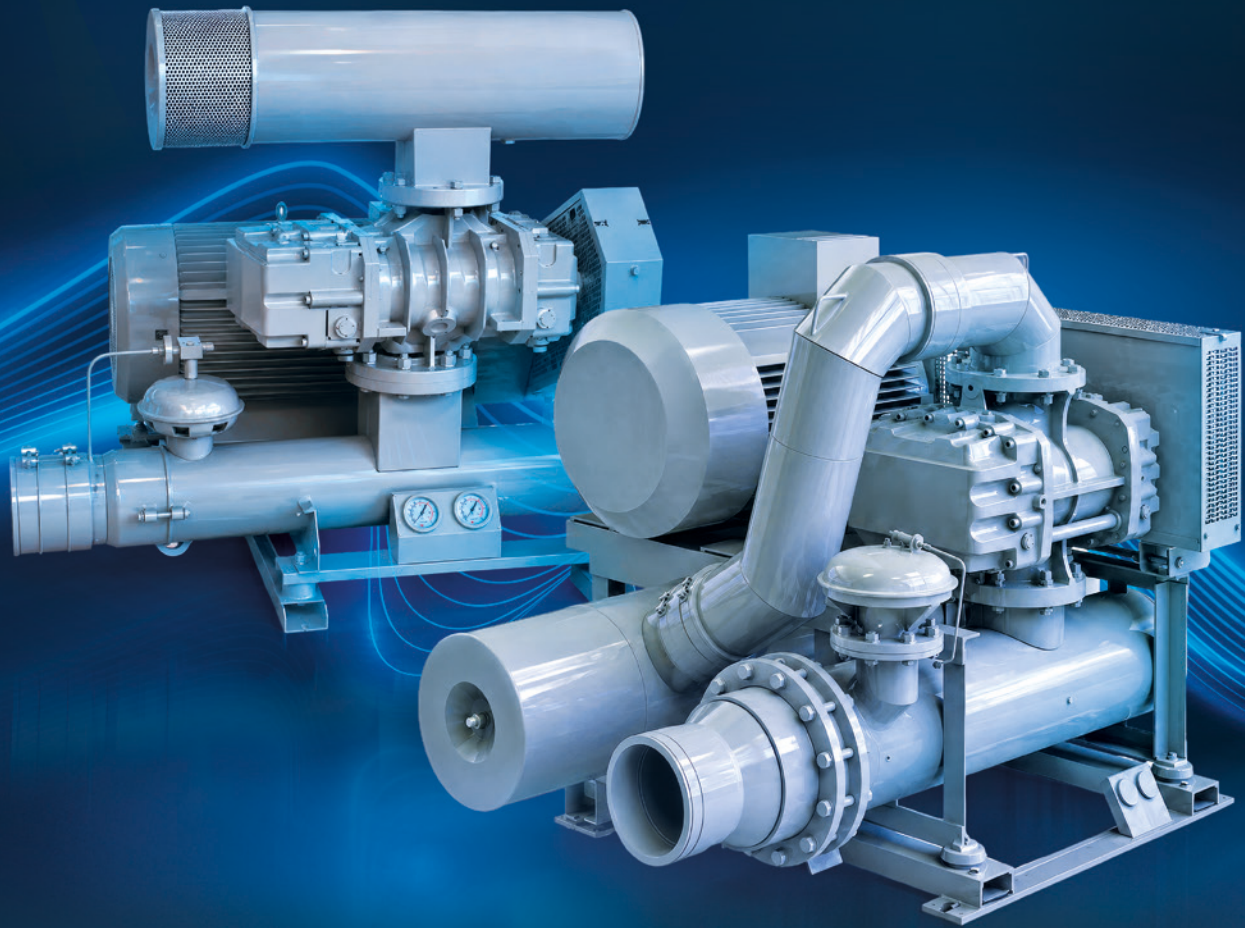


FPZ Rotary Lobe Blowers

High Performance in Air and Gas Handling



TM

SIMPLIFIED FLUID HANDLING



FPZ Rotary Lobe Blowers

High Performance in Air and Gas Handling

When your process cannot stop, you need a solution that guarantees continuity, stability and total control.

Rotary lobe blowers are designed to deliver high performance in air and gas handling, in both pressure and vacuum applications, even under the most demanding operating conditions.

