

VAKUUMSAUGER *VACUUM SUCTION CUPS* VENTOUSES À VIDE



Für die Holzindustrie
For the woodworking industry
Pour l'industrie du bois



HS 03

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Bemerkungen

Notes

Remarques

Allgemeine Information

Das Unternehmen Die Produkte

Die **FIPA GmbH** in Ismaning bei München ist Spezialist auf dem Gebiet der Vakuum-Technik.
Das Vakuumsauger-Programm umfasst ca. 3500 Sauger mit mehr als 20.000 Saugervarianten - weltweit das größte Angebot.

In diesem Katalogauszug sind Sauger dargestellt, die bevorzugt beim Handling von Holzplatten, Leisten, Furnieren oder Kunststoffpanelen eingesetzt werden.

Die Sauger sind in den jeweils angegebenen Materialien sofort lieferbar (Zwischenverkauf vorbehalten).
Weitere Materialien auf Anfrage.

Alle in diesem Katalog angegebenen Maße in mm.
Technische Änderungen vorbehalten.

General Information

The Company Its Products

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

This excerpt lists suction cups primarily used for handling wooden boards, strips, veneers and plastic panels.

The suction cups listed here are available from stock in the materials mentioned - subject to prior sale. Further materials are available on request.

All dimensions given in this catalog are in millimeters. Specifications subject to change without notice.

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 sur plus de 20.000 variantes. Ce qui est certainement le plus grand choix au monde.

Cet extrait de catalogue présente des ventouses qui s'utilisent essentiellement pour la manutention de panneaux de bois, de lattes, de contre-plaqué et de plaqués en matière synthétique.

Les ventouses sont disponibles en stock dans les matériaux indiqués (sauf vente intermédiaire).
Autres matériaux sur commande.

Toutes les mesures données dans ce catalogue sont en mm.
Sous réserves de modifications techniques.

Bemerkungen:

Auf den Seiten 1.9 - 1.12 finden Sie Vorschläge, wie Vakuumsauger mit Anschlussteilen, Saugerträgern, Strömungs- und Tastventilen ausgestattet werden können.

Strömungs- und Tastventile werden in den Anwendungen eingesetzt, wo die zu greifenden Objekte nicht oder nur teilweise vorhanden sind. Sie verhindern ein Zusammenbrechen des Vakuumkreises.

Wir beraten Sie gerne in allen Fragen der Vakuumtechnik und konzipieren auf Wunsch Ihre komplette Vakuumanlage.
Dazu füllen Sie bitte unsere Fragebögen auf der Seite A 4 und A 5 aus.

Die Art. No. der Vakuumsauger sind teilweise mit einem * versehen. Bitte die Art. No. bei Bestellung mit dem gewünschten Material ergänzen. Die Materialnummern finden Sie am Ende des Katalogs.

Andere Materialien stehen auf Anfrage zur Verfügung.

Zu vielen Saugern in diesem Katalog sind weitere passende Anschlussteile lieferbar.

Notes:

On the pages 1.9 - 1.12 contain suggestions for adding cup fittings, supports, flow and plunger valves.

Flow and plunger valves are used where the objects to be handled are not or only partly accessible. They prevent the vacuum from breaking down.

We shall be pleased to advise you on matters of vacuum technology and will gladly help you conceive your entire vacuum unit. In this case please complete the questionnaire on the pages A 4 and A 5.

Art. Nos. of the cups are partly marked with asterisk (*). When ordering, please complete the Art. Nos. with the number of the material desired. For materials numbers, please see at catalog end.

Other materials are available on request.

For many cups presented in this catalog, further suitable fittings are available.

Remarques:

Vous trouverez en pages 1.9 - 1.12 des suggestions sur la façon de combiner les ventouses avec des raccords, porteurs, soupapes hydrauliques et palpeurs.

Les soupapes hydrauliques et palpeurs sont utilisés dans les cas où les objets à manipuler ne sont pas disponibles où ne le sont que partiellement. Ils évitent une interruption du circuit du vide.

C'est avec plaisir que nous répondrons à toutes vos questions sur le vide et que nous concevrons le système d'aspiration le mieux adapté à vos besoins. Veuillez à cet effet remplir notre questionnaire à les pages A 4 et A 5.

Les numéros d'article des ventouses sont en partie marqués d'un *. Veuillez compléter ce numéro par le matériau requis lors de la commande. Les numéros de matériau figurent à la fin de catalogue.

D'autres matériaux sont fournis sur demande.

Il existe encore d'autres raccords pour de nombreuses ventouses listées dans ce catalogue.



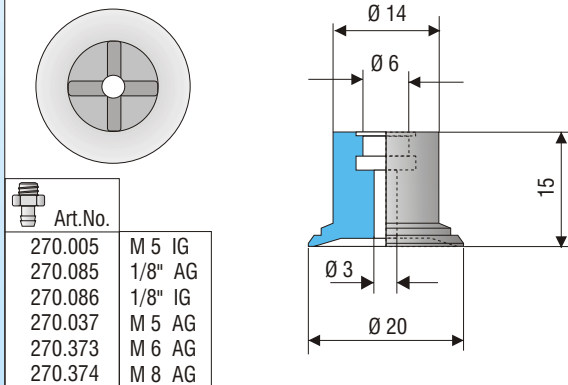
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VAKUUM-TECHNIK

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www.fipa-online.com

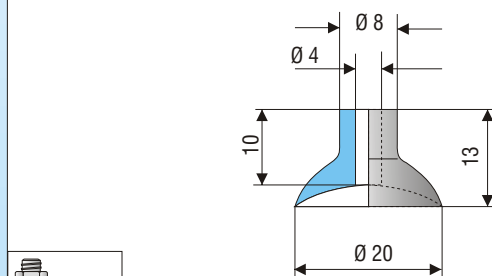
Tel. +49/(0)89 / 96 24 89 - 0
Fax +49/(0)89 / 96 24 89-11
e-mail: info@fipa-online.com

Flachsauger Flat suction cups Ventouses plates

Ø 20 mm
Ø 22 mm
Ø 28 mm

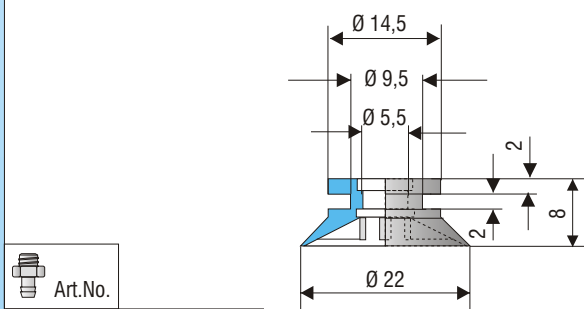


Art. No.			
102.020.083.2	Si (tr) 30° Shore		
102.020.080.1	NBR (sw) 40° Shore	1,0 mm	2,0 g
102.020.082.1	NBR (sw) 60° Shore		
102.020.084.2	Si (r) 60° Shore		



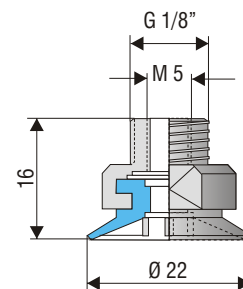
Art.No.	
270.033	1/8" AG
270.035	1/8" IG
270.104	M 6 AG
270.134	M 5 AG

Art. No. 112.020.032.*	NBR (sw), Si (tr), NR (sw), NR-E (b)	3,0 mm	0,9 g
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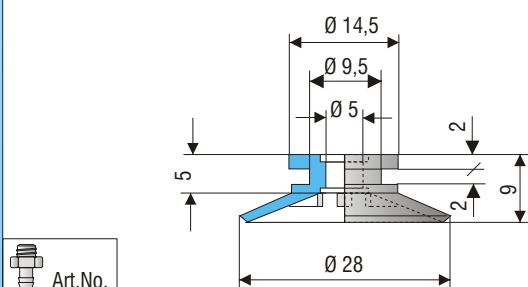


Art. No. 125.020.004.*	NBR (sw), Si (tr)	0,5 mm	0,8 g
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Ersatzsauger
Spare cup
Ventouse de rechange



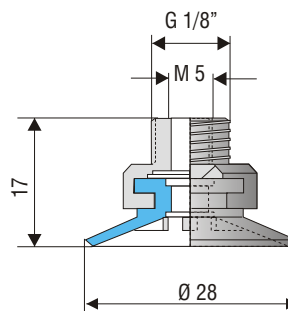
Art. No. 123.020.003.*	NBR (sw), Si (tr)	0,5 mm	3,5 g
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Art.No.	
270.094	M 5 AG
270.096	1/8" IG
270.135	1/8" AG
270.250	1/8" AG/ M 5 IG

Art. No. 125.025.007.*	NBR (sw), Si (tr)	1,0 mm	1,6 g
------------------------	-------------------	--------	-------

Ersatzsauger
Spare cup
Ventouse de rechange



Art. No. 123.025.010.*	NBR (sw), Si (tr)	1,0 mm	4,5 g
------------------------	-------------------	--------	-------

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



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www.fipa-online.com

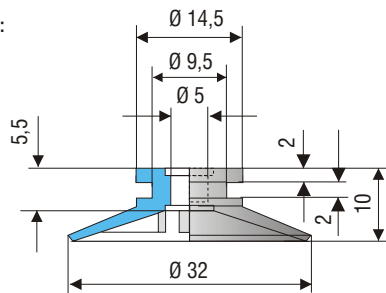
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Fax +49/(0)89 / 96 24 89-11
e-mail: info@fipa-online.com

Flachsauger Flat suction cups Ventouses plates

Ø 32 mm
Ø 42 mm

Ersatzsauger für:
Spare cup for:
Ventouse de rechange pour:

123.030.019
124.030.002



Art.No.

270.250	1/8" AG/M 5 IG
270.094	M 5 AG
270.135	1/8" AG

FKM auf Anfrage
FKM on request
FKM sur demande

Art. No. 125.030.010.*

NBR (sw),
Si (tr)



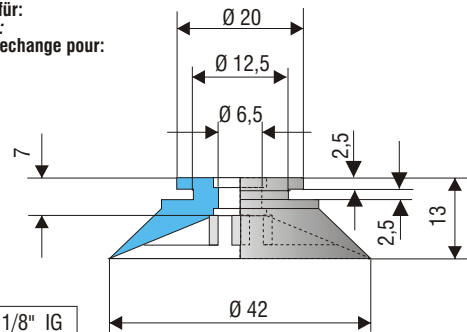
2,5 mm



1,8 g

Ersatzsauger für:
Spare cup for:
Ventouse de rechange pour:

123.040.028
124.040.006



Art.No.

270.136	1/8" IG
270.251	1/8" IG
270.274	1/4" AG
270.275	1/4" IG
270.295	3/8" AG

Art. No. 125.040.013.*

NBR (sw),
Si (tr),
CR (sw)

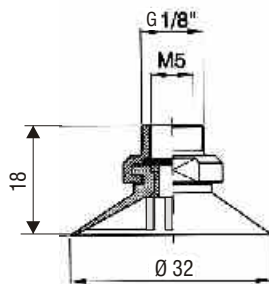


2,0 mm



6,4 g

Ersatzsauger
Spare cup
Ventouse de rechange



Art. No. 123.030.019.*

NBR (sw),
Si (tr)

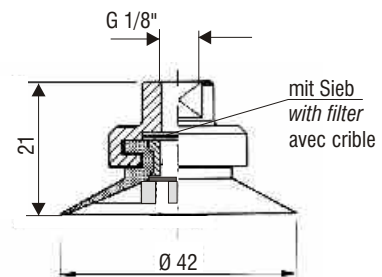


2,5 mm



5,0 g

Ersatzsauger
Spare cup
Ventouse de rechange



Art. No. 123.040.028.*

NBR (sw),
Si (tr),
CR (sw)

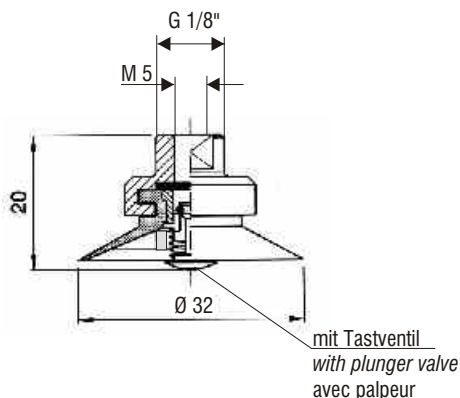


2,0 mm



11 g

Ersatzsauger
Spare cup
Ventouse de rechange



Art. No. 124.030.002.*

NBR (sw),
Si (tr)

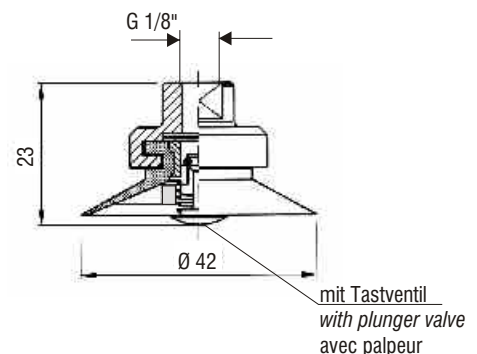


2,5 mm



5,2 g

Ersatzsauger
Spare cup
Ventouse de rechange



Art. No. 124.040.006.*

NBR (sw),
Si (tr)



2,0 mm



12 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
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VAKUUM-TECHNIK

D-85737 Ismaning
Freisinger Str. 30
www.fipa-online.com

Tel. +49/(0)89 / 96 24 89 - 0
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5/2005

Flachsauger Flat suction cups Ventouses plates

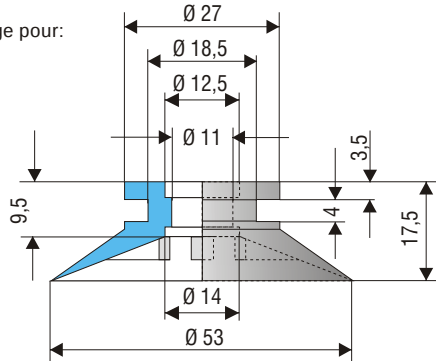
Ø 40 mm -
Ø 53 mm

Ersatzsauger für:
Spare cup for:
Ventouse de rechange pour:

123.050.034
124.050.009



Art.No.	
270.012	1/8" AG
270.137	1/8" IG
270.252	1/8" IG
270.293	1/8" IG
270.296	3/8" IG
270.255 + 270.098 = 1/4" IG	
270.255 + 270.097 = 1/8" IG	



Art. No. 125.050.017.*

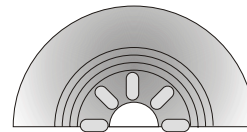
NBR (sw),
Si (tr)



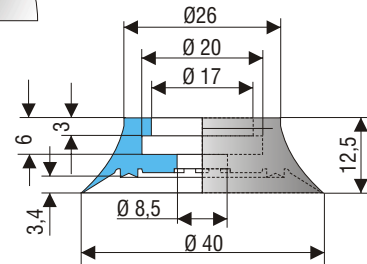
2,5 mm



11,4 g



für genarbte Oberflächen
for grained surfaces
pour surfaces grainées



Art.No.	
270.234	1/8" IG

Art. No. 102.040.357.*

Si (tr)
NR-E (b)

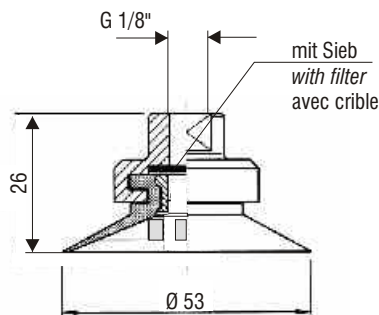


3,0 mm



20 g

Ersatzsauger
Spare cup
Ventouse de rechange



Art. No. 123.050.034.*

NBR (sw),
Si (tr)

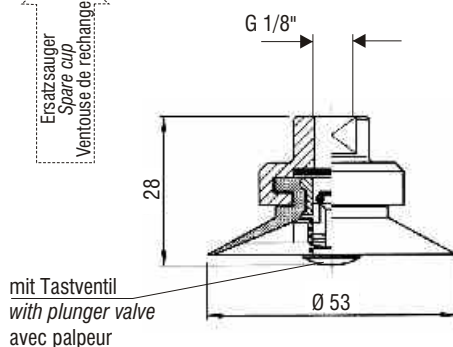


2,5 mm



24,0 g

Ersatzsauger
Spare cup
Ventouse de rechange



Art. No. 124.050.009.*

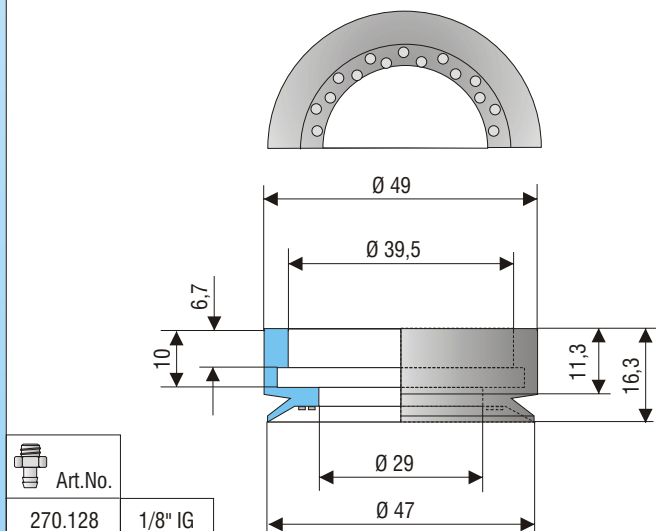
NBR (sw),
Si (tr)



2,5 mm



26,0 g



Art.No.	
270.128	1/8" IG

Art. No. 154.047.059.3

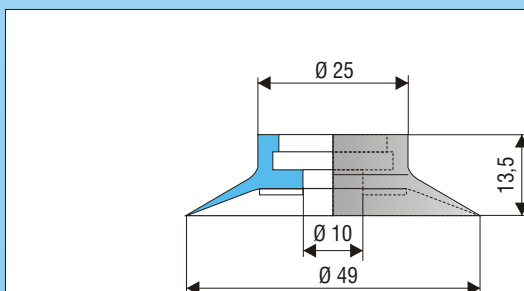
NR (sw)



2,0 mm



11 g



Art.No.	
270.234	1/8" IG

Art. No. 154.049.068.1

NBR (gr)



3,5 mm



7,0 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



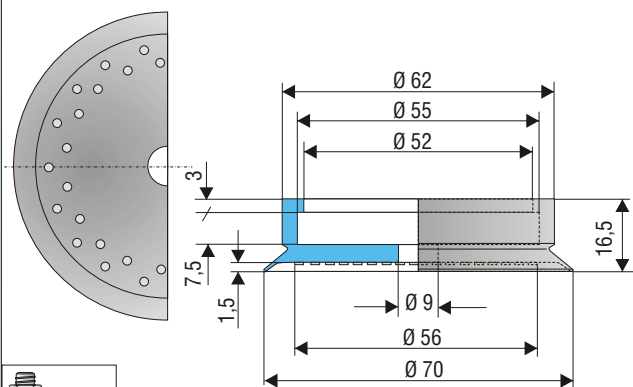
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VAKUUM-TECHNIK

D-85737 Ismaning
Freisinger Str. 30
www.fipa-online.com

Tel. +49/(0)89 / 96 24 89 - 0
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Flachsauger Flat suction cups Ventouses plates

Ø 70 mm -
Ø 80 mm



Art.No.
270.391

1/4" IG

Art. No. 154.070.062.1

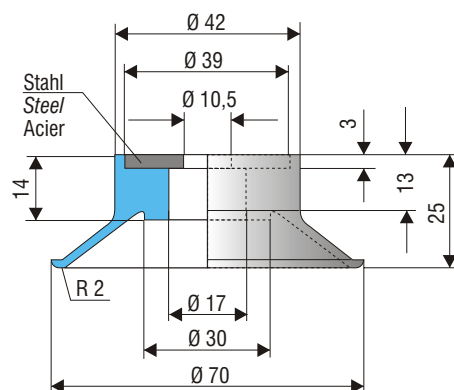
NBR (grau)



1,5 mm



27 g



Art. No. 102.070.296.3

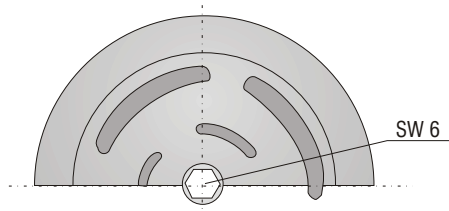
NR (r)



10 mm



50,0 g



abdruckfrei
anti-marking
anti-trace

Art. No. 103.075.025.5

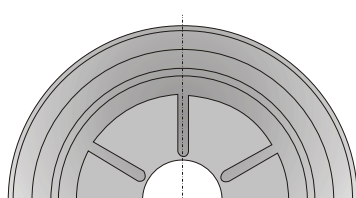
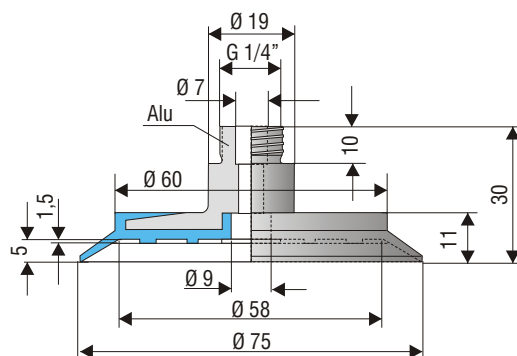
PUR (b)



3,5 mm

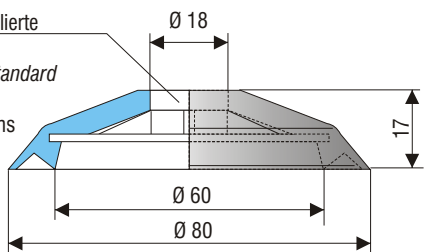


60 g



Handling von Holzpanelen
Handling of wooden panels
Pour la maniement des
lambris du bois

passend für bereits installierte
Standardaufnahmen
suited for pre-installed standard
fittings
convient à des installations
standard déjà existantes



Art.No.
270.390

1/4" AG

Art. No. 107.080.087.*

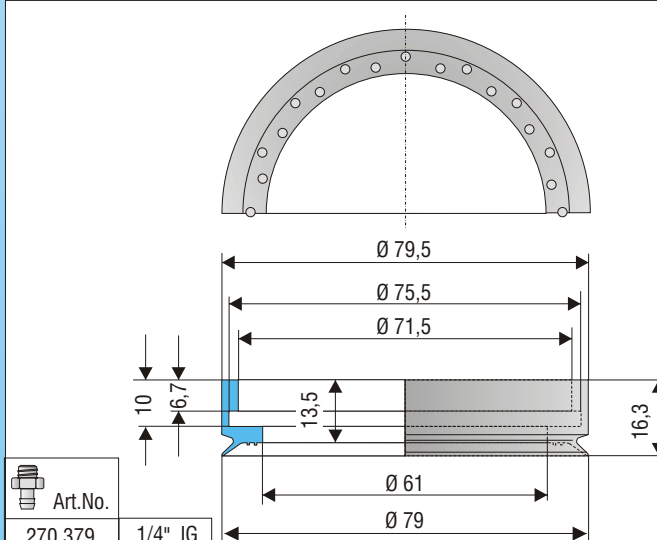
NBR (gr)
NR (r)
PUR (tr)



1,5 mm



30,0 g



Art.No.
270.379

1/4" IG

Art. No. 154.080.067.3

NR (sw)



1,5 mm



30,0 g

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* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
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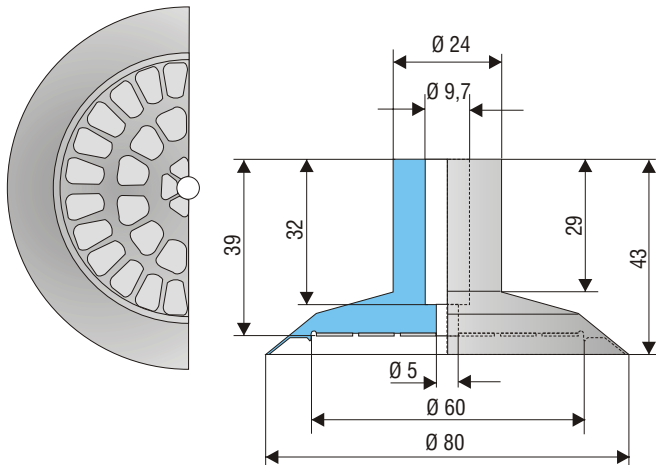
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Freisinger Str. 30
www.fipa-online.com

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Flachsauger Flat suction cups Ventouses plates

Ø 80 mm -
Ø 98 mm



Art. No. 104.080.091_*

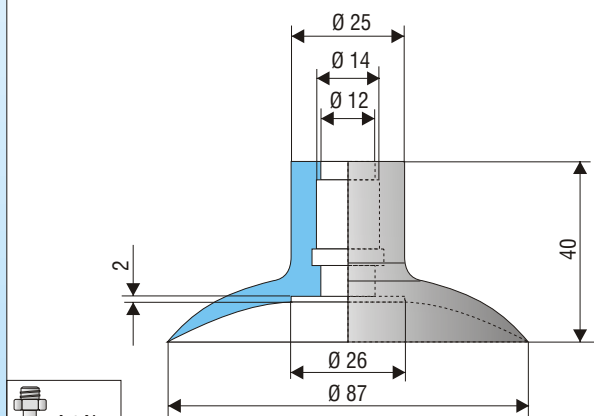
NBR (gr),
NR-E (b)
SBR (rb)



4,0 mm



43 g



Art.No.

270.049

1/4" AG

Art. No. 112.087.089.3

NR (sw)
NR (w)



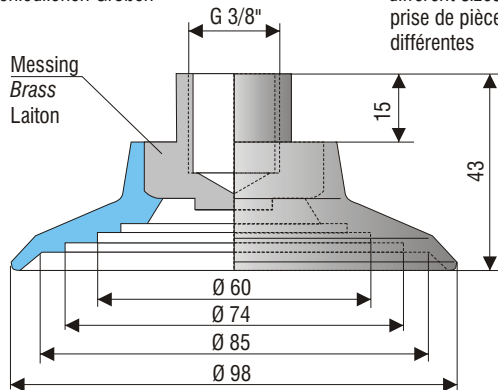
10,0 mm



40,0 g

Aufnehmen von Werkstücken mit
unterschiedlichen Größen

picking up workpieces of
different sizes
prise de pièces de tailles
différentes



Art. No. 104.098.079.3

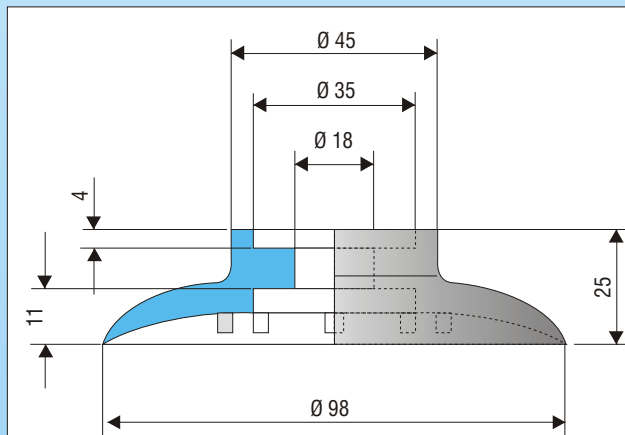
NR (b)



8,0 mm



200 g



Art. No. 104.098.029.4

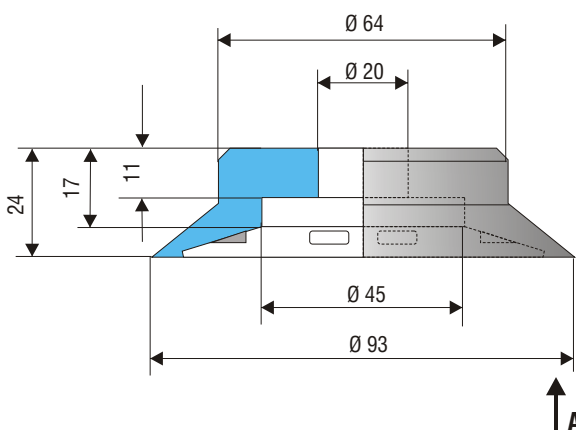
NR-E (bg)



2,0 mm



48,0 g



Art. No. 102.095.182.4

NR-E (bg)

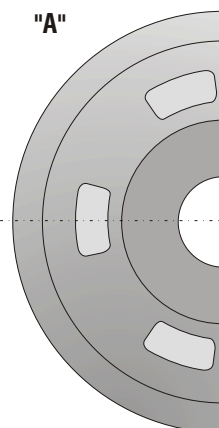


2,5 mm



84,0 g

"A"



Art.No. 270.100

Anschlussstück
Fitting
Raccord

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



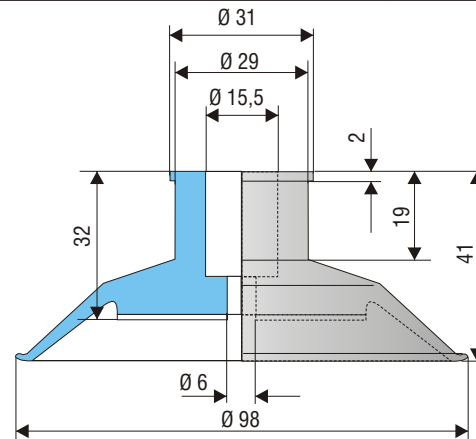
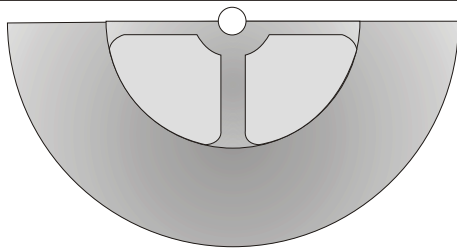
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Fax +49/(0)89 / 96 24 89-11
e-mail: info@fipa-online.com

Flachsauger Flat suction cups Ventouses plates

Ø 98 mm -
Ø 110 mm



Art. No. 104.098.021_*

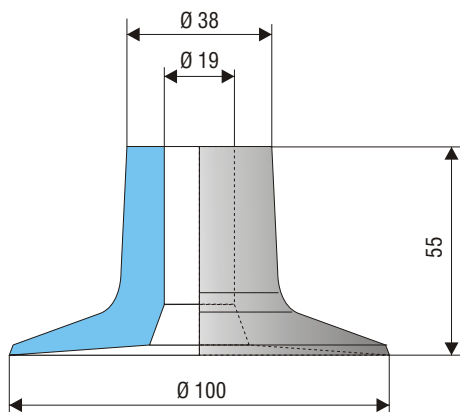
NBR (gr),
NR (bg)



9,0 mm



84 g



Art. No. 102.100.100.4

NR-E (b)

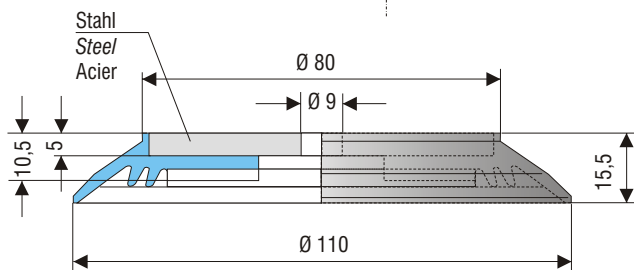
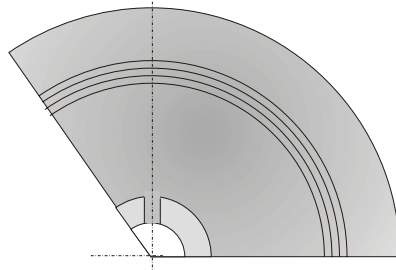


0,5 mm



92,0 g

für vibrationsarmes Halten
for low-vibration holding
pour un maintien avec
peu de vibrations



Art. No. 152.110.070.13

SBR (sw)

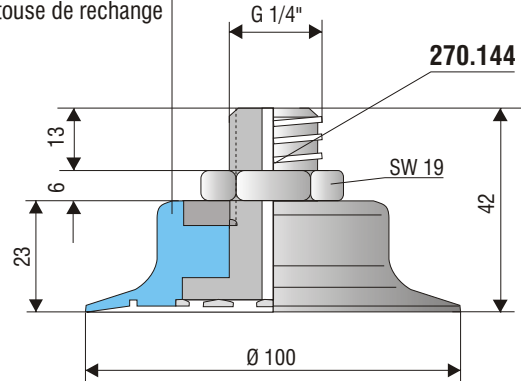


5,0 mm



279 g

Ersatzsauger Art. No. 154.100.012_.*
Spare cup
Ventouse de rechange



Art. No. 152.100.042_.*

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



2,0 mm

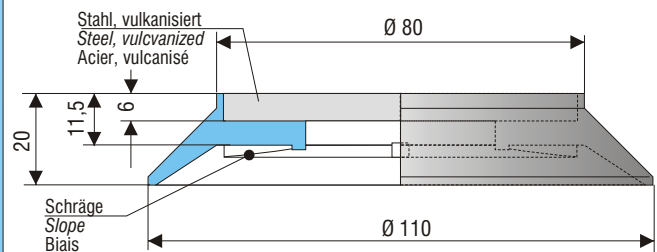
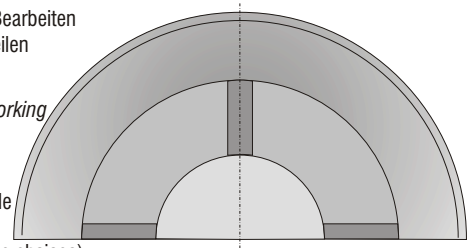


192,0 g

Aufnehmen und Bearbeiten
von gewölbten Teilen
(z.B. Stuhllehnen)

picking up and working
curved parts
(e.g. chair backs)

prise et usinage de
pièces bombées
(par ex. dossier de chaises)



Art. No. 104.110.080.3

NR (b)



9,0 mm



270 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



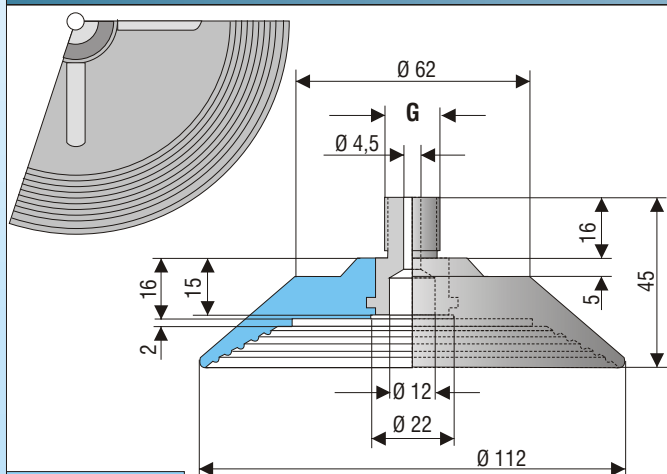
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Flachsauger Flat suction cups Ventouses plates

Ø 112 mm -
Ø 160 mm



Art. No.
150.112.021.1

G

G 1/4"

NBR (bg) 50° Shore



11 mm



120 g

150.112.022.1

M 14 x 1,5

NBR (bg) 50° Shore

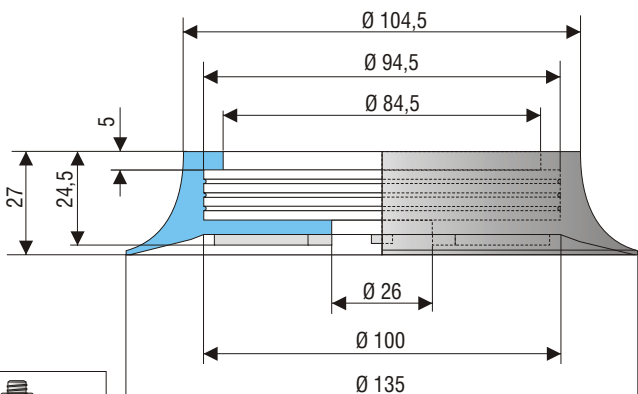
NBR (sw) 40° Shore



11 mm



120 g



Art.No.

270.290

1/2" IG / Delrin

Art. No. 102.135.335.3

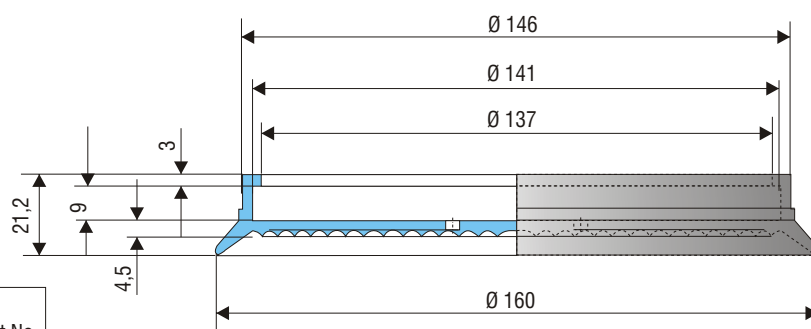
NR (gr)



2,5 mm



113 g



Art.No.

270.217

1/4" IG

Art. No. 154.160.049.*

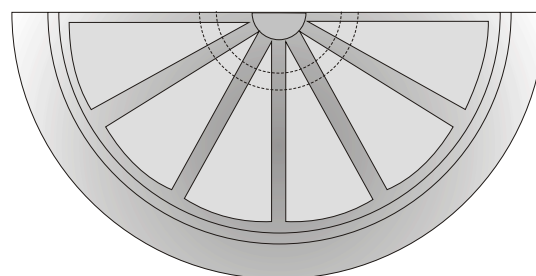
NBR (gr + sw),
Si (tr),
PUR (ge)



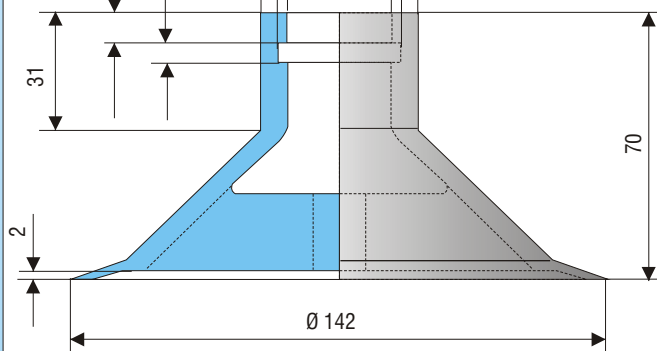
4,7 mm



148 g



- für glatte Flächen:
sehr abdruckarm, kein Hub
- für Teppichoberflächen
(nur mit Vakuumerzeugung
durch Seitenkanalverdichter)



- pour surfaces lisses:
laissant très peu traces, sans course
- pour faces supérieures de tapis

- for smooth surfaces:
non-marking, no stroke
- for carpet surfaces (only
if vacuum ist generated by
lateral channel blowers)



Art.No.

270.330

1" IG

Art. No. 104.142.077.1

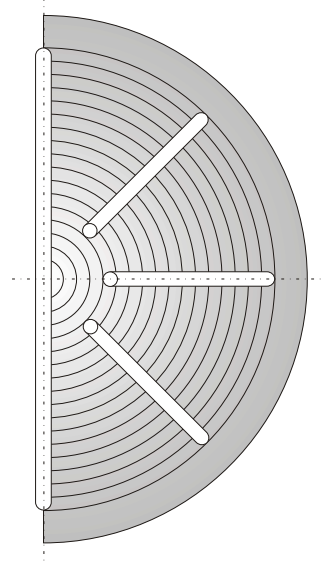
NBR (bg)



0,0 mm



152 g



* Art. No. bei Bestellung mit angegebenem Material ergänzen.

