Dah Young Vacuum Technical Co., Ltd. | BATCH METALLIZER

DMC
WIDE APPLICATION IN OPTICAL THIN FILM

產業概況 OPTICAL INDUSTRY OVERVIEW

光學鍍膜產品應用相當廣泛，從一般日常用品到高科技產品均息息相關，大永真空科技集團秉持一貫高品質技術，推出新一代DMC光學多層膜鍍膜機，適用於各類鏡片、光學鏡頭、濾光片、防指紋、防污等光學多層膜產品應用。

傳統光學監控系統，依使用方法之不同具有特定缺點：錯誤補償能力不佳、停鍍點不明確、只能監控四分之一光學厚度膜層等；此外，由於無法量測即時折射率，僅能假設折射率為定值做設計，造成鍍製之膜厚雖完全符合原設計，但光學性質卻與原設計不符。

為此，大永真空導入最新導納式光學監控系統，整合數種傳統光學方法優勢，停鍍點判斷簡單明確、極佳之錯誤補償能力，並可從廣波域光譜中得知即時折射率，在製程中自動且即時對設計做修正，大幅提高薄膜製程之良率，並生產出高規格要求之光學薄膜。

Optical coating products are widely used from daily items to high technical products. DAH YOUNG continues to develop consistent high quality new model – DMC (Multi-Layer Vacuum Coater) which is suitable for eyeglasses, optical lens, filters, anti-reflective coating, anti-smudge and other optical applications.

The traditional optical monitor systems have certain disadvantages depend on the method which has been chosen. For example, poor error compensation capability, uncertain cutting point, only use for quarter wave optical thickness film design, etc. Besides, traditional optical monitor methods assume the refractive index to be a constant, due to the refractive index can't be measured in real time. It leads to coating thickness entirely fit original design, but the optical characteristic won't be matched to the original design. Therefore, DAH YOUNG introduced the latest optical admittance monitor system. It combined advantages of several different kinds of traditional optical monitor methods, clearly cut point, great error compensation capability. Otherwise, the real time refractive indices can be determined from broadband spectrum, and the file design can be automatically revised in real time during the process. It will greatly raise the yield rate of thin film process, and realize the request of optical thin film with high specification.

設備特色 KEY FEATURES

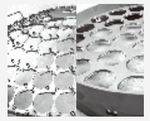
+ 全自動化蒸鍍控制系統
+ 採用穩定長效型離子源，保養及換料簡易
+ 可依基材搭配行星式公自轉或中心式公轉設計
+ 可搭配雙電子槍及多坩鍋系統，實現光學多層薄膜製程
+ 導納式光學監控系統，有助產品良率提升
+ 表面性能改質，可達防污、疏水及耐磨效果

+ Auto-deposition control system for fully automated process
+ Stable long-lasting Ion Source with simple maintenance and easy material change
+ Substrate can apply to either planetary rotation or center-driving dome
+ Multi-layer process can be achieve by 2 EB guns and multi-point crucibles
+ Optical admittance monitor system is suitable to gain higher yield rate
+ Clean and activity substrate surface to perform anti-smudge, hydrophobic and abrasion resistant function

ISOQAR QUALITY ASSURED ISO 9001 | UKAS QUALITY MANAGEMENT 026

關鍵組件 KEY COMPONENTS


E-Bean Gun


Dome / Planetary Rotation


Micro Heater


Pumping System


Measurement System


Polycold

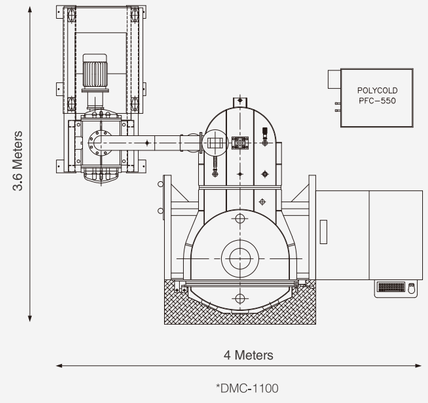
Ion Source


Patent : US 8143590 B2

- 高效穩定，可連續使用長達10小時以上
- 適用Φ1300mm~Φ2500mm設備
- 功率輸出達3KW以上
- 無柵極、鎢絲
- 間接冷卻，不需使用純水
- 維修保養容易，故障率低

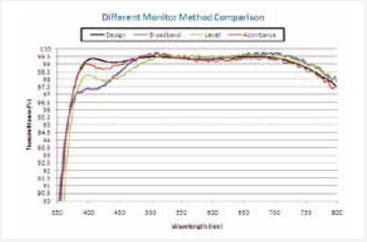
- Stable performance with continue use up to 10 hours
- Suitable for Φ1300mm to Φ2500mm chamber size
- Output Power can reach above 3KW
- No grid and filament required
- Indirect cooling, no pure water required
- Easy Maintenance, low repair rate

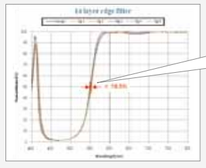
配置圖 LAYOUT

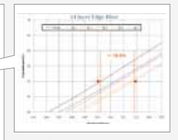


*DMC-1100

Admittance Monitor







*Design T50% at 550nm
(14 layers without changing monitor plate)

主要規格 SPECIFICATION

Model No.	DMC-800	DMC-1100	DMC-1350	DMC-1500
Diameter of Chamber(mm)	800	1100	1350	1500
Height of Chamber(mm)	1000	1250	1500	1700
Substrate Dome Size	700	950	1150	1350
Ultimate Pressure	10^{-7} Torr			
Pumping Speed	Atm. to 5x10^{-5} Torr within 15 min			
Substrate Heater	Max. 350°C			
Substrate Rotate Jigs	Spindle Dome/Planetary Rotation			
Evaporation Method	E-Beam Gun/Resistance Heating System			
Thickness Control	Crystal Monitor/Admittance Monitor			
Operation Method	Automatic/Manual			