More than **800.000 lifts** worldwide
with **GMV technology**

GREEN LIFT FLUITRONIC
MRL

www.gmv.it

MAIN REASONS FOR CHOOSING GREEN LIFT FLUITRONIC MRL

1

ECO-FRIENDLY

- Use of biodegradable ecological fluid (NO OIL)
- Reduced installed power up to 20% compared to traditional hydraulic systems
- Reduced consumption up to 30% compared to traditional hydraulic systems

2

HIGH QUALITY

More than 800,000 elevators worldwide with GMV technology - which allows the possibility of **WARRANTY EXTENSION UP TO 10 YEARS.** An extended warranty means quality and certainty of having spare parts available for 10 years. The 10-year warranty extension ensures that there is no manufacturer reliance. It guarantees maximum efficiency and low cost. The 10-year warranty extension is renewable for another 15 years, so for the entire lifetime of the elevator.

3

REDUCED SHAFT DIMENSION WITH NO PROJECT LIMIT

- MRL solution with very compact cabinet (L 440 x D 300 x
- H 2000 mm) containing control panel and power unit with dry motor,
- which can be placed next to a floor door or close to the lift shaft
- Car with variable sizes
- Available in GLF SLIM version with technical spaces similar
- to those of a Home Lift
- Available in version with reduced pit and/or headroom

4

SYSTEM COST

20% cheaper as product and as service than traction lifts

GREEN LIFT FLUITRONIC HAS ALSO THE FOLLOWING BENEFITS:

- **LOW SEISMIC VULNERABILITY**
  No either machine or counterweight suspended masses.
- **CONSTRUCTIVE SIMPLENESS**
- **SAFETY, CONFORT AND MAINTENACE SAVINGS**
  The lift brain is easy to reach. Machine maintenance can be done without leaving the ground. The total life cost of the lift can be less up to 30% in 10-years, thanks to warranty extension and constructive simplicity.
- **SPARE PARTS**
  All the technical information, spare parts and instruments needed to execute the right maintenance and programming, are available at the market price.
- **EMERGENCY DEVICE**
  Return to floor with integrated door opening in case of blackout
- **MANUAL EMERGENCY**
  Evacuation is possible without auxiliary power.

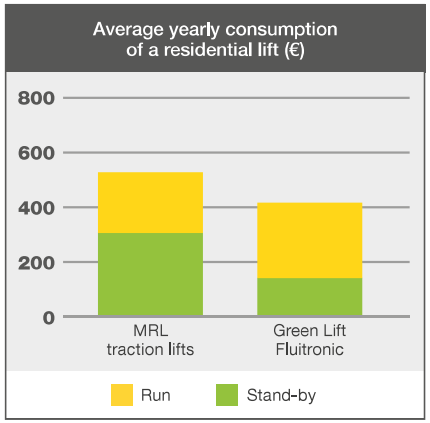
Thanks to Fluitronic Technology, GMV reset the gap between gearless and traditional hydraulic lift performances, with no economic impact.

CUT THE ANNUAL CONSUMPTION COSTS OF A RESIDENTIAL GEARLESS LIFT

HIGH PERFORMANCE AND COMFORT

Green Lift Fluitronic guarantees a 50% reduction in energy consumption compared to older generation hydraulic lifts thanks to:

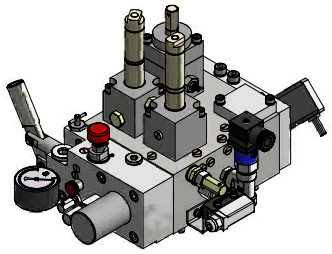
- Dry motors, higher efficiency because they are not subject to viscous fluid friction. Dry motors also allow less fluid heating and auxiliary cooling devices reduction
- Electronic valves type 3100 EL2 or 3100 A3, which avoid the use of heat exchange devices and valve and oil heating resistors
- Also the ETC system, together with mechanical valve 3010, eliminates the use of valve and oil heating resistors
- No need of VVVF, which allows low power consumption in standby mode (unlike gearless traction lifts that cannot power off the VVVF during stand-by mode)
- Energy consumption only uphill direction, as well as all hydraulic lifts
- Power supply size reduced up to 6 kW (450 kg capacity), with the new NRGS power unit (Energy Saving)



> As per above example, the annual cost of a Green Lift Fluitronic elevator doesn't exceed 300-400 € on average.

