



## 森赫电梯股份有限公司 Sicher Elevator Co.,Ltd.

地址: 中国·浙江省湖州市练市工业园区森赫大道1号 邮编(P.C): 313013  
Add: NO.1 Sicher Road, Lianshi Industrial Park, Huzhou City, Zhejiang, China  
电话(Tel): +86-572-3787198 400-887-5898  
传真(Fax): +86-572-3787199 Http: //www.sicher-elevator.com  
E-mail: sicher@sicher-elevator.com(国内) srh@sicher-elevator.com(International)

本书为一般信息类出版物, 我们保留随时更改产品设计和说明的权利。  
本书的任何字句, 无论其字面意思或含义, 对于任何产品及该产品的用途和质量, 或者任何购销合同条款的表述与更改  
均不承担任何责任。  
由于印刷工艺的限制, 实际加工的颜色可能与本册略有不同之处, 最终造型可根据实际材料和色样决定。  
2016年5月份印刷

**SRH**  
SAFE REACH

**GRO**  
Observation Elevator  
观光电梯

**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

多一环 工序  
One more procedure



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，完成股份制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.







# GRO观光电梯

## GRO observation elevator

GRO系列观光电梯产品，融合德国控制技术，采用现代新材料和加工工艺，从而在运行品质、安全功能、轿厢造型设计、节能降耗等方面均有出色表现。

我们力求使该系列产品有一种超视觉的美感，成为您整座建筑物上眩目的风景。让它在夜幕降临之时，演绎着流光溢彩、诠释着尊贵典范。

该系列产品可适用于高档次的商务酒店、高级办公楼宇、机场、车站以及其它需要有观光用途的公共场所。

We introduce a full set of German control technology and apply modern materials and the latest processing craft & technique to produce GRO serial observation elevator products. This kind of products have the most perfect performance in lots of aspects such as the travel quality, safety functions, car model design, energy-saving and consumption reduction etc.

We strive to bring an advanced super view aesthetics to the serial goods. Our products will be the most glaring flowing scene which up and down in the buildings. When the night falls, the elevator deducts the dazzling light of aristocracy in the constructions.

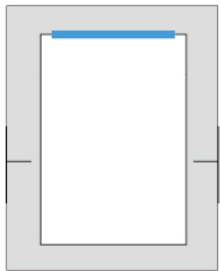
These serial products are applicable for the high grade business hotel, office building, airport, train station and other public transport places which require the sight-seeing purposes.



