FumeJet® Exhaust Systems
Models FJC and FJI

- Pre-engineered, single source responsibility
- Lower cost, simplified installation

January 2019
Greenheck’s FumeJet® line of exhaust fans with integral stacks are designed to safely remove and disperse fumes and odors. FumeJet systems replace utility set fans with field supplied intake ducts and exhaust stacks to ensure a safe roof deck area and aid in preventing re-entrainment of contaminated air into air intake systems.

FJC – Performance up to 5,000 cfm (2,360 l/s) and 4.5 in. wg (1,120 Pa)

FJI – Performance up to 18,000 cfm (8,500 l/s) and 9 in. wg (2,240 Pa)

Value Added Advantages of Greenheck’s FumeJet System

<table>
<thead>
<tr>
<th></th>
<th>FumeJet</th>
<th>Field Built-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compact design</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Single source responsibility – Eliminating component misapplication, performance and fit-up issues due to field-fabricated or sourced components</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Designed to match application</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Known performance corrections for all system components</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Wind loading capacity designed and factory tested to withstand a force of 34 PSF (equivalent to 115 mph or 185 Km/h) without the need for guy wires</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>All FumeJet systems have a minimum of 7 ft. (2.1 m) exhaust discharge height. Optional 10 or 15 ft. (3 or 4.6 m) heights available</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Corrosion Resistant Coating – All steel components are electrostatically powder coated with corrosion resistant Permatector™ or Hi-Pro Polyester. Both protect against a wide spectrum of acids, alkalis and solvents</td>
<td>✔</td>
<td></td>
</tr>
</tbody>
</table>

Eliminate Inefficient, Complicated and Unsafe Field Built-up Installations

Field built systems can lead to complicated installations, unsafe exhaust locations, and even excess energy usage due to the creation of system effects. FumeJet pre-engineered exhaust systems include the necessary mounting accessories to simplify installation because equipment supports, isolators and curbs are designed specifically for the system. Additionally, all FumeJet performance data includes losses associated with inlet boxes, dampers, and stacks to prevent unexpected performance issues, drive changes, or motor change-outs during test and balance.
Fumes exhausted above working area for safe roof deck and over any MUA or air intakes to prevent reintrainment back into the building. Designed per ANSI Z9.2 standard for local exhaust systems, models FJC and FJI provide a compact footprint, complimentary accessories for quick and trouble free installation, and configurable mounting options to suit different building layouts.

Selection software uses project volume with selected FumeJet configuration to provide effective plume height values.

Commercial Facilities
- Smoke
- Hospital / clinic
- Sterilization
- Gun ranges
- Pharmacy

Industrial Facilities
- Food packaging
- Welding
- Paint systems
- Waste water / odor
- Indoor horticulture

Spark-Resistant Construction

**Spark B**
The fan wheel is constructed of a non-ferrous material (usually aluminum). A non-ferrous (aluminum) rub ring surrounds the fan shaft where it passes through the fan housing.

**Spark C**
The inlet cone is constructed of non-ferrous material (usually aluminum). A non-ferrous (aluminum) rub ring surrounds the fan shaft where it passes through the fan housing.

Protective Coating Options

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Bleach (1%)</th>
<th>Sulfuric Acid (10%)</th>
<th>HCl (10%)</th>
<th>MEK (0.1%)</th>
<th>Chlorine (0.1%)</th>
<th>NaOH (20%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permatector™</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>—</td>
</tr>
<tr>
<td>Hi-Pro Polyester</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>—</td>
</tr>
</tbody>
</table>

**RATING DESCRIPTIONS**
0 - No effect
1 - Slight change in gloss or color
2 - Surface etching, severe staining, but film integrity remains
3 - Significant pitting, cratering, swelling, or erosion with obvious surface deterioration
Greenheck’s FumeJet® systems are designed for quick installation and pre-engineered to eliminate component misapplication and fit-up issues. Build an application specific FumeJet by selecting from multiple stack, discharge and intake options.

**Fan Options**

- **FJC-300**
  - Belt-driven, arrangement 10, available in either bolted or welded construction. Compact footprint with motor and drives located under a common weatherhood.
  - Performance up to 5,000 cfm (2,360 l/s) and 4.5 in. wg (1120 Pa)

- **FJI**
  - Available in belt or direct drive, arrangement 10 or 4, AMCA class 0, I or II. Options for spark resistance, high temperature or corrosive exhausts.
  - Performance up to 18,000 cfm (8,500 l/s) and 9 in. wg (2,240 Pa)

**Stack Options**

- **Standard**
  - Integral stack to create a selectable 7 ft. or 10 ft. overall system discharge height.

- **Mega**
  - (available on FJI only)
  - Self-supported stack for up to 15 ft. overall discharge height, ideal for low flow applications requiring higher plume rise. Fan is completely isolated from stack.

