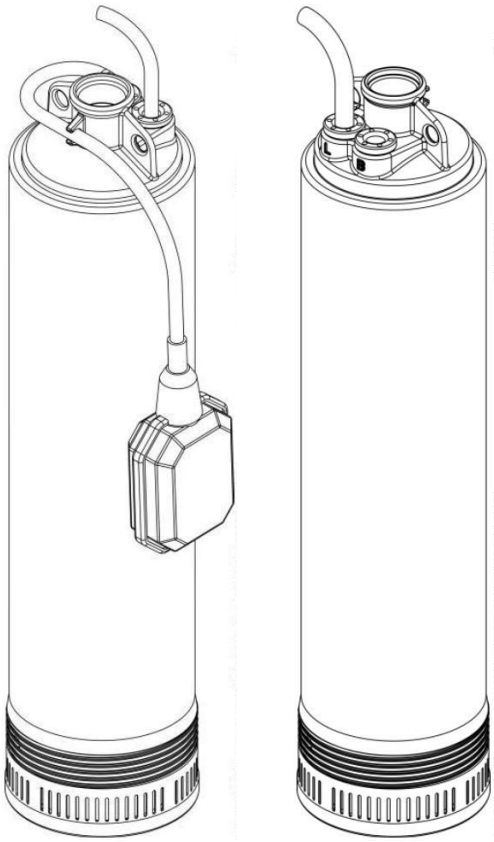
ACUARIA07S/17/27



EN Instruction manual
(Translation from the original Spanish)

EN: EVIDENCE OF CONFORMITY

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

- Directive 2006/42/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 2012/19/EU (on waste electrical and electronic equipment (WEEE)): Standard EN 50419:2006 about marking of electrical and electronic equipment.
- Directive 2011/65/UE (Restriction of hazardous sustances): Standard EN 50581

UKCA CERTIFICATE OF CONFORMITY

EVIDENCE OF CONFORMITY

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

- Supply of Machinery (Safety) Regulations 2008: Standard BS 809 and BS 60204-1
- Electromagnetic Compatibility Regulations 2016: Standard BS 61000-6-1 and BS 61000-6-3.
- Electrical Equipment (Safety) Regulations 2016: Standard BS 60335-1 and BS 60335-2-41.
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012. Standard BS 50581

Banyoles, January 12th 2021



Josep Unyó (Technical Manager)
ESPA 2025, SL
Ctra. de Mieres, s/n – 17820 Banyoles
Girona - Spain

Damage prevention and safety instructions (See figure 8)

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.
D	Install a high-sensitivity differential switch (0.03A) as extra protection against lethal electric shocks.
E	Connect the pump to the ground.
F	Use pump only within performance limits indicated on the name plate.
G	Be careful with hazardous liquids and environments.
H	Do not carry the pump by the power cable.
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	The pump should only be dismantled by authorized personnel.
K	Cut out power supply before servicing pump.
L	Caution! Avoid icing.

Contents

Safety precautions..... 10
1. General information..... 11
2. Handling..... 11
3. Installation 11
   3.1. Discharge pipe assembly 12
   3.2. Electrical connection 12
   3.3. Pre-start checks 12
4. Starting 12
5. Maintenance 12
6. Disposing of the product..... 12
7. Nameplate 12
8. Possible faults, causes and solutions..... 13
9. Technical data 13
10. List of main components..... 44
11. Wiring diagrams..... 46
12. Illustrations..... 45

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 precautions involves a risk of electric shock.



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



WARNING Warns that failure to observe the precautions 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.

The ACUARIA range consists of vertical submersible pumps, easy to install and designed to operate with clean water, free from elements in suspension, at a maximum temperature of 40°C.

The ACUAPRES07S models are pumps with built-in electronic pressure regulator made up of a check valve and control electronics. These pumps have been designed to automate the starting and stopping process and to prevent them from operating without water. With water consumption of more than 1.4 l/minute (4.31 US g.p.m.) the pump is always operational.

