

Components for Solar Battery Manufacturing Process

Glass floatation system

Corresponding for transfer, process and inspection for glass board by precise floatation system

GFM series products

Series variation	Applications	*3 Floatation volume [μm]	*1 Air consumption L/min. (abs) (at 0.1MPa)				
			0	5	10	15	20
GFM-A	Positioning	over 10 [μm]	3	10			
GFM-RF Series	Transfer	over 250 [μm]			15	20	
GFM-RS Series	Loader and unloader	over 150 [μm]			15	20	
GFM-P	Processes	30 [μm]	2	3			

*1 This for reference flow.
*2 Number changes by positive pressure/negative pressure flow combination.
*3 glass thickness: For 0.7mm.

Direct drive actuator

Precise/high-function
Absolute type high-precision DD motor which is available to set up any indexing angle, any rotation moving and combination

Applications: Turntable

High Flexibility & Intelligence

Function which is kind to environment
Available to develop environment-friendly equipment which are energy-saving, save space, oilless and reuse so on

Network
Corresponding for Network by serial transmission system

Related products

- Lifter cylinder which developed by Absodex manufacturer CKD
- Lifter cylinder LFC-KL Series



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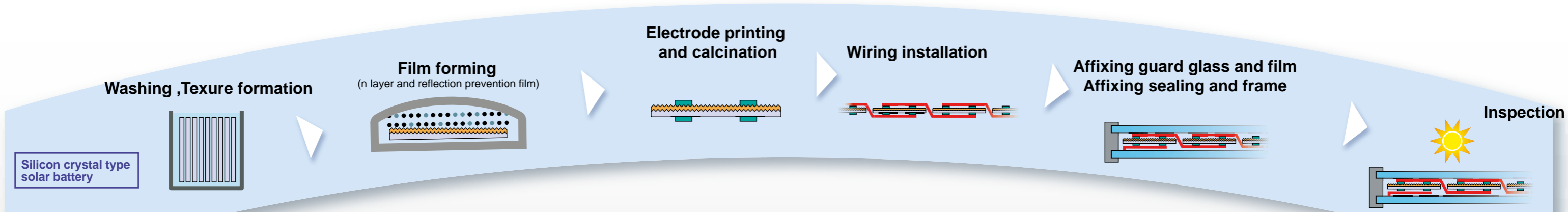
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CKD product line-up for solar battery manufacturing process

Components meet each process needs



Reliable for in compact chemical liquids
Fluorine resin chemical liquid valve
AMD/MMD Series

The water-hammer which reduction occurs depending on the valve open and close.
Water hammerless valve
AMD L Series

Safe by large bore size, large flow rate and high pressure compatible.
High pressure chemical liquid valve
AMD/MMD H Series

Fusion of Chemical valve and General purpose valve.
Clean cylinder valve
LAD Series

Air and for clean purge N2 supply by oil-prohibited specifications.
Oil-prohibition regulator
RC2000 Series

Body material can be selected from Aluminum or SUS by application
Vacuum control valve
AVB/MVB Series

CKD known as the pioneer, presents high-reliability
Valve for process gas
AGD/MGD/OGD Series

It combine high responsibility and reliability
Regulator for process gas
PGM Series

Leakage amount of a vacuum sealing contact $1.3 \times 10^{-8} \text{Pa} \cdot \text{m}^3/\text{s}$ He or less is achieved.
Cylinder for vacuum

Be suitable for actuator around chamber
Many model available such as guided and space saving
Heat resistance cylinder

Suitable for operation of acuator around chamber. Wide variation such as Guide type and space-saving and so on.
Solenoid valve for pneumatic
MN3E/4E Series

For damage-free handling

- Full surface suction by using porous resin without any damage
Precise suction plate
PVP Series (white)
PVP-B Series (black)
- Pressure constant in stroke length
Amazing magnetic spring
Magnetic spring buffer
FBU2 Series
- Wide range application for from large modular component to fine parts
Components for vacuum Series

For high precision positioning

- Firm positioning high-precision and high-rigidty
Linear guided cylinder
LCG Series
- With both downsized caused by integrated of linear guide, and precise/high rigidity
Linear slide cylinder
LCM Series
- Suitable for downsizing of tranferring system. Space saving mounting style and cylinder switch is available.
Small direct mounting cylinder
MDV Series

For automatic control with flow and pressure

- For pressure control as high-precision and high-responsibility, like tension control of film
Digital electro-pneumatic regulator
EVD Series
- Suitable for remote control of air flow to supply non-contact transferring chuck.
Flow controller
FCM Series

For visual management

- Flow rate is visible by number of needle turn.
Needle valve
DVL Series
- Suitable for management of energy of equipment and factory such as purge air and cooling water.
Flow sensor (air/water)
PFD/WFK Series
- "Current figures" and " set-point " monitor ring with dual digital display at the same time
Pneumatic pressure switch
PPX Series

For creation of a clean environment

- Clean air compact supply purge and air blow dry
Clean air unit
CAU30 Series
- Purge air precise filtration in compact light in weight, large flow rate
Inline clean filter
FCS Series
- No bronze specification make it possible to supply cleaner air.
Speed control valve and joint
SC3P/ZSP Series

