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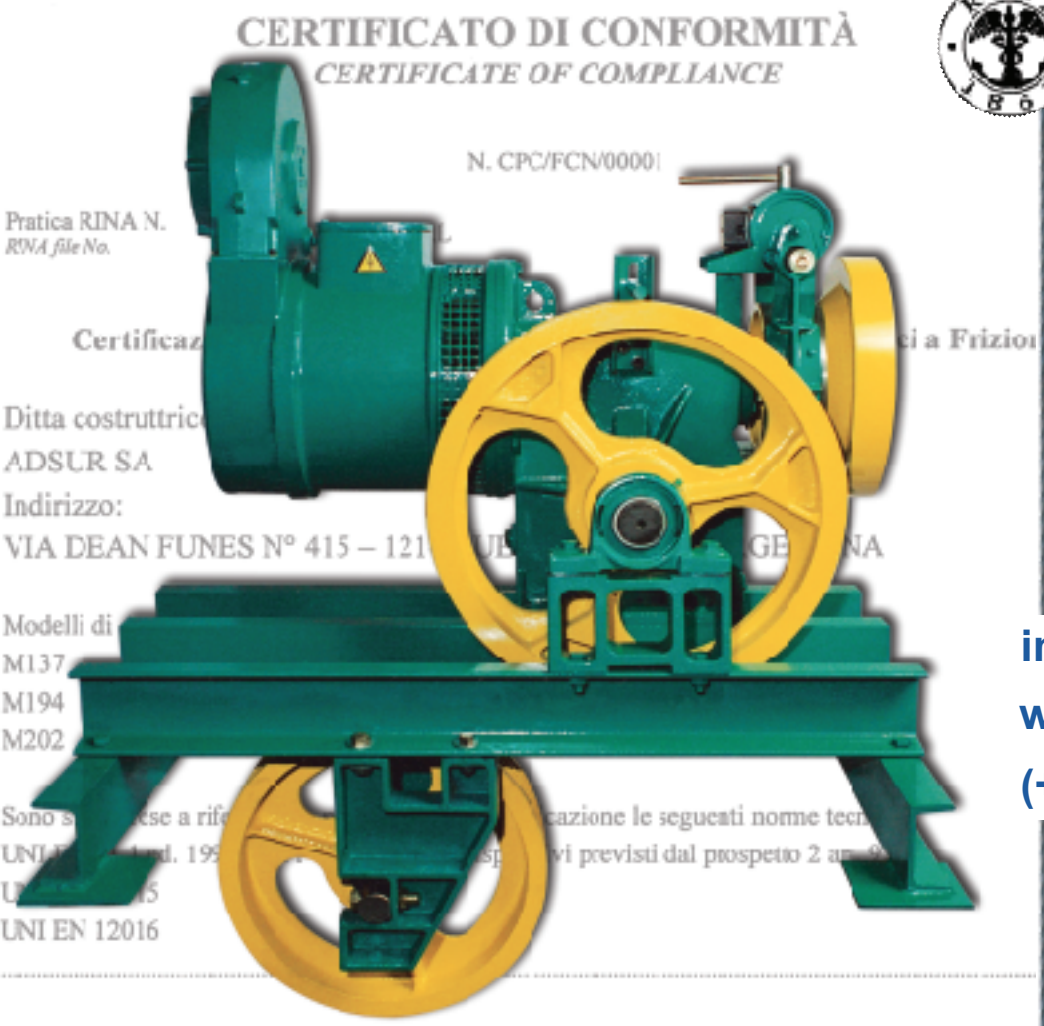

ARGANO CERTIFICATO DALLA RINA E COSTRUITO SECONDO LE NORME UNI EN81.1

ELEVATOR TRACTION MACHINE CERTIFIED BY RINA AND MADE ACCORDING TO EN81.1

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Non tutto è stato detto nel mondo degli argani.

Not everything has been said in the world of the elevator traction machine.

