



Spraying Systems Co.
Experts in Spray Technology



Spray
Nozzles



Spray
Control



Spray
Analysis



Spray
Fabrication



WindJet® Air Knife Packages

Deliver superior blowing and drying performance in a complete, customizable package.

WindJet® Air Knife Packages

Complete packages available from a single supplier

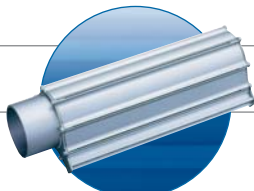

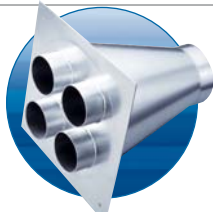
To deliver peak performance that meets your needs and to provide you with a single supplier, Spraying Systems Co.® has put together complete WindJet Air Knife blowing and drying packages.

Benefits

- A complete solution, fully customized for your application
- Unique, high-performance WindJet Air Knives
- Low-maintenance, direct-drive blower
- Clean, heated air
- Energy-efficient air source
- Low operating noise, requiring no need of a sound enclosure
- Ease of installation

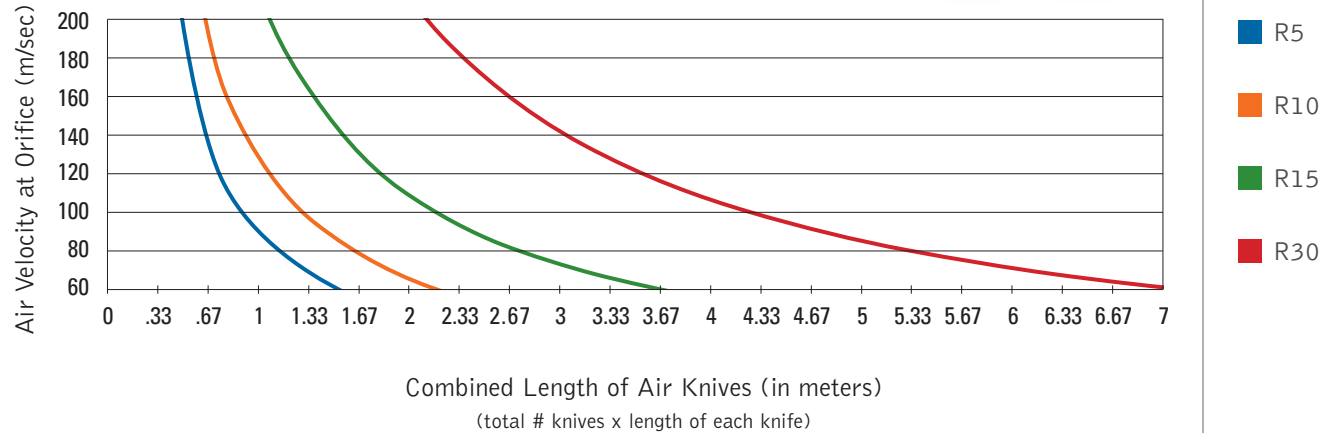
Packages are customized for your application

The number and length of knives, air slot choice, blower size and necessary accessories vary depending on your application. Packages are differentiated by the horsepower size of the included Gast® blower.

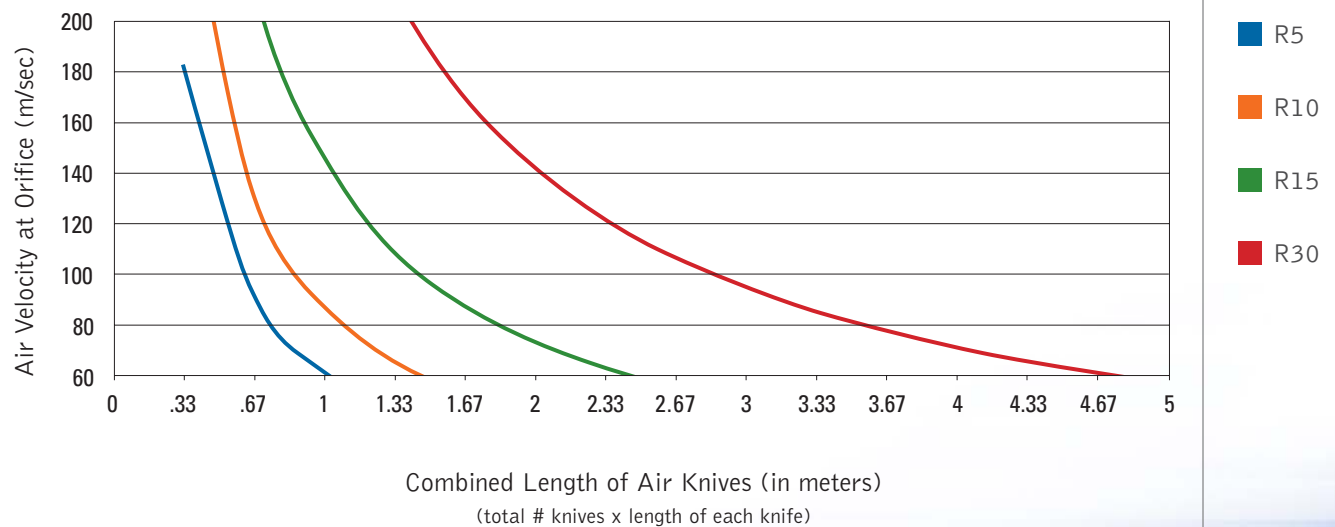
Each fully customized package consists of:		
WindJet Air Knives		
Knife lengths of 152 mm, 305 mm, 457 mm, 610 mm, 762 mm and 914 mm Custom lengths also available	Air slot sizes of 1 mm and 1.52 mm	
Gast Regenerative Blower Assemblies Available in 3.6, 6, 7.5 and 14.1kW		
Assemblies Include: Pressure relief valve Pressure gauge Air inlet filter	Fittings Convenient mounting adapter for flexible or rigid tubing	
Package Accessories		
Mounting brackets Muffler Flexible and/or rigid tubing Elbows	Couplings Clamps Manifolds Air cannons	

To assemble the best package choice,
 your Spraying Systems Co. sales engineer will work with you to assess your
 situation and make a WindJet Air Knife Package design recommendation.