* When ordering add indicated material.

* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).

Other materials on request (see materials list INFO 4).

Autres matériaux sur demande (voir list des matériaux INFO 4)



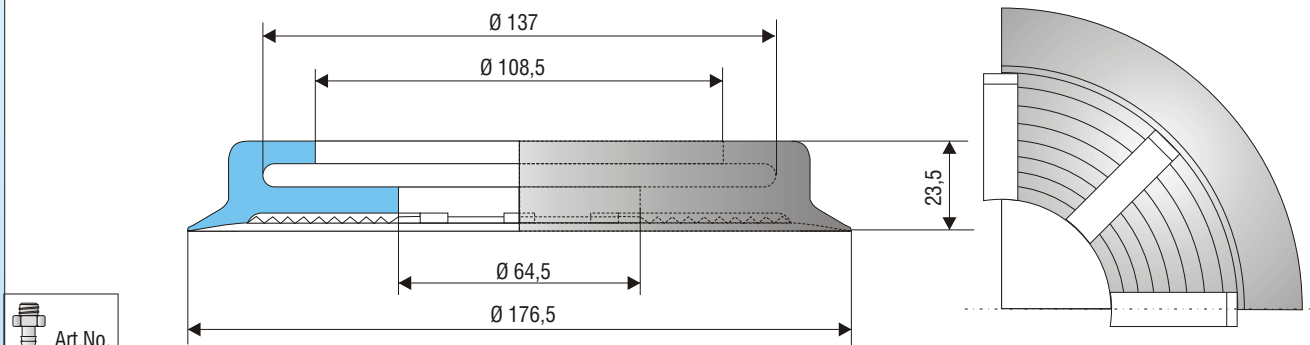
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Flachsauger Flat suction cups Ventouses plates

Ø 177 mm -
Ø 350 mm



Art.No.

270.218

1/4" IG

Art. No. 154.177.053.*

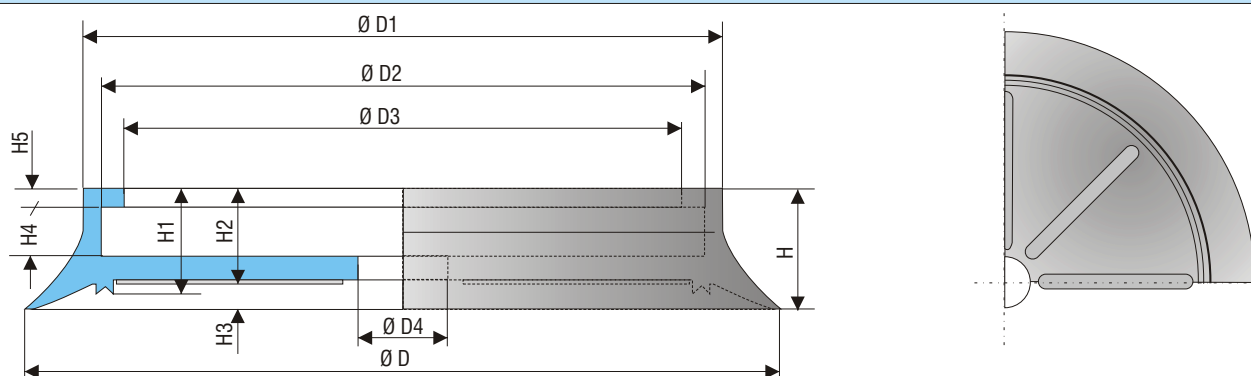
Si (tr),
CR



0,0 mm



260 g



Art. No.

102.200.350.*

NBR (gr) 50° Shore
Si (tr) 40° Shore
NR-E (rb) 30° Shore



5,0 mm



200 g



270.335 =
1/2" IG

D

D1

D2

D3

D4

H

H1

H2

H3

H4

H5

102.350.353.4

NR-E (rb) 30° Shore



770 g



270.337 =
1/2" IG

350

304

292

282

25

38

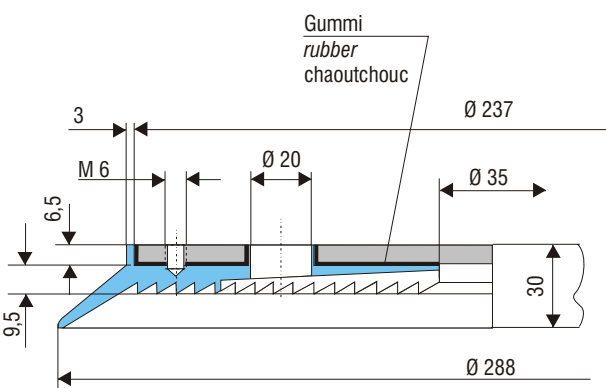
27

25

13

12

6



Ohne Bohrungen/without holes/sans forage:

Art. No. 152.288.091.3 = NR (r), 50° Sh

(40° Sh auf Anfrage/on request/sur demande)

Art. No. 152.288.049.*

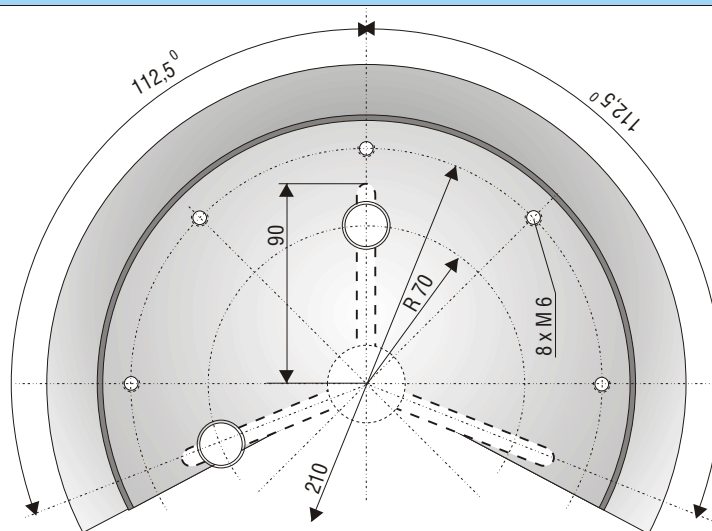
NBR (sw),
Si (r)



12 mm



2580 g



* Art. No. bei Bestellung mit angegebenem Material ergänzen.

* When ordering add indicated material.

* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).

Other materials on request (see materials list INFO 4).

Autres matériaux sur demande (voir list des matériaux INFO 4)



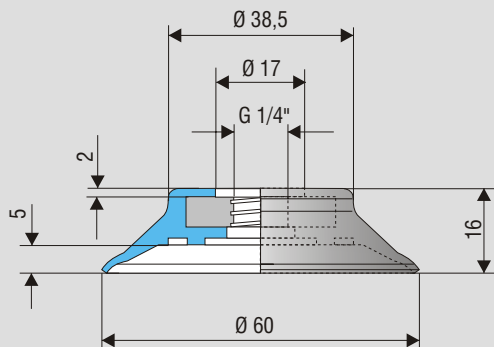
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Flachsauger Flat suction cups Ventouses plates

Familie
Ø 60 mm -
Ø 80 mm



Art. No. 102.060.303.*

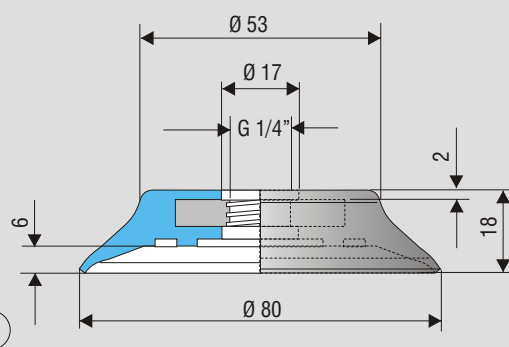
NBR (sw),
Si (tr),
PUR (or)



5,0 mm



15,2 g



Art. No. 102.080.304.*

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

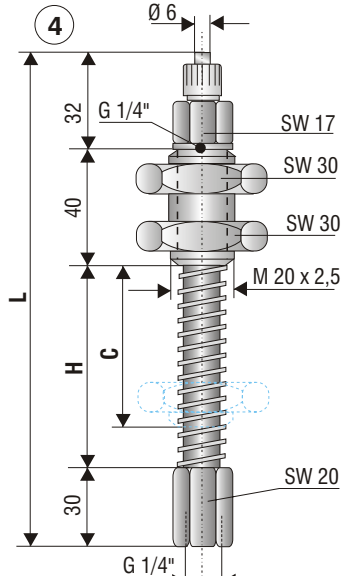
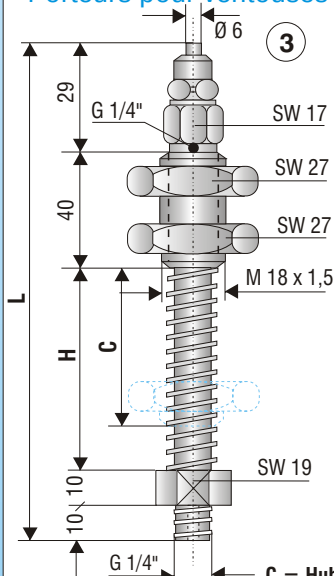


6,0 mm



52,8 g

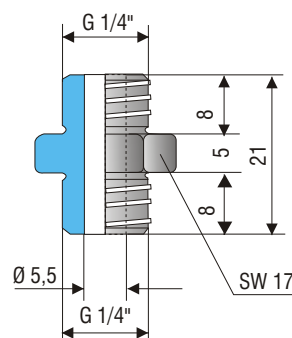
Federstößel / Supports for suction cups / Porteurs pour ventouses



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

Art. No.	H	L	C
50.105	28	130	17
50.106	65	167	50
50.107	95	197	74

Anschlussstück Fitting Raccord

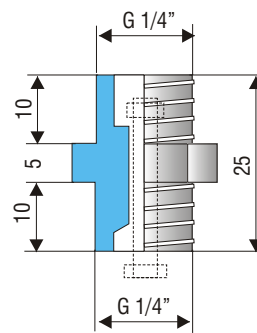
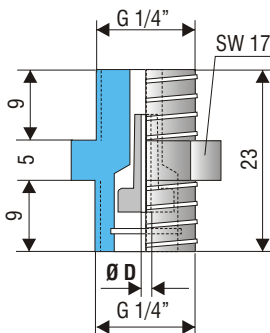


Art. - No. 270.191

Strömungsventile / Flow valves / Soupapes hydrauliques

5 mit Strömungsstift
with flow pin
avec broche de flux

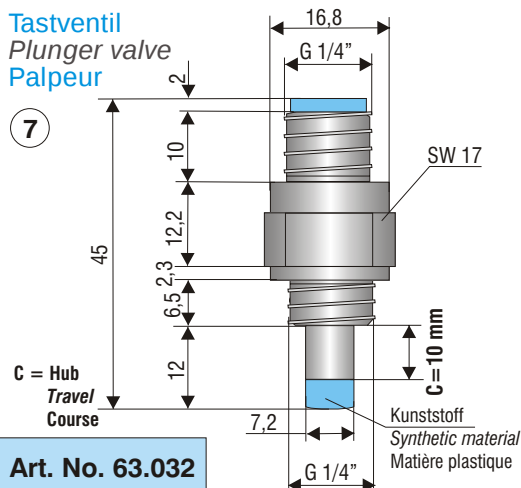
6 mit Selbstreinigungseffekt
with self-cleaning effect
avec effet autonettoyant



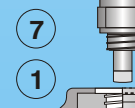
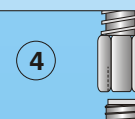
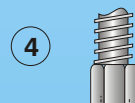
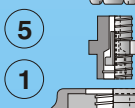
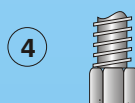
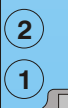
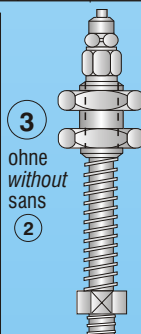
Art. No.	Sauger-Ø cup diam. Ø ventouse	Ø D
63.036	60 mm	0,8 mm
63.037	80 mm	1,2 mm

Art. No. 63.013

Tastventil Plunger valve Palpeur



Art. No. 63.032



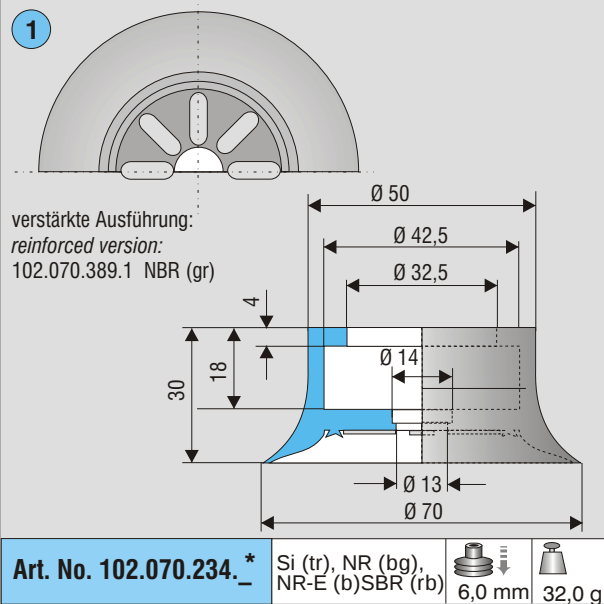
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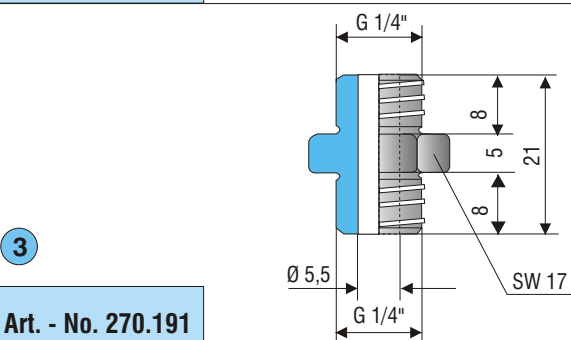
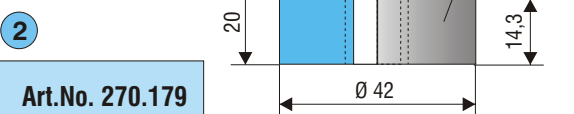
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Fax +49/(0)89 / 96 24 89-11
e-mail: info@fipa-online.com

Flachsauger Flat suction cups Ventouses plates

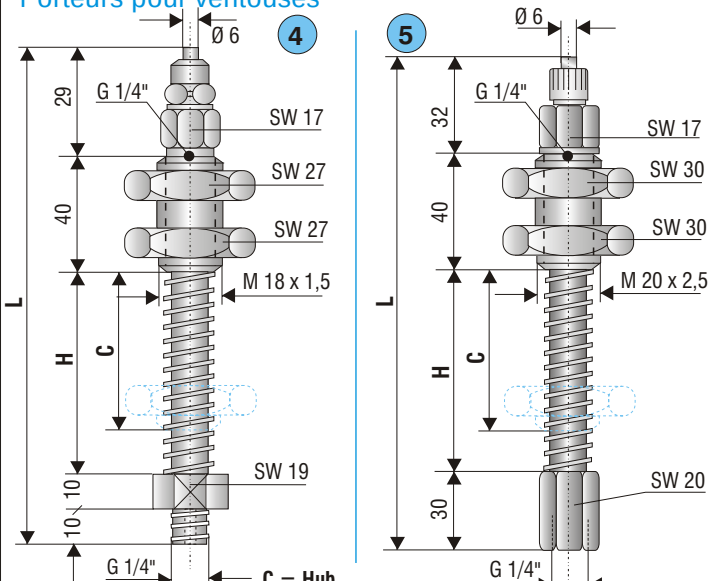
Familie
Ø 70 mm



Anschlusssteile Fittings Raccords



Federstößel / Supports for suction cups / Porteurs pour ventouses

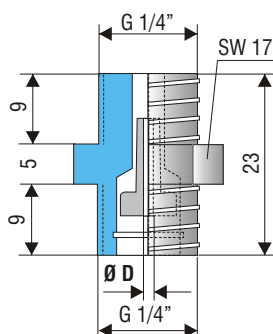


Art. No.	C	H	L
50.015	25	37	126
50.016	55	77	166
50.017	80	110	199

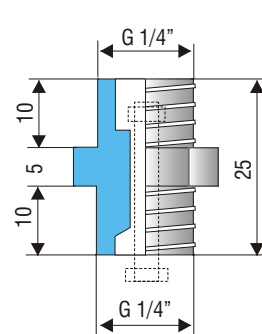
Art. No.	H	L	C
50.105	28	130	17
50.106	65	167	50
50.107	95	197	74

Strömungsventile / Flow valves / Soupapes hydrauliques

6 mit Strömungsstift
with flow pin
avec broche de flux

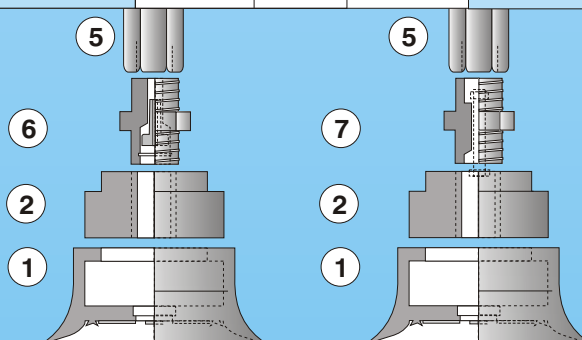
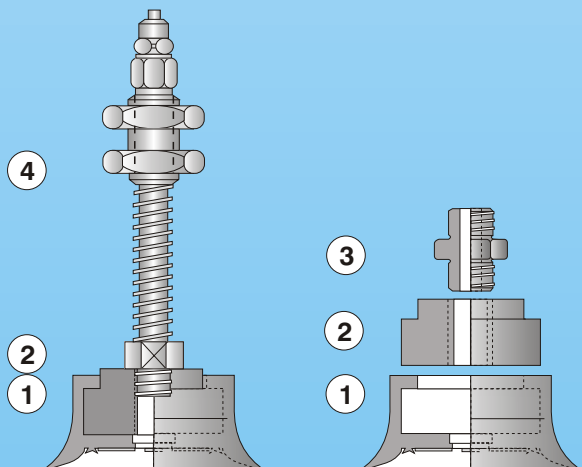


7 mit Selbstreinigungseffekt
with self-cleaning effect
avec effet autonettoyant



Art. No.	Sauger-Ø cup diam. Ø ventouse	Ø D
63.036	60 mm	0,8 mm
63.037	80 mm	1,2 mm

Art. No. 63.013



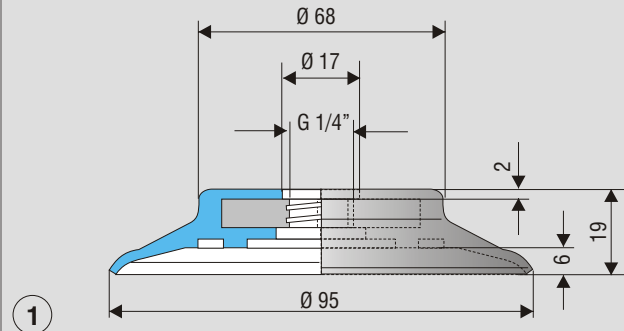
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Flachsauger Flat suction cups Ventouses plates

Familie
Ø 95 mm



Art. No. 102.095.305_*

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

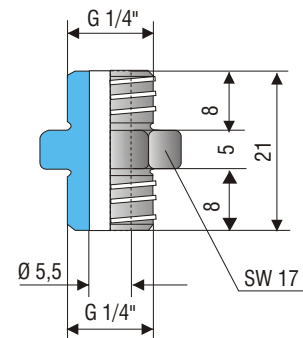


6,0 mm



92,0 g

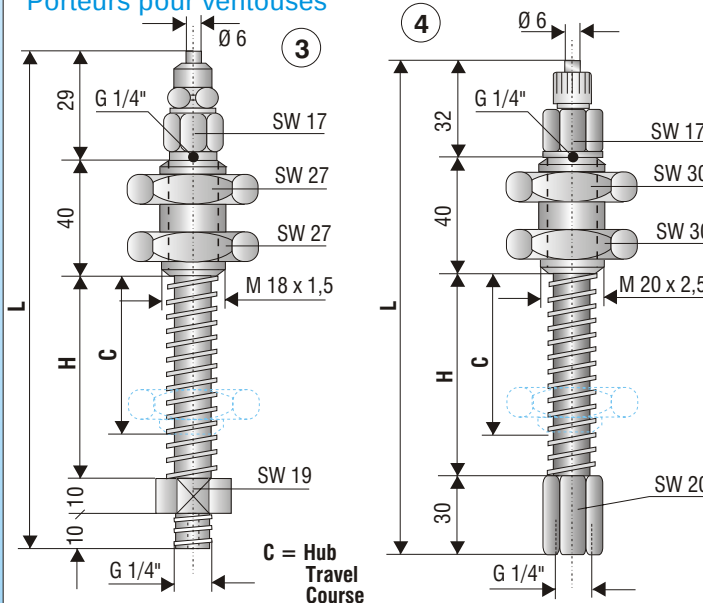
Anschlussstück Fitting Raccord



2

Art. - No. 270.191

Federstößel / Supports for suction cups / Porteurs pour ventouses

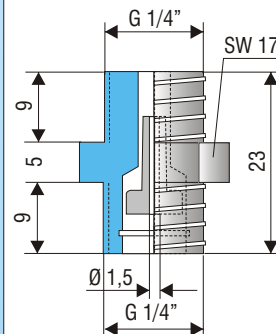


Art. No.	C	H	L
50.015	25	37	126
50.016	55	77	166
50.017	80	110	199

Art. No.	H	L	C
50.105	28	130	17
50.106	65	167	50
50.107	95	197	74

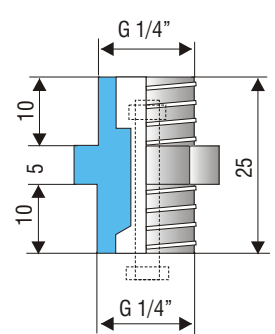
Strömungsventile / Flow valves / Soupapes hydrauliques

5 mit Strömungsstift
with flow pin
avec broche de flux



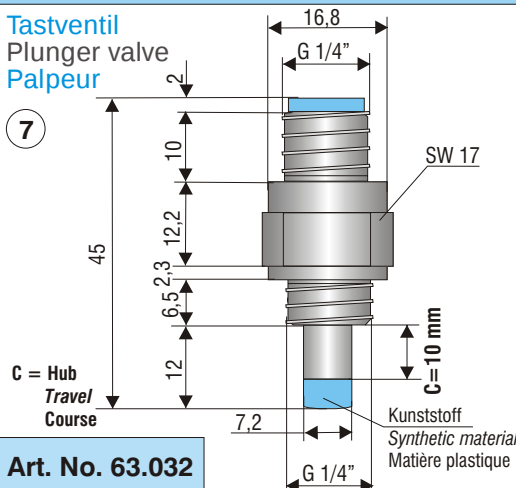
Art. No. 63.038

6 mit Selbstreinigungseffekt
with self-cleaning effect
avec effet autonettoyant

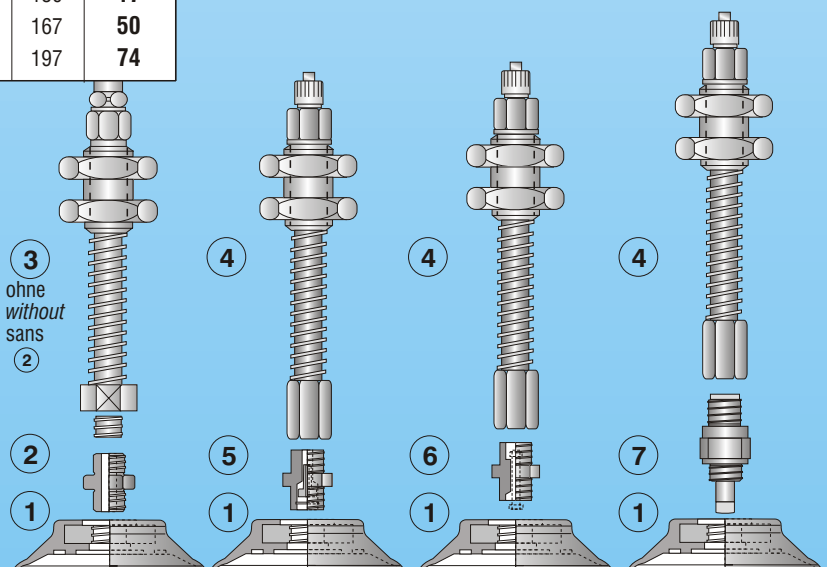


Art. No. 63.013

Tastventil Plunger valve Palpeur



Art. No. 63.032



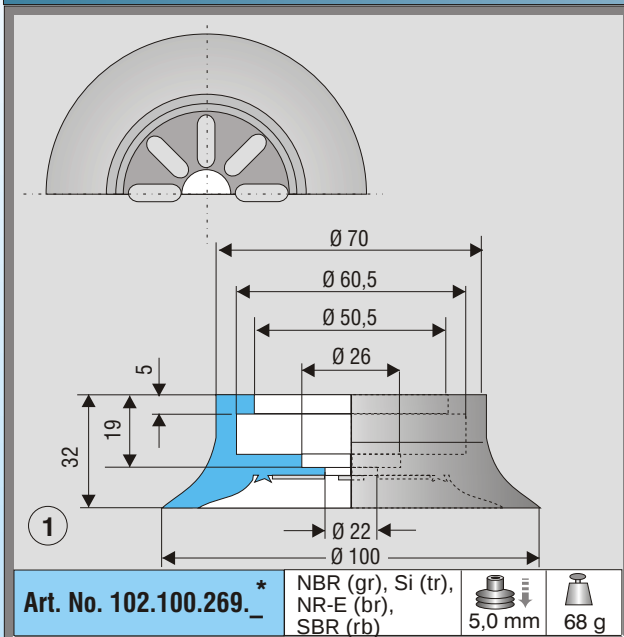
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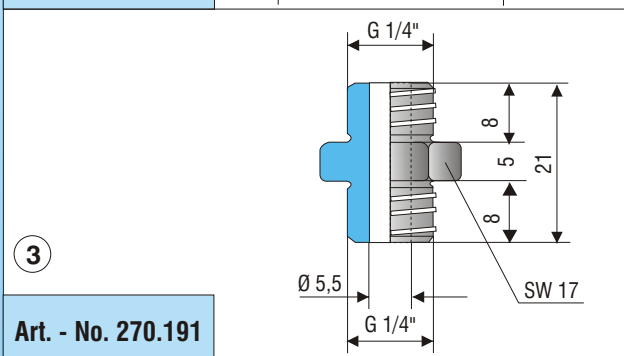
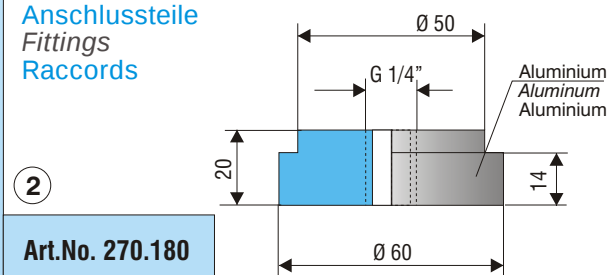
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Fax +49/(0)89 / 96 24 89-11
e-mail: info@fipa-online.com

Flachsauger Flat suction cups Ventouses plates

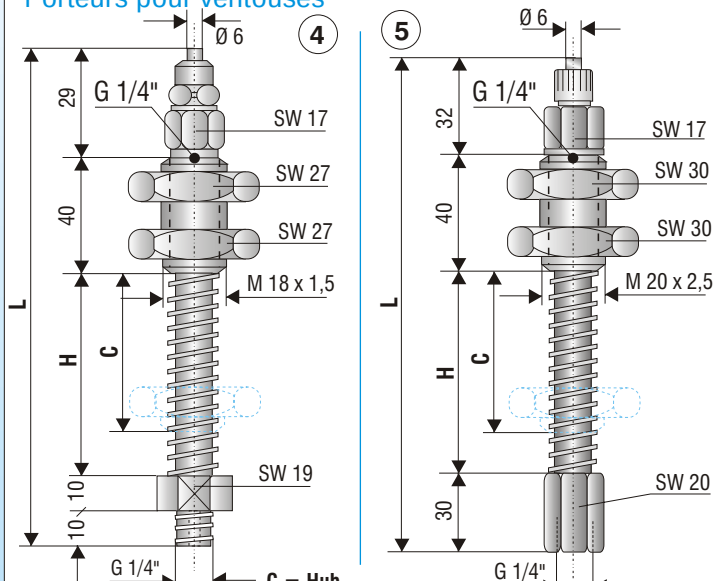
Familie
Ø 100 mm



Anschlusssteile Fittings Raccords



Federstößel / Supports for suction cups / Porteurs pour ventouses

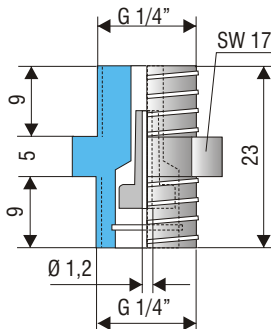


Art. No.	C	H	L
50.015	25	37	126
50.016	55	77	166
50.017	80	110	199

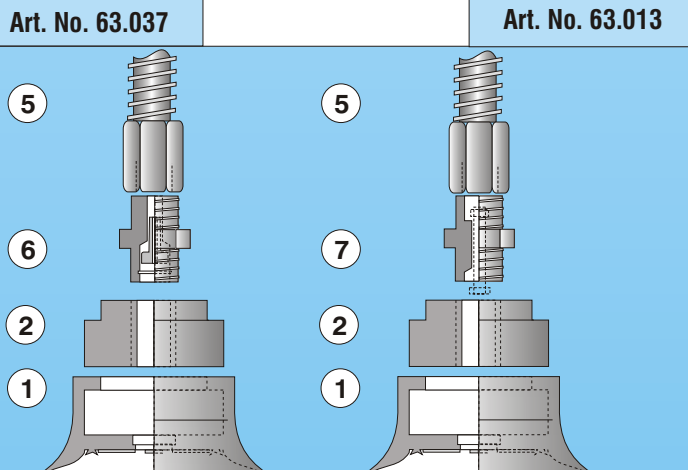
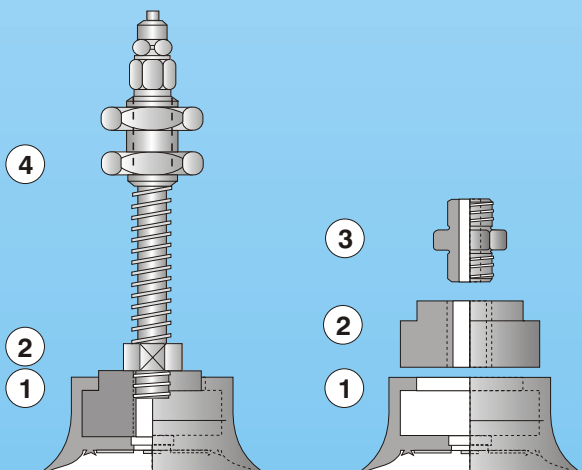
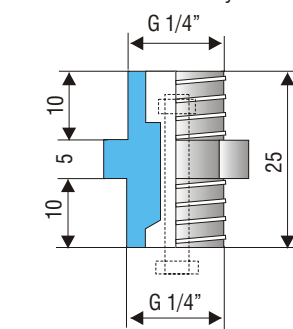
Art. No.	H	L	C
50.105	28	130	17
50.106	65	167	50
50.107	95	197	74

Strömungsventile / Flow valves / Soupapes hydrauliques

6 mit Strömungsstift
with flow pin
avec broche de flux



7 mit Selbstreinigungseffekt
with self-cleaning effect
avec effet autonettoyant

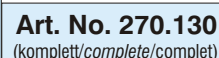


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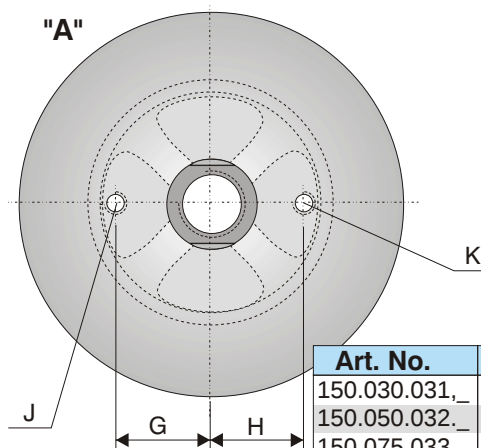
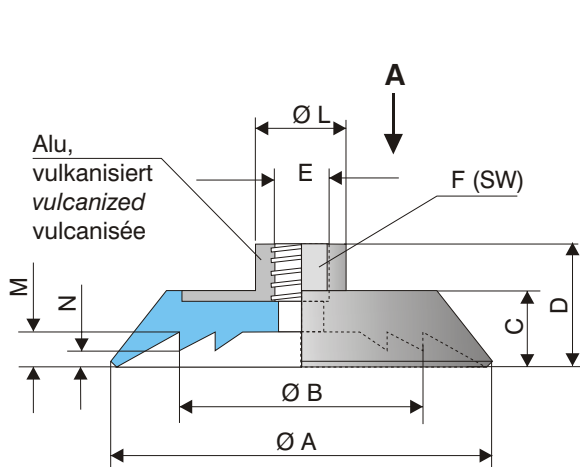
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Serie mit Zubehör
Serie with accessories
 Serie avec accessoires

3/2005

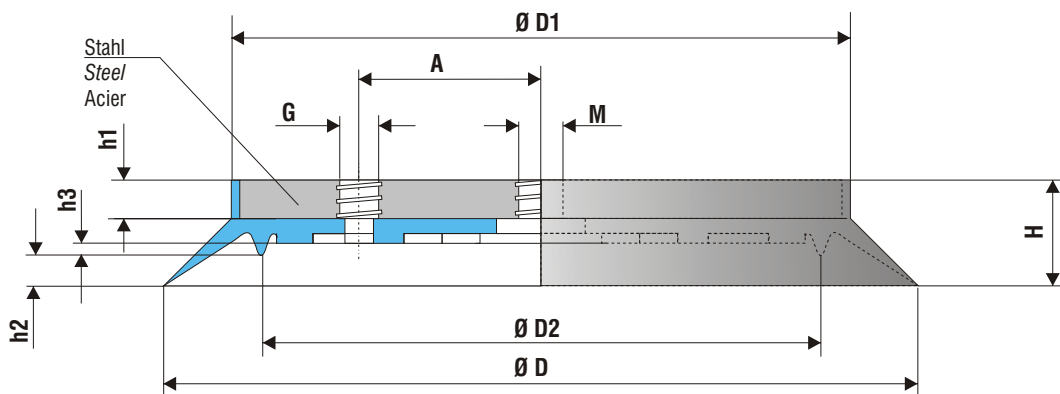
Flachsauger Flat suction cups Ventouses plates

Serien
Series
Series



Art. No.	Material
150.030.031._	Si (r), PUR (bg), CR (sw)
150.050.032._	Si (r), PUR (sw), CR (sw)
150.075.033._	Si (r), CR (sw), FKM (sw)
150.100.034._	NBR (sw), NR (w), Si (tr)
150.150.010._	Si (r), CR (sw)
150.225.018._	Si (r), CR (sw)
150.300.023._	Si (r), CR (sw)

Art. No.	A	B	C	D	E	F	G	H	J	K	L	M	N	mm	g
150.030.031._	30	18	10	17	M 5	8	--	--	--	--	10	3,5	2,5	2,5	3,5
150.050.032._	50	33	11	18	G 1/8"	14	--	--	--	--	18	5,5	4,5	4,0	14
150.075.033._	75	50	14	22	G 1/4"	17	--	--	--	--	22	7,0	5,5	5,5	38
150.100.034._	100	68	20	30	---	24	--	--	--	--	30	8,5	7,0	9,0	83
150.150.010._	150	100	26	42	G 1/2"	27	--	30	--	G 1/8"	35	12,0	9,0	10,0	284
150.225.018._	225	150	34	54	G 3/4"	41	--	50	--	G 1/8"	50	14,0	11,0	8,0	840
150.300.023._	300	200	44	70	G 1"	46	70	60	G 1/2"	G 1/8"	56	19,0	15,0	17,0	1840



Art. No.	Material/Material/Matériau	mm	g	Ø D	Ø D1	Ø D2	H	h1	h2	h3	A	G	M
152.110.081._ *	NBR (sw), Si (tr), NR (sw)	7 mm	330 g	110	74	68	26	10	7	3	26,0	G 1/4"	M 12
152.150.020._ *		7 mm	847 g	150	115	105	26	10	7	3	40,0	G 3/8"	M 12
152.200.026._ *		8 mm	1760 g	200	164	148	28	10	8	3	47,5	G 3/8"	M 12
152.250.030._ *		8 mm	3000 g	250	214	196	28	10	8	3	72,5	G 3/8"	M 12
152.300.036._ *		10 mm	4580 g	300	266	248	31	10	10	3	89,0	G 1/2"	M 16
152.350.110._ *		11 mm	6600 g	350	316	298	31	10	10	3	89,0	G 1/2"	M 16

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
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Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



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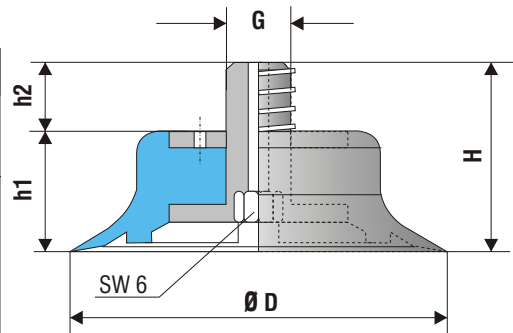
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e-mail: info@fipa-online.com

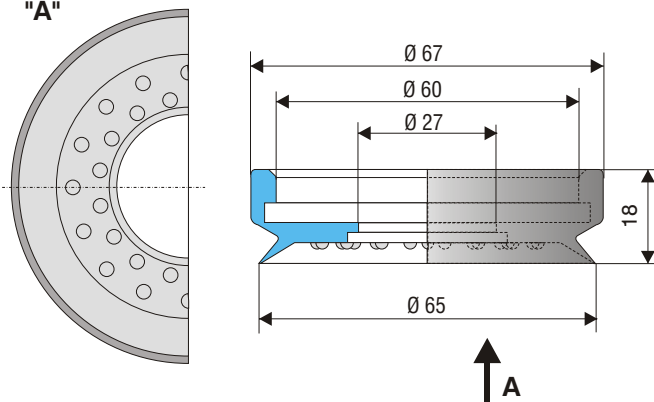
Flachsauger Flat suction cups Ventouses plates

Serien
Series
Series

Art. No.		Ø D	G	H	h1	h2			Ersatzsauger Spare cup Vent. de rechange
100.076.073.*	NBR (sw), Si (tr), NR (sw)	76	G 1/4"	38	24	14	1,5 mm	80 g	102.076.188.*
100.076.083.*		76	G 3/8"	38	24	14	1,5 mm	82 g	102.076.188.*
100.090.075.*		90	G 1/4"	38	24	14	1,5 mm	98 g	102.090.189.*
100.090.084.*		90	G 3/8"	38	24	14	1,5 mm	100 g	102.090.189.*
100.110.082.*	NR (sw)	110	G 1/4"	38	24	14	2,0 mm	172 g	102.110.190.*
100.110.085.*		110	G 3/8"	38	24	14	2,0 mm	175 g	102.110.190.*
100.150.086.*		150	G 3/8"	50	36	14	2,0 mm	352 g	102.150.191.*



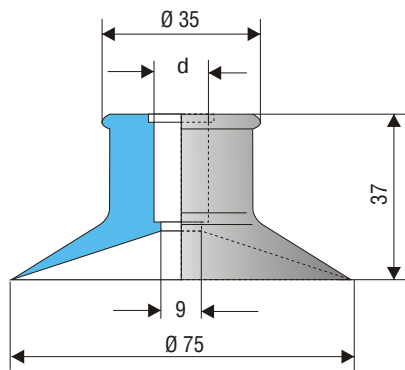
"A"



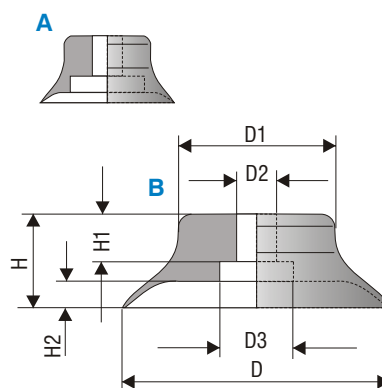
Art. No. 154.065.003.*	NBR (sw), Si (tr), NR (sw), FKM (g) +300°C		3,0 mm		21,0 g
------------------------	--	---	--------	---	--------

		Art. No.	270.156	M 6 IG
			270.157	M 8 IG
		270.129	270.158	1/8 IG
			270.159	M10x1,25 IG
			270.160	M 16 IG
			270.161	3/8" IG
			270.162	M17x1 IG
			270.263	M 12 IG
			270.264	1/4" IG
			270.285	Ø 6
			270.286	1/2" IG

Anschlusssteile
Fittings
Raccords



Art. No.	d			
120.075.075.4	G 1/4"	NR-E (b)	3,0 mm	35,0 g
120.075.074.4	M 12	NR-E (b)	3,0 mm	34,5 g
122.075.063.4	Ø 11,5	NR-E (b)	3,0 mm	29,0 g



für glatte Oberflächen
for smooth surfaces
pour surfaces lisses

Art. No.		D	D1	D2	D3	H	H1	H2		
102.020.410.5	A	20	13,0	4,5	11	10	6	1,5	1,5 mm	1,5 g
102.030.411.5	B	30	13,0	6,0	11	12	7	2,1	2,1 mm	2,0 g
102.040.412.5	B	40	23,5	6,0	11	14	7	4,0	4,0 mm	6,0 g
102.050.413.5	C	50	25,0	8,0	20	15	7	4,0	4,0 mm	9,0 g

für / for / pour Art.No.

