Ag-S
Quick Start Manual
Silver Ion Water Treatment System

M395 – Quick Start
October 18, 2023

This guide is to assist in getting the system up and running quickly. The Ag-S Silver Ion water treatment system has many options to allow for flexibility, however, most installations fall into 3 categories and these have been outlined and drawings provided in this manual. The actual numbers for your installation might be different so substitute your numbers in for the ones shown. For installations that don't match one of these examples the full manual will need to be referenced.

Modes of Operation:

Tank Recirculate Mode: When the Ag-S is connected on a branch line of the pressure tank (hydrophore) and the output goes to a storage tank.

Direct Flow Mode: When a storage tank is not available and Ag-S doses the Silver Ions into the stream only when water is produced or flowing in the main line.

Example 1: Tank Recirculate Mode; 8 cubic meter tank, watermaker with 625 liters per hour, and 40 PPB Silver

Example 2: Tank Recirculate Mode; 20 cubic meter tank, watermaker with flow meter (10 l/pulse) on output, bunker line going through the same flow meter, and 50 PPB Silver.

Example 3: Direct flow mode; flow from watermaker is a fixed 60 liters per minute and the desired silver level is 45 PPB.

You navigate in the menu system by pressing the buttons:

Up	⬆	**Down**	⬇
Right	➡	**Left**	⬅
Enter	⏺	**On/Off**	On/Off

Operation:

Once the system has been setup the first time from then on it will operate automatically based on the flow inputs or when you manually add water. To manually add water (from Section 5.3 of the full manual):

Volume – You enter the amount of water to be treated. (Tank recirculate Mode)

1. Press the On/Off button to get to the main menu if the display is off
2. Select **Operate** and press Enter
3. Select **Untreated water** and press Enter
4. Select **Add** and press Enter
5. Select the units you want to use; **Liters**, **Gallons**, **Cubic meters** and press Enter
6. Using the Left and Right arrows go to the position you want to change and press the Up arrow to increase the value or the Down arrow to decrease the value.
7. When you have input the amount of water that was added press Enter.
8. The display will then show the amount of untreated water and will count down to zero which will indicate that the full amount of water has been treated to the set silver dosage amount.

To check the current operation of the Ag-S:

1. If the display is off press the center Enter button
2. If the display is on press the On/off button to turn it off and then press the Enter button
3. You can also access this screen under the Status section of the main menu

The display will now show the configuration of the inputs, if Silver Ions are being generated and let you know if addition water needs to be added to reach the minimum run time of 2 minutes. Section 5.9 of the full manual has additional details on this screen.

1.0   Quick Start Guide

1.1   Example 1: Tank Recirculate Mode; 8 cubic meter tank, watermaker with 625 liters per hour, and 40 PPB Silver

The watermaker run signal should be connected to the **In 3** terminals, power to the input power terminals and the Ag-S connected to the water system according to the drawing: Tank recirculate mode example 1.

Set Water Tank Capacity – Enter the max. capacity of your fresh water tank

1.   Select **Setup** from the main menu and press Enter
2.   Select **Tank/Dir** and press Enter
3.   Select **Tank recirculate** and press Enter
4.   Select **Set** and then Select the units of measure, **Cubic meters** and press Enter.
5.   Use the up and down arrows to set the value to 8.0 and press Enter
6.   Press the left arrow 3 times to get back to the **Setup** menu.

