



ELEVATORS WITH SMALL MACHINE ROOMS

KONE N MiniSpace™

YOUR TRUSTED ELEVATOR PARTNER

With over 100 years of experience in the elevator business and a strong track record in safety, KONE is your trusted partner dedicated to ensuring smooth People Flow® in your building. Our compact machine-room elevator solutions – powered by the energy-efficient KONE EcoDisc® hoisting machine – save valuable floor space and deliver superb ride comfort, and good in-car ventilation. Our proven track record, including over 800 000 KONE EcoDisc installations worldwide, speaks for itself.

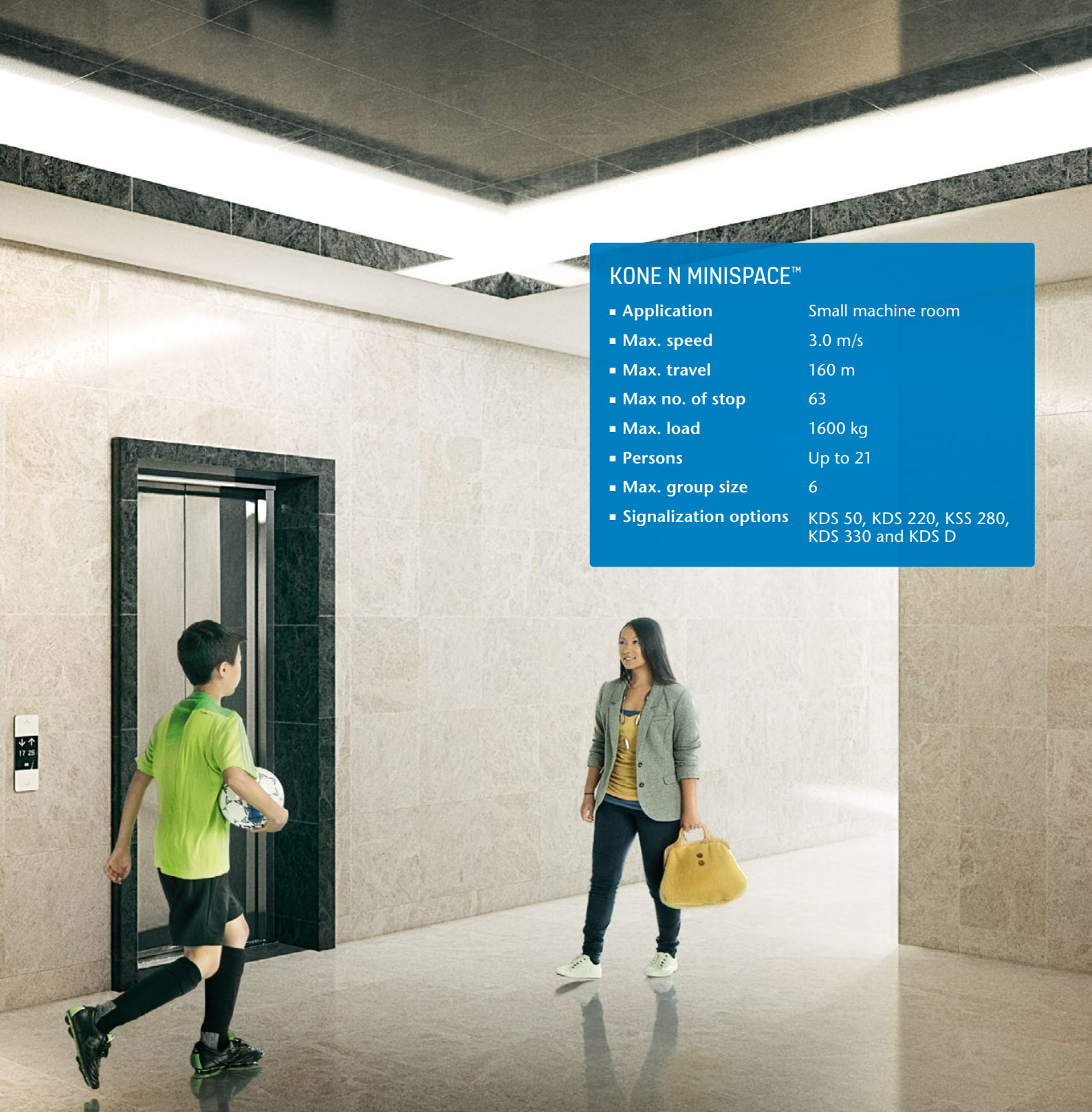
Based on our proven, reliable technology, the KONE N MiniSpace™ is the latest addition to our elevator product family. It is designed specifically for residential buildings, where safety and ride comfort are key requirements.



