



Semiconductor Application Worksheet

Customer Name:

Classification:

Contact:

Equipment

Puller Manufacturer:

Number of Pullers:

Vacuum Pump brand:

Oil Sealed or Dry:

Booster brand:

Oil Filtration system included:

Auxiliary Pump used?:

Exhaust Filtration System included:

Filtration System brand currently used:

Number of filter units per VP:

Canister dimensions:

Element Type (paper, polyester, steel mesh, etc.):

Elements per canister:

Surface area:

Element dimensions: OD:

ID:

Element height:

of Pleats:

Size of holding area:

Inlet & outlet port sizes:

Are filter elements mounted on top or at bottom of canister?

Process Data

Ingot size(s) (Solar/Semi-con only):

Typical cycle time(s):



Semiconductor Application Worksheet

Vacuum level required during each cycle: Base pressure: Typical: Run:

How is the vacuum regulated during each cycle (valves, etc.)?

Time required to remove ingot & set up for next run:

Time and # of person(s) required to service filter unit:

Is element replaced, cleaned and re-used? If applicable, how many cleanings before replacement?

Is the entire line cleaned with cleaning device (PIG)? How often?

Waste

How is reacted SiO_2/SiOX removed from filter system?

How is material disposed?

Is the waste material regulated in any way or is garbage OK?

How much $\text{SiO}/\text{SiO}_2/\text{SiOX}$ collected per cycle:

Operating Costs

Typical labor rate per hour per person:

Cost of replacement element(s):

How many elements used per month or year?

Are elements cleaned in-house or by outside service? If outside service, what is cost?

How often are pumps re-built?

On an annual basis, what is the approximate operating expense related to the vacuum system?