Moffitt

NATURAL VENTILATION SOLUTIONS

Natural Solutions Guide

Natural Ventilation Solutions

Moffitt

"Natural Ventilation Solutions are the key to achieving sustainable building designs."

-John Moffitt

Natural Ventilation Solutions lower building temperatures and provide a safer, more comfortable workplace environment with minimal, or zero, electrical or maintenance costs. Moffitt offers four main Natural Solutions;

- Natural Ventilation: passive air exhaust and supply.
- Natural Heat & Smoke Control: free air emergency exhaust.
- Natural Daylighting: transparent roof & wall vents.
- Natural Cooling: adiabatic and evaporative cooling systems.

A single device may offer several solutions and multiple devices may be used together for a complete natural solution. Moffitt has designed, manufactured, and installed natural solutions for over sixty years. We work with high-heat facilities (glass plants, steel mills, power plants), moderate heat facilities (paper manufacturers, factories, data centers), and low heat facilities (assembly buildings, warehouses, distribution centers) to provide a better work environment for employees and equipment.

Natural Ventilation

Direct warm air out and cool air in without powered equipment, by directing the flow of air throughout the interior space.

Almost every type of building can take advantage of Natural Ventilation.

Natural Heat & Smoke Control

Life safety devices open automatically during a fire to remove heat and smoke from a building.

Ideal for commercial and industrial buildings. Protect yourself with Natural Heat & Smoke Control.

Natural Daylighting

Sunlight can brighten an indoor workspace, creating a better feeling work environment.

Most ventilators open to the sky or are transparent, allowing them to double as Natural Daylighting devices.

Natural Cooling

Lower building temperatures 5° to 25°F. with state-of-the-art adiabatic technology.

Reduce indoor temperatures below ambient conditions with a Natural Cooling system.

Operating Cost | Maintenance | Fan Noise | Environmental Impact

Safety | Worker Comfort | Air Movement | Ventilation Flexibility

MoffittVent™ Large Natural Ventilator

Moffitt

CLIENTS
- Nucor
- Graphic Packaging
- Owens-Illinois
- Constellation Brands
- South Texas Electric Co-op
- Southern Company
- Guardian Glass
- CMC Steel
- SSAB
- Alcoa
- Novelis
- U.S. Steel
- Dow Corning

MoffittVent™ natural ventilators are the most efficient vents available. Each unit exhausts more cubic feet of air per minute than any other ventilator on the market. This enables them to move more air with fewer, and smaller, roof openings than less efficient ventilators.

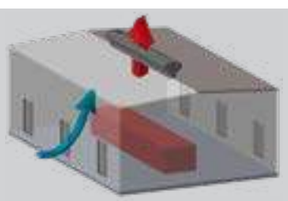
The vent consists of a metal frame covered in corrugated sheeting for industrial-strength weather protection. Optional cladding features include fluoropolymer coatings and translucent sheeting. A damper, either manual or motorized, is also available to retain heat and smoke emissions.

Each MoffittVent is designed to meet local, state, national, or international building codes for wind, snow, and rain. Vents ship knocked down and can be either installed in place or hoisted onto the roof after assembly.

The MoffittVent is designed for industrial applications with high heat production. This includes power plants, glass factories, steel & aluminum mills, paper plants, foundries, forges, compressor stations, and more. The MoffittVent is a key component of any Natural Ventilation or Hybrid Ventilation Solution.

Model	Throat Width	Vent Height	Frame Width	Weight
MV-24	24"	34 ½"	61 ¼"	55 lbs²/ft
MV-48	48"	62 ⅜"	114 ½"	95 lbs²/ft
MV-72	72"	92 ½"	168"	160 lbs²/ft
MV-96	96"	120"	18'-10"	236 lbs²/ft
MV-144	144"	14'-10"	27'-3"	357 lbs²/ft
MV-180	180"	17'-11"	33'-9"	572 lbs²/ft

Certification
Airflow tunnel performance
Wind resistance
Weather tightness
High temperature
Damper Cycling



MOUNTING
Mounted on a ridge, a flat roof, a single slope, down slope, etc.

Additional building steel may be required for installation. The unit is ideal for new construction.

AIRFLOW & DRAINAGE
Warm air rises up through the vent. Rainwater flows through the downspout channels and is directed onto the roof.

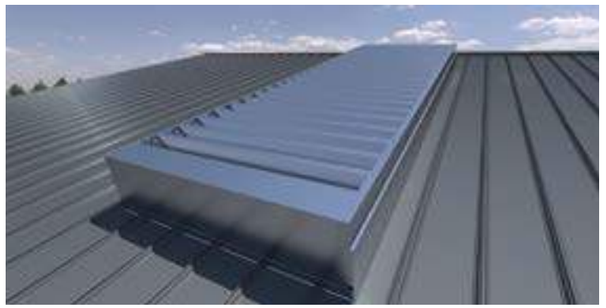
COMMERCIAL — INDUSTRIAL

LOW TO HIGH TEMPERATURE, LIGHT TO HEAVY INDUSTRIAL

VENTILATION · SMOKE · DAYLIGHT · COOLING

MatrixVent™ Natural Ventilator

Moffitt



CLIENTS

- Georgia Pacific
- Southern Company
- Gerdau
- Microsoft
- Nucor
- Kimberly-Clark
- Pratt Industries
- Big River Steel
- Timet
- CMC Steel
- SDI
- Cardinal Glass

