



Best performance for your lab.



**Professional High-Performance
Fluoroplastic Labware**

PTFE | PFA | FEP

**For Lab Experts:
Brand new from BOLA!
Discover now!**



BOLA Products with additional benefits

Besides its chemical and thermal resistance, BOLA Labware made of PTFE and other high-performance fluoroplastics offer many advantages that are worth a second look.

Today we would like to introduce especially our products for the following tasks:



BOLA EX-proof system for liquid handling

see page 4

Simple system with components made of static dissipative PTFE-EX, PFA-EX or PPS-EX for contamination-free sampling, drawing and infilling of liquids. Suitable for all standard laboratory glass flasks, canisters or barrels.



BOLA Reactor Lids GLS 80

see page 8

Assemble a tailor-made reactor lid for your GLS 80 flask using BOLA Reactor Lids. The special feature: connected tubing cannot be disarranged as the distributor body can be turned independently from the cap.



BOLA Tri-Clamp-Fittings

see page 14

Tight PTFE fittings suitable for vacuum and pressure applications and transition to tubes and tubing made of glass or plastics. All components are manufactured in conformity with the standard DIN 32 676.



BOLA Filtration

see page 17

Solution for efficient and safe filtration made of microporous PTFE – chemically inert and easy to clean.

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Hastelloy® by Haynes International

Kalrez® by DuPont

Lemo® by Lemo

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Standard plus: our modifications...

The BOLA range already offers a huge choice of products and a wide range of accessories for different applications. Moreover, we offer you to adapt our standard products according to your requirements. Sometimes it is only a small detail that has to be modified or added - such as another thread size or a smaller bore diameter.

This is easier and faster than you may expect.

Discuss your idea with our professionals. They will give advise and support during design. Finally, your idea will become real: We produce as per your requirements and in compliance with the chosen raw materials - already from 1 piece.

Your benefit is an individual product as well as fast availability due to short-term realization of the modification. And what is your special request? We will be pleased to assist you: Just give us a call **+49 (0) 9346 9286-0**.

Standard

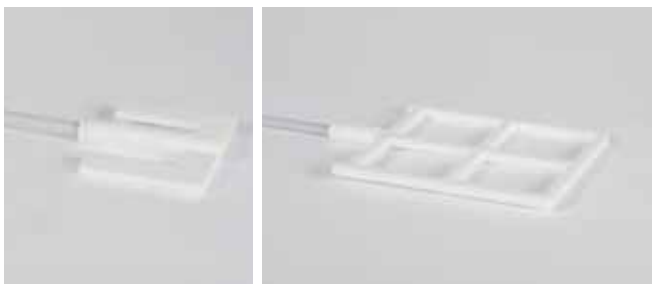
Modification



Additional sealing: The o-ring provides better sealing and strong seating in the ground joint cone.



Belly-shaped bottles provide additional capacity. At the same time, the dimensions of the lid remain unchanged so that existing equipment can be used for filling and emptying.



A standard U-shaped blade has been enlarged to a window-shaped blade for improved mixing.



Female, male or vice versa? We are able to offer a counterpart to all our standard components, no matter whether you need a thread or a ground joint to be modified.



BOLA BENEFITS

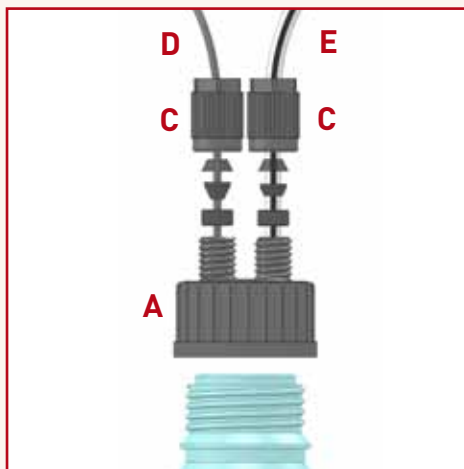
- » good conductivity (surface resistance 10^6 Ohm) and high chemical resistance at once
- » contamination-free decanting and filling
- » free-movable insert - no disarranging of tubing at exchange of vessel
- » available for all standard laboratory glass flasks, canisters and barrels
- » modular system - freely expandable
- » removal of liquids without losses - tubing can be inserted on to the bottom of the bottle
- » easy assembly by means of BOLA Laboratory Screw Joints

BOLA EX-Proof System for Liquid Handling

Example 1: Sampling from Laboratory Glass Bottle with thread GL 45

A Multiple Distributors for Bottles EX GL 45
Cat. No.: **D 864-08K**
see on page 5

C Laboratory Screw Joints EX GL 14 for tubing O.D. 4 mm
Cat. No.: **D 840-66K**
see on page 6



C Laboratory Screw Joints EX GL 14 for tubing O.D. 6 mm
Cat. No.: **D 840-74K**
see on page 6

D Antistatic Explosion-Proof Tubing I.D. 4 x O.D. 6 mm PTFE-EX
Cat. No.: **S 1827-40K**
see on page 6

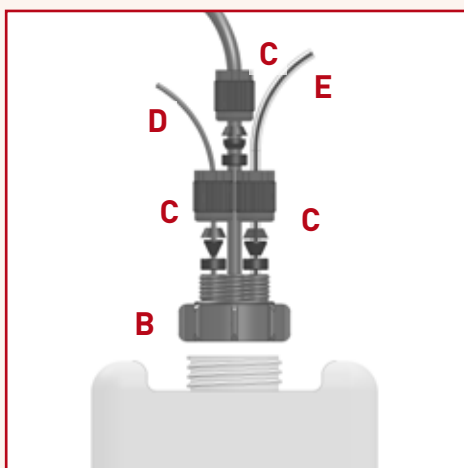
E Zebra Explosion-Proof Tubing I.D. 4 x O.D. 6 mm PFA-EX
Cat. No.: **S 1855-40K**
see on page 7

Example 2: Sampling from Canister with thread S 60

B Distributors for Canisters EX S 60
Cat. No.: **D 772-20K**
see on page 5

C Laboratory Screw Joints EX GL 18 for tubing O.D. 4 mm
Cat. No.: **D 841-46K**
see on page 6

C Laboratory Screw Joints EX GL 18 for tubing O.D. 10 mm
Cat. No.: **D 841-72K**
see on page 6



C Laboratory Screw Joints EX GL 18 for tubing O.D. 8 mm
Cat. No.: **D 841-62K**
see on page 6

D Antistatic Explosion-Proof Tubing I.D. 2 x O.D. 4 mm PTFE-EX
Cat. No.: **S 1827-32K**
see on page 6

E Zebra Explosion-Proof Tubing I.D. 6 x O.D. 8 mm PFA-EX
Cat. No.: **S 1855-50K**
see on page 7

BOLA Multiple Distributors for Bottles EX

Material:	Temperature resistance:	Chemical resistance:	Vacuum:	Conductivity:
PTFE-, PPS-EX	-20°C to +200°C	++ very good	suitable	10 ⁶ Ohm

A

Product description:

Screw cap black for thread GL 45 made of conductive PPS-EX. Distributor body made of conductive PTFE-EX with GL-threaded necks. Tubes can be inserted through the necks. Connection of tubes and tubing by means of BOLA Laboratory Screw Joints EX.

