

Dedicated to People Flow™

KONE

THE COMPLETE ELEVATOR MODERNIZATION SOLUTION

KONE ReVolution™



KONE ReVolution

Why Modernize?

Improved traffic flow. Shorter waiting times. Better reliability.

Modernization increases safety, improves traffic flow and enhances the aesthetic appearance of an elevator. Energy-efficient, reliable systems combined with modern, stylish interiors naturally add to a building's value.

- Passengers enjoy increased safety, accessibility and comfort.
- Building managers benefit from reduced operation expenses, maximum system availability and predictable life-cycle management costs.
- Building owners gain greater tenant satisfaction and retention as well as enhanced property value.

KONE ReVolution is a complete elevator system upgrade which will "revolutionize" the performance of your existing elevator system. KONE ReVolution is ideal for any low-rise, mid-rise or high-rise application. This complete turnkey program features:

- **KONE EcoDisc® Hoisting Machine Technology**
- **KONE ReSolve™/KCM Control Solution**
- **KONE ReNova™ High-Performance Door Operation Solutions**
- **KONE KSS ReVive™ Elevator Fixture Solutions**

Superior Gearless Performance.

Improved Ride Quality.
Lower Energy Costs.

KONE EcoDisc Technology Delivers Superior Gearless Performance

Innovative and reliable

KONE ReVolution is powered by the award-winning KONE EcoDisc hoisting machine (introduced in 1996), an AC gearless machine with a permanent-magnet synchronous motor.

Proven technology

KONE EcoDisc is the preferred choice for many building owners and architects worldwide. KONE has sold and installed over 400,000 EcoDisc machines worldwide. This proven technology is offered as a component of the KONE ReVolution, the highest quality complete modernization solution in the industry.

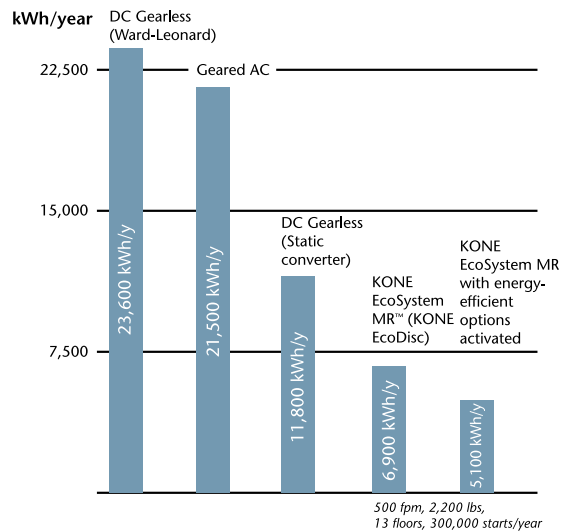
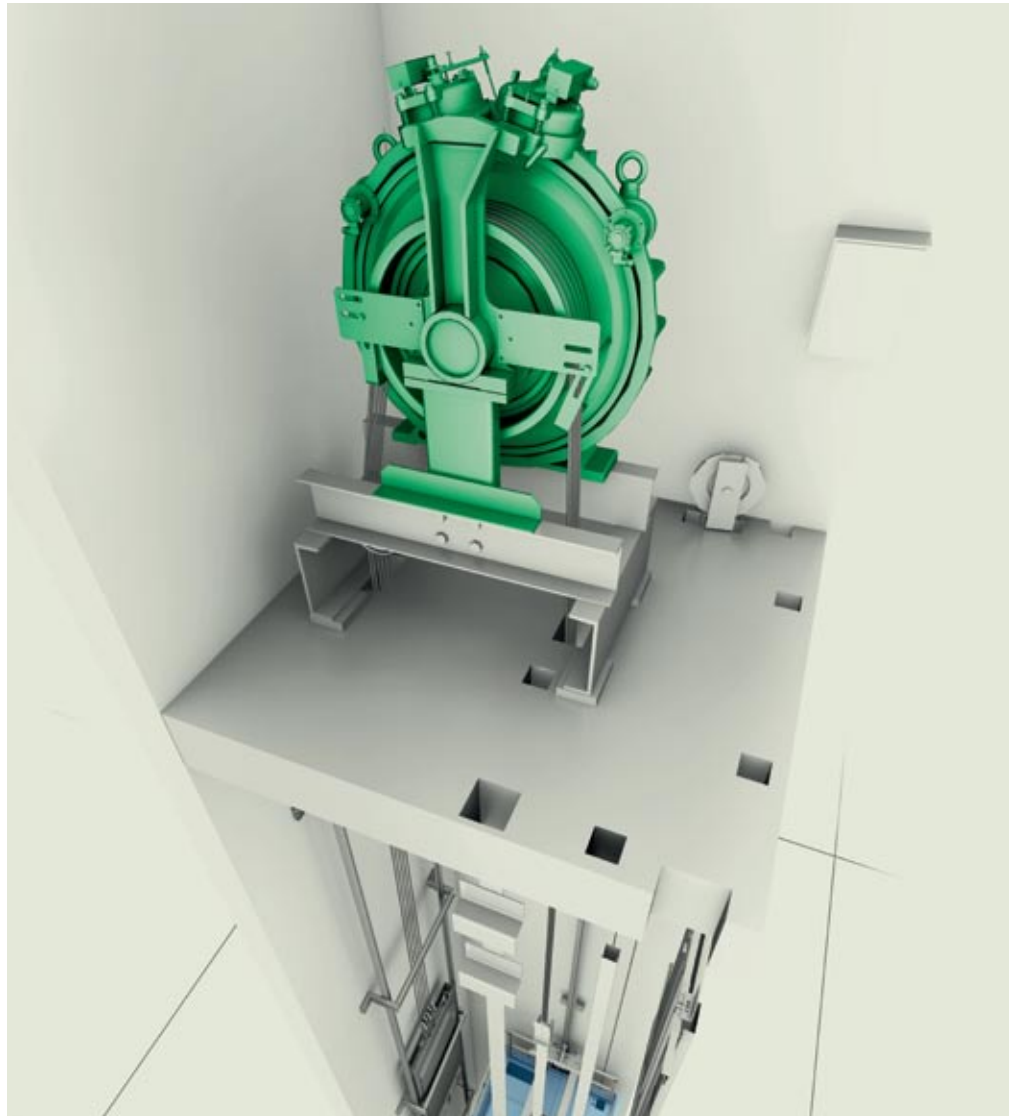
Energy efficiency

