SILENS pro

MRL LIFT SOLUTIONS

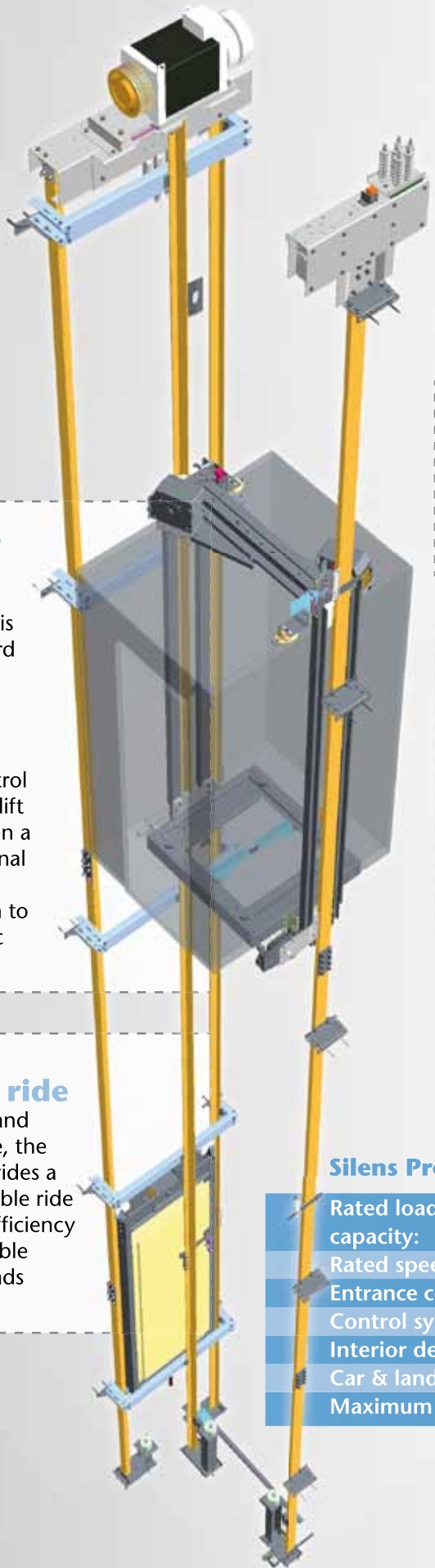
IMEM LIFTS

EUROPEAN LEADER in special lifts

Silens-Pro Top
Silens-Pro Compact


TX cross
speed racing

Silens-Pro Top



The Silens-Pro Top® is a state-of-the-art machine-roomless lift, designed and built to resolve all types of vertical transport requirements in residential settings, whether in new-builds or in conversions.

Machine
roomless

The fact that the Silens-Pro Top® needs no machine room frees up available building space as well as interior design options.

Ultramodern
gearless motor

The Silens-Pro Top® is equipped with a highly advanced permanent-magnet gearless motor which is 40% lighter than other models on the market, making it significantly easier to transport and to install. This extremely compact traction system takes up the minimum possible space within the lift shaft.

Excellence
supplied as standard

The Silens-Pro Top® is equipped as standard with the most up-to-date technology available: our Direct Approach System, a state-of-the-art control system, top-quality lift cars – not to mention a wide range of optional extras to tailor each particular lift system to the project's specific requirements.

Uniquely
comfortable ride

With its 2:1 roping and traditional car frame, the Silens-Pro Top® provides a supremely comfortable ride and the optimum efficiency in travel made possible due to improved loads distribution.