The ACUAPRES07S models have a start-up pressure of 2bar(4M)/ 3bar(6M). The pump remains operational while a faucet is left running. The pump stops when, all the faucets are closed.

The lubricating oil in the motor is non toxic. In the case of accidental discharge, it will not affect the colour or smell of the water and has no detrimental health effects.



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



Pumps should not rest on the bottom of the well, nor be placed very near the walls. To avoid this, hang the pump from a cable through the handle on the top.

Never hang the pump from the power cable or the discharge line. The pump must be completely submerged to ensure proper cooling. See fig. 1 and fig. 2



Make sure the well flow is higher than required, to prevent the pump from running dry or from starting and stopping more often than normal.

If the well water level fluctuates significantly, we recommend installing level electroprobe equipment.

To avoid ruining the motor power cable and level electroprobe cables, attach them to the discharge line with clamps when lowering them into the well.



In the ACUAPRES07S models, the geometrical height from the position of the pump to the highest point of the installation should not exceed 20m(4M)/ 30m(6M). See fig.3.

3.1. Discharge pipe assembly

The pumps are supplied ready to be connected a 1" line. However, if the geometric height is considerable and the paths are long and winding, we recommend using lines with a larger diameter, to avoid head loss due to friction as much as possible and to obtain the best hydraulic performance possible.

Install a check valve on the outlet of the pump to prevent the line from emptying every time the pump stops.

The check valve is already included in the ACUAPRES07 models. DO NOT ATTEMPT TO INSTALL ANOTHER VALVE. Install the included expansion vessel (Kit Pres) at some point of the discharge line. See fig.3.

If a plastic hose is chosen instead of a metallic line, make sure it can withstand the pressure provided by the pump. Prevent the hose from becoming twisted because, in addition to preventing the desired flow, proper pump operation will be hindered.

3.2. Electrical connection

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

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.

To lengthen the electrical cable, use resin connection splices only. Pay special attention ensuring that the colors of pump cables match those of the extension.

It is imperative to connect the ground cable (yellow-green color).

In the single-phase motors with external capacitor, connect the capacitor together with the protective panel to the outside of the well.

Thermal protection must be provided by the user (in accordance with current installation rules).

For correct electrical connection, follow the diagrams in fig.4 (internal capacitor), 5 (external capacitor) or 6 (three-phase).

3.3. Verifications prior to initial start-up

Make sure the mains frequency and voltage match the indications of the nameplate. Make sure the value of the capacitor is the same as described on the plate (single-phase version only).

Check that the pump is completely submerged. If the flow is less than expected, invert two phases of the power supply in the protective panel (three-phase version only).

NEVER LET RUN THE PUMP DRY.

4. STARTING

If there is a line valve, open it completely.

Connect the power supply switch. Water will never fow at the end of the line immediately; if the path is long, wait a few minutes. Check that the absorbed current is the same as marked on the nameplate and adjust the thermal relay accordingly (three-phase version only).

If the motor does not start or no water flows at the end of the line, try to find the anomaly using the troubleshooting guide in point 9.

In the ACUAPRES07S models, wait around 10 seconds for priming. If the electronic circuit detects no water the pump stops. The circuit will make 4 attempts, according to fig.7. If the pressure cannot be restored during any of these attempts due to a lack of water, the circuit will remain in permanent fault until it is reactivated manually (disconnecting and reconnecting the power supply).

ACUAPRES07S is equipped with an anti-blocking safety device. Every 100 hours of inactivity, the pump starts up for 2 seconds automatically to prevent the hydraulics from blocking up.

5. MAINTENANCE

These submersible pumps do not require maintenance.

During frosty periods, remember to drain the line.

If the pump will be out of service for extended periods, it should be removed from the well and stored in a dry, well-ventilated location.

