The most efficient means of handling wafers/dies

Fluoro Mechanic®

WAFER/DIE HANDLING TOOLS

(610) 443-2015

SB SunBound Technology

WWW.SUNBOUNDTECHNOLOGY.COM

Fluoro Mechanic Co., Ltd.

Vacuum Wand

Features

- Our unique valve* ensures reliable suction and release of a wafer/die.
- The well polished inner wall of the valve part minimizes particle generation.
- The optically polished wafer tip provides excellent adhesion to a wafer.
- The wand body can be easily detached from the tubing.
- A large selection of attachments for die handing are available.

* US Patent 4767142, Japanese Patents 1698352 and 1885465

For the latest information:
WWW.FLUORO.CO.JP

ESD protection

- The body covered with conductive nylon reduces electrostatic effects towards a wafer.
- The wafer tip is made of conductive PEEK.
- The resistance value of 10^6 to 10^8 Ω provides optimum static protection.

Teflon® body

- The body is made of Teflon® for chemical resistance.
- A large selection of wafer tips are available.

Die Handling Tools:
WWW.VACUUMWAND.COM

Connection

X: Ball Swivel Joint

Y: Fixed Joint

Z: Collet Chuck Joint

Tip's Material

3F: PCTFE (Polychlorotrifluoroethylene)
CP: Conductive PEEK (Polyetheretherketon)
PK: PEEK (Polyetheretherketon)
VP: Vespel® (Polyimide)
Vespel® and Teflon® are registered trademarks of DuPont K.K.

Tip

Wafer Handling F 001 - X - 01 - 3F

Attachment

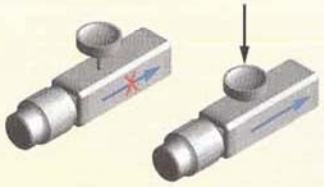
Die Handling F 001 - NN-X

Body's Material

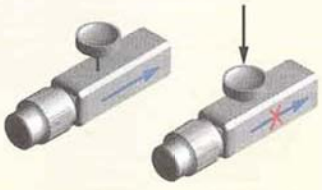
C: Conductive nylon
F: Teflon®

Valve

001:
NC (Normally closed)
Push the button to pick up



002:
NO (Normally open)
Push the button to release



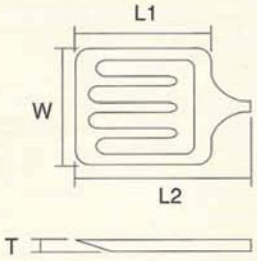
003:
NO+SW (Normally open with ON/ OFF Switch)
Push the button to release

