



## MRL W Line

MODULAR MACHINE ROOMLESS ELECTRIC ELEVATOR



*safety in motion™*

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# WELCOME TO WITTUR!

YOUR GLOBAL PARTNER FOR  
COMPONENTS, MODULES AND SYSTEMS  
IN THE ELEVATOR INDUSTRY

## 45+

years of experience  
and value creation

**We are your global solution  
provider in the elevator world.**

Our experience reaches back 45  
years in which we have developed  
ourselves into a valuable supplier  
for our numerous customers  
in more than 60 countries  
around the world.

The key to our success is based on the ideas, commitment and expertise of our more than 3500 employees worldwide, who contribute to continuous improvement on all levels. Our management as well as our staff are truly global and we encourage the interplay of different cultures and nationalities in our project teams and offer international career paths. In each of our 10 manufacturing sites we have committed ourselves to the same standards of excellence, assuring that our products are of highest quality, produced efficiently by applying environmentally friendly manufacturing processes.

safety **in** motion™



10

manufacturing sites

60

countries



3.500

employees



**safety** *in* **motion**™

*Wittur is Safety in Motion!* We are a driving force for safety in the elevator industry and are always looking for possibilities to improve our performance. The high level of safety we supply is not only reflected in our products and solutions but is also visible at each of our manufacturing sites. It is our responsibility to assure that our employees return home safely every day. This holistic safety standard is managed by the worldwide *Wittur Production System*: a structured process incorporating *Concern Rooms* to handle feedbacks, *Safety Corners* to focus our employees on safety and *Functional Excellence Management (FEM) Boards* to publish production trends and engage all members of the Wittur team in the accomplishment of quality, production and safety targets.

# MRL W Line

MRL W Line is a machine roomless electric elevator using components designed and produced by Wittur in an innovative modular package.

## Key features

Rated load	320-2500 kg
Rated speed	1.0 – 1.6
Travel height	up to 50 m
Car sling	Central guided
Drive	Energy efficient Wittur WSG gearless drive 2:1
Entrance	Single or double (180°)
Doors	Center or side opening
Package	Mechanical package or complete package with Wittur E-Pack Can Bus controller

## 1 Quick installation

The MRL W Line is easy and quick to install. Handling on site is highly optimised: the elevator's sub components are delivered in clearly labelled packages, numbered according to the assembly sequence.

Each component has a separate user-friendly instruction manual, making the steps of the assembly process easy to follow and fail-safe. The assembly of the electrical components has also been made simpler thanks to Wittur's "Plug and Play" concept. All the customer has to do is to connect the components using the pre-installed fail-safe plugs as instructed in the manuals. No welding or manual cable connection is necessary.





WITTUR

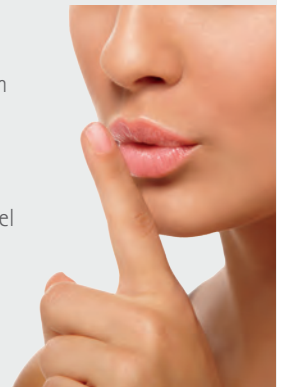


## 2 Durable and reliable

The MRL W Line offers the highest level of safety during installation and maintenance procedures. A highly efficient design and the use of quality components by Wittur result in high reliability, safety and operating comfort for the end user of each MRL W Line elevator.

## 3 A silent and comfortable ride

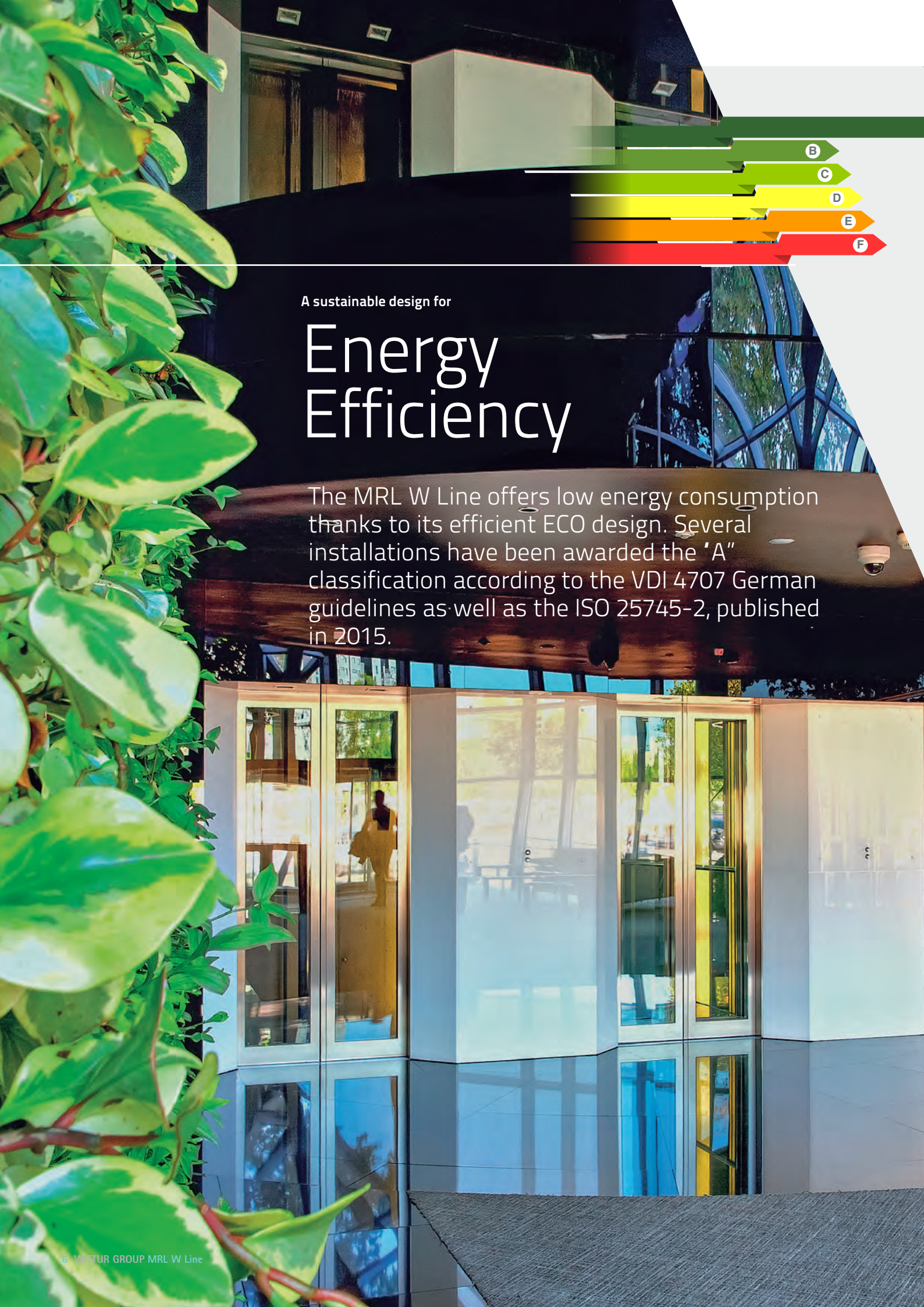
Through the combination of highly efficient mechanical and electrical components (like the gearless drive), use of isolation pads, drive control by means of a frequency inverter, balanced rope arrangement and low friction sliding guide shoes, it has been possible to obtain a high ride comfort and low noise levels compliant with VDI 2566-2. The "Comfort-Kit" (the comfort-kit are isolation blocks mounted under the drive and the dead hitch points) with its silent blocks (standard supply for 1,6 m/s but optional for 1 m/s) offers an enhanced ride comfort. The noise level perceived by the passenger from inside the car is limited to 55 dBA.



