

## ::: ELECTRONICS

CONTROLLERS
Via Serie

MicroBASIC
MicroBASIC Express

FREQUENCY INVERTERS

3VFMAC-DSP 6P

DSP PLUS (For Modernisations)

**EMERGENCY TELEPHONES**Fonomac 3

PERIPHERALS OF CONTROLLERS AND ELECTRICAL INSTALLATIONS MicroBASIC AND Via Serie











## **ELECTRONIC CONTROLLERS**

Technological options to raise your potential

Electronic controllers that stand out because of their adaptability to the different traction technologies. They include a frequency inverter of our own design with DSP (Digital Signal Processing) technology microprocessors. Our main aim is to ensure the highest levels of safety and comfort for the passenger and to make easier the installing and maintenance tasks.

Our possibilities for customisation do not end here: on request, we can implement any special feature to meet the installation needs. In addition, all our products, services and process are in accordance the standard requirements.



Through the online sales service, SERVICEnter www.mplifts.com, MP offers the opportunity to purchase the whole electronics shown in the present catalogue and also:

- 24 hour emergency telephone Fonomac 3.
- Emergency devices.
- Positioning devices (magnet switches, photoswitches).
- · Inspection boxes.
- A wide range of accessories for the controller (contactors, control devices, transformers, relays, etc).





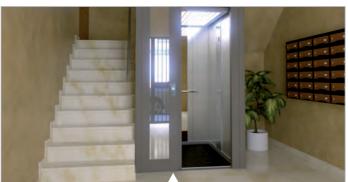




# ADAPTATIONS OF CONTROLLERS TO EXISTING INSTALLATIONS

MP has the ability to adapt the controller or the preassembled electrical installation to the existing lift needs, both with MicroBASIC and Via Serie controllers. In this way, the existing structure is preserved as much as possible in order to avoid any adaptation involving civil works... Should you need further information, refer to our Sales Department Representative in your area.

MP supplies controllers in the form of Preassembled Electrical Installations (PEI) where there are electronic boards together with electric boxes, operating panels and all the other electric components, as well as the required connection wires, in such a way the assembly is quick and easy.



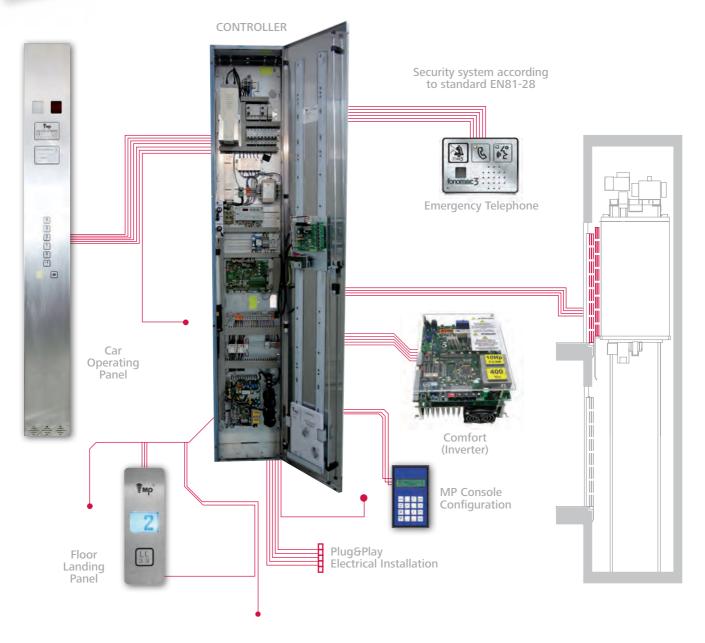












#### .... DESCRIPTION

The Via Serie controller boasts distributed electronics and CAN-BUS communication that supports up to 32 stops and groups of up to 4 lifts

It allows for the control of 1 or 2 speed hydraulic lifts and also electric lifts of 1 speed, 2 speeds or frequency variation (3VF) whether they have asynchronous (geared) or synchronous (gearless) motors. In the case of frequency variation, the combination of the Via Serie controller and the DSP 6P inverter guarantees the best possible performance with a high level of comfort

The programming of the Via Serie controller is carried out through the MP Console, a specific tool for viewing controller data, editing parameters and setting commands for different functions. Optionally, the console can be integrated into the control board (open controller)

The Via Serie Pre-assembled Electrical Installation includes not only the control elements and their casing (controller, car and floor operating panels, inspection box, pit box, magnetic position switches, limit switches...), but also the required wiring for interconnections (travelling cables, shaft wiring,...) and the cables for the supply and control of the lift's various electromechanic elements (pipes for the hydraulic power unit or cables of the machine, operator, safety contacts, car lighting,...)

All cables come with their corresponding plug-in connectors which means that they are 100% "plug and play"

The Via Serie PEI is available for both architectures with machine room (WMR) and machine room less (MRL)



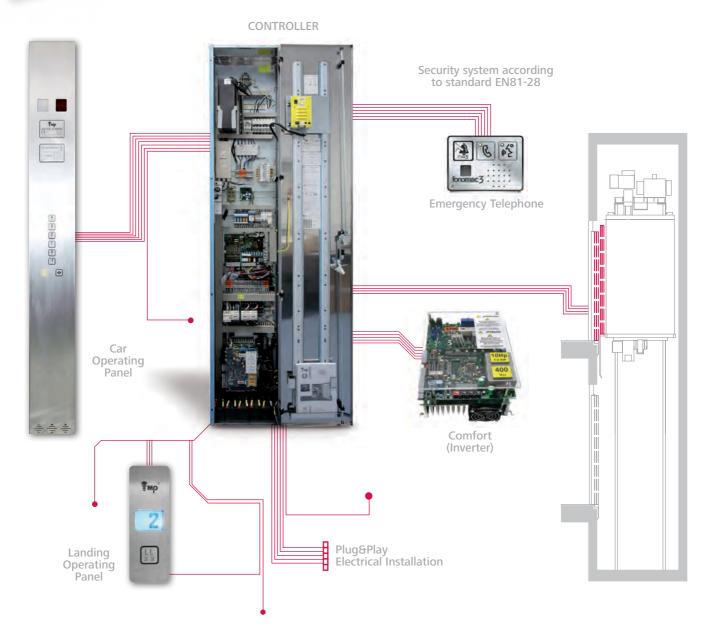




#- FEATURES			tandard
BUILDING / SHAFT		LCD display with indicators for position, arrows, load level, out of	Std
Maximum number of stops	32	service and emergency light	
Asymmetric stops (asymmetric lift in groups of lifts)	Орс	Fonomac 3 emergency telephone	Std
Reduced shafts and/or headrooms	Орс	Graphic display, additional push buttons and indicators, key	Орс
Double or triple landing	Орс	switches and other COP elements	
Upper machine room	Std	Car roof lighting soffit	Std
Lower machine room	Орс	Throughbeam photoelectric sensor	Std
MRL cabinet on the top floors (distance to the machine $\leq$ 10 m)	Std	Curtain photocell	Орс
MRL cabinet on the ground or middle floor (distance to the machine	Орс	Direction and next departure arrows in jamb at the car entrance	Std
≤ 25 m)	<u>'</u>	Roof and under floor alarm push buttons	Std
CONTROLLER		Magnetic position switches	Std
Maximum number of lifts in a group	4	Absolute positioning system into the shaft	Орс
Universal controller	Std	Electrical cam	Орс
1 push button collective controller	Std	Loading cells	Орс
2 push button collective controller	Орс	SUPPORTED ELEMENTS	
1 row of LOPs (SIMPLEX)	Std	Three-phase supplied voltage 380/400/415 Vac	Std
1 row of LOPs for every 2 lifts with redundant connection (DUPLEX)	Std		
1 row of LOPs per lift without redundant connection (DUPLEX)	Орс	Three-phase supplied voltage 208/220 Vac	Орс
Maximum speed of 1.6 m/s	Std	Single-phase supplied voltage 220/230 Vac	Орс
Maximum speed of 2.5 m/s	Орс	Machine brake voltage 220 Vac (ELECTRICAL LIFT)	Std
'		Machine brake voltage ≠ 220 Vac (ELECTRICAL LIFT)	Орс
STANDARDS		Machine thermocontact connection (ELECTRICAL LIFT)	Std
EN81-1 (ELECTRICAL LIFT)	Std	Valve voltage 110 Vac (HYDRAULIC LIFT)	Std
EN81-2 (HYDRAULIC LIFT)	Std	Valve voltage ≠ 110 Vac (HYDRAULIC LIFT)	Орс
EN81-1/2 A2 (MRL)	Std		
EN81-1/2 A3 (Prevention of uncontrolled movements)	Std	Automatic landing doors	Std
EN81-28 (Remote alarms)	Std	Semi-automatic hinged landing doors	Std
EN81-21 (Reduced pits and headrooms)	Орс	230 Vac single-phase door operator	Std
EN81-70 (Access for disabled people)	Орс	Other type of door operator	Орс
EN81-73 (Fire)	Орс		
EN81-72 (Fire brigade)	Орс	FUNCTIONS	
INCLUDED ELEMENTS		Automatic rescue in the event of a power supply failure (3 VF ELECTRICAL LIFT, HYDRAULIC LIFT)	Std
DSP 6P frequency inverter (3VF ELECTRICAL LIFT)	Std	Electrical rescue operation (3VF ELECTRICAL LIFT)	Std
Controller interface module		Electro-manual rescue by means of unbalanced load (GEARLESS	
Electrical protection kit	Opc	ELECTRICAL LIFT WITH MACHINE ROOM)	Орс
Car - machine room intercom	Opc	Car relevelling with door open (HYDRAULIC LIFT)	Std
	Opc	Pre-opening of doors (ELECTRICAL LIFT)	Орс
Shaft lighting screens  Machine lighting screen (FLECTRICAL MAN, LIET)	Opc	Alarm filtering according to EN81-28	Std
Machine lighting screen (ELECTRICAL MRL LIFT)	Std	Push buttons with light and sound indicator	Std
Stainless steel 85 mm x 230 mm LOPs with call push button and company logo	Std	Electronic gong to announce arrival at each floor	Std
Surface-mounted LOPs or other model	Орс	In-car voice synthesiser	Орс
Display, light indicators, additional push button, key switches and	· · ·	Alarm siren	Std
other LOP elements	Орс	Intelligent car lighting control	Std
240 mm column stainless steel COP with call push button (UP TO	Std	Car weight control	Std
16 STOPS) 240 mm column stainless steel COP with numerical keypad (MORE		2 switches for shaft lighting control (controller and shaft)	Std
THAN 16 STOPS)	Std	3 switches for shaft lighting control (controller, car and shaft)	Орс
Surface-mounted LOPs, flat plate or other shape	Орс	Temperature sensor of machine room integrated in main control	·
Alarm and open doors push buttons	Std	board	Std







#### ···. DESCRIPTION

The MicroBASIC Controller boasts centralised electronics and parallel communication and can support a maximum of 10 stops for simplex installations. Thanks to the AMB1 and AMB2 electronic expansion modules, it can reach up to 16 stops and be installed in group of 4 lifts

It allows for the control of 1 or 2 speed hydraulic lifts and also electric lifts of 1 speed, 2 speeds or frequency variation (3VF) whether they have asynchronous (geared) or synchronous (gearless) motors. In the case of frequency variation, the combination of the MicroBASIC controller and the DSP 6P inverter guarantees the best features possible with a high level of comfort

The MicroBASIC Pre-assembled Electrical Installation (PEI) includes not only the control elements and their casing (controller, car and floor operating panels, inspection box, pit box, magnetic position switches, limit switches...), but also the required wiring for interconnections (travelling cables, shaft wiring,...) and the cables for the supply and control of the lift's various electromechanic elements (pipes for the hydraulic power unit or cables of the machine, operator, safety contacts, car lighting,...)

All cables come with their corresponding plug-in connectors which means that they are 100% "plug and play"

The MicroBASIC PEI is available for both architectures with machine room (WMR) and machine room less (MRL)

The elements that make up the Pre-assembled Electrical Installation (PEI) can be separately purchased (controller, operating panels, etc)







#### FEATURES Op: opcional | Std: standard

BUILDING / SPACE	
Maximum number of stops	10
Maximum number of stops with AMB1/AMB2 expansion modules	16
Asymmetric stops (asymmetric lift in groups of lifts)	Opt
Reduced shafts and/or headrooms	Opt
Double or triple landing	Opt
Upper machine room	Std
Lower machine room	Opt
MRL cabinet on the top floors (distance to the machine ≤ 10 m)	Std
MRL cabinet on the ground or middle floor (distance to the machine $\leq$ 25 m)	Opt
CONTROLLER	
Maximum number of lifts in a group	2
Universal controller	Std
1 push button collective controller	Std
2 push button collective controller	Opt
1 row of LOPs (SIMPLEX)	Std
1 row of LOPs for every 2 lifts (DUPLEX)	Std
1 row of LOPs per lift (DUPLEX)	Opt
Maximum speed of 1.6 m/s	Std
EN81-72 (Fire brigade)	Opt
STANDARDS	
EN81-1 (ELECTRICAL LIFT)	Std
EN81-2 (HYDRAULIC LIFT)	Std
EN81-1/2 A2 (MRL)	Std
EN81-1/2 A3 (Prevention of uncontrolled movements)	Std
EN81-28 (Remote alarms)	Std
EN81-21 (Reduced shafts and headrooms)	Opt
EN81-70 (Access for disabled people)	Opt
EN81-73 (Fire)	Opt
EN81-72 (Fire brigade)	Opt
INCLUDED ELEMENTS	
Controller board with programming interface (push buttons + display)	Std
DSP 6P frequency inverter (3VF ELECTRICAL LIFT)	Std
Soft Starter (HYDRAULIC LIFT)	Opt
Electrical protection kit	Opt
Car - machine room intercom	Opt
Shaft lighting screens	Opt
Machine lighting screen (ELECTRICAL MRL LIFT)	Std
Stainless steel 80 mm x 230 mm floor LOPs with call push button and company logo	Std
Surface-mounted LOPs or other model	Opt
Display, light indicators, additional push button, key switches and other LOP elements	Opt
240 mm column stainless steel COP with call push buttons	Std
Surface-mounted LOPs, flat plate or other shape	Opt

Alarm and open doors push buttons	Std
LED 7-segment display with position and arrow indicator	Std
Emergency lighting soffit	Std
Fonomac 3 emergency telephone	Std
LCD or graphic display, additional push buttons and indicators, key switches and other LOP elements	Opt
600 mm x 600 mm 38 W LED plate for car lighting	Opt
Car roof lighting soffit	Std
Curtain photocell	Std
Throughbeam photoelectric sensor	
Direction and next departure arrows in jamb at the car entrance	Std
Alarm push buttons on car roof and under floor	Std
Magnetic position switches	Std
Electrical cam	Opt
Loading cells	Opt
SUPPORTED ELEMENTS	
	Std
Three-phase supplied voltage 380/400/415 Vac	
Three-phase supplied voltage 208/220 Vac  One-phase supplied voltage 220/230 Vac	Opt Opt
Machine brake voltage 220 Vac (ELECTRICAL LIFT)	Std
Machine brake voltage ≠ 220 Vac (ELECTRICAL LIFT)  Machine brake voltage ≠ 220 Vac (ELECTRICAL LIFT)	
Machine thermocontact connection (ELECTRICAL LIFT)	Opt Std
Valve voltage 110 Vac (HYDRAULIC LIFT)	Std
Valve voltage ≠110 Vac (HYDRAULIC LIFT)  Valve voltage ≠ 110 Vac (HYDRAULIC LIFT)	Opt
Automatic landing doors	Std
Semi-automatic hinged landing doors	Opt
220 Vac one-phase door operator	Std
Other type of door operator	Opt
Canal type of acci. operato.	941
FUNCTIONS	
Automatic rescue in the event of a power supply failure (3VF ELECTRICAL LIFT, HYDRAULIC LIFT)	Std
Electrical rescue operation (3VF ELECTRICAL LIFT)	Std
Electro-manual rescue by means of unbalanced load (GEARLESS ELECTRICAL LIFT WITH MACHINE ROOM)	Opt
Car relevelling with door open (HYDRAULIC LIFT)	Std
Pre-opening of doors (ELECTRICAL LIFT)	Opt
Alarm filtering according to EN81-28	Std
Push buttons with light indicator	Std
Push buttons with light and sound indicator	Opt
Electronic gong to announce arrival at each floor	Opt
In-car voice synthesiser	Opt
Alarm siren	Std
Car lighting timer	Std
Car weight control	Opt
2 switches for shaft lighting control (controller and shaft)	Std
3 push button for shaft lighting control (controller, car and shaft)	Opt
5 past. Sactor for Share highlang control (controller, car and share)	Орг



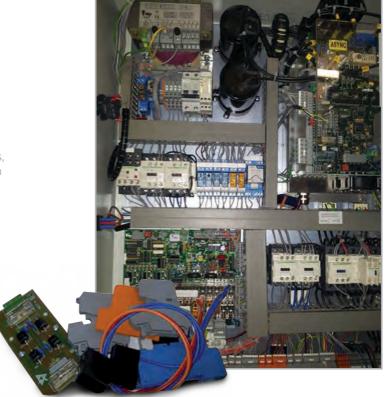


# CONFIGURABLE MicroBASIC EXPRESS

The MicroBASIC is quite easy to be adapted to existing installations. In urgent cases, due to irreparable breakdowns, fires, etc., MP offers for the existing installation a solution in 24 hours by means of the configurable controller which is available at SERVICEnter.

The controller with the shorter delivery delay.





#### CONFIGURABLE CONTROLLER

An easy and intuitive wizard guides the purchase order according to the needs

A base standard controller is supplied together with a few materials (which depend on the required options)

The customer should make a few easy adaptations, which are well-documented, on the base standard controller

The wizard offers the guidelines for the adaptations

Distances between floors are fixed; the wizard offers options when the installation presents differences

All the options of number of floors are not available: the wizard approximates the solution to, finally, adapt it to the needs

#### WIZARD FOR PURCHASE ORDERS

In addition to walk you through the purchasing process, the wizard issues the codes for required components. These codes are available at SERVICEnter

The wizard issues the required guidelines for customer adaptations

The wizard directly make the purchase order for these codes

The wizard is integrated within SERVICEnter











#### .... OVERVIEV

#### **ADVANTAGES**

Designed for lift installations. It incorporates features and parameters that provide unique benefits to frequency inverters for lift

Operating the MP converter is quick and easy with two parameter access levels

Asynchronous (3VFMAC-DSP 6P A) and synchronous (3VFMAC-DSP 6P S) motor control

Functioning with emergency voltage (coming out from batteries or UPS) in Rescue Operation. Detects the favourable direction of the load and moves the lift at slow speed up to the landing level

Autotuning (not estatic) of synchronous machines. Machine mathematical modelling via direct parameter control of the motor electric constants

Autotuning Endat type sinusoidal encoder signals

Typified synchronous and asynchronous machine list. The motor parameters are automatically adjusted

Motor output current limiter

Ability to set up the direction of motion

Communication interfaces RS-485, ENDAT, SSI, TTL Serial and CAN-BUS to allow the converter monitoring and remote commands

User-friendly modular programming interface via computer or keyboard

#### COMFORT

Controls the starting and stopping position, eliminating roll-back (Endat sin/cos encoder)

No electrical noise from the motor due to switching frequencies of up to 20 KHz in asynchronous motors and up to 15 KHz in synchronous which allows to get it installed in machine room less lifts

Extra ride quality due to the automatic minimum jerk adjustment when starting and stopping  $\,$ 

Characterisation of short ramps with two parameters: increasing set-point and wait time. The converter uses these data to automatically adjust the curve, providing the same comfort and reducing journey time at slow speeds

Second order current filter, and configurable advance/delay network, removing the intrinsic resonance frequencies of synchronous motors

Progressive starting. For lifts with a back pack frame, there is an initial jerk due to the frame interlock on the guide rails. This feature allows a time interval to be chosen where a constant acceleration is applied, thereby removing the initial jolt felt in the car

It adds specific features for lifts, with 5 starting/stopping S-curves and one releveling curve