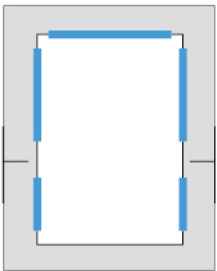
### 多种布置方案，领略不同风景

#### A variety of layout plan for enjoying different scenery

全井道  
Full hoisyyway  
layout

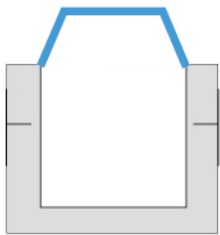


展望型  
Rear sightseeing

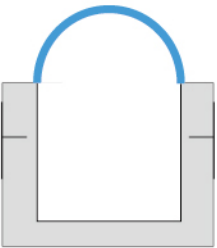


全景型  
Panoramic type

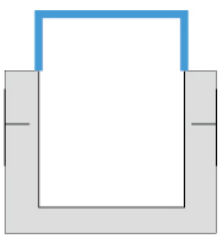
半井道  
Half hoisyyway  
layout



切角型  
Cutting-angle-type



半圆型  
Semi-circular shape



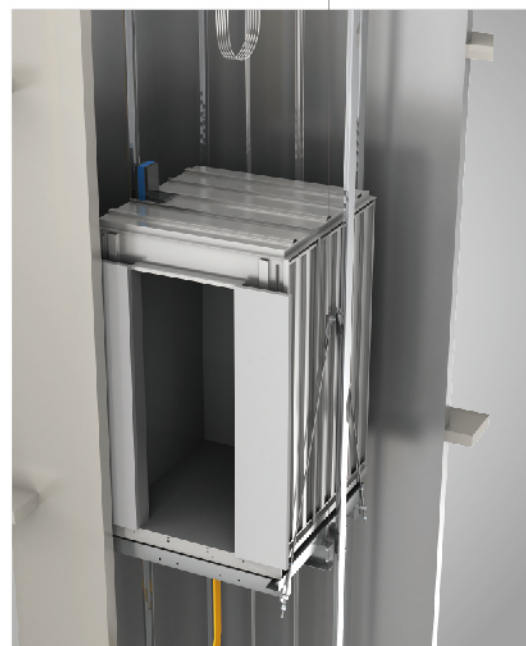
方型  
Square shape

注：蓝色部分为观光玻璃 Note: the blue part is sightseeing glass



# 集萃领先技术，全面优化功能体验

Advanced Technology Makes  
Optimized Function Experience



## 制动力自检测功能

系统定期对制动器的制动力进行检测及报警提示，防止制动失效事故发生，给乘客随时随地的保障。

## Braking Force Self-Detection Function

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.

## 钢丝绳打滑自检测

系统监测电梯运行时的偏移量，当偏移量超出偏离允许值时，电梯自动进入安全运行模式就近平层。

## Steel Rope Slipping Self-Detection

System will monitor the offset when the elevator is running. Elevator will run into the safety model and drive to the nearest leveling if the offset deviate from the reasonable value.

## 绝对位置定位系统

通过加装绝对位置定位系统，即可精确定位轿厢楼层位置，实现精准控制电梯的运行。

## Absolute-Location Positioning System

By installing absolute-location positioning system, the car landing location can be accurate positioning to realize accurate operation of elevator.

## UCMP保护

当电梯处于开锁区域且开门状态下，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

## Unintended Car Movement Protection System

When the car is at the unlocking 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.

## 物联网（远程监控）

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。

## Internet of Things(Remote Monitor)

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

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、经济双向利益。

## Energy-Regenerating Technology

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

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。

## Clean Antibacterial Function

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.

## 群控管理系统

即多台电梯成组控制时使用，使梯群能自动选择调度方案应答召唤信号，避免电梯重复停梯，缩短乘客候梯时间，提高运行效率。

## Group control managing system

Multiple elevators form group control in use. Therefore the elevator group can automatically choose the most optimized dispatch plan to respond the calling signal. It avoids repeated stop, shortens the passengers' waiting time, enhances the travel efficiency.



# 轿厢装潢 Car decoration



## RJ100

( 标配 Standard )

上下罩	钢板烤漆加彩饰图案
观光壁	安全夹胶玻璃
装饰顶	中部圆形亚克力顶灯，两侧筒灯
轿厢壁	发纹不锈钢
扶 手	不锈钢管
地 板	PVC

**Car cover:** Baked enamel steel plus color decoration patterns  
**Observation wall:** Laminated safety glass  
**Decoration roof:** Round acrylic lamp in the middle, down lights on two sides  
**Car wall:** Hairline stainless steel  
**Handrail:** Stainless steel tube  
**Floor:** PVC

## RJ105

( 标配 Standard )

上下罩	钢板烤漆框架，亚克力灯饰
观光壁	安全夹胶玻璃
装饰顶	钢板烤漆框架，亚克力顶板，筒灯点缀
轿厢壁	发纹不锈钢
扶 手	不锈钢管
地 板	PVC

**Car cover:** Baked enamel steel frame, acrylic lighting decoration  
**Observation wall:** Laminated safety glass  
**Decoration roof:** Steel plate baked enamel frame, acrylic roof lamp with down lights  
**Car wall:** Hairline stainless steel  
**Handrail:** Stainless steel tube  
**Floor:** PVC



## RJ102

( 选配 Optional )