Art. No. 102.020.410.5	Art. No. 102.030.411.5
270.319 1/8" IG	270.275 1/4" IG
270.087 1/8" AG	270.274 1/4" AG
270.311 M 5 AG	270.312 M 6 AG
	270.030 1/8" AG
	270.019 1/8" IG
Art. No. 102.040.412.5	Art. No. 102.050.413.5
270.275 1/4" IG	270.034 1/4" AG
270.274 1/4" AG	270.314+308 = 1/4" IG
270.312 M 6 AG	270.313 M 8 AG
270.030 1/8" AG	
270.019 1/8" IG	

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
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Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



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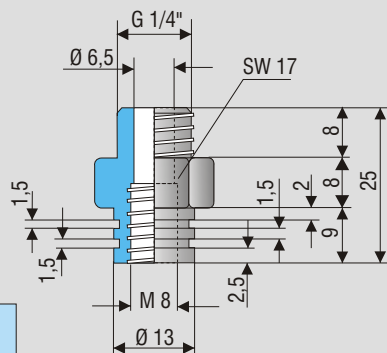
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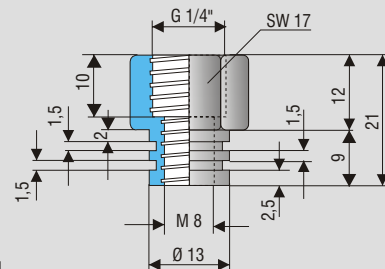
Oval-/Rechtecksauger Oval/rectangular suction cups Ventouses ovales/rectangulaires

Serien mit Zubehör
Series with accessories
Séries avec accessoires

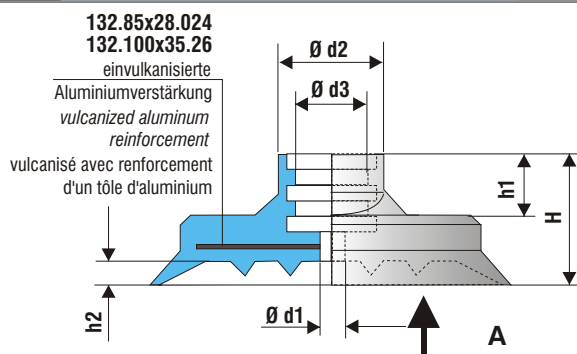
Anschlusssteile Fittings Raccords



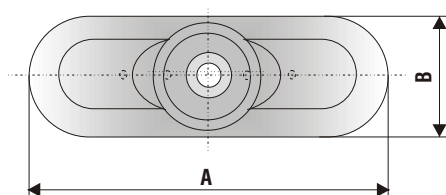
Art.- No. 270.097



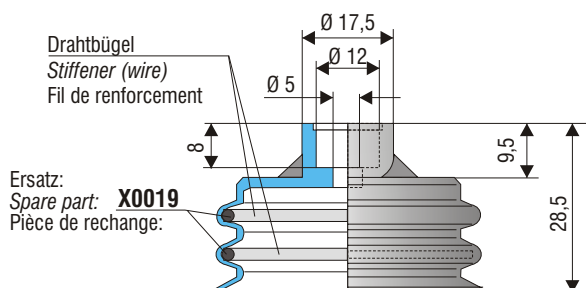
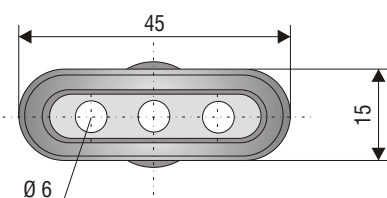
Art.- No. 270.098



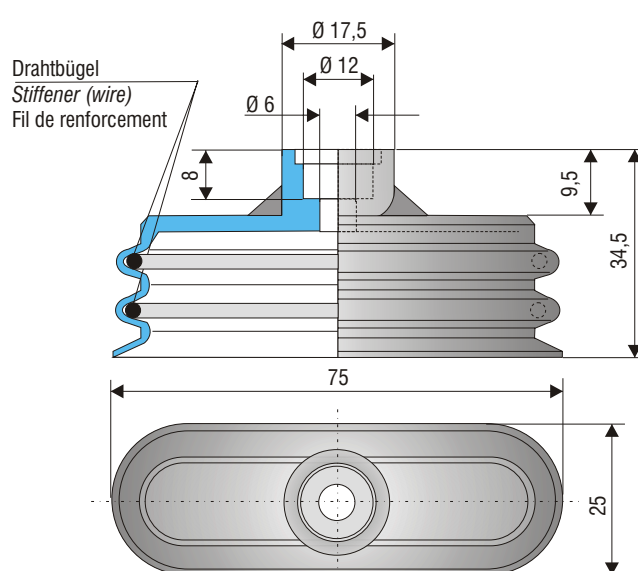
"A"



Art. No.				A	B	H	h1	h2	Ø d1	Ø d2	Ø d3
132.45x15.020.*		3,0 mm	4 g	45	15	21	14	4,0	4,0	17	12
132.60x20.022.*	NBR (sw),	4,0 mm	9 g	60	20	21	10	4,0	4,0	17	12
132.75x25.023.*	Si (tr),	4,0 mm	15 g	75	25	22	8	4,0	4,0	18	12
132.85x28.024.*	Si (r)	4,0 mm	20 g	85	28	22	8	5,5	7,5	18	12
132.100x35.26.*	PUR (bg)	4,0 mm	32 g	100	35	22	8	6,5	7,5	18	12



Art. No. 138.45x15.003.* NBR (sw) 8,5 mm 7,0 g



Art. No. 138.75x25.004.* NBR (sw) 10,5 mm

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Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
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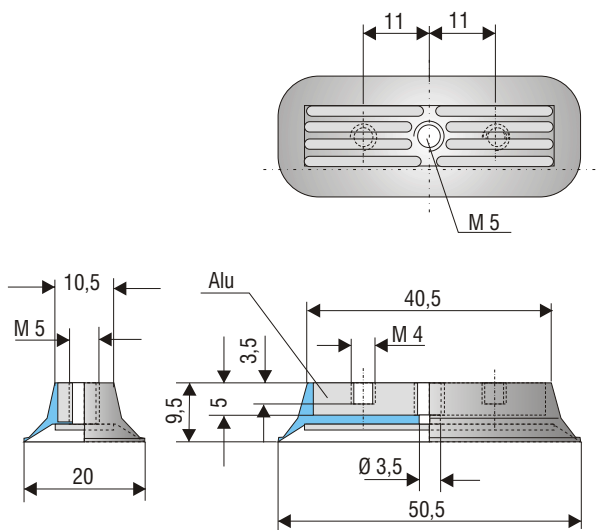
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Oval-/Rechtecksauger
Oval/rectangular suction cups
Ventouses ovales/rectangulaires

50 x 20 mm -
60 x 38 mm



Art. No. 9.50x20.034.1

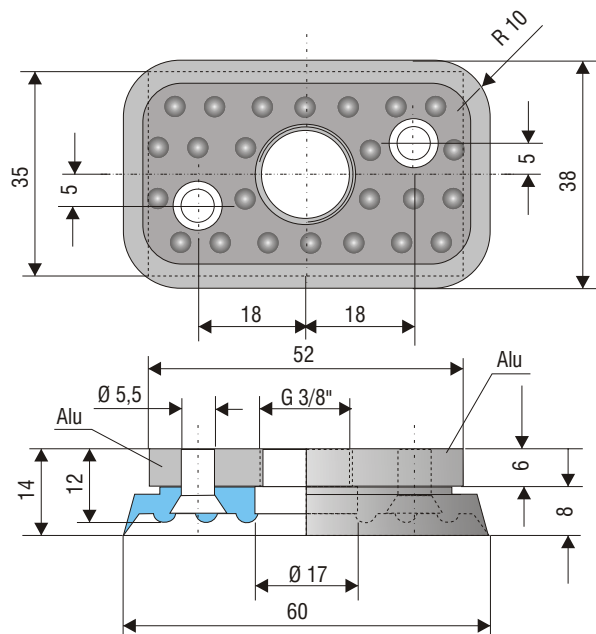
NBR (gr)



2,0 mm



20 g



Art. No. 130.60x38.091. *

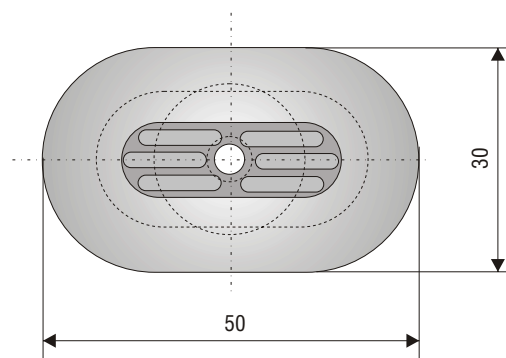
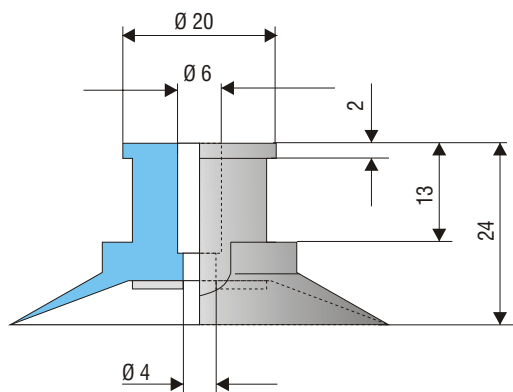
NBR (gr)
NR (w)



2,0 mm



40,0 g



Art.No.

270.041

1/8" IG

270.043

1/4" AG

Art. No. 132.50x30.030.13

NBR (gr)
SBR (rb)



5,0 mm



9,4 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
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Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



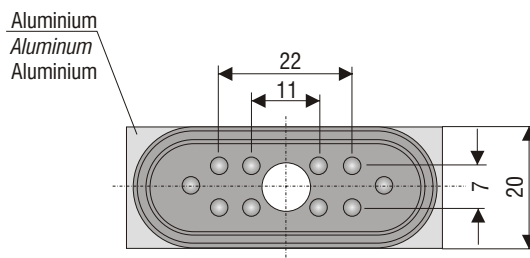
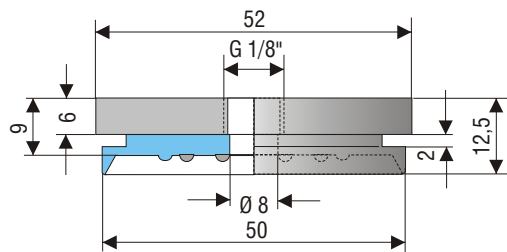
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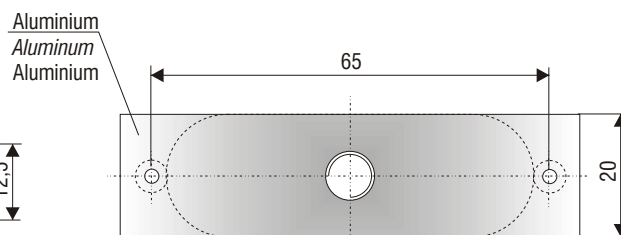
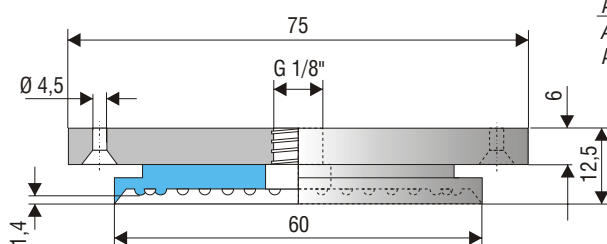
Oval-/Rechtecksauger
Oval/rectangular suction cups
Ventouses ovales/rectangulaires

**50 x 20 mm -
 100 x 32 mm**



Art. No. 130.50x20.102.1

NBR (gr)
 50° Shore

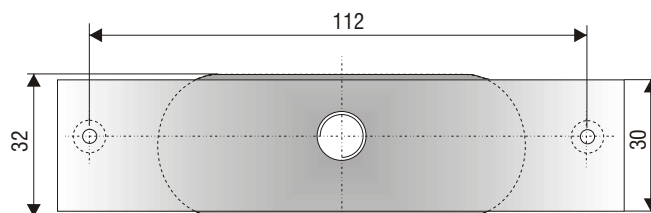
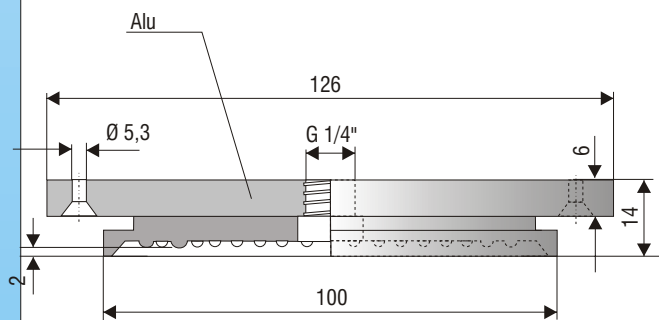


Art. No. 130.60x20.040.1

NBR (gr)



27 g



Art. No. 130.100x32.42.1

NBR (gr)



73 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
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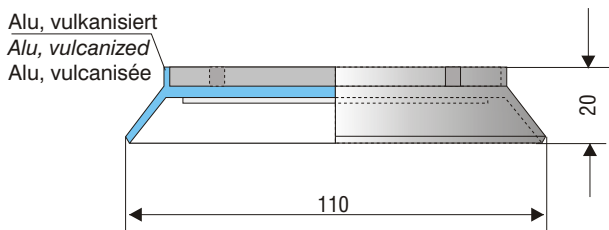
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Oval-/Rechtecksauger
Oval/rectangular suction cups
Ventouses ovales/rectangulaires

**110 x 40 mm -
 125 x 55 mm**



Art. No. 9.110x40.011.*

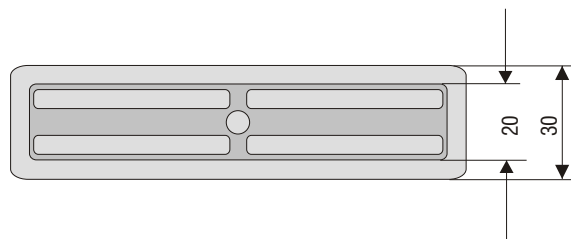
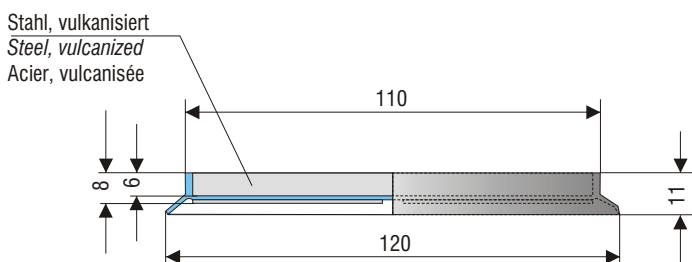
NBR (sw),
 NR-E (b)



9,0 mm



37 g



Art. No. 9.120x30.062.*

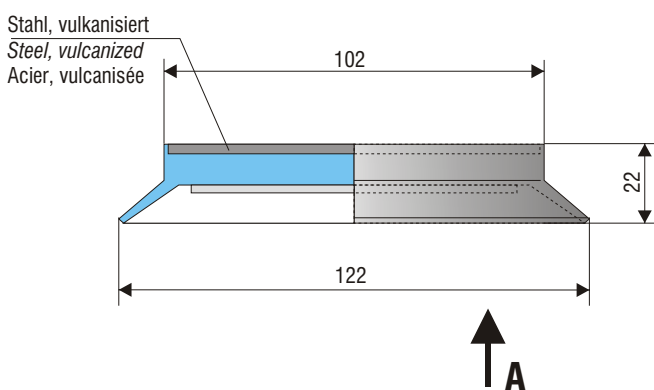
NBR (gr)



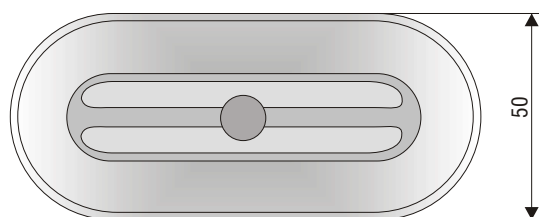
3,0 mm



110 g



"A"



Art. No. 9.125x55.012.*

NBR (gr)
 NR-E (b)
 SBR (rb)



9,0 mm



192 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
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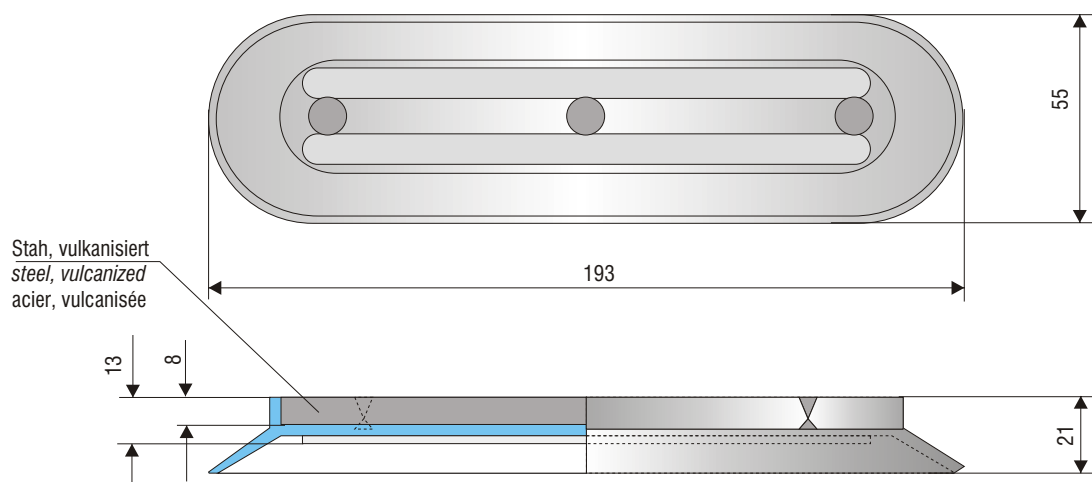
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Oval-/Rechtecksauger
Oval/rectangular suction cups
Ventouses ovales/rectangulaires

200 x 55 mm



Art. No. 9.200x55.014.1

NBR (gr)

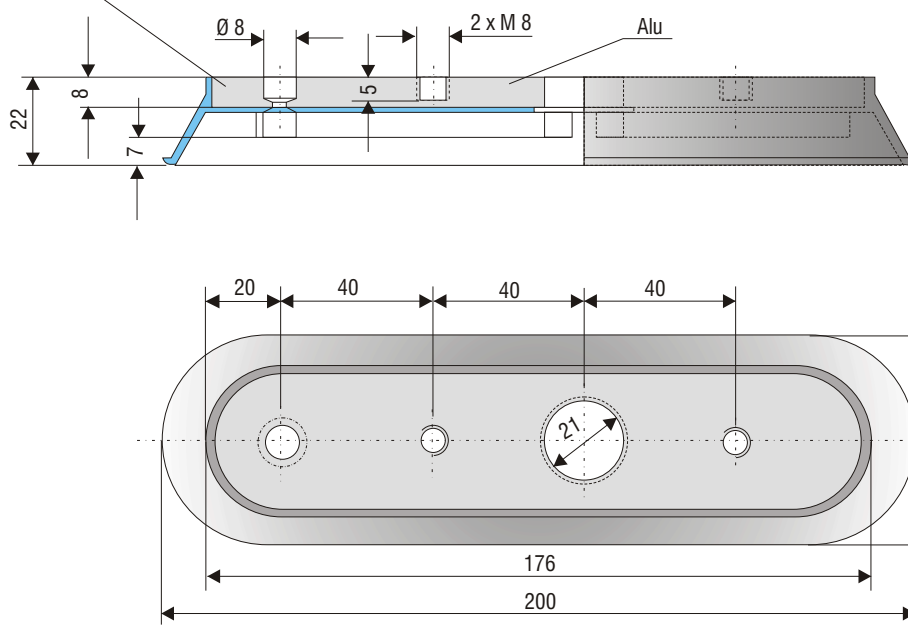


7,0 mm



335 g

Alu, vulkanisiert
Alu, vulcanized
Alu, vulcanisée



Art.No. 9.200x55.053.3R

NR (r)
55° Shore



7,0 mm



150 g

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Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



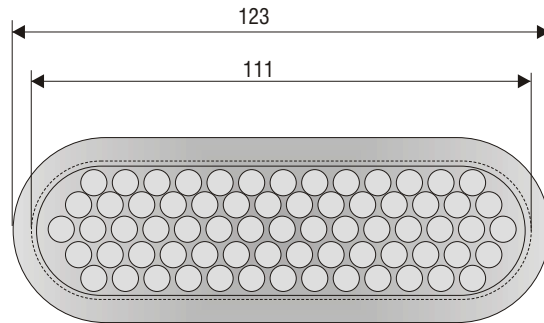
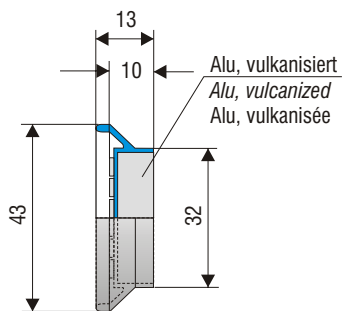
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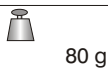
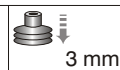
Oval-/Rechtecksauger
Oval/rectangular suction cups
Ventouses ovales/rectangulaires

**123 x 43 mm -
 200 x 80 mm**

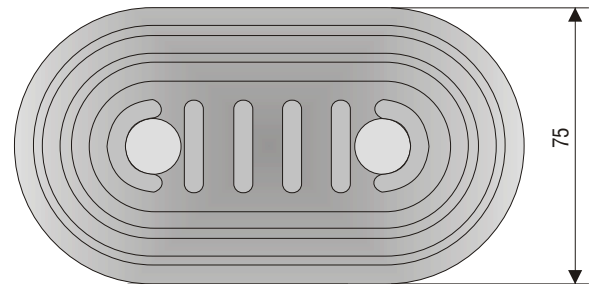
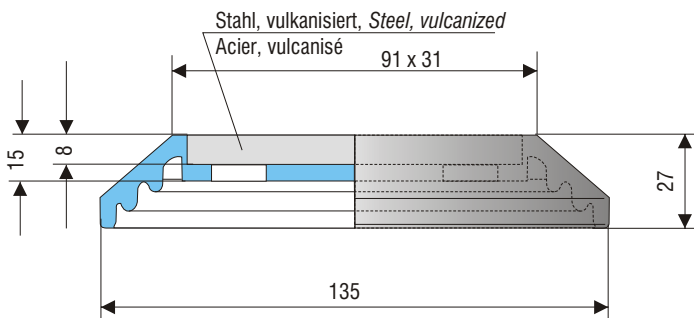


Art. No. 9.123x43.076.13

SBR (sw)

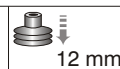


für raue Oberflächen (z.B. sägeraues Holz)
 for rough surfaces (e.g. saw-cut wood)
 pour surfaces rudes (par ex. bois rugueux)

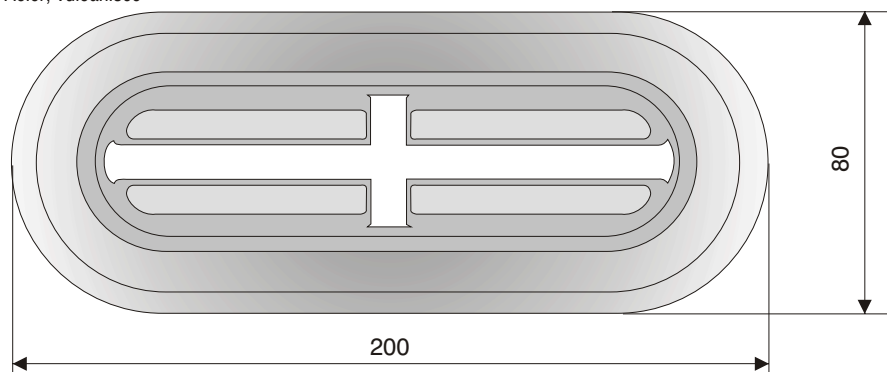
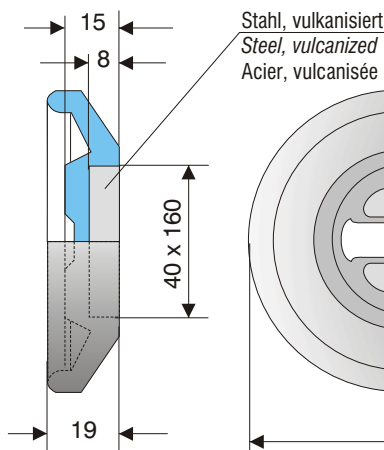


Art. No. 9.135x75.066.13

SBR (sw)

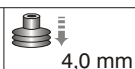


für raue Oberflächen (z.B. sägeraues Holz)
 for rough surfaces (e.g. saw-cut wood)
 pour surfaces rudes (par ex. bois rugueux)



Art.No. 9.200x80.067.13

SBR (sw),



für raue Oberflächen (z.B. sägeraues Holz)
 for rough surfaces (e.g. saw-cut wood)
 pour surfaces rudes (par ex. bois rugueux)

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
 * When ordering add indicated material.
 * En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
 Other materials on request (see materials list INFO 4).
 Autres matériaux sur demande (voir list des matériaux INFO 4)



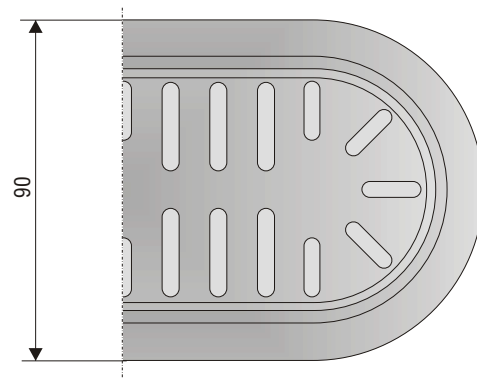
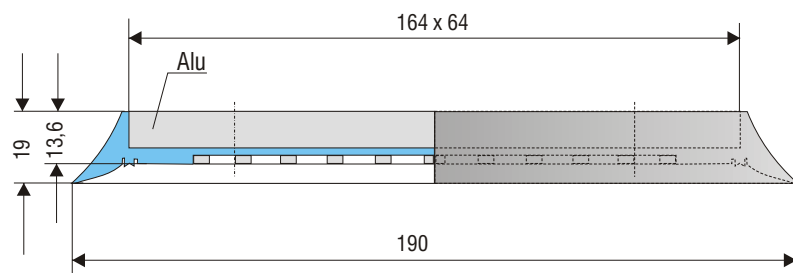
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 e-mail: info@fipa-online.com

Oval-/Rechtecksauger
Oval/rectangular suction cups
Ventouses ovales/rectangulaires

**190 x 90 mm -
 200 x100 mm**



Art. No. 9.190x90.077.3

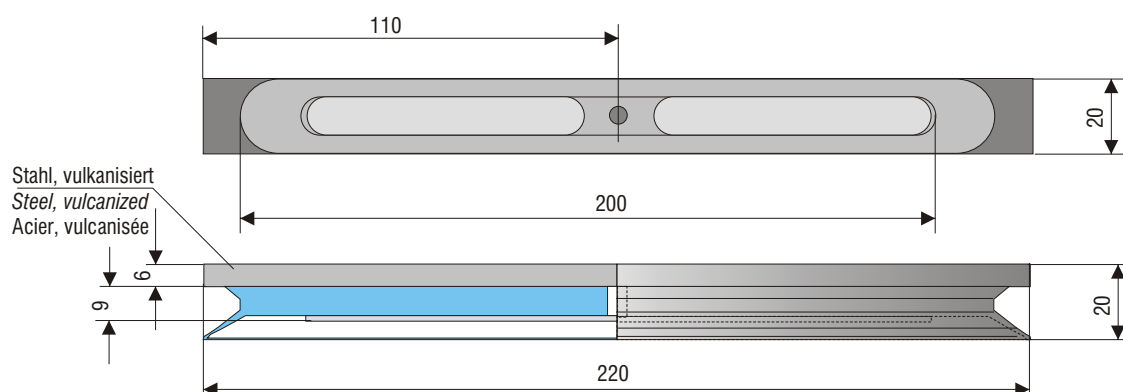
NR (r)
 45° Shore



5,5 mm



150 g



Stahl, vulkanisiert
 Steel, vulcanized
 Acier, vulcanisée

Art. No. 9.200x20.063.1

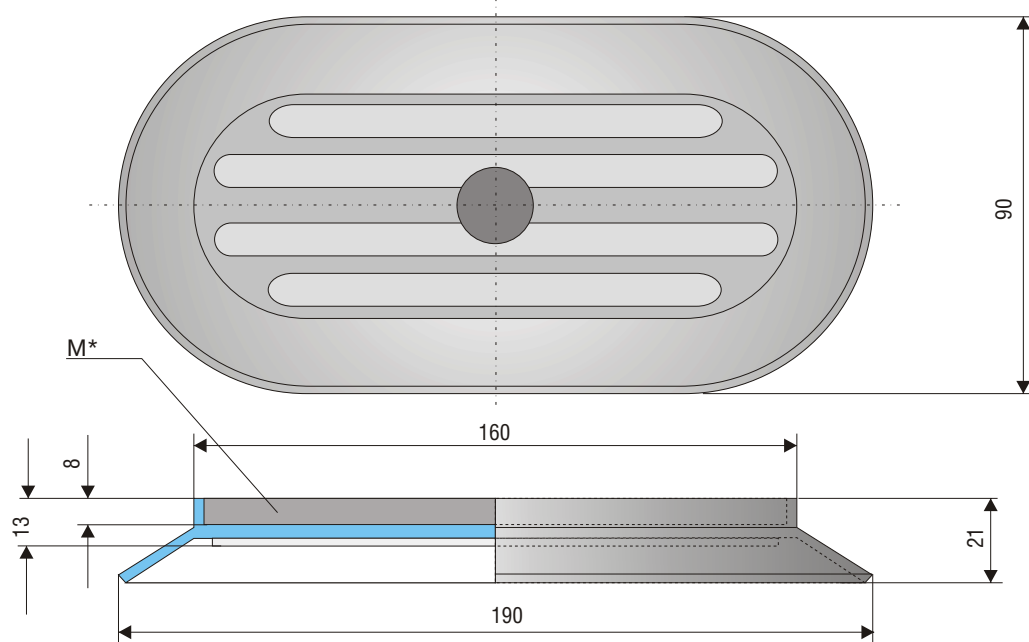
NBR (gr)



5,0 mm



220 g



M*

Art. No. 9.200x100.015.*

NBR (gr),
 SBR (sw,
 NR-E (b)

8,0 mm

595 g

M* Stahl
 Steel
 Acier

Art. No. 9.200x100.054.*

NBR (gr)

8,0 mm

450 g

Alu



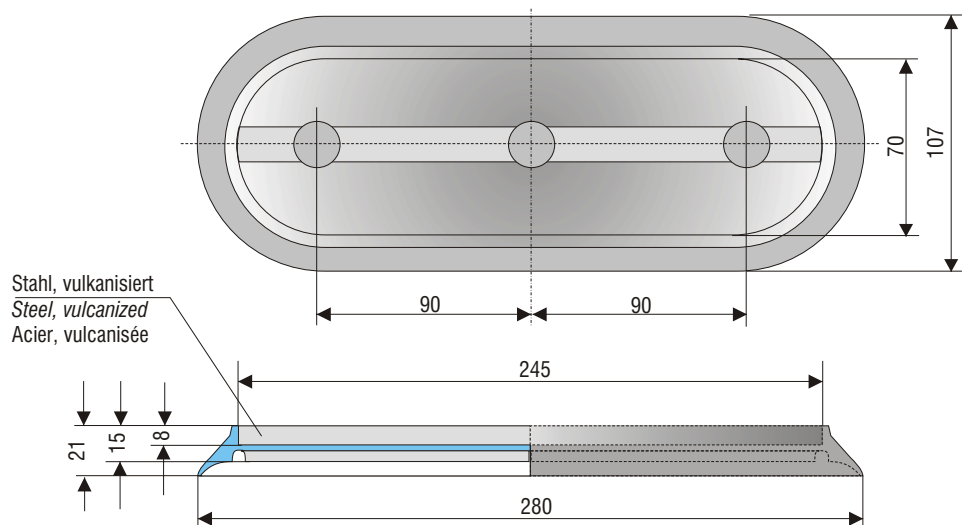
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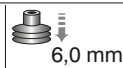
Oval-/Rechtecksauger
Oval/rectangular suction cups
Ventouses ovales/rectangulaires

280 x 107 mm
300 x 55 mm

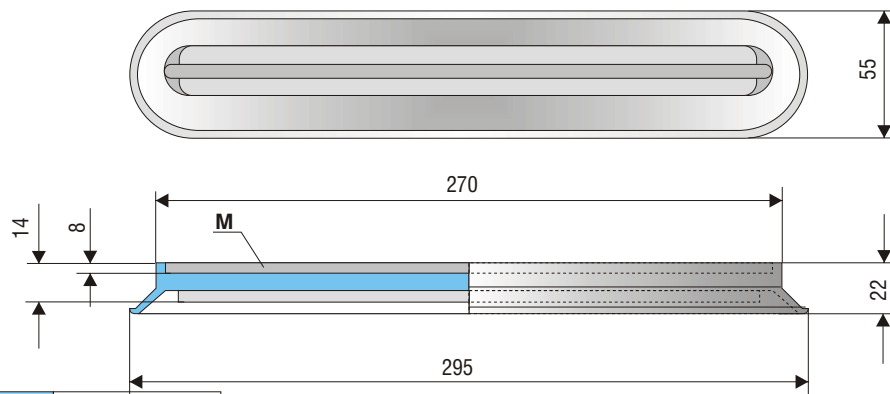


Art. No. 9.280x107.070.13

SBR (rb)



Besonderheit: zusätzliche Dichtlippe
Special feature: additional sealing lip
Particularité: lèvre d'étanchéité supplémentaire



Art. No.

