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**SPECS &  
INFORMATION**




JACOB PULL-RING SYSTEM:  
EASY TO INSTALL,  
MAXIMUM TIGHTNESS



Explanatory video

## PULL-RINGS



DN	QUICK CONNECT pull-ring <sup>1)</sup> 	Pull-ring without sealant <sup>1)</sup>	Pull-ring with sealant	One-part pull-ring with sealant
60		■		
80	■	■	■	■
100	■	■	■	■
120	■	■	■	■
140	■	■	■	
150	■	■	■	■
175	■	■	■	■
200	■	■	■	■
224	■	■	■	
250	■	■	■	
280	■	■	■	
300	■	■	■	
315	■	■	■	
350	■	■	■	
400	■	■	■	
450	□	□	■	
500		□	■	
560		□	■	
630		□	■	

1) Use in conjunction with U-shaped gasket

■ Standard

□ Optional, use depends on application

Pull-rings made of mild steel are electro-galvanised in the standard quality. Stainless steel pull-rings are stainless steel shotblasted. Electrolytic polishing or ball-polishing is also available on request.



Details of leakage values for the pull-ring system

## QUICK CONNECT PULL-RINGS AND PULL-RINGS WITHOUT SEALANT

**Highlights:** The JACOB pull-ring system is very easy to assemble and gives the pipework system its high stability and leak-tightness due to its high-quality construction. Both pull-rings have been tested in conjunction with JACOB U-shaped seals. The air leakage per connection, measured at a differential pressure of 0.5 bar – e.g. with a diameter of 300 mm – is far below the admissible values of DIN EN 12237, class D.

**Application:** Up to a diameter of DN 300 mm, our pull-ring system with a U-shaped seal, if configured accordingly, is condensation leak-proof and so is ideal for applications such as extracting oil mist. As a rule, our pull-ring connections with a U-shaped seal can be used for conveying bulk goods and for ventilation systems at over-pressures of up to 50,000 Pa (500 mbar, 5,000 mm WG). Vacuum applications are possible on request, depending on the product selected.

## PULL-RINGS WITH FACTORY-FITTED MASTIC SEALANT

**Application:** The elastic sealant in the pull-ring is EC 1935/2004 compliant and can be used in contact with food product in the temperature range between -40°C and +100°C.

This pull-ring is used for bulk goods conveyed by gravity and ventilation systems with low differential pressures and without condensates. For higher demands concerning sealing properties and the resistance of the connection, pull-rings with U-shaped seals should be preferred.

## U-SHAPED SEALS

Our U-shaped seals combine an ideal profile with the perfect choice of materials.

The benefits:

- Tear-resistant, compliant with food regulations (FOOD GRADE) and resistant to many aggressive chemicals thanks to vulcanisation
- Maximum tightness through an ideal profile
- Resistant to a broad range of substances due to large selection of materials available
- Metal-detectable and FOOD GRADE thanks to special materials (DETECTABLE DESIGN line)



NBR	Silicone <span style="color: yellow;">F</span>	Silicone <span style="color: yellow;">F D</span>	EPDM	Viton (FKM) <span style="color: yellow;">F<sup>1)</sup></span>
grey white	beige	blue	black	reddish brown
EC 1935/2004	FOOD GRADE: EC 1935/2004 plus FDA	FOOD GRADE: EC 1935/2004 plus FDA	FOOD GRADE: EC 1935/2004 plus FDA <sup>1)</sup>	FOOD GRADE: EC 1935/2004 plus FDA
-20°C to +100°C	-60°C to +250°C	-60°C to +250°C	-30°C to +120°C	-18°C to +230°C
glued	vulcanised	vulcanised	vulcanised	vulcanised
		metal-detectable	electrostatically conductive	

**1) We would like to point out that only certain diameters are FDA compliant, other diameters are currently under review. See page 33 for details**

Refer to the technical information at the beginning of this chapter and in the installation instructions (see next page) for more details. The temperatures given indicate the permanent temperature resistance. U-shaped seals must be tested by the user to ensure they are sufficiently resistant to the working conditions. Our team would be pleased to assist you with selecting the right U-shaped seal. We can send you samples on request.



Without contact caps



With contact caps

## EARTHING BRIDGES

The innovative solution from JACOB for electrostatic continuity.

Suitable for retrofitting to our pull-ring system without welding and drilling. The stainless steel earthing bridge can be used as an alternative to the earthing wire or the conductive EPDM U-shaped seal.