STABLE FLOW, LESS VIBRATION, HIGHER EFFICIENCY

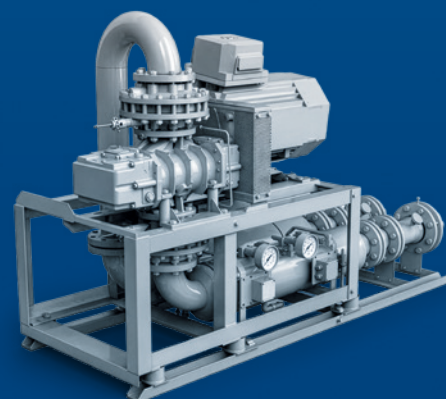
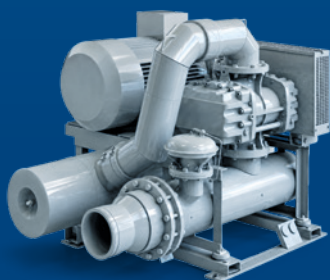
High-precision trilobe rotors reduce pulsations, noise and wear, extending the lifetime of the entire system.

ROBUST DESIGN FOR DEMANDING CONDITIONS

A rigid blower housing resists deformation and high thermal loads, ensuring long-term reliability.

SUPERIOR RELIABILITY OF CRITICAL COMPONENTS

High-strength shafts, precision-ground gears and advanced sealing systems ensure continuous, trouble-free operation.





FAST AND EASY MAINTENANCE

Standardized, modular components simplify service operations and spare parts management.

FULL ACCESSIBILITY

A smart unit layout allows easy access to all components, reducing maintenance time.

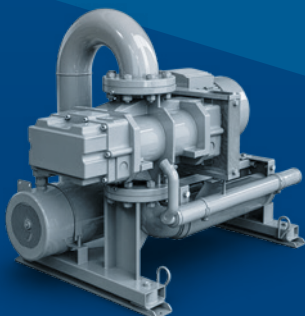
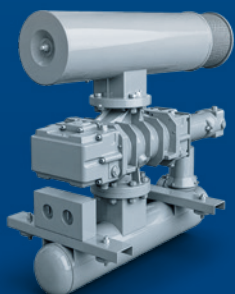
INTEGRATED SMART SOLUTIONS

No unnecessary auxiliary systems, reducing energy consumption, failures and operating costs. Noise and vibration reduction thanks to integrated silencers and optimized acoustic design. Compact and functional layout for easy installation and space optimization.

Applications

Rotary lobe blowers can be easily used in standard industrial processes and in the most complex environments:

- Air and gas applications
- Vacuum solutions for advanced requirements
- Configurations for aggressive gases and classified areas



Rotary Lobe Blowers

3D19T-3D100C

EFFICIENT

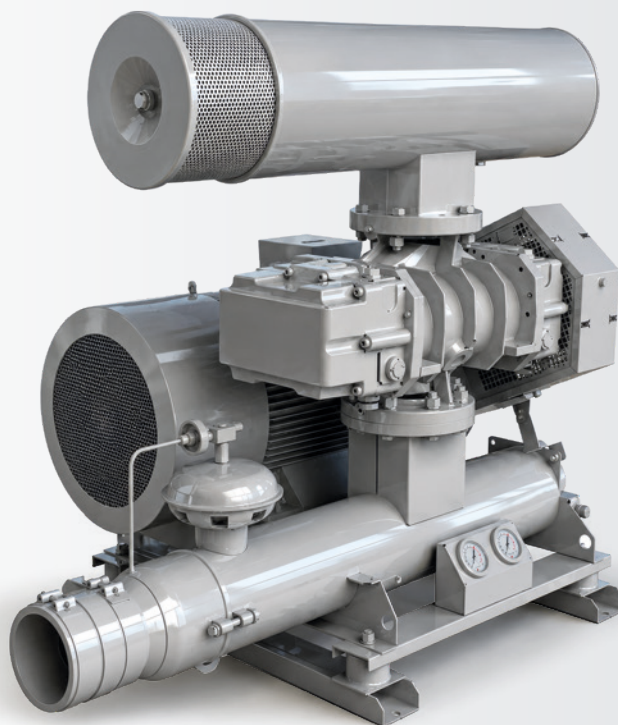
- Optimized rotor shape with precision machining
- User-friendly design with minimal operating costs
- Low energy consumption and high efficiency

QUIET

- High-efficiency discharge silencers
- Innovative acoustic enclosures
- Low pulsation