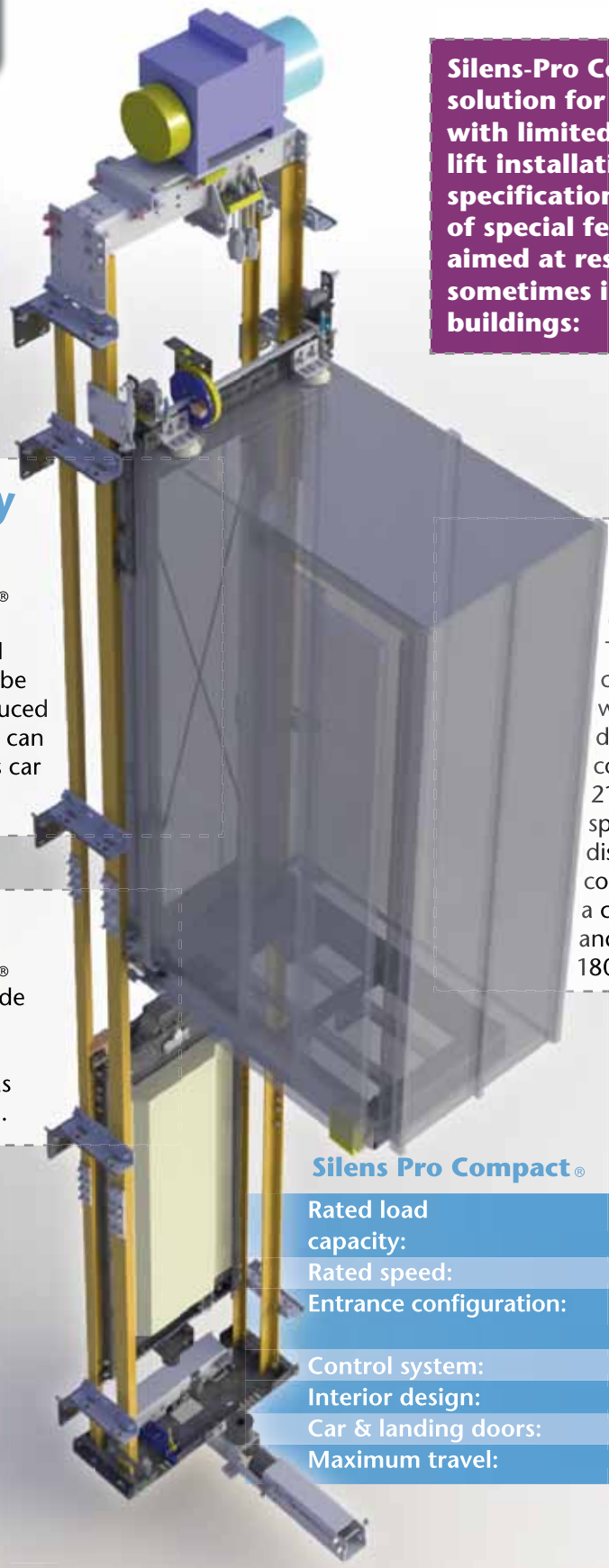
Residential **Offices**

Silens Pro Top®	
Rated load capacity:	300- 630Kg.
Rated speed:	1 metre/second
Entrance configuration:	Single, or double at 180°.
Control system:	Altamira 2.
Interior design:	Lift car 206, 406, 410.
Car & landing doors:	700, 800 or 900mm.
Maximum travel:	60metres.

Silens-Pro Compact

SILENS pro COMPACT

Silens-Pro Compact® is the ideal solution for existing buildings with limited space available for lift installation. Its high level of specification includes a number of special features specifically aimed at resolving the difficulties sometimes imposed by existing buildings:



Adaptability to smaller lift shafts

The Silens-Pro Compact® is a lift system with a rucksack frame and a 2:1 roping which can easily be adapted to shafts of reduced dimensions. Shaft width can be reduced to as little as car width + 450mm.

Flexibility

The Silens-Pro Compact® offers the options of a side counterweight, instead of the standard rear counterweight, as well as 90° (adjacent) entrances.

Reduced pit and clearance space

The Silens-Pro Compact® can be installed in spaces with much reduced pit depth (350mm minimum, complying with the EN81-21 standard) and clearance space (minimum headroom distance of 2650mm in accordance with EN81-21, with a car height of 2000mm and a landing door height of 1800mm).

Silens Pro Compact®	Residential	Offices
Rated load capacity:	300- 630Kg.	
Rated speed:	1 metre/second	
Entrance configuration:	Single, double at 90° or 180°, or triple.	
Control system:	Altamira 2.	
Interior design:	Lift car 206, 406, 410.	
Car & landing doors:	600, 700, 800 or 900mm.	
Maximum travel:	60metres.	

Silens-Pro® complies with the following standards

- European Lift Directive 95/16/EC.