	Necks GL	For tubing O. D. mm	Cat. No.:	*recomm. price Euro
1	2 x 14	2 x 8,0	D 864-08K	74,40
2	3 x 14	3 x 8,0	D 865-08K	97,83
3	3 x 25	3 x 14,0	D 866-08K	203,71



Laboratory Assistant

» BOLA Tube Fittings EX are electro conductive and chemically inert at the same time. They can be used with inflammable liquids or gas in explosive areas. «

BOLA Distributors for Canisters EX

Material:	Temperature resistance:	Chemical resistance:	autoclave:	Conductivity:
PTFE-EX	-20 °C to +200 °C	++ very good	121 °C	10 ⁶ Ohm

B

Product description:

Screw cap and movable body with GL-threaded necks made of conductive PTFE EX. Without earthing connection. Earthing is made via a conductive canister. Connection of tubing made by BOLA Laboratory Screw Joints EX.

Canister Thread S	Necks GL	For tubing O.D. max. mm	Cat. No.:	*recomm. price Euro
55	2 x 14 / 1 x 18	2 x 8 / 1 x 10	D 772-08K	153,10
60	3 x 18	3 x 10	D 772-20K	149,97
65	3 x 18	3 x 10	D 772-32K	162,37

Applications:

Drawing or inserting aggressive or pure liquids. Inserting tubing, tubes and probes into canisters.



BOLA Laboratory Screw Joints EX

Material: PTFE-, PPS-EX	Temperature resistance: -200°C to +250°C	Chemical resistance: ++ very good	Pressure: 10 bar	Vacuum: suitable	Conductivity: 10 ⁶ Ohm
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C

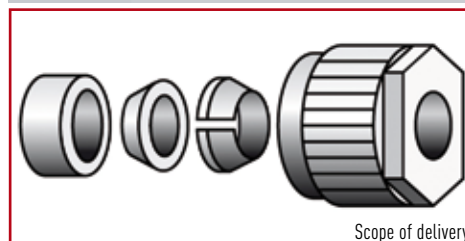
Product description:

Screw cap made of conductive black PPS-EX reinforced with glass fibres, inner parts made of conductive PTFE-EX

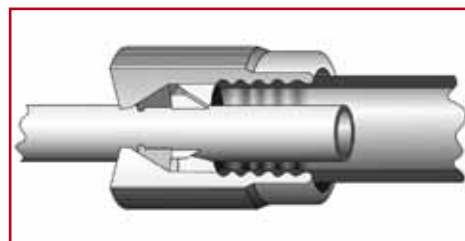
For tubing O.D. mm	Thread GL	Cat. No.:	*recomm. price Euro
4	14	D 840-66K	27,27
6	14	D 840-74K	26,80
4	18	D 841-46K	29,86
6	18	D 841-54K	27,54
8	18	D 841-62K	28,23
10	18	D 841-74K	28,14
8	25	D 842-62K	41,81
10	25	D 842-74K	37,06
12	25	D 842-80K	27,16
14	25	D 842-90K	42,73

Applications:

Connecting equipment and fittings with GL threads with hard-walled tubing or tubes made of glass, plastic or metal. Fixing probes, thermometers, dip tubes or cables in reaction vessels.



Scope of delivery



6

BOLA Antistatic Explosion-Proof Tubing

Material: PTFE-EX	Temperature resistance: -200°C to +250°C	Chemical resistance: +++ universal	Conductivity: 10 ⁶ Ohm
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D

Product description:

Very good electric conductivity due to a special "antistatic compound" made of pure PTFE and finest, highly pure carbon dust (less than 2,5%).
Colour: black

FDA conform

I.D. mm	O.D. mm	Wall thick- ness mm	Bending radius mm	Burst pres- sure bar	Cat. No.:	*recomm. price Euro
(1/32") 0,8	(1/16") 1,6	0,4	7	140	S 1827-10K	3,17
(1/16") 1,6	(1/8") 3,2	0,8	13	140	S 1827-26K	7,23
2,0	3,0	0,5	18	70	S 1827-30K	6,16
2,0	4,0	1,0	16	140	S 1827-32K	5,84
3,0	4,0	0,5	32	46	S 1827-34K	5,17
4,0	6,0	1,0	36	70	S 1827-40K	8,93
(11/64") 4,35	(1/4") 6,35	1,0	40	64	S 1827-42K	9,90
6,0	8,0	1,0	64	46	S 1827-50K	12,81
8,0	10,0	1,0	100	35	S 1827-60K	17,09
10,0	12,0	1,0	144	28	S 1827-64K	20,11
12,0	14,0	1,0	196	23	S 1827-68K	33,79
14,0	16,0	1,0	256	20	S 1827-74K	36,14

Applications:

- » antistatic applications
- » in explosive ambiance (explosion protection)
- » for transport of solvents or alcohols



BOLA Zebra Explosion-Proof Tubing

Material: PFA-EX	Temperature resistance: -200°C to +260°C	Chemical resistance: +++ universal	Conductivity: 10⁶ Ohm
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E

Product description:

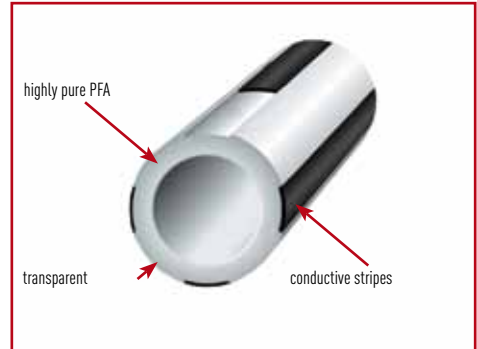
Transparent PFA tubing with black longitudinal conductive stripes on the outer surface. The tubing is absolutely round and can be connected to all common fittings.