上下罩	乳白色亚克力装饰罩
观光壁	安全夹胶玻璃（3块组合）
装饰顶	钢板烤漆框架，宝蓝色亚克力灯片
轿厢壁	发纹不锈钢
扶 手	不锈钢管
地 板	PVC

**Car cover:** White acrylic decoration hood  
**Observation wall:** Laminated safety glass (three pieces)  
**Decoration roof:** Baked enamel steel frame and blue acrylic lighting strip  
**Car wall:** Hairline stainless steel  
**Handrail:** Stainless steel tube  
**Floor:** PVC



轿厢装潢 Car decoration



RJ103

( 选配 Optional )

上下罩	钢板烤漆加装饰灯
观光壁	安全夹胶玻璃
装饰顶	镜面不锈钢，亚克力顶板
轿厢壁	夹胶玻璃
扶 手	不锈钢管
地 板	PVC
<b>Car cover:</b> Baked enamel steel with lighting decoration	
<b>Observation wall:</b> Laminated safety glass	
<b>Decoration roof:</b> Mirror st./st with acrylic plate	
<b>Car wall:</b> Laminated glass	
<b>Handrail:</b> Stainless steel tube	
<b>Floor:</b> PVC	

RJ101

( 标配 Standard )

上下罩	钢板烤漆，配亚克力灯饰
观光壁	安全夹胶玻璃
装饰顶	发纹不锈钢框架，亚克力透光板，筒灯
轿厢壁	发纹不锈钢
扶 手	不锈钢管
地 板	PVC
<b>Car cover:</b> Baked enamel steel with acrylic lighting decoration	
<b>Observation wall:</b> Laminated safety glass	
<b>Decoration roof:</b> Hairline stainless steel frame, acrylic light-emitting panel, down lights	
<b>Car wall:</b> Hairline stainless steel	
<b>Handrail:</b> Stainless steel tube	
<b>Floor:</b> PVC	



RJ109

( 选配 Optional )

上下罩	钢板烤漆，亚克力，LED筒灯
观光壁	安全夹胶玻璃
装饰顶	发纹不锈钢，亚克力
轿厢壁	发纹不锈钢
扶 手	不锈钢管
地 板	PVC
<b>Car cover:</b> Baked enamel steel, acrylic and LED down lights	
<b>Observation wall:</b> Laminated safety glass	
<b>Decoration roof:</b> Hairline st./st. with acrylic plate	
<b>Car wall:</b> Hairline stainless steel	
<b>Handrail:</b> Stainless steel tube	
<b>Floor:</b> PVC	



# RJ107

( 选配 Optional )

上下罩	钢板烤漆加装饰灯
观光壁	安全夹胶玻璃
装饰顶	钢板烤漆，亚克力顶板，灯饰
轿厢壁	彩饰不锈钢
扶 手	不锈钢管
地 板	PVC

**Car cover:** Baked enamel steel and lighting decoration

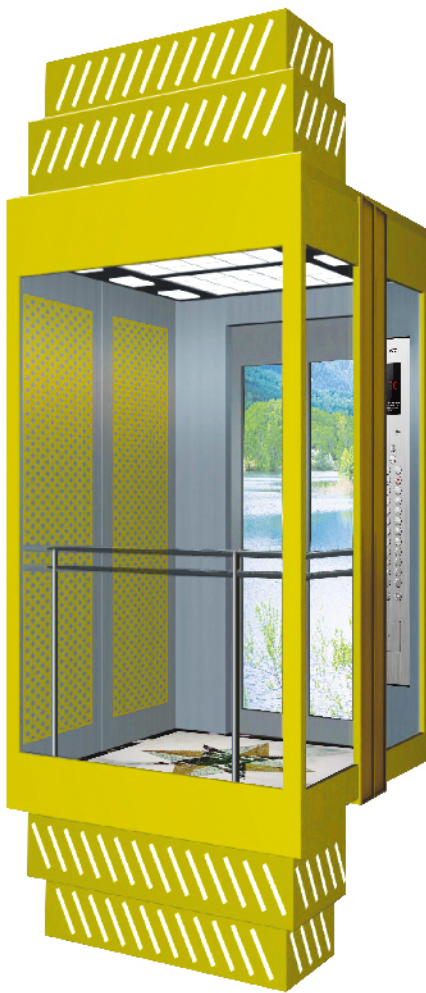
**Observation wall:** Laminated safety glass

