

SRH
SAFE REACH

GRFH10

Hydraulic Freight Elevator

液压载货电梯

森赫电梯股份有限公司
Sicher Elevator Co.,Ltd.

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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，总建筑面积170000平方米，拥有产品制造中心、研发设计中心、客户服务中心，以及高度108米、电梯运行速度可达8.0m/s的试验塔，并从德国、意大利等国引进具有世界先进水平的生产与检测设备，具备年产40,000台的制造能力，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。

SRH森赫，源于德语Sicher，意为安全、可靠。森赫电梯股份有限公司境外全资控股子公司SRH Aufzüge GmbH（德国森赫电梯有限公司），在德国拥有企业研究院、制造工厂，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。在中国，依托森赫电梯股份有限公司作为制造基地，为全球客户提供欧盟标准的SRH森赫品牌产品。

森赫电梯股份有限公司作为德国电梯协会会员，携手SRH Aufzüge GmbH（德国森赫电梯有限公司），与具有悠久制造历史的德国大、中型电梯制造公司及电梯部件公司形成紧密的战略合作联盟，不仅可提供德国制造的电梯设备及部件，同时引进德国精益求精的制造技术和科学严谨的管理模式，共同研发、制造具有德国工业品质的电梯、自动扶梯及立体停车设备。

公司服务网络遍布全球46个国家和地区，在中国设有93家分支机构、916家服务网点，致力于成为最安全电梯的制造商和服务商。

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 a height 108 meters elevator testing tower with the running speed of up to 8.0 m/s. It also has introduced production facilities and inspecting equipments with world advanced levels from Germany, Italy and other countries to keep the production capacity 40,000 units as annual output, which is a large-scale and global market-oriented manufacturing enterprise for elevators, escalators and parking system equipments.

SRH, originates from German word "Sicher", which means safe, reliable. SRH Aufzüge GmbH, as a wholly owned subsidiary by Sicher Elevator Co., Ltd. possesses enterprise R&D institution and manufacturing factory in Germany 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. In China, it relies on Sicher Elevator Co., Ltd. as the manufacturing base, provides all kinds of SRH brand products in line with EU Standards for global customers.

As a member of German Elevator Association, Sicher Elevator cooperates with SRH Aufzüge GmbH, building the closest strategic cooperation union with German large, medium-sized elevator manufacturing companies and elevator parts companies, which have the longer manufacturing histories. It not only can provide elevator equipments and parts made in Germany, but also can introduce the German excelsior manufacturing technology and scientific rigorous management model, to research & develop, and manufacture all kinds of elevators, escalators and parking system equipments with German industrial qualities jointly.

We have service network across 46 countries and regions all over the world. And in China, we have 93 affiliated agencies and 916 service points. We will spare no efforts to be the safest elevator manufacturer and facilitator.



独特的优越性和适用性 The unique advantages and adaptability

GRFH10液压载货电梯有多种提升方式，适用于不同提升高度和载重量的电梯，从而满足客户的各种需求。
GRFH10 hydraulic freight elevator has the multiple lifting modes. It is applicable for the elevators with different travelling heights and capacity so as to satisfy various requirements from customers.

与曳引式电梯相比，液压电梯具有以下显著优点： Compared with traction elevator, hydraulic elevator has the following obvious advantages:

机房位置设置灵活

Flexible setting of the machine room position

不再需要顶部机房，可在电梯井道四周10米范围内灵活设置机房，更符合建筑物的个性化设计需求。

Top machine room is not needed. A machine room can be flexibly set within 10 meters range near the shaft which more complys with the individual design requirements of the constructions.

省空间、节能耗、降成本

Saving space and energy consumption, reducing the cost

无需对重装置，提高了井道利用率，极大地节省了建筑空间与建设费用；同时电梯下行时，依靠轿厢自重做功，无需消耗电能。

Counterweight device is not needed, which increases the utilization rate of the hoistway and greatly saves the construction space and costs. Meanwhile, when the elevator is going downwards, depending upon the work done by the cabin's own weight, no electricity is consumed.

安全可靠最高

The highest safety and reliability

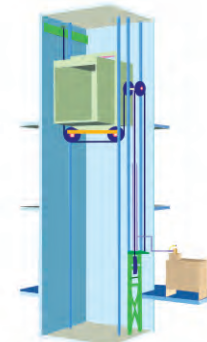
除具备曳引式电梯全部的安全保护装置外，另加设安全阀、限速截止阀等多重液压回路保护系统。

Apart from all the safety protection devices of the traction elevators, we additionally add the multiple hydraulic circuit protection systems such as safety valve, limited speed disconnecting valve etc.