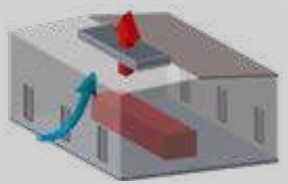
MatrixVent natural ventilators are the low profile, light-weight way to exhaust warm air from your building. It's the ideal solution when a large volume of air needs to be exhausted while still imparting minimal structural impact. In short, the MatrixVent provides maximum natural ventilation, as well as ample natural day lighting, all in one unit.

Each ventilator is 100% aluminum, making it ideal for retrofit or pre-engineered building applications. Units ship fully pre-assembled or knocked down for field assembly. A damper, manual or motorized, is also available for cold environments.

The MatrixVent is designed for industrial applications with high heat production. This includes power plants, glass factories, aluminum & steel mills, pulp & paper plants, foundries, forges, factories, rolling mills, waste incinerators, data centers, warehousing & storage areas, compressor stations, and more. The MatrixVent is a key component of any Natural Ventilation or Hybrid Ventilation Solution.

Damper	Throat Width	Length	Height	Weight
Standard	10'-6"	6' - 1,000'+	37"	3.5 lbs/ft²
Damper	10'-6"	6' - 1,000'+	52" (closed) 44" (open)	7.5 lbs/ft²

Certification
Airflow tunnel performance
Water Tightness
Snow loading



MOUNTING

Mounted on a ridge or a flat roof, against the slope or down the slope.

No additional building steel is required for mounting. Great for retrofit applications.

AIRFLOW & DRAINAGE

Warm air rises up through the vent. Rainwater flows through the channels and is directed onto the roof away from the vent opening.

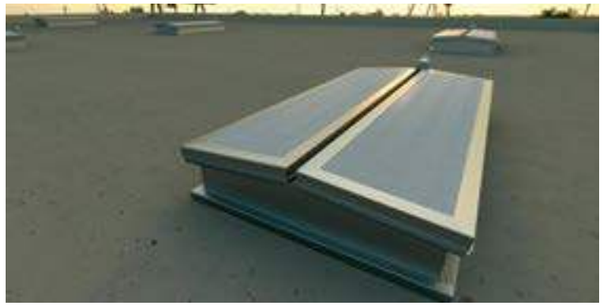
COMMERCIAL — INDUSTRIAL

LOW TO HIGH TEMPERATURE, LIGHT TO HEAVY INDUSTRIAL

VENTILATION SMOKE DAYLIGHT COOLING

TriadVent™ Natural Ventilation / Daylighting

Moffitt



CLIENTS

- Sierra Aluminum
- Case Farms
- Tower Extrusions
- WestRock
- LeSueur Incorporated

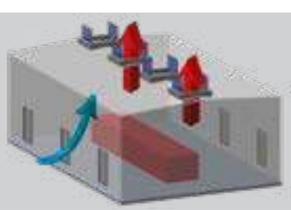
TriadVent natural ventilators are the three-in-one solution for your facility. Each unit provides day-to-day natural ventilation, consistent natural daylighting, and automatic rain protection. This daylighting natural ventilator is the best solution for highly efficient, low-cost natural ventilation. Plus, due to its customizable size and translucent panels it can be effectively used to replace existing, non-opening skylights.

When the flaps are open, warm air naturally exhausts from the building. The flaps then close automatically in inclement weather. The translucent panels ensure ample natural daylighting enters the building regardless of the flaps position.

The TriadVent is designed for heavy commercial to light industrial applications with low to mid-range temperatures including warehouses, storage spaces, general manufacturing, steel & aluminum mills, metal forming plants, chemical plants, pulp & paper plants, agricultural facilities, mine processing plants and more. The TriadVent is a key component of any Natural Ventilation or Hybrid Ventilation Solution.

Model	Throat Width	Throat Length	Height (opened)	Height (closed)
Minimum	40"	40"	22 ½"	6 ¼"
Maximum	96"	118"	52"	6 ¼"

Certification
Computer Modeled
Factory Tested
Field Tested



MOUNTING
The vent can be curb-mounted onto almost any roof type.

Its light-weight construction requires no additional support steel.

AIRFLOW & DRAINAGE
Warm air rises through the vent when the flaps are open.

In inclement weather the flaps are closed to prevent water entrance.