**Decoration roof:** Baked enamel steel, acrylic lighting decoration

**Car wall:** Polychrome st./st.

**Handrail:** Stainless steel tube

**Floor:** PVC



# RJ108

( 选配 Optional )

上下罩	钢板烤漆，亚克力灯饰
观光壁	安全夹胶玻璃
装饰顶	钢板烤漆框架，亚克力拱形顶板及筒灯混合照明
轿厢壁	发纹不锈钢（选配：玻璃、蚀刻）
扶 手	不锈钢单管落地
地 板	PVC

**Car cover:** Baked enamel steel, acrylic lighting decoration

**Observation wall:** Laminated safety glass

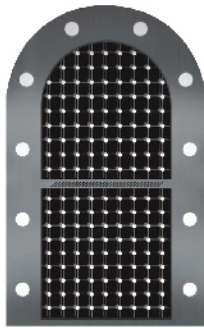
**Decoration roof:** Baked enamel steel frame, acrylic arch top plate with down lights

**Car wall:** Hairline stainless steel

**Handrail:** Stainless steel, single tube fixed on floor

**Floor:** PVC

## 吊 顶 Ceiling



RD100

发纹不锈钢框架，多层次透光板，亚克力灯饰

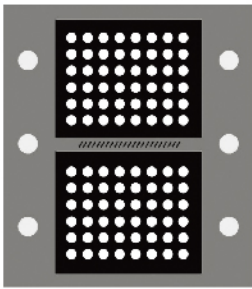
Hairline st/st frame, multi-layers lighting board, acrylic lighting cover



RD102

钢板烤漆顶板，亚克力灯饰，筒灯

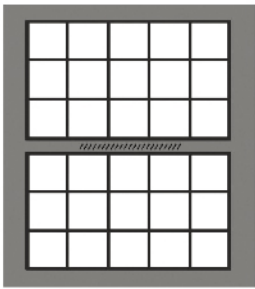
Baked enamel steel frame, acrylic lighting cover, down lights



RD103

发纹不锈钢框架，多层次透光板，亚克力灯饰

Hairline st/st frame, multi-layers lighting board, acrylic lighting cover



RD105

钢板烤漆顶板，亚克力灯饰  
Baked enamel steel frame, acrylic lighting cover

## 地 板 Floor



RPV100



RPV102



RPV103

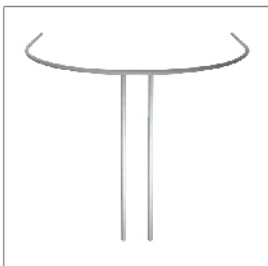


RPV104

## 扶 手 Handrail



RF100



RF101



RF102



# 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，令电梯启动、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 not 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，只要把同一按钮连接两次，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.
 安全功能 Safety function	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.
	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 tongs 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.
 应急功能 Emergency function	制动力自检测功能 Braking Force Self-Detection Function	系统定期对制动器的制动力进行检测及报警提示，防止制动失效事故发生，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.
	钢丝绳打滑自检测 Steel Rope Slipping Self-Detection	系统监测电梯运行时的偏移量，当偏移量超出偏离允许值时，电梯自动进入安全运行模式就近平层。 System will monitor the offset when the elevator is running. Elevator will run into the safety model and drive to the nearest leveling if the offset deviate from the reasonable value.
	平衡系数自学习 Balance System Self-Learning	系统可自动识别和计算电梯平衡系数偏差，并提供重量调整推算，给以现场合理的纠正意见。 System can automatically recognize and calculate elevator coefficient of balance deviation and provides weight adjustment calculation to give the reasonable adjustment opinion.
	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.
 人机界面 Man-machine interface	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.
	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.
 节能环保 Energy-saving environmental protection	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.

