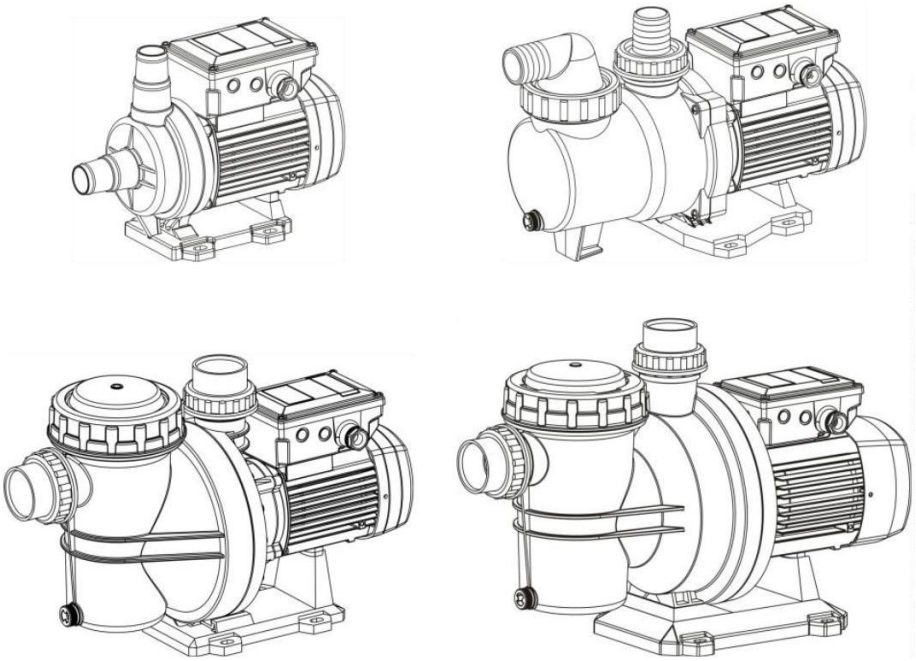
NOX



EN Instruction manual
(Translation from the original Spanish)

We declare, under our responsibility, that the products in this manual comply with the following directives and standards:

- Directive006/42/EC (Machine Security): Standard EN 809 and EN 60204-1
- Directive EMC 2014/30/EU (Electromagnetic compatibility): Standard EN 61000-6-1 and EN 61000-6-3
- Directive 2014/35/EU (Low voltage): Standard EN 60335-1 and EN 60335-2-41
- Directive 2000/14/EC (noise emission): EN-ISO 3744
- Directive 2009/125/EC (ecological design): Regulation 640/2009 for three-phase electric motors > 0.75kW. Standard EN 60034-30
- Directive 2011/65/UE (Restriction of hazardous sustances): Standard EN 50581
- Directive 2012/19/UE (WEEE): Standard EN 50419
- Standard EN 16713-2

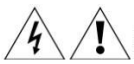
Damage prevention and safety instructions (See figure 4)

A	Warning! Observe limitations of use.
B	The name plate voltage must be the same as the mains voltage.
C	Connect the pump to the mains via an omnipolar switch with at least a 3 mm opening between contacts. Install a high-sensitivity differential switch (0.03A) as extra protection against lethal electric shocks.
D	If the supply cord is damaged, it must be replaced by an A.T.S.
E	Connect the pump to the ground.
F	Use pump only within performance limits indicated on the name plate.
G	Remember to prime pump.
H	Check for motor self-ventilation.
I	This apparatus may be used by children 8 years or older and persons with reduced physical, sensory or mental capacities, or lacking experience and knowledge, if they are supervised or receive adequate training on the safe use of the apparatus and understand the dangers. Children should not be allowed to play with the apparatus. Children should not perform the ordinary cleaning and maintenance tasks without supervision.
J	Be careful with hazardous liquids and environments.
K	Caution! Look out for accidental leaks. Do not expose pump to bad weather.
L	Caution! Avoid icing. Cut out power supply before servicing pump.

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Safety precautions

This symbol  together with one of the following words “Danger” or “Warning” indicates the risk level deriving from failure to observe the prescribed safety precautions:



DANGER risk of electric shock Warns that failure to observe the pre cautions involves a risk of electric shock.