COMMERCIAL — INDUSTRIAL

LOW TO MID-RANGE TEMP., HEAVY COMMERCIAL TO LIGHT INDUSTRIAL

VENTILATION SMOKE DAYLIGHT COOLING

GreenRoo™ Turbine Ventilator

Moffitt

CLIENTS

- Smurfit-Stone
- Florida Brewery
- Morton Salt
- Gerdau
- World Class Processing
- US Dept. of Energy WPAA
- Fanatics
- Oregon State University
- Neuva High School

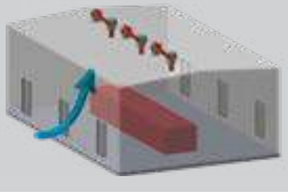
GreenRoo wind turbine ventilators are perfect for facilities that are looking to move warm air out of the facility without any electrical or maintenance costs. The turbine design utilizes a durable, high-performance bearing system to harness the power of the wind.

Each unit is constructed of aluminum and stainless steel and is designed to be architecturally and aesthetically appealing. It's the perfect solution for any situation in which a small, light-weight device is needed.

The GreenRoo is designed for heavy commercial to light industrial applications with mid-range temperatures including warehouses, storage spaces, general manufacturing, steel & aluminum mills, metal forming plants, chemical plants, pulp & paper plants, agricultural facilities, mine processing plants and more. The GreenRoo is the key component of any Natural Ventilation or Hybrid Ventilation Solution.

Model	Throat Diameter	Unit Height	Turbine Diameter	Weight
H-12	12"	20"	19"	15 lbs
H-24	24"	29"	30"	30 lbs
H-36	36"	37"	44"	60 lbs

Certification
Computer Modeled
Factory Tested
Field Tested



MOUNTING

The turbine vent is self-flashing for easy installation on a roof slope. It can also be curb mounted.

Units are often mounted directly into curbs previously used by exhaust fans.

AIRFLOW & DRAINAGE

Warm air rises through the vent as rainwater is repelled by the spinning turbine.

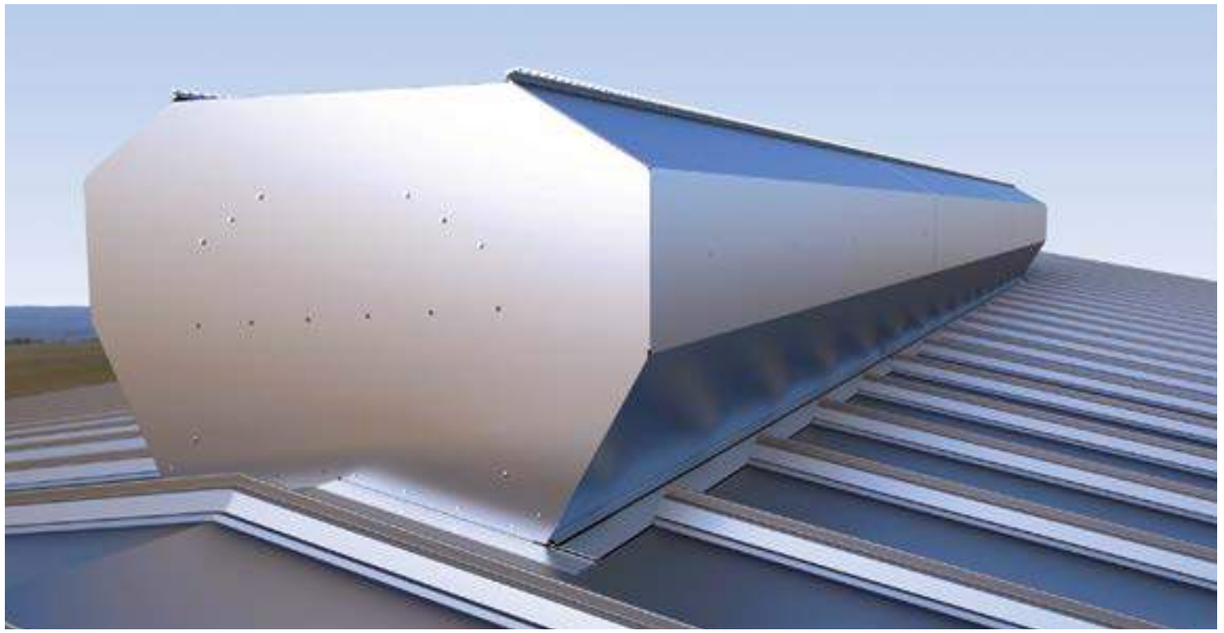
COMMERCIAL — INDUSTRIAL

LOW TO MID-RANGE TEMP., HEAVY COMMERCIAL TO LIGHT INDUSTRIAL

VENTILATION SMOKE DAYLIGHT COOLING

RidgePac Small Natural Ventilator

Moffitt



CLIENTS

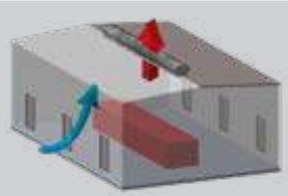
- Tenaris
- Nucor
- Metallic Buildings
- BNSF Rail
- Grove Worldwide
- Formosa Plastics
- Gold Key Laundry
- Weyerhauser
- Rex Lumber
- Scepter, Inc.
- Corhart Refractories

RidgePac natural ventilators are the compact, easy to install ventilation solution for any facility looking to reduce heat and improve worker comfort. Each RidgePac comes pre-assembled in 10 ft. sections for easy shipping and installation. Sections are combined to fit the desired roof length. An optional damper is available. The unit is made of galvanized steel with optional fluoropolymer coatings. Aluminum construction also available.

