



Dual-Feed

UV254 Dual-Feed System

Owner's Manual v 2.1 (4.15.20)

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2 Overview

Thank you for purchasing from Chemtrac, Inc.

The Dual Feed system allows for two streams to be monitored with a single instrument. The external wall mounted system is simple to install and configure.

Sample time and purge time can easily be adjusted for onsite demands.



Model Number	25100
Serial Number*	

*Your Serial Number is located on the inside of the cabinet door.

3 Safety

3.1 Safety Instructions



Please read and follow all safety instructions outlined in this owner's manual prior to installation and/ or operation.

1. Visually inspect the device prior to operation. If it seems broken or damaged in any way, do not use. Contact Chemtrac, Inc. for a replacement.
2. Ensure that all responsible personnel carefully read this manual before installing or servicing the device.
3. Failure to properly install and maintain this device may impact its effectiveness and warranty.
4. Improper use of this device may cause injury.

4 Technical Specifications

Table 1: Dual Feed System Specifications

CHARACTERISTIC	TECHNICAL DATA
COMPATIBILITY	Dual Feed I – UVM5000
ELECTRICAL	Operates from 24 VDC
DIMENSIONS	10" high x 8" wide x 6" deep (25 cm x 20 cm x 15 cm)
ENCLOSURE	NEMA 4, wall mountable
FLUID CONNECTIONS	¼" (6 mm) push-to-connect fittings and flex tubing
STORAGE TEMP.	-20°C to +60°C (-4°F to +140°F)
OPERATING TEMP.	0°C to 45°C (32°F to 113°F)
WEIGHT	10 lb (4.5 kg)
WETTED MATERIAL	Polypropylene
WARRANTY	1-year limited warranty

5 Installation

5.1 Unpacking and Inspection

To begin, remove the Dual Feed system from the packaging and carefully inspect the product to ensure that no visible damage has occurred during shipping. The following items will be packed inside the box:

Table 2: Items and quantity list for unpacking

ITEM
Dual Feed System
Power cable
Owner's Manual

5.2 Mounting

The system is enclosed in a wall mountable cabinet. The cabinet should be attached to the wall at all four of the provided mounting holes as shown in Figure 5.1.

Use screws up to 1/4" in size with washers to support the system weight of approximately 10 lbs.

The Dual Feed system should be mounted as close as possible to the sensor (and cleaning system if applicable). Clearance and dimensions for the system are shown below in Figure 5.2.

Note: When considering the sampling and mounting locations, it is recommended the analyzer/dual feed system be mounted as close as possible to the sample locations to decrease lag time and improve reaction time of the analyzer.