FDA conform

I.D. mm	O.D. mm	Wall thick- ness mm	Bending radius mm	Burst pres- sure bar	Cat. No.:	*recomm. price Euro
2,0	3,0	0,5	15	57	S 1855-30K	9,19
4,0	6,0	1,0	25	57	S 1855-40K	31,30
6,0	8,0	1,0	50	41	S 1855-50K	42,93
8,0	10,0	1,0	80	32	S 1855-60K	56,13
10,0	12,0	1,0	130	27	S 1855-64K	67,57

Applications:

- » antistatic applications
- » in explosive ambiance (explosion protection)
- » for transport of highly flammable solvents or alcohols
- » for transport of highly pure chemicals and gases



BOLA offers custom manufacture.

Every lab is different. By offering an extensive range of established and sophisticated standard solutions we take into account the varied requirements of the respective branches and sectors.

But maybe you are looking for something special? Something that is not included in our standard product range?

In that case we are able to offer an individual custom manufacture. This is easier and faster than you may expect. Discuss your idea with our professionals. They will give advise and support during design. Finally, your idea will become real: We produce as per your requirements and in compliance with the chosen raw materials – already from 1 piece.

We only need a drawing (a sketch is sufficient) and some further information

» You have a special request?

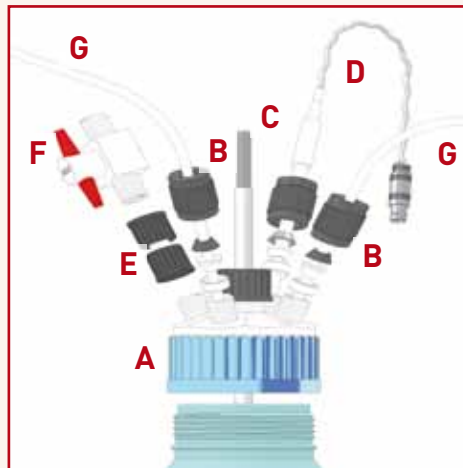
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BOLA Reactor Lids GLS 80

Example: Stirring in a laboratory glass flask GLS 80

- A** Distributors for Reaction Vessels GLS 80 for shaft dia. 10 mm
Cat.No.: **D 744-24K**
see page 9
- B** Laboratory Screw Joints HT GL 18 for tubing O.D. 8 mm
Cat.No.: **D 629-62K**
see page 19
- C** Propeller Stirrer Shaft shaft dia. 10 mm, length 450 mm
Cat.No.: **C 378-17K**
see page 10
- B** Laboratory Screw Joints HT GL 18 for tubing O.D. 8 mm
Cat.No.: **D 629-62K**
see page 10



- D** Temperature Probes PT 100 Lemo Usable length 300 mm
Cat.No.: **P 1762 -20K**
see page 10
- E** Threaded Couplings with Cap GL 18 PPS
Cat.No.: **H 900-02K**
see page 11
- F** GL-Stopcocks, 2-Way Connecting thread GL 18
Cat.No.: **E 684-18K**
see page 11
- G** PTFE Tubing I.D. 6 x O.D. 8 mm
Cat.No.: **S 1810-50K**
see page 12
- G** PFA Tubing I.D. 6 x O.D. 8 mm
Cat.No.: **S 1811-18K**
see page 12

BOLA BENEFITS

- » compatible with GLS 80 threaded laboratory flasks
- » easy production in small scale
- » simple heating on a hot plate
- » unbreakable and easy to clean PTFE lid
- » compatible with standard components with ground joint or GL threaded connectors

BOLA Distributors for Reaction Vessels

Material:	Temperature resistance:	Chemical resistance:	Vacuum:	autoclave:
PTFE, PP	0 °C to + 110°C	+++ universal	suitable	121°

A

Product description:

Blue screw made of PP with GLS 80 thread, body made of PTFE. Center neck NS 29/32 or GL 25 for inserting a stirrer shaft if used as reactor lid (only version with center neck GL 25 is supplied with a stirrer bearing).

Four lateral sockets either with thread GL 18 for connecting tubes and tubing or ground joint sockets either NS 14/23 or NS 29/32 for assembly of ground joint components (e. g. dropping funnel, Liebig condenser).

FDA conform

Lateral necks GL	Center neck GL	For tubing O.D. max. mm	Dia. of stirrer shaft mm	Cat. No.:	*recomm. price Euro
4 x 18	1 x 25	4 x 10	8	D 744-16K	161,93
4 x 18	1 x 25	4 x 10	10	D 744-24K	164,36

Lateral necks GL	Center neck NS	For tubing O.D. max. mm	Cat. No.:	*recomm. price Euro
4 x 18	1 x 29/32	4 x 10	D 748-16K	147,21
2 x 18	1 x 29/32	2 x 14	D 748-40K	215,11
	2 x 29/32 2 x 14/23	1 x 29/32	D 748-60K	221,56

Applications:

Drawing or inserting aggressive or pure liquids. Inserting tubing, tubes and probes into vessels. Use of a stirrer bearing in center neck for central position of a stirrer shaft to enlarge the reactor lid with further components (e. g. dropping funnel).



BOLA Laboratory Screw Joints HT (High Temp)

Material:	Temperature resistance:	Chemical resistance:	Pressure:	Vacuum:
PTFE, PPS	-20 °C to +250 °C	+++ universal	10 bar	suitable

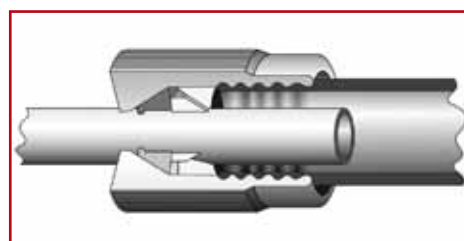
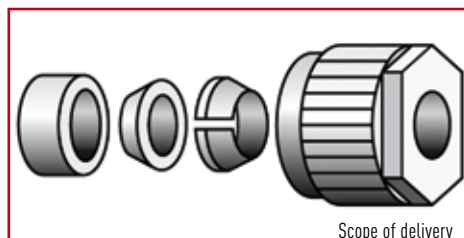
B

Product description:

Black screw cap made of PPS, inner parts consisting of a v-ring (PPS), a tapered ring and a sealing ring (both PTFE) as well as an o-ring for tubing diameters under 3 mm (not exposed to the medium). Good chemical resistance, suitable for temperatures from -20°C to + 250°C.