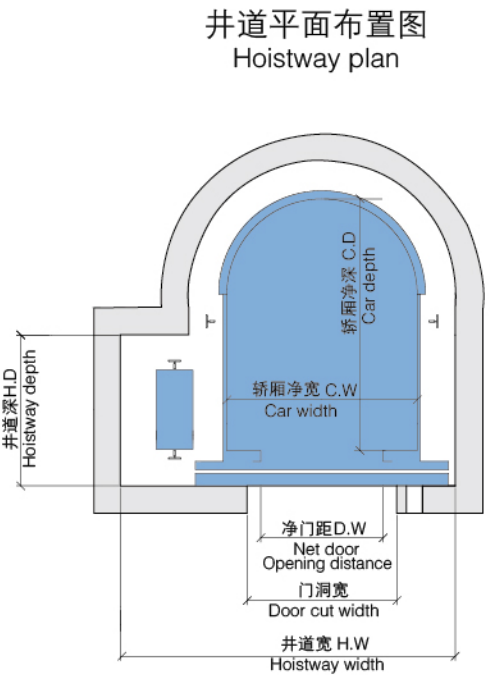
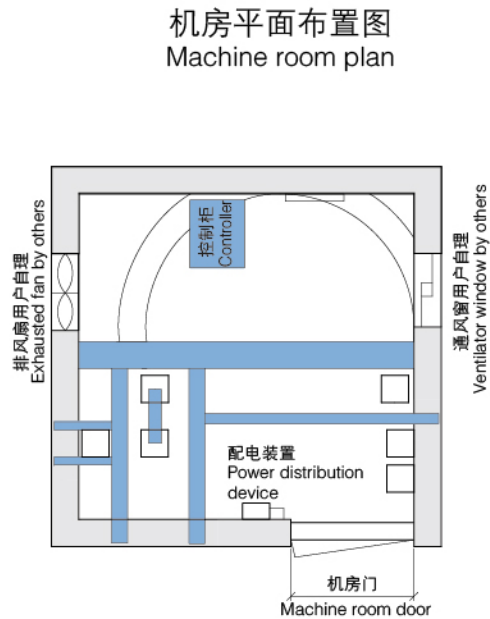
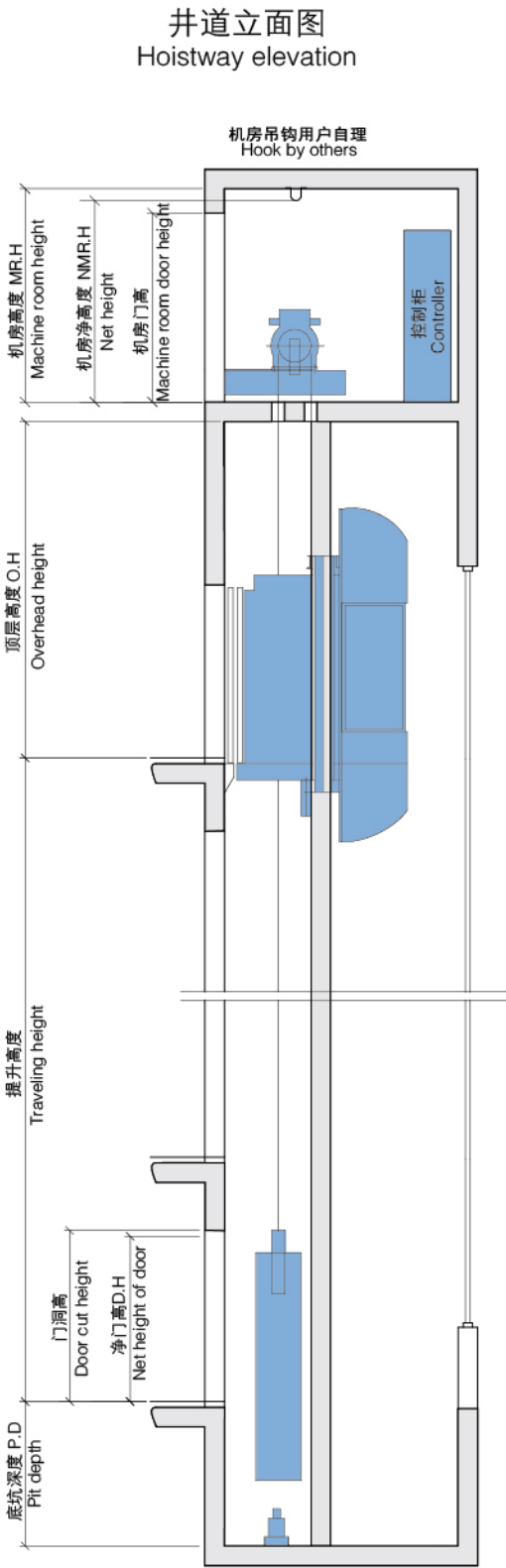
## 选配功能 Optional Function

