Intelligent Pump Unit PU2 - Supplemental Instructions for Option IIO

(Inclination Independent Operation)

General

Due to its integrated reservoir, the inclination of a standard PU2 pump unit is limited to +/- 45°, otherwise air from the reservoir compression bubble (volume compensation) can be sucked into the cooling system. In the worst case the coolant flow could even be interrupted if the pump unit exceeds the maximum inclination angle. To operate the PU2 at any inclination or even overhead, the air must be removed completely from the cooling circle and the volume compensation bubble in the reservoir must be replaced by an air-free compensation device, e.g. a rubber membran. Option IIO meet these requirements and allows any orientation angle as well as overhead operation. PU2 pump units with option IIO differ from the standard devices as following:

- Flat lid replaced by a lid with concave like surface (inner side) to facilitate the air-free filling.
- No compressive air bubble and minimized dead volume due to a modified miniature fillport.
- An integrated rubber bubble with a 2 mm venting hole as volume compensation membrane with 40 ml compensation capacity.
- The overpressure valve is located at the front side instead of the top side of the PU2 unit.

Instructions

1. Connect the PU2 to the 12 VDC supply. The flashing blue light indicates an empty reservoir.

2. Remove the G 1/8 fill port screw cap from the top side of the pump unit and fill the reservoir carefully by utilizing the little splash bottle included in supply. When the minimum fill level is reached, the pump motor will start periodically until there is enough coolant in the system to run the pump continuously. **Do not stop filling until the coolant comes out of the fillport!**

3. Let the pump run for at least 2 or 3 minutes and rotate all cooling system part components (especially radiators) over all axes, as well as in overhead position to remove air bubbles. Watch the hoses (if transparent) or check the PU2 control window for possible air bubbles.

4. Turn-off the 12 VDC supply and allow a de-gasing of the coolant for at least 5 minutes. Then re-fill coolant until it comes out from the fillport. Repeat step 3 + 4 **several times** until the air is completely removed from the cooling circle.

5. When the cooling system is completely de-gased, turn-off the 12 VDC supply, close the fillport with the G 1/8 screw cap and rotate the PU2 unit **several times** over all its axes. Then re-open the fillport and re-fill coolant if necessary.

6. Close the fillport, turn the 12 VDC supply on and check if the PU2 can be operated overhead without any coolant flow interuption. Repeat step 3 to 6 if necessary.

7. Before the final installation, verify that all screw caps and connectors are well tightened to ensure that the cooling system is hermetically sealed.

Note 1: Please keep the volume compensation venting hole on the right side of the PU2 free when this side is attached to a flat surface.

Note 2: The maximum compensation volume of the internal rubber membrane is 40 ml. In case of higher compensation requirements, there are flexible pillow compensation vessels for external installation available. Please consult BEHLKE for more details.