NAVIGA CERTIFICATION
EN ISO 9001:2015
No : 1740528

CE
1015

NAGEL
MAKİNA MOTOR
İML. SAN. ve TİC. A.Ş.

USER'S MANUAL

v2

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NAGEL
MAKİNA MOTOR
ÖZGEN İML. SAN. ve TİC. A.Ş

ABOUT US

Nagel Machine Engine Production Industry and Trade Inc. has been working since 1976 to give the best product and service to the customers. Producing elevator machine since 1981, the company moved to its new factory where the new time and technology needs are covered in 1991, and then we started to produce elevator engine as well.

Continuing our investments for technology and substructure investments, we created our own R&D laboratory in 2003, all software and production equipments are added in order to have more efficient products and to be able to answer various needs.

Our products have CE, ISO, TSE, Certificate of Guarantee, Service Compliance Certificate and Magnetic Compatibility Certificate. Producing human elevator and freight elevator machines and engines (from 320 kgs to 7000 kgs), our company doesn't follow but create the innovation, with its specialist staff and developed technical equipments without compromising quality.

NAGEL MAKİNA MOTOR ÖZGEN İML. SAN. ve TİC. A.Ş

GEARLESS ELEVATOR MACHINE INSTRUCTION MANUAL

NAVIGA CERTIFICATION
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DEAR VALUED CUSTOMER

We thank you for choosing the elevator machineries and engines produced by our company that operate in compliance with state-of-the-art technologies. Please pay attention to the points we have stated to be able to use our products safely for long years with the desired efficiency.

Yours Sincerely,

WARNING

Before beginning to run the machine, please read the operating and safety instructions in the manual carefully.

INDEX

Adress: Mecidiye Mah.Uzundere Artvin Cad. No:70 34930 Sultanbeyli / İSTANBUL Phone: (+90 216) 398 46 10 / 398 07 46 Fax : (+90 216) 398 11 36

1 . 1. *Used Materials and their properties*

* Our machine is a synchronous machine designed with magnet excitation (3 phase 230/400 Volt 50 Hz) driver input for electric voltage.
* Only the raw materials and complementary materials suitable to TSE standarts were used during the production. Therefore no problem is possible to be experienced because of this reason.
* The machine body, covers and pulley are made from standart ingot. (pig casting)
* Steel materials were used for the production of machinery shaft.
* The machine was initially run at our factory and final controls are completed.
* The machinery insulation, cables and enameled wires are in compliance with TSE standards; after winding they are varnished and furnaced.
* The electro-mechanical brake of our machine runs at 198 Volt DC voltage.
* The power values stated on our machine apply at environments where the temperature is between 0-40 °C and the altitude from sea level is up to 1000 meters.

1 . 2. *Motor Controller Properties*

* Electrical panel to be used must be in accordance with the machine power.
* 24 Volt AC/ 120 °C Thermistor is used, it is activated in case of temperature increase of the winding as the result of machine overload. Thermistor output ends need to be connected to the phase protection relay at the panel.
* A switch that deactivates the drive mechanism whenever required, is recommended to be used in scope of the used electrical panel.
* The motors directly connected to the main supply must use thermal magnetic switches against overload, which can be manually re-prepared and which disconnects the feed for the conductors under voltage.

2. BASIC WARNING INFORMATION

* Unauthorized people without machine training shall not interfere with the machine.
* Always remember to deactivate the engine before the maintenance and control works!
* Carry out the grounding connections immediately after the machine assembly.
* The drive pulleys are yellow-colored to be noticed as a warning, according to the standards.
* There is a protective rope throwing arm that prevents the loose ropes from getting free from the pulley, moreover protection cage shall be used during the assembly.
* Do not use clothes with long pieces during the machine assembly and maintenance works
* The motor must be ventilated suitably. This ventilation must be done in such a way to protect the machine from dust and humidity.
* Do not run the machine without driver, by directly connecting to the main supply.

3. MACHINE TRANSPORTATION & STORAGE

* The machine shall be removed from its package through the help of the lifting ring at the top of the machine, by carefully avoiding the dangers of falling and impacts.
* Do not drop the machine on the ground harshly, when loading or unloading!
* The machine shall not be disassembled during the transportation to the assembly area!
* The machine weight is stated on its label; suitable equipments for that weight shall be used during the transportation.
* If the machine is going to be stored for a specific period, the engine shall not be removed from its package and preserved at a dry environment without humidity.
* If the engine is removed from the package and is going to be stored, it shall be protected from external factors (dust, humidity, water, etc.).

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4 . 1. ***Points to consider during assembly***

* The responsibility for the assembly, operation and installation of the gearless elevator motor shall belong to the company that performs them. Our company cannot be held responsible for the problems that occur after the installation. You can contact our company whenever you need us.

* Attention must be paid to ensure that the machine assembly location is smooth and suitable in terms of the dimensions.

* M16-8.8 quality steel bolts (4 pcs.) shall be used during the assembly.

* After the machine is assembled and the ropes are placed on the pulley, the rope throwing arms shall be adjusted in such a way to leave 2-3mm of distance above the rope

* Precautions must be taken to prevent machine vibration and noise.

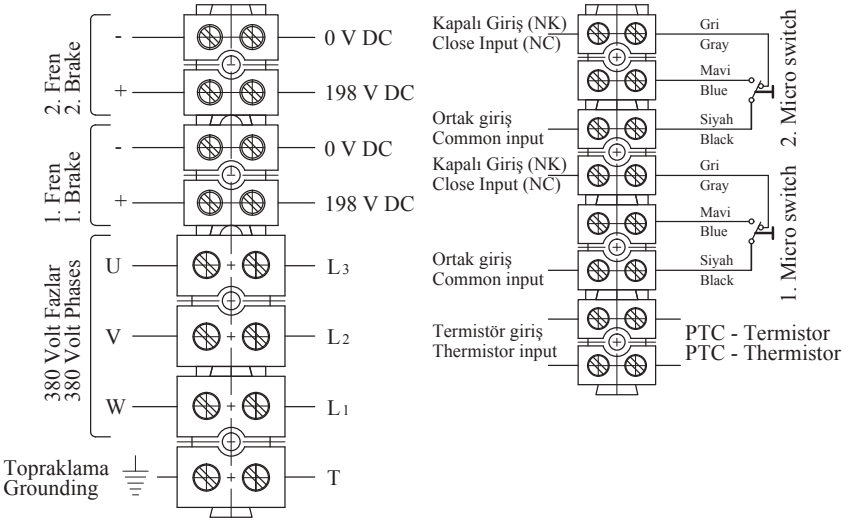
* In order to prevent the machine driver pulley wear, adjust the rope tension to be the same!

* Carry out all of the connections correctly and without missing points according to the scheme stated on the machine terminal box cover.

* Connect the machine encoder panel communication cable ends at the locations on the driver correctly and based on the scheme.

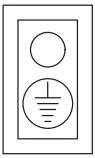
* All values (power, speed, etc.) stated on the machine label shall be entered to the driver memory for auto-adjustment process to introduce the machine to the driver.

