



森赫电梯股份有限公司
Sicher Elevator Co.,Ltd.

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SRH
SAFE REACH



森赫电梯股份有限公司
Sicher Elevator Co.,Ltd.



多一套 方案
One more case



多一份 承诺
One more promise



多一轮 检测
One more inspection

多一份 守候
One more expectation

森赫电梯,只为安全到达
Sicher elevator, only for safe reach

森赫电梯股份有限公司

森赫电梯股份有限公司是通过投资、并购，完成股份改制组建而成的专业化、集团化的跨国经营企业。

公司占地面积147600平方米，建筑面积170000平方米，拥有产品制造中心、研发设计中心、客户服务中心、电梯运行速度可达10.0m/s的试验塔，是面向全球市场的电梯、自动扶梯及立体停车设备的大型制造企业。

森赫电梯境外全资子公司SRH Aufzüge GmbH（德国森赫电梯有限公司）与德国大、中型电梯制造公司及电梯部件公司形成战略合作联盟，为全球客户提供符合欧盟标准的**SRH** 森赫品牌产品。

SRH 森赫，源于德语Sicher，意为安全、可靠，在产品研发、制造、销售、安装与服务的全过程中，一以贯之地体现着“只为安全到达”的品牌核心价值。

公司实施科技创新发展战略，先后成立省级企业研究院、院士专家工作站、博士后科研工作站、省级企业技术中心、省级工业设计中心、省级高新技术企业研究开发中心、森赫电梯中心实验室、中国建筑科学研究院森赫电梯技术研发中心、浙江省森赫电梯科技研究院等创新平台，拥有86项专利成果，获得了全国机械工业先进集体；质量管理通过国家军用标准认证，电梯产品荣获美国“电梯世界工程奖”，扶梯产品荣获“大世界基尼斯之最”。

公司产品出口40多个国家和地区，拥有完善的国内、国际服务网络；与众多知名房地产开发企业建立了长期的战略合作伙伴关系，获得了全国政府采购优秀供应商；成为在俄罗斯、乌兹别克斯坦、土耳其、阿联酋、阿曼、科威特、伊朗、印度、孟加拉国、柬埔寨、南非、埃及、坦桑尼亚、巴西、厄瓜多尔等国家和地区备受尊敬的电梯品牌。

森赫电梯，坚持“国际化、科技化、产业化”的发展战略，以“服务创新、科技创新、理念创新”为核心，实现制造智能化、服务产业化和品牌国际化的全新价值生态，成为世界卓越的电梯解决方案服务商。

Sicher Elevator Co.,Ltd.

Sicher Elevator Co., Ltd. is a specialized, collectivized transnational operation enterprise through investment, merger and stock restructuring.

Sicher covers an area of 147,600 square meters, with overall floorage 170,000 square meters, owns manufacturing center, R&D center, customer service center, as well as an elevator testing tower with the running speed of up to 10.0 m/s, which is a large-scale and global market-oriented manufacturing enterprise for elevators, escalators and parking system equipment.

SRH Aufzüge GmbH, as a wholly owned subsidiary by Sicher Elevator Co., Ltd. builds the close strategic cooperation union with German large, medium-sized elevator manufacturing companies and elevator parts companies to provide all kinds of **SRH** brand products in line with EU Standards for global customers.

SRH, originates from German word "Sicher", which means safe, reliable, and reflects the core value of the brand about "only for safe reach" throughout and constantly in the complete process of product R&D, manufacturing, sales, installation and service.

Sicher implements the scientific and technological innovation development strategy and establishes several innovation platforms such as Provincial Enterprise Research Institute, Academicians and Experts Workstation, Post-doctor Scientific Research Workstation, Provincial Enterprise Technology Center, Provincial Industrial Design Center, Provincial High-tech Enterprise Research and Development Center, Sicher Elevator Center Laboratory, China Academy of Building Research-Sicher Elevator R&D Center, Zhejiang Sicher Elevator Science and Technology Research Institute. It owns 86 patents and won the honor of "The National Machinery Industry Outstanding Unit". Its quality management has passed the national military standard attestation. Elevator product was awarded US "Elevator World Project of the Year 2016" and moving walk product was awarded "China Records".

With perfect service network at home and abroad, Sicher has exported its products to over 40 countries and regions and has established a long-term strategic cooperative partnership with many renowned real estate development enterprises and won the honor of "National Excellent Supplier in Government Procurement". SRH has become a well respected elevator brand in Russia, Uzbekistan, Turkey, UAE, Oman, Kuwait, Iran, India, Bangladesh, Cambodia, South Africa, Egypt, Tanzania, Brazil and Ecuador, etc.

Sicher Elevator persists in the development strategy of "internationalization, technology, industrialization" and takes the innovation of service, technology and idea as its core to realize a new value eco of intelligent manufacturing, industrial service and international brand further to become a world excellent elevator solutions service provider.



风云际会，安稳驾驭直上云霄

The peak strength, stable driving straight to the sky



GRPS70高速电梯

GRPS70 high speed elevator

随着现代都市里高层建筑数量和高度的与日俱增，人们对楼宇垂直交通在高效、创新方面有了更高要求。森赫GRPS70系列高速电梯应运而生，突破多项高速电梯的应用难题，通过优化的驱动系统、智能化的功能、严选优质材料和创新设计，创造了高效便捷的高层建筑垂直交通解决方案，为各类地标性建筑带来了更多优势和价值。

With the quantity and height increase of modern city high-rise building, people have high requirements to the efficiency and innovation of building vertical transportation. Sicher GRPS70 series high speed elevator has been created at the right time, which breaks through a number of problem of high speed elevator, creates efficiency and convenience vertical transportation solution for high-rise building through optimizing the drive system, intelligent function, selecting the excellent materials and innovative design, to provide more advantages and value for various landmark buildings.

度身定做，品质臻享

双层隔音轿壁结构：专为高速电梯设计，有效隔离轿厢内部和井道之间的噪音，营造宁静空间。

双风向导流装置：正确引导气流流动，降低空气阻力，有效抑制空气紊流带来的噪音和振动，运行更为稳定可靠。

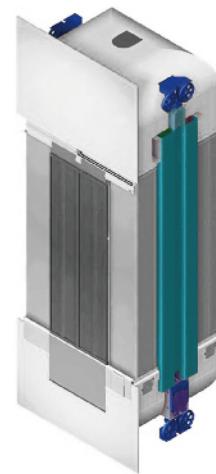
全方位减振系统：抑制电梯运行过程中产生的水平、垂直振动，使乘坐更加平稳舒适。

Customized, we enjoy the quality

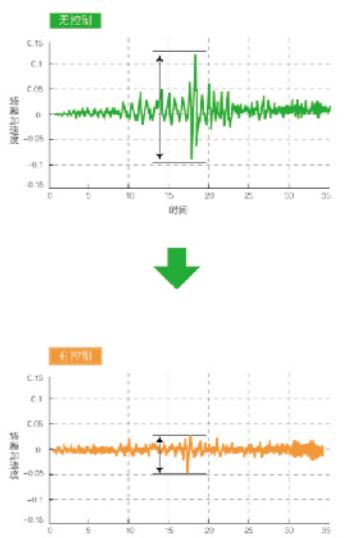
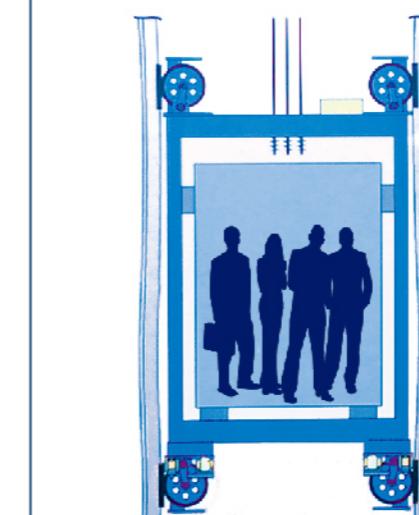
Double-layer sound-proof car wall structure: Designed for high-speed elevator, effectively isolates the noise between cabin and hoistway, to create a quiet space.

