

# 水銀測孔儀

## Mercury Porosimeter

### 儀器設備說明：

儀器價格：2,000,000 元

儀器購置年月：2002 年 8 月

廠牌及型號：micromeritics AutoPore® IV 9520

**重要規格：**使用水銀注入分析粉末或塊狀固體的孔尺寸分佈( 3 nm to 360  $\mu\text{m}$  ) 。

**儀器性能：**利用水銀高表面張力與壓入孔隙所需壓力關係計算。

報告內容:總孔體積、總孔面積、樣品 bulk/apparent 密度、孔隙度與孔徑分佈圖。

### Low Pressure

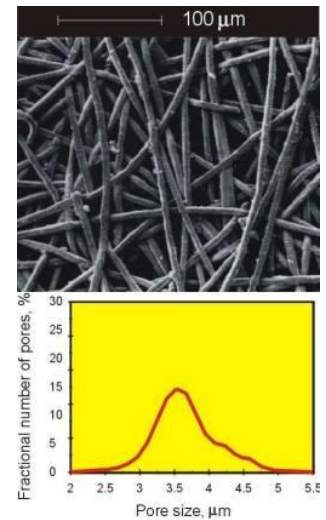
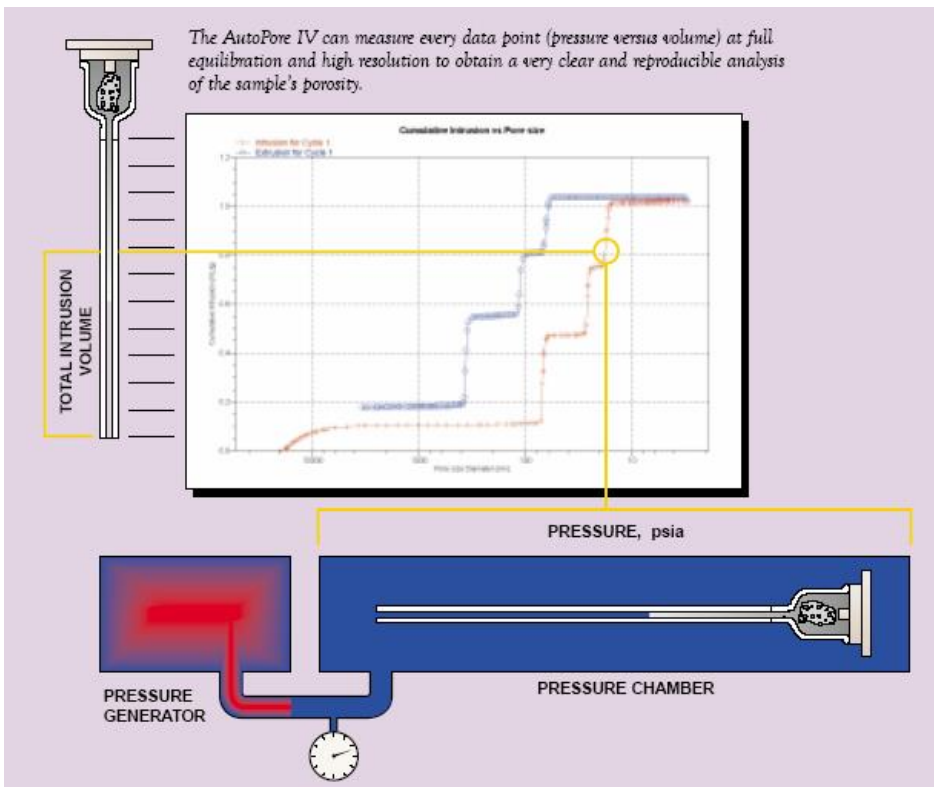
Measurement: 0.1 to 50 psia (345 kPa)

Pore Diameter: 360 to 3.6  $\mu\text{m}$

### High Pressure

Measurement: Atmospheric to 60,000 psia(414 MPa)

Pore Diameter: 6 to 0.003  $\mu\text{m}$



機台圖片：



機台位置： 台灣大學 化學工程學系 粉粒體實驗室 連絡電話 (02) 3366-3010

數據範例：

#### Summary Report

Penetrometer parameters			
Penetrometer:	08-0967, 5 Bulb, 0.392 Stem, powder		
Pen. Constant:	11.007 $\mu\text{L}/\text{pF}$	Pen. Weight:	58.8110 g
Stem Volume:	0.3920 mL	Max. Head Pressure:	4.4500 psia
Pen. Volume:	5.3437 mL	Assembly Weight:	128.7080 g
Hg Parameters			
Adv. Contact Angle:	130.000 degrees	Rec. Contact Angle:	130.000 degrees
Hg Surface Tension:	485.000 dynes/cm	Hg Density:	13.5335 g/mL
User Parameters			
Param 1:	0.000	Param 2:	0.000
		Param 3:	0.000
Low Pressure:			
Evacuation Pressure:			50 $\mu\text{mHg}$
Evacuation Time:			5 mins
Mercury Filling Pressure:			0.45 psia
Equilibration Time:			15 secs
High Pressure:			
Equilibration Time:			15 secs