Package Sizing Guide - 1 mm Air Slot — 50Hz



Package Sizing Guide - 1.52 mm Air Slot — 50Hz



A breakthrough in air knife technology



Spraying Systems Co.®, the world's leading manufacturer of spray nozzles and accessories, has put much effort into using our unparalleled spray technology expertise to develop a new advanced air knife. And the work has paid off. This exciting debut will make blowing and drying more controlled, more efficient and more reliable.

Unique protruding leading edge leads to a more controlled air stream

The new WindJet Air Knife, the latest addition to our successful WindJet line, has many features that are sure to make your dryoff and blowoff applications more successful. The biggest development is our unique protruding leading edge that extends 3 mm beyond the air slot along the length of the knife. Because of this pronounced edge, the flow of air is directed out of the knife in a straight stream. This leads to a stream that retains its integrity in a more controlled manner.

The extended edge also improves the air entrainment around the air knife body. The WindJet Air Knife operates on the principles of the Coanda effect and air entrainment to provide a steady, consistent, high-volume stream of air. The longer edge of the air knife takes advantage of the Coanda effect, which induces the supplied air to attach itself to the surface of the knife. Thus the integrity of the air stream is maintained further downstream, and a condition conducive to the entraining of ambient air is present, increasing the total volume of air (see Figure 1).

The benefit is clear — a uniform, high-volume, constant air stream along the entire knife length ensures no spotting or blotching. Which means you gain a higher quality, consistent blowing/drying process.

In addition to producing a uniform, controlled air stream, our leading edge helps application setup. The extended edge provides a visual guide as to where the air stream is headed. It literally points out the direction of the flow, so you can accurately position the knife for optimum performance.

The air knife comes in two air slot sizes, 1 mm for a higher impact air stream and 1.52 mm for a higher flow. Both offer greater flexibility in air knife performance.

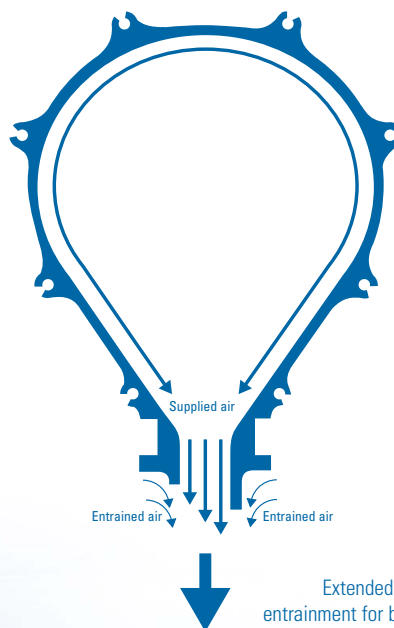


Figure 1
Extended edge improves air
entrainment for better performance

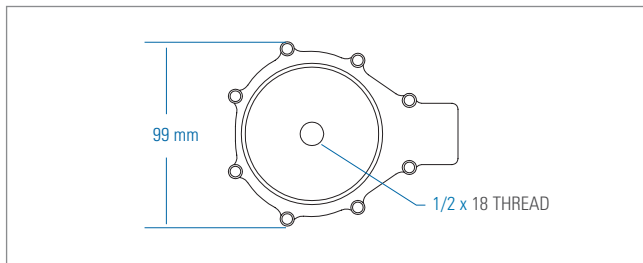
The entire air knife performs

Our WindJet Air Knife features a teardrop shape, which gives the exiting air stream a higher velocity for a more effective result. Additionally, high-quality gaskets on each end cap of the knife avoid air leakage for higher efficiencies.

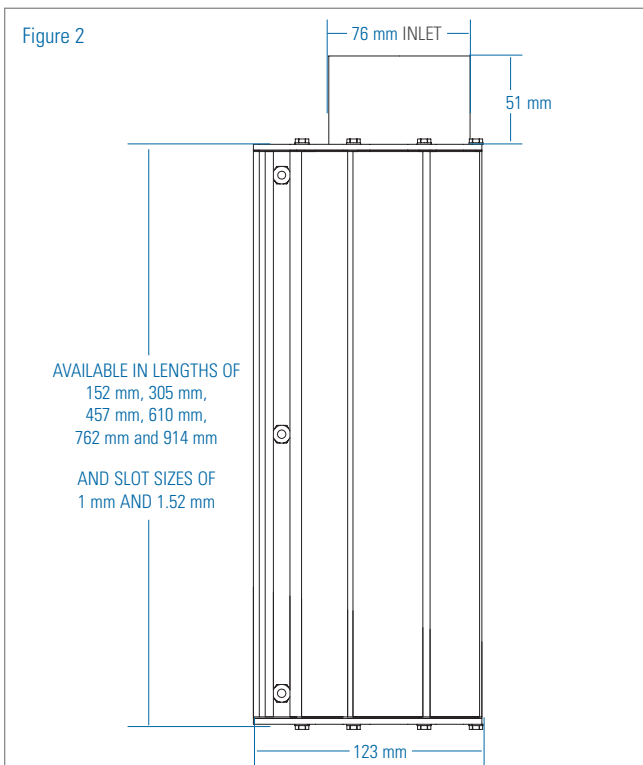
Our knife offers superior corrosion resistance, includes a 76 mm flanged air inlet and is designed with a threaded mounting insert. The knife is available in the following lengths: 152 mm, 305 mm, 457 mm, 610 mm, 762 mm and 914 mm (see Figure 2).

Descriptions — Aluminum

Front (Approx. Dimensions)



Side (Approx. Dimensions)



Request data sheet 50700 for dimensions of stainless steel air knives.