FDA conform

For tubing O.D. mm	Thread GL 14 Cat. No.:	*recomm. price Euro	Thread GL 18 Cat. No.:	*recomm. price Euro	Thread GL 25 Cat. No.:	*recomm. price Euro
(1/16") 1,6	D 628-26K	21,79	D 629-18K	33,93	D 630-18K	35,46
(1/8") 3,2	D 628-58K	15,17	D 629-42K	20,64	D 630-42K	42,49
4,0	D 628-66K	17,50	D 629-46K	19,29	D 630-46K	27,44
6,0	D 628-74K	16,30	D 629-54K	14,53	D 630-54K	27,46
(1/4") 6,35	D 628-78K	25,24	D 629-56K	44,46	D 630-58K	42,34
8,0	D 628-82K	24,67	D 629-62K	17,57	D 630-62K	25,36
10,0			D 629-74K	17,80	D 630-74K	24,90
12,0					D 630-80K	25,63
14,0					D 630-90K	28,44



* Recommended price valid until 31.12.2017

Hotline +49 (0) 93 46-92 86-0

BOLA Stirrer Shafts

Material: PTFE Temperature resistance: -200 °C to +250 °C Chemical resistance: +++ universal

C Product description:
PTFE-jacketed stainless steel shaft, stirring element completely made of PTFE.

FDA conform

	Length mm	Shaft dia. mm	Chucking dia. mm	Stirring dia. mm	For ground joint NS	Cat. No.:	*recomm. price Euro
1 Type: BOLA Propeller Stirrer Shafts							
	250	6	4,0	50		C 378-04K	143,96
	350	6	4,0	50		C 378-06K	104,31
	450	6	4,0	50		C 378-08K	115,80
	450	10	8,0	50		C 378-18K	169,57
2 Type: BOLA U-Shaped Stirrer Shafts							
	350	8	6,5	40		C 384-01K	132,23
	350	8	6,5	60		C 384-02K	151,17
	450	8	6,5	60		C 384-04K	166,01
	800	8	6,5	60		C 384-11K	170,07
3 Type: BOLA Discs Stirrer Shafts							
	350	6	4,0	25		C 598-12K	125,29
	350	6	4,0	38		C 598-16K	181,11
	450	6	4,0	38		C 598-18K	190,26
	600	6	4,0	38		C 598-19K	194,09
	350	10	8,0	50		C 598-22K	135,17
	600	10	8,0	50		C 598-26K	116,94
4 Type: BOLA Moon-Shaped Stirrer Shafts							
	450	8	6,5	90	29/32	C 376-08K	116,57
	600	8	6,5	90	29/32	C 376-10K	132,10
	450	10	8,0	90	29/32	C 376-14K	124,54
	450	10	8,0	125	45/40	C 376-64K	146,53
	600	10	8,0	90	29/32	C 376-18K	142,09
5 Type: BOLA Centrifugal Stirrer Shafts							
	350	6	4,0	50		C 377-04K	105,29
	350	8	6,5	90		C 377-08K	130,13
	450	8	6,5	90		C 377-10K	112,41
	350	10	8,0	90		C 377-12K	132,26
	450	10	8,0	90		C 377-14K	129,29
	600	10	8,0	90		C 377-16K	142,73



« »
Special Request?
+49 (0) 93 46-92 86-0

BOLA Temperature Probes PT 100 Lemo®

Material: PTFE	Temperature resistance: -200°C to +250°C	Chemical resistance: +++ universal	Temperature range: -50°C to +250°C
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D

Product description:

One measuring sensor PT 100 in a PTFE encapsulated stainless steel tube (1.4571). Temperature probe Ø 8 mm, tip Ø 6 mm, collar ring Ø 12 mm. With white PFA-coated cable (length: 1,5 m) and mounted Lemo® plug size 1, 4-wire system.

FDA conform

Typical response times:

- » T 50: 7 - 12 s
- » T 90: 14 - 16 s

Usable length mm	Total length mm	Connector	Cat. No.:	*recomm. price Euro
100	160	plug, 4-wire-system	P 1762-10K	159,07
200	260	plug, 4-wire-system	P 1762-15K	165,20
300	360	plug, 4-wire-system	P 1762-20K	173,33
500	560	plug, 4-wire-system	P 1762-25K	186,94
600	660	plug, 4-wire-system	P 1762-30K	203,47



BOLA Threaded Couplings

Material: PTFE	Temperature resistance: -20°C to +200°C	Chemical resistance: +++ universal
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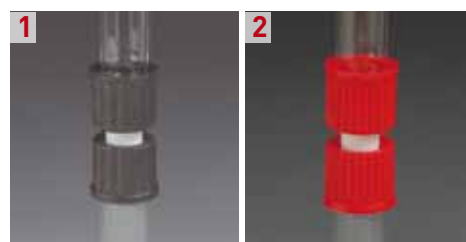
E

Product description:

Two screw caps made of PPS (up to +200°C) or PBTP (up to +180°C) with GL thread and a PTFE/FKM gasket. Connection piece made of PTFE. The product is only exposed to PTFE. For connecting two GL threads of the same size.

FDA conform

For thread GL	Length from sealing lip to sealing lip mm	1	Cat. No.:	*recomm. price Euro	2	Cat. No.:	*recomm. price Euro
			PPS cap			PBTP cap	
14	15	H 900-01K		29,86	H 901-01K		18,04
18	17	H 900-02K		22,67	H 901-02K		18,36
25	22	H 900-03K		33,59	H 901-03K		27,87
32	22	H 900-04K		47,41	H 901-04K		33,70
45	23	H 900-05K		56,89	H 901-05K		34,63



* Recommended price valid until 31.12.2017

Hotline +49 (0) 93 46-92 86-0

BOLA GL Stopcocks

Material: PTFE	Temperature resistance: -0°C to +110°C	Chemical resistance: +++ universal	Pressure: 6 bar	Vacuum: suitable
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F

Product description:

