



Spa

for private use

de uso privado
pour un usage privé
für Private Nutzung
per uso privato
para uso privado
voor prive-gebruik

INSTALLATION MANUAL

MANUAL DE INSTALACIÓN - MANUEL D'INSTALLATION- MONTAGENHANDBUCH
MANUALE D'ISTRUZIONI - MANUAL DE INSTALAÇÃO - INSTALLATIEHANDLEIDING

V/1.1 -2017

SM-INS-PR

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IMPORTANT

This instructions manual contains fundamental information on the safety measures to be adopted when installing and starting-up the spa. It is therefore essential that both the Fitter and the User read these instructions before assembly and start-up.

1. GENERAL DETAILS

This manual contains all the information needed to fully enjoy your SPA. We recommend that you take some time to go over the points detailed below.

If you have any question or doubt on the operation or maintenance of this product, please contact your fitter or local dealer. They are specialists and their professional knowledge will help you to enjoy this product.

IMPORTANT: The manufacturer reserves the right to change the design or specifications without prior notice and without entering into any obligation.



ATTENTION - IMPORTANT

- Before carrying out any work on the Spa, it should be switched off from the electrical supply (differential in the OFF position, or disconnect the mains cable).
- This equipment can not be connected to a normal plug.
- This equipment requires suitable electrical installation. This should be performed by a qualified person following the electrical safety standards of each country.
- The electrical supply of the Spa should always be protected by a highly sensitive differential. A 30 mA differential is recommended.
- Earth connection is essential. The earthing circuit of the building should always be in perfect condition to guarantee the safety of the Spa user. If you have any doubts on this, ensure that the earth circuit is checked by a qualified person. The manufacturer is not responsible for possible damage caused by unsuitable maintenance of the earth circuit.
- Do not connect the electrical equipment (differential in the ON position), if the Spa is empty of water.
- Use a cable of a section suitable to the power of the Spa and the distance to the panel.
- Always observe the instructions included in Safety Warnings chapter of this manual.
- Never try to access an electrical component unless you are qualified or are the Head of Maintenance.
- Never handle electrical elements with wet feet.
- Means must be incorporated to disconnect the spa from the electrical network as part of the fixed installation, according to the current regulations.

2. SAFETY WARNINGS

2.1. GENERAL

- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.

- Cleaning and user maintenance shall not be made by children without supervision.
- Avoid contact with electrical voltage.
- Carefully follow current regulations regarding accident prevention.
- Any modification on the equipment requires prior authorisation from the manufacturer. Original spare parts and accessories authorised by the manufacturer guarantee greater safety. The manufacturer of the equipment is exempt from all liability for damages caused by using non-authorised spare parts or accessories.
- During operation, some parts of the equipment are at dangerous electrical voltage levels. Work on each element or equipment can only be performed once it has been disconnected from the mains and having disconnected the start-up devices.
- The user should ensure that assembly and maintenance works are carried out by qualified and authorised persons, and that they have carefully read the installation and service instructions.
- Safety in the operation of the machine can only be guaranteed if installation and service instructions are followed.
- The limits indicated in the electrical control panel cannot be exceeded under any circumstances.
- Contact the Technical Service of the manufacturer or the local dealer of the manufacturer in the event of malfunction or a breakdown.
- The Spa should be installed following current regulations applicable in each country, particularly those referring to electrical safety.
- There is risk of flooding with this equipment, and therefore it should be installed in an area prepared to collect and drain any water that may overflow (both under and around the spa), owing to its use or possible leaks in any of the circuits. (See the Guarantee).
- The equipment should be installed in a place which has been properly prepared and where all components of the Spa can be easily accessed. The guarantee does not cover work needed to be carried out to install or replace the product. (See the Guarantee).
- The appliance should be supplied through a residual current device (RCD) with a rated tripping current not exceeding 30 mA
- The floor has to be capable of supporting the expected load
- In case you use a cover that does not have fastening and/or safety elements for preventing unsupervised access to your spa, it is recommended that you install an alternative element (e.g., access control system, fence, etc.) to prevent the unauthorised access to and use of your spa.

2.2. WARNINGS IN INSTALLATION AND ASSEMBLY WORKS

- During the electrical connexion with the equipment have special care in the layout of the cables in the bypass box, make sure no pieces of cables are in the box after closing and that the ground connexion is correctly done.
- Pay special care that no water enters in contact neither with the pumps neither with the electrical parts under tension.

2.3. WARNINGS IN MAINTENANCE WORKS

- Before carrying out any electrical or mechanical maintenance work, make sure that the machine is disconnected from the mains, and that the start-up devices are blocked.
- Do not handle the equipment with wet feet.

3. INSTALLATION AND ASSEMBLY

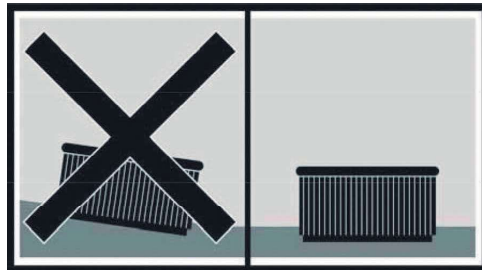
Before installing and assembling the Spa, ensure that the packaging of the Spa is in perfect condition. Contact your distributor immediately if the packaging is damaged.

3.1. POSITIONING AND LOCATION OF THE SPA

Position the Spa horizontally, placing the whole base of the unit on a smooth, flat and level surface, capable of supporting the weight when used (full of water, plus the weight of the bathers).

The Spa cannot be placed on a curved surface or on blocks.

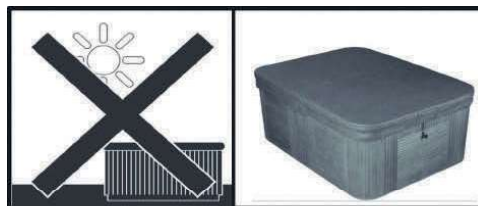
The side where the motors are located should be fully accessible. In order to carry out maintenance tasks, the location of the Spa should enable it to be moved so that all its sides can be easily accessed.



3.2. OUTDOOR INSTALLATION

If an outdoor location is chosen to place the Spa:

Do not expose the Spa to sunlight when it is empty and without a protection cover. Remember that prolonged exposure to sunlight may damage the surface of the Spa and its accessories. Acrylic rapidly absorbs heat from the sunrays reaching very high temperatures which will damage the Spa. Maximum absorption temperature is 60°C.



It is recommended to place the Spa away from trees, as falling leaves may block the filter.

If the Spa is placed inside glass structures, prevent sunrays shining directly on the Spa through the glass, as the temperature could be excessively hot.



The spa should not be left empty and uncovered at room temperatures over 20°C or below 4°C.