9.300x55.019. *

M

Stahl/steel/acier

NBR (gr)



550 g

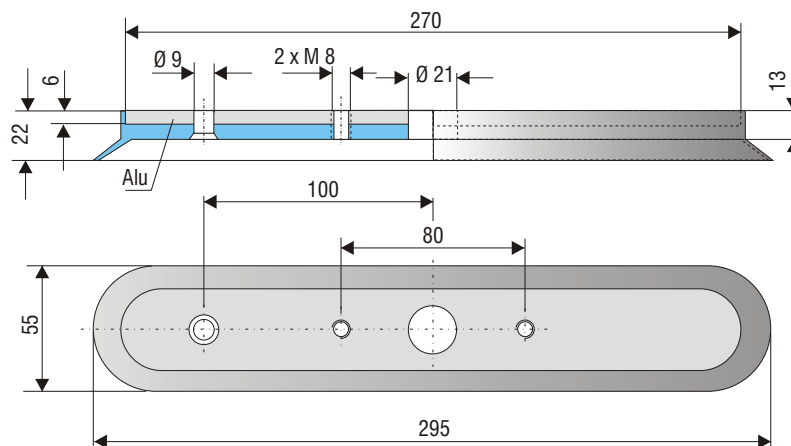
9.300x55.020. *

Alu/alu/alu

NR-E (b),
SBR (rb)

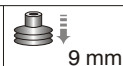


300 g



Art.No. 9.300x55.045.3

NR (r)
55° Shore



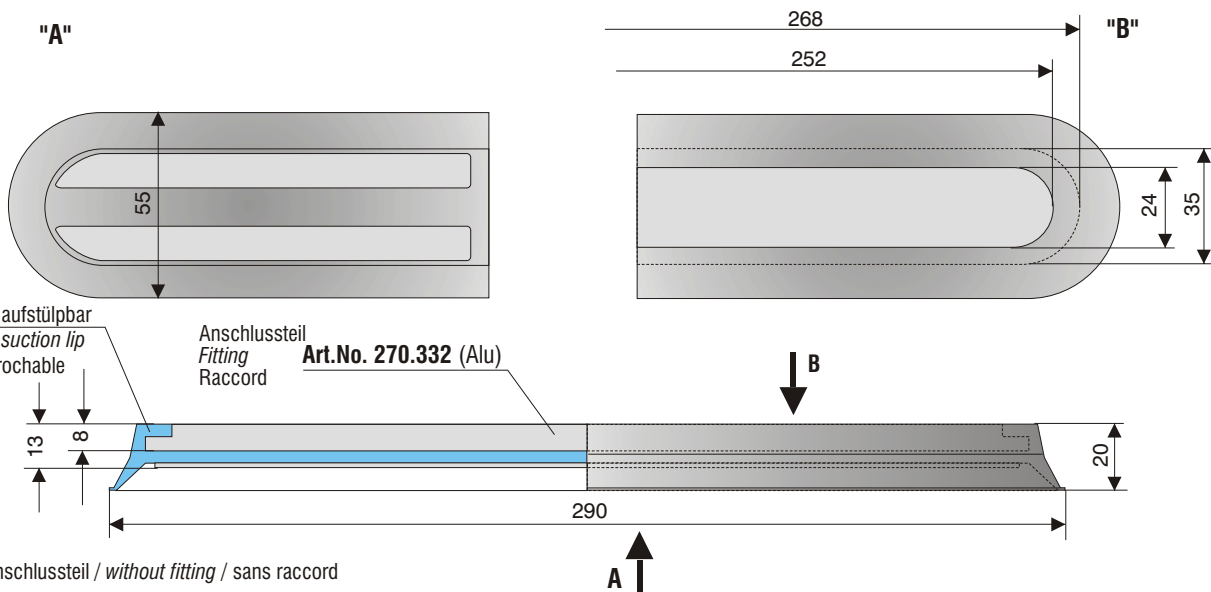
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Oval-/Rechtecksauger
Oval/rectangular suction cups
Ventouses ovales/rectangulaires

290 x 55 mm
 300 x 30 mm
 300 x 40 mm



ohne Anschlussstück / without fitting / sans raccord

Art. No. 9.290x55.071.1

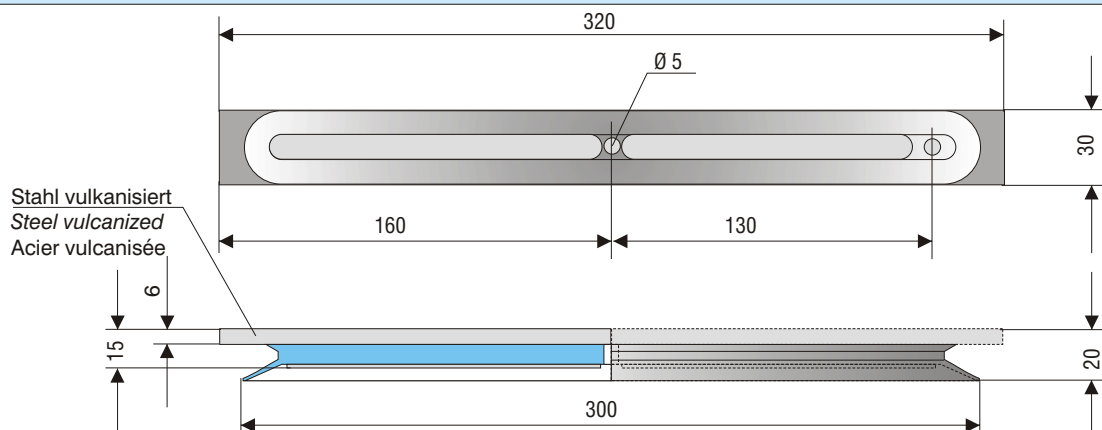
NBR (gr)



7,0 mm



100 g



Art.No. 9.300x30.069.1

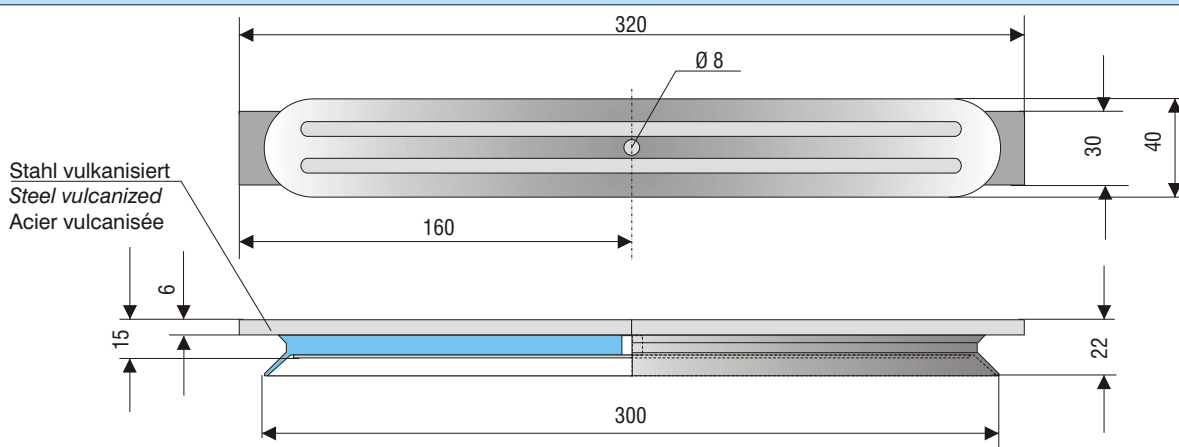
NBR (gr)



5,0 mm



500 g



Art.No. 9.300x40.064.1

NBR (gr)



7,0 mm



500 g



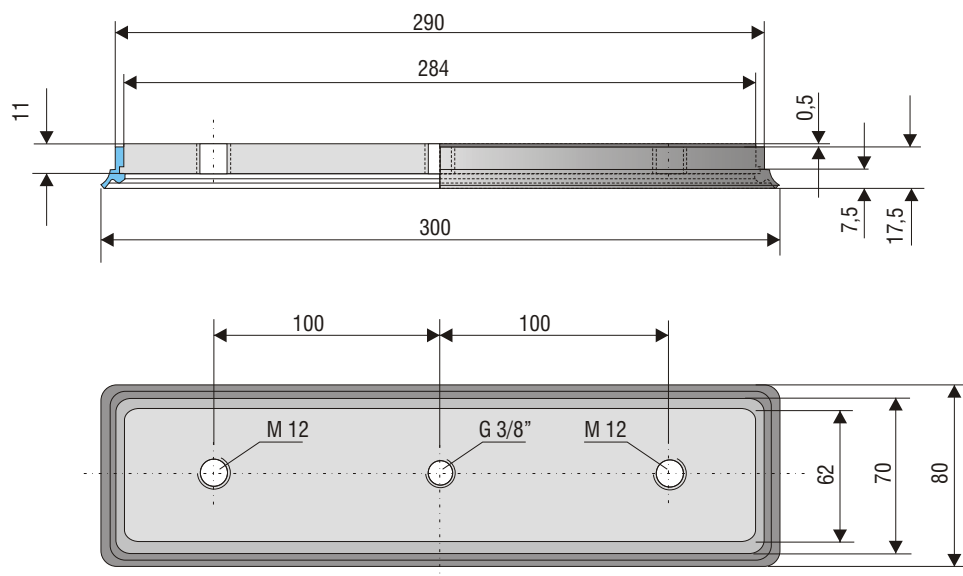
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Oval-/Rechtecksauger
Oval/rectangular suction cups
Ventouses ovales/rectangulaires

300 x 80 mm
300 x 120 mm



Art. No. 155.300x80.007.*

NBR (sw)
NR (sw)



1,5 mm

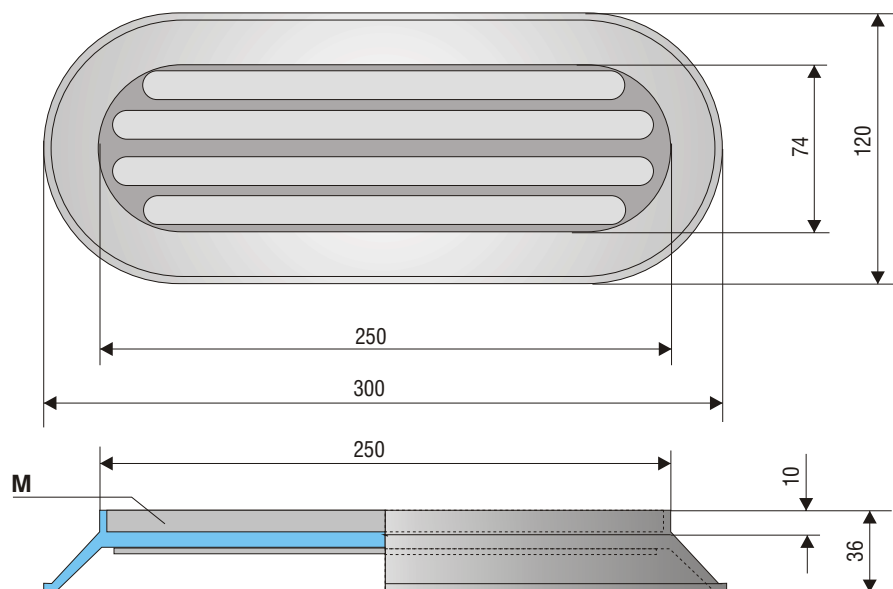


500 g

Ersatzsauger
Spare cup
Ventouse de rechange

Art. No.
216.300x80.004.*

NBR (sw),
NR (sw)



Art. No. 9.300x120.021.*

M
Stahl/steel/acier

NBR (gr), Si (tr)
SBR (sw), SBR (rb)
EPDM (gr)



17 mm

1260 g

9.300x120.042.3

Alu/alu/alu

NR (r)

570 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



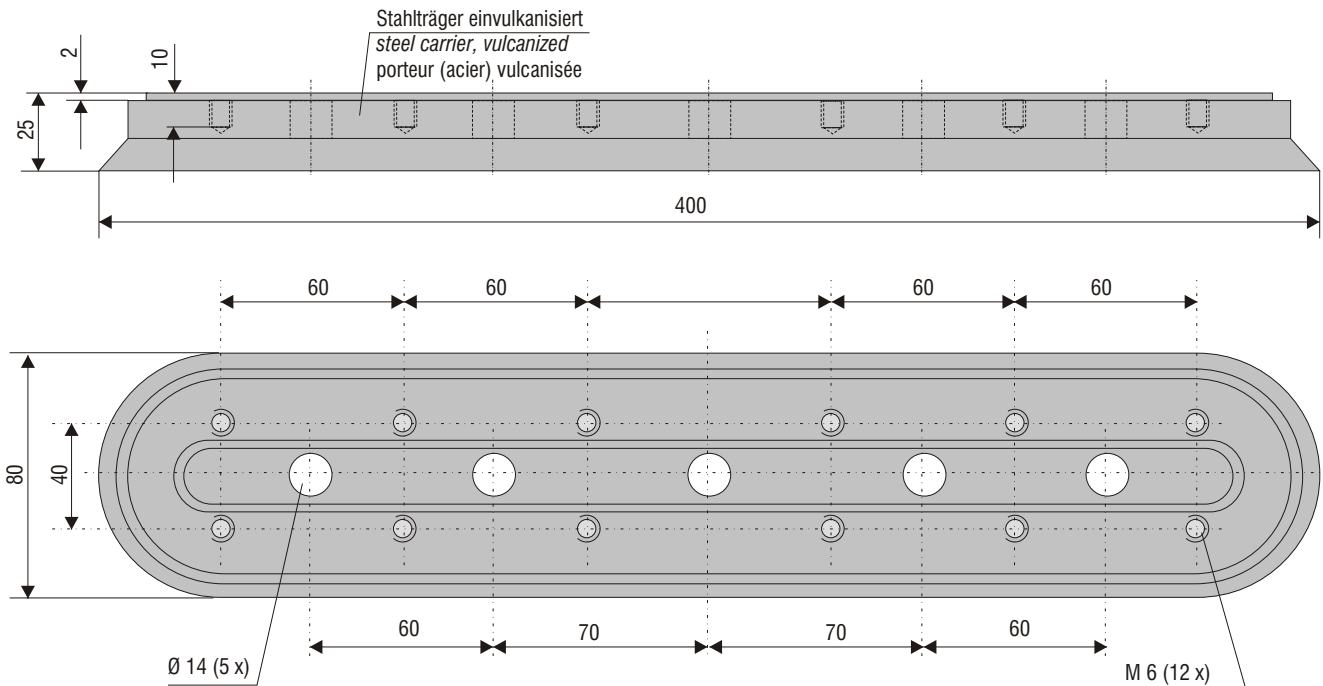
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Oval-/Rechtecksauger
Oval/rectangular suction cups
Ventouses ovales/rectangulaires

400 x 80 mm



für glatte und leicht
 strukturierte Oberflächen
 for smooth and lightly
 textured surfaces

pour surfaces lisses et
 légèrement structurées

Tragfähigkeit bei 60 % Vakuum:
 Lifting capacity at 60 % vacuum:
 Force de levage à 60 % de vide:

80 kg waagrecht/horizontal/
 horizontalement
 40 kg senkrecht/vertically/
 verticalement

Temperaturbeständigkeit: - 40° C bis +80° C
 Kurze Spitzentemperatur: +100° C

Resistance to temperature: - 40° C to +80° C
 Brief peak temperature: +100° C

Résistance à température: -40° C bis +80° C
 Temperature de ponte sur courtes durées: +100° C

Art.No. 130.400x80.106.4

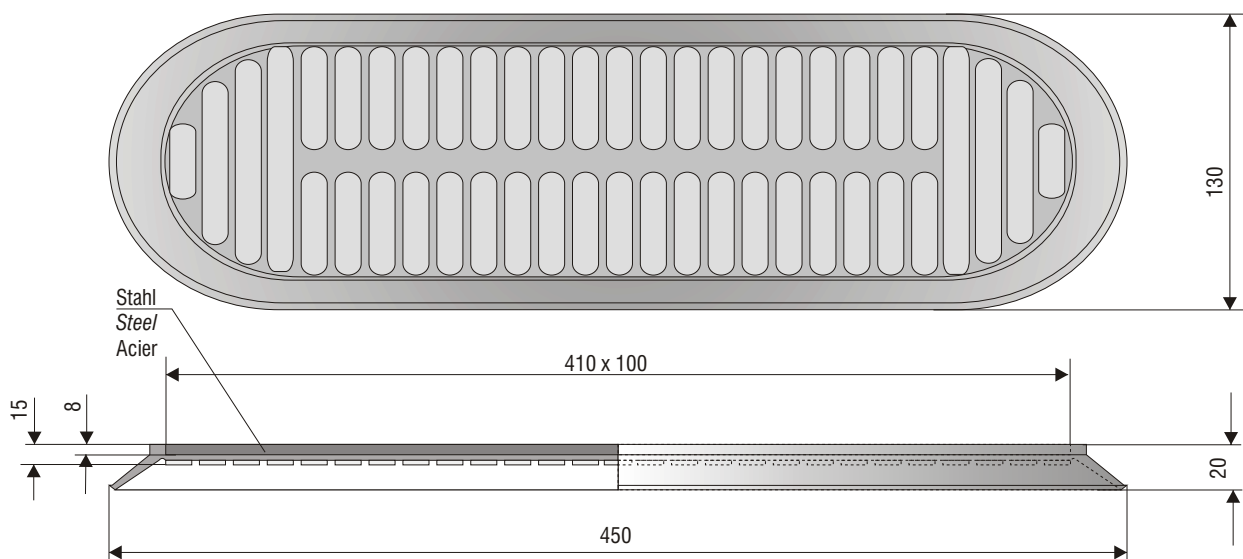
NR (sw)
 35° Shore



3,5 mm



1280 g



Art. No. 9.450x130.025._*

NBR (gr)
 SBR (rb)



6,0 mm



2400 g



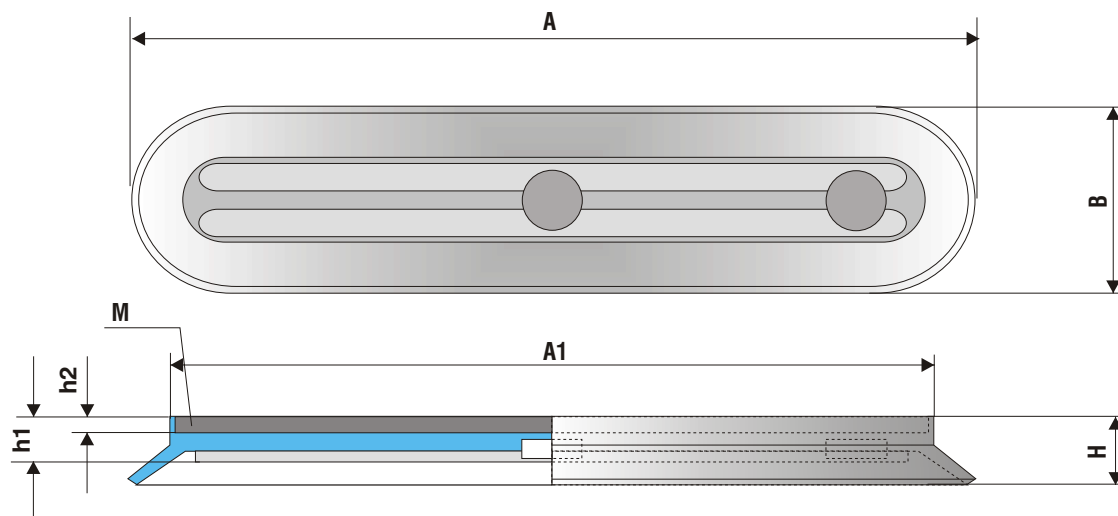
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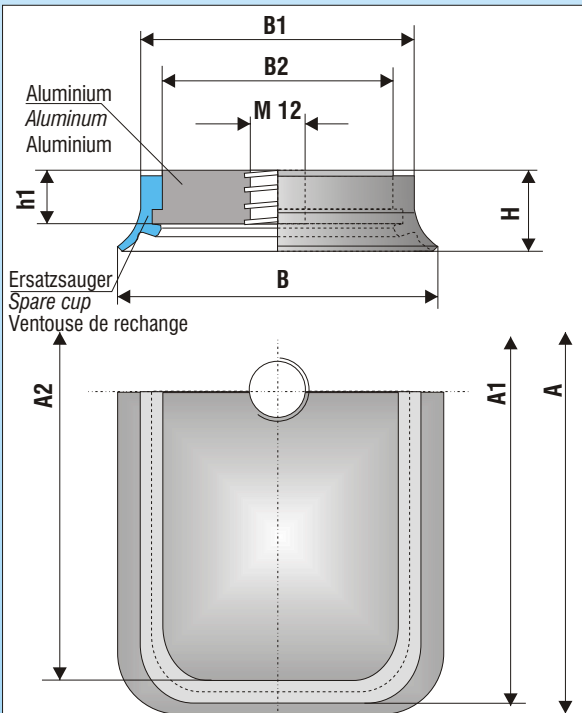
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Oval-/Rechtecksauger
Oval/rectangular suction cups
Ventouses ovales/rectangulaires

Serien mit Zubehör
Series with accessories
Séries avec accessoires



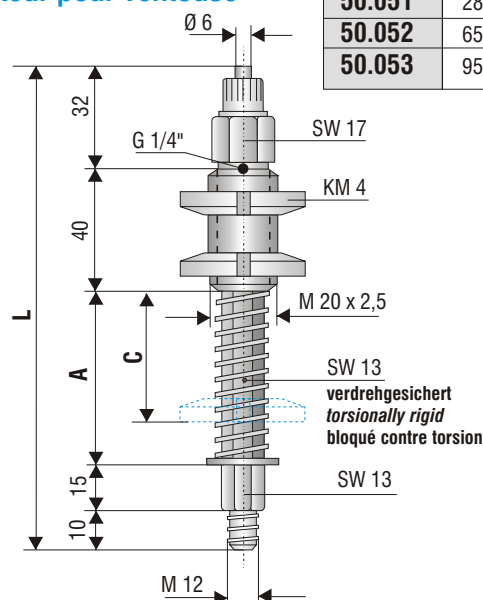
Art. No.		M			A	B	A1	H	h1	h2
9.150x55.013.4	NBR (gr), NR-E (b)	Stahl/Steel/Acier	7,0 mm	255 g	150	55	127	21	14	8
9.250x55.016.*	NBR (gr), NR-E (b)	Stahl/Steel/Acier	8,0 mm	460 g	250	52	230	22	14	8
9.300x55.019.*	NBR (gr), NR-E (b), SBR (rb)	Stahl/Steel/Acier	8,0 mm	550 g	295	55	270	22	14	8
9.300x55.020.*	NBR (gr), NR-E (b), SBR (rb)	Alu	8,0 mm	300 g	295	55	270	22	14	8
9.370x70.022.*	NBR (gr), SBR (rb)	Stahl/Steel/Acier	10,0 mm	550 g	375	80	345	26	16	8
9.370x70.023.*	NBR (gr), SBR (rb)	Alu	10,0 mm	300 g	375	80	345	26	16	8



Saugerträger
Support for suction cup
Porteur pour ventouse

Art. No.	A	L	C
50.051	28	125	17
50.052	65	162	50
50.053	95	192	75

C = Hub
Travel
Course



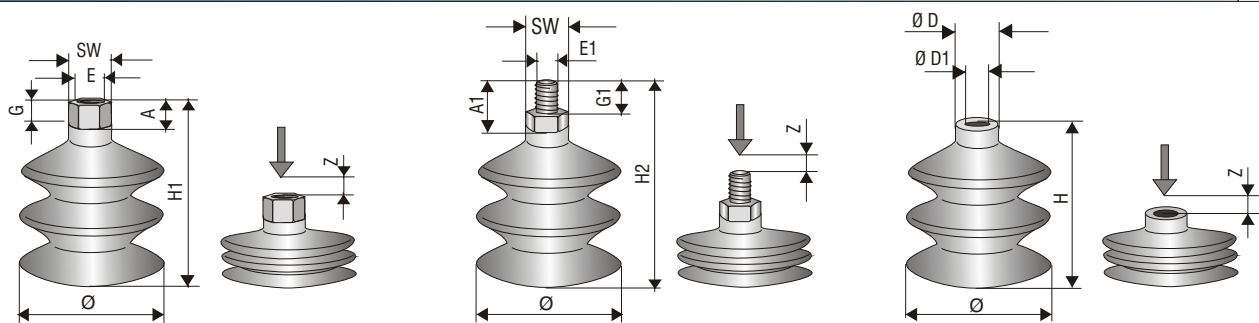
Art. No.				A	B	A1	A2	B1	B2	H	h1	Ersatzsauger Spare cup Ventouse de rechange
155.75x40.001.*	NBR (sw)	1,5 mm	16 g	76	41	66	55	31	20	16,5	11	216.75x40.001.*
155.120x90.2.*	Si (tr), NR (sw)	1,5 mm	40 g	120	90	112	102	80	70	18,0	11	216.120x90.2.*
155.150x75.3.*		1,5 mm	50 g	150	75	140	130	65	55	17,0	11	216.150x75.3.*



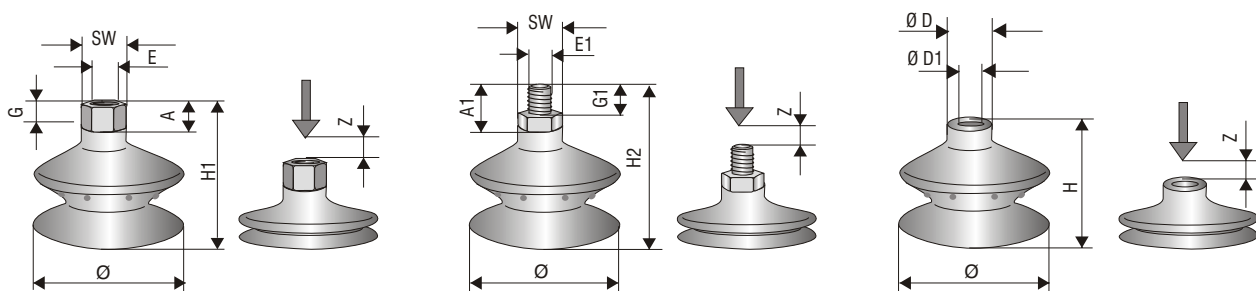
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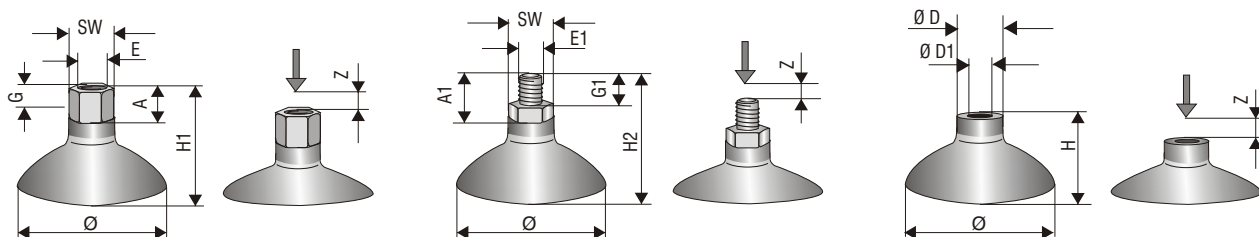
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Ø	H	H1	H2	A	A1	D	D1	E	E1	G	G1	SW	Z	Innengewinde Internal thread Filet femelle *	Außengewinde External thread Filet mâle *	Ersatzsauger Spare Cup Vent. de rechange *	Material Material Matière
10	15	27	27	12	12	10	5	1/8"	1/8"	8	8	14	3	20. 010.010._	20. 010.009._	21. 010.004._	NBR, Si, PUR, NR-E
14	23	35	35	12	12	12	5	1/8"	1/8"	8	8	14	10	20. 014.014._	20. 014.013._	21. 014.006._	NBR, Si, PUR, NR-E
18	22	34	34	12	12	12	5	1/8"	1/8"	8	8	14	8	20. 018.023._	20. 018.022._	21. 018.011._	NBR, Si, PUR, NR-E
30	35	50	50	15	15	19	8	1/4"	1/4"	11	11	17	13	20. 030.041._	20. 030.042._	21. 030.019._	NBR, Si, PUR, NR-E, EPDM
40	45	60	60	15	15	16	7	1/4"	1/4"	11	11	17	20	20. 040.051._	20. 040.052._	21. 040.025._	NBR, Si, PUR, NR-E
60	55	70	70	15	15	19	8	1/4"	1/4"	11	11	17	24	20. 060.070._	20. 060.071._	21. 060.036._	NBR, Si, NR-E
85	83	100	100	17	17	-	-	1/4"	1/4"	12	12	22	38	20. 085.081._	20. 085.080._	---	NBR, Si, NR-E



Ø	H	H1	H2	A	A1	D	D1	E	E1	G	G1	SW	Z	Innengewinde Internal thread Filet femelle *	Außengewinde External thread Filet mâle *	Ersatzsauger Spare Cup Vent. de rechange *	Material Material Matière
14	18	30	30	12	12	12,0	5	1/8"	1/8"	8	8	14	8	22. 014.007._	22. 014.006._	23. 014.010._	NBR, Si, PUR, NR-E, FKM
25	25	39	39	14	14	18,5	8	1/4"	1/4"	11	11	17	5	22. 025.026._	22. 025.027._	23. 025.030._	NBR, Si, PUR, NR-E
40	32	46	46	14	14	18,5	8	1/4"	1/4"	11	11	17	13	22. 040.043._	22. 040.042._	23. 040.042._	NBR, Si, PUR, NR-E, EPDM
60	40	55	55	15	15	18,0	8	1/4"	1/4"	11	11	17	15	22. 060.063._	22. 060.064._	23. 060.059._	NBR, Si, NR-E
85	58	75	75	17	17	-	-	1/4"	1/4"	12	12	22	13	22. 085.074._	22. 085.075._	---	NBR, Si, NR-E



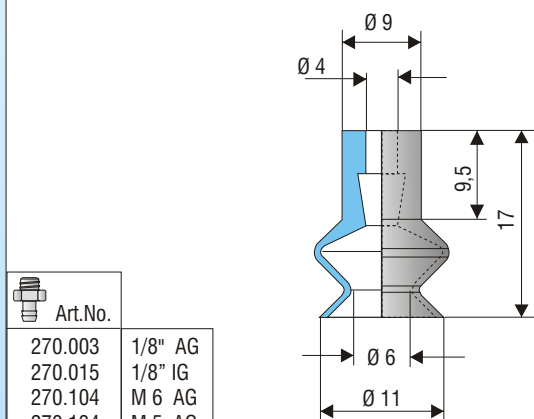
Ø	H	H1	H2	A	A1	D	D1	E	E1	G	G1	SW	Z	Innengewinde Internal thread Filet femelle *	Außengewinde External thread Filet mâle *	Ersatzsauger Spare Cup Vent. de rechange *	Material Material Matière
20	12	24	24	12	12	8	5	1/8"	1/8"	8	8	14	2,5	110. 020.029._	110. 020.028._	112. 020.030._	NBR, Si
34	15	30	30	15	15	14	6	1/4"	1/4"	11	11	17	2,5	110. 034.055._	110. 034.054._	112. 034.058._	NBR, Si
53	18	33	33	15	15	-	-	1/4"	1/4"	11	11	17	3,0	110. 053.082._	110. 053.083._	---	NBR, Si
75	25	43	43	18	18	-	-	1/4"	1/4"	12	12	22	4,0	110. 075.092._	110. 075.093._	---	NBR, Si
96	45	62	62	17	17	-	-	1/4"	1/4"	12	12	22	8,0	110. 096.101._	110. 096.102._	---	NBR, Si

! Sauger aus NR-E sind besonders gut zum Handling von Holzteilen geeignet.
Suction cups made of NR-E are especially appropriate for handling of wooden elements.
Les ventouses à vide dans NR-E sont spécialement appropriés pour manipuler de
■ éléments de bois.

1 = NBR (sw), 2 = Si (r), 5 = PUR (b + bl),
4 = NR-E (bg) 40° Shore, 7 = FKM (g),
15 = EPDM (gr) +150°C / - 50°C

Balgensauger Bellows suction cups Ventouses à soufflets

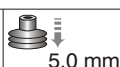
Ø 11 mm -
Ø 15 mm



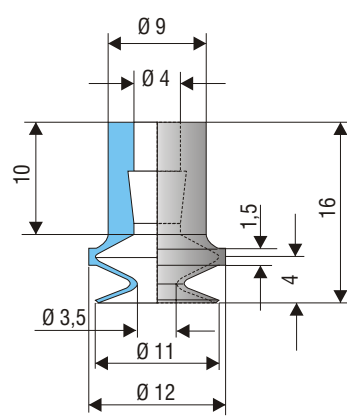
Art.No.	
270.003	1/8" AG
270.015	1/8" IG
270.104	M 6 AG
270.134	M 5 AG

Art.No. 23.011.007.*

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



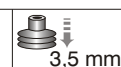
5,0 mm
0,6 g



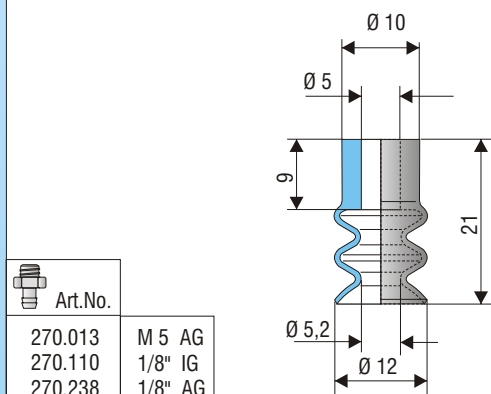
Art.No.	
270.003	1/8" AG
270.015	1/8" IG
270.104	M 6 AG
270.134	M 5 AG

Art. No. 23.011.173.2

Si (tr)



3,5 mm
1,0 g



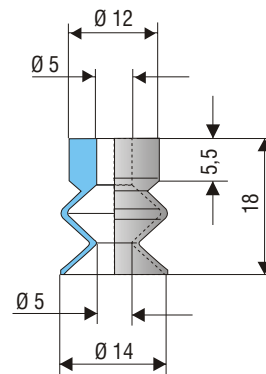
Art.No.	
270.013	M 5 AG
270.110	1/8" IG
270.238	1/8" AG
270.194	1/4" AG

Art.No. 21.012.115.*

NBR (sw), Si (tr),
NR (gr)
HNBR (wr)



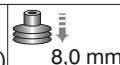
7 mm
1,0 g



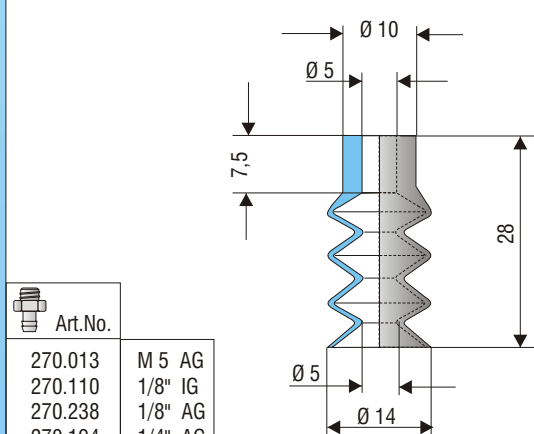
Art.No.	
270.003	1/8" AG
270.013	M 5 AG
270.103	M 6 AG
270.110	1/8" IG

Art. No. 23.014.010.*

NBR (sw),
Si (r), NR-E (b)
PUR (b), FKM (g)



8,0 mm
1,2 g



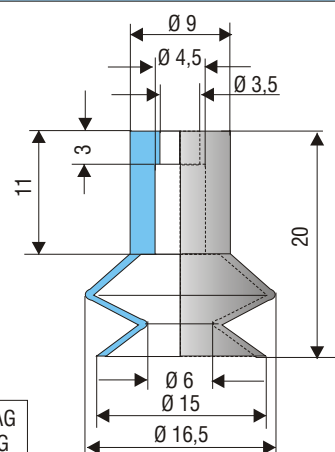
Art.No.	
270.013	M 5 AG
270.110	1/8" IG
270.238	1/8" AG
270.194	1/4" AG

Art. No. 25.014.065.2

Si (tr)



12 mm
1,9 g



Art.No.	
270.033	1/8" AG
270.035	1/8" IG

Art.No. 23.015.098.V

Vinyl (bl)



5,0 mm
1,2 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



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Balgensauger Bellows suction cups Ventouses à soufflets

Ø 15 mm -
Ø 20 mm

Art.No.	Material
270.009	1/8" AG
270.301	M 5 AG

Art. No. 23.015.122.* NBR (s), Si (tr), PUR (bl), FKM (g)

Art.No.	Material
270.242	1/8" AG
270.015	1/8" IG
270.104	M 6 AG
270.134	M 5 AG

Art. No. 23.016.174.2 Si (tr)

Art.No.	Material
270.238	1/8" AG (Ø 4)
270.109	1/8" IG (Ø 3,3)
270.317	M 5 AG (Ø 2,5)
270.378	M 8 AG (Ø 0,4)

Art. No. 21.018.118.1 NBR (gr) 55° Shore

Art.No.	Material
270.104	M 6 AG
270.317	M 5 AG (SH 2,5)
270.134	M 5 AG (SH 4,0)
270.003	1/8" AG
270.015	1/8" IG

Art. No. 23.018.177.* Si (tr) NR-E (bl)

Art.No.	Material
270.134	M 5 AG
270.347	M 5 IG
270.318	1/8" AG
270.015	1/8" IG

Art. No. 25.018.060.* NBR (sw), Si (tr) 55° Shore

Art.No.	Material
270.003	1/8" AG
270.013	M 5 AG
270.103	M 6 AG
270.109	1/8" IG
270.194	1/4" AG

Art. No. 23.019.119.* NBR (sw), Si (tr), HNBR (wr)

Art.No.	Material
270.003	1/8" AG
270.013	M 5 AG
270.015	1/8" IG
270.103	M 6 AG
270.194	1/4" AG

Art. No. 21.020.016.* NBR (sw), NR (gr), CR (g), Si (tr), Si-E (tr), PUR (bl), HNBR (wr)

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



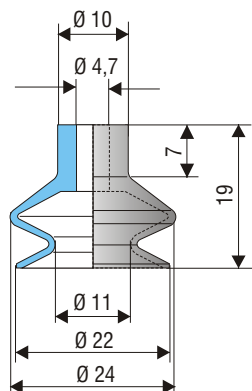
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Balgensauger Bellows suction cups Ventouses à soufflets

Ø 22 mm -
Ø 33 mm



Art.No.	
270.003	1/8" AG
270.013	M 5 AG
270.015	1/8" IG
270.103	M 6 AG

Art. No. 23.022.028.*

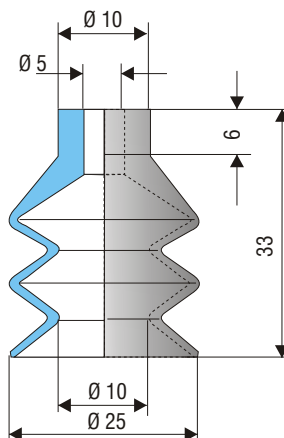
NBR (sw),
Si (tr), NR (gr)



8 mm



2,0 g



Art.No.	
270.013	M 5 AG
270.103	M 6 AG
270.003	1/8" AG
270.109	1/8" IG
270.194	1/4" AG
270.066	1/4" IG

Art. No. 21.025.060.*

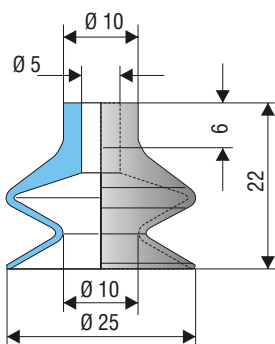
NBR (sw),
Si (tr),
HNBR (wr)



19 mm



4,0 g



Art.No.	
270.003	1/8" AG
270.013	M 5 AG
270.103	M 6 AG
270.109	1/8" IG

Art. No. 23.025.137.*

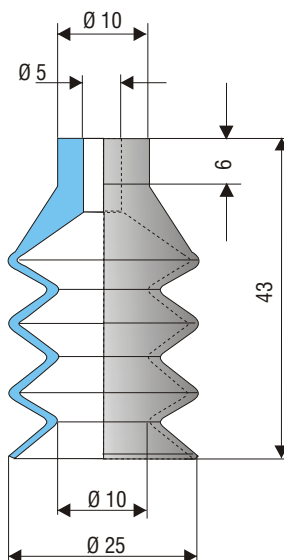
NBR (sw)
Si (tr), NR (gr)



9 mm



2,4 g



Art.No.	
270.003	1/8" AG
270.013	M 5 AG
270.066	1/4" IG
270.103	M 6 AG
270.109	1/8" IG
270.194	1/4" AG

Art. No. 25.025.005.*

NBR (sw),
Si (tr)



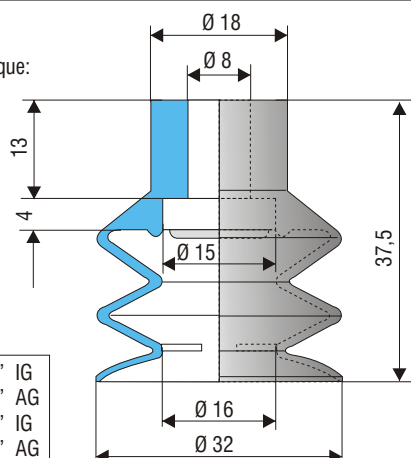
24 mm



5,6 g

Strömungsventil:
Flow valve:
Soupape hydraulique:

**Art. No.
63.015**



Art.No.	
270.114	1/8" IG
270.132	1/8" AG
270.192	1/4" IG
270.190	1/4" AG

Art.No. 21.032.075.*

NBR (sw), Si (tr),
Si-E (tr), PUR (bl),
HNBR (wr)



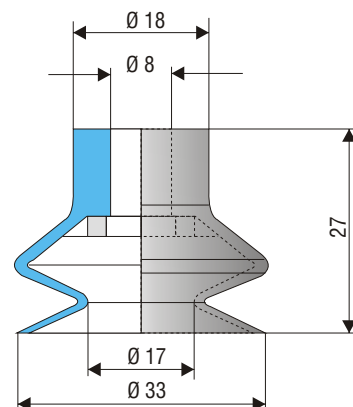
13 mm



10 g

Strömungsventil:
Flow valve:
Soupape hydraulique:

**Art. No.
63.015**



Art.No.	
270.114	1/8" IG
270.132	1/8" AG
270.192	1/4" IG
270.190	1/4" AG

Art. No. 23.033.039.*

NBR (sw),
Si (tr),
HNBR (wr)



12 mm



7,0 g



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Balgensauger Bellows suction cups Ventouses à soufflets

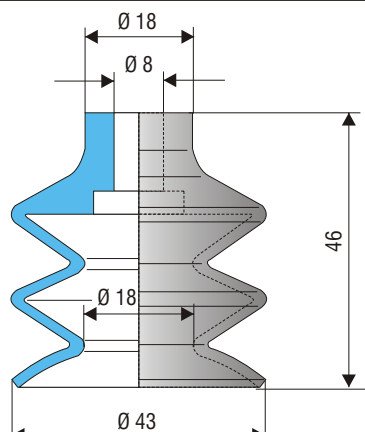
Ø 43 mm -
Ø 53 mm

Strömungsventil:
Flow valve:
Soupape hydraulique:

Art. No.
63.015



Art.No.	
270.114	1/8" IG
270.132	1/8" AG
270.192	1/4" IG
270.190	1/4" AG



Art. No. 21.043.049.*

NBR (sw), HNBR (wr)
Si (tr), Si-E (tr),
PUR (bl), NR (gr)



19 mm



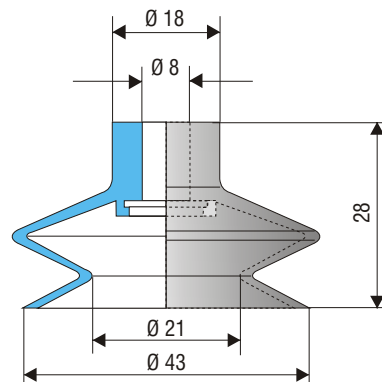
18 g

Strömungsventil:
Flow valve:
Soupape hydraulique:

Art. No.
63.015



Art.No.	
270.114	1/8" IG
270.132	1/8" AG
270.192	1/4" IG
270.190	1/4" AG



Art. No. 23.043.096.*

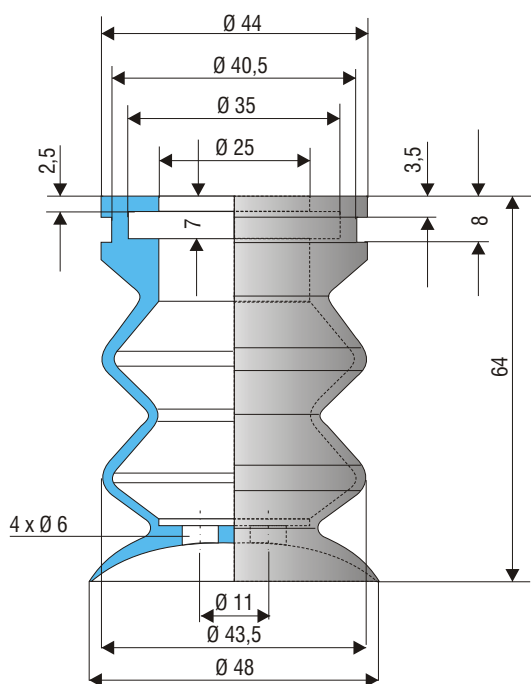
NBR (sw),
Si (tr), FKM (g)
HNBR (wr)



12 mm



10 g



Art.No.	
270.198	1/4" IG

Einsatzbereich:
- Furniere
- Lamine

Uses:
- Veneers
- Laminates

Application:
- contreplaqués
- laminés

Art. No. 25.048.056.2

Si (tr)

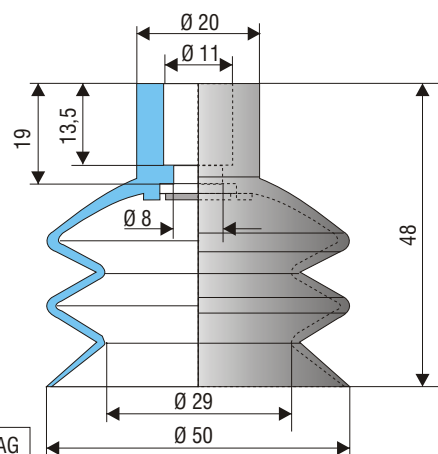


25 mm



33,0 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.



