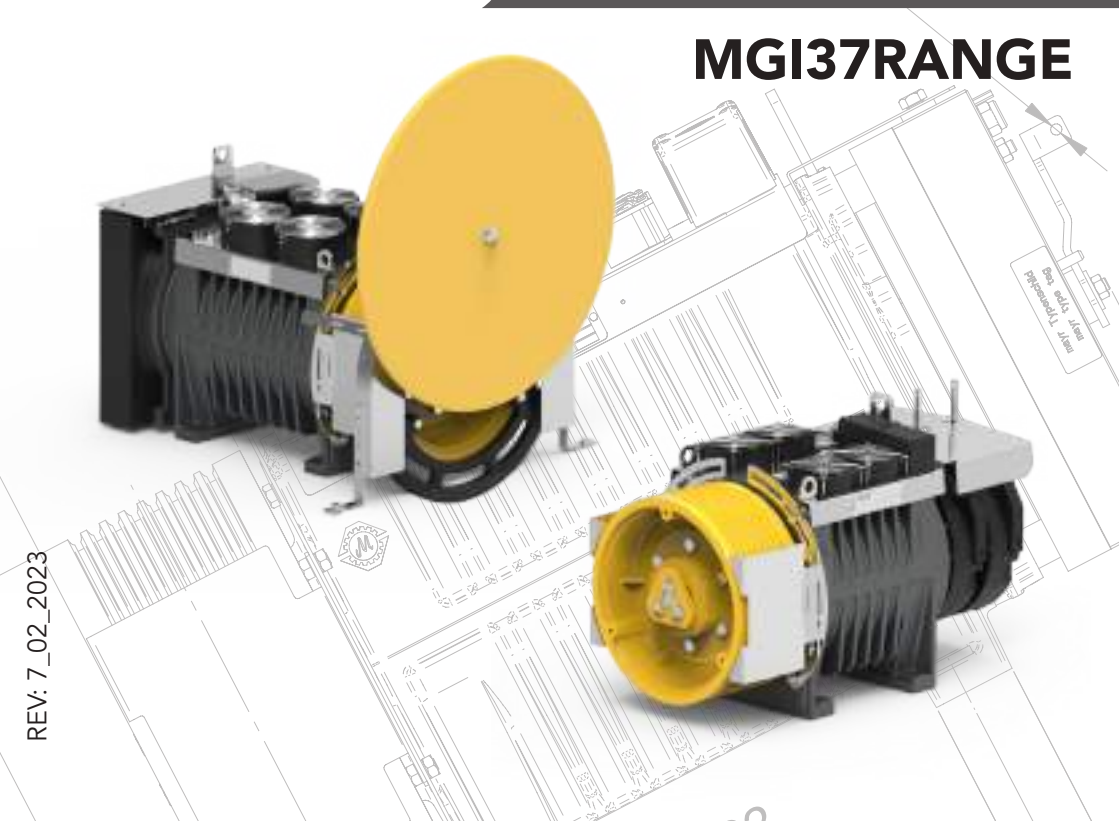
Montanari Group
GEARLESS&GEARBOX
TRACTION MACHINES

INSTALLATION, USE AND MAINTENANCE
GEARLESS

MGI37RANGE



REV: 7_02_2023

Thank you for choosing a Montanari product.

Since 1970, Montanari Group has been focused on providing its customers with the best traction machines and components for lifts and escalators.

We are proud to have you as a customer and user of the Montanari traction machines, and we are confident that we can work together for a long time.

Thanks again for your choice.

Massimo Montanari
CEO of Montanari Group

REV.	DATE	DESCRIPTION	EDITED BY	VERIFIED BY	APPROVED BY
1	16/04/2019	First Redaction	Marketing Dept	Technical Dept Alberto Mantovani	STEFANO BERTONI (DTE)
2	04/06/2019	Update of technical drawing and technical tables	Marketing Dept	Technical Dept Alberto Mantovani	STEFANO BERTONI (DTE)
3	06/06/2019	Update of technical tables	Marketing Dept	Technical Dept Alberto Mantovani	STEFANO BERTONI (DTE)
4	02/08/2019	Update of safety contact and technical tables	Marketing Dept	Technical Dept Alberto Mantovani	STEFANO BERTONI (DTE)
5	25/03/2020	Update	Marketing Dept	Technical Dept Alberto Mantovani	STEFANO BERTONI (DTE)
6	25/03/2020	Update	Marketing Dept	Technical Dept Alberto Mantovani	STEFANO BERTONI (DTE)
7	01/02/2023	Update	Marketing Dept	Technical Dept Alberto Mantovani	STEFANO BERTONI (DTE)

WARNING SYMBOLS USED IN THE MANUAL:

	It indicates that safety measures must be taken to avoid electric shock.
	It indicates that safety measures must be taken to prevent personal injury.
	It indicates that safety measures must be taken to prevent damage to components.
	It indicates that safety measures must be taken to prevent burns due to contact with hot/ overheated surface.
	It indicates useful information before and during the installation step.
	It refers to specific parts of the manual.
	It refers to the proper product disposal.

CONTENTS

1. GENERAL INFORMATION 7
1.1 Introduction 7
1.2 Copyright 7

2. SAFETY 8
2.1 Intended use 8
2.2 User's obligations 8
2.3 Correct disposal 9
2.4 Specific hazards 9
2.5 Legal References 9

3. IDENTIFICATION AND DATA 9
3.1 Identification plate 9
3.2 Dimensions 12
3.2 Dimensions 12
3.3 Sound pressure 16

4. TRANSPORT AND STORAGE 16
4.1 Handling 16
4.2 Storage 17

5. DESCRIPTION 18
5.1 General description 18
5.2 Main components 18
5.3 Brake 20

6. INSTALLATION 21
6.1 General installation information 21
6.2 Installation surface 21
6.3 Installation procedure 21
6.4 Electrical installation - Connections 22

7. CONNECTION OF THE BRAKE FOR RESCUE SYSTEM 25
7.1 Connection of the cable to the brake levers 25
7.2 Connection of the cable to the hand release lever 26
7.3 Rescue System 27
7.4 Manual rescue system 27
7.5 Procedure: 27

8. OPERATION 29
8.1 Connections 29
8.2 Additional components 29
8.3 General operation information 29

9. TROUBLESHOOTING, MAINTENANCE AND REPAIR 29
9.1 General information 29
9.2 Traction/return sheave 30
9.3 Replacement of components 30
9.4 Problems, causes and solutions 30
9.5 Maintenance and repair 31
9.5.1 General indications 31
9.5.2 Description of maintenance activities 31

10. SPARE PARTS 32
10.1 General information 32
10.2 How to order spare parts 32

1. GENERAL INFORMATION

1.1 Introduction

These operating instructions must always be available for consultation. No liability is accepted for any malfunction due to installation not conforming to specifications, except in cases approved by Montanari Giulio & C.

All persons involved in the installation, operation, maintenance and repair of the unit must have read and understood the instructions.
No liability is accepted for damage, breakage or accident caused by failure to follow the instructions.

To make technical improvements, Montanari reserves the right, if deemed necessary, to modify the units and accessories, preserving their essential characteristics and improving efficiency and safety, without notice.

1.2 Copyright

All rights to these operating instructions belong to Montanari Giulio & C. S.r.l. The information in this manual may not be reproduced or used in an unauthorized manner or made available to third parties without prior approval.

