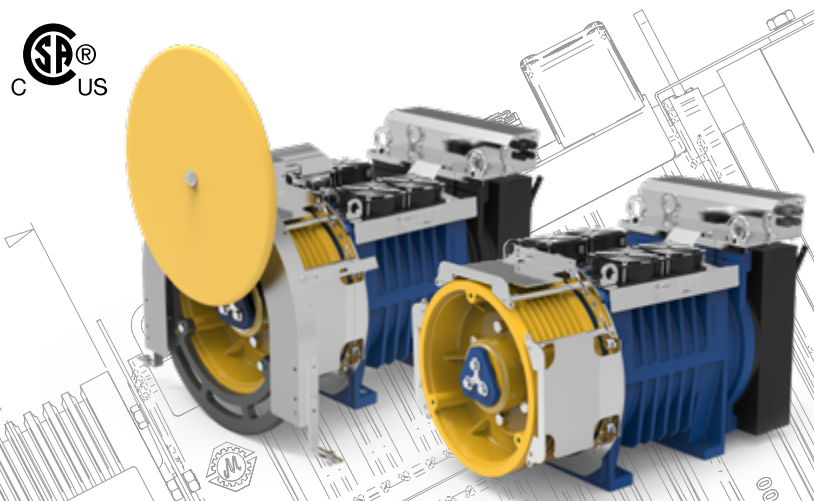
MANUAL

Montanari Group
GEARLESS&GEARBOX
TRACTION MACHINES

INSTALLATION, USE AND MAINTENANCE
MANUAL - GEARLESS

MGA34 RANGE



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0	04/07/2024	FIRST REDACTION	Marketing Dept	Technical Dept	FABIO FORNI
1	16/01/2026	UPDATE	Marketing Dept	Technical Dept	ALBERTO MANTOVANI

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.
	This symbol indicates how to dispose of packaging and end-of-life product.

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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:

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2. SAFETY

2.1 Intended use

The MGA34 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 MGA34 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 gearless 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 Disposal of packaging and end-of-life product

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

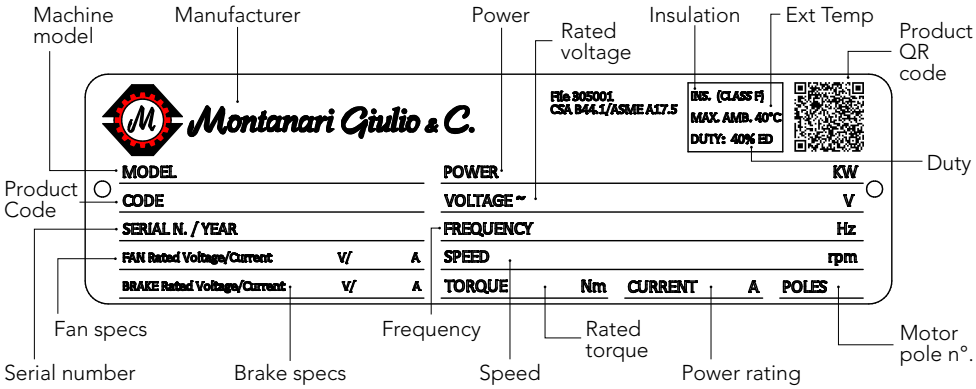
N	Norm	Description
1	UNI 10147	Maintenance: Terminology.
2	ASME A17.1	Safety Code for Elevators and Escalators
3	ASME A17.5	Elevator and Escalator Electrical Equipment

3. IDENTIFICATION AND DATA

3.1 Identification plate

The data on the plate are:

Fig. 1



GEARLESS MACHINE TECHNICAL CHARACTERISTICS: MGA34S

Tab. 2

MGA34S	Type	Pn	Speed	Vn	Cn	In	Cmax	Imax	EMF	Poles	F	Rs	Ls	Static Load	Duty Cycle	Weight
Code machine		kW (hp)	RPM	V	N·m (ft·lbs)	A	N·m (ft·lbs)	A	V·s/ rad	N°	Hz	Ω	mH	Kg (lb)		Kg (lb)
MGA34151203xxxx	**MGA34S**	4,3 (5,8)	48	210	850 (627)	28	1400 (1032)	50	17	16	6,4	1	15,8	4000 (8818)	240S/H 40%	480 (1058)
MGA34152103xxxx	**MGA34S**	8,5 (11,4)	96	210	850 (627)	43	1400 (1032)	73	11	16	12,8	0,46	7,3	4000 (8818)	240S/H 40%	480 (1058)
MGA34153003xxxx	**MGA34S**	14,2 (19)	160	210	850 (627)	58	1400 (1032)	102	8	16	21,3	0,25	4	4000 (8818)	240S/H 40%	480 (1058)
MGA34152392xxxx	**MGA34S**	22,5 (30,2)	239	210	850 (627)	81	1400 (1032)	140	6	16	31,9	0,13	2	4000 (8818)	240S/H 40%	480 (1058)
MGA34153182xxxx	**MGA34S**	28,2 (37,8)	318	210	850 (627)	113	1400 (1032)	190	4,3	16	42,4	0,063	1	4000 (8818)	240S/H 40%	480 (1058)
MGA34150603xxxx	**MGA34S**	5,3 (7,1)	60	360	850 (627)	17,5	1400 (1032)	32	27	16	8	2,5	39	4000 (8818)	240S/H 40%	480 (1058)
MGA34150963xxxx	**MGA34S**	8,5 (11,4)	96	360	850 (627)	24	1400 (1032)	43	20	16	12,8	1,4	22	4000 (8818)	240S/H 40%	480 (1058)
MGA34151203xxxx	**MGA34S**	10,7(14,3)	120	360	850 (627)	28	1400 (1032)	50	17	16	16	1	15,8	4000 (8818)	240S/H 40%	480 (1058)
MGA34152103xxxx	**MGA34S**	18,7(25,1)	210	360	850 (627)	43	1400 (1032)	73	11	16	28	0,46	7,3	4000 (8818)	240S/H 40%	480 (1058)
MGA34153003xxxx	**MGA34S**	26,7 (35,8)	300	360	850 (627)	58	1400 (1032)	102	8	16	40	0,25	4	4000 (8818)	240S/H 40%	480 (1058)