3 REASONS TO CHOOSE KONE N MINISPACE

1 EXCELLENT ECO-EFFICIENCY THAT CUTS THE CARBON FOOTPRINT OF YOUR BUILDING

- Up to 20% more energy-efficient than the current equivalent solution, thanks to the renewed KONE EcoDisc, centralized hoisting, and upgraded standby solutions



KONE N MINISPACE™

■ Application	Small machine room
■ Max. speed	3.0 m/s
■ Max. travel	160 m
■ Max no. of stop	63
■ Max. load	1600 kg
■ Persons	Up to 21
■ Max. group size	6
■ Signalization options	KDS 50, KDS 220, KSS 280, KDS 330 and KDS D

2 SMOOTH RIDE COMFORT FOR THE BEST POSSIBLE PASSENGER EXPERIENCE

Quality guaranteed through ride-comfort testing of all elevators before hand over – a service unique to KONE

Quiet and smooth operation, and accurate leveling enabled by:

- The renewed KONE EcoDisc hoisting machine, brakes, and centralized hoisting
- An improved car structure and sound-isolated guide shoes

3 AWARD-WINNING DESIGN THAT HELPS YOUR BUILDING STAND OUT

Easy selection of car interiors from a collection of functional and visually appealing designs created by KONE's award-winning design professionals

The industry's most flexible and versatile offering, with over 80 materials and accessories, offering millions of possible combinations

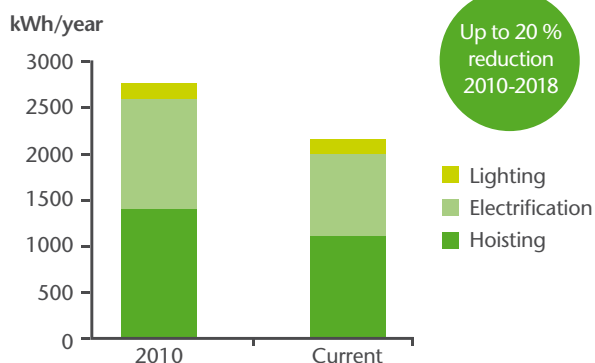
The most innovative materials and lighting solutions

EXCELLENT ECO-EFFICIENCY

THAT CUTS YOUR BUILDING'S CARBON FOOTPRINT

At KONE we have always been renowned for our revolutionary eco-efficient technology. The new KONE N MiniSpace is up to 20% more energy efficient compared to the previous KONE solution for residential buildings.

KONE elevator's energy consumption



The calculation is based on an elevator speed of 1.6 m/s, a load of 1000 kg, 200,000 starts/year, a travel height of 45 m and 15 floors

Installing an eco-efficient KONE elevator solution can also help in achieving green **building accreditations** such as **LEED** or **BREEAM** certification.

SAVE ENERGY, SAVE SPACE

As well offering excellent energy efficiency, because the new KONE N MiniSpace™ also helps you save valuable space.

- The highly compact elevator equipment – including the KONE EcoDisc hoisting machine and other mechanical structures – now requires even less height and width in the shaft.
- This frees up valuable floor space or allows for a more spacious, higher-capacity car.
- KONE N MiniSpace minimizes the machine room size.