The RidgePac natural ventilator is designed for commercial & industrial applications with low to moderate heat generation. This includes warehouses, storage facilities, general manufacturing, steel & aluminum mills, chemical plants, mine processing facilities, pulp & paper plants, glass factories, power plants, and more. The RidgePac is the key component of any Natural Ventilation or Hybrid Ventilation Solution.

Model	Throat Width	Vent Height	Frame Width	Opening Width	Weight (lb/ft)	
					Steel	Aluminum
RP-9	9"	15 ½"	22 ⅝"	11 ¾"	14	9
RP-12	12"	16 ⅝"	28 ⅛"	14 ¾"	22	12
RP-18	18"	26 ½"	42 ½"	22"	36	18
RP-24	24"	34 ½"	55"	29 ½"	57	24

Certification
Airflow tunnel performance
Weather tightness



MOUNTING
Mounted on a ridge. Curb mounting available for flat roofs.

Anchor strap connection provided as needed.

AIRFLOW & DRAINAGE
Warm air rises up through the vent. Rainwater flows through the channels and is directed onto the roof away from the vent opening.

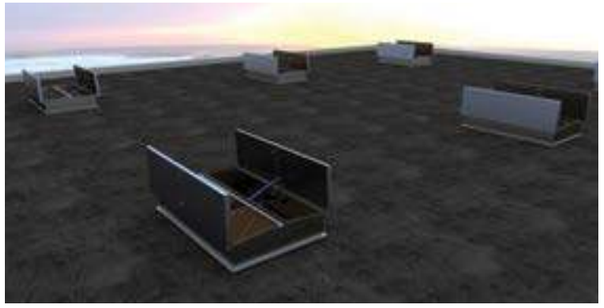
COMMERCIAL — INDUSTRIAL

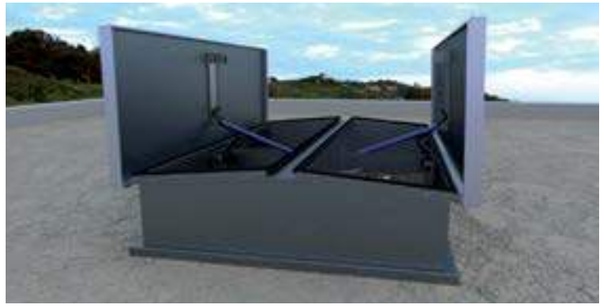
LOW TO MID-RANGE TEMP., HEAVY COMMERCIAL TO LIGHT INDUSTRIAL

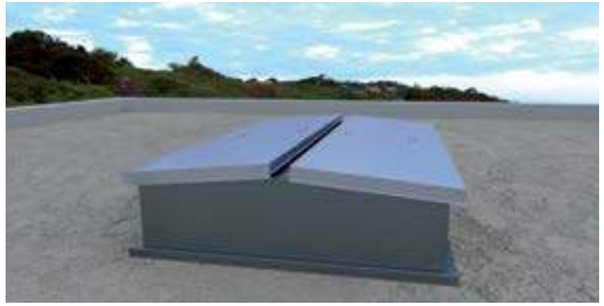
VENTILATION SMOKE DAYLIGHT COOLING

Firex™ Automatic Heat & Smoke Vent

Moffitt







CLIENTS

- U.S. Army Corps of Engineers
- Tinker Air Force Base
- Southern Lumber
- Borton Fruit
- David Crockett Elementary
- Henderson Community College
- Southwood Academy of the Arts

Firex emergency heat & smoke vents are there for you when you need them. When the heat rises the twin vent lids open automatically. The vents open by themselves when the air temperature exceeds prespecified limits and the fusible links melt. This in turn releases the hatches and lets the smoke exhaust from the building.

Galvanized steel construction is standard but optional aluminum construction is also available. Units with aluminum lids are UL listed and FM Approved. Lids are also available in polycarbonate for extra day light.

Each unit ships fully assembled for quick rooftop installation. Construction Specifications (CSI) 3 Part & 10 Part Specifications are available for further info.

The Firex is designed for commercial and industrial applications including warehouses, storage facilities, general manufacturing operations, mine processing facilities, forges, casters, chemical plants, pulp & paper plants, theaters, schools, medical facilities, and retail. *The Firex is not used for general ventilation.*

Model	Interior (W × L)	Vent Area(ft²)	Net Weight (lbs)
FX250-44	48" x 48"	16	345
FX250-45	48" x 60"	20	380
FX250-46	48" x 72"	24	415
FX250-47	48" x 84"	28	450
FX250-48	48" x 96"	32	485
FX250-55	60" x 60"	25	425
FX250-56	60" x 72"	30	465

Model	Interior (W × L)	Vent Area (ft²)	Net Weight (lbs)
FX250-57	60" x 84"	35	520
FX250-58	60" x 96"	40	540
FX250-66	72" x 72"	36	525
FX250-67*	72" x 84"	42	545
FX250-68*	72" x 96"	48	565
FX250-69*	72" x 108"	54	590

Certification
UL 793, Automatically Operated Roof Vents for Smoke and Heat.
FM Approved (Aluminum Lids)

**Not FM Approved for this size*

FM APPROVED

UL

MOUNTING
Mounted with or without curbs, depending on the roof type.

