

2-1/2 bellows design minimizes contact pressure applied to the product. The soft seal lip and touch allows the cup to conform to the product's surface to make a vacuum seal.

These multiple bellow cups are designed for applications that require additional level compensation, more flexibility, or minimum back pressure for a "soft touch". The multiple bellow has a soft sealing edge good for a variety of sensitive applications; such as food packaging, CD / DVD, medical packaging, and highly irregular curved surfaces. Cups can also be used to assist with sheet separation in destack operations.

Features

- Soft touch
- Extra level compensation
- Flexible sealing lip for irregular curved surfaces
- 5mm to 90mm in diameter



Styles

- PCTM series male thread connector
- PCTF series female thread connector
- PCTK series barbed bulkhead

Specifications

Cup material	Nitrile	Nitrile ESD*	Silicon	Silicon ESD*	Urethane
Material code	NBR	NBRE	SI	SIE	U
Operating temperature (°C)	-20° to +120°	-30° to +120°	-60° to +250°	-60° to +250°	-30° to +120°
Color	Black	Black / Blue Dot	White	Black / Red Dot	Blue
Hardness, shore A (°Sh)	55 ±5	70 ±5	55 ±5	55 ±5	55 ±5
Electrical resistance (Ωm)	—	800 to 1000	—	800 to 1000	—

* ESD: Electric Static Dissipative Material

How to order

Cups assemblies and replacement cups are specified by cup diameter and material. Standard nitrile and silicon are listed on the following pages. To specify an alternative material, replace the cup material with alternative cup material code.

Example: To specify a cup assembly with urethane (U), replace (NBR) with (U) in the part number. PCTM-20B-NBR-G1 becomes PCTM-20B-U-G1. Inquire with factory for availability.

Application guide

2-1/2 Bellows

Flat surface, any section	Bowed surface, thin section	Slightly bowed surface, any section	Bowed surface, any section	Soft material	Metal sheet handling	Corrugated sheet handling	Differences in heights and levels	Not for vertical lift

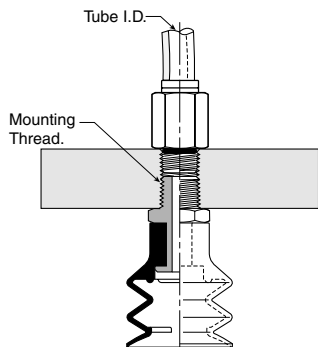


PCTM Series Male Thread Connector

Simple male connection for low profile positions secured to a plate or bracket. BSPP, NPT, metric threads. Fitting material: aluminum.

Installation

Note:
 When installing cup assemblies, use a sealant material to secure the assembly and prevent vacuum leakage.



