

Main_Program [OB1]

Main_Program Properties

General

Name	Main_Program	Number	1	Type	OB
Language	LAD	Numbering	Manual		

Information

Title	SP7-14	Author		Comment	
Family		Version	0.1	User-defined ID	

Name	Data type	Default value
▼ Temp		
OB1_EV_CLASS	Byte	
OB1_SCAN_1	Byte	
OB1_PRIORITY	Byte	
OB1_OB_NUMBR	Byte	
OB1_RESERVED_1	Byte	
OB1_RESERVED_2	Byte	
OB1_PREV_CYCLE	Int	
OB1_MIN_CYCLE	Int	
OB1_MAX_CYCLE	Int	
OB1_DATE_TIME	Date_And_Time	
Constant		

Network 1: SP7-14

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SP7-14 Multi-Tank Batch Control

Additional internal memory:

Tag Address

Run M5.0 BOOL On while batch running

Step_1 to Step_22 M0.1 to M2.7 BOOL Step-in-progress bits

Delay_Tmr DB1 TON_SFB Delay after emptying half of tanks

Reaction_Tmr DB2 TON_SFB Times reaction

TmpDI MD120 DINT Temporary double integer

TmpR MD124 REAL Temporary real

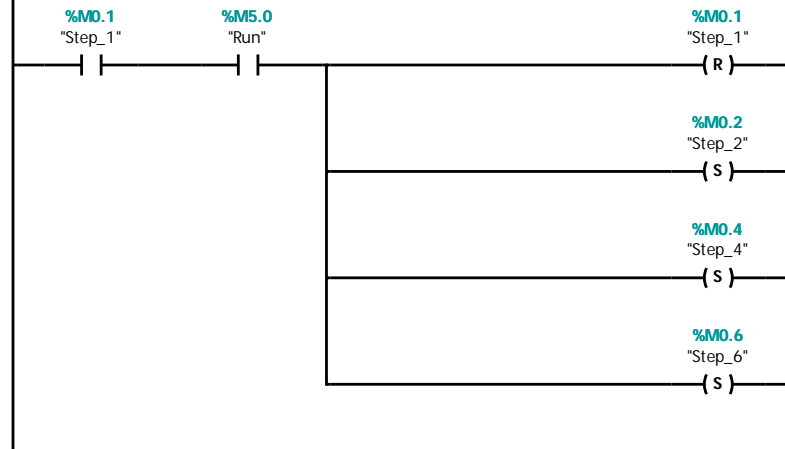
Ret_Val MW12 WORD Return value from SCALE block

Always_Off M10.0 BOOL Always off bit for SCALE block

Conversion formulas

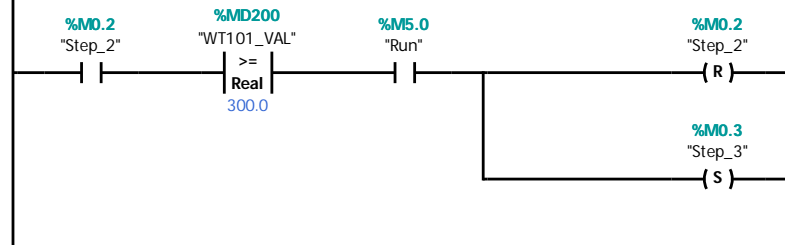
WT10x_VAL = ((WT10x_MEAS-5530 / (22118) * (1000)

TT103_VAL = ((TT103_MEAS-5530 / (22118) * (100)