3.3. INDOOR INSTALLATION

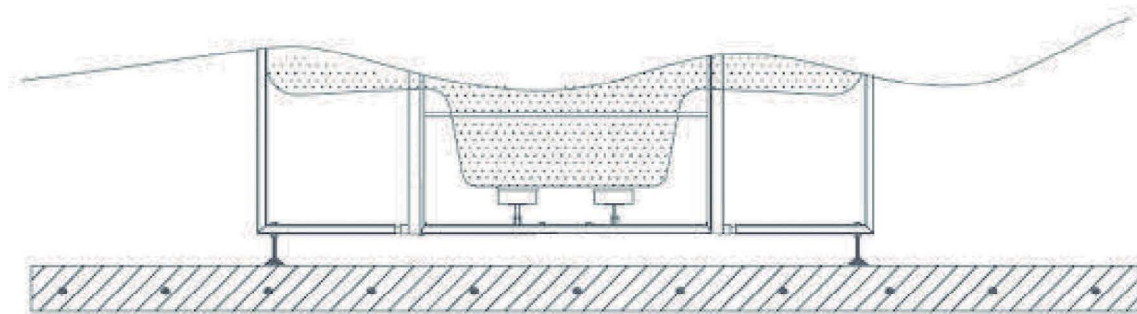
It is recommended to ensure drainage in the area of the Spa, to prevent water from accumulating around it and to avoid dangerous access areas for bathers.

Remember that the operation of the Spa causes increased damp and therefore, there must be a ventilation system to prevent damp from accumulating which could cause damage in the room where the Spa is located.

The use of a cover reduces heat loss and damp in the room.

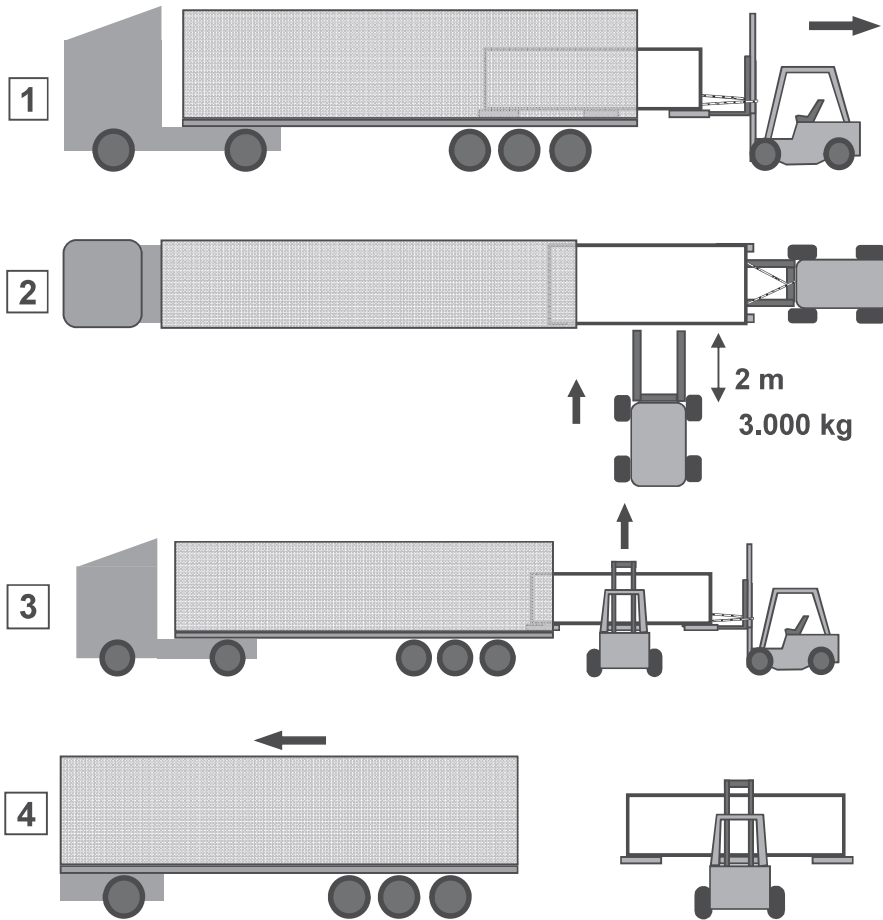
3.4. PORTABLE LEVELLING SPAS

Some spas come with an adjustable metal structure to facilitate their installation. This structure has several points of support. Before filling the spa, these points of support should be adjusted to ensure they are all in contact with the ground.

