

VAKUUMSAUGER VACUUM SUCTION CUPS VENTOUSES À VIDE

Handling, Automation, Robotertechnik
Handling, Automation, Robotics
Manutention, Automation,
Manipulation robotisée



Auszug aus unserem Hauptkatalog
Excerpt from our General Catalog
Extrait de notre catalogue générale



KS 04

Allgemeine Informationen

Das Unternehmen Die Produkte

Die FIPA GmbH in Ismaning bei München ist Spezialist auf dem Gebiet der Vakuum-Technik.

Das Vakuumsauger-Programm umfasst ca. 3.500 Sauger mit mehr als 20.000 Sauger-varianten - **weltweit das grösste Angebot**.

In diesem Katalog sind Sauger dargestellt, die bevorzugt beim **Handling**, in der **Automation** und der **Robotertechnik** eingesetzt werden. Diese Sauger stellen nur einen **Auszug** aus unserem Gesamtprogramm dar.

Materialempfehlungen für die Kunststoffindustrie

Auf Grund der höheren Temperaturen bei der Teileentnahme aus Spritzgusswerkzeugen empfehlen wir Sauger aus **Silikon**. Wenn Kunststoffteile nach der Entnahme aus dem Werkzeug ohne vorherige Oberflächenbehandlung bedruckt werden sollen, empfehlen wir **Viton (FKM)**. Sollten Sie in diesem Katalog die von Ihnen benötigten Sauger nicht finden, bitten wir um Anfrage.

Materialien generell:
siehe Materialliste auf Seite 26.

Anschlusssteile und Saugerträger

In diesem Katalogauszug haben wir uns auf die am meisten verwendeten Anschlusssteile (M 5, M 6, G 1/8", G 1/4") konzentriert. Sie passen optimal mit unseren Standard-Saugerträgern zusammen.
Für Ovalsauger empfehlen wir **verdrehsichere** Saugerträger.

Andere Saugergrößen, Anschlusssteile und Saugerträger finden Sie in unserem Gesamtkatalog.

General Information

The Company Its Products

*FIPA GmbH of Ismaning near Munich specializes in vacuum technology and offers some 3,500 different suction cups as well as over 20,000 cup variants, which is **the most extensive lineup in the world**.*

*This catalog illustrates suction cups that are preferably used for **handling, automation and robotics**. However, the models shown are only part of our complete lineup.*

Recommended materials for the plastics industry

*In view of the high temperatures encountered in the removal of moldings from injection molds, the use of **silicone** cups is recommended. If plastic parts are to be printed after removal from the mold without surface finishing, we recommend the use of **Viton (FKM)**. Should the suction cups required for your particular application not be listed in this catalog, please inquire.*

Materials in general:
see materials list on page 26.

Fittings and supports for suction cups

*This catalog focuses on the fittings most widely used (M 5, M 6, G 1/8", G 1/4") that make an excellent match with our standard supports for suction cups. **Torsionally rigid** supports are recommended for oval suction cups.*

For other cup sizes, fittings and support for suction cups, see our General Catalog.

Information générale

L'entreprise Les produits

FIPA GmbH, situé à Ismaning près de Munich est spécialisé dans la technique du vide.

Son catalogue présente plus de 3500 ventouses, déclinées en plus de 20.000 variantes. Ce qui est **le plus grand choix au monde**.

Ce catalogue privilégie de ventouses utilisées pour la **manutention, automation et manipulation robotisée**. Les modèles décrits ne constituent qu'une partie de la gamme.

Recommandations sur le matériaux pour l'industrie du plastique

Lors de températures élevées pour l'extraction de pièces placées dans des outils de moulage par injection, nous recommandons l'utilisation de ventouses en **silicone**. Au cas où les pièces plastique retirées de l'outil feraient l'objet d'une impression sans traitement de surface préalable, nous conseillons l'emploi de **Viton (FKM)**. Si vous ne trouvez pas les ventouses requises dans ce catalogue, veuillez nous contacter.

Matériaux en générale:
voir liste de matériaux page 26.

Raccords et porteurs pour ventouses

Cet extrait de catalogue se concentre sur les raccords les plus fréquemment utilisés (M 5, M 6, G 1/8", G 1/4"), qui s'adaptent de façon optimale à nos porteurs de ventouses standard. Pour les ventouses ovales, nous recommandons l'utilisation de porteurs **protégés contre les torsions**.

Dans notre catalogue général vous trouverez d'autres dimensions de ventouses ainsi que d'autres raccords et porteurs.

INHALTSVERZEICHNIS	CONTENTS	SOMMAIRE	Seite / page
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 Ovalsauger	<i>Oval suction cups</i>	Ventouses ovales	8 - 9
 Balgensauger	<i>Bellows suction cups</i>	Ventouses à soufflets	10 - 15
 Anschlusssteile	<i>Fittings</i>	Raccords	16 - 20
 Saugerträger	<i>Supports for suction cups</i>	Porteurs pour ventouses	21 - 25
 Pneum. Außengreifer Pneum. Innengreifer	<i>Pneumatic OD Grippers Pneumatic ID Grippers</i>	Préhenseurs pneum. extérieurs Préhenseurs pneum. intérieurs	26
 M Materialübersicht	<i>Materials list</i>	Liste de matériaux	27
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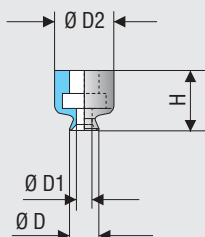


Flachsauger Flat suction cups Ventouses plates



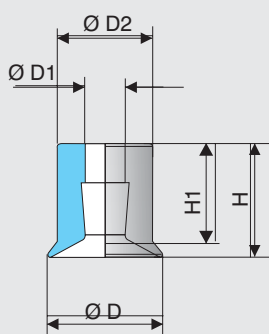
Suchkriterien für diesen Katalog: Art→Form→Durchmesser
Search criteria for this catalog: Type→Shape→Diameter

Critères de recherche pour ce catalogue: type→form→diamètre



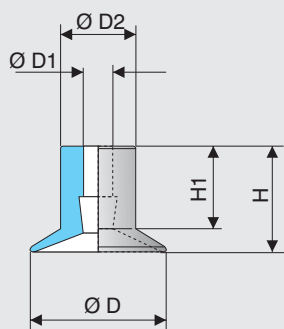
Art.No.*	Material Material Matériel			Ø D	Ø D1	Ø D2	H
102.002.004	NBR (sw), Si (tr),	0,4 mm	0,2 g	2,0	1,0	4,0	4,0
102.003.005	Si-AS (sw), PUR (bl), PUR (ge)	0,5 mm	0,2 g	3,5	1,0	4,0	4,0

Art.No.*	 Art.No.		Seite page
102.002.004 102.003.005	270.300	M 5 AG	16



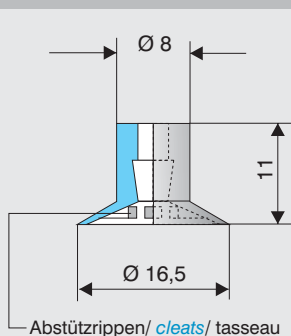
Art.No.*	Material Material Matériel			Ø D	Ø D1	Ø D2	H	H1
102.005.090	NBR (sw),	0,5 mm	0,2 g	5,0	2,0	4,5	6,0	5,5
102.011.093	Si (tr),	1,0 mm	0,3 g	11,0	3,8	9,0	10,5	9,2

Art.No.*	 Art.No.		Seite page
102.005.090	270.153	M 5 AG	16
102.011.093	270.104 270.134	M 6 AG M 5 AG	16 16



Art.No.*	Material Material Matériel			Ø D	Ø D1	Ø D2	H	H1
102.007.091	NBR (sw),	1,0 mm	0,1 g	7,0	2,0	5,0	6,5	5,5
102.009.092	Si (tr),	1,5 mm	0,1 g	9,0	2,0	5,0	7,0	5,5
102.016.098		2,0 mm	0,8 g	16,0	3,8	9,0	11,5	8,5

Art.No.*	 Art.No.		Seite page
102.007.091 102.009.092	270.153	M 5 AG	16
102.016.098	270.003 270.104 270.134 270.109	G1/8" AG M 6 AG M 5 AG G1/8" IG	17 16 16 18



Art.No.*	Material Material Matériel		
104.016.003	NBR (sw), Si (tr),	0,5 mm	0,8 g

Art.No.*	 Art.No.		Seite page
104.016.003	270.003 270.104 270.134 270.109	G1/8" AG M 6 AG M 5 AG G1/8" IG	17 16 16 18

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

* When ordering, please indicate desired material (see page 27).

* Précisez le matériel souhaité à la commande (voir page 27).

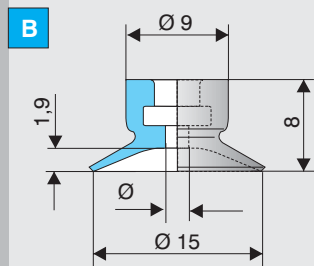
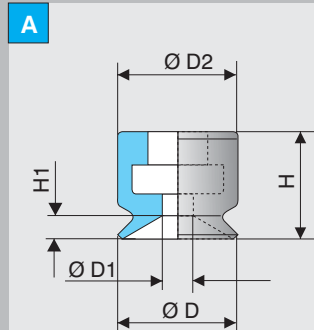


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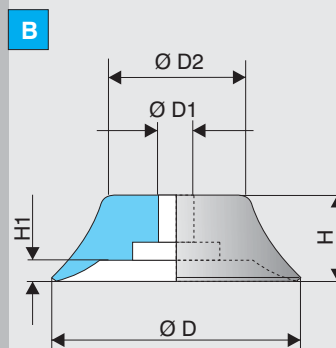
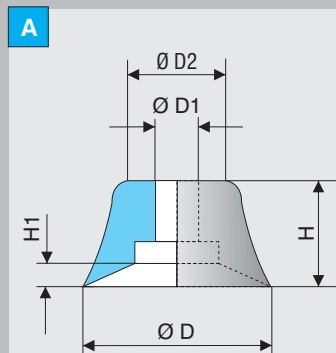
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Flachsauger Flat suction cups Ventouses plates



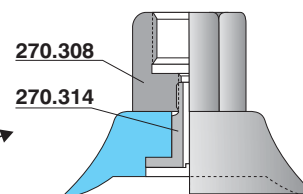
Form	Art.No.*	Material Material Matériel			Ø D	Ø D1	Ø D2	H	H1
A	102.005.009	NBR (sw), Si (tr), Si-AS (sw), PUR (bl)	0,9 mm	0,04 g	5,0	1,5	7,5	6,5	0,9
	102.006.013		1,0 mm	0,07 g	6,0	2,0	7,5	6,5	1,0
	102.008.017		1,4 mm	0,4 g	8,0	2,0	8,0	7,0	1,4
	102.010.024		1,2 mm	0,2 g	10,0	2,0	8,5	7,5	1,3
B	102.015.309	NBR(sw), Si(tr), PUR(bl)	1,9 mm	0,5 g	15,0		9,0	8,0	1,9

Art.No.*	Art.No.		Seite page
102.005.009	270.005 270.010 270.007 270.009	M 5 IG	16
102.006.013		M 5 AG	16
102.008.017		G1/8" IG	18
102.010.024		G1/8" AG	17
102.015.309			



Form	Art.No.*	Material Material Matériel			Ø D	Ø D1	Ø D2	H	H1
A	102.015.030	NBR (sw), Si (tr), PUR (bl)	2,0 mm	0,6 g	15	4,5	10	8	1,9
	102.020.041		2,0 mm	1,5 g	20	4,5	12	10	2,3
	102.025.047		2,5 mm	2,7 g	25	6,0	13	14	3,0
	102.030.053		2,0 mm	3,3 g	30	6,0	11	12	2,0
B	102.035.056		3,0 mm	6,0 g	35	6,0	18	14	3,0
	102.040.061		3,0 mm	7,6 g	40	6,0	21	14	3,5
	102.050.065		3,5 mm	11,2 g	50	8,0	23	15	4,0

Art.No.*	Art.No.		Seite page
102.015.030	270.005	M 5 IG	16
	270.010	M 5 AG	16
	270.017	G1/8" IG	18
	270.021	G1/8" AG	17
102.020.041	270.006	G1/8" AG	17
	270.018	G1/8" IG	18
102.025.047	270.019	G1/8" IG	18
	270.030	G1/8" AG	17
	270.274	G1/4" AG	19
	270.275	G1/4" IG	20
102.040.061	270.312	M 6 AG	17
	270.012	G1/8" AG	17
	270.020	G1/8" IG	18
	270.034	G1/4" AG	19
102.050.065	270.308	G1/4" IG	20
	270.314		17
	270.314	M 6 AG	17



* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

* When ordering, please indicate desired material (see page 27).

* Précisez le matériel souhaité à la commande (voir page 27).

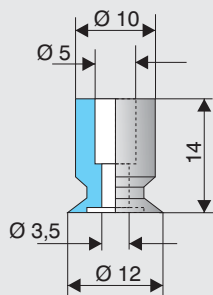


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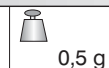
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Art. No. 107.012.002.*

NBR (sw), Si (tr),
NR-E (b)



Art.No.*



Art.No.

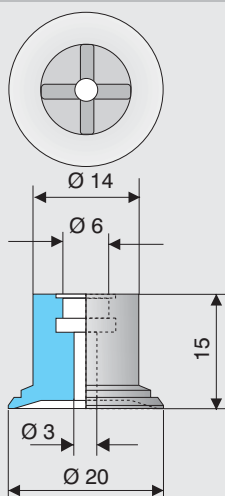
Seite
page

107.012.002

270.013

M 5 AG

16



Art. No.

**Material
Material
Matériel**



102.020.083.2

Si (tr) 30 Shore

102.020.080.1

NBR (sw) 40 Shore

102.020.082.1

NBR (sw) 60 Shore

102.020.084.2

Si (r) 60 Shore

1,0 mm

2,0 g

Art.No.*



Art.No.

Seite
page

102.020.083.2

270.037

M 5 AG

16

102.020.080.1

270.085

G1/8" AG

17

102.020.082.1

270.086

G1/8" IG

18

102.020.084.2

270.373

M 6 AG

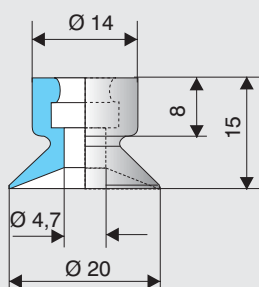
17

102.020.084.2

270.374

M 8 AG

17



Art. No. 126.020.020.*

NR (or)
Si (tr)
FKM (sw)



Art.No.*



Art.No.

Seite
page

126.020.020

270.006

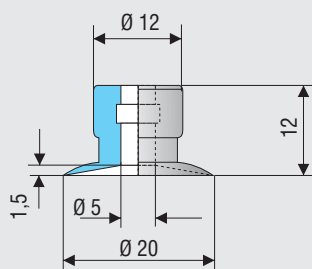
G1/8" AG

17

270.018

G1/8" IG

18



Art. No. 126.020.005.*

NBR (sw),
Si (tr),
NR (sw)



Art.No.*



Art.No.

Seite
page

126.020.005

270.015

G1/8" IG

18

270.194

G1/4" AG

19

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

* When ordering, please indicate desired material (see page 27).

* Précisez le matériel souhaité à la commande (voir page 27).