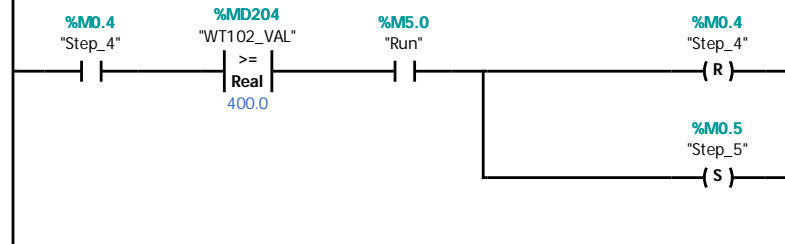
Network 5: Step 2. Fill Tank 1

Transition to wait when full



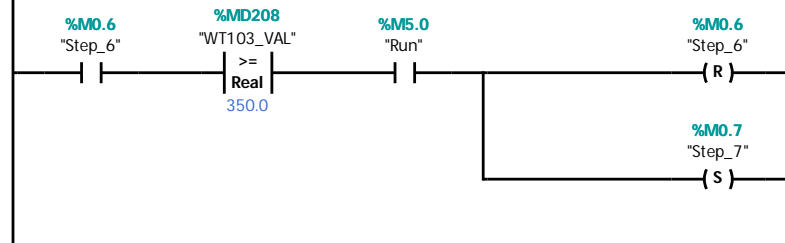
Network 6: Step 4. Fill Tank 2

Transition to wait when full



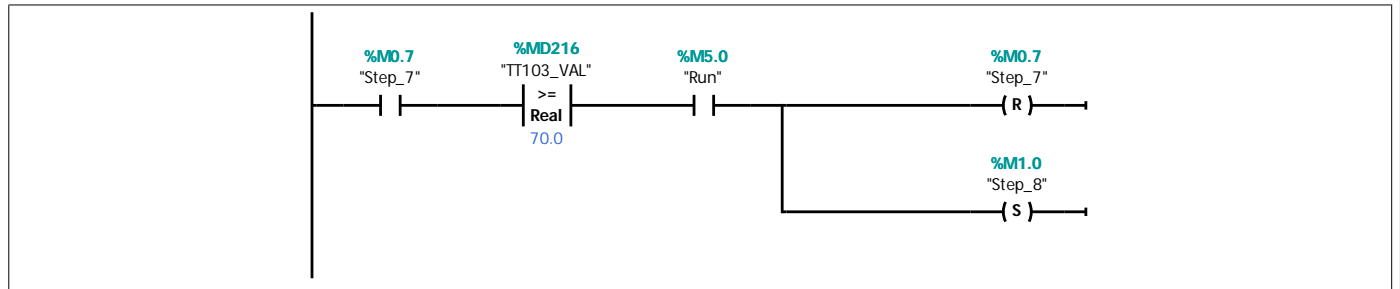
Network 7: Step 6. Fill Tank 3

Transition to heating when full

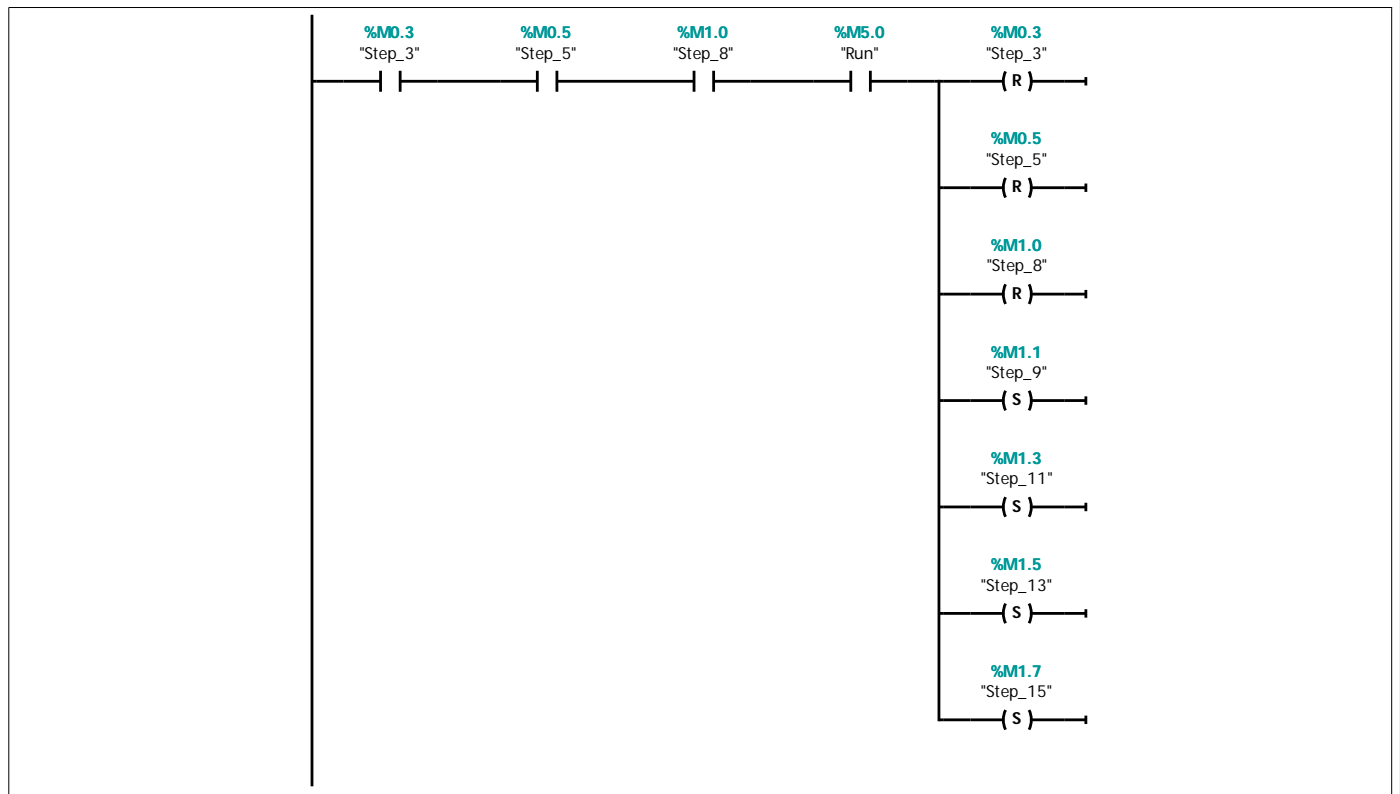


Network 8: Step 7. Heat tank 3

