

Robust-Aire™

Diffused Aeration Systems



Better Designed. Better Built.

Highly Efficient & Effective Diffused Bottom Aeration



The World Leaders in Aeration

Kasco has been providing innovative water quality solutions for nearly 50 years, so we understand how important it is to keep your pond or lake properly aerated. Our diffuser systems have been proven by an independent third-party study to generate up to 44% more water flow than any other system, making them the most efficient on the market. With an unmatched design, a fine-tuned manufacturing process, success in countless applications around the world, and an experienced team of scientists and engineers to back it up, put our Robust-Aire™ Diffused Aeration system to work for you today.



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WHAT IS DIFFUSED AERATION?

Kasco's Robust-Aire™ Diffused Aeration uses air to move water. By pumping compressed air from a shore-mounted compressor, air is pushed through lines to a diffuser on the pond, lake or tank bottom. The diffuser then continuously releases micro-bubbles that rise to the surface carrying large volumes of water. This induces oxygen-transfer as well as beneficial water movement and mixing. Common applications include: mixing, industrial, backyard ponds, lakes, municipal, winterkill prevention, waterfowl protection, and many, many more.



WHY DO YOU NEED IT?

- Dissolved oxygen is most important water quality parameter
- Maintains five PPM or greater dissolved oxygen level (critical for fish health)
- Eliminates thermal and chemical stratification
- Expands fish habitat
- Ties up phosphorus to potentially control aquatic vegetation
- Increases oxidation at bottom to speed up organic decomposition
- Vents carbon dioxide and hydrogen sulfide
- Safe - no power in the water
- Controls mosquito populations
- Open water for oxygen transfer and gas venting to prevent winterkills
- Creates open water to prevent ice damage to docks and boats

BENEFITS OF KASCO'S ROBUST-AIRE™

- Low maintenance rocking-piston compressors capable of aerating to depths even greater than 50 ft.
- Can be installed great distances from power
- No electricity in water (safe for swimming and public use)
- Can be used for water aeration and / or de-icing
- Compressor ETL listed to UL, CE and CSA Standards
- Quiet performance with little surface disturbance
- Designed and built for continuous operation
- Easy to install, use, and maintain
- Ships via FedEx, UPS, or common carrier

MULTIPLE MOUNTING OPTIONS

Mount your Robust-Aire™ Diffuser system how it best fits your needs. Kasco's diffuser systems work in countless applications, so we've designed three distinct mounting methods giving you complete flexibility over your design and installation. Choose from the base mount cabinet, the post mount cabinet, or the no cabinet option.



Base Mount Cabinet (24 in. x 18 in. x 20 in.)

- 120 volt receptacle or a 240 volt junction box
 - Two cooling fans provide 110 CFM of ventilation each
 - 6 ft. power cord from the cabinet
 - Powder-coated aluminum cabinet features increased strength and durability
 - Can operate 1-6 diffusers
 - Compressors are mounted at the factory in the cabinet
 - Acoustical foam included in cabinet to reduce noise levels
 - Cabinet includes a keyed lock for added safety and security
 - Nature color blends well with outdoor surroundings
- ▶ *Should be placed on a flat surface allowing for ventilation from underneath.*



Post Mount Cabinet (19 in. x 12 in. x 12 in.)

- 120 volt receptacle or a 240 volt junction box
 - Single cooling fan provides 110 CFM of ventilation
 - 6 ft. power cord from the cabinet
 - Powder-coated aluminum cabinet features increased strength and durability
 - Can operate 1-3 diffusers
 - Compressor is mounted at the factory in the cabinet
 - Acoustical foam included in cabinet to reduce noise levels
 - Cabinet includes a keyed lock for added safety and security
 - Nature color blends well with outdoor surroundings
- ▶ *Can be mounted on exterior wall or wooden post (post not included). Great choice if compressor system needs to be off the ground.*

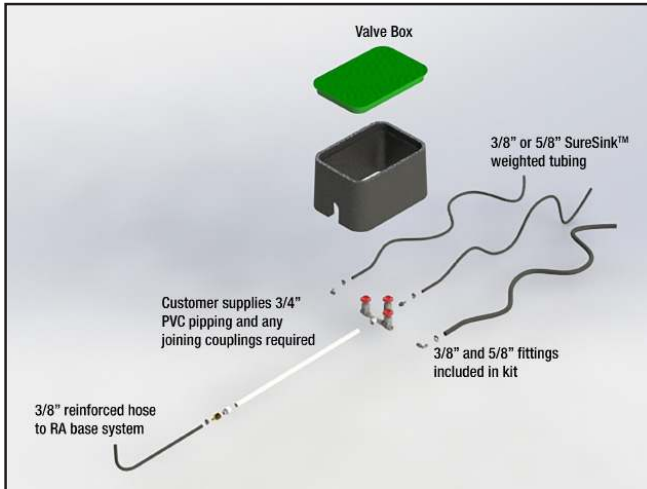


No Cabinet (Uses mounting bracket)