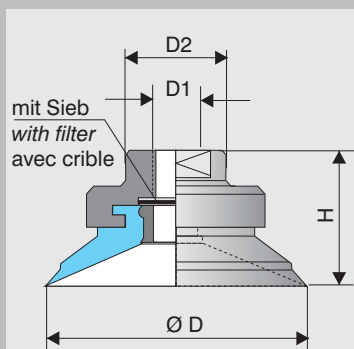


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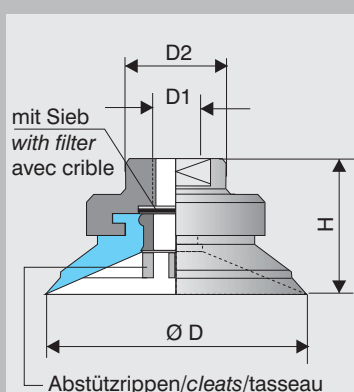
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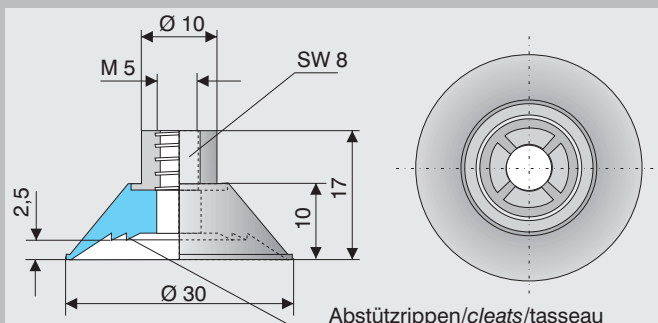
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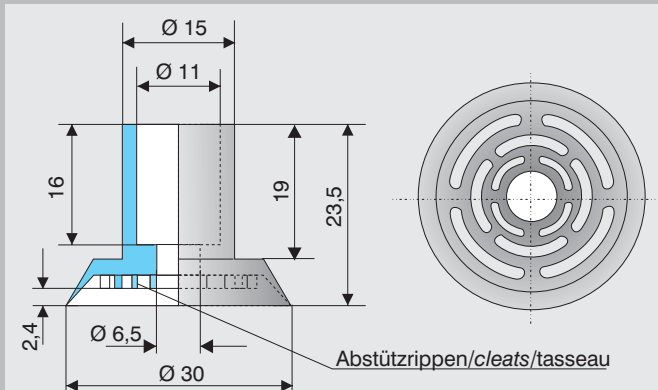
Art.No.*	Material Material Matériel			Ø D	D1	D2	H	Ersatzsauger Spare Cup Vent. de rechange
120.020.006	NBR (sw), Si (tr),	2,5 mm	3,5 g	22	M 5	G 1/8"	16	102.020.095
120.030.013		3,5 mm	4,4 g	32	M 5	G 1/8"	18	102.030.096
120.040.076		4,0 mm	10,6 g	42	G 1/8"	---	21	102.040.094
120.050.078		6,5 mm	23,8 g	52	G 1/8"	---	26	102.050.097



Art.No.*	Material Material Matériel			Ø D	D1	D2	H	Ersatzsauger Spare Cup Vent. de rechange
123.020.003	NBR (sw), Si (tr),	0,5 mm	3,5 g	22	M 5	G 1/8"	16	125.020.004
123.025.010		1,0 mm	4,5 g	28	M 5	G 1/8"	17	125.025.007
123.030.019		1,5 mm	5,0 g	32	M 5	G 1/8"	18	125.030.010
123.040.028		2,0 mm	11,0 g	42	G 1/8"	---	21	125.040.013
123.050.034		3,0 mm	24,0 g	52	G 1/8"	---	26	125.050.017



Art. No. 150.030.031.*	Si (r), PUR (bg), CR (sw)		2,5 mm		3,5 g
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Art. No. 104.030.009.*	NBR (sw), Si (w), Si (tr), NR (sw)		2,4 mm		3,0 g
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Saugerträger
Support for suction cup
Porteur pour ventouse

Art. No. 50.043
(Seite/page 23)

Art.No.*		Art.No.	Seite page
104.030.009	270.044 270.046	G1/4" AG G1/4" IG	19 19

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).
* When ordering, please indicate desired material (see page 27).
* Précisez le matériel souhaité à la commande (voir page 27).

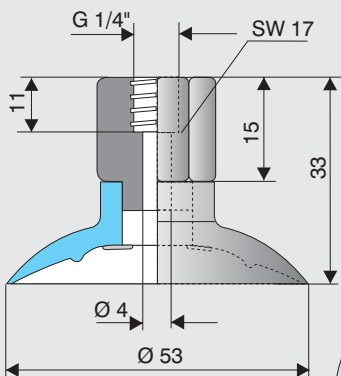


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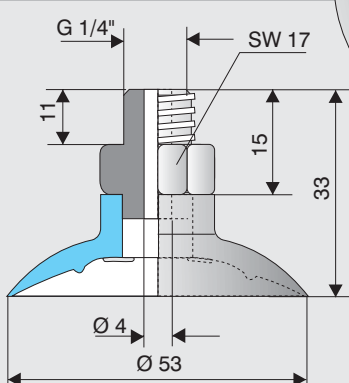
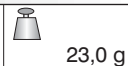
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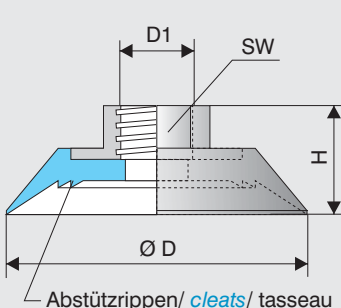
Art. No. 110.053.082.*

NBR (sw),
Si (r)

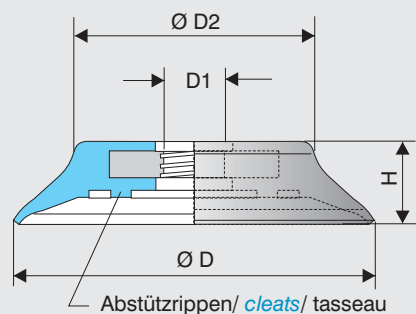


Art. No. 110.053.083.*

NBR (sw),
Si (r)



Art.No.*	Material Matériel			Ø D	D1	H	SW
150.050.032	Si (r), FKM (sw), CR /sw)	4,0 mm	13,6 g	50	G 1/8"	18	14
150.075.033		6,0 mm	38,0 g	75	G 1/4"	24	17



Art.No.*	Material Matériel			Ø D	D1	D2	H
102.060.303	FKM (g)	5,0 mm	15,2 g	60	G 1/4"	38,5	16
102.080.304	NBR (sw) Si (tr), PUR (or)	6,0 mm	52,8 g	80	G 1/4"	53,0	18
102.095.305		6,0 mm	92,0 g	95	G 1/4"	68,0	19

Art.No.*		Art.No.	Seite page
102.060.303	}	270.078	G1/4" IG 19
102.080.304		270.090	M10 x1,25 20
102.095.305		270.191	G1/4" AG 19

Dichtring Ø 17 mm beigelegt
O-ring enclosed
Bague d'étanchéité jointe

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

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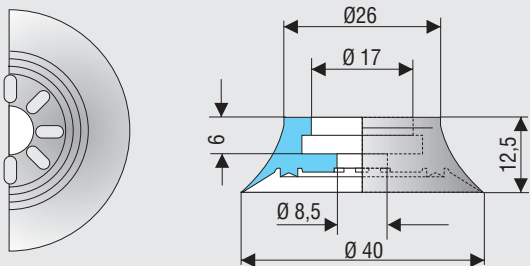


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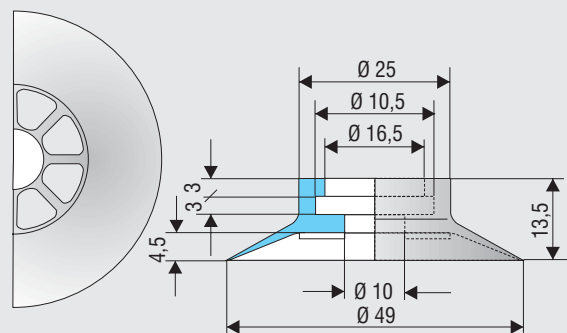
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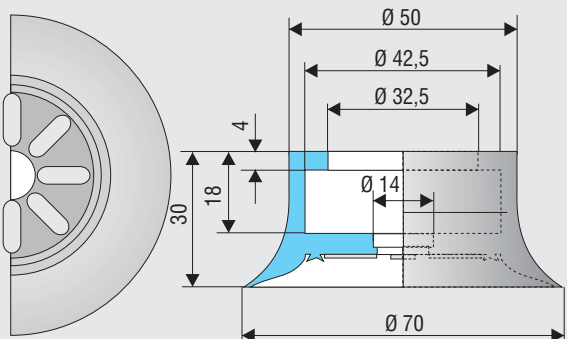
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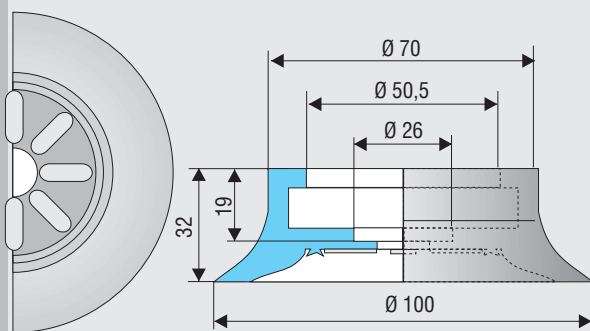
Art.No.*	Material Material Matériel				Art.No.	Seite/ page
102.040.357._*	Si (tr) NR-E (b) 40° Sh	3,0 mm	20 g	270.234	G1/8" IG	18
für raue und genarbte Oberflächen <i>for rough and grained surfaces</i> pour surfaces grainées et rugueux						



Art.No.*	Material Material Matériel				Art.No.	Seite/ page
154.049.068.1	NBR (gr)	3,5 mm	22 g	270.234	G1/8" IG	18



Art.No.*	Material Material Matériel				Art.No.	Seite/ page
102.070.234._*	NR (bg), SBR (rb), Si (tr), NR-E (b) 40° Sh	6,0 mm	32 g	270.179	G1/4" IG	19
für raue und genarbte Oberflächen <i>for rough and grained surfaces</i> pour surfaces grainées et rugueux						



Art.No.*	Material Material Matériel				Art.No.	Seite/ page
102.100.269._*	NR (bg), SBR (rb), Si (tr), NR-E (b) 40° Sh	5,0 mm	68 g	270.180 270.180-1/2	G1/4" IG G 1/2" IG	19
für raue und genarbte Oberflächen <i>for rough and grained surfaces</i> pour surfaces grainées et rugueux						

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

* *When ordering, please indicate desired material (see page 27).*

* Précisez le matériel souhaité à la commande (voir page 27).

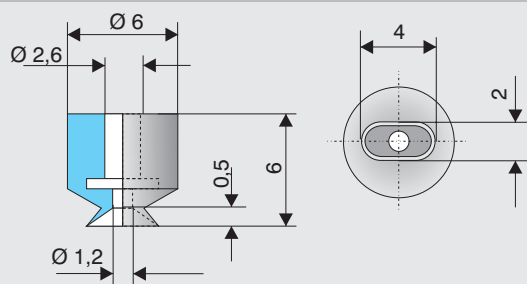


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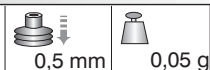
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Ovalsauger Oval suction cups Ventouses ovales



Art. No. 132.4x2.031.*

NBR (sw),
Si (tr), Si-AS (sw)
PUR (bl)



Art.No.*



Art.No.

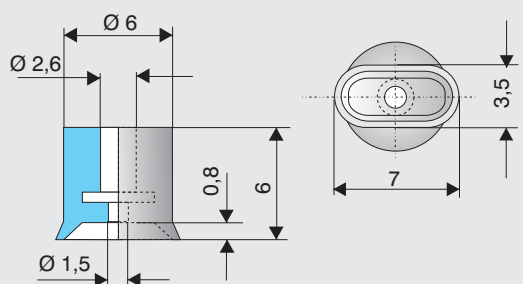
**Seite
page**

132.4x2.031

270.300

M 5 AG

16



Art. No. 132.7x4.034.*

NBR (sw),
Si (tr), Si-AS (sw)
PUR (bl)



Art.No.*



Art.No.

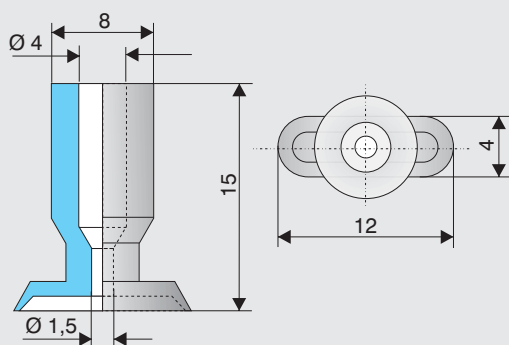
**Seite
page**

132.7x4.034

270.300

M 5 AG

16



Art. No. 132.12x4.004.*

Si (w),
Si (tr)



Art.No.*



Art.No.

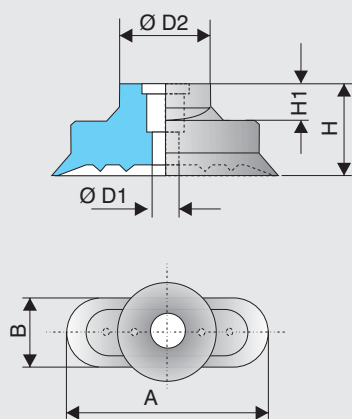
**Seite
page**

132.12x4.004

270.104
270.134

M 6 AG
M 5 AG

16
16



Art.No.*

**Material
Material
Matériel**



A B D1 D2 H H1

132.15x5.008

NBR(sw), Si(r), FKM(sw) 1,0 mm 0,5 g 15 5 1,5 9 11,5 7,0

132.18x6.012

NBR(sw), Si(r), PUR(bg) 1,0 mm 0,5 g 18 6 2,0 9 12,0 7,0

132.24x8.016

NBR(sw), Si(r), NR-E(b) 1,0 mm 1,0 g 24 8 3,0 12 12,0 7,5

132.30x10.018

NBR(sw), Si(r), PUR(bg) 2,0 mm 1,4 g 30 10 3,5 12 12,0 5,0

132.36x12.019

NBR(sw), Si(r), PUR(bg) 2,0 mm 1,8 g 36 12 4,5 12 12,0 5,0

Silikon (tr) auf Anfrage / *Silicone (tr) on request* / Silicone sur demande

Art.No.*



Art.No.

**Seite
page**

132.15x5.008

270.094

M 5 AG

16

132.18x6.012

270.095

G1/8" AG

17

132.24x8.016

270.096

G1/8" IG

18

132.30x10.018

132.36x12.019

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

* *When ordering, please indicate desired material (see page 27).*

* Précisez le matériel souhaité à la commande (voir page 27).