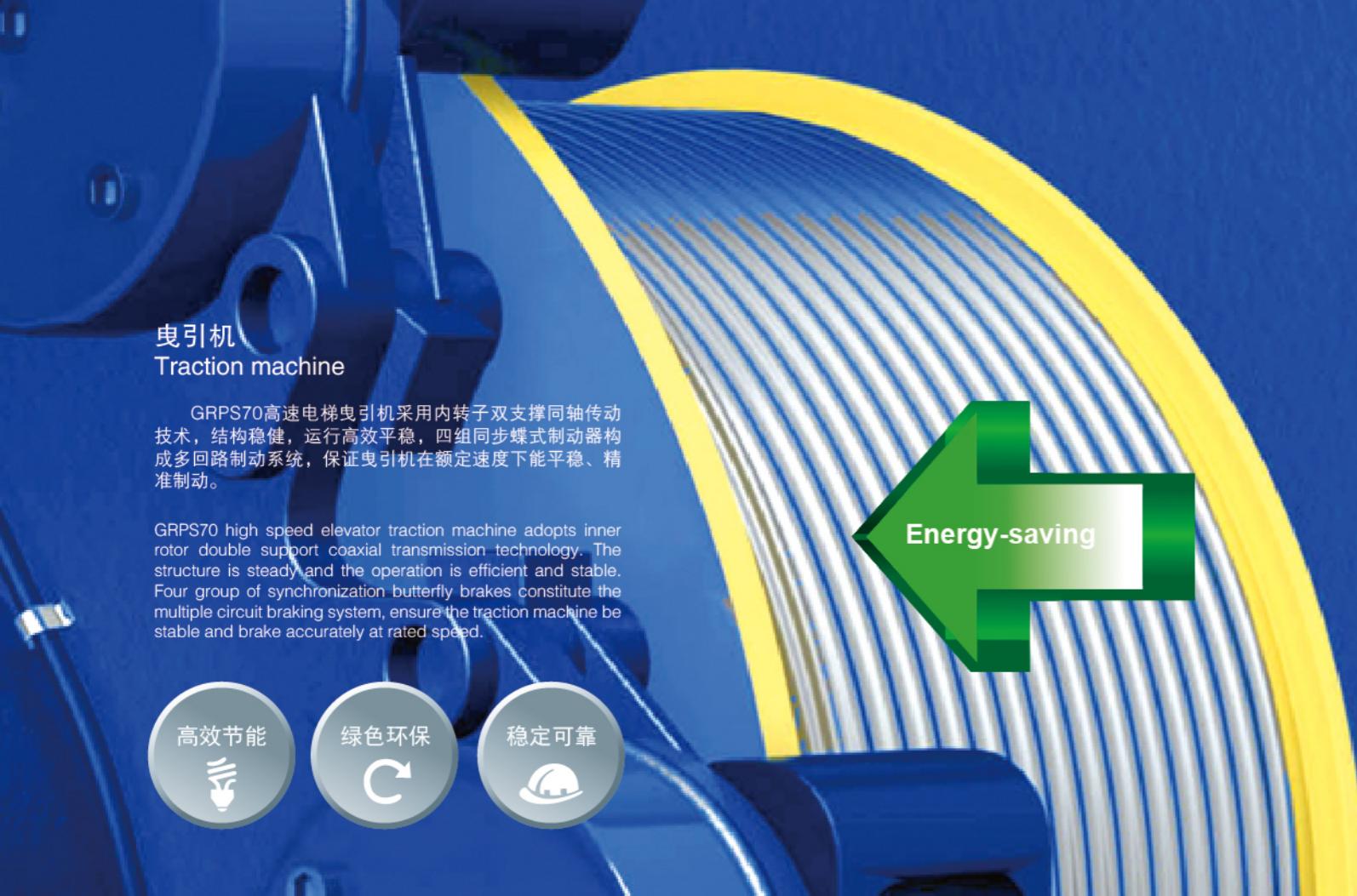
Double direction air guide device: To guide flow correctly, reduce the air resistance, and effectively restrain the noise and vibration caused by air turbulence, so as to make the operation be stable and reliable.

All dimensional of damping system: To suppress horizontal, vertical vibration during the running of the elevator, in order to ride more stably and comfortably.



全方位减振系统





曳引机 Traction machine

GRPS70高速电梯曳引机采用内转子双支撑同轴传动技术，结构稳健，运行高效平稳，四组同步蝶式制动器构成多回路制动系统，保证曳引机在额定速度下能平稳、精准制动。

GRPS70 high speed elevator traction machine adopts inner rotor double support coaxial transmission technology. The structure is steady and the operation is efficient and stable. Four group of synchronization butterfly brakes constitute the multiple circuit braking system, ensure the traction machine be stable and brake accurately at rated speed.



主要部件 The main components

门机 Door operator

GRPS70高速电梯门机运用VVVF位置控制、齿型带直线传动等先进技术，融合独特的快速开关门设计，实现开关门运行平稳流畅，提高了电梯的运行效率。



The door operator of GRPS70 high speed elevator adopts VVVF position control, the gear type belt straight line transmission and other advanced technologies, fuses unique fast opening door design, to realize the smooth operation during opening and closing the door and to improve the operation efficiency of the elevator.

安全钳 Safety gear

GRPS70高速电梯的轿厢，配置了双安全钳结构的保护装置，其制动片采用了具有高耐热和高耐磨性能的氮硅化合物材料，确保实现安全制动。



GRPS70 high speed elevator car configures the protection device of double safety gears structure, the brake pads use nitrogen silicon compound material which has high heat resistance and high wear resistance, to ensure the realization of safe braking.

补偿绳张紧装置 Compensating rope tensioning device

GRPS70高速电梯补偿绳张紧装置，保障了补偿钢丝绳在电梯运行过程中的平稳性，消除了传统补偿装置的安全隐患，提升电梯的安全可靠性。



The compensating rope tensioning device of GRPS70 high speed elevator ensures the smooth property of compensation wire rope in the elevator running process, eliminates the security hidden danger of traditional compensation system, to improve the safety and reliability of the lift.

