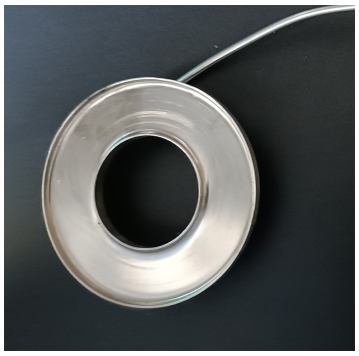

Product Code: MEM-042

Membrane

The Membrane Diamond Anvil Cell (MDAC) is a variant of the DAC in which the mechanical force compressing the diamonds is not applied via mechanical screws, but through gas pressure. The "membrane" is actually a flexible metal diaphragm (often made of special steel) integrated into the cell structure. The force is generated by inflating the camera behind this diaphragm with a high-pressure gas, typically helium. The pressurized gas (helium) uniformly deforms the metal membrane, which pushes one of the two diamond anvils against the other through a flange, compressing the intervening sample. This method allows for extremely fine and remote pressure control (very useful in complex experiments such as cryogenics or synchrotrons) by adjusting the helium gas pressure with a pressure regulation system. The diaphragm is typically made of high-strength stainless steel or maraging steel (such as Vascomax C300/350), materials chosen for their strength, fatigue resistance, and ability to withstand the high pressures required to drive the anvil.

TECHNICAL DATA

DIMENSION	Diameter 42 mm
REGULATION RANGE	5-200 bar
MATERIAL	AISI 304
CAPILLARY	1/16"

HIGHLIGHT

- Remote control
- High pressure into the camera sample