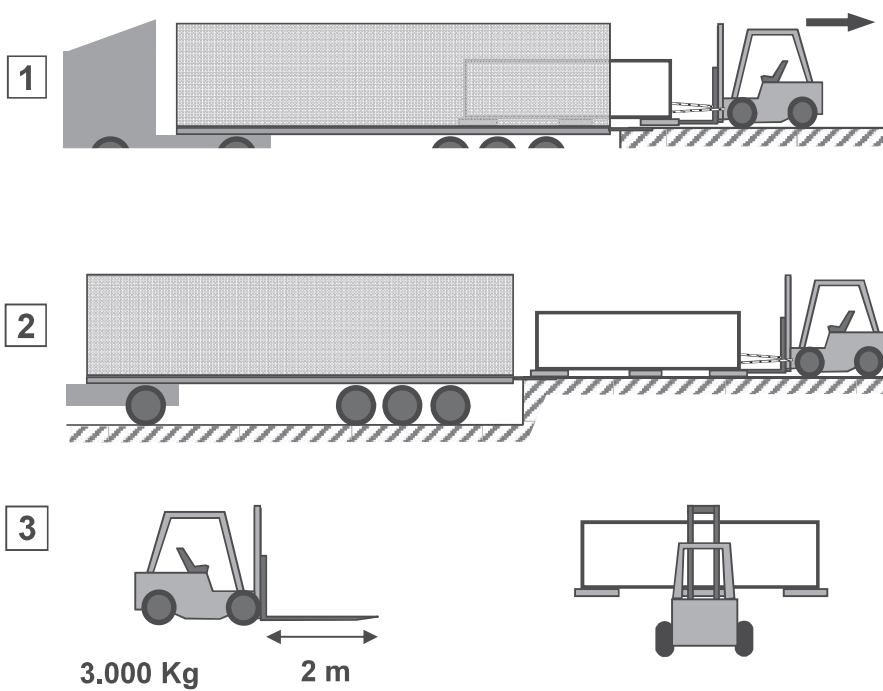


3.5. SWIMSPA - INSTALLATION

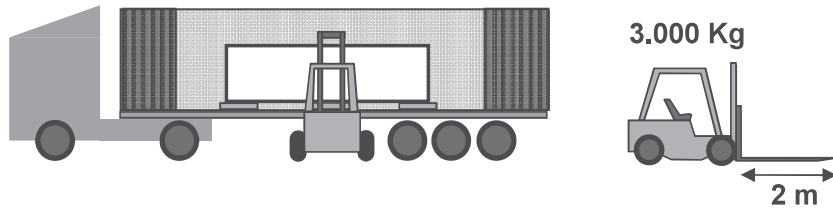
A. Swimspa - Container Download



B. Swimspa - Container Download B

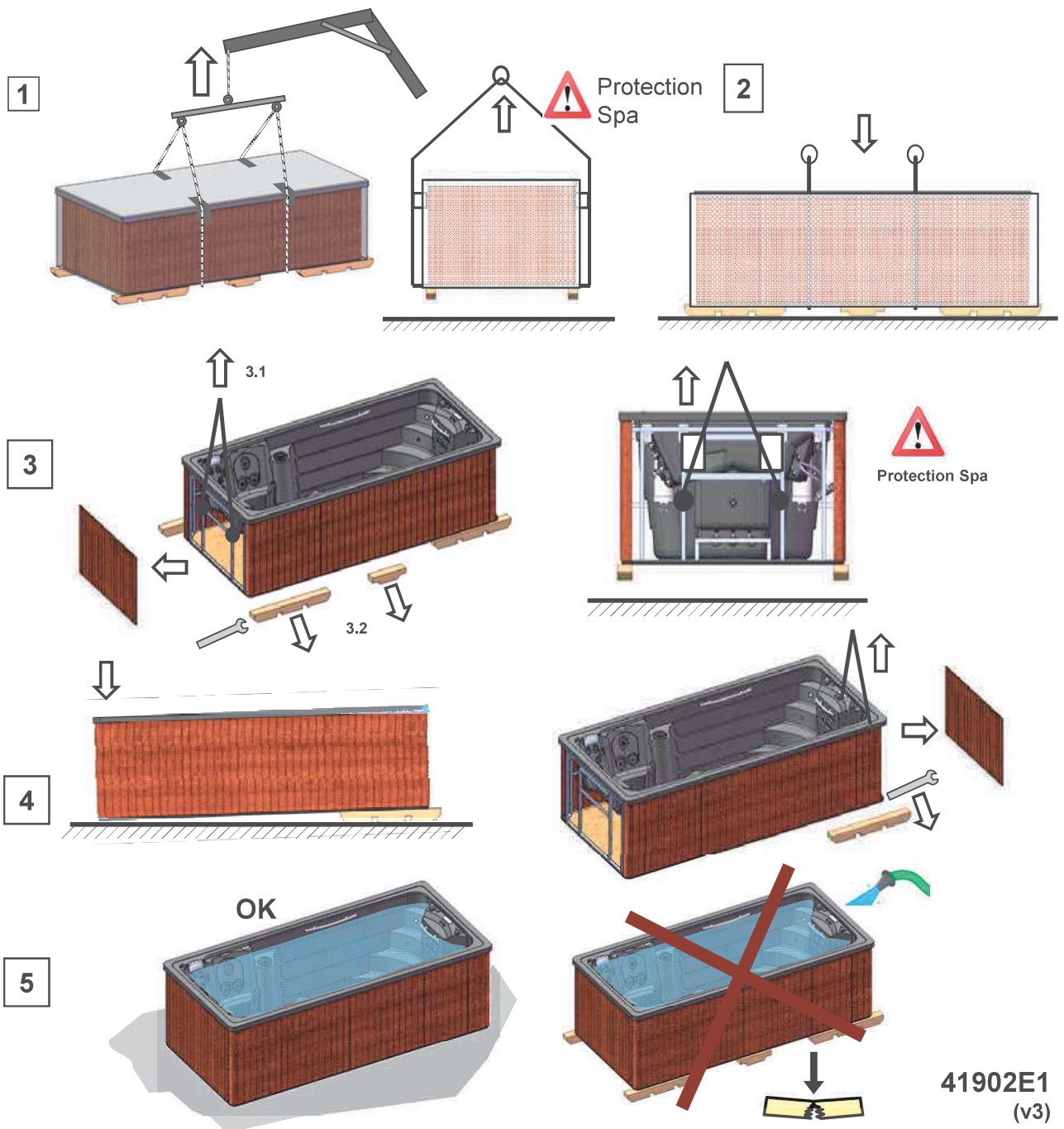


C. Swimspa - Truck Download



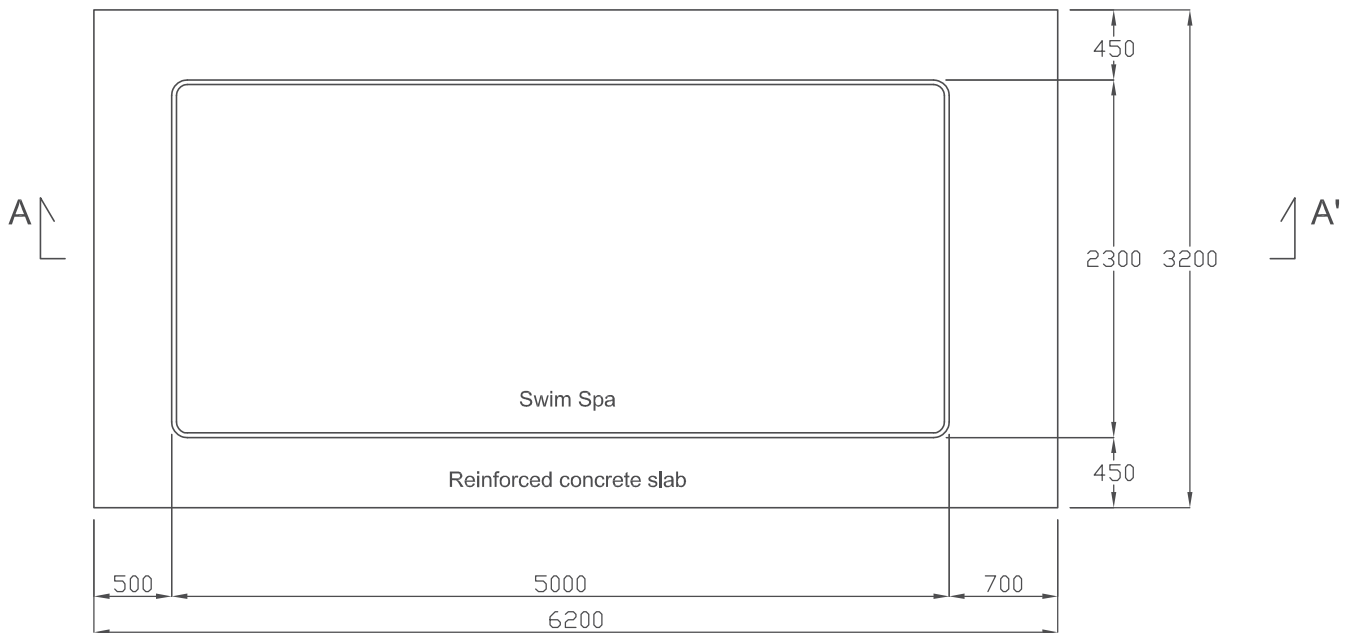
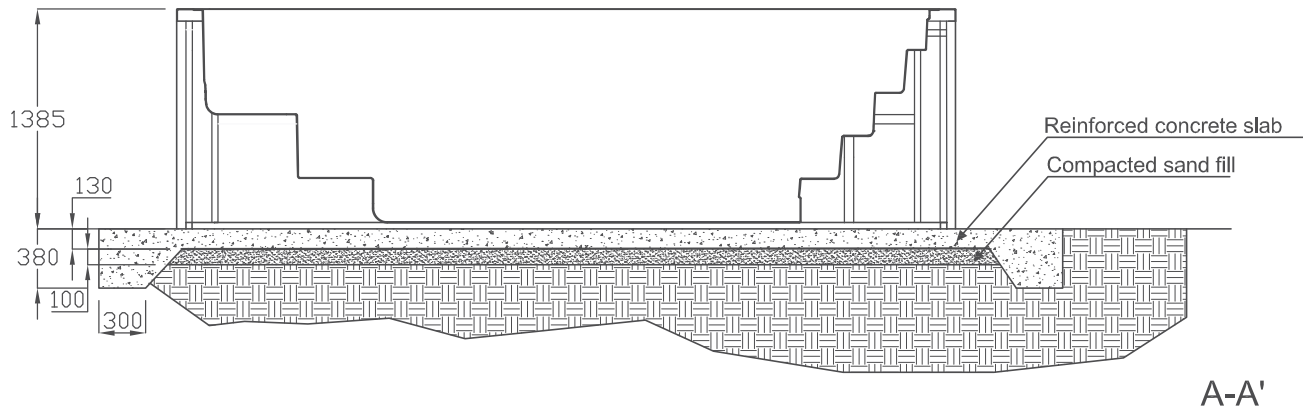
D. Swimspa - Installation