Transition to wait when temperature ≥ 70

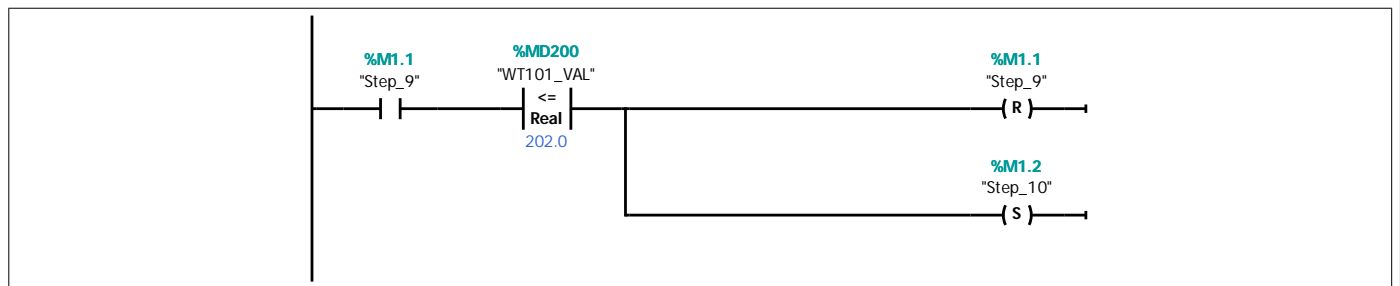


Network 9: Steps 3, 5, 8 - Wait until all tanks full and 3 heated



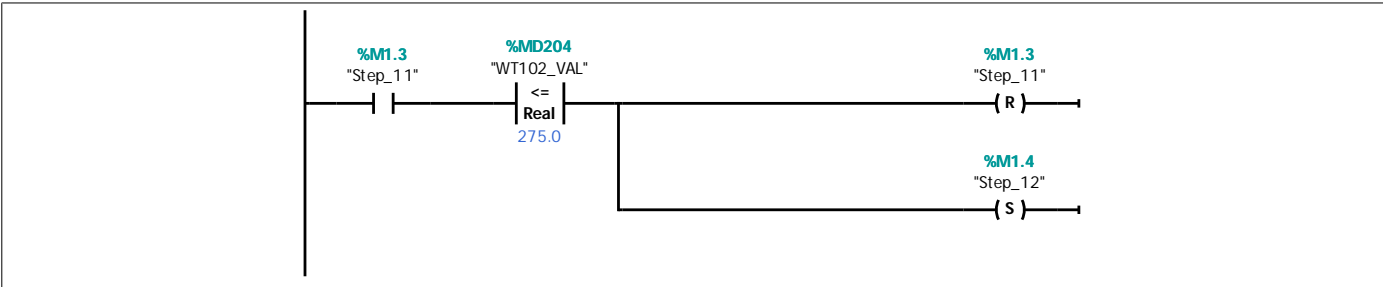
Network 10: Step 9. Empty Tank 1

Transition to hold when material moved out.



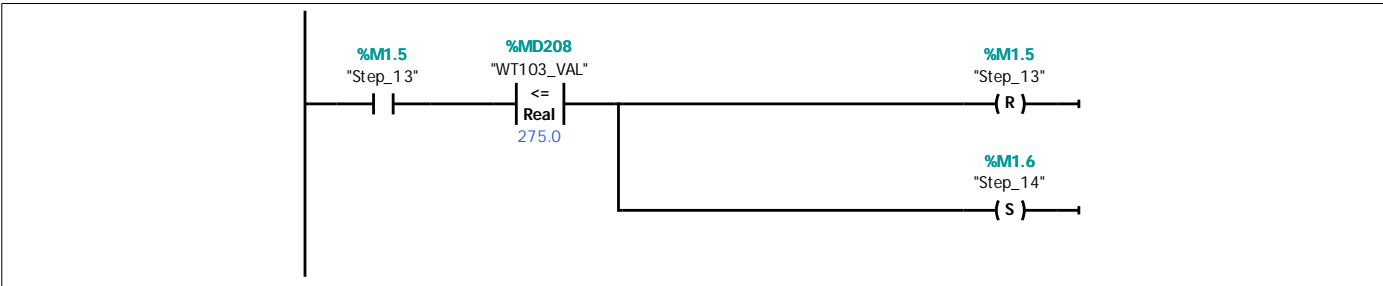
Network 11: Step 11. Empty half of material in Tank 2.

Transition to hold when material moved out.



