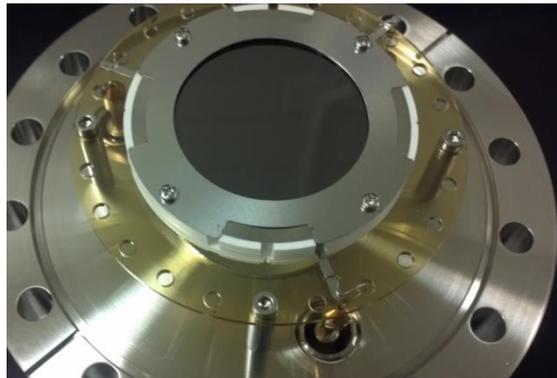


MCP-Detector CF-Flange Assembly

Preparation & Features

GIDS-GmbH offers open MCP detectors with metal anode for different applications in counting mode. It is possible to count electrons, positrons, protons, heavy ions, x-rays, VUV- and UV-radiation and measure the TOF parameters. Due to the assembly in Ultra-High-Vacuum flanges (CF-Flange) it is possible to integrate the system in any analytic instrument which is based on the CF standard. On request it is also possible to integrate the systems on other flange standards like ISO-K, ASA or custom specific ones. The flanges are equipped with 3 integrated vacuum SHV feedthroughs to supply the high voltage to the MCP detector. The feedthroughs for MCP-in and MCP-out are of the type SHV5 and the one for the Anode is of the type SHV10. The connectors needed on the non-vacuum side are included in the systems.

In general the MCP detectors are available in two versions. A narrow version with minimum diameter of the assembly and a wide version with stable ground plate (yellow, as shown below) if some space is available on the sides of the vacuum chamber.



APPLICATIONS

- Particle detection in analytical Systems counting mode
 - Mass Spectrometer
 - TOF-Mass Spectrometer
- Cosmic Rays
 - Detection of Plasma ions
 - Detection UV-,VUV-light and X-rays
- Elementary Particle Physics
 - Detection of Ions, Electrons, Positrons, High energy particles and X-rays

FEATURES

- standard sizes
- attractive prices
- high efficiency
- sensitive to electrons, ions, VUV- and UV-light, X-rays and γ -rays
- fast time response
- immunity to magnetic fields
- demountable
- bake-out up to 200°C possible
- single, double and triple MCP setups available

Standard CF-Flanges	CF40 - 2 3/4"	CF63 - 4 1/2"	CF100 - 6"	CF160 - 8"	CF200 - 10"
MCP-09-M	W / N	W / N	W / N	W / N	W / N
MCP-12-M	N	W / N	W / N	W / N	W / N
MCP-14-M	N	W / N	W / N	W / N	W / N
MCP-18-M	-	N	W / N	W / N	W / N
MCP-25-M	-	N	W / N	W / N	W / N
MCP-45-M	-	-	W / N	W / N	W / N
MCP-77-M	-	-	-	W / N	W / N
W - Wide Version					
N - Narrow Version					

Nomenclature

The detector type **MCP-09-M** is an open MCP Detector with 9 mm active diameter and metal anode. This detector could be mounted in a **CF40** flange in the **N** narrow mount version. The part number is **MCP-09-MN-CF40**. Assembly in a smaller CF-flange is not possible. The assembly in a bigger CF-flange in wide version is **MCP-09-MW-CF100**.

To specify the open MCP-detector to be integrated into the flange the number of MCP's **X** (1,2 or 3) and the aspect ratio **XX** **40** (40:1) or **60** (60:1) is needed in addition **MCP-09-X-XX-MN-CF100**. Please check our information [MCP-Detector-Types.pdf](#) or request it by e-mail, contact form or give us a call.

High Voltages

The recommended MCPout - MCPin voltages are for 40:1 (60:1) MCPs as follows

- Single MCP 0,9 kV (1,1 kV)
- Double MCP 1,8 kV (2,2 kV)
- Triple MCP 2,7 kV (3,3 kV)

The recommended Anode voltage is

- Anode-MCPout 0,5 kV.
for single, double and triple MCP setups.

How to get a quote

Send an e-mail with your contact data, the part number and additional specific details to info@gids-gmbh.com or call +49 (0)621-820394-34 or send a fax to +49 (0)621-820394-33.

Precaution

Handle the MCP setup or the bare MCP under clean room conditions because dust and humidity may affect the MCP performance.

Avoid too touch the MCP or the assembly with bare hands. Use powder free latex or vinyl gloves.

MCP's or MCP setups should be kept under vacuum conditions or in a dry nitrogen atmosphere if a long time storage is needed.

The MCP should be operated under vacuum conditions below 1×10^{-6} Torr ($1,3 \times 10^{-4}$ Pa).

In case of first operation or after a long term storage degas the MCP's for some hours without Voltage supply. Switch on HV only under vacuum conditions below 1×10^{-6} Torr see [MCP-Detector-Handling.pdf](#).

Custom specific MCP detector assemblies

- with metal anode or Phosphor screen
- CsI coating of input MCP possible
- reach best time resolution for your application
- reach best efficiency for your application
- fit into your mechanical setup

The effort to produce a custom specific MCP detector is much higher. Be aware that the price for such an individual MCP Detector is higher than the price for standard ones.