结构简明、故障率低、易于日常维护保养

The products are of the compact structure, low fault rate, easy for the daily maintenance

多样化的提升方式 The diversified lifting modes



单缸侧置式 4:2

Single-cylinder side action type 4:2

此种提升方式下的电梯彻底解决了传统背包架液压系统导轨承受偏载载荷的弊病，大大改善了电梯起制动的舒适感。特别适用于提升高度大而额定载重量较小的电梯。

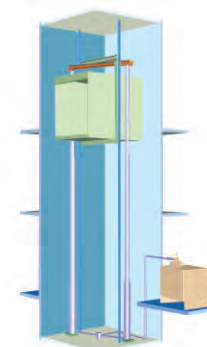
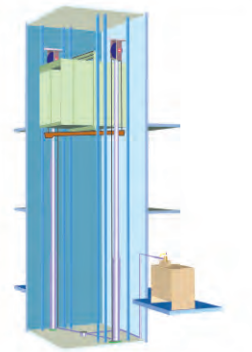
Under this lifting mode, the elevator can thoroughly solve the unbalanced loading to the traditional rucksack hydraulic system guide-rail. It greatly improves the comfortness of the elevator start & brake. It is especially suitable for the elevators with large hoisting height and small rated carrying weight.

双缸侧置式2:1

Double-cylinder side action 2:1

呈对称排布的两列油缸与滑轮组组合联动提升方式下的电梯，因轿厢全部载荷是由两列油缸来承受，故井道壁受力可最小化。特别适用于提升高度大而额定载重量中等的电梯。

Under the linkage elevator configurations of two rows of oil cylinder and pulley block combination with symmetrical arrangement, all the car loads will be borne by two rows of oil cylinders. Therefore we can minimize the shaft wall force. It is especially suitable for the elevators with large hoisting height and medium rated load.



双缸侧置直顶式1:1

Double-cylinder side action direct drive 1:1

呈对称排布的两列油缸直接与轿厢上梁相连接，故此提升方式下的电梯结构最简练、安全系数最高。特别适用于提升高度低而额定载重量中等的电梯。

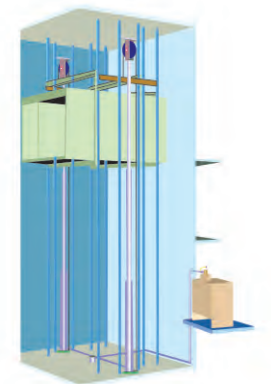
Two rows of oil cylinder with symmetrical arrangement directly connect with upper beam of the car. Under this lifting mode, the elevator gets the most concise structure and the highest safety coefficient. It is especially suitable for the elevators with the low elevator height and medium rated carrying weight.

双缸侧置式6轨2:1

Double-cylinder side action 6-rail 2:1

此种提升方式下的电梯轿厢的全部载荷由油缸来承受，故对井道结构要求最小。而轿厢导轨系统由6列刚性导轨所组成，确保了电梯即使处于偏载工况下，对轿厢的刚性要求及承载运行的稳定性。额定载重量可高达5000公斤。特别适用于提升高度中等而额定载重量大的集中载荷电梯。

Under this lifting mode, all of the elevator car load will be borne by oil cylinder. Therefore we have minimum requirements towards the hoistway structure. Whereas car guide-rail system is composed of 6 rows of rigid guide-rails, it ensures the car rigidity requirements and fine stability in transport travel even the elevator is in the unbalanced load conditions. The rated carrying load reaches as high as 5000kg. It is especially suitable for the concentrated load elevators with medium travel height and heavy rated load.



以安全为特色 因高性价比而出众

We regard the good security
as the characteristics and expertise in high
performance price ratio

GRFH10系列液压货梯工艺精良、技术一流，适用于不同载重量的液压电梯，有极其优越的启动、制动和平层效果，自动产生最佳的运行曲线，具备良好的运行舒适度。

GRFH10 serial hydraulic freight elevator is of the consummate technology, first-class skill. It is suitable for the hydraulic elevators with different capacity. It has the extremely advantageous start, brake and leveling results. It can automatically produce the best travel curve and the travel comfort.