## 4 Compact design with reduced dimensions

The MRL W Line makes optimal use of available shaft space and, depending on rated load, rated speed and the height of the car, can be installed in any type of shaft with a pit depth starting at 1050 mm (for 1 m/s and  $\leq$  630 kg) or 1200 mm (for 1,6 m/s and  $\leq$  630 kg), and headroom starting at just 3400 mm (for 1 m/s and  $\leq$  630 kg) or 3600 mm (for 1,6 m/s and  $\leq$  630 kg). Mounted directly onto the guide rails under Wittur patent, the MRL W Line uses Wittur bed plates and WSG S-series gearless drives, which offer smaller dimensions through the use of reduced rope diameters with smaller traction sheaves (240 mm for rated loads up to 630 kg, and 320 mm for rated loads up to 1050 kg and 400 mm for rated loads up to 2500 kg).

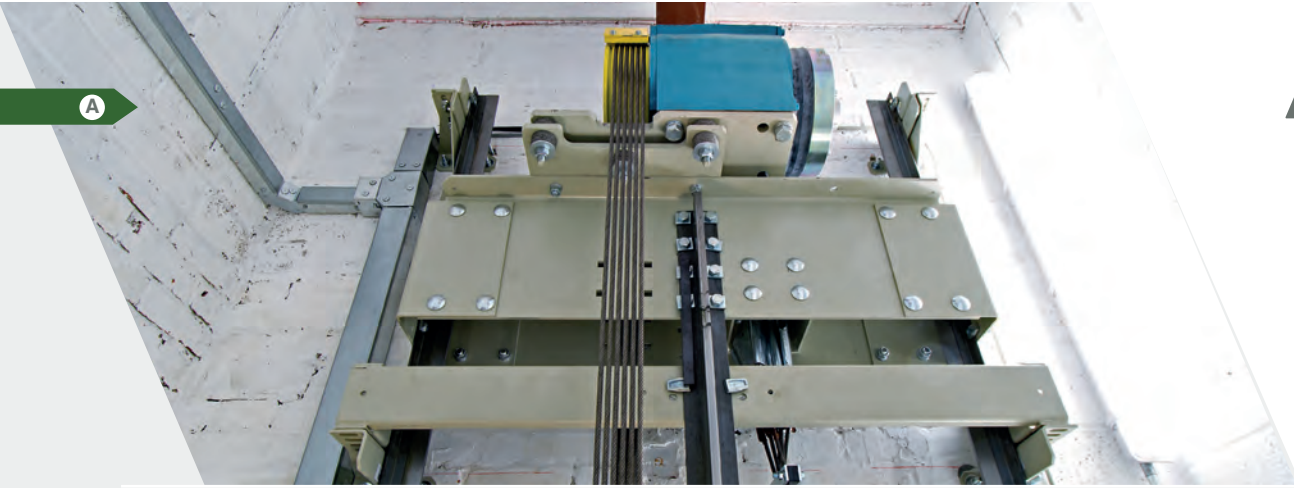




A sustainable design for

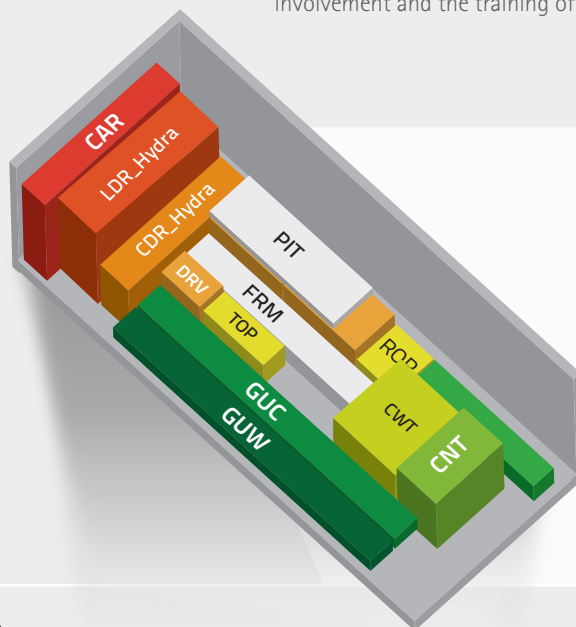
# Energy Efficiency

The MRL W Line offers low energy consumption thanks to its efficient ECO design. Several installations have been awarded the "A" classification according to the VDI 4707 German guidelines as well as the ISO 25745-2, published in 2015.