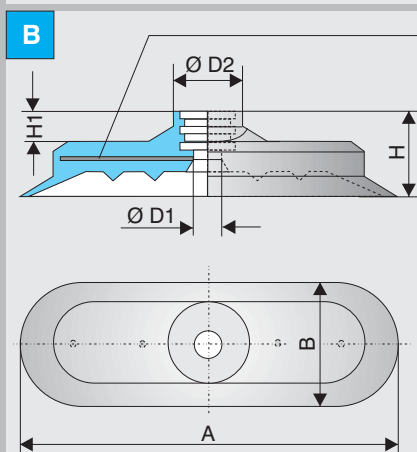
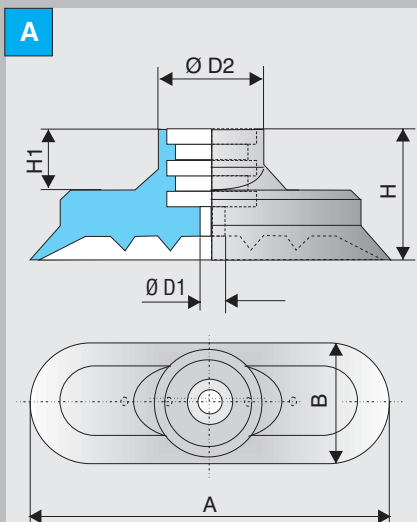


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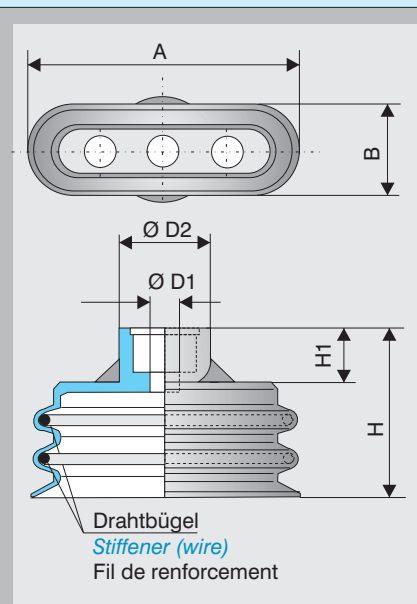


Form	Art.No.*	Material Material Matériel			A	B	D1 Ø	D2 Ø	H	H1
A	132.45x15.020	NBR(sw), Si(r), PUR(bg)	3,0 mm	4,2 g	45	15	4,0	17	21	14
	132.60x20.022	NBR(sw), Si(r), PUR(bg)	4,0 mm	9,0 g	60	20	4,0	17	21	10
	132.75x25.023	NBR(sw), Si(r)	4,0 mm	15,0 g	75	25	4,0	18	22	8
B	132.85x28.024	NBR(sw), Si(r)	4,0 mm	20,0 g	85	28	7,5	18	22	8
	132.100x35.26	NBR(sw), Si(r)	4,0 mm	32,0 g	100	35	7,5	18	22	8

Silikon (tr) auf Anfrage / Silicone (tr) on request / Silicone sur demande

einvulkanisierte
Aluminiumverstärkung
*vulcanized aluminum
reinforcement*
vulcanisé avec renforcement
d'un tôle d'aluminium

Art.No.*		Art.No.	Seite page
132.45x15.020	270.097	G1/4" AG	19
132.60x20.022		G1/4" IG	19
132.75x25.023			
132.85x28.024	270.098		
132.100x35.26			



Art.No.*	Material Material Matériel			A	B	D1 Ø	D2 Ø	H	H1
138.25x8.002	NBR (sw) Si (r)	7,0 mm	2,0 g	25	8	2,5	10,0	18,5	6,0
138.45x15.003		8,5 mm	7,0 g	45	15	5,0	17,5	28,5	9,5
138.75x25.004		10,5 mm		75	25	6,0	17,7	34,5	9,5

Art.No.*		Art.No.	Seite page
138.25x8.002	270.094	M5 AG	16
	270.095	G 1/8" AG	17
	270.096	G 1/8" IG	18
138.45x 15.003	270.097	G1/4" AG	19
138.75x 25.004		G1/4" IG	19

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

* When ordering, please indicate desired material (see page 27).

* Précisez le matériel souhaité à la commande (voir page 27).



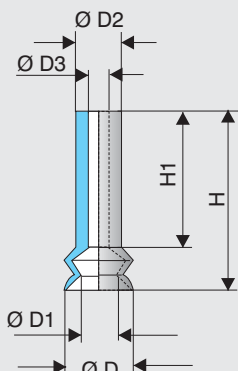
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mit 1 1/2 Falten
with 1 1/2 folds
avec 1 1/2 plis

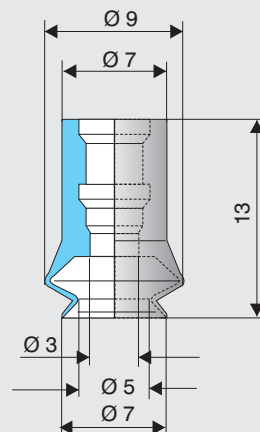


Art.No. 23.005.095.V

Vinyl (bl)		 2,0 mm		 0,8 g	
Ø D	Ø D1	Ø D2	Ø D3	H	H1
4,5	2,5	3	1,5	13	9
 Art.No.		270.001 M 5 AG		Seite/page 1	

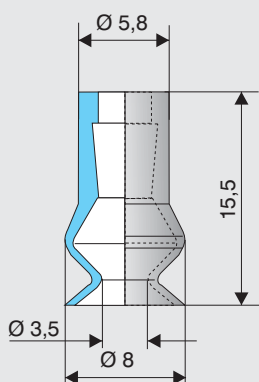
Art.No. 23.005.181.*

NBR (sw)					
Si (tr)			0,8 g		
PUR (ge)	2,0 mm				
FKM (g)					
Ø D	Ø D1	Ø D2	Ø D3	H	H1
5	2	3	1,5	13	9,5
		270.001		Seite/page	
Art.No.		M 5 AG		16	



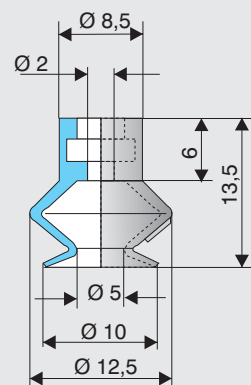
Art. No. 21.007.096.*

NBR (sw)		2,0 mm		0,4 g
Si (tr)				
	Art.No.		Seite	page
270.104	M 6 AG	16		
270.317	M 5 AG	16		



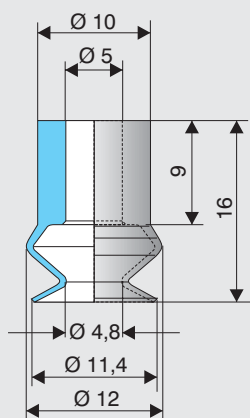
Art. No. 23.008.057.2

Si (tr)		3,5 mm		0,4 g
Si-AS (sw)				
	Art.No.		Seite	page
270.104	M 6 AG	16		
270.134	M 5 AG	16		



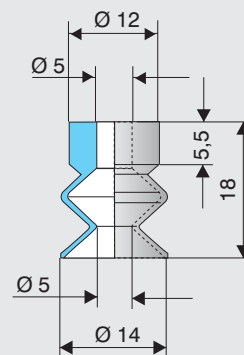
Art. No. 23.010.123.*

NBR (sw), Si (tr) Si-AS (sw)		4,0 mm		0,6 g
PUR (bl), CR (sw)				
	Art.No.		Seite	page
270.009	G1/8" AG	17		
270.301	M 5 AG	16		



Art. No. 23.011.008.*

NBR (sw)		4,5 mm		0,8 g
Si (tr)				
	Art.No.		Seite	page
270.003	G1/8" AG	17		
270.013	M 5 AG	16		
270.103	M 6 AG	16		



Art.No. 23.014.010.*

NBR (sw)		8,0 mm		1,2 g
Si (r), NR-E (b), PUR(b), FKM(g)				
	Art.No.		Seite	page
270.003	G1/8" AG	17		
270.013	M 5 AG	16		
270.103	M 6 AG	16		
270.110	G1/8" IG	18		

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

* When ordering, please indicate desired material (see page 27).

* Précisez le matériel souhaité à la commande (voir page 27).



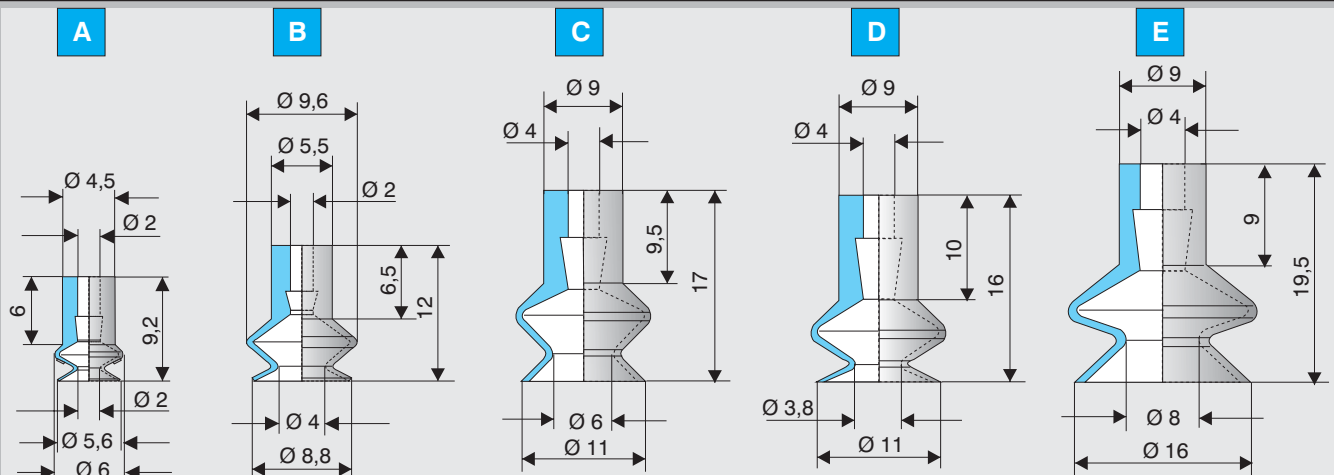
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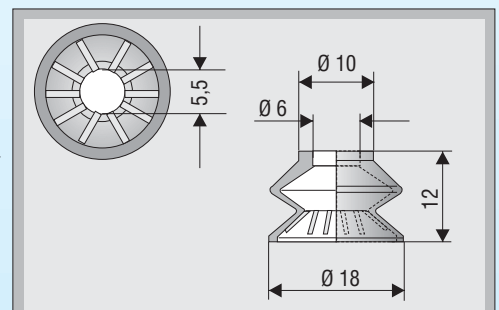
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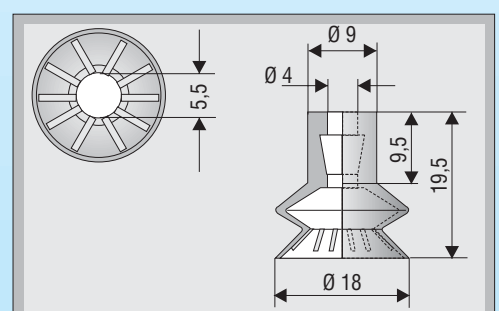
mit 1 1/2 Falten
with 1 1/2 folds
avec 1 1/2 plis



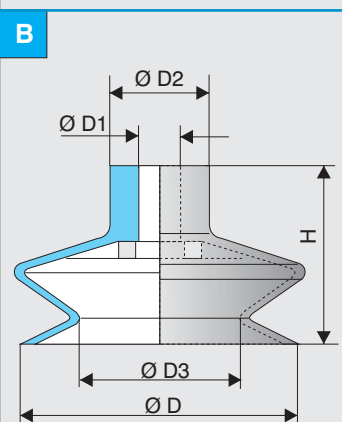
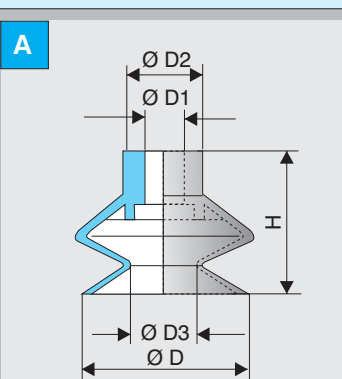
Form	Art.No.*	Material Material Matériel			Art.No.	Seite page
A	23.005.178	NBR (sw), Si (r)	2,0 mm	0,2 g	270.153	M 5 AG 16
B	23.008.166	NBR (sw), Si (r)	3,5 mm	0,2 g		
C	23.011.007	NBR (sw), Si (tr), PUR (or)	5,0 mm	0,6 g		
D	23.011.138.2r	Si (r)	4,0 mm	1,0 g		
E	23.016.015	Si (tr), PUR (or), CR (sw)	7,0 mm	1,4 g		
					270.003	G1/8" AG 17
					270.015	G1/8" IG 18
					270.104	M 6 AG 16
					270.134	M 5 AG 16



Art.No.*	Material Material Matériel	 mm	 g
23.018.082._*	Si (tr), Si-E (tr) NR-E (bl), CR (sw)	5,5	0,6
Art.No.	 Art.No.		Seite page
23.018.082._*	270.077 270.105	G1/8" AG M 6 AG	17 16



Art.No.*	Material Material Matériel	 mm	 g
23.018.175._*	Si (tr), NR-E (bl)	5,5	2,0
Art.No.	 Art.No.		Seite page
23.018.175._*	270.003 270.015 270.134 270.104	G 1/8" AG G 1/8" IG M 5 AG M 6 AG	17 18 16 16



Form	Art.No.*	Material Material Matériel		
A	23.016.016	NBR (sw),	6 mm	1,2 g
	23.022.028	Si (tr)	5 mm	2,0 g
	23.033.039	HNBR (wr)	12 mm	7,0 g
B	23.043.096	NBR (sw),	12 mm	10,0 g
	23.053.033	Si (tr) HNBR (wr)	11 mm	19,0 g

Form	Abmessungen Dimensions Dimensions	D Ø	D1 Ø	D2 Ø	D3 Ø	H
A	23.016.016	16	5	10	7,0	19
	23.022.028	22	5	10	10,6	19
	23.033.039	33	8	18	17,0	27
B	23.043.096	43	8	18	21,0	28
	23.053.033	53	8	18	33,0	34

Art.No.	Art.No.	Seite page
23.016.016	270.003	G1/8" AG 17
23.022.028	270.013	M 5 AG 16
	270.015	G1/8" IG 18
	270.103	M 6 AG 16
23.033.039	270.190	G1/4" AG 19
23.043.096	270.192	G1/4" IG 20
23.053.033		

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

* When ordering, please indicate desired material (see page 27).

* Précisez le matériel souhaité à la commande (voir page 27).