4 . 2. *Machine Terminal Block Connection Scheme*

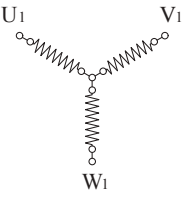


WARNING

(a) If your panel has single (1 phase, 1 neutral) brake outputs, connect parallel bridge between the 1st and 2nd brakes.
(b) If your panel has single (1 common, 1 closed) switch outputs, make bridge connection between black to black and gray to gray, in scope of the switch ends.
(c) Thermistor runs with 24 Volt-50 Hz AC voltage.
(d) The brake runs at 198 V DC.
(e) ABSOLUTELY NEVER RUN THE MACHINE WITHOUT BODY GROUNDING.



GROUNDING



Coin Winding Connecti

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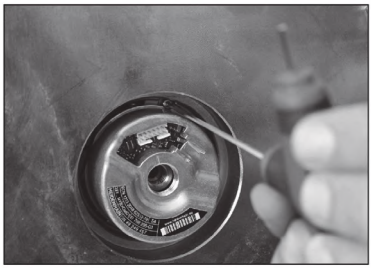
4 . 3. *Motor Encoder Replacement*

Remove the cable plug that provides communication between encoder and panel

Remove the encoder cover with suitable allen wrench.

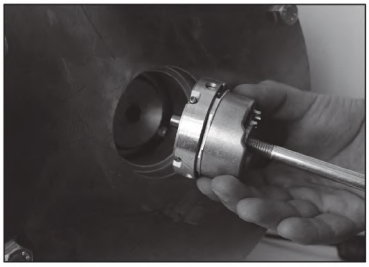
Remove the encoder cable from the terminal block slot on the body.

Remove the encoder hex socket bolt with suitable allen wrench.



Use a suitable allen wrench to loosen the encoder bolt at the body retaining ring.

Remove the encoder from its position within the body with the help of M10 bolt.



Attach the new encoder to its position within the machine body by applying the same steps reversely.

NOTE: AFTER ENCODER REPLACEMENT IS DONE, THE MACHINE AUTO-ADJUSTMENT PROCESS VIA THE PANEL NEEDS TO BE REPEATED.

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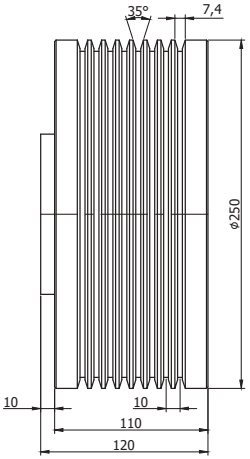
* Before starting the periodical maintenance for the machine, you must disconnect the voltage via the main switch.
* Check the distance of rope throwing arms to the ropes once in 6 months and adjustments shall be made whenever required.

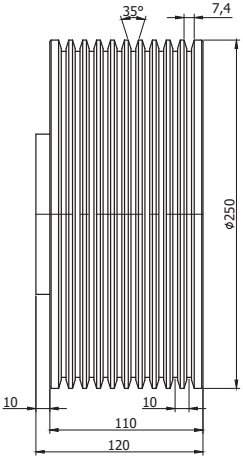
* UPS that brings to the floor when the power is gone, must be controlled each month.

* The pulley ropes need to have the same tension, otherwise it will wear the driver pulley, therefore supervision shall be carried out during the periodical maintenances and adjustments shall be made.

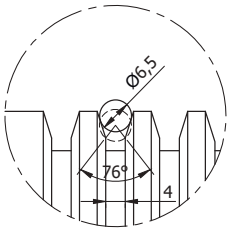
* The correctness of the electromechanical brake stops shall be checked during the maintenance.



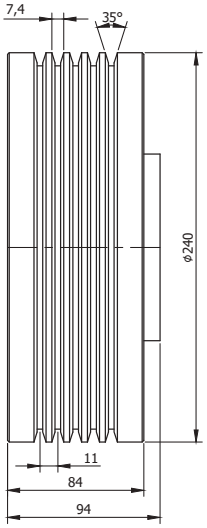
Ø 250 x Ø 6,50 x 8 Rope



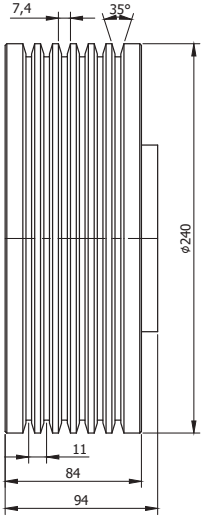
Ø 250 x Ø 6,50 x 10 Rope



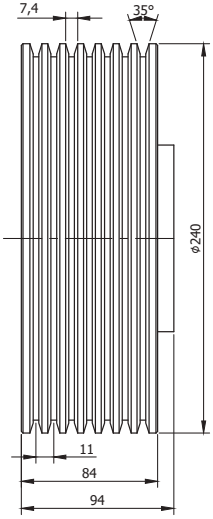
Rope Angle of Shear



Ø 240 x Ø 6,50 x 5 Rope



Ø 240 x Ø 6,50 x 6 Rope



Ø 240 x Ø 6,50 x 7 Rope

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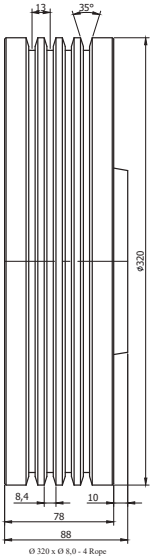
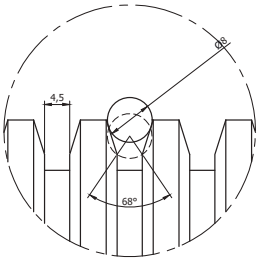
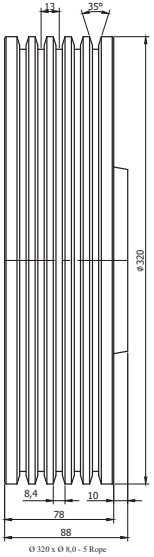
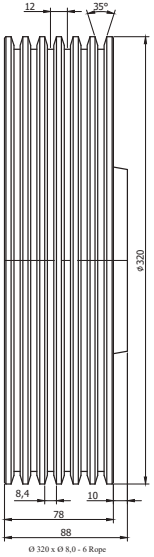
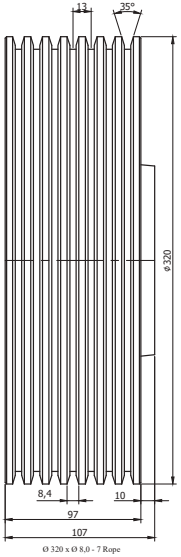


