

FumeJet™ Exhaust Systems

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



BUILDING VALUE IN AIR.

 **GREENHECK**
Building Value in Air.

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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. Benefits 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.

FJC Commercial Fume Exhaust Fan

Construction:

- Belt drive - sizes 6 to 15
- Galvanized (FJC-200) or coated steel (FJC-300)
- AMCA Spark B or C spark resistance (optional on FJC-300)
- Factory tested to withstand a force of 22 PSF (equivalent to 92 mph or 148 Km/h) without the need for guy wires

Performance Range:

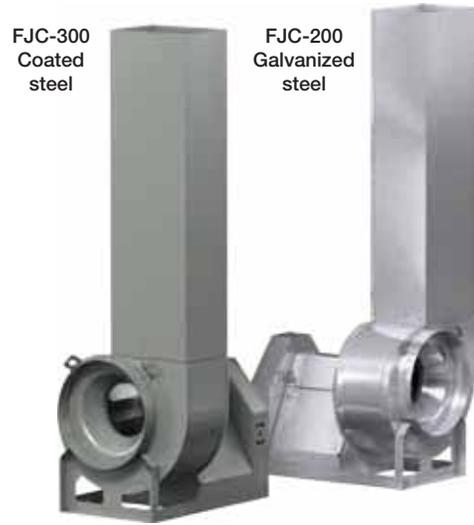
- Up to 5,000 cfm (2360 l/s) and 5 inches wg (1250 Pa)
- 400°F (204°C) Max Temperature (Continuous)

Certifications:

- AMCA Air or Sound and Air Performance
- UL/cUL Listed



FJC models are listed for Electrical (UL/cUL 705) File no. E40001



FJI Industrial Fume Exhaust Fan

Construction:

- Belt or direct drive - sizes 7 to 24
- Class offering: 0, I, II
- Coated steel
- AMCA Spark B or C spark resistance (optional)
- Factory tested to withstand a force of 22 PSF (equivalent to 92 mph or 148 Km/h) without the need for guy wires

Performance Range:

- Up to 15,000 cfm (7080 l/s) and 8 inches wg (1992 Pa)
- 500°F (260°C) Max Temperature (Continuous)
- Factory vibration tested

Certifications:

- AMCA Sound and Air Performance
- UL/cUL Listed



FJI models are listed for Electrical (UL/cUL 705) File no. E40001



FJC & FJI

Application Information

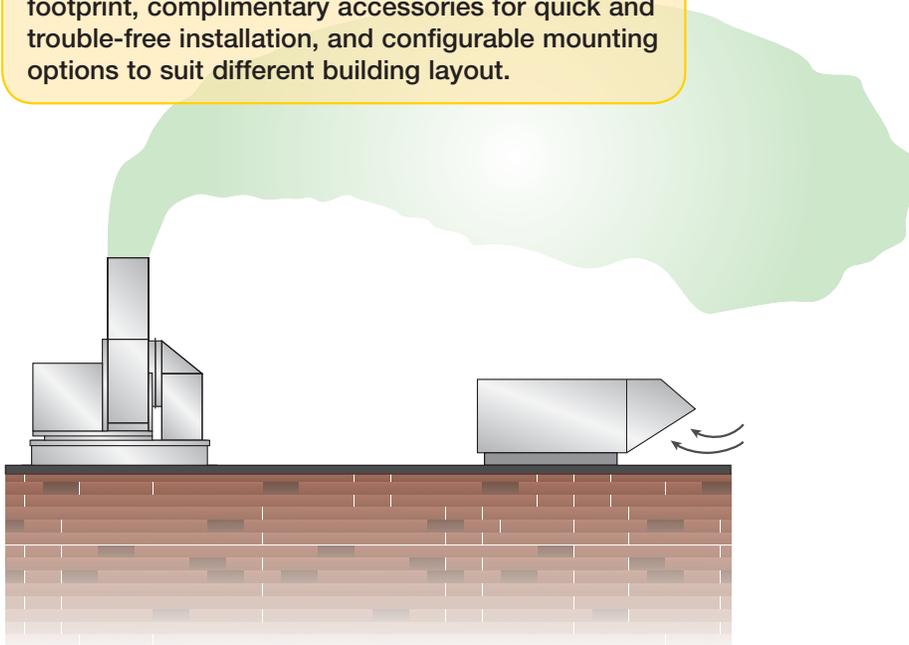
Commercial facilities

- Smoke
- Hospital/Clinic
- Sterilization
- Gun ranges

Industrial processes

- Food packaging
- Welding
- Paint systems
- Wastewater/Odor

Fumes exhausted above working area for safe roof deck and over any make-up air or air intakes to prevent reentrainment 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 layout.