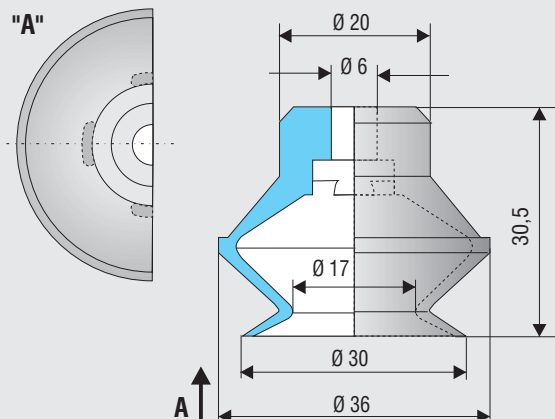
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mit 1 1/2 Falten
with 1 1/2 folds
avec 1 1/2 plis



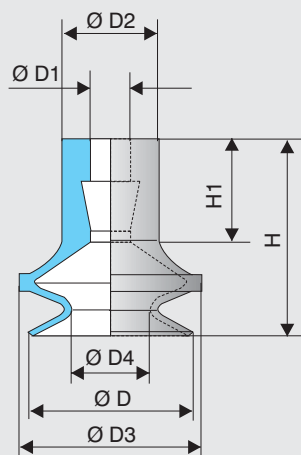
Art. No. 23.030.125.*

NBR (sw)
Si (tr), PUR (bl)



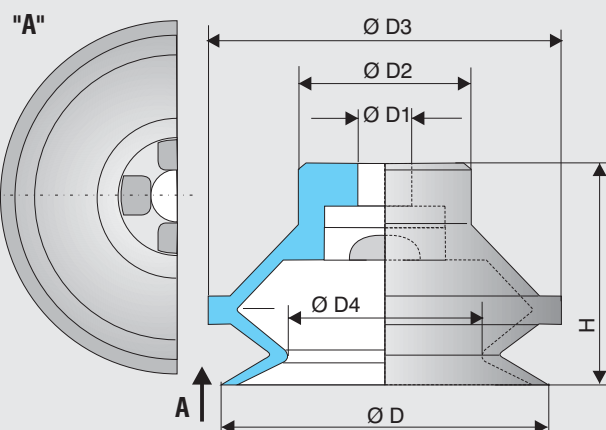
Art.No.
270.019

Art.No.		Seite page
270.019	G1/8" IG	18
270.030	G1/8" AG	17
270.274	G1/4" AG	19
270.275	G1/4" IG	20
270.312	M 6 AG	16



Art.No.	Material Matériel			Art.No.	Seite page
23.011.173.2	Si (tr)	3,5 mm	1,0 g	270.003	G1/8" AG 17
23.016.174.2	Si (tr)	5,0 mm	1,2 g	270.134	M 5 AG 16

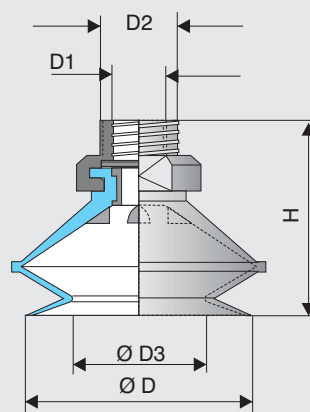
Art.No.	D Ø	D1 Ø	D2 Ø	D3 Ø	D4 Ø	H	H1
23.011.173.2	11	4	9	12,0	3,5	16	10
23.016.174.2	16	4	9	17,5	8,0	19	10



Art.No.*			D Ø	D1 Ø	D2 Ø	D3 Ø	D4 Ø	H
23.040.126	10 mm	15 g	40	6	25,0	46,0	23,0	30,5
23.050.127	10 mm	23 g	50	8	28,5	59,5	32,4	36,5

Art.No.*	Art.No.		Seite page
23.040.126	270.019	G1/8" IG	18
	270.030	G1/8" AG	17
	270.274	G1/4" AG	19
	270.275	G1/4" IG	20
	270.312	M 6 AG	16
23.050.127	270.303+270.314	G1/8" AG	18 + 17
	270.304+270.314	G1/4" AG	19 + 17
	270.307+270.314	G1/8" IG	18 + 17
	270.308+270.314	G1/4" IG	20 + 17

**Material
Matériel**
NBR(sw),
Si(tr),
PUR (b)



Art.No.*	Material Matériel			D Ø	D1 Ø	D2 Ø	D3 Ø	H
22.020.020	NBR(sw), Si(tr), CR (sw)	9 mm	6 g	20	M 5	G 1/8"	11	26,5
22.030.033	PUR (or)	13 mm	8 g	30	M 5	G 1/8"	17	34,5
22.040.045		9 mm	18 g	40	G 1/8"	---	23	35,0

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

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with 1 1/2 + 2 1/2 folds
avec 1 1/2 + 2 1/2 plis

Art. No. 23.025.137._*		Art. No. 23.040.042._*		Art. No. 23.056.150.2		Art. No. 23.075.151.2									
NBR (sw) Si (tr) NR (gr)		 9,0 mm	 2,4 g	NBR (sw) Si (r), PUR (b) EPDM (g) NR-E (bg)		 13,0 mm	 13,5 g	Si (tr)		 16 mm	 16 g	Si (tr)		 20 mm	 35 g
	Art.No.		Seite page		Art.No.		Seite page		Art.No.		Seite page		Art.No.		Seite page
270.003	G1/8" AG	17	270.092	G 1/8" IG	18	270.049-1	G1/4" AG	19	270.049-1	G1/4" AG	19				
270.013	M 5 AG	16	270.093	G 1/8" AG	17										
270.103	M 6 AG	16	270.248	G 1/4" IG	20										
270.109	G1/8" IG	18	270.249	G 1/8" AG	19										

Balgensauger Bellows suction cups Ventouses à soufflets

mit 2 1/2 Falten
with 2 1/2 folds
avec 2 1/2 plis

Art.No. 21.005.088.*_	Art. No. 21.007.089.*_	Art. No. 21.006.001.*_	Art. No. 21.010.078.*_
NBR (sw) Si (tr)	NBR (sw) Si (tr), PUR (bl)	NBR (sw), Si (tr), Vinyl (bl), FKM (g) EPDM (gr)	Si (r), Si (tr) PUR (bg) FKM (g)
 3,0 mm	 3,0 mm	 3,5 mm	 4,0 mm
 0,4 g	 0,6 g	 0,3 g	 0,8 g
 Art.No. 270.010	M 5 AG	 Art.No. 270.013 270.103 270.134	 Art.No. 270.013 270.103 270.134
Seite page 16		M 5 AG M 6 AG M 5 AG	Seite page 16 16 16

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

* When ordering, please indicate desired material (see page 27).

* Précisez le matériel souhaité à la commande (voir page 27).



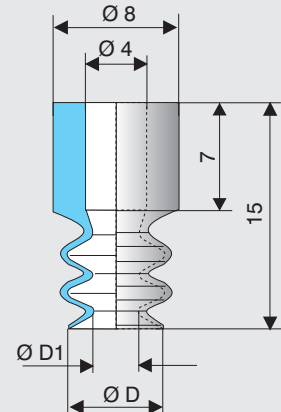
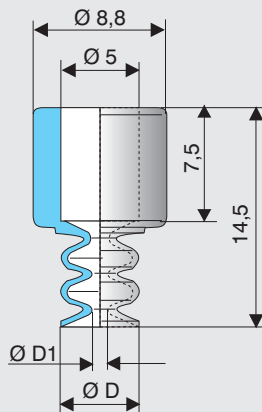
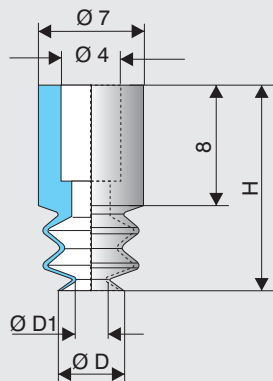
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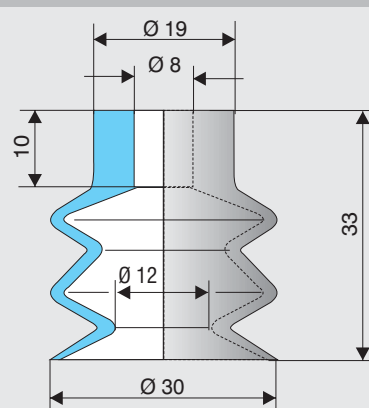
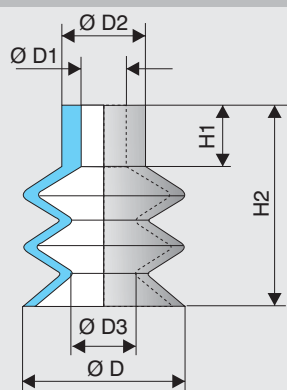
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mit 2 1/2 Falten
with 2 1/2 folds
avec 2 1/2 plis



Art.No.*	Material Material Matériel	D Ø	D1	H	Art.No.	D Ø	D1			Art.No.*	D Ø	D1																												
21.004.083	Si (tr)	4,2	2,2	14,0	21.005.086.2	5,0	1,0	3,5 mm	0,4 g	21.006.093	6	3	3,5 mm	0,4 g																										
21.005.058	NBR (sw), Si (tr)	5,0	1,3	13,5	21.006.087.2	6,5	2,6	3,5 mm	0,4 g	21.008.094	8	4	4,0 mm	0,4 g																										
					Material/ <i>Material</i> /Matériel					21.011.095	11	4	5,0 mm	1,0 g																										
					21.005.086.2 Si (tr)					Material / <i>Material</i> / Matériel:																														
					21.006.087.2 Si (tr), NBR (sw) 65° Sh					NBR (sw), Si (tr), NR (sw)																														
										<table><tr><th></th><th>Art.No.</th><th></th><th>Seite page</th></tr><tr><td></td><td>270.003</td><td>G1/8" AG</td><td>17</td></tr><tr><td></td><td>270.015</td><td>G1/8" IG</td><td>18</td></tr><tr><td></td><td>270.104</td><td>M 6 AG</td><td>16</td></tr><tr><td></td><td>270.134</td><td>M 5 AG</td><td>16</td></tr></table>						Art.No.		Seite page		270.003	G1/8" AG	17		270.015	G1/8" IG	18		270.104	M 6 AG	16		270.134	M 5 AG	16						
	Art.No.		Seite page																																					
	270.003	G1/8" AG	17																																					
	270.015	G1/8" IG	18																																					
	270.104	M 6 AG	16																																					
	270.134	M 5 AG	16																																					
<table><tr><th>Art.No.*</th><th></th><th></th><th></th><th>Art.No.</th><th>Seite page</th></tr><tr><td>21.004.083</td><td>3,0</td><td>0,4</td><td rowspan="2">}</td><td>270.104</td><td>M 6 AG 16</td></tr><tr><td>21.005.058</td><td>3,0</td><td>0,4</td><td>270.134</td><td>M 5 AG 16</td></tr></table>					Art.No.*				Art.No.	Seite page	21.004.083	3,0	0,4	}	270.104	M 6 AG 16	21.005.058	3,0	0,4	270.134	M 5 AG 16	<table><tr><th></th><th>Art.No.</th><th>Seite page</th></tr><tr><td></td><td>270.024</td><td>M 5 AG 16</td></tr><tr><td></td><td>270.103</td><td>M 6 AG 16</td></tr></table>						Art.No.	Seite page		270.024	M 5 AG 16		270.103	M 6 AG 16					
Art.No.*				Art.No.	Seite page																																			
21.004.083	3,0	0,4	}	270.104	M 6 AG 16																																			
21.005.058	3,0	0,4		270.134	M 5 AG 16																																			
	Art.No.	Seite page																																						
	270.024	M 5 AG 16																																						
	270.103	M 6 AG 16																																						



Art.No.*	Material Material Matériel	D Ø	D1 Ø	D2 Ø	D3 Ø	H	H1	Art.No.*	Material Material Matériel		
21.014.053	Si (tr), CR (sw)	14	3,9	8,0	5,0	18	5,0	21.030.019	NBR (sw), Si (r) NR-E (bg), PUR (bl) EPDM (g)	13,0	8,0
21.018.013	NBR (sw), Si (tr) NR (sw)	18	5,0	9,5	7,5	23	7,5				
21.020.015	NBR (sw), Si (tr) Si-E (tr), NR (sw)	20	5,0	10,0	9,0	22	5,5				
Art.No.*			 Art.No.				Seite page				
21.014.053	9 mm	1,0 g	270.005	M 5 IG			16				
21.018.013	9 mm	2,3 g	270.013	M 5 AG			16				
21.020.015	11 mm	2,2 g	270.134	M 5 AG			16				

 Art.No.		Seite page
270.092	G 1/8" IG	18
270.093	G 1/8" AG	17
270.248	G 1/4" IG	20
270.249	G 1/4" AG	19

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).
* When ordering, please indicate desired material (see page 27).
* Précisez le matériel souhaité à la commande (voir page 27).



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with 2 1/2 folds and more
avec 2 1/2 plis et de plus

Art.No. 21.009.002.*	Art. No. 21.010.004.*	Art. No. 21.010.005.*	Art. No. 21.010.056.*
NBR (sw), Si (tr), Si-E (tr), NR (gr), PUR (bl), FKM (g), HNBR (wr) 2,0 mm 0,6 g	NBR (sw), Si (r), PUR (bg), NR (bg) 3,0 mm 1,0 g	NBR (sw) Si (bl) 4,0 mm 0,4 g	Si (bl), Si (r), FKM (g) 70° Sh 4,0 mm 0,6 g
 Art.No.	 Art.No.	 Art.No.	 Art.No.
Seite page	Seite page	Seite page	Seite page
270.003 G1/8" AG 17	270.013 M 5 AG 16	270.094 M 5 AG 16	270.013 M 5 AG 16
270.013 M 5 AG 16	270.103 M 6 AG 16	270.095 G1/8" AG 17	270.103 M 6 AG 16
270.015 G1/8" IG 18	270.109 G1/8" IG 18	270.096 G1/8" IG 18	270.109 G1/8" IG 18
270.103 M 6 AG 16	270.238 G1/8" AG 18	270.103 M 6 AG 16	270.238 G1/8" AG 18

Art.No. 21.014.007.*	Art. No. 21.032.075.*	Art. No. 25.018.031.*	Art. No. 25.018.032.*
NBR (sw) Si (tr), PUR (ge) FKM (g) 12 mm 1,2 g	NBR (sw) Si (tr), Si-E (tr), PUR (bl), HNBR (wr) 13 mm 10 g	NBR (sw) Si (tr) 14 mm 2,0 g	Si (tr) 17 mm 2,4 g
 Art.No.	 Art.No.	 Art.No.	 Art.No.
Seite page	Seite page	Seite page	Seite page
270.003 G1/8" AG 17	270.114 G1/8" IG 18	270.109 G1/8" IG 18	270.109 G1/8" IG 18
270.013 M 5 AG 16	270.132 G1/8" AG 17	270.205 G1/8" AG 17	270.205 G1/8" AG 17
270.015 G1/8" IG 18	270.190 G1/4" AG 19	270.013 M 5 AG 16	270.013 M 5 AG 16
270.103 M 6 AG 16	270.192 G1/4" IG 20		

* Bei Bestellung bitte gewünschtes Material angeben (siehe Seite 27).

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Anschlusssteile Fittings Raccords

AG = Aussengewinde
IG = Innengewinde

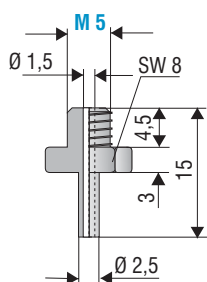
AG = External thread
IG = Internal thread

AG = filetage mâle
IG = filetage femelle

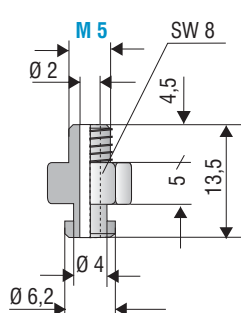
M 5 AG
M 5 IG
M 6 AG



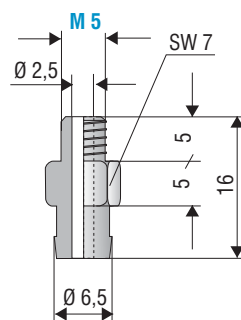
M 5 AG



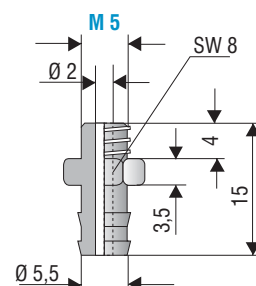
Art. No. 270.001



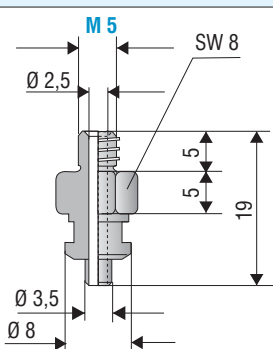
Art. No. 270.010



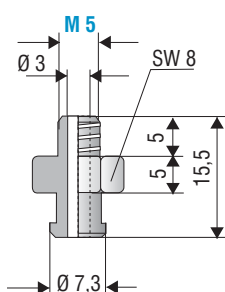
Art. No. 270.013



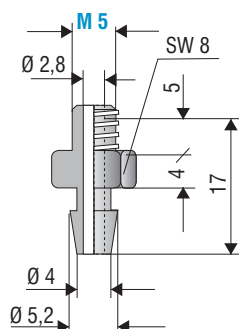
Art. No. 270.024



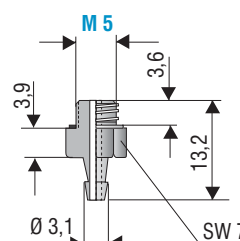
Art. No. 270.037



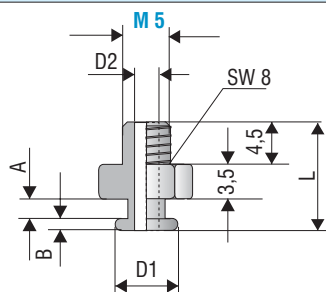
Art. No. 270.094



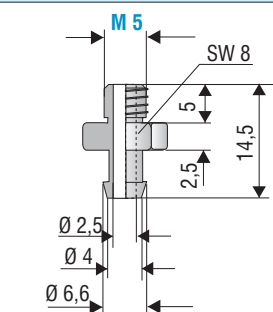
Art. No. 270.134



Art. No. 270.153

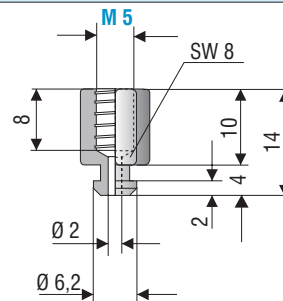


Art.-No.	D1	D2	L	A	B
270.300	Ø 3	Ø 1,2	10,5	1,5	1,0
270.301	Ø 6	Ø 2,5	12,0	2,0	2,0