Cup diameter (mm)	Vacuum port	Complete assembly Nitrile (NBR)	Replacement cup Nitrile (NBR)	Complete assembly Silicon (SI)	Replacement cup Silicon (SI)	Replacement cup fitting
5	M5	PCTM-5-NBR-M5	PCG-5-NBR	PCTM-5-SI-M5	PCG-5-SI	FTM-5A-M5
7	M5	PCTM-7-NBR-M5	PCG-7-NBR	PCTM-7-SI-M5	PCG-7-SI	FTM-5A-M5
10	M5	PCTM-10-NBR-M5	PCG-10-NBR	PCTM-10-SI-M5	PCG-10-SI	CTM-10-M5
10	1/8 BSPP	PCTM-10-NBR-G1	PCG-10-NBR	PCTM-10-SI-G1	PCG-10-SI	CTM-10-G1
15	M5	PCTM-15-NBR-M5	PCG-15-NBR	PCTM-15-SI-M5	PCG-15-SI	CTM-10-M5
15	1/8 BSPP	PCTM-15-NBR-G1	PCG-15-NBR	PCTM-15-SI-G1	PCG-15-SI	CTM-10-G1
20	M5	PCTM-20-NBR-M5	PCG-20-NBR	PCTM-20-SI-M5	PCG-20-SI	CTM-10-M5
20	1/8 BSPP	PCTM-20-NBR-G1	PCG-20-NBR	PCTM-20-SI-G1	PCG-20-SI	CTM-10-G1
30	1/8 BSPP	PCTM-30-NBR-G1	PCG-30-NBR	PCTM-30-SI-G1	PCG-30-SI	CTM-30-G1
30	1/4 BSPP	PCTM-30-NBR-G2	PCG-30-NBR	PCTM-30-SI-G2	PCG-30-SI	CTM-30-G2
30	1/8 NPT	PCTM-30-NBR-N1	PCG-30-NBR	PCTM-30-SI-N1	PCG-30-SI	CTM-30-N1
40	1/8 BSPP	PCTM-40-NBR-G1	PCG-40-NBR	PCTM-40-SI-G1	PCG-40-SI	CTM-30-G1
40	1/4 BSPP	PCTM-40-NBR-G2	PCG-40-NBR	PCTM-40-SI-G2	PCG-40-SI	CTM-30-G2
40	1/8 NPT	PCTM-40-NBR-N1	PCG-40-NBR	PCTM-40-SI-N1	PCG-40-SI	CTM-30-N1
60	1/8 BSPP	PCTM-60-NBR-G1	PCG-60-NBR	PCTM-60-SI-G1	PCG-60-SI	CTM-30-G1
60	1/8 NPT	PCTM-60-NBR-N1	PCG-60-NBR	PCTM-60-SI-N1	PCG-60-SI	CTM-30-N1
90	1/4 BSPP	PCTM-90-NBR-G2	PCG-90-NBR	PCTM-90-SI-G2	PCG-90-SI	CTM-90-G2
90	1/4 NPT	PCTM-90-NBR-N2	PCG-90-NBR	PCTM-90-SI-N2	PCG-90-SI	CTM-90-N2

PCTF Series Female Thread Connector

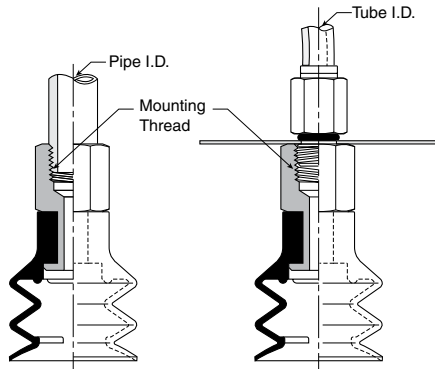
Simple female connection for low profile positions secured to a plate or bracket. BSPP, NPT metric threads.

Fitting material: aluminum.

Installation

Note:

When installing cup assemblies, use a sealant material to secure the assembly and prevent vacuum leakage.



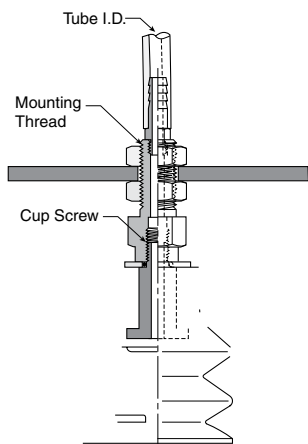
Cup diameter (mm)	Vacuum port	Complete assembly Nitrile (NBR)	Replacement cup Nitrile (NBR)	Complete assembly Silicon (SI)	Replacement cup Silicon (SI)	Replacement cup fitting
5	M5	PCTF-5-NBR-M5	PCG-5-NBR	PCTF-5-SI-M5	PCG-5-SI	FTF-5A-M5
7	M5	PCTF-7-NBR-M5	PCG-7-NBR	PCTF-7-SI-M5	PCG-7-SI	FTF-5A-M5
10	1/8 BSPP	PCTF-10-NBR-G1	PCG-10-NBR	PCTF-10-SI-G1	PCG-10-SI	CTF-10-G1
15	1/8 BSPP	PCTF-15-NBR-G1	PCG-15-NBR	PCTF-15-SI-G1	PCG-15-SI	CTF-10-G1
20	1/8 BSPP	PCTF-20-NBR-G1	PCG-20-NBR	PCTF-20-SI-G1	PCG-20-SI	CTF-10-G1
30	1/8 BSPP	PCTF-30-NBR-G1	PCG-30-NBR	PCTF-30-SI-G1	PCG-30-SI	CTF-30-G1
30	1/8 NPT	PCTF-30-NBR-N1	PCG-30-NBR	PCTF-30-SI-N1	PCG-30-SI	CTF-30-N1
40	1/8 BSPP	PCTF-40-NBR-G1	PCG-40-NBR	PCTF-40-SI-G1	PCG-40-SI	CTF-30-G1
40	1/8 NPT	PCTF-40-NBR-N1	PCG-40-NBR	PCTF-40-SI-N1	PCG-40-SI	CTF-30-N1
60	1/8 NPT	PCTF-60-NBR-N1	PCG-60-NBR	PCTF-60-SI-N1	PCG-60-SI	CTF-30-G1
60	1/4 NPT	PCTF-60-NBR-N1	PCG-60-NBR	PCTF-60-SI-N1	PCG-60-SI	CTF-30-N1
90	1/4 BSPP	PCTF-90-NBR-G2	PCG-90-NBR	PCTF-90-SI-G2	PCG-90-SI	CTF-90-G2
90	1/4 NPT	PCTF-90-NBR-N2	PCG-90-NBR	PCTF-90-SI-N2	PCG-90-SI	CTF-90-N2

