

TRUE TENSION™

KONEX™
WAKE PARKS





» INTRODUCTION

A linear cable system consists of two towers with an overhead cable that pulls riders back and forth across the water or snow for a continuous ride. An operator controls the speed and direction of the pull and can stop to pick up a fallen rider. The consistent overhead pull makes it a great learning tool for beginners and advanced riders to progress quickly.

Given the low capital and operational costs, easy installation and zero carbon emissions it is a sensible way to enjoy towed water sports such as wakeboarding, wakeskating, waterskiing and tubing.

The ability to customize your cable system with over 300 colors also makes the Konex towers a work of art.

TECHNICAL SPECIFICATIONS

HEIGHT:	17', 22', 31' and 40'	5.2 m, 6.7 m, 9.5 m and 12.2 m
MATERIAL:	stainless steel or carbon steel	
COLORS:	300 powder coating colors to choose from	
MOTORS:	5.4 HP, 7.5 HP and 10 HP	4 kW, 5.6 kW and 7.5 kW
POWER SUPPLY:	200 – 240V single and 3 phase; 380 – 500V 3 phase; 525 – 600V 3 phase	
STEEL CABLE:	5/16" and 3/8"	8 mm and 9.5 mm
CABLE SPAN:	1200'	350 m
CABLE TENSION:	15,000 lbs	67 kN
DRIVE SHAFT:	2 1/4"	57 mm
WIND RATING:	190 mph	305 kph
SPEED:		
STANDARD	21 mph	33 km/h
OPTIONAL	30 mph	49 km/h
OPTIONAL	36 mph	58 km/h



FAQ



What is the price?

The Konex linear cable system starts at \$29,750 USD plus shipping, installation and any applicable taxes. Visit our website at www.konexwakeparks.com to custom build your cable system around your site requirements and price point. Contact us at info@konexwakeparks.com or 1 (844) 999 8765 to get a customized quote.

Is there a warranty?

Yes, it comes with a 3 year warranty.

Where are the Konex cable systems manufactured?

The systems are manufactured in Manitoba, Canada in accordance with CSA, CWB, CE standards and other certifications that are well recognized internationally. Independent structural, mechanical and electrical engineering firms have reviewed and stamped the system.

What are the recommended pond dimensions?

- 17 ft (5.2 m) towers – Length; max. 600 ft (200 m) Width; min. 50 ft (15 m)
- 22 ft (6.7 m) towers – Length; max. 800 ft (250 m) Width; min. 85 ft (25 m)
- 31 ft (9.5 m) towers – Length; max. 1000 ft (300 m) Width; min. 115 ft (35 m)
- 40 ft (12.2 m) towers – Length; max. 1200 ft (350 m) Width; min. 150 ft (45 m)
- 6 ft (2 m) of water depth

What power supply can Konex accommodate?

One of the most important factors in choosing a site is close proximity to an electrical hookup. In many locations 3 phase power is not available and can be expensive to bring to your site. For this reason, Konex can affordably transform



your single phase power (household power) to 3 phase power with Konex's warranty.

- 1 Phase 200V – 240V, 50/60 Hz
- 3 phase 200V – 240V, 50/60 Hz
- 3 phase 380V – 500V, 50/60 Hz
- 3 phase 525V – 600V, 50/60 Hz

What is my average electricity bill?

This depends on your local power rates and can range from \$0.50 – \$1.75 USD per hour. This cost can be reduced by installing a Kinetic Energy Recovery System.

The Konex system ranges from 10 kVA to 20 kVA depending on the motor size and power source.

What is the Kinetic Energy Recovery System (KERS)?

The KERS recycles the excess energy produced as the system brakes at each end of the run. Use the following formula (this example uses the average electrical costs in Germany) to calculate your estimated energy savings:

$$\begin{aligned} \text{Power recovery per year} &= 7.5 \text{ kW} \\ &(\text{motor size}) \times 10 \text{ hours/day} \times 250 \text{ days/} \\ &\text{year} \times 0.20 \text{ (percentage of time spent} \\ &\text{braking)} \times 0.98 \text{ (system efficiency)} = \\ &3,675 \text{ kWh/year} \end{aligned}$$

$$\begin{aligned} \text{Energy savings / year} &= 3,563 \text{ kWh/year} \\ &\times \text{€}0.35 \text{ EUR/kWh (Local energy rate)} = \\ &1,139 \text{ EUR per year.} \end{aligned}$$



Do you offer a wireless controller?