## ::: TECHNICAL FEATURES

MAINS CONNECTION	Input voltage Uin	220 Vac; 400 Vac; -15% +10% 3-phase				
	Input frequency	50 – 60 Hz				
	Mains connection	3-phase				
MOTOR CONNECTION	Motor type	Asynchronous induction motors, model 3VFMAC 6P DSP A. Synchronous motors with permanent magnets, model 3VFMAC 6P DSP S				
	Output voltage	0 - Uin				
	Nominal output current In	3VFMAC1-DSP / 10 HP, 400 V: 17 Amps 3VFMAC1-DSP / 10 HP, 220 V: 35 Amps 3VFMAC1-DSP / 15 HP, 400 V: 26 Amps 3VFMAC1-DSP / 20 HP, 400 V: 32 Amps				
	Maximum output current (6 seconds)	2 In (Switching frequencies from 5.5 to 10 KHz) 1,5 In (Switching frequencies from 11 to 20 KHz)				
	Output frequencies	0 – 65 Hz				
	Inverter - Machine distance	With Incremental Encoder TTL/RS 422: 7 metres, With Incremental Encoder TTL/RS 422 + Filter type EMIKON3036: 25 metres With Absolute Encoder sin/cos type Endat 1.0: 15 metres With Absolute Encoder sin/cos type Endat 1.0 + additional software: 25 metres (Both ends of the mesh must be connected to ground)				
CONTROL CHARACTERISTICS	Control advantages	Control in open-loop of voltage/frequency Control in closed loop with industrial encoder Starting/stoping position control (synchronous motors) Removal of roll-back effect at starting by reading weight				
	Switching frequency	5,5 - 20 KHz Asynchronous motors, default 10 KHz 5,5 - 15 KHz Synchronous motors, default 10 KHz				
	Acceleration time	0,5 - 10 seconds				
	Deceleration time	0,5 - 10 seconds				
	Start and stop curves	S-curves with modification factor for acceleration curve allowing profile to be modelled and jerk to be minimised				
	Progressive start	Designed to minimise typical jolts when starting, for back pack car frame				
NVIRONMENTAL CONDITIONS	Operating temperature	-10°C (frost-free) to +55°C				
	Storage temperature	-20°C to +85°C				
	Height	100% of load capacity up to 1000 m				
	Relative humidity	0 - 95%, without condensation, corrosion or water leakage				
	Protection class	IP20, front-operated				
EMC	Directive EMC 2004/108/EC	EN12016 Immunity EN12015 Emission				
SAFETY	Low voltage directive 2006/95/CE	UNE-EN61010-1 Electrical equipment safety				
	Machine directive 2006/42/CE	UNE-EN 60204-1 Machine safety. Electrical equipment in machines				
	Lift directive 95/16/CE	UNE 81-1 Lift safety				
PROTECTIONS	Hardware	Power input protective fuse (F1) 10 Vdc power source protective fuse (F2, 2 Amp) Control area protective fuses (F3, F4, 1 Amp)				
	Software	Overcurrent detection High mains voltage detection (Model 400 V: Maximum 800 Vdc, Model 220 V: Maximum 394 Vdc) Low mains voltage detection (Model 400 V: Minimum 500 Vdc, Model 220 V: Minimum 176 Vdc) Encoder problems detection: connection, noise, direction of rotation. Locked motor detection (maximum current > 6 s) Detection of lack of connection in power terminals C1-C2 Short circuit detection. High temperature detection in power module Motor not connected – detection Overspeed detection (> 20% nominal velocity) Imbalance or lack of phase detection DC-link condenser failure detection Uncontrolled opening of contacts detection Error in setting parameters detection Detection of uncontrolled brake opening/closing detection				
VARIOUS	Error management	Up to 32 errors stored				
	PC and PDA tools	MPConfig. Configuration and setting parameters DSP Monitoring. Monitoring of Speed, Current and Voltage DSP serial flasher. Firmware recording DSP Sinusoidal S-curve generator				
	Adjustment and calibration	Encoder wiring tester function Lift current sensors testing and adjustment feature Counterweight testing without load feature. Synchronous mode Autotuning for machine and encoder without load feature. Synchronous mode				
	Rescue	Emergency voltage in rescue operation functioning:  • 48 Vdc coming out from batteries  • 1-phase 220 Vac coming out from a UPS				

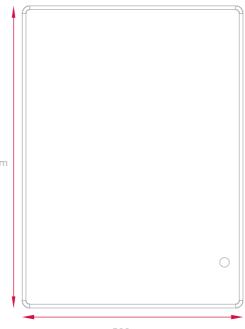


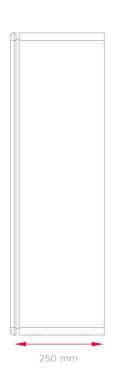












#### □ DESCRIPTION

The DSP PLUS board is a frequency variation kit including the components required to control a synchronous (gearless) or asynchronous (gearless) or asynchro

The DSP PLUS board is specially prepared for modernising 1 and 2-speed lifts with MP MicroBASIC and 5000 controllers, as well as for adapting the maGo (gearless MP) machine

Any other type of controller and/or machine can also be modernised and/or adapted. In this case, the necessary interface control requires adaptation which can be either made by the client or, if preferred, studied and adapted by MP. Please consult in advance for the latter

#### SPECIFICATIONS

Power supply: 400 Vac 50/60 Hz board power supply (230 Vac optional)

#### Power:

- 10 HP / 400 Vac (Machine rated current  $\leq$  17A)
- 15 HP / 400 Vac (17 < I  $\leq$  23 A)
- 20 HP / 400 Vac (23 < I  $\leq$  32 A)
- •10 HP / 230 Vac (I ≤ 32A, not available in synchronous mode)

Safety Chain: 110 Vac (others, please consult availability)

#### Brake

- 110 Vdc for asynchronous machines
- 220 Vdc for synchronous machines

Control: specific control interface for MicroBASIC and 5000 installations

Equipped with 3VFMAC-DSP frequency inverter

Asynchronous machine encoder: TTL incremental encoder

Synchronous machine encoder: ENDAT01 absolute sinusoidal encoder

Synchronous boards include DSP UPS Automatic Rescue System and Electrical Emergency Operation

Cabinet dimensions according to the previous figure







#### ECODE FOR MODERNISATION BOARD

MACHINE MODEL	MANIOBRA	MACHINE / CONTROLLER CODE
	5000 or Microbasic With St (1) Microprocessor (1)	S-5000
MP maGO OTHER GEARLESS <sup>(*)</sup>	Microbasic with renesas Microprocessor (2)	S-MBAS
	OTHER (*)	S-UNIV
	5000 or Microbasic With St (1) Microprocessor (1)	A-5000
GEARED (*)	Microbasic with renesas Microprocessor (2)	A-MBAS
	OTHER (*)	A-UNIV

(\*) It requires the installation to be adapted.

POWER / VOLTAGE	POWER CODE
10HP / 400V	104
15HP / 400V	154
20HP / 400V	204
10HP / 230V	102

Code for board:

DSP PLUS + MACHINE/CONTROLLER CODE + POWER CODE

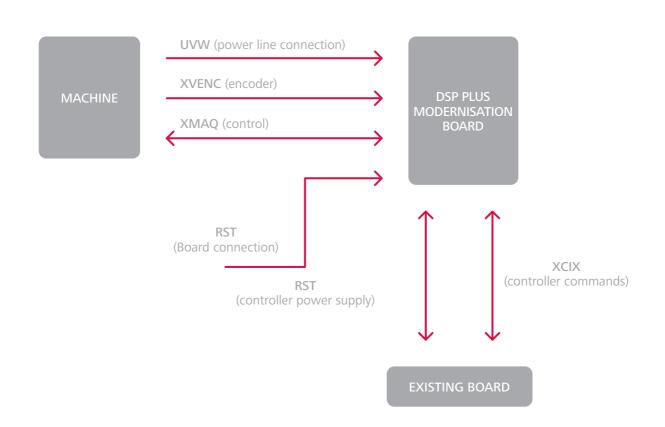
Example:

Installation equipped with maGO machine, 5000 CONTROLLER, 10 HP 400 V: DSP PLUS S-5000 104 • DSP PLUS S-5000 104





#### GENERAL CONNECTIONS







▼ Fonomac 3 front side







#### Fonomac 3 back side

#### **GENERAL FEATURES**

Hands free emergency phone for lift: Operating the alarm pushbutton enables oral bidirectional communication with the rescue service

It complies with lift standards (EN81-1/2, EN81-28, EN81-70), electrical safety standards (IEC60950-1) and electromagnetic compatibility standards (EN12015, EN1206, EN55022)

It requires an external 24 Vdc power supply (not line powered); telephone line fluctuation immunity

Internal emergency power supply. It incorporates 8 Ni-Mh battery kit to ensure the equipment can work properly without power. Furthermore, the system ensures that a warning is sent to the service centre when battery life is under 1 hour of service, in accordance with EN81-28 Standard

Integrated alarm filtering, according to EN81-28

Universal information plate including pictographs according to EN81-70. Laser engraving on brushed stainless steel plate

Programing keypad including an acoustic signal of different tones to help the dialling

The equipment can also be parameterised using the MP Console, a PC + HEA INTERCOM (local mode), a PC + modem (remote mode) or just any telephone terminal connected to an external telephone line (either in local or remote mode). To parameterise via PC, the "HEA PC" and "Parameterisation software for MP telephones" software tools are required (only available for Windows XP and Windows 7)

It admits communication protocols CPC and CPMAC (MP exclusive)

It has two general-purpose inputs/outputs (configurable) to interact with external equipment

Possibility to connect a Magnetic Induction Loop (optional) to improve communication for people with hearing aids. When this device is supplied, the information plate of the phone includes the appropriate pictograph

Possibility to connect an external Audio Kit (audio components – microphone and loudspeaker – and light indicators) for installations without the space required to house the phone. The audio (dB) levels can be influenced by the way of assembly

A maximum of 4 equipments can be connected to the same Analogue telephone line, as long as it can hold them

Compatible with other MP telephones: Fonomac, Fonomac II and Fonotec

External volume adjustment: Adjustable from 35 to 65 dB

Automatic and silent test. The test call is made by default every 3 days; however, it can be programmed to do so ranging from 1 to 9 days

It includes statistics on reset numbers, alarms, test, incoming calls and low battery

Detection of "engaged" line, according to the standard TBR21

Operating temperature: -10°C to 40°C (it occasionally admits higher temperatures, up to +65°C, although this may dramatically reduce the batteries lives)

Dimensions: 138 mm (width) x 127 mm (height) x 30 mm (depth)

Approximate weight: 0,50 Kg







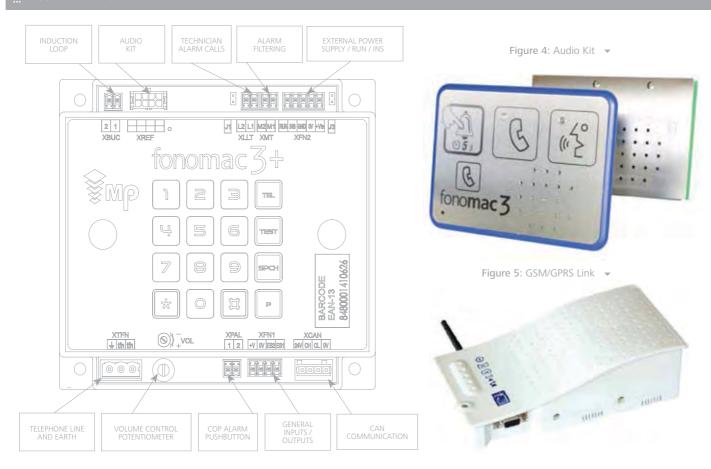
#### PHONE LINE REQUIREMENTS

Direct connection to an analogue line by means of dialing with DTMF tones

Option of GSM/GPRS link connetion to a digital line

WARNING: In case of using a GSM/GPRS different from the one MP distributes, the compliance with EN81-28 standard is not quaranteed

#### ... CONNECTIONS



#### \*\*\* RANGE OF PRODUCT

Fonomac 3: Standard telephone including the previously described features

Fonomac 3+: In addition to the Fonomac 3 features, it includes the voice messages play during the alarm procedure

#### . AUXILIARY DEVICES

Audio Kit: It is an additional device including the audio elements and light indicators linked to the telephone. Connecting the Audio kit to the telephone allows rerouting sound and indicators to locations outside the telephone up to a maximum distance of 3 m (10 m for the specific case of double control station); this way, the telephone can be fitted on the car ceiling and this set which is smaller and easily fitted can be assembled inside. (Figure 4)

GSM/GPRS Link: Device allowing the connections of a Fonomac 3 telephone to a GSM/GPRS line. (Figure 5)

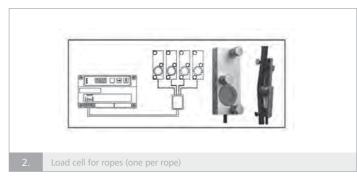
Magnetic Induction Loop: Optionally, a Magnetic Induction Loop can be supplied to help people with hearing aids communicate. This equipment allows the person with a hearing aid to clearly hear any call via the Fonomac 3 telephone

# PERIPHERALS OF CONTROLLERS AND ELECTRICAL INSTALLATIONS MICROBASIC AND VIA SERIE

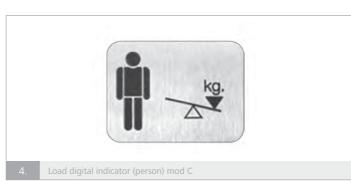


#### IMAGES OF PERIPHERALS

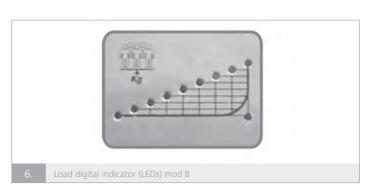




















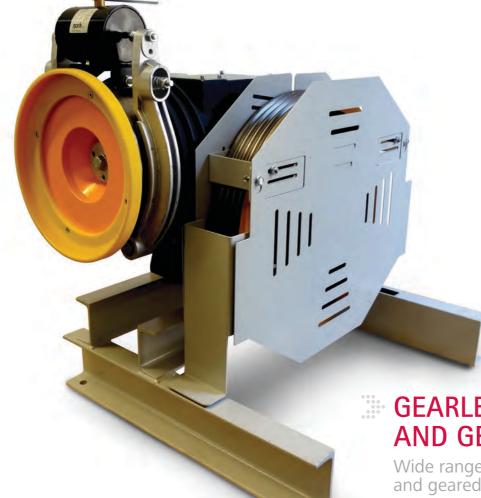














Wide range of solutions, both gearless and geared

#### Gearless Machine maGO Model

The maGO machine reduces the main sources of noise and vibration usually generated by a conventional machine in the lift. As the motor operates at very low speed, significant improvements in comfort are provided. It does not require forced ventilation and includes a silent disc-type braking system that contributes to reduce levels of sound emission.

Assembly is much easier thanks to the weight reduction (approx. 40% less than that of a conventional machine). The commissioning time is also reduced as the Autotuning is performed at the factory.

Gearless Machines to be applied with Machine Room and Machine Room Less

#### **Geared Machine SV140 Model**

The SV140 geared machine brings an easy solution to the modernisation of your installation with machine room.

SV140 Machine to be applied with machine room









CEN	EDAL	ITIES
		1115

Modular design which optimises the scale of installation needs

Robustness and durability

Compact solution

Ease of assembly and installation

Silent operation. Sound power level of < 44 dBA

The brake acts as a protection device against excess car speed when ascending This falls in line with EN81-1 (Certificate Type CE)

Machine connection is achieved via a 5 m shielded cable (with the possibility of using 10 m cables). Plug-in cables that avoid the chance of error during assembly

Encoder: EnDat-Heidenhain ECN 413 2048







#### ::. TECHNICAL FEATURES

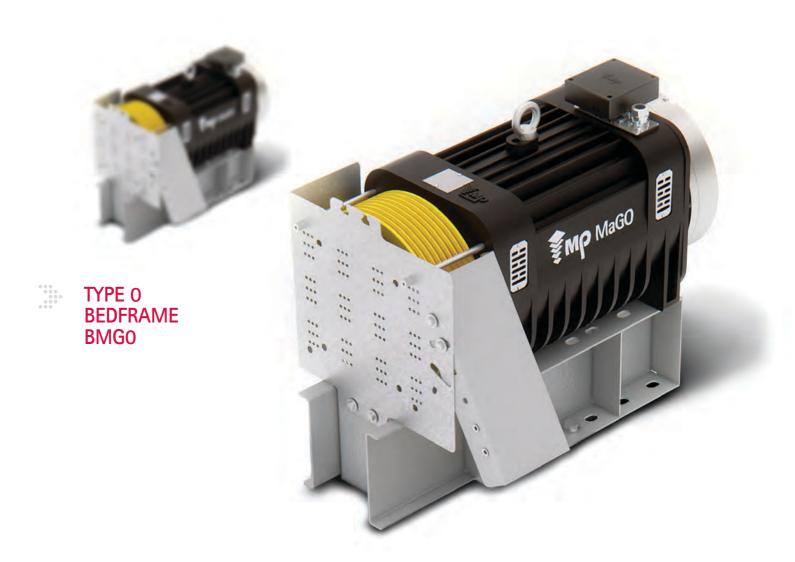
					CHC	DENICIONI	2.1 (5	1 1 (-)								
	SUSPENSION 2:1 (Speed 1 m/s)															
MODEL	Rated Load		Rated Volt.	Power	Max. Shaft Load		(Hz)	Voltage		RPM	A/h			BRAKE		Weight
MODEL	(Kg)	Torque (Nm)	(A)		(N)		(HZ)		Poles	KPIVI		Duty	M2n (Nm)	Power (W)	Voltage DC (V)	(Kg)
maGO075.2.240	375	180	9.6	3.0	25000	240	18.6	400	14	159	120		2x200	131	207	160
maGO100.2.240	480	240	11.6	4	25000	240	18.6	400	14	159	180		2x300	190	207	175
maGO125.2.240	630	300	14.9	5	25000	240	18.6	400	14	159	180		2x300	190	207	190
maGO150.2.240	800	360	16.5	6.0	30000	240	18.6	400	14	159	180		2x420	216	207	220
maGO175.2.240	1000	420	18.9	7.0	30000	240	18.6	400	14	159	180		2x420	216	207	235
maGO200.2.240	1125	480	21.7	8.0	30000	240	18.6	400	14	159	180		2x550	268	207	250
maGO250.2.240	1250	610	29.7	10.2	30000	240	18.6	400	14	159	180		2x725	268	207	310
maGO150.2.320	450	360	14.1	4.5	30000	320	13.9	400	14	119	180		2x420	216	207	235
maGO175.2.320	525	420	15.3	5.3	30000	320	13.9	400	14	119	180		2x420	216	207	250
maGO200.2.320	630	480	16.9	6.0	30000	320	13.9	400	14	119	180		2x550	268	207	265
maGO225.2.320	800	550	20.3	6.9	30000	320	13.9	400	14	119	180		2x550	268	207	310
maGO250.2.320	1000	610	23.1	7.7	30000	320	13.9	400	14	119	180		2x725	268	207	325
maGO150.2.400	320	360	14.1	4.5	30000	320	13.9	400	14	119	180		2x420	216	207	235
maGO175.2.400	375	420	15.3	5.3	30000	320	13.9	400	14	119	180		2x420	216	207	250
maGO200.2.400	450	480	16.9	6.0	30000	320	13.9	400	14	119	180		2x550	268	207	265
maGO225.2.400	525	550	20.3	6.9	30000	320	13.9	400	14	119	180		2x550	268	207	310
maGO250.2.400	630	610	23.1	7.7	30000	320	13.9	400	14	119	180		2x725	268	207	325

Data valid for: Efficiency 85% / Run 30 m / Traffic average / Standard car frame

SUSPENSION 1:1 (Speed 1 m/s)															
	Rated	Rated	Rated		Max. Shaft	LIVISION	 	-cu i iii/3/					BRAKE		
MODEL	Load (Kg)	Torque (Nm)	Volt. (A)	Power (Kw)	Load (N)	Ø Pulley (mm)		Voltage (V)	Nr. Poles	RPM		M2n (Nm)	Power (W)	Voltage DC (V)	Weight (Kg)
maGO075.1.240	180	180	5.4	1.5	25000	240	9.3	400	14	80	120	2x200	131	207	160
maGO100.1.240	225	240	6.8	2.0	25000	240	9.3	400	14	80	180	2x300	190	207	175
maGO125.1.240	300	300	7.7	2.5	25000	240	9.3	400	14	80	180	2x300	190	207	190
maGO150.1.240	375	360	9.3	3.0	30000	240	9.3	400	14	80	180	2x420	216	207	220
maGO175.1.240	450	420	11.0	3.5	30000	240	9.3	400	14	80	180	2x420	216	207	235
maGO200.1.240	480	480	12.3	4.0	30000	240	9.3	400	14	80	180	 2x550	268	207	250
maGO225.1.240	525	550	14.0	4.6	30000	240	9.3	400	14	80	180	2x550	268	207	295
maGO250.1.240	630	610	16.0	5.1	30000	240	9.3	400	14	80	180	2x725	268	207	310
maGO275.1.240	630	700	18.0	5.9	30000	240	9.3	400	14	80	180	2x725	268	207	325
maGO125.1.320	225	300	6.6	1.9	25000	320	7	400	14	60	180	2x300	190	207	205
maGO150.1.320	225	360	7.5	2.3	30000	320	7	400	14	60	180	 2x420	216	207	235
maGO175.1.320	300	420	8.9	2.6	30000	320	7	400	14	60	180	2x420	216	207	250
maGO200.1.320	375	480	9.9	3.0	30000	320	7	400	14	60	180	2x550	268	207	265
maGO225.1.320	450	550	10.7	3.5	30000	320	7	400	14	60	180	2x550	268	207	310
maGO250.1.320	525	610	12.5	3.8	30000	320	7	400	14	60	180	2x725	268	207	325
maGO275.1.320	630	700	14.0	4.4	30000	320	7	400	14	60	180	2x725	268	207	340
maGO175.1.400	225	420	7.7	2.1	30000	400	5.6	400	14	48	180	2x420	216	207	229
maGO225.1.400	320	550	9.6	2.8	30000	400	5.6	400	14	48	180	2x550	268	207	269
maGO275.1.400	450	700	11.7	3.5	30000	400	5.6	400	14	48	180	2x725	268	207	293







