

THE DOMINATOR® PORTABLE PUMP PACKAGE

NBF040

- High Capacity Mobile Pumping System
- Ten Foot Suction Lift (Draft)
- 3000, 5000, 6000 and 10000 GPM Models Available
- Configurations: trailer or skid mounted
- Suitable for use from draft or with portable pressurized water main



Description

The Dominator pumping system is a single, integrated, diesel powered mobile pumping module capable of pumping up to 10,000 gpm at 150 psi at differential with a 10 foot suction lift. The pump and engine are mounted on a box frame base. The portable pump package can be used anywhere large volumes of water are required and a pressurized water source is not available or a water system is not capable of supplying adequate pressure.

Features

- May be used with either fresh or salt water
- High capacity: 3000, 5000, 6000 or 10000 gpm models
- Allows water pump to be moved to location where it is required thus eliminating the need for pressurized water system
- Suitable for use from draft or with pressurized water inlet (relay pumping).

Applications

The portable pump package can be used anywhere large volumes of water are required and a pressurized water source is not available or a water system is not capable of supplying adequate pressure.

Dominator Platform and Transport

Dominator is an open frame, which incorporates structural lifting points and tie-downs to facilitate movement

from one location to another via crane, rail, truck, or marine vessel. The Dominator is designed in two standard configurations: trailer and skid mounted. The DOT/NFPA standard trailer option can be quickly deployed and retrieved by an appropriate towing vehicle. This system contains a running gear consisting of single or dual axle and dual or single wheels, depending on size, with an electric braking system. A jack stand will be included to support the trailer. The hitch will be an adjustable pintle hook. A lockable storage bin for tools and wheel chocks will be located in the tongue of the trailer. The skid mounted option can be hoisted onto a flatbed vehicle for transporting or parked in a desired location.

The Dominator pumping system is capable of delivering up to 10,000 gpm of water at 150 psi through a flexible pipeline. The Boost pump shall be directly driven by diesel engine through a universal driveshaft capable of withstanding transmitted horsepower throughout operating range of the engine. A compressed air pump shall be provided for pump priming with controls located at the pump operator's panel. The cooling system shall consist of an engine mounted multi-row flat fin and tube radiator with pusher type fan. Electrical system shall be 24 VDC and shall include an alternator and two batteries. An auxiliary pump packing cooling system shall be provided as standard for cooling during dry run

maintenance operations. An optional clutch transmission is available for those requiring more control and functionality.

The suction manifold shall be constructed from stainless steel pipe and shall be complete with 6-inch (150 mm) National Hose Thread (NH) male brass suction connection adapters with inlet screens and brass 6-inch (150 mm) NH caps. Quantity shall be specific to the unit flow capacity. One ¾-inch (19 mm) valve shall be furnished for draining the manifold. A special contour designed manifold, to control velocity and incorporate anti-swirl devices, provides maximum inlet efficiency. The discharge manifold shall be constructed from stainless steel pipe and shall be complete with one 2½-inch (63 mm) male NH discharge with valve and 5-inch (125 mm) Storz discharges with valves. Quantity shall be specific to the unit flow capacity. One ¾-inch (19 mm) valve shall be furnished for draining the manifold.

The inlet and discharge manifolds shall incorporate 12-inch inlet and 12-inch outlet connections to permit relay pumping operations using 12-inch Super Aquaduct flexible pipeline. An optional ground access "Z" manifold system is recommended to route manifold connections to the ground where large hose can be connected in a stress free supported manner eliminating the need for hose supports.

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Lighting shall consist of two 24 VDC scene lights on each side, as well as the appropriate marker lights in accordance with U.S. DOT Standard 108.

The trailer assembly shall be prepared, primed and painted with red polyurethane enamel. Two wheel chocks shall be provided. The complete pump/driver will be tested and certified by National Foam, Inc. to meet performance standards.

Dominator Controls

The Dominator control systems offer optimal simplicity to operators while ensuring Maximum Control which equates to Maximum Safety. All Dominator control panels utilize state of the art touchscreen HMI's that are loaded with National Foam's 2018 proprietary Big Flow Control architecture. The control programming unites automotive J1939 data associated with engine operation and National's Water Pressure Management System to link capabilities into a very unique, efficient and effective user interface.

The Functionality offered by this system gives operators the power to set system parameters tailored to any pre-plan. Pump speed ramping functions, inlet pressure set points, discharge pressure set points and multi-unit relay pumping control actively ensures that pumps stay on track and within safe parameters while operating in a synchronized fashion.

Pre-planned maintenance alerts are also built-in to notify owners to conduct engine and system maintenance according to schedule, thereby helping to enhance the unit readiness and overall life span.

Commonality of Controls and interfaces across all National Foam Big Flow pumps ensures that operators will be comfortable operating any type of Big Flow pump because of the familiar controls. This feature offers companies

that ability to take advantage of knowledge continuity and flexibility amongst teams of operators.