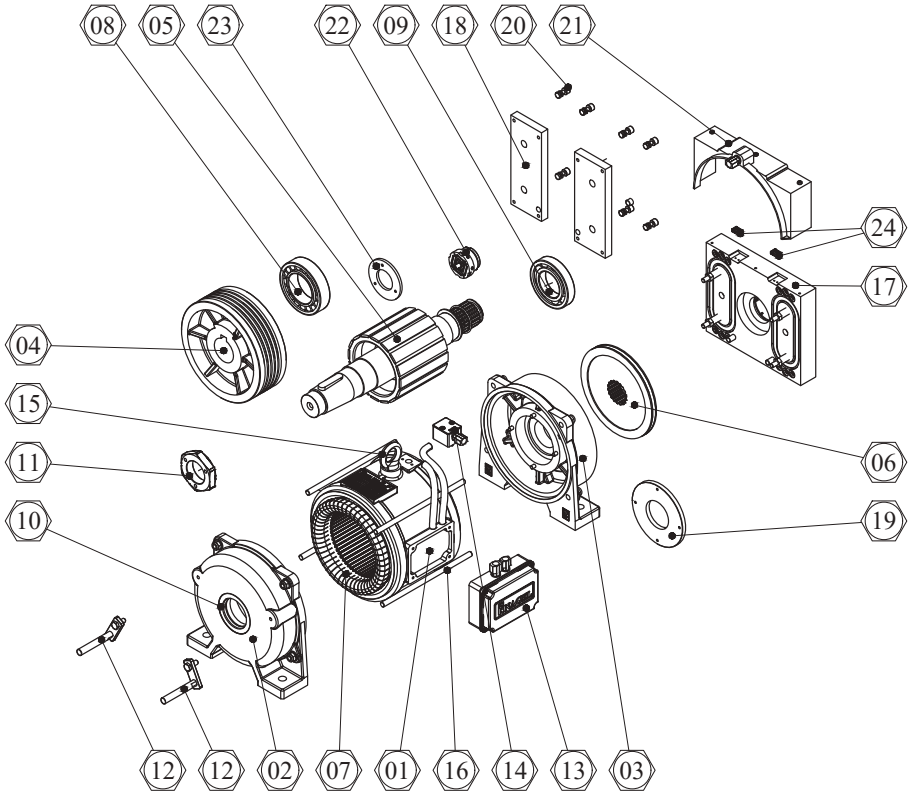


Rope Angle of Shear









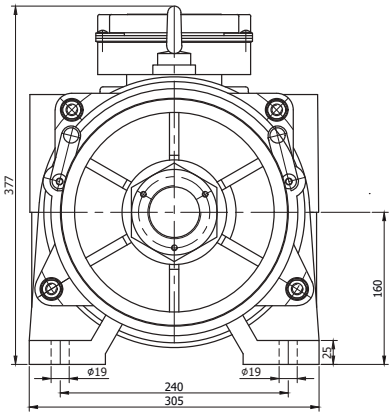
12	Rope Protection	24	Micro switch
11	Pulley Lock Nut	23	Brake adjustment flange
10	Oil Seal	22	Enkoder
09	Rear Ball Bearing	21	Brake Protection Cover
08	Front Ball Bearing	20	Brake Adjustment Bolt
07	Stator	19	Bearing Cover
06	Brake Pad Disc	18	Brake Flange
05	Rotor	17	Brake Body
04	Drive Pulley	16	M 12 Stud bolt
03	Rear cover	15	Lifting Lug
02	Front cover	14	Motor input terminal box
01	Body	13	Motor output terminal box
Part No:	EXPLANATION	Part No:	EXPLANATION

* Panel must absolutely have a system that short circuits the engine ends in case of power outage!

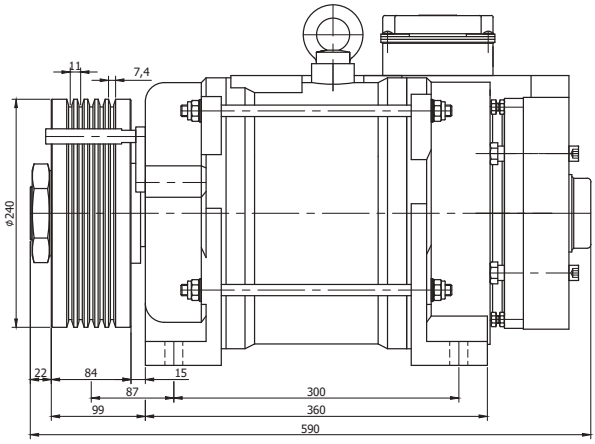
* A power above 400 Nm. is required for the machine to bring to the floor in case of power outage. A system to bring to the floor must exist as this power cannot be provided manually. For example: UPS rescue system.

10. TROUBLESHOOTING

S.No	POSSIBLE FAULTS	POSSIBLE REASONS	SOLUTIONS
1	Brake is not opening.	Brake Voltage is low.	The voltage shall be adjusted as 198 Volt DC.
		Brake lining space adjustment is modified	Technical service employee need to adjust it.
		Brake coil is burnt	It can be repaired at our company.
2	Motor doesn't rotate.	The brake is not opening	See the "brake is not opening" section of the table.
		Voltage ends were not correctly connected	Reconnect the voltage ends according to terminal scheme.
		Wrong signal from switch	Reconnect Switch connections according to the scheme.
3	Body Leakage	No Grounding is done.	Attach the grounding connection to the terminal block cable.
4	Motor draws too much current	Voltage ends are not correctly connected.	Reconnect the voltage ends according to terminal scheme.
		Brake is not fully opening.	See the "brake is not opening" section of the table.
		Counterweight balance is not enough.	Weight balance needs to be corrected.
5	After machine stops at the floor, the cabin moves upwards or downwards.	Driver adjustments aren't correct.	Brake closing delay time shall be corrected as 1,5 seconds and contactor delay time shall be adjusted between 2,3-2,5.
6	A pulley channel is worn.	The rope tension is not correctly adjusted.	Bring the rope tension adjustments to the same level.
7	Motor rotates reverse direction.	Phases were connected reversely.	Change the engine direction through the driver.
8	Unstable braking.	Brake tension is low.	Adjust voltage as 198 Volt DC.
		Wrong signal from switch.	Reconnect Switch connections according to the scheme.
9	Motor runs very noisily.	Driver settings are not correct.	Check the driver settings.
		Brake is not opening.	Check other fault explanations about the brake.
10	Motor is not running.	Switch adjustment may be incorrect.	Adjust the switch.
		Brake is not opening.	See the "brake is not opening" section of the table.
		Incorrect driver settings.	Correct the driver settings.
		Terminal block connections are not correct.	Perform the terminal connections according to the scheme.



NMF.275 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 84	Watt
VOLTAGE	:	198	Volt DC
CURRENT	:	2 x 0,42	A
LOAD	:	400 - 480	Kg
TORQUE	:	2 x225	Nm



NAGEL.160 - 2 GEARLESS MACHINE (16 POLES)												Static Load	3.000
MACHINE TYPE	POWER kW	CURRENT In. (A)	MOTOR REV (rpm)	VOLTAGE PHASE-PHASE	MOTOR FREQUENCY	TORQUE Nm.	LOAD Kg	CAR SPEED	NO OF ROPES	ROPE DIAMETER	ROPİNG STYLE	PULLEY / PITCH mm.	Weight Kg
NAGEL. 160 - 2	3,40	8,00	159	380	21,20	160,00	400	1,00	5	6,50	2 : 1	240 / 11	165
NAGEL. 160 - 2	4,30	9,50	254		33,80			1,60					
NAGEL. 160 - 2	5,20	9,60	159	380	21,20	192,00	480	1,00	5	6,50	2 : 1	240 / 11	165
NAGEL. 160 - 2	6,30	10,50	254		33,80			1,60					

Note: a) Balance chain shall be used after 30 meters for 2:1 roping.
b) Our company reserves the right to make changes in scope of the products without notice.