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

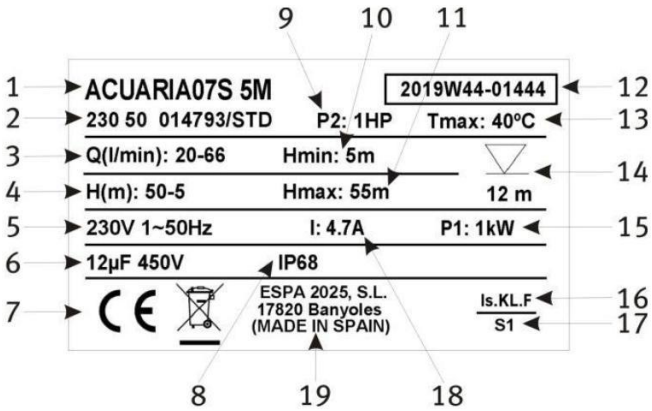
The Official Technical Services list is in www.espa.com.

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	Capacitor (Single-phase model)
7	EC mark
8	Humidity protection level
9	Motor max. nominal output (P2)
10	Minimum working pressure
11	Maximum pressure
12	Year and week of manufacture +Pump serial no.
13	Max. liquid temperature
14	Max. immersed depth
15	Electric pump unit absorbed power(P1)
16	Designated motor insulation
17	Continuous operation symbol
18	Maximum nominal intensity at nominal voltage
19	Name and address of vendor responsible for the product

8. TROUBLESHOOTING

1) The pump does not start.
2) The pump works but does not produce any flow
3) The flow does not match the supplied curve
4) The pump stops automatically.

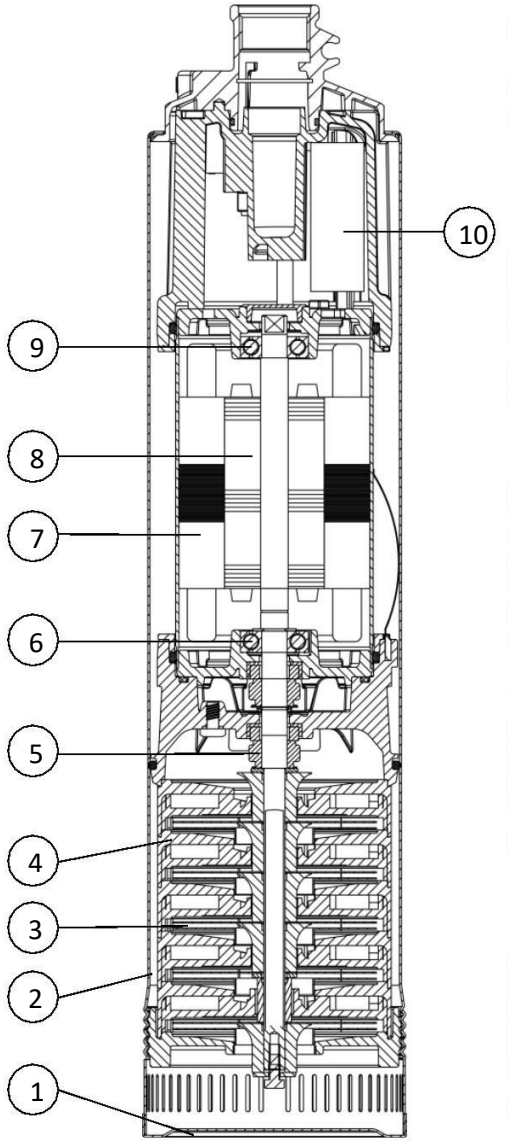
1	2	3	4	POSSIBLE PROBLEM	SOLUTIONS
X				No electricity	Check fuses and other protection devices
	X			Drop in the well water level	Check that the pump is completely submerged
			X	Voltage error	Check that the voltage is the same as indicated on the name plate
		X		Total manometric head greater than foreseen	Check geometric height plus head loss
X				Thermal protection activated	Reset the thermal protection or wait for it to cool
	X			Discharge line disconnected	Connect this line to the outlet of the pump
		X		Insufficient well flow	Install the gate valve on the outlet to reduce the flow of the pump
		X		Water intake filter clogged	Clean intake filter
X				Stop caused by level probes	Wait for the well to recover
	X			Check valve installed in the wrong direction	Install the valve in the opposite direction
		X		Wear in the hydraulics	Contact an Official Repair Center
X		X		Capacitor not properly connected (version II)	See wiring diagram
		X		Faulty discharge line	Replace the line with a new one
X				Power cable cut	Check the power cable

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 9.