## 5 Reduced energy consumption

MRL W Line is powered by energy efficient permanent magnet Wittur WSG gearless drives. Wittur E-Pack controller with integrated inverter is pre-set at the factory with optimal drive parameters for high energy efficiency. Wittur latest generation ECO+ and MIDI+ brushless door drives offer a significant reduction of power consumption per working cycle and ride comfort. Wittur doors are pre-arranged for Zero watt standby mode to cut energy consumption when lift is not in use. Wittur car lighting is based on cutting edge LED (light-emitting diode) technology. LEDs have the many advantages over other types of light sources including lower energy consumption, longer lifetime, improved physical robustness reduced heat dissipation and small size. Timed car light (available as an option) additionally increases the energy efficiency. Wittur Production System (WPS) using lean production criteria is used in all Wittur production facilities to obtain levelled and efficient processes. Wittur group pursues a continuous improvement of the environmental compatibility of its production. The Wittur Group production facilities implement and maintain an effective Environmental Management System according to ISO 14001 requirements, with the target to reduce the consumption of energy resources, water and materials, improve waste management through recovery and recycling, verify the achieved goals and promote the involvement and the training of its employees in environmental matters.



Logistic enhancements for reduction of shipping and better waste management

Example of truck loading suggested scheme provided by Wittur.

## 6 Optimised packaging

Wittur modular package concept for MRL W Line is based on compact 100% recyclable cardboard boxes to reduce wastes after installation and CO<sub>2</sub> emissions due to transportation.



## Available finishes

The simplicity of the MRL W Line in no way detracts from the versatility of the options and car decorations available. The standard decorations, with their functional designs, offer the added advantage of a short production lead-time, but the MRL W Line can be supplied in a most versatile range of decorations to suit any request including PVC coated sheet (wood or leather), RAL painted sheet in a variety of colours, back-painted glass and stainless steel. For the full range of available decorations, please contact your local Wittur representative.



MCS1 Amsterdam





MCS1 Roma



MCS1 Los Angeles



MCS1 Munich



MCS1 Texas



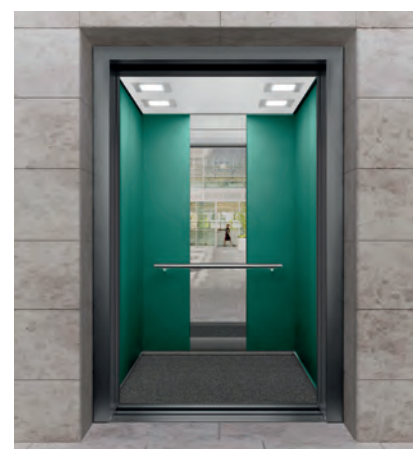
MCS1 Rotterdam RAL 2002



MCS1 Rotterdam RAL 4001



MCS1 Rotterdam RAL 5015



MCS1 Rotterdam RAL 6033

	Amsterdam	Los Angeles	Munich	Roma	Rotterdam	Texas
<b>Ceiling</b>	Naturalbond / Fire Rated / Metallic Silver + Stainless Steel / Brushed	Naturalbond / Fire Rated / Metallic Silver + Stainless Steel / Brushed	Stainless Steel / Brushed	Naturalbond / Fire Rated / Metallic Silver + Stainless Steel / Brushed	Naturalbond / Fire Rated / Metallic Silver + Stainless Steel / Brushed	Naturalbond / Fire Rated / Metallic Silver + Stainless Steel / Brushed
<b>Lighting</b>	LED0101	LED0107	LED0200	LED0100	LED0100	LED0101
<b>Floor</b>	Linoleum / Charcoal Grey 86484	Granite / Natural / Blue Pearl	Granite / Natural / Star Galaxy	Granite Ceramic / Dark Grey	Linoleum / Charcoal Grey 86484	Granite Ceramic / Dark Grey
<b>Side walls</b>	Stainless steel / Brushed	Stainless steel / Linen	Laminate / HGL / Galaxy White	PVC-coated sheet / Mahogany	PVC-coated sheet or RAL painted (24 colours)	PVC-coated sheet / Leather
<b>Corner walls</b>	Stainless steel / Brushed	Stainless steel / Linen	Laminate / HGL / Galaxy White	PVC-coated sheet / Mahogany	PVC-coated sheet or RAL painted (24 colours)	PVC-coated sheet / Leather
<b>Rear walls</b>	Stainless steel / Brushed	Stainless steel / Brushed	Laminate / HGL / Galaxy White	Stainless steel / Brushed	PVC-coated sheet or RAL painted (24 colours)	Stainless steel / Brushed
<b>Mirror</b>	Floated Mirror	Floated Mirror	Floated Mirror	Floated Mirror	Floated Mirror	Floated Mirror
<b>Entrances</b>	Stainless steel / Brushed	Stainless steel / Linen	Stainless steel / Brushed	Stainless steel / Brushed	PVC-coated sheet or RAL painted (24 colours)	Stainless steel / Brushed
<b>Handrail</b>	Brushed st. Steel	Brushed st. Steel	Brushed st. Steel	Brushed st. Steel	Brushed st. Steel	Brushed st. Steel
<b>EN 81-70</b>	✓	✓	✓	✓	✓	✓

	Lighting
<b>LED0100</b>	SQUARE LED MODULE 12,5X12,5 with Diffuser Cover 0100
<b>LED0101</b>	SQUARE LED MODULE 12,5X12,5 with Diffuser Cover 0101
<b>LED0200</b>	MINI SPOTS with Power LED
<b>LED0107</b>	SQUARE LED MODULE 12,5X12,5 with Diffuser Cover 0107

MCS1 cars are available up to 1275 kg. Please contact your local Wittur representative for cars in larger MRL W models.