轿厢装潢 Car decoration



RJ001

轿厢装饰配置 Car decoration

项目 Item	规格 Style	
轿厢 Car	RJ001 标配 standard	RJ002 选配 optional
轿顶 Car ceiling	涂装钢板 (RS004) Painted steel	发纹不锈钢 Hairline stainless steel
轿壁、轿门 Car wall, car door	涂装钢板 (RS004) Painted steel	发纹不锈钢 Hairline stainless steel
操纵箱面板 C.O.P	发纹不锈钢 Hairline stainless steel	
地板 Car floor	花纹钢板 Chequer steel	
地坎 Sill	加强铁 (≤3T) Reinforced iron (≤3T) 铸铁 (>3T) Cast iron (>3T)	

装潢 Decoration



RT001
旁开两扇门
2P telescopic opening

厅门系列 Landing door series

门厅装饰
Hall decoration

厅门: 涂装钢板 (RS004) (标配)
发纹不锈钢 (选配)

门套: 与厅门相配

地坎: 加强铁 ($\leq 3T$)
铸铁 ($> 3T$)

Landing door: Painted steel (RS004) (standard)
Hairline stainless steel (optional)

Jamb: Match to landing door

Sill: Reinforced iron ($\leq 3T$)
Cast iron ($> 3T$)



RT002
中分四扇门
4P center opening



RC220



RZ220

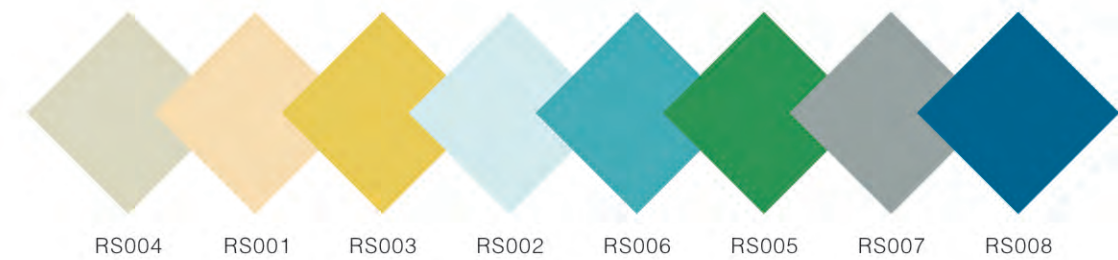
操纵箱与召唤盒 Operation panel and hall call

地板 Floor



RP001
花纹钢板 Chequer steel

色标 Color



RS004 RS001 RS003 RS002 RS006 RS005 RS007 RS008

完美功能 Function

标准功能 Standard Function

 运行功能 Travel function	 集选控制 Collective selective control	无司机集选控制操作。 Collective selective controlling without the presence of operator.
	 液压驱动 Hydraulic drive	通过电子阀液体流量的控制，实现电梯的运行。 We fulfill the elevator travel through controlling the liquid flow in the electronic valve.
	 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.
	 本层重开门 Reopen with hall call	关门途中，可以按本层站召唤按钮使门重新开启。 In the door closing process, press reopen with hall call Button can restart the door.
	 停梯开门 Car stops and door open	电梯减速平层，直到完全停稳后才开门。 The elevator decelerates and levels, the door only opens after the elevator comes to a complete stop.
	 自动返基站功能 Automatic returning to the base station	在交通量低时，无召唤信号的电梯将自动返回基站，关门等待。 When the traffic flow is low, elevator without receiving commanding signals will automatically return to the base floor and standby with the door closed.
	 直驶 Directly running	在由司机控制情况下，按直驶按钮后，只根据轿厢指令行驶，不应答厅外召唤。 Under the operator's control, after the direct running button is pressed, the elevator only runs directly according to the directives from inside the car and does not respond to any calls from outside.
 自动不停站通过 Automatic pass without stop	如轿厢内挤满乘客或负载接近预定值，为保持最大运行效率，该轿厢将自动超过召唤层站。 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.	
 安全功能 Safety function	 电梯门重复开关 Repeated door closing	有时因阻碍或干扰，电梯门未能关闭，电梯门会重复打开或关闭，直到杂物被清除。 If the elevator can not close the door due to certain obstacle or interference, the elevator will reopen or reclose the door until sundries are eliminated.
	 上电再平层 Power on re-level ling	由于电源故障引起轿厢停在两层之间，当电源恢复后轿厢将就近自动运行到平层位置。 A power failure might cause the elevator to stop between two floors. However, upon recovery of the power, the car automatically moves to the nearest leveling 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.
	 启动保护控制 Startup 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.
	 检修操作 Inspection operation	当进入检修状态时，轿厢以慢速点动运行。 When the elevator enters into inspection operation, the car travels at inching running.
	 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 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 elevators 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 the speed is 1.4 times higher than rated speed, safety tongs act to force the lift stop in order to ensure the safety.
 光幕保护 Photoce ll protection	门开启和关闭期间，用覆盖整个门高度的红外光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.	