限速器 Speed governor

GRPS70高速电梯采用新型限速器取代传统的齿轮形限速器。将轻质的甩球直安装在限速器绳轮的内侧，简化了机械装置的结构，能精确控制传递速度的变化，提升了夹绳性能，同时采用摩擦面长度较大的制造材料，使夹绳性能比常规型号更加可靠。



GRPS70 high speed elevator adopts the new type of speed governor to replace the traditional gear speed governor. The light throwing ball is arranged on the inner side of the governor sheave, to simplify the structure of mechanical device. It can accurately control the change of transmission speed, enhance the rope clamping performance. Meanwhile, it uses the manufacturing materials which the length of friction surface is more longer, the rope clamping performance is more reliable than conventional models.

导靴 Guide shoe

GRPS70高速电梯采用多向复合式减噪滚轮导靴，其滚轮上的高分子聚氨酯材料具备抗高频振动、强耐磨的优越性，可吸收沿导轨运行时由细微波动引起的高频振动；同时轮臂上的减振弹簧采用特种弹簧钢制成，能减轻轮子滚过导轨接头等情况下产生的冲击力，确保了轿厢运行平稳可靠。

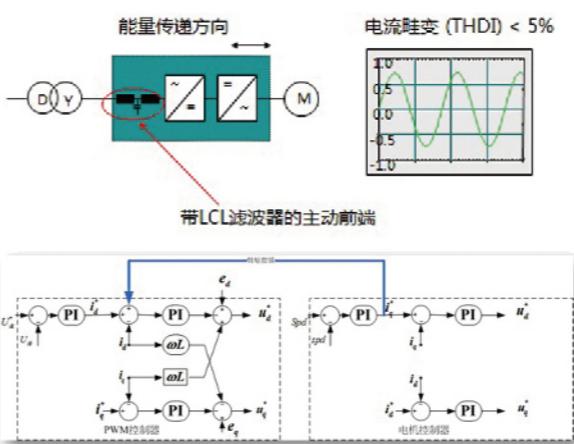
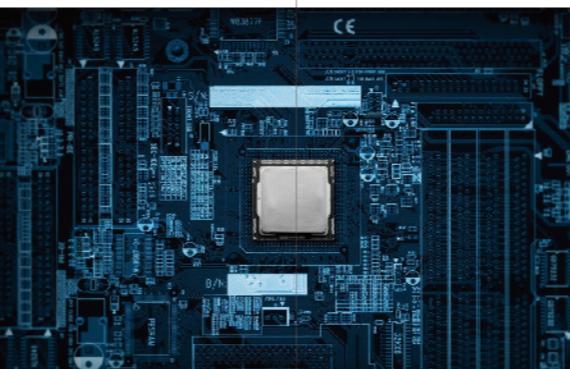


GRPS70 high speed elevator adopts multi compound noise reducing roller guide shoe. The macromolecular polymer polyurethane materials possess the superiority of anti high frequency vibration and strong wear resistance. It can absorb the high frequency vibration caused by a slight wave along the guide rail running; The damping spring on the wheel arm is made of special spring steel, can reduce the impact force generated by wheels rolling over the rail joint, to ensure the car running smoothly.

先进技术 Advanced technology

应用同步世界的节能高新技术和智能控制技术，降低能耗，保护环境的同时，结合多种人性化的功能设置，实现和谐运载，缔造舒适乘享空间。

It applies the world's energy-saving high-tech and intelligent control technology, reduces energy consumption. At the same time of protecting environment, it combines various personalized function set, to realize the harmonious carrier and to create a comfortable space to ride.



四象限驱动技术 (选配) Four quadrant driving technology (Optional)

引入四象限变频驱动技术。通过转矩前馈，提高速度控制响应能力，在高加/减速速度的情况下也可具备优异的速度跟踪性能，确保电梯舒适感。通过AFE有源前端，精确控制母线电压，实现高效能量回馈，回馈电流谐波 < 5%。

It introduces four quadrant frequency drive technology. By torque feedforward improves the responsiveness of speed control. It can possess good speed tracking performance at high acceleration / deceleration case, so as to ensure the elevator be comfort. By AFE active front end, it controls bus voltage precisely, to achieve high energy feedback and the feedback current harmonic < 5%.

目的层群控管理系统 (选配) Destination floor group control system (Optional)

集成专家系统、模糊逻辑、神经网络等先进调度技术实现动态分散待梯，高峰自识别，高峰动态分区服务，去向预报等功能。为高端商务楼宇提供高效运营调度方案，降低楼宇电能消耗。

Integrated expert system, fuzzy logic, neural networks and advanced dispatching technology realize dynamic distributed wait for the elevator. It has self recognition at peak, dynamic services division at peak, forecast for whereabouts and other functions. It can provide efficient operation scheduling scheme for the high-end commercial buildings, and reduce electronic energy consumption for the building.



远程监控 (选配) Remote monitor (Optional)

通过有线或无线通讯模块，在远程监控中心对电梯运行状况和电梯内乘客情况进行实时监控，有效预防电梯故障的发生，实现防患于未然，确保乘客安全。

① 电话网络接入方式 ② 宽带网络接入方式 ③ 无线网络接入方式

Through wired or wireless communication modules, the remote monitoring center can make real-time monitoring on elevators' operating condition and passengers in the elevator, thus it can effectively prevent elevator fault, and take preventive measures to ensure the safety of passengers.

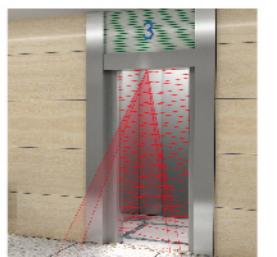
① Telephone network access method. ② Broadband network access method. ③ Wireless internet access method.



3D门保护功能 (选配) 3D Door Protection Function (Optional)

利用TOF技术结合红外线技术，使得光幕保护形成一个立体的区域，有效防止人员与轿门发生碰撞、夹人。

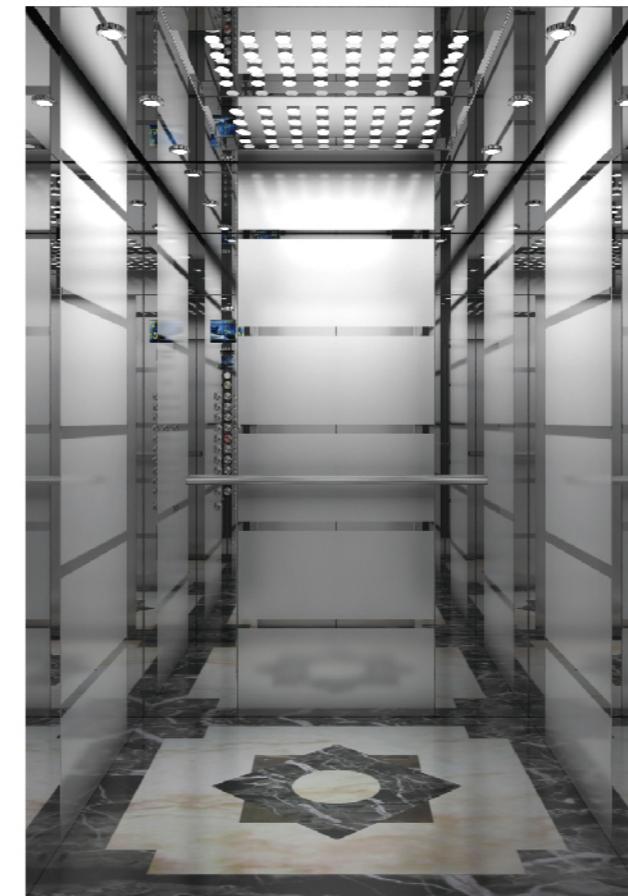
To make a photocell protection three-dimensional area with the technology of TOF combined with infrared ray, and prevent passenger from being crashed and caught with car door.