CHARACTERISTICS
Bedframe for maGO machine
Machine support without diversion pulley
Maximun admissible static load 30 KN
Maximum P+Q = 1690 Kg

DESCRIPTION	ELIMITO
DESCRIPTION	

BMG0 complete bedframe for maGO Machine

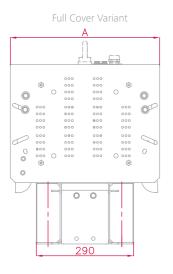
#### Including:

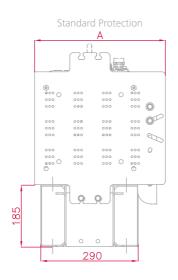
- 1 type 0 support unit for maGO machine
  1 Pulley protection unit of BMG0 bedframe
  Screws and nuts to join the bedframe and the machine

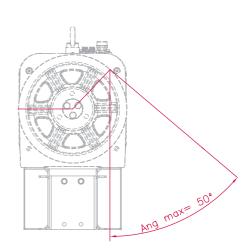


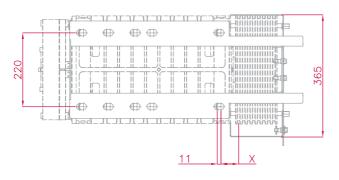


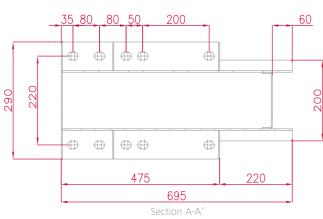
#### VIEWS OF GENERAL DIMENSIONS (mr

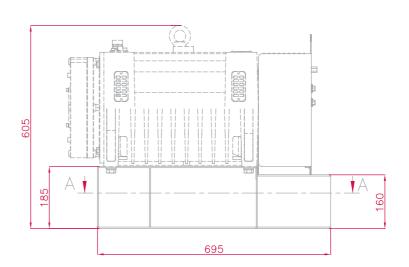












maGO MODELS	F1
maGO 075/100/125	392
maGO 150/175/200	472
maGO 225/250/275	552

Ø MACHINE PULLEY	
Ø 320	53
Ø 240	43
Ø 400	53

PROTECTION MODEL	Ø PULLEY	
STANDARD	400	477
	320 Y 240	390
FLILL	400	532
FULL	320 Y 240	445





### TYPE 1 BEDFRAME BMG1





Bedframe for maGO machine

One diversion pulley

Distance between ropes as model S M L from 450 to 900 for maGO machine with a 400 pulley

Distance between ropes as model S M L from 410 to 900 for maGO machine with a 320 pulley

Distance between ropes as model S M L from 360 to 910 for maGO machine with a 240 pulley

Dismanted

Static load maximun admissible 30 KN

P+Q maximum= 1690 Kg

#### DESCRIPTION OF THE SETS

Complete bedframe BMG1, S4050 model, with deflection pulley Ø 320 x 4 x 8

Complete bedframe BMG1, M5570 model, with deflection pulley Ø  $320 \times 4 \times 8$ 

Complete bedframe BMG1, L7590 model, with deflection pulley Ø 320 x 4 x 8

#### Included

- 1 BMG1 diversion bedframe, according to the dimensional variants (1)
- 4 Adjustable Silent- blocks
- 1 pulley's protection set for BMG1 diversion bedframe

#### (1) DIMENSIONAL VARIANTS

Diversion bedframe BMG1, S 4050 model, with diveflection pulley Ø 320 x 4 x 8

Diversion bedframe BMG1, M 5570 model, with diveflection pulley Ø 320 x 4 x 8

Diversion bedframe BMG1, M 5570 model, with diveflection pulley Ø 320 x 4 x 8

#### Included

- 1 Bedframe's structure set BMG1 according to model S/M/L
- 4 Bedframe's leg sets
- 1 Machine's support set BMG1
- 1 Diversion pulley set (standard pulley Ø 320 x 4 x 8)



\$ MP



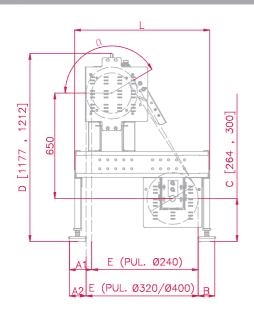


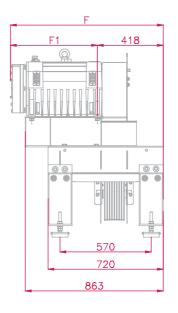
#### DIMENSIONAL VARIANTS

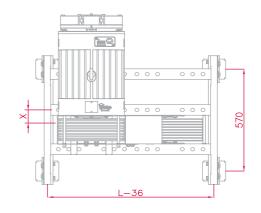
		М	achine wit	h Ø400 p	ulley	Ма	achine with	n Ø320 pu	lley	1	Machine w	ith Ø240	pulley	Dimei	nsions	
MODELS	Pos.	X (mm)	E Distance between ropes (mm)	α angle (°)	A2 (mm)	X (mm)	E Distance between ropes (mm)	α angle (°)	A2 (mm)	X (mm)	E Distance between ropes (mm)	α angle (°)	A1 (mm)	B (mm)	L (mm)	Bedframe's weight in Kg (without pulleys)
DNAC46	S2	53	-	-	110	53	450	168,7	110	43	410	165,2	150	161	645	67
BMG1S	S3	53	500	171,3	110	53	500	164,5	110	43	460	161,1	150	111	645	<del>-</del> 67
	M1	53	550	167	110	53	550	160,5	160	43	510	157,2	200	211	845	
	M2	53	600	162,9	110	53	600	156,7	110	43	560	157,2	150	211	845	- - 71 -
BMG1M																
	M3	53	650	159	110	53	650	153,1	110	43	610	149,9	150	161	845	
	M4	53	700	155,2	110	53	700	149,7	110	43	660	146,6	150	111	845	
	L1	53	750	151,7	110	53	750	146,5	160	43	710	143,6	200	211	1045	
	L2	53	800	148,4	110	53	800	143,5	110	43	760	140,7	150	211	1045	- - 76
BMG1L	L3	53	850	145,3	110	53	850	140,8	110	43	810	138,1	150	161	1045	
	L4	53	990	142,3	110	53	900	138,3	110	43	860	135,6	150	111	1045	
	L5	-	-	-	110	53	-	400	-	43	910	133,4	100 150	111	1045	

Note: If the E distance between ropes of your installation does not appear in this table, use the closest value.

#### VIEWS OF GENERAL DIMENSIONS (mm)







maGO MODELS	F1	F
maGO 075/100/125	392	810
maGO 150/175/200	472	890
maGO 225/250/275	552	970

#### VARIANTS OF GENERAL CHARACTERISTICS

Full cover variant for machine pulley

Variant silent-block bedframe BMG1
Variant pulley's protection bedframe BMG1
Variant bedframe for machine with a 400 pulley
S1 special E (Distance Between Ropes) variant BMG1 diversion bedframe1 <sup>(2)</sup>
E special variant for reduced dimensions ( $L = E + 138$ )
Admissible diversion pulleys according to the below table

#### (2) E dimension (Distance between ropes)

E= 450 and	=	175.6° for machine with a 400 pulley
E= 400 and	=	173° for machine with a 320 pulley
E= 360 and	=	169.5° for machine with a 240 pulley

	Admissible diversion pulleys	
Ropes Ø 9 and 10	Ropes Ø 8	Ropes Ø 6.5
D. II. 400 4 40	Pulley 320 x 4 x 8 (Standard)	
Pulley 400 x 4 x 10	Pulley 320 x 6 x 8	Pulley 320 x 10 x 6.5
Pulley 400 x 6 x 10	Pulley 320 x 8 x 8	







MAXIMUM STATIC LOAD:	28000 N	
LOAD KG:	Up to 630 Kg / Suspension 1:1	
REDUCTIONS:	1/36; 1/41; 1:47; 1/50; 1/58	
Ø POLLEYS:	Ø 400; Ø 480; Ø 520; Ø 600	
POWER RANGE (4 POLES - 50 HZ) 3VF:	4 ÷ 7 Kw	
POWER RANGE (4/16 POLOS - 50 HZ) 2V:	4 Kw	
BRAKE VOLTAGE:	48; 60; 110; 207 Vdc	
SYNTHETIC OIL LUBRICATED FOR LIFE:	2,7 litres	_
MACHINE WEIGHT:	220 Kg	T adapt
ASSEMBLY VERSATILITY:	Horizontal / Vertical	we adapt to your <b>SPACC</b> ,
FORCED VENTILATION:	Option of fan incorporation	naturally







#### **TECHNICAL CHARACTERISTIC**

3VF 1500 rpm 4 polos 50 Hz Suspension 1:1					
Synchronous	Ø Pulley	Reduction		Unbalanced Load (Kg) Shaft efficiency: 0'8	
Speed (m/s)		Reduction		Motor Power (Kw)	
(5)			4	5.5	7
0.54	400	1/58	424	469	-
0.63	400	1/50	379	469	-
0.65	480	1/58	353	391	-
0.67	400	1/47	356	469	-
0.70	520	1/58	326	361	-
0.75	480	1/50	316	391	-
0.77	400	1/41	311	424	469
0.80	480	1/47	297	391	-
0.81	600	1/58	283	313	-
0.82	520	1/50	292	361	-
0.87	520	1/47	274	361	-
0.87	400	1/36	281	383	469
0.92	480	1/41	259	353	391
0.94	600	1/50	253	313	-
1.00	520	1/41	239	326	361
1.00	600	1/47	238	313	-
1.05	480	1/36	234	319	391
1.13	520	1/36	216	295	361
1.15	600	1/41	207	283	313
1.31	600	1/36	187	255	313

2V 1500 rpm 4/16 polos 50 Hz Suspension 1:1					
Synchronous Speed (m/s)	Ø Pulley (mm)	Reduction	Unbalanced Load (Kg) Shaft efficiency: 0'8 Motor Power (Kw)		
(111/3)			4		
0.54	400	1/58	448		
0.63	400	1/50	400		
0.65	480	1/58	373		
0.67	400	1/47	376		
0.70	520	1/58	344		
0.75	480	1/50	334		
0.77	400	1/41	328		
0.80	480	1/47	313		
0.81	600	1/58	298		
0.82	520	1/50	308		
0.87	520	1/47	289		
0.87	400	1/36	296		
0.92	480	1/41	273		
0.94	600	1/50	267		
1.00	520	1/41	252		
1.00	600	1/47	251		
1.05	480	1/36	247		
1.13	520	1/36	228		
1.15	600	1/41	219		
1.31	600	1/36	198		

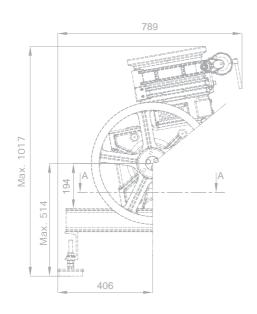


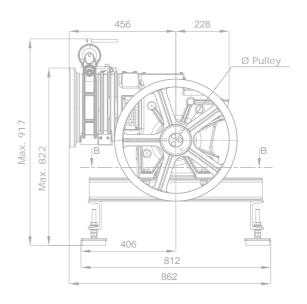


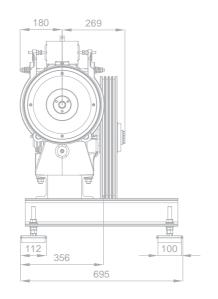


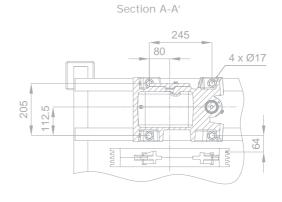
#### DIMENSIONS

#### MACHINE INSTALLATION WITH LOW BEDFRAME









Section B-B'

245

125

4 x Ø17





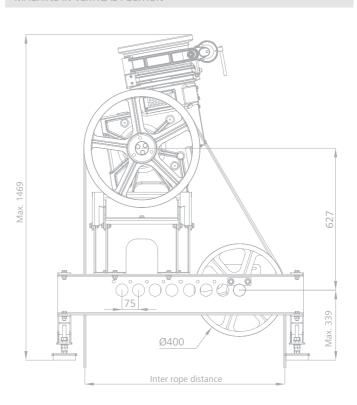
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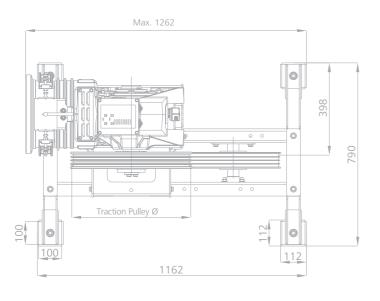
#### MACHINE INSTALLATION WITH DEFLECTION BEDFRAM

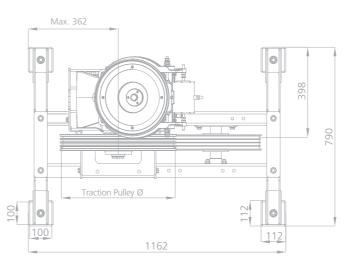
#### MACHINE IN HORIZONTAL POSITION

# Max. 1369 688. xeW Inter rope distance

#### MACHINE IN VERTICAL POSITION







Deflection bedframe	Pulley Ø 400	Pulley Ø 480	Pulley Ø 520
Inter rope min. distance (mm)	665	655	675
Inter rope distance max. (mm)	890	930	900

















#### **EASY ASSEMBLY**

The simplest and quickest to assemble

#### MASSEN model automatic landing door

The reduced weight and dimensions and the innovative assembly process have proved extremely successful and, without a doubt, involve the simplest and quickest assembly on the market.

Some of the differentiating features that facilitate the assembly of this new door include:

The assembly of the framework components through auto-aligning systems, assembly of the entire frame with just 4 screws that are highly accessible in terms of vertical assembly from the platform, alignment when assembling the door track and header through regulators and gauges, direct fixture of the panels via self-supporting carts (hands free)...

This brings a clear economic advantage for the installation company















Fire resistant door classified according to EN 81-58: EI 60, EW 60 and GOST 30247-2002: EI 60

Locking device for landing doors with CE Type, certificate ATI/LDVA/M164-A1/10

Embossed Polyester Epoxy Paint RAL 7044 or stainless steel finishes

Clear height, 2000 mm

Standard toe guard height (255 mm)

Aluminium sill

Standard frame-to-wall-fixing brackets for semi-overhanging doors (4 pieces)

No vision panel

Standard control station cut-out (75 x 185 mm)

Standard control station cut-out centre height 1000 mm

Unit packing for disassembled door



#### ... \/ADIANITC

Other finishes (stainless steel: mirror, textured surfaces...)

Height of clear entrance higher than the standard (2000) one: 2100 mm

Non-standard control station cut-out height

Non-standard control station cut-out in door frame

Fixing angle bracket with 75 mm, 98 mm, 125 mm-wing or special fixing for overhangs < 20 mm

Kit of protection cover for opened panels

Builder works sill protection cover

Kit of fixings wall bolts

Door sill plate

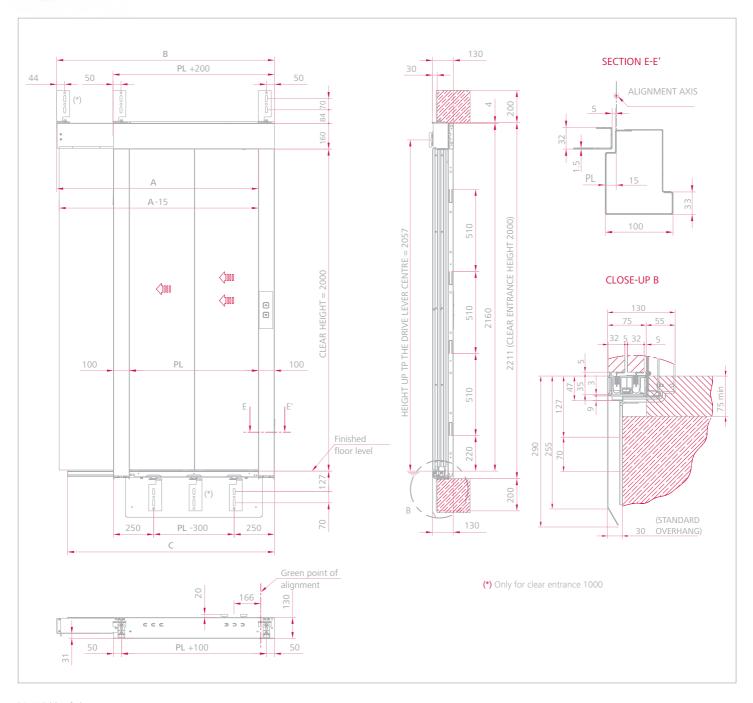
Fire resistance classification according to EN81-58: EI-60, EW-60 (Test: FIRES-FR-162-11-AUNE)

Door adapted to comply with the EN81-72 Standard

Doors provided with vision panels made of safety laminated glass (VSG), with a thickness of 6/6/0.76 mm and dimensions of  $150 \times 900$  mm, centered on each panel, from a height of 1 m. Available for clear entrances of 700, 800 and 900 mm x 2000 and 2100 mm. In accordance with EN81-1, EN81-2, pr EN81-20, pr EN81-50







PL: Width of clear entrance.
D: Dimensions for packaging for a disassembled door.
Weight of packaging for a door in pieces = P+17 Kg.

#### **GENERAL DIMENSIONS**

PL (mm)	A (mm)	B (mm)	P (Kg)	D (mm)
700	1102	1202	56	2150 x 460 x 210
800	1252	1352	60	2150 x 490 x 210
900	1402	1502	64	2150 x 540 x 210
1000	1552	1650	69	2150 x 590 x 210

	TYPES OF FIXATION					
T2 DOOR	THREADED ROD	35 SQUARE	75 SQUARE	98 SET SQUARE	125 SET SQUARE	
OVERHANG (mm)	0-20	20-85	86-99	100-125	125-180	









## 2-PANEL CENTRAL-OPENING MASSEN DOOR (C2)







#### :::: CHARACTERISTICS

Fire resistant door classified according to EN 81-58: EI 60, EW 60 and GOST 30247-2002: EI 60  $\,$ 

Locking device for landing doors with CE Type, certificate ATI / LDVA / M164-A1 / 10

Embossed Polyester Epoxy Paint RAL 7044 or stainless steel finishes

Clear height, 2000 mm

Standard toe guard height 255 mm

Aluminium sill

Standard frame-to-wall-fixing brackets for semi-overhanging doors (4 pieces)

No vision panel

Standard control station cut-out (75 x 185 mm)

Standard control station cut-out centre height 1000 mm

Unit packing for disassembled door

#### \*\*\* VARIANTS

Other finishes (stainless steel: mirror, textured surfaces...)