If you have any questions, please contact:

MONTANARI GROUP
HEADQUARTER - MONTANARI GIULIO & C. Srl
Via Bulgaria, 39 - 41122 - Modena - Italia
Tel: +39 059 453611 - Fax: +39 059 315890
www.montanarigiulio.com
info@montanarigiulio.com

2. SAFETY

2.1 Intended use

The MGI37 gearless machine is supplied ready for safe and reliable use. Any modification by the user that may affect safety or reliability is prohibited; it is also prohibited to tamper with devices or functions designed to prevent accidental contact.
It can be used in systems with and without machine room (MR - MRL).

The Montanari MGI37 gearless machine must be used and operated in strict compliance with the conditions set out in the supply contract.

Technical specifications considered: speed, cab capacity, cab weight, presence or absence of compensation, roping at the time of order.

No liability is accepted for any malfunction due to installation not conforming to specifications, except in cases approved by Montanari Giulio & C..

2.2 User's obligations

The operator must ensure that all persons involved in installation, operation, maintenance and repair have read and understood the supplied operating instructions and have adapted to them in order to:

- Avoid damage to property or persons.
- Ensure safe and reliable operation of the unit.
- Avoid breakage and environmental damage due to misuse.

In particular:

- Always observe the relevant environmental and safety regulations when transporting, assembling, installing, operating, maintaining and dismantling the unit.
- The unit must only be used, maintained and repaired by authorized, properly trained and qualified personnel.
- The gearbox must not be cleaned using high-pressure cleaning equipment.
- All work must be carried out with care and with due attention to safety.
- Any work on the unit should only be carried out when it is not in operation.
- A warning must be placed on the main switch to clearly indicate that work is in progress on the unit.
- No welding must be carried out on the unit.
- Do not use the unit as a grounding point for welding operations.
- If any changes are detected (e.g. overheating or unusual noise) during operation, switch off immediately.
- Rotating components must be equipped with appropriate guards to prevent contact.
- If the unit is intended for installation in plant or machinery, the manufacturer of such plant or machinery must ensure that the standards, indications and descriptions contained in these operating instructions are incorporated into its own instructions.

- The information on the warning or identification plates must be complied with. These plates must be kept clean and legible at all times. Missing plates must be replaced.
- All spare parts can be obtained from Montanari Group.

2.3 Correct disposal

Respect the environment and dispose of the product according to the regulations in force in the country of installation.

2.4 Specific hazards

Depending on the conditions of use, the surface of the unit can become very hot.

Danger of burning!

2.5 Legal References

Tab. 1

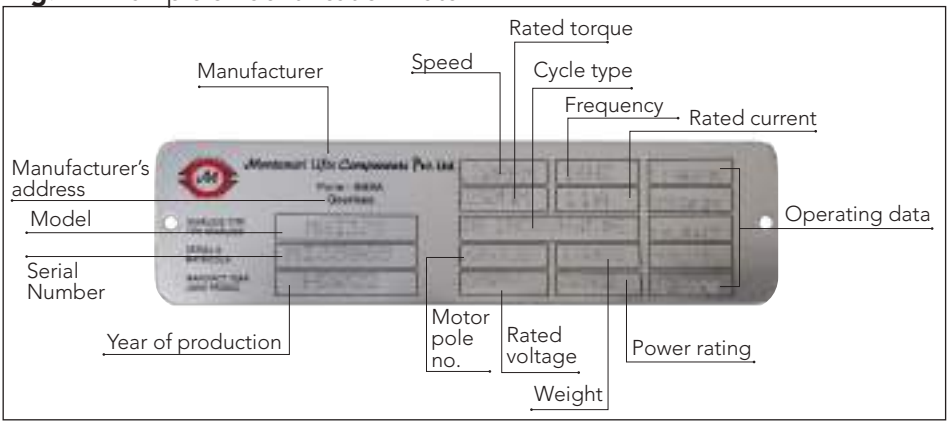
N	Norm	Description
1	UNI 10147	Maintenance: Terminology
2	EN 81-20	Safety rules for the construction and installation of lifts - Lifts for the transport of persons and goods.
3	EN 81-50	Safety rules for the construction and installation of lifts - Examinations and tests
4	EN 81-21	Safety rules for the construction and installation of lifts - Lifts for the transport of persons and goods - Part 21: New passenger and goods passenger lifts in existing building.

3. IDENTIFICATION AND DATA

3.1 Identification plate

The data on the plate are:

Fig. 1 - Example of Identification Plate



REV. 07_02_2023

GEARLESS MACHINE TECHNICAL CHARACTERISTICS: MGI37S - MGI37M - MGI37ML - MGI37L

Tab. 2

MGI37S	Type	Pn	*Speed*	*Vn*	*Cn*	*In*	*Cmax*	*Imax*	*EMF*	*Poles*	*F*	*Rs*	*Ls*	*Static Load*	*I*	*Duty Cycle*	*Weight*
Code machine		kW	[RPM]	[V]	[Nm]	[A]	[Nm]	[A]	[V·s/ rad]	[N°]	[Hz]	[Ω]	[mH]	[Kg]	[kg·m2]		[Kg]
MGI371512036F10	**MGI37S**	4,3	48	210	850	28	1400	50	17	16	6,4	1	15,8	5000	1,35	180S/H 40%	472
MGI371521036F10	**MGI37S**	8,5	96	210	850	43	1400	73	11	16	12,8	0,46	7,3	5000	1,35	180S/H 40%	472
MGI371530036F10	**MGI37S**	14,2	160	210	850	58	1400	102	8	16	21,3	0,25	4	5000	1,35	180S/H 40%	472
MGI371523926F10	**MGI37S**	22,5	239	210	850	81	1400	140	6	16	31,9	0,13	2	5000	1,35	180S/H 40%	472
MGI371506036F10	**MGI37S**	5,3	60	360	850	17,5	1400	32	27	16	8	2,5	39	5000	1,35	180S/H 40%	472
MGI371509636F10	**MGI37S**	8,5	96	360	850	24	1400	43	20	16	12,8	1,4	22	5000	1,35	180S/H 40%	472
MGI371512036F10	**MGI37S**	10,7	120	360	850	28	1400	50	17	16	16	1	15,8	5000	1,35	180S/H 40%	472
MGI371521036F10	**MGI37S**	18,7	210	360	850	43	1400	73	11	16	28	0,46	7,3	5000	1,35	180S/H 40%	472
MGI371530036F10	**MGI37S**	26,7	300	360	850	58	1400	102	8	16	40	0,25	4	5000	1,35	180S/H 40%	472