Smoke control specifications will dictate placement requirements.

AIRFLOW & DRAINAGE
The vent opens automatically in the event of fire, letting heat & smoke escape from the building.

COMMERCIAL — INDUSTRIAL

SPECIFIED FOR HEAT & SMOKE EVACUATION IN ANY TEMPERATURE

VENTILATION SMOKE DAYLIGHT COOLING

EcoStream Adjustable or Fixed Wall Louvers

Moffitt

CLIENTS

- Axis Pipe & Tube
- Thyssen Krupp
- Ellwood Group
- Triangle Brick
- Guardian Glass
- Easterly WWTP
- Big River Steel
- Tenaris
- Steel Dynamics
- Compute North
- Corning
- Nucor

EcoStream wall louvers naturally introduce cool, outdoor air into your facility. At the same time, these louvers are designed to stand up to the wear and tear of the average industrial facility. Louvers are fabricated from galvanized steel, extruded aluminum, or formed aluminum. Optional finishes are available.

Louvers ship in factory assembled panels in either standard or custom sizes. They are available in fixed or adjustable configurations. Most common are 35° & 45° fixed blades (EcoStream 35 & EcoStream 45) and 90° adjustable blades (EcoStream 90), but other angle blades are also available.

The EcoStream is designed for industrial applications with low to high heat production including warehouses, storage facilities, general manufacturing, mine processing facilities, steel & aluminum mills, glass plants, power plants, chemical plants, pulp & paper plants, and more. Moffitt wall louvers are a key intake component of any Natural Ventilation or Hybrid Ventilation Solution.

ECOSTREAM 90

Nominal Height	Actual Height	Number of Blades
24"	23.75"	2
36"	35.75"	3
48"	47.75"	4
60"	59.75"	5
72"	71.75"	6
84"	83.75"	7
96"	95.75"	8
108"	107.75"	9
120"	119.75"	10

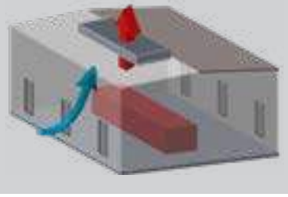
ECOSTREAM 45

Width	Height	Blades
custom built to size	any	any

ECOSTREAM 35

Width	Height	Blades
custom built to size	any	any

Certification
Airflow performance modeled



MOUNTING
Louvers are wall mounted, clipped and fastened to frame openings.

They can be fit individually or connected one to another for joint multi-unit mounting.

AIRFLOW & DRAINAGE
(far left) The adjustable blade louver opens to let in air.

(near left) The adjustable blade louver closes to keep out rain.

COMMERCIAL — INDUSTRIAL

ANY TEMPERATURE, COMMERCIAL TO INDUSTRIAL

VENTILATION SMOKE DAYLIGHT COOLING

LightStream Intake & Exhaust / Daylighting

Moffitt

CLIENTS

- City of Tulsa, OK Maintenance Building
- San Quentin State Prison
- Purolite Company

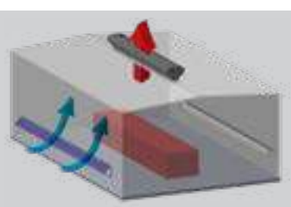
LightStream hinged window ventilators let you add natural ventilation to your daylighting solution. These units can be used for either supply air (when mounted low) or exhaust (when mounted high). It lets in fresh air and natural light into the building when open. When the unit is closed it still provides ample daylighting through its translucent panels.

An extruded aluminum framework houses light-permeating poly-carbonate panels. A manual or motorized operator allows for easy opening and closing, even with long unit runs. Units ship in factory assembled sections and are easily locked together in the field to form continuous runs of 100 ft. or more.

LightStream hinged windows are designed for commercial and industrial applications. This vent is the key component of any Natural Ventilation, Hybrid Solution.

Model	Section Width	Section Height	Section Weight
LS	20'	5'	variable

Certification
Airflow performance modeled



MOUNTING
Mounted on the side wall at any elevation. Mounting near ground-level provides air intake, while mounting near the roof will result in air exhaust.

AIRFLOW & DRAINAGE
(left) Mounted low, the vent opens to let cool air enter

(right) Mounted high, the vent opens for warm air exhaust

COMMERCIAL — INDUSTRIAL

ANY TEMPERATURE, COMMERCIAL TO INDUSTRIAL

VENTILATION SMOKE DAYLIGHT COOLING

PressureStream™ Powered Ventilation

Moffitt

CLIENTS

- S. TX Electric Co-op
- Constellation Brands
- Anheuser-Busch
- Duke Energy
- Frito-Lay
- Burns & McDonnell
- Nucor
- Potters Industries
- Tallgrass Compressor
- Ternium
- U.S. Sugar Corp.
- Sky Global Power

PressureStream powered ventilation units are ideal for increasing airflow and making any facility feel more comfortable. PressureStream fans are part of the Moffitt Streamline powered ventilator line. See our Powered Ventilation brochure, or visit *MoffittStreamline.com* for more info on our other fans.