	RAL Colours
<b>Standard range</b>	1015; 1023; 2002; 3001; 3003; 3015; 3022; 4001; 5010; 5015; 5024; 6005; 6011; 6019; 6033; 6034; 7001; 7016; 7032; 7035; 8001; 8015; 9002; 9006



A wide range to choose your

# Doors



Pegasus

**PEGASUS** is Wittur heavy traffic door for installations in public buildings, offering high opening speeds and very smooth operation.



Augusta EVO

**AUGUSTA EVO** is the affordable Wittur quality door for the residential market, with good performance and reduced maintenance.



Hydra EVO

**HYDRA EVO** is the multipurpose Wittur elevator door, already compliant with EN 81-20/50 certification. Hydra EVO is available in a wide range of dimensions and executions; it offers low maintenance, high reliability, easy installation and the widest range of certification available in the elevator market.



Special executions

**SPECIAL EXECUTIONS** such as glass framed, full glass panels, panels with glass window or vandal resistant EN 81-71 doors are available upon request.



WITTUR





Energy efficient and compact

# Drives



Elevator system	Rated load	Roping	Rated speed	Drive type	Connection	TS (mm)
<b>MRL 320-630</b>	320...630 kg	2 : 1	1...1,6 m/s	WSG-S1.3	cables	φ 240
<b>MRL 320-630</b>	320...630 kg	2 : 1	1...1,6 m/s	WSG-S1.3	terminal box	φ 240
<b>MRL 800-1050</b>	800...1050 kg	2 : 1	1...1,6 m/s	WSG-S2.2	cables	φ 320
<b>MRL 800-1050</b>	800...1050 kg	2 : 1	1...1,6 m/s	WSG-S2.2	terminal box	φ 320
<b>MRL 1275</b>	1275 kg	2 : 1	1...1,6 m/s	WSG-S2.3	terminal box	φ 400
<b>MRL 1600</b>	1600 kg	2 : 1	1...1,6 m/s	WSG-S2.4	terminal box	φ 400
<b>MRL 2000</b>	2000 kg	2 : 1	1...1,6 m/s	WSG-S3.5	terminal box	φ 400
<b>MRL 2500</b>	2500 kg	2 : 1	1...1,6 m/s	WSG-S3.6	terminal box	φ 400

WSG-S1



WSG-S2

WSG-S3



Mounted directly onto the guide rails under Wittur patent, the MRL W Line uses Wittur bed plates and WSG S-series gearless drives, which offer smaller dimensions through the use of reduced rope diametres with smaller traction sheaves (240 mm for rated loads up to 630 kg, and 320 mm for rated loads up to 1050 kg).

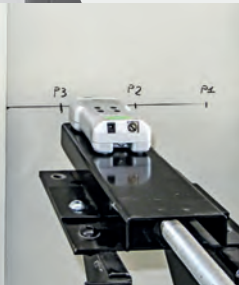
Built to the highest standards

# Certifications & Safety



## Norm compliant

The MRL W Line fulfills all the requirements of the Lift Directive, as well as the standards EN 81-20/50, EN 81-28 and EN 81-58. Wittur additionally offers the option of supplying the MRL W Line to comply with EN 81-70 (designed specifically for passengers with reduced mobility) and EN 81-73 (behaviour of lifts in the event of fire). Upon request, the MRL W Line can be manufactured to comply with the standards EN 81-71 and EN 81-72.





	LD	EN 81-20/50	EN 81-28	EN 81-58	EN 81-70	EN 81-71	EN 81-72	EN 81-73	EN 12015	EN 12016	VDI 4707 ISO 25745	VDI 2566
<b>Complete System MRL W Line</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>Gearless WSG-S1.3</b>	✓	✓	n/a	n/a	✓	n/a	n/a	n/a	✓	✓	✓	✓
<b>Gearless WSG-S2.2</b>	✓	✓	n/a	n/a	✓	n/a	n/a	n/a	✓	✓	✓	✓
<b>Controller E-Pack</b>	✓	✓	optional	n/a	optional	optional, cat. 1	on request	on request	✓	✓	n/a	n/a
<b>Car MCS1</b>	✓	✓	n/a	n/a	optional	-	-	n/a	n/a	n/a	✓	✓
<b>Doors Augusta EVO</b>	✓	✓	n/a	E120	optional	-	-	n/a	✓	✓	✓	✓
<b>Doors Hydra EVO</b>	✓	✓	n/a	E120	optional	optional, cat. 1	✓	n/a	✓	✓	✓	✓
<b>Doors Pegasus</b>	✓	✓	n/a	E120	optional	optional, cat. 1 and 2	✓	n/a	✓	✓	✓	✓
<b>Safety components</b>	✓	✓	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a



## Wittur Inside

The MRL W Line incorporates components manufactured by Wittur to the highest standards of quality, reliability and safety.