Tab. 3

MGI37M	Type	Pn	*Speed*	*Vn*	*Cn*	*In*	*Cmax*	*Imax*	*EMF*	*Poles*	*F*	*Rs*	*Ls*	*Static Load*	*I*	*Duty Cycle*	*Weight*
Code machine		kW	[RPM]	[V]	[Nm]	[A]	[Nm]	[A]	[V·s/ rad]	[N°]	[Hz]	[Ω]	[mH]	[Kg]	[kg·m2]		[Kg]
MGI37201803CO13	**MGI37M**	8,8	80	210	1050	43	1850	81	13	16	10,7	0,44	7,5	6500	2,4	180S/H 40%	539
MGI37202393CO13	**MGI37M**	13,2	120	210	1050	57	1850	105	10	16	16	0,275	4,4	6500	2,4	180S/H 40%	539
MGI37203803CO13	**MGI37M**	19,8	180	210	1050	85	1850	150	7	16	24	0,125	2,1	6500	2,4	180S/H 40%	539
MGI37202402CO13	**MGI37M**	26,4	240	210	1050	107	1850	204	5	16	32	0,08	1,3	6500	2,4	180S/H 40%	539
MGI37200483CO13	**MGI37M**	5,3	48	360	1050	18,5	1850	34	32	16	6,4	2,5	42	6500	2,4	180S/H 40%	539
MGI37200753CO13	**MGI37M**	8,3	75	360	1050	21	1850	43	26	16	10	1,6	26,5	6500	2,4	180S/H 40%	539
MGI37201203CO13	**MGI37M**	13,2	120	360	1050	30,5	1850	57	19	16	16	0,88	15	6500	2,4	180S/H 40%	539
MGI37201803CO13	**MGI37M**	19,8	180	360	1050	43	1850	81	13	16	24	0,44	7,5	6500	2,4	180S/H 40%	539
MGI37202393CO13	**MGI37M**	26,3	239	360	1050	57	1850	105	10	16	31,9	0,275	4,4	6500	2,4	180S/H 40%	539
MGI37203003CO13	**MGI37M**	33	300	360	1050	69	1850	120	8	16	40	0,19	3,2	6500	2,4	180S/H 40%	539
MGI37203803CO13	**MGI37M**	41,8	380	360	1050	85	1850	150	7	16	50,7	0,125	2,1	6500	2,4	180S/H 40%	539

Tab. 4

MGI37ML	Type	Pn	*Speed*	*Vn*	*Cn*	*In*	*Cmax*	*Imax*	*EMF*	*Poles*	*F*	*Rs*	*Ls*	*Static Load*	*I*	*Duty Cycle*	*Weight*
Code machine		kW	[RPM]	[V]	[Nm]	[A]	[Nm]	[A]	[V·s/ rad]	[N°]	[Hz]	[Ω]	[mH]	[Kg]	[kg·m2]		[Kg]
MGI37311203CO11	**MGI37ML**	7,03	48	210	1400	40	2400	70	19	16	6,4	0,54	10	6500	2,7	180S/H 40%	623
MGI37311913CO11	**MGI37ML**	14,1	96	210	1400	58	2400	104	13	16	12,8	0,25	4,6	6500	2,7	180S/H 40%	623
MGI37312393CO11	**MGI37ML**	17,6	120	210	1400	72	2400	127	11	16	16	0,17	3	6500	2,7	180S/H 40%	623
MGI37313303CO11	**MGI37ML**	23,5	160	210	1400	96	2400	168	8	16	21,3	0,1	1,9	6500	2,7	180S/H 40%	623
MGI37312402CO11	**MGI37ML**	35,2	240	210	1400	136	2400	231	6	16	32	0,054	0,96	6500	2,7	180S/H 40%	623
MGI37310603CO11	**MGI37ML**	8,8	60	360	1400	23,5	2400	42	32	16	8	1,56	28	6500	2,7	180S/H 40%	623
MGI37310963CO11	**MGI37ML**	14,1	96	360	1400	36	2400	61	21	16	12,8	0,69	12	6500	2,7	180S/H 40%	623
MGI37311203CO11	**MGI37ML**	17,6	120	360	1400	40	2400	70	19	16	16	0,54	10	6500	2,7	180S/H 40%	623
MGI37311913CO11	**MGI37ML**	28,1	192	360	1400	58	2400	104	13	16	25,6	0,25	4,6	6500	2,7	180S/H 40%	623
MGI37312393CO11	**MGI37ML**	35	239	360	1400	72	2400	127	11	16	31,9	0,17	3	6500	2,7	180S/H 40%	623
MGI37313303CO11	**MGI37ML**	48,4	330	360	1400	96	2400	168	8	16	44	0,1	1,9	6500	2,7	180S/H 40%	623

Tab. 5

MGI37L	Type	Pn	*Speed*	*Vn*	*Cn*	*In*	*Cmax*	*Imax*	*EMF*	*Poles*	*F*	*Rs*	*Ls*	*Static Load*	*I*	*Duty Cycle*	*Weight*
Code machine		kW	[RPM]	[V]	[Nm]	[A]	[Nm]	[A]	[V·s/ rad]	[N°]	[Hz]	[Ω]	[mH]	[Kg]	[kg·m2]		[Kg]
MGI373112036Q12	**MGI37L**	8,1	48	210	1620	47	2800	86	19	16	6,4	0,54	10	6500	2,7	180S/H 40%	677
MGI373119136Q12	**MGI37L**	14,4	85	210	1620	68	2800	124	13	16	11,3	0,25	4,6	6500	2,7	180S/H 40%	677
MGI373123936Q12	**MGI37L**	20,3	120	210	1620	85	2800	152	11	16	16	0,17	3	6500	2,7	180S/H 40%	677
MGI373130036Q12	**MGI37L**	27,1	160	210	1620	113	2800	196	8	16	21,3	0,1	1,9	6500	2,7	180S/H 40%	677
MGI373123026Q12	**MGI37L**	39	230	210	1620	157	2800	273	6	16	30,7	0,054	0,96	6500	2,7	180S/H 40%	677
MGI373104836Q12	**MGI37L**	8,1	48	360	1620	27,5	2800	51	31	16	6,4	1,56	28	6500	2,7	180S/H 40%	677
MGI373109636Q12	**MGI37L**	16,3	96	360	1620	42	2800	77	21	16	12,8	0,69	12	6500	2,7	180S/H 40%	677
MGI373112036Q12	**MGI37L**	20,3	120	360	1620	47	2800	86	19	16	16	0,54	10	6500	2,7	180S/H 40%	677
MGI373119136Q12	**MGI37L**	32,6	192	360	1620	68	2800	124	13	16	25,6	0,25	4,6	6500	2,7	180S/H 40%	677
MGI373123936Q12	**MGI37L**	40,5	239	360	1620	85	2800	152	11	16	31,9	0,17	3	6500	2,7	180S/H 40%	677
MGI373130036Q12	**MGI37L**	50,8	300	360	1620	113	2800	196	8	16	40	0,1	1,9	6500	2,7	180S/H 40%	677

Tab. 6

BRAKE CHARACTERISTICS						
Model	Brake model	Power (Pn)	Voltage (Vn)	Current (In)	Force (Cn)	Certificate
		[W]	[V]	[A]	[Nm]	
MGI37S	EMFR1400	2 x 225	$110V_{DC}$	2 x 2,03	2 x 1400	EDPS 024
MGI37M	EMFR1400	2 x 225	$110V_{DC}$	2 x 2,03	2 x 1400	EDPS 024
MGI37ML	EMFR1400	2 x 225	$110V_{DC}$	2 x 2,03	2 x 1400	EDPS 024
MGI37L	RSR1500	2 x 165	$207V_{DC}$	2 x 0,80	2 x1700	EU-BD 766

3.2 Dimensions

The technical drawing and the overall dimensions follow.