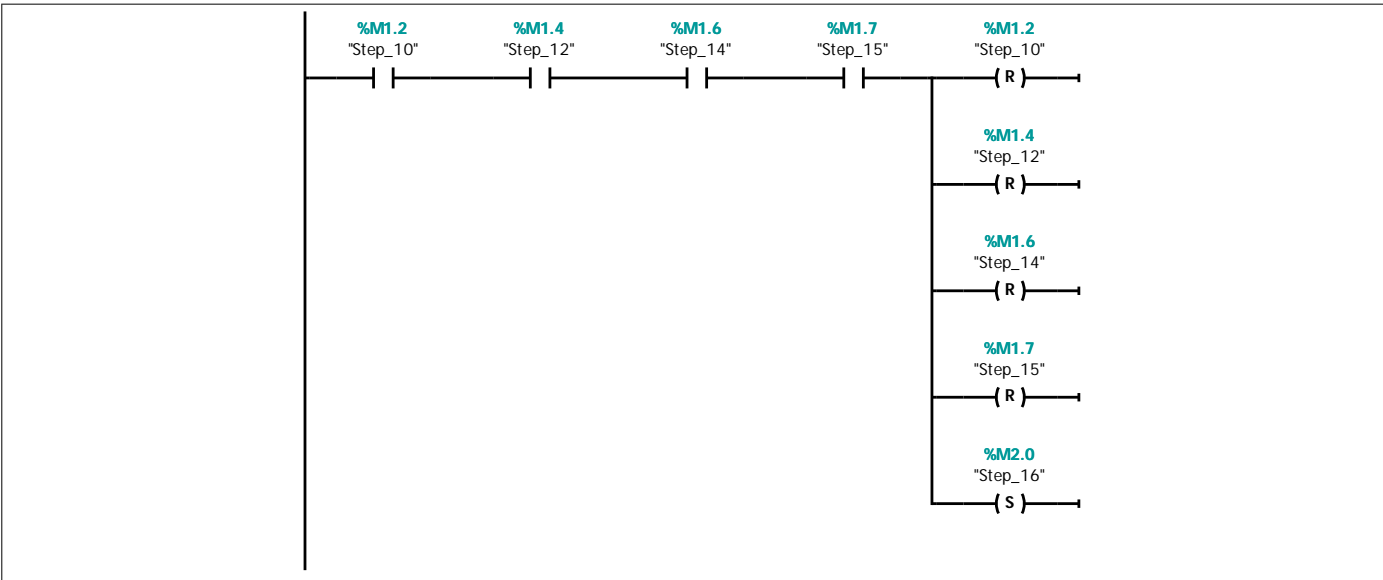
Network 12: Step 13. Empty half of material in Tank 3.

Transition to hold when material moved out.

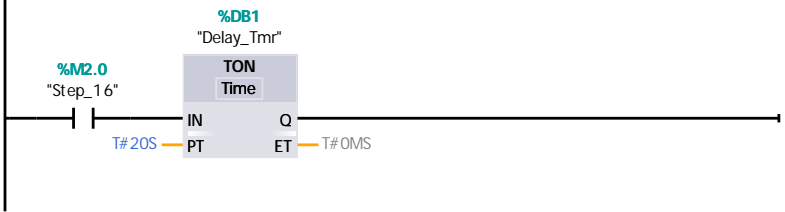


Network 13: Steps 10, 12, 14, 15.

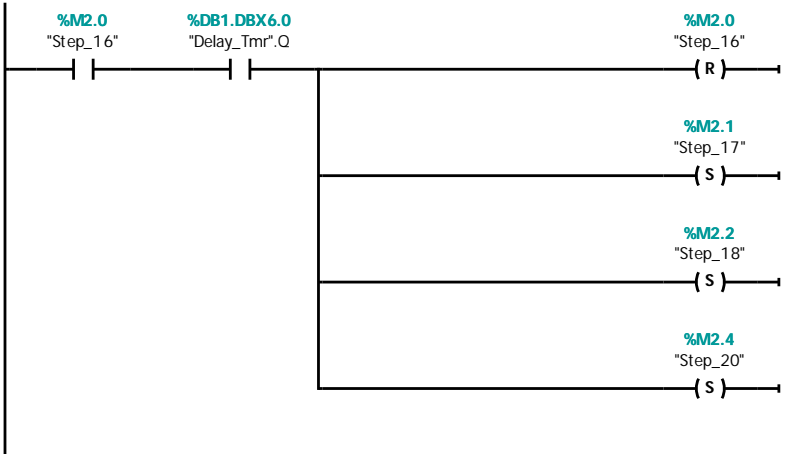
Stor while waiting (Step 15) until all tanks have unloaded appropriate amount of material.



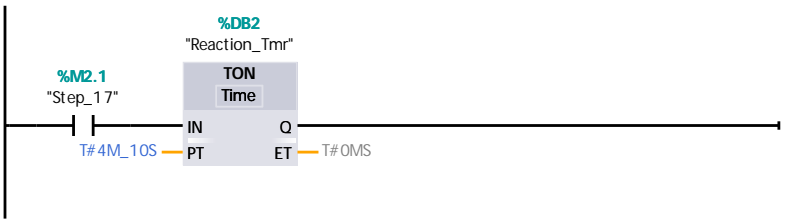
Network 14: Step 16. Wait for 20 seconds