ROBUST

- Use of high-quality materials
- Proven durable design
- Easy handling



MAX. DIFFERENTIAL PRESSURE	VOLUME FLOW	NOMINAL MOTOR RATING	OUTLET CONNECTION
$\Delta P = 0 - 14.5 / -5.8 / -13.1$ psi	$Q = 9 - 11,970$ CFM	$P_1 = 0.75 - 750$ HP	NPS 2 - 20

Typical applications

- Tank Aeration
- Air Scour
- Pneumatic Conveying
- Gas Handling
- Aquaculture Aeration
- Transportation of combustion air to blast furnaces
- Desulphurization
- Drying applications
- Flotation
- Central Vacuum Systems
- Ventilation Systems

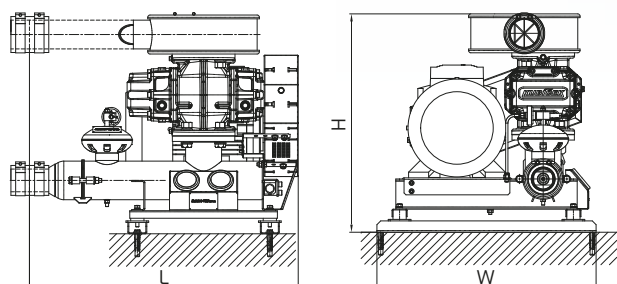
Standard scope of supply

- Rotary lobe blower
- Support frame
- Flexible mounting / Shock mounts
- Intake silencer with replaceable filter
- Combination absorption/chamber discharge silencer
- Safety or combined proportional valve
- Check valve
- Flexible discharge connection
- Suction manometer (with filter clogging indication) and discharge manometer
- Electric motor, efficiency class IE3
- Belt drive
- Initial oil filling
- Anchoring material
- Complete documentation
- V-belt drive cover for versions with acoustic enclosure

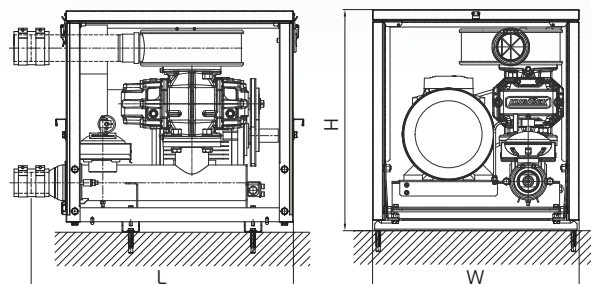
Optional equipment

- Acoustic enclosure for indoor (K) or outdoor (E) installation, including suction manometer (with filter clogging indication) and discharge manometer
- Frame for stacked installation (sizes 3D19–3D28)
- Connection for external suction
- Units can be equipped with sensors according to customer requirements (temperature, pressure, speed sensor, etc.)
- Nickel-plated blower stage
- Additional discharge silencer

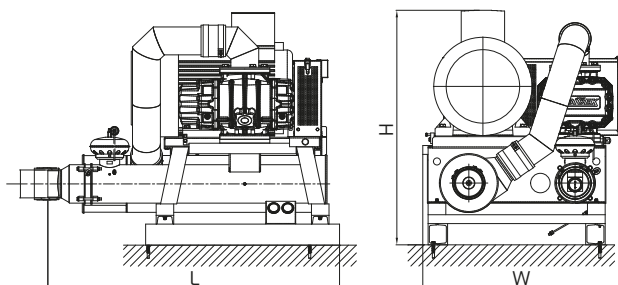
Dimensions of blower units 19, 28, 38, 45B without acoustic enclosure