ELECTRONIC VALVES

The electronic 3100 EL2 and 3100 A3 valves provide optimal movement comfort, gradual and imperceptible accelerations and decelerations and extreme floor levelling precision.



Electronic vale type 3100 A3

ETC ELECTRONIC SYSTEM

ETC (Electronic Temperature Control) system can be combined with mechanical valve type 3010. It is able to optimize the speed reduction curves, decreasing fly-time, ensuring a capacity to dispose of traffic equivalent to a traditional hydraulic lift with an average speed of 0.8 m/s.

ETC electronic system

The electronic 3100 EL2 and 3100 A3 valves and the ETC device comply with EN 81.20 and EN 81.70 standards, in relation to the levelling precision of ± 10 mm during the stopping of the car on the floors.

GREEN LIFT FLUITRONIC IS ANTISEISMIC

COMPLIANT WITH LEVEL 1 REQUIRED BY EN 81.77 STANDARD

What EN 81.77 standard requires

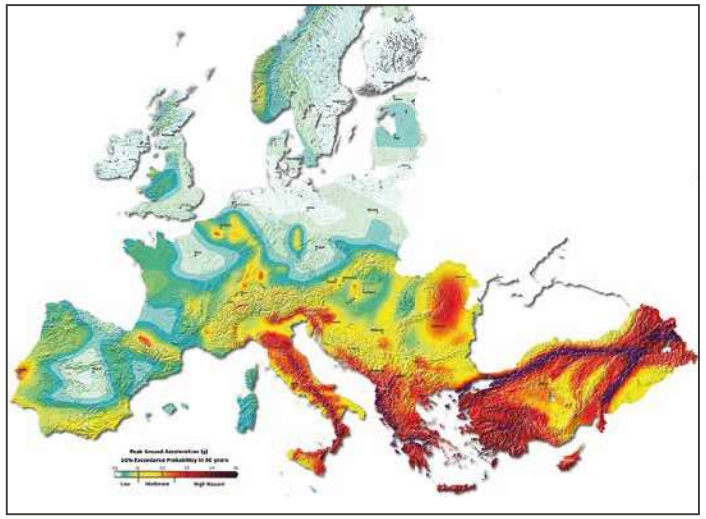
According to EN81.77 standard, the lift must be designed and manufactured considering the seismic grade of the area where it will be installed. The constructor company, must define, for any new building, the maximum horizontal acceleration (Ah) that can occur during a seismic event, depending on the area. The design criteria of the building must be adapted to the seismic risk level of the construction area. According to EN81.77, all lift design criteria must also take into account the acceleration value (Ah).

In every area where new buildings must be designed in compliance with criteria appropriate to the level of seismic risk, the lifts should respect the EN81.77. Lifts which respect EN81.77 allow to maintain the facilities availability and avoid from wasting money to replace lifts inside buildings that resisted structurally to the earthquake.

Hydraulic lifts require less intervention to comply the EN81.77. Therefore, hydraulic lifts, which respect EN81.77 have a competitive advantage in terms of construction and price compared to traction lifts conforming to the same law.

Main characteristics of the GLF Antiseismic

- Car frame with appropriate protections to prevent guide-shoes escaping during an earthquake
- Guide Dimensions that takes into account the inertial forces created by the maximum horizontal acceleration (Ah)
- Car doors with additional door-lock to prevent from accidental opening
- Battery power supply that allows emergency operation in case of power failure: system stops and reaches, at reduced speed, the destination floor, opens the doors and remains out of service with the doors in open position.