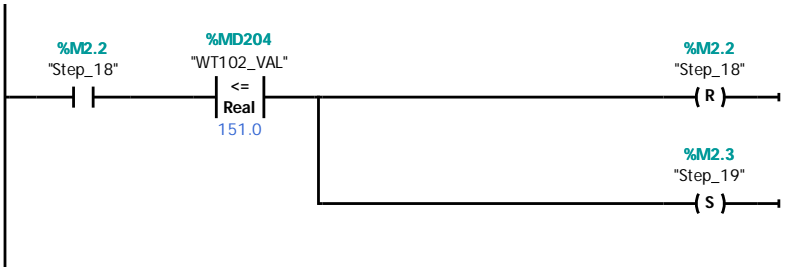
Network 15: Step 16. Wait for 20 seconds



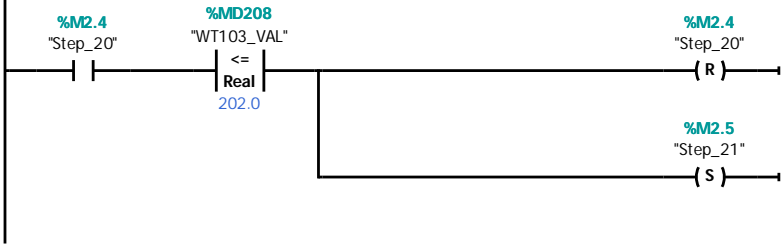
Network 16: Step 17 - 250 sec reaction time



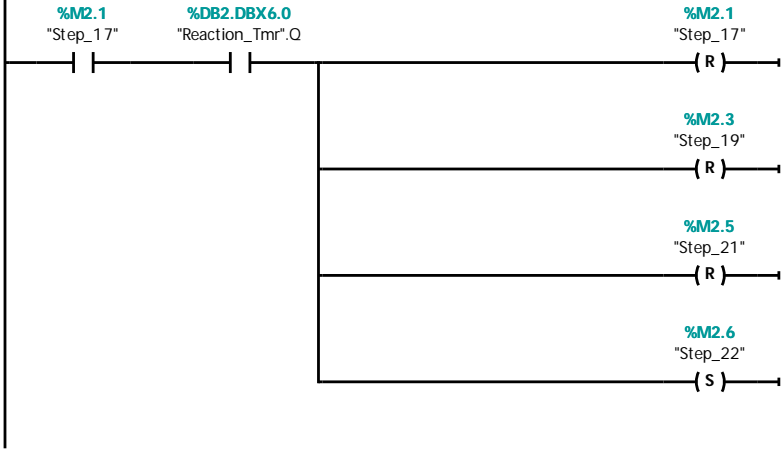
Network 17: Step 18 - Empty remainder of material in Tank 2



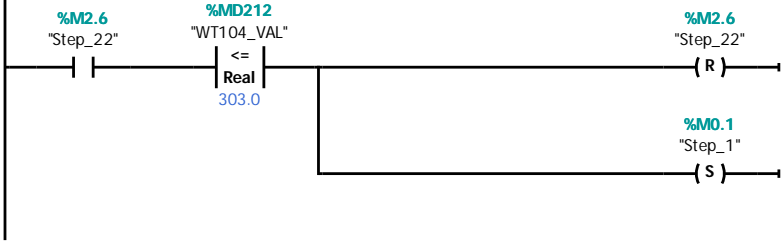
Network 18: Step 20. Empty remainder of material in Tank 3



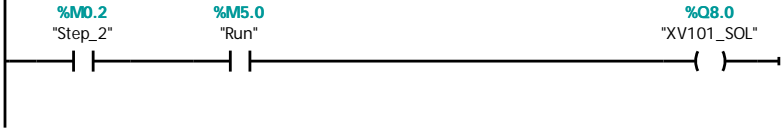
Network 19: Step 17, 19, 21. Wait for 250 sec timer to be done



