# Leaflet/ Instructions for the use of pumps in PURION complete systems:

## What is a self-priming pump?

A self-priming pump can also pump air and gas components and vent the suction line. Caution: Even a self-priming pump must be filled first when it is put into operation!

## What suction lift is possible with pumps?

Theoretically up to the present air pressure (normally 1.033 hPa corresponds to 10.33m). Technically, 7 to 8 m is usually a limit.

When using these PURION POOL 20/ 40/ 80 units, the water surface should always be above the PURION units. The units should be installed at least 0.5 m below the water surface (see also operating instructions).

The PURION POOL Premium/ LUXURY units, on the other hand, can also be installed above the water surface. The maximum suction height is 3.0 m.

## Which PURION POOL complete systems have a self-priming pump?

- PURION POOL Premium
- PURION POOL LUXURY

## If there is no self-priming pump as with the PURION POOL 20/ 40/ 80 - is installation above the water surface possible?

To a very limited extent (max. 0.5 m height) it may theoretically be possible. This depends on other individual factors such as the length of the suction pipe. In principle, a system with a self-priming pump should be used in such a situation.

The suction line should have a cross-section adapted to the application:

| | |
|---|---|
| **PURION Pool 20:** | **DN38** |
| **PURION Pool 40:** | **DN38 or DN50** |
| **PURION POOL 80:** | **DN38 or DN50** |
| **PURION POOL Premium/ LUXURY:** | **DN38 or DN50** |

**Basically, the suction line should have a length of 2-6m.**

## Why does a self-priming pump also have to be filled with water first?

Only when there is sufficient water in the pump housing can air components be transported in the suction line. Self-priming pumps must also be filled with water up to the suction connection. If this is not done, the pump can be damaged by dry running and leakage can occur. Such damage is generally excluded from the warranty.

### The pump is above the water surface. How do I make sure that the suction line does not run dry when the pump is not pumping?

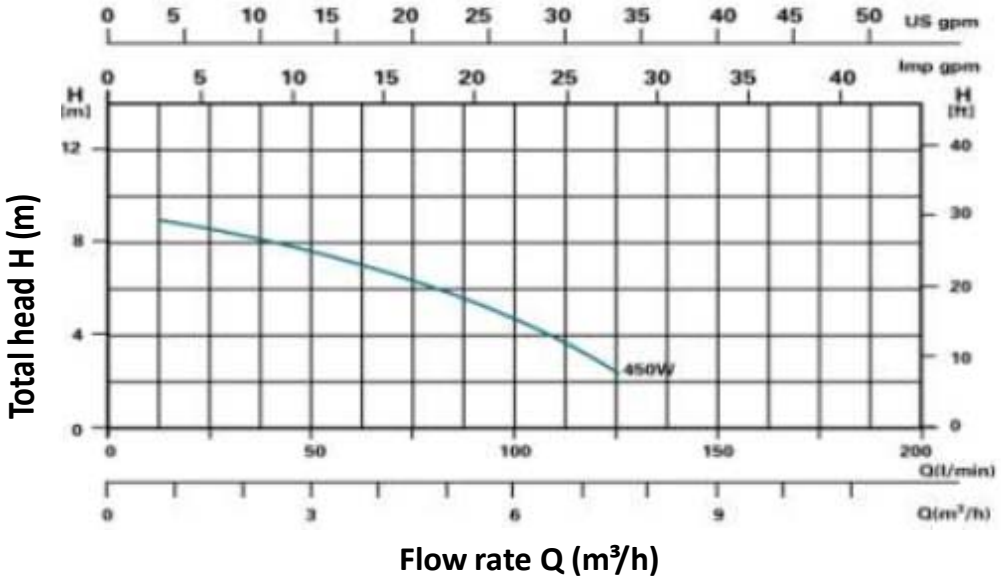
In this situation, a non-return valve must be installed. The installation location should be at the end or lowest point of the suction line (i.e. usually, **directly behind the skimmer**). Otherwise, there is a risk that the part between the end of the suction pipe and the non-return valve will run empty.

### Can I use the PURION POOL systems to pump water upwards, e.g. for heating purposes on a building roof or frame?

This depends on the characteristic curves of the respective pumps, i.e. the functional relationship between delivery head (in m) and flow rate (m³/h). Here, 1 m delivery head corresponds to 0.1 bar.

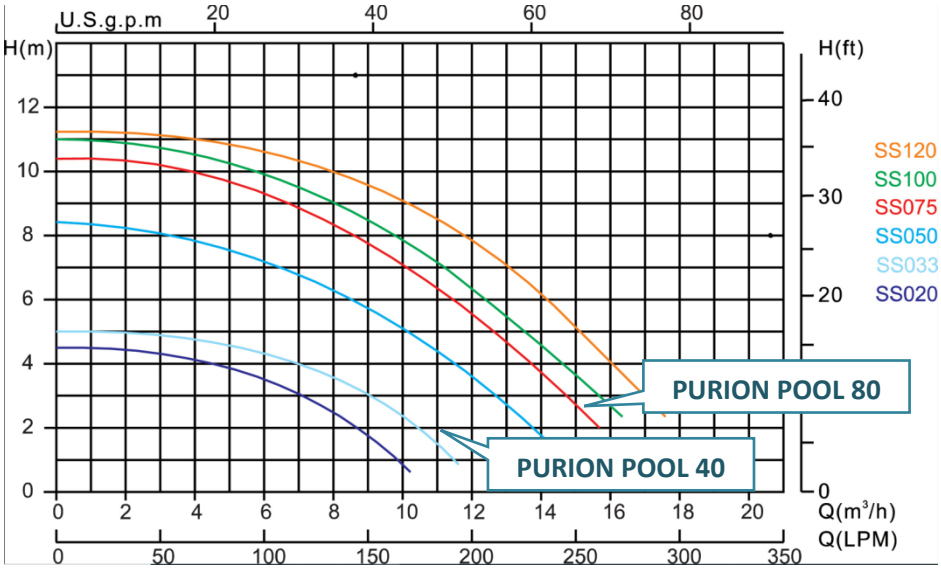
It should be noted that pressure losses of up to 0.5 - 1 bar (10 m) can occur through the filter vessel/pipes.