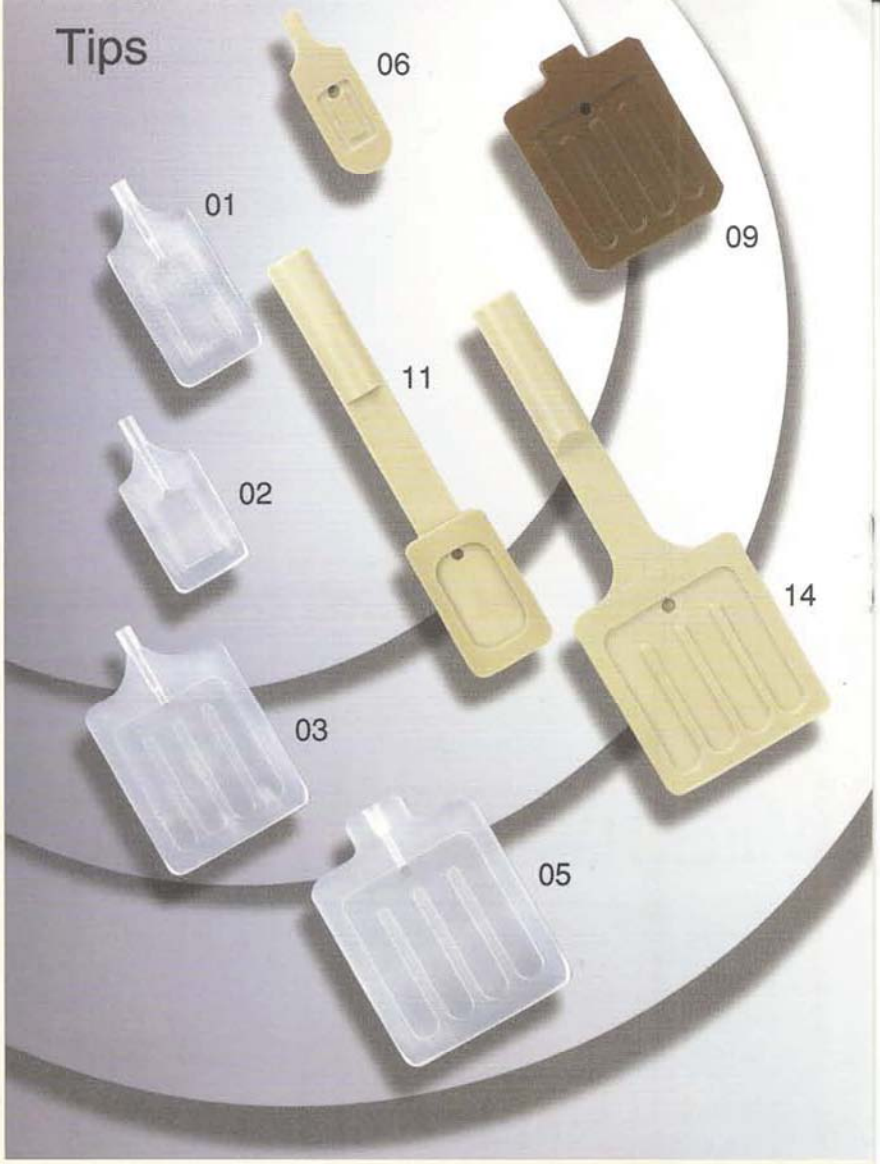
The switch maintains the system vacuum when not in use

Teflon® Body Vacuum Wand for Wafer Handling

F002-Y-14-3F

F003-Z-05-3F





Selection Chart

Body	Tip	Wafer					Tip Size (mm)			
		4"	5"	6"	8"	12"	T	W	L1	L2
F001/2/3-X (with 106)	01-3F/PK/VP			●			2.7	15	26	35
F001/2/3-Z (with 110)	01-3F/PK/VP			●			2.7	15	26	35
F001/2/3-X (with 106)	02-3F/PK/VP		●				2.7	13	21	30
F001/2/3-Z (with 110)	02-3F/PK/VP		●				2.7	13	21	30
F001/2/3-X (with 106)	03-3F/PK/VP			●			2.7	26	31	40
F001/2/3-Z (with 110)	03-3F/PK/VP			●			2.7	26	31	40
F001/2/3-X (with 100)	05-3F/PK/VP				●		3.8	31	35	41
F001/2/3-Z (with 111)	05-3F/PK/VP				●		3.8	31	35	41
F001/2/3-X (with 106)	06-3F/PK/VP	●					2.6	10	21	30
F001/2/3-Z (with 110)	06-3F/PK/VP	●					2.6	10	21	30
F001/2/3-X (with 100)	09-3F/PK/VP			●			3.8	26	31	37
F001/2/3-Z (with 111)	09-3F/PK/VP			●			3.8	26	31	37
F001/2/3-Y	11-3F/PK			●			3.4	15	25	76
F001/2/3-Y	14-3F/PK				●		3.1	31	34	86
F001/2/3-Y	15-3F/PK					●	3.5	47	55	162
F001/2/3-Y	15-VP					●	3	51	61	180

Please order Body and Tip separately.
e.g. F001-X (with 106) and 01-3F

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ESD Safe Vacuum Wand for Wafer Handling