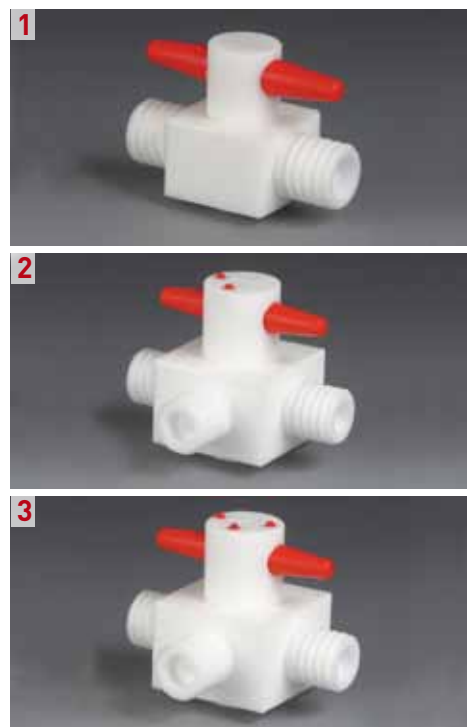
Two-way stopcock with straight bore and two connections with GL thread or three-way stopcock with L-shaped or T-shaped bore and three connections with GL thread. Cylindrical stopcock plug for good tightness, stop valve with mark of flow direction. Suitable for pressure up to max. 6 bar, or for vacuum. Universal chemical resistance, the flowing product is only exposed to PTFE.

FDA conform

Type	Bore shape stopcock	Bore dia. mm	Connecting thread GL	External dimensions L / D / H mm	Cat. No.:	*recomm. price Euro
1 2-Way	—	4	14	54 x 20 x 38	E 684-14K	48,07
2-Way	—	6	18	64 x 30 x 45	E 684-18K	49,46
2-Way	—	8	25	78 x 40 x 57	E 684-25K	91,23
2 3-Way	L	4	14	64 x 47 x 43	E 686-14K	71,04
3-Way	L	6	18	74 x 57 x 57	E 686-18K	91,63
3-Way	L	6	25	78 x 59 x 57	E 686-25K	183,81
3 3-Way	T	4	14	74 x 57 x 57	E 688-14K	116,36
3-Way	T	4	18	74 x 57 x 57	E 688-18K	93,87
3-Way	T	6	25	88 x 69 x 57	E 688-25K	125,29

Applications:

For distributing liquids or gases. Quick and easy disconnection of flow. Connection of tubing or tubes by means of BOLA Laboratory Screw Joints.



BOLA PTFE Tubing

Material: PTFE	Temperature resistance: -200°C to +250°C	Chemical resistance: +++ universal
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G

Product description:

Translucent to milky-white appearance

FDA conform

I.D. mm	O.D. mm	Wall thickness mm	Bending radius mm	Burst pressure bar	Cat. No.: PTFE	*recomm. price Euro	Cat. No.: FEP	*recomm. price Euro	Cat. No.: PFA	*recomm. price Euro
(1/32") 0,8	(1/16") 1,6	0,40	7	140	S 1810-10K	2,14	S 1815-04K	3,14	S 1811-02K	7,36
(1/16") 1,6	(1/8") 3,2	0,80	13	140	S 1810-26K	5,21	S 1815-08K	9,07	S 1811-04K	10,79
2,0	4,0	1,00	16	140	S 1810-32K	7,36	S 1815-12K	9,00	S 1811-06K	12,93
3,0	4,0	0,50	32	46	S 1810-34K	5,00				
4,0	6,0	1,00	36	70	S 1810-40K	10,21	S 1815-20K	13,79	S 1811-10K	17,93
(11/64") 4,35	(1/4") 6,35	1,00	40	64	S 1810-42K	12,64	S 1815-28K	17,21	S 1811-14K	24,71
6,0	8,0	1,00	64	46	S 1810-50K	14,36	S 1815-36K	19,50	S 1811-18K	26,79
8,0	10,0	1,00	100	35	S 1810-60K	19,43	S 1815-48K	27,57	S 1811-24K	33,43
10,0	12,0	1,00	144	28	S 1810-64K	25,00	S 1815-60K	30,93	S 1811-30K	43,93
12,0	14,0	1,00	196	23	S 1810-68K	31,71	S 1815-68K	52,07	S 1811-50K	72,36



Also made by Bohlender.

TIP

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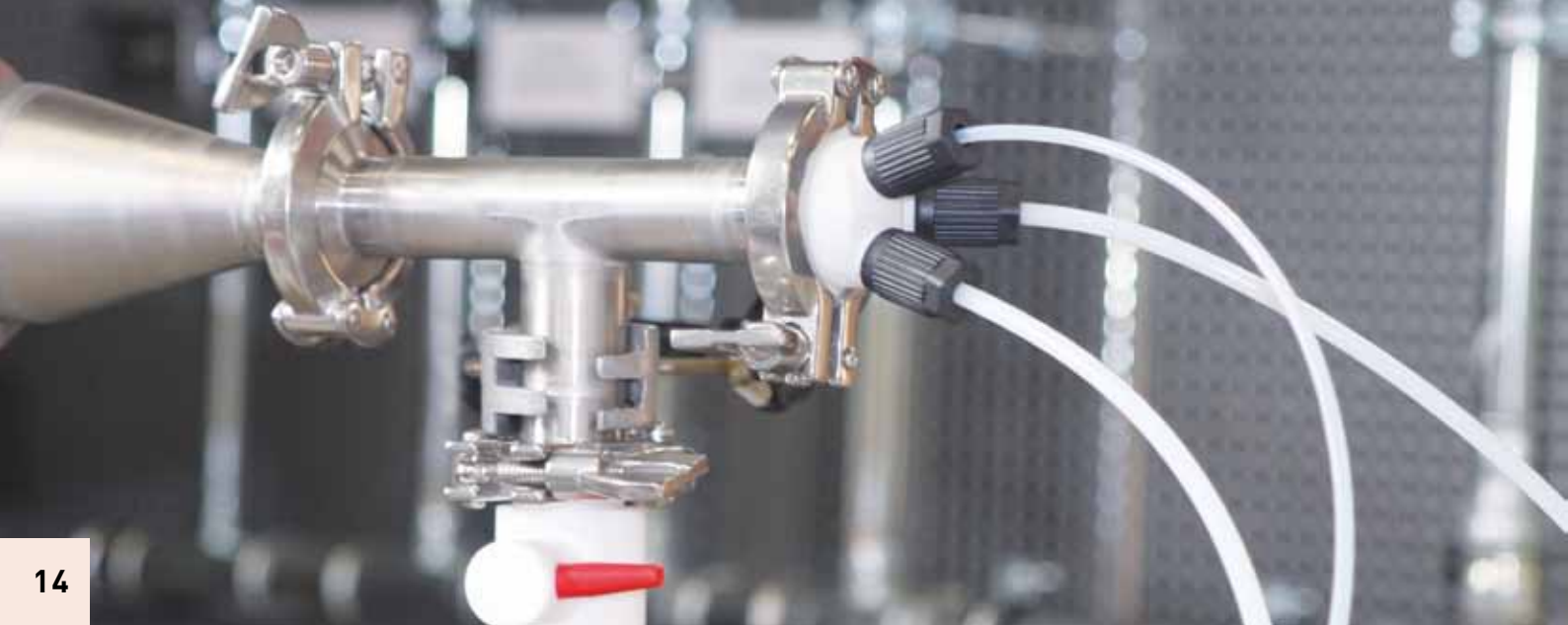
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BOLA Tri-Clamp Fittings

Tri-Clamp is a standardized fitting system which is widely used in the chemical, pharmaceutical and food industry for all kind of applications that require easy to clean, reliable and safe to assemble components.

