

1 Introduction

This document describes the installation and maintenance of the YourDyno water brake valve. The document is available at <https://yourdyno.com/downloads/>



Figure 1 The YourDyno Water brake valve

2 Valve sizes

The valve comes in three different sizes:

1", 1.5" and 2". The inner diameter is 21mm, 34.5mm and 47.5mm respectively.



Figure 2 Threaded Pipe adapters, clamps and gaskets are included. Hose adapters are available too

3 Dynamite connections

The YourDyno valve can be used with the Dynamite DAQ. In this case, stoppers are necessary, to ensure the end positions are kept. This is because the Dynamite DAQ adds extra steps at 100% brake and 0% brake, in a way to not lose position. The valves can be ordered with stoppers. The stopper position can be adjusted to suit your 0 position.

4 Mechanical installation

- 1) The valve can be installed using only the clamps if the pipes are strong enough, but ideally support the valve at the mounting bracket in addition
- 2) The valve package includes pipe thread couplers or hose couplers on each side of the valve. Connect them to the piping/hoses
- 3) Fit the valve to the clamps using a gasket and a clamp
- 4) The servo motor can get warm, ensure to install it away from other parts

- 5) The servo tolerates water spray, but not heavy jets. Install the valve in a way that minimizes the motor's exposure to water

5 Electrical installation

- 1) Install a suitable power cord to the power supply N, L and Ground connections
- 2) Some power supplies have a **switch between 110V and 220-240VAC**. Make sure the switch is in the correct position if fitted
- 3) Connect the red/black power cable to the Power supply (24VDC). Red is + and Black is -. This cable connects to the Stepper Controller VDC port.

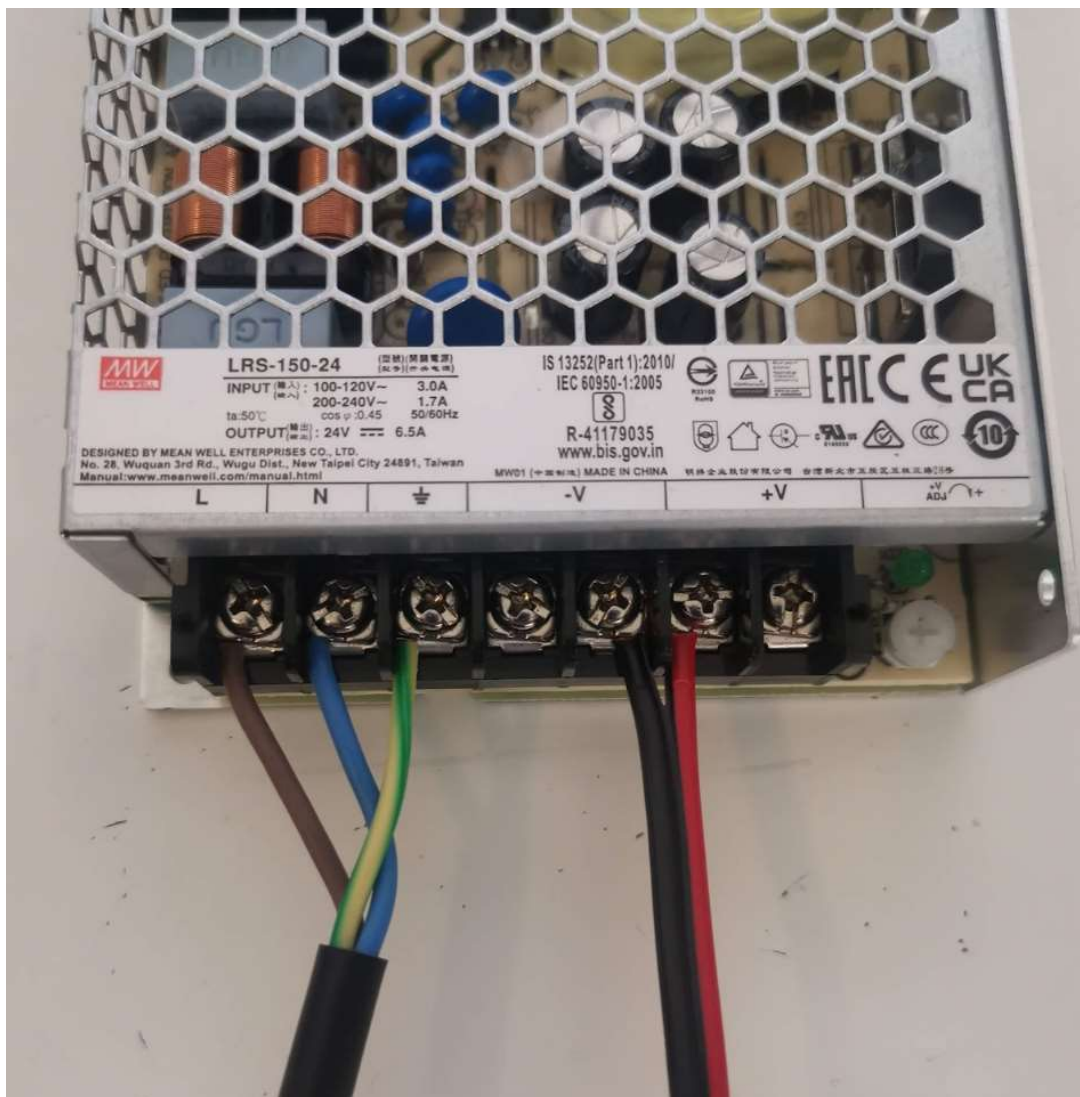


Figure 3 Power connections to the power supply (European colors). Do NOT mix up V+ and V-