- EN81-1:2001 +A3 (Safety rules for the construction and installation of lifts. Part 1: Electric lifts).

- EN81-28:2003 (Safety rules for the construction and installation of lifts. Lifts for the transport of persons and goods. Part 28: Remote alarm on passenger and goods passenger lifts).

Additional options

- EN81-21:2009 (Safety rules for the construction and installation of lifts. Lifts for the transport of persons and goods. Part 21: New passenger and goods passenger lifts in existing buildings).

- EN81-70:2003 (Safety rules for the construction and installation of lifts. Particular applications for passenger and goods passenger lifts. Part 70: Accessibility to lifts for persons including persons with disability).

- EN81-72:2003 (Safety rules for the construction and installation of lifts. Particular applications for passenger and goods passenger lifts. Part 72: Firefighters lifts).

- EN81-73:2005 (Safety rules for the construction and installation of lifts. Particular applications for passenger and goods passenger lifts. Part 73: Behaviour of lifts in the event of fire).

The right choice for lift professionals

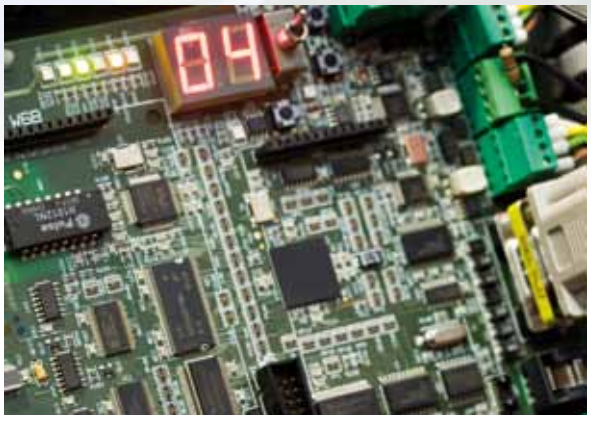
Installation - simpler and more economic

The Silens-Pro® range has been designed by lift professionals for lift professionals, with particular attention paid to making installation as straightforward as possible.

· All models are supplied with gearless motors which are lighter and more compact than others currently on the market, making them easier to transport and to install. The gearless motors require no maintenance and their productive life is practically limitless.