DANGER Warns that failure to observe the pre cautions involves a risk of damage to persons and/or things.



WARNING Warns that failure to observe the pre cautions involves the risk of damaging the pump and/or the facility

1. GENERAL INFORMATION

Please observe the following instructions to achieve the best pump performance possible and a trouble free installation.



Read these instructions before installing the pump.

Save them for future reference.

These are single cell centrifugal pumps with built-in filter elements, especially designed for prefiltering and recirculation of water in swimming pools.

These pumps are designed to operate with clean water, free from particles in suspension and with a maximum temperature of 40ºC.



Correct pump operation is assured providing the instructions on electrical connection, installation and use are strictly adhered to.



Failure to adhere to the instructions can result in premature failure of the pump and voiding of the warranty.

2. HANDLING

The pumps are supplied suitably packaged to prevent damage in transit. Before unpacking, check that the packaging has not been damaged or deformed,



Lift and handle the product with care and with the right tools.

3. INSTALLATION

The installation of these electric pumps is only permitted in swimming pools or ponds that comply with standards IEC 60364-7-702 and/or the national regulations of the country in which the product is to be installed.

3.1. Fixing

The pump should be installed on a solid, horizontal base, secured by screws or bolts and using the existing holes in the mount.

The pump should be protected from possible flooding and receive dry ventilation.

3.2. Suction pipe assembly

The pumps must be installed at least two meters from the wall of the pool, and at the same height as the level of the water, or if possible, below. The end of the suction pipe must always remain at least 30 cm below the water level.

The suction pipe, if longer than 7 meters, must be of the same or greater diameter than the pump inlet and installed in an upward inclination to prevent trapped air pockets forming.

If the pump is required to perform a suction lift, to avoid unnecessary losses of head on the discharge side, the pump should be installed as close as possible to the water. It is not advisable to install the pump at more than 3m geometrical height from the water level.

3.3. Discharge pipe assembly

It is recommended to use pipes with a diameter equal or greater than the pump outlet. This will reduce loss of head caused by friction in longer pipe runs.

Pipework must be supported and their weight must not rest on the pump.

3.4. Electrical connection



The electrical installation must have a multipole isolator with minimum 3 mm contact openings, The protection of the system will be based on a differential switch (Δfn = 30 mA)

The power cable must correspond at least to the type H07 RN-F (according to 60245 IEC 66) and having terminals.

The connection and its dimensioning must be performed by a qualified installer according to the needs of the facility and following the regulations in force in each country.

The power supply socket for the apparatus must be at least 3.5m from the pool.

Single-phase motors have thermal protection.

All of three phase motor pumps do not incorporate this protection. They must be connected to a motor-protective circuit breaker that can be adjusted manually. Set the circuit breaker according to the current given in the rating plate plus 10%.

Follow instructions given on fig.1 for correct electrical connection.

3.5. Pre-start checks

Ensure the voltage and frequency of the supply corresponds to the values indicated on the electrical data label.

Ensure that the pump shaft is rotating freely.

Fill the pump body with water through the filter cover to the bottom level of the suction line.

Check all joints and connections for leaks.

Set the prefilter cover back in place and screw it to a suitable tightness.

THIS PUMP MUST NEVER BE DRY RUN.

4. STARTING

Ensure all valves in the pipework are open.

Connect power supply. There will be a delay before water appears at the end of the discharge pipe.

Viewings from the fan ensure that the rotation of the motor is clockwise. On three phase pumps the motor may rotate anticlockwise. If this is happening, the flow will be lower than expected. To rectify this situation the two supply phases need to be reversed.

Ensure that the absorbed current is the same or lower than the maximum shown on the name plate. Adjust the thermal relay if is necessary.

If the pump fails to operate refer to the possible faults, causes and solutions list for assistance.

5. MAINTENANCE

Under normal conditions these pumps require no special or planned maintenance.

Clean the pump with a damp cloth without using harsh products.

If the pump is not to be operated for a long period it is recommended to remove it from the installation, drain down and store in a dry, well ventilated place.

ATTENTION: In the event of faults or damage occurring to the pump, repairs should only be carried out by an authorised service agent.