- Cooling fan and universal mounting platform included
 - Allows for easy compressor maintenance
 - 6 ft. power cord from compressor
 - Mounting brackets allow for easy installation
 - Must be protected from weather
 - Must still allow for adequate ventilation
 - Least cost option
- ▶ *The no cabinet option allows for greater flexibility in mounting and can be used in more unique applications.*

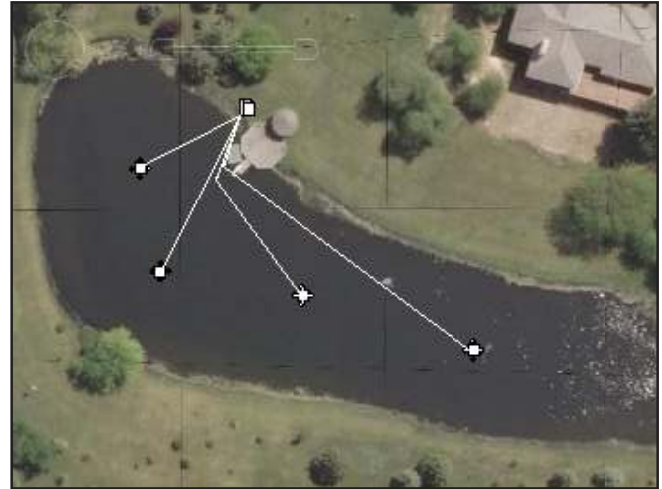
REMOTE MANIFOLD OPTION

Kasco also offers a remote manifold installation option. This allows you to run one main header line thousands of feet instead of many smaller lines the same distance. A valve box at the shore then takes the main line and splits it to multiple diffuser lines.



APPLICATION DESIGN ASSISTANCE

Through the use of Google Earth, Kasco can present a complete system layout using an aerial view of your pond or lake. All we need from you is your water body address, accurate depths, and power type and location.



WHY IS KASCO'S ROBUST-AIRE™ THE BEST? IT'S IN THE DIFFUSER

EFFICIENCY: Using Kasco's Robust-Aire™ Diffused Aeration, 1.75 CFM (cubic ft. per minute) of air at 15 ft. will move 3400 GPM (gallons per minute) per diffuser using just 1.35 amps at 115 volts. That translates into only .70 cents per day on power!

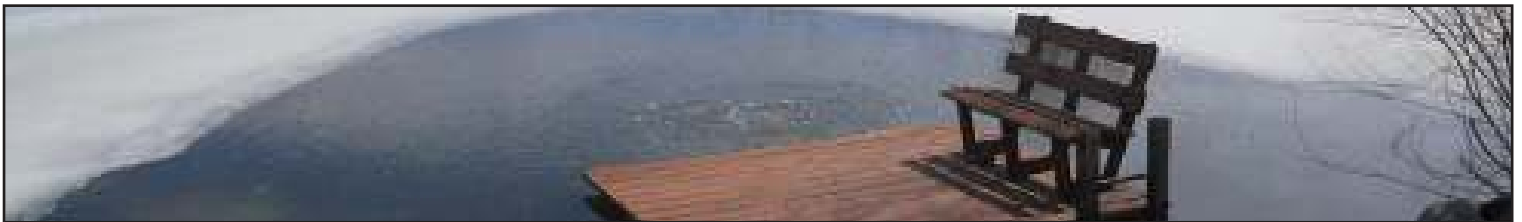
INNOVATIVE DIFFUSERS: Independent third-party testing resulted in data showing this diffuser to be the most efficient one available on the market today for moving water. REALLY!! This is not "home cooking fuzzy science" but results based on real science and data, and we challenge anyone that thinks otherwise! We are happy to share those tests results!

EXPERIENCE: Kasco has been around for nearly 50 years. We have a staff of engineers and biologists that bring to the table a unique set of skills and over 100 years of combined experience to tackle any project.

WARRANTY:

- Diffusers: 5 years
- Quiet Teich-Aire™ Compressors: 2 years
- Cabinet: 5 years
- SureSink™ Weighted Tubing: 10 years

Consult owner's manual for warranty limitations.