***Pump characteristic PURION POOL 20:***




→ with this system it is not possible to convey water to higher levels (e.g. roof).

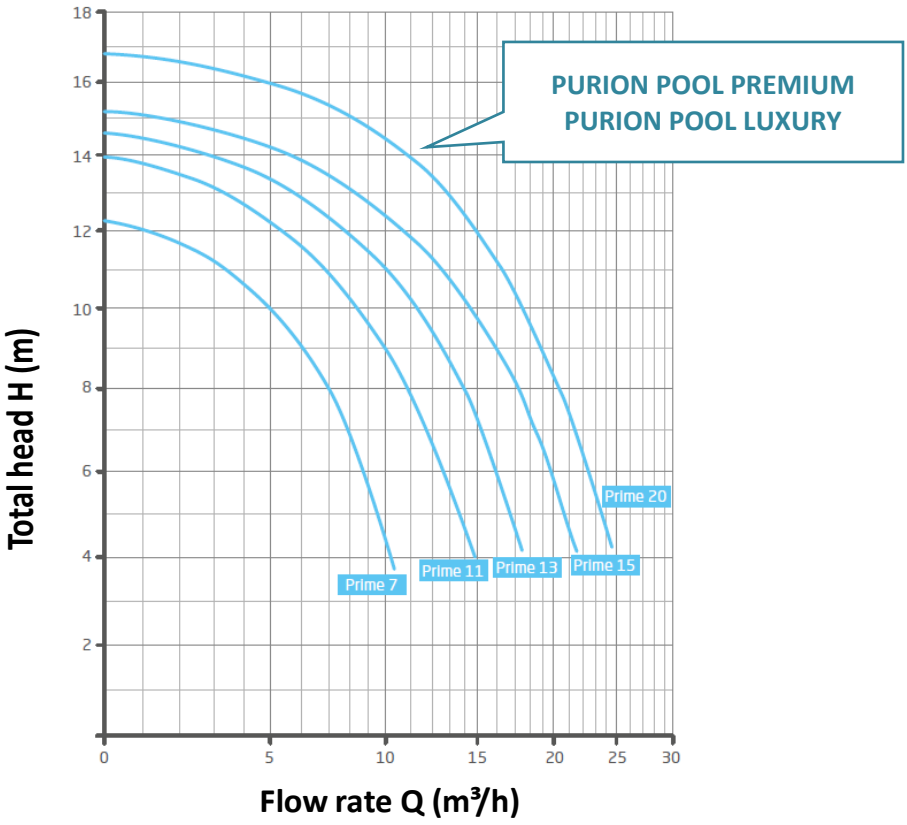
***Pump characteristic PURION POOL 40/ 80:***




➔ With the PURION POOL 40 system it is not possible to pump water to higher levels (e.g. roof).

➔ With the PURION POOL 80 system, it may be possible to pump water to higher levels (e.g. roof).

***Pump characteristic PURION POOL PREMIUM/ LUXURY:***




➔ With this system it is basically possible to convey water to higher levels (e.g. roof).

### What are the wearing parts of a pump?

Wearing parts are all sealing and rotating elements of a pump. These include in particular the mechanical seal, O-rings, flat seals, the impeller and the ball bearing. **As is generally the case, wearing parts are also excluded from the warranty for PURION POOL systems, as wear and tear is unavoidable over time during use and in particular improper use**.

### What can I do to prevent premature wear of the pumps?

One of the most common causes of premature wear/leakage is the pumps running dry because suction lines are not filled completely or check valves are positioned incorrectly. In this case, the instructions shown above and the respective operating instructions must be followed exactly. **If there are other shut-off valves in the lines, make sure that they are opened again after maintenance, shutdown or similar to prevent the pump from running dry.**

Another cause of premature wear is sediment/solids in the inlet to the pump. These components can cause premature wear of the mechanical seal and the impeller. To minimise this risk, please use PURION filter socks or similar in the pool outlet.

### Should the pump be switched off when manually switching the backwash valve?

To avoid pressure surges in the system, we recommend this procedure.

### How do I winterize my pump?

Empty pump, store in a dry and frost-proof place. Protect against dust. Attention: When starting up, fill the suction line with water again (see operating instructions).

### What should be considered when choosing a location?

A dry location should be chosen (outdoors, provide a suitably large canopy that provides sufficient protection from sun, rain and moisture). Ensure that the water (during maintenance, ...) can flow away from the unit safely and cannot cause a water back-up. Liability for water damage is excluded. The standards and regulations for electrical safety must be observed.

If the filter system is installed in a filter shaft, it must be ensured that the shaft cannot be flooded. For this purpose, it would be advisable to install a roll (gravel) in the area of the filter shaft or to provide a direct connection to the canal or a submersible pump with float switch. It is important to ensure that the filter shaft is not airtight, as this can cause damage to the pump due to condensation. The size of the filter shaft should be selected so that work can be carried out on the filter system.