CONTENTS

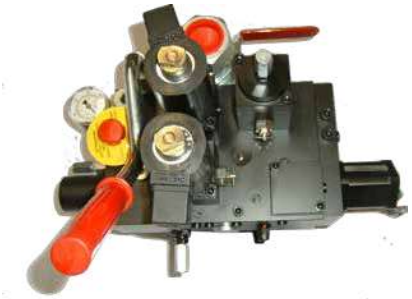
Danger Risk LOW

Danger Risk MEDIUM

Danger Risk HIGH

Danger Risk MAXIMUM

TECHNICAL FEATURES



3100 EL2 electronic valve

Drive	Hydraulic
Machine	Dry motor power unit
Description	Indirect action hydraulic lift (2:1) in versions: • MRL solution with very compact cabinet (L 440 x D 300 x H 2000 mm) containing control panel and power unit with dry motor, which can be placed next to a floor door or close to the lift shaft • MRL SLIM with technical spaces similar to those of a Home Lift
Machine room	Unnecessary
Intended use	Residential buildings, offices, hotels, public and private buildings
Conformity to Directives and Standards	Lift Directive 2014/33/EU; Electromagnet Compatibility Directive 2016/30/EU. Harmonized Norm: EN 81-20 – EN 81-50 (Safety Rules for Elevators); EN 81.28 (Elevator Tele-alarm). On option: EN 81.70 (Architectural Barriers Removal); EN 81.58 (Fire Resistance Doors); EN 81.21 (Reduced-pit and/or reduced-headroom); EN 81.73 (Behavior of the lift in case of fire); EN 81.72 (fire-fighting lifts) with fire fighters maneuver
Safety devices	**> SAFETY GEAR:** • INSTANTANEOUS Technolift SH3- SH4 - SH8 - SH9 • PROGRESSIVE Dynatech PR-2500 U/D (up / down) - Technolift SHP 2000 **> RUPTURE VALVE GMV - VC3006/B 1"1/4 - 1"1/2** **> DOOR LOCK DEVICE:** • GMV – Euro-Vip 96 0001 (2AT - 2AO standard sill) • GMV – Euro-Vip 05 0002 (3AT and doors with reduced sill) **> MECHANICAL DEVICE OF PROTECTION IN THE PIT:** mechanical stop operated from the outside of the shaft, equipped with electrical device to control the position, which ensures in the pit the spaces needed for survival, maintenance and exit
Electric Components	• Control panel model NEOS10+ with microprocessor • Automatic Push-Button (APB) – Down collective – Up/Down collective • Emergency lowering: UPS integrated in controller
Schaft type	Concrete / Brick / Metal structure

CAR WITH VARIABLE SIZES

> **GMV Fluitronic lifts** are equipped with an innovative **car designed with continuous step and variable sizes** that adapts to all existing and new shafts with a **"10 mm" step**, providing the widest range of finishes.

ACCESSORIES AND FINISHES

CEILING PANELS

In stainless steel with LED lighting in CLASSIC, CIRCULAR and BLADE versions.

CLASSIC CIRCULAR BLADE

CAR HANDRAIL AND ANGLE BARS

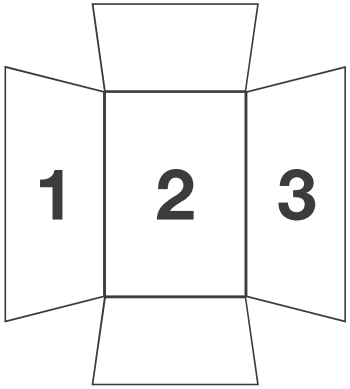
Handrail with black epoxy painted aluminium alloy connections. Stainless steel rod diam. 30 mm, compliant with EN 81.70. Car angle bars in scotch brite stainless steel (code 301).