The optimized power factor of the KONE EcoDisc motor means it consumes less power and produces less heat than traditional traction elevators, with energy savings of up to 40% (compared to conventional gearless and geared elevators).

An additional energy-saving feature is the regenerative drive system. Depending on the elevator cab loading and the direction of travel, the EcoDisc hoisting machine will act as a generator and produce braking energy. The regenerative drive system recaptures this elevator braking energy and feeds it back to the supply network as clean, safe energy – recovering up to 25% of the energy used.

Space and weight savings

KONE EcoDisc hoisting machines are remarkably lightweight and space-efficient, compared to traditional traction elevators. Less structural support is required, and easier access for machine room service enhances safety.



Geared to Gearless Innovation

Just as KONE revolutionized the industry with its groundbreaking MRL technology, we once again are providing similar technological leadership and innovation in the modernization market.

Our **geared to gearless** modernization offering leverages KONE’s gearless machine technology and an innovative 2:1 roping configuration. The application replaces existing geared machines with more energy-efficient and advanced gearless technology. Placement of slim-line deflector sheaves within the car-top cross head and counterweight allows us to divide the hoist cable deflection to four separate hitch points in the overhead. This unique design allows us to provide the benefits of gearless technology with minimal or no disruption to the existing building structure. (Pat. Pend.)

Comparison Table for 3500 lb. (1587.6 kg) Capacity Traction Elevators

Capacity	3500 lbs. (1587.6 kg)	3500 lbs. (1587.6 kg)
Elevator Type	Traditional Traction	KONE EcoDisc
Elevator Speed fpm (mps)	350 (1.78)	350 (1.78)
Machine Type	Geared	Gearless
Motor Type	AC Induction	AC Synchronous
Typical Current Values at 480 VAC		
Full Load Amps	43	30
Average Peak Accel Amps	86	58
Main Fuse Amps	60	40
Typical Energy Consumption		
Residential (KW hours/year)	30,000	21,000
Commercial (KW hours/year)	55,000	38,500
Hotel (KW hours/year)	58,000	40,500
Machine Room Thermal Losses BTU/hour	15,000	10,000
Oil Requirements – gallons (Liter)	4 (15.1 l)	0
Typical Machine Room Noise (dBA)	65-70	55-60
Means for Emergency Braking	External third-party rope brake devices	Integrated dual braking included