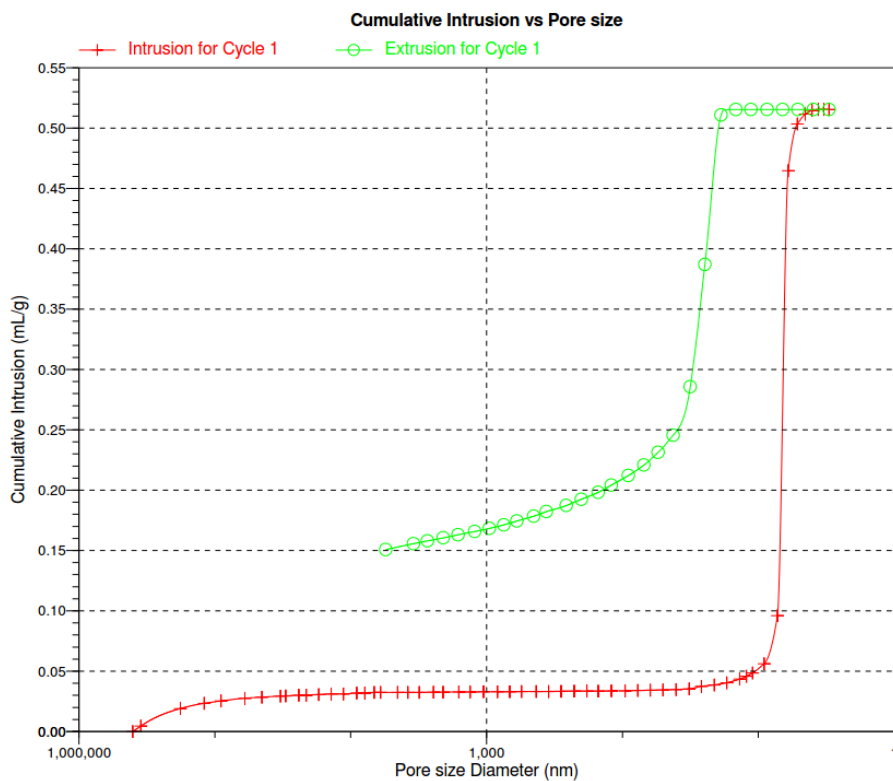
Blank Correction Sample: C:\9500\DATA\2013\001-872.SMP  
Blank Correction ID: 08-0967 Blank&calibration

(From Pressure 0.10 to 60000.00 psia)

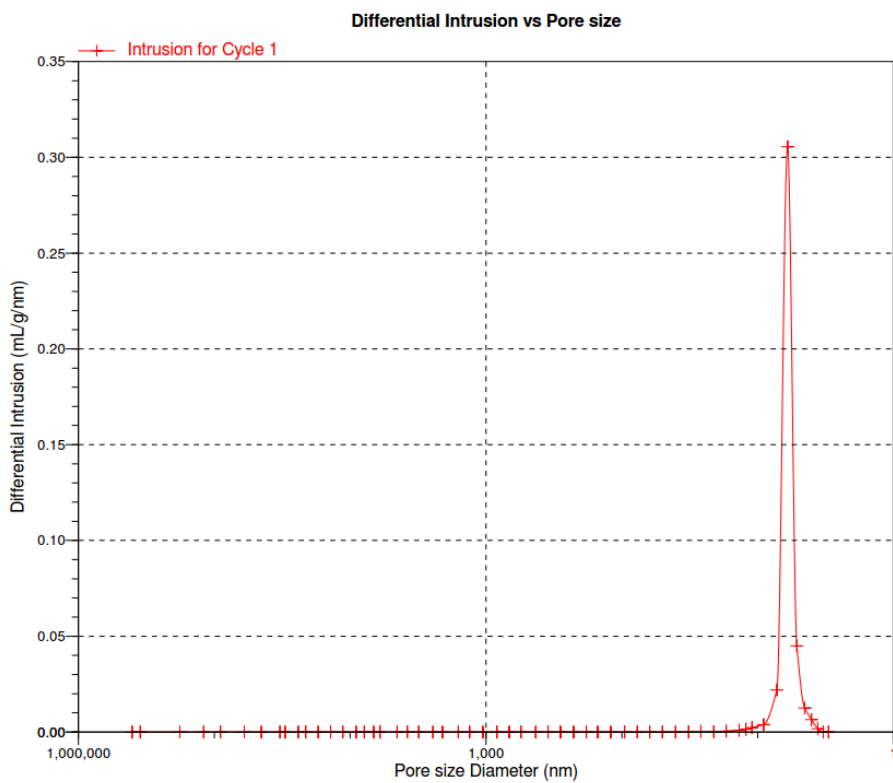
#### Intrusion Data Summary

Total Intrusion Volume =	0.5155 mL/g
Total Pore Area =	286.517 $\text{m}^2/\text{g}$
Median Pore Diameter (Volume) =	6.5 nm
Median Pore Diameter (Area) =	6.7 nm
Average Pore Diameter (4V/A) =	7.2 nm
Bulk Density at 0.45 psia =	1.2109 g/mL
Apparent (skeletal) Density =	3.2221 g/mL
Porosity =	62.4186 %
Stem Volume Used =	32 %

圖一、數值結果



圖二、樣品注入與脫去圖



圖三、樣品注入量對孔徑微分作圖