C001-X-97-CP

C002-Y-92-CP

C003-Y-92-CP

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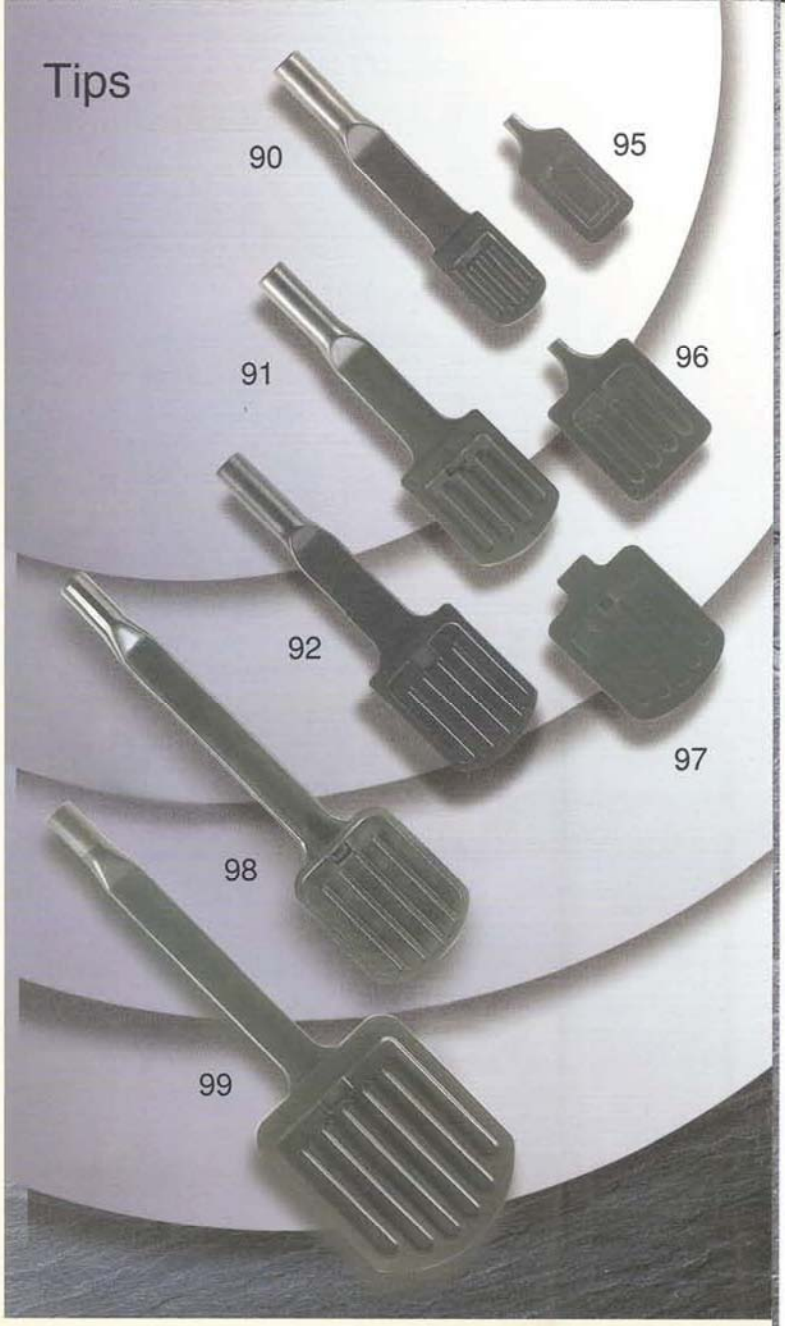
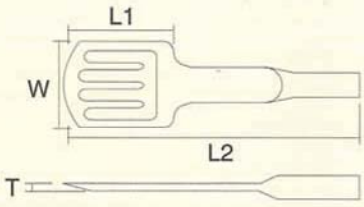




Selection Chart

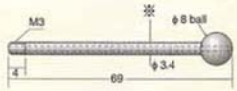
Body	Tip	Wafer				Tip Size (mm)			
		5"	6"	8"	12"	T	W	L1	L2
C001/2/3-Y	90-CP	●				2.7	16	26	82
C001/2/3-Y	91-CP		●			3	26	33	89
C001/2/3-Y	92-CP			●		3	32	39	95
C001/2/3-X (with 106)	95-CP	●				2.7	15	27	37
C001/2/3-X (with 106)	96-CP		●			3	27	32	43
C001/2/3-X (with 100)	97-CP			●		3.7	31	37	43
C001/2/3-Y	98-CP			●		3.5	31	39	129
C001/2/3-Y	99-CP				●	3.9	48	58	148