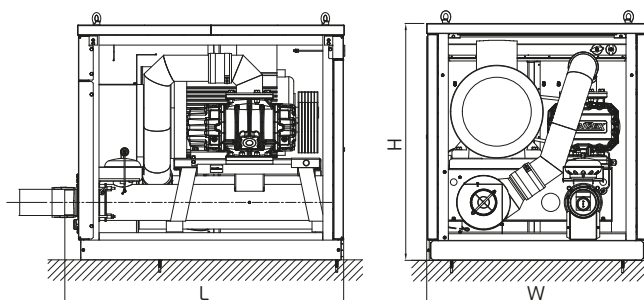
with acoustic enclosure



Dimensions of blower units 45C, 55, 60, 80, 90, 100 without acoustic enclosure



with acoustic enclosure



Model	Volume flow range (CFM)	Max. differential pressure (psi)	Max. vacuum (psi)	with pre-inlet cooling	Max. motor rating (HP)	Approx. weight (lb)		Dimensions L x W x H (in)		Gas inlet/outlet (in.)
						without acoustic enclosure	with acoustic enclosure no motor	without acoustic enclosure	with acoustic enclosure	
3D19T,S,A,B,C-050(1)K/E	9-110	13.1	NA	NA	7.5	187 - 214	249 - 276	28.0 x 22.8 x 22.8	28.0 x 23.2 x 25.0	2.5 / 2
3D28A,B,C-080K/E	34-285	13.1	5.8	10.2	5	304 - 344	370 - 410	35.8 x 28.3 x 28.0	35.8 x 29.5 x 30.1	4 / 3
3D38B,C-100K/E	85-559	14.5	5.8	13.1	30	516 - 551	670 - 705	43.7 x 29.5 x 43.9	46.1 x 36.8 x 45.5	4 / 4
3D45B-125K/E	212-756	14.5	5.8	13.1	75	992	1,213	49.4 x 45.3 x 47.6	49.4 x 45.3 x 49.2	5 / 5
3D45C,55B-150K/E	293-1,338	14.5	5.8	13.1	120	1,411 - 1,576	1,896 - 2,061	54.1 x 51.2 x 51.6	68.3 x 52.0 x 57.1	6 / 6
3D55C,60B-200K/E	636-1,886	14.5	5.8	13.1	175	2,094 - 2,425	2,976 - 3,307	68.1 x 52.8 x 60.2	75.6 x 64.2 x 65.4	8 / 8
3D60C,80B-250K/E	647-2,924	14.5	5.8	10.2	270	3,340 - 3,792	4,233 - 4,685	80.9 x 60.6 x 71.7	89.4 x 69.3 x 76.4	10 / 10
3D80C,90B-300K/E	1,413-4,980	14.5	5.8	13.1	420	6,393 - 6,834	8,157 - 8,598	94.9 x 71.1 x 83.1	94.9 x 84.6 x 84.6	12 / 12
3D90C,100B-400K/E	3,320-9,180	14.5	5.8	13.1	670	8,730 - 9,766	10,935 - 11,971	125.8 x 92.5 x 97.2	125.8 x 92.5 x 103.1	16 / 16
3D100C-500K/E	5,015-11,970	10.2	5.8	10.2	750	custom design		custom design		20 / 20

Screw Blower Units

SD28-SD60B

EFFICIENT

- 4+3 high-precision profiled rotors
- User friendly design minimizes operating costs
- Significant energy savings in comparison with classic PD blowers

SAFE

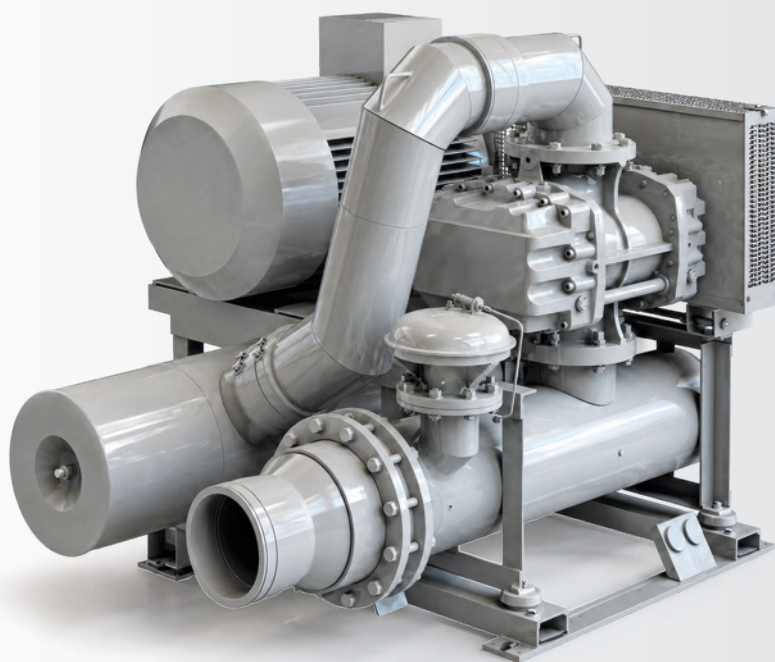
- Supplied as standard with safety or combined membrane valves and backflow valves, ensuring protection and precise blower operation

QUIET

- High-efficiency discharge silencers
- No pulsations thanks to continuous compression
- Innovative acoustic enclosures

ROBUST

- Use of high-quality materials
- Proven durable design
- Easy handling



MAX. DIFFERENTIAL PRESSURE	VOLUME FLOW	NOMINAL MOTOR RATING	OUTLET CONNECTION
$\Delta P = 0 - 14.5 \text{ psi}$	$Q = 75 - 1,940 \text{ CFM}$	$P_1 = 15 - 120 \text{ HP}$	4–8 in.