Besides the low dead volume, the easy assembly is another advantage of the Tri-Clamp system. The flangelike connectors are pressed on each other and secured with a locking clip.

A suiting gasket provides additionally a reliable sealing. The wing screw on the locking clip allows a fast loosening and closing of the connection whenever necessary.

Using BOLA Tri-Clamp-Fittings, hard walled tubes and tubing made of glass or plastics can easily be connected to the GL threaded sockets of the single components by using BOLA Laboratory Screw Joints. This connection is tight and can be operated under pressure and vacuum. All BOLA Tri-Clamp-connectors are made of PTFE and therefore provide a high chemical as well as thermal resistance. All components can be sterilized if necessary.

BOLA products with Tri-Clamp are manufactured as per the standard DIN 32 676. Other dimensions or adaptors for transition to other threads can be offered on request.

BOLA Adaptor Tri-Clamp Hose Connector

Material:	Temperature resistance:	Chemical resistance:
PTFE	-200 °C to + 250 °C	+++ universal

Product description:

Fitting made of PTFE for transition of Tri-Clamp as per DIN 32 676 to a hose connector. Universal chemical resistance, the flowing product is only exposed to PTFE.

NEW

FDA conform

Plate-Ø mm	Nominal size as per DIN	For tube I.D. mm	Hose Connector O.D. mm	Cat. No.:	*recomm. price Euro
25,5	DN 08	8,0	10,4	D 915-02K	19,20
34,0	DN 10	10,0	10,4	D 915-22K	23,97
50,5	DN 25	26,0	16,0	D 915-42K	35,49

Applications:

For connection of elastic tubing (such as silicone, Viton®, Tygon®) to Tri-Clamp components as per DIN 32 676.



BOLA Tri-Clamp GL-Adaptor

Material: PTFE
 Temperature resistance: -200 °C to +250 °C
 Chemical resistance: +++ universal

Product description:
 Fitting made of PTFE for transition of Tri-Clamp as per DIN 32 676 to a GL-threaded neck. Universal chemical resistance, the flowing product is only exposed to PTFE.

NEW

FDA conform

Plate-Ø mm	Nominal size as per DIN	For tube I.D. mm	Threaded Neck GL	Cat. No.:	*recomm. price Euro
25,5	DN 08	8,0	14	D 901-02K	26,01
25,5	DN 10	10,0	18	D 901-04K	26,10
25,5	DN 10	10,0	25	D 901-06K	26,30
34,0	DN 10	10,0	14	D 901-22K	26,19
34,0	DN 15	16,0	18	D 901-24K	25,74
34,0	DN 20	20,0	25	D 901-26K	26,44
50,5	DN 25	26,0	14	D 901-42K	39,76
50,5	DN 25	26,0	18	D 901-44K	39,17
50,5	DN 32	32,0	25	D 901-46K	37,63
50,5	DN 40	38,0	45	D 901-48K	37,61
91,0	DN 65	66,0	18	D 901-72K	107,53
91,0	DN 65	66,0	25	D 901-74K	107,90
91,0	DN 65	66,0	45	D 901-76K	113,47

Applications:

For connection of hard-walled tubing (such as glass, stainless steel) or fluoroplastic tubes (such as PTFE, PFA, FEP) with BOLA Laboratory Screw Joints to Tri-Clamp components as per DIN 32 676.

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BOLA Tri-Clamp Multiple Distributor

Material: PTFE
 Temperature resistance: -200 °C to +250 °C
 Chemical resistance: +++ universal

Product description:
 Fitting made of PTFE for transition of Tri-Clamp as per DIN 32 676 to two or three GL-threaded necks. Universal chemical resistance, the flowing product is only exposed to PTFE.

NEW

FDA conform

Plate-Ø mm	Nominal size as per DIN	For tube I.D. mm	Threaded Neck GL	Bore diam. mm	Cat. No.:	*recomm. price Euro
25,5	DN 10	10,0	2x 14	2x 4,5	D 911-02K	39,37
34,0	DN 20	20,0	2x 14	2x 8,5	D 911-22K	39,94
50,5	DN 40	38,0	3x 14	3x 8,5	D 911-42K	53,00
50,5	DN 40	38,0	3x 18	3x 10,5	D 911-44K	56,83
91,0	DN 65	66,0	3x 18	3x 10,5	D 911-72K	110,72

Applications:

For connection of hard-walled tubing (such as glass, stainless steel) or fluoroplastic tubes (such as PTFE, PFA, FEP) with BOLA Laboratory Screw Joints to Tri-Clamp components as per DIN 32 676.



* Recommended price valid until 31.12.2017

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BOLA Tri-Clamp GL-Stopcocks

Material: PTFE, PP
 Temperature resistance: 0 °C to +110 °C
 Chemical resistance: +++ universal

Product description:
 2-Way stopcock made of PTFE with straight bore, one Tri-Clamp neck as per DIN 32 676 and one GL-threaded neck. Cylindrical stopcock made of PTFE for reliable tightness and grip made of PP for marking the flow direction. Universal chemical resistance, the flowing product is only exposed to PTFE.

NEW

FDA conform

Plate-Ø mm	Nominal size as per DIN	For tube I.D. mm	connecting thread GL	bore dia. mm	Cat. No.:	*recomm. price Euro
25,5	DN 08	8,0	18	6,0	D 917-02K	78,66
34,0	DN 10	10,0	18	6,0	D 917-22K	85,37
34,0	DN 15	16,0	25	8,0	D 917-24K	91,89
50,5	DN 25	26,0	25	8,0	D 917-42K	125,31

Applications:

Quick and easy disconnection of flow. For connection of hard-walled tubing (such as glass, stainless steel) or fluoroplastic tubes (such as PTFE, PFA and FEP) with BOLA Laboratory Screw Joints to Tri-Clamp components as per DIN 32 676.