Dimensions & Weight:
See Technical Doc.



Foundation and material specifications

Dimensions in mm

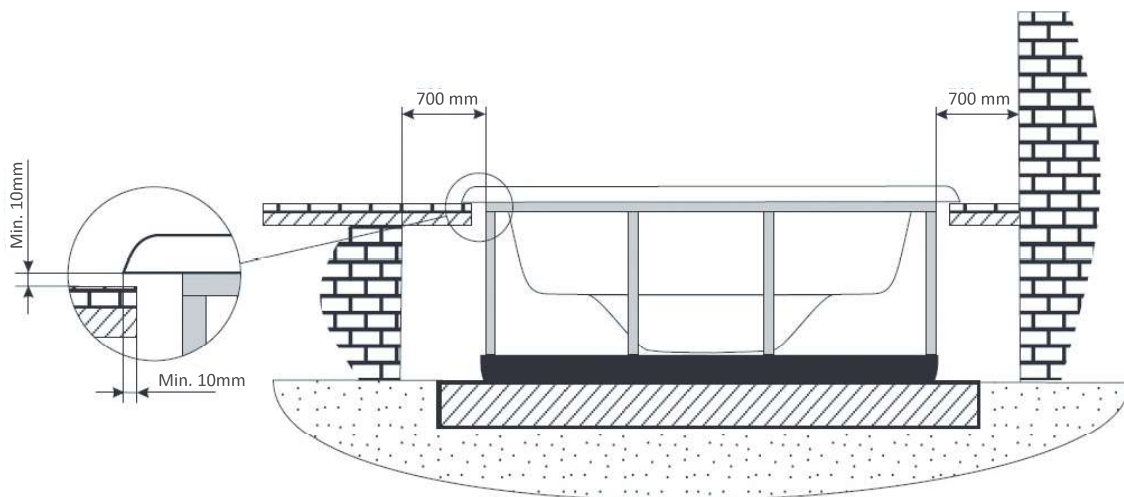


Notes:

This is a picture/illustrative example. It is recommended that an architect or engineer be consulted about the design and building work to ensure that the land is able to withstand the foundation slab when the swimspa is full of water, including the weight of the people who will be using it and the furniture or any other articles that will be in the area around the foundations. Local regulations on foundations and/or building work must also be complied with.

3.6. INGROUND SPA INSTALLATION

The Spa structure must be fixed on the floor. Do not hold the Spa by its outer edges.



Once settled the Spa, finish the work bearing in mind that the edging of the surface must not be in direct contact with the work (a minimum of 1 cm must be left around the edge).

Bear in mind that you will have to leave enough space to access to the pumps and electrical connections for maintenance. This space should be at least of 0.7 meters.

To seal the tab to the Spa, use a special elastic silicone for aquatic installations.



IMPORTANT

Leave a trapdoor spa access for maintenance.
Never cover with concrete.
LEAVE 70cm CLEARANCE AROUND THE SPA.

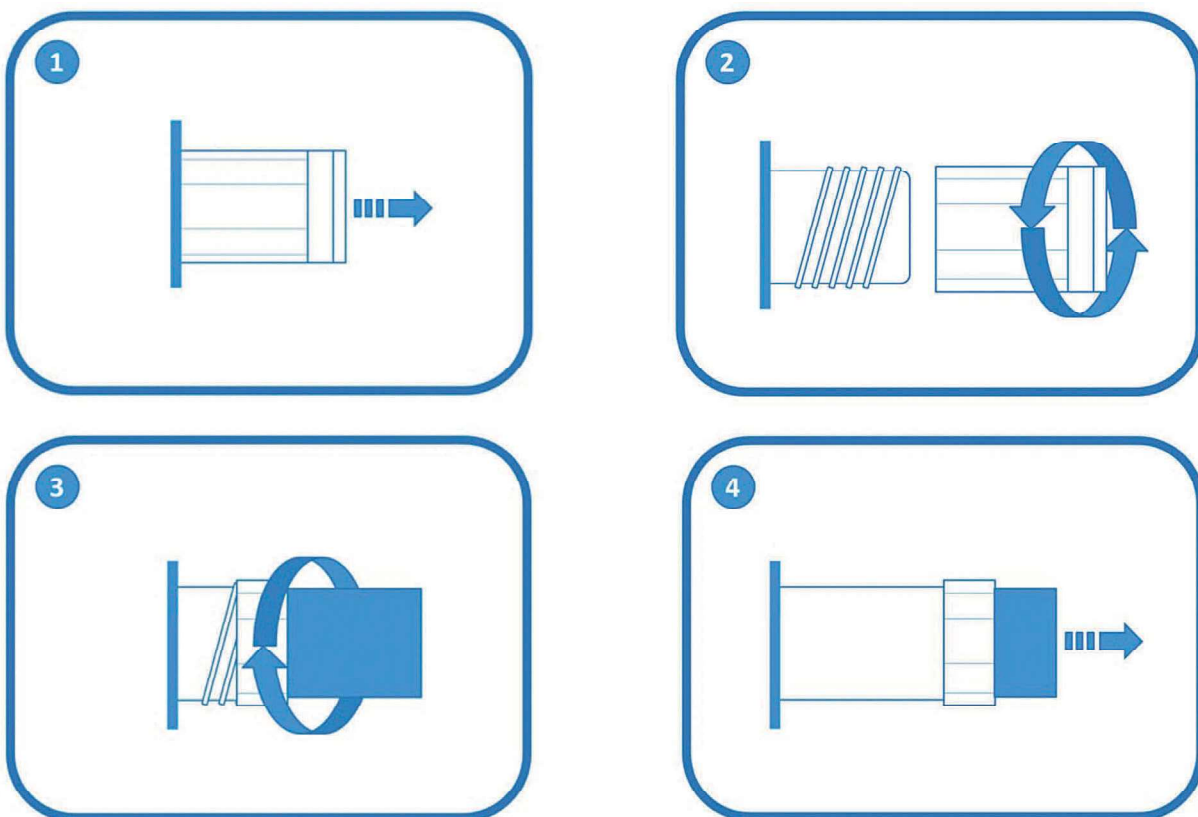
4. DRAINAGE OF THE SPA

The Spa has a manual emptying system by gravity, through a drainage valve of 3/4".