Wireless & Remote Operation offers users the ability to control or monitor any National Foam Pumping Unit via a remote location through a cloned HMI screen located on a laptop or other compatible device which is identical to the screen located at the pumping unit. These controls can be either wireless, hardwired via serial connections or both. This gives users 3 levels of the redundancy needed for emergency equipment protecting critical assets.

Data Recording and event logging allow users to recall events for maintenance and future preplan adjustment. Data outputs to Microsoft Excel format for easy of manipulation graphing and evaluation.

Technical Data

Boost Pump:

- Contains one or two cast iron, horizontal split case pump
- Bronze impeller
- Rated at a nominal capacity up to 6000 gpm @ 150-160 psi differential each, while operating at a 10-foot suction lift
- Pump shall have compressed air priming system
- Mechanical packing

Boost Pump Driving Engine:

- One Diesel Engine - Tier IV.
- Turbocharged
- Radiator cooled
- Electric Start
- Industrial grade silencer
- Block Heater
- Supplied with air compressor
- Maintenance operation seal protection system
- Air prime system

Optional Clutch:

- Direct mount to flywheel housing
- Over-center lever engagement
- Controls near main control panel
- Adjustable engagement

Pump Packing Maintenance Cooling System:

- Brass, Stainless Steel and Copper construction
- Fed with standard garden hose
- Controlled and operated manually
- Supplied as standard when clutch is not ordered

Air Prime System:

- Dual venturi vacuum system sized appropriately for inlet manifold
- Brass and stainless steel components
- Air tank reservoir with pressure control
- On-board diesel driven air compressor
- Electrically initiated at control panel

Fuel Tank:

- 8 hour supply at max RPM integral to trailer manufactured to UL requirements

Control Panel:

Emergency shutdowns located on the Control Panel and on the sides of the unit. Control Panel shall be located inside main Nema 4 enclosure protected from the elements and shall be lit for low light conditions.

Measuring and control devices including:

- Hydraulic hose retrieval controls
- Satellite Pump retrieval system controls
- Exterior/interior lighting controls
- Fuel Level
- Hydraulic oil pressure transducers and gauges for suction, discharge and charge pressure

Touch screen controls including:

- Engines' controls:
 - Startup and shutdown
 - Required RPM
- Engines' parameters display:
 - Actual RPM
 - Load %
 - Torque %
 - Power
 - Turbo boost pressure
 - Intake manifold temperature

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- Voltage
- Oil pressure
- Coolant temperature
- Fuel rate
- Fuel consumption
- Operation time
- Engines' alarms:
 - High coolant temperature
 - High exhaust temperature
 - High fuel pressure
 - High inlet air temperature
 - Low coolant level
 - Low oil pressure
 - Overspeed
 - Low fuel level
- Boost Pump controls and parameters displays:
 - Flow % control
 - Inlet pressure
 - Discharge pressure
 - Automatic setpoints for suction and discharge pressures
 - Minimum inlet pressure start prevention feature
 - Automatic speed ramping
 - Remote monitoring and control (optional)
 - Relay pumping functionality
 - Data Tracking and download capability
- Alarms for:
 - Low battery voltage
 - Hydraulic filter change
 - Low hydraulic charge pressure
 - Low water inlet pressure
 - High water discharge pressure
- Operational Presets:
 - Recipe functionality for saving groups of operator preferred setpoint

Pumping Unit Enclosure:

- Framing - Mechanical structural steel
- Side panels and rear door - Powder coated aluminum doors to allow access to all equipment
- Main beams - Steel box tube
- Side rails - Steel box tube
- Cross members - Steel box tube
- DOT/NFPA compliant trailer

Weight:

- Approximately 18,000 lb (8,182 kg), may vary depending on size of system

Dimensions: (may vary depending on size and configuration)

- Trailer mounted:
 - 254" L x 96" W x 120" H
- Skid mounted:
 - 190" L x 96" W x 112" H

Connections:

- Suction
 - 6-inch (150 mm) Male National Hose Thread (NH) suction connections with inlet screens
 - 12-inch Victaulic relay pumping connection
- Discharge
 - 5-inch (125 mm) Storz discharges with valves
 - One 2½-inch (63 mm) male NH discharge with valve
 - 12-inch Victaulic relay pumping connection

Options

- Alternate pumps and engines
- Colors other than red
- Pump clutch
- Custom suction and discharge connections and configurations, including grooved connections for large diameter hose and special hose threads
- Corporate logos applied
- Foam induction system
- Suction Hose Kit: Sixteen 10-foot hose lengths of light-weight, black ridged PVC helix with smooth bore for unrestricted flow, and lightweight male and female couplings. Each hose shall have a lightweight 6 in. basket-type floating strainer
- On-board storage for additional hose and accessories
- Ground reach "Z" manifolds for relay pumping



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