Tab. 7

MGI37S - Fig. 2					
Pulley		Ropes			Dimensions
ØD	F	Ø	min max	Pitch	A
mm	mm	mm	n°	mm	mm
320	180	8	3 - 10	17	153
400		10			
480		12	3 - 9	20	
520	145	13	3 - 7		

Tab. 8

MGI37M - Fig. 3					
Pulley		Ropes			Dimensions
ØD	F	Ø	min max	Pitch	A
mm	mm	mm	n°	mm	mm
320	180	8	3 - 10	17	153
400		10			
480		12	3 - 9	20	
520	145	13	3 - 7		

Tab. 9

MGI37ML - Fig. 4					
Pulley		Ropes			Dimensions
ØD	F	Ø	min max	Pitch	A
mm	mm	mm	n°	mm	mm
320	180	8	3 - 10	17	153
400		10			
480		12	3 - 9	20	
520	145	13	3 - 7		

Tab. 10

MGI37L - Fig. 5					
Pulley		Ropes			Dimensions
ØD	F	Ø	min max	Pitch	A
mm	mm	mm	n°	mm	mm
320	180	8	3 - 10	17	153
400		10			
480		12	3 - 9	20	
520	145	13	3 - 7		

Fig. 2
MGI37S

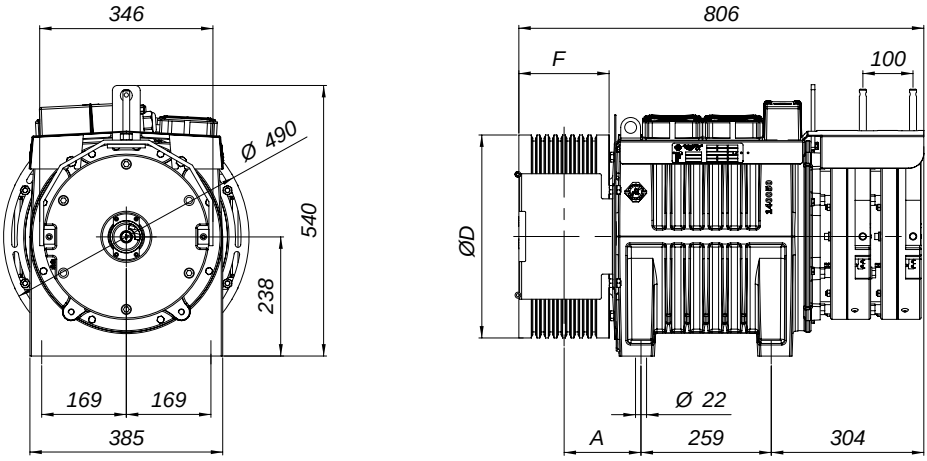


Fig. 3
MGI37M

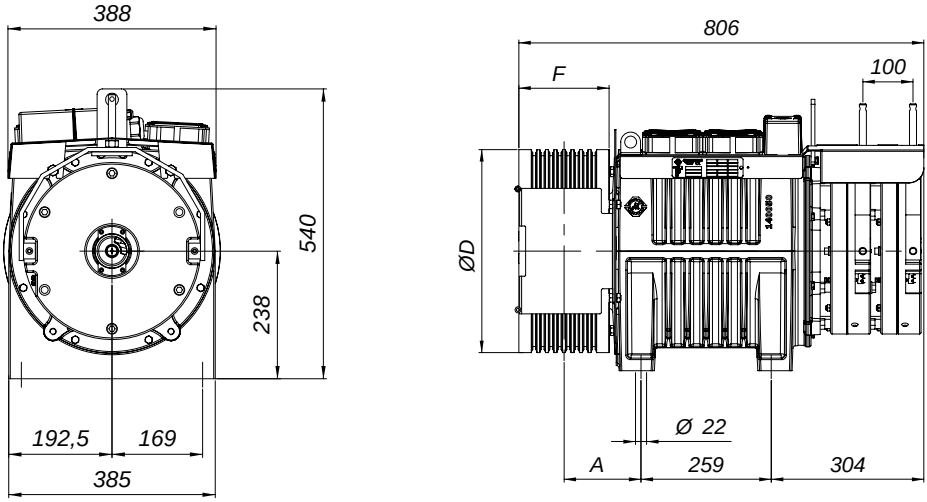


Fig. 4
MGI37ML

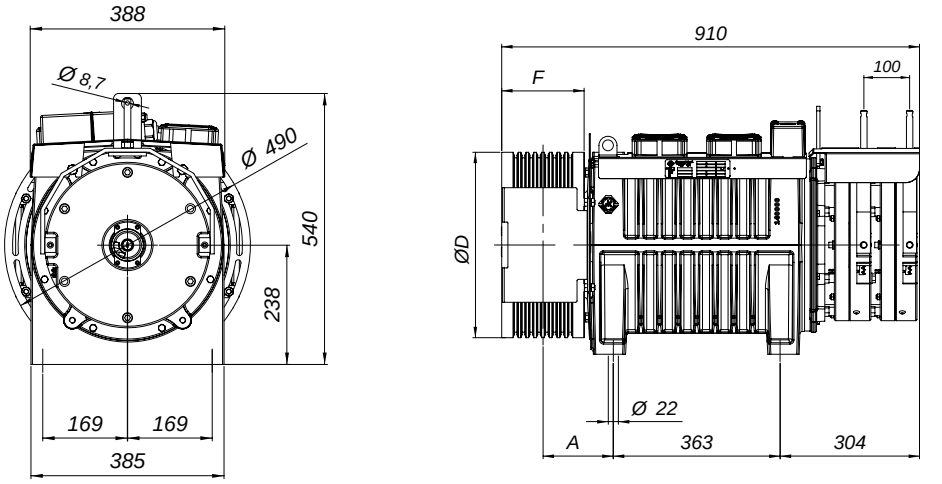
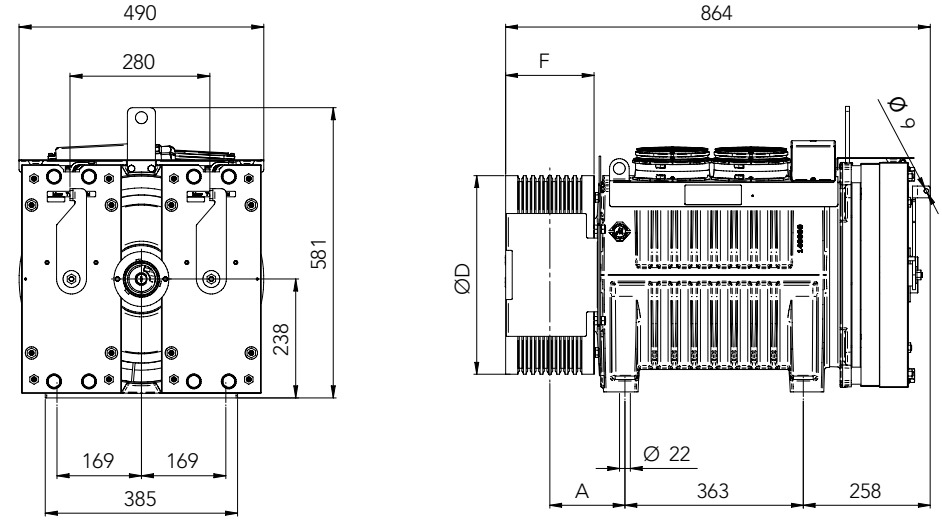


Fig. 5
MGI37L



3.3 Sound pressure

Tab.11

MGI37 RANGE / Sound pressure in dB(A)*		
Version	When operating	With brake
S	≤48	≤54
M		
ML		
L		

Only use lifting systems and equipment with adequate lifting capacity for handling. The entire packaging is designed to allow movement with forklift and forklift truck.

4. TRANSPORT AND STORAGE

4.1 Handling

All gearless machines are packed in crates or cages.
Different types of packaging can be used, depending on the size and means of transport. Unless otherwise specified, the packaging complies with the HPE guidelines.
In some cases, the machines are mounted on wooden pallets to enable them to be transported correctly on trucks. The packaging may not be stacked anyhow. It is recommended to check the conditions of the material when it is received. In case of damage, do not proceed with the installation unless expressly authorized by Montanari Giulio & C. Observe the symbols on the packaging to prevent damage to property or personal injury. Here are the meanings of the symbols that may appear on the packaging.