The drainage valve should always be closed. It should only be open when the Spa is emptied.

If necessary, a drainage system can be installed to connect the Spa to the general drains of the house. In this case, the steps 5 and 6 are not necessary.

Operation of the valve is:



IMPORTANT

Remember that when you drain your spa not all of the water runs off. If your spa is not going to be used for long periods, especially in winter, remove any stagnant water on the seats and on the bottom of the spa with a sponge.

Any water remaining in the pipes can be sucked out through the water and air nozzles using a liquid suction pump.

The pumps must also be emptied through the drain plug.

5. ELECTRICAL CONNECTION



ATTENTION – VERY IMPORTANT

- This equipment cannot be connected to a normal plug.
- This equipment requires suitable electrical installation. This should be done by a specialised fitter following local electrical safety regulations of each country.
- The electrical input of the Spa should always be protected by a highly sensitive differential. A 30 mA differential is recommended.
- Earthing connection is essential.
- Use a suitable section cable bearing in mind the power of the Spa and distance to the control panel.
- Always follow instructions given in the *Safety Warnings* chapter of this manual.



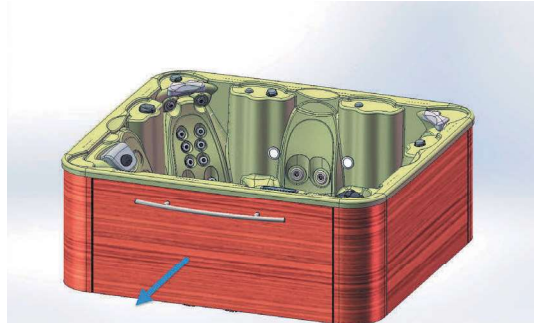
ATTENTION - RISK OF ELECTRIC DISCHARGE

- The electrical supply should be switched off (differential in the OFF position or disconnect the cable from the mains) before carrying out any work.
- Never try to access an electrical component unless you are qualified or are the Head of Maintenance.
- Always use suitable personal protection equipment and tools when handling electrical equipment.
- Never access electrical elements if you are wet, particularly if you have wet feet.
- Do not connect the electrical equipment (differential in the ON position), if the Spa is empty of water.

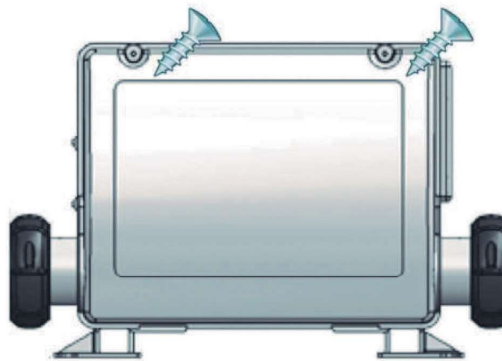
Follow these steps to connect the Spa:

Locate the electrical panel of the Spa.

Locate the electrical control panel; to do this, open the side panel to access the electrical components.



Open Electrical Box.



Connect the electrical control panel of the Spa to the differential switch.

Installation of the differential

The electrical installation should incorporate a high-sensitive 2-pole differential in the general mains input panel (the differential is not supplied with the Spa).

**WARNING**

It is essential that the owner of the Spa tests the differential switch at least once a month, to check its good working order.
Check that the differential is in the *OFF* position. Do not place the differential in the *ON* position until the Spa is filled with water.

Connect the electrical control panel of the Spa to the differential switch

Before carrying out any work on the Spa, make sure it is disconnected from the mains (differential switch in the *OFF* position, or disconnect the cable from the mains).

Use a suitable cable from the differential switch to the electric cabinet of the Spa, depending on the location and applicable law. The cable section will vary depending on the Spa model and the distance of the installation.

The required kW are indicated in the appendix *Technical Specifications of the Spa*. The maximum power must be considered, depending on the “High Amp” or “Low Amp” configuration

High Amp / Low Amp setting

Power consumption can vary considerably depending on the spa setting selected. Therefore, the type of installation chosen will determine the amount of electricity consumed.

LOW AMP:

This setting disconnects the electric heater when any of the massage pumps are working, which reduces electricity consumption. This is the manufacturer’s default configuration.

HIGH AMP:

This setting makes it possible for all spa components to work at the same time. This type of installation consumes more power.

FOR GS 501SZ SYSTEM

Changing from a low amp to a high amp setting is achieved thanks to the switches on the switchboard:

	# of Hi-Speed Pumps/ Blower Before Heat		
	A2	A10	Disabled
	OFF	OFF	0
	ON	OFF	1
	OFF	ON	2
	ON	ON	3

DIP SWITCH FUNCTIONS FOR BP SYSTEMS

Fixed-Function DIP Switches

- A1** Test Mode (normally off).
- A2** In “ON” position, add one high-speed pump (or blower) with Heater.
- A3** In “ON” position, add two high-speed pumps (or 1 HS Pump and Blower) with Heater.
- A4** In “ON” position, add four high-speed pumps (or 3 HS Pumps and Blower) with Heater.
- A5** In “ON” position, enables Special Amperage Rule B. See Special Features section under Configuration Options for functionality with your system. In “OFF” position enables Special Amperage Rule A.
- A6** Persistent memory reset (Used when the spa is powering up to restore factory settings as determined by software configuration).

A2, A3 and **A4** work in combination to determine the number of high-speed devices and blowers that can run before the heat is disabled. f.e. A2 and A3 in the ON position and A4 in the OFF position will allow the heater to operate with up to 3 high-speed pumps (or two HS Pumps and Blower) running at the same time. Heat is disabled when the fourth high-speed pump or blower is turned on.

Note: **A2/A3/A4** all off = No heat with any high-speed pump or blower.

Assignable DIP Switches

- A7** In “ON” position, enables a 5-minute cool down for some gas heaters (Cooling Time B).
In “OFF” position, enables a 1-minute cool down for electric heaters (Cooling Time A).

Undesignated switches are not assigned a function.