PressureStream models include hooded fans (24" to 72" diameter) and wall fans (12" to 72" diameter). Models come with belt or direct drive motors. Variable frequency drive motors are also available. Any model can be integrated into a building automation system to provide a complete facility solution.

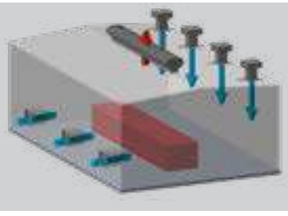
Multiple fans can be installed as a single make-up air unit as either a DualStream (two fans) or a QuadStream (four fans).

PressureStream units are designed for commercial & industrial facilities of all shapes and sizes including gypsum facilities, power plants, warehouses, storage spaces, general manufacturing, glass plants, food & agriculture, breweries, and more. They can be utilized as part of a larger Hybrid Ventilation System or by themselves.

Size Ranges	Min.	Max.
Hooded Fan	24"	120"
Wall Fan	12"	120"
Wall Fan Double (DualStream)	24"	240"
Wall Fan Quadrupale (QuadStream)	48"	480"

Options
Variable Fan Drives
Silencers
Screens
Dampers
Special Construction
Special Coatings
Guards

Certification
Airflow performance modeled



MOUNTING
Mounted either in the sidewall or curb mounted on the roof.

When required, duct drops can also be added.

AIRFLOW & DRAINAGE
Brings in cool, outside air or exhaust hot interior air at a greater velocity than gravity.

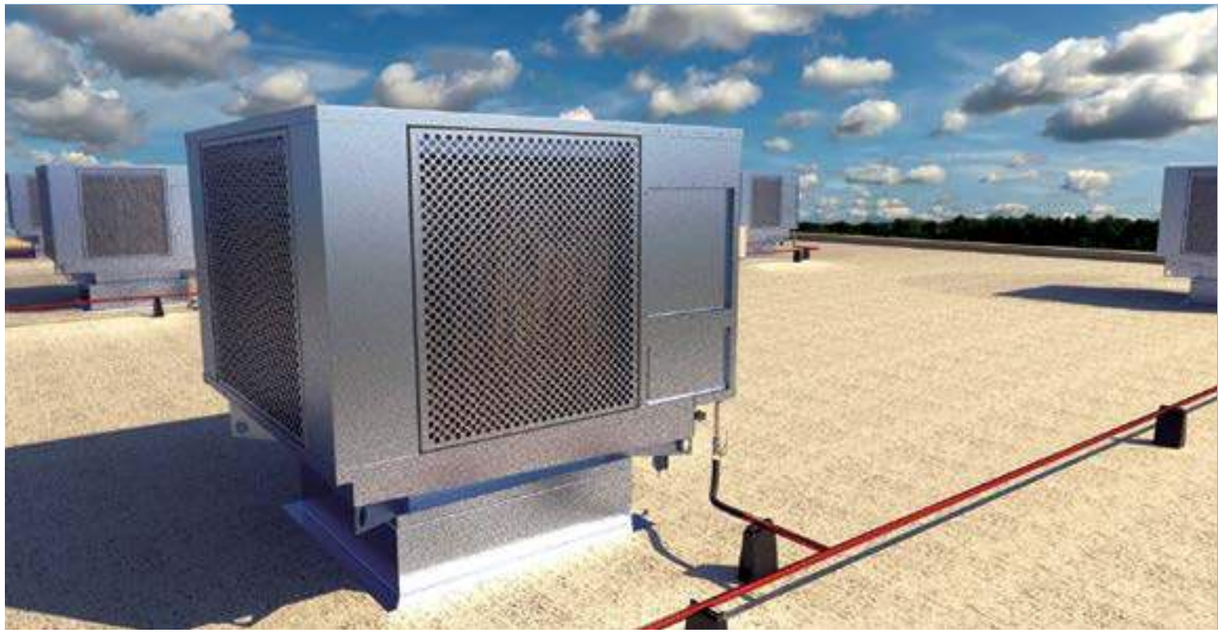
COMMERCIAL — INDUSTRIAL

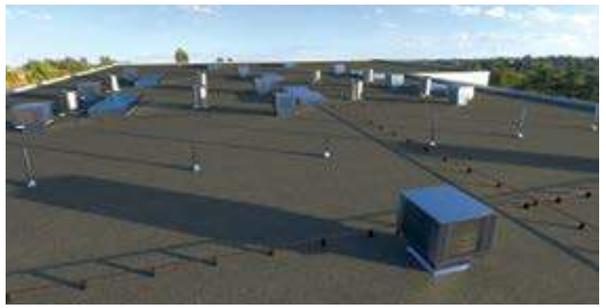
ANY TEMPERATURE, COMMERCIAL TO INDUSTRIAL