Keep dry

Handle with care

Attachment point

Upper side

Do not use hooks

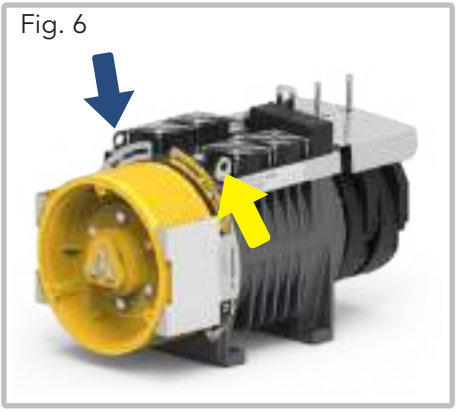
Keep away from heat sources

Fragile

Center of gravity

For lifting, anchor points (eyebolts) are provided as shown in Fig. 6. Use only the specified eyebolts to handle the unit.

Fig. 6



4.2 Storage

The gearless machine must be stored in the position of use on a wooden base not subject to vibrations, in a covered and sheltered place.

If the unit is stored outdoors, it should be covered, taking care that no moisture and/or other foreign matter can accumulate on it.

Supplies for special environmental conditions during transport (e.g. by ship) and storage (climate, termites, etc.) must be contractually agreed.

- Check the correct operation of the motor and brake after installation.
- Repairs may only be carried out by the manufacturer or by authorised personnel.
- The machine can be red-hot.
- These machines must be connected to inverters.
- When the machine is rotating, both manually and mechanically, it can act as a generator and produce high voltage.
- During configuration, the machine is powered by high voltage.

5. DESCRIPTION

5.1 General description

The MGI37 series gearless machines are permanent magnet motors with double brake system.

5.2 Main components

The unit consists of the main groups as shown in Fig. 7 - 8 - 9 - 10 - 11
For the versions with 400 - 480 - 520 mm sheave it is possible to install the kit for the manual rescue system.

MGI37 S - M - ML - L are equipped with a PTC thermal probe inside the windings to protect against overheating (winding temperature up to 130°C) and with a thermo-contact for the activation of the fans. Refer to the electrical connections for more details. - See Par. 6.4.

Lubrication

The gearless machine contains no oil and is supplied with bearings already lubricated throughout the life of the machine; no further lubrication is required.

MGI37 MRL

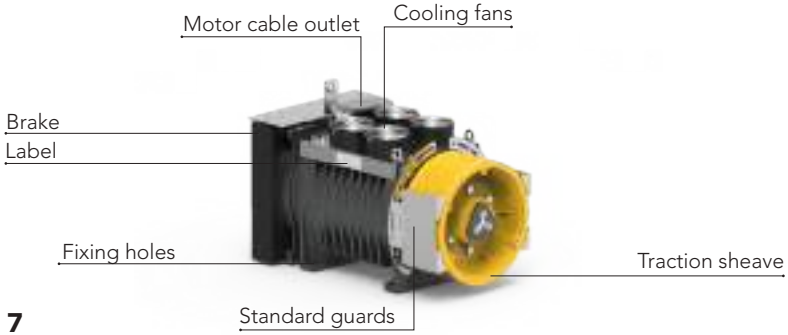


Fig. 7

MGI37 with flywheel **- MR**

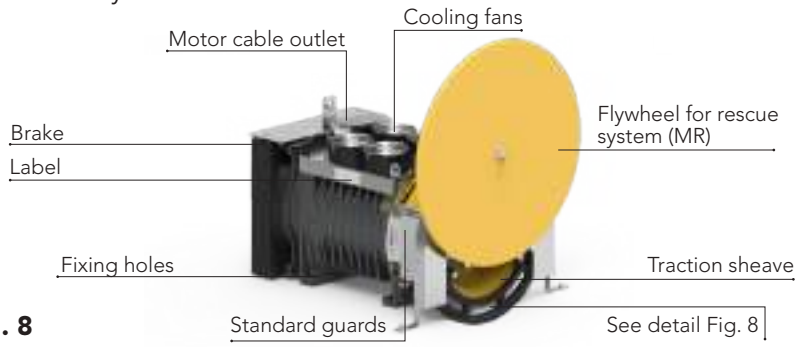
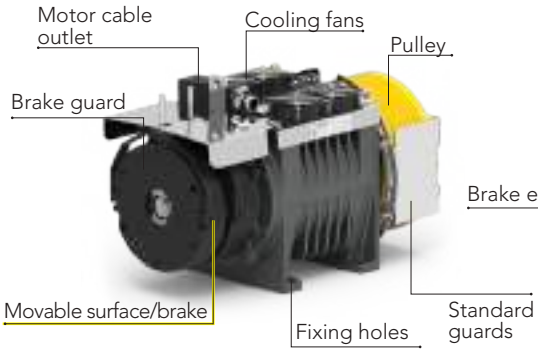


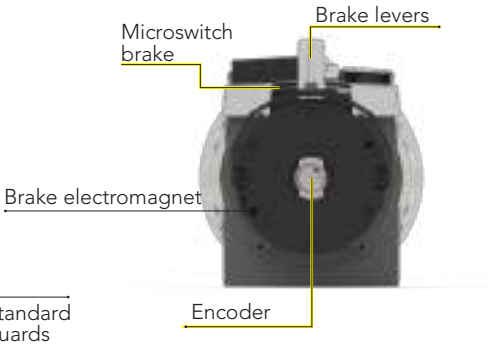
Fig. 8

MGI37 S-M-ML without flywheel - MRL

Fig. 9

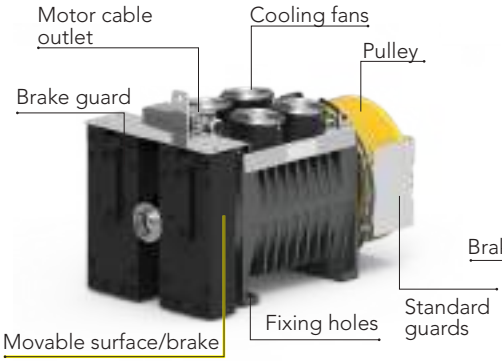


Brake detail

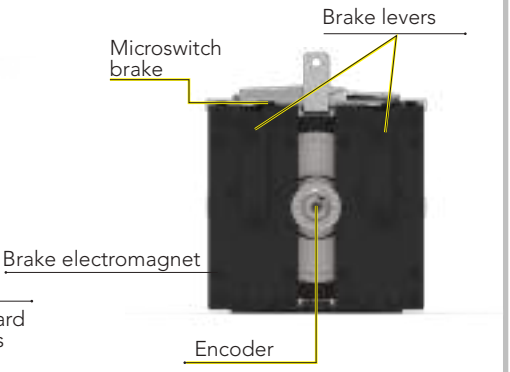


MGI37L without flywheel - MRL

Fig. 10

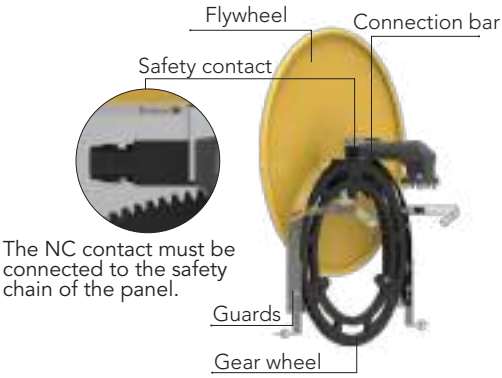


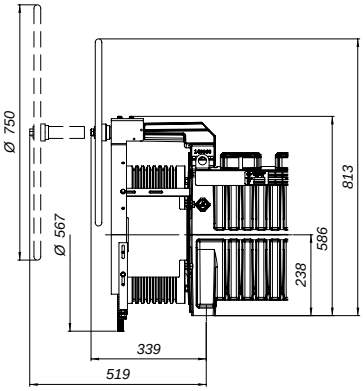
Brake detail



MGI37: MR Kit for transformation into machine room version

Fig. 11





5.3 Brake

The gearless machine is supplied with a brake that conforms to the standards indicated in paragraph 2.5.
The brake system is pre-calibrated by the manufacturer and no further adjustment is required.

