

TECHNICAL BULLETIN

PRODUCT: GREENSKIES SOLAR THERMAL SYSTEMS

NEW ErP AGS10-2 & AGS10E-2 SOLAR PUMP STATION:

Expansion vessel pre-charge & system operating pressure

With the introduction of the new ErP Solar pump stations listed above, please be aware that there are new guidelines concerning:

- ▶ the expansion vessel pre-charge pressure (*Fig. 1*)
- ▶ the solar thermal system operating pressure (*Fig. 2*)

These guidelines can be found under sections **5.5.3** & **6.2.5** of the Installation and Servicing manual for the solar pump station.

5.5.3 Adjusting the pre-charge pressure of the expansion vessel



The pre-charge pressure of the expansion vessel is calculated based on the static system head¹⁾ plus an allowance.

- ▶ Calculate and set pre-charge pressure to at least 1.2 bar.

	Solar-Lifestyle/ Solar-Lito	Solar-Lux
Static height¹⁾	(10 m) 1.0 bar	(10 m) 1.0 bar
+ allowance	+ 0.4 bar	+ 1.7 bar
= expansion vessel pre-charge pressure	= 1.4 bar	= 2.7 bar

Table 6 Example: collector-dependent pre-charge pressure

1) A one metre difference in height (between collector array and solar pump station) equates to 0.1 bar

To make use of the maximum possible volume:

- ▶ Set the pre-charge pressure when the vessel is not subjected to load (i.e. no fluid pressure).
- ▶ If the calculated pre-charge pressure is higher or lower than the factory-set pre-charge pressure (see table 6, page 11), correct the pre-charge pressure accordingly.

Fig. 1 Section 5.5.3

6.2.5 Determining the operating pressure

When putting the system into operation, the operating pressure must be 0.7 bar above the static pressure (1 metre difference in height equals 0.1 bar).

The system pressure must be at least 1.5 bar (when cold, 20 °C).

	Solar-Lifestyle/ Solar-Lito	Solar-Lux
Static height¹⁾	(10 m) 1.0 bar	(10 m) 1.0 bar
+ allowance	+ 0.7 bar	+ 2.0 bar
= operating pressure	= 1.7 bar	= 3.0 bar

Table 8 Example: collector-dependent operating pressure

1) A one metre difference in height (between collector array and solar pump station) means 0.1 bar

Fig. 2 Section 6.2.5

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