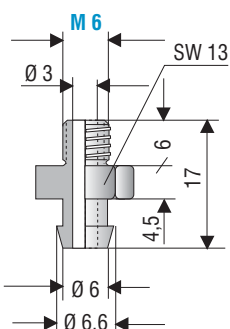
Art. No. 270.317

M 5 IG

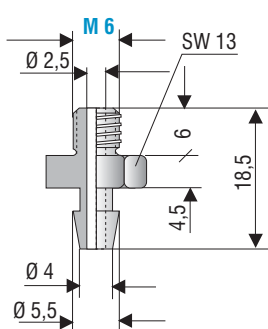


Art. No. 270.005

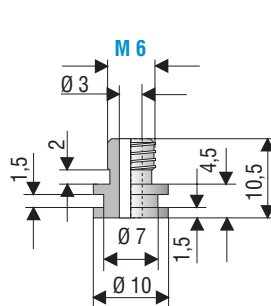
M 6 AG



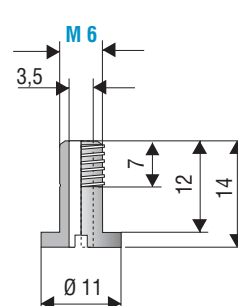
Art. No. 270.103



Art. No. 270.104



Art. No. 270.105



Art. No. 270.312



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AG = Aussengewinde
IG = Innengewinde

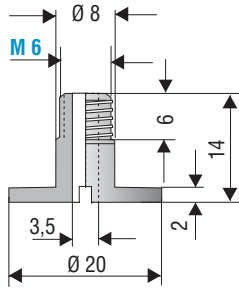
AG = External thread
IG = Internal thread

AG = filetage mâle
IG = filetage femelle

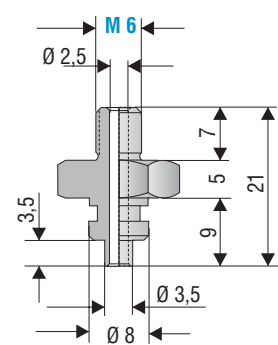
M 6 AG
M 8 AG
G 1/8" AG



M 6 AG

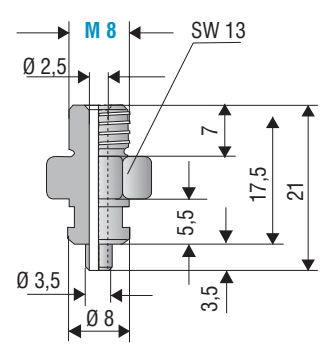


Art. No. 270.314



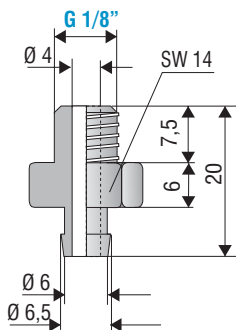
Art. No. 270.373

M 8 AG

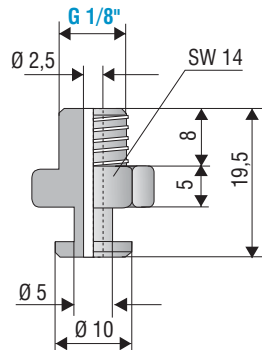


Art. No. 270.374

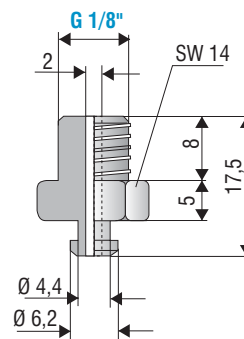
G 1/8" AG



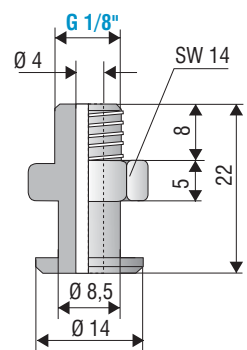
Art. No. 270.003



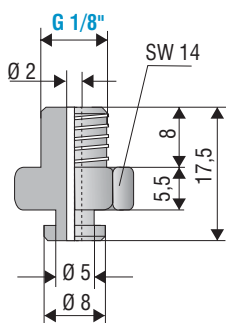
Art. No. 270.006



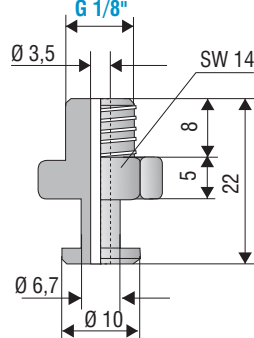
Art. No. 270.009



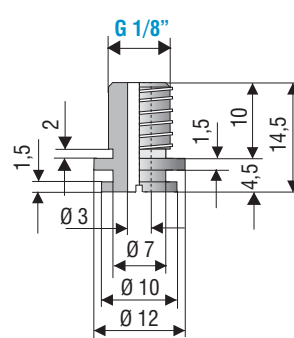
Art. No. 270.012



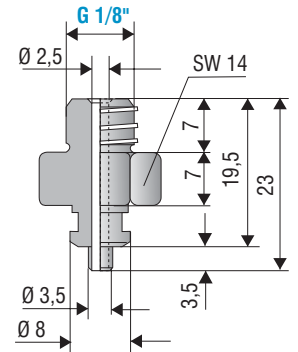
Art. No. 270.021



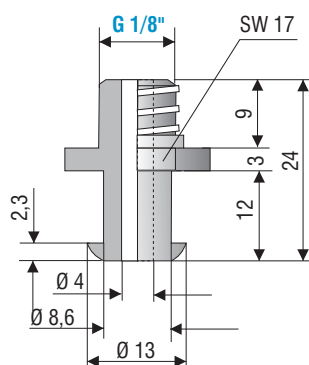
Art. No. 270.030



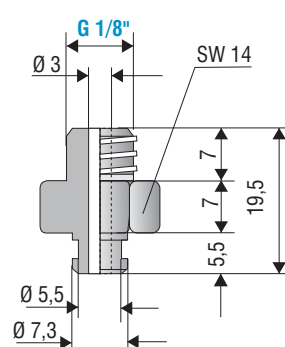
Art. No. 270.077



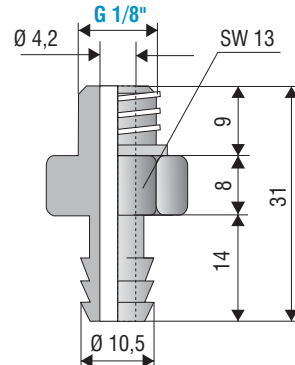
Art. No. 270.085



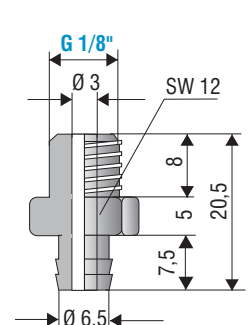
Art. No. 270.093



Art. No. 270.095



Art. No. 270.132



Art. No. 270.205



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IG = Innengewinde

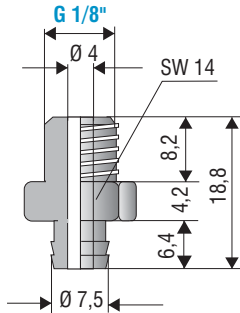
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IG = Internal thread

AG = filetage mâle
IG = filetage femelle

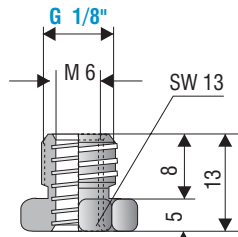
G 1/8" AG
G 1/8" IG



G 1/8" AG

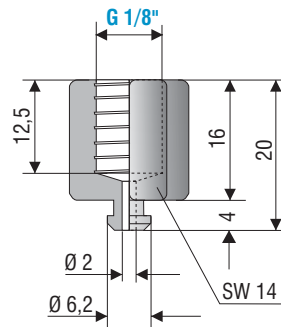


Art. No. 270.238

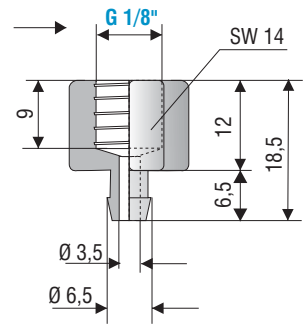


Art. No. 270.303

G 1/8" IG

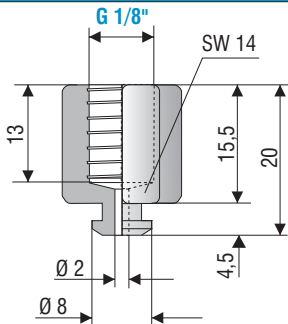


Art. No. 270.007

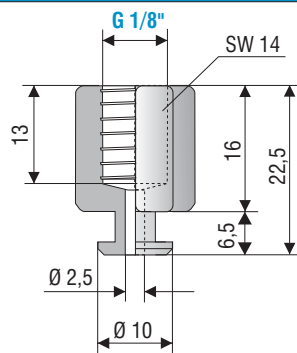


Art. No. 270.015

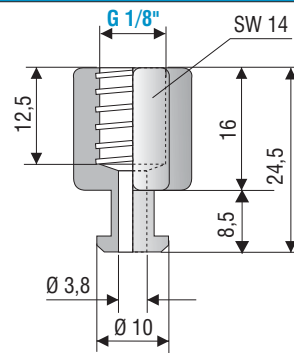
G 1/8" IG



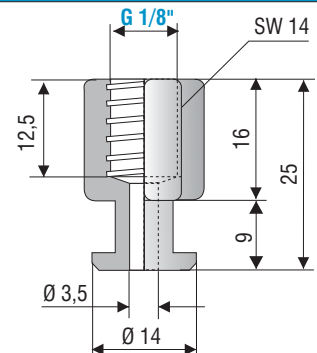
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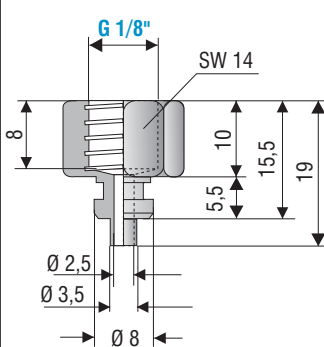
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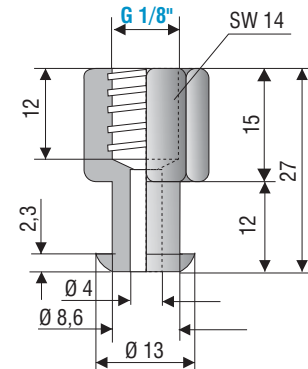
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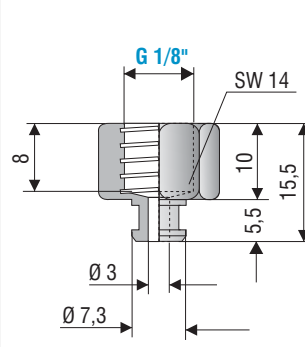
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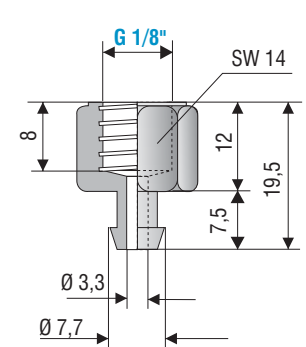
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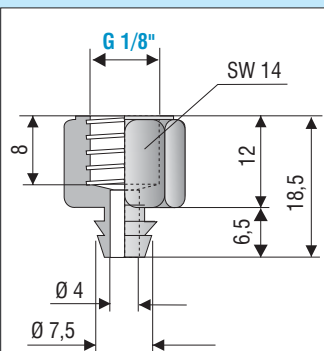
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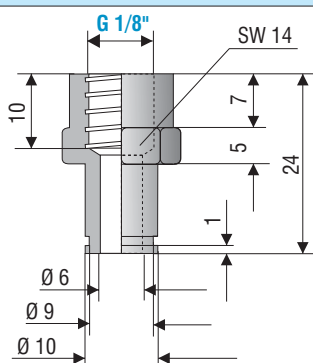
Art. No. 270.096



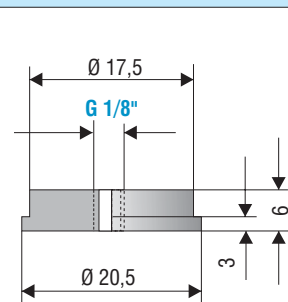
Art. No. 270.109



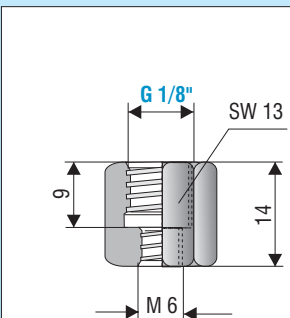
Art. No. 270.110



Art. No. 270.114



Art. No. 270.234



Art. No. 270.307



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Anschlusssteile Fittings Raccords

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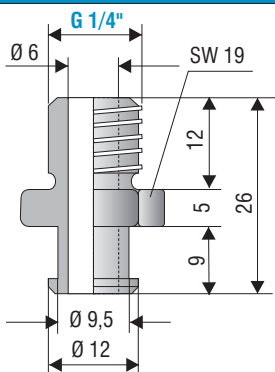
AG = External thread
IG = Internal thread

AG = filetage mâle
IG = filetage femelle

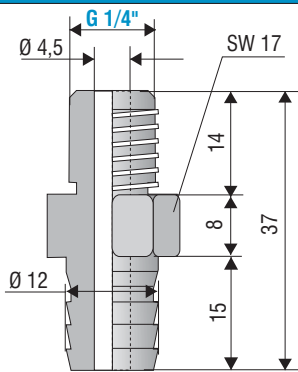
G 1/4" AG
G 1/4" IG



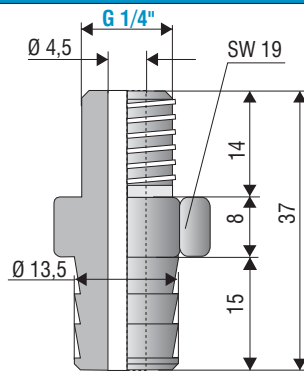
G 1/4" AG



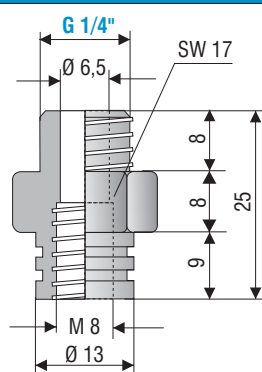
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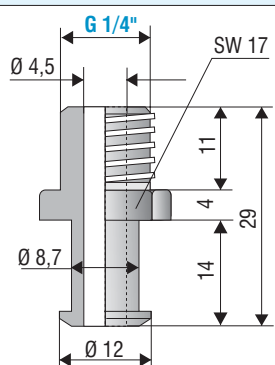
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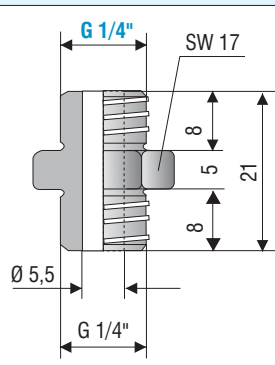
Art. No. 270.049-1



