

Volucalc Hybrid VS Installation Decisions

These are the decisions to make to guarantee the successful installation of a Volucalc Hybrid VS in a lift station with variable speed pumps.

1. The pumps are pumping into a gravity line.
 - **YES:** Connecting a force main pressure sensor in optional (go to step 2)
 - **NO:** The pressure in the force main is stable
 - **YES:** Connecting a force main pressure sensor in optional but recommended (go to step 2)
 - **NO:** Connecting a pressure sensor between the force main and Volucalc is mandatory. If it is not possible to get the pressure, the user must understand that the computed values won't represent perfectly the reality.
2. Each pump variable frequency drive has an analog output proportional to the speed of its pump.
 - **YES:** Is the user having the ability to connect to the drive's output signal?
 - **YES:** Good, go to step 3
 - **NO:** If it cannot be connected to the drives, **the Volucalc should not be used at that site in variable speed mode.** It can be installed if the pumps are programed to work like fixed speed lift station.
 - **NO:** **The Volucalc cannot be demonstrated at that site in variable speed pump mode.**
3. The pump curves charts are available.
 - **YES:** Supply them to Maid Labs few days prior to the installation. Maid Labs can create the configuration file for you (go to step 4)
 - **NO:** Find the pump number and model and search on the internet to get the curves.
4. Once the installation is done, Maid Labs needs to validate the computed outflow with a reference. Do you have another flow meter that could feed flow data to the Volucalc?
 - **YES:** Good, go to step 5
 - **NO:** Do you have the total volume of water that goes through the station per day?
 - **YES:** Good, go to step 5
 - **NO:** Can you run the pumps in constant speed mode for few days to accumulate data in order to recreate the pump curves?
 - **YES:** Good, go to step 5
 - **NO:** **The Volucalc should not be installed in a place where the pump curves cannot be created or calibrated because there won't be a way to know if the computed data is good or not.**
5. Do you have cellular coverage at the pump station?
 - **YES:** Good, go to step 6
 - **NO:** Maid Labs ability to assist during the installation and with data acquisition and data analysis will be greatly reduced.
6. Have you tested all the Volucalc hardware and accessories before going on site?
 - **YES:** Good, go to step 7
 - **NO:** Bad, go to step 6 until the answer is YES.
7. Ask for an instrumentation specialist who knows how to connect the variable speed drives, level sensor and pressure sensor (if needed) to the Volucalc. An electrician should be (not always) the best person to do that.