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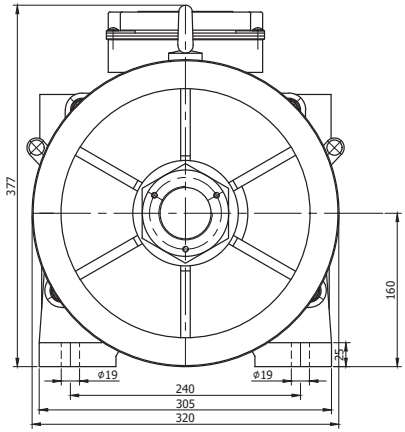

NMF.275 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 84	Watt
VOLTAGE	:	198	Volt DC
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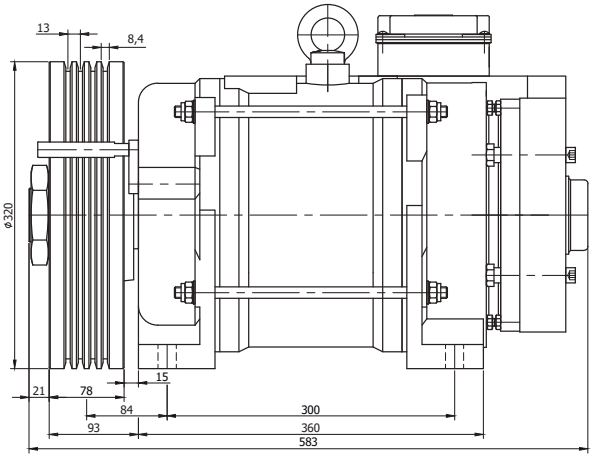
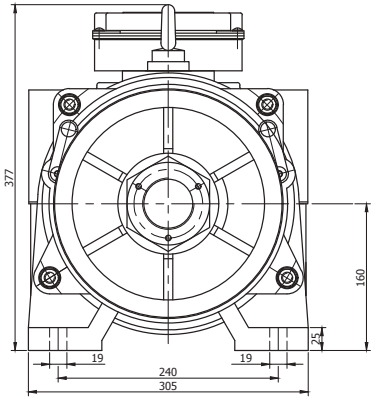


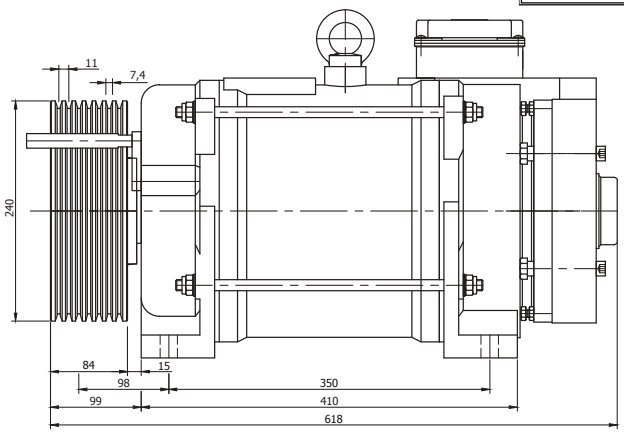
NAGEL.160 - 2 GEARLESS MACHINE (16 POLES)											Static Load	3.000	
MACHINE TYPE	POWER kW	CURRENT In. (A)	MOTOR REV (rpm)	VOLTAGE PHASE-PHASE	MOTOR FREQUENCY	TORQUE Nm.	LOAD Kg	CAR SPEED	NO OF ROPES	ROPE DIAMETER	ROPING STYLE	PULLEY / PITCH mm.	WEIGHT Kg
NAGEL. 160 - 2	4,70	9,50	120	380	15,86	213	400	1,00	4	8,00	2 : 1	320 / 13	170
NAGEL. 160 - 2	5,70	11,40	190		25,33			1,60					
NAGEL. 160 - 2	7,20	11,20	120	380	15,86	256	480	1,00	4	8,00	2 : 1	320 / 13	170
NAGEL. 160 - 2	8,30	14,50	190		25,33			1,60					

Note: a) Balance chain shall be used after 30 meters for 2:1 roping.
b) Our company reserves the right to make changes in scope of the products without notice.



NMF.275 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 84	Watt
VOLTAGE	:	198	Volt DC
CURRENT	:	2 x 0,420	A
LOAD	:	630	Kg
TORQUE	:	2 x 325	Nm

NMF.275 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 84	Watt
VOLTAGE	:	198	Volt DC
CURRENT	:	2 x 0,420	A
LOAD	:	800	Kg
TORQUE	:	2 x 425	Nm



NAGEL.160 - 3 GEARLESS MACHINE (16 POLES)												Static Load	3.000
MACHINE TYPE	POWER kW	CURRENT In. (A)	MOTOR REV (rpm)	VOLTAGE PHASE-PHASE	MOTOR FREQUENCY	TORQUE Nm.	LOAD Kg	CAR SPEED	NO OF ROPES	ROPE DIAMETER	ROPING STYLE	PULLEY / PITCH mm.	WEIGHT Kg
NAGEL 160 - 3	4,8	13,50	159	380	21,2	252	630	1,00	6	6,5	2 : 1	240 / 11	185
NAGEL 160 - 3	6	16,50				320	800		7				
NAGEL 160 - 3	7	15,00	254	380	33,8	252	630	1,60	6	6,5	2 : 1	240 / 11	185
NAGEL 160 - 3	8,30	19				320	800		7				
NAGEL 160 - 3	7,5	16,2	318	380	42,4	192	480	2,00	6	6,5	2 : 1	240 / 11	185
NAGEL 160 - 3	9,4	19,3				252	630		7				

Note: a) Balance chain shall be used after 30 meters for 2:1 roping.
b) Our company reserves the right to make changes in scope of the products without notice.

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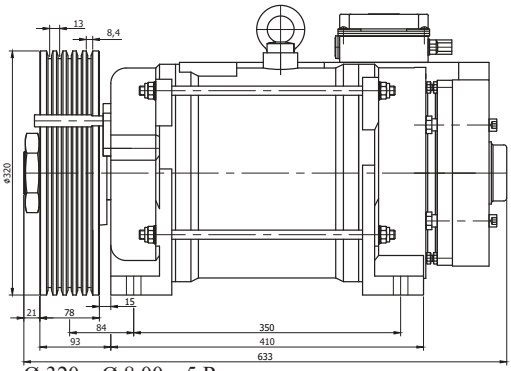
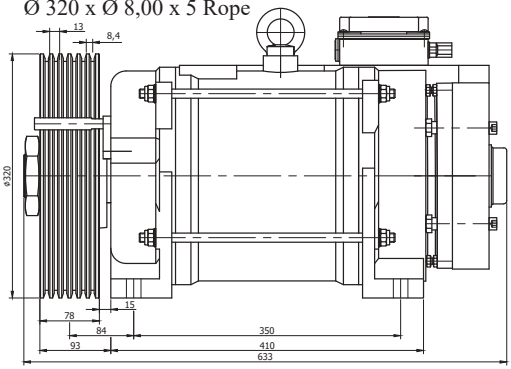
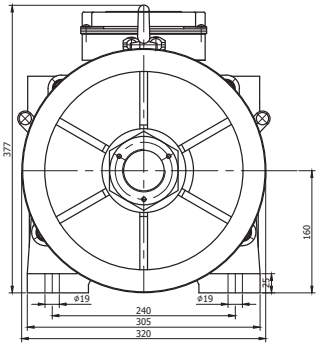