轿厢装潢 Car decoration



RJ031



轿壁 Car wall	镜面不锈钢与镜面蚀刻不锈钢组合 A combination of mirror stainless steel and mirror etched stainless steel
吊顶 Ceiling	镜面不锈钢, 中间水晶柱及两侧 筒灯照明 (RD018) Mirror stainless steel, crystal column in the middle and down light illumination on both sides (RD018)
扶手 Handrail	不锈钢圆管 (RF002) Stainless steel round tube (RF002)
地板 Floor	PVC(RPV008)
操纵箱 Operation panel	RC009

轿厢装潢 Car decoration



RJ034



轿壁
Car wall
后壁钛金不锈钢与钛金镜面蚀刻不锈钢组合
侧壁钛金镜面不锈钢与镜面不锈钢组合
Rear wall: A combination of titanium gold stainless steel and titanium gold mirror etched stainless steel
Side wall: A combination of titanium gold mirror stainless steel and mirror stainless steel

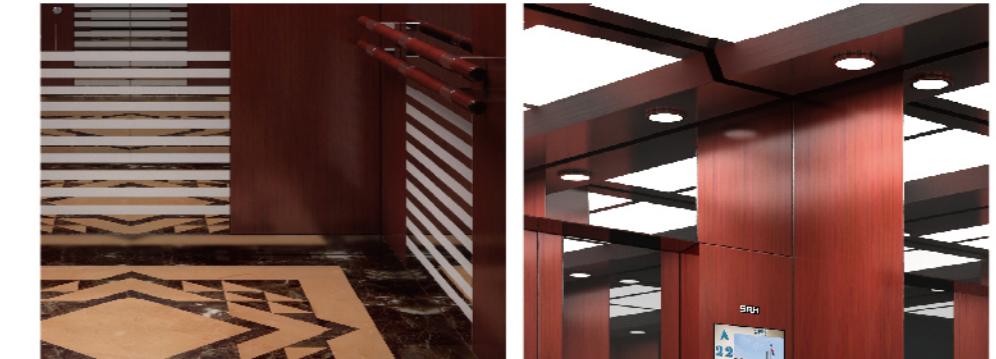
吊顶
Ceiling
钛金镜面不锈钢框架, 中间灯带照明与
钛金镜面蚀刻不锈钢, 四周筒灯
Titanium gold mirror stainless steel frame,
combination of middle lamp belt lighting
and titanium mirror etched stainless steel,
down light illumination at two sides

扶手
Handrail
钛金不锈钢圆管 (RF003)
Titanium gold stainless steel round
tube (RF003)

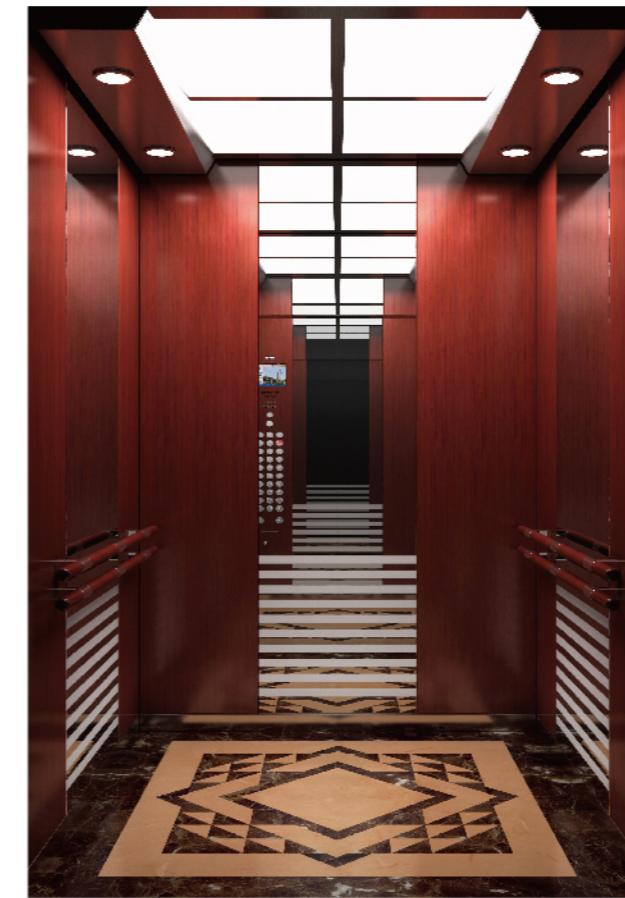
地板
Floor
PVC (RPV034)