GEARLESS MACHINE TECHNICAL CHARACTERISTICS: MGA34M

Tab. 3

MGA34M	Type	Pn	Speed	Vn	Cn	In	Cmax	Imax	EMF	Poles	F	Rs	Ls	Static Load	Duty Cycle	Weight
Code machine		kW (hp)	RPM	V	N·m (ft·lbs)	A	N·m (ft·lbs)	A	V·s/ rad	N°	Hz	Ω	mH	Kg (lb)		Kg (lb)
MGA34201803xxxx	**MGA34M**	8,8 (11,8)	80	210	1050 (774)	43	1850 (1364)	81	13	16	10,7	0,44	7,5	4000 (8818)	240S/H 40%	539 (1188)
MGA34202393xxxx	**MGA34M**	13,2 (17,7)	120	210	1050 (774)	57	1850 (1364)	105	10	16	16	0,275	4,4	4000 (8818)	240S/H 40%	539 (1188)
MGA34203803xxxx	**MGA34M**	19,8 (26,5)	180	210	1050 (774)	85	1850 (1364)	150	7	16	24	0,125	2,1	4000 (8818)	240S/H 40%	539 (1188)
MGA34202402xxxx	**MGA34M**	26,4 (35,4)	240	210	1050 (774)	107	1850 (1364)	204	5	16	32	0,08	1,3	4000 (8818)	240S/H 40%	539 (1188)
MGA34203182xxxx	**MGA34M**	34,9 (46,8)	318	210	1050 (774)	127	1850 (1364)	225	4,8	16	42,4	0,055	0,95	4000 (8818)	240S/H 40%	539 (1188)
MGA34200483xxxx	**MGA34M**	5,3 (7,1)	48	360	1050 (774)	18,5	1850 (1364)	34	32	16	6,4	2,5	42	4000 (8818)	240S/H 40%	539 (1188)
MGA34200753xxxx	**MGA34M**	8,3 (11,1)	75	360	1050 (774)	21	1850 (1364)	43	26	16	10	1,6	26,5	4000 (8818)	240S/H 40%	539 (1188)
MGA34201203xxxx	**MGA34M**	13,2 (17,7)	120	360	1050 (774)	30,5	1850 (1364)	57	19	16	16	0,88	15	4000 (8818)	240S/H 40%	539 (1188)
MGA34201803xxxx	**MGA34M**	19,8 (26,5)	180	360	1050 (774)	43	1850 (1364)	81	13	16	24	0,44	7,5	4000 (8818)	240S/H 40%	539 (1188)
MGA34202393xxxx	**MGA34M**	26,3 (35,2)	239	360	1050 (774)	57	1850 (1364)	105	10	16	31,9	0,275	4,4	4000 (8818)	240S/H 40%	539 (1188)
MGA34203003xxxx	**MGA34M**	33 (44,2)	300	360	1050 (774)	69	1850 (1364)	120	8	16	40	0,19	3,2	4000 (8818)	240S/H 40%	539 (1188)
MGA34203803xxxx	**MGA34M**	41,8 (56)	380	360	1050 (774)	85	1850 (1364)	150	7	16	50,7	0,125	2,1	4000 (8818)	240S/H 40%	539 (1188)

GEARLESS MACHINE TECHNICAL CHARACTERISTICS: MGA34L

Tab. 4

MGA34L	Type	Pn	Speed	Vn	Cn	In	Cmax	Imax	EMF	Poles	F	Rs	Ls	Static Load	Duty Cycle	Weight
Code machine		kW (hp)	RPM	V	N·m (ft·lbs)	A	N·m (ft·lbs)	A	V·s/ rad	N°	Hz	Ω	mH	Kg (lb)		Kg (lb)
MGA34311203xxxx	**MGA34L**	8,1 (10,86)	48	210	1620 (1194)	47	2800 (2065)	86	19	16	6,4	0,54	10	6000 (4425)	240S/H 40%	680 (1499)
MGA34311913xxxx	**MGA34L**	14,4 (19,3)	85	210	1620 (1194)	68	2800 (2065)	124	13	16	11,3	0,25	4,6	6000 (4425)	240S/H 40%	680 (1499)
MGA34312393xxxx	**MGA34L**	20,3 (27,2)	120	210	1620 (1194)	85	2800 (2065)	152	11	16	16	0,17	3	6000 (4425)	240S/H 40%	680 (1499)
MGA34313003xxxx	**MGA34L**	27,1 (36,3)	160	210	1620 (1194)	109	2800 (2065)	196	8	16	21,3	0,1	1,9	6000 (4425)	240S/H 40%	680 (1499)
MGA34312302xxxx	**MGA34L**	39 (52,3)	230	210	1620 (1194)	157	2800 (2065)	273	6	16	30,7	0,054	0,96	6000 (4425)	240S/H 40%	680 (1499)
MGA34313182xxxx	**MGA34L**	53,9 (72,3)	318	210	1620 (1194)	197	2800 (2065)	343	4,8	16	42,4	0,034	0,62	6000 (4425)	240S/H 40%	680 (1499)
MGA34310483xxxx	**MGA34L**	8,1 (10,86)	48	360	1620 (1194)	27,5	2800 (2065)	51	31	16	6,4	1,56	28	6000 (4425)	240S/H 40%	680 (1499)
MGA34310963xxxx	**MGA34L**	16,3 (21,8)	96	360	1620 (1194)	42	2800 (2065)	77	21	16	12,8	0,69	12	6000 (4425)	240S/H 40%	680 (1499)
MGA34311203xxxx	**MGA34L**	20,3 (27,2)	120	360	1620 (1194)	47	2800 (2065)	86	19	16	16	0,54	10	6000 (4425)	240S/H 40%	680 (1499)
MGA34311913xxxx	**MGA34L**	32,6 (43,7)	192	360	1620 (1194)	68	2800 (2065)	124	13	16	25,6	0,25	4,6	6000 (4425)	240S/H 40%	680 (1499)
MGA34312393xxxx	**MGA34L**	40,5 (54,3)	239	360	1620 (1194)	85	2800 (2065)	152	11	16	31,9	0,17	3	6000 (4425)	240S/H 40%	680 (1499)
MGA34313003xxxx	**MGA34L**	50,8 (68,1)	300	360	1620 (1194)	109	2800 (2065)	196	8	16	40	0,1	1,9	6000 (4425)	240S/H 40%	680 (1499)