Ø 320 x Ø 8,00 x 5 Rope



Ø 320 x Ø 8,00 x 6 Rope



NMF.275 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 84	Watt
VOLTAGE	:	198	Volt DC
CURRENT	:	2 x 0,420	A
LOAD	:	630	Kg
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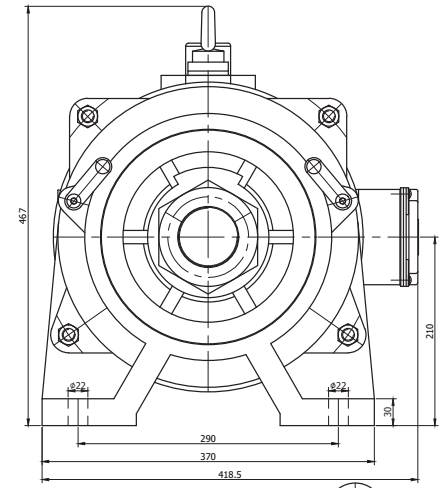
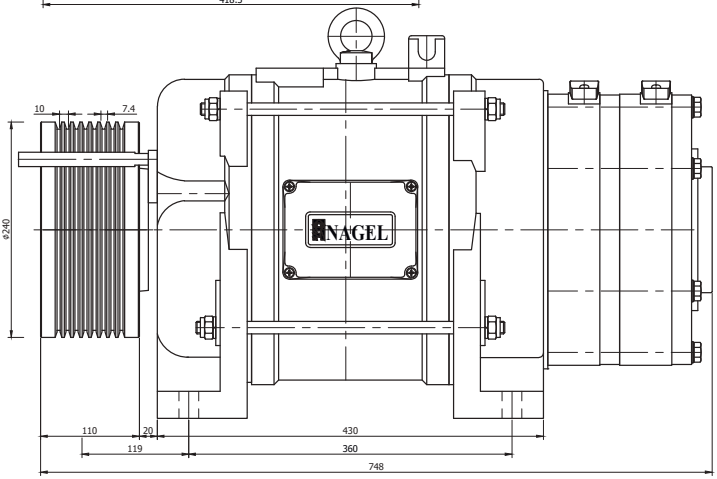
NMF.275 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 84	Watt
VOLTAGE	:	198	Volt DC
CURRENT	:	2 x 0,420	A
LOAD	:	800	Kg
TORQUE	:	2 x 425	Nm

NAGEL.160 - 3 GEARLESS MACHINE (16 POLES)										Static Load		3.000	
MACHINE TYPE	POWER kW	CURRENT In. (A)	MOTOR REV (rpm)	VOLTAGE PHASE-PHASE	MOTOR FREQUENCY	TORQUE Nm.	LOAD Kg	CAR SPEED	NO OF ROPES	ROPE DIAMETER	ROPING STYLE	PULLEY / PITCH mm.	WEIGHT Kg
NAGEL. 160 - 3	6,4	16,6	120	380	16	336	630	1,00	5	8,00	2 : 1	320 / 13	190
NAGEL. 160 - 3	9,2	20,1				427	800						
NAGEL. 160 - 3	9,1	18,5	190	380	25,33	336	630	1,60	5	8,00	2 : 1	320 / 13	190
NAGEL. 160 - 3	12,3	23,4				427	800						
NAGEL. 160 - 3	8,1	19,5	240	380	32	256	480	2,00	4	8,00	2 : 1	320 / 13	190
NAGEL. 160 - 3	11,5	27,1				336	630		5				

Note: a) Balance chain shall be used after 30 meters for 2:1 roping.
b) Our company reserves the right to make changes in scope of the products without notice.



NMF.300 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 105	Watt
VOLTAGE	:	198	Volt DC
CURRENT	:	2 x 0,53	A
LOAD	:	1.000	Kg
TORQUE	:	2 x 750	Nm



NAGEL.200 - 1 GEARLESS MACHINE (20 POLES)												Static Load	3.700
MACHINE TYPE	POWER kW	CURRENT In. (A)	MOTOR REV (rpm)	VOLTAGE PHASE-PHASE	MOTOR FREQUENCY	TORQUE Nm.	LOAD Kg	CAR SPEED M/ S	NO OF ROPES	ROPE DIAMETER	ROPING STYLE	PULLEY / PITCH mm.	WEIGHT Kg
NAGEL. 200 - 1	7,8	20,2	159	380	26,5	400	1.000	1,00	8	6,50	2 : 1	240 / 10	305
NAGEL. 200 - 1	10,8	23,5	254		42,3	400	1.000	1,60					
NAGEL. 200 - 1	11,8	19,8	318		53	320	800	2,00					

Note: a) Balance chain shall be used after 30 meters for 2:1 roping.
b) Our company reserves the right to make changes in scope of the products without notice.

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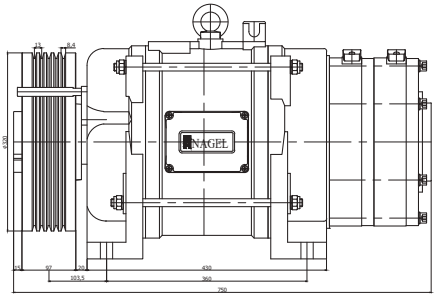
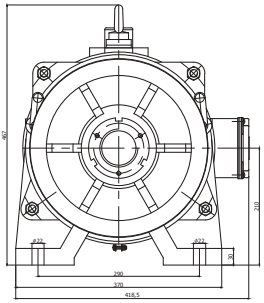
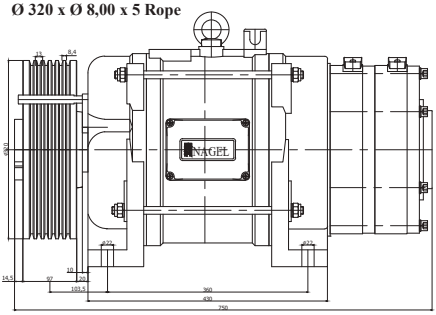
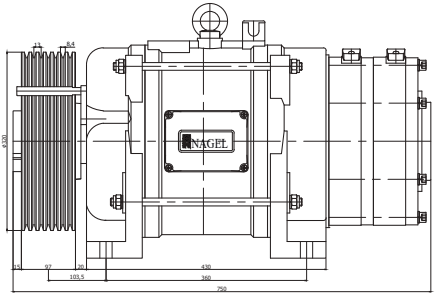