EN List of main components



	EN
1	Base cover
2	Pump casing
3	Impeller
4	Diffuser
5	Mechanical seal
6	Bearing
7	Stator
8	Motor shaft
9	Bearing
10	Capacitor

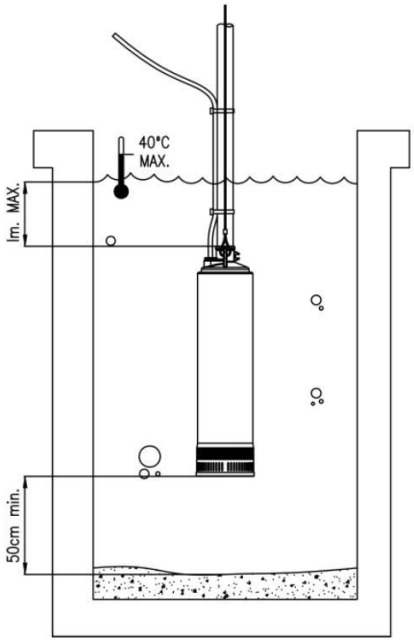


Fig. 1

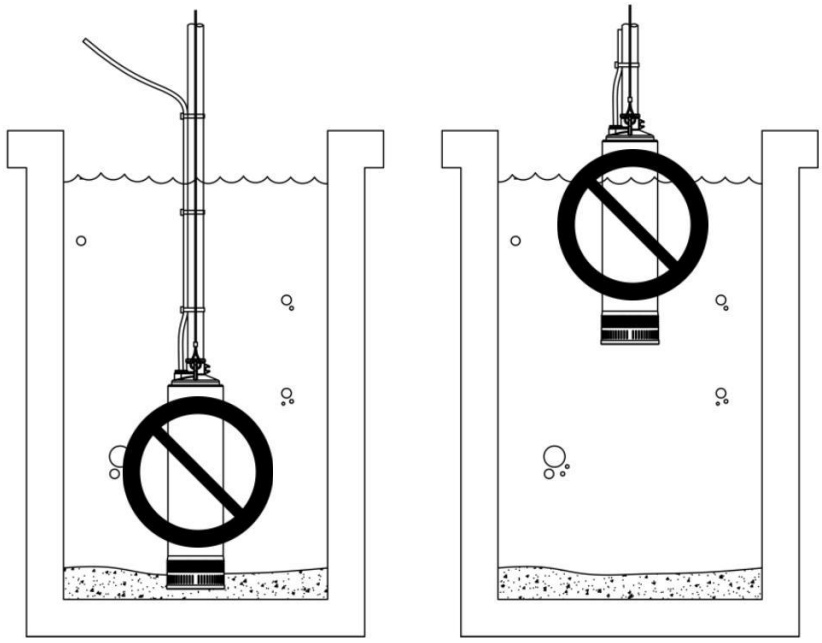


Fig. 2

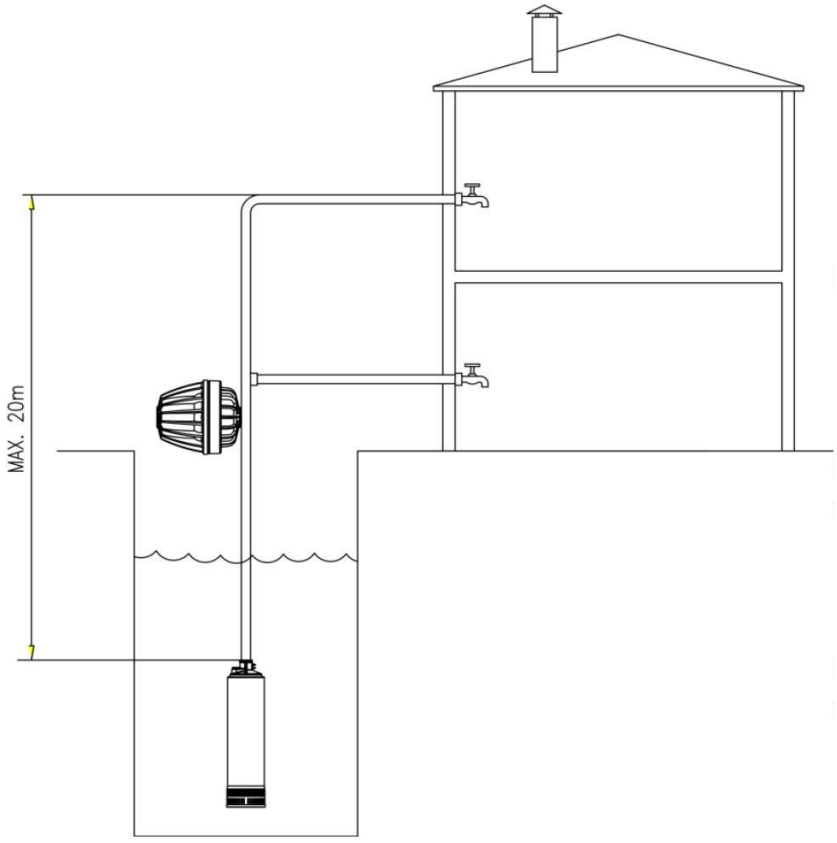


Fig. 3