Yes, it provides the same functionality as a wired controller and is a great asset for coaches. The wireless controller can operate at distances up to 1,500 feet (450 m) away from the antenna located at the top of the motor tower.

Does Konex offer an automatic mode?

Automatic mode simplifies the job of the operator and ensures consistent turning points for the athlete. It can be engaged by holding down both the forward and reverse buttons for 2 seconds. The speed is still adjustable in automatic mode.

Is there Full Automatic mode?

Yes, perfect for early morning sessions by yourself! Hold down a sequence of buttons on the operators remote to unlock this easter egg.

Can I install a system near saltwater?

Yes, stainless steel towers are available.

Can I have my towers in the lake?

Yes, Konex has engineered a screw pile foundation for in-water installations. Screw piles have minimal environmental impact on the lake bed and can be easily removed.

What type of foundations are required?

Konex provides various foundation options to best suit your site and can advise you if you have unusual conditions. Concrete pile/block or screw pile foundation plans are available under the Resources' page of the website. These are drawn up to international specifications to facilitate the approval process. It is important to have the tower securely fastened to the foundation as the Konex cable system can apply 15,000 lbs (65 kN) of tension to the running cable for a smooth ride. *Note – often local regulatory agencies require that the foundation be stamped by a professional engineer*

What are the advantages of a screw pile foundation?

Screw Piles can be quickly installed and removed with minimal footprint and environmental impact. This temporary structure is ideal if the owner is installing the cable system on leased property or in environmentally sensitive habitat. In some jurisdictions it may be easier to obtain permits and reduce taxes.

How long does installation take?

The installation takes approximately 2 – 3 days. A Konex representative will spend an additional 2 days training your staff on the operation and maintenance of the system.

What do I need done to the site before the system can be installed?

- Concrete foundations must be installed and cured in accordance with Konex specifications (see resources page)
- Install a weatherproof and vented building or a concrete base for the Konex Electrical Enclosure within 115 ft (35 m) of the tower to protect the electrical panel.
- The electrical supply must be brought to the electrical panel to be wired by a locally certified technician.

What equipment is necessary for install?

- A small boat or barge for the installation of the cable.
- A small crane or boom truck for 1-2 hours.
- All tools will be provided by Konex unless otherwise agreed to.

Can I assemble and install the cable system myself?

Konex is willing to work with our clients to lower their installation costs if labour and the necessary equipment is provided. The pre-assembled sections join together like Lego so it is a very straightforward installation process, however, for insurance purposes Konex is required to have a project manager on site.



Is a computer or iPad required to set the end/turn points?

No, the Konex Operating System can set the dock and turning points within 5 minutes by using the forward and reverse buttons on the operator's remote. Detailed instructions are in the manual.

Can I use the system in the winter for skiing, snowboarding and tubing?

Yes, Konex offers a cold weather electronics package that can operate in -6° F (-21° C). The structure and mechanical unit are not affected by cold weather.

Does Konex provide an operation and maintenance manual?

Yes, a hard copy is included with the system and an electronic copy is

available on the 'Resources' page at www.konexwakeparks.com. The operation and maintenance manuals have visual step by step instructions.

What maintenance is required?

Only the highest grade materials and industrial components are used to provide an extremely robust and low maintenance system. For example, the 2" (51 mm) sealed roller bearings have an estimated life expectancy of 3 to 5 years and only needs to be greased once a year. Synthetic wear parts like the 3 piece pulley inserts have an average lifetime of 2 to 3 years and can be replaced within minutes.





What features make the Konex system easier to maintain?

- Anti-slip work platforms that support 750 lbs (340 kg) for the technician to stand on and perform maintenance at chest level.
- 3 piece synthetic pulley inserts can be replaced in less than 10 minutes without removing the cable, bearings, shaft, etc.
- A telescopic tension bar and power winch can quickly loosen the cable to shorten it or to replace the carrier pulleys.
- 2" (51 mm) sealed roller bearings only need to be greased once a year and have a quick removal mechanism
- Rear opening in the frame permits easy removal of drive and deflection shaft assemblies
- Micro adjustment feature
- Motor removal track

What is the micro adjustment feature?