The brake system operates as follows:

- **Not powered** (electromagnet not powered): the brake disc is clamped by the movable surfaces (yellow arrows on Fig. 12). In this condition the system does not move.
- When the brake electromagnet is powered, it releases the brake disc (yellow arrows in Fig. 13); now the motor is released.

MGI37 S-M-ML

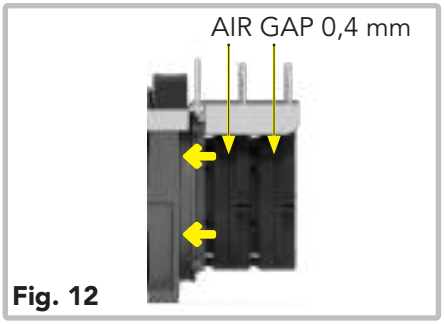


Fig. 12

Brake system not powered

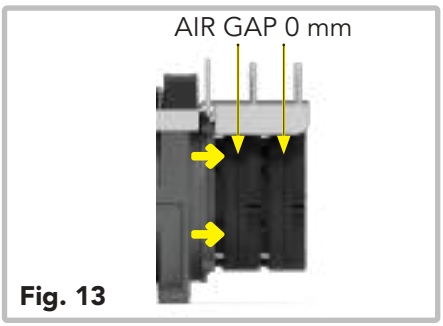


Fig. 13

Brake system powered

MGI37L

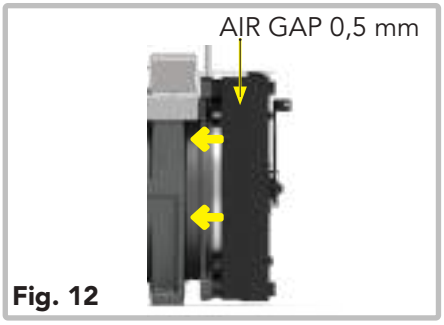


Fig. 12

Brake system not powered

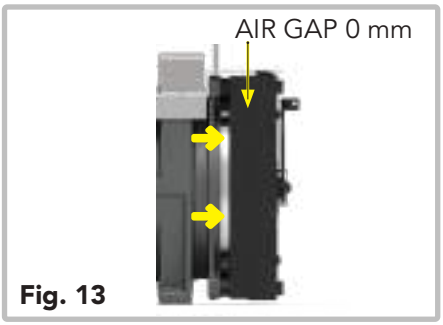


Fig. 13

Brake system powered

6. INSTALLATION

6.1 General installation information

The gearless machine must be installed in a building or in a closed travel compartment.
Do not use the gearless machine in an explosive atmosphere.
The room temperature must be between 0°C and +40°C.
Assembly and installation must be carried out with great care by qualified and trained personnel.
The manufacturer cannot be held responsible for damage caused by incorrect assembly or incorrect installation.
Before starting work, make sure that adequate lifting and handling equipment is available.
No welding work must be carried out on the unit.
The unit must not be used as a grounding point for welding operations. The bearings can be irreparably damaged.
All fixing points specified by the manufacturer must be used.
The air supply for cooling must not be prevented.

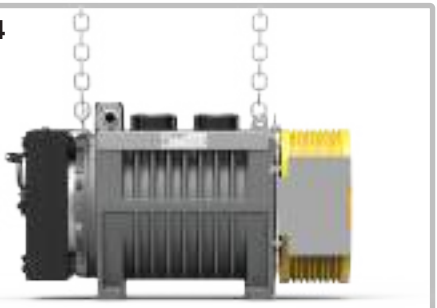
6.2 Installation surface

The installation surface must be uniform and level.
The levelling tolerance is 0.2 mm.
The installation surface must be rigid and robust enough to withstand the forces involved.

6.3 Installation procedure

The gearless machine can be lifted using the eyebolts for the insertion of the belts or lifting chains (see also the paragraph on storage and handling). Particular attention is needed to avoid that the gearless machine receives blows in correspondence of the brake disc; the brake levers and the electrical connections of the board are very delicate. Lifting example Fig. 14.

Fig. 14



Place the unit on the installation surface and secure it.

- Fixing screws and nuts must be tightened to the prescribed torque.
- Use bolts with a minimum strength class of 8.8.
- Do not force or hit the fixings to position them; this could damage the bearings, rings, etc.
- Mount the safety devices.

The gearless machines are suitable for use with and without the machine room. The static load changes depending on the roping direction. (Fig. 15):

Tab. 12

Bolt tightening torques (class 8.8)	
Thread	M20
Tightening torque (Nm)	410

Load direction

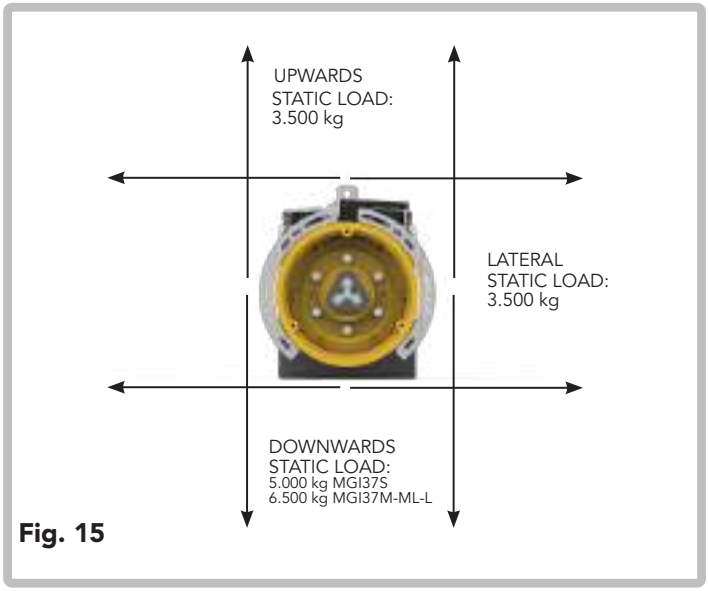


Fig. 15

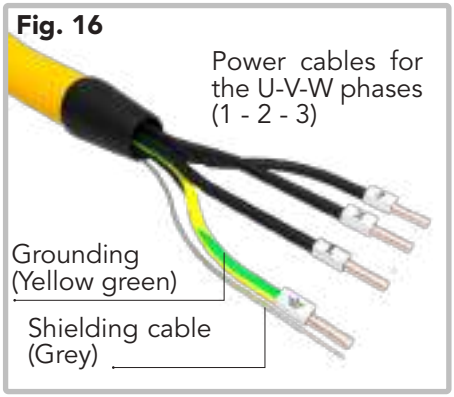
6.4 Electrical installation - Connections

The gearless machine is supplied with:

- power cable for the power supply of the motor [1 - 2 - 3, Ground, SC] (Fig. 16)
- cable for the power supply of the cooling fan (230 Vac).[F7-F8] and of the PTC guard [T5-T6] (Fig. 17).