Art.No.	
270.101	1/4" AG

Art. No. 21.050.084.V

Vinyl (bl)



20 mm



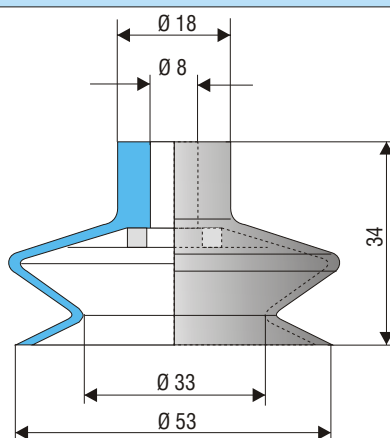
20 g

Strömungsventil:
Flow valve:
Soupape hydraulique:

Art. No.
63.015



Art.No.	
270.114	1/8" IG
270.132	1/8" AG
270.192	1/4" IG
270.190	1/4" AG



Art. No. 23.053.033.*

NBR (sw),
Si (tr)
PUR (ge) 70° Shore



11 mm



19 g

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



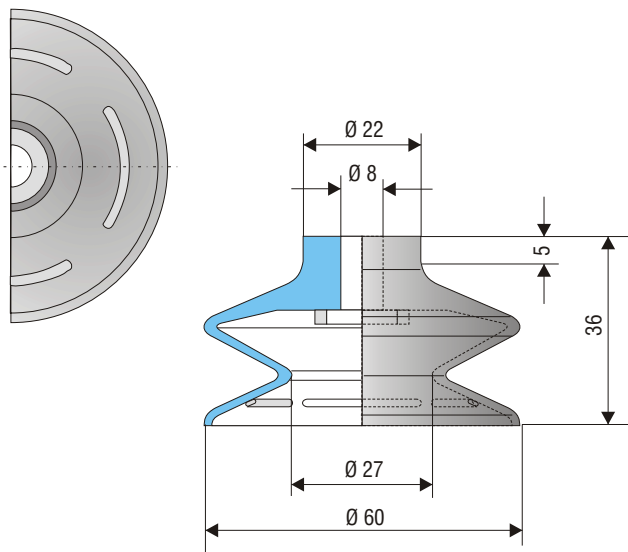
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Balgensauger
Bellows suction cups
Ventouses à soufflets

Ø 60 mm -
Ø 70 mm



Art.No.

270.281	1/4" AG
270.282	1/4" IG

Art. No. 23.060.172.*

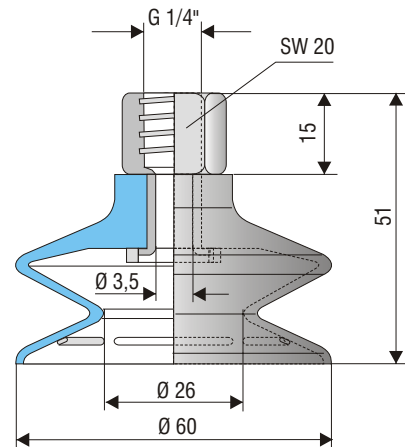
Si (tr)
NR (sw)



12,0 mm



40,0 g



Art. No. 22.060.107.*

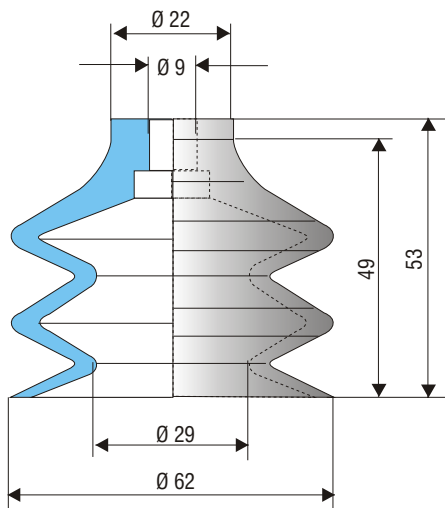
Si (tr),
NR (sw)



11 mm



45 g



Art.No.

270.093	1/8" AG
270.281	1/4" AG
270.282	1/4" IG

Art. No. 21.062.055.*

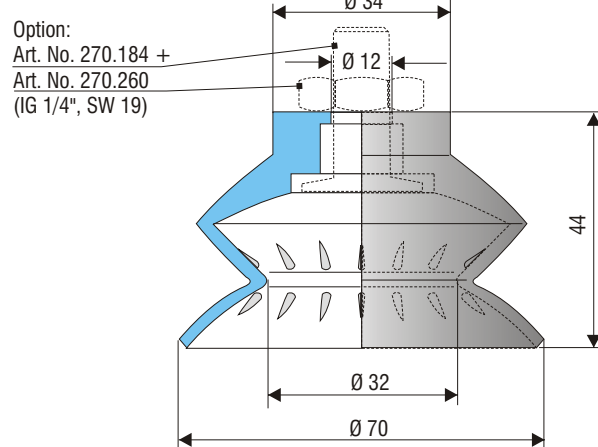
NBR (sw),
Si (tr), Si-E (tr)
PUR (bl), HNBR (wr)



25 mm



50 g



Art.No.

270.145*	1/4" AG*
270.184**	1/4" AG

* MS vernickelt, Länge 33 mm

* Brass nickel-plated, length 33 mm

* Laiton

** Alu, Länge 30 mm

** Alu, length 30 mm

** Alu, longueur 30 mm

Art. No. 23.070.060.*

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



20 mm



40 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.

* When ordering add indicated material.

* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).

Other materials on request (see materials list INFO 4).

Autres matériaux sur demande (voir list des matériaux INFO 4)



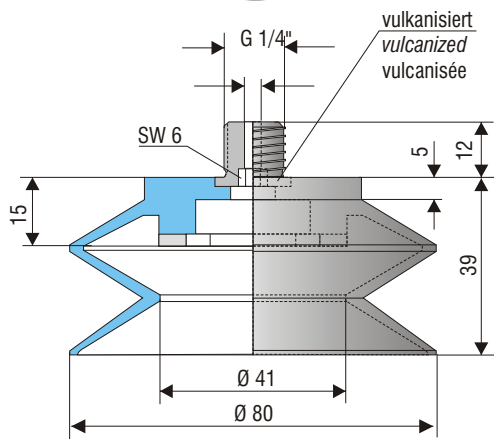
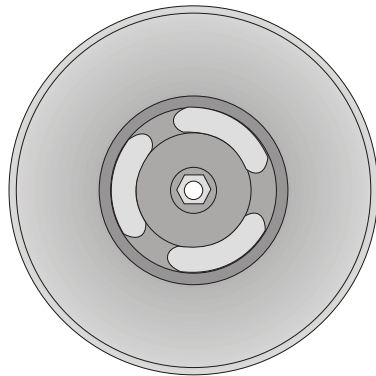
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Balgensauger
Bellows suction cups
Ventouses à soufflets

Ø 80 mm -
Ø 85 mm



Art. No. 22.080.149.13

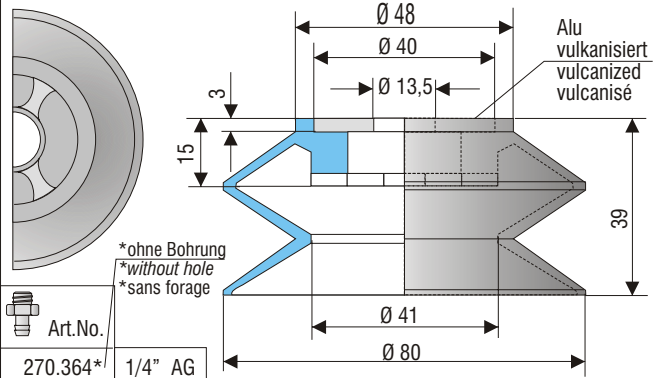
SBR-B (rb)
PUR (bg)



23 mm



70 g



Art.No.

270.364*

1/4" AG

Art. No. 22.080.144.13

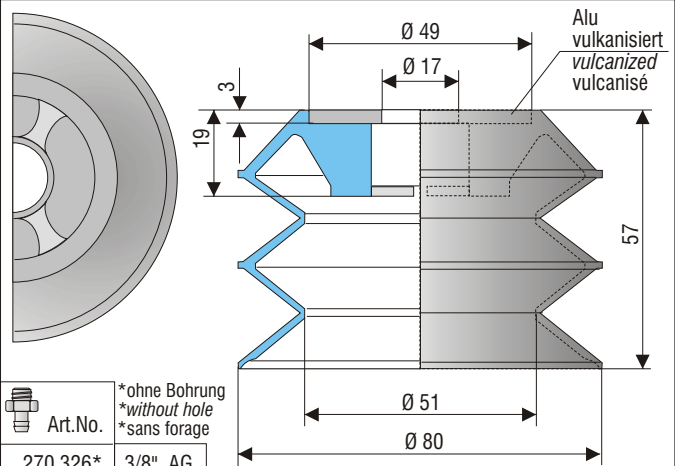
SBR-B (rb)
PUR (bg)



23 mm



60 g



Art.No.

270.326*

3/8" AG

Art. No. 20.080.117.13

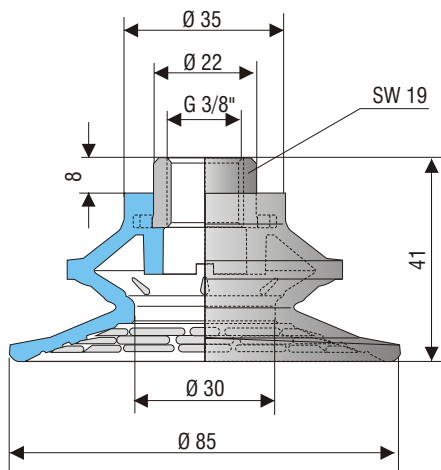
SBR-B (rb)
PUR (bg)



38 mm



80 g



Art. No. 22.085.140.V

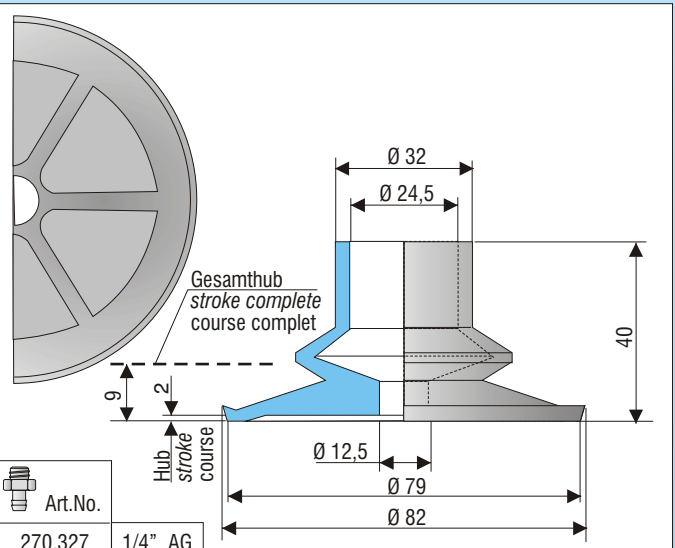
Vinyl (bl)



7,0 mm



48 g



Art.No.

270.327

1/4" AG

Art. No. 107.082.090.2

Si (r)



7,0 mm



41,0 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



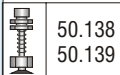
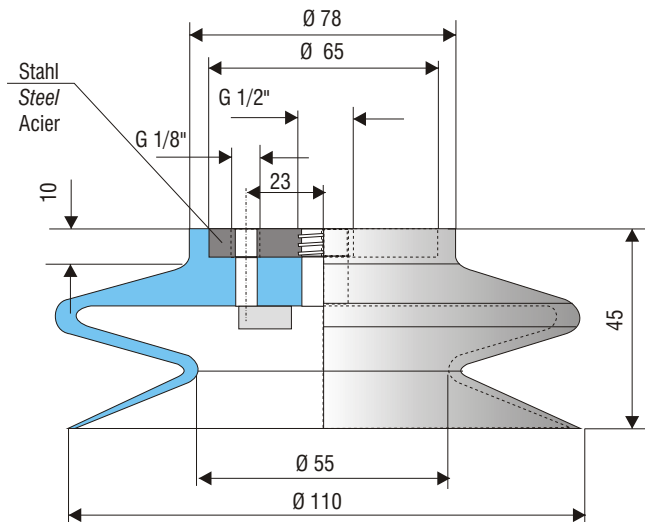
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Balgensauger
Bellows suction cups
Ventouses à soufflets

Ø 110 mm
Ø 150 mm
Ø 180 mm

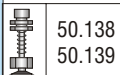
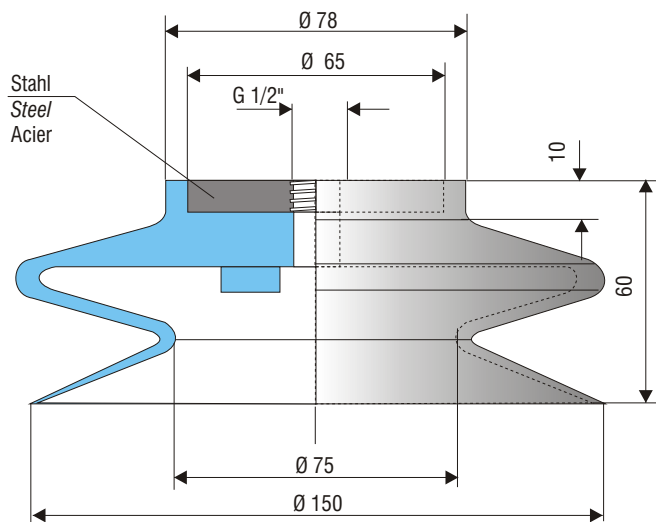


NBR (sw),
Si (w),
NR (sw)

20 mm

355 g

Art. No. 22.110.128.*

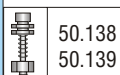
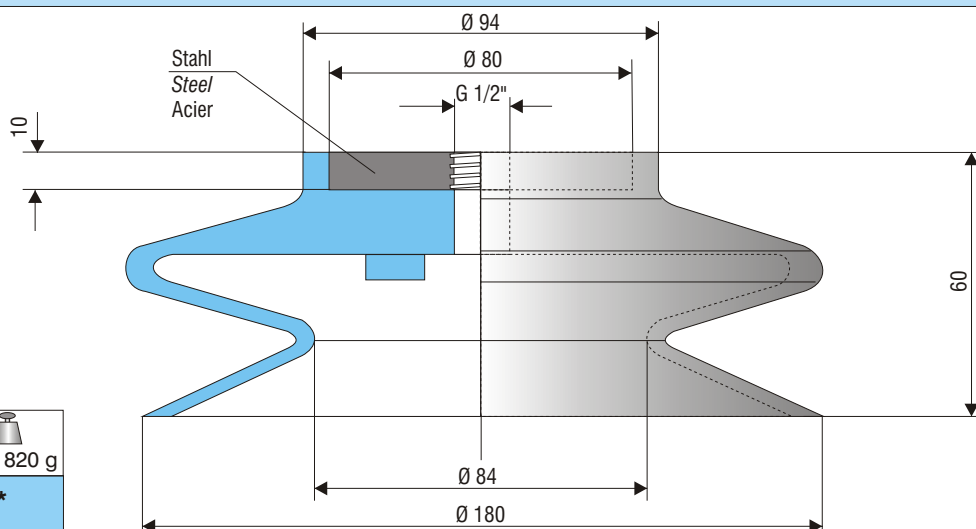


NBR (sw),
Si (tr),
NR (sw)

20 mm

780 g

Art. No. 22.150.129.*



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

20 mm

820 g

Art. No. 22.180.086.*

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
* When ordering add indicated material.
* En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
Other materials on request (see materials list INFO 4).
Autres matériaux sur demande (voir list des matériaux INFO 4)



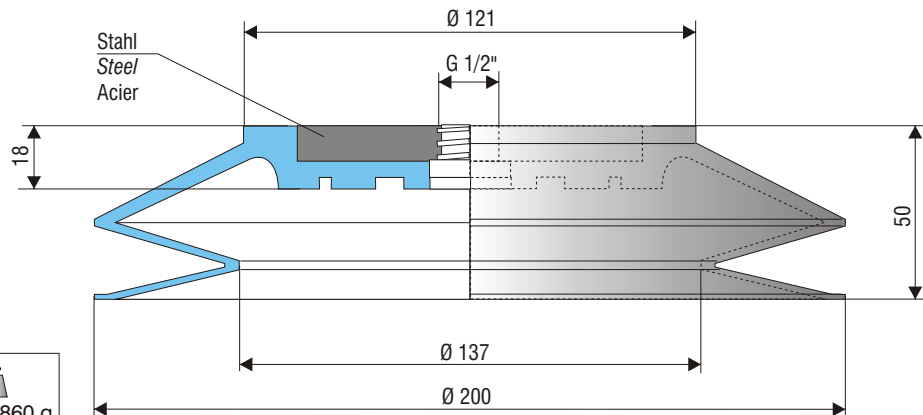
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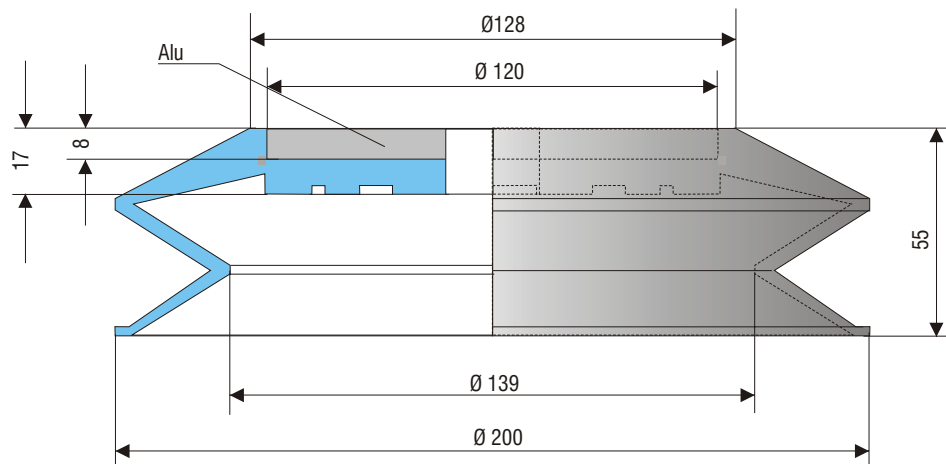
Balgensauger
Bellows suction cups
Ventouses à soufflets

Ø 200 mm



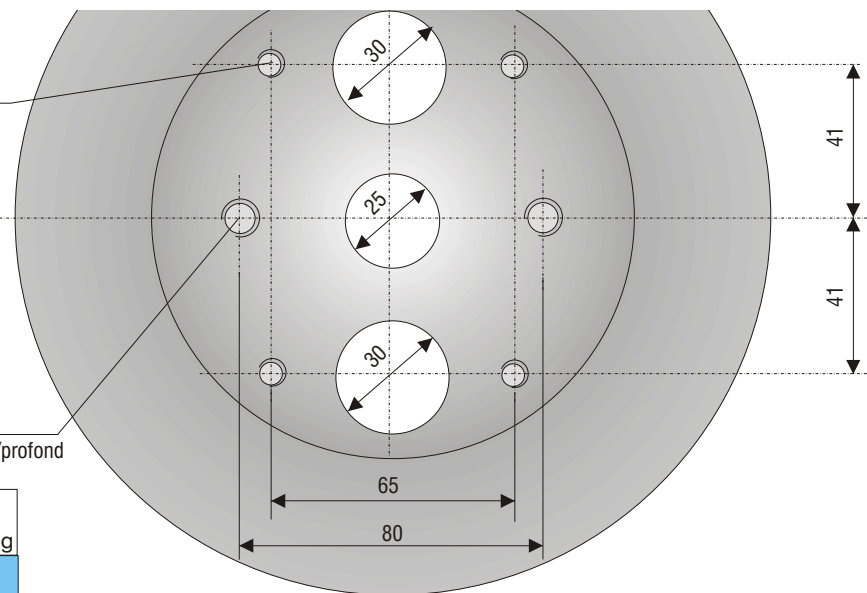
NBR (gr), Si (tr), NR (b)	30 mm	860 g
---------------------------------	-------	-------

Art. No. 22.200.087.*



4x M 6,
6 tief/deep/profond

2x M 8
6 tief/deep/profond



NR (r)	38 mm	520 g
--------	-------	-------

Art. No. 22.200.141.3

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
 * When ordering add indicated material.
 * En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
 Other materials on request (see materials list INFO 4).
 Autres matériaux sur demande (voir list des matériaux INFO 4)



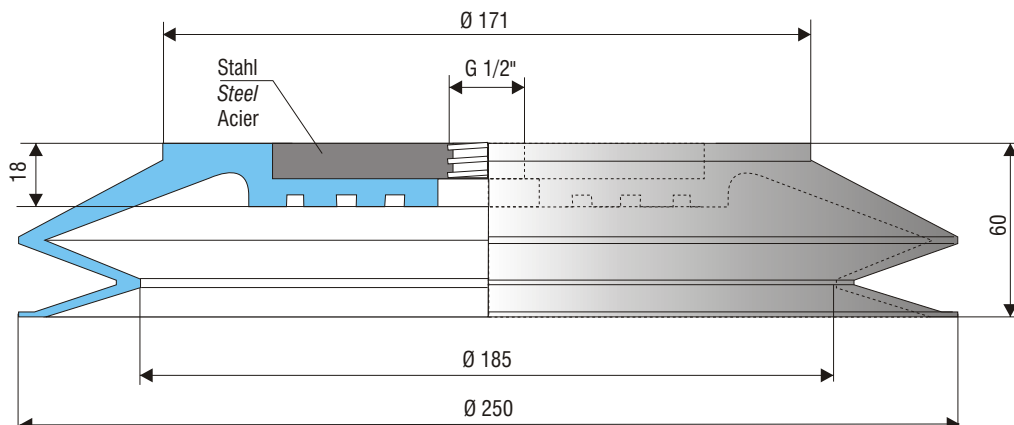
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Balgensauger
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 Ventouses à soufflets

Ø 250 mm
 Ø 300 mm
 Ø 350 mm



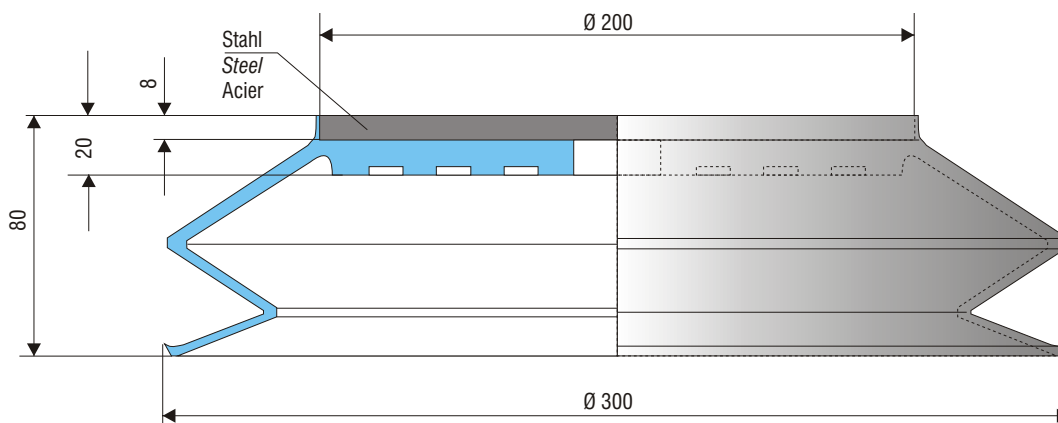
50.138
 50.139

Art. No. 22.250.088.*

NBR (gr)
 Si (tr)
 NR (sw)

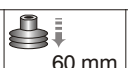


1900 g

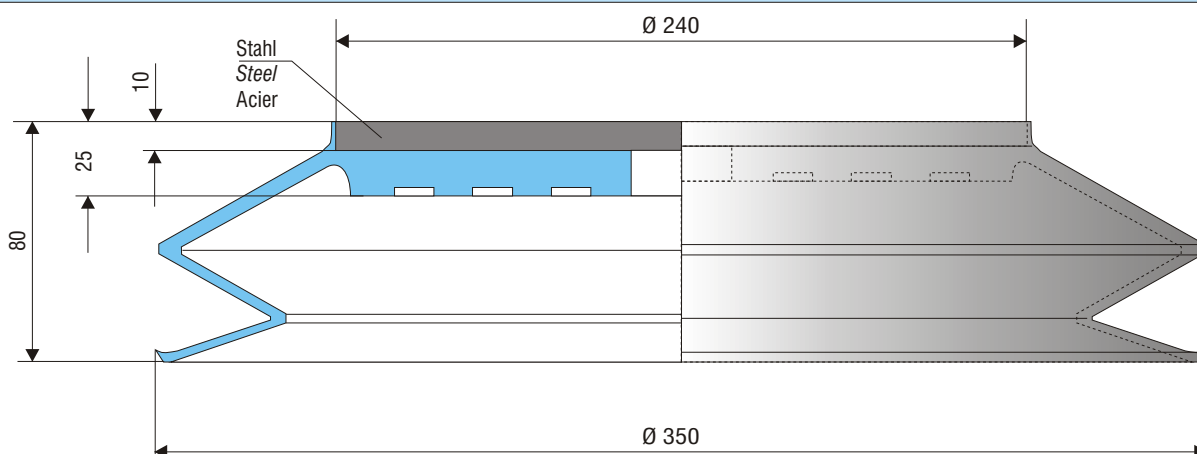


Art. No. 22.300.091.1

NBR (gr)

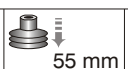


4200 g



Art. No. 22.350.102.1

NBR (gr)



4160 g

* Art. No. bei Bestellung mit angegebenem Material ergänzen.
 * When ordering add indicated material.
 * En cas de commande veuillez ajouter le matériel indiqué.

Andere Materialien auf Anfrage (siehe Materialliste INFO 4).
 Other materials on request (see materials list INFO 4).
 Autres matériaux sur demande (voir list des matériaux INFO 4)



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Spezialformen *Special shapes* Formes spécifiques

Trennsauger *Separating Suction Cup* Ventouse de séparation

Für luftdurchlässige Werkstoffe z.B.
Holz, Preßspan, MDF, HDF usw.

*For porous materials,
e.g. wood, chipboard, MDF, HDF, etc.*

Pour pièces poreuses, par ex. bois presspan,
MDF, HDF usw.

Funktion:

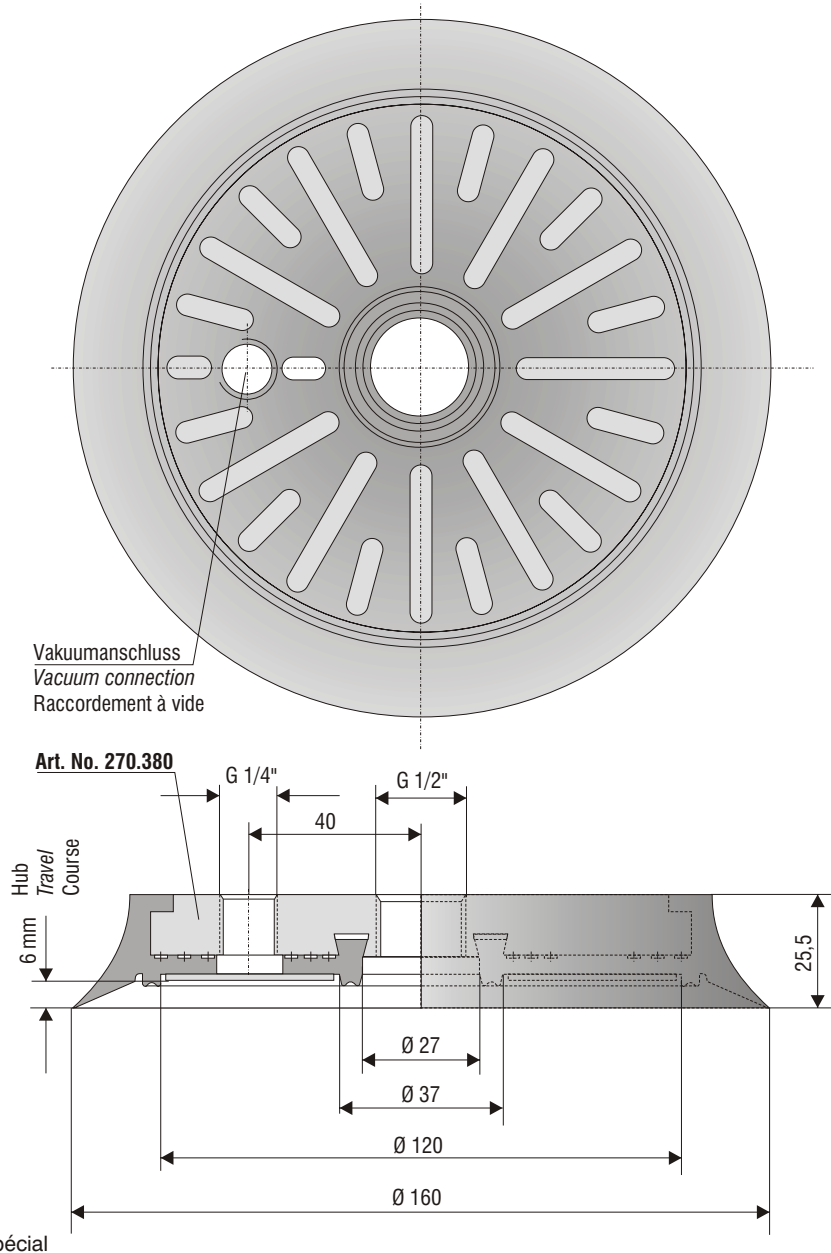
Bei luftdurchlässigen Werkstoffen wird in der Mitte des Vakuumsaugers ein kurzer Druckluftimpuls angelegt. Dadurch löst sich die zusätzlich angesaugte Platte und die obere Platte kann separat abgestapelt werden. Das Druckluftniveau soll zwischen 1 bis 3 bar liegen und ist abhängig von der Beschaffenheit des Materials.

Funktion:

To handle porous materials, a brief compressed-air pulse will be applied to the center of the suction cup. This separates the additional board picked up so that the upper board can be placed separately. The compressed-air level should be between 1 and 3 bars and will depend on material properties.

Fonction:

Pour des pièces poreuses, une courte impulsion est générée au centre de la ventouse. Ceci à pour effet de libérer la plaque aspirée en trop et seule la 1^{ère} plaque aspirée peut être manipulée. Le niveau de vide doit se situer entre 1 et 3 bar et dépend de la nature de matériau.



Sauger ohne Spezial-
Anschlussstück /
Suction cup without
special fitting /
ventouse sans raccord spécial

Art. No. 102.160.380.4

NR (r)
40° Shore



6 mm



130 g

Anschlussstück / Fitting / Raccord
Art. No. 270.380

Alu



415 g



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Theoretische Haltekraft bei 2-facher Sicherheit*:

Vakuumgrad	Halte- kraft	Geeignete Vakuumerzeugung
20 % Vakuum	8,5 kg	Seitenkanalverdichter
30 % "	14,0 kg	Seitenkanalverdichter
40 % "	19,0 kg	Vakuumpumpe
50 % "	23,5 kg	Vakuumpumpe
60 % "	28,5 kg	Vakuumpumpe oder Ejektor (Art. No. VCL15-02 8C- je Trennsauger)
70 % "	33,0 kg	Vakuumpumpe oder Ejektor (wie oben)

*Das Druckluftniveau ist hier nicht berücksichtigt, da die Durchlässigkeit materialabhängig ist. Versuche führen wir gerne in unserem Hause durch.

Theoretical holding power with 2x safety margin*:

Vacuum degree	Holding power	Suitable vacuum generator
20 % Vacuum	8.5 kg	Side channel blower
30 % "	14.0 kg	Side channel blower
40 % "	19.0 kg	Vacuum pump
50 % "	23.5 kg	Vacuum pump
60 % "	28.5 kg	Vacuum pump or gene- rator (Art. No. VCL15-02 8C- per separating cup)
70 % "	33.0 kg	Vacuum pump or generator (same as above)

*No allowance made for the level of compressed air, since permeability is a function of the type of material. We shall be pleased to make suitable tests at this end.

Force de maintien théorique avec un facteur de sécurité de 2*

Niveau de vide	Force de maintien	Génération de vide adéquate
20 % de vide	8,5 kg	Turbine à vide
30 % "	14,0 kg	Turbine à vide
40 % "	19,0 kg	Pompe à vide
50 % "	23,5 kg	Pompe à vide
60 % "	28,5 kg	Pompe à vide ou venturi (Ref. Art. VCL15-02 8C- par ventouse de séparation))
70 % "	33,0 kg	Pompe à vide ou venturi (voir ci-dessus))

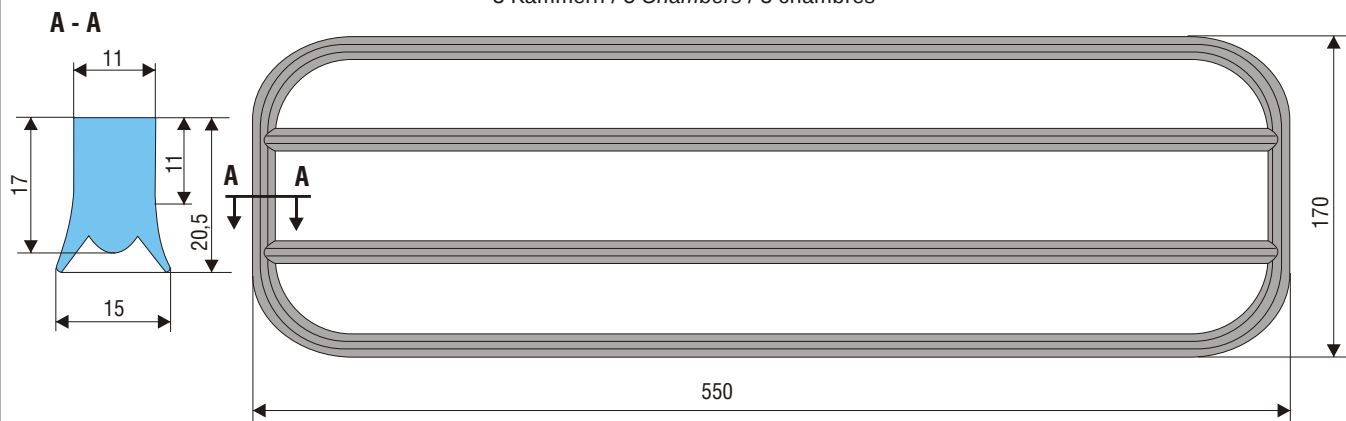
*Le niveau d'air comprimé n'est ici pas pris en compte, comme la perméabilité dépend du matériau manipulé. Nous serions ravis de procéder à des essais dans nos locaux.