GEARLESS MACHINE TECHNICAL CHARACTERISTICS: MGA34XL

Tab. 5

MGA34L	Type	Pn	Speed	Vn	Cn	In	Cmax	Imax	EMF	Poles	F	Rs	Ls	Static Load	Duty Cycle	Weight
Code machine		kW (hp)	RPM	V	N·m (ft·lbs)	A	N·m (ft·lbs)	A	V·s/ rad	N°	Hz	Ω	mH	Kg (lb)		Kg (lb)
MGA34411603xxxx	**MGA34XL**	13,8 (18,5)	60	210	2200 (1622)	85	3800 (2802)	155	14	16	8	0,22	4	5500 (12125)	240S/H 40%	750 (1653)
MGA34412103xxxx	**MGA34XL**	22,1 (29,6)	96	210	2200 (1622)	111	3800 (2802)	208	11	16	12,8	0,13	2,4	5500 (12125)	240S/H 40%	750 (1653)
MGA34412943xxxx	**MGA34XL**	34,5 (46,2)	150	210	2200 (1622)	156	3800 (2802)	292	8	16	20	0,067	1,4	5500 (12125)	240S/H 40%	750 (1653)
MGA34412202xxxx	**MGA34XL**	50,68 (67,9)	220	210	2200 (1622)	195	3800 (2802)	370	7	16	29,3	0,0417	0,9	5500 (12125)	240S/H 40%	750 (1653)
MGA34412942xxxx	**MGA34XL**	67,7 (90,8)	294	210	2200 (1622)	257	3800 (2802)	495	4,9	16	39,2	0,023	0,45	5500 (12125)	240S/H 40%	750 (1653)
MGA34410603xxxx	**MGA34XL**	13,8 (18,5)	60	360	2200 (1622)	42	3800 (2802)	77	29	16	8	0,86	18	5500 (12125)	240S/H 40%	750 (1653)
MGA34410963xxxx	**MGA34XL**	22,1 (29,6)	96	360	2200 (1622)	58	3800 (2802)	106	21	16	12,8	0,45	9,4	5500 (12125)	240S/H 40%	750 (1653)
MGA34411303xxxx	**MGA34XL**	29,9 (40,1)	130	360	2200 (1622)	71	3800 (2802)	133	18	16	17,3	0,315	6,7	5500 (12125)	240S/H 40%	750 (1653)
MGA34411603xxxx	**MGA34XL**	36,8 (49,3)	160	360	2200 (1622)	85	3800 (2802)	155	14	16	21,3	0,22	4	5500 (12125)	240S/H 40%	750 (1653)
MGA34412103xxxx	**MGA34XL**	48,4 (64,9)	210	360	2200 (1622)	111	3800 (2802)	208	11	16	28	0,13	2,4	5500 (12125)	240S/H 40%	750 (1653)
MGA34412943xxxx	**MGA34XL**	67,7 (90,8)	294	360	2200 (1622)	156	3800 (2802)	292	8	16	39,2	0,067	1,4	5500 (12125)	240S/H 40%	750 (1653)

Tab. 6

BRAKE CHARACTERISTICS											
Model	Brake model	Certificates		Driving Brake				Emergency Brake			
		EU	CSA	Power W (hp)	Voltage V	Current A	Force N·m (ft·lbs)	Power W (hp)	Voltage V	Current A	Force N·m (ft·lbs)
MGA34S	RSR1500	EU-BD 766	1182018	165 (0.22)	207V_{DC}	0,8 A	1700 (1254)	165 (0,22)	207V_{DC}	0,8 A	1700 (1254)
MGA34M	RTW2000	EU-BD 1014/1	1182018	178 (0.24)	207V_{DC}	0,86 A	2200 (1623)	178 (0,24)	207V_{DC}	0,86 A	2200 (1623)
MGA34L	RSR1500	EU-BD 766	1182018	165 (0.22)	207V_{DC}	0,8 A	1700 (1254)	165 (0,22)	207V_{DC}	0,8 A	1700 (1254)
MGA34XL	RTW2000	EU-BD 1014/1	1182018	178 (0.24)	207V_{DC}	0,86 A	2200 (1623)	178 (0,24)	207V_{DC}	0,86 A	2200 (1623)

3.2 Dimensions

The technical drawing and the overall dimensions follow.

Tab. 7

MGA34S - Fig. 2					
Sheave		Ropes			Dimensions
ØD	F	Ø	max	Pitch	A
in	in	mm	n°	in	in
9.45	5.12	6	10	0.47	6.57
12.60	7.09	8	10	0.67	6.02
15.75	7.09	10	10	0.67	6.02

Tab. 8

MGA34M - Fig. 3					
Sheave		Ropes			Dimensions
ØD	F	Ø	max	Pitch	A
in	in		n°	in	in
9.45	5.12	6 mm	10	0.47	6.57
12.60	7.09	8 mm	10	0.67	6.02
15.75	7.09	10 mm	10	0.67	6.02
20.50	7.09	1/2 in	8	0.79	6.02