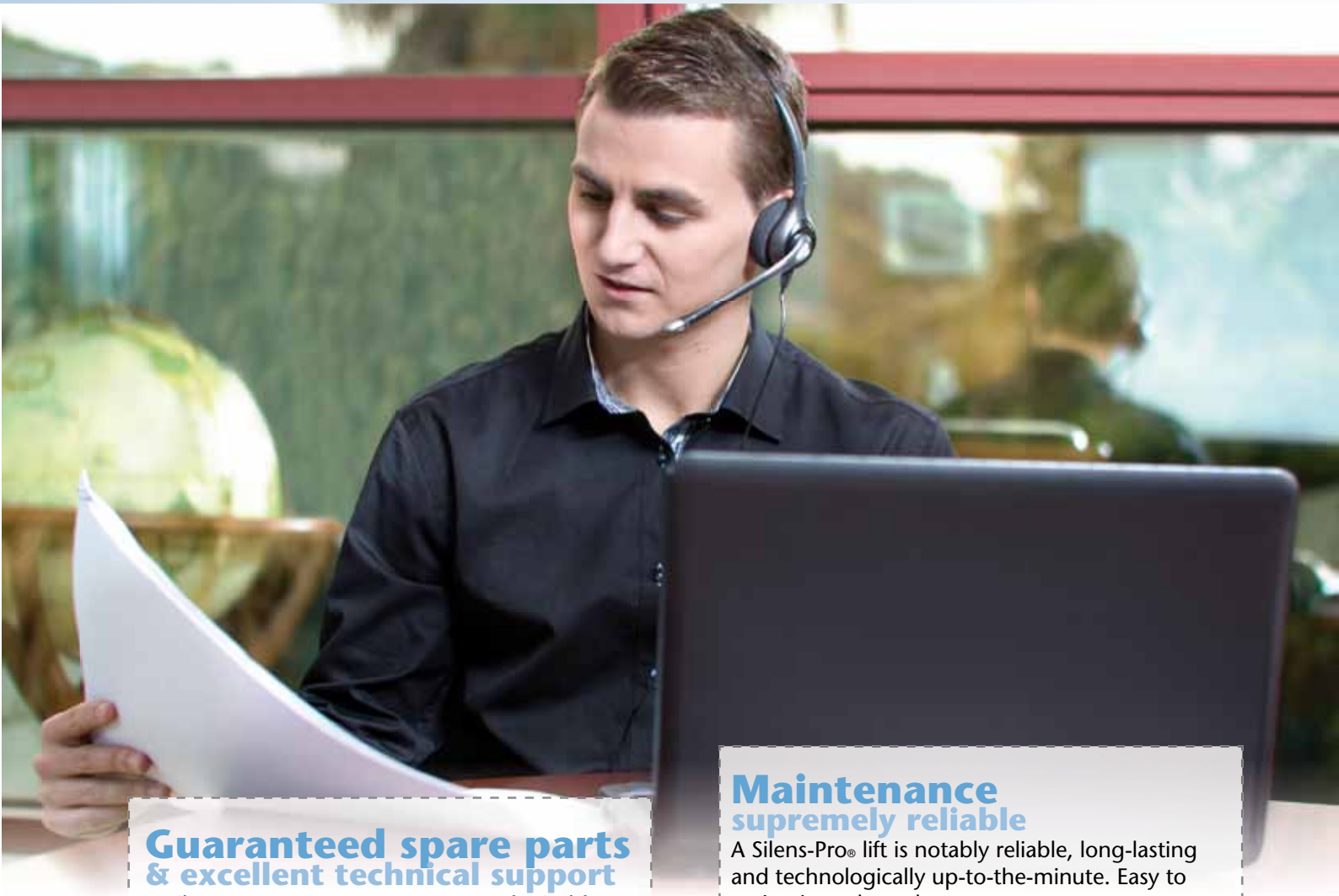
· The whole mechanical system is assembled with bolts and has been designed to avoid unproductive activity which slows down assembly and adds no value to the installation.

· The Direct Approach System supplied across the whole range removes the need for magnetic detectors and magnets within the shaft (except in the door area), making installation both simpler and more economic.



Flexibility

The new Altamira 2® control system opens up a whole new world of possibilities in fulfilling the particular needs of each job and of each customer.



Guaranteed spare parts
& excellent technical support

A Silens-Pro® system ensures peace of mind for many years - and the rapid availability of the right spare parts. Our R&D staff work closely with our customers, anticipating and efficiently resolving any problem which might emerge, as an integral part of our permanent and ongoing monitoring and support service.

Maintenance
supremely reliable

A Silens-Pro® lift is notably reliable, long-lasting and technologically up-to-the-minute. Easy to maintain and worth every penny.

Top quality specifications
& highly competitive

The Silens-Pro® range offers lift professionals an outstanding hi-tech product which is highly competitive. The Silens-Pro® is tried-and-tested, safe for both passengers and maintenance staff, and incorporates the very latest technological advances in this sector.

Maximum safety
for technical staff

The Silens-Pro® has been designed to optimise safe working conditions for maintenance personnel, taking care to anticipate and avoid all possible risks, such as pinching and entrapment. The unit's safety level is reflected in its strict compliance with the most demanding national and international standards in this field.

A world of possibilities for constructor & architect alike

Lifts
without machine rooms

The absence of machine rooms frees up a significant amount of space for the constructor and end-user, and so saves costs and broadens the architect's design options.

Space-saving
lift shafts

Silens-Pro® lifts require smaller lift shafts than other lift systems currently on the market, making it possible to install more spacious lifts within less space. This space-saving effect also cuts construction costs.

Design
at the cutting edge

Every lift car is equipped with state-of-the-art car operating panel, push-buttons and displays, bringing sophisticated design to any setting.

Standard equipment
of top quality

The whole Silens-Pro® range offers as standard the latest technologies regarding safety and comfort, as well as providing a wide choice of optional extras to tailor each lift system to the particular needs of the building in question.