Informazioni Tecniche • Technical Information: www.adsur.com.ar

CERTIFICATO DI CONFORMITÀ
CERTIFICATE OF COMPLIANCE

N. CPC/FCN/00001

Pratica RINA N.
RINA file No. 02 BU 00022 AL

Certificazione su base volontaria Argano per Ascensori Elettrici a Frizione

Ditta costruttrice
ADSUR SA
Indirizzo:
VIA DEAN FUNES N° 415 – 1214 BUENOS AIRES. - ARGENTINA

Modelli di Argano Certificati:
M137
M194
M202

Sono state prese a riferimento per la presente certificazione le seguenti norme tecniche:
UNI EN 81.1 ed. 1999, con l'eccezione dei dispositivi previsti dal prospetto 2 art. 9.7.1
UNI EN 12015
UNI EN 12016

Allegati: *Enclosures*
Fascicolo caratteristiche tecniche argani mod. M137 – M194 – M202
Dichiarazione di conformità componenti elettrici
Dichiarazione di conformità Compatibilità Elettromagnetica EMC

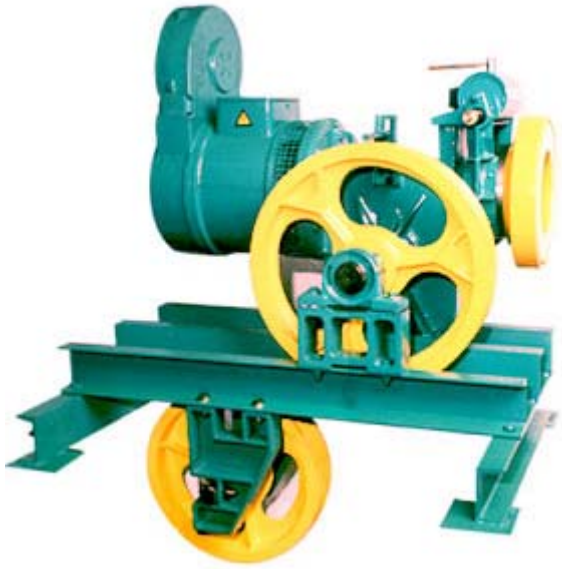
Rilasciato a: Genova
Issued at *Genova*

il 11/12/2002
on *11/12/2002*

RINA · REGISTRO ITALIANO NAVALE

In these lines are described the general characteristics of the materials, design and information to get a correct maintenance of our lift machines.
Technical information can be modified without previous notice.

LIFT GEARED MACHINE: Series "M"



Main Technical Characteristics:

- According to **EN81-1** (and MERCOSUR NM207).
- The machine support doesn't have mechanical fixing at the floor.
- Diverting pulley incorporated to the machine support, avoiding the installation of this pulley inside of the hoistway.
- Additional pedestal bearing in the traction sheave shaft.
- Ground worm.
- Thermal protection.
- Electric motor winding insulation: class F.
- One person can make the emergency operation, without additional tool.
- Independent brake shoes.
- Visible oil level indicator for M-137 and M-194, by dip stick for M-202.
- Standard installation for encoder.
- Standard installation for cooling fan.
- 2-year guarantee.

TECHNICAL INFORMATION INDEX

1. TRACTION SHEAVE SHAFT

Material: **SAE 4140,** with thermal treatment.
Tensile grade: more than 95Kg/mm²

Our design considers the effect of static and dynamic forces into consideration, and all practical procedures to reduce to a minimum - based on ASTM recommendations - the faults that could eventually be the result of alternative stress. To increase the dead load there is a pedestal bearing in the extreme of the traction wheel shaft.
Two eccentric sheave shaft-bearing housings allow compensating the gear wear.

2. WORM SHAFT

Material: **SAE 4140,** with thermal treatment.
Tensile grade: more than 95Kg/mm²

One worm shaft thrust bearing (double ball), one central bushed bearing and an additional bearing in the back cover of the motor assure a perfect alignment of the armature (placed in the same worm shaft), besides the dynamic balancing of the entire shaft eliminates the possibility of gear vibrations. Ground worms are used in every one of the machines.

3. WORM WHEEL

Material: Bronze **SAE 65**
Tensile grade: more than 280N/mm²
Brinel hardness: less than 120HB

The worm gear design takes into account the admissible forces and worn for superficial pressure. Both limits have been checked suitably for the tangential strength, moment and power maxims.

An accurate worm-gear size assures an useful life more than 50.000 hours without problems of transmission. This duration is equivalent around 17 years.
The efficiency of the gear is between 0, 7 and 0, 85.

