8	13.5	17
EGG	3B	22	25.0	M18x1.0	11.5	30.0	2.0	16.5	22
EGG	4B	28	34.0	M25x1.0	12.0	34.5	2.5	23.5	30
EGG	5B	40	40.0	M35x1.0	11.0	36.5	3.0	33.5	—
EGG	5B <sup>1)</sup>	40	40.0	M35x1.0	11.0	45.9	3.0	33.5	—

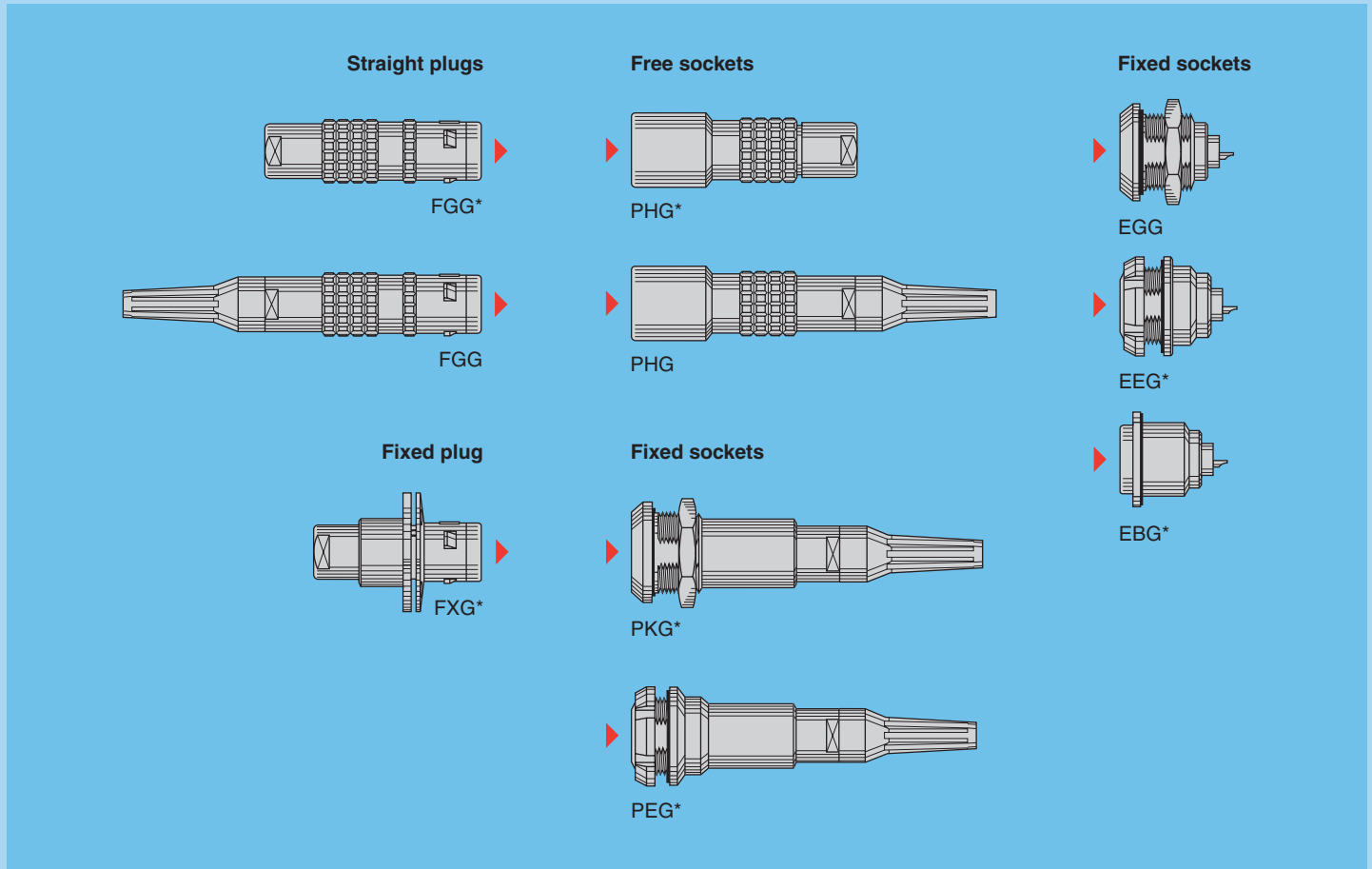
**Note:** <sup>1)</sup> with P3 contact.