PCTK Series Barbed Bulkhead

Top stem connectors secured with jam nuts and allow tubing connections at the top side. Fitting material: nickel plated brass.

Installation

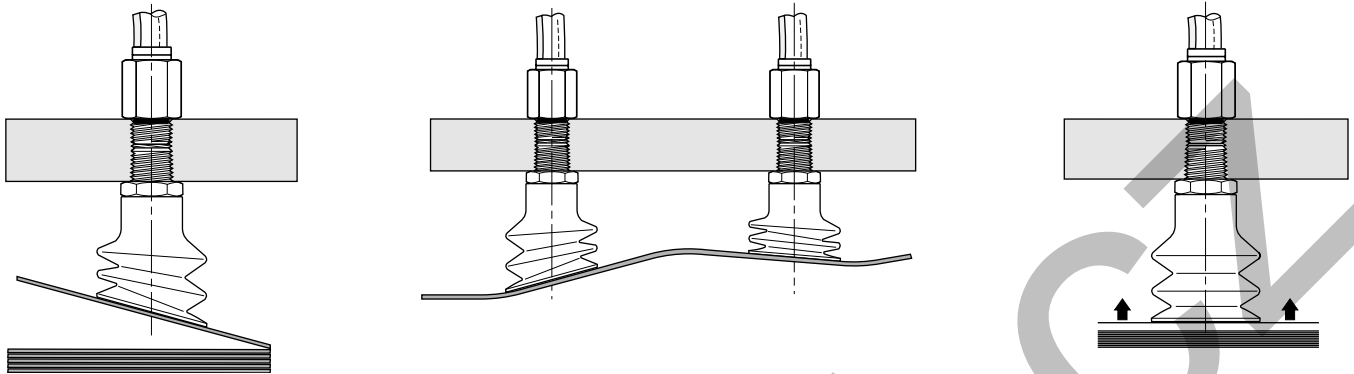
Note:
 When installing cup assemblies, use a sealant material to secure the assembly and prevent vacuum leakage.