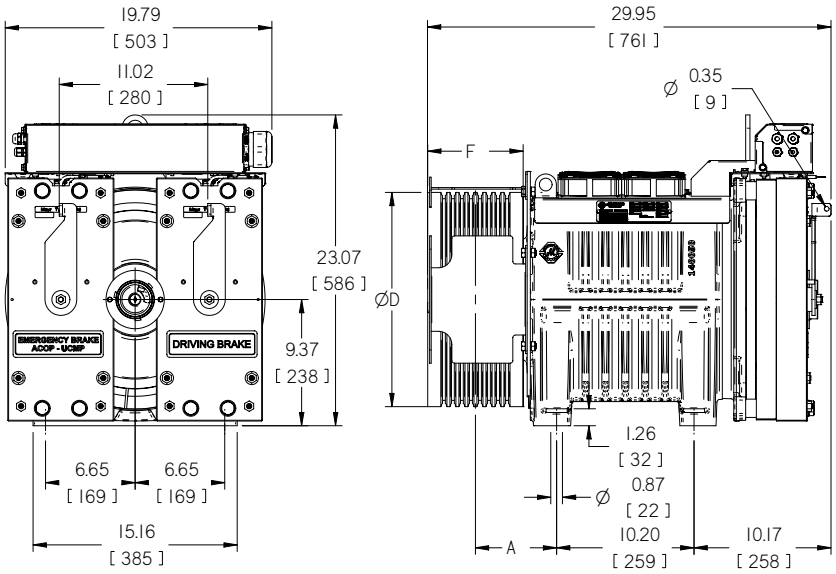
Tab. 9

MGA34L - Fig. 5					
Sheave		Ropes			Dimensions
ØD	F	Ø	max	Pitch	A
in	in		n°	in	in
12.60	7.09	8 mm	10	0.67	6.02
15.75	7.09	10 mm	10	0.67	6.02
20.50	7.09	1/2 in	8	0.79	6.02

Tab. 10

MGA34XL - Fig. 6					
Sheave		Ropes			Dimensions
ØD	F	Ø	max	Pitch	A
in	in		n°	in	in
15.75	7.09	10 mm	10	0.67	6.99
20.50	7.09	1/2 in	8	0.79	6.99

Fig. 2
MGA34S



MANUAL RESCUE DEVICE ARRANGEMENT

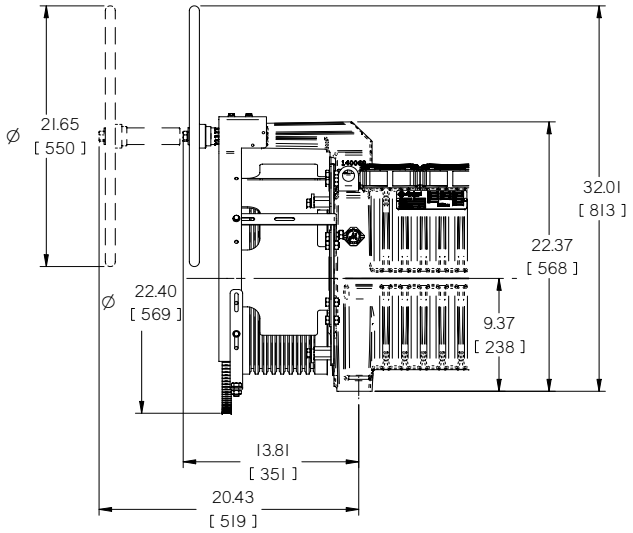
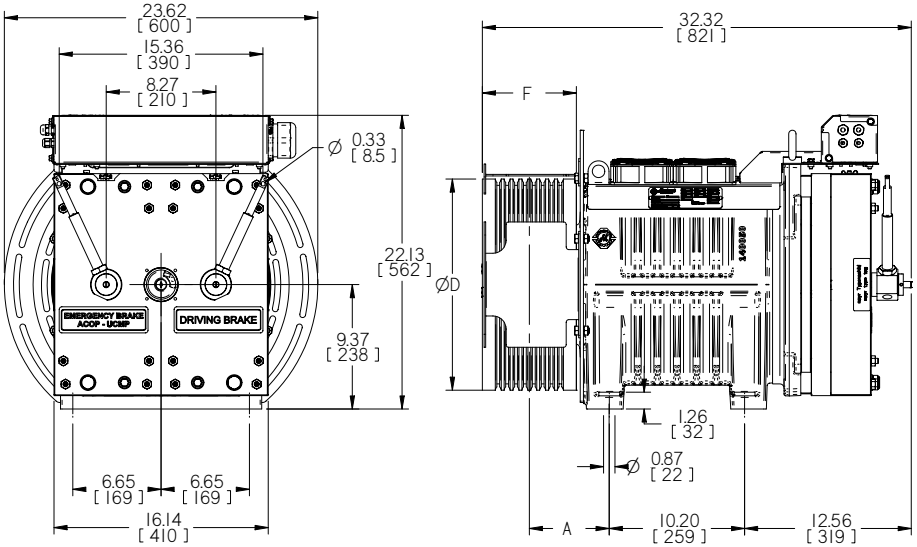


Fig. 3
MGA34M



MANUAL RESCUE DEVICE ARRANGEMENT

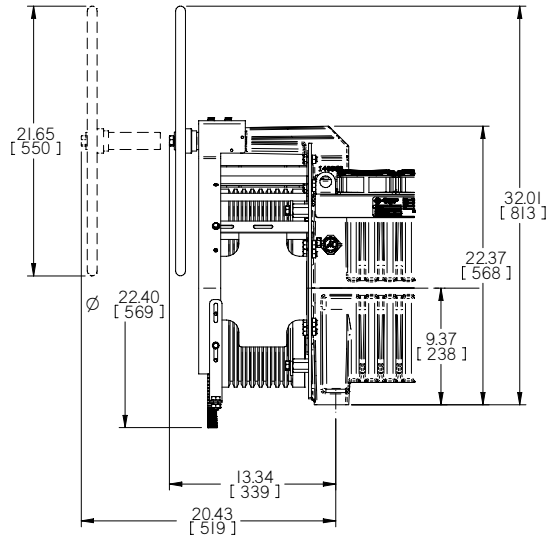
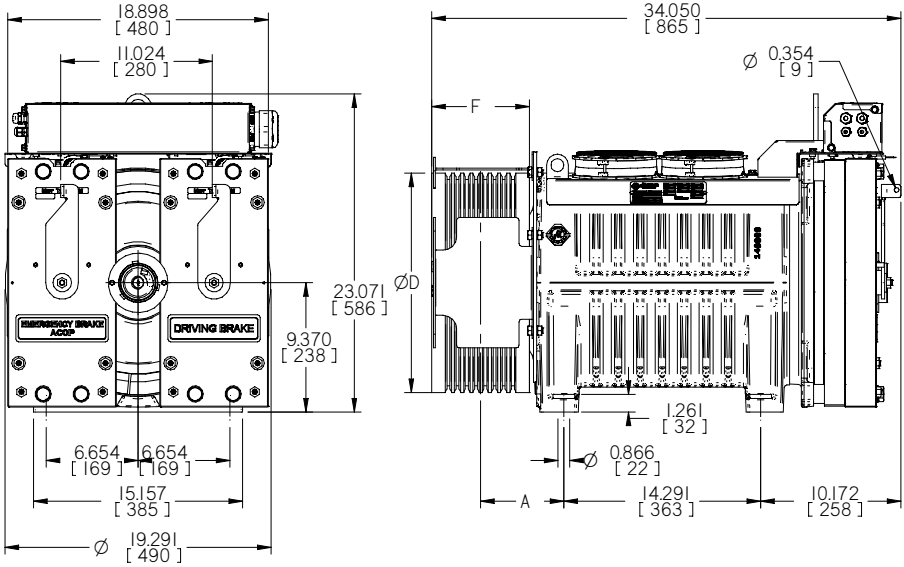