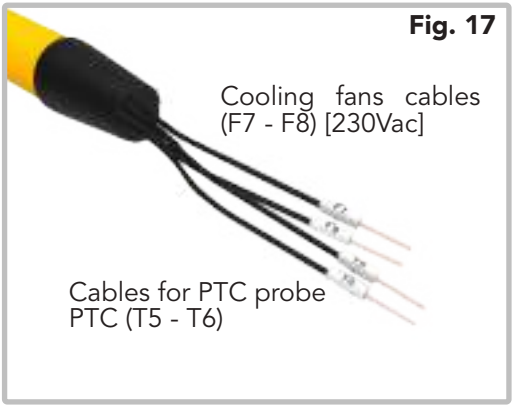
Power cable

Fig. 16



Cable PTC&Fans

Fig. 17



- The power cable must be routed separately from the other cables.
- The motor power cable is shielded and the shield must be grounded.
- The encoder cable must be routed away from the motor power cable to avoid electrical interference.
- The brake system has one power cable (two for MGI37 S-M-ML) and another cable (two for MGI37 S-M-ML) for the microswitch contacts. (Fig. 18-19). All electrical data are listed on the label of the brake system. The microswitch has two contacts: one open and one closed. (Fig. 20).
- These contacts indicate the brake condition (see tab. 13 - tab. 14).

MGI37 S-M-ML **Tab. 13**

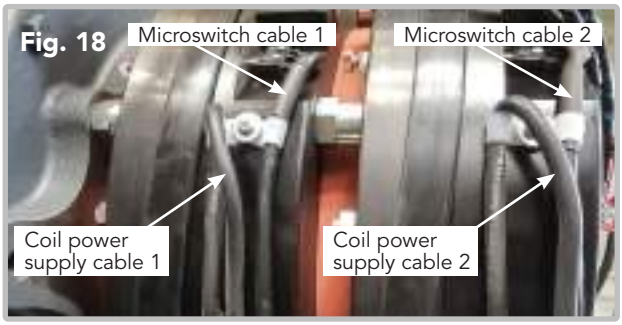
Brake disc closed	Condition contact	Brake disc free	Condition contact
BROWN YELLOW COM. N.O.	Disconnected	BROWN YELLOW COM. N.O.	Connected
BROWN GREEN COM. N.C.	Connected	BROWN GREEN COM. N.C.	Disconnected

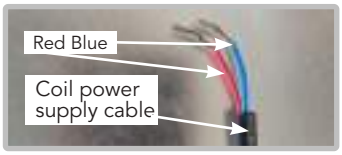
MGI37L **Tab. 14**

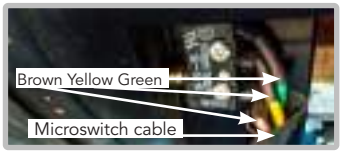
Brake disc closed	Condition contact	Brake disc free	Condition contact
BLACK BLUE COM. N.O.	Disconnected	BLACK BLUE COM. N.O.	Connected
BLACK GREY COM. N.C.	Connected	BLACK GREY COM. N.C.	Disconnected

MGI37 S-M-ML

Power supply Brake







MGI37L

Power supply Brake

Below an example for setting the parallel connection of the brake coil.

- **Standard mode:**

It is possible controlling only contactor 1 and leaving contactors 2 and 3 closed. (Fig. 21).

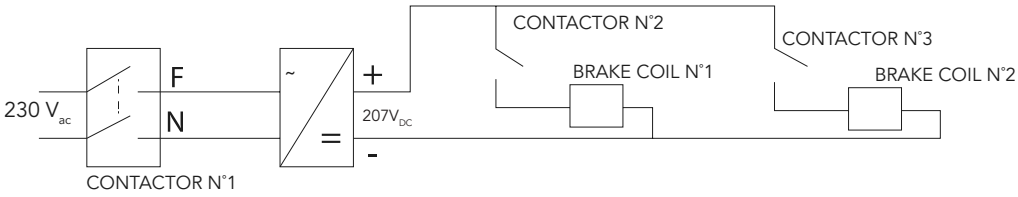
This protects the brake from dangerous overvoltage and noise when closing.

- **Emergency mode and inspection mode:**

The use of all contactors is recommended. Using only contactor no. 1 during opening and/or closing operations may cause an unacceptable delay when closing the brake.

Fig. 20 Typical application with brake coils in parallel configuration.

MDX36 S-M-ML-L



7. CONNECTION OF THE BRAKE FOR RESCUE SYSTEM

The kit is shown in Fig. 21.

Fig. 21

7.1 Connection of the cable to the brake levers

Insert the end of the cable into the lever holes. Tension and fix. Fold the end and secure with the rope clamp as shown in the figure. At the end, the result is as in the figure below. (Fig. 22 MGI37 S-M-ML) (Fig. 23 MGI37L).

Fig. 22

Fig. 23

7.2 Connection of the cable to the hand release lever

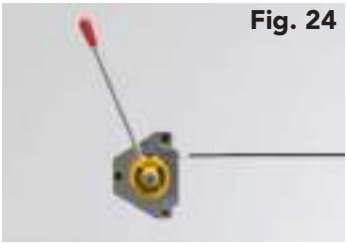


Fig. 24

Fix the lever to the wall with the bolts (not supplied). Connect the cable to the support as shown in Fig. 24.

Insert the other end of the cable into the screw hole. Tighten to stop. Fig. 25

Fig. 25

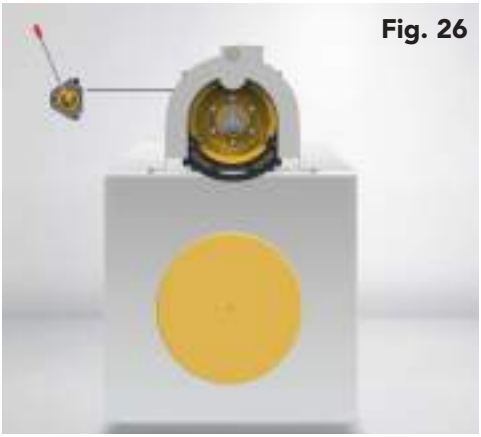


Fig. 26

Connection and installation must be carried out in such a way that the lever and the flywheel can be operated simultaneously. Fig. 26 - 27 - 28.
This allows you to perform the rescue system operation correctly.

7.3 Rescue System

IMPORTANT: during normal operation the flywheel must not be installed; use the flywheel only to perform the emergency rescue system.

To slow down the car, it's recommended to connect the phases together (short circuited connection).