Figure 5.1: Dual Feed mounting holes

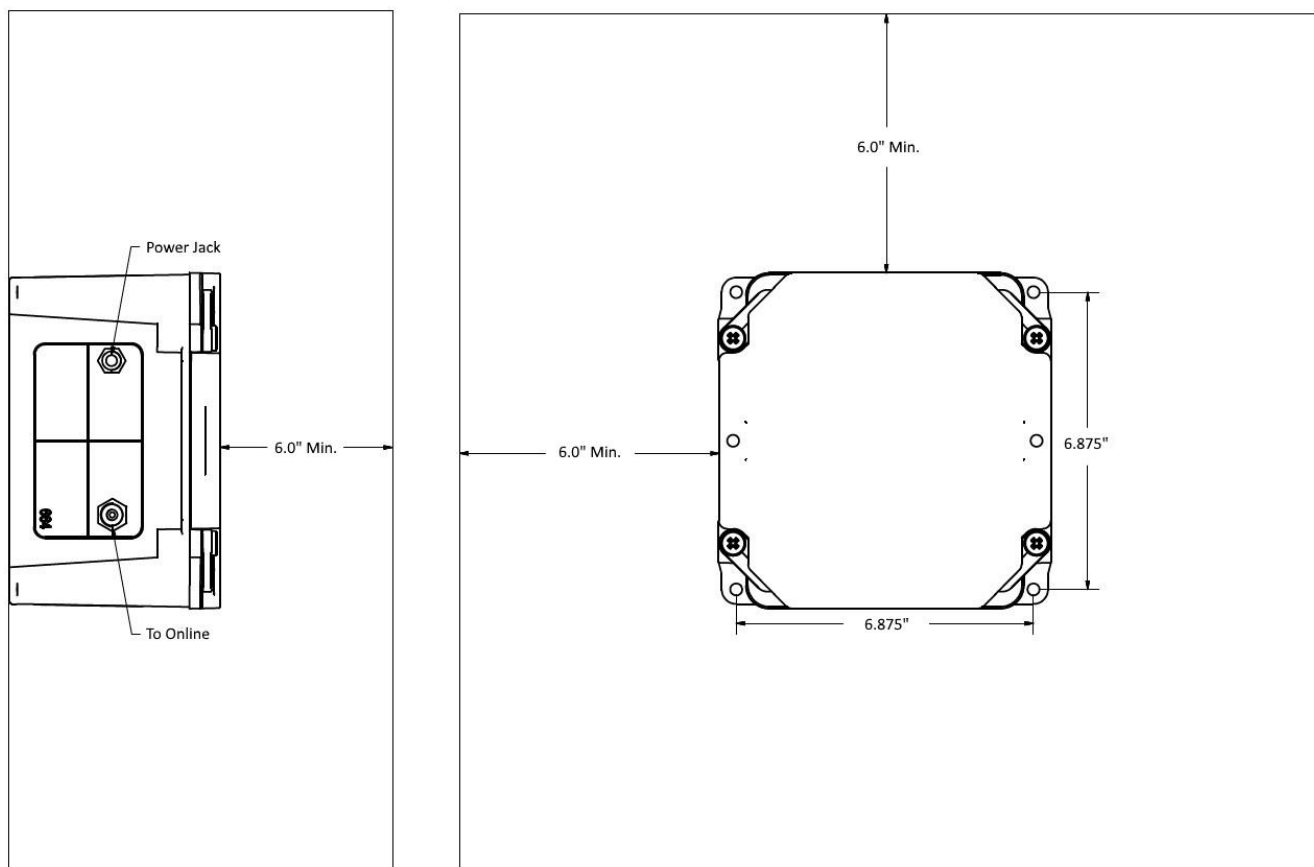


Figure 5.2: Dual Feed – dimensions and clearance

5.3 Plumbing

Plumbing for the Dual Feed system is outlined below. If a cleaning system is purchased with the system, follow the directions in 5.3.2 Connecting with a Cleaning/Pumping System.

Port Connections Overview

There are three push to connect ports on the right side of the cabinet and one push to connect port on the left side of the cabinet to plumb the Dual Feed system as shown in Figure 5.3.

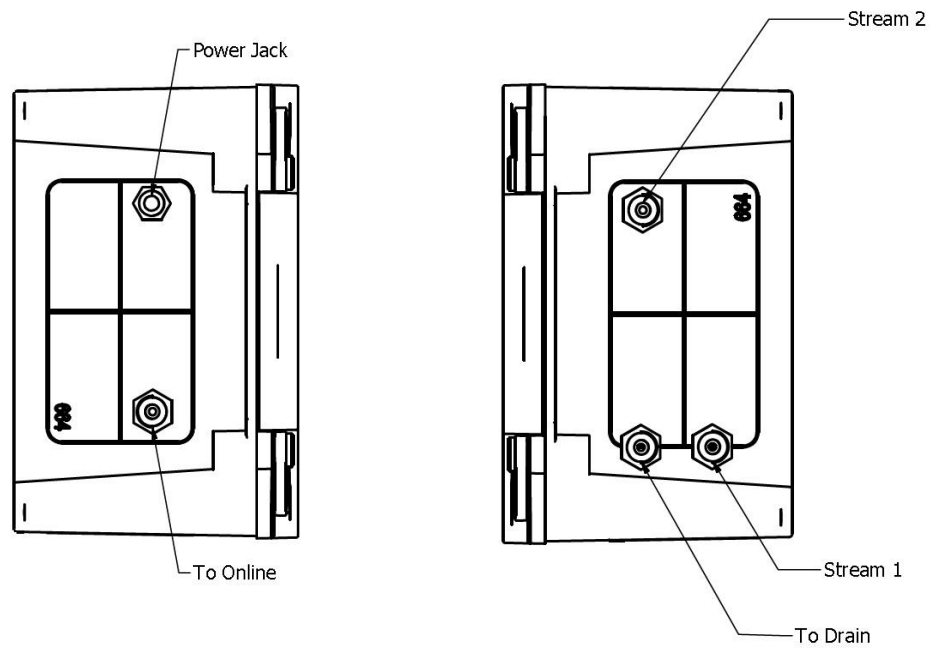


Figure 5.3: Dual Feed system ports

5.3.1 Dual Feed Plumbing

Figure 5.4 illustrates the plumbing into and out from the system, which is described below:

1. On the right side of the cabinet, connect ¼" OD flex tubing from the first process stream to the STREAM 1 port on the Dual Feed system.
2. Connect ¼" tubing from the second process stream to the STREAM 2 port.
3. Connect ¼" tubing to the TO DRAIN port and divert to drain.
4. On the left side of the cabinet, connect ¼" tubing from the TO ONLINE port on the Dual Feed system to the IN port on the monitor/sensor cabinet.