Fig. 4
MGA34L



MANUAL RESCUE DEVICE ARRANGEMENT

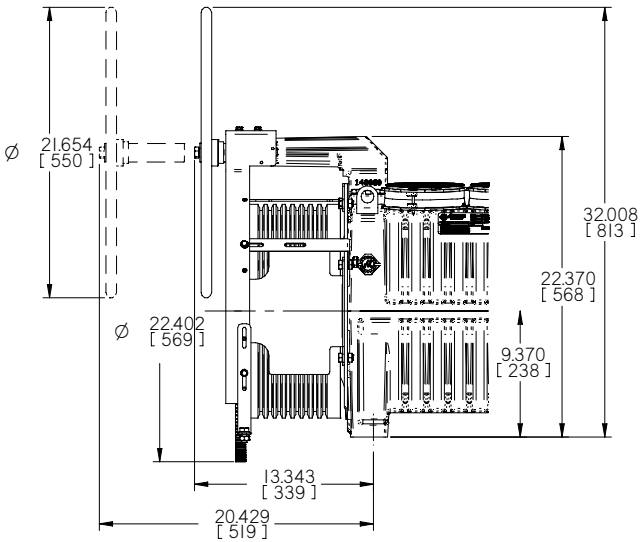
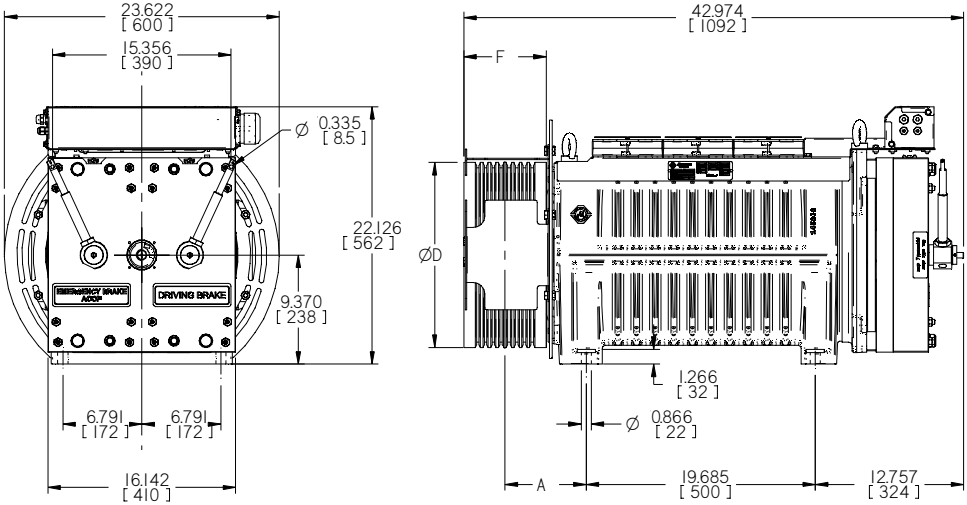
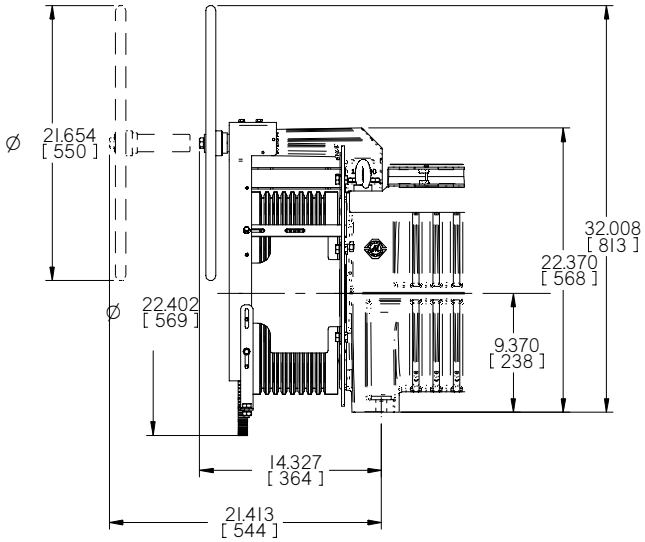


Fig. 5
MGA34XL



MANUAL RESCUE DEVICE ARRANGEMENT



3.3 Sound pressure

Tab. 11

MGA34 RANGE / Sound pressure in dB(A)*		
Version	When operating	With brake
S	≤48	≤54
M		
L		
XL		

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 in any way.
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

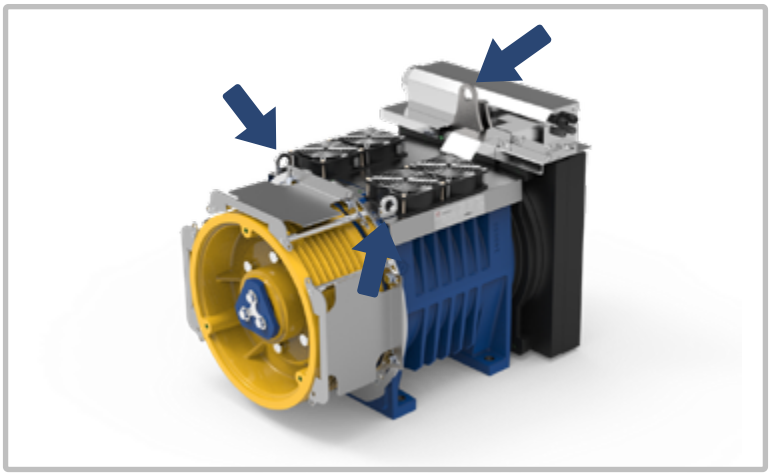
Do not use hooks

Keep away from heat sources

Fragile

Center of gravity

Fig. 6



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

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, temperature, 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 MGA34 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. For the versions with 12.60 - 15.75 - 20.50 inch sheave, it is possible to install the kit for the manual rescue system.