The perfect lift
for lift users

Ride comfort
excellent
The Silens-Pro®'s Direct Approach System comes as standard on all models, and its central suspension produces maximum ride stability. All this gives passengers a smooth and precise travel without sudden movements, and delivers spot-on stopping accuracy.

Silent traction
efficient & eco-friendly
The gearless motor consumes little energy and is completely silent and environmentally-friendly.

No disturbance
The motor is fixed to the guide rails and the loads are transferred down to the pit rather than to the shaft walls. So no noise or vibrations disturb adjacent dwellings.

Complete safety
for passengers
The Silens-Pro® comes equipped with all the elements required to anticipate and avoid accidents, to enable two-way communication and to facilitate fast and efficient passenger release.

Sustainability
& energy-saving
The Silens-Pro® system is energy-efficient and environmentally-friendly. It also significantly reduces structural costs and the building's power supply bills.

The smoothest finely-tuned ride
Direct Approach System

Less waiting time
for the passenger

The Direct Approach System - for the first time included as standard across the entire Silens-Pro® range - allows the control unit to calculate the optimum lift travel speed curve according to the distance remaining to the selected destination. This eliminates the delays typical of previous systems as the lift car approaches landings, and represents a major step forward in passenger comfort and technological excellence.

The Direct Approach System optimises travel comfort by selecting the acceleration and deceleration timings most appropriate to the lift car's speed and location.

More straightforward
for the lift professional

- The control unit can pinpoint the exact position of the lift car in real time, using a single encoder fitted to the drive system. Maximum simplicity delivering optimum performance.

- This straightforward solution eliminates the need for the secondary devices usually deployed, saving on installation and start-up times.

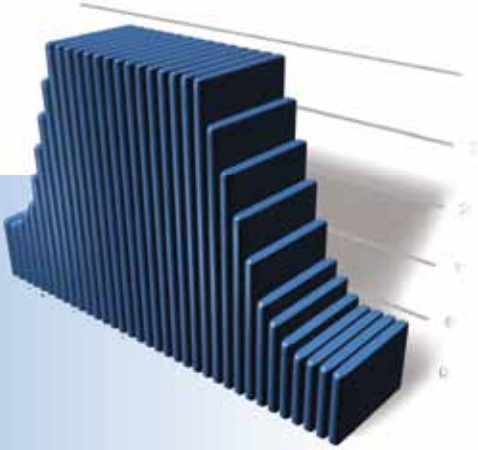
- The number of sensors and signal processors in the lift shaft is therefore lower than in conventional lift systems, further reducing installation time - and costs.

- The likelihood of failures caused by magnetic sensor deterioration and positioning change producing false readings is also significantly reduced.

- The start-up procedure is faster than for conventional lift systems without the Direct Approach System.

- Final lift car-levelling adjustments are simply carried out using the car display panel.

- Short travel distances between floors do not interfere with ride quality and efficiency.



A system which combines high technology, energy efficiency & sustainability

Energy efficiency choices

Your vision of how you want your building to work is our starting-point for achieving optimum energy-saving. Our extensive experience in the design and development of machine-roomless lifts informs our traffic analyses designed to determine the number of lifts required and their ideal size so as to guarantee the traffic management solution best suited to each project's particular needs.

- When the lift cars are unoccupied, the system can enter into stand-by mode. This results in significant year-on-year energy-saving and enhanced sustainability.

- Our permanent-magnet gearless motors offer much lower energy consumption levels than conventional traction drive systems.

- We can further reduce car lighting costs by installing energy-saving LED spots.

EcoSaver regenerative drive system©: Sustainable energy

Including an EcoSaver® regenerative drive system in your Silens-Pro® lift package transforms it into an active generator of electric power.

With the EcoSaver System®, the motor itself becomes a power generator when the lift car is going up empty or with few passengers and when it is going down heavily loaded.

EcoSaver® efficiently stores this energy, prevents its loss as heat and feeds it back into the building's power supply network. Energy savings can rise to as much as 50% of the lift system's total power consumption.

EcoSaver installation© delivers:

- An ultracompact energy-management system which makes the lift highly sustainable and environmentally-friendly.

- A major improvement in the system's power factor (the ratio between power consumed and power drawn from the electricity network) resulting in even greater cost savings.