Performance features

- Unique extended leading edge delivers consistent, controlled air stream
- Improved setup with added visual reference
- Two available air slot sizes: 1 mm and 1.52 mm
- High-velocity air stream, due to teardrop shape and improved air entrainment
- Corrosion-resistant finish
- Leak-proof end caps
- Standard lengths up to 914 mm
- Custom lengths available

WindJet Air Knife Part Numbers

Part Number	Knife Length (Approx.)	Air Slot	Material
50750-06-040	152 mm	1 mm	Aluminum
50750-06-060	152 mm	1.52 mm	Aluminum
50750-12-040	305 mm	1 mm	Aluminum
50750-12-060	305 mm	1.52 mm	Aluminum
50750-18-040	457 mm	1 mm	Aluminum
50750-18-060	457 mm	1.52 mm	Aluminum
50750-24-040	610 mm	1 mm	Aluminum
50750-24-060	610 mm	1.52 mm	Aluminum
50750-30-040	762 mm	1 mm	Aluminum
50750-30-060	762 mm	1.52 mm	Aluminum
50750-36-040	914 mm	1 mm	Aluminum
50750-36-060	914 mm	1.52 mm	Aluminum
50700-06-040	152 mm	1 mm	Stainless Steel
50700-12-040	305 mm	1 mm	Stainless Steel
50700-18-040	457 mm	1 mm	Stainless Steel
50700-24-040	610 mm	1 mm	Stainless Steel
50700-30-040	762 mm	1 mm	Stainless Steel
50700-36-040	914 mm	1 mm	Stainless Steel

Dual inlet caps available. Ask your sales engineer.

Gast® Regenerative Blowers

Gast regenerative blowers deliver
maintenance-free, highly efficient blowing/drying performance



Benefits

- Low maintenance, direct-drive operation
- Permanently sealed ball bearings incorporate new polyurea grease to extend bearing life and offer superior resistance to washout, rust and corrosion
- Fan cooling dissipates heat around the bearings to help prolong bearing life
- Continuous, non-pulsating, oil-free air flow
- Low noise — integrated mufflers minimize operating noise (see sound level data below)
- Rugged construction of cast aluminum or cast iron, depending on model size
- No heating element; air is warmed by heat generated during operation
- Motors are UL, CE and CSA certified
- Three-phase, dual frequency and multi-voltage motor versions available for worldwide applications

Sound Levels of Gast Blowers

60Hz	dBa at Pressure	50Hz	dBa at Pressure
R5	82-83	R5	77-80
R10	82-84	R10	77-79
R15	82-85	R15	78-85
R30	81-88	R30	79-86

Spraying Systems Co.® is pleased to partner with Gast Manufacturing, a leading manufacturer of regenerative blowers, to provide the air source for the WindJet® Air Knife Package.

Gast regenerative blowers are exceptional in that they save you money because, unlike other blower choices, they require minimal maintenance and operate with greater efficiencies. Downtime is minimized; performance is guaranteed.

What is the regenerative principle?

In a regenerative blower, the compression space consists of a hollow, circular ring between the tips of the impeller blades and the walls of the housing. In operation, the rotating impeller draws in air from the inlet port into the compression space and moves it radially outward to the curved housing by centrifugal force (see Figure 3).

The action is called “regenerative” because a certain amount of air slips past each impeller blade during rotation and returns to the base of a succeeding blade for re-acceleration.

Because of this dynamic principle, regenerative blowers can generate pressure performance comparable to many multi-stage or positive displacement blowers.

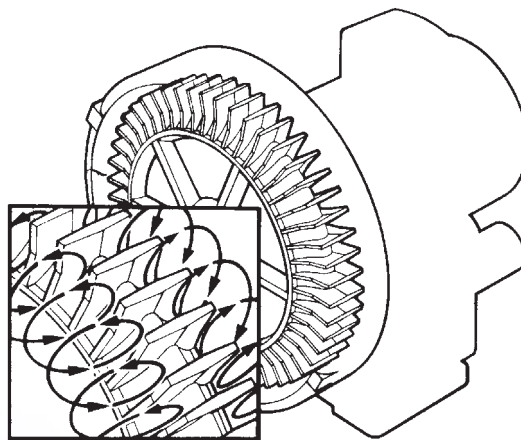


Figure 3
Regenerative Principle Illustrated

Four versions to fit your application

Spraying Systems Co. offers four blower options: 3.6, 6, 7.5 and 14.1kW. Choice of blower size will be contingent upon the number of knives used in the application, necessary air volume and distance from blower to points of dryoff. Refer to the blower performance table below, the package sizing guide on page 3 and your Spraying Systems Co. sales engineer to identify the right size.



Blower Performance

Model Series	Power Rating				Maximum Free Air Flow		Maximum Pressure	
	hp		kW		m³/h		mbar	
	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz
R5	5.0	4.8	3.7	3.6	493	416	149	174
R10	10	8	7.5	6	714	595	311	286
R15	15	10	11.1	7.5	1155	994	311	311
R30	30	19	22.3	14.1	2294	1937	311	274

To convert "H₂O to bar, multiply "H₂O x 0.00249

Blower Assembly Considerations

- Operating the blowers at high altitude decreases their maximum pressure duty rating. If this is a consideration, contact your Spraying Systems Co. sales engineer.
- The exhaust air temperature of the blowers increases with increasing duty. To prevent danger of burns, access to these pipes should be limited, guarded or marked "Danger Hot."
- Warning: Models without explosion-proof motors should not pump combustible gases or be used in combustible ambients.

Performance Data

The performance data shown in this bulletin were determined under the following conditions:

- Line voltage @ 60Hz. 230V or 460V for three-phase units
- Line voltage @ 50Hz. 220V for three-phase units
- Units in a temperature stable condition
- Delivery measurements made with input port throttled
- Test conditions: Inlet air density at 1.2 kg per cu. meter [20° C (68° F), 29.92 in. Hg (14.7 PSIA)]
- Normal performance variations on the resistance curve within ±10% of supplied data can be expected
- Pictorial and dimensional data is subject to change without notice

50760-R5 Blower Assembly



Product Features

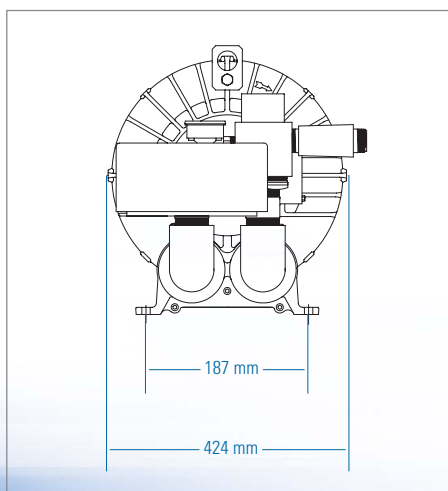
- Rugged construction, low maintenance
- Direct-drive operation
- Oilless operation
- UL, CE and CSA approved TEFC motor with permanently sealed ball bearings
- Aluminum cover, impeller and housing
- Heated air
- Inlet and outlet have internal muffling