MGA34 S - M - L - XL 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 it is supplied with bearings already lubricated throughout the life of the machine; no further lubrication is required.

MGA34 with flywheel **- MR**

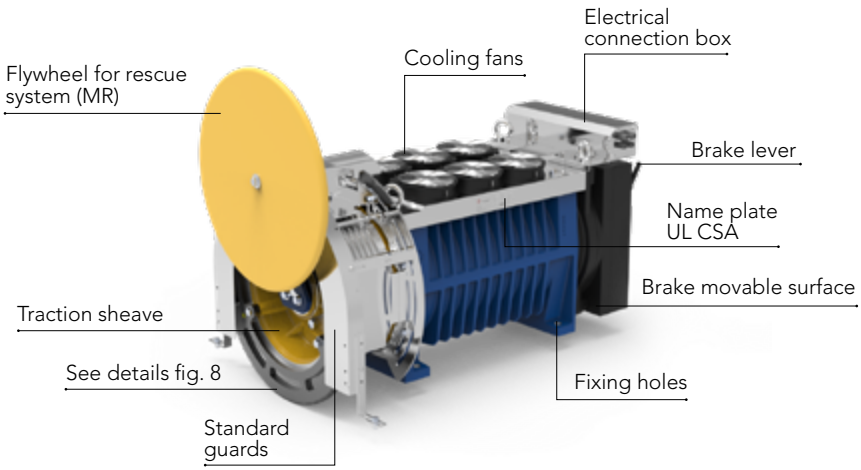


Fig. 7

MGA34: Manual Rescue Kit for transformation into machine room version
Only for sheaves: 12.60 - 15.75 - 20.50 inch

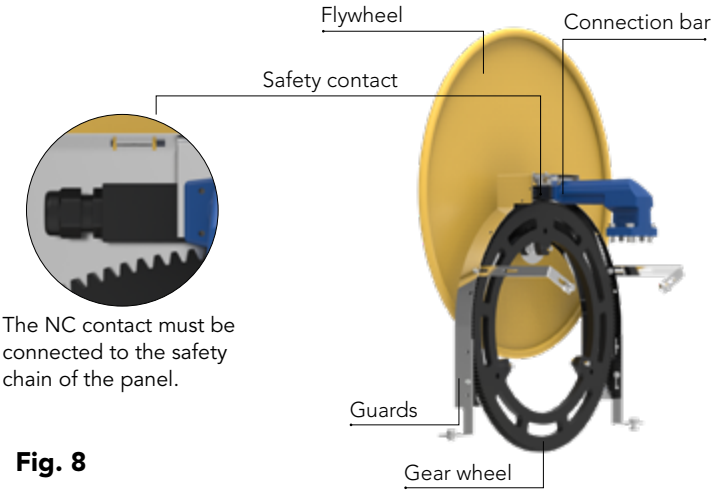


Fig. 8

MGA34 without flywheel - MRL

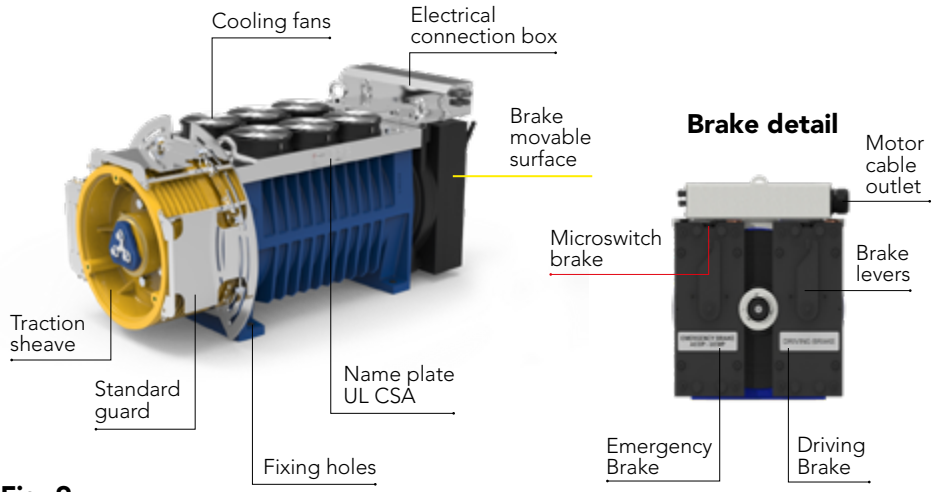


Fig. 9

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. 10). In this condition the system does not move.
- When the brake electromagnet is powered, it releases the brake disc (yellow arrows in Fig. 11); now the motor is released.

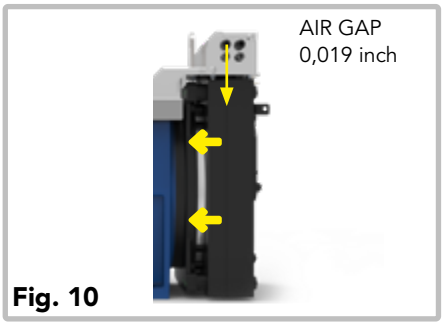


Fig. 10

Brake system not powered

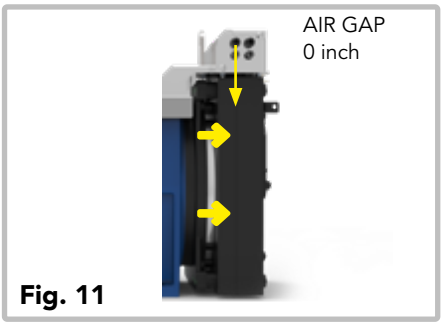


Fig. 11

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 +32°F and + 106°F.
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.