Ø 320 x Ø 8,00 x 5 Rope





Ø 320 x Ø 8,00 x 6 Rope

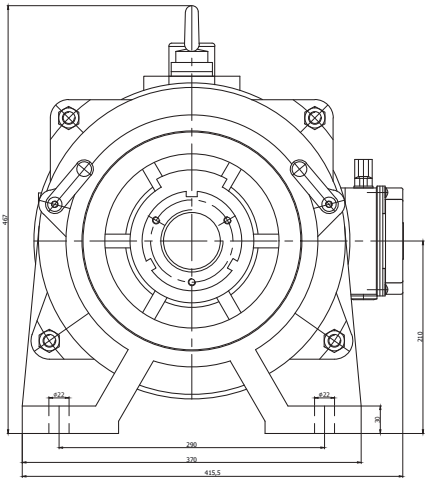


Ø 320 x Ø 8,00 x 7 Rope

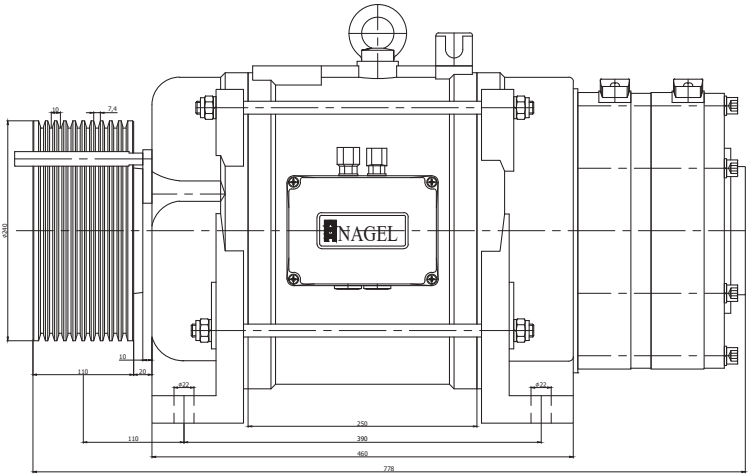
NMF.300 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 105	Watt
VOLTAGE	:	198	Volt DC
CURRENT	:	2 x 0,53	A
LOAD	:	1.275	Kg
TORQUE	:	2 x 850	Nm

NAGEL.200 - 1 GEARLESS MACHINE (20 POLES)										Static Load		3.700	
MACHINE TYPE	POWER kW	CURRENT In. (A)	MOTOR REV (rpm)	VOLTAGE PHASE-PHASE	MOTOR FREQUENCY	TORQUE Nm.	LOAD Kg	CAR SPEED M / S	NO OF ROPES	ROPE DIAMETER	ROPING STYLE	PULLEY / PITCH mm.	WEIGHT Kg
NAGEL. 200 - 1	8	21,4	120	380	20	427	800	1,00	5	8,00	2 : 1	320 / 13	305
NAGEL. 200 - 1	12,7	31,7				533	1.000		7				
NAGEL. 200 - 1	10,9	23,0	190	380	31,66	427	800	1,60	5	8,00	2 : 1	320 / 13	305
NAGEL. 200 - 1	17,2	33,1				533	1.000		7				
NAGEL. 200 - 1	12,8	21,2	240	380	40	427	800	2,00	6	8,00	2 : 1	320 / 13	305

Note: a) Balance chain shall be used after 30 meters for 2:1 roping.
b) Our company reserves the right to make changes in scope of the products without notice.



NMF.300 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 105	Watt
VOLTAGE	:	198	Volt DC
CURRENT	:	2 x 0,53	A
LOAD	:	1.275	Kg
TORQUE	:	2 x 850	Nm



NAGEL.200 - 2 GEARLESS MACHINE (20 POLES)												Static Load	3.700
MACHINE TYPE	POWER kW	CURRENT In. (A)	MOTOR REV (rpm)	VOLTAGE PHASE-PHASE	MOTOR FREQUENCY	TORQUE Nm.	LOAD Kg	CAR SPEED M / S	NO OF ROPES	ROPE DIAMETER	ROPING STYLE	PULLEY / PITCH mm.	WEIGHT Kg
NAGEL 200 - 2	9,6	24,1	159	380	26,5	520	1.300	1,00	10	6,50	2 : 1	240 / 10	335
NAGEL 200 - 2	13,2	27,5	254		42,3			1,60					
NAGEL 200 - 2	15,1	29,2	318		53	400	1.000	2,00					

Note: a) Balance chain shall be used after 30 meters for 2:1 roping.
b) Our company reserves the right to make changes in scope of the products without notice.

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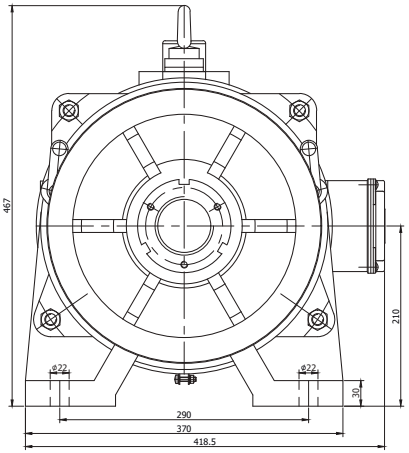
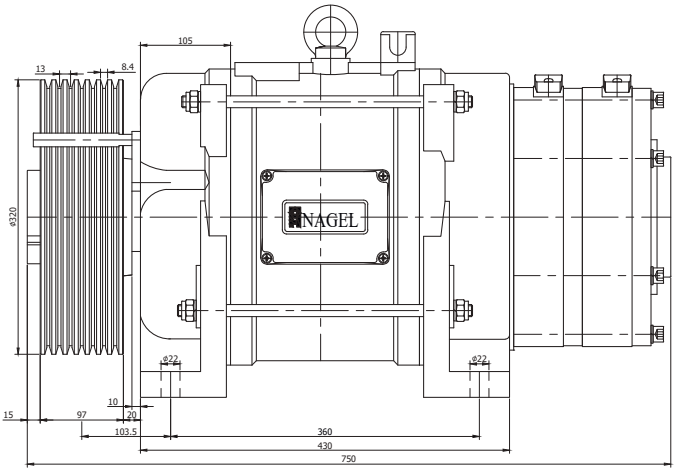
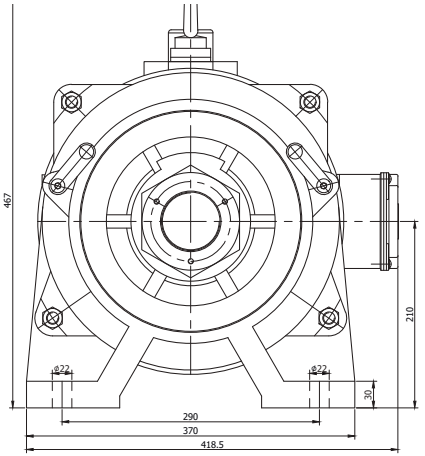


NMF.300 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 105	Watt
VOLTAGE	:	198	Volt DC
CURRENT	:	2 x 0,53	A
LOAD	:	1.275	Kg
TORQUE	:	2 x 850	Nm

