

# Ion Guides-Drift tubes

## FieldMaster™



### Applications

- ✓ Reflectron lenses
- ✓ Drift tubes for Ion Mobility Spectrometers (IMS)
- ✓ Ion guides
- ✓ Ion mirrors
- ✓ Conversion dynodes
- ✓ Voltage dividers

### Features

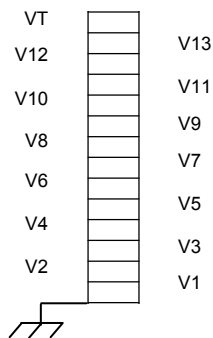
- ✓ Robust
- ✓ Single piece construction
- ✓ Nichrome, copper and gold electrodes available
- ✓ Wide variety of shapes and sizes: tubes, sheets, washers, custom shapes
- ✓ Uniform resistance variable over 5 orders of magnitude
- ✓ Produce smooth electric fields
- ✓ Operating range - 20 to 400°C

Photonis **FieldMaster™ Ion Guides/Drift Tubes** offer a unique capability for analytical instrument designers and manufacturers. These devices are composed of a proprietary lead silicate glass that has been doped to produce a resistive surface. The products can be provided with one or more resistive areas.

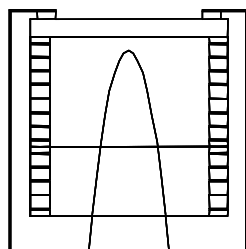
The resistivity can be varied over several orders of magnitude in order to optimize current flow and electric field strength. These products are patent pending.

- Tube ends parallel typically within 0.025mm (.001")
- Sheets are flat within 3 fringes
- For higher resistance glass ( $10^8$  to  $10^{11} \Omega$ ):  
Expansion Coefficient (25-450°C):  $78 \times 10^{-7} / ^\circ\text{C}$   
Softening Point: 642°C
- For lower resistance glass ( $10^6$  to  $10^8 \Omega$ ):  
Expansion Coefficient (25-450°C):  $82 \times 10^{-7} / ^\circ\text{C}$   
Softening Point: 613°C
- Temp. Coefficient of Resistivity:  $\sim -0.8\% / ^\circ\text{C}$
- Tube lengths up to 200mm (8.0") standard
- Sheet size up to 102x102mm (4.0"x4.0")
- Resistive washers up to 71mm (2.8") dia.
- Custom shapes available
- Mechanical Interfaces: Flanges, Grids and Meshes are available.

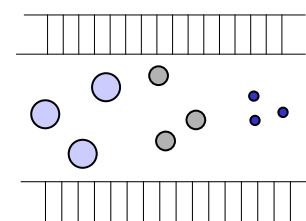
Inside Diameter (Nom.)	Outside Diameter	Wall Thickness	Resistance Range
60.58mm 2.385"	72.26mm 2.845"	5.84mm 0.230"	$10^6$ - $10^{11} \Omega$
48.26mm 1.900"	63.50mm 2.500"	7.62mm 0.300"	$10^6$ - $10^{11} \Omega$
39.38mm 1.550"	47.00mm 1.850"	3.81mm 0.150"	$10^6$ - $10^{11} \Omega$
30.74mm 1.210"	41.40mm 1.630"	5.33mm 0.210"	$10^6$ - $10^{11} \Omega$
24.39mm 0.960"	31.75mm 1.250"	3.68mm 0.145"	$10^6$ - $10^{11} \Omega$
0.94mm 0.037"	6.10mm 0.240"	2.57mm 0.102"	$10^6$ - $10^{11} \Omega$
1.00mm 0.039"	3.05mm 0.120"	1.03mm 0.041"	$10^6$ - $10^{11} \Omega$
1.00mm 0.039"	2.06mm 0.081"	0.53mm 0.021"	$10^6$ - $10^{11} \Omega$



Voltage divider



Reflectron lens



Ion guide

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