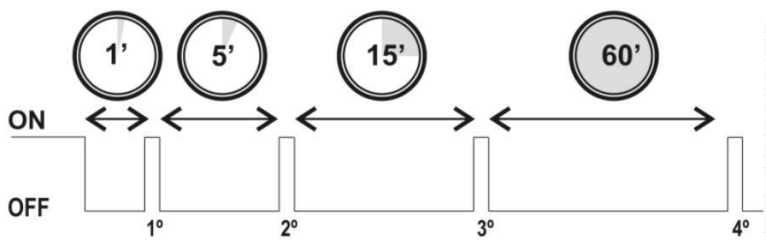


Fig. 7

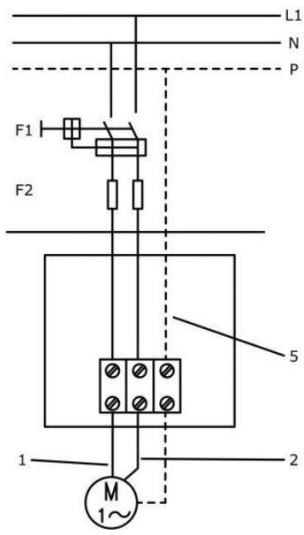


Fig. 4

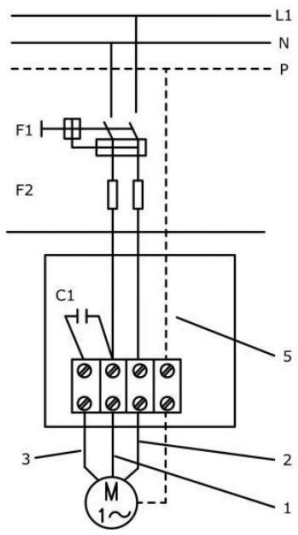


Fig. 5

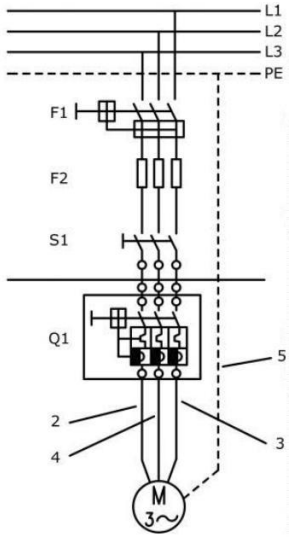


