



DATA SHEET
#NME010

TERMINATOR II™ HIGH CAPACITY FOAM/WATER MONITOR

Description

The Terminator II™ takes high capacity portable monitors to a new level of performance. This latest generation offers significant enhancements in operation and foam performance. Portability and quick setup make the Terminator II the best fire fighting monitor package available anywhere.

The totally new Gladiator® self inducing adjustable aspiration nozzle technology enables the most effective and flexible fire attack. The unique foam producing characteristics make it the first nozzle of its kind suitable for use with protein, fluoroprotein, AFFF, and AR-AFFF foam concentrates. Before the Gladiator nozzle, firefighters had to settle for minimal foam performance from high capacity monitors. Now you can have it all in a single package; excellent nozzle range, ease of operation, and superior foam performance! See Data Sheet #NDD180 for Gladiator details.

The Terminator II™ is designed for use with pre-mixed foam solution, however, the unit is configured for remote foam concentrate pick-up using jet pump(s). See Data Sheet #NME020 for Jet Pump details.

Features

- Excellent Stream Range and Quality.
- Lightweight and Easy to Set Up.
- Unique Outrigger Design Compensates For Up to 10" (254mm) of Uneven Ground.
- Self Educating Proportioning - Direct or Secondary Eductor Method.
- SelectAir™ Adjustable Aspiration For Optimum Foam Performance.
- Maximum Stream Performance With Minimum Foam Fallout.
- Compatible With All Major Types Of Foam Concentrate.

Operation

The Terminator II is designed for quick set up and smooth, easy operation. The weight balanced design of the trailer permits movement and positioning by two people, even in congested areas. This means if redeployment is required, reconnecting to a towing vehicle is not necessary.

The innovative stabilizer system provides for quick setup since there are only two leveling jacks to deploy. The extendable rear outriggers have a unique self leveling feature that automatically adjusts for up to 10" (254 mm) of uneven ground between them. Simply slide out the two outriggers, and level the unit by adjusting the front stabilizer jacks.

The Terminator II also incorporates an ergonomic operator control station which features a combination pressure gauge and flow meter. This allows constant monitoring of nozzle flow and pressure to insure optimum performance.

Foam Proportioning

The Terminator II uses water powered Jet Pump proportioning eliminating the need for outside power sources resulting in easier, more reliable operations. The Jet Pump operates with all types of foam concentrates for ultimate flexibility. Various pickup tube configurations allow you to draw foam from a variety of containers for uninterrupted operation.