7.4 Manual rescue system

For installations with machine room

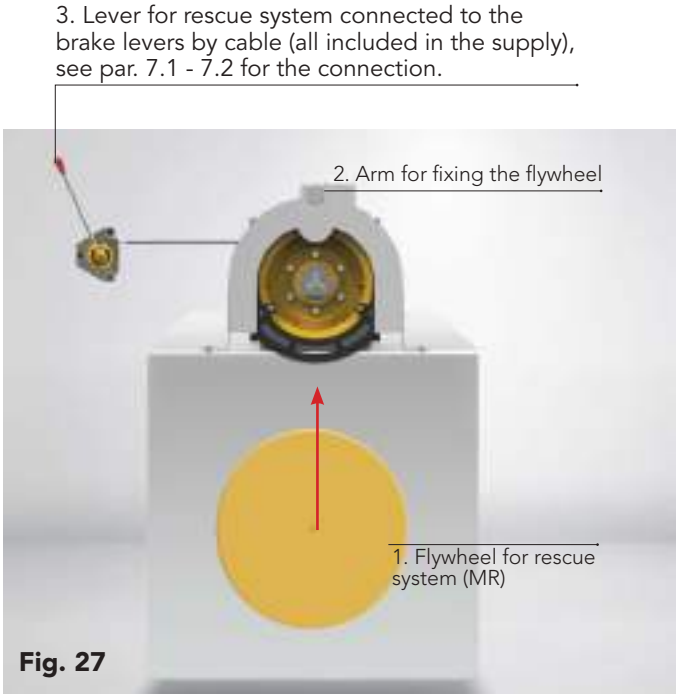


Fig. 27

7.5 Procedure:

- Stop the system
- Calm any people inside the cab.
- Remove the flywheel (1) from the hook and install it in the arm (2).The NC contact (Fig. 10) of the flywheel switch opens the supply circuit and ensures safe manual operation. The machine now looks like in Fig. 29.

* (NC = Normally Closed)

3. Lever for rescue system connected to the brake levers by cable (all included in the supply), see par. for the connection.

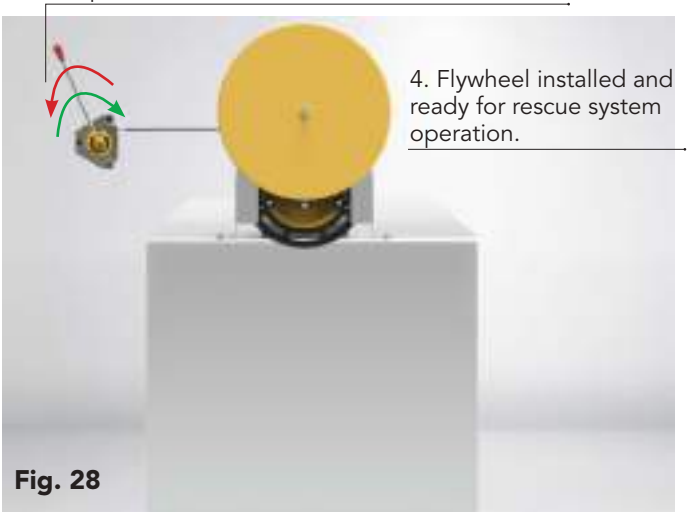


Fig. 28

Grasp the flywheel firmly (4).
Operate lever (3) for manual brake release. Red arrow direction. Slowly turn the flywheel in the right direction to move the cab until the floor is reached.
Close the brake by releasing the lever: green arrow direction.
Open the floor door and the cab door to free the people inside.
Note: the company carrying out the maintenance of the lift system is responsible for these operations.

8. OPERATION

8.1 Connections

Connect the motor, brake, and monitoring devices.
The connection must be made by qualified personnel in accordance with the applicable safety regulations. Installation and operation requirements and current national and international standards must be met.

8.2 Additional components

If third party additional components or options are installed, please refer to the information in the respective separate documentation provided.

8.3 General operation information

When operating the MGI37 unit, be sure to check that the following situations do not occur:

- Excessive operating temperature.
- Excessive and unusual noise.

If any irregularity occurs during operation, turn off the power immediately. Identify the cause of the malfunction by using the table in Chap. 9, containing a list of possible problems, causes and suggested remedies.

If the cause of the malfunction cannot be identified, or if the unit has been repaired using the means available, you should contact one of our service centres for a specialised service

9. TROUBLESHOOTING, MAINTENANCE AND REPAIR

9.1 General information

Problems and malfunctions occurring during the warranty period, which are not precisely identified or which require work on the unit, must be referred to the manufacturer's Customer Service department.

Observe all safety rules.
Do not disassemble the motor on site.
The bearings are protected and do not require any additional lubrication under standard conditions of use.
Do not use high-pressure cleaners on the motor.

Montanari cannot guarantee or be held responsible for unauthorized operations on the unit, improper use, modifications made without its consent or the use of non-genuine spare parts.

When repairing problems or malfunctions, the unit must be put out of service in order to prevent unintentional start-up. Place a warning sign on the starting switch.

9.2 Traction/return sheave

Periodically, at least once a year, check the wear of the grooves in the traction sheave.
In case of slipping ropes or excessive wear, contact Montanari Giulio & C. for replacement instructions, always indicating the serial number.

9.3 Replacement of components

Instructions for the replacement of any component must be requested each time from the technical department specifying the serial number.

9.4 Problems, causes and solutions **Tab. 14**

Diagnostic Table		
Problems	**Causes**	**Solutions**
The motor does not work	Motor phases are connected in the wrong way	Check the connection condition of the motor phases
	Wrong inverter configuration	Check the inverter settings
	Inverter defective	Replace the device
	Brake faulty	See below
	Motor mechanically locked	Contact Montanari Giulio & C.
	Motor connections loosened	Tighten the connections of the machine controller.
	Excessive temperature	See below
Brake system not working	Brake power supply wrong	Check the correct supply voltage of the brake coil.
	Brake system defective	Contact Montanari Giulio & C.
Excessive temperature	Cooling fan not working.	Replace the fan
	Cooling fan not correctly connected.	Check the voltage of the cooling fan. (230 V ac)
	PTC sensor defective	Contact Montanari Giulio & C.
	Wrong inverter settings	Check the inverter settings
Noise while travelling	Alignment of the motor with the deflection sheave incorrect.	Check and correct the alignment.
	Encoder defective	Replace encoder
	Wrong inverter settings	Check the inverter settings
	Bearing defective	Contact Montanari Giulio & C.

9.5 Maintenance and repair

9.5.1 General indications

The unit must only be used, maintained and repaired by authorized, properly trained and qualified personnel.

Compliance with the inspection and maintenance intervals is part of the conditions for the validity of the warranty.

9.5.2 Description of maintenance activities

Stop the unit and put it out of service. Place a warning sign on the start switch to prevent unintentional start.

Cleaning the unit
Remove dirt on the unit with a hard brush.
Remove corrosion signs.
The unit must not be cleaned with high pressure washing equipment.

Checking the tightening of bolts and nuts
Checking the tightening of all fastening bolts and nuts with a torque wrench. The screws and nuts must be tightened to the prescribed torque. The tightening torque is indicated in Table 15.

Tab. 15

Tightening torque (classe 8.8)	
Thread	M20
tightening torque (Nm)	410

10. SPARE PARTS

10.1 General information

By keeping the main spare parts and wear parts in stock, the unit can always be used.

10.2 How to order spare parts

The manufacturer guarantees only genuine spare parts and accessories supplied by him.
Other parts not supplied by the manufacturer have not been tested or approved. The use of these parts can therefore compromise certain characteristics of the gearless machine and expose it to active and passive safety risks.

The manufacturer will not assume any responsibility and will not recognize warranty for damage caused by spare parts and accessories not supplied by the manufacturer himself.

When ordering spare parts, always specify:

- Order no. of the machine to which they must be applied;
- Part code;
- Description;
- Quantity;

To order spare parts, write to **service@montanarigiulio.com.**

Montanari Group
GEARLESS&GEARBOX
TRACTION MACHINES

MONTANARI GROUP INDIA
Montanari Lifts Components Pvt. Ltd.
Plot No.G3, Midc Chakan, Phase III Nr Mercedes Benz
410501 Chakan Pune India
Tel: +91 2135669900 - Fax: +91 2032605911
info.india@montanarigiulio.com

www.montanarigiulio.in

REV: 07_02_2023