Spezialformen
Special shapes
 Formes spécifiques

Für sägerauhe Balken
 For saw-cut beams
 pour poutres rugueuses

Kammersauger
Chambered suction cups
 Ventouses à chambre

3 Kammern / 3 Chambers / 3 chambres



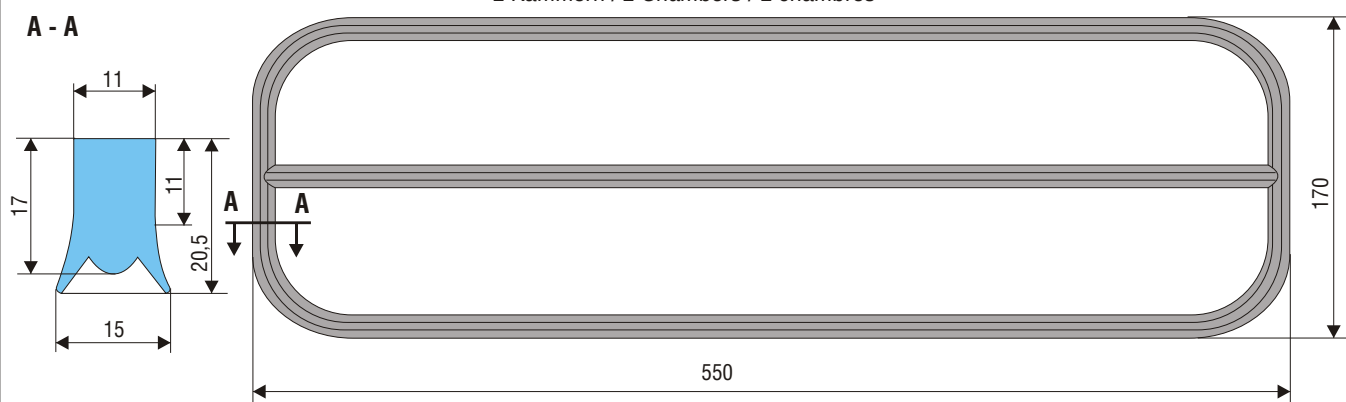
Art. No. 90.103

EPDM (gr)
 20° Shore



270 g

2 Kammern / 2 Chambers / 2 chambres



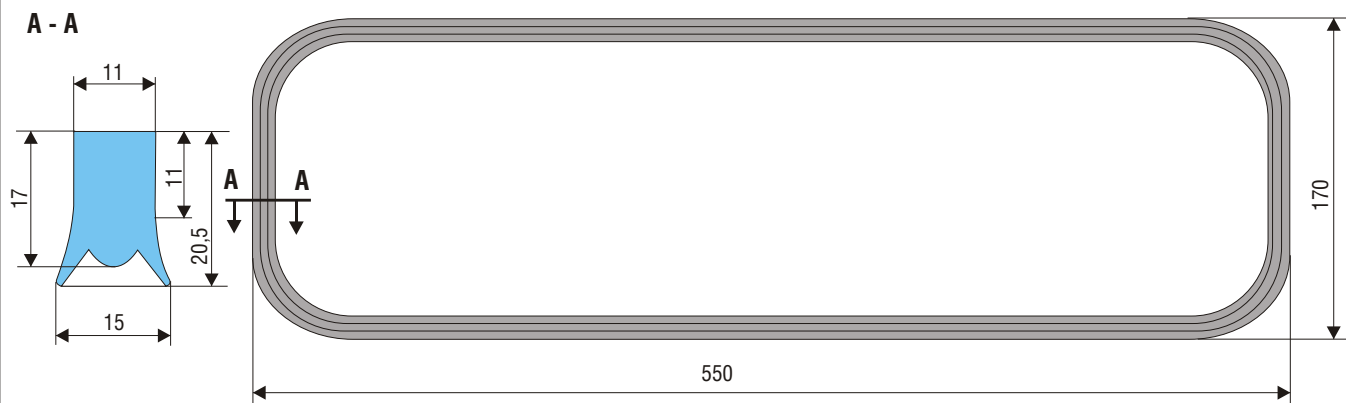
Art. No. 90.102

EPDM (gr)
 20° Shore



210 g

1 Kammer / 1 Chamber / 1 chambre



Art. No. 90.101

EPDM (gr)
 20° Shore



130 g



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D-85737 Ismaning
 Freisinger Str. 30
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Telefon 089 / 96 24 89 -0
 Telefax 089 / 96 24 89-11
 e-mail: info@fipa-online.com

Spezialformen Special shapes Formes spécifiques

Dichtprofile Sealing profiles Joints d'étanchéité profilé

Dichtprofile zum "Selberbauen"

Diese Dichtprofile dienen dem Eigenbau von Sauggreifern in jeder gewünschten Form. Sie sind speziell an unterschiedliche Werkstückgeometrien anpassbar.

Sie dienen der Abdichtung bei sehr rauen oder stark strukturierten Oberflächen (z.B. Ornamentglas, bruchrauer Naturstein, Betonstein usw.)

Sealing profiles for "home-made" suction cups

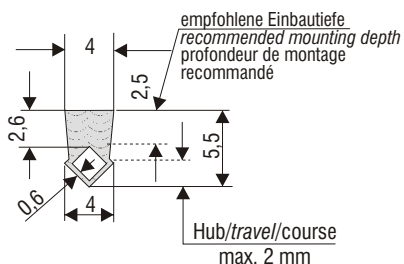
These profiles may be used to make suction cups of any desired shape. They are well-suited for adaptation to a wide range of different tool geometries.

The profiles serve to attain a vacuum with very rough or textured surfaces, such as stained glass, rough natural stone, concrete, etc.

Modeles pour ventouses "maison"

Ces modeles pouvant être utilisés pour fabriquer des ventouses de forme quelconque. Ils sont parfaitement conçus pour s'adapter à différentes formes d'outillage.

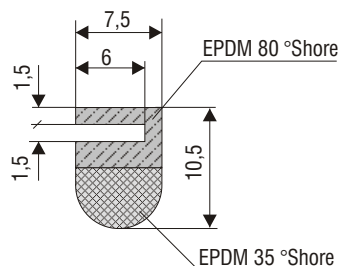
Ces modeles sont utilisés pour attacher un vide nécessaire aux surfaces rugueuses ou en textile, ters verre strié, pierre naturelle, beton, etc.



Standardlänge 20 000 mm
 Standard length 20 000 mm
 Longueur standard 20 000 mm

Art. No. 231.5,5x4.015.2

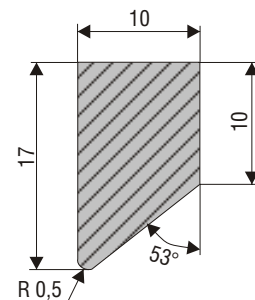
Si (tr)



Standardlänge 1000 mm
 Standard length 1000 mm
 Longueur standard 1000 mm

Art. No. 231.10,5x7,5.001.12

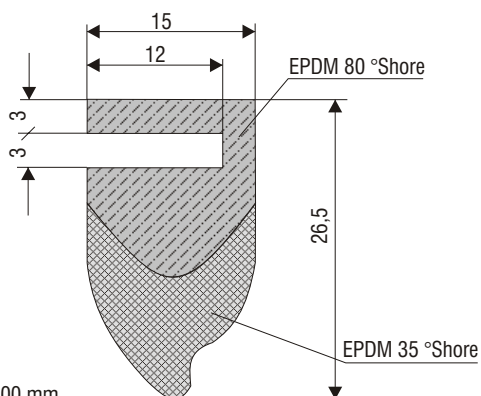
EPDM,
 35° (80°) Shore



Standardlänge 1000 mm, (Endlosprofil lieferbar)
 Standard length 1000 mm,
 Longueur standard 1000 mm,

Art. No. 231.17x10.025.12

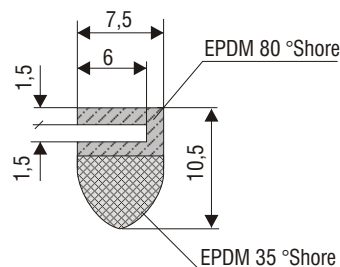
NR (gr)
 15° Shore 65 g/m



Standardlänge 1000 mm
 Standard length 1000 mm
 Longueur standard 1000 mm

Art. No. 231.26,5x15.003.12

EPDM,
 35° (80°) Shore



Standardlänge 1000 mm
 Standard length 1000 mm
 Longueur standard 1000 mm

Art. No. 231.10,5x7,5.002.12

EPDM,
 35° (80°) Shore



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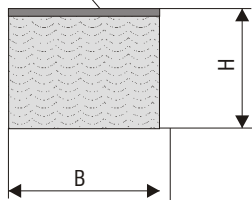
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 Freisinger Str. 30
 www.fipa-online.com

Telefon 089 / 96 24 89 -0
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Spezialformen Special shapes Formes spécifiques

Dichtprofile Sealing profiles Joints d'étanchéité profilé

Folie, selbstklebend
(zum Abziehen)
Self-adhesive foil
(remove)
Feuille auto-
adhésive (retirer)

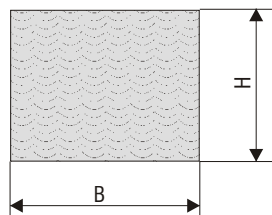


Standardlänge 2000 mm
Standard length 2000 mm
Longueur standard 2000 mm

Moosgummi (NR)
Foam rubber (NR)
Caoutchuc souple (NR)

Art. No. 231.10x10.023.12
Art. No. 231.20x15.004.12

B	H
10	10
20	15

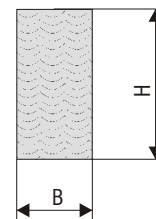
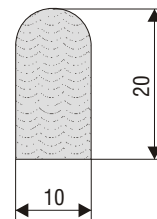


Standardlänge 1000 mm
Standard length 1000 mm
Longueur standard 1000 mm

Moosgummi (NBR, gr)
Foam rubber (NBR, gr)
Caoutchuc souple (NBR, gr)

Art. No. 231.10x6.006.12
Art. No. 231.25x20.008.12

B	H
10	6
25	20



Standardlänge 1000 mm
Standard length 1000 mm
Longueur standard 1000 mm

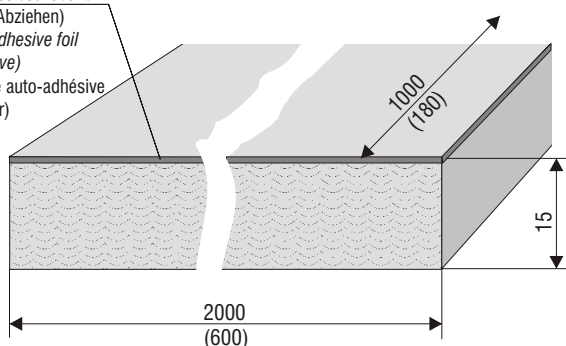
Moosgummi NBR (gr)
Foam rubber NBR (gr)
Caoutchuc souple NBR (gr)

Art. No.
231.20x10.007.12

Moosgummi EPDM (sw)
Foam rubber EPDM (sw)
Caoutchuc souple EPDM (sw)

Art. No.	B	H
231.20x10.027.12	10	20
231.25x10.028.12	10	25

Folie, selbstklebend
(zum Abziehen)
Self-adhesive foil
(remove)
Feuille auto-adhésive
(retirer)



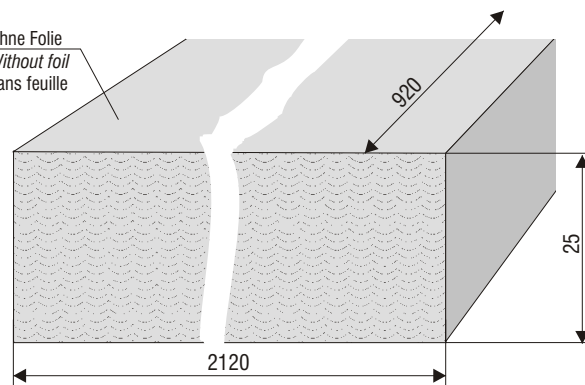
Art. No. 231.2000x1000.005.12

Moosgummi (NR)
Foam rubber (NR)
Caoutchuc souple (NR)

(Art. No. 231.180x600.024.12)

Moosgummi (NR)
Foam rubber (NR)
Caoutchuc souple (NR)

Ohne Folie
Without foil
sans feuille

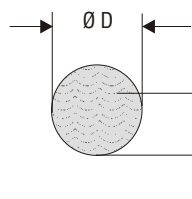


Art. No. 231.2120x920x25.017
231.2120x920x25.018
231.2120x920x25.019

Dichte/

160 Microfine
200 Fine
200 Media

Moosgummi (NR)
Foam rubber (NR)
Caoutchuc souple (NR)



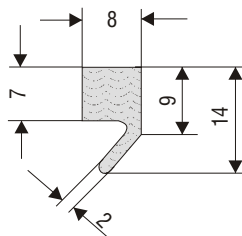
empfohlene Einbautiefe
recommended mounting depth
profondeur de montage
recommandé

Standardlänge 1000 mm
Standard length 1000 mm
Longueur standard 1000 mm

Moosgummi (NBR, gr)
Foam rubber (NBR, gr)
Caoutchuc souple (NBR, gr)

Art. No. 231.05.026.12
231.06.011.12
231.08.012.12
231.10.013.12
231.12.014.12

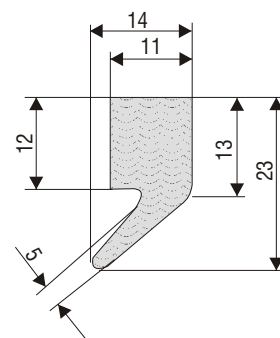
Ø D mm	E mm
5	~ 3,5
6	~ 4,5
8	~ 6,0
10	~ 7,0
12	~ 8,5



Standardlänge 1000 mm
Standard length 1000 mm
Longueur standard 1000 mm

Moosgummi (NBR, s)
Foam rubber (NBR, s)
Caoutchuc souple (NBR, s)

Art. No. 231.14x8x2.009.12



Standardlänge 1000 mm
Standard length 1000 mm
Longueur standard 1000 mm

Moosgummi (NBR, s)
Foam rubber (NBR, s)
Caoutchuc souple (NBR, s)

Art. No. 231.23x11x5.010.12



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Freisinger Str. 30
www.fipa-online.com

Telefon 089 / 96 24 89 -0
Telefax 089 / 96 24 89-11
e-mail: info@fipa-online.com

Handgreifer / *Grabbers* / Grappins

für glatte Oberflächen
for smooth surfaces
pour surfaces

Der Handgreifer mit den vielen Vorteilen:

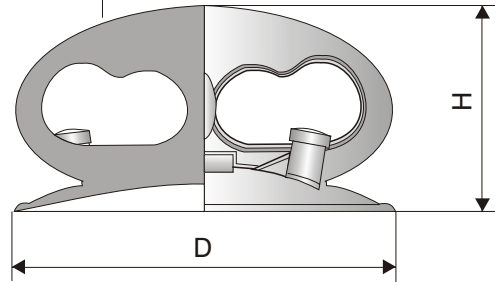
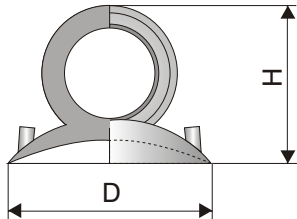
- Keine Vakuumquelle erforderlich
- Starke Haltekraft
- Einfache Handhabung
- Mit Entriegelungsknopf
- 5 Größen lieferbar
- Äußerst preisgünstig
- Ab Lager lieferbar

Grabbers have many advantages:

- No vacuum pump required
- High holding power
- Easy use
- With release button
- Available in five different sizes
- Highly cost-efficient
- Available from stock

Le préhenseur manuel offre de nombreux avantages

- aucune source de vide nécessaire
- grande force de maintien
- maniement simple
- avec bouton de déverrouillage
- disponible en 5 tailles
- extrêmement bon marché
- disponible départ entrepôt



Art. No.	D mm	H mm	Material Material Matériau
64.001.V	54	42	Vinyl/Vynile
64.002.V	66	48	Vinyl/Vinyle

Art. No.	D mm	H mm	Material Material Matériau
64.003.V	82	42	Vinyl/Vinyle
64.004.1	115	63	NBR
64.004.3	115	63	NR
64.005.V	121	65	Vinyl/Vinyle

Saugheber / *Suction lifter* / Grappins

Hebekraft:
Lifting force: ~15 kg
Force de levage:

Einsatzbereiche:

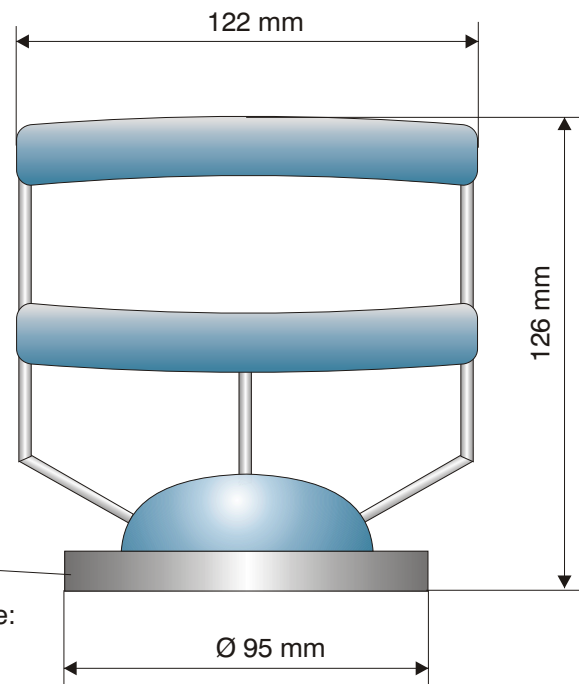
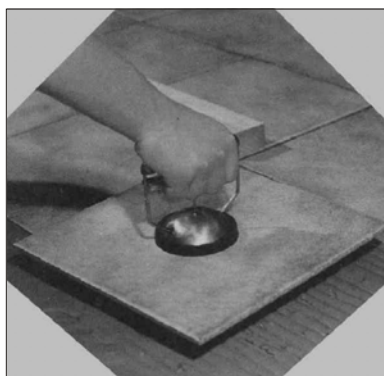
Fliesen
Glas
Holz
Kunststoff uvm.

Applications:

tiles
glass
wood
plastic etc.

Applications:

carreaux
pièces en verre
bois
plastique etc.



Saugerlippe:
Suction lip:
Lèvre de ventouse:
PUR (sw)

Art. No. 64.006.5



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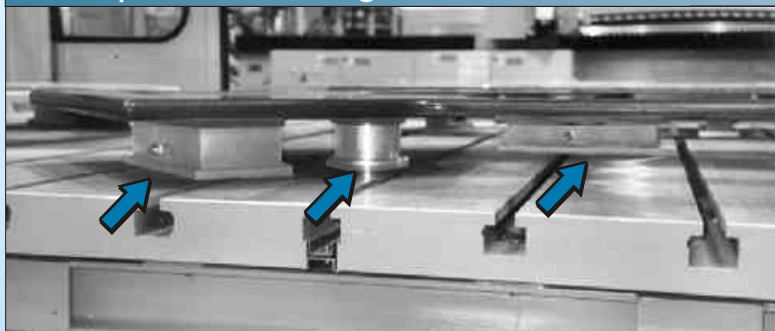
D-85737 Ismaning
Freisinger Str. 30
www.fipa-online.com

Tel. +49/(0)89 / 96 24 89 -0
Fax +49/(0)89 / 96 24 89-11
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5/2003

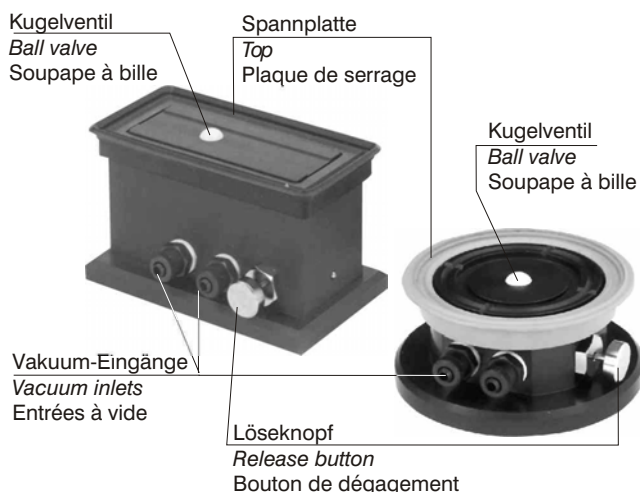
Vakuum-Aufspannplatten Vacuum clamping devices Plaques de serrage

Auszug aus unserem Gesamtprogramm. Bitte Unterlagen anfordern
Exerpt from our complete program. Please ask for more information.
Extrait de notre programme complet. Demandez nos catalogues.



VAKUUM - AUFSPANNPLATTEN mit Kugelventil und Löseknopf

Ausführung: rund oder rechteckig
Material: eloxiertes Aluminium mit Dichtlippen aus NBR, Silikon oder NR, andere Materialien auf Anfrage
Einsatz: für Glasplatten, Holz, Marmor, Blech - auch mobil einsetzbar!



Ausführung mit Löseknopf:

für die Unterbrechung des Vakuums nach unten

2 Vakuum- 1x für das Vakuumspannen nach unten,
Eingänge: 1 x für die Auflage oben

So funktioniert es: Sie können diese Aufspannplatten an beliebiger Stelle auf einer planen Fläche mittels Vakuum festspannen und das zu haltende Teil auf die Spannplatte legen. Erst durch das Gewicht oder durch kurzes Andrücken des Auflageteils wird das Vakuum über das Kugelventil aktiviert. Das vakuumgespannte Teil kann nun bearbeitet werden. Durch Drücken des seitlichen Löseknopfes wird das nach unten wirkende Vakuum unterbrochen und Sie können die Aufspannplatte mit dem bearbeiteten Teil versetzen, ohne daß das Vakuum nach oben beeinträchtigt wird.

Deshalb sind die Aufspannplatten universell einsetzbar.

Die Vakuum-Aufspannplatten sind auch **ohne** Löseknopf und **ohne** Kugelventil lieferbar.

VACUUM CLAMPING DEVICES with ball valve and release button

Design: Circular or rectangular;
Material: Anodized aluminium with NBR, silicone or NR sealing lips (other material on request)
For use on: Glass plates, wood, marble, sheet metal, etc. - also suitable for mobile use!

Version with release button:

to cut the downward vacuum
Two vacuum inlets: 1x for vacuum clamping on underside, 1x for workpiece on top

And this is how its works: The devices can be vacuum-clamped anywhere on a flat surface and the workpiece placed on top. The vacuum is activated via the ball valve either by the weight of the workpiece or by brief pressure on it. The vacuum-clamped part can then be worked. Depression of the lateral release button interrupts the downward vacuum, and the device with the workpiece on top can be shifted without disturbing the upward vacuum.

The system is extremely flexible.

The devices can also be supplied **without** a release button and ball valve.

PLAQUES DE SERRAGE À VIDE avec souape à bille et bouton de dégagement

Version: rondes ou carré
Matériaux: aluminium anodisé avec lèvres d'étanchéité en NBR, silicone ou NR, autres matériaux sur demande.
Utilisation: pour des plaques en verre, en bois, marbre, tôle, etc. - utilisable également d'une manière mobile!

La version avec bouton de dégagement:

pour l'interruption du vide vers le bas.
2 entrées à vide: 1x pour le serrage à vide vers le bas, 1x pour la pièce appliquée en haut.

Cela fonctionne comme ceci: Vous pouvez serrer ces plaques de serrage, au moyen du vide, à n'importe quel endroit sur une surface plane et poser la pièce à maintenir sur la plaque de serrage. Le vide n'est activé par la souape à bille que par le poids ou une brève pression de la pièce appliquée. La pièce serrée par vide peut être maintenant traitée. En appuyant sur le bouton de dégagement latéral, le vide agissant vers le bas est interrompu et vous pouvez déplacer la plaque de serrage avec la pièce traitée sans porter atteinte au vide vers le haut.

Cela rend les plaques de serrage utilisable universellement.

Les plaques de serrage à vide sont également disponibles **sans** bouton de dégagement ni souape à bille.



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D-85737 Ismaning
Freisinger Str. 30
www.fipa-online.com

Tel. +49(0)89 / 96 24 89 - 0
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Vakuum-Aufspannplatten Vacuum Clamping Devices Plaques de serrage



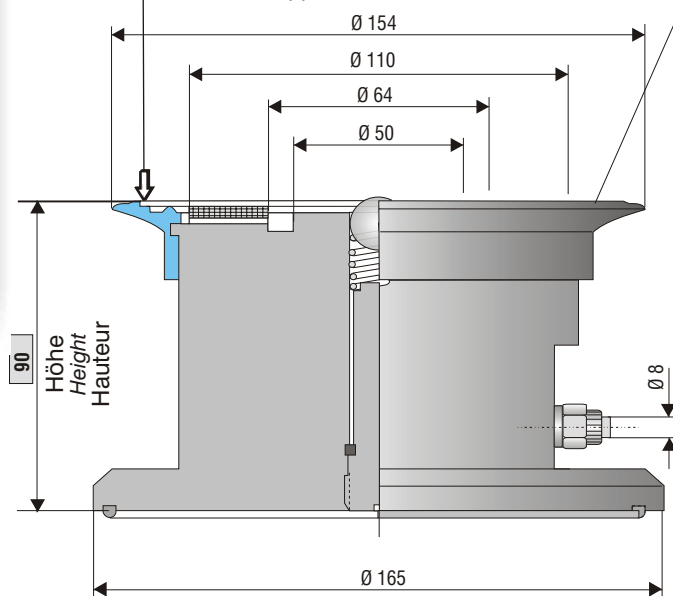
Kugelventil
Ball valve
Soupape à bille

Schutzauflage (Kunststoffband)
Protection (plastic band)
Protection (bande en plastique)

Auflagefläche
Supporting surface
Surface de support

Art. No. 154.150.058._*
Ersatzlippe
Spare lip
Lèvre de rechange

unten Vakkumanschlüsse oben
below Vacuum inlets up
en bas Entrées à vide en haut



Art. No. 211.150.001._* NR (sw)
NBR (sw), Si (tr)

Aufspannplatten auf Anfrage:
Vacuum clamping devices on request:
Plaques de serrage sur demande:

Der Aufbau dieser Aufspannplatten ist ähnlich wie in der Abbildung oben.
The design of these clamping devices is similar to the one shown above.
La construction de ces plaques de serrage s'effectue comme illustré plus haut.

a) runde Ausführungen
round design / disposition ronde

Art. No.	Ø der Sauglippe Diam. of the lip Ø de la lèvre mm	Höhe Height Hauteur mm
210.065.040._*	65	90
211.085.002._*	85	90
211.110.003._*	114	90
211.150.001._*	154*	90
211.250.004._*	254	90
211.110.005._*	114	160
211.150.006._*	154	160
211.250.007._*	254	160

b) rechteckige Ausführungen
square design / disposition rectangulaire

Art. No.	Länge x Breite der Sauglippe Length x width of the lip Longeur x largeur de la lèvre mm	Höhe Height Hauteur mm
213.75x50.020._	75 x 50	90
212.76x41.001._	76 x 41	90
212.120x90.002._	120 x 90	90
212.150x75.003._	150 x 75	90
212.300x80.004._	300 x 80	90
212.300x150.005._	300 x 150	90
212.120x90.006._	120 x 90	160
212.150x75.007._	150 x 75	160
212.300x80.008._	300 x 80	160
212.300x150.009._	300 x 150	160

Hinweis: Bevorzugtes Material in der Holzindustrie ist Naturgummi.
Weitere Materialien: NBR, Silikon
Alle Sauglippen sind als Ersatzlippen lieferbar.

Note: Natural rubber is the material preferably used in the wood-processing industry.
Other materials: NBR, Silicone
All suction lips are available as spares.

Indication: Le matériel favori dans l'industrie du bois est un caoutchouc naturel.
Autres matériaux: NBR et Silicone
Toute les lèvres d'aspiration sont livrable comme lèvres de remplacement.



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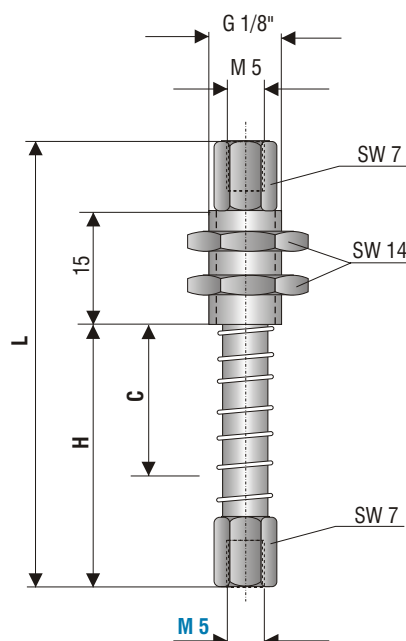
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Freisinger Str. 30
www.fipa-online.com

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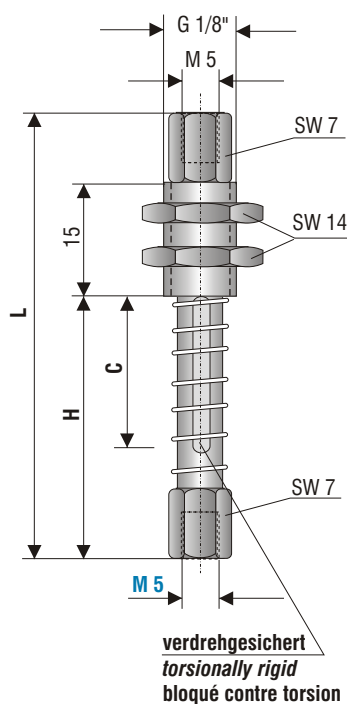
Federstößel Spring Levelers Porte-ventouses

C = Hub
Travel
Course

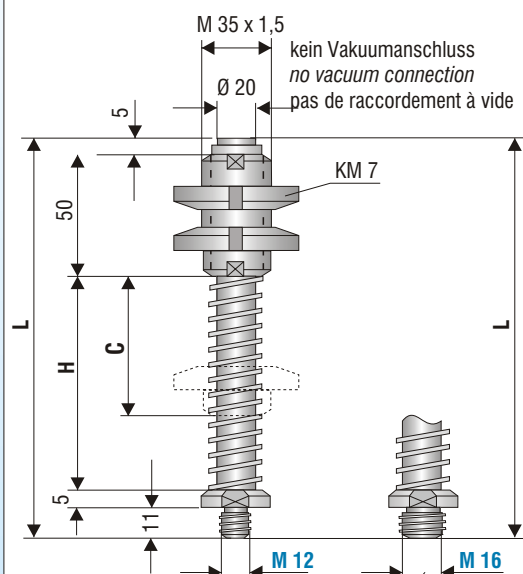
M 5 IG
M 12 AG
M 16 AG



Art. No.	C	L	H
50.149	10	47	22,5
50.150	20	59	34,5

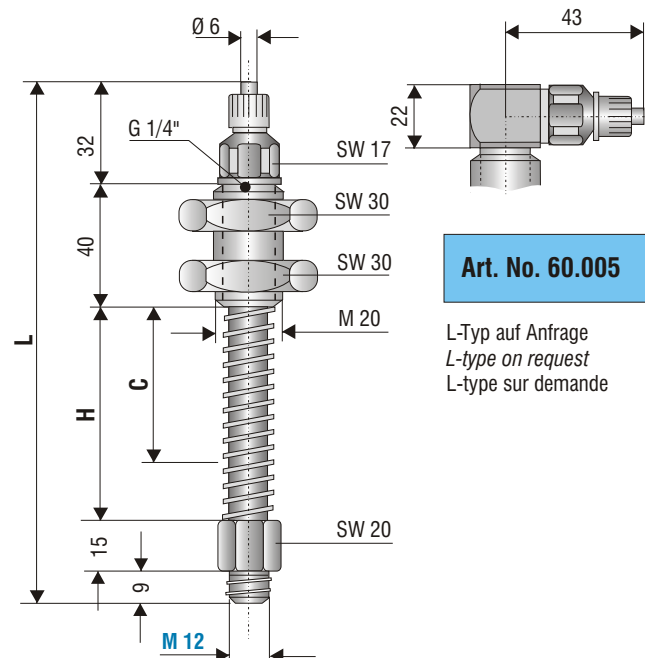


Art. No.	C	L	H
50.152	10	47	22,5
50.153	20	59	34,5

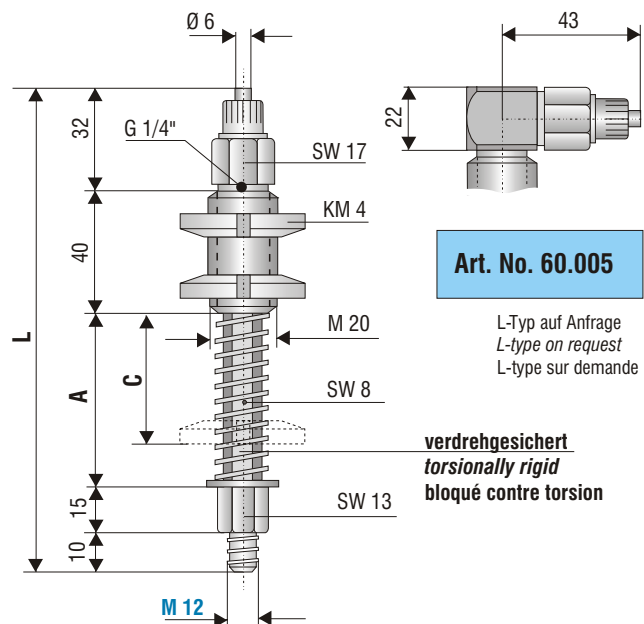


Art. No.	C	H	L
50.099	37	55	126
50.100	75	110	181

Art. No.	C	H	L
50.101	37	55	126
50.102	75	110	181



Art. No.	H	L	C
50.062	28	124	17
50.063	65	161	50
50.064	95	191	74



Art. No.	A	L	C
50.051	28	125	17
50.052	65	162	45
50.053	95	192	65



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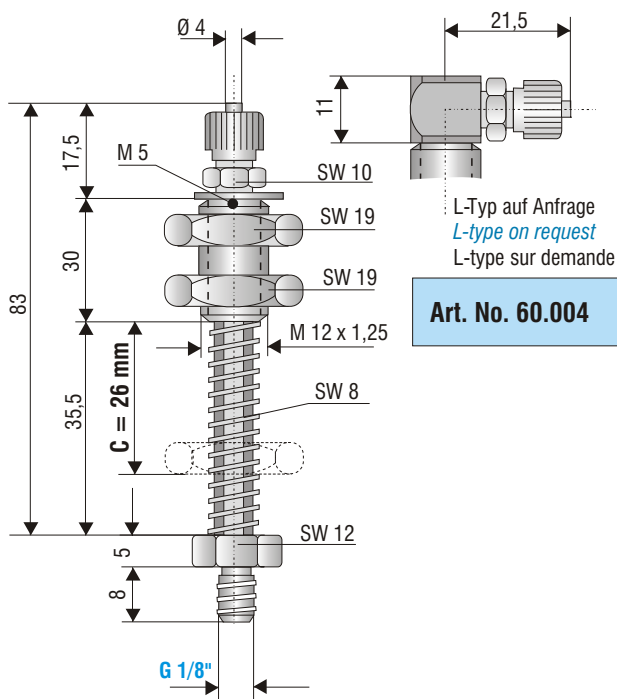
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Federstößel Spring Levelers Porte-ventouses

C = Hub
Travel
Course

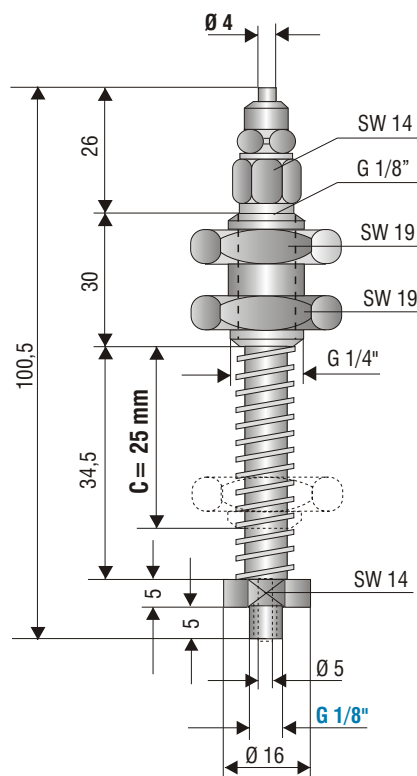
1/8" AG



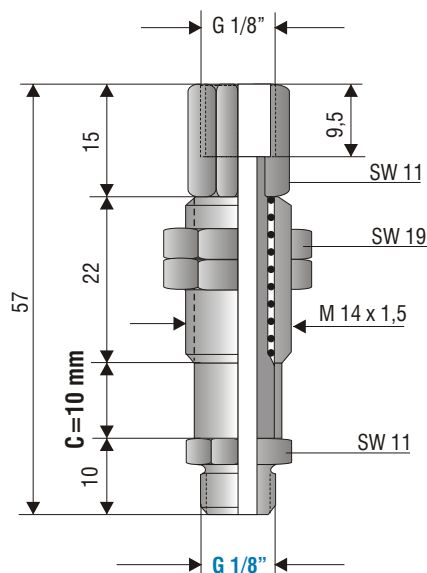
Art. No. 60.004

Art. No. 50.055

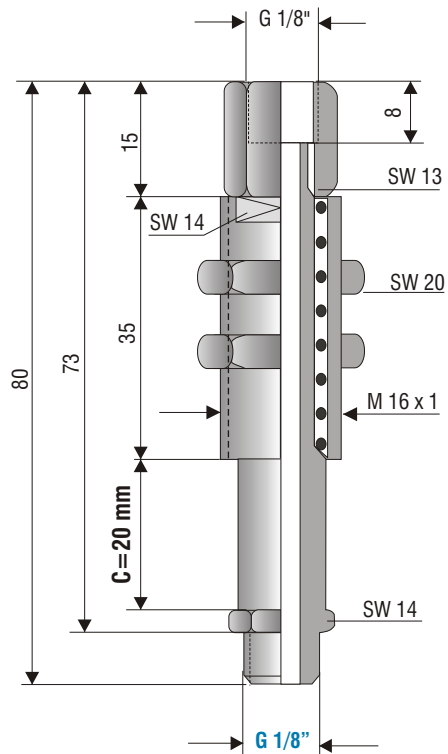
verdrehgesichert
torsionally rigid
bloqué contre torsion



Art. No. 50.048



Art. No. 50.123



Art. No. 50.124



FIPA GMBH
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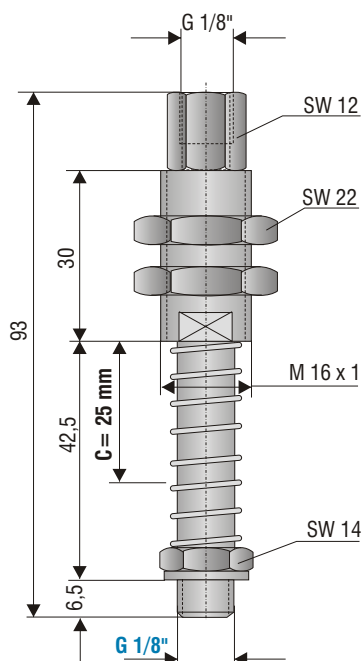
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e-mail: info@fipa-online.com

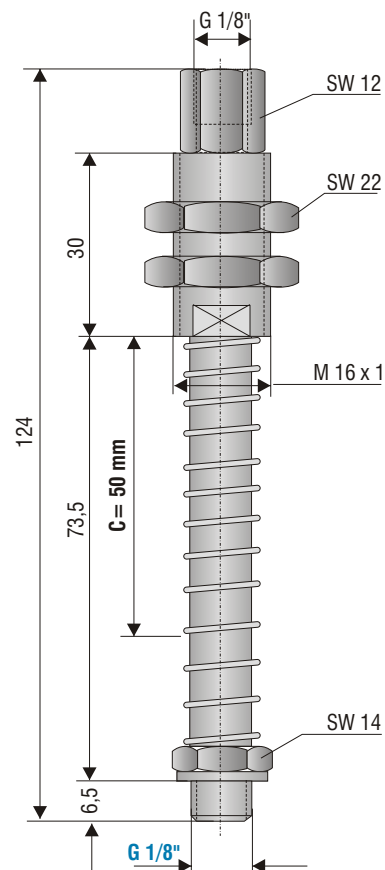
Federstößel Supports for suction cups Porteurs pour ventouses

