



REV B (01.12.2024)

SINGLE ZONE

ELECTRONIC FOAM PROPORTIONER (EFP) SPECIFICATION

The FM-approved EFP is an electronically monitored and controlled foam concentrate proportioning system designed to be utilized as a variable viscosity proportioner at variable proportioning percentages at .5%, 1%, 2%, 3%, and 6%, *independent of the concentrate manufacturer.*

Foam proportioning system manufacturers and distributors shall have an ISO-certified ***QC program*** in place with current certification.

The EFP assembly shall contain a 24V powered PLC (programmable logic controller) to monitor and regulate the system's foam concentrate injection percentage and pressure. The foam concentrate percentage shall be programmed in the PLC controller as necessary. The base model EFP control panel is in a NEMA 2 type enclosure with a digital LCD panel for programming and displaying system information.

Monitoring of the foam concentrate and water flow rates shall be done using two (2) magnetic flow meters. The magnetic flow meter for the water line shall be manufacturer-provided and can ship loose for installation in the field.

Pressure transducers shall monitor foam concentrate and water pressure, respectively. The pressure transducer for the water line shall be provided and can be shipped loose for installation in the field.

During proportioning testing, the EFP shall contain a test function/setup to return all foam concentrate to the storage tank. The test setup shall use magnetic flow meters and maintain the programmed proportioning percentage while circulating all foam back to the storage tank. Discharge/collection of foam solution or water is ***not required*** for the system testing to take place. Water flow simulation is achievable with programming in the PLC without flowing water.

Concentrate control valves shall automatically cycle fully shut/open and return to their standby position every 24 hours to ensure valves function properly.

All piping in the EFP assembly shall be 316SS and welded. The entire assembly shall be installed on a coated steel base frame. All components installed on the assembly shall be prewired to the PLC controller for easy installation in the field.

FM-approved EFP size of 2-inch is available for ***concentrate flow ranges*** of 3.5 gpm to 150 gpm.

Non-listed 3-inch models up to 400 gpm.

The water supply magnetic flow meter size is from 2-inch to 14-inch flanged style. There shall be zero water pressure loss due to proportioning equipment.

The EFP foam concentrate shall be supplied by a **UL-listed foam pump AND FM-approved foam pump assembly complete with pump, driver, PRV, and pump controller.**



REV B (01.12.2024)

MULTI ZONE

ELECTRONIC FLOW CONTROLLER (EFC) SPECIFICATION

The pending FM-approved EFC is an electronically monitored and controlled foam concentrate proportioning system designed to be utilized as a variable viscosity proportioner at variable proportioning percentages, at .5%, 1%, 2%, 3%, and 6%, *independent of the concentrate manufacturer.*

Foam proportioning system manufacturers and distributors shall have an ISO-certified **QC program** in place with current certification.

The EFC assembly shall contain a 24V powered PLC (programmable logic controller) to monitor and regulate the foam concentrate injection percentage into the fire protection system. The foam concentrate percentage shall be programmed in the PLC controller as necessary. The base model EFC control panel is in a NEMA 2 type enclosure with a digital LCD panel for programming and displaying system information.

Monitoring of the foam concentrate and water flow rates shall be done using two (2) magnetic flow meters. The magnetic flow meter for the water line shall be manufacturer-provided and can ship loose for installation in the field.

Pressure transducers shall monitor foam concentrate and water pressure, respectively. The pressure transducer for the water line shall be provided and can ship loose for installation in the field. *Foam concentrate pressure shall be controlled by the pressure sustaining valve provided by the proportioner manufacturer, installed in the foam pump room on the recirculation line back to the storage tanks from the pump skid.*

The **EFC** shall contain a test function/setup to allow for the collection of all foam concentrate into properly sized containers or route the foam concentrate back to the foam storage tank. The test port utilizes the integrated magnetic flow meters while the EFC maintains the programmed proportioning percentage while discharging all foam concentrate through the test connection. Discharge/collection of foam solution or water is **not required** for the system testing to take place. Water flow simulation is achievable with programming in the PLC without flowing water.

The concentrate control valve shall automatically cycle fully shut/open and return to its standby position every 24 hours to ensure the valve is functioning properly.

All piping in the EFC assembly shall be 316SS and welded. The entire assembly shall be installed on a coated steel base frame. All components installed on the assembly shall be prewired to the PLC controller for ease of installation the field.

EFC size of 2-inch is available for ***concentrate flow ranges*** of 3.5 gpm to 150 gpm
Non-listed 3-inch models up to 400 gpm.

The water supply magnetic flow meter size is from 2-inch to 14-inch flanged style. There shall be zero water pressure loss due to proportioning equipment.

The EFC foam concentrate shall be supplied by a **UL-listed foam pump AND FM-approved foam pump assembly complete with pump, driver, PRV, and pump controller.**