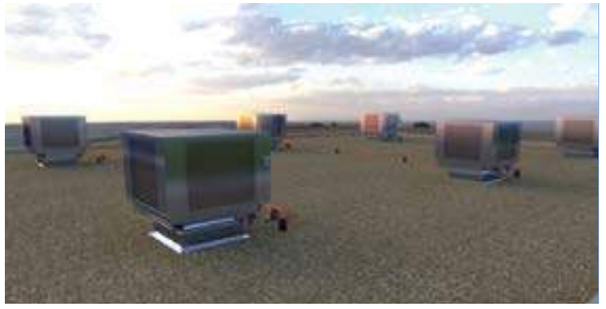
VENTILATION · SMOKE · DAYLIGHT · COOLING

DeltaStream™ Natural Adiabatic Cooling

Moffitt







CLIENTS

- Exal Corporation
- Fevisa Industrial
- Pure Nature Foods
- EJ - Ardmore Foundry
- Owens-Illinois

DeltaStream natural cooling can lower air temperatures in your building up to 30° F below ambient conditions. In fact, a single DeltaStream natural cooling unit can move up to 16,800 CFM of air by itself.

This adiabatic cooling is the next evolution of evaporative cooling technology. It provides cool air with greater hygiene protocols and superior building management system integration. The units use direct drive commutating motors to reduce maintenance and increase efficiency. Each unit is constructed of aluminum to reduce weight, improve durability, and eliminate corrosion. Units ship factory assembled.

DeltaStream is designed for commercial and industrial applications. It is the key component of any Hybrid Ventilation Solution.

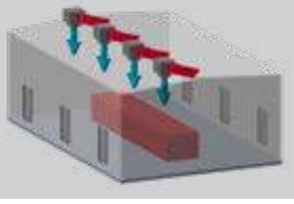
	Length	Height	Width
Minimum	56"	56"	46"
Maximum	72"	86"	92"

	Weight	CFM
Minimum	640 lbs.	16,185*
Maximum	739 lbs.*	17,500

** values with filter option selected*

		Outdoor Relative Humidity			
		20%	30%	40%	50%
Outdoor Temperature	68°F	50°F	54°F	57°F	59°F
	75°F	55°F	59°F	63°F	65°F
	82°F	61°F	65°F	68°F	72°F
	90°F	65°F	70°F	73°F	77°F
	97°F	70°F	75°F	79°F	82°F
	104°F	75°F	81°F	84°F	90°F

Certification
Computer Modeled



MOUNTING
Roof mounting with ducts or duct sock is standard.

AIRFLOW & DRAINAGE
Outside air travels through the medium where it is cooled by the evaporation of the water.

The cooler air is then channeled into the building by a powered fan ventilation system.

COMMERCIAL — INDUSTRIAL

ANY TEMPERATURE, COMMERCIAL TO INDUSTRIAL

VENTILATION | SMOKE | DAYLIGHT | COOLING

Ventilation Design

"Success starts with the design. Our experience & technology brings value to our customers."

-John Moffitt

At Moffitt we work with engineers, architects, contractors, and building owners to design the right ventilation solution for each building. Our ventilation engineers evaluate the buildings' air flow and temperature changes to find the ideal CFM to ensure the best ventilation solution.

Our team can also develop detailed 3-D thermal imaging for your building. Utilizing state-of-the-art Computational Fluid Dynamics (CFD) modeling we can illustrate temperatures at different elevations throughout the space. This will show you how a new ventilation system will impact your building before any equipment is installed.

Contact our design team today and let us find your Natural Ventilation Solution.

Moffitt

Ventilation Fabrication

"Our Texas plant is centrally located to more efficiently serve our customers throughout North America"