Configure Input

7.   Select **Inputs** and press Enter
8.   Select **In 3** and press Enter
9.   Select **Fixed flow to tank** and press Enter
10. On the first entry for this input selection, skip to the next step. If making a change to this selection then Select **Set**
11. Select the units of **l/hr** and press Enter; and then the arrows to set the value to 625 and press Enter
12. Select **Input polarity**; **Closed=On** is normal and then press enter
13. Press the left arrow once to get back to the **Setup** menu.
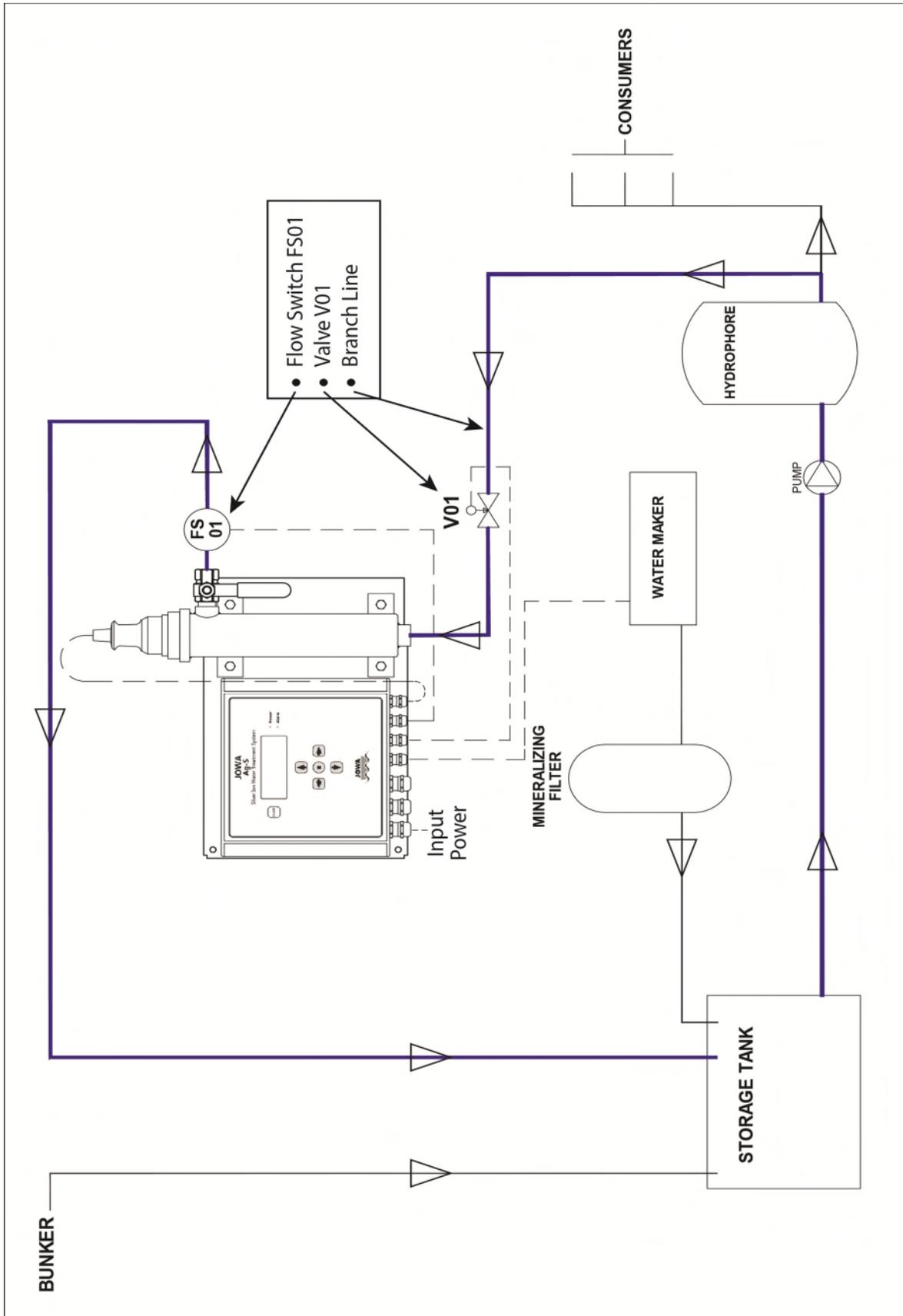
Set Ag Concentration

14. Select **Ag PPB** and press Enter; Use the arrows to set the value to 40 and press Enter.

Adjust Flow through Chamber

15. To set the flow rate through the chamber use the Flush menu also under **Setup** to turn the solenoid valve V01 on and off. Turn the flow on by pressing Enter and adjust the flow regulator to the chamber to 3l/min. Confirm that the –Flow on the display turns to ▓Flow when flow is on and back when off. See Section 11 of the manual to adjust the flow switch.

When the watermaker is running the Ag-S will count up the amount of water that has been produced. Once enough water has been produced to allow the unit to operate for 2 minutes the Ag-S will start to generate silver ions and continue to run until the desired PPB is reached.