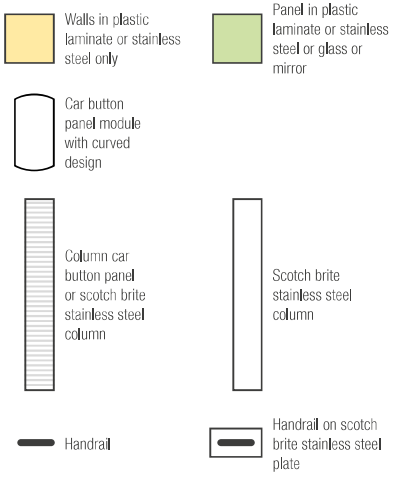
BUTTONS

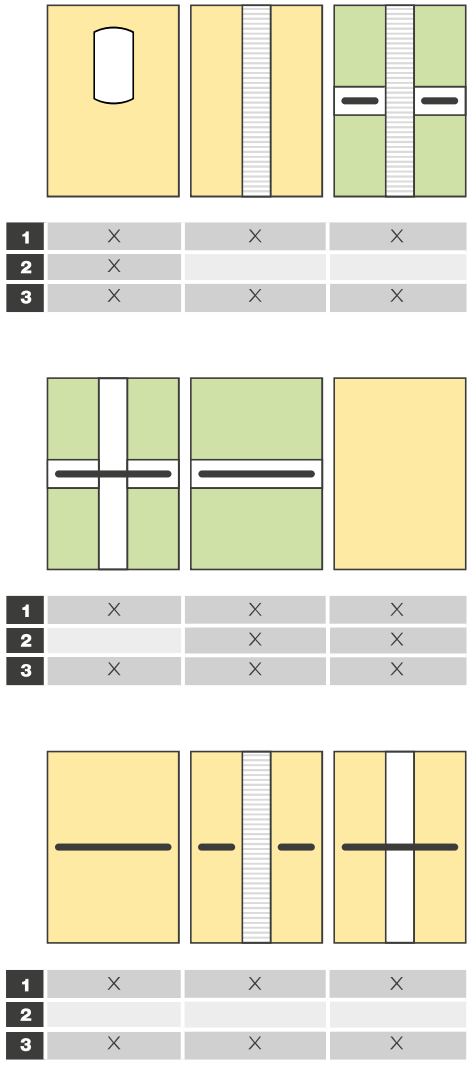
Polycarbonate button structure with embossed digits according to EN 81-70 and Braille. Blue crown lighting for car and floor buttons.

OPEN-VIEW WALLS

Open-view walls with handrail are available.







COLOURS & MATERIALS

CABIN WALLS

PLASTIC LAMINATE

114 WHITE LIGHT BLUE (Arpa 0010 R)
115 STONE GREY (Arpa 0232 R)
117 LAVENDER (Arpa 0607 R)
118 ACID GREEN (Arpa 0660 LU)
120 ORANGE (Arpa 0682 R)

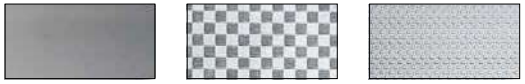
134 IRON GREY (Arpa 0623 R)
135 VALENCIA BLUE (Arpa 0569 R)
136 RED DEVIL (Arpa 0561 LU)
137 IVORY (Arpa 0200 R)
138 COLORADO YELLOW (Arpa 0523 R)

139 ALPINE BEECH (Arpa 1286 R)
140 ANCIENT WALNUT (Arpa 1890 R)
141 AOSTA CHERRY (Arpa 1971 R)
142 WENGEL (Arpa 4260 R)
143 NATURAL ZEBRANO (Arpa 4390 R)

144 OAK BARRIQUE (Arpa 4512 ALV)
145 AMERICAN ASH (Arpa 4521 R)
146 MERCURY ELM (Arpa 4539 ALV)
147 RUST (ARPA 3294 LUN)
148 PORPHYRY GREY (Arpa 3326 MK)

149 PORPHYRY BLACK (Arpa 3329 MK)
150 CORTEN SAND (Arpa 3330 LUN)
151 ALUMINUM (Arpa 2000 SAT)
152 GOLDEN ALUMINUM (Arpa 2003 SAT)
153 STEEL BLADE (Arpa 2025 HWK)