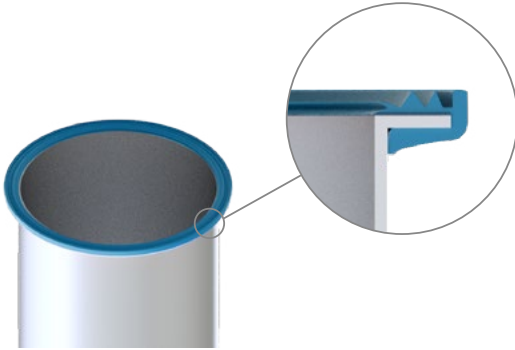
Both versions of earthing bridge have been tested by DEKRA EXAM GmbH, a specialist unit for explosion protection.

F FOOD GRADE  
EC 1935/2004 plus FDA compliant

D DETECTABLE DESIGN  
Metal-detectable

## INSTALLATION OF PULL-RING CONNECTIONS WITH A U-SHAPED SEAL

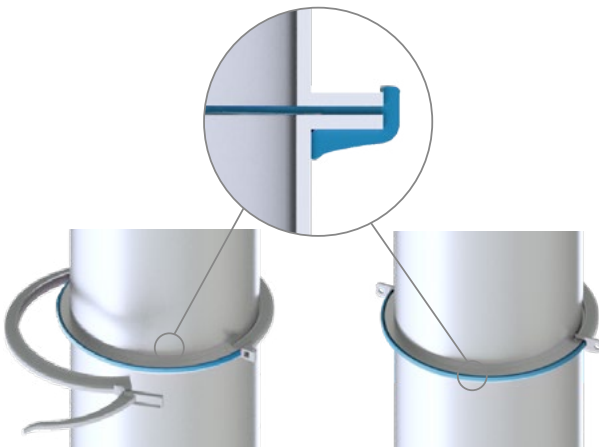
**Note:** To connect JACOB pipe components with a 6 mm lip. A U-shaped seal and a pull-ring are needed for each connection. You need a 6 mm hexagon cap screwdriver to mount the pull-rings.



### Step 1

Attach a U-shaped seal over one of the lipped pipe ends.

- The U-shaped seal must be slightly stretched to enable it to be attached
- The profiled side must face the pipe component that is being connected



### Step 2

Position the connecting pipe and slide one pull-ring half over the lipped pipe end.

#### QUICK CONNECT pull-ring

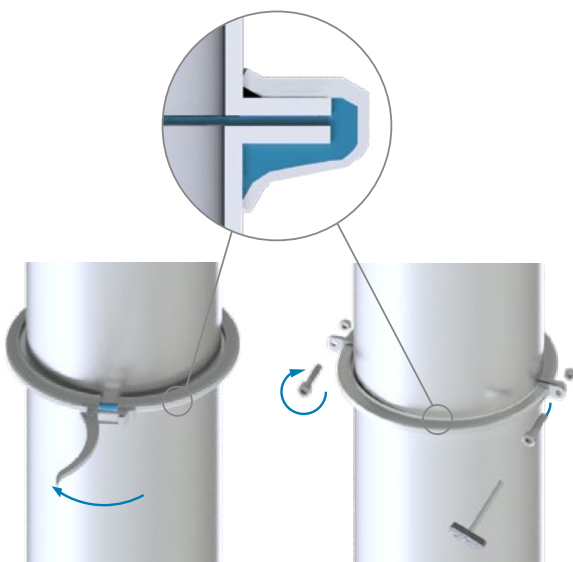
First, attach the pull-ring half without the toggle clip

#### Two-part pull-ring

We recommend separating the two halves of the pull-ring beforehand

Ensure that the pipe components are properly aligned and the U-shaped seal is in the right position.

**Note:** We recommend that when fitting horizontal pipelines where condensate occurs, any points at which the U-shaped seal is glued should be positioned on top, and the connecting points of the pull-ring halves are horizontal. This ensures the maximum possible tightness at the lowest point of the connection.



### Step 3

Press the second pull-ring half onto the lipped pipe ends.

#### N.B.:

When closing the pull-ring, the U-shaped seal must not form any loops.