- Clean energy, with under 5% harmonic distortion (as against the 35% current legal limit), and the elimination of interference with and malfunction of nearby electronic and radio equipment.

- Major savings in your building's energy bills.


LIGHTING
LED SPOT
WALL FINISHES
P270
P260
P222
P280
STANDARD BUTTON PANEL: BCE1
FLOORING
S32GN

Interior styling
Lift car 206

HALF-COLUMN BUTTON PANEL: BCE2

HANDRAILS

OPTIONS

- Plastic laminates available in a choice of colours.
- Lift car fronts in standard stainless steel.
- Stainless steel upper and lower skirtings, as standard.
- Stainless steel handrails, available in different formats.
- Hardwearing black rubber flooring.
- 1/3-width mirror on car back wall, at 300mm from the floor.
- Direct lighting with LED spots.
- Stainless steel car button panel, in standard or half-column format.

LANDING BUTTON PANELS

BEE1

BEE2

BEE3

BEE4

DEEPV

IN-CAR PUSH-BUTTONS

PCEN

PCIN

PCEB

PCMT

DISPLAYS

DCTFT(7´´)

DCEGH (5´´)

DCEPH (3´´)

ARROW DISPLAYS

HLE1

HLE3

HLE2

HLE4

*HLE5

*EN81-70 for cars with 50mm entrance return


LIGHTING
LED SPOT
LED 700
WALL FINISHES
P412
P422
P432
INOX
STANDARD BUTTON PANEL: BCE1
FLOORING
S32GN

Interior styling
Lift car 406

HALF-COLUMN BUTTON PANEL: BCE2

HANDRAILS

OPTIONS

- Available finished throughout in stainless steel, or in laminated plastic in a choice of colours and textures.
- Car fronts in standard stainless steel.
- Upper and lower skirtings in standard stainless steel.
- Stainless steel handrails, available in different formats.
- Hardwearing black rubber flooring.
- 1/3-width mirror on car back wall, at 300mm from the floor.
- Direct lighting with LED light panels.
- Stainless steel car button panel, in standard or half-column format.

LANDING BUTTON PANELS

BEE1

BEE2

BEE3

BEE4

DEEPV

IN-CAR PUSH-BUTTONS

PCEN PCIN PCEB PCMT

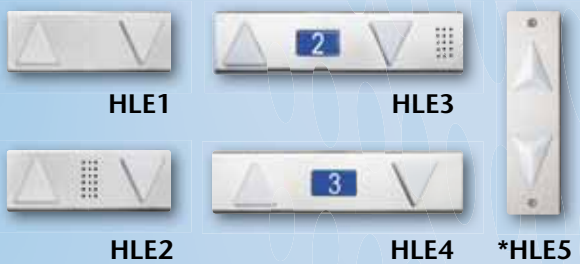
DISPLAYS

DCTFT(7´´)

DCEGH (5´´)

DCEPH (3´´)

ARROW DISPLAYS



HLE1 HLE3 HLE2 HLE4 *HLE5

*EN81-70 for cars with 50mm entrance return


LIGHTING
L750
L760
WALL FINISHES
PC443
PC453
PC463
INOX
HALF-COLUMN BUTTON PANEL: BCE2
FLOORING
S32GN
S62GG
S52GN
S42GB

Interior styling
Lift car 410

STANDARD BUTTON PANEL: BCE1

HANDRAILS

OPTIONS

- Available finished throughout in stainless steel, standard or in a choice of colours.
- Car fronts in standard stainless steel.
- Lower skirting available in standard stainless steel.
- Stainless steel handrails, available in different formats.
- Hardwearing flooring in black rubber or reinforced homogeneous vinyl.
- 1/3-width mirror on car back wall, at 300mm from the floor.
- Direct lighting with fluorescent light panels.
- Stainless steel car button panel, in standard or half-column format.