1 More efficient hoisting machinery

The completely renewed KONE EcoDisc® hoisting motor and highly efficient drive system delivers even better energy efficiency, helping to reduce both operating costs and your building's carbon footprint

2 Eco-efficient regenerative drive

Our latest regenerative drive recycles energy for immediate reuse within the building and cuts consumption by up to 20%*.

3 Long-lasting LED lighting

As well as being up to 80%* more efficient than halogen lighting, LED lighting also lasts up to 10 times longer*

4 More advanced standby solutions

Upgraded standby solutions power down the equipment when it is not in use, providing substantial energy savings.

* The calculation is based on an elevator speed of 1.6 m/s, a load of 1000 kg, 200,000 starts/year, a travel height of 45 m and 15 floors

SMOOTH RIDE COMFORT

FOR THE BEST POSSIBLE PASSENGER EXPERIENCE

Every aspect of the KONE N MiniSpace™ is designed to add real value to your building and maximize comfort, safety, and convenience for passengers. The renewed KONE EcoDisc® hoisting machine is complemented by a wide range of other upgrades that are designed to deliver industry-leading ride comfort year after year.

1 Renewed machinery and brakes

- The new, highly reliable motor control system further improves ride comfort, with smooth acceleration and deceleration, and highly accurate car leveling.
- The renewed braking system ensures a comfortable, safe, quiet ride, while also minimizing noise transfer to the surrounding areas.
- The new brake test functionality automatically checks brake condition daily. This helps to further improve safety and reliability.

2 Redesigned hoisting system for minimized vibration and noise

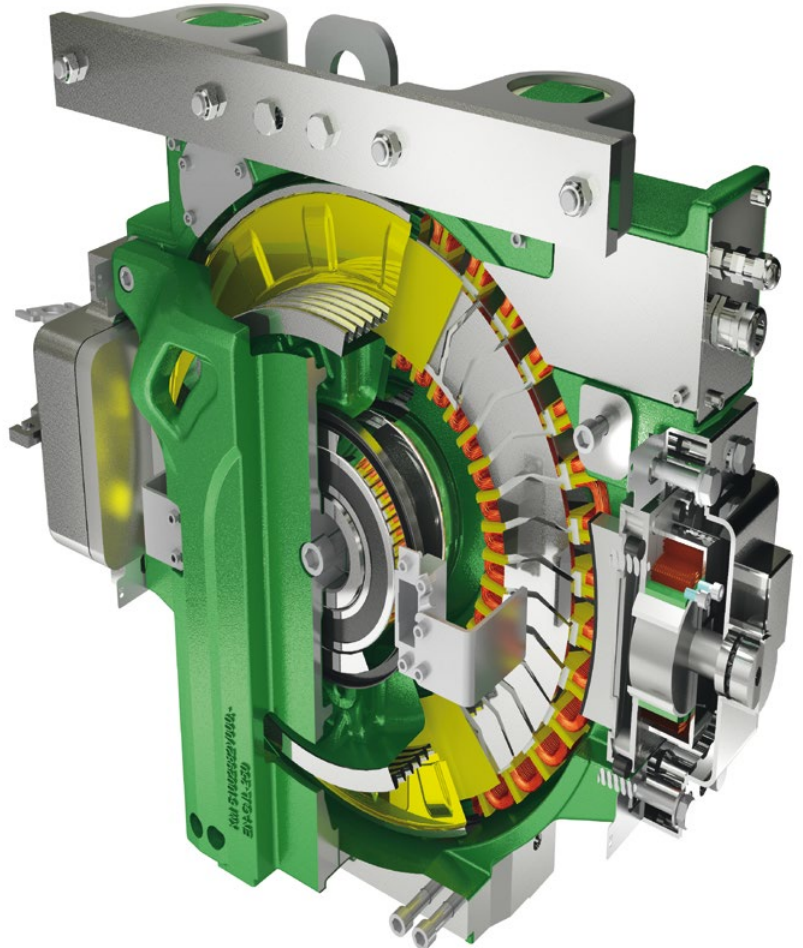
- Centralized, low-friction hoisting cuts noise and vibration, improving comfort for passengers and minimizing disturbance to the surrounding areas.