IMPORTANT:

The Electric Specification Sheet attached at the end of this manual indicates both the “Low Amp” and the “High Amp” power. To determine the cable section of the electrical installation, see the values indicated in this sheet and the following table:

Table of required sections, distance and power

	KW required										
	2,1	2,5	2,8	3,2	3,5	4,4	5,3	6,2	7,0	7,9	8,8
Distance	Nominal section of the cable in mm ²										
6 - 11 m	2,5	2,5	2,5	2,5	4	4	6	10	10	10	10
11 - 15 m	2,5	2,5	4	4	4	6	6	10	10	10	10
15 - 20 m	4	4	4	6	6	6	10	10	10	16	16

For longer distances, increase the cable section accordingly.

Some configurations may require installing 1 32A line, 2 16A lines or even one three-phase line (3 x 16A) to cover the power required by the Spa.

The different configuration options of the electrical control panel are explained further on in this Installation Manual.

Remember that the installation and any changes in the electric configuration must be carried out by qualified personnel, following the current regulations in each country.

The manufacturer shall not be responsible for any damage caused by an improper installation or an installation performed by non-qualified personnel.



ATTENTION

Pay attention to the position of the maximum consumption switch. The Spa will not operate properly if a cable not corresponding to the distance and power of the Spa is used, and the electrical circuits may overheat which may cause an electrical accident. Always use cable with the suitable section of maximum consumption. In the event of doubt between two values, always use the cable with the greater section.

To connect the supply to the electrical panel of the Spa, locate the packing gland positioned at one end of the electrical panel.

Make sure that there is no electric current in the connection cable (differential switch in the *OFF* position).

Take the cable to the Spa electrical panel.

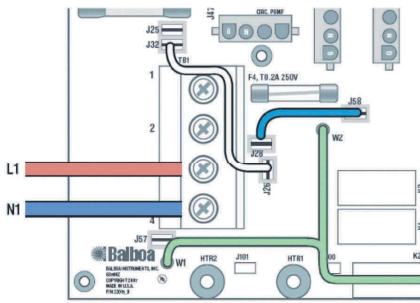
Open the cover of the electrical cabinet, insert the feed cable through the free side.

Attention: the indicated blue cable is neutral, and the brown cable indicates the line or phase.

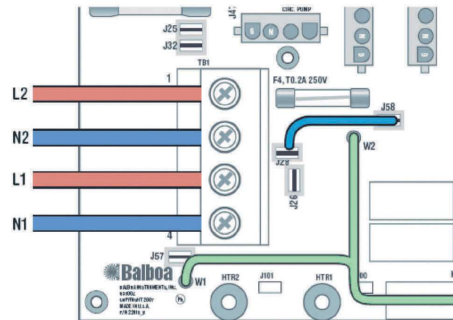
Fasten the terminals as indicated in the following diagrams and the type of electrical supply

GS501SZ SYSTEM

Single line 1x16A or 1x32A

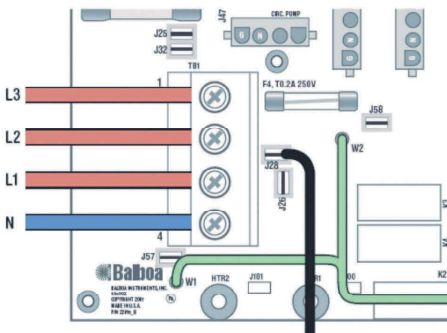


Double line 2x16A



Remove wire from J26 to J32

Three-phase line



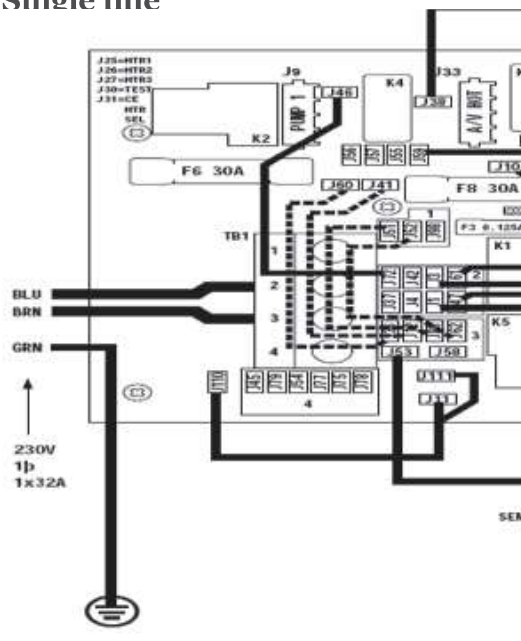
Remove wire from J26 to J32 and from J28 to J58.

If an expansion card is installed, the black wire that comes from the connector J6 of the expander board must be connected to J28 of the main board.

Switch A2 + A10 : ON (HIGH AMP)

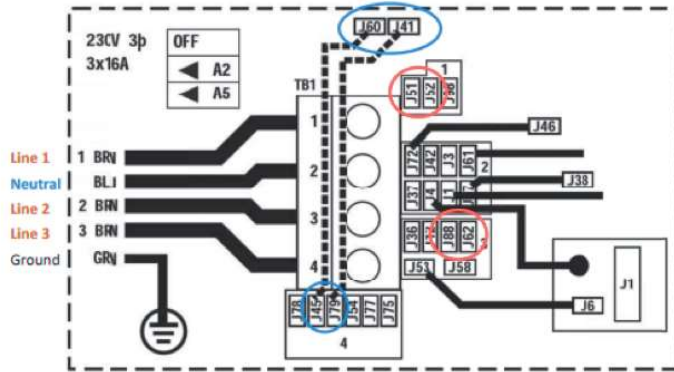
BP SYSTEM



Single line



How to connect BP2100 Systems in Three Phases 400v

Three-phase line



Remove bridges; J51-J88 and J52-J62 
 Changes this bridges
 J60-J36 -> TO J60-J45 
 J41-J12 -> TO J41-J79
 Power requirements:
 3 Services 5 wires: Line 2, Line2, Line 3, Neutral, Ground 400VCA, 50/60Hz* 3 phase, 16A (Circuit breaker rating = 20A max each phase line).

* BP systems automatically detect 50 Hz vs 60 Hz

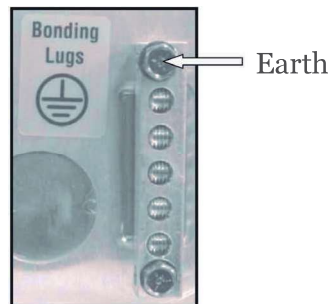


ATTENTION

Correct earthing is essential

The earthing circuit of the building should always be in perfect condition to guarantee the safety of Spa users. If you have any doubts on this, ensure that the earthing circuit is checked by a duly qualified person. The manufacturer will not be held responsible for possible damage caused by incorrect maintenance of the earthing circuit.

Fasten the earth cable (yellow and green) to the terminal on the outside of the control cabinet as shown in the following diagram:



ATTENTION

Do not connect the electricity (differential in the ON position) until the Spa is filled with water.