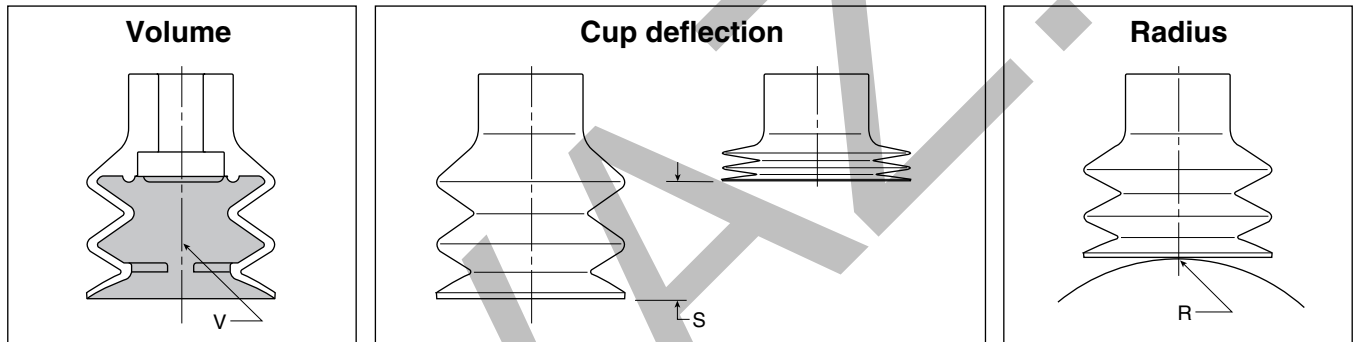
Cup diameter (mm)	Vacuum port	Complete assembly Nitrile (NBR)	Replacement cup Nitrile (NBR)	Complete assembly Silicon (SI)	Replacement cup Silicon (SI)	Replacement cup fitting
5	Barb	PCTK-5-NBR	PCG-5-NBR	PCTK-5-SI	PCG-5-SI	FTK-5A
7	Barb	PCTK-7-NBR	PCG-7-NBR	PCTK-7-SI	PCG-7-SI	FTK-5A
10	Barb	PCTK-10-NBR	PCG-10-NBR	PCTK-10-SI	PCG-10-SI	CTK-10
15	Barb	PCTK-15-NBR	PCG-15-NBR	PCTK-15-SI	PCG-15-SI	CTK-10
20	Barb	PCTK-20-NBR	PCG-20-NBR	PCTK-20-SI	PCG-20-SI	CTK-10
30	Barb	PCTK-30-NBR	PCG-30-NBR	PCTK-30-SI	PCG-30-SI	CTK-30
40	Barb	PCTK-40-NBR	PCG-40-NBR	PCTK-40-SI	PCG-40-SI	CTK-30
60	Barb	PCTK-60-NBR	PCG-60-NBR	PCTK-60-SI	PCG-60-SI	CTK-30
90	NPT	PCTK-90-NBR-N1	PCG-90-NBR	PCTK-90-SI-N1	PCG-90-SI	CTK-90-N1
90	BSPP	PCTK-90-NBR-G1	PCG-90-NBR	PCTK-90-SI-G1	PCG-90-SI	CTK-90-G1

Applications

- Destack perimeter separation
- Level compensation for applications where level compensators do not have adequate space
- Controlling downstroke lifts product on contact



Main data for 2-1/2 bellows PCG cups



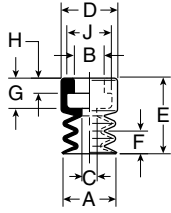
Model number	Cup diameter mm	Area cm ²	Volume (V) liters	Lifting force @ 60% (N)		Cup deflection (S) mm	Radius (R) mm
PCG-5-*	5	.20	.00003	1.20	—	3	3.5
PCG-7-*	7	.39	.00004	2.40	—	3	4.0
PCG-10-*	10	.79	.0001	4.80	—	3	5.0
PCG-15-*	15	1.77	.0009	10.8	—	10	6.0
PCG-20-*	20	3.14	.002	19.2	—	10	8.0
PCG-30-*	30	7.07	.009	43.2	—	14.5	20.0
PCG-40-*	40	12.6	.018	76.9	—	22	30.0
PCG-60-*	60	28.3	.072	173	—	27	55.0
PCG-90-*	90	63.6	.1639	389	—	42	80.0