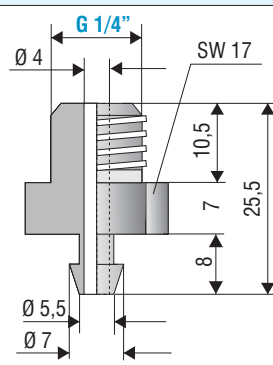
Art. No. 270.097



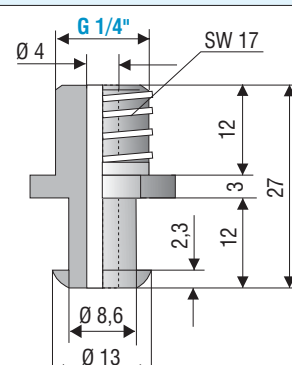
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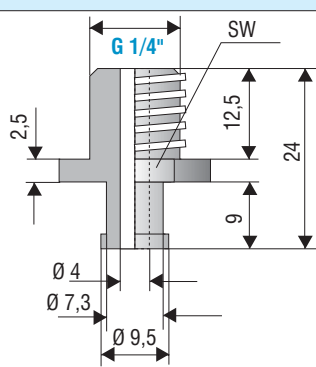
Art. No. 270.191



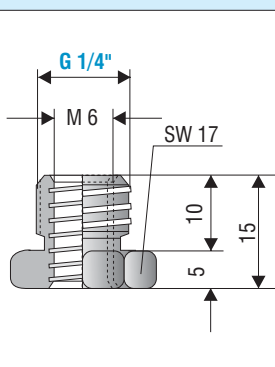
Art. No. 270.194



Art. No. 270.249

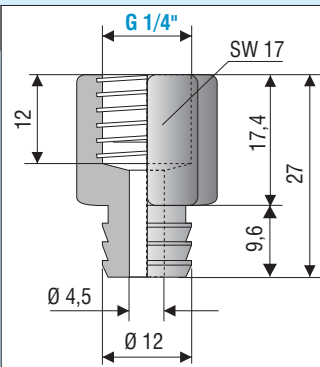


Art. No. 270.274



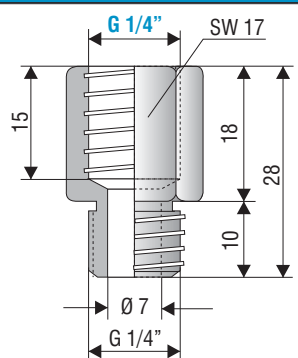
Art. No. 270.304

G 1/4" IG

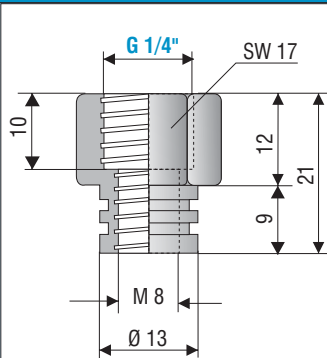


Art. No. 270.046

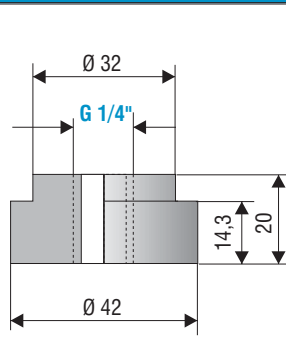
G 1/4" IG



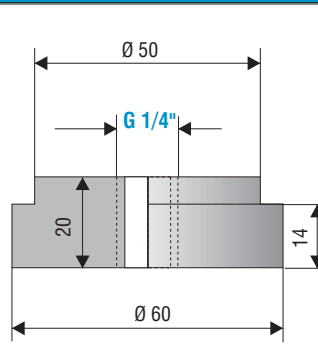
Art. No. 270.078



Art. No. 270.098



Art. No. 270.179



Art. No. 270.180



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Anschlusssteile Fittings Raccords

AG = Aussengewinde
IG = Innengewinde

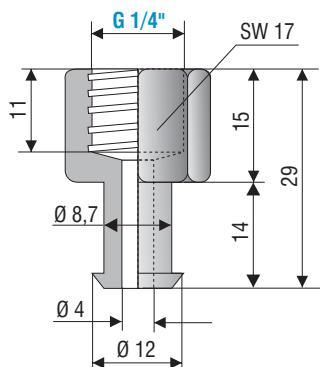
AG = External thread
IG = Internal thread

AG = filetage mâle
IG = filetage femelle

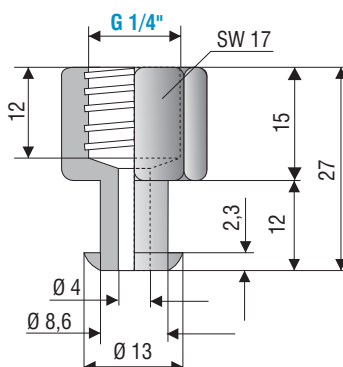
G 1/4" IG
M 10 x 1,25 IG



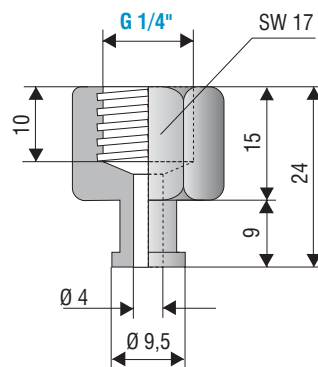
G 1/4" IG



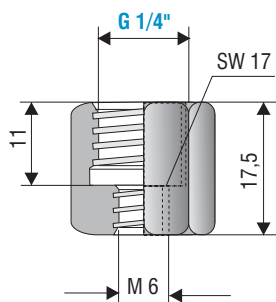
Art. No. 270.192



Art. No. 270.248

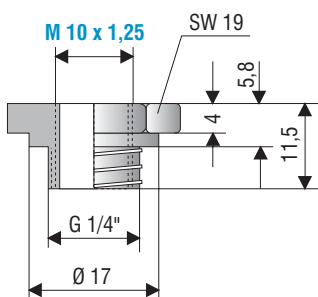


Art. No. 270.275



Art. No. 270.308

M 10 x 1,25 IG



Art. No. 270.090



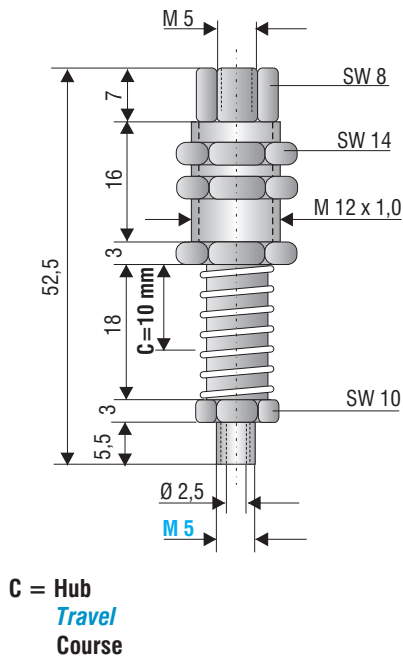
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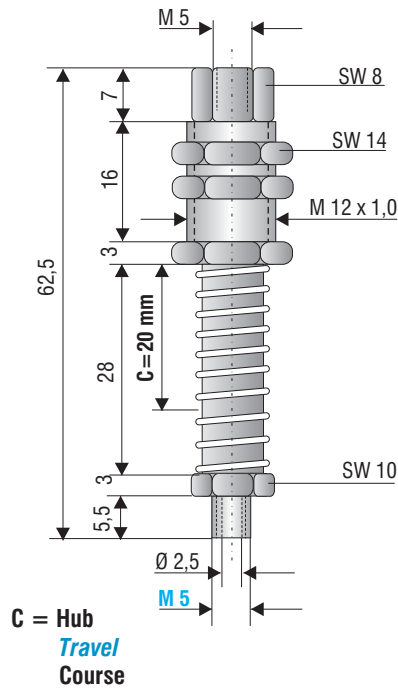
Saugerträger geordnet nach Saugeranschluß-Maß **M 5 AG**
Supports for suction cups ... classified by suction-cup connection **M 5 IG**
 Porteurs pour ventouses présentés selon les dimensions de raccordement de ventouses

M 5 AG



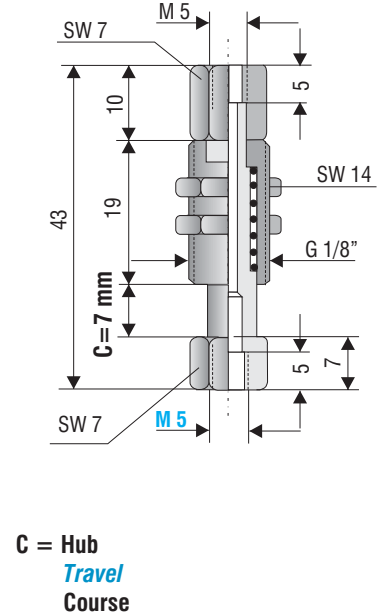
Art. No. 50.121

M 5 AG



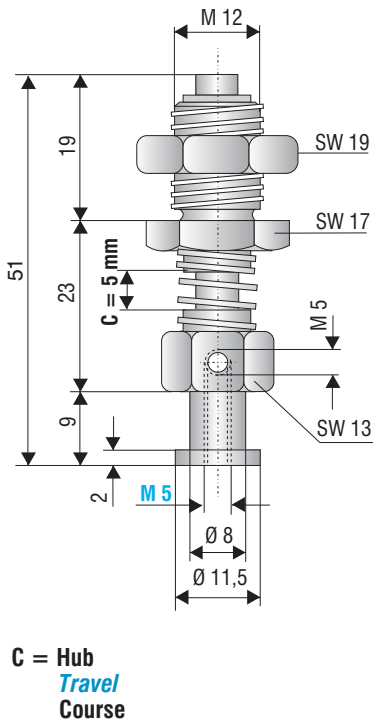
Art. No. 50.122

M 5 IG



Art. No. 50.120

M 5 IG



Art. No. 50.005

Passende **Flachsauger**
Suitable flat suction cups
 Ventouses **plates** adaptés

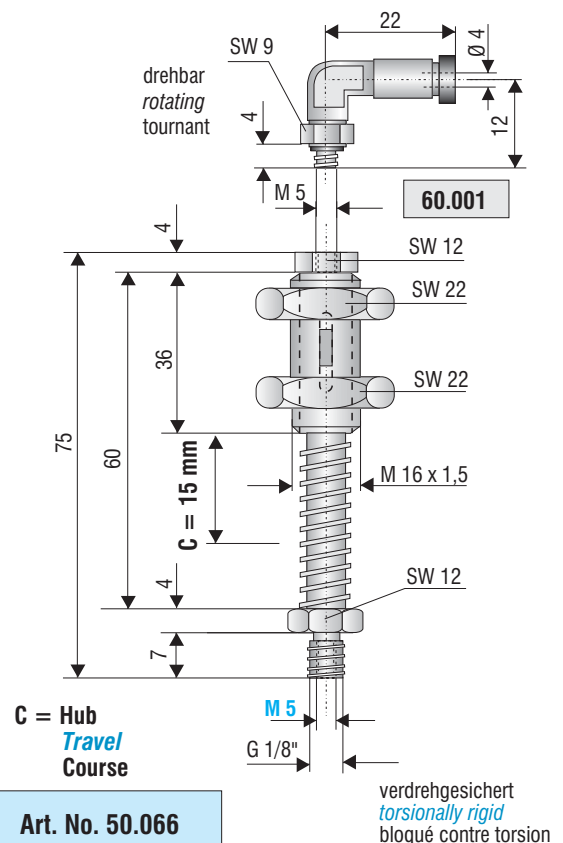
107.020.014
 102.020.041 + 270.311
 102.025.047
 102.030.053
 102.035.056
 102.040.061

Passende **Balgensauger**
Suitable bellows suction cups
 Ventouses à **sofflets** adaptés

27.016.001
 27.020.002
 23.020.026
 23.025.030
 23.030.037
 23.030.125
 23.040.045
 23.040.126

Alle Sauger steckbar
All suction cups
 Toutes les ventouses

M 5 IG



Art. No. 50.066



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Saugerträger geordnet nach Saugeranschluß-Maß

Supports for suction cups ... classified by suction-cup connection

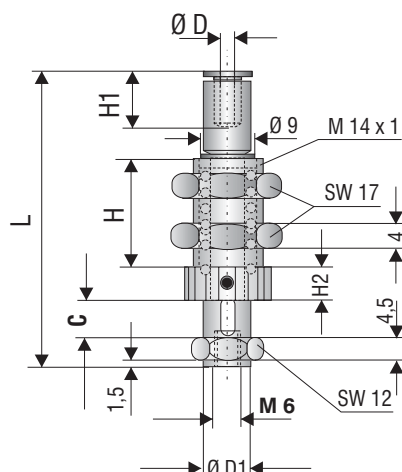
Porteurs pour ventouses présentés selon les dimensions de raccordement de ventouses

M 6 IG

G 1/8" AG

M 6 IG

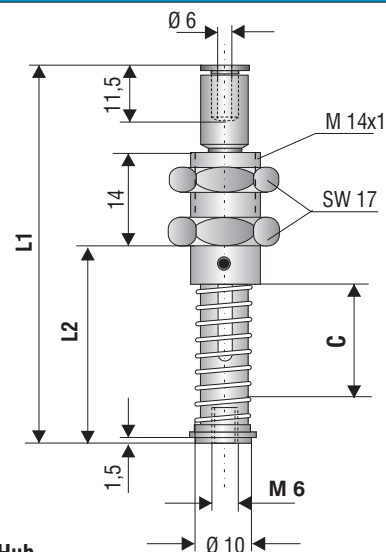
M 6 IG



C = Hub
Travel
Course

Art. No.	C	Ø D	Ø D1	L	H	H1	H2
50.085	6	6	10,0	52	20	11,5	6
50.086	6	4	10,0	51	20	10,5	6
50.128	10	6	10,5	59	20	11,5	8
50.129	15	6	10,5	69	25	11,5	8
50.130	20	6	10,5	85	34	11,5	10

verdrehgesichert
torsionally rigid
bloqué contre torsion



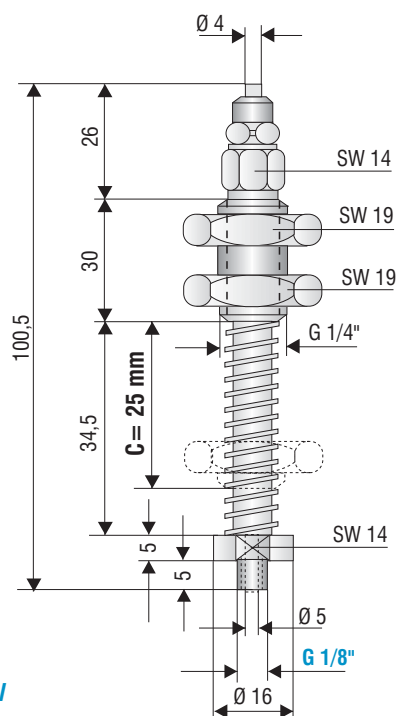
C = Hub
Travel
Course

Art. No.	C	L1	L2
50.095	20	62	30
50.096	30	74	42
50.097	40	88	56
50.098	50	100	68

verdrehgesichert
torsionally rigid
bloqué contre torsion

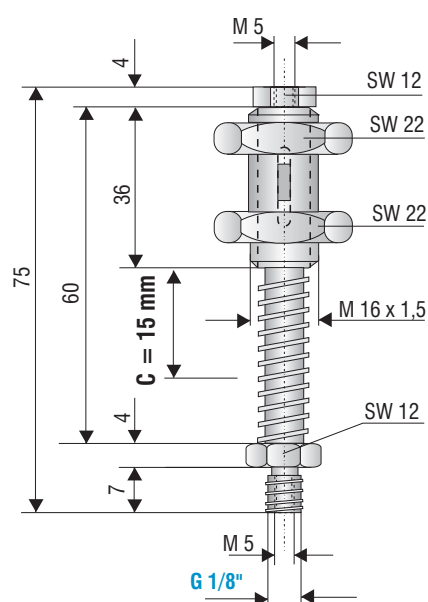
G 1/8" AG

G 1/8" AG



C = Hub
Travel
Course

Art. No. 50.048



C = Hub
Travel
Course

Art. No. 50.066

verdrehgesichert
torsionally rigid
bloqué contre torsion



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Saugerträger geordnet nach Saugeranschluß-Maß