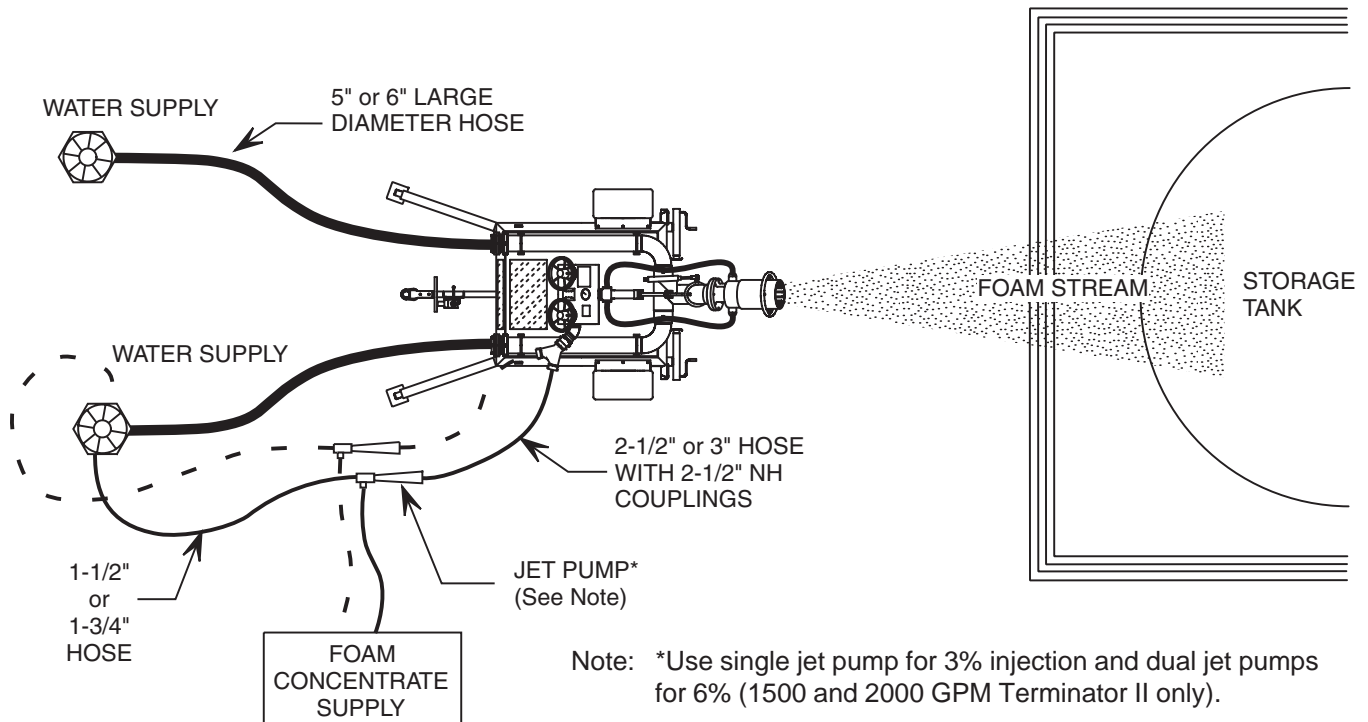
Foam Performance

Every Terminator II comes equipped with the new Gladiator Foam/Water Nozzle. The Gladiator represents the latest advancement in foam firefighting nozzle technology. The Gladiator's totally new design makes it the first self-educating nozzle with the ability to deliver optimum performance with water or foam.

Gladiator's innovative internal design, and stream straightening vanes eliminate swirling to optimize stream range with minimal foam loss due to fallout.

Gladiator has unique adjustable foam aspiration capability which allows the operator to switch between the initial penetrating punch of a non-aspirating nozzle, to the superior foam blanket performance of an aspirating nozzle. Switch over from non-aspirating to aspirating can be done by simply adjusting the control handle while the nozzle is flowing.

Typical Setup Arrangement for Terminator II with Jet Pump Proportioner



Estimating Fire Flows

Determining required fire flows is an important consideration in the overall incident preplan. Foam delivery from monitors produces a rough application where the foam plunges into the fuel and resurfaces to form a blanket on top of the fuel. This plunging type application causes fuel contamination of the foam blanket which is detrimental to foam performance.

For this reason NFPA-11 Standard For Low Expansion Foam recommends higher application rates for protection of storage tanks with monitors. Monitors are classified by Underwriters Laboratories (U.L.) as Type III discharge devices, as opposed to gentle foam application devices which minimize plunging such as foam chambers. Foam Chambers are classified as Type II discharge devices.

According to NFPA-11, the minimum recommended application rate for standard hydrocarbon fuels is 0.16 gpm/ft² (6.5 l/min/m²) when applied by monitors. As a comparison, foam chambers or other Type II discharge devices require a minimum application rate of 0.10 gpm/ft² (4.1 l/min/m²) for the same hydrocarbon fuels. The 60% increase in application rate for Type III discharge devices is designed to compensate for the destructive effects of plunging the foam into the fuel. When polar solvents or oxygenated fuels are involved the application rates should be adjusted accordingly. Consult the foam manufacturer for specific recommendations.

Once the minimum application rate is established, the theoretical flow rate can be calculated by multiplying the surface area of the tank by the application rate. An important point to remember about NFPA-11 application rates is the assumption that all the foam reaches the fuel surface. In the case of foam chambers this is a logical assumption. However in the case of monitors, a safety factor needs to be added to account for the foam that does not reach the fire surface due to wind, nozzle range, nozzle fallout, etc. A good estimate would be 70% to 80% of the total flow actually reaches the fuel surface.