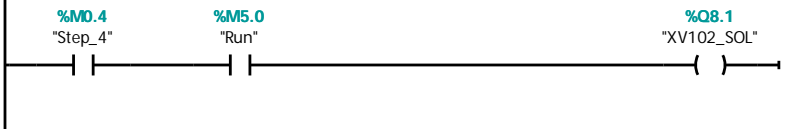
Network 20: Step 22. Empty Tank 4



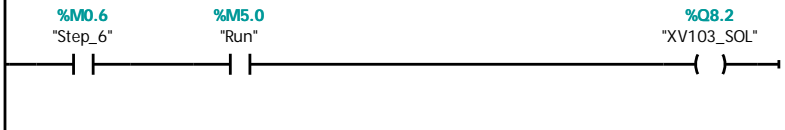
Network 21: Valves



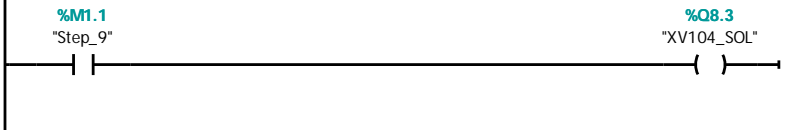
Network 22: On to open XV102



Network 23: XV103 control



Network 24: XV104 control



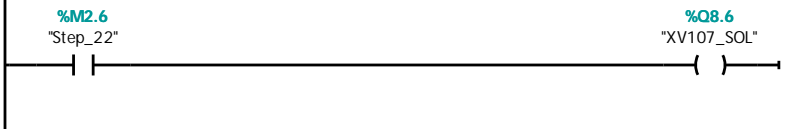
Network 25: On to open XV105



Network 26: On to open XV106



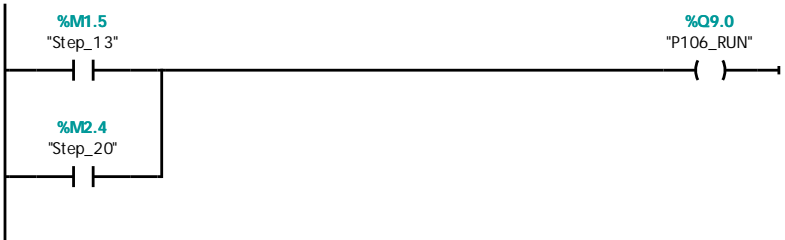
Network 27: On to open XV107



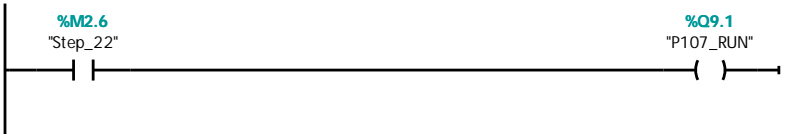