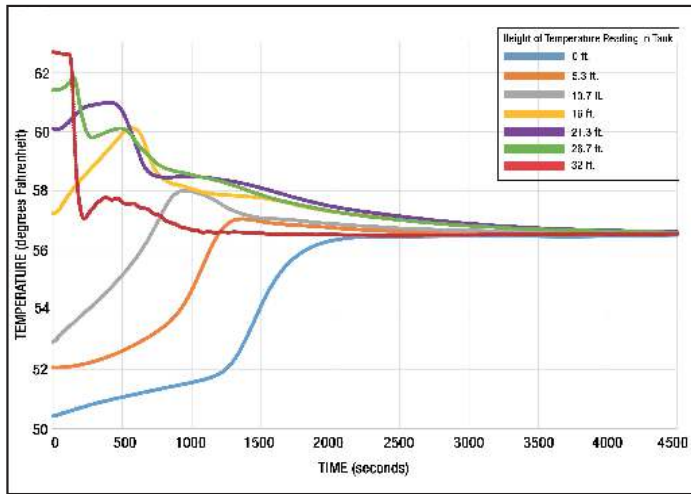


CASE STUDY: ROBUST-AIRE™ GETS RESULTS!

The table represents a case study using Kasco's Robust-Aire™ diffuser systems to determine the rate at which a 12 surface-acre lake would become destratified. At a maximum depth of 12 ft., it took less than 1 day to completely destratify the pond both thermally and chemically with four diffusers powered by (2) 1/2HP compressors.

DEPTH (FT)	BEFORE MAY 28		AFTER 4 HOURS		AFTER 1 DAY	
	TEMP (F)	D.O. (mg/L)	TEMP (F)	D.O. (mg/L)	TEMP (F)	D.O. (mg/L)
0.3	65	11.37	67	11.5	63	7.70
3	65	10.85	65	9.35	63	7.62
6.5	63	5.38	64	9.86	63	7.50
10	56	0.33	57	0.32	63	7.57
12	50	0.11	51	0.10	63	7.48

TANK MIXING APPLICATIONS: Fluid Dynamic Computation & Test Results in 52 ft. x 32 ft. Tank



Above: Results from thermal testing of tank for mixing shows all layers of the tank were equally mixed within 40 minutes.

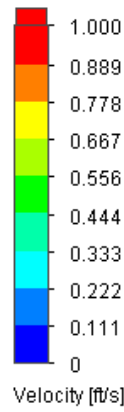


Figure 1 Legend

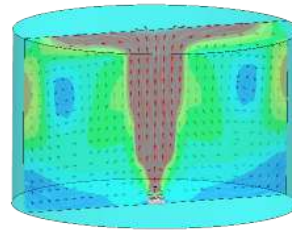


Figure 1

Representation of possible results for velocity measurements. Legend on left applies to figure 1.

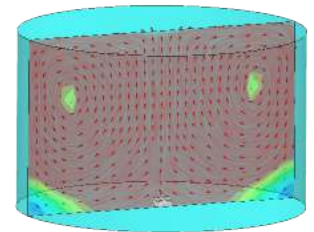


Figure 2

Fluid dynamic computation indicating tank can be thoroughly mixed over time.

TEICH-AIRE™ COMPRESSOR OPTIONS




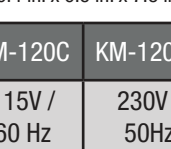
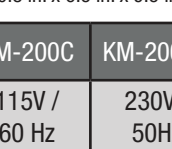
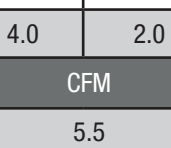
Kasco offers our Teich-Aire™ compressors to reliably and efficiently power your Robust-Aire™ aeration system. The size of your aeration system will determine which compressor(s) you need. Noise levels are approximately 60 decibels (higher than a conversation, but lower than a window-mounted air conditioner).

All compressors include: 40 PSI pressure relief valve, intake air filter, vibration mounts, and brass hose fittings.

Compressor Features:

- 115 or 230 volt
- 230 volt option allows 50 or 60Hz
- 6 ft. power cord
- Two year limited warranty
- Oil-less piston
- Continuous or intermittent operation
- Thermal overload protection
- Reed valves allowing restarting under load
- All compressors are UL, CSA and CE approved, except the KM-200C which is only CE approved



Compressor Models						
	KM-60C		KM-120C		KM-200C	
						
	KM-60C (1/4HP, 16 lbs) 7.1 in. x 6.3 in. x 7.8 in.		KM-120C (1/2HP, 19 lbs) 9.4 in. x 6.3 in. x 7.8 in.		KM-200C (3/4HP), 28 lbs 10.8 in. x 6.5 in. x 9.5 in.	
Volt / Hz	115V / 60 Hz	230V / 50Hz	115V / 60 Hz	230V / 50Hz	115V / 60 Hz	230V / 50Hz
Amp @ 0 PSI	2.2	1.1	3.0	1.5	5.4	3.1
Amp @ 20 PSI	3.2	1.6	4.0	2.0	6.9	3.7
Air Flow at PSI	CFM		CFM		CFM	
0	3.8		5.5		7.4	
5	3.4		4.9		7.2	
10	3.2		4.8		6.8	
20	2.9		4.2		6.4	
30	2.6		3.6		6.0	
40	2.4		3.2		5.6	
50	2.2		2.7		5.0	



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