

Product description

The pump is designed to operate in pools with chlorine disinfection (organic, inorganic chlorine). Pahlén can not guarantee the life of the pump in operation with other types of disinfectants.

The product is intended for the following water values:

Chlorine content:	max 3 mg/l (ppm)
Chloride content:	max 250 mg /l
pH-value:	7.2–7.6
Alkalinity:	60–120 mg/l (ppm)
Calcium hardness:	100–300 mg/l (ppm)

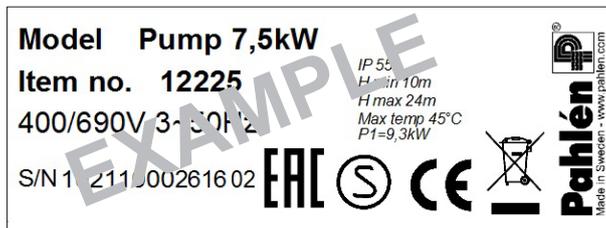
Outside these values, the product warranty is void. The water must not be aggressive for Pahlén standard pumps. Pahlén has developed special pumps for aggressive water. For these pumps other values than above are valid. Please contact Pahlén technical support for more information.

Technical data

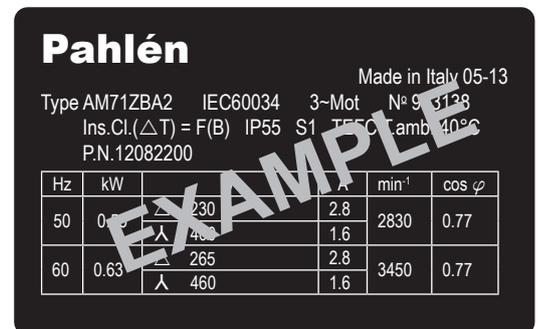
Max temperature, pool water/ambient	+45°C
Protective class	IP55

See the pump rating plate for maximum suction height (H_{max}).

Example:



A. Rating plate for a pump model



B. Rating plate for a pump motor.

The location of the pump model rating plate (A) and pump motor rating plate (B):

Pump models with pre-filter



Pump models without pre-filter



Safety

Always check that the power supply has been disconnected before work commences on the pump.

CENELEC* members:
Note! The appliance can be used by children from the age of 8 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.

* CENELEC members are: Austria, Belgium, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

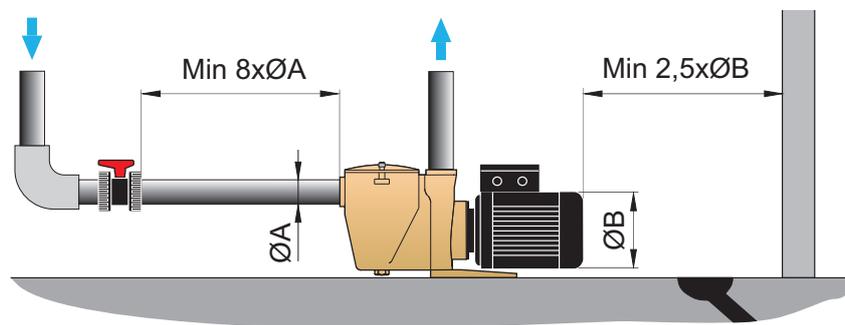
Other countries than CENELEC members (according to IEC):

Note! This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Installation

Placing

Place the pump on a lower level than the pool water surface and close to the pool to have as short suction pipe as possible. Clearance space behind the pump should be at least $2.5 \times$ motor fan diameter. Fix the pump with appropriate bolts on a solid foundation in a dry place with sufficient ventilation and with no risk for flooding. Pumps with pre-filter should be placed in such a way that the strainer basket in the pre-filter easily can be lifted out for cleaning.