Typical applications

- Tank Aeration
- Air Scour
- Pneumatic Conveying
- Gas Handling
- Aquaculture Aeration
- Transportation of combustion air to blast furnaces
- Desulphurization
- Drying applications
- Flotation
- Central Vacuum Systems
- Ventilation Systems

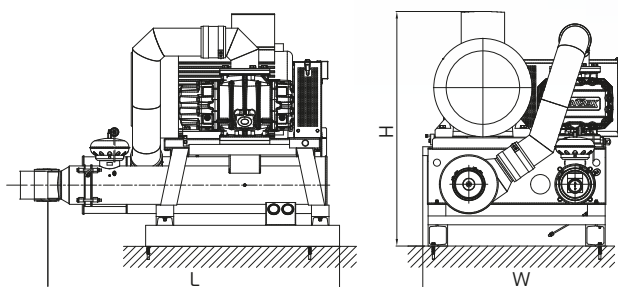
Standard scope of supply

- Screw blower (4+3 profile rotors)
- SOLID / INTEGRA chassis system
- Flexible mounting / silent blocks
- Intake silencer with replaceable filter
- Combination absorption/chamber discharge silencer
- Safety or combined proportional valve
- Check valve
- Flexible discharge connection
- Suction manometer (with filter clogging indication) and discharge manometer
- Electric motor, efficiency class IE3
- Belt drive
- Initial oil filling
- Anchoring material
- Complete documentation
- V-belt Drive Guard

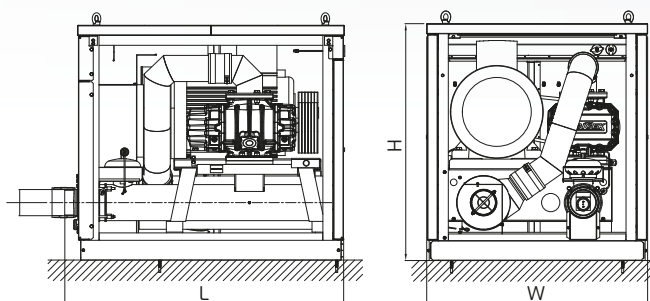
Optional equipment

- Acoustic enclosure for indoor (K) or outdoor (E) installation, including suction manometer (with filter clogging indication) and discharge manometer
- Connection for external suction
- Units can be equipped with sensors according to customer requirements (temperature, pressure, speed sensor, etc.)

Dimensions of blower units without acoustic enclosure



with acoustic enclosure



Model	Volume flow range (CFM)	Max. differential pressure (psi)	Max. motor rating (HP)	Dimensions L x W x H (in.)		Gas inlet/outlet (in.)
				without acoustic enclosure	with acoustic enclosure	
SD28-100K/E	77 - 273	14.5	30	43.7 x 29.5 x 43.9 in	45.8 x 36.8 x 45.5 in	4 / 4
SD38-125K/E	144 - 735	14.5	75	49.4 x 45.3 x 47.6 in	49.4 x 45.3 x 49.2 in	5 / 5
SD45-150K/E	320 - 1,083	14.5	100	54.1 x 51.2 x 51.6 in	54.1 x 52.0 x 57.1 in	6 / 6
SD60B-200K/E	456 - 1,942	14.5	120	68.1 x 52.8 x 60.2 in	68.1 x 64.2 x 65.4 in	8 / 8

Main advantages

The overall concept of the unit arrangement is designed with emphasis on maximum reliability and functionality, easy inspection, maintenance and accessibility of individual parts of the unit, even inside the acoustic enclosure.

- No need for oil pumps or additional coolers
- Very low operating costs
- Easy operation, installation and maintenance
- No air pulsations at the discharge due to continuous compression
- Easy access to all service points
- Safety – supplied with safety or combined membrane valves and backflow valves to ensure maximum protection during blower operation
- Minimum installation footprint
- Low noise thanks to the special design of the combined discharge silencer
- Long service life

Innovative solutions combining the best of rotary lobe blowers and screw compressors

Power consumption is a highly monitored parameter and forms the largest part of the operating costs of blowers. This is true for almost all applications.