- 4) Install the servo controller and power supply in a place free from water spray and excessive vibration. The controller can get a warm, so put it in a place with ventilation or enough air volume
- 5) The following picture shows the color coding of the connections to the servo controller

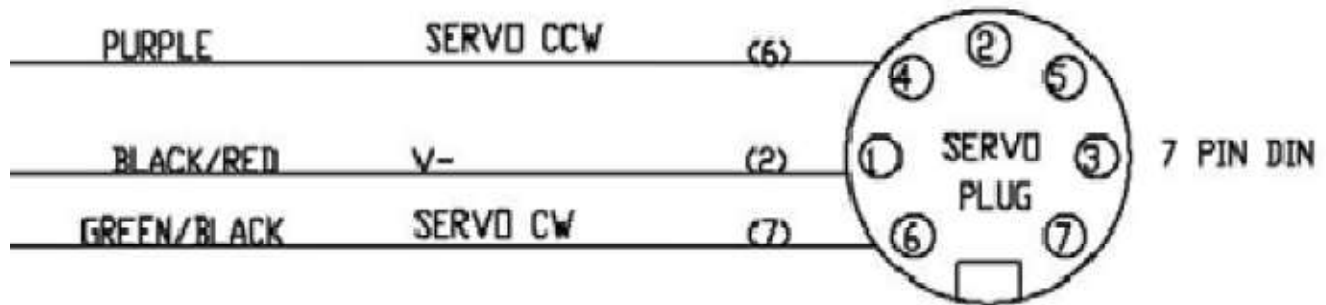


Figure 4 Dynamite servo wires

The connections from the L&S controller are

- a. Green/Black to PUL +
- b. Purple to DIR+
- c. Red/Black jumpered to DIR- and PUL-



Figure 5 Color coding of the connections to the servo controller

6 Software settings

The following settings are needed to configure the water brake valve.

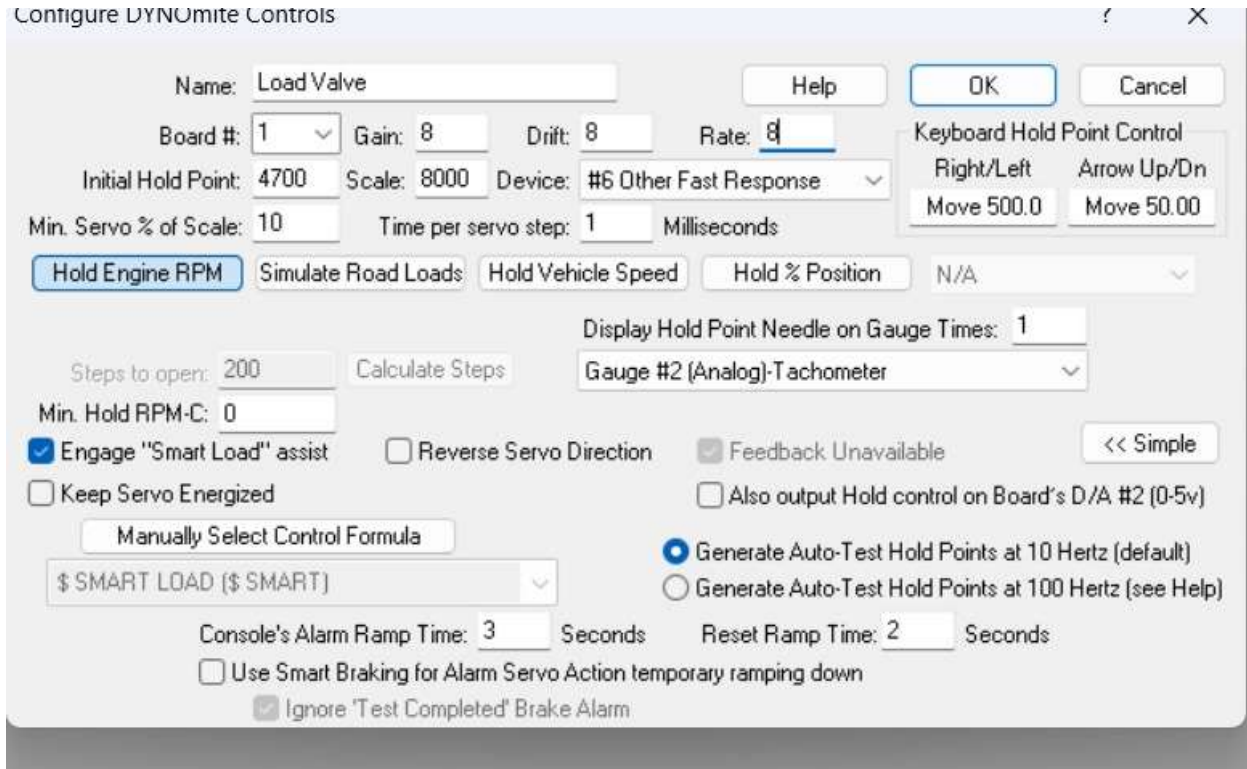


Figure 6 Brake settings in the Dynamite software

Make sure to set Steps to open to 200.

For help on PID settings, contact kevin@yourdyno.com

7 Valve maintenance

The valve is straight forward to disassemble and assemble.

Disassemble and assemble the valve on a worktable, not while it is hooked up to the piping. Lining up the shaft coupler is important when assembling the valve. To ensure that, fasten the two bolts holding the stainless-steel bracket to the valve are the last, and do so while ensuring there is no bend in either direction. The bolts hold the weight of the gearbox and motor so they should be tightened hard.

No regular maintenance is necessary. Teflon bearings and the valve seal can be bought separately from YourDyno if needed.

8 Startup and shutdown

It is recommended to disconnect the power supply from the mains when the system is not in use, as the servo and the servo controller can get hot.