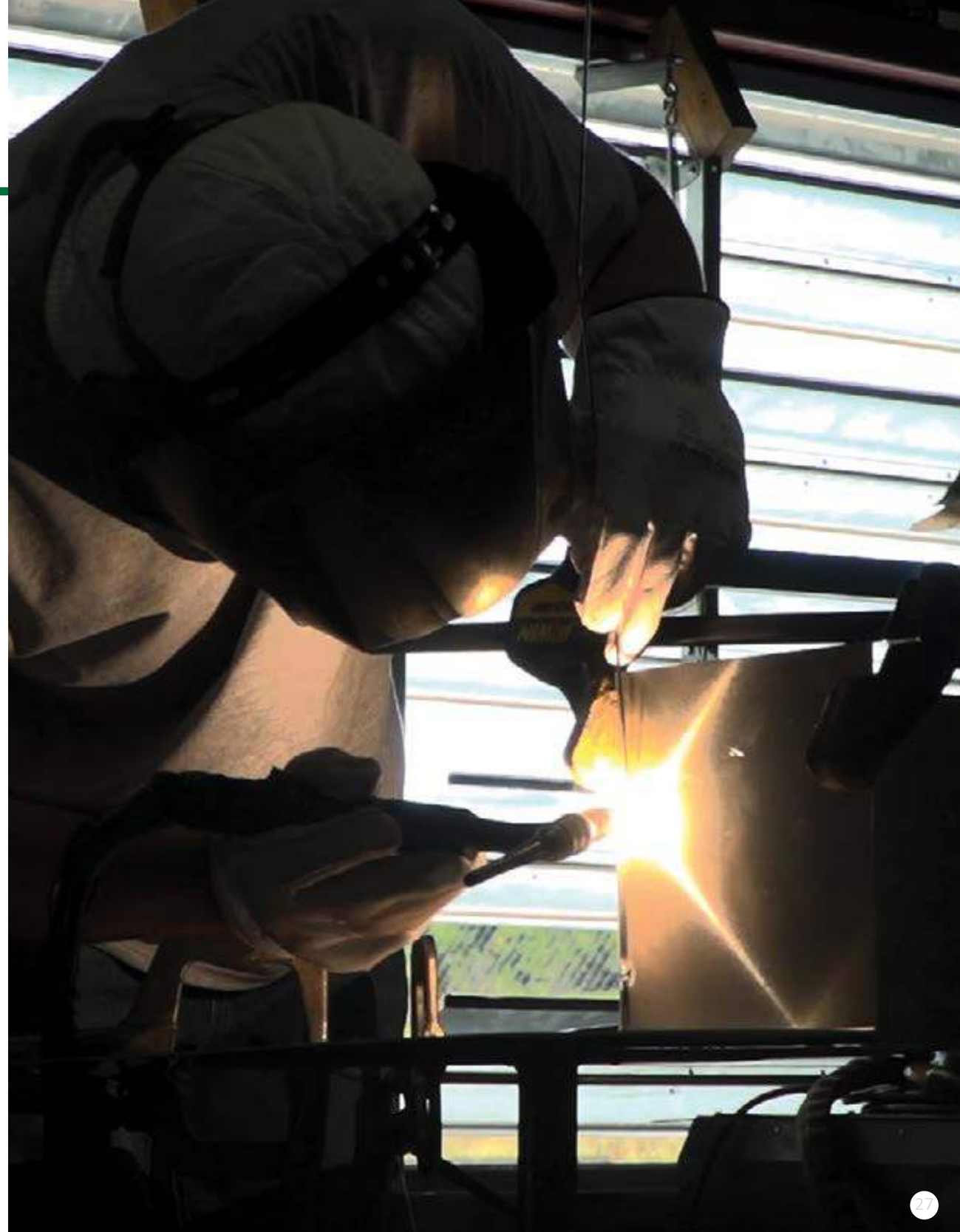
-John Moffitt

Moffitt manufactures ventilation solutions, products, and systems. Whether you need a single unit or a full system, we can help. Our team manufactures made-to-suit equipment to best fit your needs and your facility. From Natural Ventilation to Powered Exhaust Fans, we can fabricate your ventilation solution.

Our products are manufactured in our recently renovated and expanded 35,000 FT^2 facility in Denison, TX. This factory has been fabricating ventilation products for over 20 years. Better yet, our team has decades of manufacturing experience, ensuring ventilation products of the highest quality.

Contact us today to see how we can help manufacture your next ventilation solution.

Moffitt



Ventilation Installation

"Installation services provide our customers with one source and one responsibility for their Ventilation Solutions."

-John Moffitt

Moffitt installs every product in this catalog. We provide contracting services for new construction and retrofit projects in a variety of industries. Our team offers everything from virtual installation support to full turn-key contracting. We also provide inspection and supervision services.

Moffitt, along with our network of Moffitt Certified Installers, is licensed to provide ventilation installation & contracting services throughout the United States.

Contact our team to see how we can help you install your next ventilation solution.

Moffitt

And more... Support Solutions

Econovent

Econovent ventilators are used for natural air intake or exhaust. The low-profile silhouette looks good on any roof top. It is available in stainless steel, galvanized steel, or aluminum.

Make-Up Air Units

Make-up air units, such as direct and indirect fired units, work in conjunction with the rest of your ventilation solution to provide the best system for heating and cooling in your facility.

GulfStream Spot Cooler

GulfStream air circulating ventilators provide an even stream of air around the work or warehouse area. These mounted units are more effective than pedestal fans for cooling a large space.

MegaStream HVLS

High Volume Low Speed fans like the MegaStream are ideal for providing near ground effect air movement. The unit's low speed operation means it is energy efficient and very quiet.

SG Vent

SG Vent natural ventilators are simple but versatile. It's ideal for any number of commercial and industrial spaces. Conforms to the Army Corps of Engineers Bulletin CE 220.09 for gravity ventilators.

Controls

Control systems are a vital component in any automated ventilation system. They can be used for tandem operation of multiple units or to integrate several different products together.

UpStream Fans

UpBlast low-silhouette axial fans are designed for exhausting building air to provide general ventilation to hot, stagnant areas. Ideal for individual workspaces.

Maintenance & Service

Moffitt offers ongoing maintenance for ventilation systems of all shapes and sizes. This includes powered and natural ventilation systems that may need some additional attention.

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Moffitt