Compared to a classic rotary lobe blower, screw blowers offer significantly higher efficiency from 7.3 psi and above.

Using a proven chassis and acoustic enclosure design that is identical for both screw and existing rotary lobe blowers, the design allows easy interchange between rotary lobe and screw blower stages (by replacing the original rotary lobe stage, the customer gets a full-featured economical screw blower).

Due to the design of the sealing elements and the internal oil circulation, screw blowers do not require any additional oil pump or large-volume oil management system with cooler.

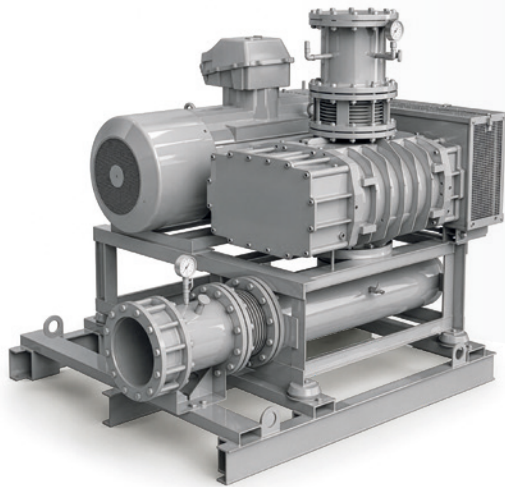
High-precision longitudinally mounted rotors with a 4+3 profile ensure reliable and efficient operation.

Screw blowers are the most suitable solution for pressure applications with continuous or variable-speed operation up to 14.5 psi.

High precision of manufactured parts and an optimized rotor profile enable higher efficiency than conventional positive displacement blowers.

Complete Blower Range

Rotary lobe and screw blower solutions for pressure, vacuum and specialized industrial applications.



Vacuum blower units

Rotary lobe blowers operating in vacuum mode are available in three versions: standard single-stage, customized multistage, and versions equipped with a pre-inlet cooling system. Basic units provide vacuum up to 11.8" Hg, while pre-inlet cooling systems achieve vacuum up to 28.1" Hg. Special multistage units are capable of reaching a working vacuum up to 29.5" Hg.

WORKING PRESSURE - RELATIVE

$\Delta P = 0 - 11.8''$ Hg
basic design

$\Delta P = 11.8''$ Hg to 23.6" Hg
with pre-inlet cooling

$\Delta P = \text{up to } 29.5''$ Hg
multi-stage design

VOLUME FLOW

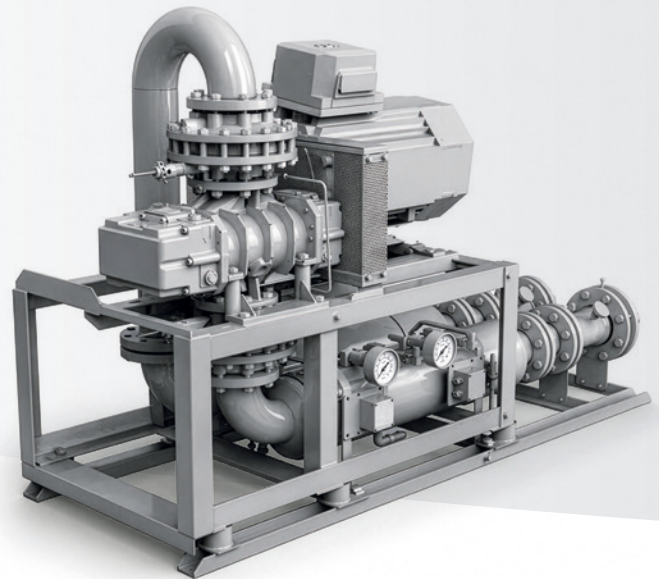
$Q = 9 - 11,770$ cfm

ELECTRIC MOTOR POWER

$P_1 = 0.33 - 750$ HP

CONNECTION DIMENSIONS

NPS 2 - 20



Gas blower units

Based on the standard series of rotary lobe blowers, these custom units are designed for the extraction, compression and transport of flammable, explosive and aggressive gases. They are available in various material configurations and workspace surface finishes, including all-stainless steel construction.

