

# Supplementary instructions delta® with venting module



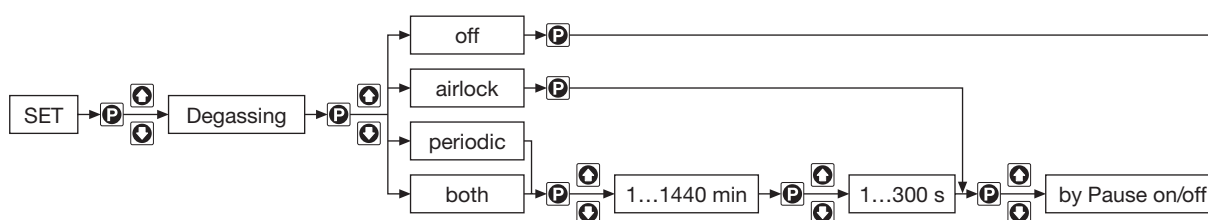
## Venting module

After plugging in, the venting module is immediately detected even with pump in operation and integrated into the pump function (plug and play).

There exist two versions:

- Module with only one relay to drive the vent valve. The relay menu is masked out and an additional degassing menu (see below) is shown
- Module with a further relay for free disposal. This is shown in the menu under “SET” → “RELAY 2” → ...

### Menu extract:



Venting can be effected in two different ways, either triggered by the signal “Airlock” from the pump drive or triggered by a periodic timer control.

### Function:

Venting process:

- (1) At the start of a venting process, the current regular metering operation is first stopped. The display shows the stop symbol.
- (2) After one second, the venting relay activates the solenoid valve and thus opens the vent at the liquid end.
- (3) One second thereafter, the pump starts to operate with its maximum possible rate – as for suctioning. The display shows the venting instead of the stop symbol.
- (4) The pump is now operating for the entire set time, which may range between 1 and 300s, with opened vent valve and its maximum possible rate.
- (5) Upon expiry of the set time, the pump is stopped. The display shows again the simple stop symbol.
- (6) After one second, the relay is deactivated again and thus the vent at the liquid end is closed.
- (7) After a further second, the simple stop symbol disappears from the display and the pump resumes its regular operation.

If the pump has been stopped at the time of triggering, the start of the venting process is delayed until activation of the pump.

If the pump is stopped manually during venting, the sequence control immediately goes to phase (5) (see above).

Venting is thus cancelled in a defined way. It starts again from the beginning after re-starting the pump.

### Triggers:

As already described, venting is triggered by an airlock or a periodic timer control or both.

- When triggering by airlock (signal from pump drive), the process starts with the airlock message from the pump drive control as described above. If the message is still present after the process, the latter is repeated three times at the most. If the message is still present after these repetitions, an error message is generated which must be acknowledged manually.

If triggering has been set to airlock – in the menu –, there will be no direct error or warning message as response to the airlock message. The corresponding menu option in the “metering” menu is also masked out. The signal is exclusively available for venting.

- When triggering by the periodic timer control, the venting process always starts at the ‘start’ of a period, viz also directly after switching on. The period can be set between 10 and 1,440 minutes – this corresponds to one day. A stopped pump does not stop the period counter but only delays the triggering of the venting process up to a re-start.

If the function “at pause” was activated in the menu, venting also takes place during a pause.