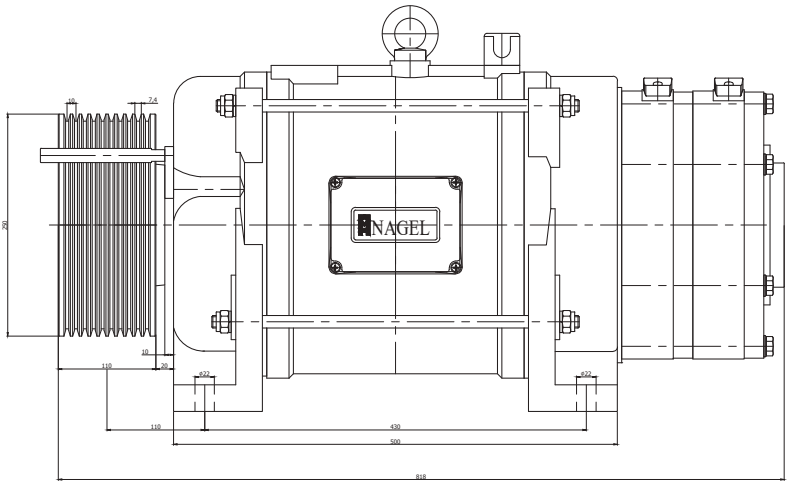


NAGEL.200 - 2 GEARLESS MACHINE (20 POLES)										Static Load		3.700
MACHINE TYPE	POWER kW	CURRENT In. (A)	MOTOR REV (rpm)	VOLTAGE PHASE-PHASE	MOTOR FREQUENCY	TORQUE Nm.	LOAD Kg	CAR SPEED M/S	NO OF ROPES	ROPE DIAMETER	ROPING STYLE	PULLEY/ PITCH mm.	WEIGHT Kg
NAGEL. 200 - 2	9,9	25,5	120	380	20	533	1.000	1,00	7	8,00	2 : 1	320 / 13	335
NAGEL. 200 - 2	15,7	33,7				693	1.300						
NAGEL. 200 - 2	14,5	28,2	190	380	31,66	533	1.000	1,60	7	8,00	2 : 1	320 / 13	335
NAGEL. 200 - 2	21,3	36,1				693	1.300						
NAGEL. 200 - 2	16,5	32,3	240	380	40	533	1.000	2,00	7	8,00	2 : 1	320 x 13	335

Note: a) Balance chain shall be used after 30 meters for 2:1 roping..
b) Our company reserves the right to make changes in scope of the products without notice.



NMF.300 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 105	Watt
VOLTAGE	:	198	Volt DC
CURRENT	:	2 x 0,53	A
LOAD	:	1.600	Kg
TORQUE	:	2 x 950	Nm



NAGEL.200 - 3 GEARLESS MACHINE (20 POLES)										Static Load			4000 Kg	
MACHINE TYPE	POWER kW	CURRENT In. (A)	MOTOR REV (rpm)	VOLTAGE PHASE-PHASE	MOTOR FREQUECY	TORQUE Nm.	LOAD Kg	CAR SPEED M / S	NO OF ROPES	ROPE DIAMETER	ROPING STYLE		PULLEY / PITCH mm.	WEIGHT Kg
NAGEL. 200 - 3	12,1	30,4	159	380	26,5	640	1.600	1,00	10	6,50	2	: 1	240 / 10	366
NAGEL. 200 - 3	16,4	36,5	254		42,3			1,60						
NAGEL. 200 - 3	19,1	37,0	318		53,0	520	1.300	2,00						

Note: a) Balance chain shall be used after 24 meters for 2:1 roping.
b) Our company reserves the right to make changes in scope of the products without notice.

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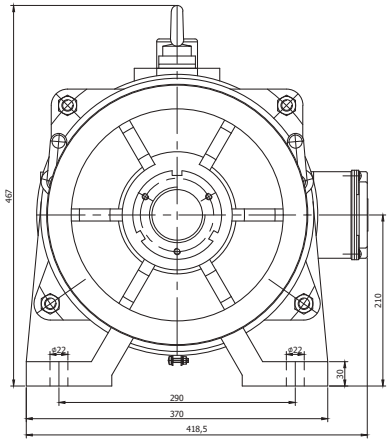
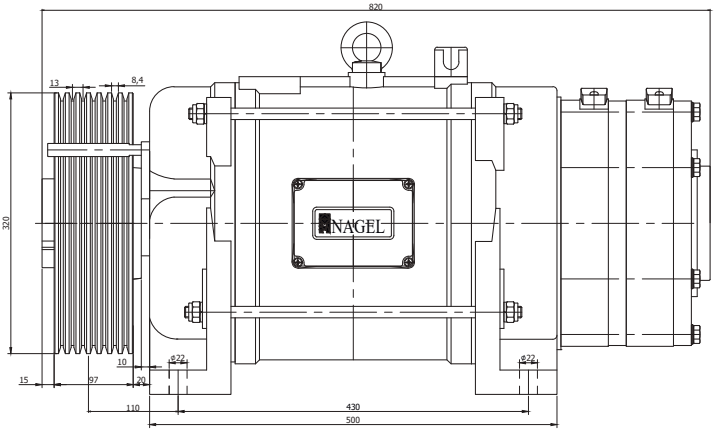


NMF.300 - MAGNETIC BRAKE PROPERTIES			
POWER	:	2 x 105	Watt
VOLTAGE	:	198	Volt DC
CURRENT	:	2 x 0,53	A
LOAD	:	1.600	Kg
TORQUE	:	2 x 950	Nm



NAGEL.200 - 3 GEARLESS MACHINE (20 POLES)										Static Load			4000 Kg	
MACHINE TYPE	POWER kW	CURRENT In. (A)	MOTOR REV (rpm)	VOLTAGE PHASE-PHASE	MOTOR FREQUECY	TORQUE Nm.	LOAD Kg	CAR SPEED M/ S	NO OF ROPES	ROPE DIAMETER	ROPING STYLE		PULLEY / PITCH mm.	WEIGHT Kg
NAGEL 200 - 3	12,2	28,1	120	380	20	380	1.300	1,00	7	8	2	: 1	320 / 13	366
NAGEL 200 - 3	19,2	39,5					1.600							
NAGEL 200 - 3	18,2	30,2	190		31,66		1.300	1,60						
NAGEL 200 - 3	20,1	39,0	240		40			2,00						

Note: a) Balance chain shall be used after 30 meters for 2:1 roping..
b) Our company reserves the right to make changes in scope of the products without notice.

WARNING !

All controls are carried out for the encoder that is attached to your purchased product.

If you remove the encoder or perform the panel connections wrong, your product will be OUT OF THE SCOPE OF THE GUARANTEE!

CONNECTION SCHEME

INVERTOR INPUTS	ENCODER CABLE DEFINITION	
+ VB	5 Volt (Up)	Brown
GND	0 Volt (UN)	White
A +		Green
A -		Green / Black
B +		Yellow
B -		Yellow / Black
C +		Blue
C -		Blue / Black
D +		Orange
D -		Orange / Black
Z +		Gray
Z -		Gray / Black
Encoder pulse	**SC - SİNCOS 2048**	

WARNING !

All controls are carried out for the encoder that is attached to your purchased product.

If you remove the encoder or perform the panel connections wrong, your product will be OUT OF THE SCOPE OF THE GUARANTEE!

CONNECTION SCHEME

INVERTOR INPUTS	ENCODER CABLE DEFINITIONS	
A +	A +	Green / Black
A -	A -	Yellow / Black
B +	B +	Blue / Black
B -	B -	Red / Black
DA +	Data +	Gray
DA -	Data -	Pink
CL +	Clock +	Purple
CL -	Clock -	Yellow
D +		
D -		
C +		
C -		
5 Volt	5 Volt (Up)	Brown / Green
0 Volt	0 Volt (UN)	Green / White
* 5 Volt	* 5 Volt (Sensör)	Blue
* 0 Volt	* 0 Volt (Sensor)	White
Encoder pulse	**SC - EnDat 2048**	

Note: * 5 Volt (Sensor) and * 0 Volt (Sensor) connections are used when the distance between the machine and the panel are 10 meters or longer.

CAUTION!

DO NOT USE THE RESCUE LEVER WITHOUT READING THE WARNINGS!

* IN EMERGENCY RECOVERY MUST BE DONE WITH BATTERIES. ONLY WHEN THE BATTERY CANNOT PROVIDE RESCUE PROCEDURE, RESCUE SHOULD BE DONE WITH MECHANICAL LEVER.