#### QUICK CONNECT pull-ring

- Place the clasp over the closing hook and close the clip
- To prevent the connection from loosening accidentally (such as due to vibration) tighten the bolt with a 10 Nm torque on the mounting face

#### Two-part pull-ring

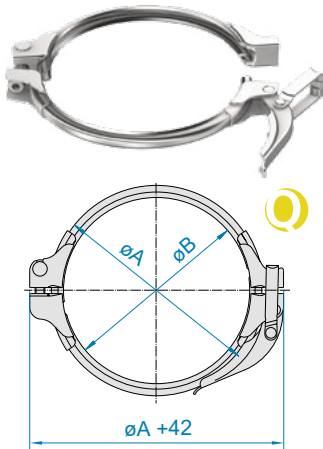
- Tighten the bolts evenly with a torque of 10 Nm

**N.B.:** A bolt tightening torque of 10 Nm is necessary for the QUICK CONNECT pull-ring, or 25 Nm for the two-part pull-ring, for shock explosion proof connection of up to 3 bar over-pressure.



# THE PULL-RING SYSTEM

## Pull-rings



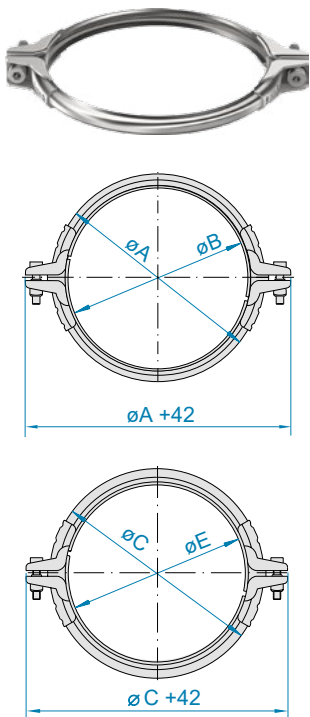
### QUICK CONNECT PULL-RINGS

3085

- Pull-rings for use in conjunction with U-shaped seal for 1 and 2 mm pipework system
- Up to DN 300 mm, shock explosion proof to 3 bar
- Please also read and take into account the technical information given at the beginning of this chapter

#### Pull-rings for 1 and 2 mm wall thickness

DN	A	B	kg	Electro-galvanised	Stainless steel
				Item no.	Item no.
80	100	80	0.35	12082903	12083903
100	123	103	0.37	12102903	12103903
120	143	123	0.40	12122903	12123903
140	159	139	0.45	12142903	12143903
150	173	153	0.47	12152903	12153903
175	198	178	0.49	12172903	12173903
200	223	203	0.51	12202903	12203903
224	243	223	0.55	12222903	12223903
250	273	253	0.58	12252903	12253903
280	301	281	0.61	12282903	12283903
300	323	303	0.62	12302903	12303903
315	336	316	0.63	12312903	12313903
350	373	353	0.68	12352903	12353903
400	423	403	0.74	12402903	12403903
450	472	450	0.79	12452903	12453903



### PULL-RING WITHOUT SEALANT

3060

- Pull-rings for use in conjunction with U-shaped seal for 1 and 2 mm pipework system
- From DN 80 to 300 mm, shock explosion proof to 3 bar
- Pull-ring for 3 mm wall thickness, in conjunction with U-shaped seal made of NBR or silicone for 2 mm pipe-work system
- Please also read and take into account the technical information given at the beginning of this chapter

#### Pull-rings for 1 and 2 mm wall thickness

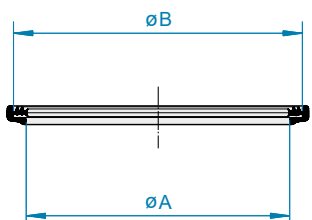
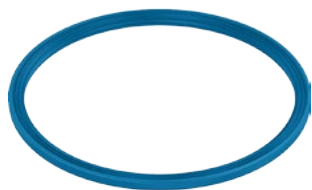
#### Pull-rings for 3 mm wall thickness

DN	A	B	kg	Electro-galvanised	Stainless steel	C	E	Electro-galvanised	Stainless steel
				Item no.	Item no.			Item no.	Item no.
60	81	60	0.30	12062383	12063383				
80	101	80	0.31	12082383	12083383				
100	125	104	0.33	12102383	12103383				
120	145	124	0.36	12122383	12123383	151	126	12122926	12123926
140	161	140	0.37	12142383	12143383				
150	175	154	0.39	12152383	12153383	181	156	12152926	12153926
175	200	179	0.42	12172383	12173383	206	181	12172926	12173926
200	225	204	0.45	12202383	12203383	231	206	12202926	12203926
224	245	224	0.47	12222383	12223383				
250	275	254	0.51	12252383	12253383	281	256	12252926	12253926
280	302	281	0.55	12282383	12283383				
300	325	304	0.57	12302383	12303383	331	306	12302926	12303926
315	337	316	0.58	12312383	12313383				
350	375	354	0.63	12352383	12353383	381	356	12352926	12353926
400	425	404	0.68	12402383	12403383	431	406	12402926	12403926
450	478	450	0.73	12452383	12453383				
500	524	500	0.78	12502383	12503383				
560	586	560	0.83	12562383	12563383				
630	656	632	0.90	12632383	12633383				

#### QUICK CONNECT

■ Pull-rings with a U-shaped seal, in conjunction with the pipe components indicated in the catalogue, shock explosion proof tested up to 3 bar.