Fig. 6

1. BLUE 2. BLACK 3. BROWN 4. GREY 5. YELLOW/GREEN C1. CAPACITOR

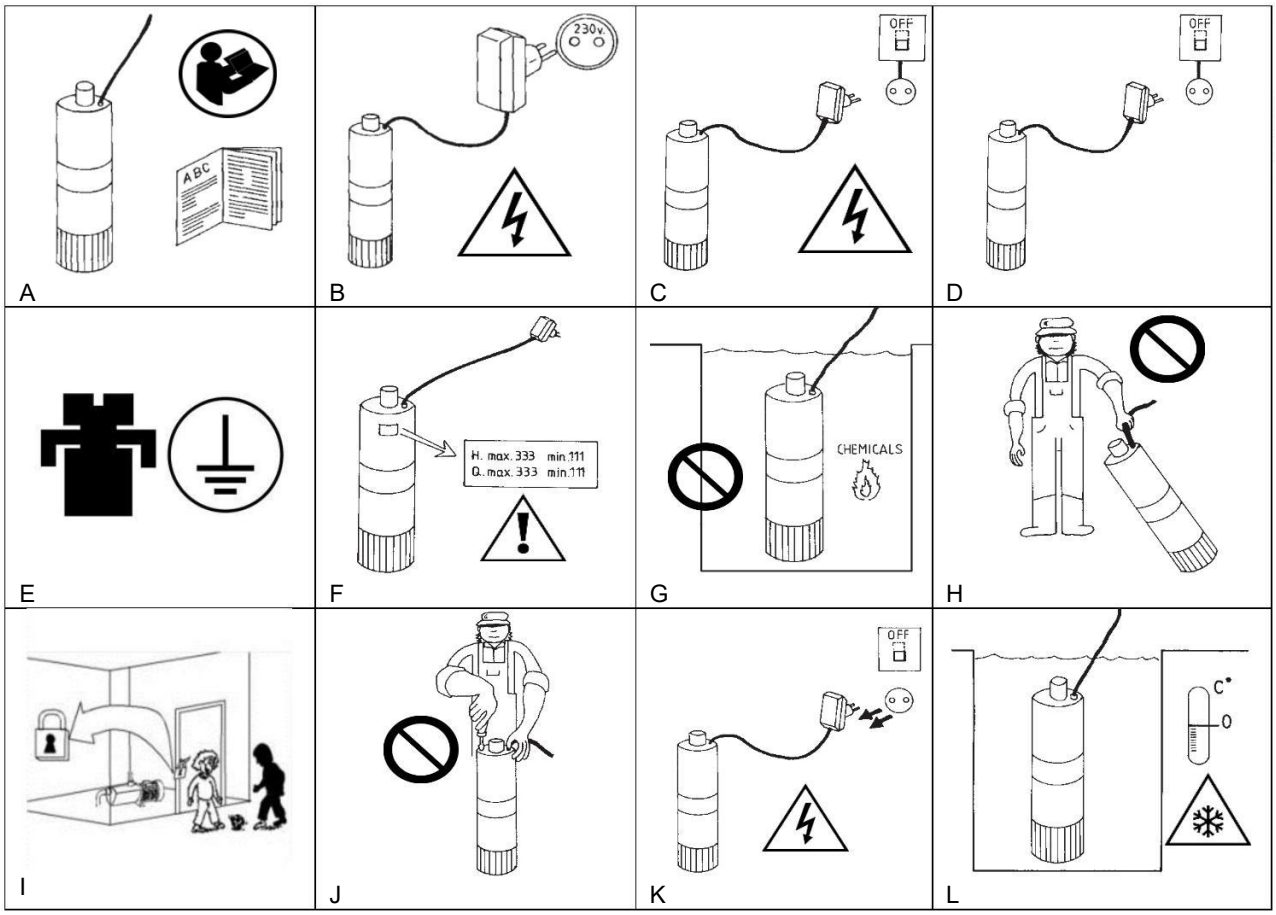
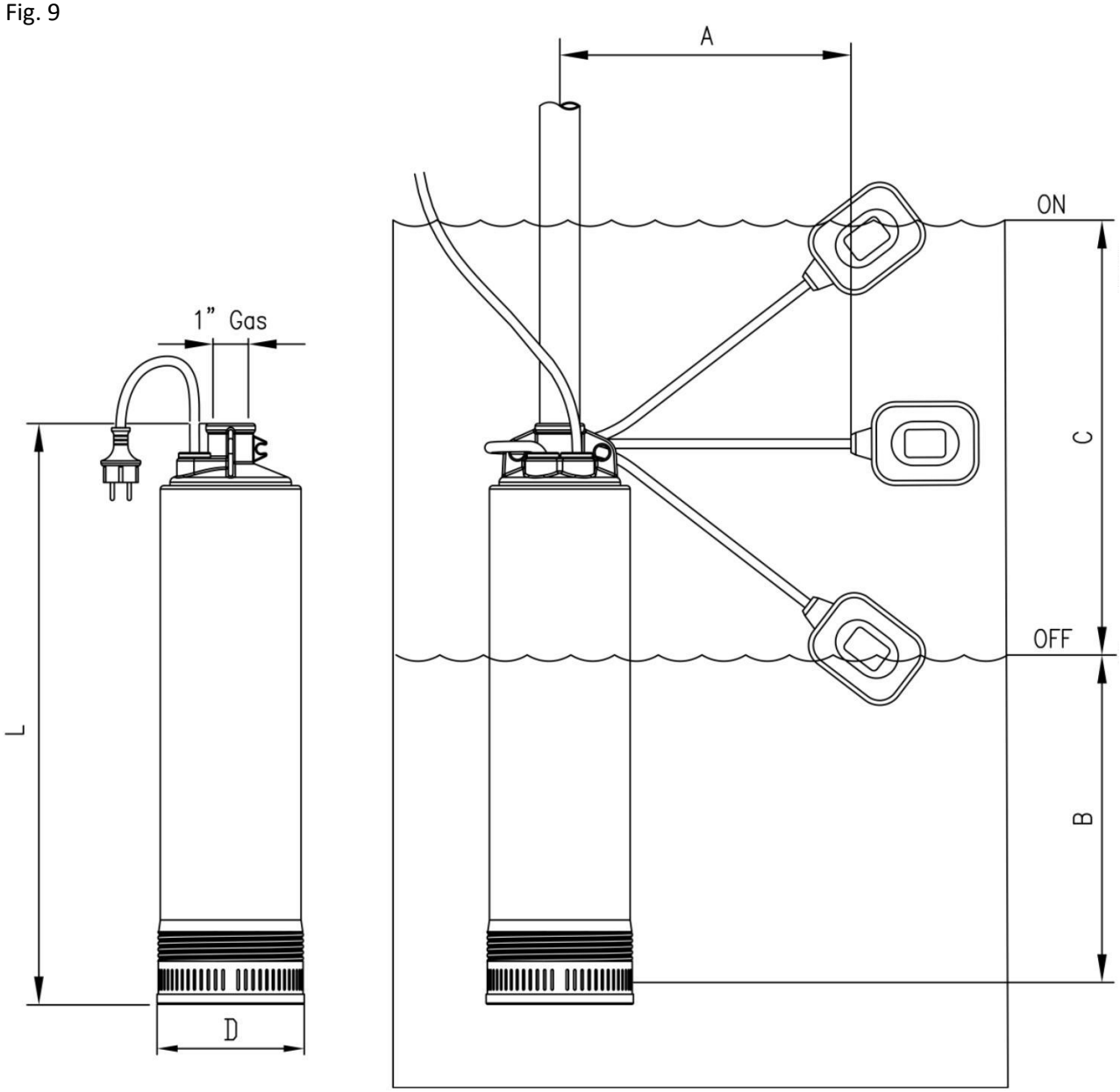


