

JORDAN TOF PRODUCTS, INC.

Formerly
R. M. Jordan Co., Inc.

TIME OF FLIGHT COMPONENTS MCP MICROCHANNEL PLATE DETECTORS

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40mm MCP Dual Detector on 6 Inch Conflat Flange

DUAL (CHEVRON) MCP MICROCHANNEL PLATE DETECTORS

Designed to handle the fast ion pulses provided by our linear and reflectron Time Of Flight Mass Spectrometers. Our MCP Microchannel Plate Detectors have a 50 ohm coaxial output and provide high gain (10^6 to 10^7) with sub-nanosecond rise time. They are fitted with SHV coaxial UHV feedthrus that can be operated from external power supplies or voltage dividers. All of our MCP Microchannel Plate Detectors are fitted with a 90% transparency input grid. This presents a flat, field free plane to the incoming ions. The input grid has its own SHV feedthru and can be operated at any potential. A shorting cap is provided for operation at ground potential. Our divider circuits are close coupled to the detector by way of short SHV cables which results in low noise, clean signal with no ringing.

Our MCP Microchannel Plate Detectors are UHV ultra high vacuum compatible and can be baked to 300 degrees C. In the dual (chevron) configuration two microchannel plates are used. Replacement microchannel plates for our detectors are available from at least three different vendors.

All dual detectors can be used to detect either positive ions, negative ions or electrons by simply using different input voltages/divider circuits.

Z-GAP HIGH SENSITIVITY MCP MICROCHANNEL PLATE DETECTORS

A special three plate MCP Microchannel Plate Detector is also available for detecting small signals. The addition of the third MCP and suppression grid offers much higher gain, better signal/noise ratio, and a higher input/acceleration voltage for incoming ions.

Also fitted with an input grid, the Z-Gap MCP Microchannel Plate Detector provides incoming ions with a post acceleration voltage of nearly -5KV.

Z-Gap MCP Microchannel Plate Detectors are available with 18mm, 25mm or 40mm Microchannel Plates.

Note: Z-Gap detectors cannot be used to detect negative ions or electrons.

[Z-Gap MCP Detector Technical Note \(PDF\)](#)

(Click to enlarge)



40mm Z-Gap MCP Detector Mounted on AREF (RETOF)

18mm and 25mm MCP Microchannel Plate Detectors are available on 4½ and 6 inch conflat flanges.

40mm MCP Microchannel Plate Detectors are available on a 6 inch conflat flange.

Detectors are baked and shipped under vacuum.

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Description of Images and Product Information Downloads:



18mm Dual and Z-Gap MCP Microchannel Plate Detectors:
18mm Dual Detector mounted on 4.5 inch conflat flange (left)
18mm Dual Detector mounted on 4.5 inch conflat flange shown with vacuum/shipping container (right)



18mm Dual Detector mounted on 6 inch conflat flange (left)
18mm Z-Gap Detector mounted on 6 inch conflat flange (right)
[18mm Dual MCP Detector Drawings / Product Info \(PDF\)](#)
[18mm Z-Gap MCP Detector Drawings / Product Info \(PDF\)](#)



25mm Dual and Z-Gap MCP Microchannel Plate Detectors:
 25mm Dual Detector mounted on 6 inch conflat flange (left)
 25mm Z-Gap Detector mounted on 6 inch conflat flange (right)
[25mm Dual MCP Detector Drawings / Product Info \(PDF\)](#)
[25mm Z-Gap MCP Detector Drawings / Product Info \(PDF\)](#)



40mm Dual and Z-Gap MCP Microchannel Plate Detectors:
 40mm Dual Detector mounted on 6 inch conflat flange (left)
 40mm Z-Gap Detector mounted on 6 inch conflat flange (right)



40mm Z-Gap Detector assembly mounted on AREF (RETOF) Offset Adaptor assembly (left)
 40mm replacement Dual MCP sub assembly for AREF (RETOF) on shipping container base flange (right)
[40mm Dual MCP Detector Drawings / Product Info \(PDF\)](#)
[40mm Z-Gap MCP Detector Drawings / Product Info \(PDF\)](#)



Divider Box and Short Cable Assembly for MCP Microchannel Plate Detectors:
 Divider circuit for Dual Detector (left)
 Divider circuit for Z-Gap Detector (right)
[Dual Divider Box Product Info \(PDF\)](#)
[Z-Gap Divider Box Product Info \(PDF\)](#)



High Voltage Dual Divider Box and Capacitive Coupling Circuit to Operate Detector for Negative Ion or Electron Detection:
 Signal capacitive coupling circuit (left)
 Divider/Capacitive coupling circuit combination (right)
[H.V. Dual Divider Box / Capacitive Couple Box for Negative Ions Product Info \(PDF\)](#)
[H.V. Dual Divider Box / Capacitive Couple Box for Electrons Product Info \(PDF\)](#)

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[MCP Microchannel Plate Detector Price List](#)

User Manuals:

[User Manual for C-2501/25Z 25mm \(Z-Gap\) MCP Detector for ITAR Ion Trap Reflectron \(PDF\)](#) Filesize: approx. 5.6 MB.

Click on link to open

[C-701 18mm Dual Microchannel Plate Detector Manual \(PDF\)](#) Filesize: approx. 2.6 MB. *Click on link to open*

To download, right click on link and "save target as".

Manuals include specifications, operation, and maintenance procedures.



Microchannel plates are available as replacement parts for Jordan TOF Products detectors only.

If you wish to purchase channel plates for any other purpose, you must go to one of the many manufacturers.

All plates are detection (non imaging) grade and have a 40:1 L/D ratio.

MCP specifications are as follows:

Active Diameter:	Actual Diameter:	Active Dia / Ctr.to Ctr. Spacing / Channel Dia / Bias Angle:	Thickness
18mm	25mm	18/12/10/5	0.5mm
25mm	32mm	25/12/10/12	0.5mm
40mm	50mm	40/32/25/8	1.0mm

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