3 Improved car structure with even better noise isolation

- The rigid structure and superb noise isolation of the renewed elevator car ensure a smooth, quiet ride.
- Isolated guide shoes, constructed using low-noise sliding material, further help to reduce noise.

ALL ELEVATORS TESTED FOR RIDE QUALITY – A SERVICE UNIQUE TO KONE

- KONE provides a comprehensive ride quality testing service as standard for all its elevator installations.
- Your elevator will not be handed over for use before it passes this test, which measures noise and vibration levels inside the car.
- This thorough quality and reliability testing prior to handover further reduce the need for unplanned maintenance callouts.



AWARD-WINNING DESIGN

THAT HELPS YOUR BUILDING
STAND OUT

WHAT SETS KONE DESIGN APART

1 Easy selection of car interiors

A collection of 28 functional and visually appealing designs created by KONE's award-winning design professionals.

2 The most flexible and versatile offering

80 different materials and accessories that can be combined freely and used in all elevator products, for both new buildings and modernization projects.

3 The most innovative materials

The combination of unique textured, patterned, and 3D-effect wall materials with novel lighting solutions creates a stunning visual effect.

4 Award-winning design

KONE's elevator and signalization design concepts have received both Red Dot and Good Design awards.





KONE DESIGN COLLECTION

When you're designing a building that people will call home, the elevator you choose should complement your building's look and feel, and make your building attractive to potential residents. Your elevator also needs to be functional – it should be accessible for all, well lit, user-friendly, easy to clean, and resistant to wear and tear.

The new KONE Design Collection – created by our award-winning design team – offers you a versatile set of contemporary, themed interiors to choose from.

You can also create your own unique look and feel by mixing and matching our wide range of materials and accessories.

For more design inspiration take a look at the complete KONE Design Collection and use the KONE Car Designer tool together with a KONE sales representative.



reddot design award
winner 2012

2 Good Design awards
4 Red Dot design awards

SIGNALIZATION DESIGNED TO IMPROVE USER EXPERIENCE IN RESIDENTIAL BUILDINGS

Our wide range of signalizations are designed to give passengers a great elevator experience with every trip. As well as adding the finishing touches to your elevator's interior, they make using the elevator even easier and more convenient for passengers.

KONE signalizations available for KONE N MiniSpace are KDS 50, KSS 280, KDS330 and KDS D.

Our new KDS 330 signalization series is durable, easy to use, and provide a modern and timeless feeling.

1. Full height COP
2. Hall lantern
3. Hall lantern indicator
4. Landing call indicator
5. Landing call station



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3



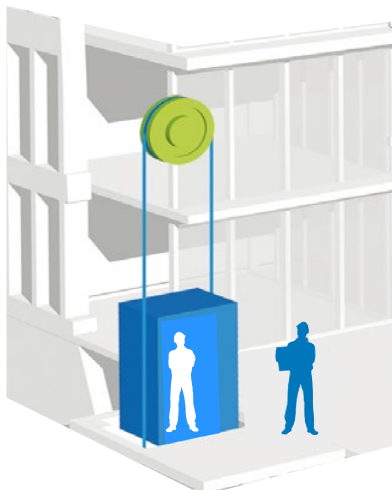
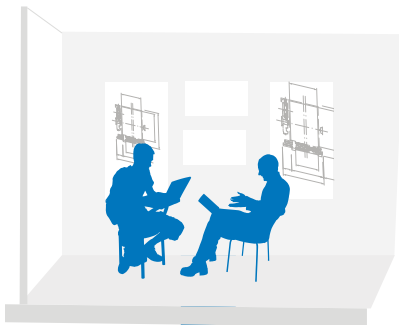
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SUPPORTING YOU EVERY STEP OF THE WAY

Choose a partner with over a century of experience in delivering pioneering elevator solutions. Get expert advice from professionals and enjoy the peace of mind that comes with comprehensive support. KONE is with you every step of the way – from planning and design through installation and maintenance to modernization – for the entire life cycle of your building.