# U-shaped seals



## U-SHAPED SEALS

3070

- For use in conjunction with JACOB pull-rings and pipe-work system with a 6 mm lip
- **U-shaped seals for 1 mm pipework system**, also for connecting 1 mm to 1.5 mm, 1 mm to 2 mm and 1.5 mm to 1.5 mm thick pipe components
- **U-shaped seals for 2 mm pipework system**, also for connecting 2 mm to 1.5 mm thick pipe components
- For 3 mm thick pipe components, the use of U-shaped seals made of NBR or silicone is recommended for a 2 mm pipework system
- Please also read and take into account the technical information given at the beginning of this chapter

2

### U-shaped seals for 1 mm pipework system

DN	A	B	NBR grey	Silicone beige	F	Silicone blue	F D	EPDM black	F <sup>1)</sup>	FKM red	F
			Item no.	Item no.	Item no.	Item no.	Item no.	Item no.			
60	57	69	100669517	1006795109		10067951091		1006895159		10069951	
80	81	93	100869517	1008795109		10087951091		1008895159		10089951	
100	103	115	101069517	1010795109		10107951091		1010895159		10109951	
120	123	135	101269517	1012795109		10127951091		1012895159		10129951	
140	139	151	101469517	1014795109		10147951091		1014895159		10149951	
150	153	165	101569517	1015795109		10157951091		1015895159		10159951	
175	178	190	101769517	1017795109		10177951091		1017895159		10179951	
200	203	215	102069517	1020795109		10207951091		1020895159		10209951	
224	223	235	102269517	1022795109		10227951091		1022895159		10229951	
250	253	265	102569517	1025795109		10257951091		1025895159		10259951	
280	280	292	102869517	1028795109		10287951091		1028895159		10289951	
300	303	315	103069517	1030795109		10307951091		1030895159		10309951	
315	315	327	103169517	1031795109		10317951091		1031895159		10319951	
350	353	365	103569517	1035795109		10357951091		1035895159		10359951	
400	403	415	104069517	1040795109		10407951091		1040895159		10409951	
450	450	470	104569517	1045795109		10457951091		1045895159		10459951	
500	500	516	105069517	1050795109		10507951091		1050895159		10509951	
560	560	578	105669517	1056795109		10567951091		1056895159		10569951	
630	632	648	106369517	1063795109		10637951091		1063895159		10639951	

### U-shaped seals for 2 mm pipe system, NBR and silicone also suitable for 3 mm pipe system

DN	A	B	NBR grey	Silicone beige	F	Silicone blue	F D	EPDM black	F <sup>2)</sup>	FKM red	F
			Item no.	Item no.	Item no.	Item no.	Item no.	Item no.			
80	81	93	100869527	1008795209		10087952091		1008895259		10089386	
100	103	115	101069527	1010795209		10107952091		1010895259		10109386	
120	123	135	101269527	1012795209		10127952091		1012895259		10129386	
140	139	151	101469527	1014795209		10147952091		1014895259		10149386	
150	153	165	101569527	1015795209		10157952091		1015895259		10159386	
175	178	190	101769527	1017795209		10177952091		1017895259		10179386	
200	203	215	102069527	1020795209		10207952091		1020895259		10209386	
224	223	235	102269527	1022795209		10227952091		1022895259		10229386	
250	253	265	102569527	1025795209		10257952091		1025895259		10259386	
280	280	292	102869527	1028795209		10287952091		1028895259		10289386	
300	303	315	103069527	1030795209		10307952091		1030895259		10309386	
315	315	327	103169527	1031795209		10317952091		1031895259		10319386	
350	353	365	103569527	1035795209		10357952091		1035895259		10359386	
400	403	415	104069527	1040795209		10407952091		1040895259		10409386	
450	450	470	104569527	1045795209		10457952091		1045895259		10459386	
500	500	516	105069527	1050795209		10507952091		1050895259		10509386	
560	560	578	105669527	1056795209		10567952091		1056895259		10569386	
630	632	648	106369527	1063795209		10637952091		1063895259		10639386	