操纵箱
Operation panel
RC009

轿厢装潢 Car decoration

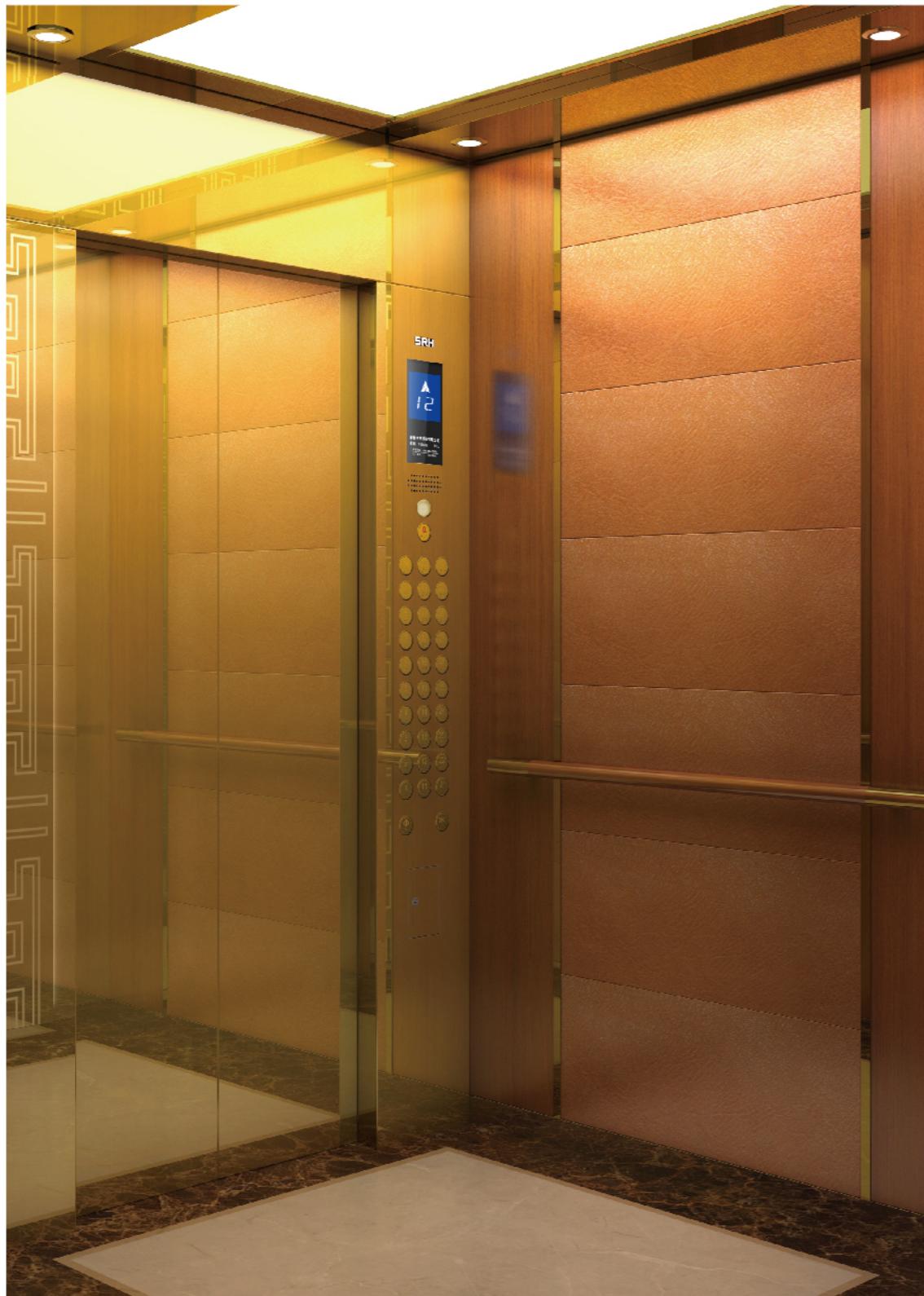


RJ035



轿壁 Car wall	镜面不锈钢与木纹轿壁组合 A combination of mirror stainless steel and wood-grain car wall
吊顶 Ceiling	镜面不锈钢框架, 中间透光板及两侧筒灯照明 Mirror stainless steel frame, translucent panels in the middle and down light illumination on both sides
扶手 Handrail	镜面不锈钢与实木双管组合 Combination of mirror stainless steel and wooden double tubes
地板 Floor	PVC (RPV012)
操纵箱 Operation panel	RC009

轿厢装潢 Car decoration



RJ041



轿壁
Car wall
后壁中间钛金镜面蚀刻，两侧钛金镜面不锈钢侧壁两侧木饰面镶嵌金属条，中间皮饰面
Rear wall: Titanium gold mirror etched stainless steel in the middle, Titanium gold mirror stainless steel at both sides
Side wall: Wood finishing inlaid with metal strip at both sides, leather finishing in the middle

吊顶
Ceiling
钛金镜面不锈钢框架、中间亚克力透光板、配合LED筒灯照明
Titanium gold mirror stainless steel frame, translucent acrylic panel in the middle, LED down light at two sides

扶手
Handrail
中间木纹面，两端钛金造型 (RF007)
Wood finishing in the middle, titanium gold at two ends (RF007)

地板
Floor
PVC (RPV041)

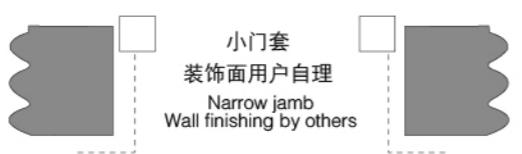
操纵箱
Operation panel
RC009

厅门 Landing door



RT011 (标配 Standard)

厅门 Landing Door	发纹不锈钢 Hairline stainless steel
门套 Jamb	发纹不锈钢 (小门套) Hairline stainless steel (narrow type)



RT015 (选配 Optional)

厅门 Landing Door	蚀刻不锈钢 Etched stainless steel
门套 Jamb	发纹不锈钢 (斜墙套) Hairline stainless steel (slant wall cover)



RT016 (选配 Optional)

厅门 Landing Door	镜面镀钛蚀刻不锈钢 Mirror Ti-gold etched St.St
门套 Jamb	镜面镀钛不锈钢 (斜墙套) Mirror Ti-gold St.St (slant wall cover)



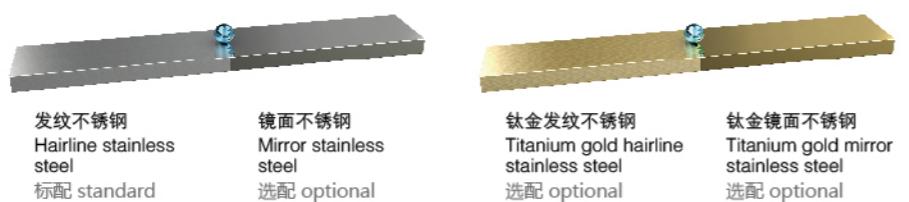
装潢系列 Decoration series



RC009
一体式操作箱
Integrated operation panel



RZ004-1-1
单梯 Simplex
RZ004-1-2
并联梯 Duplex



召唤盒 Hall call box



显示屏
Display screen

图片机
Picture type display
标配 standard

视屏机
Video type display
选配 optional

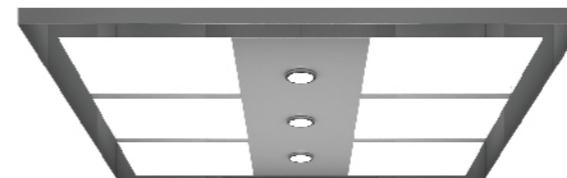
面板材质
Panel material

显示屏
Display screen



点阵显示
Dot matrix display
标配
Standard
单色液晶
Single-color LCD
选配
Optional

吊顶 Ceiling



RD011

镜面不锈钢框架，亚克力透光板，中间筒灯照明。
Mirror stainless steel frame, translucent acrylic panel, middle down light illumination.



RD018

镜面不锈钢框架，中间水晶柱及两侧筒灯照明。
Mirror stainless steel frame, crystal column in the middle and down light illumination on both sides.