KONE ReVolution Specifications	MX18			MX32	
	1:1	2:1*	2:1	1:1	2:1
Max Load (lb)	2500	4000	3500	3500	5000
Max Speed (fpm)	500	500	700	1200	700
Max Travel (ft)	360	360	590	1000	590
Max Floors	63			63	
Openings	Front & Reverse			Front & Reverse	
Max Elevators in a group	8			8	
Max Starts per year	400,000			400,000	

*Pat. Pend.

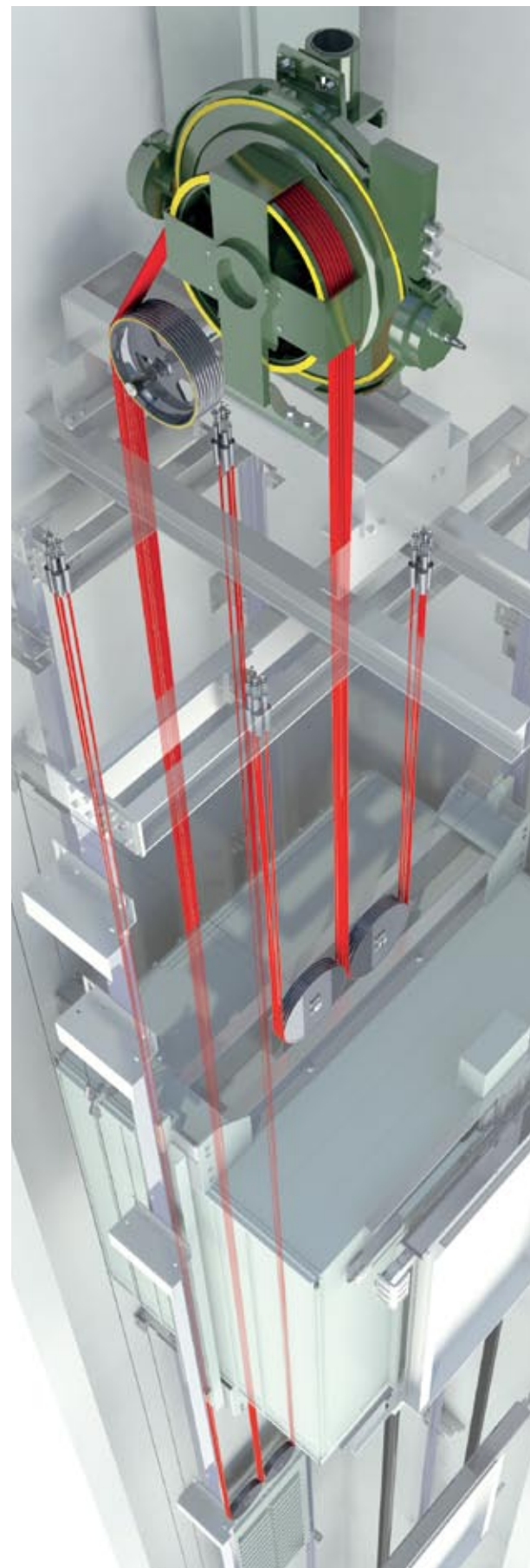


Figure 1*

KONE ReSolve/KCM Control Solutions for Traffic Flow Improvement

Innovative control

KONE ReVolution uses the innovative KONE ReSolve/KCM customized control application, in conjunction with the KONE EcoDisc Hoisting Machine.

Sophisticated operation

Serial transmission technology and multiple microprocessors ensure efficient, higher-speed operation to meet complex and demanding building requirements.