Standard Components

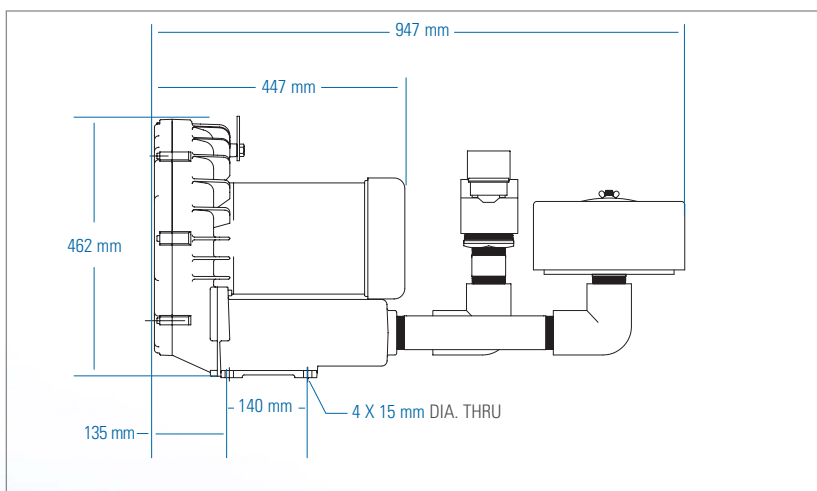
- Pressure gauge
- Inlet filter
- Pressure relief valve
- Outlet mounting adapter
- Fittings

Descriptions

Front (Approx. Dimensions)



Side (Approx. Dimensions)



Mounting in all planes is acceptable

Blower Performance — 50760-R5

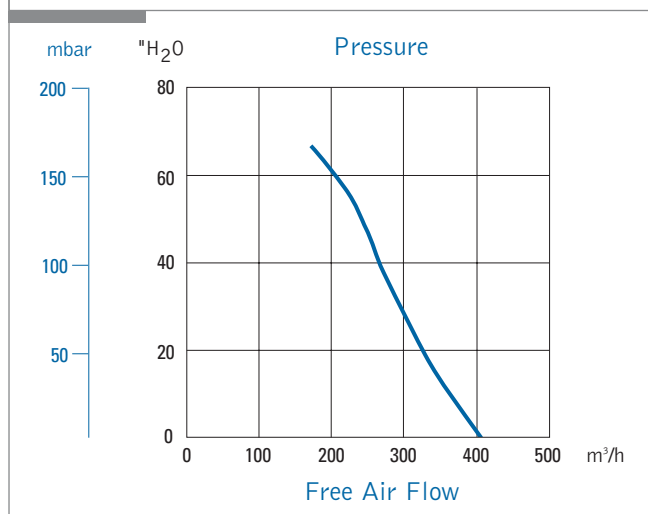
Model Series	Power Rating				Maximum Free Air Flow		Maximum Pressure	
	hp		kW		m³/h		mbar	
R5	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz
	5.0	4.8	3.7	3.6	493	416	149	174

To convert "H₂O to bar, multiply "H₂O x 0.00249

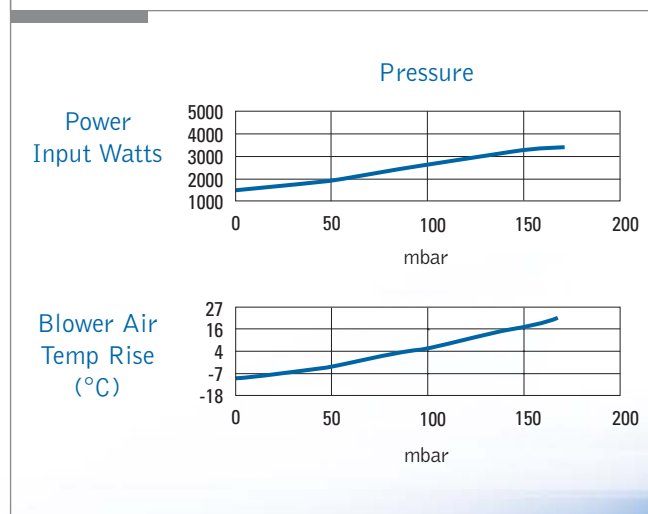
Specifications — 50Hz

Model	50760-R5
Motor Enclosure	TEFC
HP/kW	4.8/3.6
Voltage	190-220/380-415-3
Amps	14.4-13.4/7.2-6.8
Starting Amps	57@380V
Insulation Class	F
Net Weight	80 kg

Blower Operating Pressure — 50Hz



Blower Air Temperature Increase — 50Hz



Ordering Information

50760	—	R5
Part No.		Blower Size

50760-R10

Blower Assembly



Product Features

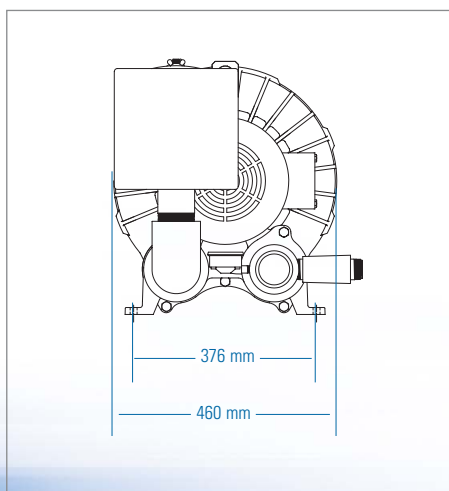
- Rugged construction, low maintenance
- Direct-drive operation
- Oilless operation
- IP54 rated enclosures on motors
- UL, CE and CSA approved TEFC motor with permanently sealed ball bearings
- Aluminum impeller; cast iron cover and housing
- Inlet and outlet have internal muffling
- Heated air

