



# Rotary Lobe Blowers





## Your trusted partner for Wastewater Solutions.

In a competitive global market, our long history of supplying blower solutions to suit our customers' unique requirements sets us apart from the rest.

Using modern machining systems and state-of-the-art production processes, our product range is constantly evolving. With a presence in over 50 countries, we offer local service capability, ensuring our advanced technology is backed by technical support.

One of our latest product innovations is the [HOFFMAN DEFENDER™ Rotary Lobe Blower](#) with innovative components and design:

- **Efficient** thanks to its patented rotors, which reduce the number of revolutions and enhance the capacity-pressure ratio
- **Quiet Operation** as a result of high-efficiency silencers, and a noise-reducing enclosure
- **Simple** installation and configuration
- **Flexible** to ensure operation at the point of best efficiency
- **Ease of Maintenance** thanks to its simple and robust construction

# DEFENDER

LOBE

## The Ideal Solution for Municipal Wastewater

As a world leader in blowers and exhausters for different industries, we are committed to playing a vital role by saving energy and protecting the environment.

Our equipment, systems and services are dedicated to helping customers optimize their processes performance.

Our DEFENDER™ Rotary Lobe Blower range has been redeveloped in line with our customers' exacting requirements and is suitable with environmental conditions between 104° F to -13° F (40° C to -25° C).

You can count on the HOFFMAN DEFENDER PD Blower to:

- Carry out the toughest tasks with consistent quality and reliability
- Provide convenient, reliable solutions through our continuous technology innovation
- Deliver optimal performance, maximum uptime and operating efficiency

We enhance and add value to our customers, taking on challenges, innovating and working together.



## APPLICATIONS AND BENEFITS AT A GLANCE

### APPLICATIONS:

Aeration Process

Primary Sedimentation

Back Washing Sand Filtration

Desalination

Aeration of Elevated Storage Tanks for Drinking-Water Systems

Grit Aeration

Wet Well Mixing

Lagoons

Equalization Basin Mixing/Aeration

Ice Prevention

Denitrification Processes

### BENEFITS:

Highly reliable

Simple configuration

Operation-friendly and low maintenance

Wide turndown capability

Many models for a wide range of applications

Robust design

High durability

# HOFFMAN DEFENDER

## A SUPERIOR PACKAGE

### UNIQUE DESIGN

Thanks to its exclusive features, the DEFENDER blower has compact dimensions with the possibility of side-by-side installation. They are extremely easy to be installed with no requirement for ducting, so the compressor rooms can be kept to the minimum size.

### ONE PACKAGE TWO TECHNOLOGIES

Take advantage of the one solution for both lobe and screw blower technologies. Whether revamping plants, or your processes, you can review and compare each technology's benefits for your operation before you commit to buy. Either way, the DEFENDER Lobe and Screw will fit your requirements.

### LOW NOISE

Low noise emissions (<70 - 81 dBA) are ensured by our new discharge and suction silencer design. Also, cabin enhancements grant noise reduction thanks to the special soundproofing material, upgraded panel thickness, and enclosure air inlet and outlet ducts muzzled with a lined single-chamber plenum and lined bends.

### EASY INSTALLATION

Save time and money thanks to the easy and flexible installation of the DEFENDER. Handle the DEFENDER with ease utilizing the rigid base's dedicated channels for forklifts, and place it on any even surface, with no need for special foundations. Thanks to its compact design, the DEFENDER can be quickly and easily integrated into your existing system.

### ACCESSIBLE SERVICE AND MAINTENANCE

The design of the DEFENDER package design ensures that the service points are easily accessible. For a closer look inside, the enclosure side doors are hinged and removable.



# TOP SYSTEM COMPONENTS

The DEFENDER is an integrated package designed to convey gas at low pressure. It is based on a positive displacement rotary lobe blower, operated by an electric motor through a belt drive, including all accessories and noise enclosure.

Globally, the DEFENDER Lobe package means reliability, extreme sturdiness, and compactness.

## SMART OIL SYSTEM

- One oil level (all models, only frame 1 excluded) to check from outside
- Better reading reliability
- Easier oil filling operation
- Lower oil top-up times with lower maintenance costs

## NEW PERFORMANCE COOLING FAN

- Better air circulation inside the noise enclosure
- Extended operating range capacity
- Greater reliability
- Easy connection through a terminal board
- Better efficiency due to inner enclosure's lower temperature

## DISCHARGE SILENCER OPTIMIZATION

- Optimized silencer design for increased energy efficiency

## ENHANCED NOISE ENCLOSURE

- Improved noise level reduction

## SMART AND COMPACT DESIGN

DEFENDER Lobe machines can be placed side by side, which significantly reduces the space required, decreasing system costs.