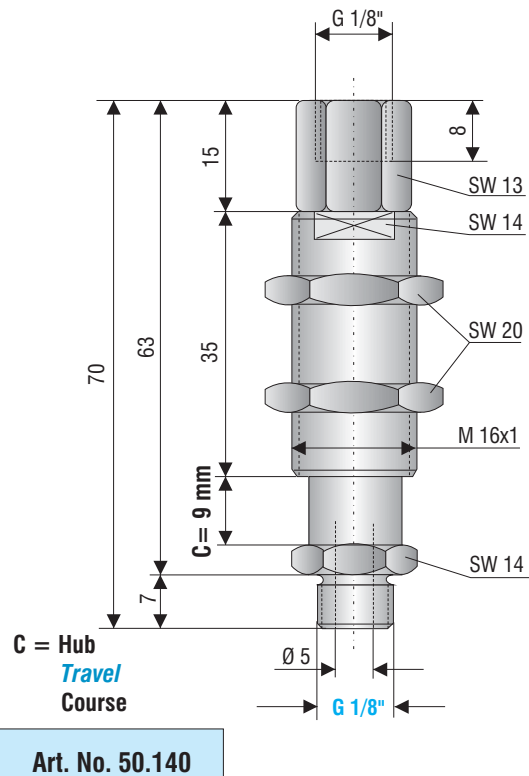
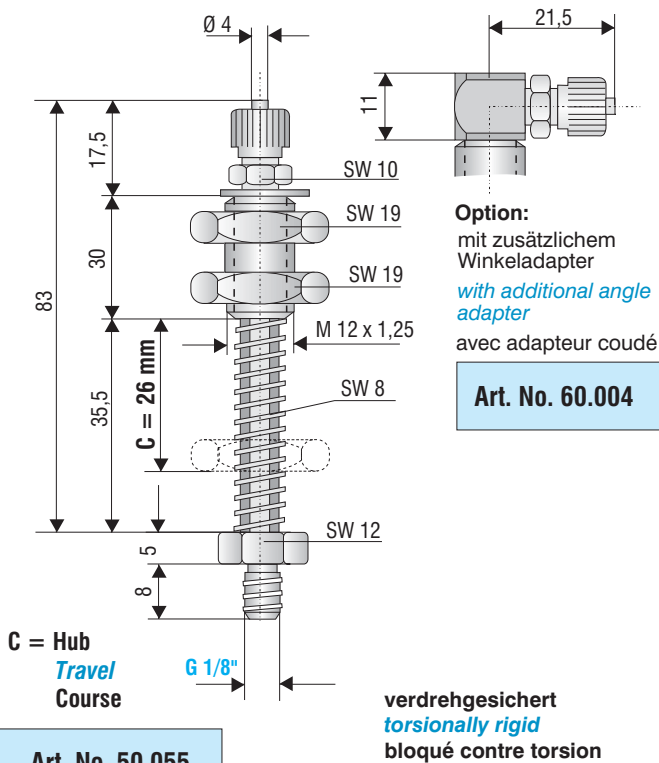
Supports for suction cups ... classified by suction-cup connection

Porteurs pour ventouses présentés selon les dimensions de raccordement de ventouses

G 1/8" AG

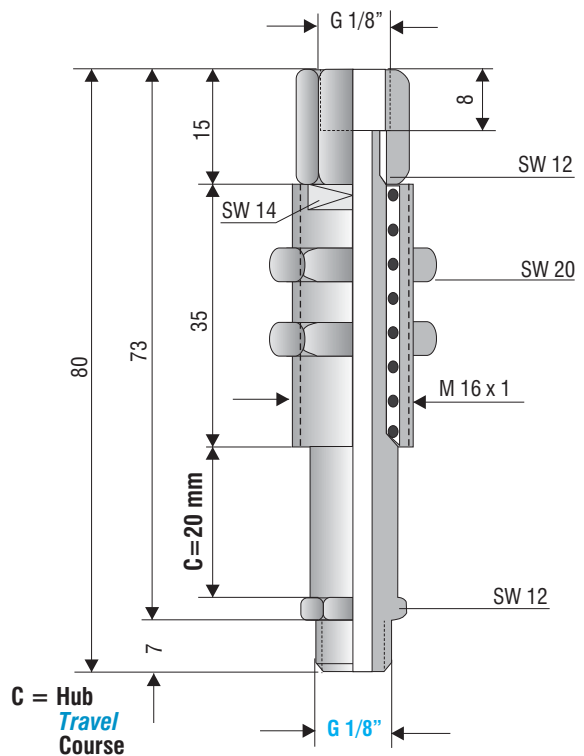
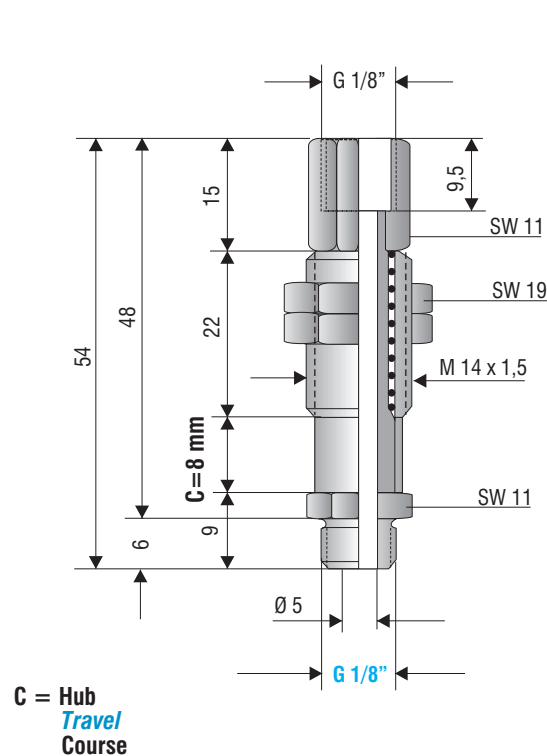
G1/8" AG

G1/8" AG



G1/8" AG

G1/8" AG



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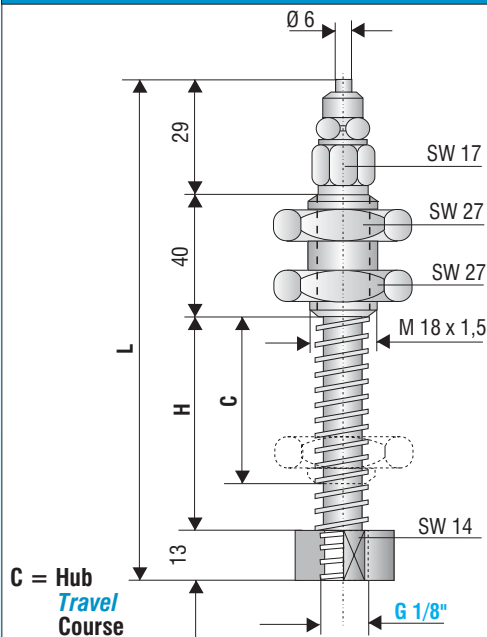
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Saugerträger geordnet nach Saugeranschluß-Maß
 Supports for suction cups ... classified by suction-cup connection
 Porteurs pour ventouses présentés selon les dimensions de raccordement de ventouses

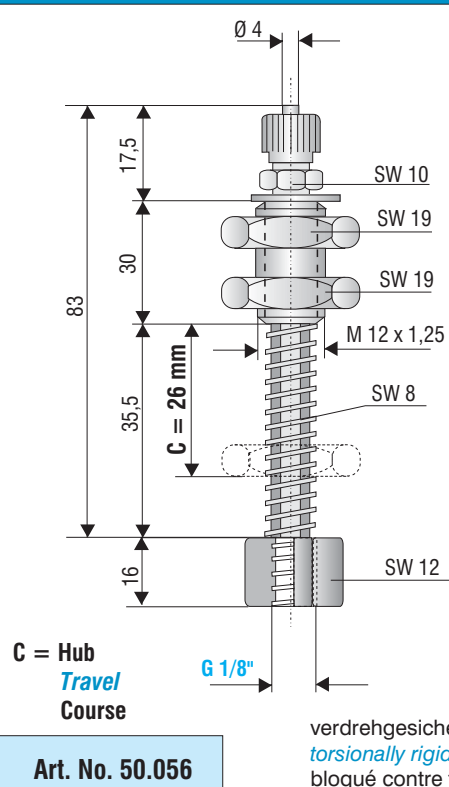
G 1/8" IG
G 1/4" AG

G1/8" IG



Art. No.	C	H	L
50.028	25	37	119
50.029	55	77	159
50.030	80	110	192

G1/8" IG



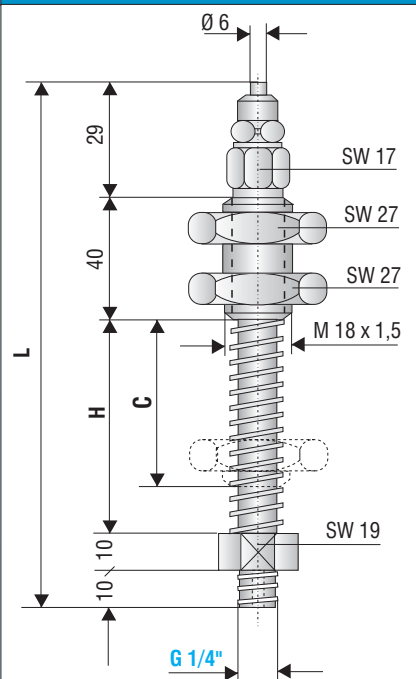
C = Hub
Travel
Course

Art. No. 50.056

Option:
 mit zusätzlichem
 Winkeladapter
 with additional angle
 adapter
 avec adaptateur coudé

Art. No. 60.004

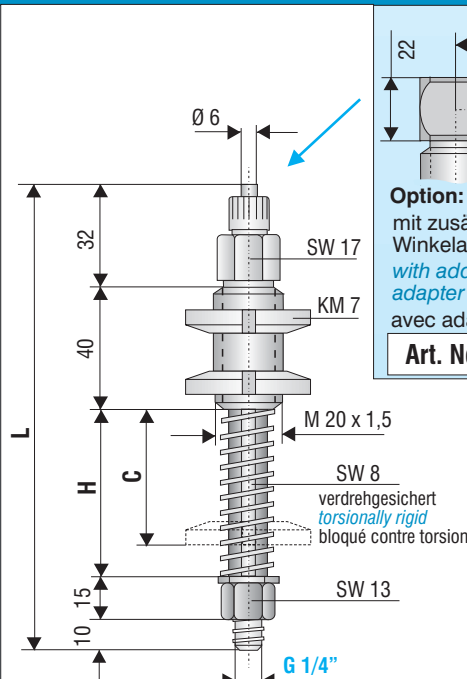
G1/4" AG



Art. No.	C	H	L
50.015	25	37	126
50.016	55	77	166
50.017	80	110	199

C = Hub
Travel
Course

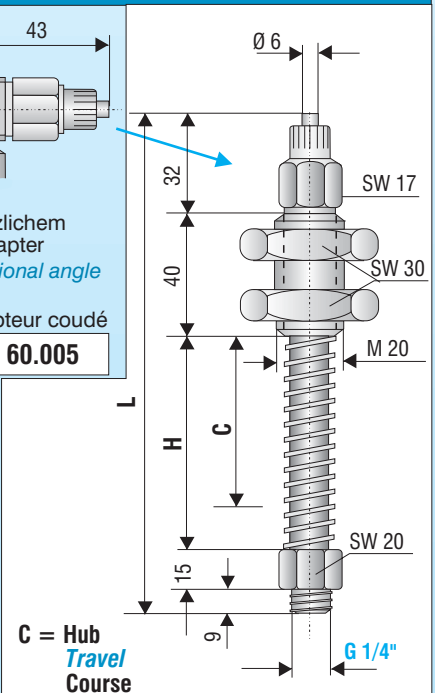
G1/4" AG



Art. No.	H	L	C
50.108	28	125	17
50.109	65	162	45
50.110	95	192	65

C = Hub
Travel
Course

G1/4" AG



Art. No.	H	L	C
50.131	28	124	17
50.132	65	161	50
50.133	95	191	74



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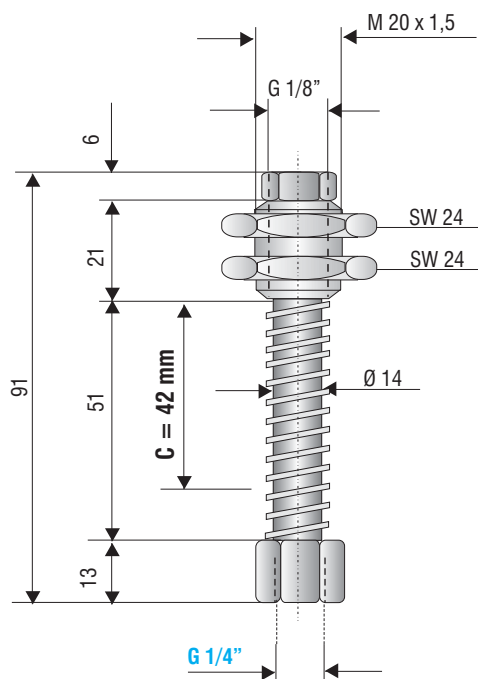
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Saugerträger geordnet nach Saugeranschluß-Maß
Supports for suction cups ... classified by suction-cup connection
 Porteurs pour ventouses présentés selon les dimensions de raccordement de ventouses

G 1/4" AG
Ø 11,5 + Ø 12

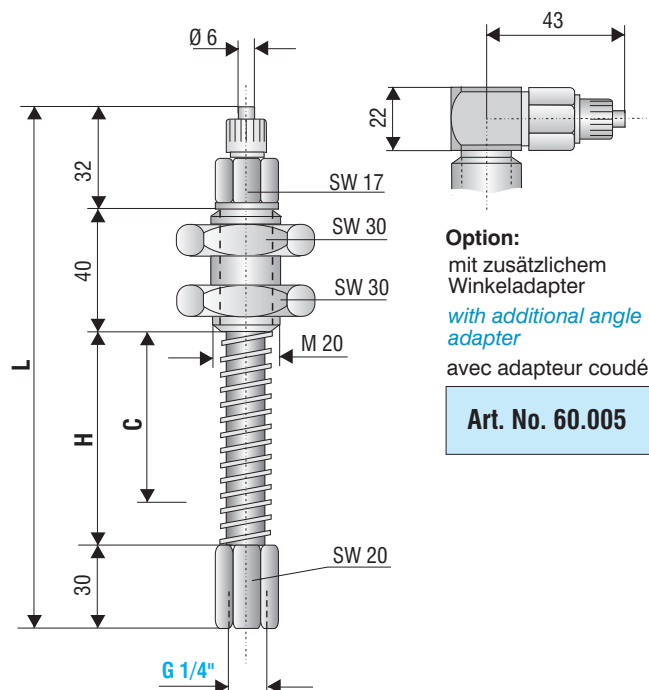
G1/4" IG

G1/4" IG



C = Hub
Travel
 Course

Art. No. 50.050



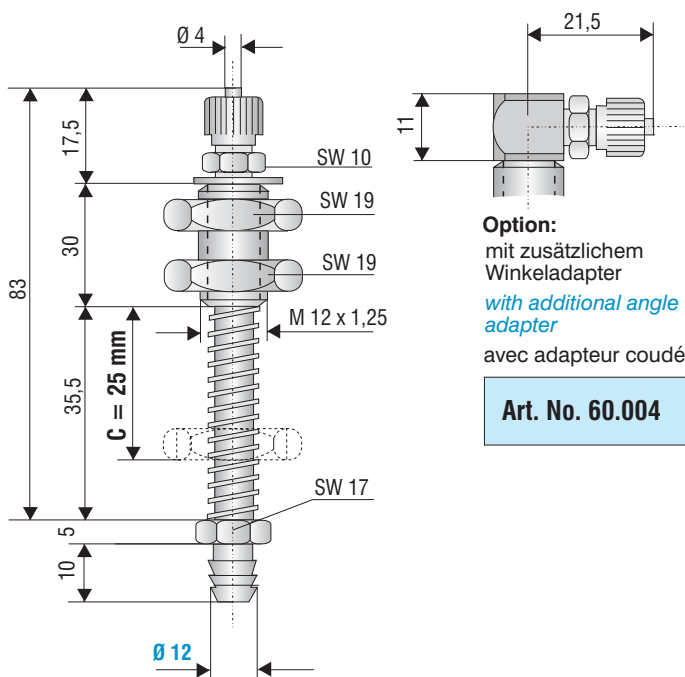
Option:
 mit zusätzlichem
 Winkeladapter
*with additional angle
 adapter*
 avec adaptateur coudé