Standard Components

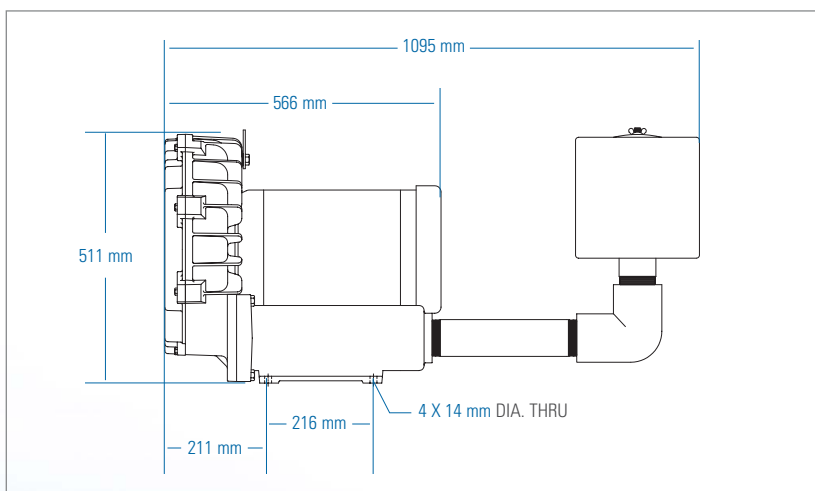
- Pressure gauge
- Inlet filter
- Pressure relief valve
- Outlet mounting adapter
- Fittings

Descriptions

Front (Approx. Dimensions)



Side (Approx. Dimensions)



Mounting in all planes is acceptable

Blower Performance — 50760-R10

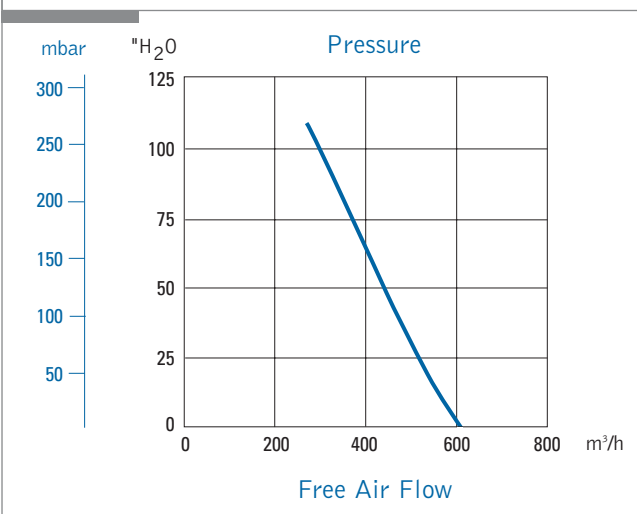
Model Series	Power Rating				Maximum Free Air Flow		Maximum Pressure	
	hp		kW		m³/h		mbar	
R10	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz
	10	8	7.5	6	714	595	311	286

To convert "H₂O to bar, multiply "H₂O x 0.00249

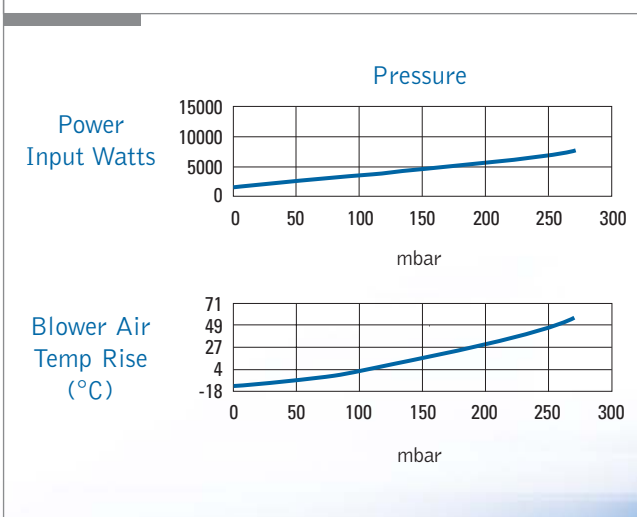
Specifications — 50Hz

Model	50760-R10
Motor Enclosure	TEFC
HP/kW	8/6
Voltage	190-220/380-440-3
Amps	27-23/13.5-12.3
Starting Amps	143 @ 380V
Insulation Class	F
Net Weight	133 kg

Blower Operating Pressure — 50Hz



Blower Air Temperature Increase — 50Hz



Ordering Information

50760	—	R10
Part No.		Blower Size

50760-R15 Blower Assembly



Product Features

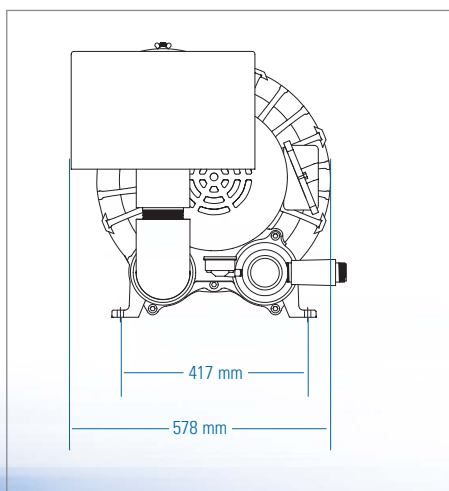
- Rugged construction, low maintenance
- Direct-drive operation
- Oilless operation
- IP54 rated enclosures on motors
- UL, CE and CSA approved TEFC motor with permanently sealed ball bearings
- Cast iron cover, housing and muffler enclosure
- Cast aluminum impeller
- Inlet and outlet have internal muffling
- Heated air