## EASY MAINTENANCE

DEFENDER Lobe allows maintenance operations to be carried out in an even easier and effortless manner:

- **SIMPLIFIED ACCESS:** all maintenance operations are performed from the front with the removal of the front panel or panels and/or the opening of the upper panel with gas springs
- **EFFORTLESS ADJUSTMENT AND REPLACEMENT OF SOUNDPROOF FILTER SPF:** by simply opening the noise enclosure's upper panel (or removal of the front panel)
- **INSTANT OIL LEVEL CHECK:** the oil level can be checked externally with the blower running, utilizing a level positioned on the front panel of the enclosure
- **EASY OIL CHANGE:** an oil change can be performed directly from the front panel with easily accessible fill and drain hoses
- **AUTOMATIC BELT TENSIONING:** an oscillating suspension system of the motor maintains the correct belt tension at all times, thereby reducing the load on the bearings
- **SIMPLE BELT REPLACEMENT:** this is carried out from the front without the use of any additional equipment thanks to the automatic tensioning device





# DEFENDER

## CONNECT

### LEADING-EDGE DEFENDER CONNECT CONTROLLER (OPTIONAL UPGRADE)

The touch screen controller is very user-friendly with an intuitive menu. It provides you with a real-time view of the DEFENDER Lobe's operation and allows you to continuously monitor the device, enabling you to spot problems and malfunctions before they happen thereby protecting your investment.

The controller manages a variety of operating functions available from the built-in screen, as well as remotely. You can monitor and configure each measured parameter and alarm from any display using a remote connection via Ethernet.

### MAIN DEFENDER CONNECT CONTROLLER FUNCTIONS

- 44 analog and digital inputs/outputs
- Sequencing mode (multi-blower control)
- Interval maintenance with a dedicated P&I chart
- Parameter data transmission via Ethernet
- Parameter trends
- Alarm detection
- Data logger for service troubleshooting
- Suitable for any starter device across-the-line, soft-start or VFD
- Multiple language configurations

### WHAT ARE THE CONTROLLED PARAMETERS?

- Control of the starter unit
- Inlet and outlet pressure and temperature
- Oil pressure
- Oil temperature
- Air-end speed



# PERFORMANCE SPECIFICATIONS

FRAME SIZE	OPERATIONAL DATA*				
	PRESSURE (max)	CAPACITY** (max)	BLOWER SPEED (max)	MOTOR (max)	NOISE (max)
	psig	cfm	rpm	hp	dBA
1A	13	141	5000	15	<70
	10.1	188	5000	15	70
2A	14.5	282	5000	30	73
	14.5	406	5000	40	76
	10.1	635	5000	40	75
	14.5	594	4800	600	76
	14.5	629	3800	60	77
3A	14.5	806	4800	75	77
	10.1	1147	4800	75	77
	14.5	941	3800	100	76
	14.5	1471	3800	120	77
	14.5	1524	3000	125	77
3.5	10.1	1912	3800	125	77
	14.5	2118	3000	200	78
	10.1	2884	3000	200	78
	14.5	2524	2400	250	77
4B	14.5	3237	2400	300	78
	10.1	4473	1800	300	78
	14.5	3531	1800	300	78
5A	10.1	4331	2400	375	78
	14.5	4708	2000	473	78
	10.1	6062	2000	473	78
	14.5	6121	1500	600	81

\*Atmospheric air: absolute pressure 14.7 psi, Temperature 68°F, Relative Humidity 36%  
 \*\*Flow tolerance of ± 5%



# HOFFMAN® & LAMSON® Products & Systems



## HOFFMAN & LAMSON Multistage Centrifugal Blowers

HOFFMAN & LAMSON Multistage Centrifugal Blowers are the ideal solution for processes that require uniform pressure, pulse-free flow, and oil-free operation. With designs optimized for 60 and 50 Hz markets, we offer efficient performance backed by a history of reliable operations.



## HOFFMAN REVOLUTION<sup>PLUS</sup> High-Speed Turbo Blower

The HOFFMAN REVOLUTION<sup>PLUS</sup> High-Speed Turbo Blower utilizes advanced centrifugal engineering technologies that deliver up to 40% energy savings, provide increased reliability with little or no maintenance, and come factory pre-wired and tested in an ergonomically designed sound enclosure for plug-and-play operation.



## Controls & Energy Management

Considering an efficiency upgrade? HOFFMAN & LAMSON upgrades and High-Speed Turbo Blower solutions deliver increased efficiency and improved reliability.



## Support, Service & OEM Parts

Restore blower performance and maintain system reliability with HOFFMAN & LAMSON OEM Service, support, and parts - available through our global network of HOFFMAN & LAMSON CERTIFIED™ Service & Distribution Centers.



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