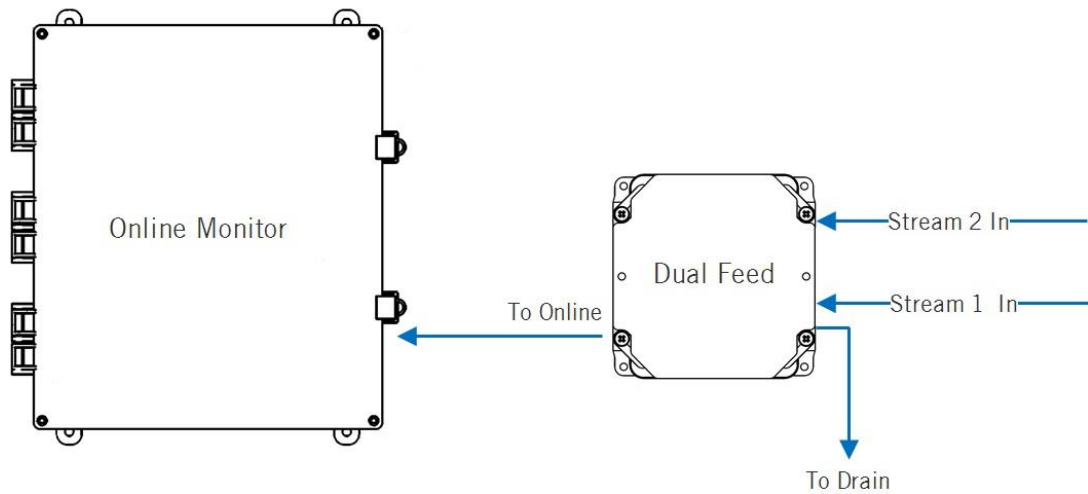


Figure 5.4: Dual Feed water plumbing

5.3.2 Connecting With a Cleaning/Pumping System

Figure 5.5 illustrates the plumbing for a Dual Feed system with the Auto Clean system and monitor. Steps for connection are outlined below:

1. Connect ¼" OD flex tubing from the first process stream to the IN port on the Cleaning/Pumping cabinet.
2. Connect ¼" tubing from the OUT port on the Cleaning/Pumping cabinet to the STREAM 1 port on the right side of the Dual Feed cabinet.
3. Connect ¼" tubing from the second process stream to the STREAM 2 port.
4. Connect ¼" tubing to the TO DRAIN port and divert to drain.
5. On the left side of the Dual Feed cabinet, connect ¼" tubing from the TO ONLINE port to the IN port on the monitor/sensor cabinet.

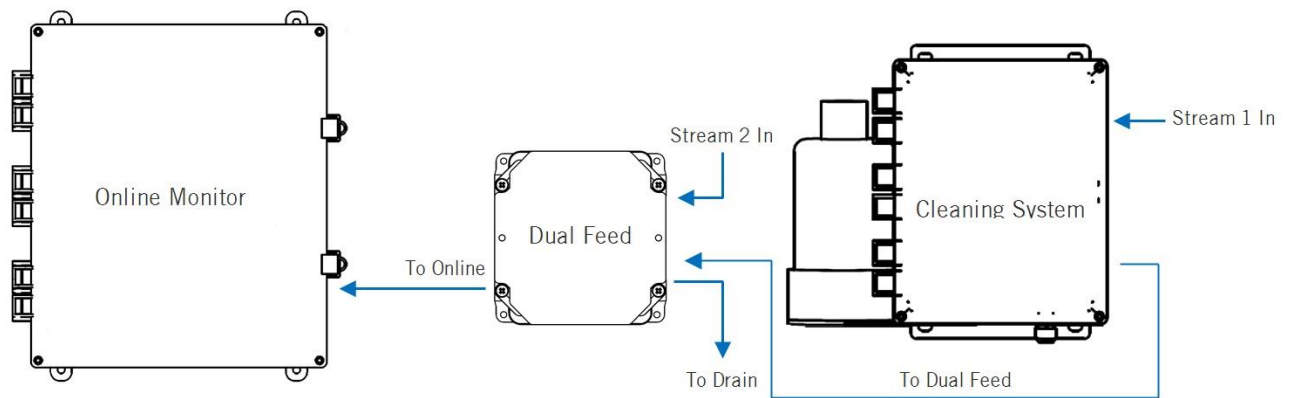


Figure 5.5: Dual Feed plumbing with Cleaning system

Note: Cleaning cycles will only be initiated during the Stream 1 measuring phase. Scheduled Stream 1 to Stream 2 switch will be delayed until the cleaning cycle is complete.