Standard Components

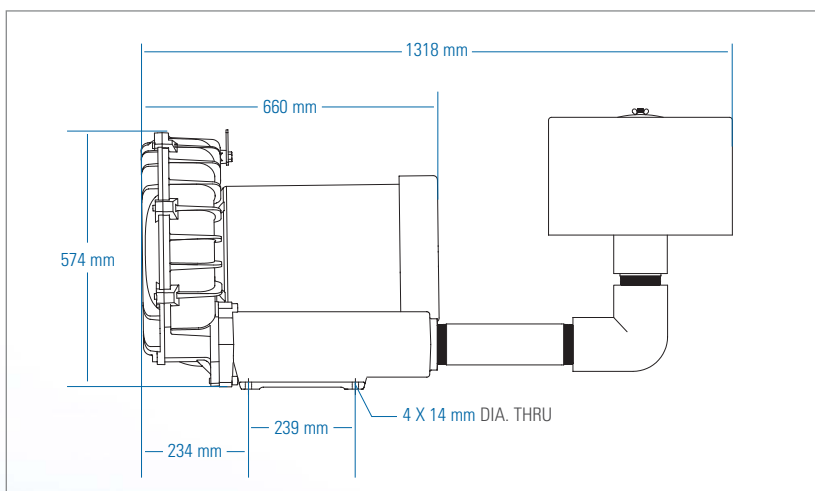
- Pressure gauge
- Inlet filter
- Pressure relief valve
- Outlet mounting adapter
- Fittings

Descriptions

Front (Approx. Dimensions)



Side (Approx. Dimensions)



Horizontal mounting only

Blower Performance — 50760-R15

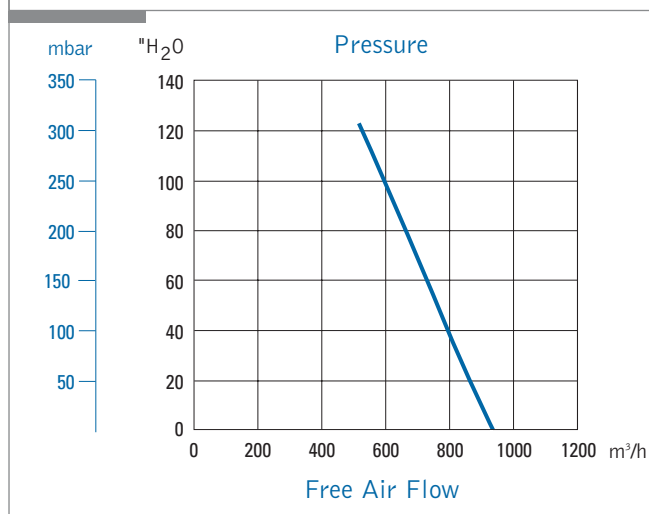
Model Series	Power Rating				Maximum Free Air Flow		Maximum Pressure	
	hp		kW		m³/h		mbar	
R15	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz
	15	10	11.1	7.5	1155	994	311	311

To convert "H₂O to bar, multiply "H₂O x 0.00249

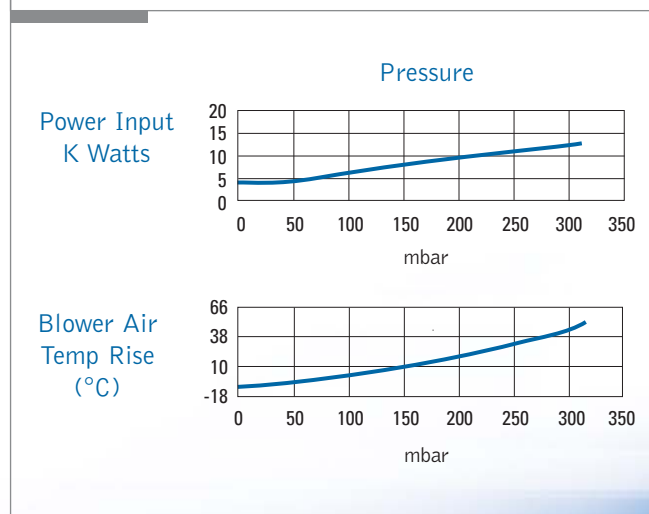
Specifications — 50Hz

Model	50760-R15
Motor Enclosure	TEFC
HP/kW	10/7.5
Voltage	190-220/380-440-3
Amps	46-42/23-21
Starting Amps	185 @ 380V
Insulation Class	F
Net Weight	204 kg

Blower Operating Pressure — 50Hz



Blower Air Temperature Increase — 50Hz

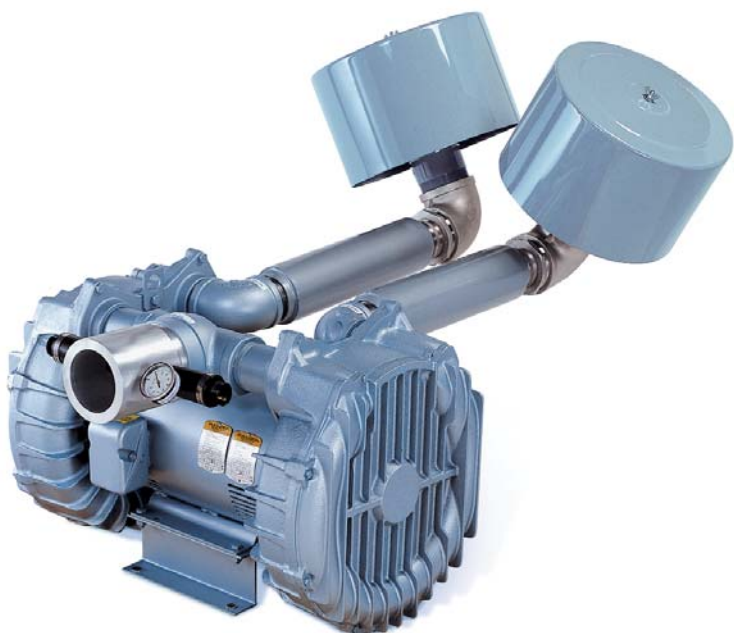


Ordering Information

50760	—	R15
Part No.		Blower Size

50760-R30

Blower Assembly



Product Features

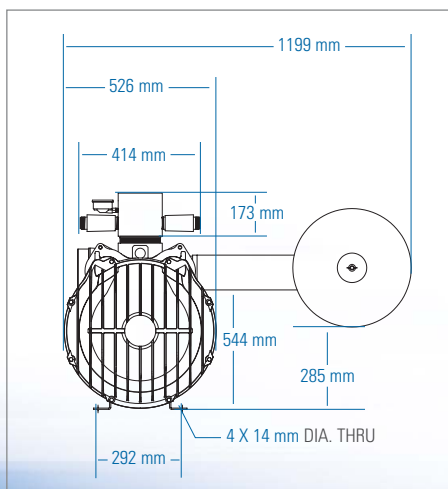
- Rugged construction, low maintenance
- Direct-drive operation
- Oilless operation
- IP54 rated enclosures on motors
- UL, CE and CSA approved ODP motor with permanently sealed ball bearings
- Cast iron covers and blower housing
- Cast aluminum impellers
- Includes external mufflers for additional silencing
- Smaller and less costly than two motor-mounted units
- Heated air