Please order Body and Tip separately.
e.g. C001-Y and 90-CP

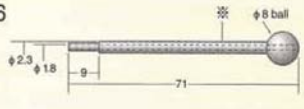
Metal Tube

P／N	Connection	Type
100	X	Screw
106	X	Push-in
110	Z	Push-in
111	Z	Screw

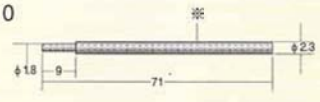
100



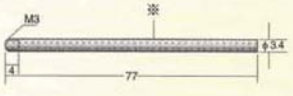
106



110



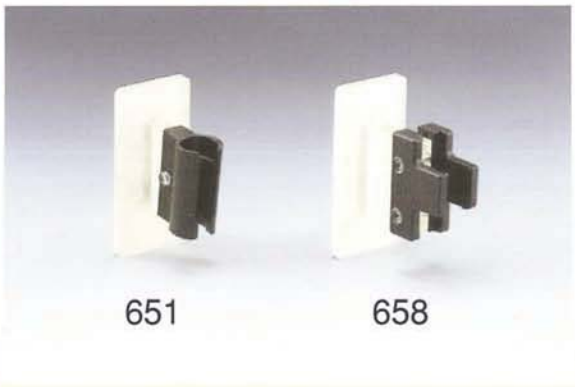
111



Vacuum Wand Accessories

Stands

For use in vertical position



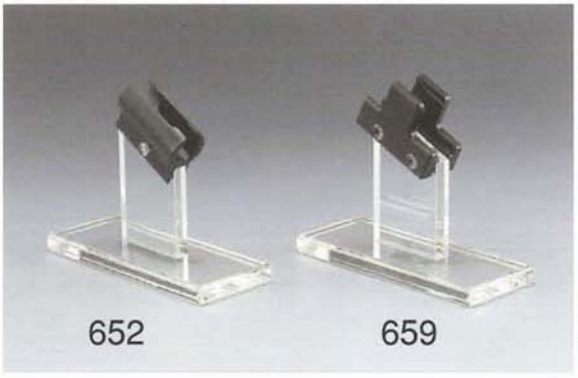
To be mounted on the wall with adhesive tape/ screws

Model	Material	Compatible Body
651	Conductive nylon +Acrylic resin	NC/NO+SW
652		NC/NO+SW
658 *		NO
659 *		NO

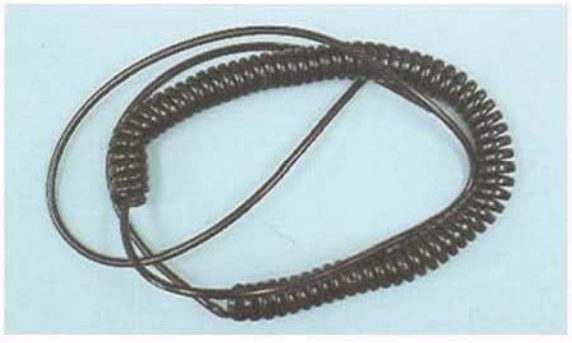
658・659

* Vacuum turns on when removed from the stand and shuts off when returned

For use in horizontal position

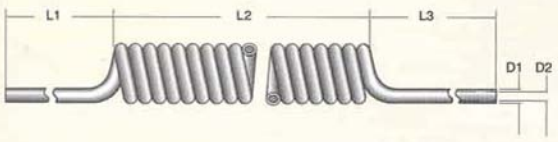


ESD Safe Tubing



- No accumulation of static electricity
- Prevents sparks
- Made of Conductive Polyurethanestmer
- Surface Resistivity: 10^3 to 10^6 ohms/cm^2
- Volume Resistivity: 10 to 10^4 ohms-cm
- Usable Temperature Range: -40C to +80C

Model	Size (mm)					Weight (g)
	D1	D2	L1	L2	L3	
851-L	6	4	400	500	1000	118
851-M	5	3	400	500	1000	84



Available in straight version: 850-L/M

Leak Detector

901

- Leaks are detected by measuring the vacuum level.
  The surface area where a wand tip is placed is made of PPS (Polyphenylenesulphide).
- D:120 W:60 H:45(mm), Weight:350(g)

Vacuum Pump

FV-10, FV-30, FV-60

- Built in inlet and outlet HEPA filters (FV-30/60)
- Oil-free for cleanroom use
- Long term high reliability
- Designed to minimize noise generation
- Nylon body for static protection (FV-30/60)