LANDING BUTTON PANELS

BEE1

BEE2

BEE3

BEE4

DEEPV

IN-CAR PUSH-BUTTONS

PCEN

PCIN

PCEB

PCMT

DISPLAYS

DCTFT(7´´)

DCEGH (5´´)

DCEPH (3´´)

ARROW DISPLAYS

HLE1

HLE3

HLE2

HLE4

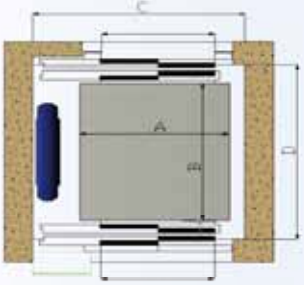
*HLE5

*EN81-70 for cars with 50mm entrance return

Technical data

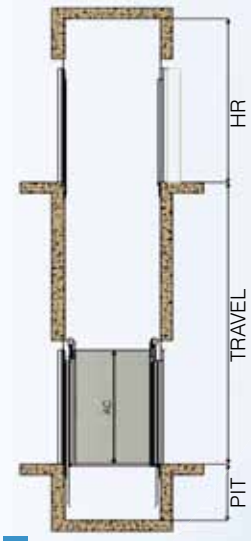
Silens-Pro Top©

RATED LOAD (Kg)	Nº of people	ROPING	Máx. speed (m/s)	ENTRANCES Nº / ANGLE	CAR SIZE		SHAFT SIZE		HEADROOM ** (car height 2200mm)	PIT	DOOR TYPE
					WIDTH	DEPTH	WIDTH	DEPTH*			
320	4	2:1	1	1 / 0º	850	1000	1350	1225	3400	1050	Side opening 2H 700
				2 / 180º	850	1000	1350	1325			
				1 / 0º	800	1050	1300	1275			
				2 / 180º	800	1100	1300	1425			
				1 / 0º	900	950	1400	1175			
				2 / 180º	900	1000	1400	1325			
375	5			1 / 0º	800	1200	1300	1425			
				2 / 180º	800	1150	1300	1475			
				1 / 0º	850	1150	1350	1375			
				2 / 180º	850	1100	1350	1425			
				1 / 0º	900	1050	1400	1275			
				2 / 180º	900	1050	1400	1375			
450	6			1 / 0º	950	1200	1450	1425			Side opening 2H 800
				2 / 180º	950	1200	1450	1525			
				1 / 0º	1000	1150	1500	1375			
				2 / 180º	1000	1100	1500	1425			
				1 / 0º	1000	1200	1500	1425			
				2 / 180º	1000	1200	1500	1525			
				1 / 0º	1000	1250	1500	1475			
				2 / 180º	1000	1250	1500	1575			
630	8			1 / 0º	1100	1400	1600	1625			
				2 / 180º	1100	1400	1600	1725			
				1 / 0º	1100	1400	1600	1625			Side opening 2H 900
				2 / 180º	1100	1400	1600	1725			



Minimum shaft & car dimensions.
Standard car dimensions.
EN81-70 car.

*Dependent on door and opening type
** Option of 3250mm reduced headroom with 2050mm car height

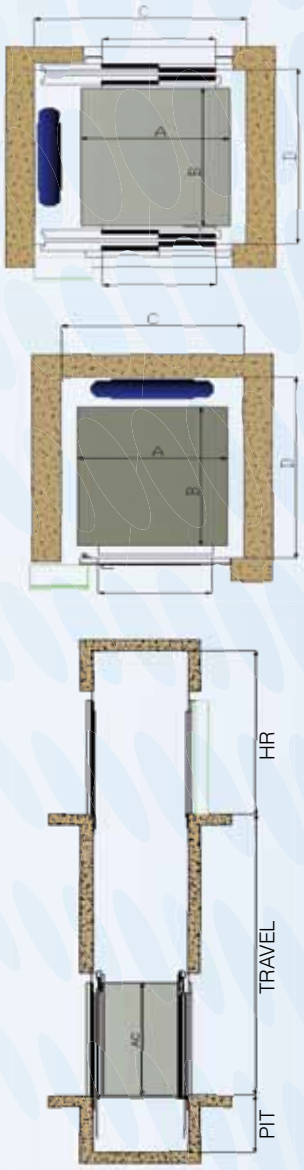


Operational ranges (standard mechanic)		
Maximum travel	60 metres	
Shaft:	*PIT:*	Standard minimum: 1050mm
	Headroom:	Standard min. (2200mm car): 3400mm Reduced min. (2050mm car): 3250mm
	Minimum width:	Car width + 500mm
Car:	*Minimum depth:*	950mm
	Maximum depth:	1500mm
	Minimum width:	800mm
	Maximum width:	1200mm
	Standard height:	2200mm (+ 2050mm & 2100mm options)

