SPECIFICATIONS – FOAM SYSTEMS: AQUIS™ 1.5

The perfect blend of performance and value

The Aquis™ foam proportioner from Waterous delivers a level of performance and reliability typically reserved for more expensive Class A foam proportioners. Aquis 1.5 features a non-corroding brass body pump as well as sensors that measure water temperature and water flow to create the ideal water to concentrate ratio for superior foam. Dollar for dollar and feature for feature, there's no doubting that Aquis is the finest foam proportioner on earth.

Components:

Microprocessor Controller

AQUIS™ is equipped with a 16-bit, mixed-signal microcontroller with a 60kB flash memory, 2 kB RAM and 12-bit analog to digital converter. This allows the AQUIS™ to receive input from the flowmeter and temperature sensor, controlling the foam pump motor to provide accurate injection into the foam manifold.

Operator Interface Terminal

The Operator Interface Terminal (OIT), mounted on the pump operator's panel allows the operator to perform the following functions:

- Provide rotary dial control of foam proportioning rates from 0.1% to 1%, in infinite increments
- Calibrate flow rate
- Flashes and then displays a steady "low concentrate" warning when the foam concentrate tank runs low - system shuts off after two minutes
- Flash a "no concentrate" warning when the foam concentrate tank is empty
- Flash an "error" warning with associated code in the event of an electronic malfunction
- Provide a manual back-up mode, controlled by the operator

Remote Activation

The system can be activated from an external 12 or 24-volt electrical source, such as a pump-in-gear circuit or engine ignition power which can eliminate one step in the operational sequence. An optional remote start/stop control and cable is available.

Flowmeter

A paddlewheel-type flowmeter, installed in the process manifold upstream of the foam injection point, connects to the microcontroller.

A flowmeter tee, constructed of stainless steel or brass with Victaulic groove outer connections and threaded NPT inner connections at each end of the tee, is provided for connection to the apparatus plumbing. Flowmeter tees are available as follows:

- Standard - 1.5" ID (300 GPM / 1135 L/min)
- Optional - 2" ID (400 GPM / 1500 L/min)

Foam Pump

The 12 or 24-volt, electric motor driven, positive displacement triplex plunger foam pump is equipped with an aluminum crankcase, ball bearings, forged brass pump body and manifold, solid ceramic plungers, stainless steel check valves and piston guides, Buna packing and preset thermal and pressure relief valves.

The foam pump is rated at 1.5 GPM @ 150 psi (5.68 l/min @ 10 bar) operating pressures up to 450 psi (32 bar). Maximum electrical load of 27 amps @ 12 VDC and 14 amps @ 24 VDC.

A pump motor electronic driver, located inside the controller housing, receives signals from the microcontroller and powers the 1/3 hp (.25 kW) electric motor in a variable speed duty cycle to ensure that the correct amount of foam concentrate set by the pump operator is injected into the water stream.

Control Cables and Connectors

The cables for interconnection of the control unit, OIT, temperature sensor and flowmeter are electrically shielded to prevent radio frequency or electro-mechanical interference.

Low Tank Level Switch (Optional)

A low tank level float switch, installed in the foam concentrate tank and connected to the control unit, alerts the operator to low foam supply conditions.

Waterway Check Valve (Optional)

A full-flow brass body waterway check valve at the inlet end of the foam manifold waterway prevents foam contamination of the fire pump and water supply.

Foam Inject Check Valve

A brass and stainless steel check valve provided in the foam concentrate line at the foam injection point prevents water backflow into the foam supply reservoirs.

Foam System Support

The AQUIS™ is equipped wit PC-Connectivity which allows a qualified technician to perform upgrades, diagnostics and monitor system functions in real-time. The system can also be remotely monitored using any PC with Internet access, allowing technicians to easily connect to the Waterous dedicated website to assure proper operation and to update the foam system software by uploading new features and functions as they become available.

Industry-Leading Sales and Support

When you purchase Waterous equipment, not only do you get quality products, you get quality service. Our expert service technicians are the best in the business and they are always happy to answer any service questions you might have.

Sales / Applications Assistance
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System Components - Standard

Components of the complete foam system supplied by Waterous include:

- Operator interface terminal (OIT)
- Pump module with electric motor/motor driver and microcontroller unit
- Foam concentrate strainer
- Shielded electrical cables for connection of all electronic components
- Foam inject check valve
- WYE Strainer
- Flowmeter and Tee - 1.5” ID
- Installation and operation manual are provided for the unit along with a copy of the warranty policy. The system must be installed and serviced by an authorized Waterous OEM or service center.

System Components - Optional

- Flowmeter Tee - 2” ID
- Waterway check valve
- Low level tank switch
- System diagram and rating placards (per NFPA 1901) for pump panel mounting

Installer Supplied Items

The AQUIS™ 1.5 system includes the major components required for installation with the exception of the following which are to be supplied by the installer:

1. **Foam Concentrate Supply Line(s)**
   Hose(s) and fittings that run from the foam tank to the foam pump inlet should be a minimum of 1/2” inside diameter. Hose and fittings must be rated for a minimum of 23 inches (584.2 mm) Hg of vacuum and 50 psi (3 bar) of pressure. The hose and fittings must be made of corrosion-resistant material and be compatible with the foam concentrates to be used. Foam supply hose shall have a reinforced clear wall as required by NFPA to allow viewing of foam priming operations.
2. **Foam Concentrate Discharge Line**
   Hose(s) and fittings that are routed from the foam pump to the foam injection check valve should be a minimum of 3/8” inside diameter and have a rated working pressure of at least 450 psi (32 bar). The foam discharge hose and fittings must be made of corrosion-resistant material and be compatible with the foam concentrates to be used.
3. **Foam Concentrate Tank**
   Foam concentrate tank shall be supplied that suit the application and needs of the end user. The foam concentrate tank should meet the minimum requirements as published in the applicable NFPA apparatus standards.
4. **Electrical Supply**
   Electrical wiring and circuit protection must be supplied and connected to the apparatus master electrical system as described in the installation manual.

Warranty

The system shall have a one-year limited manufacturer's warranty.