Network 28: Pumps



Network 29: On to run pump P-106



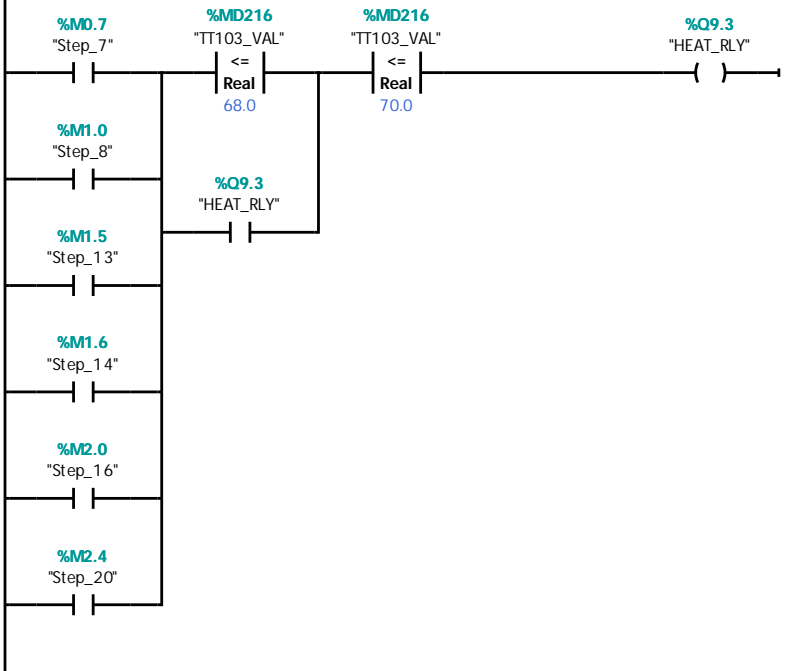
Network 30: On to run pump P-107



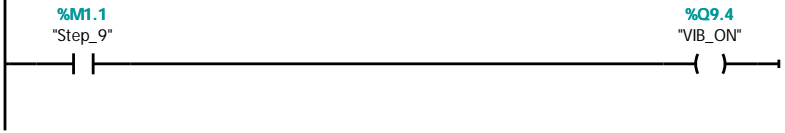
Network 31: Stirrer



Network 32: Heater

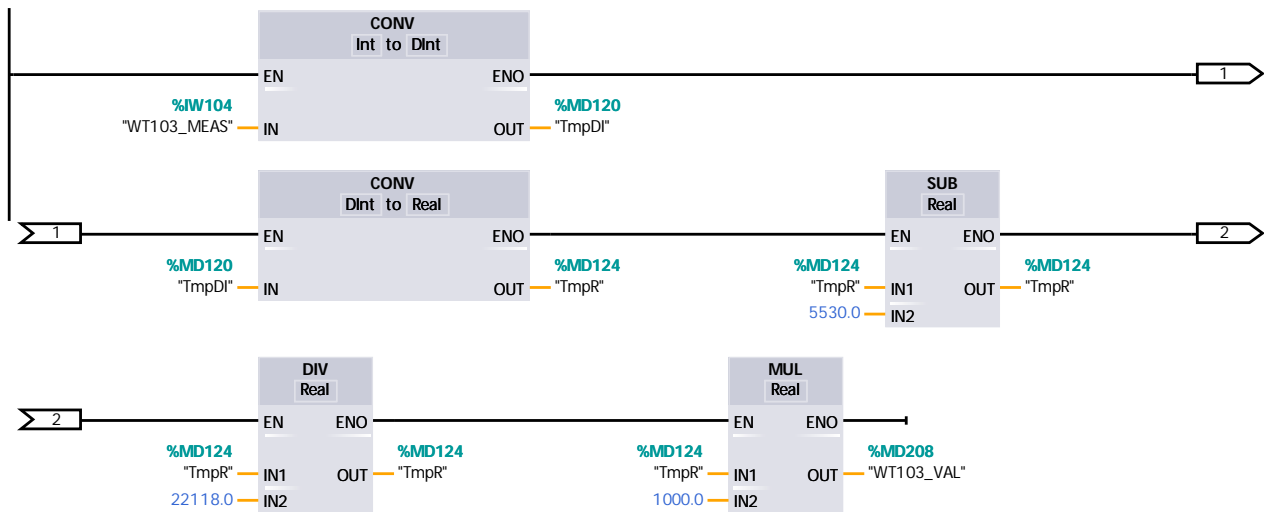


Network 33: Vibrator

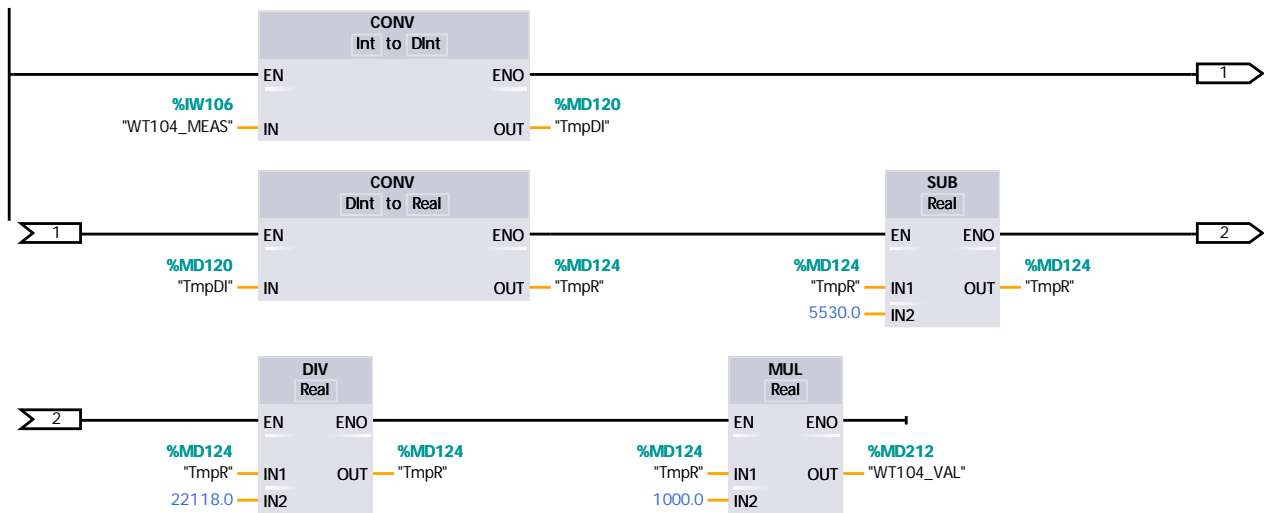


Network 34: Convert weight measurements with comp blocks

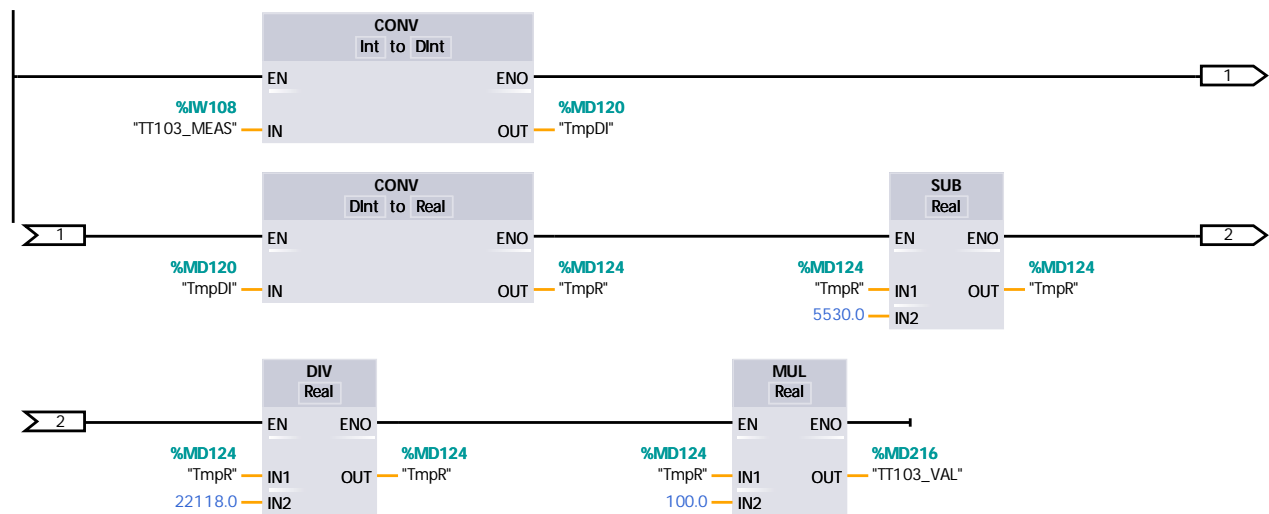
Convert weight measurements to pounds.
Uses individual computation blocks.