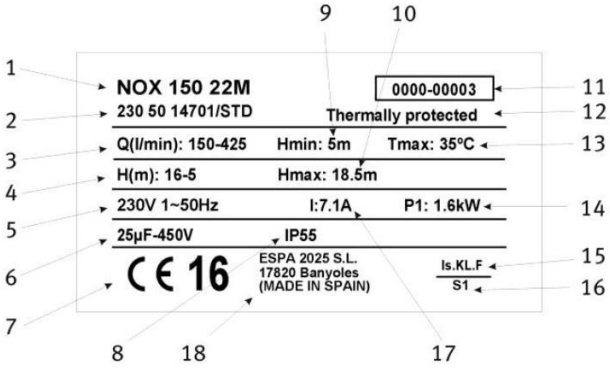
The Official Technical Services list is in www.espa.com.

6. DISPOSING OF THE PRODUCT

When the pump is eventually disposed of, please note that it contains no toxic or polluting material. All main components are material identified to allow selective disposal.

This product or parts of it must be disposed of in an environmentally sound way, use the waste collection service. If this is not possible, contact the nearest ESPA service workshop.

7. PLATE SHOWING CHARACTERISTICS



	DESCRIPTION
1	Item reference
2	Voltage + frequency + item specifications
3	Flow
4	Pressure
5	Nominal voltage, no. stages, alternate current symbol and frequency
6	Energy efficiency index (Three-phase model)
6	Capacitor (Single-phase model)
7	EC mark
8	Humidity protection level
9	Minimum working pressure
10	Maximum pressure
11	Year and week of manufacture +Pump serial no.
12	Thermal protection incorporated indicator
13	Max. liquid temperature
14	Electric pump unit absorbed power(P1)
15	Designated motor insulation
16	Continuous operation symbol
17	Maximum nominal intensity at nominal voltage
18	Name and address of vendor responsible for the product

8. POSSIBLE FAULTS, CAUSES AND SOLUTIONS

1) Pump does not prime.
2) Pump supplies scant flow.
3) Pump noisy.
4) Pump does not start.
5) Motor makes sound but does no start.

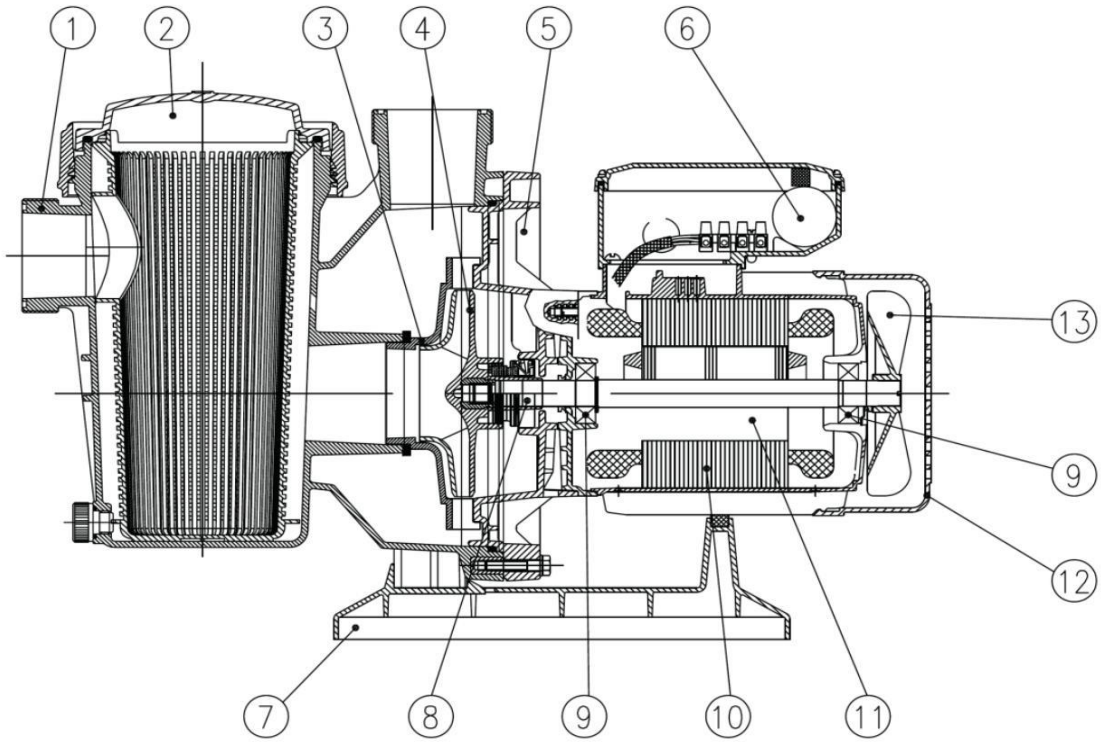
1	2	3	4	5	POSSIBLE PROBLEM	SOLUTIONS
X	X				Air entry trough suction line	Verify condition of connectors and gaskets of suction line
X					Inadequate airtightness of filter cover	Clean the filter cover and verify con- diction of rubber gasket
X	X				Motor turning direction reversed	Reverse 2 phases of the supply
X					Defective mechanical seal	Change mechanical seal
X	X				Excessive suction height	Excessive suction height
X	X		X		Incorrect voltage	Verify the voltage specified on the nameplate and that of the mains
X					No water in prefilter	Fill prefilter with water
X					Suctioning out of water	Set suction in correct position
	X				Filter clogged	Clean filter
	X	X			Diameter of suction line smaller than required	Correctly dimension suction line
	X				Discharge clogged	Inspect filter and discharge line
		X			Incorrect pump attachment	Attach pump correctly
		X			Foreign body in pump	Clean pump and inspect its filter
			X		Thermal relay tripped	Reset thermal relay
			X		Lack of power	Reset the fuses
				X	Motor blocked	Remove the motor and call the Technical Service