C = Hub
Travel
Course

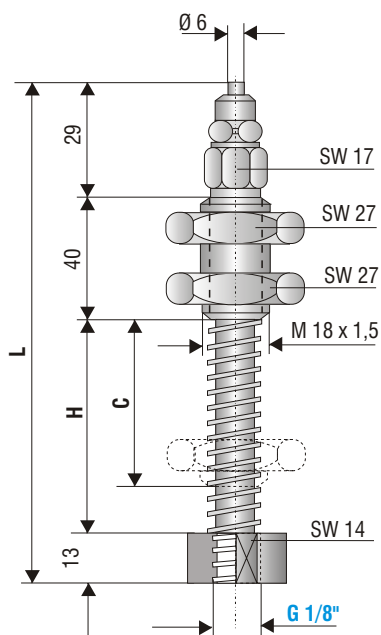
1/8" AG
1/8" IG



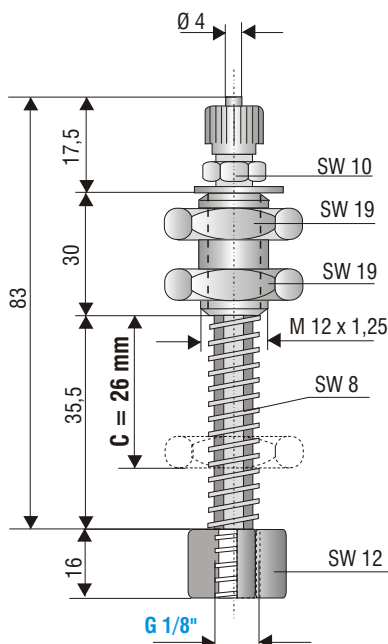
Art. No. 50.160



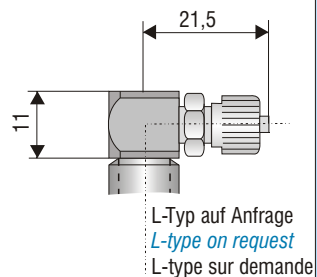
Art. No. 50.162



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



Art. No. 50.056



Art. No. 60.004

verdrehgesichert
torsionally rigid
bloqué contre torsion



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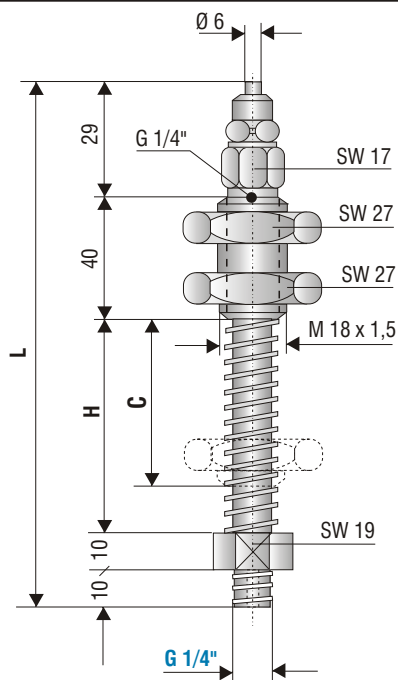
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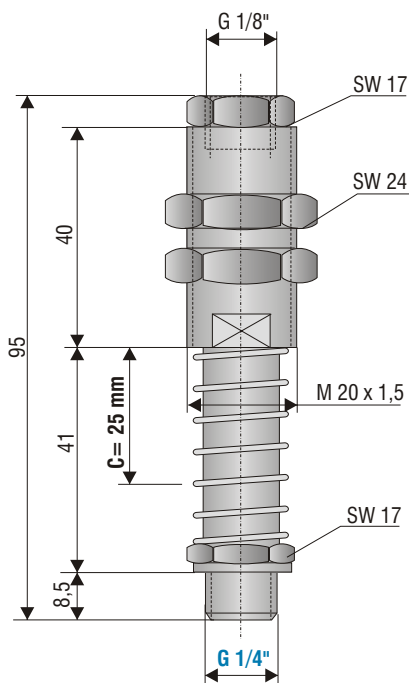
Federstößel Supports for suction cups Porteurs pour ventouses

C = Hub
Travel
Course

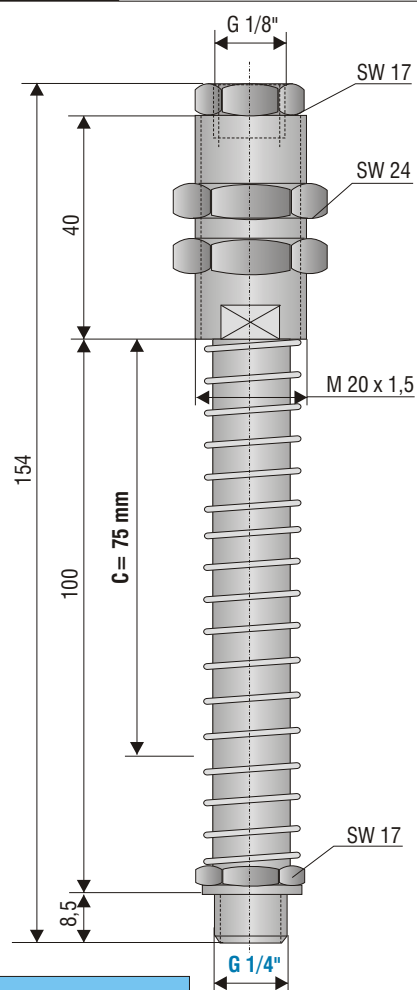
1/4" AG
1/4" IG



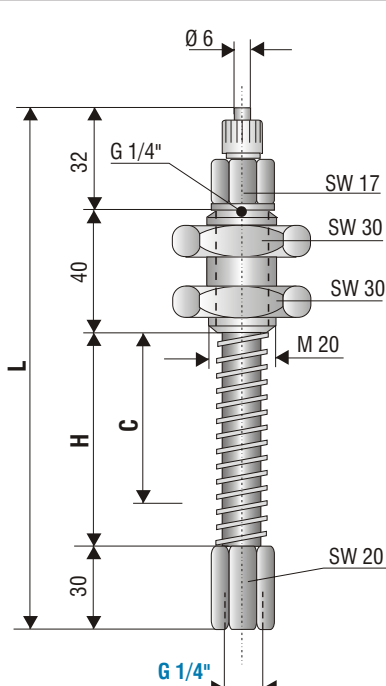
Art. No.	C	H	L
50.015	25	37	126
50.016	55	77	166
50.017	80	110	199



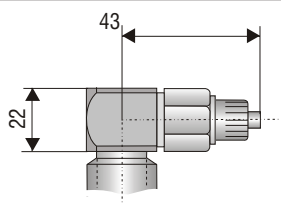
Art. No. 50.164



Art. No. 50.166

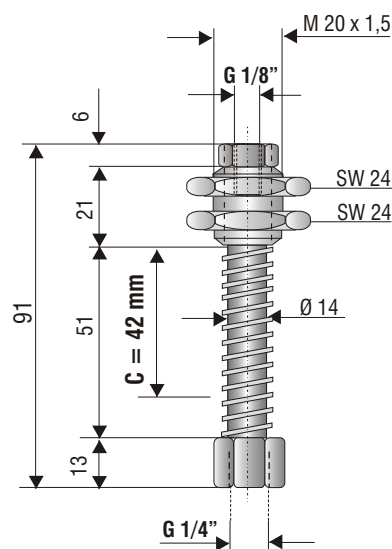


Art. No.	H	L	C
50.105	28	130	17
50.106	65	167	50
50.107	95	197	74



Art. No. 60.005

L-Typ auf Anfrage
L-type on request
L-type sur demande



Art. No. 50.050

Edelstahl
Stainless steel
Acier spécial



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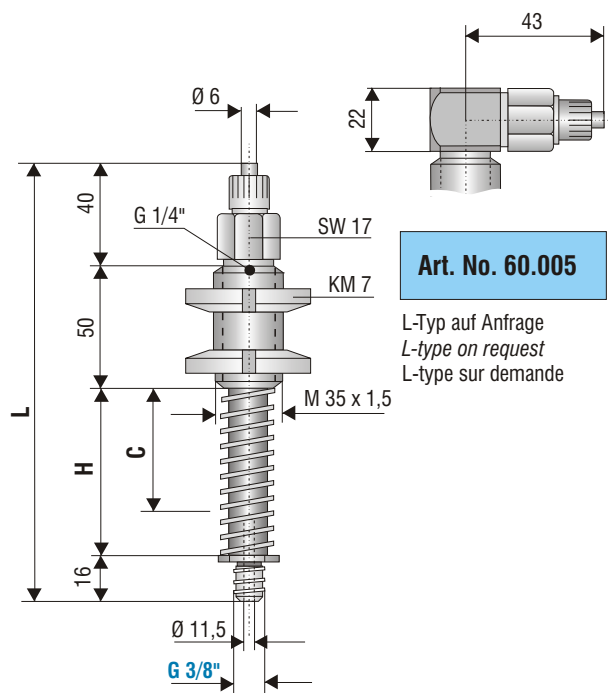
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e-mail: info@fipa-online.com

Federstößel Supports for suction cups Porteurs pour ventouses

C = Hub
Travel
Course

3/8" AG
3/8" IG

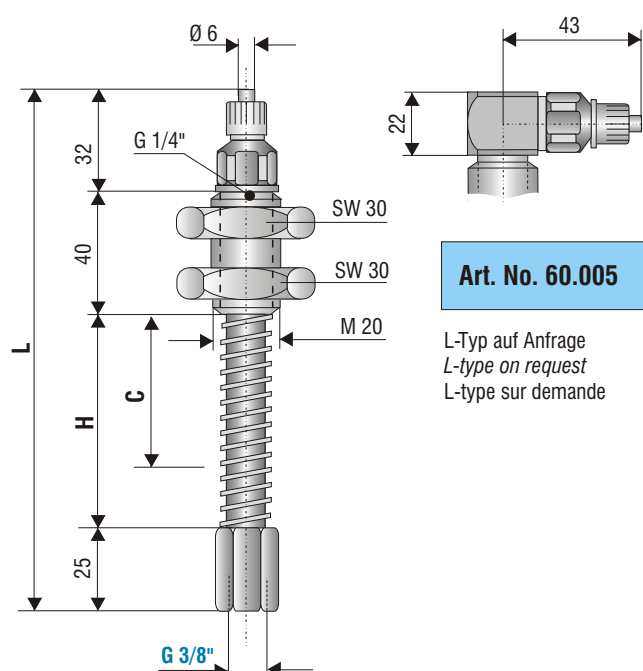
1/2" AG
1/2" IG



Art. No. 60.005

L-Typ auf Anfrage
L-type on request
L-type sur demande

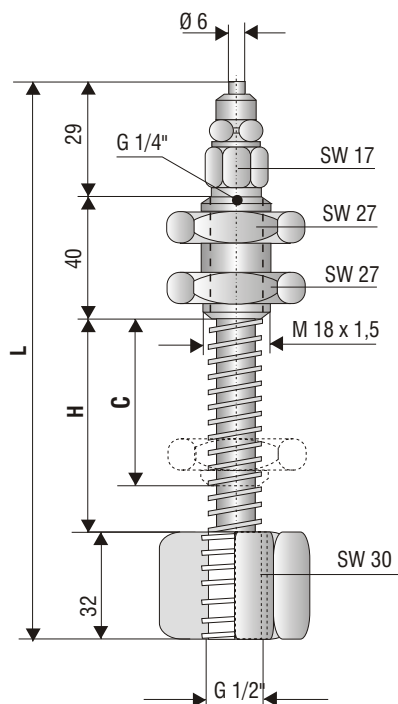
Art. No.	H	L	C
50.092	55	161	37
50.093	110	216	75



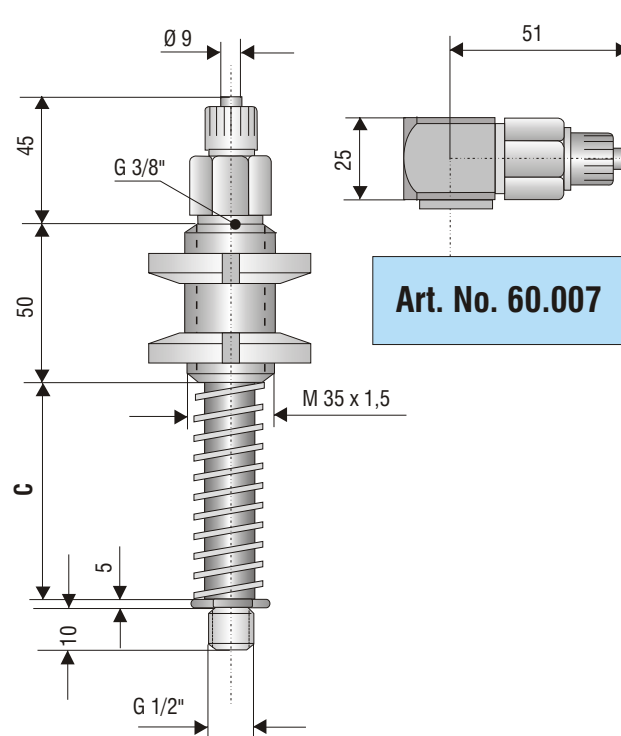
Art. No. 60.005

L-Typ auf Anfrage
L-type on request
L-type sur demande

Art. No.	H	L	C
50.070	28	125	17
50.071	65	162	45
50.072	95	192	65



Art. No.	C	H	L
50.031	25	37	138
50.032	55	77	178
50.033	80	110	211



Art. No. 60.007

Art. No.	C	L	Hub/travel/ course
50.138	55	165	37
50.139	110	220	84



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Federstößel Spring Levelers Porte-ventouses

C = Hub
Travel
Course

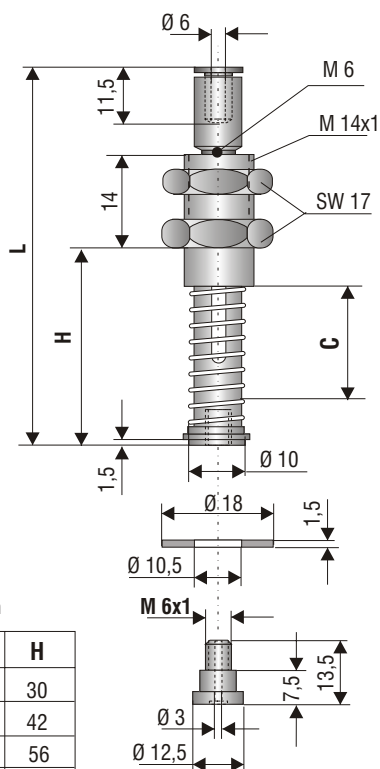
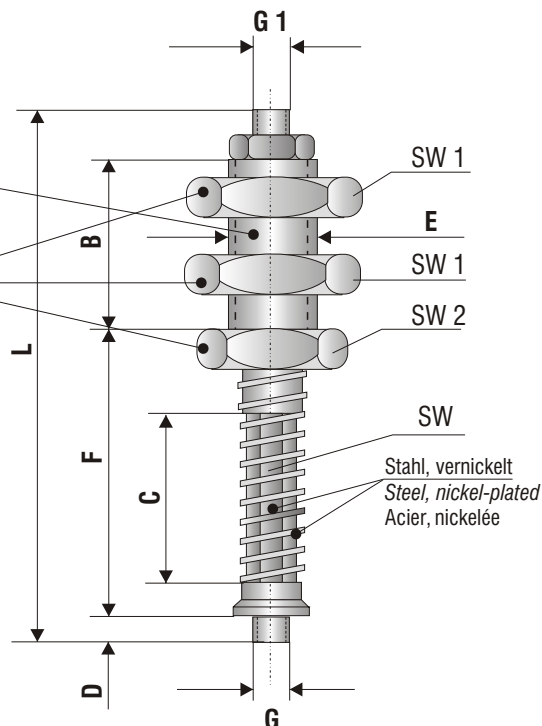
G 1/8" AG
G 1/4" AG

Spezial-Federstößel,
verdrehgesichert
mit langer Führung

*Special support,
torsionally rigid
with long guidance*

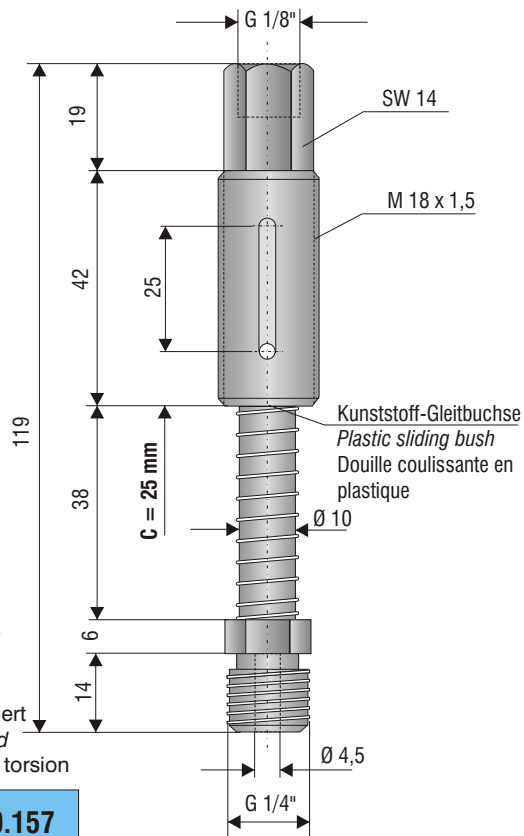
Porteur spécial,
bloqué contre torsion
avec guidage longue

Art. No.	L	B	C	D	E	F	G	G 1	SW1	SW2
50.111	76	23	15	6	M 12 x 1	38,5	G 1/8"	M 5	17	14
50.112	86	23	25	6	M 12 x 1	48,5	G 1/8"	M 5	17	14
50.113	112	42	25	8	M 18 x 1	49,5	G 1/8"	G 1/8"	24	21
50.114	112	42	25	8	M 18 x 1	49,5	G 1/4"	G 1/8"	24	21
50.115	127	42	40	8	M 18 x 1	64,5	G 1/8"	G 1/8"	24	21
50.116	127	42	40	8	M 18 x 1	64,5	G 1/4"	G 1/8"	24	21
50.117	147	42	60	8	M 18 x 1	85,5	G 1/8"	G 1/8"	24	21
50.118	147	42	60	8	M 18 x 1	85,5	G 1/4"	G 1/8"	24	21
50.119	158	50	40	10	M 28 x 1,5	83,0	G 1/4"	G 1/4"	36	32



verdrehgesichert
torsionally rigid
bloqué contre torsion

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



Edelstahl
Stainless steel
Acier spécial

verdrehgesichert
torsionally rigid
bloqué contre torsion

Art. No. 50.157



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Flexible Gelenke Flexible joints Joints flexibles

Flexible Gelenke

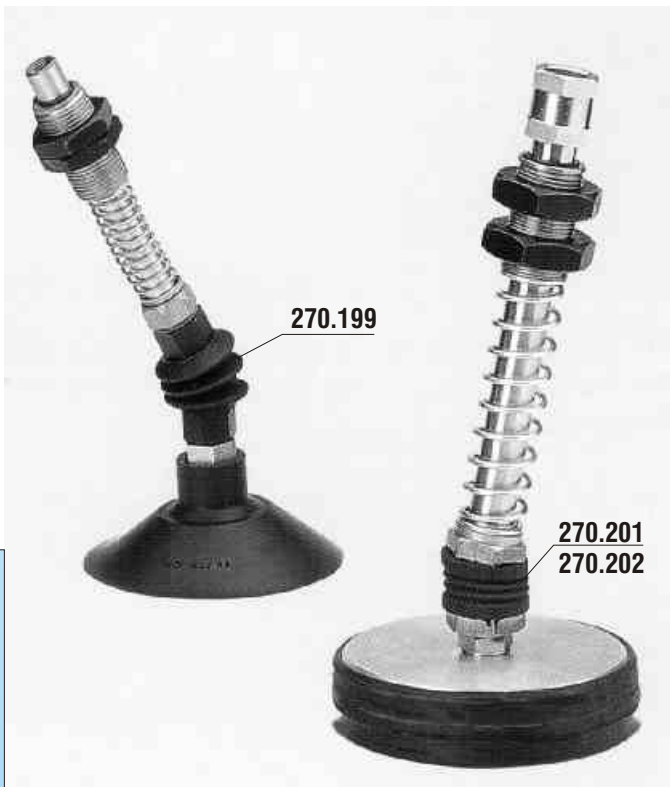
Flexible Gelenke eignen sich für alle Saugertypen in beliebiger Form. Sie passen sich ideal an die zum Sauger geeigneten Flächen an.

Flexible joints

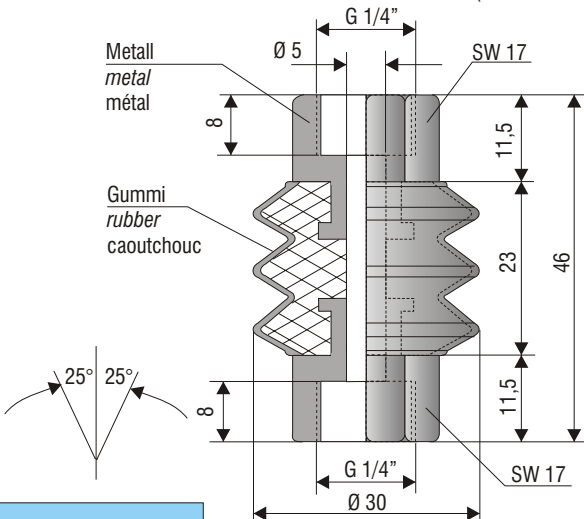
Flexible joints are suitable for all types of suction cups. They adapt perfectly to inclined surfaces.

Joints flexibles

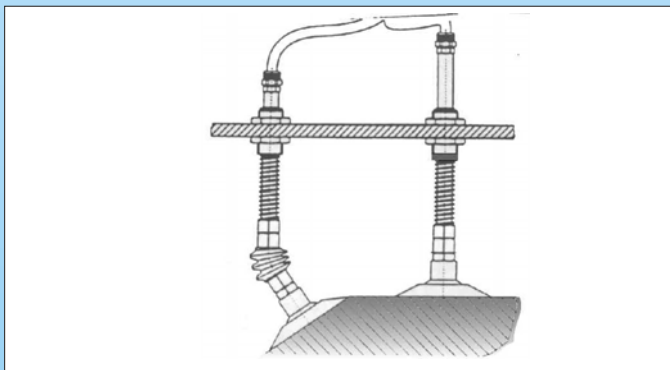
Jointures flexibles adaptables pour tous types de ventouses. Parfait pour faces inclinées.



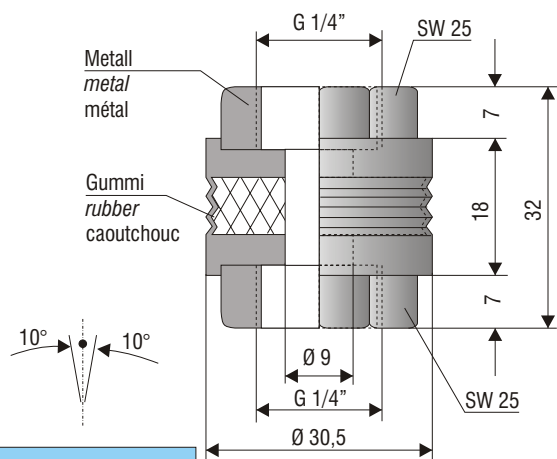
max. 50 kg Tragkraft / load capacity / force de levage (vertikal/vertical)



Art.No. 270.199

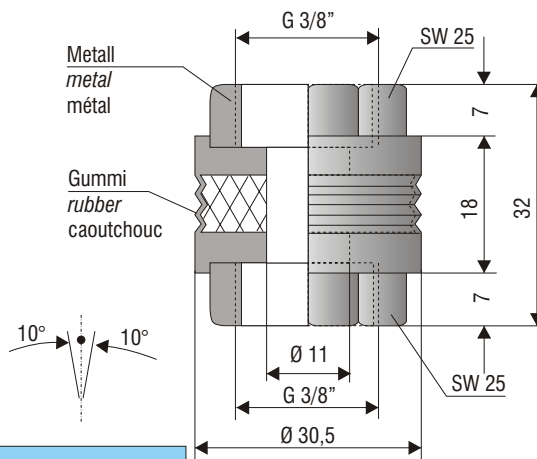


max. 85 kg Tragkraft / load capacity / force de levage (vertikal/vertical)



Art.No. 270.201

max. 50 kg Tragkraft / load capacity / force de levage (vertikal/vertical)



Art.No. 270.202



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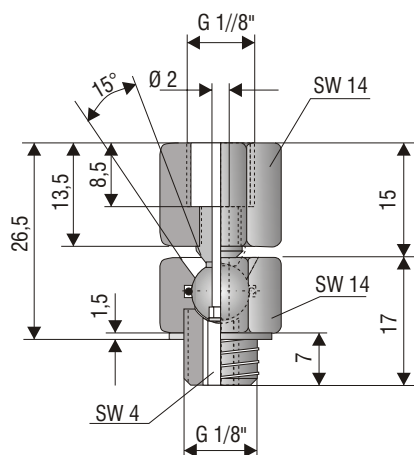
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5/2005

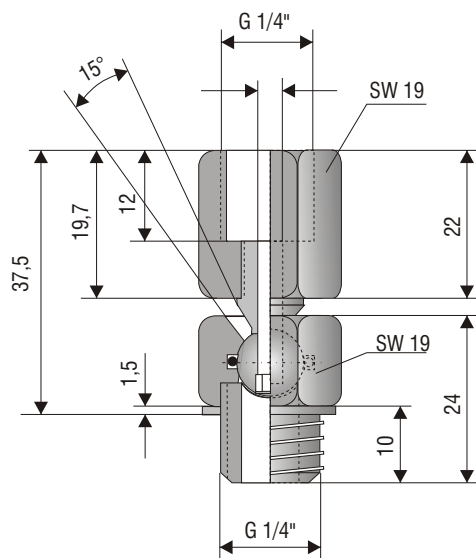
Kugelgelenke
Ball joints
Joints à rotule

G 1/8"
G 1/4"
G 1/2"



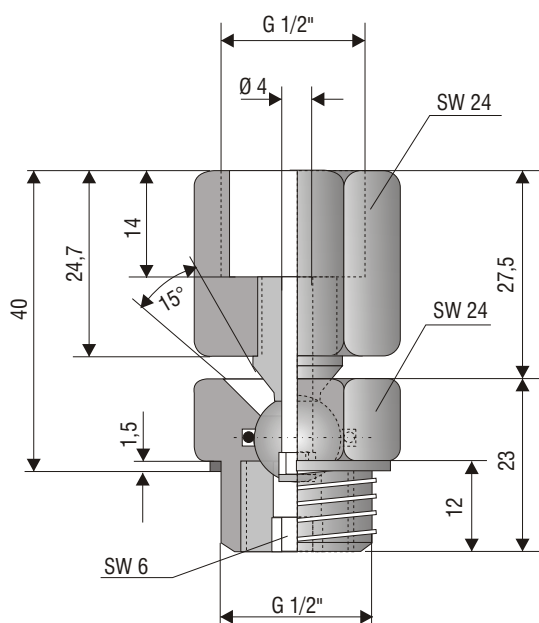
Art. No. 270.072

Tragkraft / load capacity / force de levage
max. 30 kg
(vertikal/vertical)



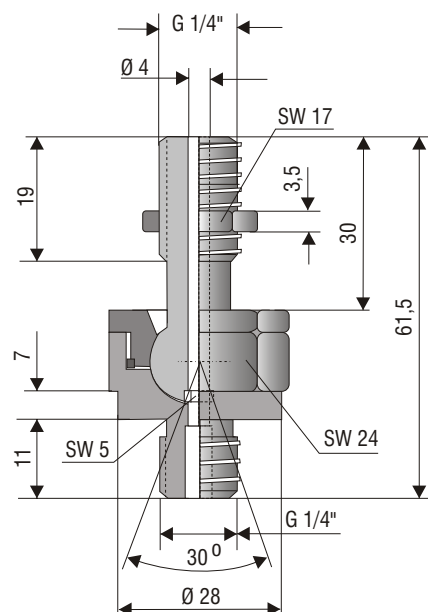
Art. No. 270.073

Tragkraft / load capacity / force de levage
max. 150 kg
(vertikal/vertical)



Art. No. 270.075

Tragkraft / load capacity / force de levage
max. 250 kg
(vertikal/vertical)



Art. No. 270.050

Tragkraft / load capacity / force de levage
max. 150 kg
(vertikal/vertical)



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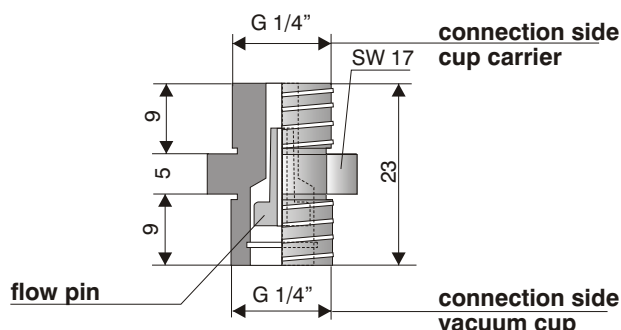
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Flow Valves with Flow Pin

Flow valves (with flow pin)

Vertical installation



Technical Description for Art. No. 63.036 - 63.038:

Flow valves are mainly used in the handling area where parts of different dimensions are lifted. Thus, they prevent a breakdown of the vacuum circuit. Inside, a flow pin (with bore) is integrated that provides for a controlled suction volume of each vacuum gripper. Upon suction, the flow valve automatically closes the cross section of the suction line. However, it allows a low volume flow through the bore hole into the valve. The flow valves have a very low leakage loss and can be mounted in any position. They work free of wear and noise and are also suitable for high cycle rates. Under normal conditions, the flow valves are maintenance-free. In a dirty environment, it is recommended to blow with compressed air against the suction direction upon putting down the parts.

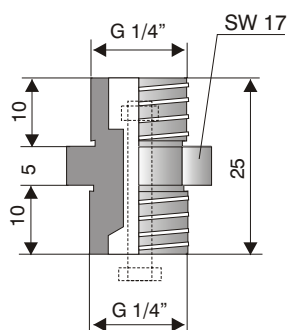
Art. Nr.	Cup-Ø (recommended)	Flow pin bore Ø	Recommended min. suction capacity	Leakage loss
63.036	60 mm	0,8 mm	0,6 m³/h	0,46 m³/h
63.037	80 mm	1,2 mm	1,0 m³/h	1,04 m³/h
63.038	95 mm	1,5 mm	2,0 m³/h	1,62 m³/h

New: With 1/8" screw fittings (please write for details)

Flow Valves with Self-Cleaning Effect

Vertical installation

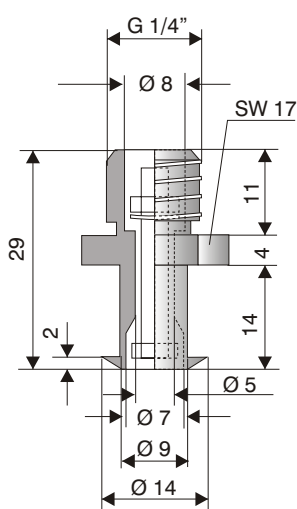
Art. No.	Required min. suction capacity in m³/h for system pressure PU = -0,3 bar	Required min. suction capacity in m³/h for system pressure PU = -0,6 bar	Max. flow in m³/h upon blowing off (P = 5 bar)
63.013	2,3	3,3	27
63.015	2,3	3,3	27
63.016	2,3	3,3	27



Recommended suction cups

102.060.303	20.030.044
102.080.304	20.040.054
102.095.304	22.044.034

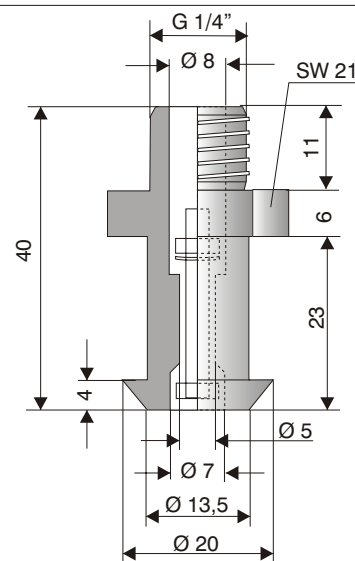
Art. No. 63.013



Recommended suction cups

23.033.039
23.043.096
23.053.033
21.032.079
21.043.049
21.062.055

Art. No. 63.015



Recommended suction cup
23.075.151

Art. No. 63.016



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D-85737 Ismaning
Freisinger Str. 30
www.fipa-online.com

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Automatic Closing Valves *without Leakage Loss*

Energy is expensive!

With our automatic closing valves "without leakage loss", we help you to save energy and money.

The closing valves of this series work **without leakage loss** and have also shown good results under dusty and dirty condition (such as in wood working). The valves are adjusted by the manufacturer, but can be regulated in special cases. They can also be retrofitted.

Important! The closing valves of this series only work when vacuum is applied **after the cup has touched the workpiece**.

1. Put on the cup
2. Turn on the vacuum (ca. 1 - 2 seconds)
3. Lift the part

for Art. No. 63.046 and
63.004-63.005-63.006-63.007

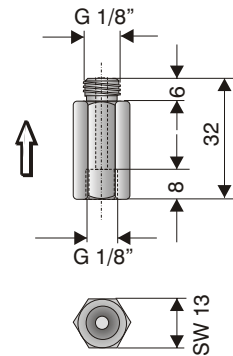
Required suction capacity (per cup) with adjustment by works	For cup Ø
4 m³/h	to Ø 150 mm
6 m³/h	to Ø 250 mm
8 m³/h	to Ø 360 mm

Material: Alu,

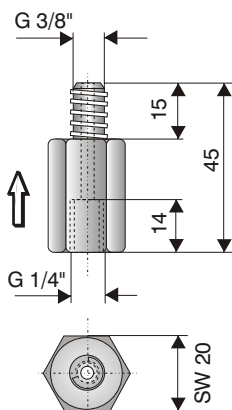
Example: 15 cups Ø 220 mm
15 x 6 = 90 m³/h

Thus, vacuum pump with a suction capacity of 90 m³/h is required..

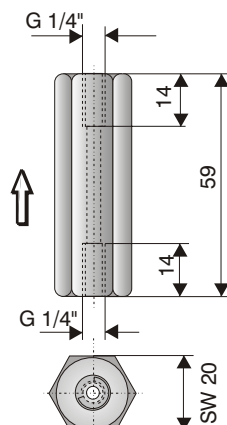
When using a vacuum reservoir, that value is halved. In that case 15 x 3 = 45 m³/h (size of the vacuum reservoir upon request).



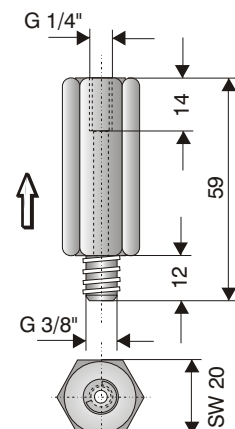
Art. No. 63.046



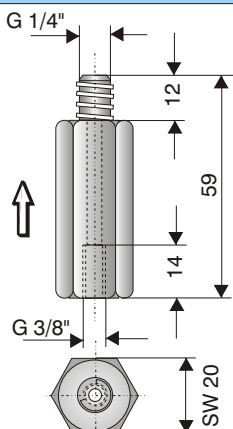
Art. No. 63.004



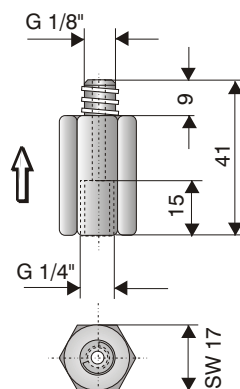
Art. No. 63.005



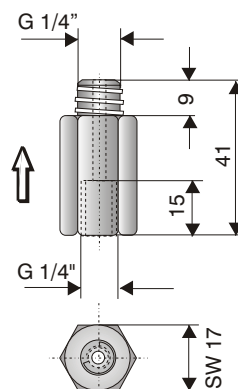
Art. No. 63.006



Art. No. 63.007



Art. No. 63.017



Art. No. 63.018

for Art. No. 63.017 + 63.018	
Required minimum suction capacity	1,74 m³/h
Maximum cup Ø (recommended)	75 mm
for bellows cup Ø	33 mm



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Freisinger Str. 30
www.fipa-online.com

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Strömungsventile für große Saugplatten Flow Valves for big suction plates Soupapes d'admission pour ventouses de grandes dimensions

Beschreibung

Die Strömungsventile verhindern das Einströmen atmosphärischer Luft in das Vakuumsystem, sobald das Vakuumventil auf **Saugen** geschaltet wird und das Transportgut nur teilweise oder nicht vom zugehörigen Vakuumsauger bedeckt ist. Hat das Strömungsventil einmal geschlossen, kann es nur durch Umschalten des Vakuumventils auf **Belüften** wieder geöffnet werden.

Verwendung

Die einwandfreie Funktion des Strömungsventils ist nur bei richtig eingestellter Strömungsgeschwindigkeit gewährleistet. Hierfür sollte ein in der Menge ausreichendes Betriebsvakuum von ca. - 600 mbar vorgesehen werden. Das Strömungsventil kann nicht eingesetzt werden, wenn das Transportgut mit auf Kopf stehenden Vakuumsaugern angesaugt werden soll.

Einbau

Das Strömungsventil dieser Bauart wird direkt in das Stahloberteil des Vakuumsaugers **A** eingeschraubt. Der Anschluss **B** wird direkt mit dem Vakuumventil verschraubt.

Description

Flow valves prevent atmospheric air from entering the vacuum system when the vacuum valve is switched to **suction** and the workpiece is not or only partly covered by the corresponding suction cup. Once the flow valve has closed, it can only be reopened by switching the vacuum valve to **ventilation**.

Use

Proper operation of the flow valve is guaranteed only if an adequate flow velocity is set. A sufficient operating vacuum of approx. -600 mbar should be provided for the purpose. Flow valves cannot be used if the workpiece is to be gripped with the suction cups facing up.

Mounting

This type of flow valve is screwed directly into the upper steel part of suction cup **A**. Connection **B** is screwed directly to the vacuum valve.

Description

Les soupapes d'admission empêchent à l'air atmosphérique de pénétrer le système de vide, quand la soupape à vide est en position **aspiration** et la pièce à manipuler n'est que partiellement ou pas du tout en contact avec la ventouse. Une fois la soupape fermée elle ne peut être ré-ouverte que si la soupape à vide est repositionnée sur **ventilation**.

Utilisation

Le bon fonctionnement de la soupape d'admission n'est garanti que pour une vitesse adéquate d'écoulement. Le vide suffisant est de -600 mbar dans ce cas. Ces soupapes ne peuvent être employées pour la prise de pièces avec ventouses vers le haut.

Montage

Ce type de soupapes d'admission est vissé directement dans la partie supérieure métallique de la ventouse **A**. L'insert **B** est monté directement avec la soupape à vide.