扶手 Handrail



RF001



RF003

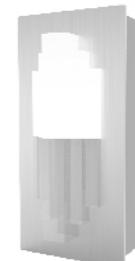
到站灯 Landing direction indicator



RZ-1-5A



RZ-1-5B



RZ-1-5C



RZ-1-5D

地板 Floor



RPV008



RPV012

厅外横显 Hall transom indicator



RZ004-1-7A

功能 Function

标准功能 Standard Function

运行功能 Travel function	电梯变频驱动 VVVF drive	精确调整电动机转速, 令电梯起动、运行、停止时的速度曲线平稳、圆滑, 获得良好的舒适感。 Motor rotating speed can be precisely adjusted to get smooth speed curve in elevator's start, travel and stop and gain the sound comfort.
	门机变频驱动 VVVF door operator	精确调整电动机转速, 使门机的开启、关闭更轻柔灵敏。 Motor rotating speed can be precisely adjusted to get the more gentle and sensitive door machine start / stop.
	独立运行 Independent running	通过动作开关, 使电梯不响应外召, 仅响应轿内指令。 The elevator can respond to outer calling, but only respond to the command inside the car through the action switch.
	自动不停站通过 Automatic pass without stop	当轿内挤满乘客或负载接近预定值, 为保持最大运行效率, 该轿厢将自动越过召唤层站。 When the car is crowded with the passengers or the load is closed to preset value, the car will automatically pass the calling landing in order to keep maximum travel efficiency.
	停梯开门 Car stops and door open	电梯减速平层, 直到电梯停稳后才开门。 The elevator decelerates and levels, the door only opens after the elevator comes to a complete stop.
	指令登记删除 Command register cancel	如按错了轿内楼层指令按钮, 只要把同一按钮连续两次, 就可取消已登记指令。 If you press the wrong floor command button in the car, twice continuous pressing of the same button can cancel the registered command.
	直接停靠 Direct parking	根据距离原则, 平层无爬行, 大大提高了运行效率。 It completely accords with distance principle with no crawling in the leveling. It greatly enhances the travel efficiency.

安全功能 Safety function	光幕保护 Photocell protection	门开启和关闭期间, 用覆盖整个门高度的红外光幕探测乘客和物体的门保护装置。 In the door open and close period, infrared light that covers the whole door height is used to probe the door protection device of both the passengers and objects.
	指定停靠 Designated stop	由于某种原因, 电梯在目的层无法开门, 电梯将关门运行至下一指定层楼。 If the elevator can not open the door in the destination floor out of some reason, the elevator will close the door and travel to the next designated floor.
	超载停梯 Overload holding stop	轿厢超载时, 鸣响蜂鸣器并停止于该层站。 When the car is overload, the buzzer rings and stops the elevator in the same floor.
	防止失速内部计数器保护 Anti-stall timer protection	由于曳引钢丝绳打滑而无法正常运行时, 电梯停止运行。 The elevator stops operation due to slippery of the traction wire rope.
	启动保护控制 Start protection control	电梯启动后在指定的时间内, 没有离开门区, 电梯停止运行。 If the elevator does not leave door zone within the designated time after it starts, it will stop the operation.
	故障自诊断 Fault self-diagnosis	控制器可记录最新的62个故障, 以便快速排除故障, 迅速恢复电梯运行。 The controller can record 62 latest troubles so as to quickly remove the trouble and restore the elevator operation.
	上下越层及上下极限保护装置 Up/down over-run and final limit protection	该装置可有效地防止当电梯万一发生失控时的冲顶或撞底现象, 使电梯更安全可靠。 The device can effectively prevent from the elevator's surging to the top or knocking the bottom when it is out of control. It results in more safe and reliable elevator travel.
	下行超速保护装置 Down over-speed protection device	当电梯下降运行的速度超过额定速度的1.2倍时, 该装置自动切断控制电源, 使电机停止运转以阻止电梯超速下行; 如电梯继续超速下行, 其速度超过额定速度的1.4倍时, 安全钳动作, 强制电梯停止运行, 保证安全。 When the elevator's down speed is 1.2 times higher than the rated speed, this device will automatically cut off control mains, stop the motor running so as to stop elevator down at over-speed. If the elevator continues to down at over-speed, and if the speed is 1.4 times higher than rated speed, safety tonge act to force the elevator stop in order to ensure the safety.
	上行超速保护装置 Upward over-speed protection device	当电梯上行的速度超过额定速度的1.2倍时, 该装置自动将电梯减速或制停。 When the elevator's up speed is 1.2 times higher than rated speed, the device will automatically decelerate or brake the elevator.
	制动力自检测功能 Braking Force Self-Detection Function	系统定期对制动力进行检测及报警提示, 防止制动失事故发生, 给乘客随时随地的保障。 System will do the detection and failure warning for the braking force regularly so as to prevent the accident of braking failure and bring passengers' safety protection at any time.

应急功能 Emergency function	应急照明 Emergency car lighting	停电时, 自动打开轿内应急照明。 Emergency car lighting automatically activated once power failure.
	点动运行 Inching running	当进入紧急电动状态时, 轿厢以低速点动运行。 When the elevator enters into emergency electric operation, the car travels at low speed inching running.
	五地通话装置 Five way intercom	通过对讲机, 可让轿内、轿顶、电梯机房、井道底坑、救援值班室之间通话。 Communication amid car, car top, elevator machine room, well pit and rescue duty room through walkie-talkie.
	消防返回 Fire emergency return	启动基站或监控屏上的钥匙开关, 所有召唤均被取消, 电梯立即驶往指定救援层站停靠, 并自动开门。 If you start key switch in main landing or monitor screen, all the callings will be cancelled. The elevator directly and immediately drives to the designated rescue landing and automatically opens the door.
	轿内及层站微动指令按钮 Micro-touch button for car call and hall call	轿内操纵箱指令按钮及层站召唤按钮采用新型微动型按钮。 New type micro-touch button is used for operation panel command button in the car and landing calling button.

人机界面 Man-machine interface	轿内及层站微动指令按钮 Micro-touch button for car call and hall call	轿内操纵箱指令按钮及层站召唤按钮采用新型微动型按钮。 New type micro-touch button is used for operation panel command button in the car and landing calling button.
	轿内层楼、方向指示 Floor and direction indicator inside car	轿内显示电梯所在层楼及当前运行方向。 The car shows the elevator floor location and current travel direction.
	层站层楼、方向指示 Floor and direction indicator in hall	层站显示电梯所在层楼及当前运行方向。 The landing shows the elevator floor location and current travel direction.
	轿厢到站钟 Car arrival gong	装于轿顶的电子钟的钟声告知候梯的乘客电梯已到站。 Arrival gong in the car top announces that the passengers arrive.

轿厢风扇/照明自动开关 Car ventilation, light automatic shut off	在规定的时间内没有召唤或指令信号, 轿厢内的风扇和照明会自动关闭, 以节能。 If there is no calling or command signal within the stipulated time, the car fan and lighting will be automatically closed in order to save the energy.
LED绿色照明 LED Green Lighting	采用最适合住宅楼宇的LED绿色光源, 使用寿命长, 耗电量低, 光线柔和明亮。 Adopt the most suitable LED green lighting for residential building. It has long service life, low power consumption, downy and bright light.