 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.
	 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.
 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.
 节能功能 Energy-saving function	 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.
	 远程关闭 Remote shut-off	通过钥匙开关，电梯可以被召唤到基站（服务完成后），并自动退出服务。 The elevator can be called to base landing (after finishing the service) through the key switch and automatically exists the service.

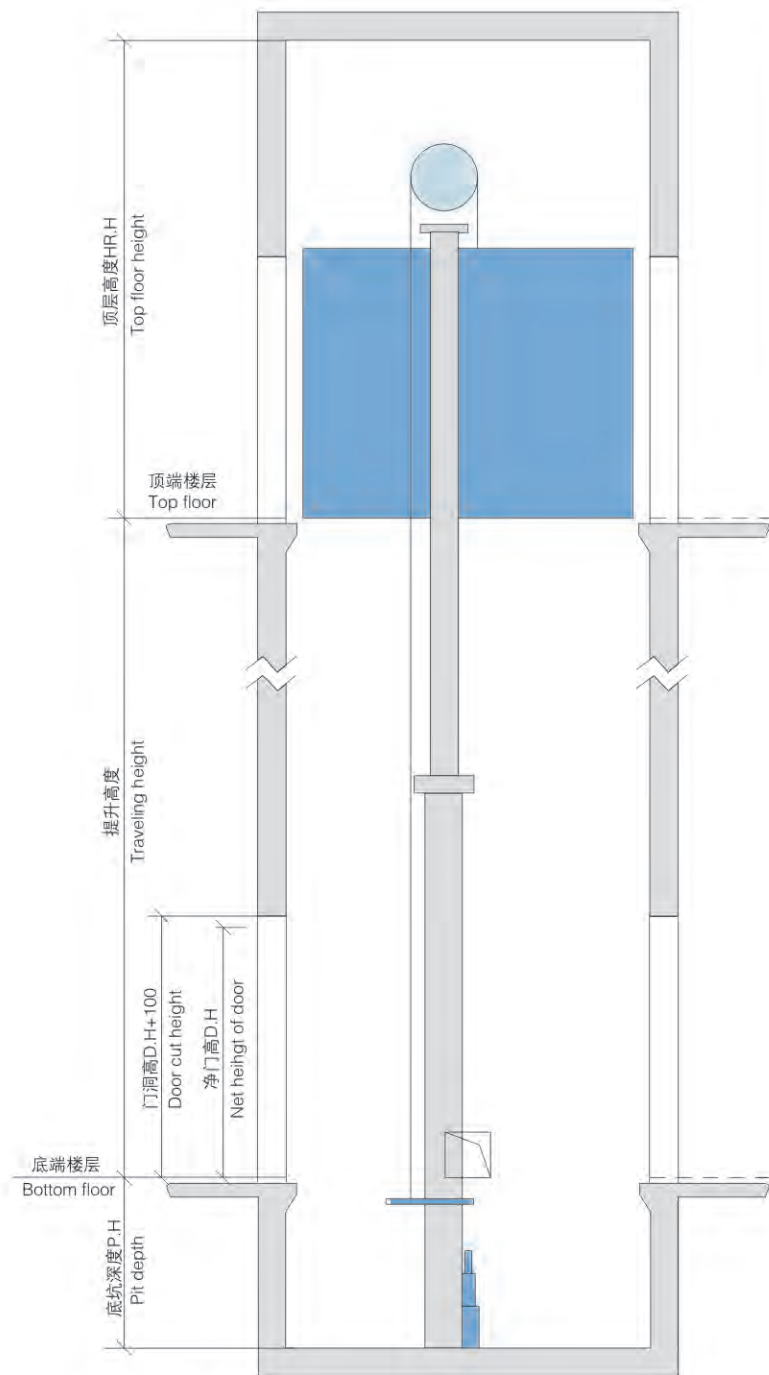
选配功能 Optional Function

 运行功能 Travel function	 层站运行控制 Operation control at stations	通过转动安装在特定楼层上的钥匙开关（可选择），可对某些层站停止服务。 Through turning the key switch installed on a specific floor (optional), the elevator can be arranged to stop service for a certain floors.
	 开门时间延长 Door open time extending	按轿厢内的专用按钮，可使门在一段延续时间内保持开门状态，从而便于装卸材料。 Pressing the specialized button in the car, which can keep the door open for a certain period of time, is convenient for loading and unloading of goods.
	 警铃 Bell	紧急时，连续按下轿内操纵箱上的警铃按钮，安装于轿厢顶上的电铃会鸣响。 In emergency conditions, if bell button above car operation panel is continuously pressed, electric bell rings on top of the car.