4. TRACTION SHEAVE

Material: Cast Iron
Tensile grade: 20 to 30Kg/mm²
Brinel hardness: 200 /220 HB

Geometrically designed to endure the deflective and torsion stresses, and also prepared with the necessary surface hardness in the grooves to provide an adequate adherence for the suspension ropes to keep a safe elevator function.
The groove is normally "V" type (32°). "Undercut" groove can be made only by requirement of the customer.

5. ELECTRIC MOTOR

The elevator machines have the possibility to fix a cooling fan in all the models. For an effetive thermal protection is present one thermical protector to verify the temperature on the motor windings. The alert temperature is 105 °C.
The normal ventilation system allows the use of the elevator machine for 120 starts/h.

Protection degree: IP 21
Isolation class: F
Standard voltage: 3 x 380 V - 50 Hz / 3 x 220 – 60 Hz (other voltage by special requirement).
Thecnical information above is based on 3 x 380 V – 50 Hz

2 SPEED ELECTRIC MOTOR

POWER (HP)	5,5	7	10	12	15	20	25	30
POLES	4 16	4 16	4 16	4 16	4 16	4 16	4 16	4 16
SYNCRONIC SPEED (rpm)	1500 375	1500 375	1500 375	1500 375	1500 375	1500 375	1500 375	1500 375
ELECTRIC CURRENT (A)	9	13	18	21	27	36	45	54

1 SPEED OR VVVF ELECTRIC MOTOR

POWER (HP)	5.5	7.5	10	13.5	15	20	25	30	40
POLE	4	4	4	4	4	4	4	4	4
SYNCRONIC SPEED (rpm)	1500	1500	1500	1500	1500	1500	1500	1500	1500
ELECTRIC CURRENT (A)	9.7	12.5	15.8	21.5	23	31.5	38	45	60

6. BRAKE SYSTEM

Double construction according to EN81.1, fixed to the gear box. Easy maintenence and regulation (see chapter 19).
The brake system fulfills the requirements of an efficient braking action up to 125% rated load inside the car, according to EN81.1 and NM207.

Rated Voltage: 110 Vcc (other voltage by special requirement).

7. BRAKE SHOES

The brake shoe material is fire resistent and without asbestos or another harmful material. Under normal conditions, the esteemed life is near 3 years.
In the case to check a non homogeneous surface of the brake material or the drum of the brake, it is necessary to proceed to the immediate regulation of the brake system or to replace the brake material.

8. BEARINGS

In the gear box shafts are used first quality bearings.
The bearing lubrication is obtained by a bath of oil producing an excelent performance for high revolution.
The bearings used for the different models are:

TYPE	BEARINGS					
	WORM SHAFT			DRIVE SHAFT		
	Brake side	Motor Side	Motor Cover	Wheel Side	Opposit Side	Support
M-137	SKF 3307	SKF 6212	SKF 6008ZZ	BOCCOLA	BOCCOLA	YAR 210
M-194	SKF 3309	SKF 6016	SKF 6008ZZ	BRONZINA	BRONZINA	YAR 212
M-202	SKF 3312	BRONZINA	SKF 6008ZZ	NUP 219	SKF 6214	YAR 212

9. LUBRICATION

Method: Natural Flow
Recommended Mineral oils*:

OLI MINERALI RACCOMANDATI*

	M-137	M-194	M-202
CAPACITY (L)	3.5	4	5
REPSOL YPF	EP320	EP320	EP320
AGIP	Blasia 320	Blasia 320	Blasia 320
SHELL	Omala 320	Omala 320	Omala 320
MOBIL	Mobilgear 635	Mobilgear 635	Mobilgear 635
ESSO	Spartan EP 320	Spartan EP 320	Spartan EP320

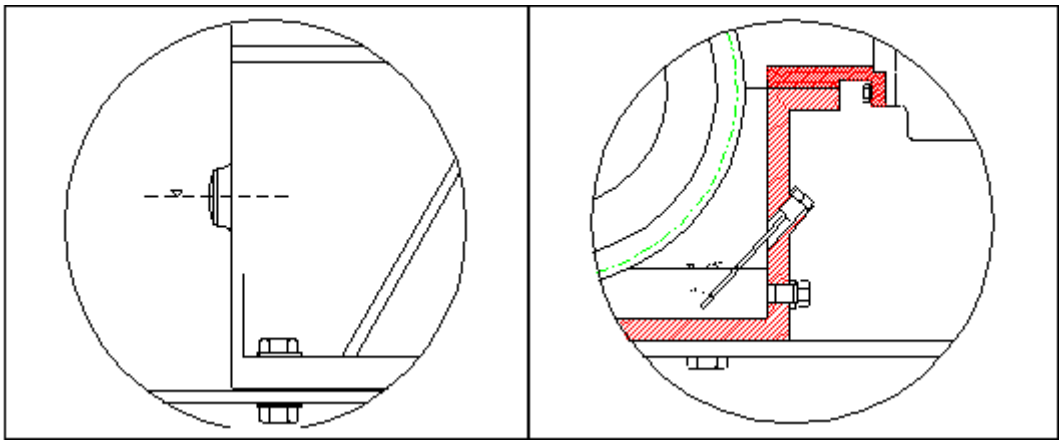
* Synthetic oil equivalent is admissible.