Height of clear entrance higher than the standard (2000) one: 2100 mm

Non-standard control station cut-out height

Non-standard control station cut-out in door frame

Fixing angle bracket with 75 mm, 98 mm, 125 mm-wing or special fixing for overhangs < 20 mm

Kit of protection cover for opened panels

Builder works sill protection cover

Kit of fixings wall bolts

Door sill plate

Fire resistance classification according to EN81-58: EI-60, EW-60 (Test: FIRES-FR-163-11-AUNE)

Door adapted to comply with the EN81-72 Standard

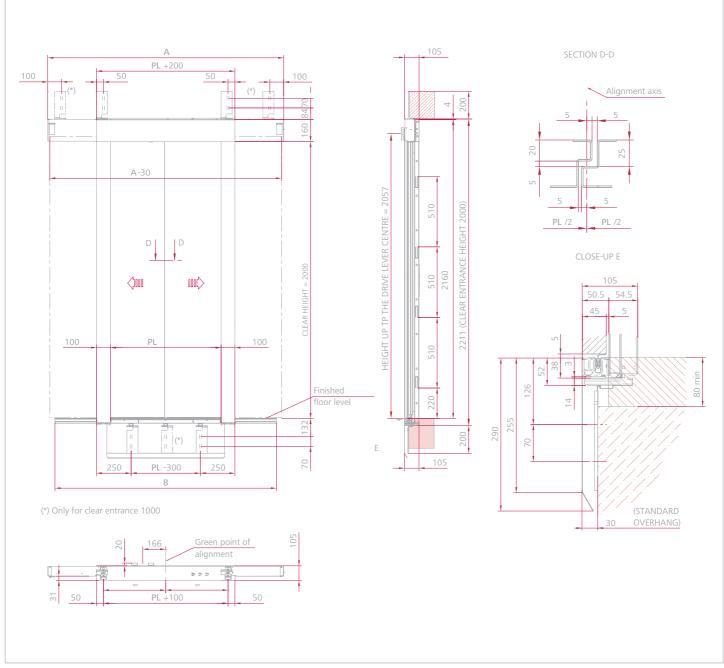


Reduced header, 100 mm

Doors provided with vision panels made of safety laminated glass (VSG), with a thickness of 6/6/0.76 mm and dimensions of 150 x 900 mm, centered on each panel, from a height of 1 m. Available for clear entrances of 700, 800 and 900 mm x 2000 and 2100 mm.In accordance with EN81-1, EN81-2, pr EN81-20, pr EN81-50







PL: Width of clear entrance.
D: Dimensions for packaging for a disassembled door.
Weight of packaging for a door in pieces = P+17 Kg.

#### **GENERAL DIMENSIONS**

PL (mm)	A (mm)	B (mm)	P (Kg)	D (mm)
700	1504	1400	52	2150 x 460 x 210
800	1704	1600	56	2150 x 490 x 210
900	1904	1800	60	2150 x 540 x 210
1000	2104	2000	66	2150 x 590 x 210



	TYPES OF FIXATION					
C2 DOOR	THREADED ROD	35 SQUARE	75 SQUARE	98 SET SQUARE	125 SET SQUARE	
OVERHANG (mm)	0-20	20-75	76-99	100-125	126-180	









# 4-PANEL CENTRAL-OPENING MASSEN DOOR (C4)





	777.1	100	10.1	DATE:	1100
***	 #A	154	BA A	ш	T٩

Other finishes (Special stainless steel: mirror, textured surfaces,...)

Height of clear entrance higher than the standard one (2000 mm): 2100 mm

Cut-out height for non-standard control station

Cut-out in door frame for non-standard control station

Fixing angle bracket with 75 mm, 98 mm, 125 mm-wing or special fixing for overhangs < 20  $\,$  mm

Door sill protection

Bolt kit to fix the squares to the wall

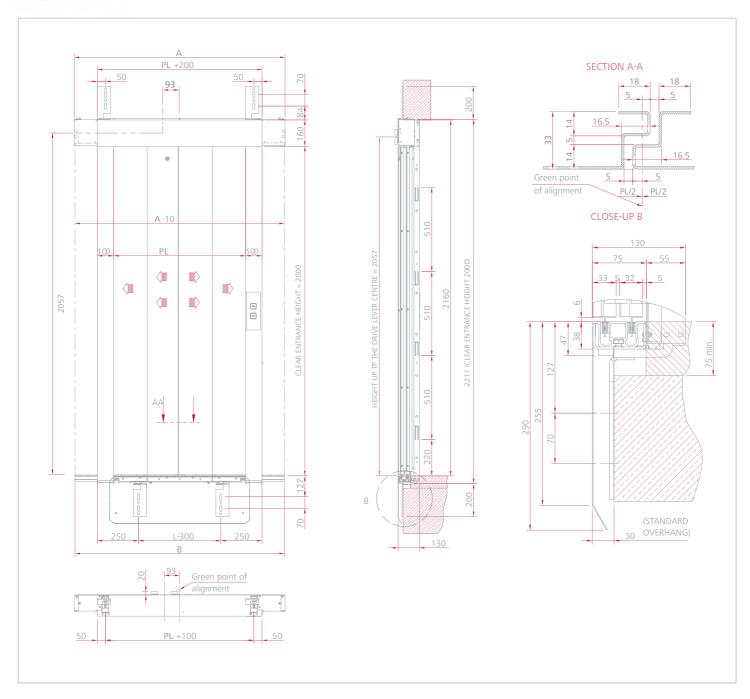
Door sill plate

::::	CHARACTERISTICS
	Fire resistant doors classified according to EN 81-58: El 60, EW 60 and GOST 30247-2002: El 60
	Landing door interlock with E.C. Type Certificate: ATI / LD-VA / M164-A1 / 10
	Embossed Polyester Epoxy Paint RAL 7044 or stainless steel finish
	Clear height, 2000 mm
	Aluminium door sill
	Standard frame-to-wall-fixing brackets of 35 mm, for semi-overhanging doors (4 pieces)
	No vision panel
	Standard control station cut-out (75 x 185 mm)
	Standard control station cut-out centre height 1000 mm
	Unit packing for disassembled door









PL: Width of clear entrance.
D: Dimensions of packaging for a disassembled door.
Weight of packaging for a disassembled door = P+17 Kg.

#### **GENERAL DIMENSIONS**

PL (mm)	A (mm)	B (mm)	P (Kg)	D (mm)
700	1135	1125	64	2150 x 460 x 210
800	1280	1270	68	2150 x 490 x 210
900	1430	1420	72	2150 x 540 x 210

		T	PES OF FIXATIO	N	
C4 DOOR	THREADED ROD	35 SQUARE	75 SQUARE	98 SET SQUARE	125 SET SQUARE
OVERHANG (mm)	0-20	20-85	86-99	100-125	126-180

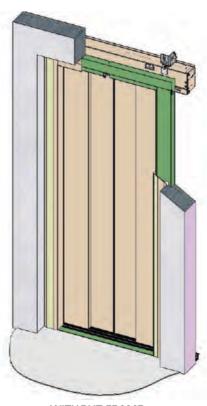




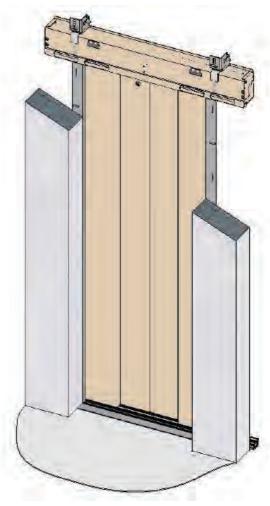








WITHOUT FRAME (Complete replacement of the pre-existing door and also for new construction)



HIDDEN FRAME (Complete replacement of the pre-existing door)

### SPECIALLY DEVELOPED FOR MODERNISATIONS

Very easy to assemble

This door has been especially designed for modernisations; this is the reason why it allows the complete replacement of doors keeping the preexisting door frame of a semiautomatic hinged door. The door has always to be totally overhanged when it is installed (Classic door of 165 mm, Massen door of 130 mm and C4-Massen door for modernisation just requires a space of 106 mm). It includes articulated angle brackets to meet a perfect levelling and alignment between header and door sill.

FEATURES OF		DESCRIPTION
EFAILIRES (4)	- NI - B A I	DEXCRIBITION

Fire resistant doors classified according to EN 81-58: El 60, EW 60 and GOST 30247-2002: El 60  $\,$ 

Landing door interlock with E.C. Type Certificate: ATI / LD-VA / M164-A1 / 10

Embossed Polyester Epoxy Primer RAL 7044 or stainless steel finish

Clear height, 2000 mm

Standard toe guard height (255 mm)

Aluminium door sill

Articulated angle brackets to meet a perfect levelling and alignment between header and door sill

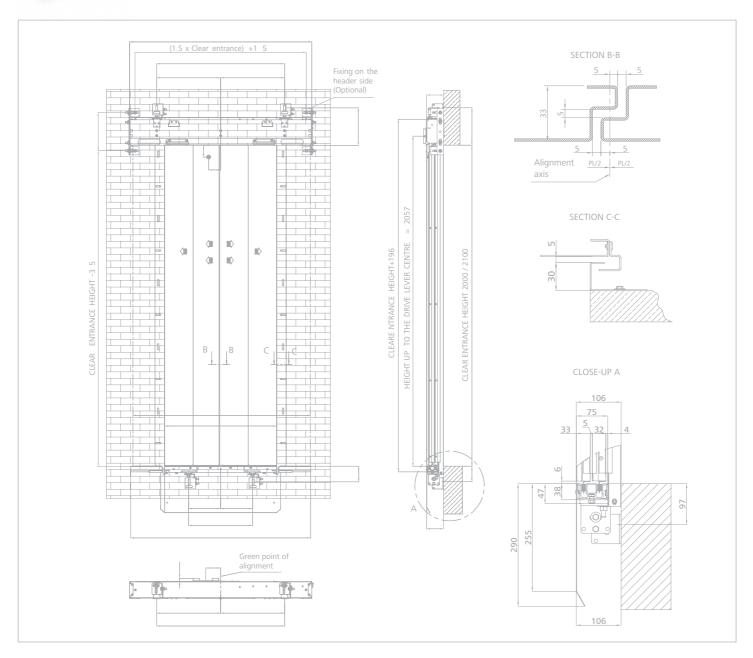
No vision panel

Unit packing for disassembled door

For assemblies where the frame of the semiautomatic hinged door is kept, MP does not supply the covers of header and uprights. Being made to measure parts, the customer shall locally manufacture them







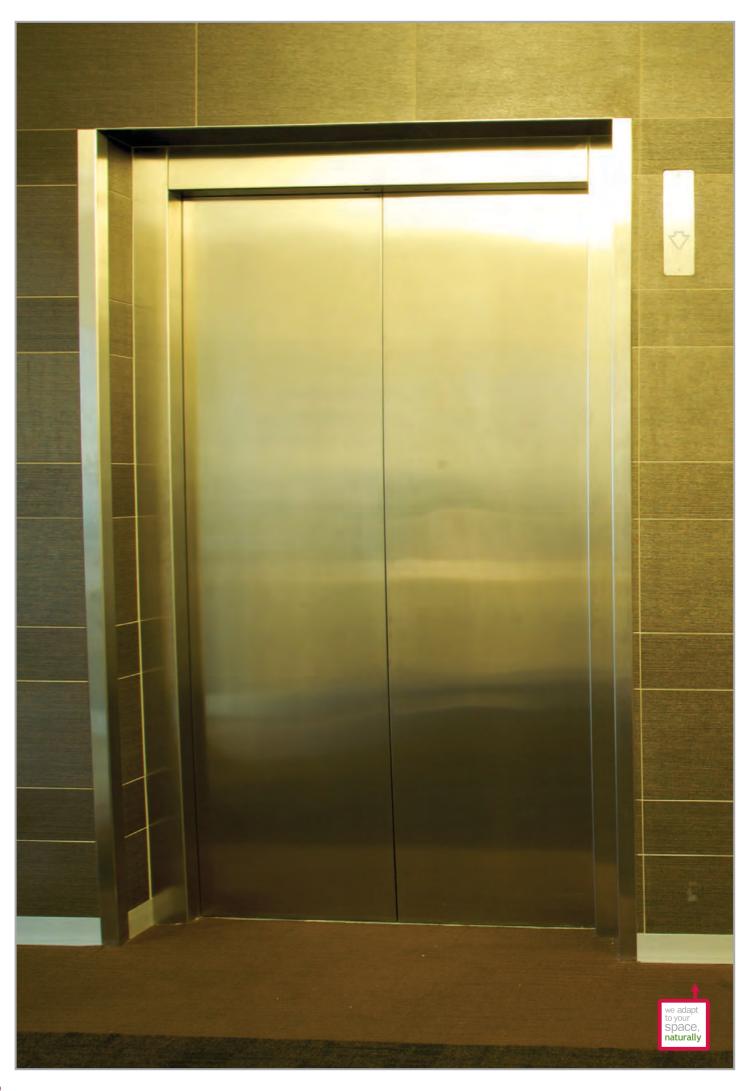
***	: VARIANTS				
	Other finishes (special stainless steel: mirror, textured surfaces,)	Bolt kit to fix the squares to the wall			
	Height of clear entrance higher than the standard one (2000 mm): 2100 mm	Door sill cover			
	Door sill protection	Side-fixing of the header			

PL: Width of clear entrance.

D: Dimensions of packaging for a disassembled door. Weight of packaging for a disassembled door = P+17 Kg.

#### **GENERAL DIMENSIONS**

PL (mm)	A (mm)	B (mm)	P (Kg)	D (mm)
070	1141	1125	56	2150 x 460 x 210
080	1286	1270	60	2150 x 490 x 210
090	1436	1420	64	2150 x 540 x 210











# AUTOMATIC LANDING DOOR CLASSIC MODEL

Automatic entrance doors to landing, removable

Robust and classic design







#### CLASSIC C2 MODEL





#### \*\*\* CHARACTERISTICS

EN81-58,	E 120 /	EW 60	fire-rated	doors
----------	---------	-------	------------	-------

Embossed Polyester Epoxy Paint RAL 7044 or stainless steel finish

Clear height, 2000 mm

Complete mechanism assembly

Standard toe guard height (300 mm)

Aluminium sill

Fire resistant doors classified according to GOST EI-60

Standard frame-to-wall fixing brackets (35 mm-wing) for semi-overhanging doors (4-6 units)

No vision panel

Standard control station cutout (75 x 185 mm)

Standard control station cutout centre height 1000 mm

Control station flameproof box, Type 1 (220 x 80 mm)

Standard packing for 4-unit order or more. Unit packing for assembly door

#### .... VARIANTS

Fixing angle bracket with 75 mm, 98 mm, 125 mm-wing or special fixing for overhangs < 20 mm

Other finishes (special stainless steel: mirror, textured surfaces,...)

Non-standard clear height  $2001 \le H \le 2100$ , epoxy finish

Header variations (Only assembled door)

Non-standard control station cutout height

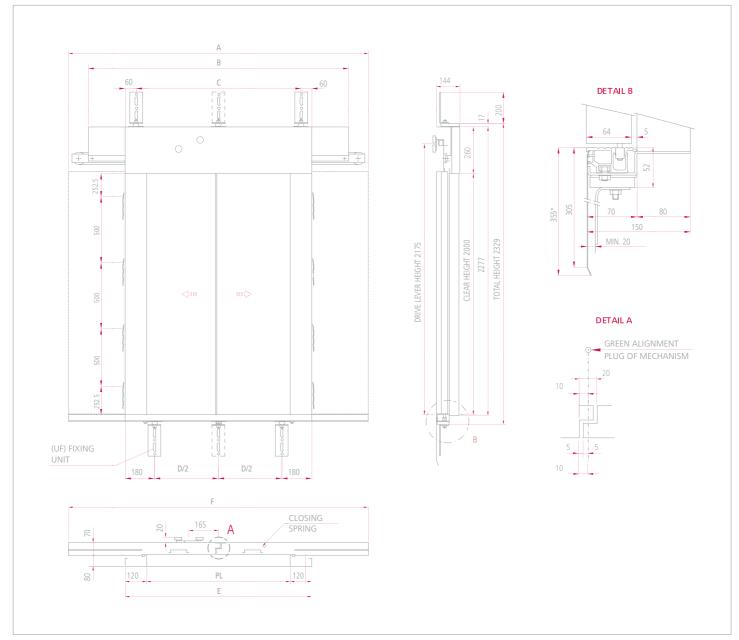
Non-standard control station cutout in door frame

Packing for 3-, 2-, 1-door order

Fixing brackets for overhanging doors







(\*) Use restrictions: these toe guards may only be used in installations whose height between landings is higher than or equal to 2632 mm. (2535 without toe guard, closing with building the between floor area), for lower heights, they will be sent to the special lifts department, so that the necessary modifications are studied.

							GENERA	AL DIMEN	ISIONS (n	nm)							
PL	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
А	1260	1370	1460	1570	1660	1770	1860	1970	2060	2170	2260	2370	2460	2570	2660	2770	2860
В	1000	1000	1000	1000	1450	1450	1450	1450	1450	1900	1900	1900	1900	1900	1900	2350	2350
С	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	1320	1370	1420	1470	1520
D	480	530	580	630	680	730	780	830	880	930	980	1030	540	565	590	615	640
Е	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640
F	1225	1325	1425	1525	1625	1725	1825	1925	2025	2125	2225	2325	2425	2525	2625	2725	2825
UF	4	4	4	4	4	4	4	4	4	4	4	4	6	6	6	6	6

UF: Fixing unit. In those cases where only four fixing units are installed, remove the centre fixing unit on the upper and lower part.







#### CLASSIC T2 MODEL





CHARACTERISTICS

EN81-58, E 120 / EW 60 fire-rated doors

Embossed Polyester Epoxy Paint RAL 7044 or stainless steel finish

Clear height, 2000 mm

Complete mechanism assembly

Standard toe guard height (300 mm)

Aluminium sill

Fire resistant doors classified according to GOST EI-60

Standard frame-to-wall fixing brackets (35 mm-wing) for semi-overhanging doors (4-6 units)

No vision panel

Standard control st ation cutout (75 x 185 mm)

Standard control station cutout centre height 1000 mm

Control station flameproof box, Type 1 (220 x 80 mm)

Standard packing for 4-unit order or more. Unit packing for assembly door

#### :::. VADIANTO

Fixing angle bracket with 75 mm, 98 mm, 125 mm-wing or special fixing for overhangs < 20 mm

Other finishes (special stainless steel: mirror, textured surfaces,...)

Non-standard clear height 2001  $\leq$  H  $\leq$  2100, epoxy finish

Header variations (Only assembled door)

Non-standard control station cutout height

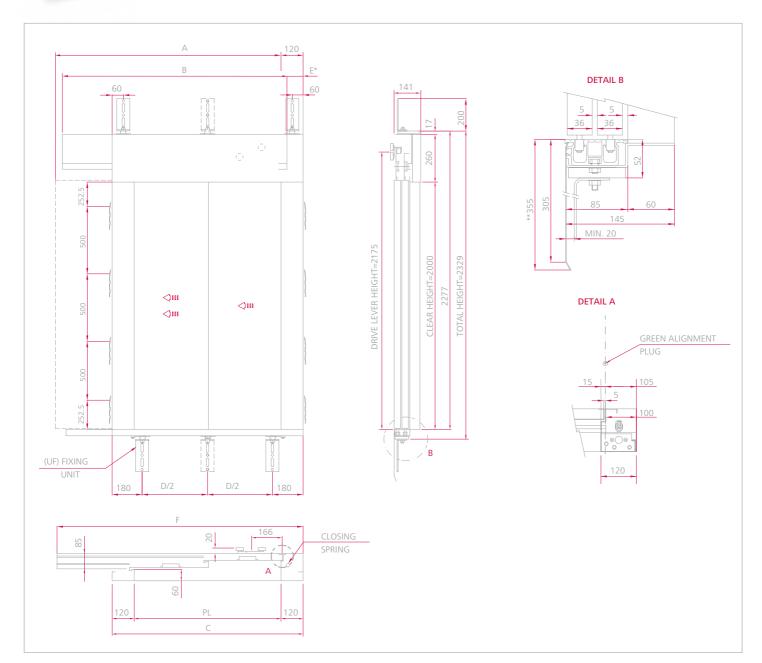
Non-standard control station cutout in door frame

Packing for 3-, 2-, 1-door order

Fixing brackets for overhanging doors







- (\*) For clear entrance 700,800 and 900, E=85mm. In other case E=30mm.
- (\*\*) Use restrictions: these toe guards may only be used in installations whose height between landings is higher than or equal to 2632 mm. (2535 without toe guard, closing with building the between floor area), for lower heights, they will be sent to the special lifts department, so that the necessary modifications are studied.

	GENERAL DIMENSIONS (mm)																
PL	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
А	935	1005	1085	1155	1235	1305	1385	1455	1535	1605	1685	1755	1835	1905	1985	2055	2135
В	1000	1000	1120	1000	1270	1000	1420	1450	1450	1450	1450	1450	1900	1900	1900	1900	1900
С	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640
UF	4	4	4	4	4	4	4	4	4	4	4	4	6	6	6	6	6
D	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280
F	1025	1100	1175	1250	1325	1400	1475	1550	1625	1700	1775	1850	1925	2000	2075	2150	2225

UF: Fixing unit. In those cases where only four fixing units are installed, remove the centre fixing unit on the upper and lower part.





#### CLASSIC C4 MODEL





#### ···· CHARACTERISTICS

EN81-58, E 120 / EW 60 fire-rated doors

Embossed Polyester Epoxy Paint RAL 7044 or stainless steel finish

Clear height, 2000 mm

Complete mechanism assembly

Standard toe guard height (300 mm)

Aluminium sill

Fire resistant doors classified according to GOST EI-60

Standard frame-to-wall fixing brackets (35 mm-wing) for semi-overhanging doors (4-6 units)

No vision panel

Standard control station cutout (75 x 185 mm)

Standard control station cutout centre height 1000 mm

Control station flameproof box, Type 1 (220 x 80 mm)

Standard packing for 4-unit order or more. Unit packing for assembly door

#### ··.. VARIANTS

Fixing angle bracket with 75 mm, 98 mm, 125 mm-wing or special fixing for overhangs < 20 mm

Other finishes (special stainless steel: mirror, textured surfaces,...)