Tank recirculate mode; Example 1

Flow Switch FS01
Valve V01
Branch Line

FS 01

V01

Input Power

JOWA Ag-S
Silver Ions Water Treatment System
JOWA

WATER MAKER

MINERALIZING FILTER

HYDROPHORE

PUMP

CONSUMERS

STORAGE TANK

BUNKER

1.2   Example 2: Tank Recirculate Mode; 20 cubic meter tank, watermaker with flow meter (10 l/pulse) on output, bunker line going through the same flow meter, and 50 PPB Silver.

The flow meter pulse output line should be connected to the **In 1** terminals, power to the input power terminals and the Ag-S connected to the water system according to the drawing: Tank recirculate mode with Flow Meter; Example 2. The flow meter is on a combined line for the output of the watermaker and the bunker line.

Set Water Tank Capacity – Enter the max. capacity of your fresh water tank

1.   Select **Setup** from the main menu and press Enter

2.   Select **Tank/Dir** and press Enter

3.   Select **Tank recirculate** and press Enter

4.   Select **Set** and then Select the units of measure, **Cubic meters** and press Enter.

5.   Use the up and down arrows to set the value to 15.0 and press Enter (15 is the highest possible value)

6.   Press the left arrow 3 times to get back to the **Setup** menu.

Configure Input

7.   Select **Inputs** and press Enter

8.   Select **In 1** and press Enter

9.   Select **Flowmeter pulses** and press Enter

10.   On the first entry for this input selection, skip to the next step. If making a change to this selection then Select **Set**

11.   Select the units of **l/pulse** and press Enter and then the arrows to set the value to 10 and press Enter

12.   Select **Input polarity**; **Closed=On** is normal and then press enter

13.   Press the left arrow once to get back to the **Setup** menu.
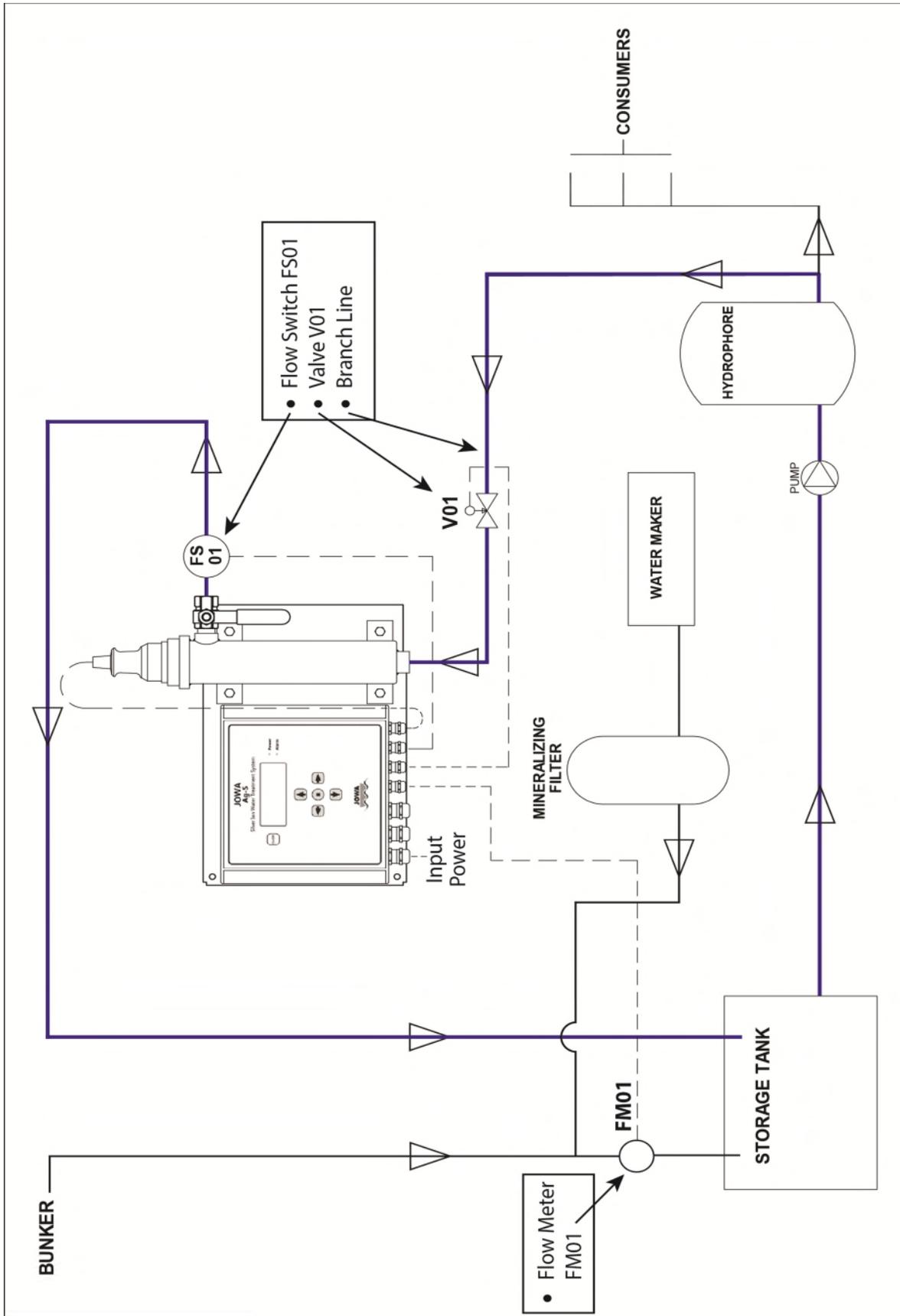
Set Ag Concentration