STAINLESS STEEL



301 SCOTCH BRITE
302 CHECKERS
303 LINEN

GLASS

801 GLASS

CABIN DOOR AND LANDING DOORS PANELS

STAINLESS STEEL

301 SCOTCH BRITE
302 CHECKERS
303 LINEN
304 LEATHER
305 SWL

PRE-PAINTED METAL SHEET (POLYMOD)

201 BEIGE
204 LIGHT GREY
205 DARK GREY

GLASS

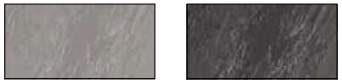
801 GLASS

FLOOR COATINGS

AGGLOMERATE GRANITE

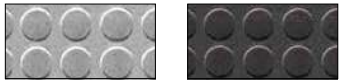
601 WHITE
602 LIGHT GREY
603 BLACK
604 DARK BLUE
605 RED

PVC



501 LIGHT GREY
502 DARK GREY

GOMMA A BOLLI



701 GREY
702 BLACK

FLOOR AND CAR BUTTON PANELS

> It is possible to choose between two different lines of floor and car button panels; flat design button panels and curved design button panels.
Both lines have a scotch brite stainless steel finish and can be supplied with or without an LCD display.

FLAT DESIGN BUTTON PANELS

Floor button panels

Column car button panel compliant with EN 81.70 standard

CURVED DESIGN BUTTON PANELS

Car button panel module compliant with EN 81.70 standard

Floor button panels

LANDING DOORS

Telescopic landing door 2AT / 2AO

Telescopic landing door 3AT

Telescopic landing door 4AO

Glass landing doors
(2AT, 3AT, 2AO, 4AO)

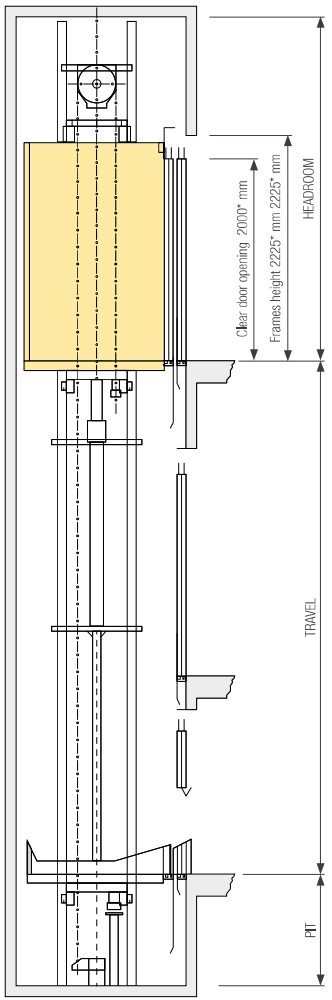
> Landing doors and car doors are made of pre-painted sheet metal (polimod) or stainless steel or glass, with the colours and finishes shown on page 11. They are easy to assemble and adjust and are silent thanks to wheels on ball bearings and with galvanised guides to avoid any paint residues. Fire doors available, tested according to EN 81-58, class E 60 – E 120 – EI 30 - EI 60 – EI 90 – EI 120. Reduced sills available.

We can provide landing doors without frames to enable maximum freedom when creating building entrances. We must not forget that **the lift represents 50% of the value of a building's image** as those who enter a building spend on average 50% of the time required to reach their destination in a lift or in front of it.

MRL VERSION

> Control panel and drive (power unit with dry motor) are located in a cabinet that can be placed next to a landing door or close to the lift shaft (up to 10 m), usually on the basement floor.

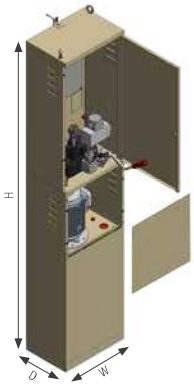
SHAFT SECTION



(*) Door clearance 2100 mm with frame overall dimensions 2325 mm on request.