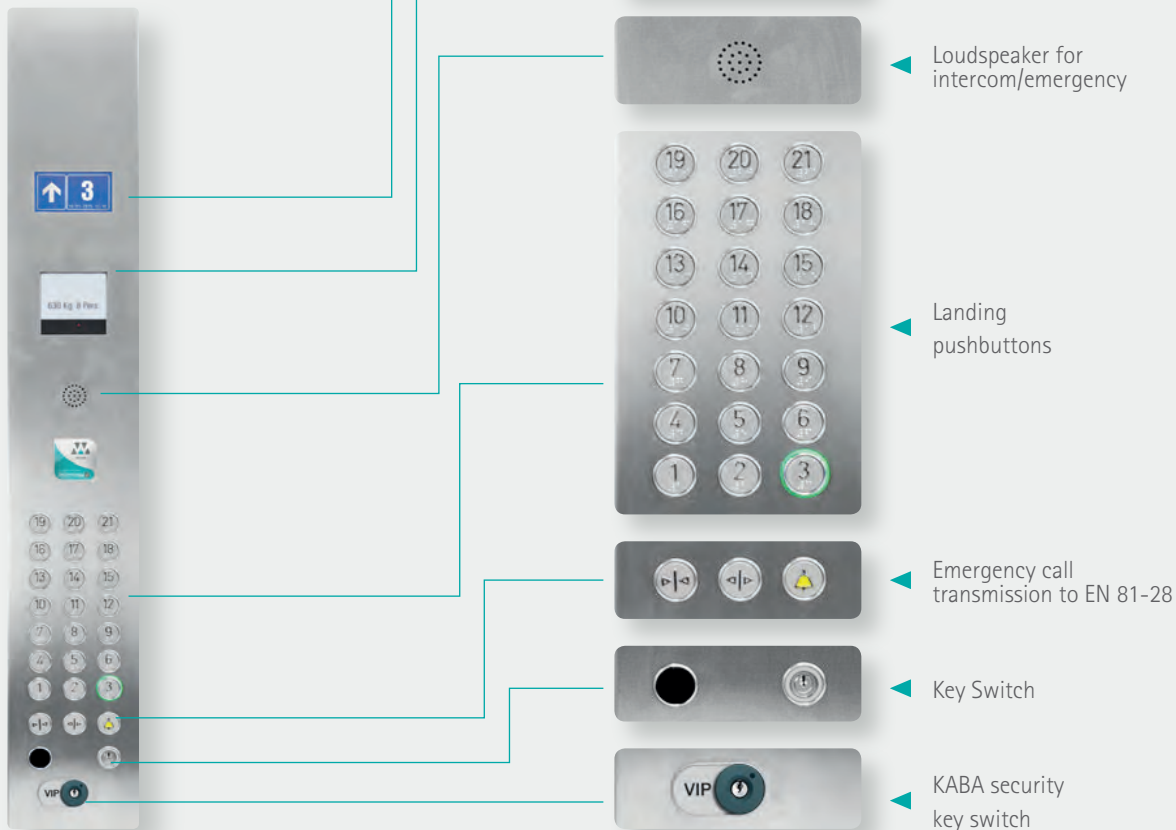
# Integrated drive solution



- **Compact design:** Elevator controller and motor inverter in one housing;
- **Fast installation:** Pre-arranged cabinet complete with all electrical components. Push buttons, cabling, shaft lighting, alarm telephone systems are included and pre-configured;
- **Fits in every shaft:** compact standard cabinet or cabinet placed in front of the landing door frame + small remote cabinet in the shaft;
- **Easy update:** Integrated SD card reader in the hand terminal;
- **Easy setting:** Automatic motor tuning, shaft learning features;
- **Remote control:** hand-held terminal with TFT color display connected via CAN bus. No PC or other equipment necessary for E-Pack installation;
- **5 pre-set comfort settings:** no complex acceleration and deceleration parameters, quick installation menu;
- **Easy check:** Automatic procedure to control shaft and car CAN bus, connected elements and encoder;
- **Updated manuals always available:** Manuals are stored in the firmware in several languages and can be accessed using the hand-held terminal;
- **Advanced features:** High stopping accuracy, direct landing, energy-saving mode, digital shaft learning, short floor travel without additional hardware, internal input EMI filter, internal DC choke, 230VAC safety circuit voltage;
- **E-Pack:** available for rated loads up to 1050 kg.

## COP

- Full height COP
- AISI 304 stainless steel structure



## Cabinet in the shaft + slim panel integrated in front of the door frame

- Slim panel in front of the frame of one of the landing doors + cabinet placed in the shaft
- RAL 7032 powder painted structure for shaft cabinet
- AISI 304 stainless steel structure available as option for shaft cabinet
- Slim panel finish according to landing door finish
- Shaft cabinet dimensions: 1020 mm x 625 mm x 250 mm
- Slim panel dimensions: 120 mm x 120 mm, 2000/2100 mm height according to landing door height
- Main supply: 3 x 400 VAC ± 15% / 3 x 230 VAC ± 15%
- Car / shaft power supply: 1 x 230 VAC ± 15%
- Shaft temperature: +5°C - +40°C
- Protection class IP20
- This execution is only available according to EN 81 standard for MRL

# Cabling features

- Connection to overspeed governor and gearless machine
- Pre-wired CANbus serial communication with fast connectors
- Connected LED energy-saving shaft lighting
- Inspection box on car roof with connections to shaft positioning. Shaft positioning is performed with the motor encoder switches, load weighing device and limit switches
- Up to two independently operated car entrances

## Additional Controller modules

- Re-levelling function and door pre-opening
- Internal change-over relays for evacuation operation according to EN 81 73
- Inter-communication channel with cabinet (for travel heights > 30 m.)
- Additional inter-communication channel (for travel heights > 30 m.)
- Y-Sense induction loop module for hearing impaired passenger compliant with EN 81-70
- Emergency rescue with battery pack (5x12V Ah)
- 60 Volt DC operation with active motor drive load independent directions

## Additional COP functions

- Voice synthesizer
- Induction loop system for hearing impaired passengers
- VIP key switch
- Key switch instead of push buttons
- EN 81-28 compliance with remote alarm telephone unit



Remote control by CANbus hand-held terminal with TFT colour display and real time animation of the lift operations. Manuals are accessible from the unit.

