



# Installation and Operation Manual

## Blowdown Controller

# Spartan



## Safety Instructions

Read this manual carefully to learn how to safely install and operate your pump. Throughout this manual there are a number of SAFETY HAZARDS that must be read and adhered to in order to prevent possible personal injury and/or damage to the equipment.

Three keywords, “DANGER”, “WARNING”, and “CAUTION”, are used to indicate the potential severity of the hazard, and are preceded by a SAFETY ALERT SYMBOL. Failure to follow the safety-related instructions may result in a safety hazard.

**DANGER** Indicates an imminently hazardous situation which, if not avoided, WILL result in serious injury or death.

**WARNING** Indicates a potentially hazardous situation which, if not avoided,

Could result in serious injury or death.

**CAUTION** Indicates a potentially hazardous situation which, if not avoided,

May result in minor or moderate injury.

THOROUGHLY REVIEW ALL INSTRUCTIONS AND WARNINGS PRIOR TO PERFORMING ANY WORK ON THIS PUMP.

### **Introduction:**

Because panel installations are seldom identical, this manual cannot possibly provide detailed instructions and precautions for each specific application. Therefore, it is the responsibility and the duty of all personnel involved in the installation, operation and maintenance of the equipment to ensure that applications not addressed in this manual are performed only after establishing that neither operator safety nor panel integrity are compromised by the installation.

### **Pre-Installation Check:**

Open all cartons and inspect for shipping damage. Report any damage to your supplier or shipping carrier immediately. Always verify that the panel nameplate Voltage, Phase, and HP ratings as well as Amps rating on panel match your pumps and power supply. Warranty does not cover damage caused by connecting panels to an incorrect power source (i.e., voltage and phase).

### **Installation:**

Electrical connections are to be made by a qualified electrician in accordance with the National Electrical Code (NEC) or the Canadian Electrical Code, as well as all national, state and local codes. Code questions should be directed to your local electrical inspector. Failure to follow electrical codes and OSHA safety standards may result in personal injury or equipment damage. Failure to follow manufacturer's installation instructions may result in electrical shock, fire hazard, personal injury or death, damaged equipment, provide unsatisfactory performance, and may void the manufacturer's warranty.

Motor must have a properly sized starter with a properly sized heater to provide overload and under voltage protection unless motor meets following two conditions: single phase and motor horsepower is 1HP or less. Motors that satisfy these two conditions have built-in thermal overload protection.

**Operating personnel should be trained in the operation of the pump and any associated system.**



# System Installation

## Power Wiring

Mount the control panel vertically on a wall or other solid structure. Connect 120 VAC supply to "L1" and "N".

## MOV Valve Wiring

Wire the Valve as follows:

- Terminal 1 & 2 – Block Valve Power
- Terminal 4 – MOV Open
- Terminal 3 – MOV Closed

**\*\*All wiring shall be in accordance with the national electrical code.\*\***



## Sequence of Operation

The system shall automatically open the Motor-Operated Valve based on a 7-day time clock, TC, and the Valve open duration timer, TMR. The dip switches around the time clock determine when the valve will open. The dip switches should be "OUT" or off. A dip switch "IN" will start a dump sequence. The valve has a 90° time cycle of 12 seconds. It will require 12 seconds to be fully open.

**Initial Schedule** - The TMR should have a blowdown time between 30-45 seconds. The blowdown valve should stay open long enough to flow clear water. For the first week or two the system should blowdown once every day.

**Maintenance Schedule** - The TMR should have a maintenance blowdown time between 12-30 seconds. Only blowdown once a week unless the system is excessively dirty, then increase the frequency, **not the blowdown duration**

### Abbreviations:

24-7 Time Clock, TC

Valve-open duration timer, TDR

Control Relay, CR

Circuit Breaker, CB

Fuse, FS

Valve Selector switch, H-O-A



## Field Penetration

\*\*\* URGENT \*\*\*

ANY FIELD PENETRATIONS IN LOCATIONS  
OTHER THEN FACTORY AUTHORIZED  
AREAS WILL **VOID MANUFACTURERS**  
**WARRANTY** OF ALL INTERNAL  
COMPONENTS.