6. START-UP



ATTENTION

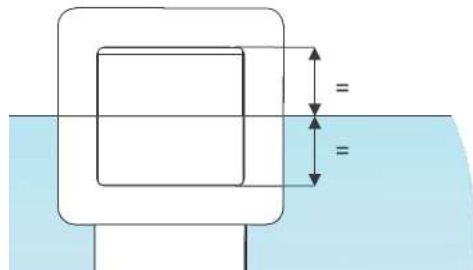
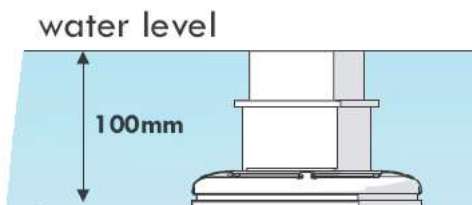
Before start-up, read the following points carefully.

6.1. FILLING PORTABLE SPAS

The Spa does not have a specific filling system. It is recommended to use a manual filling system with a garden hose or similar.

Proceed as follows:

- Before starting filling the Spa, locate the drain valve (see “Locating the drain valve”) and ensure that it is in the CLOSED position.
- Fill the Spa through the top, with clean water, to the level indicated.



6.2. FILLING PORTABLE OVERFLOW SPAS

It is recommended to fill the spa manually using a garden hose or a similar system.

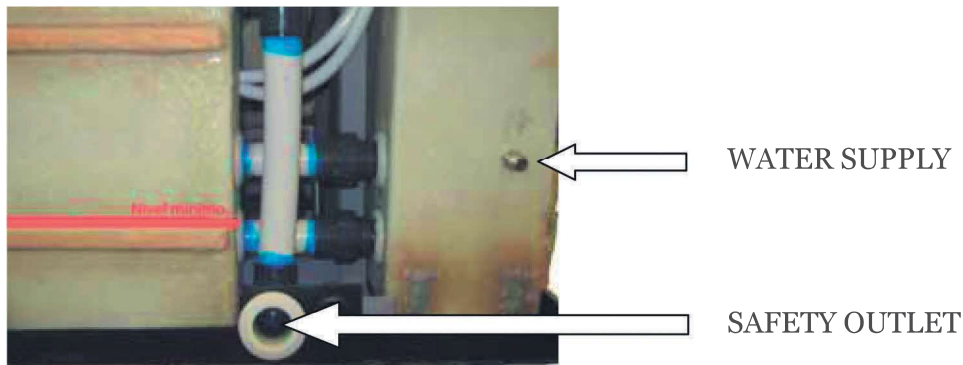
Proceed as follows:

Before filling the spa, find the drainage valves and ensure they are all closed, except for the safety outlet, which should always be open.

Fill the spa from above using clean water until the spa starts to overflow.

Fill the three water tanks with the automatic filling.

Connect the water supply to one of the tanks' inlets.



The spa has a filling system that works using a ball cock. The outlet of the ball cock must be connected to the mains supply at a constant water pressure.

When the spa loses water as a result of evaporation, the system automatically fills the tanks.

The compensation tanks have a safety outlet for removing water.



WARNING

The compensation tanks of private overflow spas have a limited capacity. they can hold 280 litres of water, equivalent to 4 partially submerged people. users should enter the spa one by one and slowly to enable the tanks to absorb the displaced water and prevent water from flowing out of the spa.



WARNING

During the filling process, water should be prevented from entering electrical parts. If seawater is used in the Spa, the circuit components will quickly deteriorate. Do not fill the Spa with hot water, as this could trigger off the safety thermostat and damage equipment and connections.

Once the Spa has been filled with water, connect the electrical equipment by placing the differential switch in the On position (See Electrical Connection).

Do not use the Spa without first carefully reading all the information detailed in the following points:

- Adjust water ph between 7,2 and 7,6 (see *instructions manual*).
- Add all required chemical products recommended in water maintenance (*instructions manual*)
- Select the required temperature (see *Installation and assembly of the spa*). remember that if the water is cold, it may take 24 hours to reach a temperature of 38°C.
- Before using the spa, check the ph values once again in case they have changed with the treatments indicated above.

7. PROBLEMS AND SOLUTIONS

Problems	Reasons	Solutions
Insufficient flow of filtered water.	Filter is blocked by dirt.	Wash the filter.
The massage pump of the Jets does not work. Spa does not work.	The cable of the digital control panel is disconnected from the board. No electrical supply. Differential is disconnected.	Connect the cable to the board. Check that the pump is connected to the electric control panel. Connect the differential.
The massage pump of the air <i>Blower</i> does not work.	The cable of the digital control panel is disconnected from the board. No electrical supply The pump has disconnected owing to overheating.	Connect the cable to the board. Check that the pump is connected to the electric control panel. Let it cool for about 3 hours and then start-up the pump again.
Water leaks out through the <i>Venturi</i> .	Jets are closed. Jets are not properly installed. The outer trim of the jet turns a quarter to open and close the water flow. If this trim makes a complete turn, it is not properly installed, and the jet will have to be removed and then placed correctly.	Open the jet. Remove the jet. Pull the outer trim about 2 cm. Unscrew the jet turning anti-clockwise. Once it has been dismantled, replace the jet, by screwing in a clockwise direction. Press the outer trim back into place.
Limited airflow in the Jets.	<i>Venturis</i> are closed.	Open the <i>Venturis</i> .
Reduced airflow.	Starter brushes of the motor are worn.	Change the pump.
The water does not reach the required temperature.	Probe is damaged. Check programmed temperature.	Replace the temperature probe. Programme the temperature.

Note: In the section Diagnosis message of the control panel (*User Manual*), the diagnosis messages to solve possible breakdowns are indicated.

