



日昇半導體科技有限公司

Sun Pride Semi-conductor Technology Company Ltd.

Membrane Cartridge

- For Quality Plating





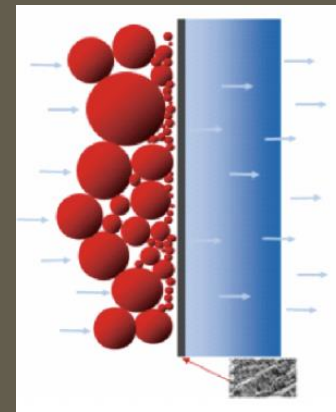
- A) Specification
- - Standard Length 10” (can be increased to 20/30” with adaptor)
- - Core size 0.5um
- - Material PE





- B) Operation
- - For precision filtration of Copper Plating Solution
- - For precision filtration of Nickel Plating Solution

- C) Advantages
- - Ultrafiltration provide better quality plating chemical. Filtration efficiency increased at least 5 times.
- - Surface interception of the membrane filter cartridge can completely filter out suspended impurities within bath solution





- C) Advantages
- - Washable (can be operated with backwash system)
- - Long operation lifetime (~ 2 to 3 years)
- - Can directly replaced to existing filter chamber
- - Reduce dangerous solid waste cost



- D) Comparison With Traditional Filter Cartridge

	Traditional Filter Cartridge	Membrane Filter
Filtration Efficiency	The first filtration of powered activated carbon is only 2 % of retention rate	The first filtration of powered activated carbon is up to 99 % of retention rate. Improve the quality of plating
Filtration Performance	Circulate 20 turnover can only filter 70% of the suspended impurities in bath solution	Circulate one turnover can filter 99% of suspended impurities in bath solution.
Suspended Particle Avg Size	3.118 um	2.637um



- D) Comparison With Traditional Filter Cartridge

	Traditional Filter Cartridge	Membrane Filter
Activated Carbon Treatment	Tiny carbon powder is likely to enter into the bath solution.	99% filtering efficiency can effectively prevent tiny carbon powder enter into the bath solution.
Removal of Organic Decomposition	Can not remove directly	Direct removal of organic decomposition in the plating solution hence reduce production cost



- D) Comparison With Traditional Filter Cartridge

	Traditional Filter Cartridge	Membrane Filter
Consumable cost	Need to replace regularly (average 7 days)	It can be backwashed and reuse. Life time of cartridge is around 2~3 years
Solid Waste Treatment	Require periodic disposal of waste cotton core (treated as solid waste)	Disposal period is greatly reduced



- E) Backwash System
- 1. Manual Backwash
- - The membrane cartridge need to be backwashed around two month of operation (12 hours/day)
- - The cartridges can be taken out to a special backwash filter for backwash cleaning.
- - The membrane cartridge is cleaned by water and compressed air at the backwash filter.

- E) Backwash System
- 2. Semi-Manual Backwash
- - The existing filter chamber needed to be modified to add the backwash piping and alarm system.
- - When the pressure of the membrane cartridge is high, it need to be backwashed. An alarm signal will be sounded to alert the operator to prepare the backwash.





- E) Backwash System
- 2. Semi-Manual Backwash
- - A special backwash equipment is used to do the backwashing process.
- - This backwash equipment can be connected to individual filter for backwashing.
- - The membrane cartridges are not required to remove from the filter chamber. Chemical and labour cost will be saved.



- E) Backwash System
- 3. Backwash Efficiency
 - a. Pressure Difference

Before



Backwash 1 time



Back wash 2 times



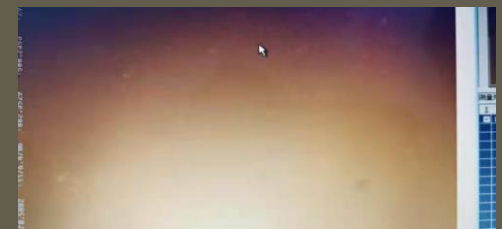
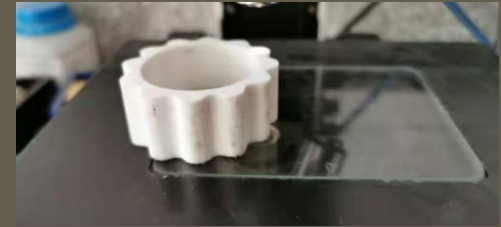
- # Backwash 1 time 10 mins. Backwash 2 times 20 mins

- E) Backwash System
- 3. Backwash Efficiency
- b. Surface & Section Inspection.

before

backwash 1 time

backwash 2 times





- F) Specification

	Filter Unit	Backwash Unit
Model No	SP-MF-18-20	SP-BW-M-0.75
Flow Rate	15000L/hr	
Filter Media	36 x 10" 0.5 um Membrane Cartridge	20um Bag Filter
Power Requirement	2.5KW 380V 3Ph 50Hz	0.75KW 380V 3Ph 50Hz
Pipe Connection	In 1-1/2" Out 2"	In 3/4" Out 3/4"
Size	W800mm x L700mm x H1550mm	W1000mm x L700mm x H1630mm





~ End , Thank You ~