Standard Components

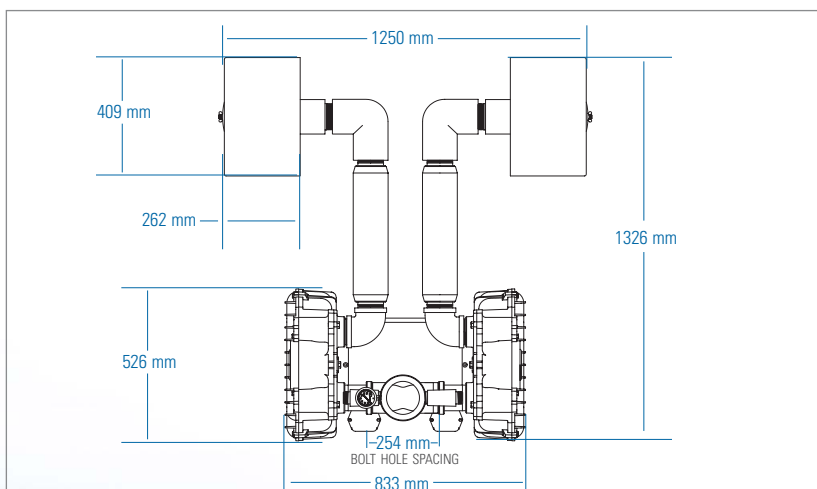
- Pressure gauge
- Two inlet filters
- Two external mufflers for additional silencing
- Two pressure relief valves
- Outlet mounting adapter
- Fittings

Descriptions

Front (Approx. Dimensions)



Side (Approx. Dimensions)



Horizontal mounting only

Blower Performance — 50760-R30

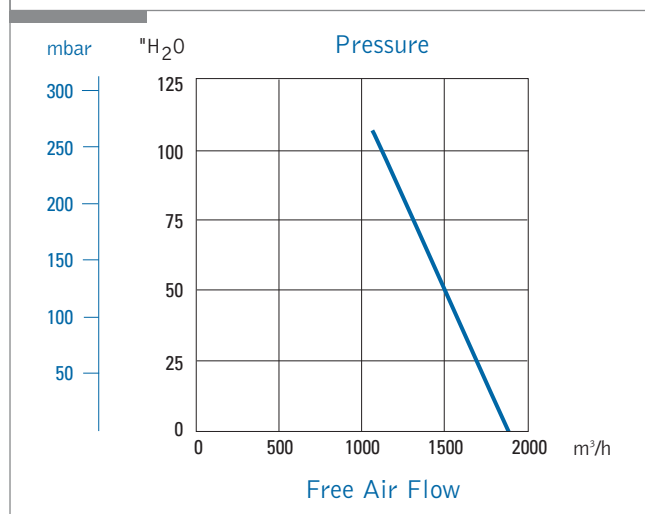
Model Series	Power Rating				Maximum Free Air Flow		Maximum Pressure	
	hp		kW		m³/h		mbar	
R30	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz
	30	19	22.3	14.1	2294	1937	311	274

To convert "H₂O to bar, multiply "H₂O x 0.00249

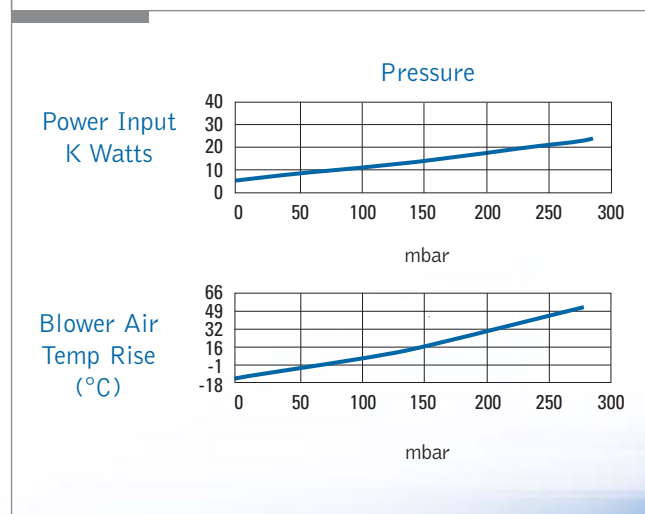
Specifications — 50Hz

Model	50760-R30
Motor Enclosure	ODP
HP/kW	19/14.1
Voltage	190-220/380-440-3
Amps	76-70/38-55
Starting Amps	185 @ 380V
Insulation Class	F
Net Weight	282 kg

Blower Operating Pressure — 50Hz



Blower Air Temperature Increase — 50Hz



Ordering Information

50760	—	R30
Part No.		Blower Size

Blower Assembly Components

Air Inlet Filter

Keeps particles from entering the blower, ensuring smooth operation and trouble-free service. Filters come with all blower assemblies. Standard assemblies come with two-micron filters.

Fittings

Required for connecting components to the blower.

Regenerative Blower

Pressure Gauge

Monitors inlet filter restrictions.

Mounting Flange

Pressure Relief Valve

Protects the blower from excessive duties.

Outlet Mounting Adapter

Incorporates the pressure gauge and pressure relief valve inline with out-going tubing. This saves you the necessity to custom-build such an adapter.

Blower Assembly Accessories

Muffler

Designed to reduce noise by 5 to 8 dBA and remove high frequency sound associated with all blowers.

Muffler Ordering Information

Part Number	Used With Blower Model:
50766-R5	50760-R5
50766-R10	50760-R10
50766-R15	50760-R15
50766-R30**	50760-R30

** Standard component on 50760-R30

Replacement Air Inlet Filter Elements

Easy to use air inlet filter elements to replace clogged and dirty filter elements.