Specifications

P/N	FV-10-110	FV-30-110	FV-60-110
Flow Race	2.7 l/min	2.5 l/min	2.5 l/min
Ultimate Pressure	−4 kPa to −14 kPa	−40 kPa	−80 kPa
Power Requirement	100−120 VAC	100−120 VAC	100−120 VAC
Consumption Power	5.0W	5.0W	10.0W
Dimensions (D×W×H)	155×72×54mm	137×88×85mm	137×88×133mm
Weight	600g	800g	1250g
Duty Cycle	Continuous	Continuous	Continuous
Life Expectancy	>8760 hours	>8780 hours	>8780 hours
Wafer Size	Up to 4"	Up to 6"	8" and 12"

240VAC versions available (FV-10-240,FV-30-240,FV-60-240)

Static Disspative Grounding Kit

858

- Designed to be connected to FV-10/30/60 -110/240 for effective ESD protection

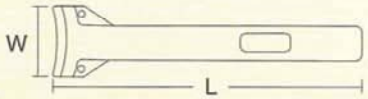
Manual Wand for Wafer Handling

Features

- Our unique design (Patent Pending) ensures to handle a delicate and fragile wafer softly but firmly without excessive touch.
- The surfaces of a wafer are never scratched in contrast to conventional metal tweezers.
- The area that contacts wafer surfaces is optically-polished to reduce surface particle counts.

No metal contamination

- Withstands up to 130℃ continuously
- No glue or metal parts

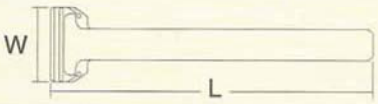


Model	Material	Wafer					Size(mm)		Weight(g)
		4"	5"	6"	8"	12"	L	W	
M100-100	PEEK	●					146	16	30
M100-125			●				148	32	31
M100-150				●			147	37	31
M100-150L				●			185	40	71
M100-200					●		147	37	32
M100-200L					●		180	55	72
M100-300L						●	180	75	77
M110-100	PPS	●					146	16	31
M110-125			●				148	32	32
M110-150				●			147	37	33
M110-200					●		147	37	33
E100-100	Conductive PEEK	●					146	16	30
E100-125			●				148	32	32
E100-150				●			147	37	32
E100-200					●		147	37	33