The drive and deflection pulleys must be aligned to extend the life expectancy of the wear parts. Since it is nearly impossible to perfectly align both pulleys during installation of the system, Konex developed a micro adjustment feature.

What makes the Konex system so durable?

- 2 1/4" (57 mm) inch shaft is made from hardened steel
- SKF roller bearings have an estimated life expectancy of 3 to 5 years

- Direct drive motor results in smooth transmission of power
- Tapered bushing securely fastens the pulley to the shaft
- Right angle gearbox provides 45% more contact surface area between gears
- Wear parts made from the highest grade synthetic material available

What unique safety features does the Konex system have?

The safety of staff and athletes is of utmost importance to Konex. That is why Konex integrated fall protection devices into the tower and developed a detachable ladder section to prevent unauthorized people from the top of the tower. Another important feature is the fold down work platform that the technician can stand upon during maintenance. Many industrialized countries require the technician to have 3 points on a ladder, i.e. 2 feet and 1 hand. The work platform makes the owner compliant with these common safety laws. In storm prone areas it's good to know the towers are capable of withstanding winds of 190 mph (305 kph) which is equivalent to a category 4 cyclone.

What makes the system better for the rider?

True Tension. Higher cable tension gives riders a smooth pull and more pop on air tricks. From the beginning Konex was focused on building a cable system that could apply and safely operate at 15,000 lbs. (65 kN) of cable tension which is the highest of any system including full size systems. Another feature developed for riders is the tension measuring system that ensures they're riding at the perfect cable tension.

What is the telescopic tension bar?

A rigid bar connecting the tower to the rear foundation. This creates a structure that stands independently of the running cable and will not collapse in the unlikely



event that the running cable breaks. In combination with a power winch and Bluetooth remote, the telescopic tension bar can apply up to 15,000 lbs. (65 kN) of tension to the cable. A heavy duty clamp with SmartBolts can be fastened at incremental positions along the interior tension bar.

How long does it take to adjust the cable tension on the Konex system?

It only takes 2 – 5 minutes to completely tension the system. Simply loosen two SmartBolts; activate the Bluetooth winch remote to tighten or loosen the cable to the desired tension and retighten the SmartBolts.

What are SmartBolts?

A bolt that is equipped with a Visual Indication System. This technology uses color to indicate bolt tension. Changes in color are proportional to bolt stretch, ensuring accurate and reliable measurements without the need of a torque wrench. See www.smartbolts.com/ for more information

What is the tension measuring system?

A load cell is mounted in the tower and connected to a digital readout on the electronics panel. This allows the rider to identify and set the ideal cable tension. The cable system will not operate if it is tensioned above safe operating limits.

What are the advantages of a direct drive motor?

Fewer interconnected parts, such as couplings, yields direct transfer of energy from the motor to pulley thus improving performance and reducing maintenance. The right angle gearbox configuration that

was developed with Siemens provides 45% more surface area between gears.

How is the pulley fastened to the shaft?

A tapered bushing ensures an extremely solid pulley to shaft connection. This is the strongest locking mechanism on the market

Are software updates available?

Yes, Konex will email you a new software update which can be uploaded via SD card or update the software remotely if internet access is available.

How long does it take to get replacement parts?

Konex understands the importance of keeping your cable system running. Konex has a large inventory of parts on hand in Canada and a supply of the most commonly replaced parts in USA, Australia and Europe that can be shipped the next business day.

Can Konex assist with park planning and professional CAD drawings?

Yes, Konex can provide feedback on the feasibility and layout of your wake park. Konex can also work with you to develop professional CAD drawings to present to your local government and contractors. 2D/3D CAD models of the towers are available upon request.

What is the weight of the complete system?

- The 17 ft (5.2 m) tower weighs 3,600 lbs (1,630 kg)
- The 22 ft (6.7 m) tower weighs 4,000 lbs (1,800 kg)
- The 31 ft (9.5 m) tower weighs 4,750 lbs (2,150 kg)
- The 40 ft (12.2 m) tower weighs 5,800 lbs (2,630 kg)

Can I finance a cable system through Konex?

Financing is currently available in Canada and the U.K. Contact Konex for more information.

How do I order a cable system?

Visit the design studio at www.konexwakeparks.com and follow the 7 steps to custom build your system or choose a package deal on the 'Feature Builds' page. Call 1 (844) 999-8765 to have a Konex representative develop a personalized quote.



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