First Change Of oil:

- After 400 h of service.

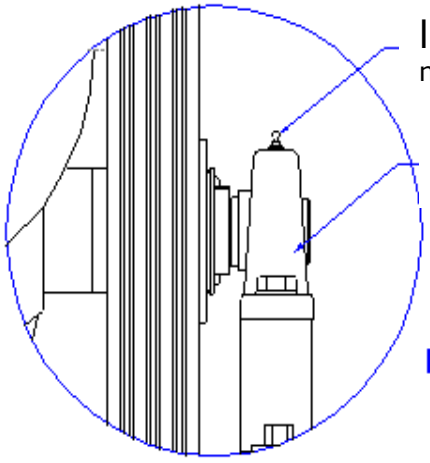
Following replacements:
- Between 12 to 18 months depending of duty service.

Oil level indicator:



M-137/M-194 M-202

Support



10. DATA PLATE TYPE

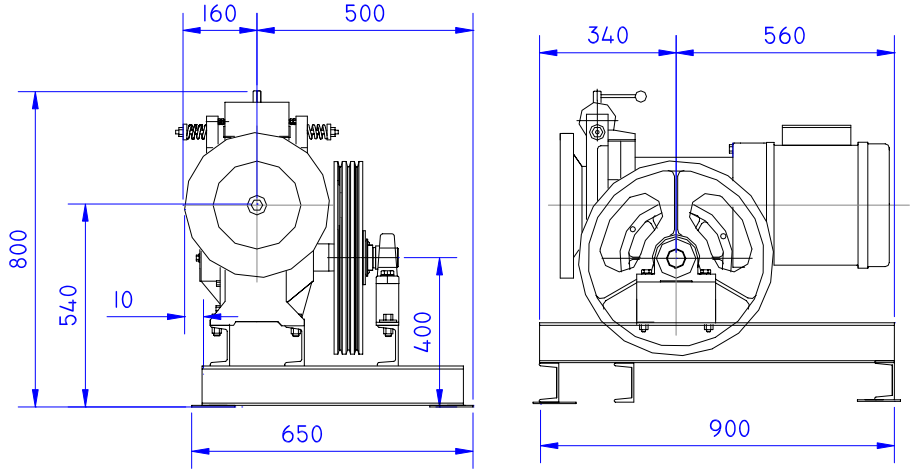
Machine ADSUR^{R}			
Electric Motor		**Machine**	
Type	VVVF	Type	M-137
Rated Voltage	3x380 V-50 Hz	Rated Speed	1m/s
Frequency	7 HP/5,5 KW	Rated Load	450 Kg
Rated Current	12 A	Static Load	3000 Kg
Speed	1500 rpm	Sheave	480 mm
Service	S5 - 50 %	Rope Diameter	1/2 " x 4
Protection	IP 21	Number of Ropes	
Insulation	F	Ratio	37/1
Winding	stella	Type of Oil	OMALA 320
Brake			
Rated Voltage	110 V CC	Rated Current	2 A CC
According to EN81.1		Date: Machine Nº :	