Fig. 8

Fig. 9



50 Hz	Q max. [l/min]	H max. [m]	P max. [MPa]	A 1~ 230V	A 3~ 400V	C µF	P1 [kW]	IP	L [mm]	D [mm]	A max [cm]	B min [cm]	C max [cm]	A min [cm]	B max [cm]	C min [cm]	⚖ [kg]
ACUARIA07S 3	70	35	0,6	2,9	-	12	0,65	68	478,5	125	23	31	22	23	27	12	10
ACUARIA07S 4	70	44	0,6	4	1,5	12	0,9	68	502	125	23	33	22	23	39	12	10,6
ACUARIA07S 5	70	55	1,2	4,7	2,2	12	1	68	525,5	125	23	38	22	23	44	12	11,5
ACUARIA07S 6	70	69	1,2	5,8	2,2	12	1,2	68	569	125	23	41	22	23	47	12	12,4
ACUARIA07S 7	70	75	1,2	5,5	2,4	30	1,3	68	592,5	125	23	43	22	23	49	12	12,6
ACUARIA17 5	95	69	1,2	7,4	2,5	16	1,6	68	554,0	138	28	47	25	28	51	15	19,8
ACUARIA17 7	95	97	1,2	10,7	4,1	25	2,2	68	646,0	138	28	56	25	28	60	15	24
ACUARIA27 4	130	48	1,2	7,5	2,6	16	1,6	68	552,0	138	28	47	25	28	51	15	20
ACUARIA27 6	130	72	1,2	10,8	4,1	25	2,2	68	665	138	28	58	25	28	62	15	24

60 Hz	Q max. [l/min]	H max. [m]	P max. [MPa]	A 1~		A 3~		C [µf]		P1 [kW]	IP	L [mm]	D [mm]	A max [cm]	B min [cm]	C max [cm]	A min [cm]	B max [cm]	C min [cm]	⚖ [kg]
				115V	220V	220V	440V	115V	220V											
ACUARIA07S 2	80	33	0,6	6,8	3,7	--	--	30	12	0,75	68	455	125	23	29	22	23	22	12	10
ACUARIA07S 3	80	48	0,6	12	5,4	--	--	30	12	1,2	68	478,5	125	23	31	22	23	27	12	11,5
ACUARIA07S 4	80	64	1,2	13,5	6,6	--	--	40	16	1,4	68	522	125	23	38	22	23	44	12	12,4
ACUARIA17 3	115	60	1,2	-	7,7	--	--	--	16	1,6	68	509	138	28	38	25	28	42	15	18,5
ACUARIA17 4	115	78	1,2	-	10,2	5,9	3,4	--	25	2,2	68	552	138	28	47	25	28	51	15	18,9
ACUARIA17 5	115	96	1,2	-	13,4	7	4	--	30	2,8	68	603,5	138	28	56	25	28	60	15	19,8
ACUARIA27 3	150	51	1,2	-	8,7	5,1	3,2	--	25	1,8	68	548	138	28	47	25	28	51	15	19,1
ACUARIA27 4	150	69	1,2	-	13	7	4	--	30	2,6	68	603,5	138	28	56	25	28	60	15	20

P max = System maximum pressure. (1MPa – 10bar – 100m)
Max. immersed depth according to the nameplate characteristics.

ESPA 2025, S.L.

C/ Mieres, s/n – 17820 BANYOLES
GIRONA – SPAIN

www.espa.com