1 Expert design and planning services

- Expert planning advice helps you specify the optimal elevator solution for your building requirements.
- Easy-to-use online design tools save you time and effort during the design process by allowing you to create CAD drawings, 3D BIM models, and custom car interiors.
- Energy consumption calculations for every individual elevator solution.

2 Safe and efficient installation

- Highly efficient scaffoldless installation methods result in considerable cost savings for our customers and minimize disruptions to other construction work.
- Strict quality criteria for each phase of installation ensuring “first time right every time”.
- Continuous training, site audits, safety passports, and proven methods ensure maximum site safety.
- Eco-efficient installation processes maximize waste recycling and minimize the use of solvents.

3 Quality assurance at hand over and professional maintenance

- We are the only company to provide in-depth ride quality testing of each elevator before hand over.
- Our elevators are known for their reliability, and have an average availability rate of 99%.
- Our global spares center stocks over 150,000 parts and offers 24-hour delivery for the most commonly requested parts.
- Preventive KONE Care™ maintenance solutions – including the new KONE Care 24/7 Connected Service that enables vast amounts of data from elevator sensors to be monitored, analyzed and displayed in real-time, improving equipment performance, reliability and safety.

NO COMPROMISES ON SAFETY

When you choose KONE, you choose peace of mind. Safety is the starting point for every KONE solution, and all our solutions include the latest innovations in safety technology as standard.



Our new KONE N MiniSpace elevator solution includes a wide range of features that are designed to both maximize safety for passengers and make it easy for you to inspect the condition of your equipment to ensure that it operates safely at all times.

- **Daily automatic brake testing**
- **Proven rope technology** that is easy to inspect
- A curtain of light to ensure **safe entry and exit**
- **Accurate landing** that eliminates risk of tripping
- **24/7 contact with the KONE service center** in case of emergency

