CHOICES

• Collector

• Element

• Media
COLLECTOR TYPE

• Reverse Air
• Pulse Jet
• Shaker
ELEMENT DESIGN

• Bags
• Cartridges
• Pleated Bags
SHAKERS

• No Cartridges
• No Pleated Bags
FILTER BAGS

• Felt

• Woven

• Membrane
REVERSE AIR

- No Cartridges
- No Pleated Bags
FILTER BAGS

- Glass
- Woven
- Membrane
PULSE JET

• Bags
• Cartridges
• Pleated Bags
BAGS

- Felt
- Glass
- Woven
- Membrane
PLEATED ELEMENTS

• Wet Laid
• Spun Bond
• Membrane
DESIRED RESULTS

• Efficiency
• Efficiency
• Efficiency
EMISSION STANDARDS

PM 2.5 IS
THE STANDARD.
VERIFICATION

EPA’S ETV TESTING AND POSTING
KEY FACTORS

• Temperature
• Chemistry
<table>
<thead>
<tr>
<th>Fiber</th>
<th>Available in</th>
<th>Tensile Strength</th>
<th>Abrasion Resistance</th>
<th>Chemical Acids</th>
<th>Resistance Alkalies</th>
<th>Support Combustion</th>
<th>Temperature **</th>
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</thead>
<tbody>
<tr>
<td>Aramid</td>
<td>Woven / Felted</td>
<td>Very Good</td>
<td>Excellent</td>
<td>Fair</td>
<td>Good</td>
<td>No</td>
<td>375°F</td>
</tr>
<tr>
<td>Cotton</td>
<td>Woven</td>
<td>Good</td>
<td>Good</td>
<td>Poor</td>
<td>Good</td>
<td>Yes</td>
<td>180°F</td>
</tr>
<tr>
<td>Fiberglass</td>
<td>Woven / Felted</td>
<td>Excellent</td>
<td>Fair</td>
<td>Good</td>
<td>Fair</td>
<td>No</td>
<td>400°F</td>
</tr>
<tr>
<td>Homopolymer</td>
<td>Woven / Felted</td>
<td>Good</td>
<td>Good</td>
<td>Very Good</td>
<td>Fair</td>
<td>Yes</td>
<td>260°F</td>
</tr>
<tr>
<td>Acrylic</td>
<td>Woven / Felted, Knit/Spun</td>
<td>Good</td>
<td>Good</td>
<td>Very Good</td>
<td>Fair</td>
<td>Yes</td>
<td>200°F</td>
</tr>
<tr>
<td>Nylon</td>
<td>Woven</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Poor</td>
<td>Excellent</td>
<td>Yes</td>
<td>200°F</td>
</tr>
<tr>
<td>P-84</td>
<td>Woven / Felted</td>
<td>Very Good</td>
<td>Excellent</td>
<td>Very Good</td>
<td>Fair</td>
<td>No</td>
<td>500°F</td>
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<tr>
<td>PPS</td>
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<td>Very Good</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Very Good</td>
<td>No</td>
<td>375°F</td>
</tr>
<tr>
<td>Polyester</td>
<td>Woven / Felted</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Fair</td>
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<td>Polypropylene</td>
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<td>Excellent</td>
<td>Excellent</td>
<td>Excellent</td>
<td>Yes</td>
<td>200°F</td>
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<tr>
<td>Teflon</td>
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<td>Average</td>
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<td>Excellent</td>
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<td>No</td>
<td>450°F</td>
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<tr>
<td>Wool</td>
<td>Woven / Felted</td>
<td>Poor</td>
<td>Fair</td>
<td>Good</td>
<td>Poor</td>
<td>No</td>
<td>200°F</td>
</tr>
</tbody>
</table>

*Maximum operating temperature. Temperature stability is adversely affected by moisture.*
CONTRIBUTING FACTORS

• Size
• Loading
• Moisture
• Abrasion
ATTAINMENT

COLLECTOR

OPERATION

PARAMETERS
OPTIMUM COLLECTOR OPERATIONS PARAMETERS

Outlined below are some basic collector operating parameters for pulse jet collectors using elements with Non-Woven Spun Bond (all finishes) or Conventional Felted Media:

- Pressure: 90 PSI – 100 PSI
- Frequency (off time): 20 Seconds*
- Duration (on time): Maximum 150 milliseconds
Glossary

- **Reservoir:** Requires an unrestricted air supply at least the diameter of the blowpipes and needs to be big enough for valve’s demand. Ideal conditions will leave the reservoir at 85% of the operating PSI after firing.

- **Cleaning Air:** Needs to be clean and dry, which could be accomplished with an air dryer. In-line traps/separators can catch a lot of problems in the air supply prior to getting to the collector.

- **Pulse Frequency:** Frequency should be adjusted to balance the collector's delta P and should be monitored frequently during the first seven days after start up. Pulsing frequency can never be any faster than the reservoir recovery to operating PSI.
Operating Conditions

● **Pulse Sequence:** Needs to be staggered to maximize the distance between the newly cleaned row and the next row to be pulsed.

● **Hopper:** Should not be used for storage. Evacuation equipment (rotary valves, screw conveyors, etc.) should be sized to unload hopper before accumulation occurs. Units with slide gates should be left open and equipped with drum adapters.
Conclusion

• These are general operating parameters. Some collectors operate successfully under much more marginal settings and some collectors fail under more conservative settings. These recommendations are good starting points, but every collector and application has unique operating conditions.
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