

## HI-FOG® Electric Pump Unit

### **What is the needed water inlet pressure for the HI-FOG® Electric Pump Unit?**

*Inlet pressure generated by the feed water pump shall be between 2-10 bar (30-145 PSI) with the required flow. The flow requirement depends on the system size. If needed, the feed water line can be equipped with one or more feed water pumps. Feed water pumps can be controlled by the HI-FOG® Electric Pump Unit control cabinet. For gravity fed systems tank water level should be at all times higher than the inlet on the highest pump. If this cannot be achieved, the absolute minimum requirement is for the water level to be above the lowest pump inlet.*

### **Is there pressure monitoring in the feed water line, or how to make sure there is water available when the HI-FOG® Electric Pump Unit is started?**

*Yes, there is inlet pressure monitoring (redundant monitoring to not to disable the unit for one sensor failure).*

### **How much power does the HI-FOG® Electric Pump Unit need for operation?**

*The power requirements depend on the size of the pump unit. The required operating pressure and flow determines the amount and the size of the motors. The first release covers the 27kW motors that are capable of operating at 50Hz or 60Hz for a wide variety of voltages. Motor start current peak is always higher than nominal current. The peak can be reduced with soft starters or, in special cases, with additional frequency converters.*

### **How long will it take for all the motors to start and run at full speed? E.g. HI-FOG® Electric Pump Unit compared to HI-FOG® SPU?**

*The motors in HI-FOG® Electric Pump Unit will start as fast as with HI-FOG® SPU for standalone systems and twice as fast for large installations with multiple HI-FOG® Electric Pump Units. The ramp up time can be flexibly adjusted for the best system specific response.*

### **What kind of information is available via the pump user panel?**

*The user interface allows access to real-time data from the pump unit and HI-FOG® system status. The event log provides valuable information for the field service as well as historical event data, for example, for post-fire event analysis. The user interface gives clear instructions and notifies of the upcoming periodical maintenance.*

### **What are the requirements for the HI-FOG® Electric Pump Unit pump room?**

*Typically pump units are located in a technical space that contains the water inlet, electric feed, drainage and sufficient service space. The requirements may vary depending on the system type. The modular structure with mechanical pump frame and separate control cabinet enables flexible installation and optimized footprint.*

### **Can the unit be installed next to a wall?**

*Yes, the mechanical pump frame and the separate control cabinet can be installed next to a wall as long as the minimum service area requirements are met. More information is available on the HI-FOG® Electric Pump Unit data sheet.*

### **What kind of service is needed for the HI-FOG® Electric Pump Unit?**

*The maintenance routine includes periodical inspections, monthly testing and preventive maintenance services. The service routines are based on the International Maritime Organization (IMO) performance testing and land approval standards for fire safety systems and manufacturers' instructions.*

### **How does the Feed Water Pump behave without a break tank?**

*For short runs, like standby pumping, the feed water pump needs to be started every time. In case of activation, the Feed Water Pump is kept running all the time, where with HI-FOG® SPU the break tank keeps starting and stopping the feed water pump.*

**Does the Feed Water Pump need to be started simultaneously with the HI-FOG® Electric Pump Unit, or a bit earlier?  
Is there any delay?**

*The feed water pump can be started either way. The feed water pump is as default started 2 seconds prior high pressure pumps. The delay time can be set between 0-60 seconds as desired.*

**We run the Feed Water Pump full speed all the time. In case the HI-FOG® Electric Pump Unit output flow is only e.g. 50 liter, what happens with the Feed Water Pump?**

*The Centrifugal pump heats a bit more with smaller flows. As long as there is flow through centrifugal pump cooling is sufficient.*

**Are there a separate stabilization and a safety valve or is it a one component?**

*The HI-FOG® Electric Pump Unit has a separate electrical stabilization valve for transition from activation to standby (system reset) and pressure relief valves for regulating maximum system pressure. Pressure relief valves act also as safety valves. In one system, there is always at least two (2) pressure relief valves.*

**Can you download and print a log from the HI-FOG® Electric Pump Unit?**

*Log can be downloaded and transformed to CSV format for printing. Currently logs are opened and analyzed only internally at Marioff. Customer specific log information is only available in "events" view.*

**What output information can be collected from the HI-FOG® Electric Pump Unit and can it be connected to the SMCS/ automation system?**

*Output signals are listed in the general the HI-FOG® Electric Pump Unit datasheet. Existing output signals can be connected to SMCS digital and analog input circuits.*

**With multiple HI-FOG® Electric Pump Units connected together can you select the master unit by a switch and how does it work?**

*Selection switch is supported for two or more HI-FOG® Electric Pump Units that have the hardware to be a master unit. A signal is required for the units and only the unit that should be a master will have active selection signal.*

**Is there an opportunity to have dual pressure with multiple HI-FOG® Electric Pump Units, i.e. one EPU with 80 bar output and another 110bar?**

*Yes, there is an opportunity to optimize the required pump size by using dual pressure functionality.*