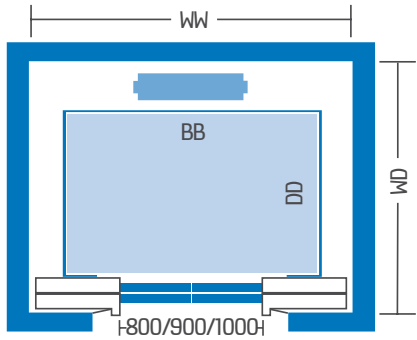
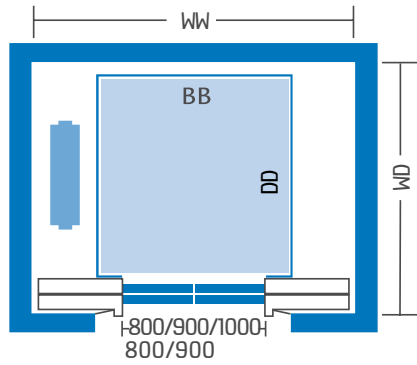
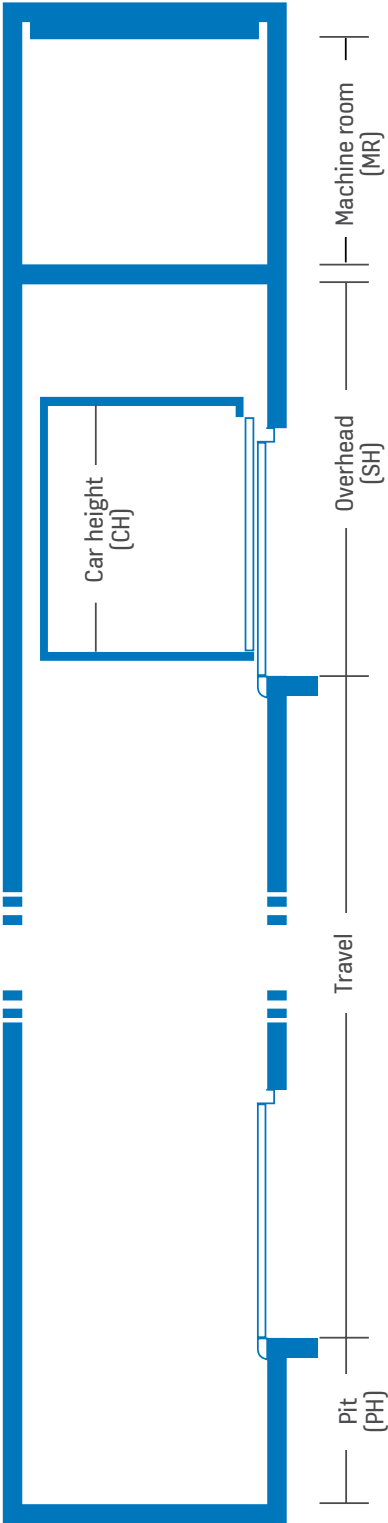
KONE also demonstrates its strong commitment to safety by working closely with the people who rely on our products to provide a safe, comfortable experience in their daily lives. Our annual safety events give people the opportunity to familiarize themselves with how elevators operate and how to use an elevator safely.

STANDARDS-COMPLIANT MANUFACTURING

Standards-compliant manufacturing

- All KONE manufacturing units are ISO 14001 certified and meet all relevant elevator industry standards and requirements

PLANNING DATA



RANGE TABLE	
Speed	1.0, 1.6, 1.75, 2.0, 2.5, 3.0 m/s
Load	320, 400, 450, 480 kg (Rated speed $\leq$ 1.75 m/s) 630, 800, 900 kg (Rated speed $\leq$ 2.5 m/s) 1000, 1150, 1275, 1350, 1600 kg (Rated speed $\leq$ 3.0 m/s)
Max. stops	18 (1.0 m/s), 30 (1.6 m/s), 38 (1.75/2.0 m/s), 48 (2.5 m/s), 63 (3.0 m/s)
Max. travel [m]	55 (1.0 m/s), 85 (1.6 m/s), 105 (1.75 m/s), 110 (2.0 m/s), 135 (2.5 m/s), 160 (3.0 m/s)
Car height [CH]	2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800 mm

FEATURES

B Built-in
O Option

1 SAFETY

Rescue and failure detection operations

DOP	Door opening prevention switch in controller	B
DTS	Drive time supervision	B
EEC C	Emergency exit contact in car	O
EEC S	Emergency exit contact in shaft	O
MAS M	Main switch in the wall of the machine room	O
MOP T	Motor protection, thermistors with automatic reset	B
PDD N	Phase failure detection	B
RDF RC	Recall drive	B
TWS C	Tension weight switch of overspeed governor, car	B

Other safety features and maintenance

BOF	Buttons to operate car doors for service purposes	B
CCM A	Car calls from machine room, all	B
CDC	Car door contact	B
CDL O	Car door limit switches, separate open limit	B
EMH O	Emergency stop switch in well, one switch	B
EMR	Emergency stop switch on car roof	B
OSG CM	Car overspeed governor in machine room	B
SGE	Safety gear contact	B
SED WSR	Service drive, without limitations, car roof buttons with extra run button	B

Precautions for special emergencies

FID AO	Fire detection, whole building, alternative return floor, doors open	O
FID BO	Fire detection, whole building, doors open	O
FID SO	Fire detection, manual switch, doors open	O
FRD	Fireman's drive	O
LSH A	Low smoke installation in shaft, shaft and car wirings completely	O