5.4 Electrical Connections

To supply power to the Dual Feed module from a UVM5000 cabinet is an easy plug-in of a cable with a receptacle on each end (Figure 5.6). Plug one end into the UVM5000 cabinet and attach the other end into the Dual Feed receptacle (Figure 5.7) and secure the cable as shown in Figure 5.8.



Figure 5.6: Power cable



Figure 5.7: Power/control connection



Figure 5.8: Connection secured

6 Configuration

The Dual Feed Module is controlled by the UVM5000 built-in menu interface.

6.1 Setup and Configuration With UVM5000 Sensor (

Refer to the UVM5000 manual for additional information regarding Dual Feed setup.

The three configuration options are shown in the table below.

MENU ITEM	MENU ITEM TYPE	DESCRIPTION
Dual Feed		
Enable	Set to 1	Press 'Enter' then up/down to select 0 to disable or 1 to enable (Default = 0)
Idle Time	Number	Press 'Enter' then up/down to select number of minutes to wait while switching between sample lines (Default = 2)
Cycle Time	Number	Press 'Enter' then up/down to select minutes for total dual feed cycle time (15 - 60 minutes) (Default = 30)

6.1.1 Enable (Direct Sensor Connection)

This allows a unit to switch between dual feed and single feed modes. Note that under single feed mode, the feed must be connected to the influent port on the outside of the UVM5000.

6.1.2 Idle time (Direct Sensor Connection)

This allows the operator to specify how much time in minutes the UVM5000 should wait after switching between influent-effluent and effluent-influent before continuing UVT or UVA testing. During idle time the UVT or UVA value is held constant at the last good UVT or UVA value for the current water stream.

6.1.3 Cycle time (Direct Sensor Connection)

This allows the operator to specify the total time between the start of the influent feed testing and the end of the effluent feed testing. For example, if the cycle time is set to 40 minutes both the influent and effluent will be tested alternately for 20 minutes each. Note that the idle time is subtracted from the cycle time, so in the above example if the idle time was set to 2 minutes then the influent and effluent would be tested for only 18 minutes alternately, with a 2-minute wait time between each.

6.2 Cleaning with Dual Feed

When used with Auto Clean, the optional cleaning system must be connected on the Stream 1. The UVM5000 will make sure that the cleaning cycle will only be initiated during the Stream 1 testing phase of the dual feed cycle and will delay any scheduled Stream 1-Stream 2 switch until the cleaning cycle is completed.

6.3 Leak Detection with Dual Feed

As with the UVM5000, the Dual Feed can detect when there is a leak inside the cabinet. If this happens, the UVM5000 automatically switches the Dual Feed Module to Stream1 and then signals to the Auto Clean system to stop flow to the sensor system. A LEAK message will then appear on the display, and the cleaning system will begin an audible alarm. To continue operation the power must be disconnected, and the leak must be fixed and any standing water in the cabinet removed. After that the system can be powered again to start normal operation.

6.4 Dual Feed Data

During dual feed mode, the UVT or UVA of each feed, along with the percent efficiency of the process is output to the RS232 port, while just the UVT or UVA of each feed is output to the two 4-20mA transmitters. Percent efficiency can be calculated in a PLC if desired.

Percent efficiency is best calculated using UVA values using the following simple equation:

$$efficiency = \frac{(UVA_{raw} - UVA_{treated})}{UVA_{raw}} \times 100\%$$

During dual feed mode, the front panel display provides the UVT or UVA of Stream 1 on line 1 and Stream 2 on line 2. The current feed being tested is indicated by an asterisk next to the appropriate UVT or UVA value.

7 Warranty

Chemtrac, Inc. warrants its equipment to be free from defects in material and workmanship for a period of one (1) year from date of shipment to the original purchaser. Upon receipt of written notice from purchaser, seller shall repair or replace the equipment (at option of Chemtrac, Inc.).

Chemtrac, Inc. assumes no responsibility for equipment damage or failure caused by:

1. Improper installation, operation, or maintenance of equipment.
2. Abnormal wear and tear on moving parts caused by some processes.
3. Acts of nature (i.e. lightning, etc.)

This warranty represents the exclusive remedy of damage or failure of equipment. In no event shall Chemtrac, Inc. be liable for any special, incidental, or consequential damage such as loss of production or profits.

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