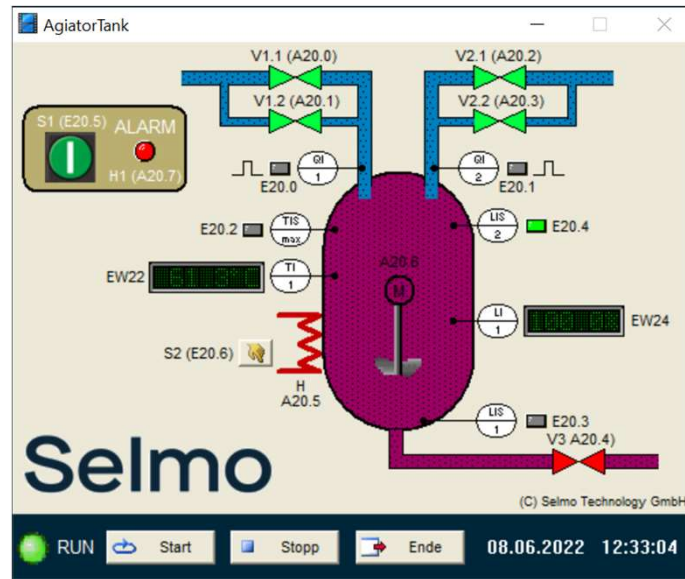


- Model Agitator Tank



Boris

- Functional Description

The agitator model consists of a tank with a motor-driven M agitator in which two liquids are mixed together in a predefined ratio and then heated to a set temperature. The two liquids are supplied via two feed lines, each of which has a coarse valve (V1.1 or V2.1) and a fine valve (V1.2 or V2.2) for exact metering. The two flow rate transmitters QI1 and QI2 generate pulses whose frequency is proportional to the respective filling speed; one pulse corresponds to just 1% of the tank volume. The outflow of the mixture is controlled by valve V3. Two limit value transmitters (LIS1/LIS2) as well as an analog value transmitter (LI1) are available for measuring the filling level. The liquid in the tank can be heated by means of a heater H; a limit value sensor (TISmax) and an analog value sensor (TI1) are available for measuring the temperature. The heater can be switched on both program-controlled and manually via the S2 pushbutton. Exceeding of the temperature limit value is signaled by the alarm lamp H1. The mixing process is started via the start button S1.

## In/Output assignment

The in- and outputs of the model are assigned as follows (the designation input or output refers to the connected controller):

Input Nr.	Boris	PLC-Variable name	Specification
1	S1	I_S1 :BOOL;	Start button (closer)
2	S2	I_S2 :BOOL;	Switch on the heating button (closer)
3	QI1	I_QI1 :BOOL;	Impulse flow rate sensor left inlet
4	QI2	I_QI2 :BOOL;	Impulse flow rate sensor right inlet
5	TI1	I_TI1 :INT;	Analog value transmitter temp. in C (100° = 27648)
6	TISmax	I_TISmax :BOOL;	Limit indicator temperature
7	LI1	I_LI1 :INT;	Analog level sensor in % (100% = 27648)
8	LIS1	I_LIS1 :BOOL;	Lower limit switch fill level
9	LIS2	I_LIS2 :BOOL;	Upper limit switch fill level
Output Nr.	Boris	PLC-Variable name	Specification
1	V1.1	O_V11 :BOOL;	Coarse valve left inlet
2	V1.2	O_V12 :BOOL;	Fine valve left inlet
3	V2.1	O_V21 :BOOL;	Coarse valve right inlet
4	V2.2	O_V22 :BOOL;	Fine valve right inlet
5	V3	O_V3 :BOOL;	valve drain
6	H	O_H :BOOL;	switch on the heating
7	H1	O_H1 :BOOL;	alarm light
8	M	O_M :BOOL;	Motor agitator