BOLA Tri-Clamp Gaskets

Material: PTFE, Silicone
 Temperature resistance: -60 °C to +230 °C
 Chemical resistance: +++ universal

Product description:
 Silicone ring with double-sided, elastic washer made of PTFE. Suitable for Tri-Clamp connections as per DIN 32 676. Universal chemical resistance, the flowing product is only exposed to PTFE.

NEW

FDA conform

Plate-Ø mm	Nominal size as per DIN	For tube I.D. mm	Cat. No.:	*recomm. price Euro
25,5	DN 08	8,0	D 930-02K	12,87
25,5	DN 10	10,0	D 930-04K	12,56
34,0	DN 10	10,0	D 930-22K	14,19
34,0	DN 15	16,0	D 930-24K	13,80
34,0	DN 20	20,0	D 930-26K	13,57
50,5	DN 25	26,0	D 930-42K	14,97
50,5	DN 32	32,0	D 930-44K	14,97
50,5	DN 40	38,0	D 930-46K	14,56
64,0	DN 50	50,0	D 930-62K	28,23
91,0	DN 65	66,0	D 930-72K	32,63

Applications:

Chemically inert, reusable gasket for Tri-Clamp connections as per DIN 32 676.



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BOLA Filtration

Besides filtering membranes and filtering tiles in micro-porous PTFE, you get at BOLA also filtering devices and accessories made of chemically inert and easy to clean PTFE.

On request we can adapt our products to your special needs or offer complete customized solutions. Just send us your enquiry and we will check whether we can fulfil your requirements.

BOLA Flow Filters

Material:	Temperature resistance:	Chemical resistance:	Vacuum:	autoclave:
PTFE, PPS	-20°C to +160°C	+++ universal	suitable	121°

Product description:

Suitable for overpressure or vacuum, usable for example as added filter or as large-area in-line apparatus in a line system. Suitable for temperatures up to +160°C. The optionally available filtering membranes can be exchanged easily. Tubing can be connected to GL threads by means of the included laboratory screw joints.

The filters are produced without plasticisers and have an almost universal chemical resistance. They do not release any trace elements into the filtrate. Due to the non-adhesive surface, they are easy to clean and can be reused.

FDA conform

For membrane dia. mm	Filtration surface cm ²	Connecting thread GL	For tubing O.D. mm	Cat. No.:	*recomm. price Euro
25	3,1	14	3,2 and 6,0	N 1670-08K	224,83
47	13,8	18	6,0 and 8,0	N 1670-16K	271,01
90	52,0	25	8,0 and 10,0	N 1670-24K	514,17

Flow rate:

Flow capacity under vacuum of 100 kPa (1.000 mbar) with Water / 1 kPa (10 mbar) with air using a PTFE filtering membrane with a thickness of 0,2 mm:

For membrane dia. mm	Pore size µm	Product	Flow ml/min.	For membrane dia. mm	Pore size µm	Product	Flow ml/min.
25	1,00	water	5	90	1,00	water	57
25	1,00	air	92	90	1,00	air	1.191
25	0,45	water	1	90	0,45	water	12
25	0,45	air	34	90	0,45	air	446
47	1,00	water	16				
47	1,00	air	325				
47	0,45	water	3				
47	0,45	air	122				



* Recommended price valid until 31.12.2017

BOLA Vacuum Adaptor with Ground Joint

Material:	Temperature resistance:	Chemical resistance:	autoclave:	Vacuum:
PTFE	-15 °C to +200 °C	+++ universal	121°	suitable

Product description:

Made of PTFE. Pass-through with o-ring made of FKM for safe assembly of standard filter funnels made of glass or plastic on vessels and round-bottom flasks with ground joint. Lateral 2-step hose connector made of PTFE for connection to a vacuum pump by means of suitable tubing.

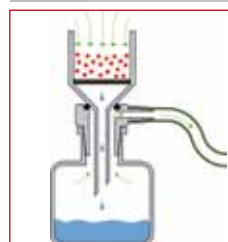
NEW

FDA conform

Cone Size NS	For funnel outlet max. Ø mm	2-Step hose connector		Cat. No.:	*recomm. price Euro
		O.D. 1 mm	O.D. 2 mm		
29/32	22	9	12	N 1655-04K	54,64
45/40	22	9	12	N 1655-06K	97,10

Applications:

For vacuum filtration, the o-ring at the pass-through provides good sealing to the filter funnel. A slight vacuum is sufficient.



BOLA Vacuum Adaptor GL

Material:	Temperature resistance:	Chemical resistance:	autoclave:	Vacuum:
PTFE	-15 °C to +200 °C	+++ universal	121°	suitable

Product description:

Made of PTFE. Pass-through with o-ring made of FKM for safe assembly of standard filter funnels made of glass or plastic on flasks with thread GL 45. Lateral 2-step hose connector made of PTFE for connection to a vacuum pump by means of suitable tubing.

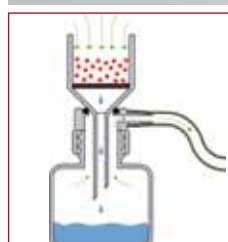
NEW

FDA conform

For thread NS	For funnel outlet max. Ø mm	2-Step hose connector		Cat. No.:	*recomm. price Euro
		O.D. 1 mm	O.D. 2 mm		
45	22	9	12	N 1656-45K	94,59

Applications:

For vacuum filtration, the o-ring at the pass-through provides good sealing to the filter funnel. A slight vacuum is sufficient.