FJI
Direct drive
shown
without motor
cover



Belt drive FJC-300 with
optional restrained isolators
and equipment supports

Value Added Advantages of Greenheck's FumeJet System	FumeJet	Field Built-up
Compact design	7	
Single source responsibility – Eliminating component misapplication, performance and fit-up issues due to field fabricated or sourced components	7	
Designed to match application	7	7
Known performance corrections	7	
Wind loading capacity designed and factory tested to withstand a force of 22 PSF (equivalent to 92 mph or 148 Km/h) without the need for guy wires	7	
Optimized inlet design to reduce duct pressure drop	7	
All FumeJet systems have a minimum of 7 feet (2.1 m) exhaust discharge height	7	
Corrosion Resistant Coating – All steel components are electrostatically powder coated with corrosion resistant Permatecor™ or Hi-Pro polyester, both protect against a wide spectrum of acids, alkalis and solvents	7	

Pre-Engineered for Easy Installation

Greenheck's FumeJet systems are designed for quick installation and are pre-engineered to eliminate component misapplication and fit-up issues. FumeJet systems are designed for two installation types, equipment supports or roof curb mounted.



FumeJet with restrained isolators and GESS equipment supports

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



FumeJet with curb cap inlet box and GPFHL roof curb

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 not in operation.



Vibration Analysis (FJI)

All centrifugal wheels undergo a computerized balance analysis to a Grade of G 6.3. In addition, FJI centrifugal products endure a complete mechanical vibration test after assembly. Our custom data acquisition system uses tri-axial accelerometers to measure the vibration in three planes at the design operating speed. A permanent record for each fan's performance is kept on file and is available upon request.

The standard "filter-in" vibration levels attained meet the requirements of Fan Application BV-3 as defined in AMCA Standard 204-05 "Balance Quality and Vibration Levels for Fans". Consult factory if more stringent vibration levels are necessary.

Drive Type	Filter-In Vibration Limit (Rigidly Mounted)
Belt (arrg. 10)	0.15 in/sec-pk
Direct (arrg. 4)	0.08 in/sec-pk



Copies of these signatures are kept on file and are available upon request

Premium Bearings (FJI)

Belt drive centrifugal products are manufactured with "Air Handling Quality" self-aligning ball or roller pillow block bearings. All bearings include zerk fittings for relubrication and are selected for a basic rating fatigue life of L₁₀ in excess of 80,000 hours (L₅₀ at 400,000 hrs.) at the maximum RPM for the selected pressure class. FJI model bearings utilize concentric locking collars for smoother operation and providing superior grip force between the bearing collar and fan shaft.

For more critical applications, FJI models offer bearings with a minimum L₁₀ life in excess of 200,000 hours (L₅₀ at 1,000,000 hrs.)

	L ₁₀ Life	Equal to L ₅₀ or Average Life
Industry Standard	40,000 hrs.	200,000 hrs.
Greenheck Standard	80,000 hrs.	400,000 hrs.
FJI Upgrade	200,000 hrs.	1,000,000 hrs.

L₁₀ life implies 90% reliability or 10% failure rate after the stated hours.
 L₅₀ life implies 50% reliability or 50% failure rate after the stated hours.



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 creation of systems 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.