**VFD Speed Control Option**

Available Variable Frequency Drive (VFD) is preprogrammed at the factory for job specific conditions allowing for seamless installation. VFD comes standard with a NEMA-3R enclosure and integral disconnect. Selectable with unit mounting bracket or as remote mounted.

Multiple control options are available including:
- Remote Speed Dial
- Temperature & Humidity
- Constant Pressure
- Constant CFM
- VOC Air Quality Sensor
**Discharge Options**

**Straight Stack**
Clean design with uniform straight discharge stack. Most economical discharge option.

**Fixed Nozzle**
Tapered nozzle discharge increases outlet velocity sending exhaust fumes higher above the roof deck area. Does not negatively impact fan performance.

**Adjustable Nozzle**
Allows the user to adjust the discharge area based on installed conditions. Four blade positions available.

**No Loss Stack**
A lower velocity stack with NO pressure drop that sheds rain water away from the fan housing.

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**Intake Options**

**Horizontal Connection**
Typically used with remote fan mounting locations and ducting run along the roof deck. Slip fit or flanged connection to fan inlet. Recommended installation with three wheel diameters of straight duct prior to inlet to prevent airflow system effects.

**Vertical Connection**
Curb Cap Inlet Box
Positions the exhaust fan over the roof penetration. Compact installation minimizes roof deck space and leakage from multiple roof penetrations. Duct support provided to install duct drops in roof curb. Optional backdraft damper prevents airflow back into the building when fan is not in operation.

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**Easy Installation**

FumeJet with restrained isolators and GESS equipment supports

Minimal on-site assembly required for FumeJet systems. Exploded views reflect shipping splits.

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### Housing & Impeller Specs

<table>
<thead>
<tr>
<th>Housing Type</th>
<th>FJC</th>
<th>FJI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impeller Type</td>
<td>Backward Inclined Centrifugal</td>
<td>Backward Inclined Centrifugal</td>
</tr>
<tr>
<td>Impeller Sizes</td>
<td>6-15 Inch</td>
<td>7-24 Inch</td>
</tr>
<tr>
<td>Finish Types</td>
<td>Galvanized, Coated Steel</td>
<td>Coated Steel</td>
</tr>
<tr>
<td>Spark Resistance</td>
<td>None, Spark B or C</td>
<td>None, Spark B or C</td>
</tr>
<tr>
<td>Construction Class</td>
<td>N/A</td>
<td>0, I, II</td>
</tr>
<tr>
<td>Housing Construction</td>
<td>Permalock™</td>
<td>Permalock™ or Welded</td>
</tr>
<tr>
<td>Drain</td>
<td>1 in. Drain Hole</td>
<td>1 in. Threaded Drain Connection</td>
</tr>
<tr>
<td>Coating (optional)</td>
<td>Permatector™ or Hi-Pro Polyester</td>
<td>Permatector™ or Hi-Pro Polyester</td>
</tr>
</tbody>
</table>

### Power Transmission Specs

<table>
<thead>
<tr>
<th>Motor Enclosure</th>
<th>ODP, TEFC</th>
<th>ODP, TEFC, EXP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrangements</td>
<td>Belt Drive (arrg. 10)</td>
<td>Belt (arrg. 10) or Direct Drive (arrg. 4)</td>
</tr>
<tr>
<td>Bearing Life (Hours)</td>
<td>L₁₀ 80,000</td>
<td>L₁₀ 80,000 or L₁₀ 200,000</td>
</tr>
<tr>
<td>Shaft Material</td>
<td>Turned &amp; Polished Steel</td>
<td>Turned &amp; Polished Steel</td>
</tr>
<tr>
<td>Shaft Bearings</td>
<td>Set screw</td>
<td>Concentric lock</td>
</tr>
</tbody>
</table>

### Discharge

<table>
<thead>
<tr>
<th>System Height</th>
<th>7 ft. (2.1 m) – Standard 10 ft. (3 m) – Extended</th>
<th>7 ft. (2.1 m) – Standard 10 ft. (3 m) – Extended, Mega 15 ft. (4.6 m) – Mega</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nozzle</td>
<td>Straight, Fixed, Adjustable, No Loss</td>
<td>Straight, Fixed, Adjustable, No Loss</td>
</tr>
</tbody>
</table>

### Performance Specs

<table>
<thead>
<tr>
<th>CFM Range (Min cfm)</th>
<th>200 cfm (95 l/s)</th>
<th>200 cfm (95 l/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFM Range (Max cfm)</td>
<td>5,000 cfm (2,360 l/s)</td>
<td>18,000 cfm (8,500 l/s)</td>
</tr>
<tr>
<td>Pressure (Ps Max)</td>
<td>4.5 in. wg (1,120 Pa)</td>
<td>9 in. wg (2,240 Pa)</td>
</tr>
<tr>
<td>Factory Vibration Test</td>
<td>None</td>
<td>.15 in/s (belt) or .08 in/s (direct)</td>
</tr>
<tr>
<td>Max Temp (Continuous)</td>
<td>400°F (204°C)</td>
<td>500°F (260°C)</td>
</tr>
</tbody>
</table>

