

protecting the environment • protecting your equipment • filtration • separation • silencing

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## Complete Vacuum Filtration Solutions

*For Photovoltaic Manufacturing Processes*



**SOLBERG**<sup>®</sup>

Filtration - Separation

# Protecting Vacuum Pumps and Systems

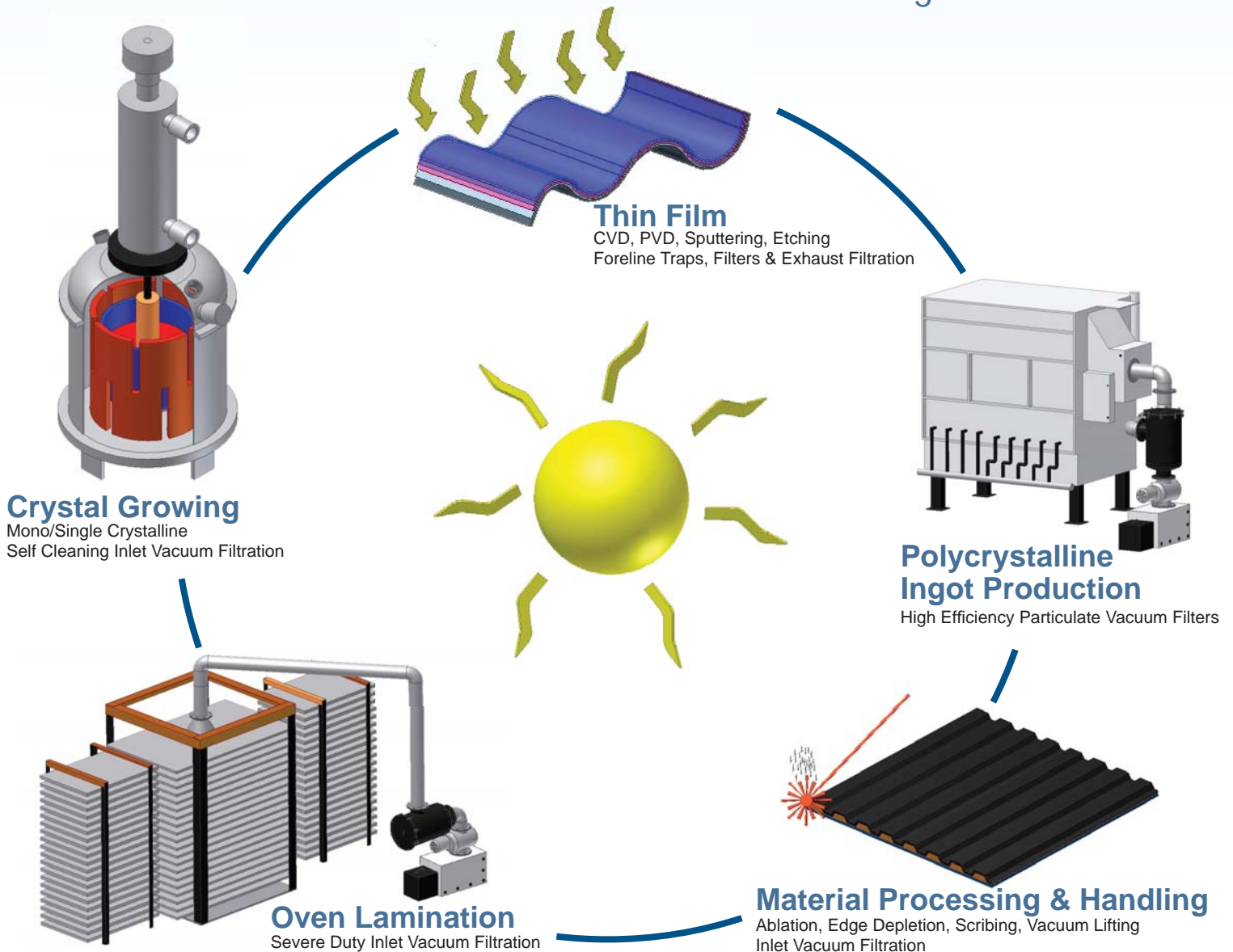
## Application Specific Solutions

Solberg is a worldwide leader in filtration and separation technology. We design, engineer and manufacture inlet and discharge filtration solutions for the complete assortment of vacuum equipment found in photovoltaic manufacturing processes. Inherent in these processes are a range of filtration challenges from capturing abrasive dust particles to managing pyrophoric or hazardous materials. We are committed to meeting the challenges of protecting mission critical equipment while safe guarding the surrounding environment.

## Solutions for

Adixen-Alcatel, Busch, Ebara, Edwards, Oerlikon-Leybold, Tuthill, Ulvac, Varian and more.

## Filtration Solutions for Photovoltaic Manufacturing Processes



# High Efficiency Vacuum Filters and Traps

## Purpose & Benefits

Removing harmful particles from the process flow stream is critical to longevity and reliability for vacuum equipment used during Polycrystalline Ingot Production, Thin-Film Manufacturing, and Solar Cell Lamination. Abrasive particles quickly destroy pumps resulting in down time and costly rebuilds. Preventing back streaming during high vacuum operation is critical to protecting a manufacturing process from contamination.

Solberg's comprehensive line of inlet vacuum filtration products and traps are designed to work with both wet and dry vacuum pump technologies. A variety of media options, connection styles and materials of construction are available to protect both pump and process.



## Self-Cleaning Filtration

### Purpose & Benefits

In Mono/Single crystalline PV manufacturing applications, dust and particles can overwhelm conventional inlet vacuum filters. Solberg Manufacturing has adapted its proven Reverse Pulse Technology into a Solar Market Specific solution, our RX Series.

The RX Series extends maintenance intervals and improves process productivity by rapidly introducing atmospheric air or inert gas into the system. This process purges dust from loaded filters and allows the particles to settle in the bottom chamber for easy disposal. Depending on application conditions, either our PTFE quick release media or a Stainless Steel Dutch Twill element are available to enable optimal performance for the vacuum pump via maximized conductance and increased pump life.



### Design Features and Specifications

- PTFE media achieves 99.97% @ 0.3 micron
- Dutch Twill media achieves 99% @ 5 micron
- Carbon and Stainless Steel construction options
- Application specific filtration and coating solutions
- Helium leak testing standard for deep vacuum applications
- Back streaming protection available



# Oil Mist Capture and Recovery Filters

## Purpose & Benefits

Solberg's Single and Multi-Stage Oil Mist Eliminators are designed to eliminate visible oil mist from the discharge of oil lubricated vacuum pumps. These eliminators capture and coalesce oily aerosol mist and incorporate a draining mechanism to recycle oil back to the pump. In addition to reducing operating costs, mist eliminators mitigate potential health, safety and environmental hazards associated with discharging the mist directly into the surrounding environment.

## Design Features and Specifications

- Efficiencies to 99.97% @ 0.3 micron
- Two-Stage systems available for extreme duty applications
- Application specific solutions offered



**Edwards Vacuum Pump: Glass Coating Application**  
Two-Stage Straight Through Discharge Oil Mist Eliminator

## Filtration Solutions for Your Specific Applications



**Reverse Pulse Vacuum Filter**  
See-Through Housing with Self-Cleaning Reverse Pulse Technology



**Heavy Duty Inlet Vacuum Filter**  
Industrial Grade Filter available in Carbon Steel and Stainless Steel



**Single-Stage Oil Mist Eliminator**  
Heavy Duty Discharge Eliminator  
Captures Oil Mist, Vapor & Smoke



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