INDICATORS

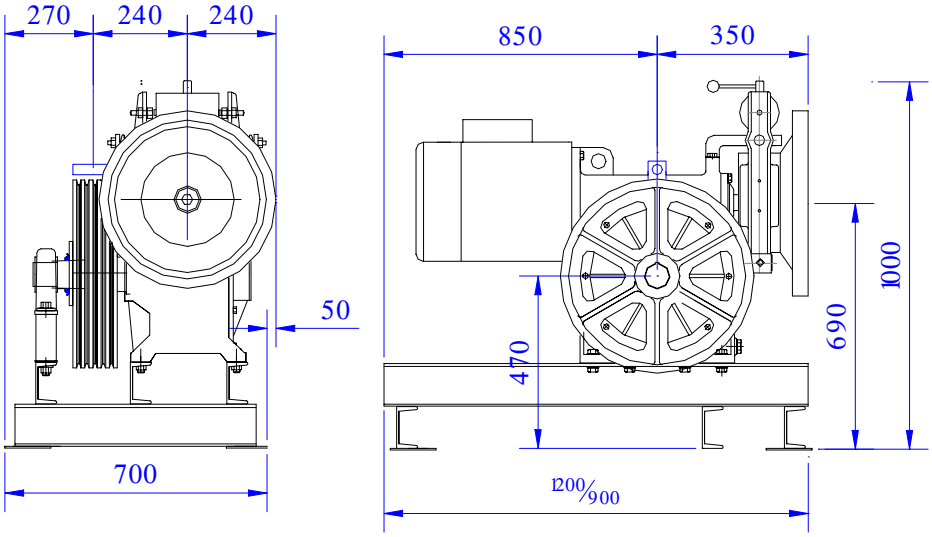
Down and up direction of the car (on brake coil)

11. MAIN MEASUREMENTS

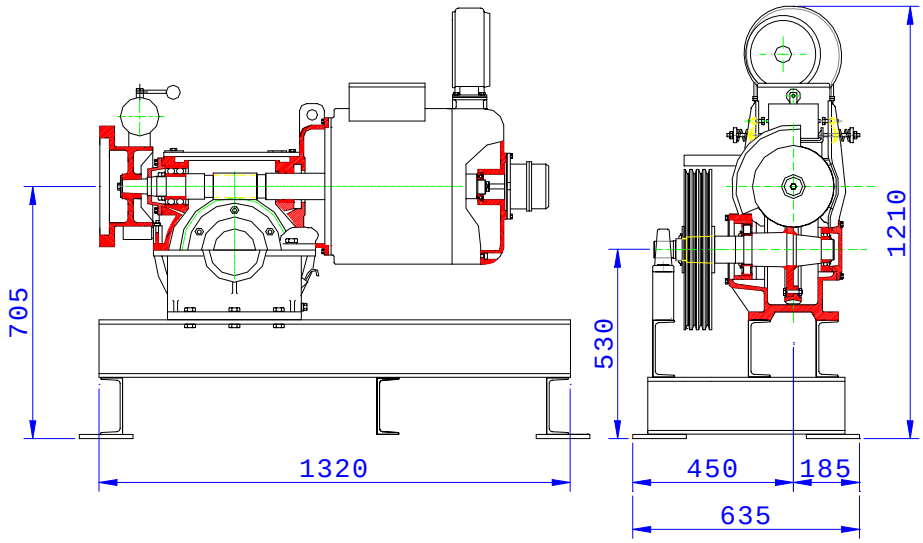
M-137

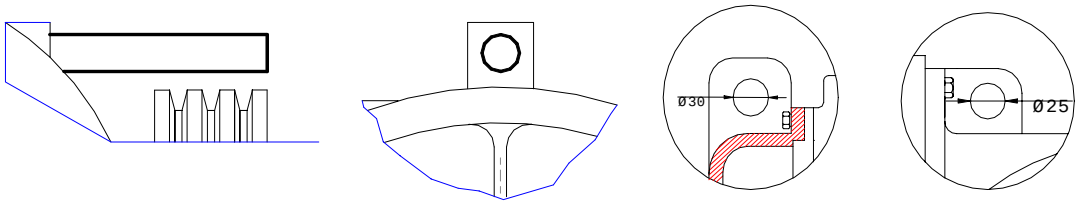


M-194



M -202





M-202 M-137/194

anti - derailment system **hook to lift elevator traction machine**

12. GEAR BOX WEIGHTS

	M-137	M-194	M-202
HEIGHT (Kg)	270	380	650

13. BASIC INFORMATION FOR A QUOTATION

ADSUR^{R} ELEVATOR TRACTION MACHINE

CUSTOMER /	
CONTACT:	**Mr./Mrs.**
REFERENCE:	

REQUIREMENTS OF: quotation ☐ order ☐ **DATE** ____ **quantity** ____

TECHNICAL CHARACTERISTICS (for customer)