Design Example

$$\begin{aligned} \text{Storage Tank, 150 ft. (45.7m) Diameter:} \\ \text{Surface Area} &= \pi \times \text{diameter}^2 \div 4 \\ &= 3.14 \times 150^2 \div 4 \\ &= 17,663 \text{ ft}^2 \end{aligned}$$

$$\begin{aligned} \text{Flow Rate} &= 17,663 \text{ ft}^2 \times 0.16 \text{ gpm/ft}^2 \\ &= 2,826 \text{ gpm} \end{aligned}$$

If the assumption is made that only 80% of the flow reaches the fuel surface, then the flow rate should be increased by 20% (100% - 80%).

$$\begin{aligned} \text{Flow Rate including safety factor:} \\ 2,826 \text{ gpm} \times 1.20 &= 3,391 \text{ gpm} \end{aligned}$$

Ordering Information

TERMINATOR II WITH GLADIATOR NOZZLE

<u>Part No.</u>	<u>Description</u>
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1252-0410-8.....	Terminator II with 1500 GPM (5678 lpm) @ 100 PSI (6.9 Bar) Gladiator Nozzle - 3% Proportioning
1252-0410-9.....	Terminator II with 1500 GPM (5678 lpm) @ 100 PSI (6.9 Bar) Gladiator Nozzle - 6% Proportioning
1252-0411-0.....	Terminator II with 2000 GPM (7570 lpm) @ 100 PSI (6.9 Bar) Gladiator Nozzle - 3% Proportioning
1252-0411-1.....	Terminator II with 2000 GPM (7570 lpm) @ 100 PSI (6.9 Bar) Gladiator Nozzle - 6% Proportioning
1252-0411-2.....	Terminator II with 3000 GPM (11351 lpm) @ 100 PSI (6.9 Bar) Gladiator Nozzle - 3% Proportioning

COMPATIBLE JET PUMP KITS FOR TERMINATOR II - DOES NOT INCLUDE PICKUP HOSE KIT

<u>Terminator II</u>	<u>Compatible Jet Pump Kit</u>		
<u>Description</u>	<u>Model No.</u>	<u>Part No.</u>	<u>Description</u>

1500 GPM - 3%...	JP-1500 3%	1252-0412-0	... Single jet pump 1½" NH female swivel inlet x 2½" NH male outlet
1500 GPM - 6%...	JP-1500 6%	1252-0412-1	... Dual jet pump with 2½" siamese fitting for foam inlet at Terminator
2000 GPM - 3%...	JP-2000 3%	1252-0412-2	... Single jet pump 1½" NH female swivel inlet x 2½" NH male outlet
2000 GPM - 6%...	JP-2000 6%	1252-0412-3	... Dual jet pump with 2½" siamese fitting for foam inlet at Terminator
3000 GPM - 3%...	JP-3000 3%	1252-0412-4	... Single high capacity jet pump 1½" NH female swivel inlet x 2½" NH male outlet

PICKUP TUBE KITS

Pickup tube kits consist of 2" pickup dip tube(s) with shut off valve, and clear plastic reinforced flexible pickup hose(s) 12 feet long with 2" NPSH (straight pipe thread) couplings. Dual and quad pickup kits also contain certain pipe fittings for interconnecting the pickup hoses. All pickup tube kits fit onto 2" NPSH male (straight pipe thread) connection at the jet pump foam inlet and dip tube. Therefore any jet pump can be used with single, dual, or quad pickup tube kits listed below:

<u>Part No.</u>	<u>Description</u>
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1252-0413-0.....	Single pickup tube kit consisting of 1 dip tube with shut off valve and 1 pickup hose. This kit allows foam to be taken from one drum or tote tank.
1252-0413-1.....	Dual pickup tube kit consisting of 2 dip tubes with shut off valves, 2 pickup hoses, and interconnecting fittings. This kit allows foam to be taken from two drums or two tote tanks simultaneously.
1252-0413-2.....	Quad pickup tube kit consisting of 4 dip tubes with shut off valves, 4 pickup hoses, and interconnecting fittings. This kit allows foam to be taken from four drums or four tote tanks simultaneously.

It is recommended that the JP-1500-6%, JP-2000-6%, and JP-3000-3% jet pumps be used with either dual or quad pickup tube kits, due to relatively high foam concentrate flow rates.

This information is only a general guideline, and each installation may require modifications to meet the applications or requirements of that situation. The company reserves the right to change any portion of this information without notice. Terms and conditions of sale apply and are available on request.