WORKING PRESSURE

$\Delta P = 0$ to 14.5 psi (rel.)
pressure

$\Delta P = 0$ to 11.8" Hg
vacuum

$\Delta P = 11.8''$ to 23.6"
vacuum with cooler

VOLUME FLOW

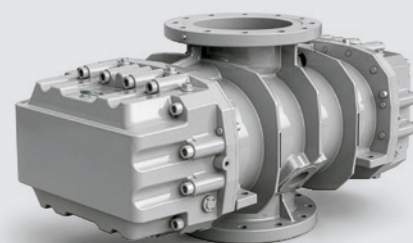
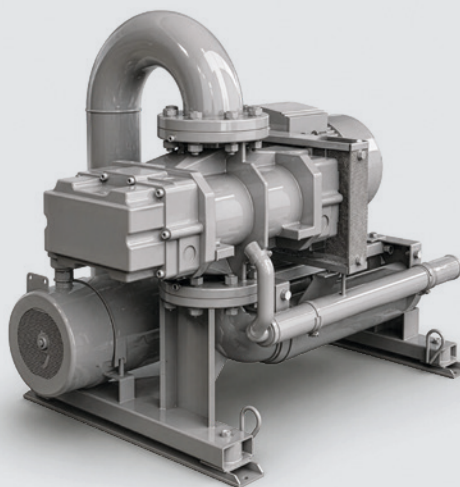
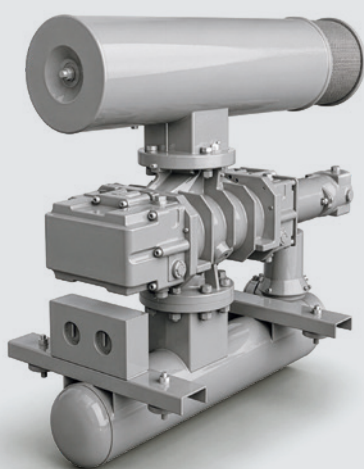
$Q = 9 - 11,770$ cfm

ELECTRIC MOTOR POWER

$P_1 = 0.33 - 750$ HP

CONNECTION DIMENSIONS

NPS 2 - 20



Mobile applications

Blower units designed for operation on special trucks and trailers. Experience gained through long-term cooperation with truck body builders is reflected in the continuous design and development of these customer-specific units.

WORKING PRESSURE

$\Delta P = 0$ to 14.5 psi (rel.)
pressure

$\Delta P = 0$ to -11.6 psi (rel.)
vacuum

VOLUME FLOW

$Q = 24 - 11,770$ cfm

ENGINE POWER

$P_1 = 1 - 750$ HP

CONNECTION DIMENSIONS

NPS 3 - 20

Blowers in agriculture

Blower units designed for a wide range of agricultural applications. Typical applications include vacuum pumps for milking systems and aeration equipment for fish farming.

WORKING PRESSURE - RELATIVE

$\Delta P = 0 - 14.5$ psi (rel.)
pressure

$\Delta P = 0$ to -11.6 psi (rel.)
vacuum

VOLUME FLOW

$Q = 9 - 11,770$ cfm

ENGINE POWER

$P_1 = 0.33 - 750$ HP

CONNECTION DIMENSIONS

NPS 2 - 20

Bare shaft blower units

Rotary lobe blowers are devices in which external compression of a gaseous medium takes place by means of two three-lobe rotors (rotary pistons). The system is equipped with a synchronizing gear with precision-ground helical gearing, ensuring accurate and smooth rotor operation. At the same time, it maintains the required rotor clearance for non-contact rotation, eliminating the need for lubrication inside the compression chamber and preventing oil contamination of the conveyed medium.

WORKING PRESSURE

$\Delta P = 0$ to 14.5 psi rel.
pressure

$\Delta P = 0$ to -11.6 psi rel.
vacuum

VOLUME FLOW

$Q = 9 - 11,770$ cfm

FLANGE CONNECTION

NPS 2 - 20 / Class 150

System Components & Accessories

Engineered components designed to enhance safety, efficiency and system performance.



FB Deflagration flame arresters

The FB series deflagration flame arresters are intended to protect process equipment used for the storage, distribution, extraction, transport, compression and further processing of flammable and explosive gases and mixtures within the relevant explosion group. The use of a flame arrester is limited by the maximum operating pressure and operating temperature range for which it has been tested. The arresters are certified according to EN ISO 16852.