Non-standard clear height 2001  $\leq$  H  $\leq$  2100, epoxy finish

Header variations (Only assembled door)

Non-standard control station cutout height

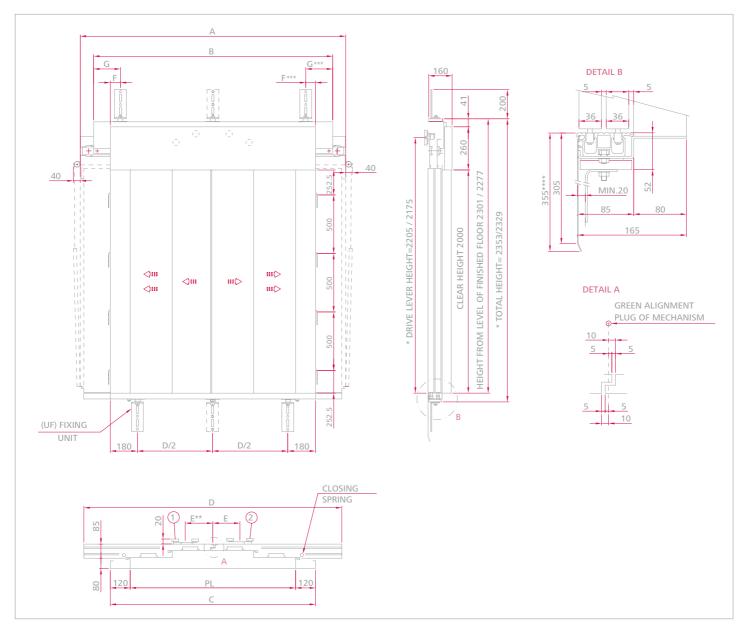
Non-standard control station cutout in door frame

Packing for 3-, 2-, 1-door order

Fixing brackets for overhanging doors







- \* For clear entrances between 600 and 1150 the total height of the door is 2353 and the drive lever height is 2205. For clear entrances between 1200 and 1400 the total height of the door is 2329 and the drive lever height is 2175.
- \*\* For clear entrances between 600 and 1150, there is only one interlock, no. 1, located at a distance E of 93.

For clear entrances between 1200 and 1400, there are two interlocks at a distance E of 166.

- \*\*\* For clear entrances between 600 and 1150, upper fixing bracket is located at a distance G of 260.
- For clear entrances between 1200 and 1400, upper fixing bracket is located at a distance F of 60.
- \*\*\*\* Use restrictions: these toe guards may only be used in installations whose height between landings is higher than or equal to 2656/2632 mm. (2559/2535 without toe guard, closing with building the between floor area), for lower heights, they will be sent to the special lifts department, so that the necessary modifications are studied.

							GENERA	L DIMEN	SIONS (m	nm)							
PL	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
A*	1022	1072	1122	1172	1262	1312	1422	1472	1562	1612	1662	1712	1862	1930	2004	2080	2162
В	1000	1000	1000	1000	1000	1000	1000	1000	1450	1450	1450	1450	1450	1450	1900	1900	1900
С	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640
D	925	1000	1075	1150	1225	1300	1375	1450	1525	1600	1675	1750	1825	1900	1975	2050	2125
UF	4	4	4	4	4	4	4	4	4	4	4	4	6	6	6	6	6

(\*): Add 40 mm in both sides of the dimension "A".

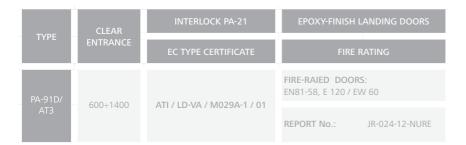
UF: Fixing unit. In those cases where only four fixing units are installed, remove the centre fixing unit on the upper and lower part.







#### CLASSIC T3 MODEL





#### " CHARACTERISTICS

EN81-58, E 120 / EW 60 fire-rated doors

Embossed Polyester Epoxy Paint RAL 7044 or stainless steel finish

Clear height, 2000 mm

Complete mechanism assembly

Standard toe guard height (300 mm)

Aluminium sill

Fire resistant doors classified according to GOST EI-60

Standard frame-to-wall fixing brackets (35 mm-wing) for semi-overhanging doors (4-6 units)

No vision panel

Standard control station cutout (75 x 185 mm)

Standard control station cutout centre height 1000 mm

Control station flameproof box, Type 1 (220 x 80 mm)

Standard packing for 4-unit order or more. Unit packing for assembly door

#### ···. VARIANTS

Fixing angle bracket with 75 mm, 98 mm, 125 mm-wing or special fixing for overhangs < 20 mm

Other finishes (special stainless steel: mirror, textured surfaces,...)

Non-standard clear height 2001  $\leq$  H  $\leq$  2100, epoxy finish

Header variations (Only assembled door)

Non-standard control station cutout height

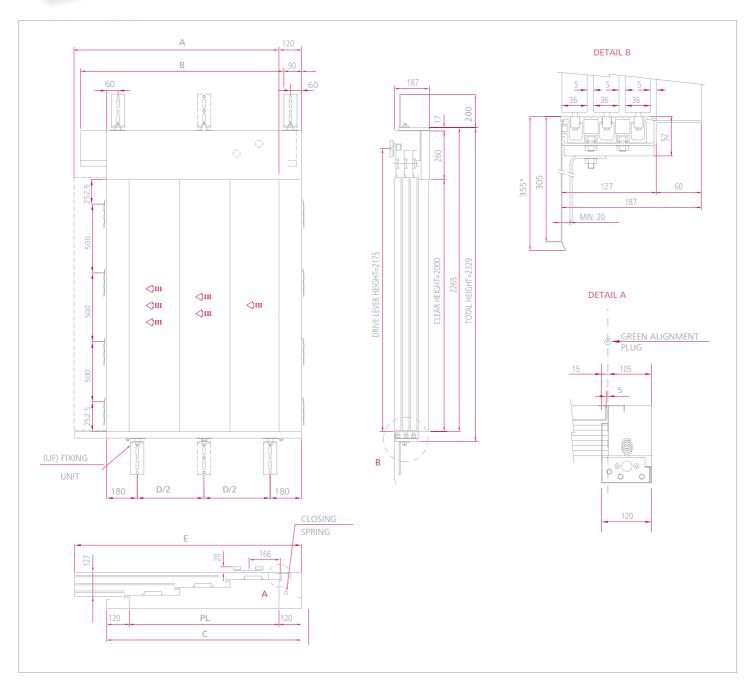
Non-standard control station cutout in door frame

Packing for 3-, 2-, 1-door order

Fixing brackets for overhanging doors







(\*) Use restrictions: these toe guards may only be used in installations whose height between landings is higher than or equal to 2632 mm. (2535 without toe guard, closing with building the between floor area), for lower heights, they will be sent to the special lifts department, so that the necessary modifications are studied.

							GENER	AL DIMEI	NSIONS (1	nm)							
PL	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
А	880	930	980	1030	1095	1161	1228	1295	1361	1428	1495	1561	1628	1695	1761	1828	1895
В	910	960	1010	1060	1110	1160	1210	1310	1360	1410	1510	1560	1610	1710	1760	1810	1910
С	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640
UF	4	4	4	4	4	4	4	4	4	4	4	4	6	6	6	6	64
D	480	530	580	630	680	730	780	830	880	930	980	1030	540	565	590	615	640
E	925	990	1060	1125	1190	1255	1325	1390	1460	1525	1590	1655	1729	1790	1860	1925	1990

UF: Fixing unit. In those cases where only four fixing units are installed, remove the centre fixing unit on the upper and lower part.







# SEMIAUTOMATIC HINGED LANDING DOOR



 CHARACTERISTICS
 RAL 7044 epoxy finish
Locking device with upper side operation
ydraulic Retainer MAC 540 / P with closing speed regulation
Handle, 250 mm. with nuts and screws
Vision panel, 1000x80 mm. with armoured glass
Standard door frame: Upright, 108 mm Header, 129 mm
Control station flameproof box, Type 1 (220 x 80 mm)
Standard lock axis height (1820 mm)
Standard control station cutout centre height 1000 mm
Standard control station cutout (75 x 185 mm)
Standard packing for 6-unit order or more, according to standard ISPM15 (phytosanitary regulations)

** VARIANTS
Electric lock (lateral actuation)
Non-standard clear height (2000 < H < 2100)
Non-standard clear height (2000 > H > 1000)
Heights lower than 1800 mm, without regard to EN81 (7.3.1)
Heights lower than 1700 mm, only available without vision panel
Height and dimension of landing control station cutout different than standard
Signalling cutout in door frame
Non-standard lock axis height
Front drive lock
Special sill
Available hinge-upright from 70 to 107 mm
Available lock-upright from 91 to 107 mm
Available header (99 mm)
Great vision panel available for doors from 600 to 900 mm clear entrance. Dimensions Great vision panel, as opening clear entrance:  • 600 (1300 x 280)
• 650 (1300 x 330)

Available header (99 mm)

Great vision panel available for doors from 600 to 900 mm clear entrance. Dimensions Great vision panel, as opening clear entrance:

• 600 (1300 x 280)

• 650 (1300 x 330)

• 700 (1300 x 380)

• 750 (1300 x 430)

• 800 (1300 x 480)

• 850 (1300 x 530)

• 900 (1300 x 580)

Overhangs from 35 to 52 mm

Overhangs from 53 to 73 mm

Fixing door frame to the wall with screws

Double electric contact for doors with panel vision

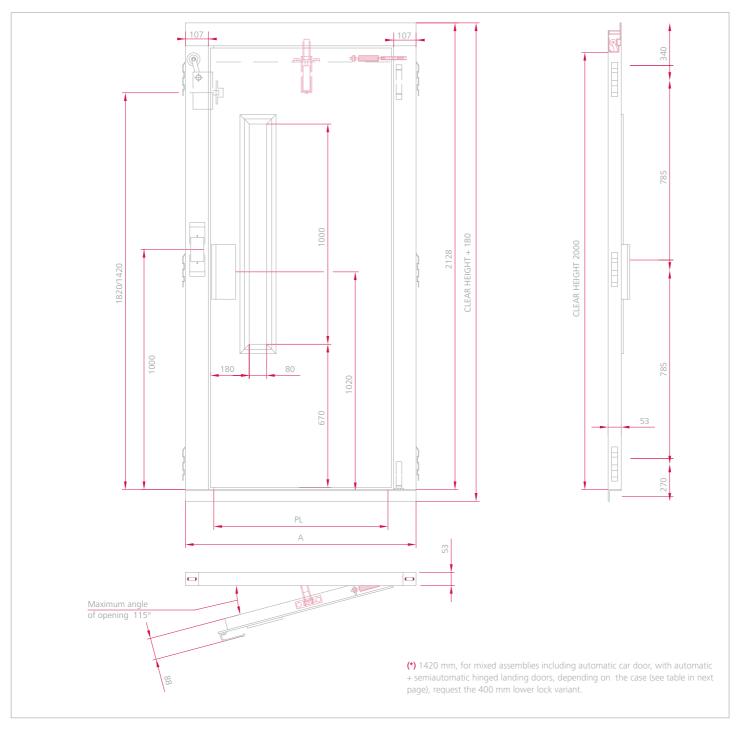




#### OFFICIAL CERTIFICATIONS

E.C. OF TYPECERTIFICATE	FIRE RATED DOORS	DOORS TYPE	CLEAR ENTRANCE
ATI / LD-VA / M017 / 99	E-60 (UNE-EN81-58) 07/31202161	PA -91/SB1 (WITHOUT / WITH VISION PANEL)	600-650-700-750-800-850-900-950-1000-1050-1100
ATI / LD-VA / M017 / 99	Without fire classification	PA -91/SB1 (GREAT VISION PANEL/VSG SAFETY GLASS)	600-650-700-750-800-850-900

	GENERAL DIMENSIONS (mm)												
D.	600	CEO	700	750	000	050	000	050	1000	1050	1100		
PL	600	650	700	750	800	850	900	950	1000	1050	1100		
А	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358		









Two-panel side opening car door operator, powered by single-phase voltage of 230 Vac. It is controlled by an electronic system (3VF) which adjusts speed by means of frequency variation voltage regulation. Reading of door speed, position and direction of movement is carried out through a double pulse encoder, which is integrated into the electronic circuit. There are no positioning microswitches

#### OUTSTANDING NEW FEATURES

Easy and fast assembly of the operator on the lift car; predefi ned fastening position for operator on car jambs, the need to adjust the panels is minimum and the operator weight has been significantly reduced

Compact design: reduction of the space required by the operator inside the shaft (decrease in height, measurement A and door sill width)

Acoustic and operation comfort: reduction of the noise level due to track on new aluminium guide (less roughness) and wheels with a bigger diameter: 38-44 dB (A). Improved kinematics for drive lever operation

Easy regulation of parameters (sensitivity, speeds, decelerations), adjustments by means of potentiometers. Status information given by LEDs and buzzer

Communication with PC, via serial port

Greater working robustness (it admits anomalous situations of extreme operation with temperatures up to 85° and voltage up to 260 Vac)

#### ∴ OPTIONAL

Operator adapted to comply with the EN81-28, EN81-72 standards, by means of an optional microswitch

Mechanical locking according to EN81-1/2: 8.9.3

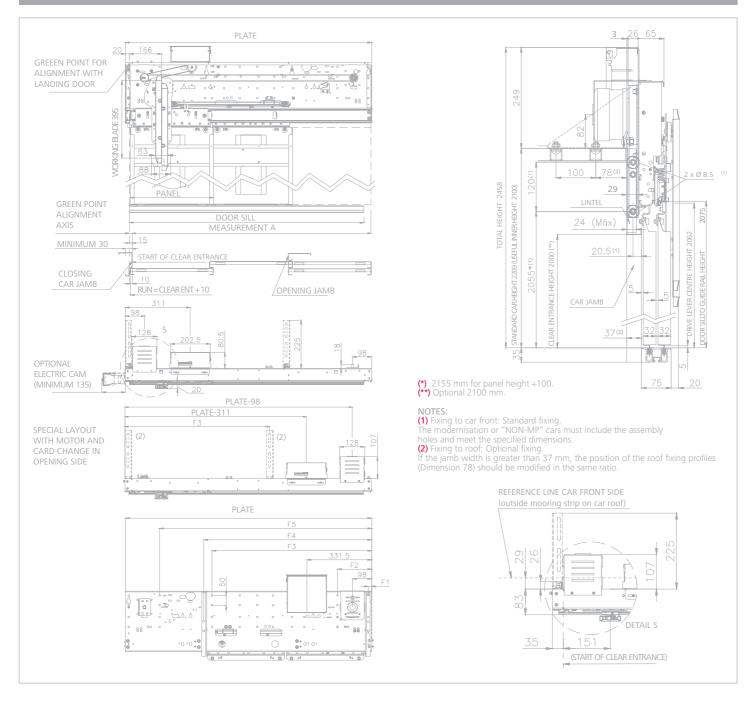
Retractable drive lever to operate the automatic landing door, or an electric cam or fi xed cam to operate with semiautomatic hinged landing door







#### GENERAL VIEWS AND DIMENSIONS (mm)

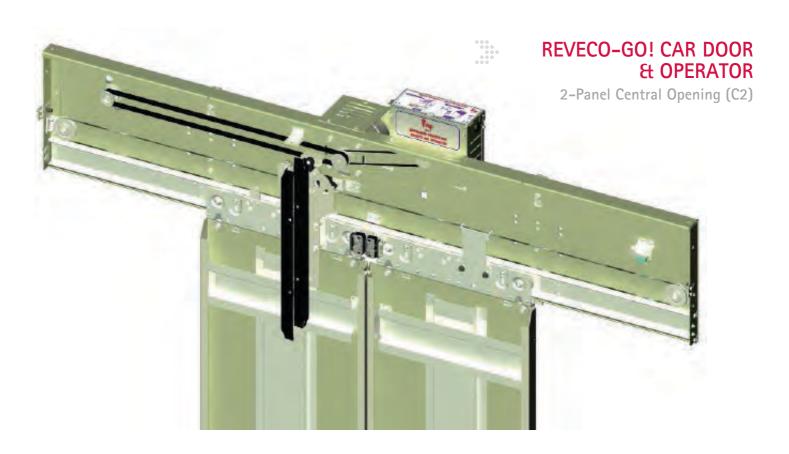


							FIX	INGS <sup>(2)</sup>			DOOR	PACKAGING		
ORGOT2XXX modelXXXVersion	CLEAR ENTR.	PLATE	MEASURE- MENT A (1)	PANELS	DOOR SILL		F2	F3	F4	F5	OPERADOR	HOJAS CABINAS	TOTAL	Dimensions (mm) <sup>(4)</sup>
070	700	1110	1075	375	1055	17	181 <sup>(3)</sup>	593 <sup>(3)</sup>	752	928	22	23	45	1160X515X250
	800	1260	1225	425	1205	17	181 <sup>(3)</sup>	755 <sup>(3)</sup>	852	1078	25	25	50	1310X515X250
	900	1410	1375	475	1355	17	181 <sup>(3)</sup>	790	905 (3)	952	28	27	55	1460X515X250

- (1) Measurement A is the distance between the start of the incoming clear entrance and the most protruding point (operator opening end or open car panels, whichever is the case).
- (2) The values in the shady boxes correspond to the position of the supports when the operator is directly fixed to the jambs, or it is the position defined at the factory when the set squares are supplied to fix the operator to the car roof.
- (3) When the motor and the electronic box are located in the opening side, the required fi xings to the car roof are set squares. The same for installations with double landing at 90° to avoid interferences.
- (4) Packaging dimensions (length x width x height). Weight of the packed product: add 4 Kg to the operator weight.







Two-panel central opening car door operator, powered by single-phase voltage of 230 Vac. It is controlled by an electronic system (3VF) which adjusts speed by means of frequency variation voltage regulation. Reading of door speed, position and direction of movement is carried out through a double pulse encoder, which is integrated into the electronic circuit

#### GENERAL FEATURES

Easy and fast assembly of the operator on the lift car; predefi ned fastening position for operator on car jambs, the need to adjust the panels is minimum and the operator weight has been significantly reduced

Compact design: reduction of the space required by the operator inside the shaft (decrease in height, measurement A and door sill width)

Acoustic and operation comfort: reduction of the noise level due to track on new aluminium guide (less roughness) and wheels with a bigger diameter: 38-44 dB (A). Improved kinematics for drive lever operation

Easy regulation of parameters (sensitivity, speeds, decelerations), adjustments by means of potentiometers. Status information given by LEDs and buzzer

Communication with PC, via serial port

Greater working robustness (it admits anomalous situations of extreme operation with temperatures up to 85° and voltage up to 260 Vac)

#### · OPTIONAL

Operator adapted to comply with the EN81-28, EN81-72 standards, by means of an optional microswitch

Mechanical locking according to EN81-1/2: 8.9.3

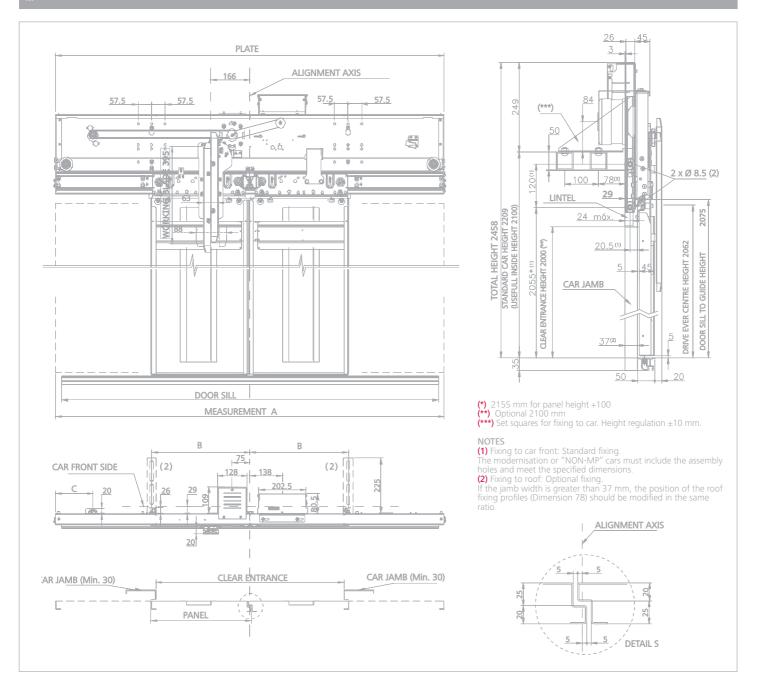
Retractable drive lever to operate the automatic landing door, or an electric cam or fi xed cam to operate with semiautomatic hinged landing door







#### GENERAL VIEWS AND DIMENSIONS (mm

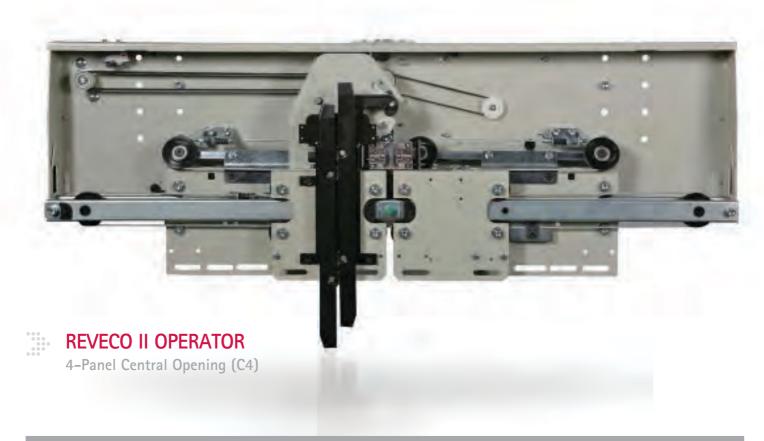


									DOOR WEIGH	HTS (Kg)		
ORGOC2XXX Model XXX Version	CLEAR ENTR.	PLATE	MEASURE- MENT A <sup>(1)</sup>	B (2)	C (3)	PANELS	DOOR SILL	OPERATOR	CAR PANELS	DOOR SILL	TOTAL	PACKAGING Dimensions (mm) <sup>(4)</sup>
070	700	1452	1452	367.5	109.5	375	1400	24	26.5	1.5	52	1565x515x250
	800	1652	1652	417.5	159.5	425	1600	26.5	29	2	57.5	1765x515x250
090	900	1852	1852	467.5	209.5	475	1800	28	31	2	61	1965x515x250

- (1) Measurement A is the distance between the most separate points, (plate of operator or car panels with open door)
- (2) Position of the supports when the operator is directly fixed to the jambs or if it is the position defined at the factory when the set squares are supplied to fix the operator to the car roof.
- (3) Distance between the left side of the plate and the tension pulley centre.
- (4) Packaging dimensions (length x width x height). Weight of the packed product: add 4 Kg to the operator weight.