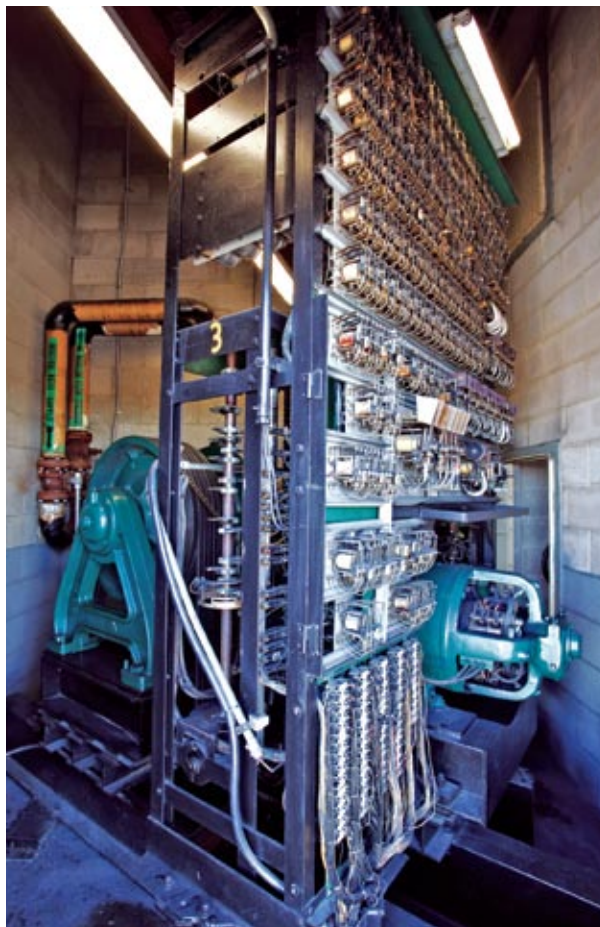
Reliability

KONE ReSolve/KCM provides peace of mind that the elevator will take you where you need to go. The central computer executes more than 100 self-checks every second for optimum reliability and performance. And since it's able to isolate localized faults, you can avoid service interruptions from things like stuck push buttons or blown signal fuses.

Smoother, quieter and more precise

KONE ReSolve/KCM delivers faster average response times, as well as an extraordinarily smooth and quiet ride, with the help of precise leveling. Our sophisticated positioning system creates a precise "map" of the elevator shaft, virtually eliminating poorly positioned stops. Powerful processing capacity and a patented KONE algorithm compensate for varying loads, both at normal speed and during the leveling phase.

An outdated system equipment room.



The smoother, faster, more efficient ReVolution.



KONE ReNova Door Operation Solutions – Precision You Can Feel

- Some of the fastest open and close times in the industry
- Designed and tested reliable for 800,000 elevator starts a year – almost four times the typical demand
- Reduce operating noise by 50% compared to conventional operators

Reliable, custom performance profile

If demands change, the performance profile adjusts, and the KONE ReNova controller applies what it learns to maintain the new performance parameters. Once your elevator's performance profile is set, KONE ReNova technology adapts to variations in your building's environment to provide reliable, consistent door operation.

Swift, silent operation

Solid mechanical coupling allows smooth linear action of the car doors. Swift, silent action is consistent for

each stop, regardless of differing door weights and air pressure. If the electronic door detector's infrared beam is broken, the doors retract positively without hesitation.

Smooth, enhanced ride

KONE's closed-loop control and patented AMD technology ensure effortless door operation in every situation. Digitally encoded feedback from monitored operating conditions enables the system to use what it learns about your building to deliver consistently superior performance.



KONE ReVolution Provides Value-Added Options

KONE E-Link™ monitoring and command system

KONE E-Link is a full-featured facilities management tool. Designed to improve tenant service quality, equipment operating reliability, efficiency and economics, KONE E-Link technology enables transportation systems monitoring in single or multiple buildings.

KRMS™ KONE remote monitoring system

KRMS is a 24/7 monitoring service that addresses emergency communication needs, safety and equipment operation. It works by linking the on-site voice and data equipment with the KONE Customer Care Center™ through existing telephone lines.



Cab interior upgrades

Give your elevator cab interiors a facelift when you modernize. The KONE Design Collection combines different colors and shades, reflecting the four seasons, making it easier and faster for a customer to select a sophisticated and stylish design. Over 70 specially designed alternatives offer hundreds of different possibilities to match any interior and architecture.



KONE KSS elevator fixture solutions

The optional KONE KSS ReVive and KSS Design Elevator Fixture Series combines a unique, attractive look and rugged durability, with a wide range of surface-mount, flush-mount and vandal resistant fixture solutions.





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