

Super Steam Vac Results

Pulp

The Super Steam Vac is the combination of IBS' expertise in super high vacuum applications integrated with Transphase's patented steambox technology for advanced Fourdrinier dewatering. IBS-PPG has installed several Super Steam Vac systems on Fourdrinier machines producing soft and hardwood market pulp with excellent results.

The SSV consisted of a dual or triple chamber Super High Vac flat suction box equipped with an IBS- Si-Nitride cover. The open area of the cover can be adjusted to allow fine tuning of the airflow through the cover. The Transphase Z-Box steam box uses its patented design to provide uniform low velocity steam to ensure no sheet disturbance and minimum steam spillage. To guarantee easy cleaning the Z-Box profiler features our innovative swivel retraction which pivots the box up to 60°. In addition, IBS supplies the interface cabinet to control the steam actuators. It features Festo CPX modules which can detect any air leakage or non-movement of the profiling actuators.



SSV in operation on a pulp machine without any visible steam spillage

Installation A

Machine configuration:

- Furnish: softwood
- Base weight: 938gsm - 190 #/1000ft²
- Sheet width: 4420mm - 174inches
- Speed: 128mpm - 420fpm
- Vacuum configuration: Duovac @ 45/70 kPa – 13.2/20.6 inHg

Results:

- Increased solids off couch by 2.5%
- Increased solids into dryer by 2.3%
- Up to 8% reduction in dryer steam use
- 10% speed increase
- 50% less steam consumption than existing steam box
- Sheet temperature into dryer increased from 47°C to 63°C - 116°F to 145°F

Installation B

Machine configuration:

- Furnish: softwood
- Base weight: 760 to 820gsm – 155 to 167 #/1000ft²
- Sheet width: 3400mm - 134inches
- Speed: 61mpm - 200fpm
- Vacuum configuration: Duovac @ 45/78 kPa – 13.2/23 inHg

Results:

- 5% production increase
- Increased pre couch solids by 4%
- 20% less steam consumption than existing steam box

Installation C

Machine configuration:

- Furnish: softwood / hardwood
- Base weight: 861gsm - 176 #/1000ft²
- Sheet width: 6100mm - 240inches
- Speed: 125mpm - 410fpm
- Vacuum configuration: Trivac @ 30.8/40.6/76.2 kPa – 9.1/12/22.5 inHg

Results:

- Up to 14% speed increase
- Increased solids off couch by 3%

Installation D

Machine configuration:

- Furnish: softwood
- Base weight: 867gsm - 177 #/1000ft²
- Sheet width: 7214mm - 284inches
- Speed: 125mpm - 500fpm
- Vacuum configuration: Trivac @ 33/54/71 kPa - 10/16/21 inHg

Results:

- Up to 12% production increase
- Decreased couch vacuum from 74 to 44 kPa - 22 to 13 inHg
- Increased pre couch solids up to 6%