## Displays



### Liftmedia

- 5.7" 320x240 px colour TFT
- CANbus connection
- Video playing capability up to 1/4 of the display size
- High quality music playback
- Date, time, temperature display
- SD card support
- Voice announcements of floor messages and elevator events
- User-friendly visual editor for graphic contents with built-in graphic effects
- Supports mp3, mpeg, avi, wmv, flv, mp4, m4u, wav, jpg, bmp, gif, png



### LCD 240128

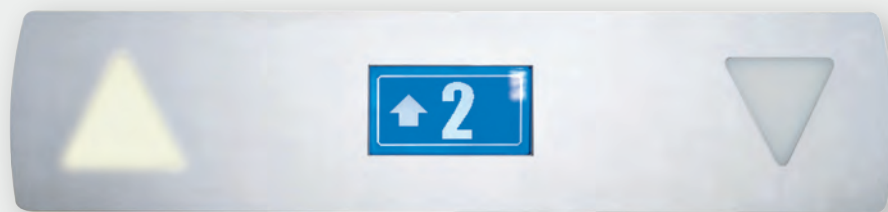
- 240 x 128 pixel resolution (114 mm x 64 mm active area) monochrome screen
- CANbus connection
- High quality music playback
- Date and time display
- User-friendly editor for graphic contents: static/animated arrows, logo, subtitles, floor indicator, "out of service" and "overload" pictures
- Screensaver mode to reduce power consumption



### BC-LCD

- For installation in the side frame of landing door

## LIP (Landing Indicator Panel)



Arrows

### ARROWS

- Arrows with BC-LCD must be installed for compliance with EN 81-70
- BC-LCD display can be installed as LIP in the side frame of all door types for EN 81-70 compliance

### SIDE ARROWS

- Must be installed for compliance with EN 81-70
- Liftmedia display must be used as COP for EN 81-70 compliance
- Liftmedia and LCD 240128 displays are also available as LIP (Hydra EVO and Pegasus doors only)

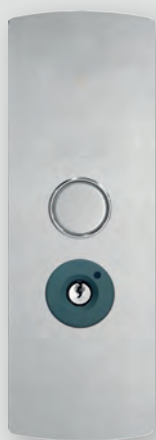


Side arrows

## Universal / Down collective LOP



E100



E101



E102



E103



E106



Special engraving of company logo available as an option

# Pushbuttons



## ROUND

Touch plate stainless steel, matt round, Ø28 mm, even embossing (laser-marked). Height of characters 15 mm, with Braille.



## EPSILON

Touch plate stainless steel, matt elliptic, 54.9 mm x 26.9 mm, convex embossing (lasermarked). Height of characters 15 mm, with Braille.