Silens-Pro Compact©

SIDE-MOUNTED SYSTEM

RATED LOAD (Kg)	Nº of people	ROPING	Max. SPEED (m/s)	ENTRANCES Nº / ANGLE	CAR SIZE		SHAFT SIZE		HEADR.** (car height 2200mm)	PIT ***	DOOR TYPE
					WIDTH	DEPTH	WIDTH	DEPTH*			
300	4	2:1	1	1 / 0º	1150	680	1600	950	3400	1050	Side opening 2H 600
				2 / 180º	1200	650	1650	970			
				1 / 0º	700	1100	1150	1340			
				2 / 180º	700	1100	1150	1430			
				1 / 0º	1050	750	1500	1000			
				2 / 180º	1100	670	1550	1000			
				1 / 0º	850	1000	1300	1240			Side opening 2H 700
				2 / 180º	850	1000	1300	1330			
375	5			1 / 0º	800	1200	1250	1440			
				2 / 180º	800	1200	1250	1530			
				1 / 0º	1200	800	1650	1100			
				2 / 180º	1200	800	1650	1130			
				1 / 0º	900	1100	1350	1340			
				2 / 180º	900	1050	1350	1380			
450	6			1 / 0º	900	1300	1350	1540			Side opening 2H 800
				2 / 180º	900	1300	1350	1630			
				1 / 0º	1100	1050	1550	1300			
				2 / 180º	1100	1050	1550	1380			
				1 / 0º	1000	1200	1450	1440			
				2 / 180º	1000	1200	1450	1530			
				1 / 0º	1000	1250	1450	1490			
				2 / 180º	1000	1250	1450	1580			
630	8			1 / 0º	1000	1450	1450	1690			
				2 / 180º	1000	1450	1450	1780			
				1 / 0º	1200	1200	1650	1440			Side opening 2H 900
				2 / 180º	1200	1200	1650	1530			
				1 / 0º	1100	1400	1550	1640			
				2 / 180º	1100	1400	1550	1730			



REAR-MOUNTED SYSTEM

RATED LOAD (Kg)	Nº of people	ROPING	Max. SPEED (m/s)	ENTRANCES Nº / ANGLE	CAR SIZE		SHAFT SIZE		HEADROOM ** (car height 2200mm)	PIT ***	DOOR TYPE
					WIDTH	DEPTH	WIDTH	DEPTH*			
300	4	2:1	1	1 / 0º	800	1050	950	1560	3400	1050	Swing 700
					950	900	1100	1460			Centr 4H 600
375	5			1 / 0º	800	1200	950	1710			Swing 700
					950	1050	1100	1610			Centr 4H 600
450	6			1 / 0º	950	1200	1100	1710	3400	1050	Swing 800
					1050	1100	1200	1660			Centr 4H 700

Operational ranges

Maximum travel	60 metres	
Shaft:	*PIT:*	Standard minimum: 1050mm Reduced EN81-21 minimum: 350mm
	Headroom:	Standard min. (2200mm car): 3400mm Reduced min. (2050mm car): 3250mm Reduced EN81-21 min. (2050mm car): 2800mm, 2700mm Reduced EN81-21 min. (2000mm car, door clearance 1800mm): 2650mm
	Minimun width:	Car width + 450mm (side-mounted system)
Car	*Minimum depth:*	630mm
	Maximum depth:	1600mm
	Minimum width:	700mm
	Maximum width:	1200mm
	Standard height:	2200mm (+ 2050mm & 2100mm options)

- Minimum shaft & car dimensions.
- Standard car dimensions.
- EN81-70 car.

*Dependent on door and car front type

** Reduced headroom option (EN81-21) of 2700mm with 2050mm car height

***Reduced pit option (EN81-21): to 350mm. For shafts with a reduced headroom and a reduced pit, a study must be carried out. For open adjacent at 90º or triples, entry clearances will be adjusted as required. Other entrances (three car entrances) will be set according to project requirements.

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LIFTS

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