4-panel central-opening car door operator, supplied with 230 Vac singlephasevoltage. It is controlled by an electronic system enabling speed regulation through 3VF frequency variation/voltage variation. Reading of door speed, position and direction of movement is carried out through double pulse encoder, integrated with the electronic circuit. There are no positioning microswitches

#### RANGE AVAILABLE

Width of clear entrance: 700 | 800

Clear height: 2000 | 2100 | 2200

#### NOTEWORTHY PERFORMANCES

Low operator noise level: 38-44 dB (A)

Elimination of vibrations and electrical noises thanks to the new 3VF control

Adjustment of braking ramps and sensitivity by potentiometers

Wide door thrust and energy range adjustment

Communication with PC, via serial port

Greater operational robustness (supports anomalous situations in extreme operating conditions in temperatures up to 85° and voltages up to 260 V AC)

In compliance with electromagnetic compatibility standards (2004/108/EC Directive) for lifts: EN 12015:2004 and EN 12016:2004

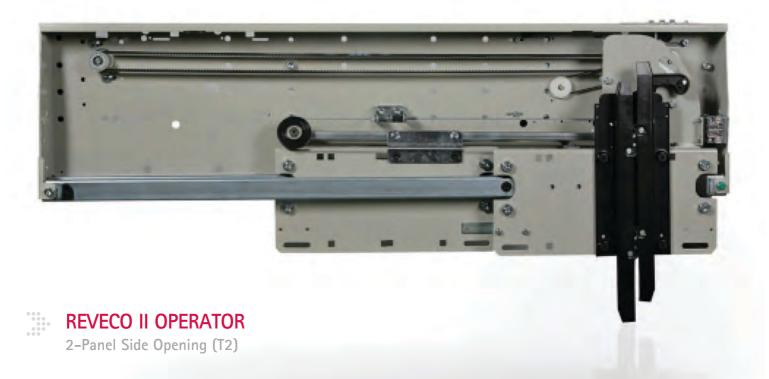
Temperature detecting device to protect the motor from overheating

Considerable decrease of weight and use of space ("A" dimension) with respect to traditional AC/DC operators









2-panel side-opening car door operator, supplied with 230 Vac singlephase voltage. It is controlled by an electronic system enabling speed regulation through 3VF frequency variation/voltage variation. Reading of door speed, position and direction of movement is carried out through double pulse encoder, integrated with the electronic circuit. There are no positioning microswitches

#### ·: RANGE AVAII ABI F

Width of clear entrance: 600 | 700 | 750 | 800 | 850 | 900 | 1000 | 1100

Clear height: 2000 | 2100 | 2200

#### NOTEWORTHY PERFORMANCES

Low operator noise level

Elimination of vibrations and electrical noises thanks to the new 3VF control

Adjustment of braking ramps and sensitivity by potentiometers

Wide door thrust and energy range adjustment

Communication with PC, via serial port

Greater operational robustness (supports anomalous situations in extreme operating conditions in temperatures up to 85° and voltages up to 260 V AC)

In compliance with electromagnetic compatibility standards (2004/108/EC Directive) for lifts: EN 12015:2004 and EN 12016:2004

Temperature detecting device to protect the motor from overheating









3-panel side-opening car door operator, supplied with 230 Vac singlephase voltage. It is controlled by an electronic system enabling speed regulation through 3VF frequency variation/voltage variation. Reading of door speed, position and direction of movement is carried out through double pulse encoder, integrated with the electronic circuit. There are no positioning microswitches

#### RANGE AVAILABLE

Width of clear entrance: 700 | 750 | 800

Clear height: 2000 | 2100 | 2200

#### .:::· NOTEWORTHY PERFORMANCES

Low operator noise level

Elimination of vibrations and electrical noises thanks to the new 3VF control

Adjustment of braking ramps and sensitivity by potentiometers

Wide door thrust and energy range adjustment

Communication with PC, via serial port

Greater operational robustness (supports anomalous situations in extreme operating conditions in temperatures up to  $85^{\circ}$  and voltages up to 260 V AC)

In compliance with electromagnetic compatibility standards (2004/108/EC Directive) for lifts: EN 12015:2004 and EN 12016:2004

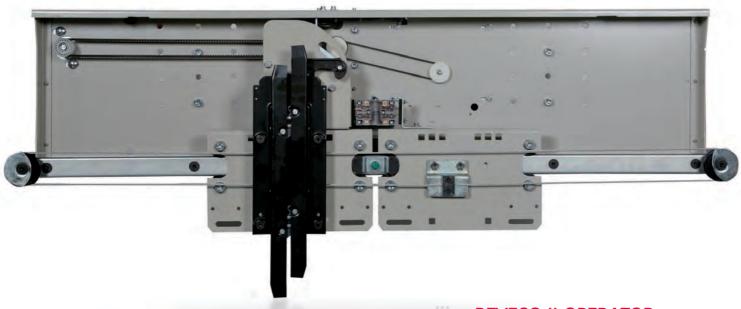
Temperature detecting device to protect the motor from overheating

Considerable decrease of weight and use of space ("a" dimension) with respect to traditional ac/dc operators









#### **REVECO II OPERATOR**

2-Panel Central Opening (C2)

#### .... GENERAL DESCRIPTION

2-panel central-opening car door operator, supplied with 230 Vac singlephase voltage. It is controlled by an electronic system enabling speed regulation through 3VF frequency variation/voltage variation. Reading of door speed, position and direction of movement is carried out through double pulse encoder, integrated with the electronic circuit. There are no positioning microswitches

#### RANGE AVAILABLE

Width of clear entrance: 700 | 800 | 900 | 1000 | 1100

Clear height: 2000 | 2100

#### NOTEWORTHY PERFORMANCES

Low operator noise level: 38-44 dB (A)

Elimination of vibrations and electrical noises thanks to the new 3VF control

Adjustment of braking ramps and sensitivity by potentiometers

Wide door thrust and energy range adjustment

Communication with PC, via serial port

Greater operational robustness (supports anomalous situations in extreme operating conditions in temperatures up to 85° and voltages up to 260 V AC)

In compliance with electromagnetic compatibility standards (2004/108/EC Directive) for lifts: EN 12015:2004 and EN 12016:2004

Temperature detecting device to protect the motor from overheating















# HYDRAULIC POWER UNITS

They consist of the double-hull tank, the motor-pump unit, the silencer, the valve block and the shut-off valve.

Available in two sizes, of 1.1/4'', for a maximum flow of 210 l/min, and of 1.1/2'', for a maximum flow of 430 l/min, both allowing a rated speed up to 1 m/s.

There are 2 types of valve blocks: electromechanical of 2 speeds and electronic.

Maximum static pressure: 45 bar.









## MP sava3



#### .... GENERAL FEATURES

In compliance w	ith standard	EN81-2 A3
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Inductive Sensors for valve monitoring for hydraulic power units in compliance with 95/16 Directive

Lift speeds up to 1 m/s

Variant of direct starting

Variant of star-delta starting

Tank reduced dimensions and easy to transport

Option of automatic rescue

High-quality drain pump

Low sound level (58-66 dB)

Silencer of the pulsations caused by the pump

Motor protection through PTC thermistors

Control systems for oil temperature

Load weighing device pressure switch

#### Motor voltages:

- 230/400 Vac 400/692 Vac 415/720 at 50 Hz
- 220/380 Vac at 60 Hz
- Also available with single-phase voltage

Electrovalve voltages 220 Vdc, 110 Vdc, 60 Vdc

Tension of emergency electrovalve 12 Vdc

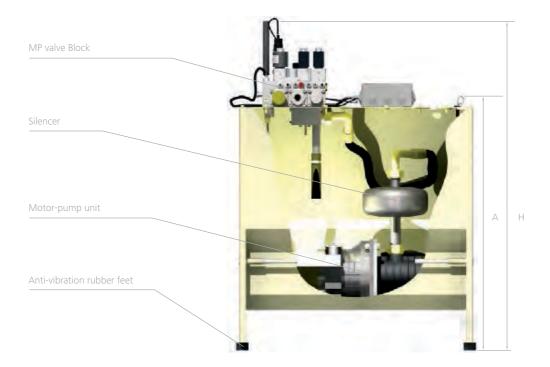
Test and adjustment of every power unit in accordance with the specific installation features

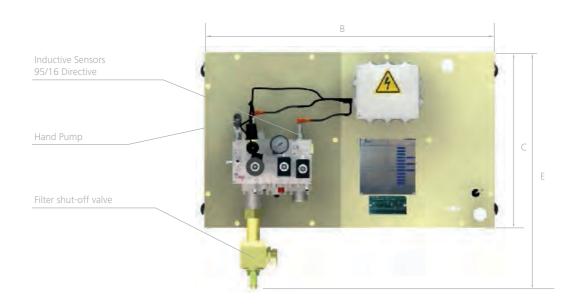
Option of biodegradable oil







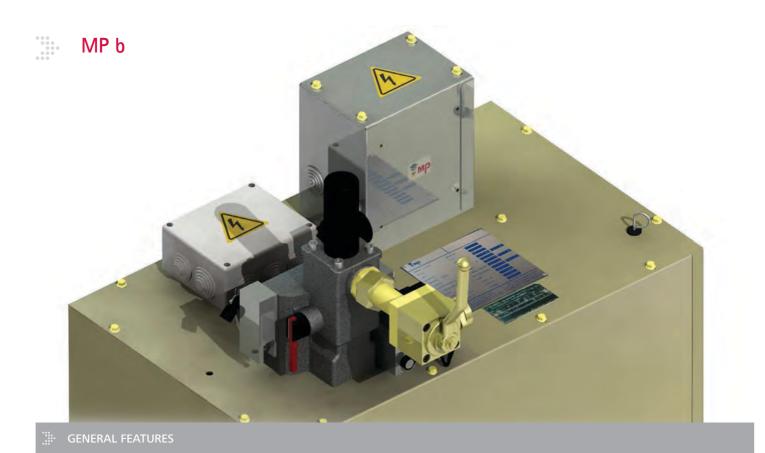




Tank	Flow			Dime	ensions			Pipe	Max.	Useful Oil	Weight	
Туре	(l/m)	А	В	С	Е	Н	М	(Flexible steel)	Capacity (litres)	(litres)	(Kg)	
T1	25/150	810	775	470	630	1010	M45x2	Ø 35 1.1/4"	170	140	110	
T2	25/210	870	820	560	750	1110	M45x2	Ø 35 1.1/4"	240	100	102	
12	25/210	870	820	500	750	1110 M52x2		Ø 42 1.1/2"	240	180	103	
T3	250/430	1020	1020	605	960	1300	M52x2	Ø 42 1.1/2"	410	310	180	







In compliance with standard EN81-2 A3

Inductive Sensors for valve monitoring for hydraulic power units in compliance with 95/16 Directive

Lift speeds up to 1 m/s

It reduces the equipment energy consumption

Optimum comfort: soft starting and stop

Reduction of sound level

Variant of direct starting

Variant of star-delta starting

Tank reduced dimensions and easy to transport

Option of automatic rescue

High-quality drain pump

Silencer of the pulsations caused by the pump

Motor protection through PTC thermistors

Control systems for oil temperature

Load weighing device pressure switch

Motor voltages:

- 230/400 Vac 400/692 Vac 415/720 at 50 Hz
- 220/380 Vac at 60 Hz
- also available with single-phase voltage

Electrovalve voltages 220 Vdc, 110 Vdc, 60 Vdc

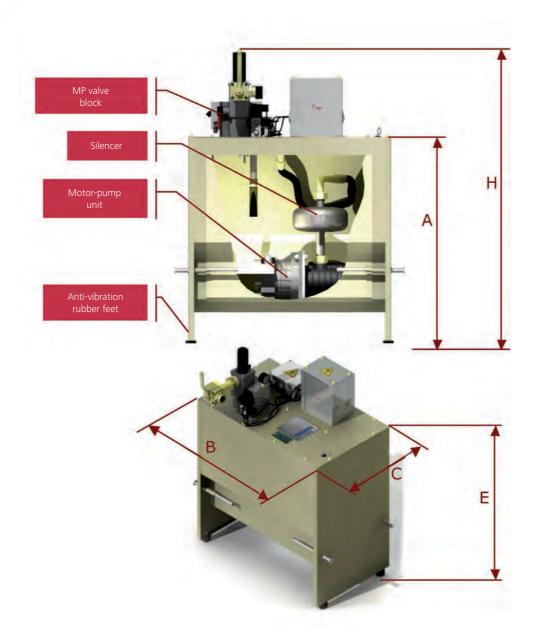
Test and adjustment of every power unit in accordance with the specific installation features

Option of biodegradable oil









Tank	Flow			Dime	ensions			Pipe	Max.	Useful oil	Weight
Туре	(l/m)	А	В	С	Е	Н	M	(Flexible steel)	capacity (litres)	(litres)	(Kg)
T1	25/150	810	775	470	630	1050	M45x2	Ø 35 1.1/4"	170	140	110
T2	26/210	870	820	560	750	1150	M45x2	Ø 35 1.1/4"	240	160	130
12	26/210	870	820	500	750	1150	M52x2	Ø 42 1.1/2"	240	160	130
T3	250/430	1020	1020	605	960	1300	M52x2	Ø 42 1.1/2"	410	310	180







#### .... BASIC TECHNICAL SPECIFICATIONS

Cabinets to be applied in Machine Room Less installations

Completely watertight system to avoid oil leakages by means of double-hull tank

The outlet of hydraulic hose pipe from the cabinet can be done through its back, its sides or its roof

Possibility of electrical power connection, both via the upper right and left extreme and the roof

Adjustable device for controller fixing

Devices for transport and location of elements. Removable handles

Self-locking door locks

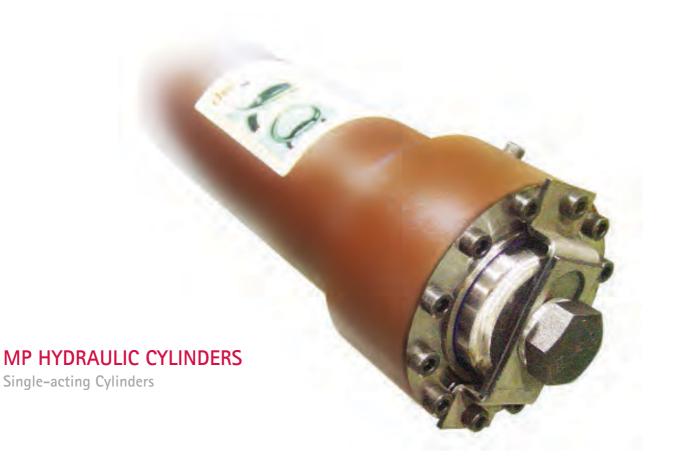
Sound insulation

Tank	Flow	Dimensions					Pipe	Max.	Useful oil	Weight (Kg)	
Туре	l/m	А		С	Н	М	(Flexible steel)	Capacity (litres)	(litres)	Without Oil	
C1	25/150	1900	800	390	1060	M45x2	Ø 35 1.1/4"	140	100	90	
62	25/210	2100	070	600	1200	M45x2	Ø 35 1.1/4"	201	200	120	
C2	250/300	- 2100	970	600	1200	M52x2	Ø 35 1.1/4"	301	208	139	









:::	TECHNICAL SPECIFICATIONS
	DIRECT CONTROL OF SINGLE-ACTING CYLINDERS
	Indirect pushing cylinders for hydraulic lifts of 2:1 suspension
	Upper or Lower oil input
	Optional supply in two pieces
	Tolerance of the piston ±0.1 mm
	Roughness of the piston 0.4 µm - 0.8 µm
	Maximum static pressure = 45 bar
	Provided with:  Rupture valve  Pipe for oil leakage return
	With shock-absorbing bumper as a part of the cylinder
	For Ø60 - Ø150 screw head diameters
	From the total distance covered by the cylinder, the last 40 mm

are damped

TECHNICAL SPECIFICATIONS
INDIRECT CONTROL OF SIDE-SINGLE-ACTING CYLINDERS
Direct side-pushing cylinders for hydraulic lifts, end of the piston joined to the upper part of the car frame
Upper or Lower oil input
Tolerance of the piston ±0.1 mm
Roughness of the piston 0.4 $\mu m$ - 0.8 $\mu m$
Maximum static pressure = 45 bar
Provided with:  Rupture valve  Pipe for oil leakage return
With shock-absorbing bumper as a part of the cylinder
With base plate with 20 mm thickness
With articulated plate: • 25 mm for diameters Ø60 a Ø100 • 30 mm for diameters Ø110 a Ø150
Diameters Ø60 - Ø150 Screwed Head

From the total distance covered by the cylinder, the last 40 mm are damped







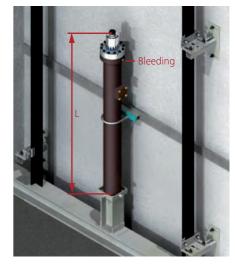
Reference	ØD	С	Thickness	ØD <sub>a</sub>	ØD <sub>b</sub>	ØD <sub>c</sub>	H <sub>。</sub>	Oil (l/m)	Useful Oil (l/m)
Ø60 x 5	60	33	5	125	126	101.6	210	7	2.8
Ø70 x 5 / Ø70 x 7.5	70	33	5/7.5	136	126	101.6	210	7	3.8
Ø80 x 5 / Ø80 x 7.5	80	33	5/7.5	153	142	114.3	210	8.9	5.0
Ø90 x 5 / Ø90 x 7.5	90	33	5/7.5	163	160	133.0	210	12.1	6.4
Ø100 x 5 / Ø100 x 7.5	100	33	5/7.5	173	167	140.0	210	13.5	7.9
Ø110 x 5 / Ø110 x 7.5	110	41	5/7.5	185	191	159.0	220	17.4	9.5
Ø120 x 5 / Ø120 x 7.5	120	41	5/7.5	195	191	159.0	220	17.4	11.3
Ø150 x 6	150	38	6	235	230	193.7	220	26	17.7

ØD: Piston Diameter.

 ${f C}$  : Viewed length of the piston when it is unexpanded.

ØD<sub>a</sub>: Cylinder Head Diameter. ØD<sub>b</sub>: Cylinder Union Diameter. ØD<sub>c</sub>: Jacket Diameter.

H: Cylinder length is always kept inside the jacket.