选配功能 Optional Function

运行功能 Travel function	防捣乱 Anti-nuisance	当电梯轻载时出现超过三个指令时, 为避免不必要的停靠, 轿厢内已登记的召唤将全部自动消除。 In the light duty load, when three more commands appear, in order to avoid the unnecessary parking, all the registered callings in the car will be cancelled.
	提前开门 Open the door in advance	电梯减速进入开门区域, 自动开门, 提高运行效率。 When the elevator decelerates and enters into door open zone, it automatically opens the door to enhance the travel efficiency.
	群控功能 Group control function	用于三台或三台以上同型号电梯成组控制时使用, 使梯群能自己选择合适的应答, 避免电梯重复停梯, 缩短乘客候梯时间, 提高运行效率。 When three or more same model elevator groups are controlled in use, the elevator group can automatically choose the most appropriate response. It avoids the repeated elevator parking, reduces the passengers' waiting time and increases the travel efficiency.
	并联功能 Duplex control	用于两台同型号电梯, 通过电脑的调度来统一响应召唤信号, 以大幅减小乘客的候梯时间, 以提高运行效率。 Two sets of same model elevators can unified respond the calling signal through the computer dispatch. In this way, it reduces the passengers' waiting time to the greatest extent and enhances the travel efficiency as well.
	开门再平层 Door-opening re-leveling	当电梯处于开门状态, 由于轿厢载荷变化, 造成平层波动时, 系统在开门的状态下以自身平层速度自动运行到平层位置。 When the elevator door opens and leveling fluctuation occurs due to change of the car load, the system automatically runs the elevator to leveling position by its own leveling speed under the conditions of door-opening.
	目的层群控功能 Destination layer group control function	系统将多台电梯组成群组, 乘客在人机交换机上输入目的楼层, 系统根据当前的层需求及当前的运行状况分派轿厢, 提高运行效率。 The system can constitute many elevators into a group. When passengers input destination in the man-machine exchange, the system will distribute the carbines according to the requirement and operation status of current destination layer to improve the operation efficiency.

安全功能 Safety function	绝对位置定位系统 Absolute-Location Positioning System	通过加装APS绝对位置定位系统, 即可精确定位轿厢楼层位置, 实现精准控制电梯的运行。 By installing APS absolute-location positioning system, the car landing location can be accurate positioning to realize accurate operation of elevator.
	防夹手保护功能 Caution Pinch Function	在电梯门套口形成一个三维的红外线保护区域, 当检测到有异物时, 门机将停止运动, 有效防止在开门过程中手指被夹入门套中。 Setting up a three-dimensional infrared protection area at the elevator door jamb. The door operator will stop running when foreign matter is detected at this area to effectively prevent finger from being caught into the door jamb while the door operator is running.
	3D门保护功能 3D Door Protection Function	利用TOF技术结合红外线技术, 使得光幕保护形成一个立体的区域, 有效防止人员与轿门发生碰撞、夹人。 To make photocell protection three-dimensional area with the technology of TOF combined with infrared ray, and prevent passenger from being crashed and caught with car door.
	UCMP保护 Unintended Car Movement Protection	当电梯处于开锁区域内且开门状态下, 检测到轿厢在无指令的情况下发生意外移动, 系统将启动保护, 立即制停轿厢。 When the car is at the door unlocked area and the door is opened, the system will be activated and stop the car immediately if the car movement is detected in the absence of command.

人机界面 Man-machine interface	语音报站 Voice announcer	在正常运行到站的情况下, 利用语音装置告知乘客有关信息。 When the elevator normally arrives, voice announcer informs the passengers about the relevant information.
	轿厢副操纵箱 The second operation box	用于大载重量电梯或候梯人群稠密大楼中的电梯, 以便让轿厢内更多的乘客方便使用。 It is used in the large loading weight elevators or the elevators with crowded passengers so that more and more passengers can use the car.
	残疾人操纵箱 Operation box for the disabled	便于让轿厢内坐轮椅的乘客及视觉障碍的乘客方便使用。 It is convenient for the wheelchair passengers and those who have visual disorder.
	IC卡控制功能 IC card control function	所有(部分)层站必须授权, 方可通过IC卡输入轿厢指令运行电梯。 All (partial) landings can only input car commands through IC Card after the authorization.
	语音安抚功能 Voice Calm Function	电梯发生故障时, 自动播放语音安抚和提示, 避免乘客自行违规操作引发安全事故。 When the elevator is breakdown, the comfort and calm voice will be automatically released to prevent the passenger from doing the wrong operation to cause more serious accident.
	手机呼梯功能 Mobile Calling Function	用户可在手机上安装专用APP, 实现在家用手机呼梯, “让电梯等人”, 为高层居民带来更多方便。 User can install the dedicated APP on the mobile to realize the calling function at home, “make the elevator wait passenger”, and provide more convenience for the residents.

监控功能 Monitor function	轿内摄像功能 Camera function in the car	摄像头装于轿厢内监视轿内情况。 The camera is installed in the car to monitor the car conditions.
	手机调试功能 Mobile Phone Commissioning Function	维保人员可通过手机终端平台对电梯进行监控和调试, 大大提高了服务效率。 Maintenance worker can do the remote management and commissioning to elevator by mobile terminal platform, which highly improve the service efficiency.
	物联网(远程监控) Internet of Things(Remote Monitor)	全面应用物联网技术, 将电梯与互联网相连, 24小时不间断地对电梯日常运行信息进行收集、监控, 对电梯故障及事故进行预警报警、分级响应和应急处理, 实现对电梯的远程实时监控, 确保乘客安全。 Connect elevator with internet by the comprehensive application of internet of things, do the 24 hours constantly collection and monitor to daily running information of elevator. Make the early warning and alarm to elevator running failure and accident, graded response and emergency handling to realize the remote real-time monitoring, to ensure passenger safety.

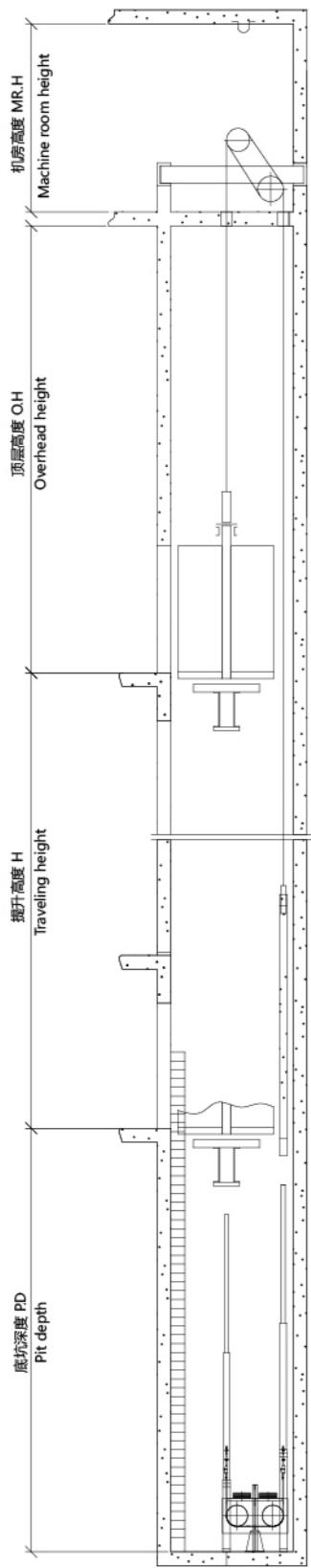
能量再生技术 Energy-Regenerating Technology	采用节能效果显著的能量回馈装置, 将电梯运行所产生的势能转换为电能, 回馈电网以供使用, 实现能量再生利用率最大化, 帮助客户实现环保、经济双赢利益。 Adopt regenerative power device which has remarkable energy-saving effect to convert the potential energy produced by the elevator running to electrical power, then the electrical power support the power grid to maximize realize the utilization rate of renewable energy, help the customer to realize environmental protection, economic interests.
洁净抗菌功能 Clean Antibacterial Function	轿厢内专设除菌装置定期杀菌消毒, 实时通风, 确保轿厢清新自然, 远离病菌危害。 The antibacterial device located in the cabin will regularly sterilization and disinfection, real-time ventilation to make sure the clean air of cabin, get it far away from the bacterial.
四象限驱动技术 Four quadrant driving technology	通过转矩前馈, 提高速度控制响应能力, 通过AFE有源前端, 精确控制母线电压, 实现高效能量回馈, 回馈电流谐波<5%。 By torque feedforward improves the responsiveness of speed control. By AFE active front end, it controls bus voltage precisely, to achieve high energy feedback and the feedback current harmonic < 5%.