Suction pipe

In order to optimise the pump, the following rules shall be followed when planning and dimensioning the suction pipe: large pipe dimension, short suction pipe, few valves, few sharp pipe curves, low-positioned pump and well-sealed pipe seams to avoid air leakage. If any of these rules is not followed, the pump's lifetime may be shortened. Aim for an entirely straight suction pipe closest to the pump, of a length that corresponds to at least $8 \times$ pipe diameter. Dimension the suction pipe as per the table below. Gravity from pool to pump is recommended. The suction pipe should be fitted with a shut-off valve that should always remain entirely open when the pump is in operation. If the pump is positioned higher than the pool's water surface, a non-return valve should be fitted to the suction pipe. However, this contributes to flow losses and the pump should be somewhat restricted with the help of a valve on the pressure side. If this is not done, there is a risk of pump cavitation, which can lead to shaft seal leakage and damage to the pump impeller. Check that all the connections are entirely sealed and leak-proof. (Use thread sealing tape to ensure a proper seal in screw threads).

Pressure pipe

Dimension the pressure pipe according to the table on following page. Connect the pressure pipe of the pump to the filter. Avoid sharp bends. Check that the connections are tight. Use thread tape when sealing the threads.

Recommended pipe dimensions

Pump model: kW	Outer pipe diameter	
	Suction side (max 10 m)	Pressure side (max 20 m)
P01: 0.37–0.55kW	50 mm	50 mm
P01: 0.75–1.5kW	50–63 mm	50 mm
P2000: 1.5kW	90 mm	75 mm
P2000: 2.2kW	110 mm	90 mm
P2000: 4.0kW	125 mm	110 mm
P85: 5.5kW	140 mm	125 mm
7,5: 7.5kW	200 mm	160 mm

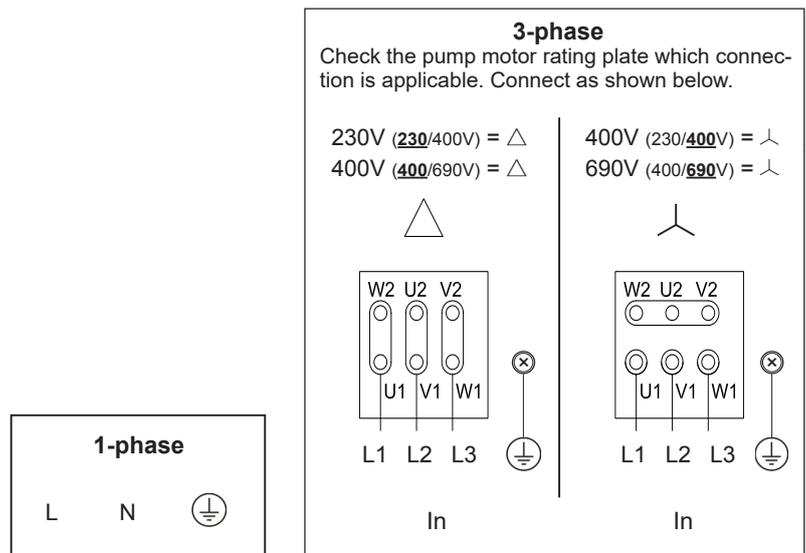
Electrical installation

NB! The pump should never be started without being filled with water. The pump's electric motor shall be installed by a licensed electrician and its installation shall conform to national legislation.

Electrical installation should take place after pipe and plumbing installation.

The pump shall be fed via a residual current device with maximum leakage current of no more than 30mA. It shall also be fitted with an all-pole switch and approved automatic motor circuit breaker that should be set to match the motor's rated current, see the pump motor rating plate.

Check that the pump's direction of rotation is the same as system flow – see the arrow on the motor housing.



Operation

See that the pump is filled with water before start. **The pump must never be dry run, as this could damage the shaft seal.**

Check that all valves to and from the pump are open.

Do not run the pump with a closed valve, as this may cause damage to the pump.

The pump shall always be shut off before the position on the central valve is being changed (or other valves are being closed).

The pump are not to work continuously with differential pressure to low (risk of cavitation).

Pump size	H (m)
0.37–4.0kW	at least 8 H(m).
5.5–7.5kW	at least 10 H(m)

Risk of freezing

At the risk of freezing, the pump and the inlet and outlet pipes must be drained. Drain the pump completely by removing the drainplug/drainplugs.