## 2K-5K Series

The P1 fluidic contact has been designed to work in the 2K-5K series. The P3 contact has been designed to work in the 5K series. The main features of these series are as follows:

- security of the LEMO Push-Pull self-latching system
  - specially designed for outdoors applications. All these models are waterproof when mated and reach a protection index of IP 66-IP 68, according to the IEC 60529 standard
  - the alignment key (G, A...F and R) ensures excellent repeatability of performance during frequent matings
  - the P1 fluidic contact allows hybrid configuration in the 2K series and multi fluid up to 10 channels in the 5K series.
- The 2K-5K series consists of ten models which will accept outer cable diameters ranging from 2.6 mm to 23.5 mm.



### Model Description

**EBG** Fixed socket with square flange, key (G) or keys (A...F and R), four holes fixing

**EEG** Fixed socket, nut fixing, key (G) or keys (A...F and R) (back panel mounting)

**EGG** Fixed socket, nut fixing, key (G) or keys (A...F and R)

**FGG** Straight plug, key (G) or keys (A...F and R), cable collet

**FGG** Straight plug, key (G) or keys (A...F and R), cable collet and nut for fitting a bend relief

**FXG** Fixed plug with round flange, four holes fixing, key (G) or keys (A...F and R)

**PEG** Fixed socket, nut fixing, key (G) or keys (A...F and R), cable collet and nut for fitting a bend relief (back panel mounting)

**PHG** Free socket, key (G) or keys (A...F and R), cable collet

**PHG** Free socket, key (G) or keys (A...F and R), cable collet and nut for fitting a bend relief

**PKG** Fixed socket, nut fixing, key (G) or keys (A...F and R), cable collet and nut for fitting a bend relief

\* Not show in this catalogue. Refer to our catalogue unipole-multipole

Certain models and certain alignment key may not be available in all series. Please consult us.



## Part Number Example

**F G G 3 K P 2 0 C L Z C 7 6 Z**

Variant: see note <sup>1)</sup>

Model: (see examples below)

Series: (see examples below)

Type: (page 8)

Housing: C = chrome-plated brass

Cable ø: (page 10)

Cable fixing type:  
T = cable adapter

LV Contact Type: (page 9)

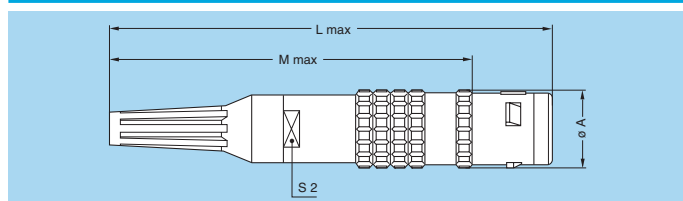
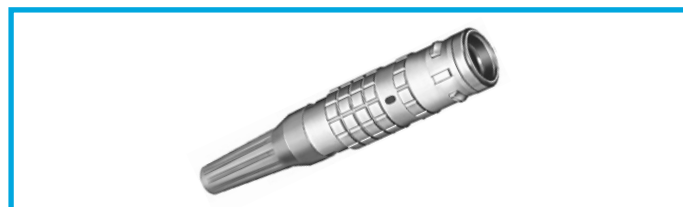
Insulator: L = PEEK

**FGG.3K.P20.CLZC76Z** = Straight plug with key (G), 3K series, multi fluid with 2 times P1 contacts, chrome-plated brass housing, PEEK insulator, C type collet for 7.5 mm diameter cable, and nut for fitting a bend relief.

**Note: Connectors are always delivered without fluidic contact.**

<sup>1)</sup> The «Variant» position in the reference is used to indicate the presence of a collet nut for fitting the bend relief. The bend relief must be ordered separately (see page 12).

