

February 11, 2019

## Medical Device Field Safety Corrective Action

- RECIPIENTS:**
- All medical, nursing and service staff where the HAMILTON-G5/S1 ventilators are used (intensive care ward, intermediate care ward, emergency ward, long-term acute care hospital or in the recovery room) and their service engineers.
  - All distributors of the HAMILTON-G5/S1 ventilator and their service engineers.
- PRODUCT NAME:** HAMILTON-G5/ HAMILTON-S1 ventilator unit
- INTENDED USE:** The HAMILTON-G5/S1 ventilators are designed for intensive care ventilation of adult and pediatric patients, and optionally infant and neonatal patients.  
The device is intended for use in the hospital and institutional environment where health care professionals provide patient care. The HAMILTON-G5/S1 ventilators are intended for use by properly trained personnel under the direct supervision of a licensed physician. The HAMILTON-G5/S1 ventilators may be used for transport within a hospital or hospital type facility provided compressed gas is supplied.
- MODELS INVOLVED:** HAMILTON-G5 (PN 159001)  
HAMILTON-S1 (PN 159005)
- SERIAL NUMBERS:** All serial numbers below 16192.
- MANUFACTURER:** Hamilton Medical AG  
Via Crusch 8  
CH-7402 Bonaduz  
Switzerland
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**REASON FOR THE  
MEDICAL DEVICE  
SAFETY ALERT:**

Hamilton Medical AG has developed a new software for the HAMILTON-G5/S1 ventilators. The software version 2.80 reduces the probability of the ventilator entering an ambient state due to the occurrence of an error which leads to the user message “panel connection lost”.

When the HAMILTON-G5/S1 ventilator enters an ambient state, the following conditions apply:

- The inspiratory channel and expiratory valves are opened, letting the patient breathe room air unassisted.
- Provide alternative ventilation immediately.
- You must turn off ventilator power to exit the Ambient state.

**ASSESSMENT OF THE  
SITUATION:**

Should an error occur and lead to the message “panel connection lost”, the HAMILTON-G5/S1 releases both a visual and an acoustical high-priority alarm to alert medical staff. The HAMILTON-G5/S1 ventilators cease ventilation and enter an ambient state. The error leading to the user message “panel connection lost” can occur sporadically.

The failure rate of this error occurring has been calculated at 0.001 %. Due to the low probability of the error occurring and the ventilator alerting medical staff to the hazardous situation, the probability of occurrence of harm can be classified as almost impossible.

**ROOT CAUSE:**

The analysis of the alarm “panel connection lost” is as follows: Panel Connection Lost together with the watchdog TF 4010 that has occurred have indicated that the communication between the ventilation unit processor and the interaction panel processor has been blocked or terminated.

**CORRECTIVE ACTION:**

**Action required by device operators:**

In the event of the error occurring, the HAMILTON-G5/S1 ventilator ceases ventilation and enters an ambient state.

- Provide alternative ventilation.
- Turn off the ventilator.
- Contact your distributor and have the HAMILTON-G5/S1 ventilator updated with software version 2.80.

Please keep this information with your HAMILTON-G5/S1 ventilators instructions for use.

**Action required by the distributors:**

- Distribute this Medical Device Safety Alert immediately to all operators of the HAMILTON-G5/S1 ventilators.
- Update the HAMILTON-G5/S1 ventilator units with software version 2.80.
- Update the HAMILTON-G5/S1 Operator’s Manual for software version 2.80 as soon as possible upon its availability.
- Update progress of field safety corrective action in the ky2help database.

**Action by the manufacturer:**

- Inform all partners of the availability of the HAMILTON-G5/S1 software version 2.80.
- Provision of new software version 2.80 to all distributors
- Provision of updated HAMILTON-G5/S1 Operator's Manual for software version 2.80.

We appreciate your support in this matter and sincerely regret any inconvenience that this action may cause you. We consider this action necessary to ensure that our customers receive only safe and effective products with high quality.



R. L. Curtis  
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Ray Curtis  
Team Leader Quality and Vigilance  
Hamilton Medical AG

**Please keep this information sheet with your HAMILTON-G5/S1 ventilators Instructions of use.**