WORKING PRESSURE

max. 17.4 psia

TEMPERATURE RANGE

-4 to +140 °F

CERTIFIED

EN ISO 16852

AW Heat exchangers

Based on extensive experience in the design and manufacture of special blower units for various industrial applications, tubular AW (air-to-water) heat exchangers are designed for direct heat exchange between air or gas and liquid. They are installed at the inlet or outlet of blower units. A counterflow configuration is used to achieve higher thermal performance.

ON THE GAS SIDE

ON THE LIQUID SIDE

MAX. TEMPERATURE

572 °F

230 °f

MAX. FLOW

7,770 cfm

up to 12,5 m³/hour

TEMPERATURE RANGE

-4 to 572 °F

CONNECTION DIMENSIONS

NPS 1 - 12

Pipe silencers

Pipe silencers are used where higher noise reduction is required. They are suitable for low- and medium-pressure piping systems. By using a silencer, unpleasant acoustic resonances can be reduced, lowering the frequency and noise level emitted by the pipeline. The outer casing is manufactured entirely from stainless steel.

CONNECTION DIMENSIONS

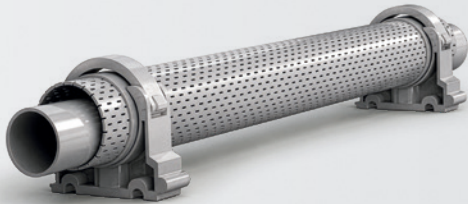
NPS 2 - 20

CONNECTION VARIANTS

- Flanges
- Flexible connection
- Welded

CASING MATERIAL

Stainless steel



Aeration membranes

High-quality aeration membranes are available in polyurethane (PU) and EPDM materials, providing reliable performance for a wide range of aeration applications.

**OXYGEN USE UNDER STANDARD
CONDITIONS PER FOOT OF ELEMENT
IMMERSION**

(Ea) up to 2.6 %/ft

PRESSURE LOSS

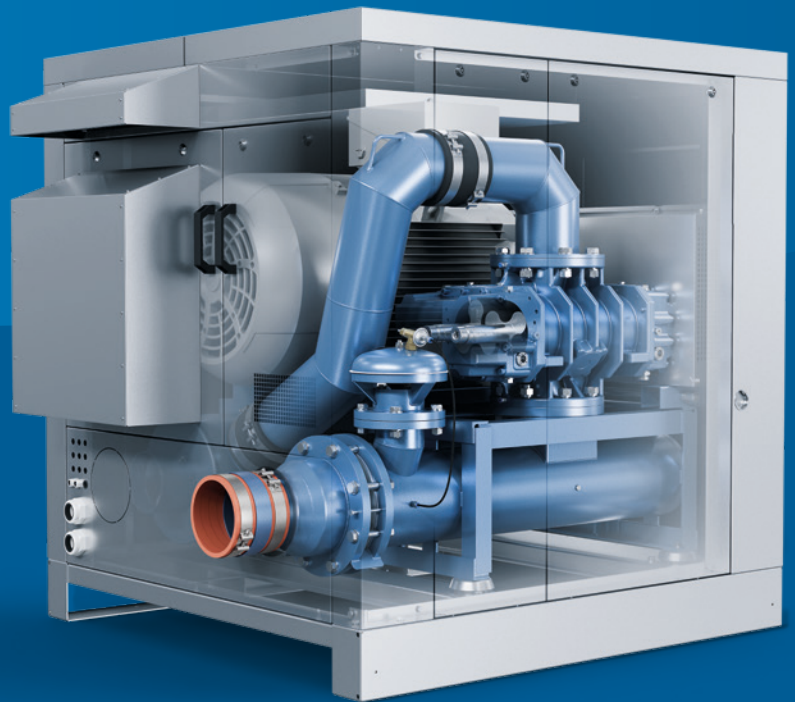
(Δp) 0.6 - 0.9 psi

RECOMMENDED FLOW

(QL) 0.45 - 0.90 cfm/ft

Acoustic enclosure

An optimized enclosure design that reduces noise emissions while providing easy access to all service points.



- Fork Slots
- Stainless Steel Construction
- Removable Panels for Easy Maintenance

FPZ

Worldwide
sales network



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This brochure contains information that we believe to be correct, and blowers have been successfully selected with this information. FPZ, however, cannot guarantee that the blower selected will work successfully as there may be additional factors such as, but not limited to, pipe size, sparger design, and plumbing configuration that are not covered in this brochure. It is the user's responsibility to determine the suitability of the product for his or her intended use and the user assumes all risk and liability whatsoever in connection therewith.

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