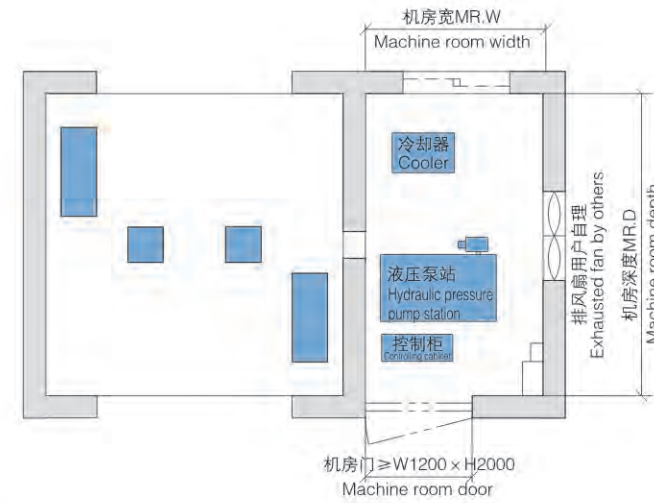
GRFH10液压载货电梯土建示意图

GRFH10 hydraulic freight elevator construction sketch

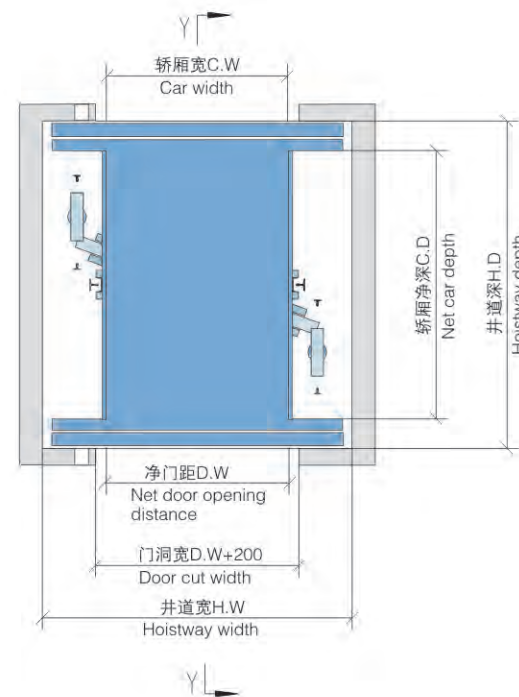
井道立面图 Y-Y
Hoistway elevation



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。
- 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方案。
- 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荷载。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。

GRFH10液压载货电梯参数表
GRFH10 hydraulic freight elevator specifications

额定载重 (kg) Rated capacity	额定速度 (m/s) Rated speed	液压型式 Cylinder type	轿厢净尺寸(mm) Net size of car		井道尺寸(mm) Hoistway size			机房尺寸(mm) Machine room size		最大提升高度(m) Max. Traveling height	
			轿厢宽C.W Car width	轿厢深C.D Net car depth	净门距D.W Net door opening distance	门洞宽D.W+200 Door cut width	井道宽H.W Hoistway width	HR.H顶层高 P.H底坑深	MR.W宽MR.D深 MR.H高度		
1000	0.5	单缸式4轨 4:2 1 cylinder 4 rails	1300 x 1750	1300 x 2200	—	2400x2390	4200	1500	2000x2390	2500	23.5
2000	0.5	单缸式4轨 4:2 1 cylinder 4 rails	1500x2700	1500 x 2200	—	2800x3340	4200	1500	2000x3340	2500	23.5
3000	0.25	双缸式6轨 2:1 2 cylinder 6 rails	2000x2900	—	2000x2200	3400x3550	4200	1500	2000x3550	2500	18
3000	0.25	双缸式6轨 1:1 2 cylinder 6 rails	2000x2900	—	2000x2200	3400x3550	4200	1500	2000x3550	2500	9
5000	0.25	双缸式6轨 2:1 2 cylinder 8 rails	2400x3600	—	2400x2400	4000x4250	4500	1700	2000x4250	2500	12