1 LED LIGHT	3 LED LIGHT	5 LED LIGHT	5 LED LIGHT + LED FEATURES	5 LED LIGHT + LED FEATURES + LIGHTING CABINET	AUDIO SYSTEM	ZONE GENERATOR TRB-109	TOTAL OPTIONS (KW)	GROUP A			GROUP B			GROUP B1			GROUP B2			GROUP C			GROUP C1														
								HEATER		CIRC. PUMP IA35		MESSAGE PUMP LP250		HEATER		CIRC. PUMP IA35		MESSAGE PUMP LP250		HEATER		CIRC. PUMP IA35		MESSAGE PUMP LP250		HEATER		CIRC. PUMP IA35		MESSAGE PUMP LP300		HEATER		CIRC. PUMP IA35		MESSAGE PUMP LP300	
								3.00	0.25	1.80	3.00	0.60	1.80	3.00	0.60	1.80	3.00	0.60	1.80	3.00	0.60	1.80	3.00	0.25	1.80	3.00	0.25	1.80	3.00	0.25	1.80	3.00	0.25	1.80	3.00	0.25	1.80
2.0	4.8	7.6	13.2	19.6	120.0	5.4	12.0	5.2	22.6	3.4	14.8	5.6	24.4	3.4	14.8	6.3	27.2	3.8	16.3	5.9	25.7	3.4	14.8	7.7	33.5	4.7	20.4	8.5	37.0	5.5	23.9						
								0.15	5.2	22.6	3.4	14.8	5.6	24.4	3.4	14.8	6.3	27.2	3.8	16.3	5.9	25.7	3.4	14.8	7.7	33.5	4.7	20.4	8.5	37.0	5.5	23.9					
								0.15	5.2	22.59	3.40	14.76	5.60	24.33	3.40	14.76	6.25	27.15	3.75	16.28	5.90	25.63	3.40	14.76	7.70	33.46	4.70	20.41	8.50	36.93	5.50	23.89					
								0.13	5.18	22.51	3.38	14.68	5.58	24.25	3.38	14.68	6.23	27.08	3.73	16.21	5.88	25.55	3.38	14.68	7.68	33.38	4.68	20.34	8.48	36.86	5.48	23.81					
								0.13	5.18	22.54	3.38	14.71	5.58	24.28	3.38	14.71	6.23	27.10	3.73	16.23	5.88	25.58	3.38	14.71	7.68	33.41	4.68	20.37	8.48	36.89	5.48	23.84					
								0.12	5.17	22.49	3.37	14.66	5.57	24.23	3.37	14.66	6.22	27.05	3.72	16.18	5.87	25.53	3.37	14.66	7.67	33.36	4.67	20.31	8.47	36.83	5.47	23.79					
								0.01	5.06	21.99	3.26	14.16	5.46	23.73	3.26	14.16	6.11	26.55	3.61	15.68	5.76	25.03	3.26	14.16	7.56	32.86	4.56	19.81	8.36	36.34	5.36	23.29					
								0.01	5.06	22.02	3.26	14.19	5.46	23.76	3.26	14.19	6.11	26.58	3.61	15.71	5.76	25.06	3.26	14.19	7.56	32.89	4.56	19.84	8.36	36.37	5.36	23.32					
								0.00	5.05	21.97	3.25	14.14	5.45	23.70	3.25	14.14	6.10	26.53	3.60	15.66	5.75	25.01	3.25	14.14	7.55	32.83	4.55	19.79	8.35	36.31	5.35	23.27					
								0.13	5.18	22.52	3.38	14.70	5.58	24.26	3.38	14.70	6.23	27.09	3.73	16.22	5.88	25.57	3.38	14.70	7.68	33.39	4.68	20.35	8.48	36.87	5.48	23.83					
								0.14	5.19	22.55	3.39	14.73	5.59	24.29	3.39	14.73	6.24	27.12	3.74	16.25	5.89	25.59	3.39	14.73	7.69	33.42	4.69	20.38	8.49	36.90	5.49	23.86					
								0.12	5.17	22.50	3.37	14.67	5.57	24.24	3.37	14.67	6.22	27.06	3.72	16.19	5.87	25.54	3.37	14.67	7.67	33.37	4.67	20.33	8.47	36.85	5.47	23.80					
								0.01	5.06	22.00	3.26	14.17	5.46	23.74	3.26	14.17	6.11	26.57	3.61	15.70	5.76	25.04	3.26	14.17	7.56	32.87	4.56	19.83	8.36	36.35	5.36	23.31					
								0.02	5.07	22.03	3.27	14.20	5.47	23.77	3.27	14.20	6.12	26.59	3.62	15.73	5.77	25.07	3.27	14.20	7.57	32.90	4.57	19.86	8.37	36.38	5.37	23.33					
								0.00	5.05	21.98	3.25	14.15	5.45	23.72	3.25	14.15	6.10	26.54	3.60	15.67	5.75	25.02	3.25	14.15	7.55	32.85	4.55	19.80	8.35	36.33	5.35	23.28					
								0.13	5.18	22.53	3.38	14.71	5.58	24.27	3.38	14.71	6.23	27.10	3.73	16.23	5.88	25.58	3.38	14.71	7.68	33.40	4.68	20.36	8.48	36.88	5.48	23.84					
								0.13	5.18	22.51	3.38	14.69	5.58	24.25	3.38	14.69	6.23	27.08	3.72	16.21	5.88	25.55	3.38	14.71	7.68	33.43	4.68	20.39	8.49	36.91	5.49	23.87					
								0.01	5.06	22.01	3.26	14.19	5.46	23.75	3.26	14.19	6.11	26.58	3.61	15.71	5.76	25.06	3.26	14.19	7.56	32.88	4.56	19.84	8.36	36.36	5.36	23.32					
								0.02	5.07	22.04	3.27	14.22	5.47	23.78	3.27	14.22	6.12	26.61	3.62	15.74	5.77	25.09	3.27	14.22	7.57	32.91	4.57	19.87	8.37	36.39	5.37	23.35					
								0.14	5.19	22.56	3.39	14.73	5.59	24.30	3.39	14.73	6.24	27.13	3.74	16.26	5.89	25.61	3.39	14.74	7.69	33.43	4.69	20.39	8.49	36.91	5.49	23.87					
								0.15	5.20	22.59	3.40	14.76	5.60	24.33	3.40	14.76	6.25	27.15	3.75	16.28	5.90	25.63	3.40	14.76	7.70	33.46	4.70	20.41	8.50	36.94	5.50	23.89					
								0.13	5.18	22.54	3.38	14.71	5.58	24.27	3.38	14.71	6.23	27.10	3.73	16.23	5.88	25.58	3.38	14.73	7.69	33.43	4.69	20.39	8.49	36.91	5.49	23.86					
								0.02	5.07	22.04	3.27	14.21	5.47	23.78	3.27	14.21	6.11	26.57	3.61	15.73	5.77	25.08	3.27	14.21	7.57	32.91	4.57	19.86	8.37	36.39	5.37	23.34					
								0.03	5.08	22.07	3.28	14.24	5.48	23.81	3.28	14.24	6.12	26.60	3.62	15.76	5.78	25.11	3.28	14.24	7.58	32.94	4.58	19.88	8.38	36.41	5.38	23.37					
								0.01	5.06	22.01	3.26	14.19	5.46	23.75	3.26	14.19	6.11	26.58	3.61	15.71	5.76	25.06	3.26	14.19	7.56	32.88	4.56	19.84	8.36	36.36	5.36	23.32					
								0.14	5.19	22.56	3.39	14.74	5.59	24.30	3.39	14.74	6.24	27.14	3.74	16.27	5.89	25.61	3.39	14.74	7.69	33.43	4.69	20.39	8.49	36.91	5.49	23.87					
								0.03	5.08	22.07	3.28	14.24	5.48	23.80	3.28	14.24	6.13	26.63	3.63	15.76	5.78	25.11	3.28	14.24	7.58	32.93	4.58	19.89	8.38	36.41	5.38	23.37					
								0.03	5.08	22.09	3.28	14.27	5.48	23.83	3.28	14.27	6.13	26.64	3.63	15.79	5.78	25.14	3.28	14.27	7.58	32.96	4.58	19.92	8.38	36.44	5.38	23.36					
								0.02	5.07	22.04	3.27	14.22	5.47	23.78	3.27	14.22	6.12	26.61	3.62	15.74	5.77	25.09	3.27	14.22	7.57	32.91	4.57	19.87	8.37	36.39	5.37	23.35					

MAX