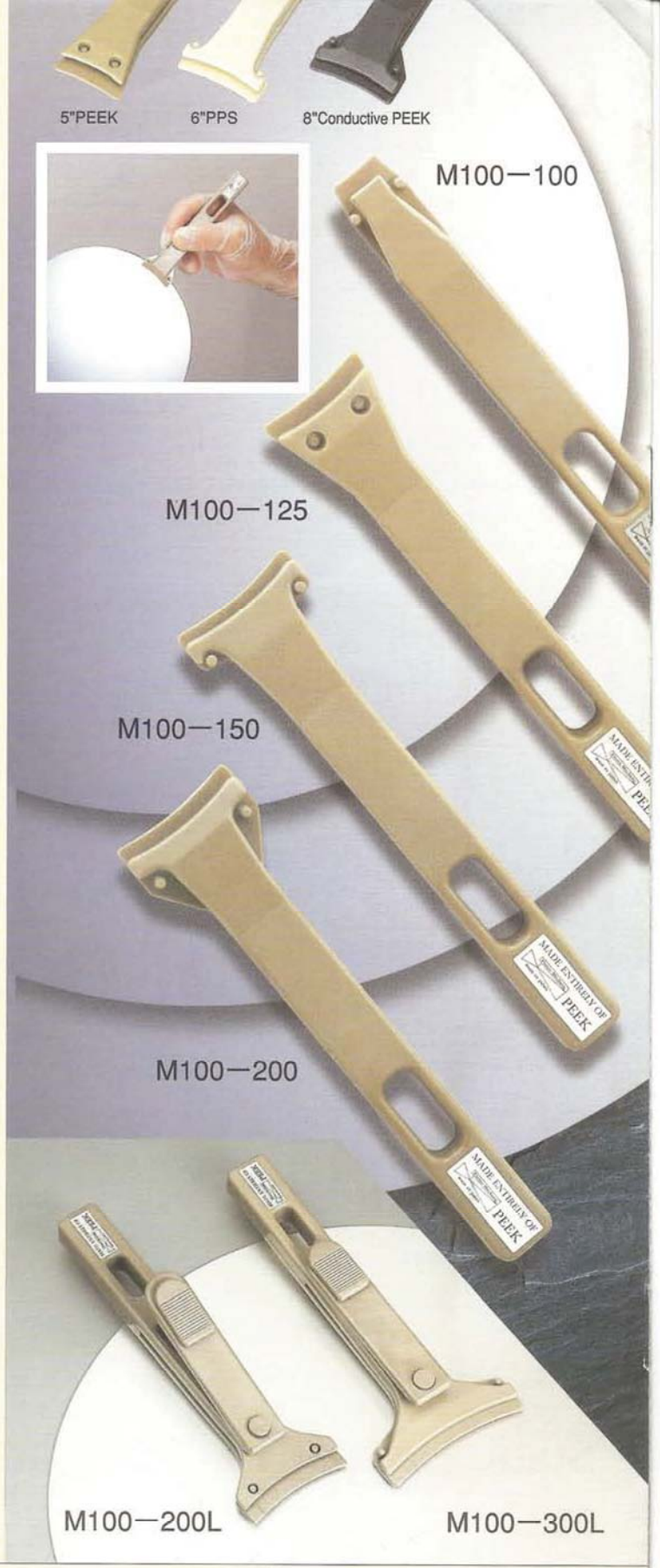
L : Lockable Lever

For high temperature applications

- Withstands up to 288℃ continuously
- Vespel® is firmly glued to SUS (Stainless Steel).



Model	Material	Wafer		Size (mm)		Weight (g)
		6"	8"	L	W	
M800-200N	Vespel+SUS	●	●	154	35	47
M800-200S		●	●	159	35	47



Specifications are subject to change without notice.

Fluoro Mechanic® Fluoro Mechanic Co., Ltd.
7-21-1, Hirai Edogawa-ku Tokyo 132-0035, Japan
Tel : 81-3-3618-0368, Fax : 81-3-3618-0380
URL : http://www.fluoro.co.jp/

For the latest information: WWW.VACUUMWAND.COM

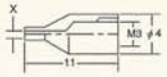
Vacuum Wand for Die Handling

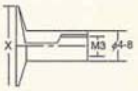
Also ideal for:
Jewellery Making
Camera / Watch Repair
Computer / Model Assembly
Picking Up Contact Lenses

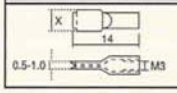
Attachments

Vacuum Wand Bodies

P/N	Material	Valve
C001	Conductive Nylon	NC
C002	Conductive Nylon	NO
C003	Conductive Nylon	NO + SW
F001	Teflon®	NC
F002	Teflon®	NO
F003	Teflon®	NO + SW

Nozzle	Material	P/N	X=Inner Diameter									
	PCTFE	21-X	0.3	0.5	0.7	1.0	1.2	1.5	2.0	2.5	3.0	
	PCTFE	22-X	0.1	0.2								
	PEEK	23-X	0.2	0.3	0.5	0.7	1.0	1.2	1.5	2.0	2.5	3.0
	Vespel®	24-X	0.2	0.3	0.5	0.7	1.0	1.2	1.5	2.0	2.5	3.0
	Conductive PEEK	25-X	0.1	0.2								
	Conductive PEEK	26-X	0.3	0.5	0.7	1.0	1.2	1.5	2.0	2.5	3.0	
	Conductive Nylon	27-X	0.3	0.5	0.7	1.0	1.2	1.5	2.0	2.5	3.0	
	Conductive PEEK	29-X	0.05									

Cup	Material	P/N	X=Diameter									
	Silicone Rubber	41-X	2.5	3.0	3.5	5.0	8.0	11.0	15.0			
	Viton Rubber	42-X	2.5	3.0	3.5	5.0	8.0	11.0	15.0			
	Conductive Silicone Rubber	43-X	2.5	3.0	3.5	5.0	8.0	11.0	15.0			
	Conductive Viton Rubber	44-X	2.5	3.0	3.5	5.0	8.0	11.0	15.0			
	Teflon®	45-X	2.5	3.0	3.5	5.0	8.0	11.0	15.0			
	Teflon®	46-X	20.0	25.0	30.0							

Slit tip	Material	P/N	X=Width									
	PCTFE	51-X	3.0	4.5	6.0							
	Conductive Nylon	54-X	3.0	4.5	6.0							

Please specify X
e.g. 21-0.3

Dimensions are in mm.

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