

### **AccuMax 3020 Single-Point Detailed Specifications**

A FoamPro AccuMax, part number S121-3020A electronic/hydraulic foam proportioning system shall be provided. The system shall be demand based, fully automatic and shall be compatible with all current foam concentrates. All of the electronics shall be EMI/RFI compliant. The foam proportioning operation shall be based on direct measurement of water flow and shall remain consistent within the specified flows and pressures. The system shall be capable of accurately delivering foam solution as required by applicable sections of NFPA standards. The system shall be capable of accurately delivering foam solution to within 5% of calibrated settings over the advertised operation range when installed in the apparatus. Performance of the system must not be affected by hose length or size, nozzle, incoming water pressure or nozzle elevation. The foam system shall be able to control a single injection point for solution distribution to all foam capable discharges.

The system shall be equipped with a digital electronic control display suitable for installation on the pump panel. Incorporated within the control display shall be a microprocessor that receives input from the system flowmeter(s). While also monitoring foam concentrate that the operator has preset, a proportional amount of foam concentrate is injected into the discharge side of the fire pump. A diagnostic self-check will be run each time the system is powered up.

The digital computer control display shall enable the pump operator to perform the following control and operation functions for the foam proportioning system:

- Provide push-button control of foam proportioning rates from 0.1% to 10%, in 0.1% increments
- Show current flow-per-minute of water
- Show total volume of water discharged during and after foam operations are completed
- Show total amount of foam concentrate consumed
- Simulate flow rates for manual operation
- Perform setup and diagnostic functions for the computer control microprocessor
- Flash a “low concentrate” warning when the foam concentrate tank(s) runs low
- Flash a “no concentrate” warning and shut the foam concentrate pump off, preventing damage to the pump, should the foam tank(s) become empty

Paddlewheel-type flowmeter(s) shall be installed in the discharges specified to be “foam capable.” When the use of more than one flowmeter is required, an interface electronics module will be provided to totalize these flows and send the flow total to the microprocessor in the computer control display. Water flow measurement of each foam capable discharge is accomplished by a non-restricting flowmeter. Devices placed in the

discharge piping that restrict water flow and reduce nozzle performance are not acceptable. Depending on piping size, the flowmeter shall be of paddlewheel or magnetic meter design. All system components are to be constructed of non-corrosive materials.

A full flow check valve is optional and shall be provided to prevent foam contamination of fire pump and water tank, or water contamination of foam tank when required.

### **Hydraulic System**

The hydraulic piston pump shall be variable displacement to provide longer life and reduce service. Hydraulic gear pumps shall not be acceptable. The hydraulic system must comply with all applicable SAE and DOT standards. The hydraulic system shall have an oil cooler and an appropriately sized hydraulic reservoir to maintain the temperature of the hydraulic oil at or below 220°F (104°C).

### **Concentrate Pump**

The all bronze rotary gear concentrate pump shall be produced and supplied by Edwards Manufacturing. The construction of the pump shall include the use of bearings to extend pump life. The use of a pump designed with bushings shall not be acceptable. The timing gears shall reduce rotor wear; direct rotor contact is not acceptable. The unit shall have solid stainless steel shafts. The foam pump shall be capable of running dry and pumping water at full performance levels without causing pump damage. A hydraulic motor driven positive displacement foam concentrate pump shall be provided and installed in an accessible location. The pump capacity range shall be 4 GPM (15 L/min) to 20 GPM (76 L/min) with maximum operating pressure of 300 PSI (20.7 BAR). An electronically-operated valve shall receive signals from the computer control display to monitor the flow of hydraulic oil to the hydraulic motor coupled to the concentrate pump. The concentrate pump turns at a variable speed to ensure that the correct proportion of concentrate selected by the pump operator is injected into the fire pump discharge stream.

### **Base System Supplied Components**

- Digital Computer Control Display
- Electronic Driver Module
- Paddlewheel flowmeter(s) (Required ordered separately)
- Hydraulic Pump
- Concentrate Pump and Hydraulic Motor Assembly
- Foam Concentrate Strainer
- Foam Concentrate Relief Valve
- Molded Cables
- Low level tank switch (Required ordered separately)
- MultiFlo electronic module (Optional if more than one flowmeter is used)
- Foam injection check valve
- Main waterway check valve (Optional)

To prevent waste of costly foam concentrate and environmental concerns, the system shall allow calibration and performance testing with water only, or without mixing concentrate with water. The foam system shall be installed and calibrated to manufacturer's requirements. In addition, the system shall be tested and certified by the apparatus manufacturer to applicable NFPA standards. The foam system design shall be tested and pass environmental testing in accordance to SAE standards. The system design shall be third party tested to certify compliance with RFI/EMI emissions per MIL-STD-416E. Two (2) installation and operation manuals shall be provided with the unit. The system shall have a one (1) year warranty by the foam system manufacturer.

### **Manual Override Option**

The AccuMax system shall include manual override capabilities allowing the operator to switch from fully automatic mode. It shall be a demand based, semi-automatic system and function using the AccuMax components already installed on the apparatus. Electronics shall be EMI/RFI compliant. The override proportioning operation shall be based on automatically maintaining a set foam pressure in the foam manifold with manual operation of the individual foam control valves to allow injection into the water stream.

During override operation, the AccuMax automatic control system will be deactivated automatically when switching from normal to manual override operations. Performance must not be affected by hose length or size, nozzle, incoming water pressure or nozzle elevation. The system shall be capable of controlling all foam capable discharges associated with the AccuMax system.

### **Override Controller**

A microprocessor equipped master override controller shall be provided for each proportioning system. It includes a panel mount placard and switch, wiring harness, and a microprocessor pump control. The panel switch shall enable the pump operator to perform the following control and operation functions for the total foam proportioning system:

- Deactivate the AccuMax fully automatic proportioning controls.
- Engage the hydraulic system and foam pump to provide a set pressure of foam in the foam manifold
- Automatically maintain set pressure in the manifold as foam is discharged.

### **FoamPro Supplied Items:**

- Panel Switch and Placard
- Microprocessor control box
- Control Harness



Two installation and operation manuals shall be provided for the unit, along with a one-year limited warranty by the manufacturer. The system must be installed and calibrated by a Certified FoamPro Dealer.

FoamPro cannot assume responsibility for product failure resulting from improper maintenance or operation. FoamPro is responsible only to the limits stated in the product warranty. Product specifications contained in this material are subject to change without notice.



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