VOLTAGE SUPPLY	RATED VOLTAGE	3x	V
	FREQUENCY	☐ 50	Hz
		☐ 60	Hz
ELEVATOR	RATED LOAD		Kg
	SPEED		m/s
ELEVATOR ARRANGEMENT	SYSTEM OF ROPING	☐ overhead drive	
		☐ bottom drive	
		☐ 1:1 roping factor	
		☐ 2:1 roping factor	
		☐ other:	
	TRAVEL		m
	STARTS PER HOUR		s/h
	DRIVE SHEAVE (seen behind the electric motor)	☐ right side ☐ left side	not available for M-202 (only right side)
	suspension ropes distance between car and counterweigt		mm optional information
	CAR WEIGHT (empty)		Kg
	COUNTERWEIGHT WEIGHT		Kg
	NUMBER OF ROPES		
	DIAMETER OF ROPES		mm
ELECTRIC MOTOR	1 SPEED	☐	
	2 SPEED	☐	
	VVVF	☐	
BRAKE	VOLTAGE	☐ 110	Vcc
		☐ 48	Vcc
		☐ other	
OPTIONAL	drive sheave protector	☐	
	diverting pulley	☐	
	cooling fan	☐	
	tropicalization	☐	
	encoder (not included)	☐	tipo ____
PACKING	NO PACKING	☐	
	BY SHIP	☐	
	BY AIR	☐	
	CONTAINER	☐	

DELIVERY DATE	
TRANSPORT AGENT	

ONLY TO BE FILLED BY ADSUR

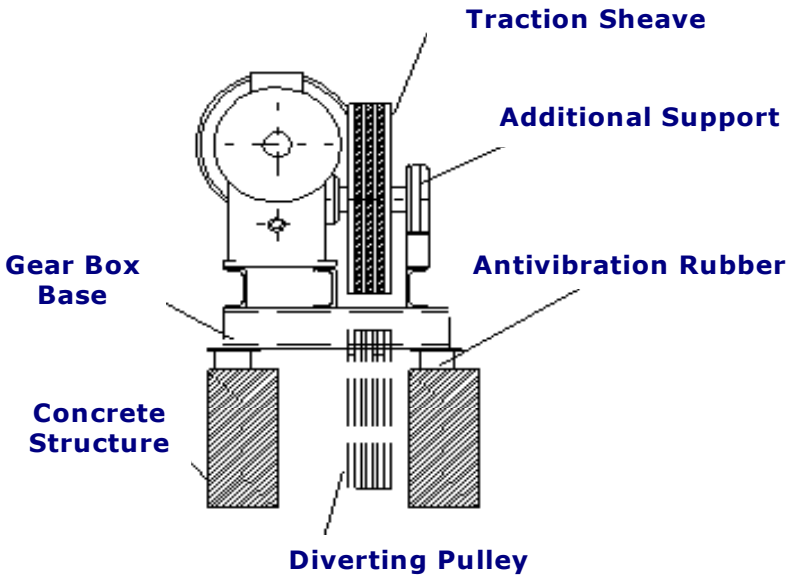
TYPE OF GEAR	
SERIAL NUMBER	
DELIVERY DATE	

ADITIONAL INFORMATION:

14. INSTALLATION TYPE

The elevator gear box is fixed on a base calculated according to the static load.
According to the underlying scheme, no anchorages are necessary.
No coupling system for the electric motor shaft avoids vibrations.

ELEVATOR TRACTION MACHINE

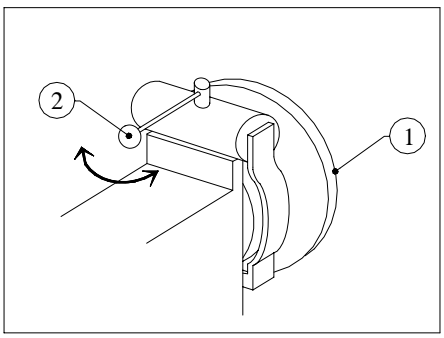


15. EMERGENCY OPERATION

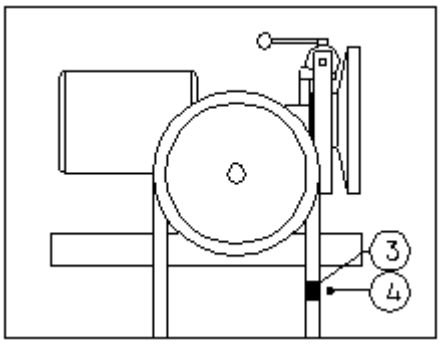
1) MANUAL OPERATION: M-137 / M-194

A. Disconnect the power supply of the elevator. Confirm the landing doors are closed.

B. The operator should be located in the opposite side to the traction sheave. With one hand move the brake lever (2) in any sense in order to unlock the brake. Maintain this position to make the operation C.