# Full collective LOP



E202



E200



E203



E204



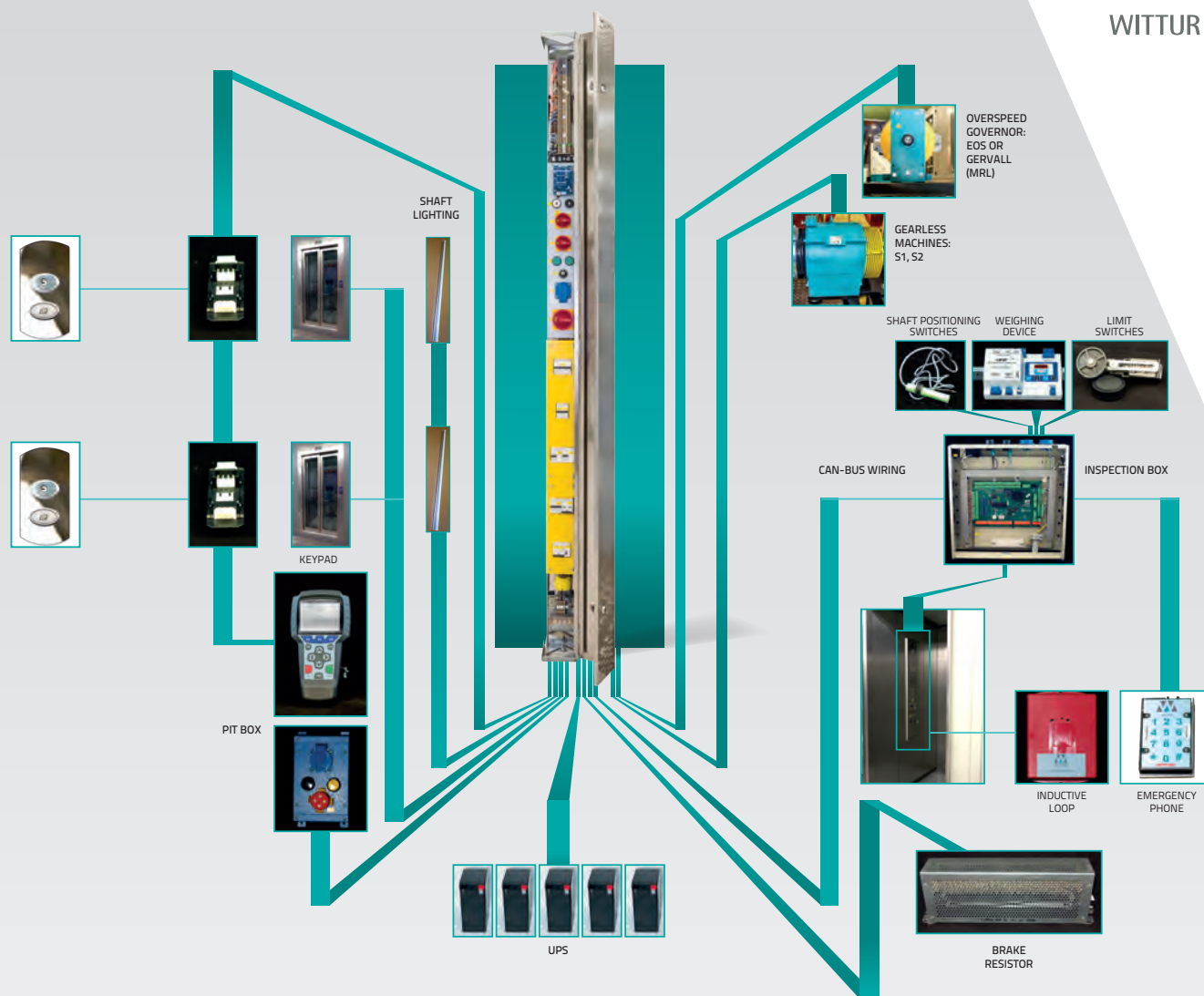
E201



E205







<b>Installation type</b>	Installation of new Wittur MRL W Line elevators
<b>Motor control</b>	Synchronous (gearless) machines
<b>Drive system</b>	Machine room less
<b>Cabinet installation</b>	Inside the shaft or outside the shaft
<b>Speed range</b>	Up to 1,6 m/s
<b>Group operation</b>	Up to 2 lifts
<b>Number of floors</b>	Up to 15 floors
<b>Car wiring</b>	With CAN bus serial communication (standard)
<b>Landing wiring</b>	With pre-wired CAN bus serial wiring
<b>Car positioning</b>	With incremental or absolute motor encoder
<b>Door operation</b>	2 independently operated car entrances
<b>Evacuation operation</b>	By using a 1-phase 230V UPS and battery
<b>Motor feedback</b>	Incremental encoders (5V TTL or 10-30V HTL)

<b>Automatic settings</b>	Auto-tuning shaft learning control gain calculation
<b>Handset (AREM)</b>	User-friendly color TFT display with multilingual interface Control the system from anywhere via CAN bus
<b>Software update (Firmware)</b>	Fast and reliable updating system via AREM at one time
<b>E-PACK peripherals</b>	Inspection box controller Car panel controller Control panel connection board ENCA unit to get absolute encoder data ENCI unit to get incremental encoder data Door contact bridging board Landing call unit Landing call and indicator unit with dot matrix display Landing call and indicator unit with LCD display

Product range

# MRL W Line

<b>Rated load</b>	kg	<b>320</b>	<b>320</b>	<b>450</b>	<b>450</b>	<b>630</b>	<b>630</b>	<b>800</b>	<b>800</b>	<b>1050</b>	<b>1050</b>
<b>Suspension</b>		2:1	2:1	2:1	2:1	2:1	2:1	2:1	2:1	2:1	2:1
<b>Number of persons</b>		4		6		8		10		13	
<b>Rated Speed</b>	m/s	1,0/1,60	1,0/1,60	1,0/1,60	1,0/1,60	1,0/1,60	1,0/1,60	1,0/1,60	1,0/1,60	1,0/1,60	1,0/1,60
<b>Max. travel height</b>	m	50		50		50		50		50	
<b>Number of stops</b>	no	15		15		15		15		15	
<b>Double entrance</b>	yes/no	no	yes	no	yes	no	yes	no	yes	no	yes

Shaft dimensions

<b>Shaft width b3 (min.)</b>	mm	1450	1370	1550	1550	1650		1940		1690/2190*	
<b>Shaft depth d2 (min.)</b>	mm	1450	1390	1575	1540	1650	1740	1650	1740	2350 / 1650*	2440 / 1740*
<b>Headroom (min.)</b>	mm	3400/3600		3400/3600		3400/3600		3600/3800		3600/3800	
<b>Pit (min.)</b>	mm	1050/1200		1050/1200		1050/1200		1100/1200		1100/1200	

Doors

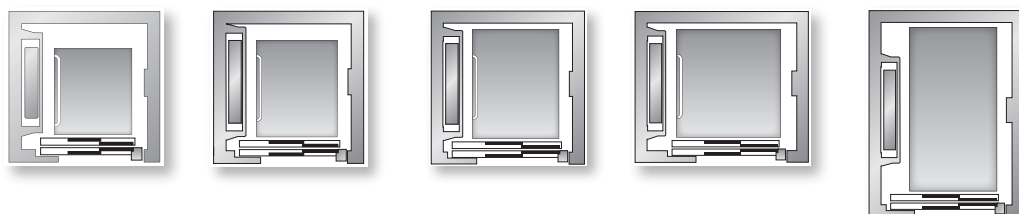
<b>Door width b2</b>	mm	700	700	800	800	900	900	900	900	900	900
<b>Door height h3 (optional)</b>	mm	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)
<b>Door type</b>											
	telescopic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	central							✓	✓	✓*	✓*

Car model: MCS1

<b>Car width b1</b>	mm	900	820	1000	1000	1100	1100	1350	1350	1100/1600*	
<b>Car depth d1</b>	mm	1000	1050	1200/1250	1200	1400	1400	1400	1400	2100/1400*	
<b>Clear car height</b>	mm	2100/2200		2100/2200		2100/2200		2100/2200		2100/2200	

Drives

<b>Controller</b>		E-Pack		E-Pack		E-Pack		E-Pack		E-Pack	
<b>Gearless drive</b>		WSG-S1.3		WSG-S1.3		WSG-S1.3	WSG-S2.2	WSG-S2.2		WSG-S2.2	
<b>Nominal power</b>	kW	3,8/6,1	3,8/6,1	3,8/6,1	3,8/6,1	3,8/6,1	3,8/6,1	6,2/10	6,2/10	6,2/10	6,2/10
<b>Nominal current</b>	A	10,4/14,5	10,4/14,5	10,4/14,5	10,4/14,5	10,4/14,5	10,4/14,5	15,5/22,5	15,5/22,5	15,5/22,5	15,5/22,5
<b>Starts per hour</b>	s/h	240	240	240	240	240	240	240	240	240	240



\* marked dimensions correspondence together

Dimensions with Augusta EVO doors acc. to Planning Manual. Car dimensions are available in 10 mm steps upon request. Technical data are subject to alteration

