



TECHSAVIATION

Training Center

Este material em hipótese alguma substituirá os manuais do fabricante para qualquer ação de manutenção. Consulte os manuais correspondentes. **EDUCATIONAL PURPOSE ONLY**

Potable Water System

The potable water system provides fresh water to these components in the airplane:

- Galleys
- Lavatories
- Flight deck humidifier
- Overhead crew rest humidifiers

Description

The potable water system has these components:

- 145 gallon (551 liter) tanks (2)
- Water pumps (2)
- An Ultraviolet (UV) treatment unit
- A fill/drain valve
- A fill/supply valve
- Vent/overflow valve
- A forward drain valve
- A mid drain valve
- An aft drain valve
- A pressure sensor
- Tank water level sensors (2)
- Service panel quantity indication module

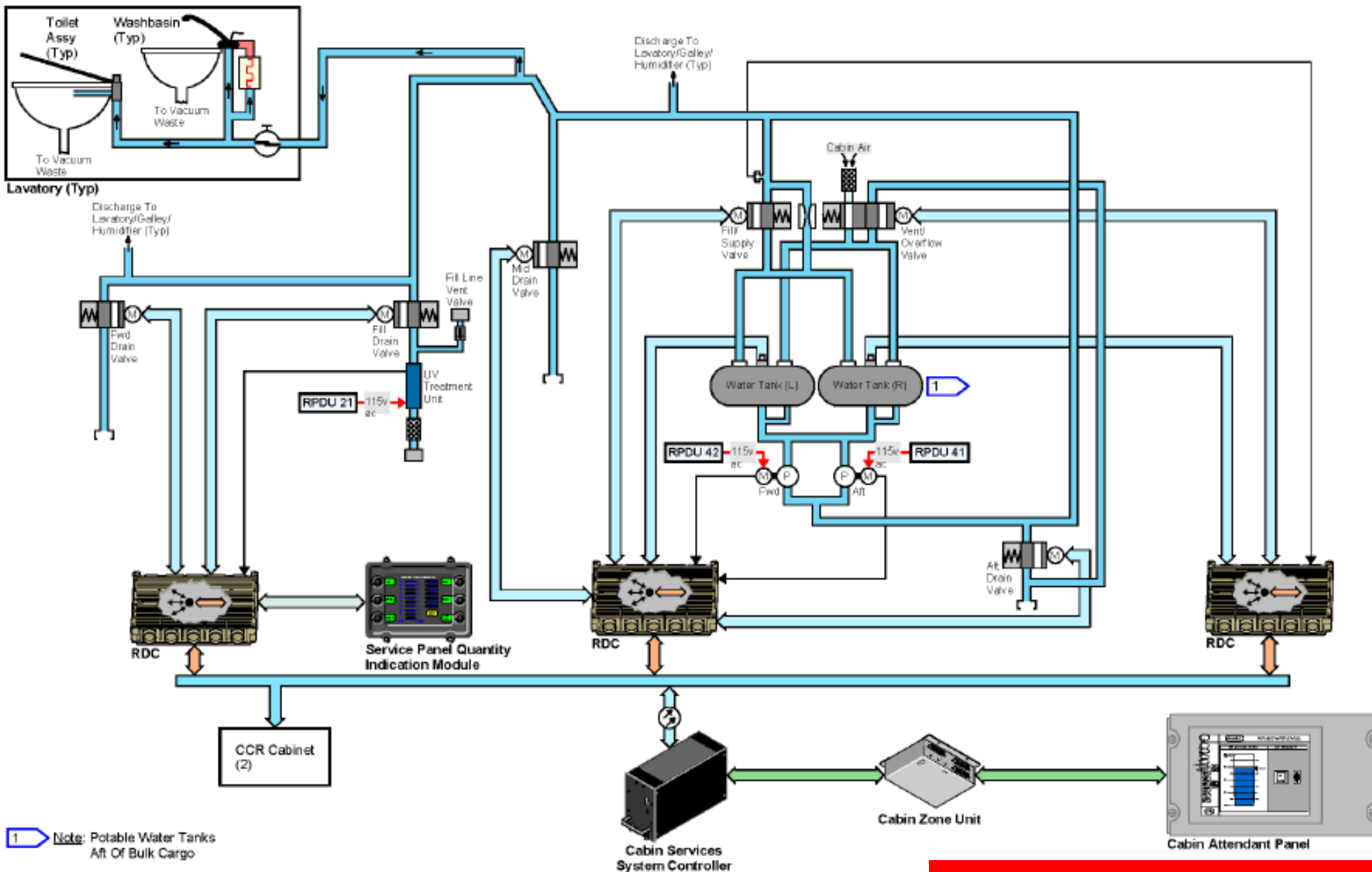
Operation

The tanks are not pressurized. Both tanks supply water to one or both pumps. The pumps are controlled by a hosted function in the Common Core System (CCS). The hosted function monitors a pressure sensor in the supply manifold.

Normally, one pump operates continuously. This keeps a constant pressure on the supply manifold. The hosted function monitoring manifold pressure can operate both pumps to maintain enough pressure. Because a pump is always running, water must flow through the pump for cooling. When water is not used, the water from the pump goes back into the tanks through a flow restrictor. The water pumps do not operate when both tanks are empty. The pumps are used to drain the tanks for maintenance.

During servicing, both tanks get water at the same time. The water goes through the UV treatment unit. The UV treatment helps to keep any organisms in the water from getting into the tanks and the potable water system. Water servicing cannot begin until the UV system is operating.

For servicing, the water quantity is selected at the service panel. Servicing stops automatically when the quantity reaches a preselected value. The tanks can also be filled to full. When the tanks are full, the water will go through the vent/overflow valve and out the aft drain fitting in the fuselage.



Vacuum Waste System

The vacuum waste system provides drainage for the lavatories and galleys in the airplane.

There are no gray water drain masts on the 787.

There are two separate vacuum waste systems, one on the left side and one on the right side of the airplane. Each waste system is separate from the other.

A hosted function in the Common Core System (CCS) controls the vacuum waste system operation.

Description

Each vacuum waste system has these components:

- A 269 gallon (1,018 liter) tank
- A vacuum blower
- A ball-type drain valve
- A drain valve position switch.

Each tank has these components:

- A liquid separator
- A continuous level sensor system
- A point level sensor
- Rinse nozzles (3)
- An inlet and diverter.

The tanks are aft of bulk cargo. Both tanks drain through a common flapper valve fitting in the lavatory service panel.

Operation

Vacuum-created low pressure takes content from the galleys and lavatories and sends it to a waste tank. The vacuum sources are:

- Vacuum blower from sea level to 16,000 feet
- Cabin differential pressure from 16,000 feet to service ceiling.

The tank interior is connected to ambient air through a vent line. The pressure inside the tank is equal to outside ambient pressure. A flush or drain valve must open for low pressure to start the drain operation.

The liquid separator makes sure that only air goes from the tank to the line.

The CCS monitors the point level sensor to determine when a tank is full. When the tank is full, the drain function for that vacuum waste system stops.

The CCS monitors the continuous level sensor system for tank quantity. The tank quantity data can appear on the Cabin Attendant Panels (CAP).

During tank servicing, the rinse nozzles direct high-pressure water to clean the point level sensor and inside the tank. The inlet and diverter direct waste contents away from the point level sensor and other interior tank components.