 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，系统在门开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.
	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.
 安全功能 Safety function	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 fingers 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 a photocell protection three-dimensional area with the technology of TOF combined with infrared ray, andprevent 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.
	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.
 人机界面 Man-machine interface	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）层站须经授权，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 handing to realize the remote real-time monitoring, to ensure passenger safety.
 节能环保 Energy-saving environmental protection	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、经济双向利益。 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.
	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.
 应急功能 Emergency function		



# GROS观光电梯土建示意图

## GROS observation elevator construction sketch



注：本示意图以半圆形观光电梯为例。  
Note: the conceptual diagram takes the semi-circular panorama lift as an example.

### 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。
- 当底坑底下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墙装修。
- 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。
- 当两相邻门地坎间距超过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。

### GROS观光电梯参数表

#### GROS observation 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	净门距(mm) Net size of door	井道尺寸(mm) Hoistway size			机房尺寸(mm) Machine room size		轿厢形状 Car shape	最大提升高度(m) Max traveling height
			宽×深 C.W×C.D	中分两扇门 2P Center opening	宽×深 H.W×H.D	顶层净高 O.H	底坑深 P.D	宽×深 MR.W×MR.D	机房高 MR.H		
8	630	1.0	1400×1100	800×2100	2200×1650	4100	1400	2200×1650	2500	方型 Square shape	45
		1.75				4300	1500				95
10	800	1.0	1400×1350	800×2100	2200×1850	4100	1400	2200×1850	2500		45
		1.75				4300	1500				95
		2.0				4400	1600				120
		2.5				4700	1700				150
		2.5				4700	1700				150
13	1000	1.0	1600×1500	900×2100	2400×1950	4100	1400	2400×1950	2500		45
		1.75				4300	1500				95
		2.0				4400	1600				120
		2.5				4700	1700				150
16	1250	1.0	1950×1400	1100×2100	2750×1900	4200	1400	2750×1900	2500		45
		1.75				4300	1500				95
		2.0				4400	1600				120
		2.5				4700	1700				150
18	1350	1.0	1950×1550	1100×2100	2750×2000	4200	1400	2750×2000	2500		45
		1.75				4300	1500				95
		2.0				4400	1600				120
		2.5				4700	1700				150
21	1600	1.0	1950×1750	1100×2100	2750×2200	4200	1400	2750×2200	2500		45
		1.75				4300	1500				95
		2.0				4400	1600				120
		2.5				4700	1700				150
13	1000	1.0	1400×1850	900×2100	2400×1110	4100	1400	2400×2395	2500	切角型 Chamfer	45
		1.75				4300	1500				95
		2.0				4400	1600				120
		2.5				4700	1700				150
10	800	1.0	1200×1650	800×2100	2200×1110	4100	1400	2200×2195	2500	半圆形 Semi-circular shape	45
		1.75				4300	1500				95
		2.0				4400	1600				120
		2.5				4700	1700				150
13	1000	1.0	1400×1850	900×2100	2400×1110	4100	1400	2400×2395	2500		45
		1.75				4300	1500				95
		2.0				4400	1600				120
		2.5				4700	1700				150
15	1150	1.0	1200×2100	1000×2100	2750×1060	4200	1400	2750×2700	2500	圆形 Round	45
		1.75				4300	1500				95
		2.0				4400	1600				120
		2.5				4700	1700				150