9. TECHNICAL DATA

Liquid temperature:..... 4ºC - 40ºC
Ambient temperature: ..... 0ºC - 40ºC
Storage temperature:..... -10ºC - 50ºC

Ambient relative humidity, max.: 95%
Motor class I.
Other data see Figure 2.

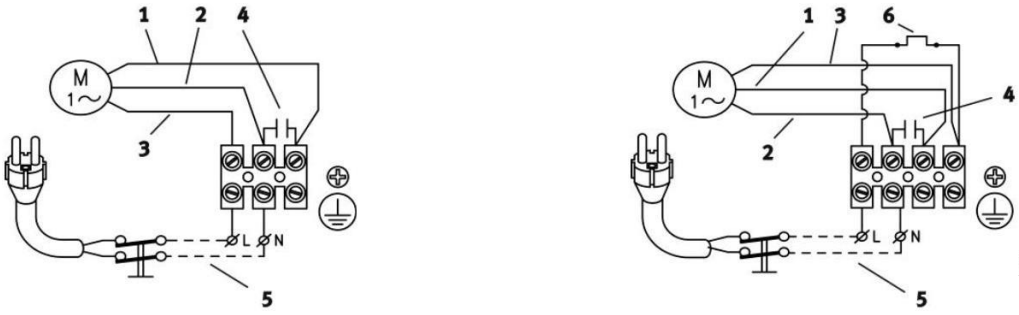
EN List of main components



	EN
1	Pump casing
2	Suction cover
3	Diffuser
4	Impeller
5	Interstage casing
6	Capacitor
7	Foot
8	Mechanical seal
9	Bearing
10	Stator
11	Motor shaft
12	Fan cover
13	Fan