Air Inlet Filter Replacement Ordering Information

Part Number	Used With Blower Model:
50761 - 2 FE	50760-R5
50761 - 2.5 FE	50760-R10
50761 - 4 FE	50760-R15 50760-R30

HEPA Filters

For extreme filtration applications, HEPA filters are available with complete blower assemblies or separately. They have a $\pm 99.971\%$ removal efficiency, with a standard .3 micron rating. Replacement filter elements are available, contact your sales engineer.

HEPA Filter Ordering Information

HEPA Blower Assemblies	Blower HP Size	Complete HEPA Filter	Replacement HEPA Filter Element
50760-R5HEPA	5HP	50761-2HEPA	50761-2FEHEPA
50760-R10HEPA	10HP	50761-2.5HEPA	50761-2.5FEHEPA
50760-R15HEPA	15HP	50761-4HEPA	50761-4FEHEPA
50760-R30HEPA	30HP	50761-4HEPA	50761-4FEHEPA

Request data sheet 50760-HEPA for sizing information.

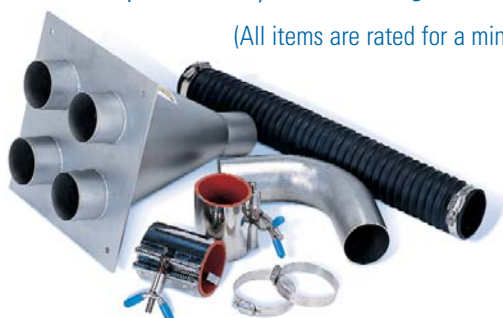
WindJet® Air Knife Package Accessories

Accessories ensure efficient air delivery from the blower to the knives

In addition to the air knives and blowers, the WindJet Air Knife Packages come with all the necessary accessories for mounting and implementing the product into your applications.

Based on the package you select and the design parameters, the following items are available.

(All items are rated for a minimum of 107° C)



Elbows

To help reduce pressure losses in the system, we offer both 45 degree and 90 degree rigid elbows in 76 mm and 152 mm diameters.

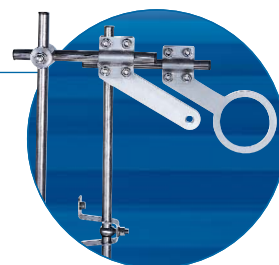


Elbow Ordering Information

Part Number	OD	Material	Degree
50779 - 45 - SS3	76 mm	SS	45°
50779 - 45 - AL6	152 mm	Aluminum	45°
50779 - 90 - SS3	76 mm	SS	90°
50779 - 90 - AL6	152 mm	Aluminum	90°

Mounting Brackets

These 100% stainless steel adjustable brackets are used for conveniently mounting air knives. Two specialized mounting plates connect to each end cap on the air knife.



Request data sheet 50040 for dimensions.

Mounting Bracket Ordering Information

50040	—	SS
Part No.		Material Code

Flexible/Rigid Tubing

We offer both high temperature, steel-reinforced flexible tubing and stainless steel rigid tubing options. All tubing is available in 76 mm and 152 mm diameters and comes in lengths of 3.04 m. To attach the flexible tubing, we offer high-torque, worm-gear clamps.

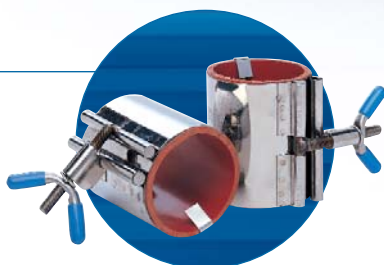


Flexible/Rigid Tubing Ordering Information

Part Number		ID	Length
Flexible Tubing	50770 - 3 - 10	76 mm	3.04 m
	50770 - 6 - 10	152 mm	3.04 m
Worm-gear Clamp	50776 - 3 - SS	76 mm	—
	50776 - 6 - SS	152 mm	—
Rigid Tubing	50769 - 3 - 10	76 mm	3.04 m
	50769 - 6 - 10	152 mm	3.04 m

Couplings

Unique, easy to use 76 mm and 152 mm couplings — stainless steel outside, high temperature silicon rubber inside. The couplings compress for use between any rigid connections to prevent air leakage and to add support for the connections. They feature a single built-in clamp that you tighten by hand; no special tools are necessary.



Coupling Ordering Information

Part Number	ID
50775 - 3 - SS	76 mm Diameter
50775 - 6 - SS	152 mm Diameter

Air Cannons

To concentrate a high-velocity air stream into holes and crevices of irregularly shaped parts, use our air cannons in conjunction with an air knife package. Anodized aluminum cannons come in three orifice sizes. A built-in mounting spacer allows for easy positioning of the unit in a mounting bracket.



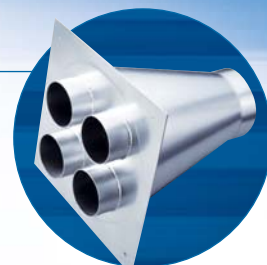
Order Mounting Bracket Part No. 55158-SS for use with air cannons.

Air Cannon Ordering Information

Part Number	Orifice Diameter (Approx.)
55155-500-AL	13 mm
55155-750-AL	19 mm
55155-1000-AL	25 mm

Manifolds

All stainless steel construction allows a single air outlet on the blower to be divided for multiple knives in various ways.



- **Y-divider:**
Allows for single inlet to be divided into two outlets. Available in both 76 mm and 152 mm inlet OD, with 76 mm outlet OD.
- **3-port:**
Allows for a single inlet to be divided into three outlets. Available in both 76 mm and 152 mm inlet OD, with 76 mm outlet OD. Designed with mounting holes for support.
- **4-port (pictured above):**
Allows for a single inlet to be divided into four outlets. Available in both 76 mm and 152 mm inlet OD, with 76 mm outlet OD. Designed with mounting holes for support.

Request data sheet 50774 for additional dimensions of manifolds.

Manifold Ordering Information

Part Number	Type	Inlet OD	Outlet OD
50771	Y	76 mm	76 mm
50772	Y	152 mm	76 mm
50773 - SS3	3-port	76 mm	76 mm
50773 - SS6	3-port	152 mm	76 mm
50774 - SS3	4-port	76 mm	76 mm
50774 - SS6	4-port	152 mm	76 mm