停电应急平层 Auto Return Device	正常电源断电时, 充电式电池提供电梯电源, 电梯驶往最近层站。 In normal power failure, the chargeable battery supplies the elevator power. The elevator drives to the nearest landing.
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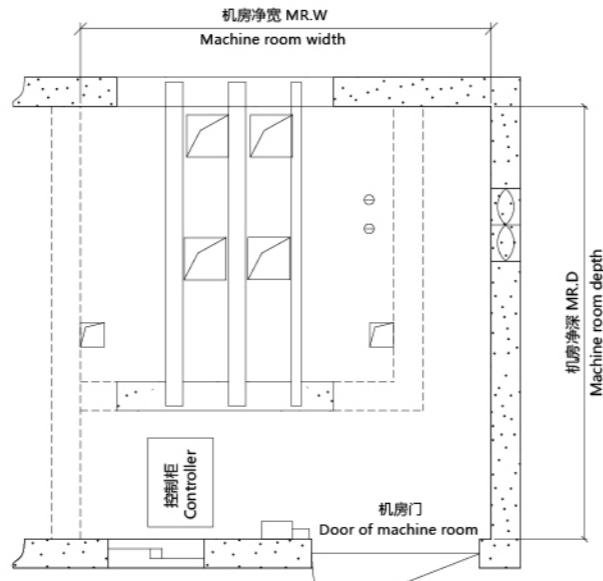
GRPS70高速电梯土建示意图

GRPS70 high speed elevator construction sketch

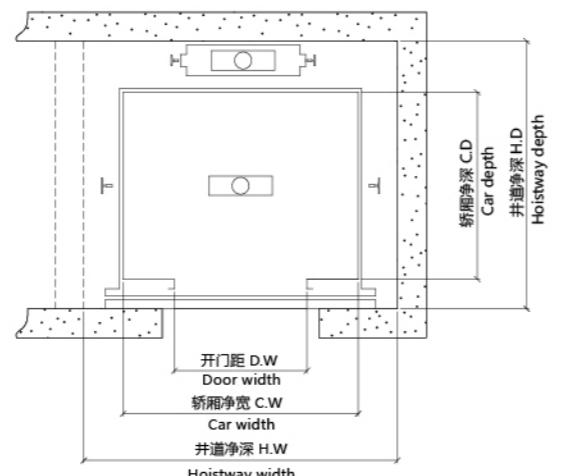
井道立面图
Hoistway elevation



机房平面布置图
Machine room plan



井道平面布置图
Hoistway plan



业主和土建承包商应完成的工作

- 井道内一切建筑必须达到防火要求，不得装设与电梯无关设备、电源等无关孔洞。
- 井道必须垂直，井道水平尺寸为最小净空尺寸，且垂直误差0~+25mm/0~30m、0~+30mm/30m~60m、0~+50mm/60m以上。
- 当底坑底面上有人员能达到的空间存在，则对重缓冲器应安装在一直延伸到坚固地实心桩墩上，或向电梯厂家询问安装对重安全钳。
- 电梯安装之前，所有层门门洞必须设有高度不小于1.2米的安全防护围封，并应保证有足够的强度。
- 封闭式井道根据需要设通风孔（一般在井道顶部和底部），其面积不得小于井道水平面积的1%，通风孔需设防护网。
- 电梯厅门、呼梯显示预留洞及其他预留孔洞在电梯安装完毕时需进行回填装修。
- 电梯井道最好为混凝土结构。如果井道为框架结构，在导轨支架安装处应设置300mm高的混凝土圈梁，并在每层厅门留洞上沿和下沿均设300mm高与井道同宽的混凝土梁。如果井道为实心承重砖墙结构，应在每层厅门留洞上沿和下沿均设300mm高、与井道同宽的混凝土梁。
- 当两相邻门坎间距超过11米时，其间应设置——不得向井道内开启的安全门，安全门的尺寸不得小于350mm宽1800mm高。
- 底坑内应防水，若有积水坑，应设在墙角处。
- 根据技术参数表中的要求，把电源拉到机房并设带保护的开关且上锁。电源波动范围不应超过±7%。电源零线和接地线应分开，且接地电阻值不大于4Ω。
- 机房中的温度应保持在5~40℃，机房应平整且必须能够承受不小于7.0kN每平方米的楼面标准均布活载荷。当机房地面高度不一且相差大于500mm时，应设置楼梯或者台阶，并设置护栏。
- 用户需设立救援值班室，并每台铺设通往机房的1根6芯电缆（推荐使用屏蔽/两两双绞线），每芯线径至少0.75平方毫米。

GRPS70高速电梯参数表

GRPS70 high speed elevator specifications

载乘人数 (人) Persons	额定载重 (kg) Rated capacity	额定速度 (m/s) Rated speed	轿厢净尺寸(mm) Net size of car		井道尺寸(mm) Hoistway size		最大提升 高度(m) Max traveling height	
			宽 x 深 x 高 C.W x C.D x C.H	净门距(mm) Net size of door D.W x D.H	宽x深 H.W x H.D	顶层净高 O.H		
13	1000	4.5	1600×1500×2350	900×2200	2400×2300	5800	3600	220
		5.0				5900	3900	245
		5.5				6000	4200	270
		6.0				6100	4500	290
		6.5				6200	4800	320
		7.0				6300	5100	350
15	1150	4.5	1700×1500×2350	1000×2200	2500×2300	5800	3600	220
		5.0				5900	3900	245
		5.5				6000	4200	270
		6.0				6100	4500	290
		6.5				6200	4800	320
		7.0				6300	5100	350
16	1250	4.5	1950×1400×2350	1100×2200	2750×2200	5800	3600	220
		5.0				5900	3900	245
		5.5				6000	4200	270
		6.0				6100	4500	290
		6.5				6200	4800	320
		7.0				6300	5100	350
18	1350	4.5	1950×1550×2350	1100×2200	2750×2350	5800	3600	220
		5.0				5900	3900	245
		5.5				6000	4200	270
		6.0				6100	4500	290
		6.5				6200	4800	320
		7.0				6300	5100	350
21	1600	4.5	1950×1750×2350	1100×2200	2750×2550	5800	3600	220
		5.0				5900	3900	245
		5.5				6000	4200	270
		6.0				6100	4500	290
		6.5				6200	4800	320
		7.0				6300	5100	350
		8.0				7000	5600	400