### Controls

<table>
<thead>
<tr>
<th>Speed Control (Optional)</th>
<th>Variable Frequency Drive (Factory Programmed)</th>
<th>Variable Frequency Drive (Factory Programmed)</th>
</tr>
</thead>
</table>

### Certifications

<table>
<thead>
<tr>
<th>AMCA Air Performance</th>
<th>Sizes 6-8</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMCA Sound and Air Performance</td>
<td>Sizes 12-15</td>
<td>Sizes 7-24</td>
</tr>
<tr>
<td>UL/cUL 705 Listed Power Ventilator</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>High Wind Rating</td>
<td>115 mph (185 Km/h)</td>
<td>115 mph (185 Km/h)</td>
</tr>
<tr>
<td>California OSHPD Seismic</td>
<td>OSP-0503-10</td>
<td>–</td>
</tr>
<tr>
<td>Miami-Dade Notice Of Approval (NOA)</td>
<td>17-0307.01 (Without stack/nozzle)</td>
<td>–</td>
</tr>
<tr>
<td>Florida Product Approval (FLPA)</td>
<td>FL22703</td>
<td>–</td>
</tr>
</tbody>
</table>

### Quick Ship Programs

| 5 day | 10 day |
1. **Access Door** – Bolted or hinged removable panel provides access for inspection or cleaning.

2. **Inlet Flange** – Fan inlet is flanged for bolted connection to system ductwork.

3. **Companion Inlet Flange** – For easy connection between inlet flange and system ductwork. Companion and inlet flange have matching bolt hole pattern.

4. **Restrainted Spring Isolators** – Both vertical and lateral movement restricted. Isolators are seismically rated to minimum 1.0 g, and sized for all components including stack.

5. **Equipment Supports** – Model GESS equipment supports designed for use on non-insulated flat roof decks and mounted directly to the deck structure. Available in galvanized steel.

6. **Curb Cap Inlet Box (CCIB)** – Provides a quick transition from roof opening to fan inlet often used in locations with minimal roof deck space. Coated steel construction with fully welded seams and corners.

7. **Backdraft Damper** – Located in the roof curb, the gravity damper prevents airflow back into the building when the fan is not in operation.

8. **Duct Drop** – Transition between building ductwork and inlet box opening. Coated and fully welded duct drop supplied with matching flange to inlet box and slip-fit end for easy field duct connection. Multiple lengths available for extending below roof deck if desired.

9. **Roof Curb** – Model GPFHL is a straight sided, insulated roof curb with internal vertical supports designed for high loads. Roofing material is brought to the vertical surface and sealed to the flashing flange.

10. **Disconnect Switch** – NEMA-3R rated disconnect switches. Switches can be factory mounted or shipped loose for field installation.

11. **Sure-Aire™ (FJI)** – Airflow measurement device (piezometric ring) with an accuracy within 3%. Unlike traditional flow probes mounted in the fan venturi, Sure-Aire does not create a system effect hindering fan performance. Optional Sure-Aire Monitor (ships loose) for reading the fan performance. Resulting data can be tied to the facility Building Automation System (BAS).

12. **Motor Starter** – Starter components options include: physical interface, overload protection, disconnect, magnetic contactor, NEMA-1 or NEMA-3R steel enclosures and pre-engineered easy system integration.

13. **Fan Monitoring System (ships loose)** – The FMS package includes a preprogrammed monitor along with a wide selection of commonly applied sensors to monitor the overall equipment health, plan maintenance, and monitor energy use.


**Shaft Seal** – Felt or neoprene shaft seal with rub ring available for operation at high temperatures or exhausting contaminated air. Seal prevents contaminated exhaust from leaking into the surrounding area. (not shown)

**Extended Lube Lines** – Conveniently located grease fittings mounted on the exterior of weatherhood or motor cover. Nylon or copper depending on airstream temperature. (not shown)
Benefits of the FumeJet® include single source responsibility, performance data that includes stack and accessory corrections, energy savings usage by elimination of system effects, and features to reduce the cost of installation.

**FumeJet - Commercial Series**

<table>
<thead>
<tr>
<th>FJC</th>
<th>3</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Fan Size</td>
<td>06 through 15</td>
<td></td>
</tr>
</tbody>
</table>

**FumeJet - Industrial Series**

<table>
<thead>
<tr>
<th>FJI</th>
<th>18</th>
<th>BI</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fan Size</td>
<td>07 through 24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheel Type</td>
<td>BI &amp; AF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certification</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X - UL/cUL 705 Listed (Electrical)</td>
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**Our Commitment**

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.

Product warranties can be found online at Greenheck.com, either on the specific product page or in the literature section of the website at Greenheck.com/Resources/Library/Literature.