BOLA Filtering Membranes

Material: **PTFE** Temperature resistance: **-200°C to +250°C** Chemical resistance: **+++ universal**

Product description:

Made of microporous PTFE, thickness 0,2 mm, packing unit: 10 pieces

NEW

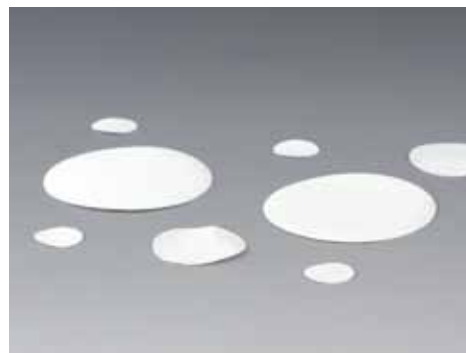
FDA conform

Dia. of membrane mm	Pore size µm	Filtration surface mm ²	Cat. No.:	*recomm. price Euro
13	0,05	132	N 1690-08K	19,30
13	0,20	132	N 1690-12K	22,80
13	0,45	132	N 1690-16K	23,90
13	5,00	132	N 1690-24K	22,80
25	0,05	490	N 1690-28K	24,20
25	0,20	490	N 1690-32K	29,10
25	0,45	490	N 1690-36K	28,20
25	5,00	490	N 1690-44K	25,80
47	0,05	1.735	N 1690-48K	42,80
47	0,20	1.735	N 1690-52K	41,10
47	0,45	1.735	N 1690-56K	49,10
47	1,00	1.735	N 1690-60K	35,70
47	5,00	1.735	N 1690-64K	35,50
47	10,00	1.735	N 1690-65K	49,90
90	1,00	6.362	N 1690-80K	138,30
90	5,00	6.362	N 1690-84K	137,20

Flow rate:

Flow capacity under air pressure of 1 kPa (10 mbar) / water pressure of 100 kPa (1000 mbar) using a PTFE filtering membrane with a diameter of 47 mm and a thickness of 0,2 mm:

Pore size µm	Medium	Flow ml/min.
0,05	air	102
0,05	water	8
0,20	air	230
0,20	water	11
0,45	air	420
0,45	water	13
1,00	air	800
1,00	water	262
5,00	air	2360
5,00	water	868
10,00	air	9845
10,00	water	4723



BOLA Filtering Discs

Material: PTFE Temperature resistance: -200°C to +250°C Chemical resistance: +++ universal

Product description:

Made of porous PTFE, thickness 1,0 mm, packing unit: 10 pieces.

NEW

FDA conform

Dia. of membrane mm	Pore size μm	Filtration surface mm^2	Cat. No.:	*recomm. price Euro
47	1,0	1.735	N 1565-06K	57,69
47	5,0	1.735	N 1565-12K	78,51
47	10,0	1.735	N 1565-18K	78,34
47	25,0	1.735	N 1565-24K	76,29
90	1,0	6.362	N 1565-42K	237,51
90	5,0	6.362	N 1565-48K	220,89

Flow rate:

Flow capacity under air pressure of 1 kPa (10 mbar) / water pressure of 100 kPa (1000 mbar) using a PTFE filtering disc with a diameter of 47 mm and a thickness of 1,0 mm:

Pore size μm	Medium	Flow ml/min.
1,0	air	101
1,0	water	14
5,0	air	311
5,0	water	60
10,0	air	981
10,0	water	568
25,0	air	2997
25,0	water	1996



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BOLA Filtering Tiles

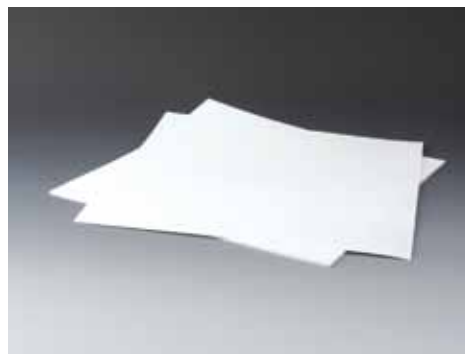
Material: **PTFE** Temperature resistance: **-200°C to +250°C** Chemical resistance: **+++ universal**

Product description:

Made of microporous PTFE, standard tiles with dimensions of 320 x 320 mm for cutting or stamping.

FDA conform

Pore size µm	Thickness mm	Cat. No.:	*recomm. price Euro
5	1	N 1610-10K	262,54
10	1	N 1616-10K	262,54
10	2	N 1616-20K	327,67
10	3	N 1616-30K	490,51



BOLA Filtering Sheets

Material: **PTFE** Temperature resistance: **-200°C to +250°C** Chemical resistance: **+++ universal**

Product description:

Made of porous PTFE, width approx. 150 mm x length 300 mm.

Pore size µm	Thickness mm	Cat. No.:	*recomm. price Euro
0,05	0,2	N 1617-02K	29,66
0,20	0,2	N 1617-04K	31,59
0,45	0,2	N 1617-06K	31,54
1,00	0,2	N 1617-10K	31,41
1,00	1,0	N 1617-15K	44,01
2,50	0,2	N 1617-20K	51,30
2,50	1,0	N 1617-25K	88,07
5,00	0,2	N 1617-30K	27,60
5,00	1,0	N 1617-35K	44,96
10,00	0,2	N 1617-40K	39,04
10,00	1,0	N 1617-45K	66,30
25,00	1,0	N 1617-55K	64,50

Applications:

Suitable for cutting and blanking. A reduction of stability and mechanical load capacity has to be observed when processing materials with larger pore sizes.



BOLA Filtering Rods

Material: PTFE Temperature resistance: -200°C to +250°C Chemical resistance: +++ universal

Product description:

Made of porous PTFE, roundly machined cylinder with approximate dia. 40 mm and height approx. 115 mm. Round shape for easier treatment.

NEW

FDA conform

Pore size µm	Cat. No.:	*recomm. price Euro
1,00	N 1530-05K	72,20
2,50	N 1530-10K	68,23
5,00	N 1530-15K	65,19
10,00	N 1530-20K	62,51
25,00	N 1530-25K	74,86
50,00	N 1530-30K	74,86
100,00	N 1530-35K	74,86

Applications:

For further treatment by turning, milling or cutting e.g. to become filtering frits. A reduction of stability and mechanical load capacity has to be observed when processing materials with larger pore sizes.



BOLA Filtering Blocks

Material: PTFE Temperature resistance: -200°C to +250°C Chemical resistance: +++ universal

Produktbeschreibung:

Made of porous PTFE, cuboid with edge length approx. 40 mm and height approx. 125 mm (unmachined sizes). The skin layer (approx. 3 mm) probably has a deviant maximum pore size due to production.

NEW

FDA conform

Pore size µm	Cat. No.:	*recomm. price Euro
1,00	N 1540-05K	50,59
2,50	N 1540-10K	46,60
5,00	N 1540-15K	43,57
10,00	N 1540-20K	40,89
25,00	N 1540-25K	47,57
50,00	N 1540-30K	47,57
100,00	N 1540-35K	47,57



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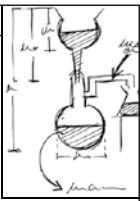
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