ADVANTAGES **SAFETY, SIMPLICITY AND COST-EFFECTIVE OPERATIONS AND MAINTENANCE**

MACHINERY CABINET

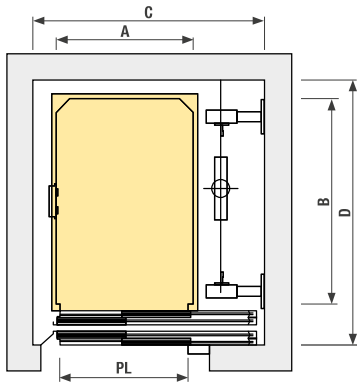


H = Height 2000 mm
D = Depth 300 mm
W = Width 440 mm

		Payload up to 630 kg	Payload 900-1000 kg
SPEED (m/s)		0.62	0,62
NO. OF STOPS		2 ÷ 12	2 ÷ 12
CAR TRAVEL (m)		3 ÷ 19	3 ÷ 16
MIN. HEADROOM (mm)	Standard	3300	3300
	Reduced	2750 (*)	2800
MIN. PIT (mm)	Standard	1000	1100
	Reduced	450	500

(*) Minimum headroom with lowered cabin 2500 m

SHAFT PLAN



STANDARD DIMENSIONS IN CONCRETE SHAFT

Payload [kg]	No. of passengers	Car dimensions [mm]		N° Ingressi	Clear door opening [mm]	Min. shaft dimensions with doors opening at side [mm]	
		A	B		PL	C	D
320	4	900	1000	1	700/800	1350/1400	1350
350	4	800 (**)	1200 (**)	1	750	1350	1550
				2 opposite	750	1350	1740
450	6	950 (**)	1300 (**)	1	800/850/900	1400/1500/1550	1650
				2 opposite	800/850/900	1400/1500/1550	1840
		1100	1100	1	800/850/900	1550	1450
				2 opposite	800/850/900	1550	1640
		1000 (*)	1250 (*)	1	800/850/900	1450/1500/1550	1600
				2 opposite	800/850/900	1450/1500/1550	1790
		1000 (*)	1300 (*)	1	800/850/900	1450/1500/1550	1650
				2 opposite	800/850/900	1450/1500/1550	1840
630	8	1100 (*)	1400 (*)	1	800/900	1550	1750
				2 opposite	800/900	1550	1940
900	12	1400 (*)	1500 (*)	1	900/1000	1900	1850
				2 opposite	900/1000	1900	2040
1000	13	1100 (*)	2110 (*)	1	900/1000	1600/1700	2450
				2 opposite	900/1000	1600/1700	2650

Non-contractual information subject to shaft conditions. The shaft dimensions refer to plumb shafts. The measurements shown in the table are indicative. The minimum shaft width for lifts complying with EN 81.21 may vary slightly with respect to the standard one shown in the table. For any feasibility study, contact GMV sales office. The car dimensions indicated in the table with the symbol (*) comply with both EN 81.70 standard and law 13/89 (Italy); those indicated with the symbol (**) comply with law 13/89 (Italy). For car sizes not shown in the table, contact GMV sales office. Central openings available, contact GMV sales office. Adjacent entrances available, contact GMV sales office. Available with reduced pit and/or headroom, with side openings.

Concernings variations, finishes and payloads described in this brochure, GMV is able to supply **SYSTEMS WITH STANDARD DIMENSIONS** (see table above in relation to GLF MRL), but also, thanks to the continuous step designed car, **"VARIABLE SIZE SYSTEMS"**, i.e. with car sizes that can vary with "10 mm" step. In addition to the categories indicated, GMV offers **"NON-STANDARD SYSTEMS"** for which it is required to contact the GMV sales office.

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GMV worldwide

AZIENDA CERTIFICATA
UNI EN ISO 9001
CERTIFIED COMPANY

GMV's quality systems are certified. Furthermore, we have introduced the "6 sigma" concept as a total quality philosophy, up to the complete testing of the products.

This document is for information purposes only. We reserve the right to modify at any time the reported specifications, without notice. We recommend that you view actual samples of car finishes, as there may be slight differences to those illustrated in the brochure.

09.2019 - Rev. 2