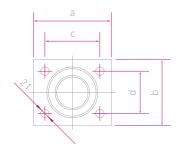
L: Total distance covered by the piston (travel + extra travel) + H0

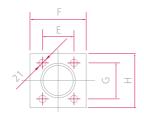




#### DIRECT CONTROL OF SIDE-SINGLE-ACTING CYLINDERS

Reference	ØD	Thickness	ØD <sub>a</sub>	ØD <sub>c</sub>	H <sub>。</sub>	А	В	С	D	E	F	G	Н	Oil (l/m)	Useful Oil (l/m)
Ø60 x 5	60	5	125	101.6	210	200	210	140	80	70	150	120	150	7	2.8
Ø70 x 5 / Ø70 x 7.5	70	5/7.5	136	101.6	210	200	210	140	90	70	120	120	150	7	3.8
Ø80 x 5 / Ø80 x 7.5	80	5/7.5	153	114.3	210	200	210	140	100	70	120	120	150	8.9	5.0
Ø90 x 5 / Ø90 x 7.5	90	5/7.5	163	133.0	210	200	210	140	110	70	120	120	150	12.1	6.4
Ø100 x 5 / Ø100 x 7.5	100	5/7.5	173	140.0	210	300	210	240	140	70	120	120	180	13.5	7.9
Ø110 x 5 / Ø110 x 7.5	110	5/7.5	185	159.0	220	300	220	240	140	100	150	150	180	17.4	9.5
Ø120 x 5 / Ø120 x 7.5	120	5/7.5	195	159.0	220	300	220	240	140	100	150	150	180	17.4	11.3
Ø150 x 6	150	6	235	193.7	220	400	220	320	200	100	150	150	200	26	17.7





ØD: Piston Diameter.

C: Viewed length of the piston when it is unexpanded.

ØDa: Cylinder Head Diameter.

ØD<sub>b</sub>: Cylinder Union Diameter.

ØD: Jacket Diameter.

H<sub>o</sub>: Cylinder length is always kept inside the jacket.











#### \*\*\* OPERATING FEATURES AND CONDITIONS

STATIC PRESSURE (Bar)	Min. 12	Max. 45
OIL TEMPERATURE (°C)	Min. +5	Max. +70
AMBIENT TEMPERATURE (°C)	Min. 0	Max. +50
OIL VISCOSITY INDEX AT +5°C (cSt)	360	
OIL VISCOSITY INDEX AT +70°C (cSt)	15	







#### DIMENSIONS AND OPERATING SCHEM



VALVE TYPE		Flow	(l/min)				Г	DIMENSIONS (mm)										
VALVE TY	PE	Min.	Max.	А	В	С	D	ØE	ØF	e1	e2	e3	e4		(Kg)			
VP MP 1		5	275	50	36	160	57	20	8,5	4	6	14	17	G 1"	4			
VP MP 1 1	/4"	40	300	70	55	165	57	25	9	4	6	14	17	G 1 1/4"	4,5			
VP MP 1 1	/2"	170	560	70	55	175	61	30	9	4	6	14	17	G 1 1/2"	5			













### CAR FRAME AND COUNTERWEIGHT FRAME





GRANTY TYPE AND BACKPACK TYPE HYDRAULIC CAR FRAMES

Large range of product, adapatable to your needs in terms of width, height, suspension, speed and slide. Load capacity up to 6000 Kg, on request

GRANTY TYPE AND BACKPACK TYPE ELECTRIC CAR FRAMES

Large range of product, adapatable to your needs in terms of width, height, suspension, speed and slide. Load capacity up to 6000 Kg, on request

COUNTERWEIGHT FRAME OF SINGLE OR DOUBLE-ROW OF WEIGHTS

Large range of product, adapatable to your needs in terms of width, height, suspension, speed and slide. Load capacity up to 6000 Kg, on request





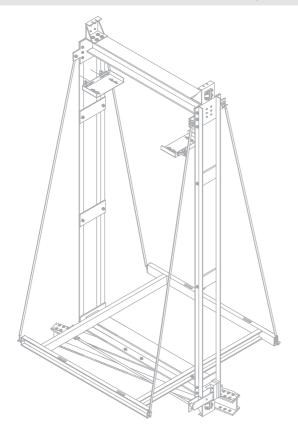


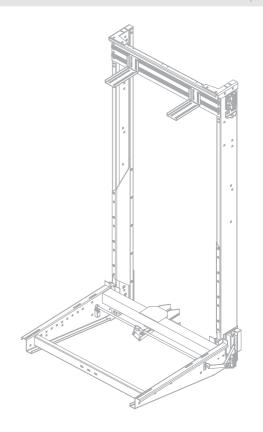
CH404 - Hydraulic granty - Instantaneous frame

CH523 - Hydraulic backpack-progressive frame

Suspension 2:1

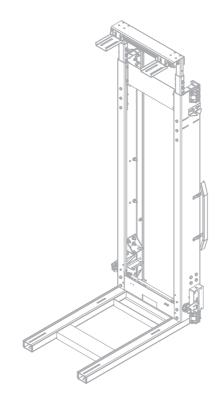
Suspension 2:1





CH538 - Backpack-Double Direction Lifting Platform Frame

Suspension 2:









#### :::: TECHNICAL CHARACTERISTICS

				D.B.G. /		P+Q maximum (Kg) <sup>(1)</sup>							
		Susp.	Max.Rated	Min.	Max		Thic	kness of g			IUH	Ø Cable	Design
No.	MODELS	Type	Speed (m/s)	(mm/Kg)	(mm/Kg)			10	14	16	Max. (mm) <sup>(2)</sup>	(mm)	reference
CH403	2P2900D-06NB1	1:1	0,63	1500/320	2200/410			2900	2900	2900	2290	-	CH-1500/DP-TD 1:1
CH404	2P3400D-06IB2	2:1	0,63	1300/339	3500/515			2425(2)	2425(2)	2425(2)	2348		CH-1500/DP-TS 2:1
CH502	1M1200D-06NA1	1:1	0,63	800/166	1400/191	1200	1200			1200	2375	-	CH-450/D-R1 1:1
CH503	1M1400D-06NA1	1:1	0,63	800/188	1400/216		1400			1400	2370	-	CH-600/D-R1 1:1
CH504	1M2100M-06NA1	1:1	0,63	600/188	1500/230	2100	2100	2100		2100	2320	-	CH-1000/M 1:1
CH505	1M2500D-06NA1	1:1	0,63	1000/513	1600/585			2500	2500	2500	2432	-	CH-1500/D- TD 1:1
CH511	1M1100D-06IB2	2:1	0,63	500/100	750/105	1100	1100				2320	8	CH-300/D-R1
CH512	1M1200D-06IB2	2:1	0,63	800/127	1400/142	1200	1200			1200	2325	8	CH-450/D-R1
CH513	1M1400D-06IB2	2:1	0,63	800/149	1400/161		1400			1400	2325	10	CH-600/D-R1
CH514	1M2100D-06IB2	2:1	0,63	800/188	1700/224	1288	1457	1500	1500	2100	2325	8,9,10,12	CH-1000/M-I
CH574	1M1100D-06IZ2	2:1	0,63	450/164	600/170	1142	1142	1142			2325	8	CH-1000/M-I/CP
CH516	1M3000D-06IB2	2:1	0,63	1000/558	1600/612			3000	3000	3000	2432	10,12	CH-1600/D-PA-2
CH517	1M1200F-01IB2	2:1	0,15	550/158	900/176	888	888				2293	8	CH-275/D-R1 MOBI
CH518	1M1350F-01IB2	2:1	0,15	550/167	900/185	888	888				2293	8	CH-275/D-R1 MOBI
CH521	1M1100D-10PB2	2:1	1,0	500/100	750/105	1100	1100				2320	8	CH-300/D-R1
CH522	1M1200D-10PB2	2:1	1,0	800/127	1400/142	1200	1200			1200	2325	8	CH-450/D-R1
CH523	1M1400D-10PB2	2:1	1,0	800/149	1400/161		1400			1400	2325	10	CH-600/D-R1
CH524	1M1800D-10PB2	2:1	1,0	800/198	1500/219		1827	1827		1827	2325	8,9,10,12	CH-1000/M-P-1
CH525	1M2500D-10PB2	2:1	1,0	1000/513	1600/567			2500	2500	2500	2432	10,12	CH-1500/D-DS
CH526	1M3100D-10PB2	2:1	1,0	1000/560	1600/614			3100	3100	2500	2432	10,12	CH-1600/D-DS
CH532	1M1200F-10DB2	2:1	1,0	550/158	900/176		1350				2293	8	CH-275/D-R1 ARES
CH533	1M1350F-10DB2	2:1	1,0	550/167	900/185		1350				2293	8	CH-275/D-R1 ARES
CH538	1M1200F-01DB2	2:1	0,15	550/158	900/176	1350	1350				2293	8	CH-275/D-R1 MOBI
CH539	1M1350F-01DB2	2:1	0,15	550/167	900/185	1350	1350				2293	8	CH-275/D-R1 MOBI

D.B.G.: Distance between guide rails GRANTY TYPE HYDRAULIC FRAME: CH403 to CH404 BACKPACK TYPE HYDRAULIC FRAME: CH502 to CH539. All guide rails are with super-guide shoes.

The table data may vary due to design changes. Should your installation needs be outside these ranges, contact us.

(1) P+Q: 2425 Kg for distance between guide rails 3000-3500 mm. P+Q: 2843 Kg for distance between guide rails 2500-3000 mm. P+Q: 3400 Kg for distance between guide rails 1300-2500 mm.

(2) Max. IUH (mm): INTERIOR USEFUL HEIGHT OF FRAME 2290 mm. equivalent to MP car with interior useful height of 2100 mm. 80 mm ceiling 110 mm from floor with rubber finish.

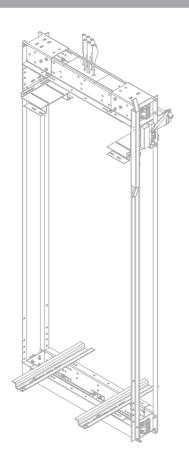






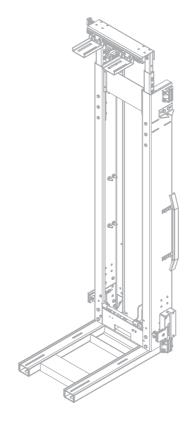
CH102 - Granty-Double Direction Electric Frame

CH116 - Granty-Double Direction Electric Fram





CH208 - Backpack-Double Direction Electric Frame









#### :::: TECHNICAL CHARACTERISTICS

				D.B.G. /	Weight	P+Q maximum (Kg)								
		Such	Max. Rated	Min.	Max		Thick					IUH	Ø Cable	Docion
No.	MODELS	Susp. Type	Speed (m/s)	(mm/Kg)	(mm/Kg)		9		12	14		Max. (mm) <sup>(1)</sup>	(mm)	Design reference
CH101	′-06 I A1	1:1	0,63	800/149	1700/176	1288	1457	1500	1500	1500	1500	2330	8,9,10,12	CE-750 M-I
CH102	EP1750D-10DA1	1:1	1,0	800/149	1700/176	1750	1750	1750	1750	1750	1750	2330	8,9,10,12	CE-750 M-DS
CH103	EP1750D-16DA1	1:1	1,6	800/149	1700/176	1750	1750	1750	1750	1750	1750	2330	8,9,10,12	CE-750 M-DS
CH104	EP3400D-10DA1	1:1	1,0	900/162	2200/251		3400	3400	3400	3400	3400	2440	8,9,10,11,12	CE-1600 M-DS
CH105	EP3400D-16DA1	1:1	1,6	900/162	2200/251		3400	3400	3400	3400	3400	2440	8,9,10,11,12	CE-1600 M-DS
CH106	EP3400D-25DA1	1:1	2,5	900/162	2200/251		3400	3400	3400	3400	3400	2440	8,9,10,11,12	CE-1600 M-DS
CH107	EP3400D-10DA2	2:1	1,0	900/226	3300/590		3400	3400	3400	3400	3400	2440	8,9,10,11,12	CE-1600 M-DS pol sup
CH108	EP3400D-16DA2	2:1	1,6	900/226	3300/590		3400	3400	3400	3400	3400	2440	8,9,10,11,12	CE-1600 M-DS pol sup
CH109	EP3400D-25DA2	2:1	2,5	900/226	3300/590		3400	3400	3400	3400	3400	2440	8,9,10,11,12	CE-1600 M-DS pol sup
CH110	EP3400D-10DB2	2:1	1,0	900/226	3300/590		4563	4563	4563	4563	4563	2440	8,9,10,11,12	CE-1600 M-DS pol inf
CH111	EP3400D-16DB2	2:1	1,6	900/226	3300/590		4563	4563	4563	4563	4563	2440	8,9,10,11,12	CE-1600 M-DS pol inf
CH112	EP3400D-25DB2	2:1	2,5	900/226	3300/590		4563	4563	4563	4563	4563	2440	8,9,10,11,12	CE-1600 M-DS pol inf
CH113	GP2950D-10DB2	2:1	1,0	1100/359	2200/395		2955				2955	2317	6,5	CE-1600 M-DS ACIN-3
CH114	GP2950D-16DB2	2:1	1,6	1100/359	2200/395		2955				2955	2317	6,5	CE-1600 M-DS ACIN-3
CH115	GP1750D-10DU2	2:1	1,0	800/150	1700/161		1750				1750	2313	6,5	CE-750/M-PL ACIN-3
CH116	GP1750D-16DU2	2:1	1,6	800/150	1700/161		1750				1750	2313	6,5	CE-750/M-PL ACIN-3
CH117	GP2230D-10DU2	2:1	1,0	850/235	1700/246		2230				2230	2313	6,5	CE-1000 M-PL ACIN-3
CH118	GP2230D-16DU2	2:1	1,6	850/235	1700/246		2230				2230	2313	6,5	CE-1000 M-PL ACIN-3
CH201	EM1450D-06 I A1	1:1	0,63	600/195	1300/225	1280	1450	1450			1450	2325	8,9,10,12	CEM-600 M-I/TS
CH202	EM1450D-10DA1	1:1	1,0	600/195	1300/225		1450	1450			1450	2325	8,9,10,12	CEM-600 M-DS
CH203	EM1450D-10DB1	1:1	1,0	600/195	1700/225		1450	1450			1450	2325	8,9,10,12	CEM-600 M-DS/TI
CH205	EM2500D-10DB1	1:1	1,6	1000/513	1600/567			2500	2500	2500	2500		6.5, 10,12	CM-1500/D-DS
CH206	EM3100D-10DB1	1:1	1,6	1000/560	1600/614			3100	3100	3100	3100		6.5, 10,12	CM-1600/D-DS
CH208	GM1350F-10DB1	1:1	1,0	550/146	900/173		1350				1350	2293	6,5	CESCMG-275/D-R1 FLEX
CH210	GM1400D-10DB1	1:1	1,0	550/122	900/142		1400				1400	2325	6,5	CESCMG-01-600/D-R1 FLEX

D.B.G.: Distance between guide rails.
GRANTY TYPE ELECTRIC FRAME: CH101 to CH118.
BACKPACK TYPE ELECTRIC FRAME: CH201 to CH210.

The table data may vary due to design changes. Should your installation needs be outside these ranges, contact us.



(1) Max. IUH (mm): INTERIOR USEFUL HEIGHT OF FRAME 2290 mm. equivalent to MP car with interior useful height of 2100 mm. 80 mm ceiling 110 mm from floor with rubber finish.

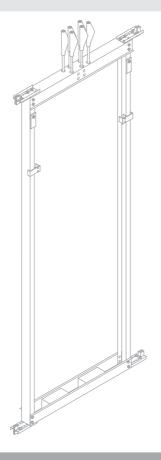




CH301 - Counterweight frame

CH313 - Counterweight frame Double Row Serie

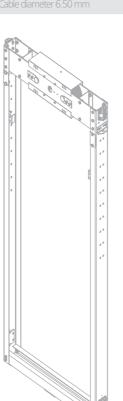
Suspension 1:1

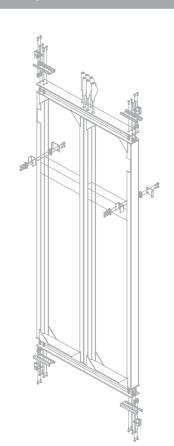


CH329 - Counterweight frame Gearless Lift

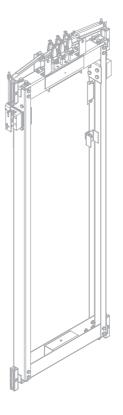
Pulley diameter 240 mm. Cable diameter 6.50 mm Suspe

snension 2·1





CH332 - Countaryoight frame Cable breaking wodge









#### \*\*\* TECHNICAL CHARACTERISTICS

				W	eights	D.B.G. / \	Weight <sup>(1)</sup>	Fra	me			
No.	MODELS	Susp. Type	Max. Rated speed (m/s)	Load Max. (Kg)	Usefull Height (mm)	Min. (mm/Kg)	Max. (mm/Kg)	C Width (mm) <sup>(2)</sup>	E Width (mm) <sup>(3)</sup>	Guide Thickness (mm)	Ø Rope (mm)	Design reference
CH301	CC0480D-12NA1	1:1	1,2	850	2700	550/45	1300/55	131	89	5,8,9,16	8,9,10,12	CC-450/D
CH302	CC0630D-12NA1	1:1	1,2	1037	2700	550/45	1300/57	131	89	5,8,9,16	8,9,10,12	CC-600/D
CH303	CC0800D-12NA1	1:1	1,2	1260	2700	550/45	1450/63	131	89	5,8,9,16	8,9,10,12	CC-750/D
CH304	CC0480D-16NA1	1:1	1,6	850	2700	550/48	1300/58	131	89	5,8,9,16	8,9,10,12	CC-450/D-1,6
CH305	CC0630D-16NA1	1:1	1,6	1037	2700	550/48	1300/60	131	89	5,8,9,16	8,9,10,12	CC-600/D-1,6
CH306	CC0800D-16NA1	1:1	1,6	1260	2700	550/53	1450/77	131	89	5,8,9,16	8,9,10,12	CC-750/D-1,6
CH307	CC0800M-16NA1	1:1	1,6	900	2470	400/50	1200/80	88	72	5,8,9,16	8,9,10,12	CC-750/R
CH308	CC1000M-10NA1	1:1	1,0	1600	2600	400/56	1350/96	108	92	5,8,9,16	8,9,10,12	CC-1000/M
CH310	CC1000M-16NA1	1:1	1,6	1600	2600	400/56	1350/96	108	92	5,8,9,16	8,9,10,12	CC-1000/M-1,6
CH309	CC2000M-10NA1	1:1	1,0	2500	2600	400/65	1350/115	128	112	5,8,9,16	8,9,10,12	CC-2000/M
CH311	CC2000M-16NA1	1:1	1,6	2500	2600	400/65	1350/115	128	112	5,8,9,16	8,9,10,12	CC-2000/M-1,6
CH312	CS1000D-10NA1	1:1	1,0	1454	2700	1750/106	1950/106	131	89	5,8,9,16	8,9,10,12	CC-1000/DHS
CH324	CS1000D-16NA1	1:1	1,6	1454	2700	1750/106	1950/106	131	89	5,8,9,16	8,9,10,12	CC-1000/DHS-1,6
CH325	CS1000D-12NA2	2:1	1,2	1454	2700	1750/158	1950/158	170	89	5,8,9,16	8,10	CC-1000/M-DHS-PS
CH313	CS2000M-12NA1	1:1	1,2	3000	2600	1350/127	2000/154	108	92	8,9,16	8,9,10,12	CC-2000/M-DHS
CH314	CS3000M-12NA1	1:1	1,2	4500	2600	1350/151	2000/185	128	112	8,9,16	8,9,10,12	CC-3000/M-DHS
CH319	CC0480D-12NA2	2:1	1,2	850	2700	550/102	1300/118	167	89	5,8,9,16	8,10	CC-450/D-PS
CH320	CC0630D-12NA2	2:1	1,2	1037	2700	550/102	1300/108	167	89	5,8,9,16	8,10	CC-600/D-PS
CH321	CC0800D-12NA2	2:1	1,2	1260	2700	550/97	1450/115	167	89	5,8,9,16	8,10	CC-750/D-PS
CH322	CC1000M-16NA2	2:1	1,6	1600	2600	800/104	1350/135	150/200	92	5,8,9,16	8,10	CC-1000/M-PS
CH323	CC2000M-16NA2	2:1	1,6	2500	2600	800/115	1350/155	150/200	92	5,8,9,16	8,10	CC-2000/M-PS
CH329	CG1000D-10NA2	2:1	1,0	2325	2464	1250/150 <sup>(4)</sup>	1250/150 <sup>(4)</sup>	160	152	9	6,5	CC-1000 ACIN-3
CH330	CG0480D-10NA1	1:1	1,0	1085	1960/2625	582/38	932/43	105	87	8	6,5	CC-450/D-FLEX
CH331	CG0630D-10NA1	1:1	1,0	1085	1960/2625	582/38	932/43	105	87	8	6,5	CC-600/D-FLEX
CH332	CG0630M-10RA1	1:1	1,0	1085	1575/2599	550/35	900/42	105	87	9	6,5	CC-750-RC

D.B.G.: Distance between guide rails.