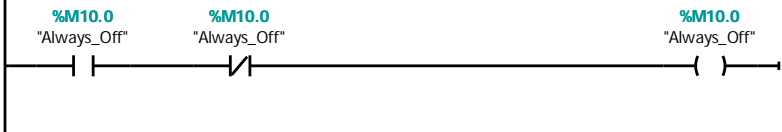
Network 37:



Network 38: Convert temperature measurement with comp blocks

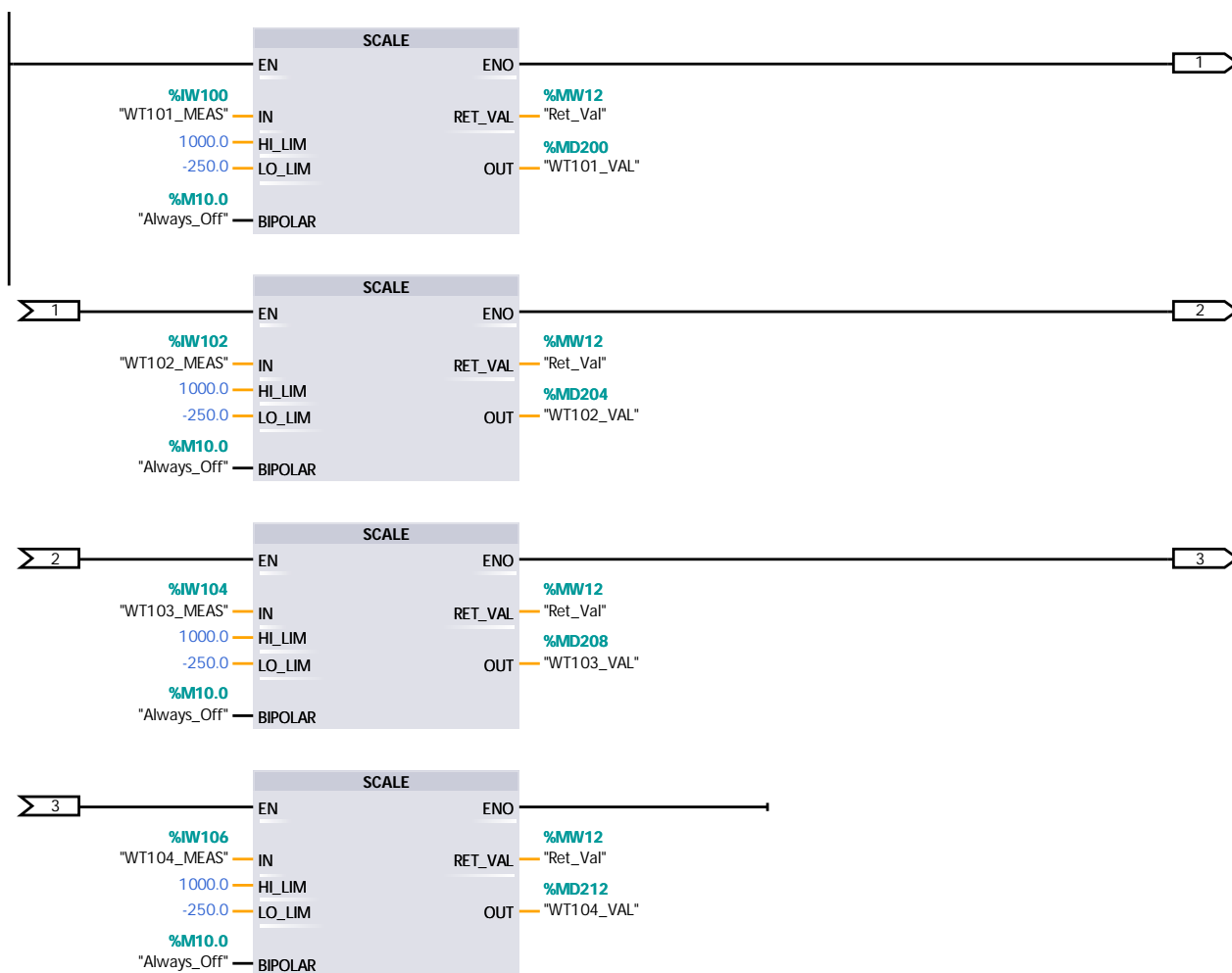


Network 39: Always Off



Network 40: Convert weight measurements with SCALE

Convert weight measurements to pounds.
Uses SCALE block. Note that the lo_lim input is 25% lower than zero weight to account for this block assuming the minimum value of the analog in is zero rather than the 5530 (which corresponds to 4 mA).



Network 41: Convert temperature measurement with SCALE

Convert temperature measurement.

Uses SCALE block. Note that the lo_lim input is 25% lower than zero weight to account for this block assuming the minimum value of the analog in is zero rather than the 5530 (which corresponds to 4 mA).