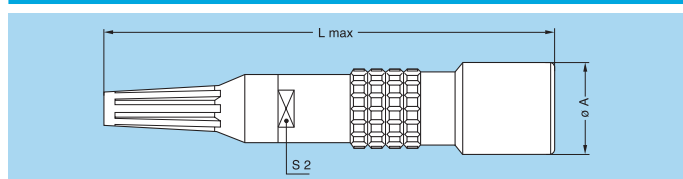
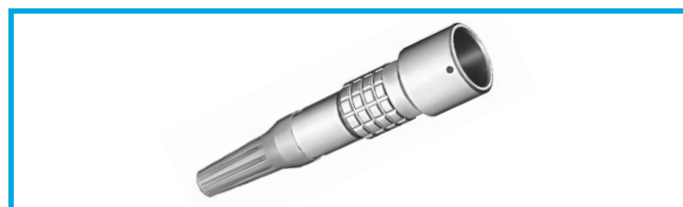
## FGG Straight plug, key (G) or keys (A...F and R), cable collet and nut for fitting a bend relief



Reference		Dimensions (mm)			
Model	Series	A	L	M	S2
FGG	2K	16	101	85.0	12
FGG	3K	19	109	89.0	15
FGG	4K	25	131	110.5	19
FGG	5K	38	160	135.0	30

**Note:** The overall length dimension is with bend relief

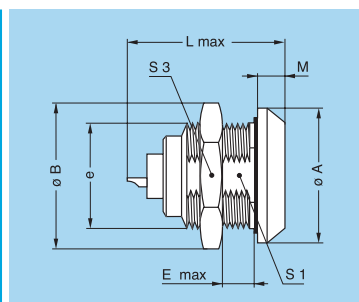
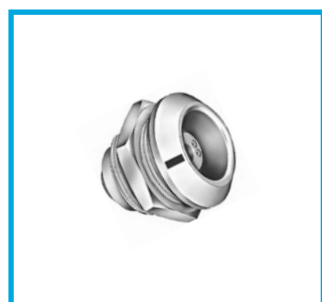
## PHG Free socket, key (G) or keys (A...F and R), cable collet and nut for fitting a bend relief



Reference		Dimensions (mm)		
Model	Series	A	L	S2
PHG	2K	19	103.0	12
PHG	3K	23	113.0	15
PHG	4K	29	135.5	19
PHG	5K	42	164.0	30

**Note:** The overall length dimension is with bend relief

## EGG Fixed socket, nut fixing, key (G) or keys (A...F and R)

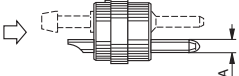
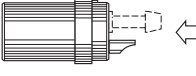
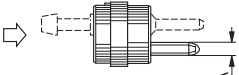
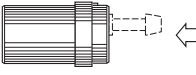
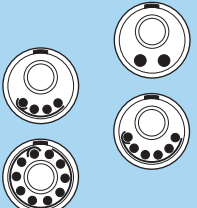
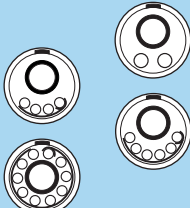
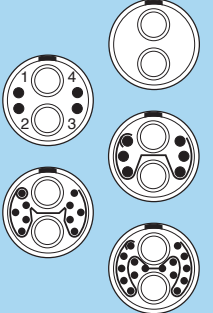
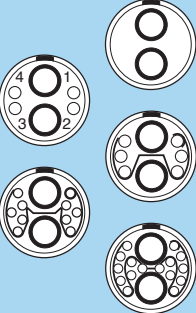
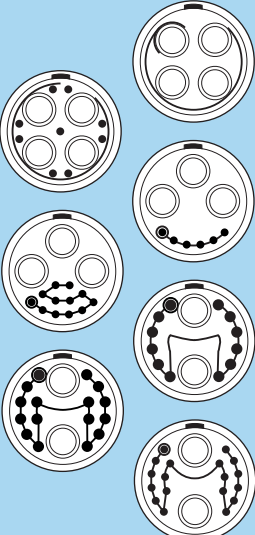
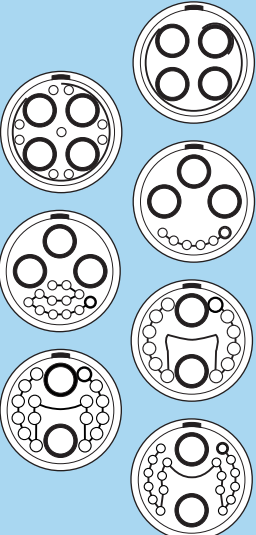