C. Move, with the another hand, the fly-wheel (1) in the sense of the smaller effort until arriving to the marks (3) on the traction ropes (4) in order to reach the car at the level of the floor.



D. Release the brake lever at the normal position.

2) ELECTRIC OPERATION: M-202

For the following rated load and speed, it is necessary an electric emergency operation:

RATED LOAD	Speed	Power	Sheave Diameter	Ratio
KG	m / s	HP	mm	
900	2,50	40	680	45/2
1200	1,50	30	620	53/2
	2,00	40		
	2,50	50	680	45/2
1500	1,25	30	480	55/2
	1,50	40	620	

A. Disconnect the power supply of the elevator. Confirm the landing doors are closed.
B. Push the appropriate push-button to up or down the car up to the next floor.
C. Release the push-button.

16. MACHINE SCHEDULE (50HZ)

RATED LOAD	Rated Speed	Power	Motor Type	Model	Sheave Diameter	Speed Motor	Ratio
KG	m / s	HP			mm	GIRI / MIN	
300	0.63	5	1V	M - 137	510	1000	37/1
	0.75	5	1V - VVVF			1500	45/1
	1.00	5	2V				37/1
		5.5	VVVF				
	1.25	7.5	VVVF				63/2
450	0.50	5	1V	M - 137	510	1000	45/1
	0.63	5.5	1V				
	0.75	5	2V			1500	
		5.5	1V - VVVF				
	1.00	7	2V				37/1
		7.5	VVVF				
	1.25	10	VVVF	M - 194	620		53/2
	1.50	12.5	VVVF				
	2.00	15	VVVF				
600	0.50	5.5	1V	M - 137	510	1000	45/1
	0.63	7.5	1V				
	0.75	7	2V			1500	
		7.5	1V - VVVF				
	1.00	10	2V				37/1
		10	VVVF				
	1.25	12.5	VVVF	M - 194	620		53/2
	1.50	15	VVVF				
	2.00	20	VVVF				
750	0.75	10	2V	M - 194	510	1500	46/1
		10	VVVF				
	1.00	12	2V		620		
		12.5	VVVF				
	1.25	15	VVVF		510		53/2
	1.50	20	VVVF				
	2.00	25	VVVF		620		
900	0.75	12	2V	M - 194	510	1500	46/1
		12.5	VVVF				
	1.00	15	2V		620		
		15	VVVF				
	1.25	20	VVVF	M - 202	510		55/2
	1.50	25	VVVF				
	2.00	30	VVVF		620		53/2
	2.50	40	VVVF		680		45/2
1200	0.50	12.5	1V - VVVF	M - 202		1000	48/1
	0.75	15	2V		510	1500	
		15	VVVF				
	1.00	20	2V		620		
		20	VVVF				
	1.25	30	VVVF		510		53/2
	1.50	30	VVVF		620		
	2.00	40	VVVF				
	2.50	50	VVVF		680		45/2
1500	0.50	12.5	1V - VVVF	M - 202		1000	48/1
	0.75	15	2V		510	1500	
		15	VVVF				
	1.00	25	2V		620		
		25	VVVF				
	1.25	30	VVVF		510		55/2
	1.50	40	VVVF		620		

RATED STATIC (Kg)