Art. No. 60.005

Art. No.	H	L	C	C = Hub <i>Travel</i> Course
50.105	28	130	17	
50.106	65	167	50	
50.107	95	197	74	

Ø 12

Ø 11,5

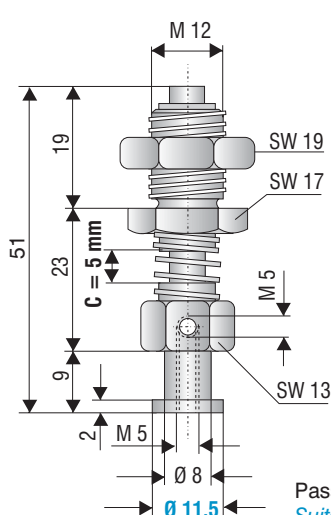


Option:
 mit zusätzlichem
 Winkeladapter
*with additional angle
 adapter*
 avec adaptateur coudé

Art. No. 60.004

C = Hub
Travel
 Course

Art. No. 50.043



Passende **Flachsauer:**
Suitable flat suction cups:
 Ventouses plates adaptés:
 102.020.041
 102.025.047
 102.030.053
 102.035.056
 102.040.061

Passende **Balgensauer:**
Suitable bellows suction cups:
 Ventouses à soufflets adaptés:

C = Hub
Travel
 Course

Art. No. 50.005

23.020.026
 23.025.030
 23.030.037
 23.030.125
 23.040.045
 23.040.126
 1,5 Falten
1,5 folds
 1,5 plis



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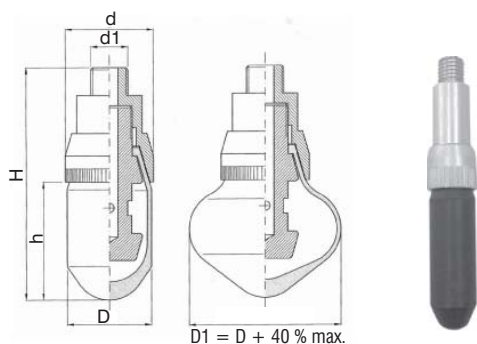
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Pneumatische Innengreifer und Außengreifer (verwendbar nur mit Druckregler)

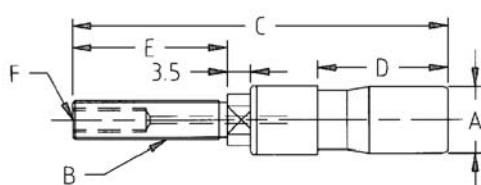
Pneumatic ID/OD Grippers (to be used only with pressure regulator)

Préhenseurs pneumatiques int. et ext. (utilisable uniquement avec régulateur de pression)

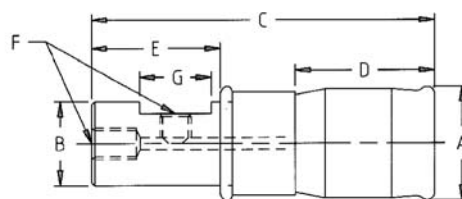


Art. Nr. NR (max. +80°C)	Art. Nr. Vulkollan (max. +90°C)	D	D1 D+40% max	d	d1	H	h	Speisedruck Charge pressure max.
51.009	51.009-VU	17	25	18,5	M 10	102	51	0,5 bar
51.005	51.005-VU	20	28	18,5	M 10	101	50	0,5 bar
51.008	51.008-VU	27	40	27,0	M 12	119	63	2,0 bar
51.007	51.007-VU	37	50	39,0	M 16	120	60	2,0 bar
51.006	51.006-VU	47	65	49,0	M 20	124	61	2,0 bar

Serie/Series 1300 - 1302



Serie/Series 1303 - 1318



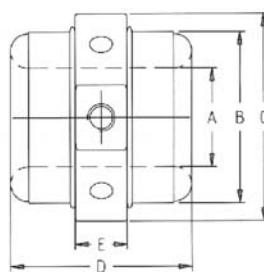
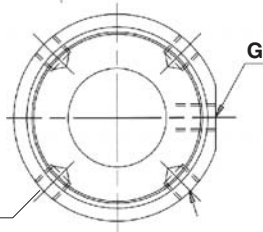
Art. No.	Material Material Matière	für Teileinnen-Ø for inside dia. pour pièces de Ø intérieur	entspannt non-inflated non gonflé Ø A	B	C	D	E	F	G	max. Druck max. pressure pression max. bar	Gewicht Weight Poids g	Tragkraft* Load capability* Capacité de levage* kg
1300	** Neopren(e) (CR) < 75 °C	8,5 - 10	8	M 6	51	17,5	21	M 3		4	8	1,5 - 0,15
1301		10 - 12	9,5	M 6	51	17,5	21	M 3		4	12	1,5 - 0,23
1302		12 - 17	11	M 8	51	17,5	21	M 5		4	17	3,0 - 1,1
1303		16 - 21	14	10	52	21	22	M 5	12	4	28	4,3 - 2,0
1304		21 - 27	19	14	56	22	22	M 5	12	5	60	7,4 - 3,0
1305		24 - 32	22	17	56	22	22	M 5	12	5	85	10,4 - 3,5
1306		28 - 36	25	19	55	22	22	M 5	12	5	105	13,5 - 3,0
1307		30 - 44	27	22	64	28	25	M 5	14	5	160	13,6 - 6,8
1308		32 - 52	29	25	76	34	30	M 5	15	5	245	24,9 - 9,1
1309		45 - 65	41	34	71	42	17,5	M 6	--	5	180	34,9 - 11,3
1310		58 - 85	51	44	90	52	26	M 6	18	5	370	59,0 - 22,7
1311		70 - 105	63	54	101	53	35	M 6	20	5	610	72,6 - 29,9

** auch in Silikon erhältlich/also available in Silicone/aussi disponible en Silicone

* bei glatter Oberfläche / with smooth surface / pour surfaces planes

G =
Druckluft
Compressed air
Air comprimé

4 x Gewinde-
bohrungen
4 screw holes
4 filetages pour
montage



aufgeblasen
inflated
gonflé

Art. No.	Material Material Matière	für Teileußen-Ø for external dia. pour pièces de Ø extérieur	entspannt non-inflated non gonflé Ø A	B	C	D	E	F	G	max. Druck max. pressure pression max. bar	Gewicht Weight Poids g	Tragkraft* Load capability* Capacité de levage* kg
1319	** Neopren(e) (CR) < 75 °C	5 - 15	19	33	40	36	10	M 5	M 5	1,4	60	1,8 - 5,0
1320		10 - 25	27	48	60	48	13	M 6	M 6	1,4	145	4,1 - 12,3
1321		15 - 35	37	58	70	52	14	M 6	M 6	1,4	210	9,1 - 16,3
1322		20 - 45	48	69	80	56	15	M 8	G1/8"	1,4	285	9,1 - 22,7

** auch in Silikon erhältlich/also available in Silicone/aussi disponible en Silicone

* bei glatter Oberfläche / with smooth surface / pour surfaces planes



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Auszug aus unserer Materialübersicht / Excerpt from our general materials list / Extrait de notre liste de matériaux

Mat. Nr.	Bezeichnung	Handelsübliche Bezeichnung	Handelsname (Beispiele)	Temp. °C min/max	Verschleissfestigkeit	Beständigkeit gegen			Spezielles
						Öl / Fett	Wetter/Ozon	Benzin	
1	NBR (50 Shore A)	Nitril-kautschuk	Perbunan ^①	-40 +90	●	●	○	●	kälteflexibel, wasserbeständig bis 70 °C
2	Si (50 Shore A)	Silikon-kautschuk	Silicone	-70 +200	○	●	●	⊗	abdruckarm bei farblos, weiß, beige
2-AS	Si-AS antistatisch (55 Shore A)	Silikon-kautschuk	Silicone	-20 +130	○	●	●	⊗	abdruckarm bei farblos, weiß, beige
3	NR (50 Shore A)	Natur-kautschuk	SMR	-40 +80	●	⊗	○	⊗	abdruckarm bei farblos, weiß, beige
4	NR-E (40 Shore A)	Natur-kautschuk	SMR	-40 +80	●	⊗	●	⊗	hohe Standzeit
5	PUR	Poly-urethan	Vulkollan ^①	-25 +80	●	●	●	●	hohe Standzeit Vulkollan braun (sehr abdruckarm)
7	FKM	Fluor-kautschuk	Viton ^②	-20 +200	●	●	●	●	hoch chemikalienbeständig, sehr abdruckarm
9	CR (50 Shore A)	Chloropren	Neoprene	-40 +90	●	●	●	●	besonders witterungsbeständig
V	Vinyl	Polyvinyl-chlorid	PVC	-20 +85	●	○	○	○	sehr hohe Standzeit
14	HNBR	Hydrierter Nitril-Kautschuk		-40 +170	●	●	●	●	hohe Standzeit, hochabdruckarm
15	EPDM	Äthylen-Pro-pylen-Dien-Kautschuk	Buna	-40 +130	○	○	●	⊗	besonders beständig gegen Heiss-wasserdampf + Chemikalien
Mat. No	Code	Commercial designation	Trade name (e.g.)	Temp. °C min/max	Wear resistance	Resistance to			Specifics
						oil/grease	weather/ozon	gasoline	
1	NBR (50 Shore A)	Nitrile rubber	Perbunan ^①	-40 +90	●	●	○	●	cold-flexible, water-resistant to 70 °C
2	Si (50 Shore A)	Silicone rubber	Silicone	-70 +200	○	●	●	⊗	anti-marking on colorless, white, beige surfaces
2-AS	Si-AS antistatic (55 Shore A)	Silicone rubber	Silicone	-20 +130	○	●	●	⊗	anti-marking on colorless, white, beige surfaces
3	NR (50 Shore A)	Natural rubber	SMR	-40 +80	●	⊗	○	⊗	anti-marking on colorless, white, beige surfaces
4	NR-E (40 Shore A)	Natural rubber	SMR	-40 +80	●	⊗	●	⊗	long service life
5	PUR	Poly-urethane	Vulkollan ^①	-25 +80	●	●	●	●	long service life Vulkollan brown (anti-marking)
7	FKM	Fluor-caoutchouc	Viton ^②	-20 +200	●	●	●	●	high resistance to chemicals
9	CR (50 Shore A)	Chloroprene	Neoprene	-40 +90	●	●	●	●	highly weatherproof
V	Vinyl	Polyvinyl-chloride	PVC	-20 +85	●	○	○	○	long service life
14	HNBR	Hydrogenated nitrile rubber		-40 +170	●	●	●	●	long service life, highly anti-marking
15	EPDM	Ethylene-pro-pylene-diene rubber	Buna AP	-40 +130	○	○	●	⊗	highly resistant to hot water, vapor and chemicals
N° de mat.	Brève désignation	Désignation commerciale	Nom commerciale	Temp. °C min/max	Résistance à				Spécialité
					l'usure	l'huile/ graisse	intempéries/ l'ozone	l'essence	
1	NBR (50 Shore A)	Caoutchouc nitrile	Perbunan ^①	-40 +90	●	●	○	●	flexible au froid, résistant à l'eau jusqu'à 70°
2	Si (50 Shore A)	Caoutchouc silicone	Silicone	-70 +200	○	●	●	⊗	anti-trace pour incolore, blanc, beige
2-AS	Si-AS antistatique (55 Shore A)	Caoutchouc silicone	Silicone	-20 +130	○	●	●	⊗	anti-trace pour incolore, blanc, beige
3	NR (50 Shore A)	Caoutchouc naturel	SMR	-40 +80	●	⊗	○	⊗	anti-trace pour incolore, blanc, beige
4	NR-E (40 Shore A)	Caoutchouc naturel	SMR	-40 +80	●	⊗	●	⊗	longue durée de vie
5	PUR	Poly-uréthane	Vulkollan ^①	-25 +80	●	●	●	●	longue durée de vie, anti-trace
7	FKM	Caoutchouc fluor	Viton ^②	-20 +200	●	●	●	●	haute résistance aux produits chimiques
9	CR (50 Shore A)	Chloroprene	Neoprene	-40 +90	●	●	●	●	part. résistant aux intempéries
V	Vinyl	Chlorure de polyvinyle	PVC	-20 +85	●	○	○	○	longue durée de vie
14	HNBR	Nitrile Hydrogéné		-40 +170	●	●	●	●	longue durée de vie, anti-trace
15	EPDM	Ethylène-pro-pylène-diène caoutchouc	Buna AP	-40 +130	○	○	●	⊗	part. résistante à la vapeur d'eau chaude et aux produits

● = sehr gut/very good/très bonne ● = gut/good/bonne ○ = genügend/sufficient/satisfaisante ⊗ = nicht empfohlen/not recommended/non recommandée

① Perbunan/Vulkollan = ® Bayer AG ② Viton = ® DuPont Elastomers

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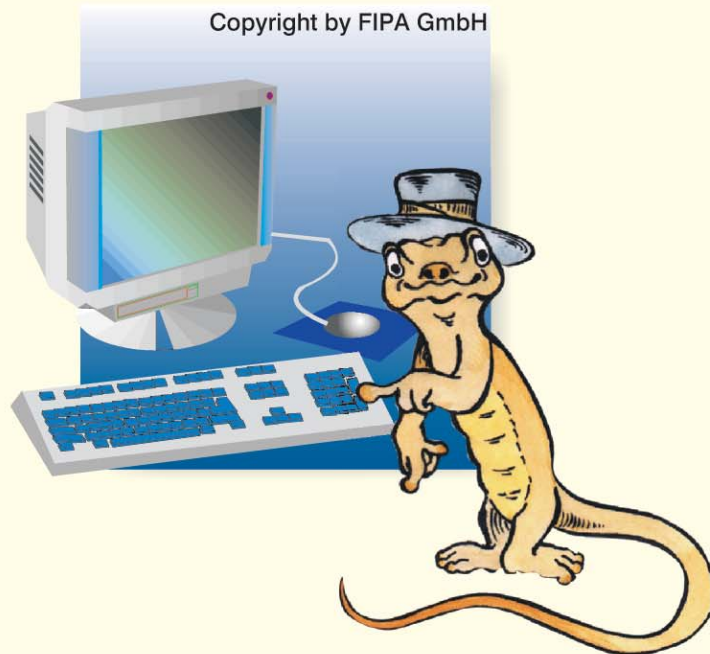
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