Reference		Dimensions (mm)							
Model	Series	A	B	e	E	L	M	S1	S3
EGG	2K	25	27.0	M20x1.0	9	32.8	5.0	18.5	24
EGG	3K	31	34.0	M24x1.0	11	35.5	6.0	22.5	30
EGG	4K	37	40.5	M30x1.0	9	37.0	6.5	28.5	36
EGG	5K	55	54.0	M45x1.5	10	40.5	9.0	42.5	—



## Insert configuration

### Multi fluid and Mixed fluid + LV

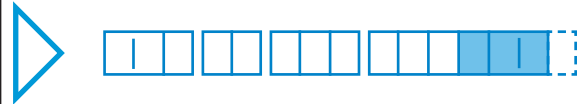
		Fluidic contact					Low Voltage contact												
		Reference	Nb of fluidic tube	Type	Ext. ø of tube (see page 3)	Int. ø of tube (see page 3)	Max. working pressure (bars)	Contact No	ø A (mm)	Contact type		Solder contact		Crimp contact		Rated current (A)			
										Solder	Crimp	Test voltage (kV rms) Contact-contact	Test voltage (kV rms) Contact-shell	Test voltage (kV rms) Contact-contact	Test voltage (kV rms) Contact-shell				
 Male solder contacts		 Female solder contacts																	
 Male crimp contacts		 Female crimp contacts																	
2B 2K					P11	1	P1	3.0 4.0	1.8 2.0	6	2	0.9	●	●	1.75	1.60	1.85	1.60	9.0
					P12	1	P1	3.0 4.0	1.8 2.0	6	4	0.7	●	●	0.85	1.20	0.85	1.25	6.0
					P13	1	P1	3.0 4.0	1.8 2.0	6	6	0.7	●	●	0.85	1.20	0.85	1.25	6.0
					P15	1	P1	3.0 4.0	1.8 2.0	6	10	0.7	●	●	1.15	1.35	1.30	1.05	6.0
3B 3K					P20	2	P1	3.0 4.0	1.8 2.0	6	–	–	–	–	–	–	–	–	–
					P22	2	P1	3.0 4.0	1.8 2.0	6	4	0.9	●	●	1.20	1.05	1.00	0.80	8.0
					P23	2	P1	3.0 4.0	1.8 2.0	6	6	0.9	●	●	1.20	1.05	1.00	0.80	8.0
					P25	2	P1	3.0 4.0	1.8 2.0	6	10	0.7	●	●	0.95	0.75	0.85	0.65	6.0
					P28	2	P1	3.0 4.0	1.8 2.0	6	16	0.7	●	●	0.80	0.70	0.80	0.75	5.5
4B 4K					P40	4	P1	3.0	1.8	6	–	–	–	–	–	–	–	–	–
					P49	4	P1	3.0	1.8	6	9	0.7	●	●	1.00	1.00	0.80	0.80	8
					P33	3	P1	3.0	1.8	6	6	0.7	●	●	0.90	0.95	0.80	0.80	8
					P36	3	P1	3.0	1.8	6	12	0.7	●	●	0.90	0.95	0.80	0.80	6
					P26	2	P1	3.0	1.8	6	12	0.9	●	●	0.95	0.85	0.90	1.20	10
					P28	2	P1	3.0	1.8	6	16	0.9	●	●	0.95	0.85	0.85	0.85	10
					P29	2	P1	3.0	1.8	6	18	0.7	●	●	0.90	0.95	0.85	0.75	8

[illegible]

A horizontal number line with 11 tick marks, labeled 0 to 10. The tick mark for 4 is highlighted with a blue square.