The table data may vary due to design changes.

Should your installation needs be outside these ranges, contact us.



(2) Width C: Exterior width of frame.

(3) Width E: Admissible width on ends of weights.

(4) Weight with 2 pulleys 240 x 6 x 10.

We have rope wedge clamps for cable of diameter 6, 8, 10, 12 and universal harness for upper crossbeam of frame, perfect for Modernisations.





















EC-TYPE TEST CERTIFICATE Nr: ATI / LD-VA / M125A-1 / 07

#### GENERAL FEATURES

Applicable to instantaneous and progressive, one-way and two-way safety gears

Effort susceptible to being transmitted by the governor rope is greater than 300N

Pulley with pitch diameter of 200 mm, with verification channel of pitch diameter 133 mm

Top pulley with deep semicircular groove

Cable Ø 6 mm and Ø 6.5 mm, composition: - Normal cable 6 x 19 + 1 (according to ISO 2408)

Outlet safety cover for ropes in both pulleys, according to EN81-1 and EN81-2 standards

Protection against foreign bodies entering the tension pulley according to EN81-1 and EN81-2 standards

Adjustable guide fixing bracket (tension pulley), permitting different distances between rope and guide

Fastening possibility of the tension pulley to the pit ground or to the guide

Assembling possibility of the tension pulley of both right- and left-hands

Minimum run of the rope for restart (set in normal functioning mode): 14 mm

Assembling possibility of a Full Cover up on the overspeed governor







#### •

#### TECHNICAL CHARACTERISTICS

	OVERSPEED GOVERNOR							
MODEL	Rs (m/s)	Ts (m/s)	Support	Safety Tact	Remote Control	Tripping	Weight (Kg)	
E902EMXX	0.2 ÷ 1	0.8 ÷ 1.5	Standard	MP Manual Reset	No	Two-way	10.5	
E902EMXU	0.2 ÷ 1	0.8 ÷ 1.5	Standard	MP Manual Reset	No	One-way	10.5	
E902EAXX	0.2 ÷ 1	0.8 ÷ 1.5	Standard	OMRON D4N Contact	No	Two-way	10.5	
E902EAMX	0.2 ÷ 1	0.8 ÷ 1.5	Standard	OMRON D4N Contact	Yes (Mechanical) <sup>1</sup>	Two-way	11	
E902EAEX	0.2 ÷ 1	0.8 ÷ 1.5	Standard	OMRON D4N Contact	Yes (Electric) <sup>2</sup>	Two-way	11.5	
E902RMXX	0.2 ÷ 1	0.8 ÷ 1.5	Reduced	MP Manual Reset	No	Two-way	9.5	
E902RMXU	0.2 ÷ 1	0.8 ÷ 1.5	Reduced	MP Manual Reset	No	One-way	9.5	
E902RAXX	0.2 ÷ 1	0.8 ÷ 1.5	Reduced	OMRON D4N Contact	No	Two-way	9.5	
E902RAMX	0.2 ÷ 1	0.8 ÷ 1.5	Reduced	OMRON D4N Contact	Yes (Mechanical) <sup>1</sup>	Two-way	10	
E902RAEX	0.2 ÷ 1	0.8 ÷ 1.5	Reduced	OMRON D4N Contact	Yes (Electric) <sup>2</sup>	Two-way	10.5	
E902RAEU	0.2 ÷ 1	0.8 ÷ 1.5	Reduced	OMRON D4N Contact	Yes (Electric) <sup>2</sup>	One-way	10.5	

- (1) Rope length: 3 m.
- (2) Coil connection: 220 Vac.
- Overspeed governor as a part of the UCM system (EN81-1+A3, 9.11):
  - Only valid for overspeed governors with manual reset contact.
  - Only valid for nstallations including: Run/Speed  $\leq$  45s.
- Run delimited by the overspeed governor tripping: at maximum 180 mm / minimum 35 mm.

When a remote controlled overspeed governo r is required and as a part of the UCM system (A3), order the E902EAXX or E902RAXX models, because the tripping element of the system performs the function of the remote control.

TENSION PULLEY								
MODEL	Fixing	Version	Mechanical Tripping	Weight (Kg)				
TP2GEB	To guide rail	Standard	Two-way	19				
TP2GEU		Standard	One-way	12				
TP2GRB		Reduced	Two-way	26				
TP2GRU			One-way	18				
TP2SEB	To pit ground	Standard	Two-way	19				
TP2SEU		Standard	One-way	12				
TP2SRB			Two-way	26				
TP2SRU		Reduced	One-way	18				







## GOVERNOR E90/300



EC-TYPE TEST CERTIFICATE Nr: ATI / LD-VA / M124 / 02

#### **GENERAL FEATURES**

Applicable to instantaneous and progressive, one-way and two-way safety gears

Effort susceptible to being transmitted by the governor rope is greater than 300N

Pulley with pitch diameter of 300 mm, with verification channel of pitch diameter 200 mm

Top pulley with deep semicircular groove

Cable Ø 6 mm and Ø 6.5 mm, composition: - Normal cable 6 x 19 + 1 (according to ISO 2408)

Outlet safety cover for ropes in both pulleys, according to EN81-1 and EN81-2 standards

Protection against foreign bodies entering the tension pulley according to EN81-1 and EN81-2 standards

Adjustable guide fixing bracket (tension pulley), permitting different distances between rope and guide

Fastening possibility of the tension pulley to the pit ground or to the guide

Assembling possibility of the tension pulley of both right- and left-hands

Minimum run of the rope for restart (set in normal functioning mode): 20 mm

Assembling possibility of a Full Cover up on the overspeed governor







#### **TECHNICAL CHARACTERISTICS**

OVERSPEED GOVERNOR								
MODEL	Rs (m/s)	Ts (m/s)	Support	Safety Contact	Remote Control	Tripping	Weight (Kg)	
E903EMXX	0.2 ÷ 1.6	1 ÷ 2.16	Standard	MP Manual Reset	No	Two-way	13	
E903EMXU	0.2 ÷ 1.6	1 ÷ 2.16	Standard	MP Manual Reset	No	One-way	13	
E903EAXX	0.2 ÷ 1	1 ÷ 1.5	Standard	OMRON D4N Contact	No	Two-way	13	
E903EAMX	0.2 ÷ 1	1 ÷ 1.5	Standard	OMRON D4N Contact	Yes (Mechanical) <sup>2</sup>	Two-way	13.5	
E903EAEX	0.2 ÷ 1	1 ÷ 1.5	Standard	OMRON D4N Contact	Yes (Electric) <sup>3</sup>	Two-way	12	
E903RMXX	0.2 ÷ 1.6	1 ÷ 2.16	Reduced	MP Manual Reset	No	Two-way	12	
E903RMXU	0.2 ÷ 1.6	1 ÷ 1.5	Reduced	MP Manual Reset	No	One-way	13	
E903RAXX	0.2 ÷ 1	1 ÷ 1.5	Reduced	OMRON D4N Contact	No	Two-way	12	
E903RAMX	0.2 ÷ 1	1 ÷ 1.5	Reduced	OMRON D4N Contact	Yes (Mechanical) <sup>2</sup>	Two-way	12.5	
E903RAEX	0.2 ÷ 1	1 ÷ 1.5	Reduced	OMRON D4N Contact	Yes (Electric) <sup>3</sup>	Two-way	13	
E913RAMX <sup>1</sup>	1 <vn≤1.6<sup>4</vn≤1.6<sup>	1.15 <vd≤2.16<sup>5</vd≤2.16<sup>	Reduced	OMRON D4N Contact	Yes (Mechanical) <sup>2</sup>	Two-way	12.5	
E913RAMU <sup>1</sup>	1 <vn≤1.6<sup>4</vn≤1.6<sup>	1.15 <vd≤2.16<sup>5</vd≤2.16<sup>	Reduced	OMRON D4N Contact	Yes (Mechanical) <sup>2</sup>	One-way	12.5	
E913RAEX <sup>1</sup>	1 <vn≤1.6<sup>4</vn≤1.6<sup>	1.15 <vd≤2.16<sup>5</vd≤2.16<sup>	Reduced	OMRON D4N Contact	Yes (Electric) <sup>3</sup>	Two-way	13	
E913RAEU <sup>1</sup>	1 <vn≤1.6<sup>4</vn≤1.6<sup>	1.15 <vd≤2.16<sup>5</vd≤2.16<sup>	Reduced	OMRON D4N Contact	Yes (Electric) <sup>3</sup>	One-way	13	

<sup>&</sup>lt;sup>1</sup> The electric device tripping precedes the mechanical device one. Taking in account that the electric contact of the electric reset is automatic, an external system must be fitte to lead the machine to a permanent stop immediately after the contact opening.

- Overspeed governor as a part of the anti-creep system:
- Only valid for overspeed governors with manual reset contact.
- Only valid for installations including: Run/Speed  $\leq$  45s.
- $\bullet$  Run delimited by the overspeed governor tripping: at maximum 260 mm / minimum 50 mm.

TENSION PULLEY								
MODEL		Version	Mechanical Tripping	Weight (Kg)				
TP2GEB	To guide rail -	Standard	Two-way	19				
TP2GEU		Standard	One-way	12				
TP2GRB		Reduced	Two-way	26				
TP2GRU			One-way	18				
TP2SEB		C+ondord	Two-way	19				
TP2SEU	To pit ground	Standard	One-way	12				
TP2SRB			Two-way	26				
TP2SRU		Reduced	One-way	18				

<sup>&</sup>lt;sup>2</sup> Rope length: 3 m.

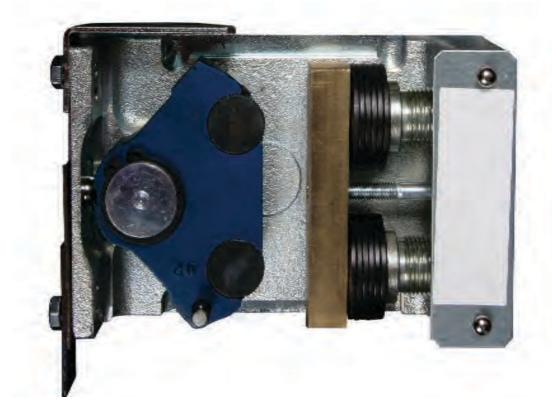
<sup>&</sup>lt;sup>3</sup> Coil connection: 220 Vac.

<sup>4</sup> Vn = Rated speed.

<sup>&</sup>lt;sup>5</sup> Vd = Tripping speed.









MODEL	EC-TYPE TEST CERTIFICATE Nr	TECHNICAL CHARACTERISTICS			
TWO-WAY	ATI / LD-VA / M150 / 05	Total Acceptable Mass (Kg)	651 ÷ 1813		
SAFETY GEAR		Guide Rail Thickness (mm)	9 ÷ 16		
MPS6		Maximum Operating Speed (m/s)	2,16		
ONE-WAY	ATI / LD-VA / M150 / 05	Total Acceptable Mass (Kg)	651 ÷ 1813		
SAFETY GEAR		Guide Rail Thickness (mm)	9 ÷ 16		
MPS6U		Maximum Operating Speed (m/s)	2,16		
TIA/O NA/AV		Total Acceptable Mass (Kg)	595 ÷ 1424		
TWO-WAY SAFETY GEAR	ATI / LD-VA / M173 / 08	Guide Rail Thickness (mm)	9 ÷ 16		
MPS6C		Maximum Operating Speed (m/s)	2,16		
ONF-WAY		Total Acceptable Mass (Kg)	651 ÷ 1813		
SAFETY GEAR	ATI / LD-VA / M150 / 05	Guide Rail Thickness (mm)	9 ÷ 16		
MPS6CU		Maximum Operating Speed (m/s)	2,16		















## Flexibility and adaptation

## Aesthetic and innovative solutions

Our wide range of cars offers functional, aesthetic and flexible solutions.

With a wide range of finishes, materials and designs, we offer the possibility of designing a unique car in line with your preferences and budget.

#### Tailored styles

Refer to our complete lift catalogue for detailed finishes of our car range.













### Prêt-à-porter cars

The wide range of finishes as well as functional and structural elements allows for numerous combinations. In this way we achieve cabins which integrate aesthetically into any kind of environment and satisfy the most stylish and functional preferences.







CONSTRUCTION OF CARS: D Direct Plate

Compact. Structural galvanised wall + plywood + decoration











## **MP AMBIENTUM**

## **Cabinas Customised cars**

The new MP AMBIENTUM range offers innovative and aesthetic solutions. Customise the rear wall of the car with striking colours, stunning photographs or your company's logo.

Choose one of our standard motifs or choose an image of your choice.

Available for all cars



























## **MP GLASS**

## Designs tailored to your imagination

The perfect partnership between our functionality and a design developed to surprise in all aspects.

The MP GLASS Lift is another demonstration of our spirit of innovation, flexibility and customer service, which have made us world leaders in this sector.

## Adaptability and Versatility

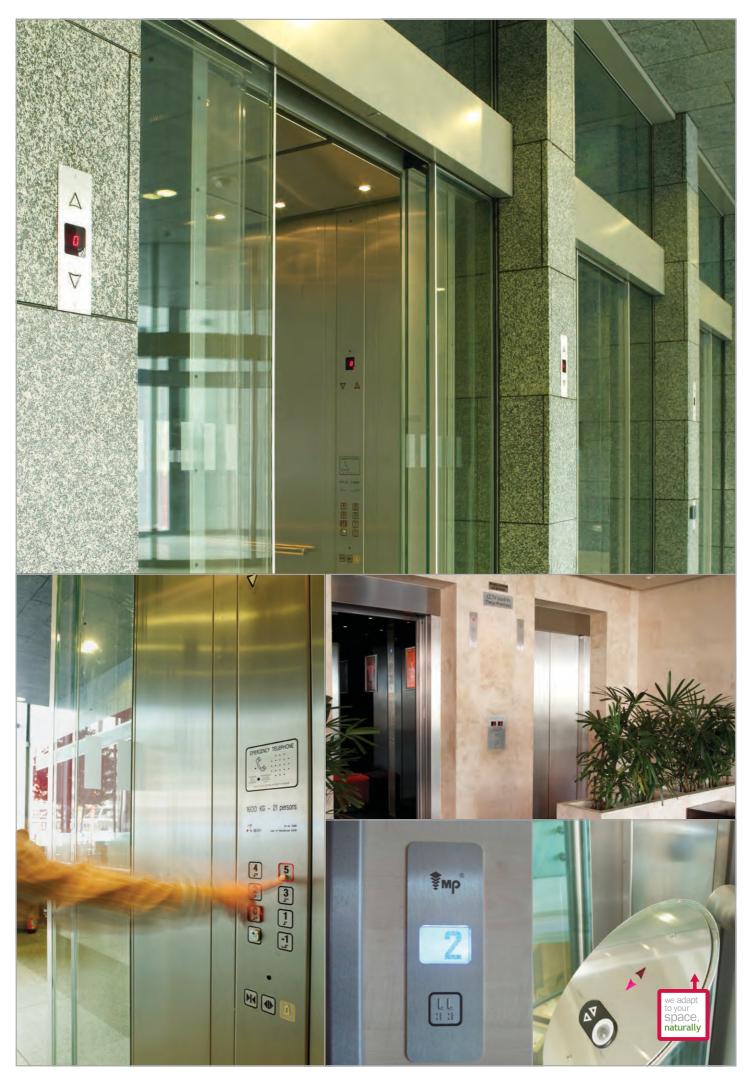
Whether customising a standard option or developing a tailored design, MP GLASS Lift adapts to your needs.

Another point of view about elevation



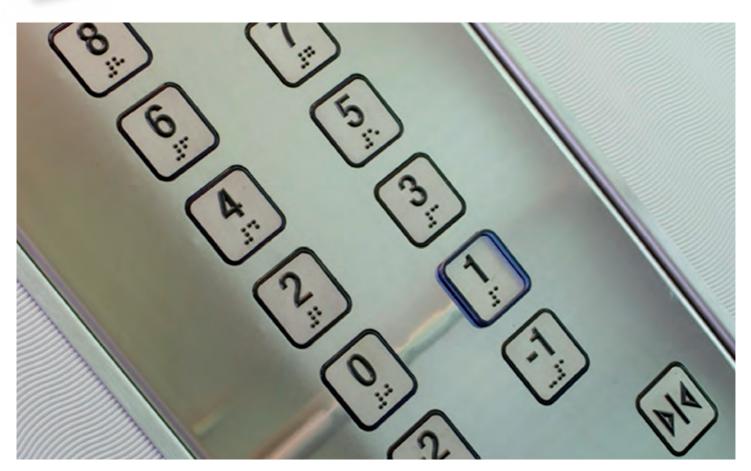












# Car operating panels with pushbuttons

Compac | Roller | Style

Refer to our complete lift catalogue to get more details about our operating panel range.







H SERIES	K SERIES	F SERIES	C SERIES	M SERIES
Display Engraving plate Telephone Up to 16 pushbuttons	Display Engraving plate Telephone Up to 10 pushbuttons	Display Engraving plate Telephone Up to 22 pushbuttons	Display Engraving plate Telephone Additional elements Up to 18 calls (pushbuttons) Up to 6 control elements (pushbuttons)	Display Engraving plate Telephone Additional elements Up to 20 pushbuttons

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		PUSHBU	TTONS	
	BRAILLE (TB)	ENGRAVE	D (TG)	INJECTED (TI)
COMPAC	48 68			-5 de 22
	SATURN			MARS
ROLLER	-5 de 22		2	-5 de 22
		Λ	/IT42	
STYLE MT42		-5	de 15	



132x76mm

114x64mm



TFT 5,7"









#### SURFACE-MOUNTED OPERATING PANELS WITH STYLE MT42 PUSHBUTTON

#### IMAGES OF CAR OPERATING PANEL

MB VS







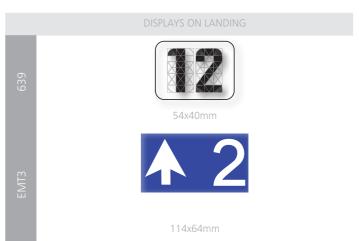
STYLE MS42Lx KEY

#### STYLE MT42AL PUSHBUTTON





	CAR DISPLAYS
639	54x40mm
NSC-LCD	39x50mm

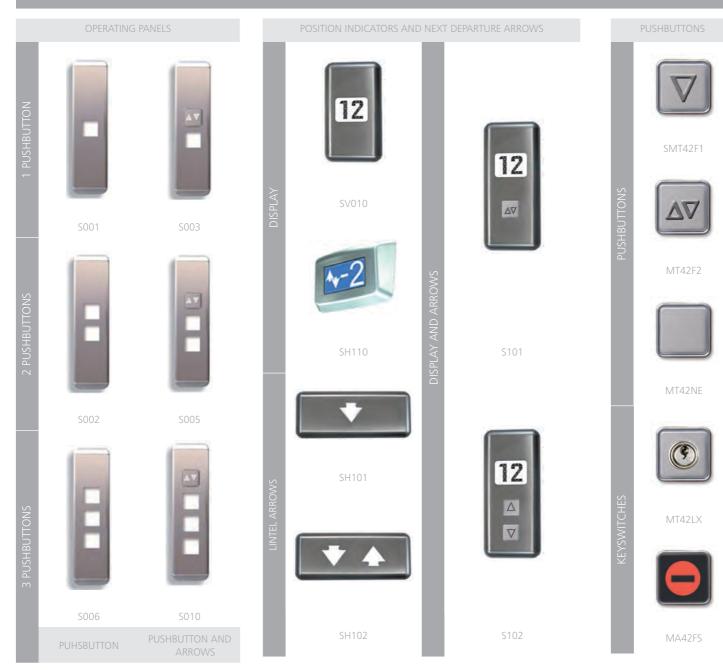








#### SURFACE-MOUNTED LANDING OPERATING PANELS AND INDICATOR STYLE MT42





















## On-line Service for component purchasing

You can find all the spare parts shown in this catalogue on SERVICEnter, our on-line store, where you will be able to see their photo, code, description, weight and net price. (\*)

From SERVICEnter you can:

- Print our spare parts catalogue.
- Print the rates of spare parts with their net prices. (\*)
- See the number of pieces available with a 24-48 hour delivery period. (Stock-on-line products - S.O.L.). (\*)
- See delivery times for on-line factory products (O.L.F.).
- Order O.L.F. and S.O.L. products.

### SERVICEnter is available for you 24 hours a day, 365 days a year

(\*) In order to access this service, you must be registered as a customer and request access to the customer service department.