14.   Select **Ag PPB** and press Enter; Use the arrows to set the value to 50 and press Enter.

Adjust Flow through Chamber

15.   To set the flow rate through the chamber use the Flush menu also under **Setup** to turn the solenoid valve V01 on and off. Turn the flow on by pressing Enter and adjust the flow regulator to the chamber to 3l/min. Confirm that the –Flow on the display turns to ▓Flow when flow is on and back when off. See Section 11 of the manual to adjust the flow switch.

When water is going through the flowmeter the Ag-S will count the pulses, which represent the amount of water that has been produced or bunkered. Once enough water has flowed to allow the unit to operate for 2 minutes, the Ag-S will start to generate silver ions and continue to run until the desired PPB is reached.

Tank recirculate mode with Flow Meter; Example 2

1.3   Example 3: Direct flow mode; flow from watermaker is a fixed 60 liters per minute and the desired silver level is 45 PPB.

The Direct Flow signal should be connected to the **In 1** terminals, power to the input power terminals and the Ag-S connected to the water system according to the drawing: Direct flow mode; Example 3.

Select Direct Flow Mode

1.   Select **Setup** from the main menu and press Enter
2.   Select **Tank/Dir** and press Enter
3.   Select **Direct flow** and press Enter; then **Confirm** by pressing Enter
4.   Press the left arrow twice to get back to the **Setup** menu.

Configure Input

5.   Select **Inputs** and press Enter
6.   Select **In 1** and press Enter
7.   Select **Direct flow** and press Enter
8.   Select the units of **l/min** and press Enter and then the arrows to set the value to 60 and press Enter
9.   Select **Input polarity**; **Closed=On** is normal and then press enter
10.   Press the left arrow once to get back to the **Setup** menu.

Set Ag Concentration

11.   Select **Ag PPB** and press Enter; Use the arrows to set the value to 45 and press Enter.

Adjust Flow through Chamber

12.   Under the **Setup** menu go to the **Flush** menu. This will allow you to see the status of the flow switch. The On/Off feature that opens and closed the flow valve relay is not used in the Direct Flow mode.
13.   Adjust the Flow Regulator/Indicator to the chamber so that it is fully open
14.   With water flowing through the system, adjust the Throttle Valve so that just over 3 liters per minute is flowing through the chamber
15.   Adjust the Flow Regulator/Indicator to reduce the flow to the chamber to 3 liters per minute
16.   Confirm that the –Flow on the display turns to ▓Flow when flow is on and back when off. See Section 11 of the manual to adjust the flow switch.

Direct Flow mode; Example 3