<b>Rated load</b>	kg	<b>1275</b>	<b>1275</b>	<b>1600</b>	<b>1600</b>	<b>2000</b>	<b>2000</b>	<b>2500</b>	<b>2500</b>
<b>Suspension</b>		2:1	2:1	2:1	2:1	2:1	2:1	2:1	2:1
<b>Number of persons</b>		17		21	21	26	26	33	33
<b>Rated Speed</b>	m/s	1,0/1,60	1,0/1,60	1,0/1,6	1,0/1,60	1,0/1,60	1,0/1,60	1,0/1,60	1,0/1,60
<b>Max. travel height</b>	m	50		50		50		50	
<b>Number of stops</b>	no	15		15		15		15	
<b>Double entrance</b>	yes/no	no	yes	no	yes	no	yes	no	yes

### Shaft dimensions

<b>Shaft width b3 (min.)</b>	mm	1842	1842	2125	2125	2240	2240	2540	2540
<b>Shaft depth d2 (min.)</b>	mm	2675	2860	2775	2960	3075	3260	3075	3260
<b>Headroom (min.)</b>	mm	3700/3900	3700/3900	3700/3900	3700/3900	3900/4100	3900/4100	3900/4100	3900/4100
<b>Pit (min.)</b>	mm	1200/1350	1200/1350	1200/1350	1200/1350	1200/1350	1200/1350	1200/1350	1200/1350

### Doors

<b>Door width b2</b>	mm	1000	1000	1200	1200	1200	1200	1300	1300
<b>Door height h3 (optional)</b>	mm	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)	2000 (2100)
<b>Door type</b>		Hydra							
	telescopic	✓	✓	✓	✓	✓	✓	✓	✓
	central								

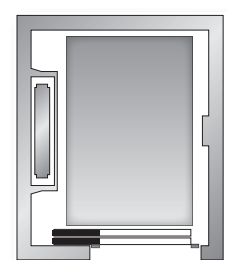
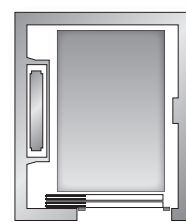
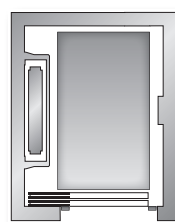
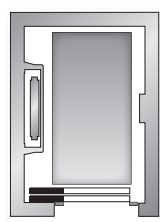
### Car model: MCS1

### Car model: Special Line

<b>Car width b1</b>	mm	1200	1200	1400	1400	1500	1500	1800	1800
<b>Car depth d1</b>	mm	2300	2300	2400	2400	2700	2700	2700	2700
<b>Clear car height</b>	mm	2100/2200	2100/2200	2100/2200	2100/2200	2100/2200	2100/2200	2100/2200	2100/2200

### Drives

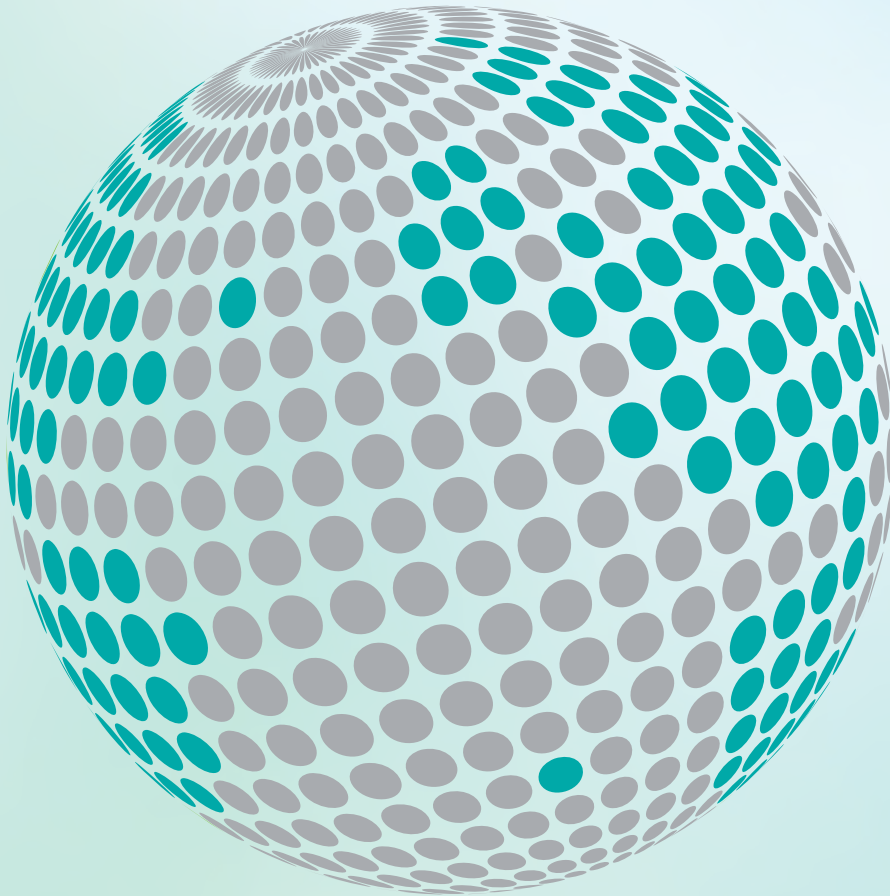
<b>Controller</b>		on request		on request		on request		on request	
<b>Gearless drive</b>		WSG-S2.3		WSG-S2.4		WSG-S3.5		WSG-S3.6	
<b>Nominal power</b>	kW	8,7/14		11,2/18		16,4/26,4		16,4/26,4	
<b>Nominal current</b>	A	20,5/30		30/46		47/72		47/72	
<b>Starts per hour</b>	s/h	240	240	240	240	240	240	240	240



Dimensions with Hydra EVO doors acc. to Planning Manual. Car dimensions are available in 10 mm steps upon request. Technical data are subject to alteration



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