Operation during stand-by power and recovery from power failure

CEL S	Car emergency lighting, separate light	B
EBD A	Emergency battery drive, automatic	O
EPD MCF	Emergency power drive, to main floor, doors closed, full service	O
EBS S	Emergency battery supply with supervision	B
LPS VN	Lift position synchronizing	B

Means of emergency communication

ABE C	Alarm bell under/top of car	B
ISE F EAP	Five-way intercom system (China)	B
ISE M EAP	Emergency intercom	B
ISE N EAP	Multi-intercom system	O

2 PASSENGER COMFORT

Traffic boosting

ACL C	Accurate re-leveling, automatic, closed doors	B
DCB I	Door close button	B
DOB OI	Door open button, normally open contact	B
NUD L	Nudging service, by measuring load	O
SRC RNC	Safety ray in car, reopen	B

Protection against inconvenience caused by misuse

CCB	Car calls backwards	B
FCC C	False car call cancel, by counting stops	O
SPB BP	Stuck button supervision, both calls, no service	B

2 PASSENGER COMFORT

Travelling comfort

OCL A	Operation of car light, automatic	B
OCL AF	Operation of car light, automatic, switch to turn off	O
OCV A	Operation of car ventilation, automatic	B
OCV AF	Operation of car ventilation, automatic, Switch to turn off	O
CLS O	Car light supervision, parking doors open	B

3 INFORMATION SERVICES

Information to passengers at landing

GOL ETD	Acoustic device for arrival, at landing, electronic	O
LCL	Landing call registered light	B
OLF C	Overload function, constant light	B

Information to passengers in car

CCL	Car call registered light	B
DIA C	Direction arrows in car	B

Information in the control panel

CPI PS	Car position indicator in controller, seven segment	B
DAL GP	Disturbance alarm, general, potential free	O
DZI N	Door zone indication, no buzzer	B
LIL AM	Lift link, alarm, mode signals	O
LIL AMB	Lift link, alarm, position binary	O
SCN N	Start counter, number of starts, not losing data in power failure	B

Information to building management

CTVICCTV	camera in the car, interface only	O
TSD ES	Traffic supervision display, with LEDs, in supervision room	O
DIT LNP	LAN cable inside travelling cable	O
DIT OFS	Optical fiber inside travelling cable	O

4 CONTROL

Priority services and service modes for special use

ATS C	Attendant service, using car call buttons as indicator	O
OSS COI	Out of service switch in car, doors open, lights on, indication	O
OSS LC	Out of service switch at landing, doors closed, lights off	O

Adaptation to building

FEB G	Basement floor extension, group control	O
FEB S	Basement floor extension, separate buttons	O
FET G	Top floor extension, group control	O
FET S	Top floor extension, separate buttons	O

Parking of free cars

PAD C	Parking at pre-defined floor, doors closed	O
PAM C	Parking at main floor, doors closed	B
PAS C	Parking at secondary floor, doors closed	O

5 SECURITY

FRE	Fast recall	O
LOC E, O	Locking of car calls	O

Remark: Contact our KONE sales person for details.

KONE provides innovative and eco-efficient solutions for elevators, escalators, automatic building doors and the systems that integrate them with today's intelligent buildings.

We support our customers every step of the way; from design, manufacturing and installation to maintenance and modernization. KONE is a global leader in helping our customers manage the smooth flow of people and goods throughout their buildings.

Our commitment to customers is present in all KONE solutions. This makes us a reliable partner throughout the life cycle of the building. We challenge the conventional wisdom of the industry. We are fast, flexible, and we have a well-deserved reputation as a technology leader, with such innovations as KONE MonoSpace®, KONE NanoSpace™ and KONE UltraRope®.

KONE employs close to 55,000 dedicated experts to serve you globally and locally.

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