* Cup material

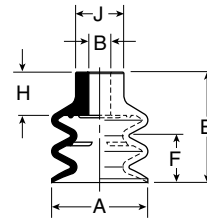


PCG Series Replacement Cup Dimensions

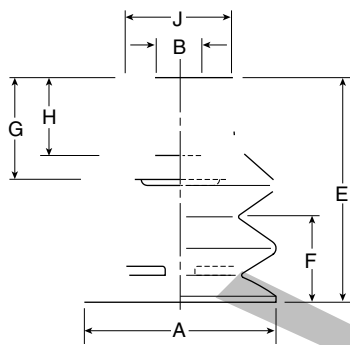
**PCG-5 and
 PCG-7**



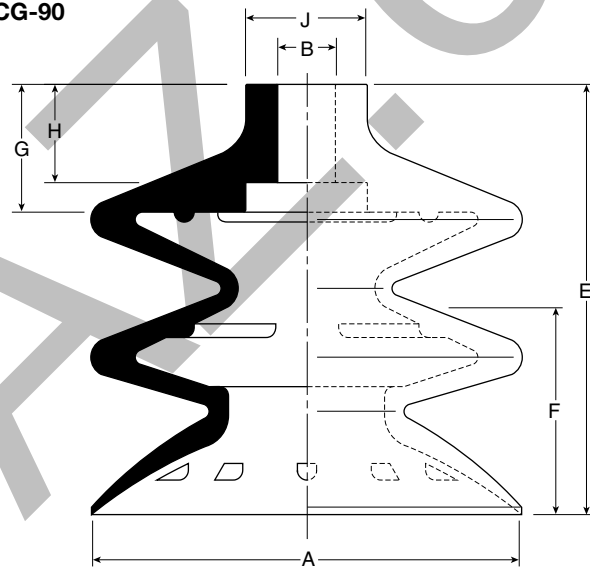
**PCG-10 thru
 PCG-20**



**PCG-30 thru
 PCG-60**



PCG-90



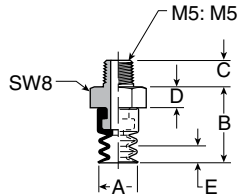
Dimensions (mm)

Model number	ØA	ØB	ØC	ØD	E	F	G	H	J
PCG-5-*	5	4	2	7.5	9.5	3	4	2	6
PCG-7-*	7	4	2	7.5	10	3	4	2	6
PCG-10-*	9	5	—	—	15	3	7	—	9
PCG-15-*	15.2	5	—	—	22	10	9	—	10
PCG-20-*	20	5	—	—	23	10	9	—	10
PCG-30-*	32	8	—	—	37.5	14.5	17	13	18
PCG-40-*	42	8	—	—	46	.22	17	13	20
PCG-60-*	62	8	—	—	55	27	18	13	21.5
PCG-90-*	88	12	—	—	87.5	42	26	20	25