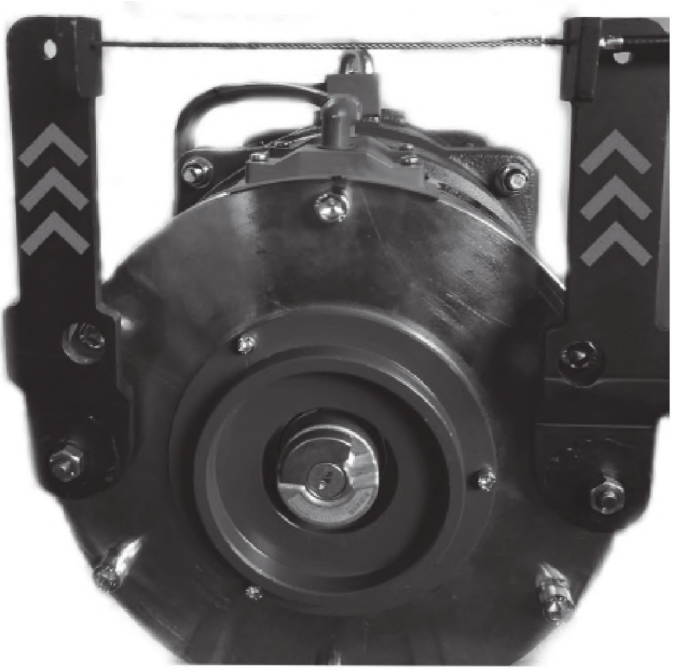
* WHEN THE ROPE IS ATTACKHED, THE MECHANICAL LEVERS MUST BE IN THE UPRIGHT POSITION! (figure 1.)

* MESHANICAL RECOVERY LEVER CANNOT BE USED WITHOUT SHORT CIRCUIT OF MOTOR CABLES!

* MECHANICAL RESCUE LEVER MUST BE KEPT AT A SAFE PLACE WHERE UNAUTHORIZED PEOPLE CANNOT INTERVENE.

* IT SHOULD BE OBSERVED THAT THE RECOVERY LEVER ON THE BRAKE MUST BE UPRIGHT POSITION AFTER THE MECHANICAL RESCUE LEVER IS USED.

* OTHERWISE, NAGEL MAKİNA MOTOR A.Ş. IS NOT RESPONSIBLE FOR ACCIDENTS THAT MAY OCCUR.



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24. GUARANTEE CERTIFICATE

NAGEL Makine & Motor firması tarafından verilen bu garanti belgesi aşağıda belirtilen şartlara uyulmaması halinde doğacak arızalardan firmamız sorumlu değildir.

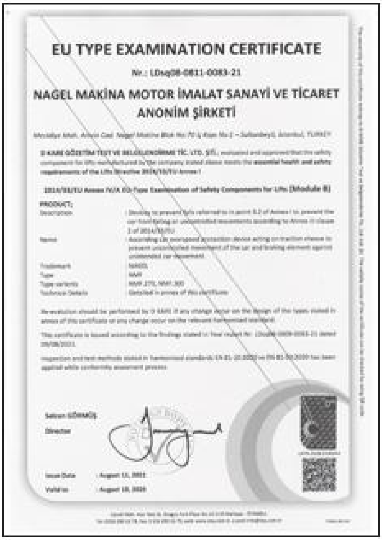
1. The damages and failures caused by user errors.
2. If the sections at the machine and brake, which are painted red, are removed.
3. The damages and failures caused using different voltage, low/extreme voltage, wrong installation, starting panels not suitable for machine voltage power, protective safety mechanisms (phase protection relay, fuse, thermic etc. which are not adjusted in terms of machine ampere etc.).
The damages and failures caused by fires, lightning and natural disasters.
Failures caused by using the product against the points stated in the manual.
4. Drive and diversion channel wear caused by cabin hanger rope hardness, tension and not using the
5. required amounts of weight.
6. Upwards and downwards impacts on the cabin.
Distorting the product label dates and serial numbers.
7. If the machine is not used as stated in the manual and if maintenance, repair or interventions are
8. made by unauthorized people.
9. The damages and failures caused during loading, unloading and transportation.
10. Running by providing direct current without connecting the machine protection systems.
11. The damages and failures that may occur after delivering to cargo or warehouse stated for the shipments.
12. The damages and failures that occur because of using loads higher than machine capacity.
13. . If incorrect voltage is provided to engine protective thermistor (the one that is supposed to be 24 Volt).
14. . If all connections are not correctly done based on the connection scheme stated on the machine terminal box cover
15 (voltage, brake, switch, grounding and thermistor ends).
16. If encoder cable ends are falsely connected to the driver.
17. If the values stated on machine label are not correctly entered to the driver.
18. If the machine is run under direct sun light and above 40°C environmental temperature.
19. If welding is applied at any section of the machine.

THE MACHINE WILL BE OUT OF THE SCOPE OF GUARANTEE IF ANY OF THESE HAPPEN!

Except for the abovementioned situations, OUR COMPANY GIVES GUARANTEE FOR OUR PRODUCT
FOR 2 (TWO) YEARS OF TIME for material, workmanship and production mistakes including all parts.

* The guarantee period begins as of the invoice date and is 2 (two) years.
* If the product fails within the guarantee period, the time spent for the repair shall be added to the guarantee period. The repair period shall be 30 (thirty) work days as the most. This time shall begin as of the date of notifying the service station about the failure (if there is no service station either to the seller, dealer, agency, representation office, importer, manufacturer or producer). If the failure cannot be solved within 15 work days, the producer, manufacturer or importer must provide other goods with equal properties until the repair is done. During the guarantee period, no payment shall be demanded under any name such as workmanship fees or replaced part fees for the processes carried out in terms of materials or workmanship
* The determination of the technical methods to apply to solve the failure and to determine the parts to be replaced shall completely be done by our company. The problem solving can be done at the current location of the product or
* at our factory/workshop, but customer approval must be obtained.
Despite of using the right for repair, the consumer can request product replacement, within a year as of the date the item is delivered to the consumer, if:
* a) The same failure occurs more than two times,
b) Different failures occur more than four times in total
c) Or there are more than six different failures within the determined guarantee period (2 years) which continuously prevent the consumer from using the product.
product change can be requested.
* The product transportation and assembly are not included in the price. The delivery shall only be done within Istanbul.

25. OUR CERTIFICATES



EU TYPE EXAMINATION CERTIFICATE

NAGEL MAKİNA MOTOR İMALAT SANAYİ VE TİCARET ANONİM ŞİRKETİ

SERTİFİKA
CERTIFICATE OF REGISTRATION

NAGEL MAKİNA MOTOR İMALAT SANAYİ VE TİC. A.Ş.

MERKEZ: Karaali Kaptan Sokak Haliç Han No:1 D:3-4 Karaköy, İSTANBUL

FABRİKA: Mecidiye Mah. Artvin Cad. No: 70 Sultanbeyli, İSTANBUL

ISO 9001:2015

ASANSÖR MAKİNALARI MOTOR ÜRETİMİ.

PRODUCTION OF ELEVATOR MACHINERY MOTORS.

T.C.
TÜRK PATENT ENSTİTÜSÜ

MARKA TESCİL BELGESİ

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