**Note:** <sup>1)</sup> see «variant» for the colour. <sup>2)</sup> in the K series, the latch sleeve is chrome-plated.

Ref.	Contact type
<b>A</b>	male solder
<b>C</b>	male crimp
<b>L</b>	female solder
<b>M</b>	female crimp
<b>Z</b>	no contact



## Collets (B and K series)

### D and M type collets for B series

D type



M type



	Reference		Collet ø		Cable ø		Notes
	Type	Code	ø A	ø B	max.	min.	
<b>2B</b>	D	42	4.2	—	4.2	> 3.2	
	D	52	5.2	—	5.2	> 4.2	
	D	62	6.2	—	6.2	> 5.2	
	D	72	7.2	—	7.2	> 6.2	
	D	82	8.2	—	8.2	> 7.2	
	D	92	9.2	8.6	9.2	> 8.2	
	D	99	9.9	8.6	9.9	> 9.2	<sup>1)</sup>
<b>3B</b>	M	52	5.2	—	5.2	> 4.2	
	D	62	6.2	—	6.2	4.9	
	D	72	7.7	—	7.7	> 6.2	
	D	92	9.2	—	9.2	> 7.7	
	D	10	10.2	—	10.0	> 9.2	
	D	11	11.0	—	11.0	> 10.1	
	D	12	12.0	10.2	11.9	10.8	<sup>1)</sup>

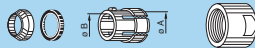
**Note:** all dimensions are in millimetres.

<sup>1)</sup> these collets cannot be used for connector models with nut for fitting a bend relief.

	Reference		Collet ø		Cable ø		Notes
	Type	Code	ø A	ø B	max.	min.	
<b>4B</b>	M	62	6.2	—	6.2	4.9	
	M	72	7.2	—	7.7	> 6.2	
	M	92	9.2	8.6	9.2	> 7.7	
	D	10	10.8	—	10.5	9.1	
	D	12	12.3	—	12.0	10.6	
	D	13	13.8	12.5	13.5	12.1	
	D	15	15.3	12.5	15.0	13.6	
	D	16	16.3	12.5	16.0	15.1	<sup>1)</sup>
<b>5B</b>	D	11	11.8	—	11.5	9.6	
	D	13	13.8	—	13.5	11.6	
	D	15	15.8	—	15.5	13.6	
	D	17	17.8	—	17.5	15.6	<sup>1)</sup>
	D	19	19.8	—	19.5	17.6	<sup>1)</sup>
	D	21	21.8	—	21.5	19.6	<sup>1)</sup>
	D	23	23.8	21.8	23.5	21.6	<sup>1)</sup>
	D	25	25.3	21.8	25.0	23.6	<sup>1)</sup>

### C and K type collets for K series

C type



K type

oversize  
cable collet



	Reference		Collet ø		Cable ø	
	Type	Code	ø A	ø B	max.	min.
<b>2K</b>	C	35	4.2	—	3.5	3.1
	C	40	4.2	—	4.0	3.6
	C	45	5.2	—	4.5	4.1
	C	50	5.2	—	5.0	4.6
	C	55	6.2	—	5.5	5.1
	C	60	6.2	—	6.0	5.6
	C	65	7.2	—	6.5	6.1
	C	70	7.2	—	7.0	6.6

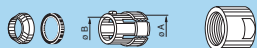
	Reference		Collet ø		Cable ø	
	Type	Code	ø A	ø B	max.	min.
<b>2K</b>	C	75	8.2	8.2	7.5	7.1
	C	80	8.2	8.2	8.0	7.6
	C	85	9.2	8.6	8.5	8.1
	K	90	9.2	—	9.0	8.6
	K	95	10.2	10.2	9.5	9.1
	K	10	10.2	10.2	10.0	9.6
	K	11	11.2	10.6	10.5	10.1

