CLAIMS

1. A displacement pump comprising a delivery chamber connected to a pressure and a suction connection, a displacer element which determines the volume of the delivery chamber and which can be reciprocated between a first position in which the delivery chamber is of a smaller volume and a second position in which the delivery chamber is of a larger volume, wherein the pressure connection is connected to the delivery chamber by way of a pressure valve and the suction connection is connected to the delivery chamber by way of a suction valve , characterised in that a reservoir which can be filled with delivery fluid is connected to the delivery chamber by way of a gas venting valve wherein the gas venting valve is a non-return valve which opens if the pressure in the delivery chamber is less than the pressure in the reservoir.

2. A displacement pump as set forth in claim 1 characterised in that the displacement pump is so adapted that delivery fluid can be transported from the suction connection into the delivery chamber by way of the suction valve without flowing through the reservoir.

3. A displacement pump as set forth in one of claims 1 through 2 characterised in that the gas venting valve in the direction from the reservoir to the delivery chamber has a through-flow coefficient which is less than the through-flow coefficient of the suction valve, wherein preferably the through-flow coefficient of the gas venting valve is less than 1%, particularly preferably less than 0.2%, of the through-flow coefficient of the suction valve.

4. A displacement pump as set forth in one of claims 1 through 3 characterised in that the reservoir is connected to the pressure connection.

5. A displacement pump as set forth in one of claims 1 through 4 characterised in that the reservoir is connected to an accumulator.

6. A metering installation comprising a pressure line in which delivery fluid is contained at a pressure p2, a suction line in which delivery fluid is contained at a pressure $p_1 < p_2$, and a

displacement pump as set forth in one of claims 1 through 5, wherein the pressure line is connected to the pressure connection and the suction line to the suction connection.

7. A metering installation as set forth in claim 6 characterised in that the reservoir contains delivery fluid at a pressure p_3, wherein $p_1 < p_3 < p_2$.