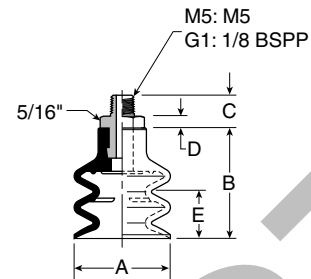
* Cup material

Dimensions

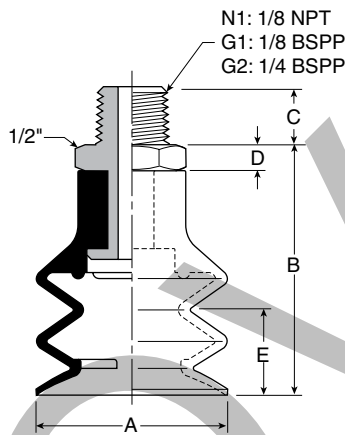
PCTM-5 and
PCTM-7



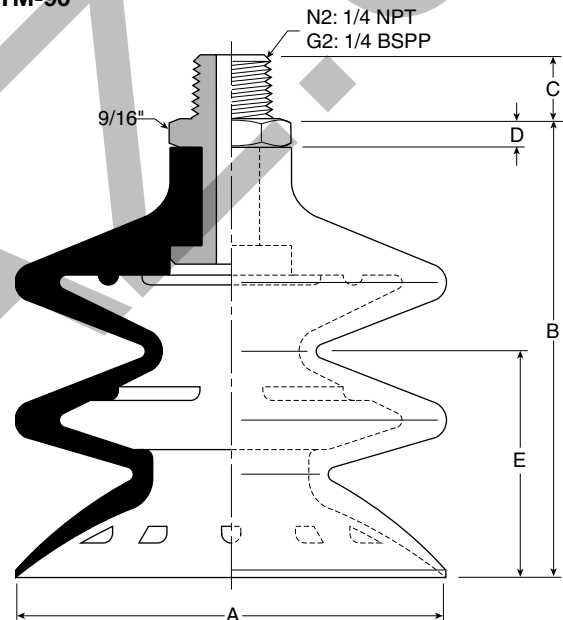
PCTM-10 thru
PCTM-20



PCTM-30 thru
PCTM-60



PCTM-90



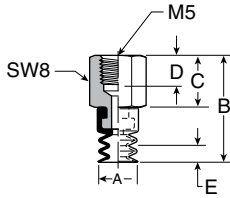
Dimensions (mm)

Model number	ØA	B	C (M5)	C (N1 / G1)	C M10 / G2)	C (N2)	D	E
PCTM-5-*†	5	13	4.5	—	—	—	3.5	3
PCTM-7-*†	7	13.5	4.5	—	—	—	3.5	3
PCTM-10-*†	9	17.5	4.5	8	—	—	2.5	3
PCTM-15-*†	15.2	25.5	4.5	8	—	—	2.5	10
PCTM-20-*†	20	25.5	4.5	8	—	—	2.5	10
PCTM-30-*†	32	42.5	—	8	10	—	5	14.5
PCTM-40-*†	42	51	—	8	10	—	5	22
PCTM-60-*†	62	60	—	8	10	—	5	27
PCTM-90-*†	88	92.5	—	—	10	15	5	42

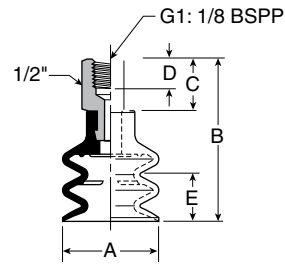
* Cup material
† Thread size

Dimensions

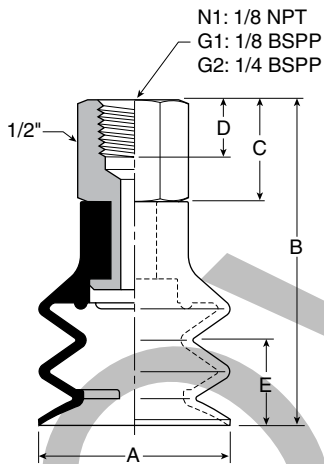
**PCTF-5 and
PCTF-7**



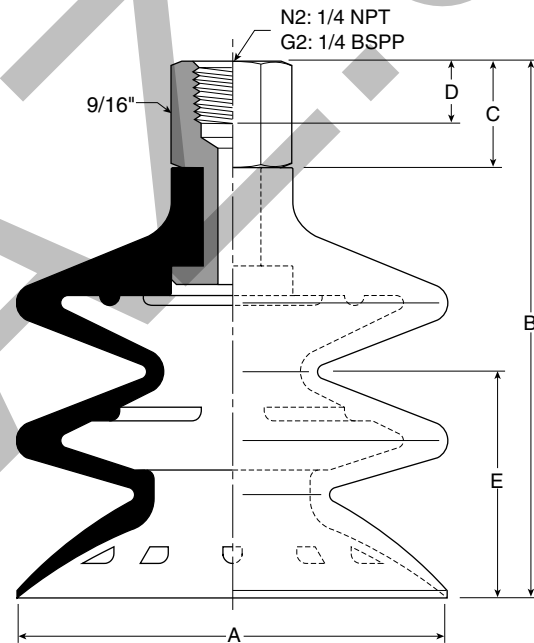
**PCTF-10 thru
PCTF-20**



**PCTF-30 thru
PCTF-60**



PCTF-90



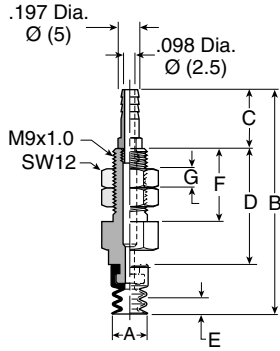
Dimensions (mm)