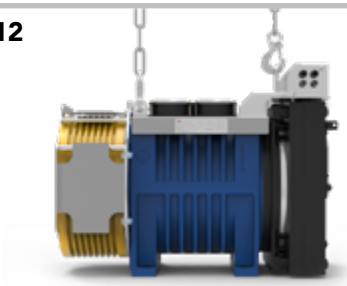
6.2 Installation surface

The installation surface must be uniform and level.
The levelling tolerance is 0,00787 inch.
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. 12.

Fig. 12



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 (Tab. 14 - Chapt. 9.5.2).
- 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. 13):

Load direction

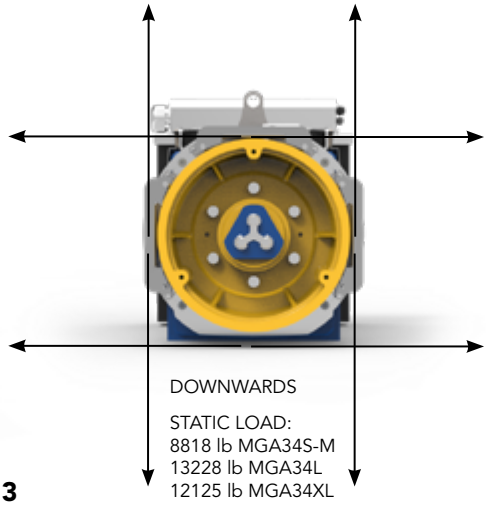
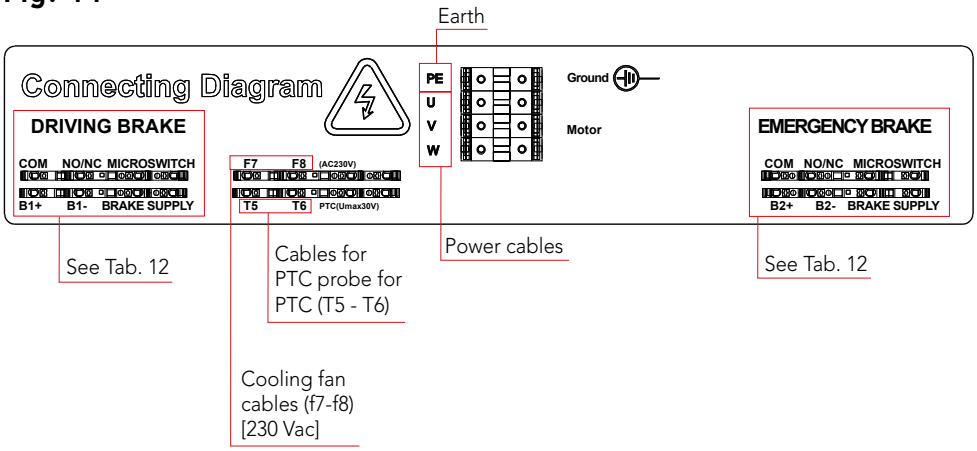


Fig. 13

6.4 Electrical installation - Connections

Fig. 14

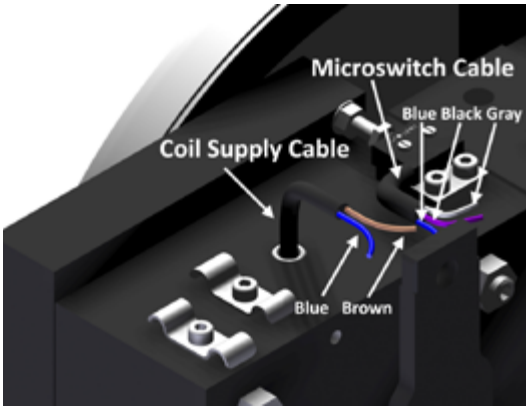


BRAKE CONTACTS' CONDITIONS

Tab. 12

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

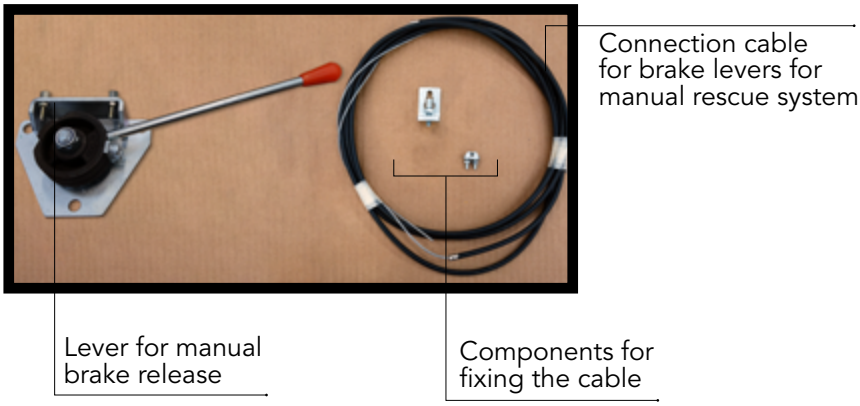
Fig. 15



7. CONNECTION OF THE BRAKE FOR RESCUE SYSTEM

For installations with machine room, the cable and release lever are supplied as standard. The kit is shown in Fig. 16.