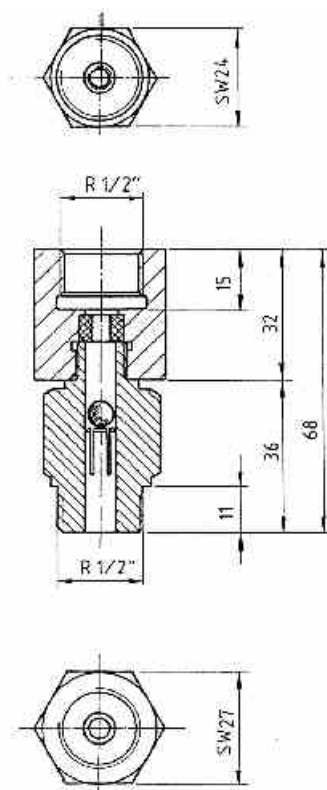


Diagramme schématique
Schematic diagram
Sinnbild

Gewicht
Weight **249 g**
Poids

Art. No. 63.042

Einbaulage senkrecht
Vertical installation
Installation verticale

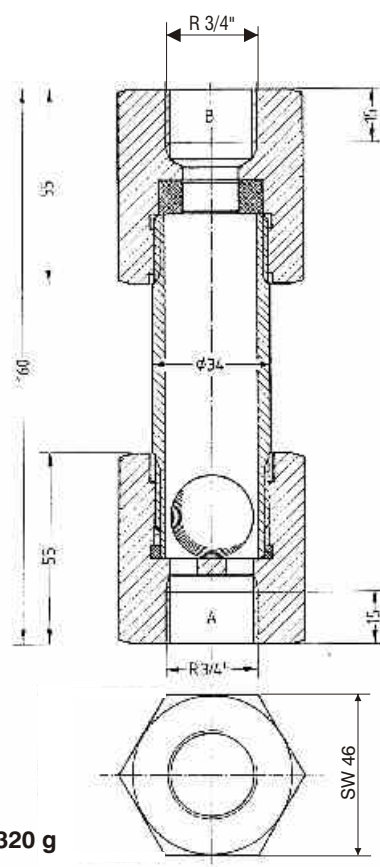


Diagramme schématique
Schematic diagram
Sinnbild

Gewicht
Weight **1320 g**
Poids

Art. No. 63.043

Einbaulage senkrecht
Vertical installation
Installation verticale



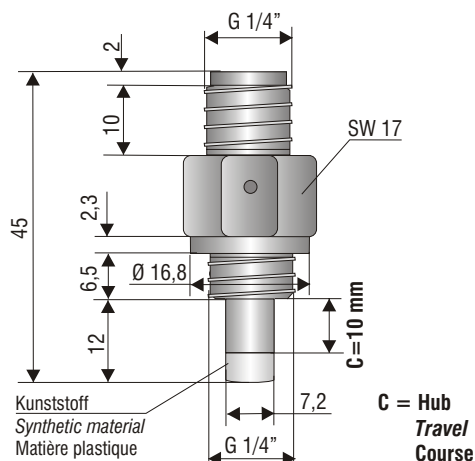
FIPA GmbH
VAKUUM-TECHNIK

D-85737 Ismaning
Freisinger Str. 30
www.fipa-online.com

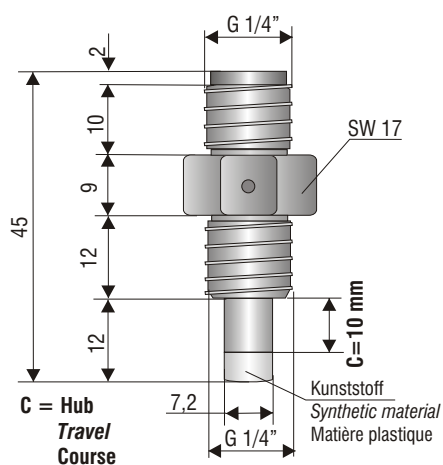
Tel. +49/(0)89 / 96 24 89 - 0
Fax +49/(0)89 / 96 24 89-11
e-mail: info@fipa-online.com

Tastventile Plunger valves Palpeurs

Empfohlene Vakuumsauger:
Recommended cups:
Ventouses recommandés
102.060.303
102.080.304
102.095.305



Art. No. 63.032



für große Saugplatten (rund oder oval)
mit langer Einschraubtiefe

Art. No. 63.044

Funktion:

Tastventile werden wie Strömungsventile (siehe Seite 7.1) und Strömungswiderstände in Anwendungen eingesetzt, wo die zu greifenden Objekte nicht oder nur teilweise vorhanden sein können. Besondere Vorteile sind die geringe Schmutzempfindlichkeit und die sichere Funktion.

Die Ventile sind in nichtbetätigtem Zustand geschlossen und mittels Feder vorgespannt. Bei Betätigen der Stößelstange wird das Vakuum freigegeben.

Operation:

Just like flow valves and flow resistances (see page 7.1), plunger valves are used in applications where the objects to be gripped may only be present in part or not at all. Special advantages of the valve are its low susceptibility to dirt and its safe functioning.

In a non-actuated state, the valves are closed and pretensioned by means of a spring. Upon actuation of the plunger, the vacuum is released.

Fonctionnement:

Les palpeurs sont utilisés comme les soupapes hydrauliques et les résistances hydrauliques (voir page 7.1) là où les objets à saisir peuvent ne pas ou partiellement exister. Les avantages sont une sensibilité moindre à la saleté et un fonctionnement plus sûr.

Les soupapes sont fermées en position non actionnées et prétendues avec un ressort. L'actionnement de la tige de poussoir de soupape entraîne le dégagement du vide.



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3/2005

Vakuum-Hubzylinder, vakuumbetrieben

Lifting Cylinders, vacuum-operated

Einsatzbereich:

- Gleichzeitiges Ansaugen und Heben von dünnen, porösen und flächigen Werkstücken
- Vereinzeln von Papier, Furnier u.a.
- Teileentnahme aus Spritzgusswerkzeugen

Uses:

- Sucking and lifting thin, flat, porous workpieces
- Separating sheets of paper, veneer and similar materials
- Removing parts from injection-molding dies.

Funktion:

Der Hubzylinder wird an einen Vakuumerzeuger angeschlossen und mit Vakuum beaufschlagt. Der Hubkolben fährt aus und sofort, wenn durch den Kontakt des Saugers zum Werkstück ein Unterdruck entsteht, wird dieses angesaugt und der Kolben fährt schlagartig wieder zurück. So wird das oberste Werkstück abgehoben, ohne dass der Saugeffekt auf die darunterliegenden Werkstücke ausgeübt wird. Das Werkstück wird gehalten, bis das Vakuum abgeschaltet wird.

Vorteile

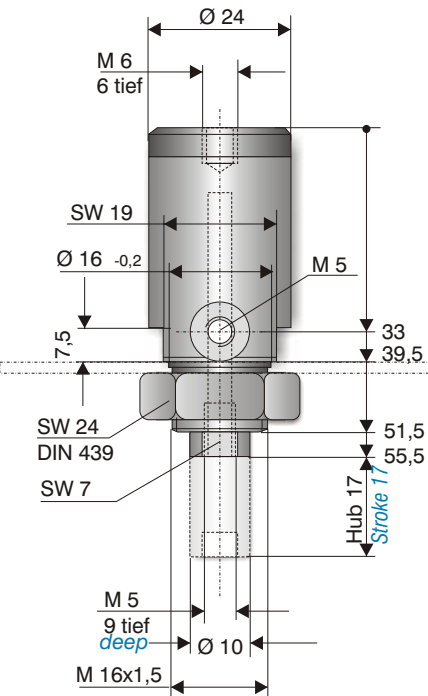
- der gesamte Arbeitsablauf wird nur durch das Ein- und Ausschalten des Vakuums gesteuert; es sind keine zusätzlichen Ventile oder Zylinder nötig,
- kurze Taktzeiten, kein Zusammendrücken von einzelnen Werkstücken,
- geringe Masse für schnelles Positionieren,
- Höhenunterschiede am Werkstück werden ausgeglichen,
- verdrehgesicherter Kolben für lagerichtige Entnahme,
- flexible Befestigungsmöglichkeiten.

Beispiele

Examples

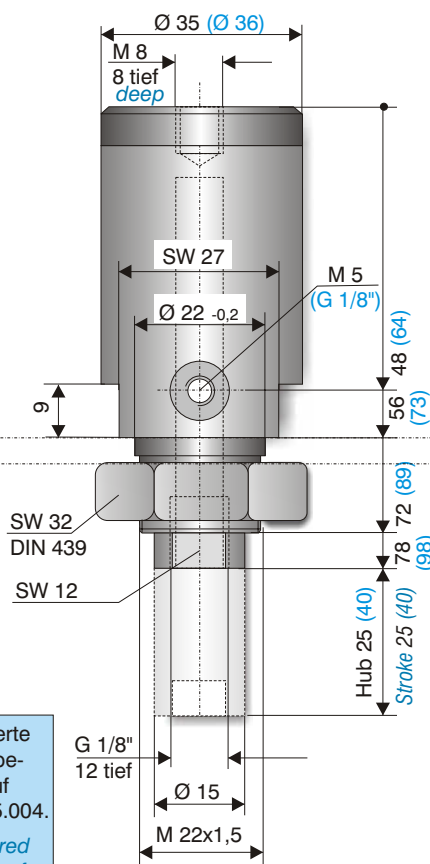
Verdrehgesichert
torsionally rigid

Art. No. 55.000



Verdrehgesichert
torsionally rigid

Art. No. 55.001
55.004



Arbeitszyklen:

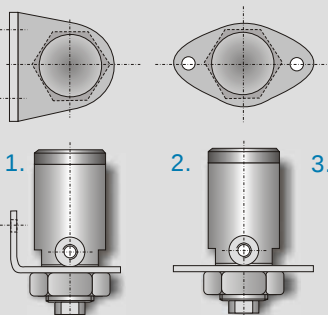
25 Mio. bei normalen Einsatzbedingungen

Working Cycles:

25 Mio. with normal uses

Die blauen Werte in Klammern beziehen sich auf die Art. No. 55.004.

The blue colored dimensions are for Art. No. 55.004



Befestigungsvorschläge für Hubzylinder

Art. No. 55.000, 55.001, 55.004

1. Fußbefestigung
2. Flanscbefestigung
3. Anschrauben von der Rückseite
4. Gewindestift und Nutenstein oder nach Kundenzeichnung

Suggested mounting variants

55.000, 55.001, 55.004

1. Foot mounting
2. Flange mounting
3. Rear screw-mounting
4. Headless screw and tongue or to customer's specification

Empfohlene Sauger und Anschlusssteile / Recommended Suction Cups and Fittings

für/for Art. No. 55.000

102.020.083.2	270.037	102.020.084.2	270.037	104.020.073.1	270.153
102.020.080.1	270.037	104.015.072.1	270.153	104.020.073.2	270.153
102.020.082.1	270.037	104.015.072.2	270.153	104.010.065.1	270.010

für Art. No. 55.001 + 55.004

123.025.010.1	102.035.056.1	270.030
123.025.010.2	102.035.056.2	270.030
123.030.019.1	102.035.056.5	270.030
123.030.019.2	120.040.084.9	

Vakuum-Hubzylinder JUMBO, vakuumbetrieben JUMBO Lifting Cylinders, vacuum-operated

Einsatzbereich (55.002)

Vorwiegend eingesetzt zum Heben und Ab stapeln von Blechen und schweren Teilen.

Uses (55.002):

Primarily for lifting and stacking sheet steel and heavy parts.

Operating principle:

The lifting cylinder is connected to a vacuum pump, and the vacuum is applied. The lifting piston moves out and sucks the work-piece as soon as it makes contact with the latter. The piston then retracts instantaneously, so that the uppermost workpiece is lifted off, while the pieces below are left untouched.

The workpiece is held until the vacuum is cut off.

Benefits:

- The entire work cycle is controlled exclusively by application of the vacuum; no additional valves or cylinders are required.
- Brief cycle times.
- No compression of presorted workpieces.
- Low mass ensuring rapid positioning.
- Leveling out of height differences on workpiece.
- Non-twisting piston for geometrically precise lifting.
- Flexible mounting.

Hinweis

Die Hubzylinder sind im Ruhezustand eingefahren.

Note:

In idle condition, the lifting cylinders are retracted.

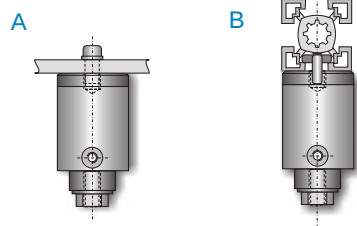
Nicht geeignet bei luftdurchlässigen Werkstoffen!
Unsuitable for air-permeable materials!



Beispiel
Example

Art. No. 55.002

Verdrehsicher
torsionally rigid

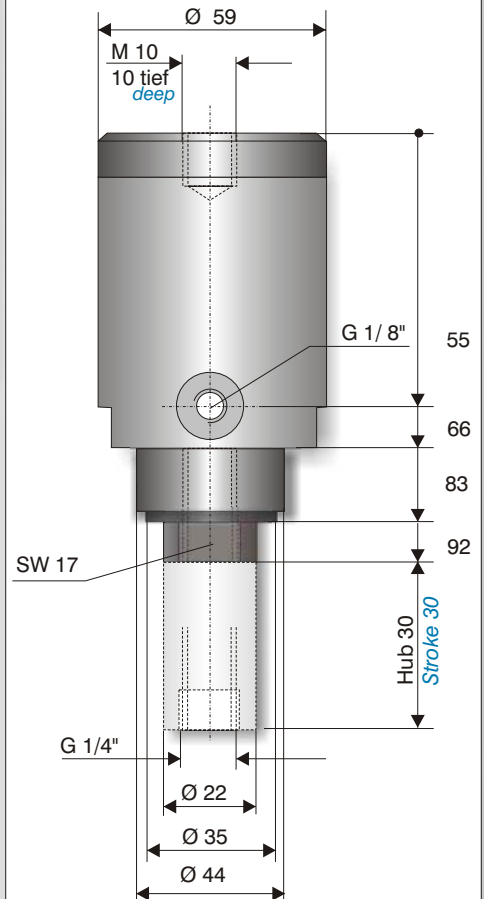


Befestigungsvorschläge für
Hubzylinder Art. No. 55.002

- A. Anschrauben von der Rückseite
B. Gewindestift und Nutenstein
oder nach Kundenzeichnung

Suggested mounting variants
for Art. No. 55.002

- A. Rear screw mounting.
B. Headless screw and tongue
or to customer's specification.



(SW = width across flats)

Technische Daten / Specifications

Art. No.		55.000	55.001	55.002	55.004
Hub Stroke	mm	17	25	30	40
Hubkraft bei -0,8 bar Lifting power at -0,8 bar	N kg	3 0,3	10 1,0	50 5,0	10 1,0
Volumenstrom* Volume flow*	NL/min	>15	>30	>35	>30
Taktzeit/Doppelhub Cycle time/Up-and-down stroke	sec	<0,3	<0,4	<0,7	<0,7
Einsatztemperatur Operating temperature	°C	5 - 80			
Gewicht / Weight	g	55	145	310	185

Neu! Hub 40 mm
New! Stroke 40 mm

* Der Volumenstrom ist am Anschluss gemessen. Auf ausreichende Schlauchdimensionierung und min. Schlauchlänge zur Vakuum-erzeugung ist zu achten!

* Volume flow measured at coupling. Hoses should be properly dimensioned. Be sure to observe min. hose length to vacuum generator.

Empfohlene Sauger und Anschlusssteile Recommended Suction Cups and Fittings

für/for Art. No. 55.002

102.040.061.1	270.274	150.050.032.2	270.181	102.060.303.1	270.191
102.040.061.2	270.274	150.050.032.5	270.181	102.060.303.2	270.191
102.040.061.5	270.274	150.050.032.7	270.181	102.060.303.5	270.191
		150.050.032.9	270.181	103.075.025.5	

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	-40 +90	●	●	○	●	kälteflexibel, wasserbeständig bis 70 °C
2	Si (50 Shore A)	Silikon-kautschuk	Silicone	-70 +200	○	●	●	⊗	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	Polyurethan	Vulkollan	-25 +80	●	●	●	●	hohe Standzeit Vulkollan braun (sehr abdruckarm)
7	FKM	Fluor-kautschuk	Viton	-20 +200	●	●	●	●	hoch chemikalienbeständig, sehr abdruckarm
9	CR (50 Shore A)	Chloropren	Neoprene	-40 +90	●	●	●	●	besonders witterungsbeständig
V	Vinyl	Polyvinylchlorid	PVC	-20 +85	●	○	○	○	sehr hohe Standzeit
14	HNBR	Hydrierter Nitril-Kautschuk		-40 +170	●	●	●	●	sehr hohe Standzeit
15	EPDM	Äthylen-Propylen-Dien-Kautschuk	Buna	-40 +130	○	○	●	⊗	besonders beständig gegen Heisswasserdampf + Chemikalien

Mat. No	Code	Commercial designation	Trade name (e.g.)	Temp. °C min/max	Wear resistance	oil/grease weather/ozon gasoline			Specifics
1	NBR (50 Shore A)	Nitrile rubber	Perbunan	-40 +90	●	●	○	●	cold-flexible, water-resistant to 70 °C
2	Si (50 Shore A)	Silicone rubber		-70 +200	○	○	●	⊗	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	Polyurethane	Vulkollan	-25 +80	●	●	●	●	long service life Vulkollan brown (anti-marking)
7	FKM	Fluor-caoutchouc	Viton	-20 +200	●	●	●	●	high resistance to chemicals
9	CR (50 Shore A)	Chloroprene	Neoprene	-40 +90	●	●	●	●	highly weatherproof
V	Vinyl	Polyvinylchloride	PVC	-20 +85	●	○	○	○	long service life
14	HNBR	Hydrogenated nitrile rubber		-40 +170	●	●	●	●	long service life
15	EPDM	Ethylene-propylene-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	-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
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	Polyuréthane	Vulkollan	-25 +80	●	●	●	●	longue durée de vie, anti-trace
7	FKM	Caoutchouc fluor	Viton	-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
15	EPDM	Éthylène-propylène-diène caoutchouc	Buna AP	-40 +130	○	○	●	⊗	part. résistante à la vapeur d'eau chaude et aux produits

A 1

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

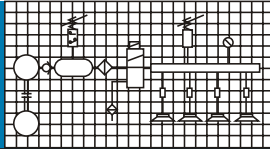
Art. No.

Art. No.	Seite page	Art. No.	Seite page	Art. No.	Seite page	Art. No.	Seite page
9. 50x20.034.1	2.2	21. 060.036	3.1	50. 016	1.12	50. 150	6.1
9. 110x40.011	2.4	21. 062.055	3.6	50. 016	1.9	50. 152	6.1
9. 120x30.062	2.4			50. 016	6.4	50. 153	6.1
9. 123x43.076.13	2.6	22. 014.006	3.1	50. 017	1.10	50.157	6.6
9. 125x55.012	2.4	22. 014.007	3.1	50. 017	1.11	50. 160	6.3
9. 135x75.066.13	2.6	22. 025.026	3.1	50. 017	1.12	50. 162	6.3
9. 150x55.013.4	2.11	22. 025.027	3.1	50. 017	1.9	50. 164	6.4
9. 190x90.077.3	2.7	22. 040.042	3.1	50. 017	6.4	50. 166	6.4
9. 200x100.015	2.7	22. 040.043	3.1	50. 028	6.3		
9. 200x100.054	2.7	22. 060.063	3.1	50. 029	6.3	55. 000	8.2
9. 200x20.063.1	2.7	22. 060.064	3.1	50. 030	6.3	55. 001	8.2
9. 200x55.014.1	2.5	22. 060.107	3.6	50. 031	6.5	55. 002	8.2
9. 200x55.053.3R	2.5	22. 080.144.13	3.7	50. 032	6.5	55. 004	8.2
9. 200x80.067.13	2.6	22. 080.149.13	3.7	50. 033	6.5	60. 004	6.2
9. 250x55.016	2.11	22. 085.074	3.1	50. 048	6.2	60. 004	6.3
9. 280x107.070.13	2.8	22. 085.075	3.1	50. 050	6.4	60. 005	6.1
9. 290x55.071.1	2.9	22. 085.140.V	3.7	50. 051	2.11	60. 005	6.4
9. 300x120.021	2.10	22. 110.128	3.8	50. 051	6.1	60. 005	6.5
9. 300x120.042.3	2.10	22. 150.129	3.8	50. 052	2.11	60. 007	6.5
9. 300x30.069.1	2.9	22. 180.086	3.8	50. 052	6.1		
9. 300x40.064.1	2.9	22. 200.087	3.9	50. 053	2.11	63. 004	7.2
9. 300x55.019	2.11	22. 200.141.3	3.9	50. 053	6.1	63. 005	7.2
9. 300x55.019	2.8	22. 250.088	3.10	50. 055	6.2	63. 006	7.2
9. 300x55.020	2.11	22. 300.091.1	3.10	50. 056	6.3	63. 007	7.2
9. 300x55.020	2.8	22. 350.102.1	3.10	50. 062	6.1	63. 013	1.10
9. 300x55.045.3	2.8			50. 063	6.1	63. 013	1.11
9. 370x70.022	2.11	23. 011.007	3.2	50. 064	6.1	63. 013	1.12
9. 370x70.023	2.11	23. 011.173.2	3.2	50. 070	6.5	63. 013	1.9
9. 450x130.025	2.11	23. 014.010	3.1	50. 071	6.5	63. 013	7.1
		23. 014.010	3.2	50. 072	6.5	63. 015	7.1
20. 010.009	3.1	23. 015.098.V	3.2	50. 092	6.5	63. 016	7.1
20. 010.010	3.1	23. 015.122	3.3	50. 093	6.5	63. 017	7.2
20. 014.013	3.1	23. 016.174.2	3.3	50.095-50.098	6.6	63. 018	7.2
20. 014.014	3.1	23. 018.177	3.3	50. 099	6.1	63. 032	1.11
20. 018.022	3.1	23. 019.119	3.3	50. 100	6.1	63. 032	1.9
20. 018.023	3.1	23. 022.028	3.4	50. 101	6.1	63. 032	7.4
20. 030.041	3.1	23. 025.030	3.1	50. 102	6.1	63. 036	1.9
20. 030.042	3.1	23. 025.137	3.4	50. 105	1.10	63. 036	7.1
20. 040.051	3.1	23. 033.039	3.4	50. 105	1.11	63. 037	1.10
20. 040.052	3.1	23. 040.042	3.1	50. 105	1.12	63. 037	1.12
20. 060.070	3.1	23. 043.096	3.5	50. 105	1.9	63. 037	1.9
20. 060.071	3.1	23. 053.033	3.5	50. 105	6.4	63. 037	7.1
20. 080.117.13	3.7	23. 060.059	3.1	50. 106	1.10	63. 038	1.11
20. 085.080	3.1	23. 060.172	3.6	50. 106	1.11	63. 038	7.1
20. 085.081	3.1	23. 070.060	3.6	50. 106	1.12	63. 042	7.3
				50. 106	1.9	63. 043	7.3
21. 010.004	3.1	25. 014.065.2	3.2	50. 106	6.4	63. 044	7.4
21. 012.115	3.2	25. 018.060	3.3	50. 107	1.10	63. 046	7.2
21. 014.006	3.1	25. 025.005	3.4	50. 107	1.11	64. 001.V	4.6
21. 018.011	3.1	25. 048.056.2	3.5	50. 107	1.12	64. 002.V	4.6
21.018.118.1	3.3			50. 107	1.9	64. 003.V	4.6
21. 020.016	3.3	50. 015	1.10	50. 107	6.4	64. 004.1	4.6
21. 025.060	3.4	50. 015	1.11	50.111-119	6.6	64. 004.3	4.6
21. 030.019	3.1	50. 015	1.12	50. 123	6.2	64. 005.V	4.6
21. 032.075	3.4	50. 015	1.9	50. 124	6.2		
21. 040.025	3.1	50. 015	6.4	50. 138	6.5	90. 101	4.3
21. 043.049	3.5	50. 016	1.10	50. 139	6.5	90. 102	4.3
21. 050.084.V	3.5	50. 016	1.11	50. 149	6.1	90. 103	4.3

Art. No.

Art. No.	Seite page	Art. No.	Seite page	Art. No.	Seite page	Art. No.	Seite page
100.076.073	1.15	120. 075.075.4	1.15	154. 110.014	1.13	270. 157	1.13
100.076.083	1.15			154. 120.017	1.13	270. 157	1.15
100.090.075	1.15	123. 020.003	1.1	154. 150.021	1.13	270. 158	1.13
100.090.084	1.15	123. 025.010	1.1	154. 150.058.3	5.3	270. 158	1.15
100.110.082	1.15	123. 030.019	1.2	154. 160.024	1.13	270. 159	1.13
100.110.085	1.15	123. 040.028	1.2	154. 160.049	1.7	270. 159	1.15
100.150.086	1.15	123. 050.034	1.3	154. 177.053	1.8	270. 160	1.13
		124. 030.002	1.2	155. 120x90.2	2.11	270. 160	1.15
102. 020.080.1	1.1	124. 040.006	1.2	155. 150x75.3	2.11	270. 161	1.13
102. 020.082.1	1.1	124. 050.009	1.3	155. 300x80.007	2.10	270. 161	1.15
102. 020.083.2	1.1			155. 75x40.001	2.11	270. 162	1.13
102. 020.084.2	1.1	125. 020.004	1.1			270. 162	1.15
102. 020.410.5	1.15	125. 025.007	1.1	210. 087.036.1	5.2	270. 163	1.13
102. 030.411.4	1.15	125. 030.010	1.2	210. 087.037.1	5.2	270. 164	1.13
102. 040.357	1.3	125. 040.013	1.2	211. 150.001.3	5.3	270. 165	1.13
102. 040.412.5	1.15	125. 050.017	1.3			270. 166	1.13
102. 050.413.5	1.15			231. 05.026.12	4.5	270. 167	1.13
102. 060.303	1.9	130. 100x32.42.1	2.3	231. 06.011.12	4.5	270. 168	1.13
102. 070.234	1.10	130. 400x80.106.4	2.11	231. 08.012.12	4.5	270. 169	1.13
102. 070.296.3	1.4	130. 50x20.102.1	2.3	231. 5,5x4.015.2	4.4	270. 170	1.13
102. 080.304	1.9	130. 60x20.040.1	2.3	231. 10,5x7,5.001.12	4.4	270. 171	1.13
102. 095.182.4	1.5	130. 60x38.091	2.2	231. 10,5x7,5.002.12	4.4	270. 172	1.13
102. 095.305	1.11	132. 100x35.26	2.1	231. 10.013.12	4.5	270. 173	1.13
102. 100.100.4	1.6	132. 45x15.020	2.1	231. 10x10.023.12	4.5	270. 174	1.13
102. 100.269	1.12	132. 50x30.030.13	2.2	231. 10x6.006.12	4.5	270. 179	1.10
102. 135.335.3	1.7	132. 60x20.022	2.1	231. 12.014.12	4.5	270. 180	1.12
102. 160.380.4	4.1	132. 75x25.023	2.1	231. 14x8x2.009.12	4.5	270. 191	1.11
102. 200.350	1.8	132. 85x28.024	2.1	231. 17x10.025.12	4.4	270. 191	1.12
102. 350.353.4	1.8	138. 45x15.003	2.1	231. 20x10.007.12	4.5	270. 191	1.9
		138. 75x25.004	2.1	231. 20x10.027.12	4.5	270. 199	6.7
103. 075.025.5	1.4			231. 20x15.004.12	4.5	270. 201	6.7
104. 080.091	1.5	150. 030.031	1.14	231. 25x10.028.12	4.5	270. 202	6.7
104. 098.011	1.6	150. 050.032	1.14	231. 23x11x5.010.12	4.5	270. 224	1.13
104. 098.029.4	1.5	150. 075.033	1.14	231. 25x20.008.12	4.5	270. 259	1.13
104. 098.079.3	1.5	150. 100.034	1.14	231. 26,5x15.003.12	4.4	270. 261	1.13
104. 110.080.3	1.6	150. 112.021.1	1.7	231. 180x600.024.12	4.5	270. 262	1.13
104. 142.077.1	1.7	150. 112.022.1	1.7			270. 263	1.13
107. 080.087	1.4	150. 150.010	1.14	231. 2000x1000.005.12	4.5	270. 263	1.15
107. 082.090.2	3.7	150. 225.018	1.14	231. 2120x920x25.017	4.5	270. 264	1.13
		150. 300.023	1.14	231. 2120x920x25.018	4.5	270. 264	1.15
110. 020.028	3.1	152. 100.042	1.6	231. 2120x920x25.019	4.5	270. 265	1.13
110. 020.029	3.1	152. 110.070.13	1.6			270. 266	1.13
110. 034.054	3.1	152. 110.081	1.14	270. 034	1.15	270. 267	1.13
110. 034.055	3.1	152. 150.020	1.14	270. 050	6.8	270. 268	1.13
110. 053.082	3.1	152. 200.026	1.14	270. 072	6.8	270. 271	1.13
110. 053.083	3.1	152. 250.030	1.14	270. 073	6.8	270. 272	1.13
110. 075.092	3.1	152. 288.049	1.8	270. 075	6.8	270. 274	1.15
110. 075.093	3.1	152. 300.036	1.14	270. 087	1.15	270. 275	1.15
110. 096.101	3.1	152. 350.110	1.14	270. 097	2.1	270. 284	1.13
110. 096.102	3.1			270. 098	2.1	270. 285	1.13
		154. 047.059.3	1.3	270. 100	1.5	270. 285	1.15
112. 020.030	3.1	154. 049.068.1	1.3	270. 129	1.13	270. 286	1.13
112. 020.032	1.1	154. 065.002	1.13	270. 130	1.13	270. 286	1.15
112. 034.058	3.1	154. 065.003	1.15	270. 149	1.13	270. 311	1.15
112. 087.089.3	1.5	154. 070.062.1	1.4	270. 150	1.13	270. 312	1.15
		154. 080.067.3	1.4	270. 151	1.13	270. 313	1.15
120. 075.063.4	1.15	154. 085.008	1.13	270. 156	1.13	270. 319	1.15
120. 075.074.4	1.15	154. 090.010	1.13	270. 156	1.15	270. 380	4.1

Fragebogen F 100



Questionnaire F 100

Questionnaire F 100



FIPA GMBH

FAX: 089 / 96 24 89 - 11

International : +49 / 89 96 24 89 -11

Von /
From/
De

Firma / Company / Société

Name / Name / Nom

Abteilung / Dept. / Service

Straße / Street / Rue

PLZ-Ort, Land / Postal code, city, country/ Code postal, Lieu

Telefon / Phone / Téléphone

Fax

Vakuumanlage / Vacuum Unit / Installation de vide

- 1** Nennen Sie uns Ihren Einsatzfall:
Please quote for following application:
Veuillez-nous faire part de votre avis:

- 2** Welche Teile transportieren / handhaben Sie?
What kind of parts you are handling?
Quel type de pièces transportez-vous / manipulez-vous?

3 Die Teile sind: The objects are: Les pièces sont:	4 Abmessungen / Gewicht: Dimensions / weight: Dimensions/poids	5 Heberichtung: Motion direction: Direction(s) de levage:	6 Oberfläche: Surface: Surface:	7 Temperatur: Temperature: Température:
☐ rund/ round / rond ☐ oval/ oval / ovale ☐ quadratisch/ square / carée ☐ rechteckig/ rectangular / rectangulaire ☐ gewölbt/ curved / courbé ☐ nicht eigenstabil/ unstable / sans stabilité	Länge Lengthmm Longueur Breite Widthmm Largeur Höhe/Dicke Height/Thickness Hauteur/Épaisseurmm Ø Diametermm	☐ ☐ ☐	☐ glatt/ smooth/lisse ☐ rauh/rough/rugueuse ☐ strukturiert / textured/ structurée ☐ wellig/rippled/ondulée ☐ ölig/oily / graisse ☐ gezündert / scaled irrégulière ☐ naß / wet / humide ☐ trocken / dry / sèche ☐ porös/porous/poreuse	kurzzeitig / briefly/ Temp. sur courte durée °C Dauertemperatur / continuously Temp. continue bis / to / à : + °C - °C
3a Material/material:	Gewicht Weightg/kg Poids			8 Einsatzgebiet/ Use/Utilisation ☐ innen/indoors/ intérieur ☐ außen/outdoors/ extérieur

- 9 Vakuumerzeugung
Vacuum generating
Génération de vide**
- ☐ Vakuumpumpe/
Vacuum pump/
Pompe à vide
 ☐ Vakuumejektor/
Vacuum ejector/
Ejecteur à vide
- ☐ vorhanden / existing /
disponible
 ☐ nicht vorhanden / non existing/
non disponible

(falls nicht vorhanden: siehe Fragebogen F 150 auf unserer Website www.fipa-online.com)

(if not existing: see Questionnaire F 150 on our Website www.fipa-online.com)

(si non disponible: voir Questionnaire F 150 su notre Website www.fipa-online.com)

Leistungsdaten / Power capacity

Puissance

Vakuumsauger / Vacuum suction cups / Ventouses

Vakuumsauger bereits im Einsatz? / Suction cups in use? /
Ventouses déjà utilisées?

☐ nein/no/non
 ☐ ja, folgende(r) Typ(en)
yes, following type(s)
oui, le(s) type(s) suivant(s)

Unser Bedarf an Vakuumsaugern pro Jahr:

Annual requirement of suction cups:

Besoins annuels en ventouses:

☐ ca./approx./env. Stück/pieces/pièces

- 10** Taktzeit/Cycle time/Cycle:
- 11** Verfahrweg / Distance:
- 12** Ansaugzeit / Suck up time:
- 13** Positioniergenauigkeit: /
Positioning accuracy: /
Précision du positionnement:
- 14** Beschleunigung: /
Acceleration:
- 15** Umwelteinflüsse/
Environment/Environnement

FIPA ist gerne bereit, kostenlos Handlingversuche durchzuführen, wenn Sie Muster der zu transportierenden Teile zur Verfügung stellen. Sie können jedoch auch Mustersauger für Eigenversuche anfordern.

FIPA will gladly perform handling tests without charge on samples of the objects to be carried. Alternatively, please feel free to request sample cups for your own tests.

FIPA est prêt à réaliser gratuitement des essais de maniement si vous mettez à disposition des échantillons de pièces à transporter. Vous pouvez également demander des échantillons pour vos propres essais.



FIPA GMBH
VAKUUM-TECHNIK

D-85737 Ismaning
Freisinger Str. 30
www.fipa-online.com

Tel. +49/(0)89 / 96 24 89 -0
Fax +49/(0)89 / 96 24 89-11
e-mail: info@fipa-online.com

Fragebogen für Abstapelanlagen

Questionnaire for stacking systems

Questionnaire pour des installations



FIPA GMBH

FAX: 089 / 96 24 89 - 11

International : +49 / 89 96 24 89 -11

Von /
From/
De

Firma / Company / Société

Straße / Street / Rue

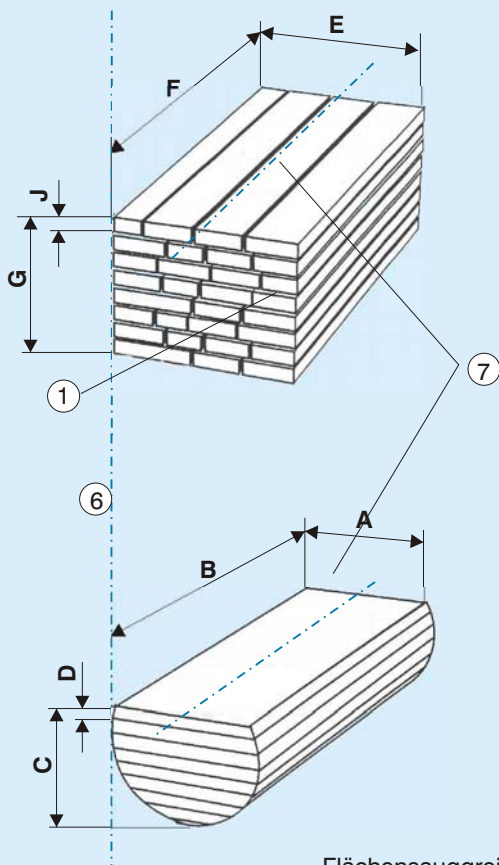
Name / Name / Nom

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Fax

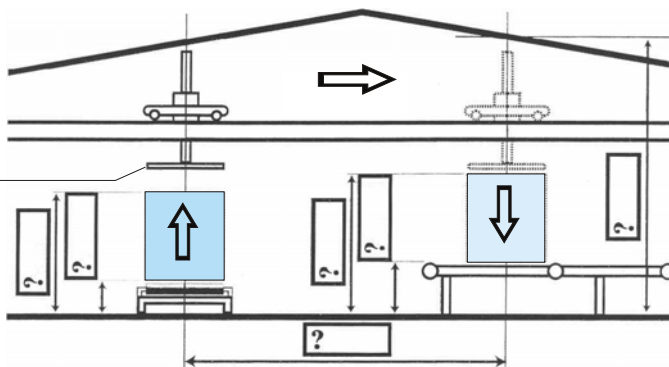


Flächensauggreifer
Large-area suction pad

Technische Daten
Specifications
Specifications

A	
B	
C	
D	
E	
F	
G	
H	
J	
Gewicht max. Weight max. Poids max.	kg (FxEExJ)

Angaben zum Holzstapel Stack data Données des produits	ja/yes oui	nein/no non
① Leisten zwischen jeder Lage? Battens between layers? Baguettes entre chaque couche?		
② Gleiche Breite? Same width? Même largeurs?		
③ Unterschiedliche Breite? Different width? Largeurs différentes		
④ Gleiche Länge? Same length? Même longueurs?		
⑤ Unterschiedliche Länge? Different length? Longueurs différentes?		
⑥ Referenzlinie bündig? Flush reference line? Paquet référencé en bout?		
⑦ Referenzlinie mittig? Centre reference line? Paquet centré?		



Zykluszeit / cycle time / temps de cycle _____

Gewünschte Funktion / desired function / fonction souhaitée _____

Bemerkungen / remarks / observations _____



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D-85737 Ismaning
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www.fipa-online.com

Telefon 089 / 96 24 89 -0
Telefax 089 / 96 24 89-11
e-mail: info@fipa-online.com

Das FIPA - Erfolgsprogramm

VAKUUM-TECHNIK



Vakuum-Sauger

- Vakuum-Sauger,
- Saugerträger
- Anschlußteile
- Vakuum-Pinzetten/Pipetten

Vakuum-Komponenten

- Kontroll- und Steuerungsinstrumente
- Vakuum-Pumpen
- Vakuumförderer
- Hubzylinder
- Vakuum-Zentralen

Vakuum-Komponenten

- Ejektoren
- Ventile
- Schalldämpfer
- Verschraubungen
- Schläuche

Greifer-System für Entnahmeroboter

- Profile und Verbindungselemente
- Klemmelemente
- Greifzangen, Angussgreifzangen
- Saugfinger
- Pneumatische Innengreifer

Vulkanisierte Bälge in jeder Form und Größe

- umfassendes Standardprogramm
- Sonderanfertigungen nach Kundenwunsch

Kühlmittel- Gelenkschläuche

- positionsstabil
- in drei Durchlaßgrößen
- auch mit Magnetfuß

ROBOTIK EOAT

PARTS FOR MACHINES

FIPA GMBH
VAKUUM-TECHNIK

Vacuum Suction Cups

- Vacuum suction cups
- Supports for suction cups
- Fittings
- Vacuum squeezers/pipettes

Vacuum Components

- Control devices
- Vacuum pumps
- Vacuum conveyors
- Lifting cylinders
- Vacuum units

Vacuum-Components

- Ejectors
- Valves
- Silencers
- Fittings
- Tubes

Robotic End-of-Arm Tooling

- Profiles and Connectors
- Clamping Elements
- Grippers, Sprue Grippers
- Suction Fingers
- Inflating Air Hands

Moulded Bellows any shape and size

- Extensive line of standardized products
- Custom-made items to your specifications

Flexible Coolant Hoses

- Positionally rigid
- Three different sizes
- Also available with magnetic base

Programme FIPA à succès

TECHNIQUE DU VIDE

Ventouses à vide

- Ventouses à vide
- Porte-ventouses
- Inserts
- Pincettes / Pipettes à vide

Composants du vide

- instruments de contrôle/ de commande
- Pompes à vide
- Convoyeurs à vide
- Vérins
- Centrales de vide

Composants du vide

- Venturis
- Soupapes
- Silencieux
- Raccords
- Flexibles

Éléments de pré- hension en kits

- Profils et éléments de raccords
- Pinces de préhension
- Doigts de préhension
- Préhenseurs pneumatiques intérieur

Soufflets vulcanisés

- Vaste programme standard
- Versions spéciales sur demande

Flexibles articulés pour passage de froid.

- stables
- en trois tailles différentes
- disponibles aussi avec base magnétique



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