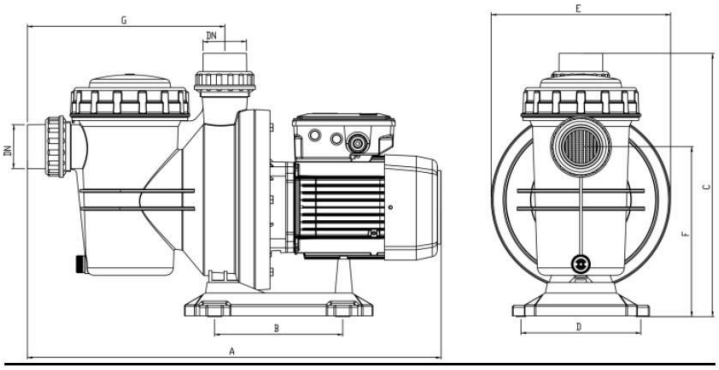
Fig.1

SINGLE PHASE SUPPLY



1. RED 2. WHITE 3. BLACK 4. CAPACITOR 5. LINE 6. MOTOR RELAY

Fig. 2



230V 50 Hz	Q max. [l/min]	H max. [m]	P max. [Mpa]	Pa max. [Mpa]	A 1~ 230V	C µF	P1 [kW]	IP	η(%)	Lpf	LWA (m)	LWA (g)	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	DN [mm]	⚖ [kg]
NOX 20 4M	133	7,5	0,6	0,53	1	6	0,2	55	20	49	58	60	305	88	219	182	124	94	90	32-38	3,5
NOX 25 6M	150	10	0,6	0,50	1,5	6	0,32	55	41	53	63	65	426	88	253	182	158	-	179	40	5
NOX 33 8M	180	12,2	0,6	0,48	2	12	0,45	55	35	51	64	65	475	115	301	108	212	210	257	50	7,4
NOX 50 12M	230	13,5	0,6	0,47	2,9	12	0,65	55	42	56	68	70	475	115	301	108	212	210	257	50	7,7
NOX 100 15M	290	14	0,6	0,46	3,8	12	0,85	55	50	56	68	70	475	115	301	108	212	210	257	50	8,5
NOX 75 15M	340	15	0,6	0,45	5,5	16	1,1	55	47	60	73	75	532	170	345	159	238	224	262	50	10,7
NOX 100 18M	380	16,5	0,6	0,44	6,2	16	1,3	55	48	61	73	75	532	170	345	159	238	224	262	50	11,4
NOX 150 22M	430	18,5	0,6	0,42	7,1	25	1,6	55	55	64	77	80	560	170	345	159	238	224	262	50	13,5