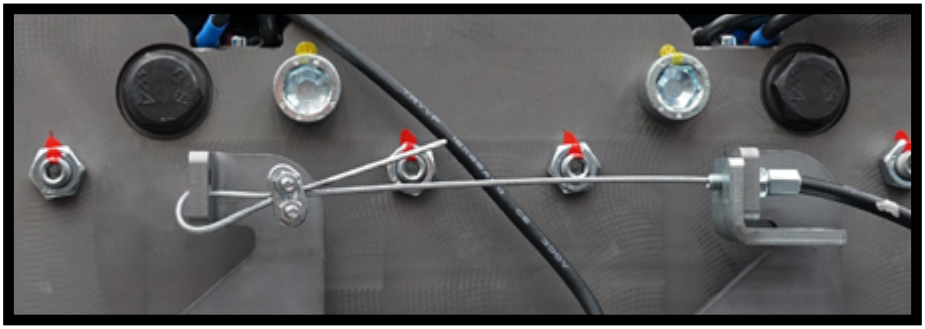
Fig. 16



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. 17).

Fig. 17



7.2 Connection of the cable to the hand release lever

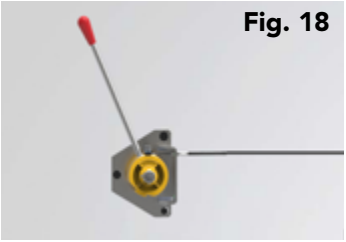


Fig. 18

Fix the lever to the wall with the bolts (not supplied). Connect the cable to the support as shown in Fig. 18.

Insert the other end of the cable into the screw hole. Tighten to stop Fig. 19a - b.

Fig. 19a

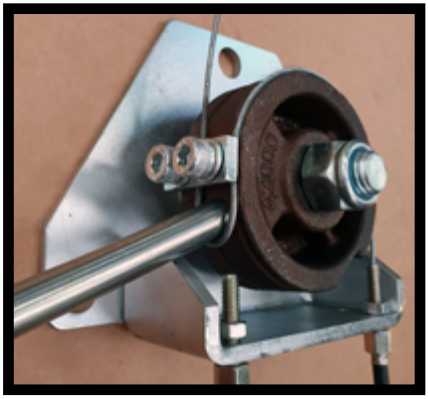


Fig. 19b

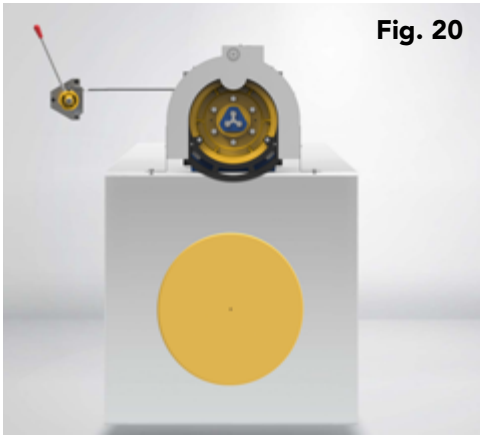


Fig. 20

Connection and installation must be carried out in such a way that the lever and the flywheel can be operated simultaneously. Fig. 20 - 21 - 22.
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

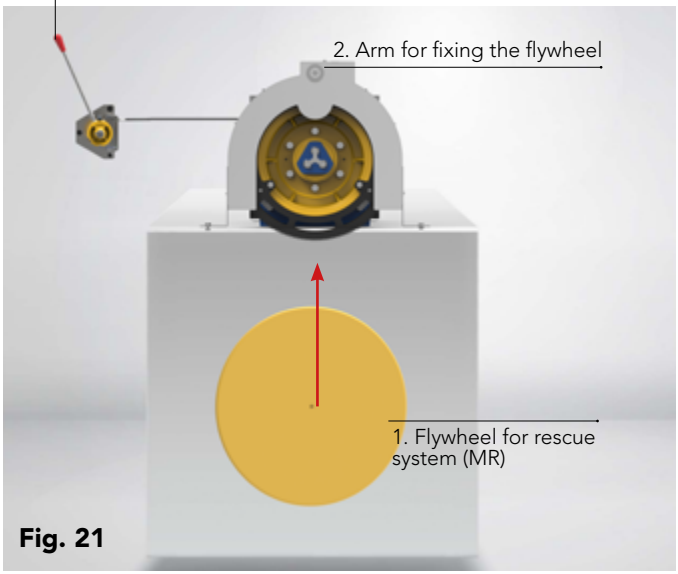


Fig. 21

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. 8) of the flywheel switch opens the supply circuit and ensures safe manual operation. The machine now looks like in Fig. 24.

* (NC = Normally Closed)

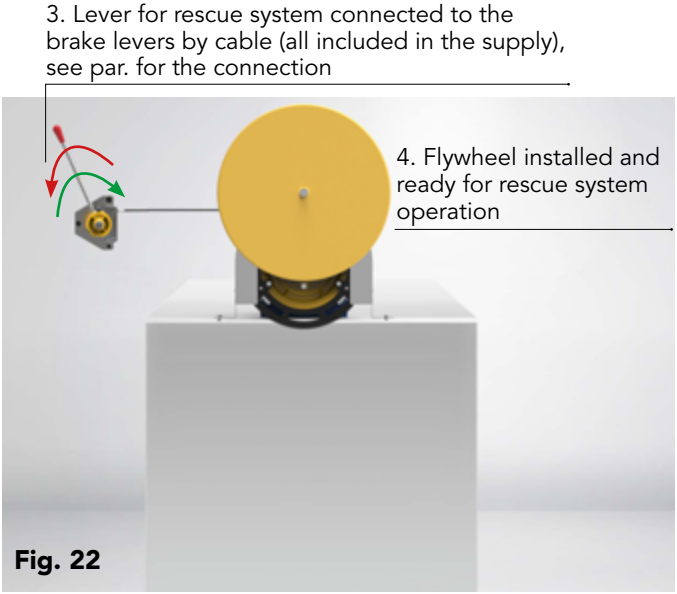


Fig. 22

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 MGA34 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.

8.4 Safety gear release

The safety gear can be released via the gearless machine without exceeding the Imax current limit shown in Tables 2 and 3. If this is not possible, it must be released with other means. However, it is always advisable to act on the weight in the cab in order to facilitate the releasing operation.

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 Replacement of components

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

9.3 Problems, causes and solutions

Tab. 13

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.

9.4 Maintenance and repair

9.4.1 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.

9.4.2 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 Tab.14.

Tab. 14

Bolt tightening torques (class 8.8)	
Thread	**M20**
Nm (ft lbs)	410 (302)

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

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