**VULCANISED AND MORE TEAR-RESISTANT QUALITY.**

**F** FOOD GRADE  
EC 1935/2004 plus FDA compliant

**D** DETECTABLE DESIGN  
Metal-detectable

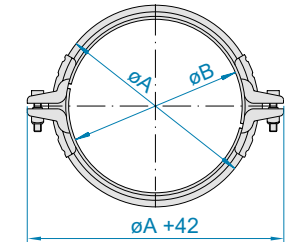
1) **DN 60, 80, 100, 120 and 150 mm are FDA compliant. Other diameters are currently under review.**

2) **DN 80, 100, 120 and 150 mm are FDA compliant. Other diameters are currently under review.**

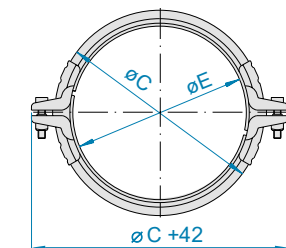


# THE PULL-RING SYSTEM

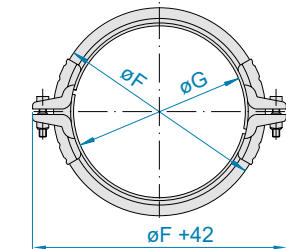
## Pull-rings with mastic sealant



for 1 mm



for 2 mm



for 3 mm

### PULL-RING WITH SEALANT

3050

- All versions electro-galvanised
- Pull-rings for 1 mm also suitable for connecting 1 mm to 1.5 mm or 2 mm thick pipe components
- Pull-rings for 2 mm also suitable for connecting 2 mm to 1.5 mm thick pipe components
- In larger diameters, pull-rings for 3 mm are used for all wall thicknesses

#### Pull-rings for 1, 2 and 3 mm wall thickness

DN	A	B	kg	For 1 mm pipework system	C	E	For 2 mm pipework system	F	G	For 3 mm pipework system
				Item no.			Item no.			Item no.
80	99	80	0.23	11082381	100	80	11082382			
100	121	102	0.26	11102381	123	103	11102382			
120	141	122	0.28	11122381	143	123	11122382	145	124	11122383
140	157	138	0.30	11142381	159	139	11142382			
150	171	152	0.33	11152381	173	153	11152382	175	154	11152383
175			0.34	11172382	198	178	11172382	200	179	11172383
200			0.38	11202382	223	203	11202382	225	204	11202383
224			0.40	11222382	243	223	11222382	244	223	11222383
250			0.42	11252382	275	254	11252382	275	254	11252383
280			0.47	11282382	302	281	11282382			
300			0.50	11302382	325	304	11302382	325	304	11302383
315			0.53	11312383	337	316	11312383			
350			0.68	11352383			11352383	375	354	11352383
400			0.75	11402383			11402383	423	402	11402383
450			0.81	11452383			11452383	473	452	11452383
500			0.88	11502383			11502383	523	502	11502383
560			0.95				11562383	583	562	11562383
630			1.05				11632383	653	632	11632383

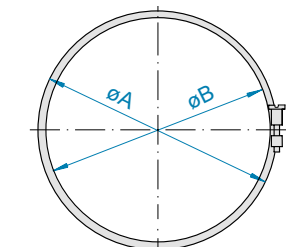
### ONE-PART PULL-RINGS WITH SEALANT

3055

- All versions galvanised
- Pull-rings for 1 mm also suitable for connecting 1 mm to 1.5 mm thick pipe components

#### Pull-rings for 1 mm wall thickness

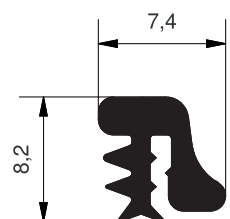
DN	A	B	kg	1 mm
				Item no.
80	97	80	0.04	11082372
100	119	102	0.05	11102372
120	139	122	0.06	11122372
150	169	152	0.07	11152372
175	194	177	0.08	11172372
200	219	202	0.09	11202372