**Note:** all dimensions are in millimetres.



## C and K type collets for K series

C type



K type

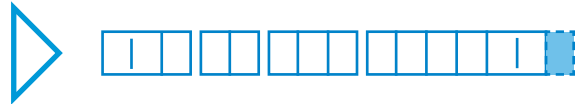
oversize  
cable collet



	Reference		Collet ø		Cable ø	
	Type	Code	ø A	ø B	max.	min.
<b>3K</b>	C	30	3.2	—	3.0	2.6
	C	35	4.2	—	3.5	3.1
	C	40	4.2	—	4.0	3.6
	C	45	5.2	—	4.5	4.1
	C	50	5.2	—	5.0	4.6
	C	55	6.2	—	5.5	5.1
	C	60	6.2	—	6.0	5.6
	C	65	7.2	—	6.5	6.1
	C	70	7.2	—	7.0	6.6
	C	75	8.2	—	7.5	7.1
	C	80	8.2	—	8.0	7.6
	C	85	9.2	—	8.5	8.1
	C	90	9.2	—	9.0	8.6
	C	95	10.2	10.2	9.5	9.1
	C	10	10.2	10.2	10.0	9.6
	C	11	11.2	10.6	10.5	10.1
	K	11	12.3	—	12.0	10.6
	K	12	13.8	13.8	12.8	12.1
	K	13	13.8	13.8	13.5	12.9
	K	14	15.3	15.3	14.0	13.6
<b>4K</b>	K	15	15.3	15.3	15.0	14.1
	C	50	6.3	—	5.0	4.6
	C	55	6.3	—	5.5	5.1
	C	60	6.3	—	6.0	5.6
	C	65	7.3	—	6.5	6.1
	C	70	7.3	—	7.0	6.6
	C	75	8.3	—	7.5	7.1
	C	80	8.3	—	8.0	7.6
	C	85	9.3	—	8.5	8.1
	C	90	9.3	—	9.0	8.6
	C	95	10.8	—	9.5	9.1
	C	10	10.8	—	10.5	9.6
	C	11	12.3	—	12.0	10.6
	C	12	13.8	13.8	12.8	12.1
	C	13	13.8	13.8	13.5	12.9

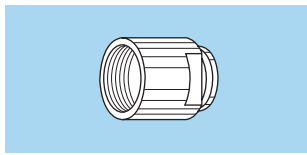
	Reference		Collet ø		Cable ø	
	Type	Code	ø A	ø B	max.	min.
<b>4K</b>	C	14	15.3	15.3	14.0	13.6
	C	15	15.3	15.3	15.0	14.1
	K	16	17.8	—	16.5	15.6
	K	17	17.8	—	17.5	16.6
	K	18	19.8	—	18.5	17.6
	K	19	19.8	—	19.5	18.6
	K	20	21.8	—	20.5	19.6
	K	21	21.8	—	21.5	20.6
	K	22	23.8	23.8	22.5	21.6
	K	23	23.8	23.8	23.5	22.6
<b>5K</b>	C	10	11.8	—	10.5	9.6
	C	11	11.8	—	11.5	10.6
	C	12	13.8	—	12.5	11.6
	C	13	13.8	—	13.5	12.6
	C	14	15.8	—	14.5	13.6
	C	15	15.8	—	15.5	14.6
	C	16	17.8	—	16.5	15.6
	C	17	17.8	—	17.5	16.6
	C	18	19.8	—	18.5	17.6
	C	19	19.8	—	19.5	18.6
	C	20	21.8	—	20.5	19.6
	C	21	21.8	—	21.5	20.6
	C	22	23.8	23.8	22.5	21.6
	C	23	23.8	23.8	23.5	22.6