Fig.3

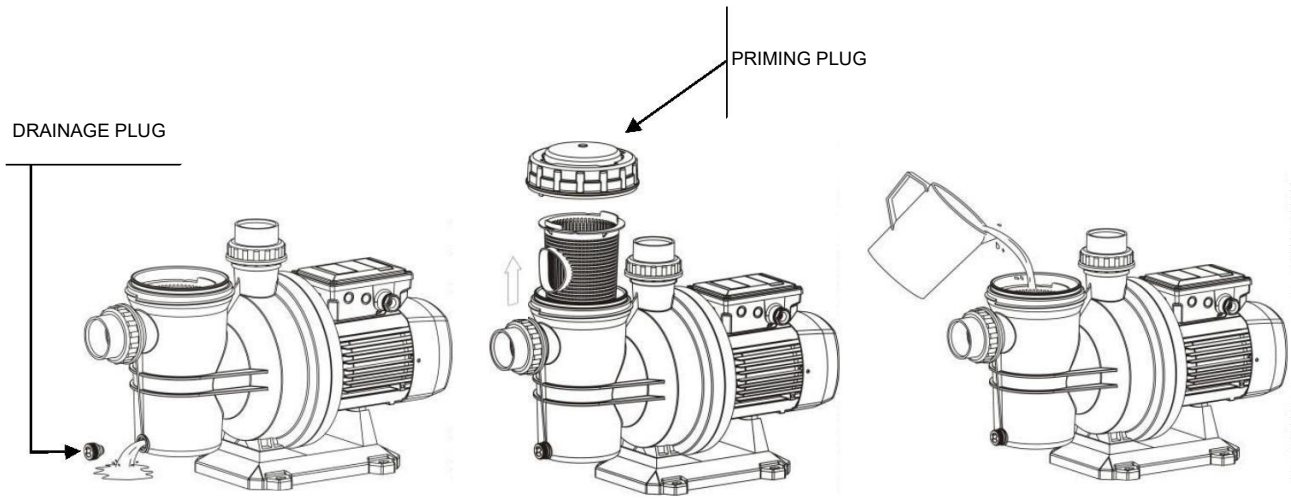
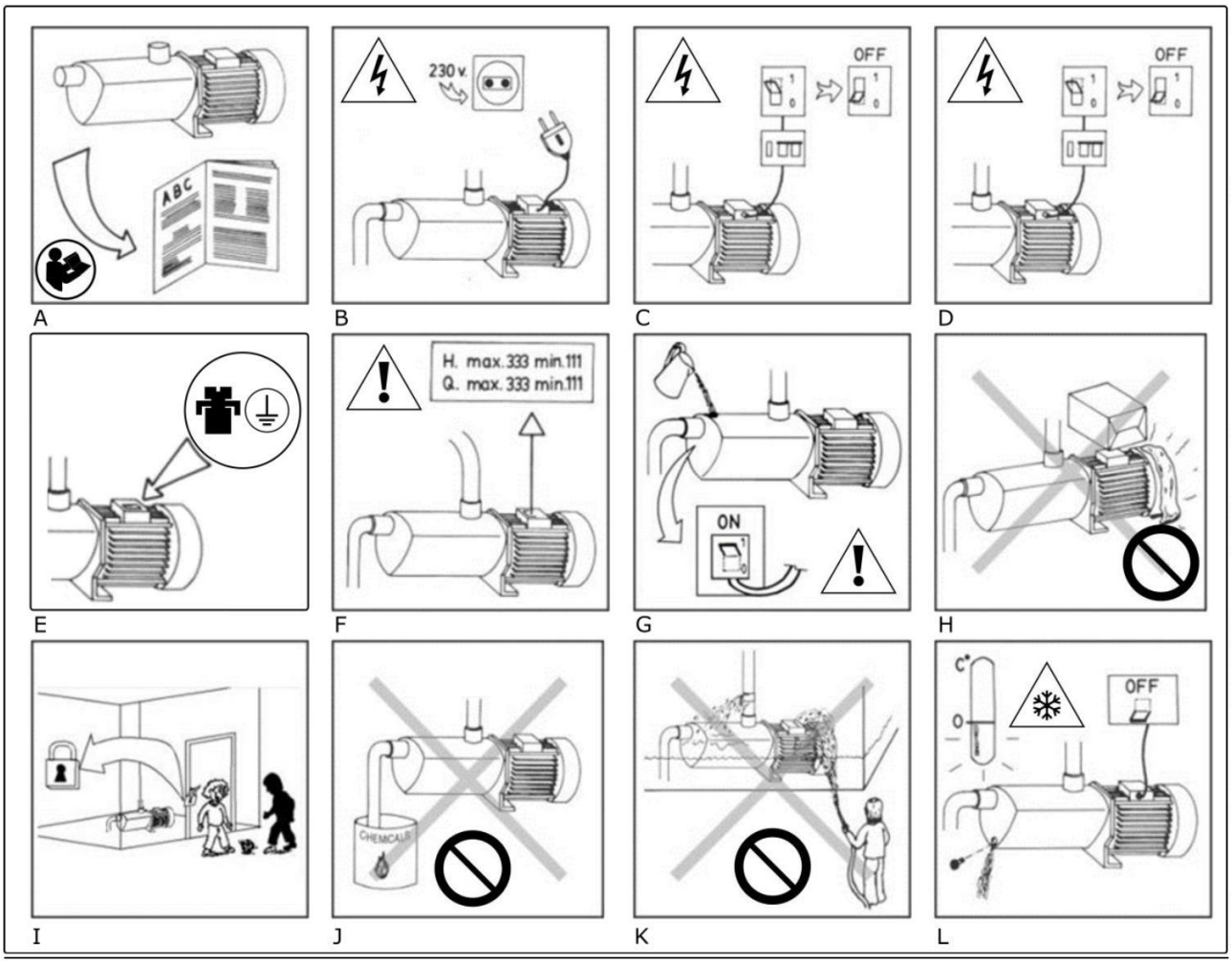

PRIMING PLUG
DRAINAGE PLUG

Fig. 4


A
B
230 v
C
OFF
D
OFF
E
F
H. max. 333 min.111
Q. max. 333 min.111
G
ON
H
I
J
CHEMICALS
K
L
OFF

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