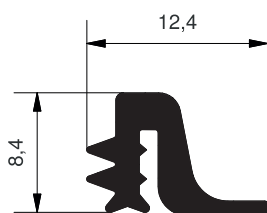
Product similar to picture



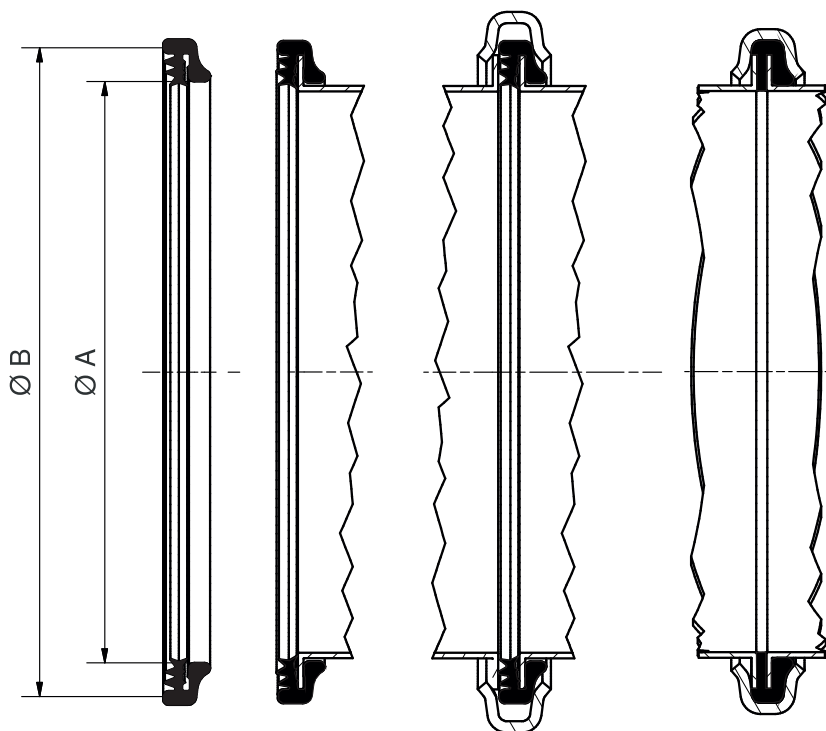
Montagehinweis



Ausführung:  
Perbunan  
Silikon-beige  
Silikon-blau  
Viton



Ausführung:  
Keltan-EPDM-leitfähig



Rohr		Ø 60	Ø 80	Ø 100	Ø 120	Ø 140
Artikel-Nr.	Perbunan-NBR-grauweiß	100669517	100869517	101069517	101269517	101469517
	Silikon-Si-beige	1006795109	1008795109	1010795109	1012795109	1014795109
	Silikon-Si-blau	10067951091	10087951091	10107951091	10127951091	10147951091
	Keltan-EPDM-leitfähig-schwarz	1006895159	1008895159	1010895159	1012895159	1014895159
	Viton-FKM-rotbraun	10069951	10089951	10109951	10129951	10149951
Ø A		57	81	103	123	139
Ø B		69	93	115	135	151
Gewicht in kg		0,02	0,02	0,03	0,03	0,04
Rohr		Ø 150	Ø 175	Ø 200	Ø 224	Ø 250
Artikel-Nr.	Perbunan-NBR-grauweiß	101569517	101769517	102069517	102269517	102569517
	Silikon-Si-beige	1015795109	1017795109	1020795109	1022795109	1025795109
	Silikon-Si-blau	10157952091	10177951091	10207951091	10227951091	10257951091
	Keltan-EPDM-leitfähig-schwarz	1015895159	1017895159	1020895159	1022895159	1025895159
	Viton-FKM-rotbraun	10159951	10179951	10209951	10229951	10259951
Ø A		153	178	203	223	253
Ø B		165	190	215	235	265
Gewicht in kg		0,04	0,04	0,05	0,05	0,06
Rohr		Ø 280	Ø 300	Ø 315	Ø 350	Ø 400
Artikel-Nr.	Perbunan-NBR-grauweiß	102869517	103069517	103169617	103569517	104069517
	Silikon-Si-beige	1028795109	1030795109	1031795109	1035795109	1040795109
	Silikon-Si-blau	10287951091	10307951091	10317951091	10357951091	10407951091
	Keltan-EPDM-leitfähig-schwarz	1028895159	1030895159	1031895159	1035895159	1040895159
	Viton-FKM-rotbraun	10289951	10309951	10319951	10359951	10409951
Ø A		280	303	315	353	403
Ø B		292	315	327	365	415
Gewicht in kg		0,06	0,07	0,07	0,08	0,09

Benennung:

**Bördeldichtringe für 1mm und 1,5mm Rohrteile**

Datum:

11/14

Maßblatt-Nr.

2/3

Rev.

0



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