Housing & Impeller Specs	FJC-200	FJC-300	FJI
Housing Type	Scroll Housing	Scroll Housing	Scroll Housing
Impeller Type	Backward Inclined Centrifugal	Backward Inclined Centrifugal	Backward Inclined Centrifugal
Impeller Sizes	6-15 Inch	6-15 Inch	7-24 Inch
Material Types	Galvanized Steel	Coated Steel	Coated Steel
Spark Resistance	None	None, Spark B or C	None, Spark B or C
Construction Class	N/A	N/A	0, I, II
Housing Construction	Permalock™	Permalock™	Permalock™ or Welded
Drain	1 in. Drain Hole	1 in. Drain Hole	1 in. Threaded Drain Connection
Coating	None	Permatector (standard) or Hi-Pro Polyester (optional)	Permatector (standard) or Hi-Pro Polyester (optional)
Power Transmission Specs			
Motor Enclosure	ODP, TEFC	ODP, TEFC	ODP, TEFC, EXP
Arrangements	Belt Drive (arrg. 10)	Belt Drive (arrg. 10)	Belt Drive (arrg. 10) or Direct Drive (arrg. 4)
Bearing Life (Hours) L ₁₀	L ₁₀ -80K	L ₁₀ -80K	L ₁₀ -80K or L ₁₀ -200K
Shaft Material	Turned & Polished Steel	Turned & Polished Steel	Turned & Polished Steel
Shaft Bearings	Set screw	Set screw	Concentric lock
Stack Type			
Straight Stack	Standard	Standard	Standard
Exhaust Height	7 ft (2.1 m) minimum 10 ft (3 m) optional	7 ft (2.1 m) minimum 10 ft (3 m) optional	7 ft (2.1 m) minimum 10 ft (3 m) optional
Performance Specs			
CFM Range (Min cfm)	250 cfm (181 l/s)	250 cfm (181 l/s)	250 cfm (181 l/s)
CFM Range (MAX cfm)	5000 cfm (2360 l/s)	5000 cfm (2360 l/s)	15000 cfm (7080 l/s)
Pressure (SP Max)	5 in. wg (1250 Pa)	5 in. wg (1250 Pa)	8 in. wg (1992 Pa)
Factory Vibration Test	None	None	.15 in/s (belt) or .08 in/s (direct)
Max Temp (Continuous)	250°F (121°C)	400°F (204°C)	500°F (260°C)
Certifications			
AMCA Air Performance	Sizes 6-8	Sizes 6-8	—
AMCA Sound and Air Performance	Sizes 12-15	Sizes 12-15	Sizes 7-24
UL/cUL 705 Listing	Optional	Optional	Optional
High Wind Rating	92 mph (148 Km/h)	92 mph (148 Km/h)	92 mph (148 Km/h)
Quick Ship Program	5 day	5 day	10 day

Spark-Resistant Construction

Spark B	The fan wheel is constructed of a nonferrous material (usually aluminum). A nonferrous (aluminum) rub ring surrounds the fan shaft where it passes through the fan housing. <i>(FJC-300 or FJI)</i>
Spark C	The inlet cone is constructed of nonferrous material (usually aluminum). A nonferrous (aluminum) rub ring surrounds the fan shaft where it passes through the fan housing. <i>(FJC-300 or FJI)</i>

Protective Coating Options

Chemical Resistance Ratings						
Chemical	Bleach	Sulfuric Acid (10%)	HCl (10%)	MEK	Chlorine (0.1%)	NaOH (20%)
Permatector	0	1	2	2	0	—
Hi-Pro Poly	0	0	0	1	0	—
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					

(Models FJC-300, FJI)

- 1 **Access Door** – Bolted or hinged (FJC-300, FJI) 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 duct work. Companion flange has matching bolt hole pattern as inlet flange.
- 4 **Restrained 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 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, gravity damper prevents airflow back into the building when the fan is not in operation.
- 8 **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.
- 9 **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).
- 10 **Disconnect Switch** – NEMA-3R rated disconnect switches. Switches can be factory mounted or shipped loose for field installation.
- 11 **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.
- 12 **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)



Model Codes

FJC - 2 06 - 10 - BI - A30 - X

Series

200, 300

Fan Size

06 through 15

Arrangement

10

Blade

BI-Backward Inclined

Certification

None

X - UL/cUL 705 Listed (Electrical)

RPM/Motor HP

RPM	Motor HP	RPM	Motor HP
M-3500	4 = 1/4	10 = 1	50 = 5
A-1770	3 = 1/3	15 = 1½	75 = 7½
J-1425	5 = 1/2	20 = 2	100 = 10
B-1170	7 = 3/4	30 = 3	150 = 15



FJI - 18 - BI - 21 - 10 - 80 - II - A400 - X

Fan Size

07 through 24

Blade

BI-Backward Inclined

Housing

21 - Permalock™

41 - Welded

Arrangement

4 & 10

Percentage Wheel Width

(Direct Drive only)
100 = 100%

Certification

None

X - UL/cUL 705 Listed (Electrical)

RPM/Motor HP

Fan Class	RPM	Motor HP	RPM	Motor HP
0, I, II	M-3500	4 = 1/4	15 = 1½	100 = 10
	A-1770	3 = 1/3	20 = 2	150 = 15
	J-1425	5 = 1/2	30 = 3	200 = 20
	B-1170	7 = 3/4	50 = 5	300 = 30
		10 = 1	75 = 7½	400 = 40

Our Commitment

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

Specific Greenheck product warranties are located on greenheck.com within the product area tabs and in the Library under Warranties.



Prepared to Support
Green Building Efforts