M - 137	3000
M - 194	4000
M - 202	8000

17. ELECTRO MAGNETIC COMPATIBILITY

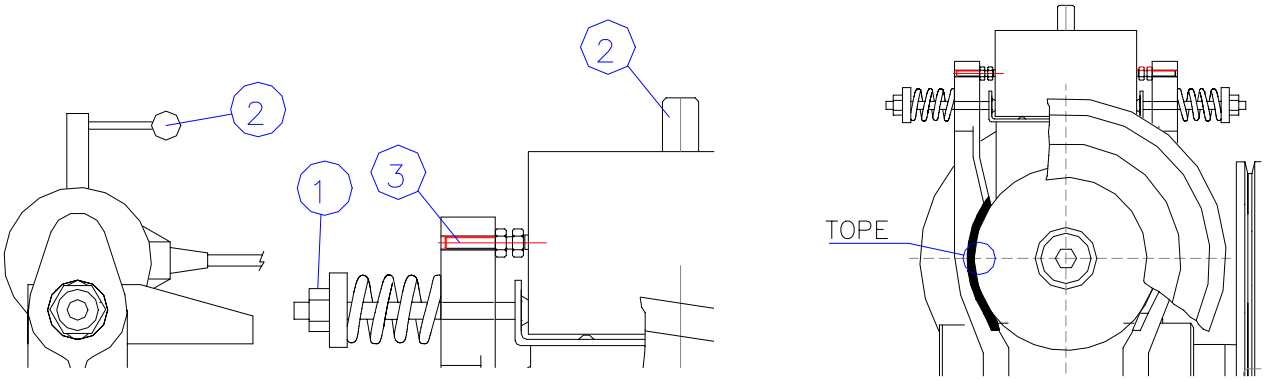
Normative EMC has been considered in the series "M" elevator traction machine construction.

18. ELECTRICAL COMPONENTS

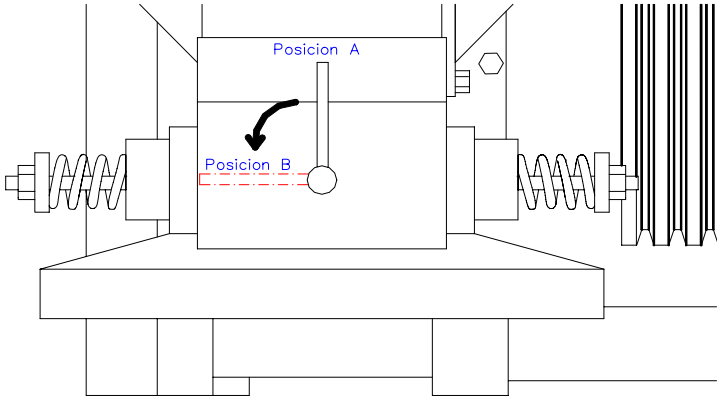
The electrical components are installed and made according to IEC standards.

19. BRAKE SYSTEM ADJUSTMENTS

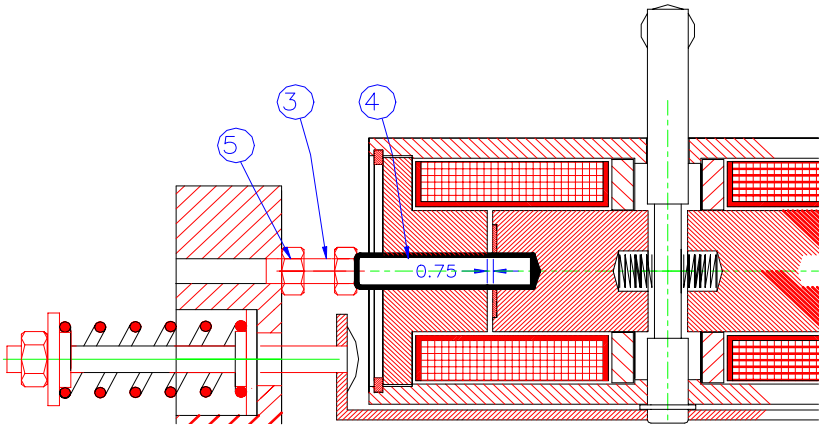
1- Disconnect the power supply.
2- Resting the counterweight on the pit.



3- Screw the nut (1) as far as the shoe brake rests on the brake drum.
4- Screw the nut (1) 5 turns.
5- Move the brake lever (2) manually from A to B and maintain it there.



6- Screw the bolt (3) as far as it rests on the mobile core (4).
7- Return the brake lever (2) to the position A.
8- Unscrew the bolt (3) ½ turn. Screw the locknut (5) in order to fix the bolt (3).



9- Verify the gap. It shall be 0.75 mm.
10- Repeat, on the opposite side, the points 3 to 9.
11- Verify manually the brake operation.
12- Restore the counterweight to the correct position.
13- Connect the power supply.

20. ELECTRICAL CONNECTIONS