**Note:** all dimensions are in millimetres.

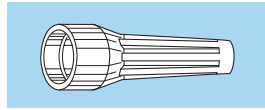


## Variant (B and K series)

### Bend relief for B series models with collet

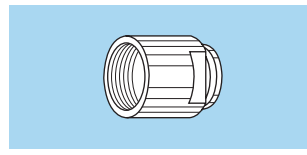


Need to be ordered

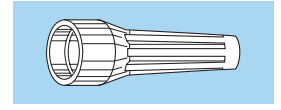


	Ref.	Collet		Need to be ordered separately
		Type	Code	
<b>2B</b>	Z	D	42 to 92	GMA.2B.●●●.●●
<b>3B</b>	Z	M	52	GMA.1B.●●●.●●
		D	62 to 10	GMA.3B.●●●.●●
<b>4B</b>	Z	M	62 and 72	GMA.2B.●●●.●●
		M	92	GMA.4B.●●●.●●
		D	10 to 15	GMA.4B.●●●.●●
<b>5B</b>	Z	D	11 to 15	GMA.4B.●●●.●●

### Bend relief for K series models with collet



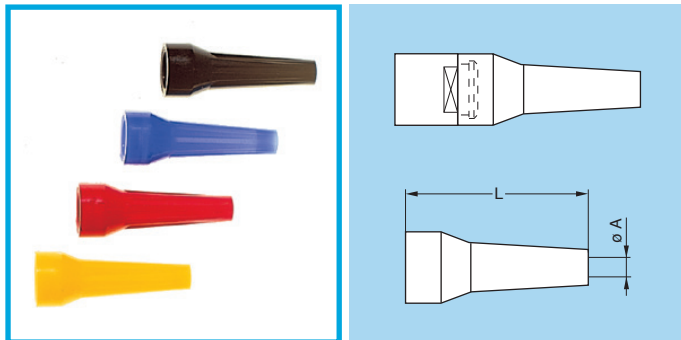
Need to be ordered



	Ref.	Collet		Need to be ordered separately
		Type	Code	
<b>2K</b>	Z	C	40 to 85	GMA.2B.●●●.●●
		K	90 to 10	GMA.3B.●●●.●●
<b>3K</b>	Z	C	40 to 10	GMA.3B.●●●.●●
		K	11 to 15	GMA.4B.●●●.●●
<b>4K</b>	Z	C	50 to 15	GMA.4B.●●●.●●

**Note:** All dimensions are in millimetres.

### GM Bend relief



A bend relief made from thermoplastic polyurethane elastomer can be fitted over LEMO plugs and sockets that are supplied with nut for fitting such bend relief. They are available in nine different colours that match with the GRA insulating washers (see unipole-multipole catalog). Use the part numbers shown below to order this accessory separately.



### Main characteristics

- Material: TPU (Thermoplastic Polyurethane)
- Temperature range in dry atmosphere: -40°C +80°C

Part number	Dimensions (mm)				Series
	Bend relief		Cable $\phi$		
	A	L	max.	min.	
GMA.2B.040.DG	4.0	36	4.5	4.0	2B-2K
GMA.2B.045.DG	4.5	36	5.0	4.5	2B-2K
GMA.2B.060.DG	6.0	36	6.5	6.0	2B-2K
GMA.2B.070.DG	7.0	63	7.7	7.0	2B-2K
GMA.3B.060.DG	6.0	42	6.9	6.0	3B-3K
GMA.3B.070.DG	7.0	42	7.9	7.0	3B-3K
GMA.3B.080.DG	8.0	42	8.9	8.0	3B-3K
GMA.4B.011.DG	11.0	60	11.9	11.0	4B-4K-5B
GMA.4B.012.DG	12.0	60	13.0	12.0	4B-4K-5B
GMA.4B.013.DG	13.5	60	14.5	13.5	4B-4K-5B

Ref.	Colour	Ref.	Colour
<b>A</b>	blue	<b>N</b>	black
<b>B</b>	white	<b>R</b>	red
<b>G</b>	grey	<b>S</b>	orange
<b>J</b>	yellow	<b>V</b>	green
<b>M</b>	brown		

**Note:** the last letter «G» of the part number indicates the grey colour of the bend relief. For ordering a bend relief with another colour, see table above and replace the letter «G» by the letter of the required colour.

## Tools

### Extractor

Reference	Contact type
DCC.91.10P.1LA	P1
DCC.91.808.0LC	P3

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