Model number	ØA	B	C	D	E
PCTF-5 [†]	5	21.5	12	8	3
PCTF-7 [†]	7	22	12	8	3
PCTF-10 [†]	9	27	12	8	3
PCTF-15 [†]	15.2	35	12	8	10
PCTF-20 [†]	20	35	12	8	10
PCTF-30 [†]	32	51.5	14	8	14.5
PCTF-40 [†]	42	60	14	8	22
PCTF-60 [†]	62	69	14	8	27
PCTF-90 [†]	88	105	17.5	10	42

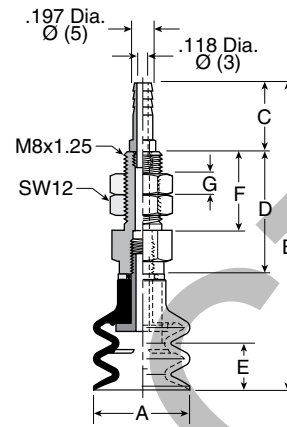
* Cup material
† Thread size

Dimensions

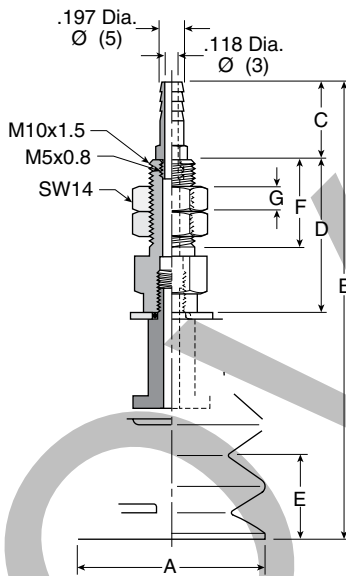
PCTK-5 and
PCTK-7



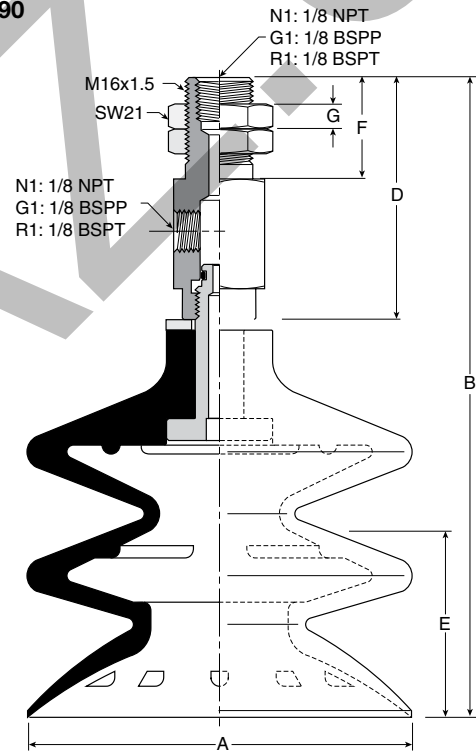
PCTK-10 thru
PCTK-20



PCTK-30 thru
PCTK-60



PCTK-90



Dimensions (mm)

Model number	ØA	B	C	D	E	F	G	Wt g
PCTK-5-*	5	33.5	10	14	3	12	3	11
PCTK-7-*	7	34	10	14	3	12	3	11
PCTK-10-*	9	56.2	16	22.5	3	15	4	22
PCTK-15-*	15.2	64.2	16	22	10	15	4	22
PCTK-20-*	20	64.2	16	22	10	15	4	22
PCTK-30-*	32	86.8	16	32	14.5	20	5	46
PCTK-40-*	42	95.3	16	32	22	20	5	55
PCTK-60-*	62	104.3	16	32	27	20	5	85
PCYK-90-*	88	144.8	23	55	42	11	—	300

* Cup material
† Vacuum port